CITY COMMISSION AND CRA BOARD WORKSHOP AGENDA

Monday, March 02, 2026 at 5:00 PM

Historic City Hall, Commission Chambers – 225 East Main Street, Suite 105

www.cityofwauchula.gov

INVOCATION

PLEDGE OF ALLEGIANCE

CALL TO ORDER

ROLL CALL

OPEN COMMISSION WORKSHOP

1. Downtown Market Study & Vision Presentation
2. Inland Port Feasibility Study Update
3. Community Patriotic Event - Jim Beckley
4. Bid Documents - Wauchula Municipal Airport Design/Build 10-Unit T-Hangars
5. Lease Agreement with Hardee County - SW Water Tower Project
6. Resolution 2026-03 Heardbridge Rd Watermain
7. Comprehensive Plan Evaluation & Appraisal Report Overview
8. Revokable License Agreement with Pamela Sellers & Kassie Knight
9. Annexation of 119 Ohio
10. Ordinance 2026-04 Modifying Water and Sewer Capital Connection Fees

CITY ATTORNEY REPORTS

CITY MANAGER REPORT

CITY COMMISSIONER REPORTS

CLOSE COMMISSION WORKSHOP

OPEN CRA WORKSHOP

11. CRA RFQ 26-01 Professional Architectural Services - Historic City Hall
12. CRA RFP 26-01 Utility and Sidewalk Improvements - Bay St and 1st Ave
13. Krause Services Contract Discussion

REMINDERS

ADJOURNMENT

DOWNTOWN MARKET STUDY & VISION PLAN

Wauchula, Florida

October 2025

Main Street Wauchul

Arnett Muldrow and Associates | Place + Main | Studio Main | Community Design Solutions

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1 INTRODUCTION

INTRODUCTION

Downtown Wauchula is at a pivot point about place, investment, and the future of Hardee County. For decades, it has served as the cultural and governmental hub for the region. In recent years, downtown has enjoyed significant investment in infill mixed use housing, public infrastructure investment, and a combination of new and legacy businesses. At the same time downtown wrestles with a familiar set of challenges: potential for more reinvestment, underused buildings and undeveloped properties, and a lack of critical mass in retail and dining. This combination of conditions has led to a community opportunity to explore the market potential of downtown, engage with partners, and develop a strategy for ongoing and reinvigorated investment.

This Market Study and Vision Plan was launched to answer a straightforward question: what is the real potential of downtown Wauchula, and what will it take to unlock it? It is not designed as a branding or marketing exercise or a land use plan that will sit on a shelf. It is a data-driven, implementation-focused tool, crafted to inform action.

Critically, this plan arrives at a time when the right players are at the table. Main Street Wauchula continues to lead on design, activation, and engagement. The Development Group (TDG), historically focused on countywide business recruitment, has turned its attention toward site-specific downtown investment, representing a major shift in regional development dynamics and a symbol of a strong partnership seldom found in the downtown development arena. The City and County are also increasingly aligned, recognizing the foundational role that downtown plays in economic vitality and community identity.

With support from the Florida Heartland Economic Region of Opportunity (FHERO), this plan is the product of real community input, hard financial analysis, and a grounded understanding of how markets work in places like Wauchula.

2 COMMUNITY CONTEXT

COMMUNITY CONTEXT

Wauchula is small but significant. As the seat of Hardee County, it anchors a region known for agriculture, family-owned businesses, and deep civic pride. The community is younger than much of Florida, more diverse than many of its peer communities, and increasingly open to new ideas, especially if they help create opportunity for the next generation to grow with the community.

The city's downtown is full of assets: historic buildings, centralized parks, a civic square, and a Main Street that is still walkable and well-defined. But it also faces a common problem: the potential is obvious, yet the return on investment is just out of reach without public and private partnerships.

What differentiates Wauchula today from even five years ago is the emergence of a clear coalition of public and private partners. These groups understand that downtown doesn't just "come back" on its own. It takes coordinated investment, regulatory support, and a willingness to be patient and persistent.

The city is also not operating in a vacuum. National trends are increasingly favorable to small downtowns: travelers want walkable experiences, restaurants and boutique hotels are becoming anchors of economic development, and communities with identity and authenticity are attracting both residents and investors. Wauchula checks many of those boxes. It now needs to take the next steps to make downtown even more attractive to investment.

3 PLANNING PROCESS

PLANNING PROCESS

This plan was built from the ground up, starting with questions and ending with strategy. The process included:

Reconnaissance & Stakeholder Interviews

Two site visits and dozens of conversations helped define real conditions, addressing not only visible issues, but the root causes behind vacancy, cost, and business retention.

Community Survey

A public survey with 259 responses added clarity about what people love about downtown and what they want to see in the future.

Roundtables with Business Owners, Residents, and Leaders

Notes from these small-group sessions provided some of the most useful feedback in the process: identifying which buildings are seen as "dead zones," which ideas feel unrealistic, and where there's momentum.

Market Data & Geofencing Analysis

Claritas data helped define retail leakage and opportunity, while mobile geofencing from Placer AI revealed how people interact with downtown in real time.

Financial Feasibility Pro Formas, Plans, and Imagery

Several catalytic sites were tested for development potential under local rent structures, both with and without public incentives. These are accompanied by plans and before and after images. The result is designed to prepare the target sites for marketing as both standalone development projects and part of a whole strategy for downtown investment. These studies, while site specific, offer replicable guides to other investments in downtown.

Land Development Regulation Review

Although the City is embarking on an overall look at land use regulations, this study delved into specific related to downtowns overall policy approach as well as best practices used in other cities to encourage quality development in lieu of outdated policies and "settling" for the status quo.

Best Practices Portfolio

The plan also references a series of best practices used by downtowns across the country to activate and engage with the public, offer meaningful incentives to investors, and foster a positive trajectory for downtown.

The result is a layered view of downtown: not just what it looks like, but how it functions and how to make it work better. The plan concludes with an implementation strategy that outlines the what, when, and how to accomplish the recommendations in the strategy.

4 COMMUNITY INPUT & SURVEY FINDINGS

COMMUNITY INPUT & SURVEY FINDINGS

A Ground-Level View of What's Working, What's Missing, and What's Next

Any revitalization plan needs the numbers, but it also needs the voices. For Wauchula, those voices were clear, consistent, and grounded in lived experience. Over 300 people contributed input through a structured community survey and a series of over a dozen stakeholder roundtables and individual interviews. They offered more than opinions; they provided clarity about how downtown works, how it doesn't, and what they're prepared to support moving forward.

Rather than listing isolated complaints or ideas, the community painted a cohesive picture of what downtown Wauchula is, what it could become, and what's in the way. Their feedback forms the foundation of this plan and is best understood as a SWOT narrative: an honest assessment of downtown's strengths, weaknesses, opportunities, and threats, told by those who live, work, invest, and walk its streets every day.

Strengths:

What's Working and What's Worth Building On

There is no apathy in Wauchula. Survey participants and roundtable attendees alike expressed a deep sense of ownership over the future of downtown. While they were frank about its current limitations, they spoke with pride about its character, its history, and its role as the city's symbolic heart.

The city's walkable grid, charming building stock, and central civic spaces remain assets, especially Heritage Park, which was repeatedly cited as a cornerstone of downtown's identity. Businesses that have persisted or recently opened—such as boutiques, bakeries, and coffee shops—are known and appreciated. These "bright spots" were named frequently in open-ended survey responses and reinforced in every roundtable discussion.

Survey data confirmed this attachment:

- 91% of respondents live in or around the 33873 ZIP code
- The most common connection to downtown was not property ownership, but regular use, whether for dining, errands, or events
- Customer service, walkability, and public space ranked as the highest-performing attributes

Even among skeptics, there was a sense that downtown can work; it just hasn't reached its potential yet.

Weaknesses:

The Gaps That Undermine Momentum

Despite aesthetic improvements and periodic programming, downtown Wauchula could improve its day-to-day functionality. It's a place people want to enjoy, but often don't because it lacks a critical mass to be a magnet for regular use.

The survey and roundtables both pointed to a shared frustration: unreliable business hours, inconsistent offerings, and a perceived lack of energy. Many participants described making plans to visit downtown only to find shops closed or blocks quiet. Even buildings that are occupied can appear empty, whether due to papered windows, inconsistent signage, or low visibility.

Participants also expressed dissatisfaction with communication about downtown events and services. While Main Street and others are organizing meaningful programming, the channels of outreach feel fragmented, often relying too heavily on last-minute social media or word of mouth. This is a frequent concern in communities like Wauchula and is a signal that there is an opportunity to modify the narrative to be even more proactive and transparent.

Underlying all of this is a structural market weakness: low rent ceilings, rising insurance costs, and high rehabilitation expenses make it hard to renovate, lease, and sustain downtown properties. Multiple stakeholders noted that they've either deferred projects or opted not to invest further, citing the math just doesn't work yet.

COMMUNITY INPUT AND SURVEY FINDINGS

Opportunities:

What's Possible If the Pieces Come Together

What set this engagement effort apart was not just what people said was wrong, but how clearly they described what's possible. The survey asked residents what types of businesses they wanted downtown. The answers were overwhelmingly consistent and practical:

- Sit-down restaurants that serve lunch and dinner
- Coffee shops with longer hours and indoor seating
- Dessert and treat destinations such as ice cream, donut shops, bakeries
- Bookstores, boutiques, and youth-friendly retail
- Coworking spaces, gathering places, and small-scale wellness or beauty retail (e.g., cosmetics, supplements)

These aren't fantasy requests. They're the missing pieces of a livable, lovable downtown.

Stakeholders also noted specific locations where these uses could land and offered clear thinking about what would make them succeed. They know that a single restaurant won't fix downtown, but it can serve as an anchor. So can a small hotel, a brewery, or a multifamily housing development. These are the types of uses that don't just fill buildings; they extend hours, validate investment, and attract others.

In short: if the city and its partners want these things to happen, they need to continue the path to help make them happen.

What's also clear is that the partnership between Main Street, TDG, and the City has taken root. This is the first time many property owners and community members have felt those groups are aligned. They've seen incremental progress. Now, they want that alignment to translate into resources. In short, progress has been made, the alignment is now, and the opportunities are clear.

Threats:

What's at Risk If the Window Closes

While the tone of engagement was constructive, there was an undercurrent of concern: that this plan will join a list of others that were received, discussed, and eventually forgotten.

Participants used plain language. "We've had plans before." "We need to see something move." "I don't want to sit through another meeting unless something is actually going to happen." These aren't dismissals—they're a call to urgency.

Many property owners acknowledged that the longer buildings sit empty, the harder it becomes to renovate them. Business owners noted that another year of weak foot traffic might lead to closures. And several survey respondents expressed worry that downtown is becoming a place they talk about in the past tense, even as they try to support it.

The real threat isn't apathy. It's fatigue. Community members are eager for progress, but they need to see it. Not just big projects but also mmall wins and visible commitments. A grant that gets awarded. A new business that lasts. An incentive package that makes a project viable. These are the signals people are watching for.

COMMUNITY INPUT AND SURVEY FINDINGS

Who We Heard From and Why It Matters

The strength of this engagement wasn't just in the volume, but also in the diversity.

Survey Snapshot:

- 259 responses, collected digitally over four weeks
- Broad demographic reach:
  - » 77% White
  - » 19% Hispanic/Latino
  - » 5% Black, Asian, or multiracial
- Well distributed by age, with the largest participation from 35–54-year-olds
- Low-income and moderate-income participation evident in open responses
- 8% downtown property or business owners; the rest, regular users or interested residents

Roundtables Included:

- Local entrepreneurs and legacy merchants
- First-time investors and experienced developers
- Civic and nonprofit leaders
- Young professionals and multigenerational residents
- Elected officials and front-line city staff

These were not performative listening sessions. They were conversations with people who had tried, failed, succeeded, or invested in the downtown core. And they told us what most market studies miss: what makes a community believe in its own future.

Where This Takes Us

The message from the community was not scattered or abstract. It was clear:

- Downtown has a foundation, but needs this strategy.
- The public is supportive, but needs follow-through.
- The market is close, but it won't move on its own.

This plan doesn't exist to explain away problems. It exists to help the community act on what they already know.

In the next section, we move from community perspective to market potential, where the data confirms that the opportunity is real, but the economics require targeted, sustained intervention.

Community Survey Results - Word Cloud Representation of Sentiments About Wauchula

5 MARKET ANALYSIS

MARKET ANALYSIS

Understanding What the Market Will Support And What It Can't Do Alone

The public input for this plan was grounded in firsthand, local knowledge. Residents described a downtown they want to love but rarely use. Property owners named specific sites they would like to develop in the future. The business community spoke of ideas that might succeed if the right environment existed.

This section translates those sentiments into hard numbers. It uses nationally recognized retail datasets to show where demand is being lost, what categories are underserved, and what square footage downtown could reasonably support. It is not a wish list. It is a real-time view of the market, grounded in demographic data, retail behavior, and development economics.

It also serves as a reality check. The market potential exists. But capturing it—particularly downtown, rather than in outlying areas—requires sustained, intentional public and private action.

To assess the commercial potential of downtown Wauchula, this study relies in part on Claritas Spotlight, a nationally recognized market analytics platform that combines U.S. Census data, proprietary consumer modeling, and real-world spending behavior. Claritas provides localized insight into demographics, household spending patterns, retail leakage, and business performance across defined geographic areas. By applying this data to Wauchula's rade area, we are able to pinpoint which retail categories are underperforming, how much spending is leaving the market, and what types of businesses may be able to thrive downtown. Claritas doesn't just show who lives in the area; it reveals how people shop, where they go, and what they might support if given the option.

The demographic and retail leakage data from Claritas tells us what people are spending and where. Geofencing tells us what people are doing. To supplement retail demand analysis, the team used data provided by Placer.ai, a leading location intelligence platform that gathers anonymized cell phone data to understand foot traffic. Placer.ai geofences a designated study area—in this case, downtown Wauchula—and captures devices that enter and dwell in that area. Each device is associated with a ZIP code, time of day, and visit duration.

To translate these datasets into actionable insight, it's important to understand how market demand is categorized, how we measure opportunity, and what assumptions guide our projections. The following section defines key terms like NAICS codes and retail leakage, explains why we focus on a 20-minute drive-time trade area, and outlines how a conservative capture rate helps estimate what downtown Wauchula can realistically support. These definitions are not just technical; they are the foundation for understanding what the data is telling us and how it applies to the future of downtown.

What Are NAICS Codes and Why Are They Important?

Every retail or service business in the United States is classified using a six-digit NAICS code—short for the North American Industry Classification System. These codes group businesses by sector and subsector, allowing communities to analyze performance and identify gaps based on federal definitions. For example:

- NAICS 722511: Full-Service Restaurants
- NAICS 448120: Women's Clothing Stores
- NAICS 451211: Book Stores
- NAICS 812112: Beauty Salons

Using these codes, we can compare what residents in the Wauchula trade area are likely to spend (based on income and national trends) to what is actually being sold locally. The difference between those numbers reveals leakage—money that could be spent locally, but isn't.

MARKET ANALYSIS

Trade Area Recap: Why 20 Minutes Is the Goldilocks Zone

We analyzed three drive-time areas: 10, 15, and 20 minutes from downtown Wauchula. The 20-minute trade area, encompassing approximately 24,654 people, became the focal point for this study because:

- It captures the full extent of Wauchula's retail draw without overlapping Sebring or Lakeland's spheres of influence that would come into play at a 30 minute drive time.
- It reflects how far residents are likely to travel for regular purchases, dining, and services getting to just outside of Arcadia so it doesn't mistakenly capture sales in that community.
- It balances local insight with regional potential, making it the most actionable layer for downtown planning.

Leakage Defined and Why It Matters

Retail leakage occurs when residents in a defined trade area spend more in a given category than what's captured by local businesses. This means they are leaving the area or bypassing downtown for goods and services they could theoretically buy closer to home.

It's not just about recapturing lost sales. Leakage points to the types of businesses that are missing or underperforming. The leakage highlights opportunities to:

- Fill key gaps in the business mix;
- Provide incentives for priority categories; and
- Invest in infrastructure that supports private-sector activation.

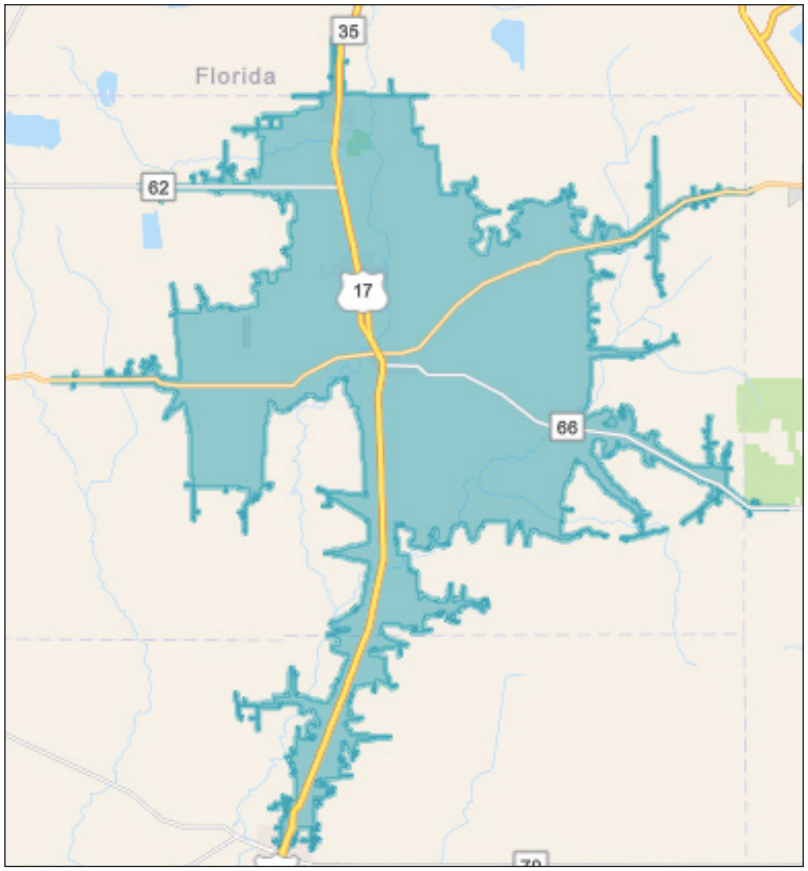
Capture Rate: Why We Use 30-50%

In practice, no downtown captures 100% of its trade area's demand. Some leakage is inevitable. People will continue to shop online, travel to larger cities, or seek specific brands unavailable locally.

That's why we apply a conservative 30-50% capture rate. This allows us to estimate what could be supported if conditions were favorable, assuming that half of the current demand leakage could be retained or redirected to downtown.

This assumption accounts for:

- Wauchula's regional role and current draw;
- The reality of competing suburban development, both within and outside city limits; and
- The difficulty of shifting ingrained retail behavior without significant change in the downtown offering.

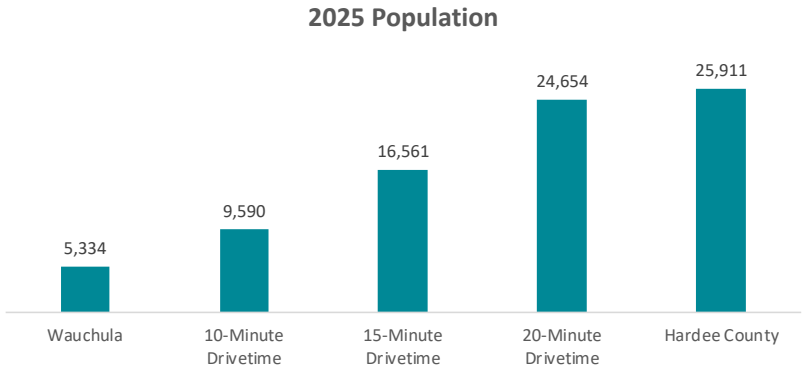


20-Minute Drivetime Trade Area

MARKET ANALYSIS

Market/Trade Area Demographics

Before we delve into the leakage, let's understand the market. Behind every data point is a population—real people with habits, incomes, and expectations that shape what downtown can support. Understanding who lives within Wauchula's trade area, how much they earn, how old they are, and what cultural makeup they represent gives us a clearer picture of demand. This context matters, because no market analysis is complete without acknowledging the community it reflects.



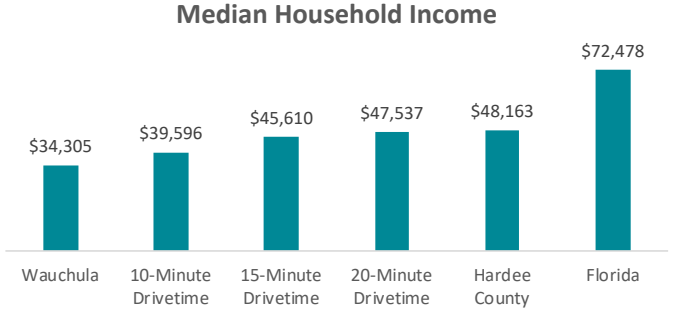
The focal geography of this analysis is the 20-minute trade area, which encompasses just under 25,000 residents. That number may appear modest, but its power lies in concentration: these are the individuals most likely to dine, shop, and seek services within close proximity to downtown, especially if compelling options exist.

The city of Wauchula itself is home to just over 5,300 people. That number more than doubles within a 10-minute radius and increases nearly fivefold within 20 minutes. In fact, the 20-minute drive time contains nearly as many people as Hardee County as a whole. This makes it a uniquely useful boundary—broad enough to capture true trade potential, yet focused enough to reflect market dynamics downtown can realistically serve.

Demographically, the area is youthful and diverse. Over one-quarter of residents are under the age of 18, and nearly half identify as Hispanic or Latino. White residents make up 47% of the trade area, with Black residents accounting for just under 6%, and all other racial groups comprising a small but meaningful share. This mix presents both an opportunity and a directive: future business development must reflect the culture, needs, and tastes of a broad customer base.

Age distribution is fairly balanced, with strong representation across every working-age group. Twenty-three percent of residents fall between ages 18 and 34, another 22% are between 35 and 54, and 20% are between 55 and 74. Only 9% of residents are age 75 or older. This evenly distributed age base provides a solid foundation for a mix of uses including restaurants, services, and retailers catering to families, professionals, and seniors alike.

Income is one of the most important market factors and is also one of Wauchula's biggest constraints. Median household income within the city stands at just over $34,000, rising steadily as the radius expands outward. By the 20-minute mark, the median income reaches $47,537, closer to Hardee County's overall average of $48,163 but still significantly lower than Florida's statewide median of $72,478.



This income gap carries implications. It may temper demand for high-end retail or fine dining. But it also signals opportunity for value-oriented retailers, service businesses, and independent entrepreneurs positioned to offer quality, affordability, and cultural relevance. It also reinforces the importance of downtown as a place where community identity, convenience, and experience outweigh price point alone.

In sum, the market for downtown Wauchula is rooted in a diverse, growing, and engaged regional population, with needs that are currently met elsewhere.

RETAIL LEAKAGE

Retail Leakage: What's Missing and What's Possible

While Downtown Wauchula has a strong foundation, there is also significant opportunity. Residents are spending money, and while some of that will always flow to neighboring markets, a closer look reveals just how much could be captured locally. With the right strategy, downtown can reclaim a meaningful share of this activity, not by competing on scale, but by offering something unique: experience, convenience, and a sense of place that suburban corridors can't replicate.

The 20-minute trade area generates over $384 million in consumer spending each year, yet only $297 million in local retail sales are captured. That leaves an estimated $87.5 million in annual leakage, representing dollars that are leaving the market or bypassing downtown entirely. This leakage is not specific to downtown, but it highlights regional demand that is unmet across various categories.

In this context, leakage is not a failure. It's a signal. It shows where unmet demand exists and points to the types of businesses, services, and experiences the community is actively seeking.

What's striking is how closely this data matches public perception. The community didn't ask for luxury brands or flashy entertainment districts. They asked for full-service restaurants, places to shop for clothing and essentials, wellness-oriented retail gauged at the fifteen minute drive time to augment existing services, and gathering spaces. The market analysis backs them up and now it's time to translate that into scale.

Estimating What Downtown Can Support

While $87.5 million in leakage is significant, not all of it can or should be recaptured. Residents will still travel, shop online, or frequent national chains. That's why we analyze leakage at two levels:

- 30% Capture Rate = Modest recapture under current conditions with incremental improvement.
- 50% Capture Rate = Aggressive but achievable target with infrastructure, incentives, and coordinated reinvestment.

The goal is not to compete with big box stores. The goal is to build a thriving, differentiated downtown that offers what no strip center can: experience, authenticity, walkability, and connection. Let's look at how this plays out in the highest-potential categories.

	Wauchula	10-Minute Drivetime	15-Minute Drivetime	20-Minute Drivetime	Hardee County
Retail Sales	$130,563,956	$164,173,966	$226,027,820	$297,142,729	$332,848,319
Consumer Expenditures	$67,354,990	$133,429,514	$247,643,187	$384,675,200	$455,548,174
Retail Leakage / Market Gain	$63,208,966 Market GAIN	$30,744,453 Market GAIN	$21,615,367 Retail Leakage	$87,532,471 Retail Leakage	$122,699,855 Retail Leakage

Retail Sales, Consumer Expenditures, and Retail Leakage/Market Gain in Wauchula, Hardee County, and the 10-Minute, 15-Minute, and 20-Minute Drivetime Trade Areas (Source: Claritas)

RETAIL & RESTAURANT OPPORTUNITIES

Full-Service Restaurants (NAICS 722511)

Leakage: $18.7 million

Restaurants represent the single most powerful category of retail leakage in Wauchula's trade area and the most catalytic opportunity for downtown. But this isn't just about opening another kitchen. It's about building an ecosystem: an interdependent mix of operators, spaces, events, and incentives that together generate foot traffic, reinforce a brand, and support sustained reinvestment.

Today, Wauchula offers only a handful of full-service dining options, and none that have yet been able to create steady foot traffic and activity in the evening hours downtown. At the same time, local leaders have invested significantly in the rehabilitation of a historic downtown property that is nearing readiness for a food-focused tenant. This will be explored in greater detail later in the report but it represents a critical pivot point. With the right concept, the right support, and the right market positioning, this site could signal a new chapter in downtown activation.

The market numbers support bold moves:

- **At 30% capture** = $5.6M in local sales would support ~14,000 sf of restaurant space
- **At 50% capture** = $9.3M in sales would support ~23,000 sf of restaurant space

But here's the nuance: standalone restaurants in rural markets—even with this level of demand—often require subsidy or incentive alignment to make the numbers work. Construction costs, tenant buildout, and the slower early ramp-up typical of small downtowns mean that pro forma gaps are real.

The solution is not just one restaurant. It's a strategy. That strategy might include:

- A small food hall with shared prep space, reducing overhead and increasing diversity.
- A permanent or seasonal food truck pad, incubating entrepreneurs while creating a consistent draw.
- Partnerships with event planners and Main Street to anchor dining with entertainment.

Here's how this might look as it plays out in Wauchula from a unit standpoint:

- 12,000 sf (conservative 30% capture) could support 3 to 5 small-to-mid-size independent restaurants
- 23,000 sf (50% capture) could support 6 to 9 independent restaurants, or a combination of:
  - 1–2 anchor restaurants (3,500–5,000 sf)
  - 3–5 smaller eateries or café-style concepts
  - 1 shared kitchen or food hall with multiple vendors

Looking ahead, a potential hotel development downtown that includes on-site dining, further reinforcing demand and creating spillover opportunity for others.

Done right, the restaurant ecosystem won't just plug a gap; it will transform perceptions of downtown as a destination. And that transformation will extend far beyond the table.

MARKET ANALYSIS

Specialty Food & Beverage (NAICS 4453, 7224)

Between the opportunity for full-service dining and the evolving grocery landscape discussed below lies a space uniquely suited to downtown Wauchula: specialty food and beverage. These are the wine bars, dessert cafés, bakeries, craft beverage taprooms, and hybrid café-markets that extend dwell time, build cultural identity, and bring vitality to evenings and weekends.

The data suggests there's real demand. Beverage-specific retail leakage—from alcohol to soft drinks to sweet treats—totals more than $5.1 million annually. But the story goes beyond numbers.

Downtown Wauchula already enjoys strong daytime visitation and regional foot traffic for events. What it lacks is small-format businesses that keep people downtown just a little longer. A place to get coffee and linger. A place to meet friends after work. A place to unwind after dinner with something sweet or something crafted.

Depending on the format and operator:

- **30% capture** = ~$1.5 million
- **50% capture** = ~$2.5 million
- This supports 2 to 3 small specialty food or beverage businesses.

This could include:

- A dessert café or artisan bakery that serves both morning and evening crowds. This is already underway.
- A craft beverage tasting room (coffee, beer, or wine) with regional branding appeal.
- A hybrid café-market offering retail shelves by day and communal tasting events at night

These businesses can thrive in smaller spaces (1,000 to 2,500 square feet) and often work best when clustered with restaurants, markets, and foot traffic generators.

Most importantly, they function as low-barrier, high-experience spaces: the kind of places where new entrepreneurs test concepts, where residents form habits, and where visitors get their first taste of what makes Wauchula unique.

In a revitalized downtown, specialty food and beverage businesses are not afterthoughts—they're the bridge between daily life and destination. And Wauchula's market demand is clearly ready for them.

MARKET ANALYSIS

Grocery and General Merchandise (NAICS 445 + 452)

Leakage: $23.3 million combined

Grocery is one of the most complex and consequential categories in Wauchula's market story. While the city is served by longstanding supermarket anchors, the dynamics are shifting quickly. Wauchula's Winn-Dixie is currently being converted into an Aldi, signaling a major shift in the grocery landscape toward deep-discount formats. And while Walmart remains a dominant retail force in the market, its model favors scale over nuance. Meanwhile, Publix—headquartered in nearby Lakeland—still has no presence in Wauchula.

These changes matter downtown. If the grocery landscape tips more heavily toward low-cost, national chains, there may be growing space in the market for a new kind of food destination, one that blends specialty grocery, local produce, and prepared meals into a cohesive, experience-based concept.

Downtowns around the country are increasingly hosting:

- Fresh markets with curated grocery items and ready-to-eat meals
- Hybrid spaces combining deli counters, wine bars, and cooking classes
- Cultural food stores that serve and reflect the diversity of their communities

The trade area clearly supports it:

- **At 30% capture** = $7M in sales
- **At 50% capture** = $11.5M

This isn't about replicating the supermarket; it's about offering something different: something smaller, fresher, and more human-scaled that enhances downtown's role as a neighborhood hub rather than a one-stop warehouse.

A downtown food concept of this kind could also serve as a natural partner to the growing restaurant ecosystem. Shared vendors, cross-promotion, and even a shared commissary or prep kitchen could help operators reduce costs and create synergy. In short: grocery may not seem like a downtown story at first glance, but given the regional shifts underway, it might be one of downtown's biggest chances to lead rather than react.

MARKET ANALYSIS

Transition: From Dining to Downtown Retail

With food and beverage serving as downtown's social core, retail plays a complementary but equally essential role. Wauchula's downtown already features a mix of longstanding gift shops and newer retail concepts that attract both local and regional shoppers, especially during events. These businesses, often operated by committed locals, have demonstrated that downtown can function as a place of commerce, not just character. What's needed now is scale, variety, and alignment with emerging retail trends.

Clothing & Specialty Retail (NAICS 4481)

Leakage: $10.2 million

Among all the retail categories examined, apparel stood out in both the data and the public input. Community members consistently mentioned the need for better shopping options, particularly for everyday wear, youth fashion, and items that reflect local style without requiring a trip to a mall.

And they're right. The market is leaking over $10 million annually in clothing sales.

- **30% capture** = $3M would support ~7,500 sf of retail space
- **50% capture** = $5M would support ~12,500 sf of retail space

But not all square feet are equal. In small downtowns, the sweet spot for independent boutiques tends to fall between 1,200 and 2,000 square feet, depending on product type and turnover. That means downtown Wauchula could support 4–6 boutique-scale tenants—either clustered around a single block or dispersed strategically across the core.

What's working nationally—and increasingly in Florida's smaller cities—is not department-store scale. It's style with personality: shops that sell curated selections, feature regionally made goods, or pair clothing with home decor, gifts, or wellness products. Concepts that offer custom fitting, subscription boxes, or personalized styling events stand out even more.

Just as food is becoming an experience, so too is retail. The best small-town shops are extensions of the owner's personality, and when clustered together, they become part of a broader downtown brand.

MARKET ANALYSIS

A Reimagined Emporium for Vintage & Upcycled Goods

Another scalable opportunity is the development of a multi-tenant retail emporium focused not on dusty antiques, but on vintage, upcycled, and handmade goods. These retail collectives have been thriving in walkable districts, especially in towns with a blend of creative entrepreneurs and modest commercial rents.

This could be a repurposed downtown building subdivided into small retail bays, or an open-concept interior with shared displays and a unified checkout. Think less "antique mall" and more regional maker's market with a fixed location.

Vendors might include:

- Upcycled clothing and home décor
- Vintage housewares or records
- Regional candle, soap, and accessory makers
- Print artists and handmade crafts
- Rotating pop-up booths for emerging businesses

The beauty of this model is that it encourages low-barrier entry while promoting consistency and experimentation. It also extends hours and drives foot traffic during events, with vendor-hosted workshops, evening tastings, or maker markets layered into the mix.

Wellness-Oriented Retail (NAICS 446 Subcategories)

While Wauchula already has a strong base of gyms, dance studios, salons, and estheticians downtown, retail data from the 15-minute trade area points to an opportunity in adjacent wellness-oriented retail, rather than an expansion of personal services themselves.

Categories such as health supplements, beauty supplies, and specialty wellness products collectively show more than $2.3 million in unmet demand, suggesting space for new downtown retailers that support the community's health and wellness goals without duplicating existing service providers.

These types of retailers could include:

- A beauty and skincare boutique
- A health supplements store with local/regional branding
- A wellness-focused retailer offering holistic products, gifts, and lifestyle goods
- A boutique offering cosmetics, natural skincare, or beauty supplies
- A health and supplement shop with regional or organic product lines
- A lifestyle retail store blending health goods with home or gift items

These businesses typically succeed in 800–1,500 square foot storefronts or additions to existing service business. Importantly, the opportunity is retail-specific, not an indication of demand for additional salons, gyms, or personal services.

MARKET ANALYSIS

The Big Picture

Downtown Wauchula is surrounded by opportunity. The numbers confirm what the community already knows: there is both need and desire for a more complete downtown experience. Capturing even a fraction of that leakage can reposition downtown as a daily destination, not just a pass-through.

But doing so requires more than just data. It requires site readiness, policy alignment, investor confidence, and public leadership. The next sections will address those tools because while the market may be supportive, it cannot do the work alone.

Geofencing: Proof of Activity, Not Just Potential

The market analysis tells us what people are spending as well as what is missing. But understanding where people go, how often, and when they engage with downtown adds another layer of insight. That's where geofencing comes in. By tracking anonymized mobile device activity, we can see actual patterns of visitation: how many people are coming downtown, where they're coming from, what time of day they're most active, and how often they return. This data doesn't just confirm demand—it reveals behavior. And in a place like Wauchula, where the perception of downtown's vitality can vary widely, having that evidence matters.

In this study, a "visitor" is defined as someone whose device was present in the downtown study area for at least seven minutes. The analysis covers the period from January 1, 2023, to December 1, 2024.

Between January 2023 and December 2024:

- Downtown Wauchula recorded 1.2 million visits
- 124,000 unique devices were captured, averaging 12.54 visits per person
- Visitors skewed older than the local population, with an average age of 43
- Income data showed visitors earning quite a bit more than local medians at $66,914 per household
- Peak activity occurred Friday through Saturday, mostly from late morning through early evening.

Visitor Trends: Who Is Actually Downtown, and When?

Visitor Volume

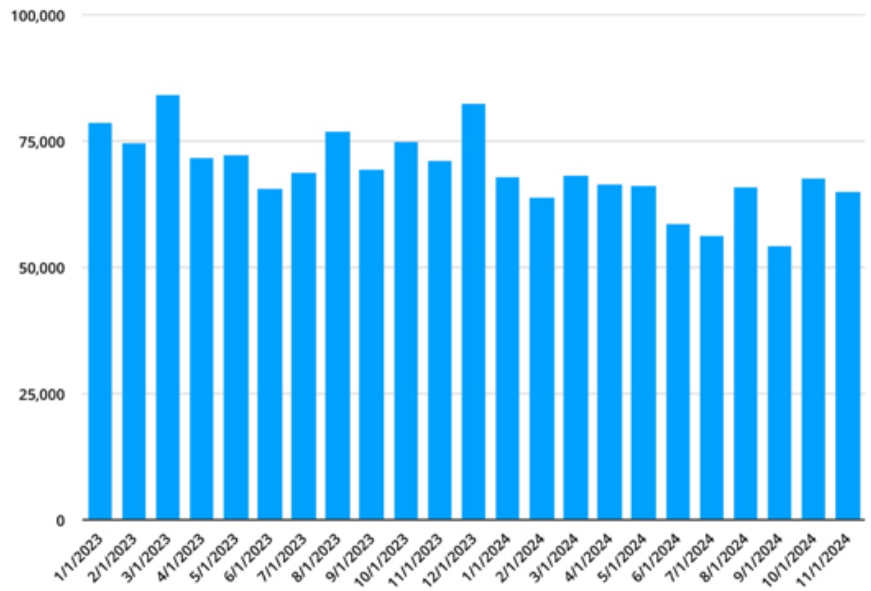
During this time, 1.6 million visits were made to downtown Wauchula by approximately 127,000 unique individuals.

Visits by Week

Weekly data from January 2023 through November 2024 shows consistent visitation, with peaks aligning around spring and late fall, likely due to seasonal events and holidays. Weekly traffic generally ranges between 13,000 to 20,000, with some surges above 23,000, often corresponding to special event weeks.

Visits by Month

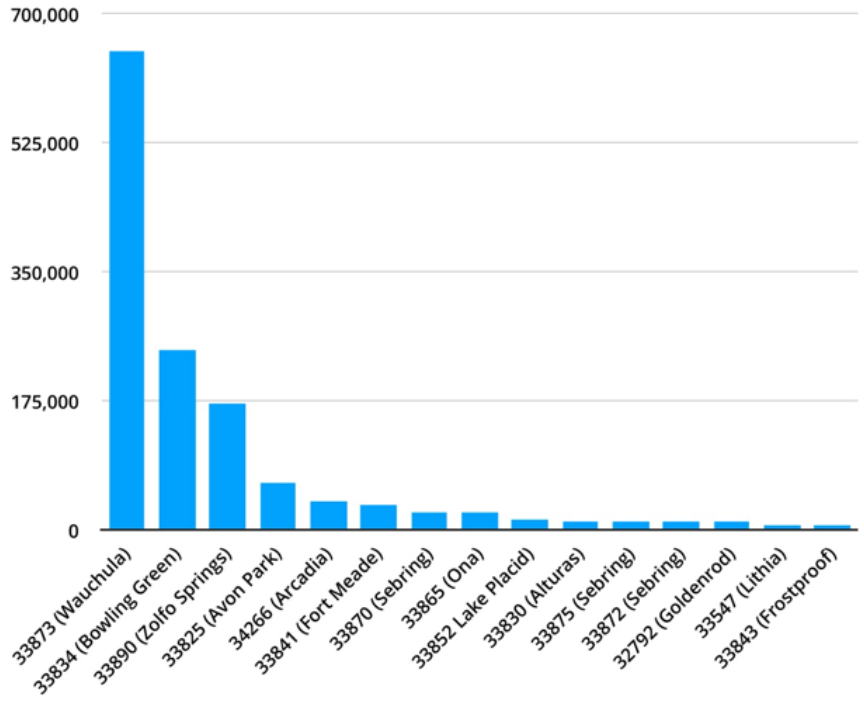
Monthly visits display similar seasonality. The district saw higher activity in March and December of 2023, while mid-2024 showed a dip, likely due to summer heat or reduced programming. Monthly visits range from approximately 54,000 to 85,000, highlighting the need for sustained activation strategies during slower months.



MARKET ANALYSIS

Top 15 ZIP Codes

Most visitors are local or regional. The top three ZIP codes—Wauchula (33873), Bowling Green (33834), and Zolfo Springs (33890)—account for over 1 million visits combined, indicating that downtown primarily serves a regional audience within Hardee County and nearby towns.

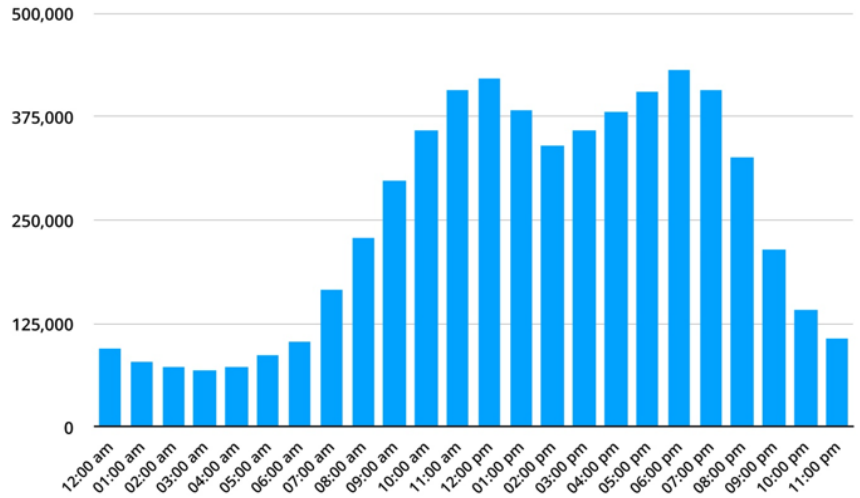


Visits by Days of the Week

Fridays led \all days in visitation, followed closely by Thursdays and Tuesdays, with Sunday being the slowest day. This pattern suggests that downtown Wauchula sees strong weekday and end-of-week traffic, presenting opportunities for retail and dining promotions Thursday–Saturday.

Visits by Time of Day

Activity is heavily concentrated between 8:00 AM and 9:00 PM, with traffic ramping up after 7:00 AM and peaking between 11:00 AM and 7:00 PM. This accounts for over 3.1 million visits in that 8-hour stretch—the busiest window in the dataset. This underscores the importance of ensuring shops, restaurants, and events are active during peak daytime hours.



Top 15 Other Destinations

Visitors to downtown Wauchula are also frequenting regional commercial centers such as Walmart, Lakeshore Mall, and McDonald's, as well as destinations in Sebring, Bartow, and Orlando. This demonstrates that Wauchula's downtown is part of a broader regional consumer ecosystem and may benefit from a boost in positive reinforced shop Wauchula/Hardee promotion.

MARKET ANALYSIS

The Suburban Challenge: Capturing More of What Already Exists

Even within Wauchula, retail demand is being met outside of downtown. Suburban strip centers, stand-alone fast-food, and auto-oriented shopping venues capture much of the city's existing purchasing power.

Downtown cannot and should not compete with those centers on their terms. But it can differentiate. It can offer experiences, aesthetics, walkability, and multi-purpose spaces that strip development never will. That's what's missing, and that's what the data suggests can be captured if the environment supports it.

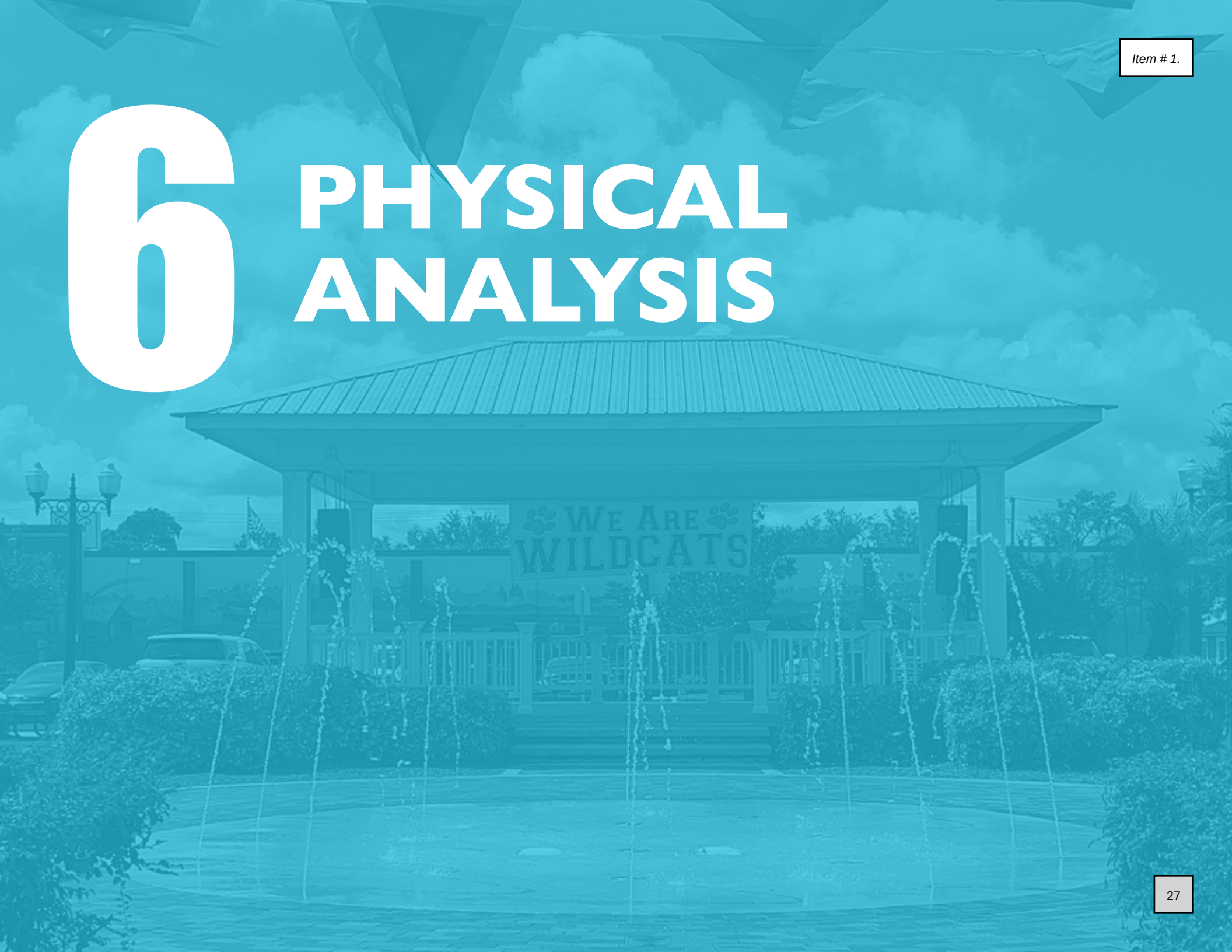
Market Takeaway

The numbers are clear that Downtown Wauchula can support more than it currently offers. But that supportable space is not infinite as outlined above in the retail leakage analysis., and the types of uses that are missing (restaurants, fitness, retail) are sensitive to environment.

What the market tells us is this:

Yet another reinforcement that there is enough demand to support multiple new businesses, particularly in food, apparel, and select retail categories adjacent to wellness and personal care, such as cosmetics and supplements. Moreover, that demand will not be captured without intentional planning, incentives, and a clear message that downtown is open for business. The gap between potential and performance is not demand—it's delivery.

6 PHYSICAL ANALYSIS



PHYSICAL ANALYSIS

Downtown Wauchula, Florida, presents a blend of small-town charm and historical character, shaped by its agricultural roots and close-knit community. As you enter the area, the layout is organized around Main Street, where restored brick buildings and vintage storefronts create a nostalgic atmosphere. Many of these structures date back to the early 20th century, showcasing architectural details like decorative cornices and arched windows. The area is pedestrian-friendly, with wide sidewalks and street amenities such as benches and outdoor seating.

Physical reconnaissance of downtown reveals a mix of active businesses and underutilized spaces. There are family-owned restaurants, shops, and local service providers, with some storefronts currently vacant or in need of renovation. The area's compact size allows for thorough visual assessment on foot, making it easier to identify potential sites for revitalization or development. Street parking is generally available and free, although limited in certain sections during peak hours. Public amenities like the Wauchula Train Depot and Heritage Park add cultural value and provide focal points for community engagement.

Observations also highlight the potential for strategic enhancements. Improved signage, landscaping, and lighting could further enhance the downtown experience and attract more visitors. There's evidence of local pride in the form of public art and seasonal decorations. However, increased investment in infrastructure, such as updated crosswalks and bicycle-friendly options, could support more dynamic uses. Separated by Highway 17, Downtown Wauchula has an opportunity to expand Main Street revitalization efforts, improve pedestrian safety, and provide economic development opportunities, both to the east and west. With its historic charm and visible potential, downtown Wauchula stands as a strong candidate for thoughtful revitalization that respects its heritage while encouraging future growth.

The "East Side"

East of Highway 17 presents opportunity for public and private investment to expand Downtown. The Historic Wauchula City Hall, home of the Peace River Entertainment & Performing Arts Center, provides a strong anchor to an improved streetscape. R Riveter, a local handmade bag distributor, will be relocating to another location in Hardee County, providing an opportunity for infill, redevelopment, and potential downtown housing. A vacant site is at the corner of Highway 17 North and East Main Street and has the potential to be an anchor development with pedestrian improvements to connect to the Historic Wauchula Depot and additional downtown restaurant and retail destinations.

PHYSICAL ANALYSIS

The "West Side"

West of Highway 17, similar to the East, presents an opportunity for Downtown to grow and infill with mixed-use and residential developments. Existing streetscape improvements with on-street parking, landscape, raised planters and site furnishings terminate at North 8th Avenue. At the end of the streetscape improvements, there is a vacant site (previous blighted building removed) with available sites along North and South 8th Avenue for retail and restaurant developments. Site and development plans for existing sites and buildings are underway with private development corporations and, with public realm improvements, will expand downtown offerings.

PHYSICAL ANALYSIS

Infrastructure and Streetscape Conditions

Main Street in Downtown Wauchula showcases a revitalized streetscape that harmonizes historical preservation with modern enhancements. Since its designation as a Florida Main Street community in 1995, the area has undergone significant transformations, including the creation of Heritage Park, the installation of hanging plants throughout the park, and the introduction of seasonal banners. These efforts have fostered a vibrant community atmosphere, making downtown Wauchula a center of activity enjoyed by locals and visitors alike.

Infrastructure improvements have been a focal point in downtown Wauchula's development. Notably, the city initiated a milling and resurfacing project on East Main Street (SR 636) to address pavement conditions. Additionally, the Wauchula Community Redevelopment Agency has undertaken parking enhancements at the intersection of US-17 and Main Street, including the construction of approximately 34,000 square feet of asphalt parking area complemented by lighting and landscaping improvements. These projects aim to improve accessibility and aesthetic appeal, contributing to the overall functionality and charm of the downtown area.

While the aesthetics and functionality of the Downtown streetscape is adequate, there are areas where improvements would increase opportunities for economic development. Consideration should be given to removing the raised planters for a wider sidewalk and to reduce conflicts with vehicular parking. Canopy trees, flowering shrubs, and seasonal flowers and grasses should be planted and maintained in all bulb outs. Crosswalks across Main Street should be stamped asphalt to match all cross streets.

PHYSICAL ANALYSIS

Walkability, Parking, Lighting

Downtown Wauchula offers a walkable environment, particularly along Main Street west of Highway 17 North, where wide sidewalks, pedestrian-friendly crossings, and accessible storefronts create an inviting atmosphere. The area features amenities such as Heritage Park, providing shaded seating areas and a central gathering space that enhances the pedestrian experience. Crossing Highway 17 North has been a deterrent to Downtown investment along East Main Street. While the three-lane crossing does have pedestrian signage and push button activation, the high speed and noise from the irregular pavement is a noticeable impediment. While only the paving has been identified to move forward, the pedestrian enhancements proposed in FDOT's schematic plan—such as lane reductions and safety upgrades—are not currently scheduled for implementation.

Parking in downtown Wauchula is generally accessible, with a mix of on-street spaces and dedicated lots. The Wauchula Community Redevelopment Agency has initiated projects to improve parking infrastructure, including the construction of approximately 34,000 square feet of asphalt parking area complemented by lighting and landscaping enhancements. Street lighting has been upgraded in various parts of downtown, contributing to a safer and more welcoming environment during evening hours.

PHYSICAL ANALYSIS

Key Challenges: Vacancies, Code Issues, Visual Clutter

Key challenges for Downtown improvements include vacancies, blighted buildings, code compliance, visual clutter, and aesthetic and physical improvements.

Aesthetic and physical challenges occur along Main Street. The brick pavers and crosswalks are unlevel in some places and create hazards for pedestrians and raise concerns regarding ADA compliance. The raised planters along Main Street create conflicts for parallel parking and deter residents and visitors from utilizing a park and walk mentality.

George Burris Avenue, where an opportunity exists to develop a festival street, overhead power lines and trash refuse areas create visual clutter. Signage is duplicative, and consolidation of FDOT, redundant County pedestrian, and local signage should be considered.

A key challenge to the expansion of Downtown east is the pedestrian crossing of Highway 17 North. While pedestrian improvements have been completed, the speed of vehicles, distance to cross, and lack of amenities are a clear barrier to private investment. FDOT proposed improvements should be reconsidered as private development plans are integrated into public realm improvements (eg. Streetscape, lighting, landscape, etc.).

The physical conditions of downtown Wauchula tell a clear story: the bones are good, the charm is authentic, and the groundwork has been laid through years of incremental investment. But just as the market requires more than desire, the built environment requires more than aesthetics. The next layer of revitalization depends not only on what downtown looks like, but how easy or difficult it is to build, renovate, or invest in it. And that's where policy comes into play.

7 LAND DEVELOPMENT CODE REVIEW

FOR DOWNTOWN WAUCHULA

LAND DEVELOPMENT CODE REVIEW

Every thriving downtown is underpinned by a development code that either opens doors or impedes opening them. In Wauchula, well-meaning but some outdated regulations may put the greatest burden on the very areas the city most wants to activate. This chapter looks at the current land development regulations through a downtown-specific lens. It identifies structural barriers in zoning, signage, parking, and process, and offers best practices that can help Wauchula unlock development potential without compromising quality, character, or community intent.

Key Issues Identified in Current Code

1. HC-1 and Design Review

Wauchula does maintain a distinct zoning district tailored to its historic downtown core: Historic Downtown Commercial (HC-1), as defined in Section 2.02.02.09 of the City's Unified Land Development Code. The HC-1 district was created with a stated purpose of fostering pedestrian-oriented, mixed-use development that respects the city's historic structures, while allowing for compatible commercial and residential activity.

This designation addresses several downtown-specific concerns, including reduced reliance on off-street parking, allowances for upper-floor residential, and discretion for the Development Director to limit high-traffic uses that would disrupt the character of the area. The code also includes specific exceptions for parking in historic structures and encourages design compatibility with adjacent historic buildings.

Moreover, the City of Wauchula has adopted historic preservation guidelines and a Certificate of Appropriateness process, managed by the Historic Preservation Board, which applies to properties within the HC-1 district and designated historic districts . These include criteria for designation, design standards based on the Secretary of the Interior's Standards, and review processes for alterations, demolitions, and new construction within the district.

Recommendation:

- While the framework exists, there is room for refinement. The HC-1 district and overlay could benefit from:
- A consolidated visual-based form code or design manual to simplify interpretation.
- Streamlined administrative approvals for projects aligned with adopted downtown plans.
- A more proactive incentive structure tied to the historic overlay to attract reinvestment.

2. Parking Requirements Not Fully Calibrated to Downtown

The Historic Downtown Commercial (HC-1) zone does not include parking requirements. Although the city-wide off-street parking regulations (Article 3.03.00) include several provisions that offer flexibility for developments in general and downtown specifically, they stop short of establishing a clear, context-sensitive standard for the HC-1 zone. Downtown has exemptions allowing public and on-street parking to satisfy requirements. Notable elements include:

- Shared Parking (Section 3.03.04(D)): Allows for reductions when uses have staggered peak hours, contingent upon a parking study and a legal agreement between property owners.
- Deferred Parking (Section 3.03.04(C)): Developers may defer required spaces through submission of a study showing lower anticipated demand. However, they must reserve land to accommodate the full parking count in the future if necessary.
- Historic Structures Exception (Section 3.03.02(D)): Off-street parking requirements may be waived or reduced if they would hinder a compact row of commercial buildings, provided the use is not auto-oriented and the reduction supports the historic and pedestrian character of downtown.
- Off-site Parking (Section 3.03.04(B)): Permitted under certain conditions, including proximity and compatibility of use.

Recommendations:

- Revise the code to include automatic parking reductions or exemptions for parcels in HC-1, particularly for small-scale development, reuse of historic buildings, or mixed-use projects. A payment-in-lieu option, combined with designated municipal/shared parking lots, could further reduce barriers to investment.
- Shared and deferred parking rely on staff discretion and detailed traffic engineering studies, which can deter small-scale infill or adaptive reuse. This may need to be examined.

3. Use Restrictions May Need Slight Modification

The City of Wauchula has established the HC-1 Historic Downtown Commercial zoning district, which is indeed intended to support pedestrian-oriented, mixed-use development and includes provisions for upper-floor residential, small-scale retail, and low-density multifamily housing. However, the permitted and conditional uses are drawn from a generalized Table of Land Uses that lacks fine-grained categorization for emerging or hybrid uses such as artisan manufacturing, craft beverage production, or micro-retail suites.

For example, while light manufacturing and finished goods assembly (such as those resembling R. Riveter's operations) are defined in Article 9 , there is no explicit linkage to their allowance within the HC-1 district without referencing the generalized land use table or pursuing a conditional or special exception use route. Similarly, craft food and beverage manufacturing, though defined, is separated into "light" and "heavy" industrial use and may be limited to C-2 or I districts. There's a lack of clarity if such uses can occur in HC-1 when paired with retail or tasting room formats, despite their increasing presence in comparable downtowns

Outdoor dining is not explicitly referenced in HC-1 provisions, though it may be allowed by practice. There is also limited language about sidewalk cafés, patios, or accessory outdoor uses by right. Live/work units are not directly named or encouraged in any residential or commercial category, despite their relevance to downtown revitalization and small-scale entrepreneurship. Home occupations are allowed under Section 2.04.03 and Article 9 definitions, but they are still restricted to largely residential neighborhoods and do not appear to support expanded mixed-use downtown environments where dual-use is desirable.

Recommendation:

- Update the use table and HC-1 provisions to explicitly accommodate:
  - » Craft manufacturing and assembly with on-site retail.
  - » Micro-retail and flexible retail bay structures.
  - » Live/work units and hybrid commercial-residential uses.
  - » Outdoor dining, sidewalk vending, and accessory patio spaces by right.

4. Signage Regulations Present a Good Foundation—but May Still Constrain Creative Expression

Wauchula's sign regulations offer a solid start for a walkable downtown, especially in the HC-1 Historic Downtown Commercial district. Projecting signs, under-canopy signage, and modest exceptions for historic character are allowed, and the Historic Preservation Board has some discretionary authority to approve deviations in HC-1. However, the overall framework remains rooted in formulaic frontage-based calculations and limited to traditional sign types.

Critically, the code does not go quite far enough to actively encourage creative or artistic signage, such as sculptural, integrated, or custom-format signs that are increasingly part of placemaking in small downtowns. The permit pathway also lacks an express fast-track or administrative process for signs that align with adopted Main Street or design guidelines. These constraints may unintentionally limit small businesses from adding character, clarity, or vibrancy to their storefronts.

LAND DEVELOPMENT CODE REVIEW

5. Administrative Processes Lack a Clear Pathway for Downtown-Oriented Projects

The current development review process in Wauchula—including conditional uses, variances, and design approvals—can involve multi-step hearings and board-level reviews that may unintentionally discourage small-scale infill or entrepreneurial investment in downtown.

While the code does offer procedures for conditional and special uses, there is no clear, expedited pathway for projects that align with the adopted downtown vision or Main Street revitalization goals. This means there is no formalized "fast track" or administrative relief mechanism for proposals that are demonstrably in the public interest such as those that restore historic buildings, add upper-floor housing, or align with Main Street design standards.

In communities similar to Wauchula, successful downtown plans often rely on streamlined, staff-level approvals or administrative design review for conforming projects, reducing uncertainty and timeline risk for small developers. Encouraging the types of development this plan supports will require procedural clarity and flexibility, especially for projects that meet the spirit of the zoning code.

6. Design Standards Are Not Fully Calibrated for Historic Downtown Context

Article 5 of the code provides baseline development standards (e.g., height, setbacks, landscaping), but these appear to be written primarily for conventional commercial or suburban development. As such, they fall short in guiding context-sensitive infill or adaptive reuse in Wauchula's historic downtown.

The HC-1 district acknowledges downtown character, but the code lacks block-sensitive or frontage-type standards that reflect the nuances of historic storefront patterns, such as narrow lots, zero setbacks, or articulated facades. No visual guidance or form-based standards are included to help applicants or staff evaluate building massing, scale, or rhythm. These standards are critical in maintaining architectural cohesion. The result is that some new construction or renovations may either overreach or under-deliver, unintentionally diluting the quality of place downtown Wauchula is trying to cultivate.

Encouraging a strategic mix of uses by building depth (for example, retail or restaurant in the front and office/professional in the rear) could help preserve vibrancy while accommodating multiple tenant types.

Introducing a simple, graphic-based design guide, or incorporating form-based overlays, could provide the clarity needed to ensure new development contributes to the downtown's visual and functional fabric.

7. Code Language and Format Limit Accessibility for Everyday Users

The existing code is largely written in legalistic, text-heavy language with few tables, visuals, or explanatory notes. While this may satisfy legal sufficiency, it limits usability for property owners, business operators, and small-scale developers—the very people this plan hopes to empower. Understanding that the code is being rewritten, the following suggestions would help both staff and the public.

A modest reorganization—starting with summary tables, process flowcharts, and illustrative examples for downtown-specific scenarios—would go a long way toward making the code a tool for activation rather than a barrier to reinvestment.

LAND DEVELOPMENT CODE REVIEW

Best Practices for Downtown-Focused Codes

The City of Wauchula's code is generally sound but would benefit from refinement rather than reinvention. The following best practices are offered to introduce new tools, not restate the existing code analysis:

1. Create a Visual Companion to the Code

Develop a simple illustrated handbook separate from the ordinance that helps property owners and small-scale developers interpret key requirements, such as building placement, signage, and pedestrian-friendly design.

2. Introduce a Downtown Minor Works Process

Allow staff-level approval for small exterior changes (awnings, paint, signage) to reduce procedural burden while maintaining character. This preserves consistency without discouraging improvement.

3. Pilot a Temporary Use Program

Adopt a framework for short-term or pop-up uses in vacant lots or storefronts, such as retail carts, food trailers, or art installations. This builds vitality and lowers entry barriers for emerging businesses.

4. Establish Pre-Entitlement Templates for Target Sites

For priority infill parcels, create pre-reviewed development templates or "ready-to-go" site programs with pre-calculated parking waivers, building envelopes, and streamlined approvals. This approach is particularly effective in public-private partnerships.

5. Allow Adaptive Use Flexibility in Historic Buildings

Permit a broader set of uses in historic structures including small-scale manufacturing, assembly, and mixed commercial production, without triggering onerous upgrades or conditional use reviews.

6. Encourage Vertical Mixed Use Through Incentives

Offer density bonuses, expedited review, or small façade grants for projects that include residential units above commercial space, reinforcing housing and foot traffic downtown.

Downtown Wauchula has all the ingredients of a revitalization success story—history, identity, walkability, and a community that cares deeply about its future. The previous chapters of this plan confirm what local leaders have long sensed: the market is ready, the partners are aligned, and the community is engaged.

Conclusion

What this section adds is clarity. It confirms that Wauchula's current land development code is not fundamentally broken, but that thoughtful refinements could unlock new opportunities for investment, creativity, and growth. It also highlights the need to keep improving the user experience, both for developers and for residents, through simplified processes, flexible standards, and clear alignment with downtown's goals.

Most importantly, this is not a chapter about barriers; it's about readiness. The analysis above shows that Wauchula is not just hoping for progress; it is preparing for it. With the right development tools, continued collaboration, and a shared commitment to reinvestment, downtown can evolve into a more complete version of itself: a place where history meets opportunity, and where small moves add up to big change.

The next chapters focuses on target sites, development concepts, and implementation, and marks a transition from analysis to action. With the groundwork laid, the focus now turns to planning tangible projects, prioritizing investments, and equipping partners to deliver results. Wauchula doesn't just need analysis—it needs a roadmap.

8 TARGET SITES & DEVELOPMENT CONCEPTS

TARGET SITES & DEVELOPMENT CONCEPTS

Downtown revitalization is not just about policy; it's also about property. In Wauchula, that means identifying where momentum is possible and what it will take to bring stalled or underutilized sites back into productive use.

The following section introduces a set of catalytic properties, each with unique constraints and potential. These are not the only properties with promise, but they represent a strategic cross-section of what downtown could become: a blend of hospitality, retail, housing, and adaptive reuse that reinforces walkability and economic vibrancy. It is important to note that while these specific properties were identified through an iterative process with the community, they also represent model locations and typologies that can be replicated on other sites and with other buildings. This is critical because not every site will develop as it is proposed here, and other opportunities may arise. These sites can be viewed in three ways:

1. A portfolio of sites that can be marketed to investors for public private partnerships.
2. Synthesized alongside tactical recommendations to come in the next chapter into a plan for the future.
3. Templates that can be replicated and used over and over on different sites.

Before diving into individual site concepts, it's critical to understand the conditions shaping real estate in downtown Wauchula. These dynamics affect every building, every deal, and every attempt at reuse. They also form the backdrop for why specific public or private interventions may be needed as part of a future action strategy.

Key Real Estate Challenges in Downtown Wauchula

Low Rent Rates: Low rent rates can devalue properties, making them less attractive to investors and property owners. When rent income is reduced, property owners may struggle to cover maintenance and operational costs, which discourages reinvestment. As rent prices remain low, the area may attract lower-quality tenants, contributing to an environment of instability and stagnation. This cycle can further erode the economic vitality of the district, creating challenges in attracting new investments and hindering long-term growth.

Lack of Spaces for Lease: A shortage of available leasing options significantly limits the ability of new businesses to enter the market, stifling potential economic growth. Existing businesses looking to expand also face constraints, which could result in them closing or relocating to more favorable locations. Furthermore, a lack of spaces for lease makes the area less attractive to developers and entrepreneurs looking to invest or open businesses, ultimately restricting the area's capacity to diversify and thrive economically.

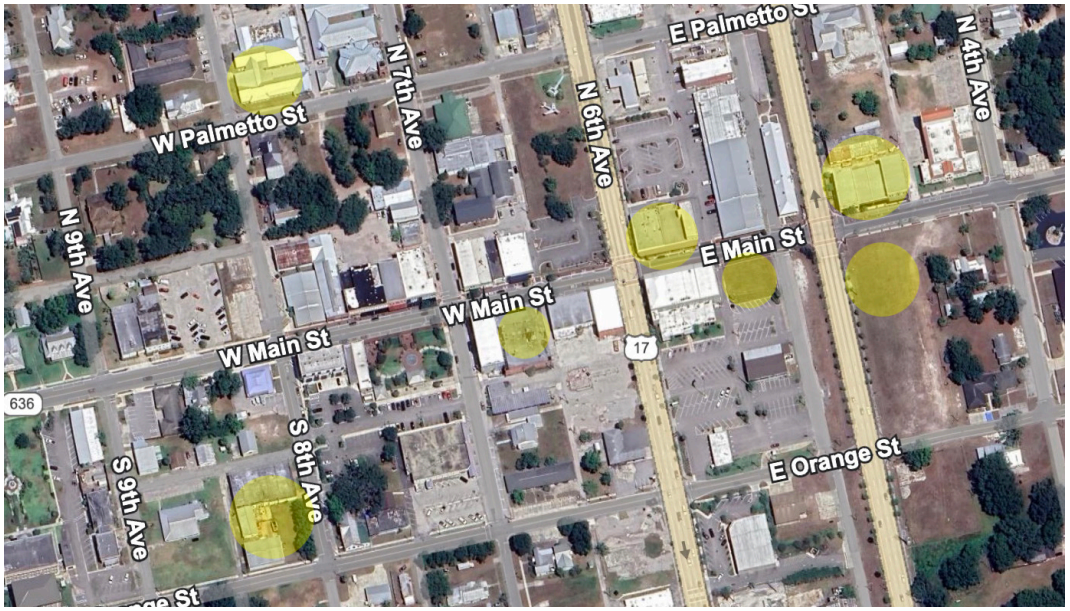
Lack of Local Development Experience: The absence of experienced local developers means redevelopment projects may lack the necessary expertise to navigate challenges such as zoning, financing, and construction. This can result in poorly executed or failed projects that don't align with the area's needs. Developers without a deep understanding of the community's market conditions may struggle to create developments that are viable and sustainable. Additionally, the lack of a skilled development network can deter outside investors, who may be concerned about the feasibility of projects without local expertise.

TARGET SITES & DEVELOPMENT CONCEPTS

Deferred Maintenance of Unoccupied Properties: When unoccupied properties are left in disrepair, they can become eyesores that contribute to blight and negatively impact the overall value of the area. This not only diminishes the area's appeal but also creates health and safety risks, such as structural issues and fire hazards. These problems make the properties less attractive to potential tenants and customers, and increase the cost of future renovations or redevelopment, further deterring investment. Over time, the neglect of properties can lead to a downward spiral, where property values decrease and community confidence diminishes, ultimately slowing down revitalization efforts.

DIY Ability: The ability for property owners to save on costs comes down to their own ability to do the physical work themselves (also known as "do it yourself (DIY)" or "sweat equity") versus having to hire out contractors to do the work. The more work a property owner can do themselves, presumably at a lower cost than the market, the more savings can be found.

This context frames the need for tailored solutions including design support, financial tools, or technical assistance. These solutions will be explored in the sections that follow. With that foundation in place, we now turn to the properties themselves, beginning with a set of signature sites that offer the greatest potential for near-term catalytic impact.



TARGET SITES

1. 217 East Main Street (Residential / Educational Reuse)
2. 121-125 West Main Street (Micro-Retail)
3. 122 West Main Street (Restaurant)
4. 206 West Palmetto Street (Phased Mixed-Use)
5. 122 South 8th Avenue (Brewery or Maker Hall)
6. George Burris Avenue / 5th Avenue Alley (A Shared Space for the Community)

SITE ONE: 217 E MAIN ST - RESIDENTIAL/EDUCATIONAL REUS

Anchored at the eastern gateway into downtown, 217 East Main Street presents one of the most flexible and promising reuse opportunities in Wauchula. It is currently home to R. Riveter, a military spouse-operated manufacturing and distribution business which may be relocating out of the site.

The scale and layout open the door to new kinds of energy downtown: a blend of upper-floor housing and institutional or educational reuse that would bring consistent foot traffic, diverse activation, and longer daily presence on the street.

Reuse Potential: A Hub for Living and Learning

While many downtown structures are constrained to retail or restaurant configurations, 217 East Main stands apart. The building's two-story form offers separation of uses—commercial or institutional on the ground floor and housing above—without the need for extensive modification. This layout lends itself particularly well to partnerships with regional institutions such as for an extended learning center.

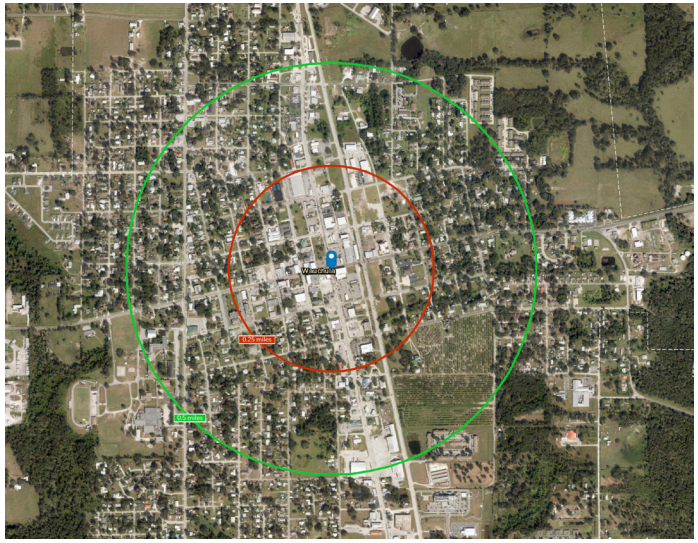
Recent conversations with South Florida State College have identified a clear need for satellite classroom, special programs such as culinary or services, or public coworking/incubator space in a walkable downtown setting. Whether serving workforce development programs, small college outposts, or hybrid community learning centers, the reuse of 217 East Main could provide a natural home for such programming. In doing so, it would also reinforce the city's efforts to position downtown as a space not just for leisure and commerce, but for opportunity and education.

The upper floor could support workforce-oriented residential units, targeting young professionals, interns, or students connected to training or college programs. This type of housing stock is limited in Wauchula, and the proximity to civic buildings, a potential hotel, and the Peace River Center for the Performing Arts, the emerging development adjacent to the site could help establish downtown as a live-work-learn environment.

Site Attributes and Design Potential

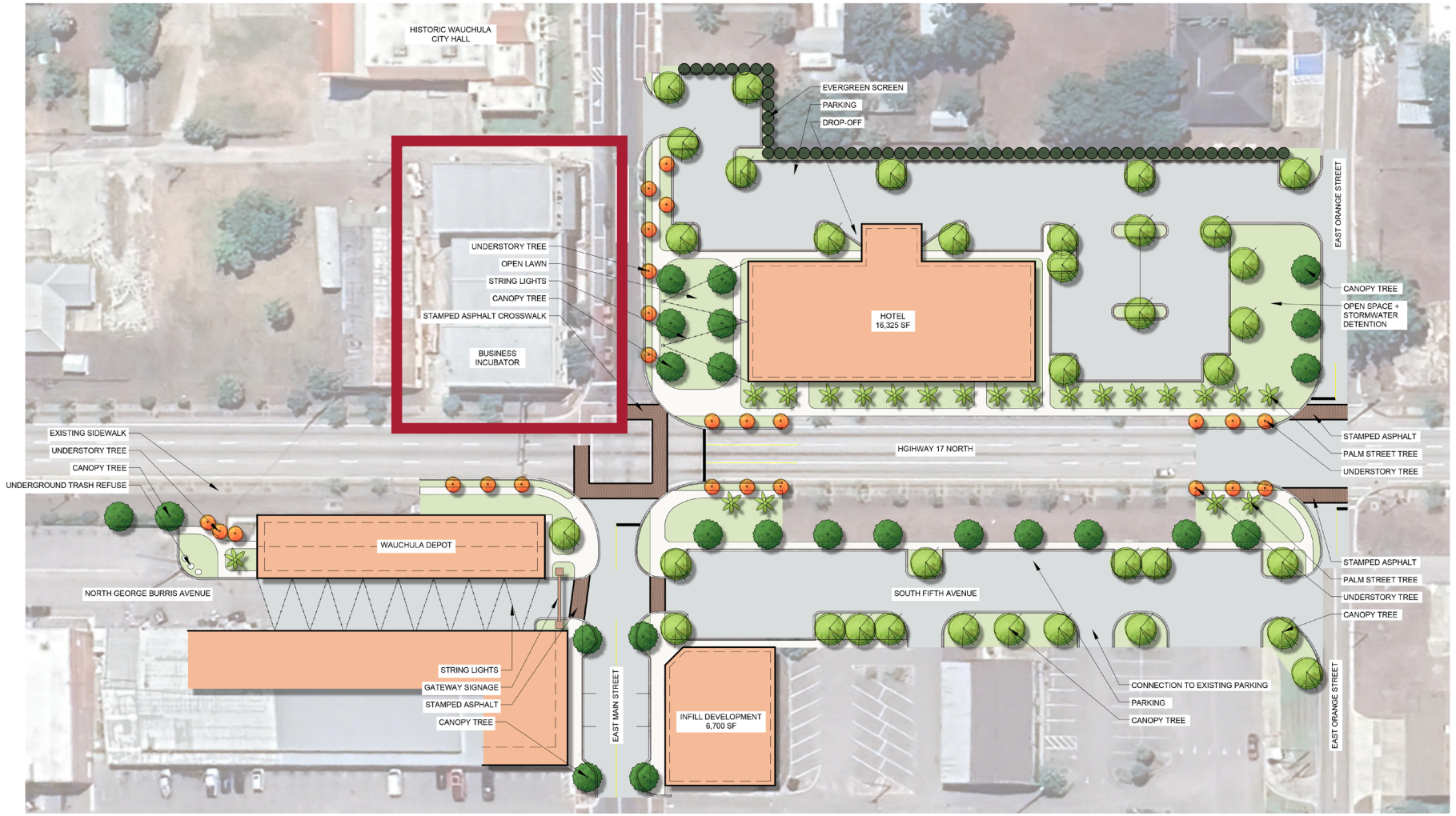
- Solid two-story construction with structural integrity and flexible interiors
- Excellent location at the eastern edge of downtown, helping bridge development across Highway 17
- Direct adjacency to a potential hotel site, creating synergy between lodging, learning, and local life
- Compatible with surrounding uses, especially if paired with improved crosswalks, signage, and landscape enhancements as part of broader streetscape investment

The architectural quality of the building and its corner visibility make it a natural candidate for creative signage, soft lighting, and branding, whether tied to a school, co-working space, or mixed-use enterprise. Large storefront windows provide transparency and the opportunity for active display, while upper-floor fenestration and access could be optimized for residential privacy and outdoor terrace space.



The quarter-mile and half-mile radius of downtown shows that there is limited housing is available within a half mile of downtown.

SITE ONE: 217 E MAIN ST - RESIDENTIAL/EDUCATIONAL REUS



DESIGNED: BS
REVIEWED: BS
DRAWN: BS
2024-067 PROJECT NO. 01-08-25 DATE
1"=30'-0" SCALE FILE

REVISIONS
NO DATE ITEM

STUDIO MAIN PLACE +MAIN
ARNETT MULDROW ADVISORS

0' 30' 60' 90'
GRAPHIC SCALE: 1" = 30'
NORTH

DOWNTOWN MARKET STUDY AND VISION PLAN
CITY OF WAUCHULA, FLORIDA

CONCEPTUAL SITE PLAN
(EAST)

SHEET NO. 1.0

SITE ONE: 217 E MAIN ST - RESIDENTIAL/EDUCATIONAL REUS

Financial & Partnership Considerations

While a full pro forma was not developed for this site, the project's feasibility would depend heavily on use mix and the presence of an institutional partner. If used for educational programming, lease rates would likely need to reflect mission-oriented terms, requiring public or philanthropic participation in buildout or operating costs. Housing development on the upper floor could be supported by local or state incentives for adaptive reuse, upper-story housing, or workforce housing strategies.

Potential partners include:

- South Florida State College and/or educational institutions offering workforce certification programs
- University extensions looking to pilot rural educational models
- Nonprofit or mission-driven housing developers experienced in historic rehabilitation

Even without a traditional commercial tenant, the presence of learners, educators, and residents downtown would dramatically increase daytime and early evening activity, supporting surrounding businesses and reinforcing Wauchula's revitalization.

Existing Conditions: The former R. Riveter complex.

Proposed Conditions: The redevelopment of the R. Riveter complex as a business incubator could once again anchor this intersection for entrepreneurial endeavors.

SITE TWO: 121-125 WEST MAIN STREET, MICRO-RETAIL

At the heart of Downtown Wauchula, 121–125 West Main Street stands out not just for its size—over 10,000 square feet—but for its redevelopment potential as a creative retail destination. Currently vacant, the building spans six distinct storefront bays and has been the subject of detailed analysis and design consideration as part of this planning effort. While much of its original historic character has been lost to earlier renovations, it remains structurally sound and well-positioned for adaptive reuse.

A New Concept for Downtown: The Micro-Retail Emporium

One of the most prominent and underutilized structures in Downtown Wauchula, 121–125 West Main Street looms large in both size and symbolism. This single-story, approximately 10,500 square foot structure sits in the heart of downtown, yet has remained vacant for years under the ownership of a longtime property holder who has historically resisted overtures for redevelopment or sale. Despite its location, scale, and architectural character, the building has become a point of frustration for many, emblematic of the kind of underperformance that dampens broader revitalization efforts.

Rather than a single-use tenant or speculative office space, the proposed redevelopment envisions this property as a modern emporium. Each of the six bays would support small, independent retail or maker-oriented tenants, potentially including upcycled furniture vendors, specialty foods, apparel, florals, or handmade goods. The goal is to create an affordable, flexible launchpad for local entrepreneurs while bringing new energy and activity to Main Street.

This format builds on national trends of re-energizing downtowns through collective retail: shared common space with individualized signage, an engaging pedestrian experience, and an interior layout designed to feel lively, even at partial occupancy. Randy's design concept features a new canopy to support blade signs and transom visibility, shared sidewalk spillout areas, and vinyl-cling storefront graphics that keep costs low while maximizing curb appeal.

Existing Conditions and Challenges

Although structurally intact, the building's long period of vacancy and a history of difficult ownership have posed barriers to activation. The interior will require significant buildout to meet code for multiple tenants, including mechanical and fire suppression upgrades, ADA access, and restroom facilities. Still, its central location and wide Main Street frontage make it one of the most promising "move-in ready" opportunities for a future retail collective downtown.

SITE TWO: 121-125 WEST MAIN STREET, MICRO-RETAIL

Existing Conditions: This building has undergone significant renovations over the years that have regrettably removed almost all of the original historic fabric (see historic photo below that shows this building in the left foreground; "McCrory's").

Proposed Conditions: It is likely too cost prohibitive to return the building back to its former glory so the most logical approach is to work within the constraints of the current architecture. Thankfully, the proposed use as a micro-retail venue (think "food hall for businesses") that includes multiple, independent businesses sharing a common building can work ideally in this structure that features six storefront bays (see historic photo and the "after" rendering below). The use of a canopy instead of a metal awning allows for both the opening of the original transoms and a platform for signage along the leading edge. Vinyl cling signage on doors and display windows allows for individuality for each business located with the overall building.

SITE TWO: 121-125 WEST MAIN STREET, MICRO-RETAIL

Financial Feasibility and Public Policy Considerations

Two pro formas were prepared for this property. The pro formas include placeholder assumptions for up to $1.2 million in incentives, including CRA support and historic tax credits. However, the availability of those incentives is uncertain. CRA grants currently cap at $50,000, and while TIF rebates may help close a small gap, they are unlikely to approach this scale. Additionally, the building's extensive prior alterations and further changes in this concept may disqualify it from historic tax credit eligibility.

At present, the concept as modeled does not yield a profit margin without major incentives, and both assumed sources, the CRA and HTC, are likely off the table. With this in mind we need to be straightforward about the timeframe and potential of this buildings.

- First, the concept remains illustrative: it shows a parcel with visibility and scale could be repurposed into an anchor use like a restaurant or food hall.
- Second, this site needs to viewed as a longer-term or catalytic opportunity, not one ready for immediate private development.
- Third, this property is likely to need:
  - » Creative development tools (e.g., 1031 exchanges, multi-tenant subdividing, or lease-to-own structures);
  - » Phased redevelopment; or
  - » Public acquisition, demolition, and land banking if the long-term vision is strong enough.

Rather than oversell the economics, the challenges of this site as a blighted property is an impediment to downtown's economic vibrancy. It can be kept as a "watchlist site" a high-potential property that will need external drivers or patient capital to move forward.

Design and Policy Support

- 6 storefront bays supporting diverse small tenants
- Shared use concept ideal for pop-up, seasonal, or rotating tenants
- New canopy design, vinyl signage, and streetscape spill-out spaces envisioned
- Potential use of façade improvement grants, historic tax credits, and targeted vertical gap financing

SITE TWO: 121-125 WEST MAIN STREET, MICRO-RETAIL

Pro Forma (Simple) for 121-125 West Main Street, Micro-Retail

121-125 W Main								
Current Configuration	10,500 sq ft (Vacant)							
Potential Redevelopment	10,500 sq ft (Restaurant and Commercial Space)							
Redevelopment Costs								
	Acquisition							
	Rehab	$	2,625,000	$250 sq ft *				
1	New Constrution	$	-					
	Developer Fee							
	Total Acquisition and Rehab	**$**	**2,625,000**					
Redevelopment Incentives								
	Federal HTC	$	(446,250)	20% (.85 Syndication Value)				
	Local Incentive	$	-					
	Total Incentives	$	(446,250)					
	Net Investment	$	2,178,750					
	Equity	$	525,000	20% Owner Equity				
	Loan Amount	**$**	**1,653,750**					
Income			**Annual Gross Rent**	**Units**	**Sq Ft**	**Total Sq Ft**	**Monthly Rent per Unit**	
	Commerical 1	$	120,396	1	8,600	8,600	$	10,033
	Commercial 2	$	22,800	1	1,900	1,900	$	1,900
3	***Total Annual Income***	$	143,196					
	Annual Debt Service	$	(165,772)	8% *				
	Gross Cash Flow	$	(22,576)					
	Annual Operating Expenses	$	(43,000)	Taxes, Insurance and Maintenance to be calculated				
	Net Cash Flow	$	(65,576)					
	Internal Rate of Return		-12.3%					

Notes:
* = Key cost variable and dependent on negotiation

Restaurant lease rates calculated $14.00 sf annually
Commercial lease rates calculated $12.00 sf annually

SITE TWO: 121-125 WEST MAIN STREET, MICRO-RETAIL

Pro Forma (With Incentive) for 121-125 West Main Street, Micro-Retail

121-125 W Main								
Current Configuration	10,500 sq ft (Vacant)							
Potential Redevelopment	10,500 sq ft (Restaurant and Commercial Space)							
Redevelopment Costs								
	Acquisition							
	Rehab	$	2,625,000	$250 sq ft *				
1	New Constrution	$	-					
	Developer Fee							
	Total Acquisition and Rehab	**$**	**2,625,000**					
Redevelopment Incentives								
	Federal HTC	$	(446,250)	20% (.85 Syndication Value)				
	Local Incentive	$	(1,200,000)					
	Total Incentives	$	(1,646,250)					
	Net Investment	$	978,750					
	Equity	$	525,000	20% Owner Equity				
	Loan Amount	**$**	**453,750**					
Income			**Annual Gross Rent**	**Units**	**Sq Ft**	**Total Sq Ft**		**Monthly Rent per Unit**
	Commerical 1	$	120,396	1	8,600	8,600	$	10,033
	Commercial 2	$	22,800	1	1,900	1,900	$	1,900
3	***Total Annual Income***	$	143,196					
	Annual Debt Service	$	(45,544)	8% *				
	Gross Cash Flow	$	97,652					
	Annual Operating Expenses	$	(43,000)	Taxes, Insurance and Maintenance to be calculated				
	Net Cash Flow	$	54,652					
	Internal Rate of Return		10.1%					

Notes:
* = Key cost variable and dependent on negotiation

Restaurant lease rates calculated $14.00 sf annually
Commercial lease rates calculated $12.00 sf annually
Assumes Local Incentive of $1,200,000

SITE THREE: 122 WEST MAIN STREET, RESTAURANT

A recurring theme in Wauchula's revitalization strategy has been the clear market demand for more food and beverage offerings downtown. Community input, leakage analysis, and foot traffic data all point to the same conclusion: the market is ready for more dining options. Yet that market opportunity doesn't always translate into easy real estate math, especially in smaller spaces requiring substantial reinvestment. That tension is embodied in 122 West Main Street.

This small sized but architecturally grand, 1,800-square-foot building sits in a prime location on the west side of downtown, surrounded by legacy businesses and key redevelopment sites. It is exactly the kind of space that could support a small, independent restaurant, serving as a lunch-and-dinner option for downtown workers, eventgoers, and visitors staying at the proposed hotel just blocks away. But like so many older buildings in rural cores, it requires extensive rehabilitation to meet code and market expectations.

The Investment Story

The Downtown Group (TDG), a leading nonprofit economic development partner in Hardee County, recognized the potential of the site and stepped up. Working closely with the City and local stakeholders, TDG has already invested heavily in the property, completing significant portions of the required buildout.

The total project cost is $742,000, including $75,000 in acquisition and $667,000 in renovation costs, most of which have already been paid out-of-pocket. A $50,000 state grant and a $400,000 local investment have been secured to reduce the financial burden. With this public and philanthropic commitment, the remaining capital stack includes $148,400 in equity and a $143,600 loan, making the remaining financing relatively light compared to the total cost.

At a projected lease rate of $2,700 per month (or $18 per square foot annually), the building is expected to generate $32,400 in gross annual income. After accounting for debt service and operating costs, the property would yield a net annual cash flow of just over $8,200 and an IRR of 3.3%.

Framing It Right: A Public Good, Not Just a Private Deal

On paper, this return is too thin for a traditional private investor. But that's not the point. This project should be seen for what it truly is: a catalytic, mission-driven investment in downtown vitality. TDG's involvement—along with CRA support—reflects a deliberate strategy to close the gap between what the market demands and what real estate can support. The $400,000 already spent should be treated as a public or organizational subsidy, not an expenditure expected to be recovered in full. Instead, it's a statement: that downtown Wauchula is worth investing in, and that quality space for food entrepreneurs is foundational to a thriving Main Street.

Design and Programming Potential

The before and after rendering shows the vision clearly: a reactivated storefront with welcoming transparency, fresh signage, and the potential for sidewalk spill-out dining. Inside, the building would be outfitted to support a flexible restaurant concept (fast-casual, dine-in, or hybrid) ideal for a chef-driven venture or a rotating local pop-up.

This location also creates a critical "dining anchor" on the western half of downtown, helping stretch the pedestrian zone and encouraging broader investment in surrounding storefronts.

SITE THREE: 122 WEST MAIN STREET, RESTAURANT

Existing Conditions: 122 West Main Street, former bank building

Proposed Conditions: 122 West Main Street, potential restaurant space

SITE FOUR: 206 WEST PALMETTO - PHASED MIXED-USE

At 206 West Palmetto, Wauchula has an opportunity to demonstrate how former residential space can be repositioned into productive, income-generating property. This currently vacant 15,400-square-foot building offers ample square footage and strategic downtown adjacency, making it a prime candidate for phased redevelopment. The site's flexibility and manageable scale make it attractive for the local developer looking to test the waters with a smaller investment before scaling up.

Phased Redevelopment Strategy

The project is evaluated in two distinct phases, each addressing one half (7,700 sq ft) of the building:

- **Phase 1** envisions conversion of one half of the space into eight residential units.
- **Phase 2** builds out the other half into office space after Phase 1 is complete and stabilized.

This phased approach helps control risk while testing market absorption. It also reflects real-world developer behavior in smaller communities, where equity is limited and sequencing matters.

Pro Forma Analysis: A Story of Scale and Sequencing

The pro forma analyses explore four different development strategies:

Phase 1 Only

- Total development cost: $1.17 million
- Equity: $400,000
- IRR: 5.1%
- Net Annual Cash Flow: ~$20,000
- Modest, but positive. A safe on-ramp for a cautious developer.

Phase 2 (Post-Phase 1 Payoff)

- Uses equity built in Phase 1 to reduce borrowing needs
- Debt: $1.23 million
- IRR: 19.4%
- Net Annual Cash Flow: ~$49,000
- A very strong return. Proof that staggered investment can produce sustainability.

Both Phases Simultaneously (No Incentive)

- Debt load: $1.85 million
- Net Cash Flow: -$13,093
- IRR: -12.0%
- Not financially feasible. Too much debt service up front.

Both Phases Simultaneously (With $500K Local Incentive)

- Debt reduced to $1.35 million
- Net Cash Flow: $37,093
- IRR: 8.0%
- Viable and practical. Delivers complete activation with manageable risk.

Catalytic Potential Without the Flash

While this may not be Wauchula's most architecturally distinctive site, its scale, location, and straightforward redevelopment path make it important. Bringing 15,400 square feet of space back to life with additional housing and viable office square footage would provide tangible community value and help normalize investment downtown.

From a policy standpoint, this site shows where modest investments unlock full building reuse. A $500,000 local investment makes this project viable as a whole, compressing years of phasing into one efficient construction effort. It's a textbook case of how to bridge the gap between feasibility and impact.

SITE FOUR: 206 WEST PALMETTO - PHASED MIXED-USE

PHASE I Pro Forma 206 West Palmetto, Phased Mixed-Use

206 W Palmetto								
Current Configuration	Phase 1- 7,700 sq ft (vacant)							
Potential Redevelopment	8 Apartments							
Redevelopment Costs								
	Acquisition	$	400,000	*				
	Rehab	$	770,000	$100/sq ft *				
1	New Constrution							
	Developer Fee							
	Total Acquisition and Rehab	**$**	**1,170,000**					
Redevelopment Incentives								
	Total Incentives							
	Net Investment	$	1,170,000					
	Equity	$	400,000	Equity (Land)				
	Loan Amount	**$**	**770,000**					
Income			**Annual Gross Rent**	**Units**	**Sq Ft**	**Total Sq Ft**		**Monthly Rent per Unit**
	2 Bedroom Apartment	$	30,600	2	850	1,700	$	1,275
	2 Bedroom Apartment	$	48,600	3	900	2,700	$	1,350
	3 Bedroom Apartment	$	59,400	3	1,100	3,300	$	1,650
3	***Total Annual Income***	$	138,600					
	Annual Debt Service	$	(77,287)	8% *				
	Gross Cash Flow	$	61,313					
	Annual Operating Expenses	$	(41,600)	Taxes, Insurance and Maintenance to be calculated				
	Net Cash Flow	$	19,713					
	Internal Rate of Return		5.1%					

Notes:
* = Key cost variable and dependent on negotiation

Residential leae rates calcuated at $1.50 per sf montly
Operating Expenses calculated at 30% of Income

SITE FOUR: 206 WEST PALMETTO - PHASED MIXED-USE

PHASE 2 Pro Forma 206 West Palmetto, Phased Mixed-Use

206 W Palmetto								
Current Configuration	Phasea 1 + 2- 15,400 sq ft (vacant)							
Potential Redevelopment	8 Apartments + 8 Office Spaces							
Redevelopment Costs								
	Acquisition	$	1,170,000	*				
	Rehab	$	1,540,000	$200/sq ft *				
1	New Constrution							
	Developer Fee							
	Total Acquisition and Rehab	**$**	**2,710,000**					
Redevelopment Incentives								
	Total Incentives							
	Net Investment	$	2,710,000					
	Equity	$	1,478,000	Equity (Building/Land = $1,170,000 + Cash Equity- $308,000)				
	Loan Amount	**$**	**1,232,000**					
Income			**Annual Gross Rent**	**Units**	**Sq Ft**	**Total Sq Ft**	**Monthly Rent per Unit**	
	2 Bedroom Apartment	$	30,600	2	850	1,700	$	1,275
	2 Bedroom Apartment	$	48,600	3	900	2,700	$	1,350
	3 Bedroom Apartment	$	59,400	3	1,100	3,300	$	1,650
	Office	$	23,808	2	850	1,700	$	992
	Office	$	37,800	3	900	2,700	$	1,050
	Office	$	46,188	3	1,100	3,300	$	1,283
3	***Total Annual Income***	$	246,396					
	Annual Debt Service	$	(123,659)	8% *				
	Gross Cash Flow	$	122,737					
	Annual Operating Expenses	$	(74,000)	Taxes, Insurance and Maintenance to be calculated				
	Net Cash Flow	$	48,737					
	Internal Rate of Return		19.4%					

Notes:
* = Key cost variable and dependent on negotiation

First Phase Paid Off
Residential leae rates calcuated at $1.50 per sf montly
Operating Expenses calculated at 30% of Income

SITE FOUR: 206 WEST PALMETTO - PHASED MIXED-USE

BOTH PHASES Pro Forma 206 West Palmetto, Phased Mixed-Use

206 W Palmetto								
Current Configuration	Phase 1 + 2- 15,400 sq ft (vacant)							
Potential Redevelopment	8 Apartments							
Redevelopment Costs								
	Acquisition	$	1,170,000	*				
	Rehab	$	1,540,000	$200/sq ft *				
1	New Constrution							
	Developer Fee							
	Total Acquisition and Rehab	**$**	**2,710,000**					
Redevelopment Incentives								
	Total Incentives							
	Net Investment	$	2,710,000					
	Equity	$	1,478,000	Equity (Building/Land = $1,170,000 + Cash Equity- $308,000)				
	Loan Amount	**$**	**1,232,000**					
Income			**Annual Gross Rent**	**Units**	**Sq Ft**	**Total Sq Ft**	**Monthly Rent per Unit**	
	2 Bedroom Apartment	$	30,600	2	850	1,700	$	1,275
	2 Bedroom Apartment	$	48,600	3	900	2,700	$	1,350
	3 Bedroom Apartment	$	59,400	3	1,100	3,300	$	1,650
	Office	$	23,808	2	850	1,700	$	992
	Office	$	37,800	3	900	2,700	$	1,050
	Office	$	46,188	3	1,100	3,300	$	1,283
3	***Total Annual Income***	$	246,396					
	Annual Debt Service	$	(123,659)	8% *				
	Gross Cash Flow	$	122,737					
	Annual Operating Expenses	$	(74,000)	Taxes, Insurance and Maintenance to be calculated				
	Net Cash Flow	$	48,737					
	Internal Rate of Return		19.4%					

Notes:
* = Key cost variable and dependent on negotiation

First Phase Paid Off
Residential leae rates calcuated at $1.50 per sf montly
Operating Expenses calculated at 30% of Income

SITE FOUR: 206 WEST PALMETTO - PHASED MIXED-USE

BOTH PHASES WITH INCENTIVE Pro Forma 206 West Palmetto, Phased Mixed-Use

206 W Palmetto								
Current Configuration	Phases 1 & 2- 15,400 sq ft (vacant)							
Potential Redevelopment	8 Apartments + 8 Office Spaces							
Redevelopment Costs								
	Acquisition	$	400,000	*				
	Rehab	$	2,310,000	$100/sq ft (Residential) + $200/sq ft (Office) *				
1	New Construction							
	Developer Fee							
	Total Acquisition and Rehab	**$**	**2,710,000**					
Redevelopment Incentives								
	Total Incentives	$	(500,000)					
	Net Investment	$	2,210,000					
	Equity	$	862,000	Equity (Building/Land = $400,000 + Cash Equity- $462,000)				
	Loan Amount	**$**	**1,348,000**					
Income			**Annual Gross Rent**	**Units**	**Sq Ft**	**Total Sq Ft**	**Monthly Rent per Unit**	
	2 Bedroom Apartment	$	30,600	2	850	1,700	$	1,275
	2 Bedroom Apartment	$	48,600	3	900	2,700	$	1,350
	3 Bedroom Apartment	$	59,400	3	1,100	3,300	$	1,650
	Office	$	23,808	2	850	1,700	$	992
	Office	$	37,800	3	900	2,700	$	1,050
	Office	$	46,188	3	1,100	3,300	$	1,283
3	***Total Annual Income***	$	246,396					
	Annual Debt Service	$	(135,303)	8% *				
	Gross Cash Flow	$	111,093					
	Annual Operating Expenses	$	(74,000)	Taxes, Insurance and Maintenance to be calculated				
	Net Cash Flow	$	37,093					
	Internal Rate of Return		8.0%					

Notes:
* = Key cost variable and dependent on negotiation

Both Phases Simultaneously, $500,000 Local Incentive
Residential leae rates calculated at $1.50 per sf monthly
Operating Expenses calculated at 30% of Income

SITE FIVE: 122 SOUTH 8TH AVENUE & 302 COURT STREET

Anchoring the western end of downtown, the area now dubbed "8 Barrel" offers one of the largest and most adaptable redevelopment opportunities in the study area. Comprising two structures totaling nearly 13,000 square feet including a 9,200-square-foot primary building and a 3,700-square-foot outbuilding. The site at 122 South 8th Avenue features strong bones, solid visibility, and a footprint suitable for a wide range of future uses. Together, these buildings make up the "8 Barrel" concept and are positioned just one block from Main Street, presenting a key opportunity to anchor revitalization efforts on the western edge of downtown.

Immediately adjacent to this property is 302 Court Street, which contains a 1,200-square-foot building under separate ownership. Though independent, this structure sits in close proximity to the 8 Barrel Facility and presents a unique opportunity for complementary development. Together, the three buildings could catalyze a dynamic food and beverage district, with each site playing a distinct but interconnected role.

Phased Redevelopment Opportunity

This cluster of buildings lends itself naturally to a phased redevelopment strategy but they are under different ownership. The first phase should focus on activating 302 Court Street with a small-scale, destination-caliber taproom or tasting room. Its intimate scale and street presence make it ideal for establishing a market presence, testing concepts, and building a local following.

In the second phase, attention would shift to the larger 8 Barrel Facility at 122 S. 8th Avenue which will require environmental remediation. Once remediation is complete, this site offers the scale and adaptability to support a more expansive operation such as a full-scale brewery with a taproom, flexible event space, and possibly a cluster of dining and production uses. The primary structure's wide footprint and open-span interior can easily accommodate brewing equipment, public seating, and service areas. The adjacent outbuilding could serve as complementary back-of-house or production space, such as food processing, light manufacturing, or a shared commercial kitchen.

Over time, this evolution from intimate taproom to multifaceted dining and brewing destination could establish a compelling regional draw and a cornerstone of downtown's west side.

Adaptive Use Concepts

Two distinct, but compatible, reuse strategies have emerged through the planning process: a brewery / tap room and a maker hall / creative production hub.

Phase 1: Brewery and Taproom

The 1,200-square-foot building at 302 Court Street under separate ownership but directly adjacent to the 8 Barrel site offers an ideal starting point. A small-scale brewery and taproom here could serve as a proof-of-concept and early activation of the district's potential. Beyond just beer, the site could include:

- Seasonal outdoor seating and event programming
- Partnerships with local food trucks or culinary startups
- Extended hours of operation to drive foot traffic into the evening

This format is proven in similar rural towns, providing both community identity and a regional draw. Over time, this initial taproom could evolve into a broader destination, leveraging the adjacent 8 Barrel Facility for expanded brewing capacity, larger-scale dining, and flexible event space.

Phase 2: Maker Hall and Creative Production Hub

The 8 Barrel Facility at 122 S. 8th Avenue, which includes two buildings totaling nearly 13,000 square feet, represents the next phase of investment. This site can support a variety of adaptive uses, from an expanded brewery and culinary destination to a shared manufacturing and micro-retail concept. Potential uses include:

- Artisan workshops or co-packing facilities
- Public access events or instructional space
- A test kitchen or small batch food/beverage production

This phased approach supports both business incubation and long-term destination-building, with the flexibility to accommodate a single anchor tenant or a cluster of creative users.

SITE FIVE: 122 SOUTH 8TH AVENUE & 302 COURT STREET

Public Infrastructure and Incentive Framing

To succeed, this site will likely require targeted support. Public investments could include:

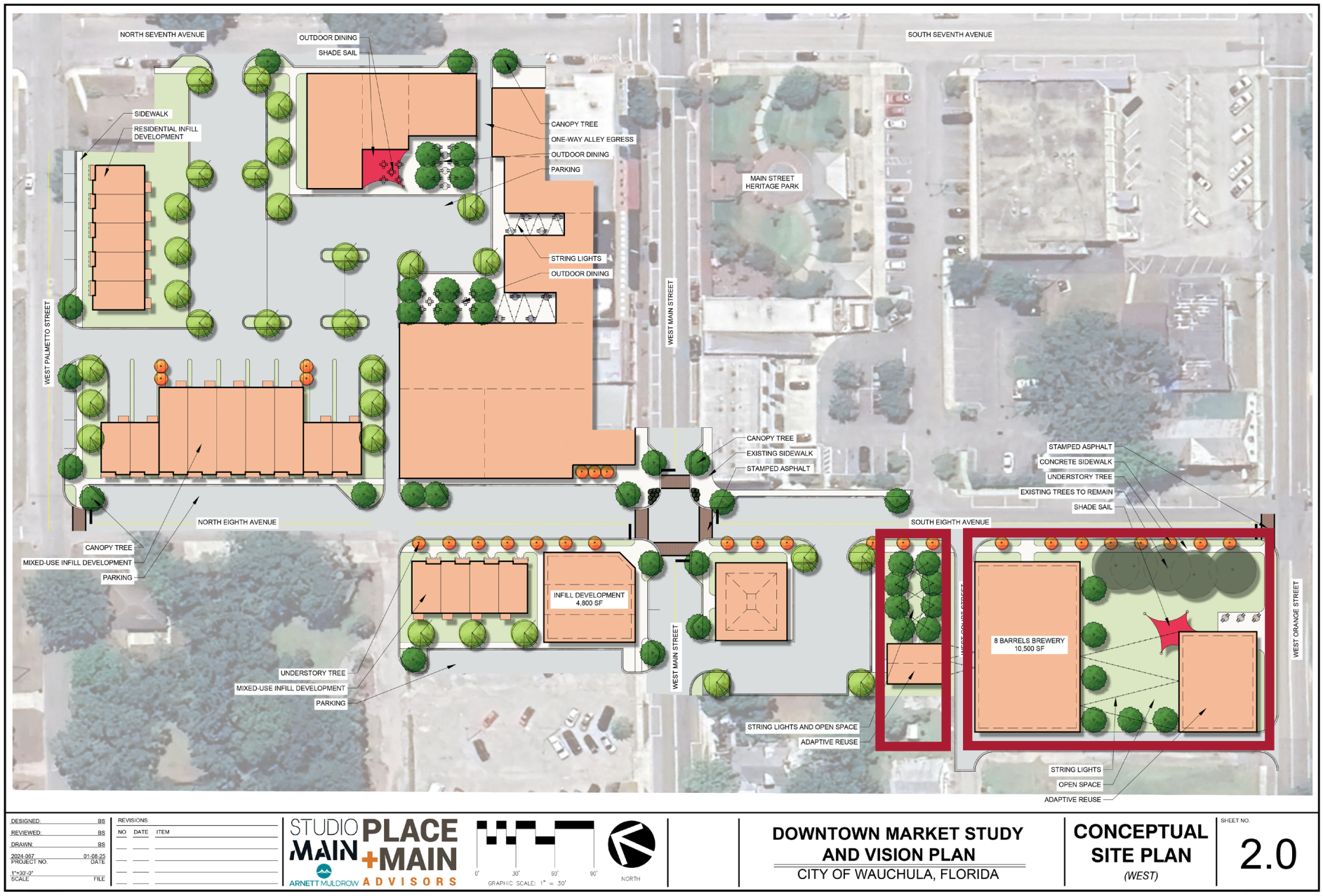
- Clean-up of stored barrels on the site
- Structural upgrades to meet code and ADA compliance
- Upsized utility connections (e.g., water, sewer, power)
- Outdoor public realm features (e.g., beer garden space, parking, lighting)
- Tenant fit-out or flexible-use infrastructure for light industrial or food-based tenants

Any local incentive should be framed as a performance-driven, site-specific investment designed to unlock economic development and broaden the tenant mix west of Highway 17.

Design and Activation Potential

- Large storefront façade for branding, murals, or public art
- Interior volume suitable for event space or industrial-scale work
- The site could be an anchor for this part of downtown
- Potential to serve as a launching point for west-end wayfinding or district identity

SITE FIVE: 122 SOUTH 8TH AVENUE & 302 COURT STREET



DESIGNED: BS
REVIEWED: BS
DRAWN: BS
2024-067 PROJECT NO.
01-08-25 DATE
1"=30'-0" SCALE
FILE

REVISIONS
NO DATE ITEM

STUDIO MAIN PLACE +MAIN
ARNETT MULDROW ADVISORS

0' 30' 60' 90'
GRAPHIC SCALE: 1" = 30'
NORTH

DOWNTOWN MARKET STUDY AND VISION PLAN
CITY OF WAUCHULA, FLORIDA

CONCEPTUAL SITE PLAN
(WEST)

SHEET NO.
2.0

SITE FIVE: 122 SOUTH 8TH AVENUE & 302 COURT STREET

Taproom Beer Garden

Existing Conditions: This entire complex of buildings could be developed into a distillery, taproom, and beer garden. However, the full development would take years to come to fruition and, therefore, and intermediate stage could include a more modest development of the garage into a taproom, with the lawn serving as a beer garden.

Proposed Conditions: For the first phase of redevelopment, paint the building bold, branded colors of the tap room. It is illustrated as having a gold wainscot topped by a black accent stripe (to anchor the building to the ground visually) with an off-white/tan body color. Install a roll-up garage door at the dock to provide indoor/outdoor dining capability. Install poles as necessary to support colorful shade sails and string lights. The shade sails would not only provide comfort in absence of shade trees, but their bold color would enliven the space. Provide movable outdoor furnishings as well as vibrancy amenities such as interactive games to create a dynamic and family-friendly space in the forecourt lawn.

SITE FIVE: 122 SOUTH 8TH AVENUE & 302 COURT STREET

Pro Forma Analysis for 122 South 8th Avenue

The two pro formas for 122 S 8th Avenue evaluate the redevelopment of a 9,200 sq ft main building and a 3,700-square-foot outbuilding into a brewery and associated storage or light industrial use. In the scenario without the additional local incentive, the total development cost is $1.89 million, partially offset by $312,800 in federal historic tax credits. This leaves a net investment of $1.58 million, requiring a significant loan of nearly $1.2 million. While the project is expected to generate $132,600 annually in lease revenue, the high debt burden drives annual debt service above $103,000. After operating expenses, the project operates at a loss of more than $10,000 annually and carries a negative internal rate of return of -1.8 percent. Under this scenario, the project is not financially viable.

In the alternative version that includes additional incentives—$153,000 in Brownfield cleanup tax credits and an estimated $300,000 local incentive—the financial structure improves significantly. The net investment drops to approximately $1.12 million, which in turn reduces the loan amount to $746,200. With the lower debt service of just over $64,000 annually, the project shifts into positive territory. It generates $28,448 in annual net cash flow and a 6.6 percent internal rate of return. While still a modest return, this scenario demonstrates that the project can be financially sustainable if properly supported by layered incentives.

From a public policy perspective, the additional $300,000 incentive could be framed as a strategic investment in environmental remediation and adaptive reuse. Since the site includes $240,000 in cleanup costs, it would be reasonable to structure the incentive to cover remediation, utility upgrades, or other eligible site prep costs. The incentive could also be tied to job creation, local procurement, or community access goals given the brewery's potential role as a catalytic anchor. Supporting this type of redevelopment not only helps address underutilized or environmentally challenged properties but also creates small-scale industrial and commercial space that aligns with broader downtown and economic development goals.

Pro Forma Analysis for 302 Court Street

The pro forma for 302 Court Street reflects the redevelopment of a small, 1,200 sq ft vacant building into an owner-operated tap room. The project cost includes approximately $50,000 to buy out other family members' interest in the property and $150,000 in rehabilitation, for a total of $200,000. A local incentive of $30,000 is conservatively assumed (with a maximum of $50,000 possible), reducing the net investment to between $170,000 and $175,000. This balance is projected to be financed with roughly 20 percent equity ($34,000–$35,000) and the remainder as debt ($136,000–$140,000).

Unlike a lease-based scenario, the income side comes from direct taproom operations. At an average of $500 in daily sales, annual revenue is approximately $182,500. After accounting for typical industry costs at 30 percent cost of goods sold, 20 percent labor, and 15 percent other operating expenses; the business is projected to generate about $63,875 before debt service. With annual debt service of about $7,800, net cash flow before owner compensation is roughly $56,000.

This structure highlights the difference between a conservative lease return and the stronger potential of an owner-operated model. While one-year cash-on-cash returns appear high because of the small equity contribution, the more meaningful measure will be a multi-year internal rate of return (IRR) that accounts for ongoing cash flows and eventual exit value. Even under conservative assumptions, the analysis demonstrates that the project is not only financially feasible but also has significant upside if sales meet or exceed expectations.

SITE FIVE: 122 SOUTH 8TH AVENUE & 302 COURT STREET

Simple Pro Forma for 122 South 8th Avenue

Current Configuration			9,200 sq ft main building; 3,700 out building					
Potential Redevelopment			Brewery (main building); Storage/Light Industrial (out building)					
Redevelopment Costs								
	Acquisition	$	50,000	*				
	Rehab	$	1,840,000	$200/sq ft *				
1	New Constrution							
	Developer Fee							
	Total Acquisition and Rehab	**$**	**1,890,000**					
Redevelopment Incentives								
	Federal Historic Tax Credit	$	(312,800)	(.85 Syndication Value)				
	Total Incentives	$	(312,800)					
	Net Investment	$	1,577,200					
	Equity	$	378,000	20% Owner Equity				
	Loan Amount	**$**	**1,199,200**					
Income			**Annual Gross Rent**	**Units**	**Sq Ft**	**Total Sq Ft**	**Monthly Rent per Unit**	
	Brewery	$	110,400	1	9,200	9,200	$	9,200
	Storage	$	22,200	1	3,700	3,700	$	1,850
3	***Total Annual Income***	$	132,600					
	Annual Debt Service	$	(103,097)	8% *				
	Gross Cash Flow	$	29,503					
	Annual Operating Expenses	$	(40,000)	Taxes, Insurance and Maintenance to be calculated				
	Net Cash Flow	$	(10,497)					
	Internal Rate of Return		-1.8%					

Notes:
* = Key cost variable and dependent on negotiation

Brewery lease rates calculated $12.00 sf annually; Storage at $6.00 sf annually
Operating Expenses calculated at 30% of Income

SITE FIVE: 122 SOUTH 8TH AVENUE & 302 COURT STREET

Pro Forma with Incentive for 122 South 8th Avenue

Current Configuration			9,200 sq ft main building; 3,700 out building					
Potential Redevelopment			Brewery (main building); Storage/Light Industrial (out building)					
Redevelopment Costs								
	Acquisition	$	50,000					
	Rehab	$	1,840,000	$200 per sq ft (incl. $240,000 in Clean Up Costs)				
1	New Constrution							
	Developer Fee							
	Total Acquisition and Rehab	**$**	**1,890,000**					
Redevelopment Incentives								
	Federal Historic Tax Credit	$	(312,800)	(.85 Syndication Value)				
	Brownfield Clean Up Tax Credit	$	(153,000)	(.85 Syndication Value)				
	Incentive	$	(300,000)					
	Total Incentives	$	(765,800)					
	Net Investment	$	1,124,200					
	Equity	$	378,000	20% Owner Equity				
	Loan Amount	**$**	**746,200**					
Income			**Annual Gross Rent**	**Units**	**Sq Ft**	**Total Sq Ft**	**Monthly Rent per Unit**	
	Brewery	$	110,400	1	9,200	9,200	$	9,200
	Storage	$	22,200	1	3,700	3,700	$	1,850
3	***Total Annual Income***	$	132,600					
	Annual Debt Service	$	(64,152)	8%	*			
	Gross Cash Flow	$	68,448					
	Annual Operating Expenses	$	(40,000)	Taxes, Insurance and Maintenance to be calculated				
	Net Cash Flow	$	28,448					
	Internal Rate of Return		6.6%					

Notes:
* = Key cost variable and dependent on negotiation

Brewery lease rates calculated $12.00 sf annually; Storage at $6.00 sf annually
Operating Expenses calculated at 30% of Income
Additional Incentive of $450,000 needed

SITE FIVE: 122 SOUTH 8TH AVENUE & 302 COURT STREET

Pro Forma for 302 Court Street

302 Court St								
Current Configuration	1,200 sq ft building (Vacant)							
Potential Redevelopment	Tap Room							
Redevelopment Costs								
	Acquisition	$	50,000	*				
	Rehab	$	150,000	$125/sq ft *				
1	New Constrution							
	Developer Fee							
	Total Acquisition and Rehab	**$**	**200,000**					
Redevelopment Incentives								
	Local Incentive	$	(30,000)	50,000 maximum				
	Total Incentives	$	(30,000)					
	Net Investment	$	170,000					
	Equity	$	34,000	20% Owner Equity				
	Loan Amount	**$**	**136,000**					
Income					**Units**	**Sq Ft**	**Total Sq Ft**	**Monthly Rent per Unit**
	Tap Room Avg Daily Sales	$	500		1	1,200	1,200	$ 1,200
	Sales Annualized	$	182,500					
	Cost of Goods (COGS)	$	(54,750)					
	Labor	$	(36,500)					
	Operating Expenses (OPEX)	$	(27,375)					
	Total Costs (EDI	$	(118,625)					
3	***Earnings Before Debt Service***	$	63,875					
	Annual Debt Service	$	(7,794)		8%	*		
	Gross Cash Flow	$	56,081					
	Owner Salary Draw	$	40,000	Taxes, Insurance and Maintenance to be calculated				
	Net Cash Flow	$	16,081					
	Cash on Cassh Year One ROI		165.0%					

Notes:
* = Key cost variable and dependent on negotiation

SITE SIX: GEORGE BURRIS AVE / 5TH AVE ALLEY

Site Seven: George Burris Avenue / Fifth Avenue Alley, A Shared Space for the Community

Not every downtown transformation begins with a building. Sometimes, it starts with a street.

George Burris Avenue (also historically referred to as Fifth Avenue) is one of the most meaningful spaces in downtown Wauchula today. Framed by the Wauchula Train Depot (now home to the Chamber of Commerce) and Cat's on Main, a vibrant and beloved retail anchor, the corridor already carries pedestrian activity, local pride, and deep potential. But it could be more. With strategic improvements and creative programming, this passageway can become a true shared street, connecting destinations, activating adjacent businesses, and setting a new benchmark for public space downtown.

The potential of George Burris Avenue lies not in reinvention, but in enhancement. String lights, public art, seasonal seating, and pop-up activity zones can create an environment that feels alive—one that invites people to stay, not just pass through. The proposed "alley" improvements would not compromise the function of the street. Rather, they would elevate it: enabling cars and people to share space during the day, and allowing for full closures during evening events, markets, or festivals.

Just as importantly, this space functions as a backdoor commons for the east side of Main Street. Businesses like Cat's on Main could expand into the alley through secondary entries, outdoor dining, or display space. New development on the west side of the street would benefit from visibility and direct access to one of the most photogenic and animated corridors downtown.

Existing Conditions

This roadway adjacent to the train depot has the potential to function as a place as well as a pathway. Wooden poles and overhead wires create visual clutter. Dumpsters are exposed to view, and the sides and rears of the buildings on the left do not create visual appeal.

Proposed Conditions

By burying or relocating the wooden poles and overhead wires, visual clutter is removed. Install aluminum poles to carry string lights so that it is unnecessary to attach the lights to the buildings that flank the alley. Suspend colorful and artistic banners from the poles. Paint mural artwork to the sides and rears of the buildings on the left. Another option for the artwork is to apply it to the surfaces of the buildings using a product similar to Alumigraphics (www.alumigraphics.com).

To create interest and marketing potential, consider painting or applying an interactive photo wall on the walls nearest the entrances to the alley. Install privacy screens around dumpsters, HVAC units, and other mechanical equipment. Consider painting the screens in an artistic fashion. Install removable bollards so that the alley can be closed off to vehicular traffic when events are taking place in the alley. Consider painting a 'magic carpet mural' on the roadway surface to create visual interest and to break the visual monotony of the asphalt.

In addition to privacy screening and enclosure improvements, the City may also explore in-ground trash receptacles and shared grease trap solutions to reduce visual clutter, improve sanitation, and support food-oriented tenants. While these concepts may be challenging to implement, they are worth evaluating alongside more conventional screening and waste management upgrades.

Place a significant sculptural piece in the forecourt yard of the train depot to create a visual lure to the alley. Finally, populate the alley with interactive games, musical instruments, and outdoor furniture to create a space where people can linger in the heart of downtown.

Strategic Role in the Downtown Vision

- First Impression Opportunity for northbound US 17 traffic
- Shared Use Street that balances vehicle access with safe, animated pedestrian zones
- Business Growth Catalyst for adjacent retailers and future development
- Public Realm Enhancement that ties into broader streetscape improvements
- Gateway Role that supports wayfinding and placemaking goals

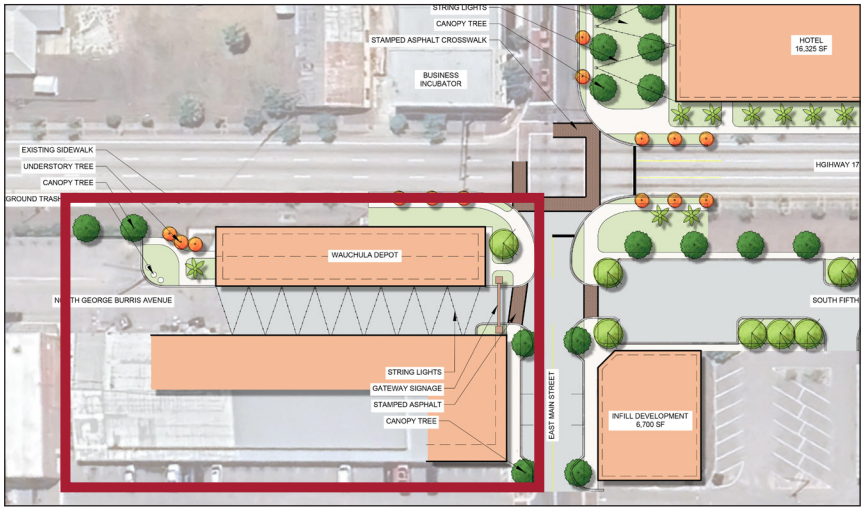
Name Consideration

The site could be reintroduced with a dual-identity:

- George Burris Avenue for formal designation and local history
- Depot Alley or Fifth Avenue Alley as a branding tool that speaks to both past and purpose

SITE SIX: GEORGE BURRIS AVE / 5TH AVE ALLEY

Existing Conditions: The alley adjacent to the train depot has potential but currently suffers from visual clutter and lacks appeal.

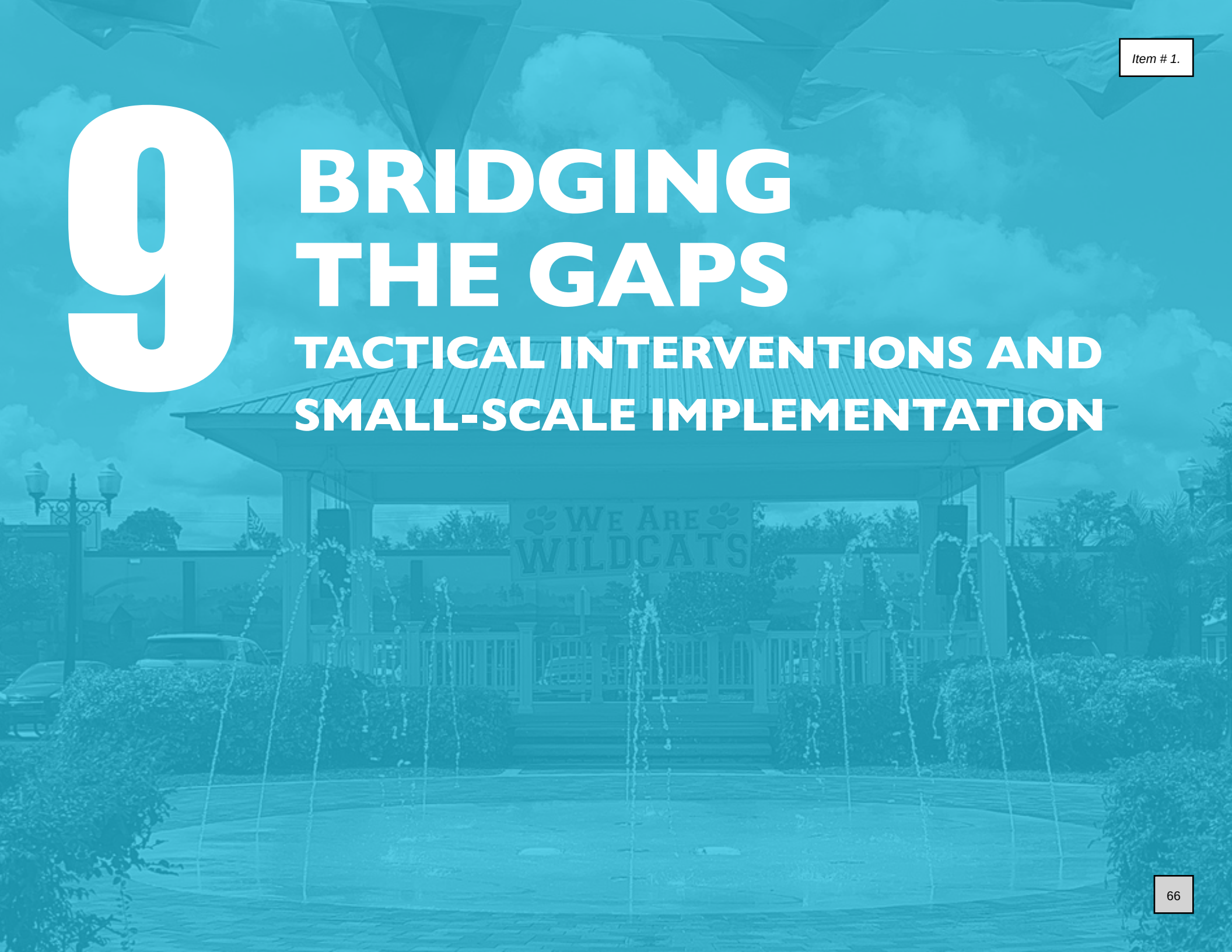


Location of Depot and Alley

Proposed Conditions: By eliminating overhead wires and adding string lights, artistic banners, and murals, the space is transformed. Other options include painting the roadway, adding sculpture art, and placing removable bollards to close off the alley for events. The alley can also be populated with outdoor furniture and interactive games.

9 BRIDGING THE GAPS

TACTICAL INTERVENTIONS AND SMALL-SCALE IMPLEMENTATION



BRIDGING THE GAPS

Downtown revitalization is not only about buildings, but is also about the spaces in between. The story told so far in this report, from the market analysis to the signature redevelopment sites, reflects a community poised for transformation. But the most successful downtowns don't just rely on large catalytic projects; they thrive because they layer in incremental, everyday improvements that reinforce the character, safety, and activation of their core.

In Wauchula, this kind of tactical, small-scale improvement isn't theoretical. It's already happening.

The Peace River Center for the Performing Arts is drawing visitors. The CRA has made strategic investments. The Main Street program is seeding energy with events and beautification. TDC is linking investment of its own with grant funds. And, last but not least, the city is building out infrastructure. But to truly bridge the gap between vision and reality, Wauchula must continue to pair its large-scale redevelopment efforts with a clear set of street-level strategies designed to elevate the entire downtown experience.

This chapter outlines those strategies, placing them in the context of what Wauchula has done, what it can do next, and what resources already exist. It draws from four tactical strategy guides developed by the team, which should be inserted at the appropriate locations noted below. These tools fill in the physical and perceptual gaps that remain between the signature sites and serve as the connective tissue that brings the full downtown plan to life.

Street-Level Enhancements: The Physical Foundation

Downtown Wauchula has a strong base to build from including heritage buildings, a defined Main Street, and a civic core that anchors daily activity. But even the best destinations need refinements. The following improvements represent some of the most effective, affordable, and visible changes Wauchula can make to improve downtown's walkability and perception of care.

- Curb Extensions (Bulb-Outs): These small extensions of the sidewalk at intersections dramatically improve pedestrian safety. They shorten crossing distances, slow turning vehicles, and provide room for landscaping. In Wauchula, bulb-outs are especially effective at intersections with high traffic volume and visibility challenges such as at Highway 17 North to 8th Avenue, and serve as a strong visual and pedestrian-friendly feature. Future enhancements should focus on ensuring continuity, visibility, and possible enhancements at key intersections or corners that currently lack them.
- Crosswalk Improvements (Stamped Asphalt or Decorative Treatments): At present, many crosswalks downtown are difficult to see, the redundant crossing signage creates visual clutter, and crossings on East Main Street and Highway 17 feel disconnected from the pedestrian grid. Stamped or colored asphalt, as well as painted crosswalk art, can both beautify and signal pedestrian priority without duplicative signage. Crosswalk improvements should be prioritized at all key intersections, particularly:
  - » Main Street at Hwy 17 North (5th Avenue): This key intersection serves as a primary downtown gateway and proposed hotel site, and would benefit from higher-visibility crosswalk treatments to encourage guest walkability and visibility.
  - » Main Street at Hwy 17 South: Similar enhancements here would improve pedestrian safety and connectivity to the southern end of downtown, especially near future redevelopment sites.
  - » Crosswalk near Heritage Park: Improvements should be made near the park's entrance to strengthen connections across Main Street.
- String Lights and Trash Refuse Consolidation on 5th Avenue: Aesthetics matter. Installing overhead lighting creates ambiance and signals a cared-for space. In areas where refuse bins are clustered visibly on the street, improved enclosures and strategic screening can reduce visual clutter and improve the pedestrian experience. This strategy is especially important in alleyways and near back entrances of key businesses.
- Moveable Seating, Parklets, and Shade Structures: Simple, low-cost amenities like movable chairs and tables, umbrellas, or shade sails make a world of difference. In areas where storefronts are vacant or too quiet, these features signal life, even before a new business opens. Consider pop-up parklets in front of underused buildings and along the east side of Main Street as interim activations.
- Street Murals and Colorful Intersection Treatments: Public art in the street, especially at pedestrian crossings, builds identity and encourages drivers to slow down. These treatments are low-cost and highly visible, and should be part of any seasonal or event-based activation effort.
- Transparent Storefronts and Clear Windows: Ground-level windows are essential to a walkable, inviting downtown. Storefronts that are covered with reflective glass, paper, closed blinds, or curtains block visibility into the space and often give the impression that the business is closed or vacant. Encouraging business owners to maintain clear, transparent windows—especially during operating hours—enhances the pedestrian experience and signals activity. Where sun protection or security is a concern, newer glass technologies and creative window treatments can achieve those goals without sacrificing visibility.

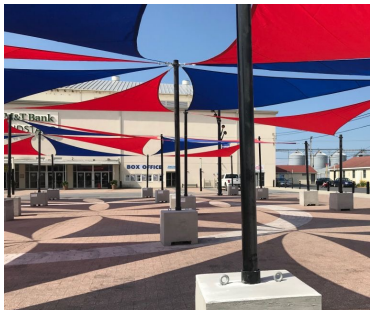
The following pages provide illustrative examples of vibrancy amenities including:

- Furniture;
- Interactives;
- Landscaping;
- Lighting;
- Programming; and
- Art.

STREET-LEVEL ENHANCEMENTS: THE PHYSICAL FOUNDATIO

FURNITURE

Creative, flexible, moveable furniture enhances Creative Placemaking by fostering dynamic, adaptable spaces that encourage social interaction, artistic expression, and community engagement.



INTERACTIVES

Interactive games in Creative Placemaking activate public spaces by fostering social connections, encouraging playfulness, and creating memorable, engaging experiences for diverse community members.

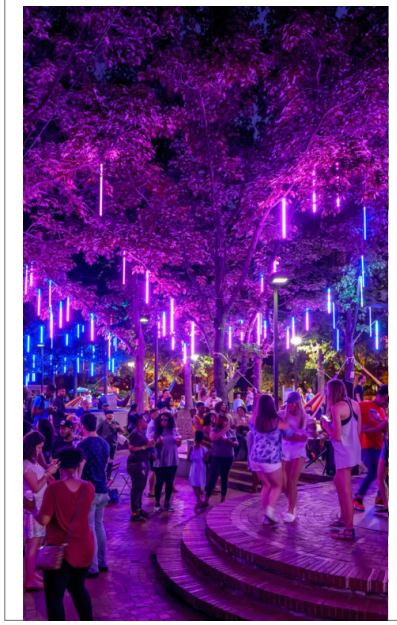
STREET-LEVEL ENHANCEMENTS: THE PHYSICAL FOUNDATIO

LANDSCAPING

Landscaping, whether through moveable planters or permanent installations, enhances Creative Placemaking by adding beauty, improving environmental quality, and creating inviting, vibrant spaces that foster community connection and well-being.

LIGHTING

Lighting—whether string lights, catenary lights, tree lights, or colorful installations—enhances Creative Placemaking by creating ambiance, improving safety, and transforming spaces into inviting, vibrant, and visually engaging environments.



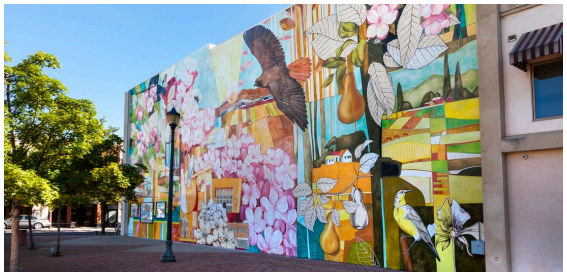
STREET-LEVEL ENHANCEMENTS: THE PHYSICAL FOUNDATIO

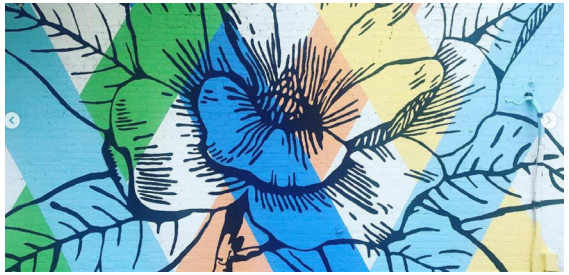
PROGRAMMING

Programming in public spaces, such as yoga classes, buskers, small concerts, and one-act plays, enriches Creative Placemaking by fostering cultural vibrancy, encouraging social interaction, and making spaces more dynamic and engaging.

ART

Art in public spaces—such as murals, sculptures, artistic crosswalks, and functional art—enhances Creative Placemaking by adding visual identity, sparking dialogue, and transforming ordinary spaces into inspiring, meaningful, and culturally rich environments.





TACTICAL USE OF VACANT BUILDINGS AND STOREFRONTS

Tactical Use of Vacant Buildings and Storefronts

Vacant buildings are not only economic challenges—they are visual cues to a community's trajectory. In Wauchula, several of the buildings that remain inactive could play an interim role in revitalization if approached tactically.

Some of the most effective tools include:

- Vinyl window coverings that simulate activity such as in bakeries, bookstores, or co-working offices
- Pop-up retail arrangements with low-cost, short-term leases for entrepreneurs or artists
- Rotating exhibits or public art displays in vacant storefronts
- Partnering with school or college programs to install displays, marketing campaigns, or student work

These are small moves, but they change perception. And perception is the first step toward reinvestment.

Dealing with Vacant, Abandoned, and Dilapidated Buildings

In cities and towns of all sizes, municipal officials point to dilapidated structures as a challenge in their efforts to promote the highest possible quality of life and bring economic growth to their hometowns. The failure of offending property owners to repair or demolish dilapidated structures creates blight and a financial drain on community resources. It shifts the cost of abating violations from the responsible party to all taxpayers.

Dealing with these unsafe commercial and residential structures is a challenging task that requires officials to consider and carefully balance the rights of the offending property owners with rights of the owners of adjacent properties and the community at large. Because of the wide array of situations encountered and sensitivity of the property rights issue, municipalities must have a variety of tools that can be selected and effectively applied to the specific circumstances of each code enforcement case.

What's Available

Cities and towns can adopt ordinances relating to the upkeep of property. These ordinances may provide for notification to the owner outlining the conditions needing to be corrected and may require the owner to take the necessary steps to correct the conditions. The ordinances may also outline how the municipality may correct the conditions if the owner fails to take appropriate action.

As with any ordinance, cities and towns must have procedures in place that provide for due process and proper notification to the property owner when the city moves to abate a problem. Likewise, any local ordinance needs to spell out explicitly the notice procedures, method of notice as well as a procedure for appeals of decisions made by the code enforcement officials.

State law gives cities and towns the authority to enforce the International Building Codes and to adopt by reference certain appendices to this code. One of the most widely adopted appendices is the International Property Maintenance Code, which establishes standards to help ensure public health, safety and welfare of the community by requiring the maintenance of existing structures and premises. The International Property Maintenance Code provides a framework for dealing with dilapidated structures in any city no matter the size.

The International Property Maintenance Code contains a prescribed and tested process of providing proper notice as well as a specific method of serving the notice to property owners. Because this code can be adopted by reference with only minor modifications, it is a good option for municipalities starting a new code enforcement program or looking to modify their existing program. A PDF version of this code may be found by following this link:

https://www.dropbox.com/s/upw4ttgdgusxoz0/2012_International_Property_Maintenance_Code.pdf

What happens when property owners fail to correct serious code violations? One option available to the municipality is to correct the violation. If the municipality corrects the unsafe conditions associated with the property, most state law allows the municipality to place a lien equal to the cost of the abatement on the property and collect the lien in the same manner as municipal taxes.

Challenges

These code enforcement methods have limited effectiveness in certain situations. Liens on property generally can only be collected when a property is sold, and many county governments do not recognize code enforcement liens at tax sales. This means that liens might not be collected at tax sales.

Another problem with liens is that there is often a significant lag between filing the lien and collecting payment because sales of dilapidated properties occur infrequently. Likewise, ordinance summons are not effective when a property owner cannot be located or lives outside of the community or state. Ordinance summons must be personally served upon the offender.

These tools also have limited effectiveness when the property owner lacks the financial resources to abate the violations. Jailing offenders only increases the cost to the municipality and often fails to correct the violation.

Clearly, there are no "silver bullet" solutions that can solve each unique situation in every community. However, all across America certain strategies for dealing with abandoned and dilapidated buildings have begun to gain traction in dealing with this issue. A few of these strategies are noted below.

Adapted from December 2012 issue of Uptown, a publication of the Municipal Association of South Carolina

Strategies for Vacant, Abandoned, and Dilapidated Buildings

1. Early Warning Database

Use an early warning database to identify problem properties and to facilitate collaboration.

Too often, municipalities only find out about vacant properties after they have started to cause serious problems. An early warning database collects and organizes basic information about conditions that suggest a property is likely to become vacant. Local officials and organizations can use that information to identify at-risk properties and take action before a problem grows or gets out of control. A database can be useful for code enforcement officials, police and fire departments, community development departments, Main Street programs and neighborhood organizations.

A database can be as a simple as a spreadsheet that lists problem properties and indicates whether each property has one or more of the key indicators of vacancy or abandonment, such as tax delinquency, nuisance abatement actions, utility shut-offs, or foreclosure filings. It can also be expanded to include information about the district where the property is located, such as demographic data, crime statistics, and real estate conditions. An even more comprehensive database could include information about these properties from various municipal departments. Many municipalities already collect much or all of the information in a basic database, and it is just a matter of putting that information together in one place. Even the most simple database can be used to identify problem properties and neighborhoods, guide decision making, and coordinate activity across municipal departments.

Key Benefits

Identify problem properties

A database helps a municipality identify properties that are vacant or at risk for vacancy, making it possible to intervene early and avoid more serious problems for the property.

Coordinate municipal action

A database helps a municipality share critical information with various local government departments and other key stakeholders and use it to coordinate action and facilitate collaboration.

TACTICAL USE OF VACANT BUILDINGS AND STOREFRONTS

2. Minimum Maintenance Ordinance

Use a minimum maintenance ordinance to provide an objective, district-wide standard of care for properties.

The failure to maintain property directly impacts property values of adjacent property and, in the worst case, can provide an area that attracts criminal activities. To protect a district from deterioration, a number of local governments have established property maintenance standards. There is a limit, however, on how far a jurisdiction may go in regulating unsightly areas on private property. It is an open question in many states whether their courts would uphold a beautification ordinance or a property maintenance or appearance code if the regulation is based purely upon aesthetic grounds.

The premise is that failure to provide minimum maintenance creates unsanitary and unsafe conditions, negatively impacts the aesthetic value of the community, and reduces property values. Local governments considering property standards need to work with legal counsel to make sure that the necessary procedural requirements are included in any public nuisance or property maintenance ordinance and that staff responsible for enforcement receive the necessary training.

The hardships encountered when enforcing MMOs are typically two-fold. First, the local government lacks the political will or manpower to enforce the ordinance. Second, the municipality lacks the funding required to enforce the ordinance by providing temporary clean-up and/or stabilization and weatherization measures.

Key Benefits

Objective standards

Every property owner is held to the same standard of care. This should hopefully address concerns that enforcement is due solely on the grounds of subjective aesthetic standards.

Legal authority

Assuming due process and clear communications are in effect, a MMO provides solid legal grounds for enforcing upkeep on any individual property for the sake of the community good in terms of safety and welfare.

3. Visual Enhancement Treatments

Use visual enhancement treatments as a temporary means of improving the appearance of a building while it is being prepared for occupancy or sale.

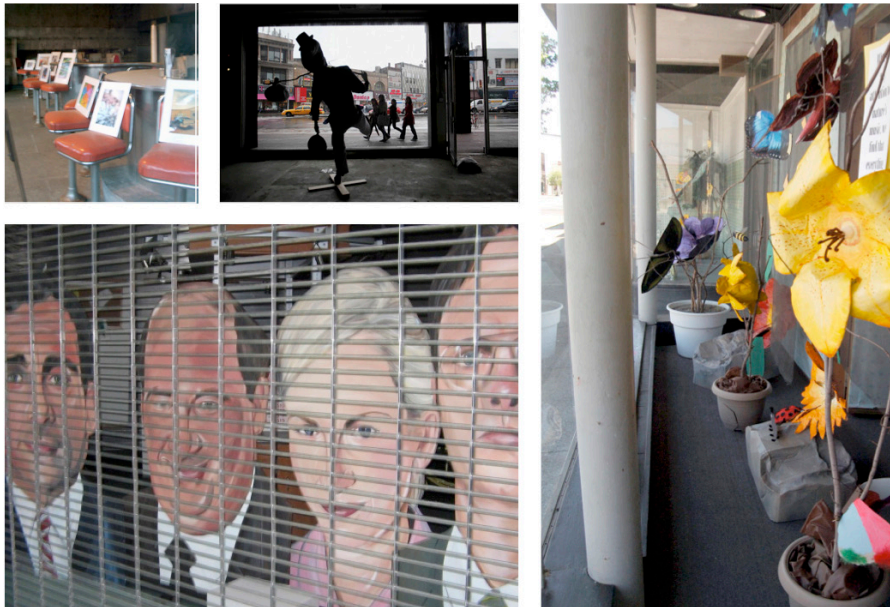
The appearance of vacancies in the downtown area can send a negative message and create the perception of a lack of retail vibrancy. To combat those perceptions and "buy time" until a building becomes occupied, any of the approaches noted and illustrated below can be considered.

Place artwork in vacant display windows if the interior space appearance is satisfactory. If the interior space is in detrimental condition, consider masking the windows from the interior with butcher paper or from the exterior with vinyl cling wraps. The masks can feature nostalgic photos or historic postcards of the community or images such as a map of downtown highlighting shopping and dining destinations. Place "community hero" posters in the windows to build community pride and draw attention away from the vacant building.

Key Benefits

Inexpensive

The above-noted techniques are inexpensive yet can reap significant visual rewards and temper perception of the district while buildings are being rehabilitated or sold.



A variety of art forms occupy the storefront windows of these vacant buildings. Consider featuring work by local artists or art students.

4. Financial Incentives

Use financial incentives to stimulate private sector building renovation investment.

While it can be argued that a property owner that has neglected their property should not be rewarded with a financial incentive, by the same token, the economic and community benefit derived from an improved building typically outweighs perceived injustices. There are a whole host of potential incentives that can be brought to bear on this issue. Some of the most common and strategic methods are noted below.

Facade Grants: Either single components (e.g. signs, awnings, paint) or overall facade grants can motivate an owner to enhance their building.

Historic Preservation Tax Credits: Qualifying buildings are eligible for either 10% or 20% federal tax credits while many states match the federal credits up to 25%.

Tax Abatement: This strategy freezes the taxable rate at the pre-renovation value so that improvements to the building do not render an immediate spike in property taxes.

Key Benefits

Gap financing

Sometimes these financial incentives are the difference between rehabilitating a building or letting it sit vacant. Through a nominal incentive from the public sector, the private sector might be motivated to invest in the renovation of an otherwise marginal property.

5. Vacant Building Registry

Use a vacant building registry to motivate owners to maintain buildings and return them to productive use, identify the party responsible for problem properties, monitor vacant properties, and defray costs of providing related municipal services.

A vacant building registry is an ordinance that requires owners (and, in some cases, financial institutions with an interest in a property) to register vacant buildings with a municipality. Effective registry programs also require registrants to pay a fee at regular intervals, which defrays the additional costs of providing municipal services associated with such properties. Fees also create a strong financial incentive for owners to secure and maintain vacant property and return it to productive use. Effective programs require registrants to provide 24-hour contact information, which makes it easier for a municipality to contact the owner or the owner's agent if there is a problem with the property. Some registry programs go further and include provisions that compel registrants to maintain, secure and insure vacant properties, and prepare and implement plans to return them to productive use. Good registry programs are implemented in conjunction with strong code enforcement and often include steep fines for noncompliance. A model Vacant Building Ordinance from Emporia, Kansas may be found at the following link: *http://www.communitydesignsolutions.com/public/VBO_Emporia_Kansas.docx*

Key Benefits

Motivate owners

Code enforcement alone isn't always enough to motivate owners to maintain vacant properties. Vacant building registries usually require payment of fees, and these added costs create an additional incentive for owners to maintain their properties.

Identify responsible parties to contact if there is a problem

Municipalities can use the information collected in the registry to contact the party responsible for a property if there is a problem.

Defray costs

Revenue generated from registration fees helps cover costs incurred by municipalities in monitoring vacant properties and enforcing vacant property requirements.

TACTICAL USE OF VACANT BUILDINGS AND STOREFRONTS

6. Receivership

Ensure that someone with the necessary expertise and resources repairs or rehabilitates a vacant property.

Receivership is a powerful but infrequently used tool for ensuring that seriously troubled properties are repaired or rehabilitated. Receivership is sometimes used as a last resort when other strategies, like traditional code enforcement, don't motivate an owner to perform necessary maintenance and repairs and a property is a danger to the community. If a property is not being properly maintained, a municipality can go to court and seek to have a receiver appointed to take care of the property. If the court appoints a receiver, this third party is authorized to act as if it owns the property. The receiver can take any step the court authorizes to repair or rehabilitate the property.

Receivers can finance the work with cash loans from banks or the municipality. In exchange, the receiver gives the lender a special certificate, which basically guarantees that it will get the full value of the loan back with interest. If the owner of the property doesn't pay back the receiver's loan with interest, the certificate becomes a lien on the property, which must be paid back before all other encumbrances on the property except taxes. This process provides the receiver with funds needed to repair the property and allows the bank or municipality financing the repairs to make a profit on its loan.

Key Benefits

Repair and rehabilitate vacant property

When other methods fail to motivate an owner to maintain a property, this process, enabled by state law, can give a receiver powerful tools to ensure that troubled properties are repaired or rehabilitated.

Pay for repairs and rehabilitation

It is often difficult to get financing to repair or rehabilitate a vacant property. The receivership process, if enabled by state law, gives receivers this critical tool to finance such repair activity.

Property owner rights

Since the property owner may retrieve the property at any point in the process by reimbursing the receiver for all costs associated with the project, the issue of property takings is addressed.

7. Acquisition or Demolition

Acquire properties to stabilize or rehabilitate individual properties or to redevelop an entire area or district in communities with large numbers of vacant properties. Demolish vacant properties that pose significant danger to the community and cannot be adequately addressed in any other way.

Acquisition: In districts where property values have fallen significantly, owners and private investors may not take proper care of a property. This neglect can cause problems for adjacent properties, and the problems can begin to spiral out of control. In situations where the private market has little incentive to act, the best alternative may be for a municipality to acquire properties.

The municipality can act aggressively (especially if it possesses a Community Development Corporation or a Redevelopment Authority) to improve a single property that is causing problems, or to improve several properties in an effort to redevelop a larger area. Municipalities can acquire properties individually or as part of a coordinated acquisition and redevelopment strategy. Where downtown stabilization or revitalization efforts require acquisition of larger numbers of properties, land banks have proven to be a very effective strategy. Though acquiring properties can be a useful and powerful tool, it is not a quick solution to a pressing problem—the process often takes a very long time.

Demolition: When a property is causing very serious problems that present a danger to the surrounding community, and the owner is not taking necessary steps to address the problem, a municipality may initiate demolition proceedings. After complying with procedures specified by state law and/or municipal ordinance, the municipality can demolish the property.

While the preservation of a downtown's architectural assets --especially its historic buildings-- is of paramount importance, occasionally the demolition of a delinquent building may cost a municipality less than taking care of a troubled property. What's more, under some circumstances, a municipality can recover the costs associated with the demolition. Carefully targeted demolition can help stabilize property values in the surrounding community and help lay the foundation for redevelopment.

Key Benefits: Acquisition

Return properties to productive use

By acquiring vacant properties that have no near-term prospect of being

redeveloped by the private market, municipalities can return them to productive use, helping to stabilize communities more quickly.

Promote redevelopment

Property acquisition allows municipalities to reshape an entire district.

Key Benefits: Demolition

Remove blight

Demolishing seriously troubled buildings can help stabilize or improve struggling districts. Demolition may be the best option when vacant properties are hurting the community around them and nothing else can restore the property to productive use.

Prompt owners to take responsibility

Sometimes a threat by the municipality to demolish a property compels recalcitrant owners to take responsibility for troubled properties.

Minimize municipal costs

While demolishing a building is expensive, it is sometimes less expensive in the long run than incurring all of the municipal costs associated with taking care of a troubled building.

8. Land Value Tax

A land value tax is a tax that is assessed on the value of a piece of land, rather than the value of the buildings that sit on it. Under a land tax, you are effectively taxed on the value of your location, which is mostly a result of what is nearby.

In contrast, in most American cities, property taxes are assessed on both land and buildings ("improvements"). Taxing improvement value acts as a disincentive to put land to productive use—since by increasing the value of your building, you will also increase your tax liability—and encourages land speculation. Taxing only land, or mostly land, helps resolve these issues.

An informative article and video that explains the Land Value Tax by the professionals at Strong Towns may be found at: *https://www.strongtowns.org/landvaluetax*

STRATEGIC INCENTIVES: BUILDING MARKET CONFIDENCE

Strategic Incentives: Building Confidence in the Market

Many of the pro forma analyses in this report point to the same conclusion: without layered incentives, even strong projects can fall short of financial viability. Wauchula's efforts to date, particularly through the CRA and state grants, are the foundation for a robust, outcome-driven incentive strategy that does more than close gaps. It builds confidence.

The following is drawn verbatim from the previously developed memo, with added context to highlight how Wauchula can continue to lead with tools that work.

Leveraging Incentives for Small-Scale Redevelopment in Wauchula, FL

Incentives such as historic tax credits (HTCs) and brownfield redevelopment programs are essential for making small-scale redevelopment projects financially viable, particularly in rural and historic communities like Wauchula. Without these tools, many historic buildings would remain vacant or fall into disrepair due to the high costs of rehabilitation compared to new construction. By leveraging federal and state incentives, developers, small business owners, and local investors can transform underused properties into community assets, strengthening Wauchula's downtown district.

The Federal Historic Tax Credit (HTC) program provides a 20% credit on qualified rehabilitation expenses for income-producing properties listed on the National Register of Historic Places. This program is particularly beneficial for small-scale projects, where every dollar of financing is critical to project success. Florida does not currently offer a state historic tax credit, but property owners in Wauchula can still benefit from other incentive programs that support historic rehabilitation, including local grants and property tax abatements.

In addition to HTCs, Florida's Brownfield Redevelopment Program helps property owners address environmental concerns that can make older buildings difficult to redevelop. Many historic properties, especially former commercial and industrial buildings, may have contamination issues such as lead paint, asbestos, or underground storage tanks. Florida's program offers incentives such as Brownfield Site Rehabilitation Agreements (BSRAs), tax refunds, job creation incentives, and liability protections, reducing financial and legal barriers to redevelopment. Wauchula property owners undertaking redevelopment in designated brownfield areas can leverage these benefits to offset environmental remediation costs.

For small-scale developers, combining these incentives with local grant programs, tax abatements, or low-interest loan funds can make otherwise infeasible projects successful. Programs such as façade improvement grants, and tax increment financing (TIF) districts can provide additional layers of support. The City of Wauchula's Community Redevelopment Agency, The Development Group, and other local agencies may offer funding assistance to help revitalize downtown Wauchula, encouraging adaptive reuse of historic properties.

Beyond tax credits and brownfield programs, grant funding from sources such as the USDA and local foundations can further support small-scale redevelopment projects, particularly for mixed-use and upper-floor housing initiatives. The USDA's Rural Development programs, including the Community Facilities Grant and Rural Business Development Grant, can provide funding to improve building infrastructure, support small businesses, or enhance downtown revitalization efforts in Wauchula. Similarly, local and regional foundations often offer grants or low-interest loan programs to encourage the redevelopment of underutilized spaces, such as second-story housing above commercial storefronts. These funds can be used to offset costs associated with code compliance, accessibility improvements, or structural upgrades, making it more feasible for property owners to create much-needed housing in small-town markets.

By pairing these grant opportunities with historic tax credits and local incentive programs, Wauchula can foster vibrant mixed-use development that strengthens its downtown economy and increases the availability of quality housing. These tools are critical in helping small businesses and local investors restore historic buildings, preserve Wauchula's unique character, and enhance the overall economic vitality of the community. By leveraging multiple incentives, small-scale redevelopment projects can achieve financial feasibility while ensuring the long-term sustainability of Wauchula's historic assets.

FACADE GRANTS AS VISUAL CATALYSTS

Façade Grants as Visual Catalysts

Wauchula's existing façade grant program has been well-administered and impactful. But as this plan moves forward, additional enhancements may be considered:

- Creating a tiered system that rewards buildings with larger visibility or higher vacancy
- Offering match bonuses for properties that pair façade work with interior buildout
- Integrating design services as a technical assistance layer before grant funding is released

The role of façade improvement is not cosmetic alone—it is an economic signal. Properties that appear maintained draw more investment. Grants should be tied to visible public benefit, strong design standards, and long-term occupancy goals.

The Benefits of Facade Grants

The revitalization of a commercial district or residential neighborhood often starts with improvements to a single building or storefront. Even small changes—such as removing non-historic materials, making repairs, or applying fresh paint to highlight a building's original architectural details—can signal positive change and inspire similar upgrades in neighboring properties.

While individual property or business owners sometimes initiate these improvements on their own, the process can accelerate when a community establishes a façade improvement program. For this reason, such programs are often key implementation strategies in comprehensive plans, downtown revitalization efforts, and historic preservation initiatives.

Façade improvement programs provide incentives to encourage property owners and businesses to enhance the exterior appearance of their buildings and storefronts. These programs, which may apply to commercial or residential properties in both historic and non-historic areas, typically offer financial assistance such as matching grants, low-interest loans, tax incentives, and design guidance.

There are three basic approaches to facade grants and each have pros and cons as noted herein. The three principle facade grant approaches are: ***Facade Component Grants***, ***Overall Building Grants***, and the ***Facade Master Plan***. Each approach is described and illustrated on the following pages.

FACADE GRANTS AS VISUAL CATALYSTS

Facade Component Grants

Since many building owners are intimidated by overall façade renovations coupled with a grant process, the City or Main Street Program might consider simplifying the initial phases of the façade grant program and focusing on individual façade elements or components instead of expensive, overall façade improvement approaches. In other words, consider conducting an annual facade component grant program such as an awning grant program, or a slipcover removal program, or a signage grant program. Once property owners become familiar with individual façade component programs and the process of improving one's building is demystified, then consider moving on to overall-façade-based grant programs or a comprehensive Facade Master Plan if needed or desired.

Rear of Building Treatment Component Grants

Example of Rear of Building Treatments from Lake City, SC *(above): This row of buildings had all manner of unsightly items behind them ranging from trash dumpsters to HVAC units to weatherheads to downspouts and much more. But since they fronted a town green it was imperative that these items be concealed. The approach taken was to paint the buildings a common palette of autumnal colors, then erect a simple structure comprised of 4x4 posts with 1x strips screwed into them and painted gray. This lattice conceals the unsightly elements and unifies the entire row of buildings. Foreground landscaping completes the rear of building treatments.*

FACADE GRANTS AS VISUAL CATALYSTS

Slipcover Removal Component Grants

***Conway, SC**: This furniture company removed the metal slipcover from their building to expose a beautiful building underneath.*

***Conway, SC**: The local government, in association with the Main Street program, realized the positive impact slipcover removal made. Therefore, they enacted a component facade grant program for slipcover removal and five other buildings in downtown removed their slipcovers. The visual improvement to their main street was remarkable!*

Awning Component Grants

***Beaufort, SC**: Main Street Beaufort initiated a component grant program featuring awnings.*

FACADE GRANTS AS VISUAL CATALYSTS

Signage Component Grants

One of the quickest ways to make a positive first impression from a design perspective is to have downtown buildings that feature quality, eye-catching signage. By coupling a public sector incentive with a private sector investment, the building and/or business owners are able to design and install signs of a caliber and quality that might otherwise be unaffordable. As part of the signage grant, a thoughtful review of existing sign ordinances is likely in order to ensure that quality signs like those featured at right are not prohibited by an outdated code requirement.

Should the community lack local sign designers and fabricators to execute the kinds of signs depicted at right, they might consider participating with the CoSign project. CoSign is a program developed by the American Sign Museum that helps communities create unique signage for revitalizing business districts. More information about this cutting edge program may be found at:

www.cosigncincy.com

FACADE GRANTS AS VISUAL CATALYSTS

Overall Building Facade Grants

Once the methodology for applying for component facade grants is established and the City or Main Street Program has a proven track record for administering them, consider 'graduating' up to overall facade grants that address the entire face of a building. This approach would be reserved for more 'troublesome' buildings that require far more physical enhancement than a singular component approach could provide. However, this approach requires far more financial capital and administrative oversight to execute than a facade component grant approach.

***Lake City, SC**: (Left/Below) The owner of this building took advantage of a matching facade grant to convert the vacant space into a photography studio and office. The redesign featured a contemporary paint scheme, bold awnings, creative lighting, and professional signage.*

***Lake City, SC**: (Below) The owner of this building took advantage of a matching facade grant to convert the vacant space into a butcher shop. The redesign featured a contemporary paint scheme, painted and projecting signage, a steel canopy, and aluminum storefront system.*

Closing Gaps, Building Trust

The strategies outlined here are not standalone; they work together. Public realm improvements make downtown more inviting. Façade grants make investment visible. Temporary storefront uses change the feel of a block. And behind it all, incentives give developers, small businesses, and institutions a reason to say yes.

What's also clear is this: Wauchula has done this before. Many of the ideas in this chapter are rooted in previous work. What this plan does is systematize them, align them with new development, and move them from tactical to strategic.

The next chapter will pull these ideas into a unified, phased implementation matrix. It will outline what needs to happen, when, and by whom.

10 CONCLUSION & IMPLEMENTATION STRATEGY

CONCLUSION & IMPLEMENTATION STRATEGY

Downtown Wauchula is not starting from scratch. This plan builds upon years of dedicated work including streetscape improvements, civic investments, private projects, and the tireless efforts of Main Street Wauchula, the City, TDG, and a broad coalition of community partners. What's new is the moment. The alignment. The clarity of opportunity. The willingness to act.

Through public input, market analysis, financial modeling, and design, this plan has moved deliberately from understanding to action. It has named six signature development sites, each with a specific path to feasibility and reuse. It has paired those sites with public realm strategies that "fill the gaps," activating overlooked spaces, softening visual clutter, enhancing walkability, and building pride.

Now, the final pivot begins. This chapter turns vision into assignment, concept into cadence. It identifies what comes first, what can happen in parallel, and what requires long-term persistence.

Looking Ahead: The Implementation Matrix

This matrix is not a static checklist. It is a living roadmap that assigns timelines and responsibility across short (0–1 year), medium (2–3 years), and long-term (4–7 years) horizons. Each action is linked to a strategic theme that emerged from the planning process.

Final Thought: Wauchula Has Already Started

This report is not the beginning. The work is underway. This plan simply names the pieces, connects the players, and lays out the path. Downtown Wauchula has a vision. It has momentum. And now, it has a plan to match. Let's get to work.

City of Wauchula
Inland Port Feasibility Study

Prepared for: The City of Wauchula

Prepared by: Kimley-Horn

FEBRUARY 2026

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1.0 Executive Summary

The City of Wauchula received a grant from Florida Commerce to fund a study to evaluate the potential development of a future inland port. This Inland Port Feasibility Study summarizes the results of the due diligence that was performed in collaboration with City staff, Pinpoint Results and The Development Group.

Study Objective: The objective of the study was to determine the viability of developing an inland port, identify potential properties along the CSX railroad corridor in Hardee County, and provide possible next steps for the City to consider for future industrial development plans.

As part of the study, a preliminary economic analysis was conducted to evaluate current commodity flows and competing inland ports within the state. The initial business case, as identified in the grant application, assumed the inland port would handle international cargo from Port Tampa Bay and/or Seaport Manatee and connect these ports by existing rail to a new inland port development in the City of Wauchula. The CSX mainline is over five miles west of the western municipal boundary of the City of Wauchula as shown on the Vicinity Map on Figure 1 below. Therefore, the study area was expanded to include possible sites in Hardee County near the CSX railroad Brewster Subdivision mainline. The existing Hardee County Commerce Center was also considered as a potential catalyst for the inland port, but it is approximately 6.5 miles from rail.

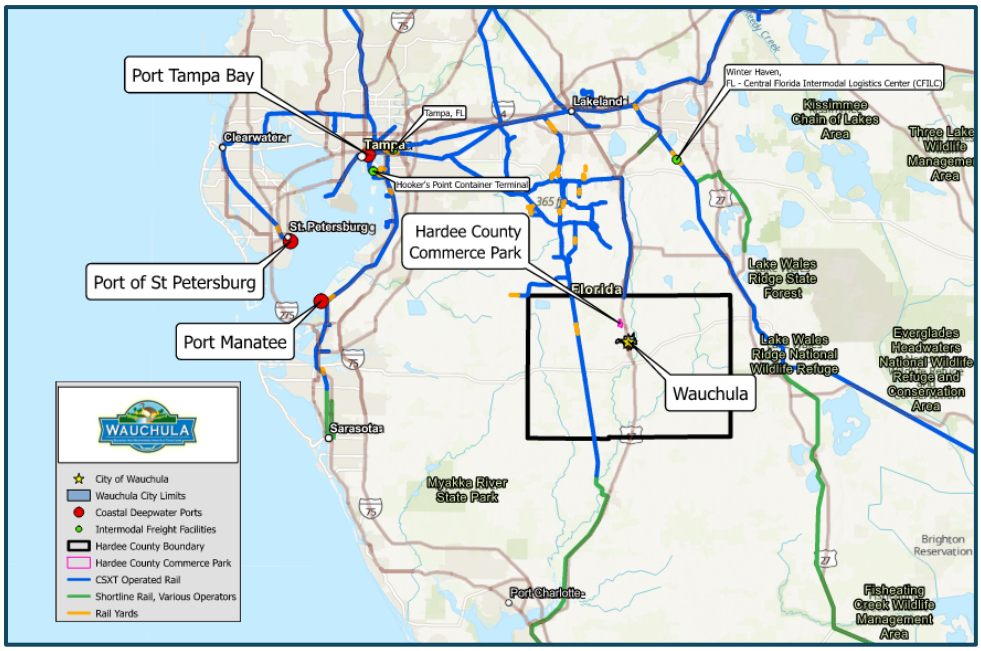


Figure 1-1: Vicinity Map

The study included the evaluation of potential sites for an intermodal inland port. Intermodal inland ports handle international cargo and serve as extensions of a container terminal, operated by a port, railroad, or private terminal operator. Intermodal inland ports require sufficient property

for a rail yard, container storage yard, truck gates and adequate land to make the connections to rail and roadways. A search criterion was developed for the intermodal inland port sites and sites were determined using GIS mapping. Six (6) intermodal sites were identified. These sites were evaluated based on their proximity to the CSX mainline, land use and zoning compatibility, infrastructure access, and environmental constraints. This was a desktop exercise only and no coordination with the property owners was performed. These potential sites were then narrowed down to two recommended locations, and concept plans were developed for these possible sites. The concept plans included intermodal tracks, loading areas, gate facilities, and adjacent industrial warehouses that could be developed on the property. During the data collection and due diligence phase of the project it was determined that a new intermodal inland port in Hardee County would not be viable due to the proximity of CSX's Central Florida Intermodal Logistics Center (ILC) intermodal facility in Winter Haven, Florida as well as the existing rail infrastructure and lack of intermodal rail volume moving on the Brewster Subdivision through Hardee County. This was based on discussions with representatives from CSX Transportation. Therefore, the evaluation pivoted to identify properties for a rail-centric inland port that would ha

A rail-centric inland port handles domestic rail cars, our carloads, versus international cars and includes distribution and manufacturing warehouses or facilities that have access to rail but may also be served by trucks. Carloads carry bulk commodities (coal, grain, chemicals) directly to industrial sites, while intermodal moves containerized, high-value consumer goods (retail, automotive) in trailers/containers via specialized, faster trains, and often require trucking for the final mile. Carloads are generally cheaper for bulk, while intermodal is faster and more versatile. A similar approach was taken to identify potential sites for the rail-centric inland port, which allowed more sites to be added due to a new search criterion and less rail frontage being required. Seventeen (17) rail-centric sites were identified and evaluated further. These sites were ranked, the top two sites were identified, and concept plans were developed for these two sites. It should be noted that this planning work was a preliminary desktop evaluation only. Additional due diligence, site evaluation, and collaboration with the property owners will be necessary prior to advancing any of the recommended projects. Permitting requirements and estimated costs were determined to develop the intermodal and rail-centric sites and a summary is included in this report. While the intermodal inland port was not viable, a rail-centric inland port has potential. Attracting the right tenant and users will be critical. In addition to purchasing property and building the necessary infrastructure, a successful rail-centric inland port will require a strategic plan to attract businesses that will invest in building their infrastructure and operating their businesses within the rail-centric inland port and utilizing the CSX mainline.

This report summarizes the due diligence gathered during the study and presents options for the city to consider in the future. Next steps may include approaching the property owners, discussing access connections with CSX, attracting new businesses and manufacturing to the sites, and seeking additional grant opportunities to advance the development of a rail-centric inland port.

Since all sites identified are in Hardee County, it is assumed that the County would take the lead on future due diligence and planning efforts, if the project advances. However, if a key anchor tenant locates on the rail-centric inland port, it is likely supporting industries could locate in the city.

2.0 Scope of the Study

The following section summarizes the scope of the study which included the following tasks:

1. **Project Management** – This task provided project management support during the completion of the inland port feasibility study including preparing for and attending kickoff and progress meetings, managing subconsultants, providing updates for grant reporting, and coordination with the Client and stakeholders.
2. **Data Collection and Review** – This task included obtaining and reviewing existing data that was relevant to the inland port feasibility study. This data may include:
    - GIS data showing property owned by the City, County and or planned for industrial development
    - Previously prepared master plans for industrial parks or transportation corridors by the City, County or the Florida Department of Transportation (FDOT)
    - Economic studies or data that the City or County had that was beneficial to the study.
3. **Economic Business Case** - The City of Wauchula is located approximately fifty to seventy highway miles to the east and southeast of Seaport Manatee and Port Tampa Bay, in a relatively rural area. There is existing rail infrastructure within Hardee County, near the City of Wauchula, connecting it to the CSX network. While it may be physically possible to run intermodal freight from the ports in Tampa and Manatee to Wauchula, during the scope preparation, it was not clear if such an operation would be commercially feasible. The objective of this task was to analyze current market conditions and determine the likelihood that an inland port in Wauchula would be viable as a standalone business, or if a subsidy would be needed. The key elements of the analysis and recommendations were structured as follows:
    - Review current flows between the ports of Tampa, Manatee, and Wauchula as well other nearby locations competing with Wauchula.
    - Identify locations that would compete with Wauchula for inbound/outbound or import/export freight flowing through the ports of Tampa or Manatee.
    - Identify locations that would be served by distribution centers based in Wauchula.
    - Search for current occupiers of industrial real estate located in or close to Wauchula that use the ports in Tampa or Manatee.
    - Provide a comparison of estimated drayage and intermodal costs and identify potential breakeven levels. Estimate potential subsidies needed to put the operation into start-up mode.
    - Develop potential ramp-up scenarios.

- This scope was modified as due diligence was performed and/or feedback from CSX was obtained that revised the recommended economics scope of work.

4. **Site Alternatives Analysis (Intermodal Concept**) - Using publicly available information and information provided by the city, a site alternatives analysis was prepared for the inland port for an intermodal concept. The first step was to develop a site assessment criterion for intermodal sites that includes the minimum track frontage of the property, size of the property and proximity to existing roadway infrastructure. Using the site assessment criteria and GIS base mapping, up to five (5) sites were identified and evaluated for an intermodal inland port. As part of this task, exhibits summarizing the characteristics of the sites including zoning and land use, roadway infrastructure, railroad infrastructure, utility infrastructure and environmental features were developed and evaluated. A summary matrix was prepared that assesses the potential intermodal sites and ranks the sites. Preliminary concept plans were then developed for the highest two (2) ranked intermodal sites as well as the preparation of Preliminary Opinion of Probable Construction Cost (OPCC) to estimate the total cost associated with site preparation, rail improvements, paving, roadway and utility improvements.
5. **Site Alternatives Analysis (Rail Centric Concept)** – Using publicly available information and information provided by the city, a site alternatives analysis was prepared for the inland port for a rail-centric concept. A site assessment criterion for rail-centric sites was developed that identifies the minimum track frontage of the property, size of the property and proximity to existing roadway infrastructure. Using the site assessment criteria and GIS base mapping, up to five (5) sites were identified and evaluated for rail-centric concepts. As part of this task, exhibits summarizing the characteristics of the sites including zoning and land use, roadway infrastructure, railroad infrastructure, utility infrastructure and environmental features were developed and evaluated. A summary matrix was prepared that assesses the potential rail-centric sites and ranks the sites. Preliminary concept plans were then developed for the highest two (2) ranked rail-centric sites as well as the preparation of OPCC to estimate the total cost associated with site preparation, rail improvements, paving, roadway and utility improvements.
6. **Stakeholder Outreach** - Using the information developed in previous tasks and in coordination with the city, outreach was provided to stakeholders in the project. This included coordination with staff from Port Tampa Bay, SeaPort Manatee, CSX Transportation, City, County, and a preliminary conversation with The Mosaic Company as well as additional stakeholders during the preparation of the study.
7. **Feasibility Report** – The work performed as part of the project has been summarized in this Feasibility Report that includes the findings of the previous tasks. The Feasibility Report includes a summary of the project, due diligence performed, recommendations, previous studies, permits required, estimated preliminary costs and possible next steps for the City to advance the project.

3.0 Defining an Inland Port

An inland port is a strategically located logistics and intermodal facility located away from traditional coastal seaports, designed to facilitate the efficient movement of goods between maritime terminals and inland markets. An inland port is typically owned, controlled and operated by a marine port, private terminal operator, or a railroad. In the context of a rail-served inland port, the facility is directly connected to a seaport by a Class I railroad that enables the transfer of containerized cargo from rail to truck and vice versa.

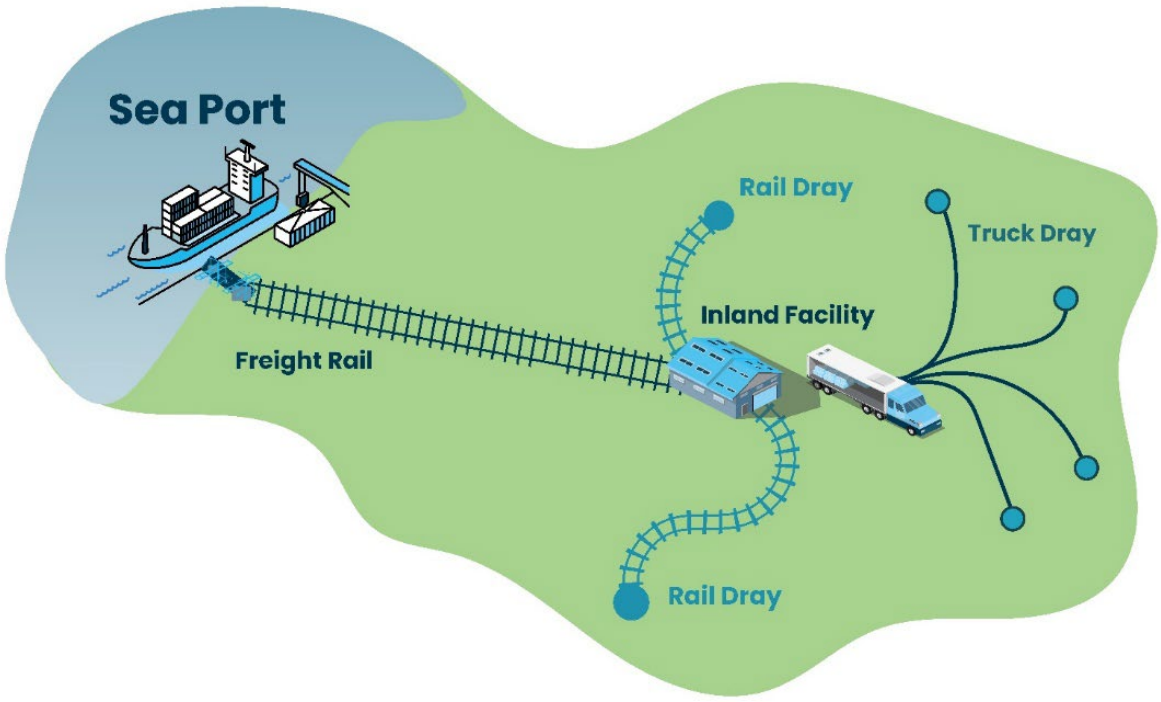


Figure 3-1: Inland Port Schematic

An inland port includes a railyard with arrival and departure tracks, working and storage tracks as well as specialized lifting equipment to move containers from truck chassis onto railcars. The railcars used for this purpose are specialized for intermodal transport, with the type of equipment varying depending on whether the business is international or domestic and the volume of business handled. Every intermodal rail move involves handling containers at both ends of the journey (at the marine terminal and at the inland port). At the marine terminal, containers are moved from ships to storage yards and then are loaded onto railcars, sometimes involving a short-haul move by a terminal truck (or jockey truck) from the container yard to the rail yard where it is loaded onto a railcar at the port. Once the cargo is transported inland by rail, a local truck is needed to move the container from the inland port to its destination or the end customer. This movement by local truck is known as a dray, either from the inland port to the destination or from the origin point to the inland port. Containers may be left on their chassis awaiting the next train or lifted off and stored on

the ground for later placement onto the train, depending on logistical needs. If stored on the ground, storage yard or container yard space will be required adjacent to the rail tracks. The working tracks within the rail yard are where the equipment loads or unloads the containers from the rail cars. The type of equipment can vary based on the volume of the rail yard and may include top lifts/top picks, reach stackers or higher volume equipment such as rubber-tired gantry (RTG) cranes or rail mounted gantry cranes. Trains would arrive into the intermodal yard on arrival tracks, be broken into shorter cuts of trains and placed on the working tracks where the equipment removes the containers. Adjacent to the working tracks, inland ports often have storage tracks for rail cars, depending on the annual volume handled at the facility. Once the containers are removed or replaced on the trains, a departure train is assembled on the departure track.

Rail transport is generally cheaper for long-haul distances and poses a reduced environmental impact due to fewer trucks on the road. The distance to the inland port, costs associated with the additional moves, and the volume of cargo handled must all align to justify the inland port investment. Intermodal inland ports provide shippers with the advantage of direct service from truckers while still utilizing rail for the long-haul portion of the cargo's journey. Inland ports measure their capacity by the number of lifts they can handle per year, with each lift adding to the cost as it involves additional physical handling of the cargo.

If the volumes are there and the cost of the additional moves are justified, inland ports could enable regional economic development by attracting warehousing, distribution centers and manufacturing. The primary market-driven factors for a feasible inland port include a haul length exceeding 200 to 250 miles, a minimum annual volume of 20,000 container lifts, proximity to an interstate highway, and sufficient freight demand. The ideal site configuration features approximately 9,000 to 10,000 feet of rail frontage to accommodate track geometry and rail yard, along with a site size of roughly 100 acres. This acreage would allow industrial development to be built adjacent to the rail yard and container storage and together they serve as an inland port. An ideal property for an inland port must be directly adjacent to the railroad mainline to ensure efficient rail access and operations.

The Kimley-Horn team collaborated with representatives from CSXT to present the idea of an inland port in Hardee County. It was determined that a new intermodal inland port in Hardee County would not be viable due to the proximity of CSX's Central Florida Intermodal Logistics Center (ILC) intermodal facility in Winter Haven, FL as well as the existing rail infrastructure and lack of intermodal rail volume moving on the Brewster Subdivision through Hardee County. This was based on discussions with representatives from CSX Transportation. Therefore, the evaluation pivoted to identify properties for a rail-centric inland port.

While the study ultimately pivoted toward rail-centric site evaluation, elements of intermodal facility design remain central to long-term planning and infrastructure investment, primarily access to roadway and rail infrastructure.

4.0 Existing East Coast Inland Ports

There are several inland port facilities on the east coast of the U.S. of varying sizes and functionality. The following section summarizes these inland ports. The first list includes intermodal inland ports, and the second lists rail-centric inland ports.

Intermodal Inland Ports

The following summarizes several intermodal inland ports on the east coast. This is not an exhaustive list of all intermodal facilities, but a sample to describe what inland ports look like. Each of these facilities was driven by an economic evaluation that determined the business case which determined the layout and infrastructure necessary to serve the business model.

A. **Virginia Inland Port, Front Royal, Virginia** - The Virginia Inland Port (VIP), located in Front Royal, VA, serves as a critical extension of the Port of Virginia's cargo operations. Established in 1989, this facility acts as an intermodal container transfer site that links rail and truck transportation, providing seamless access to international markets via the Port of Virginia's marine terminals. Situated strategically near major highways and rail networks, VIP enhances the efficiency and capacity of freight movement for businesses in the Mid-Atlantic region and beyond, offering a competitive advantage in terms of logistics and transportation cost savings. The 161-acre facility is operated by the Virginia Port Authority. The terminal has a capacity of 78,000 TEUs (or twenty-foot equivalent units) and is served by Norfolk Southern Railway. The inland port is located approximately 200 miles from the container terminals in the Norfolk/Hampton Roads area. The terminal is located near the intersection of I-66 and I-81.

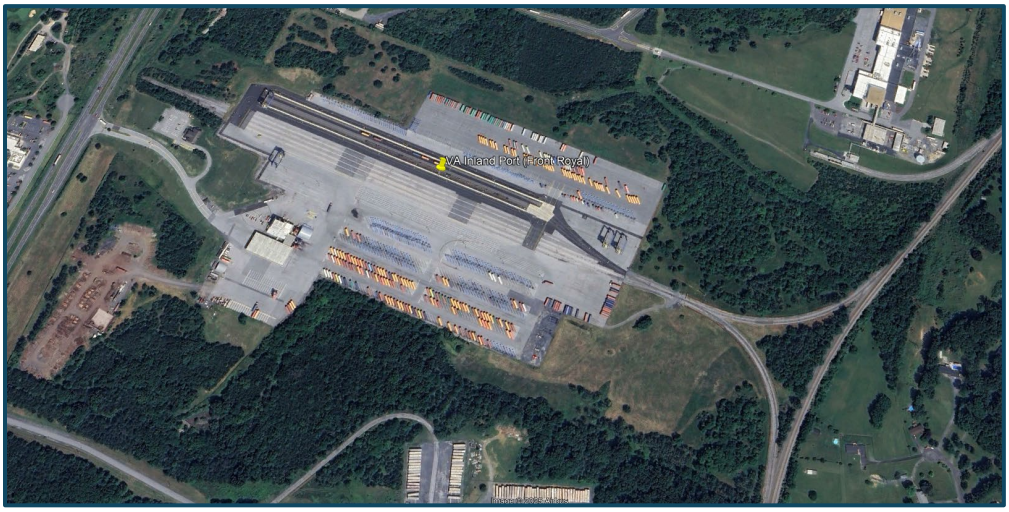


Figure 4-1: Aerial Image of Virgina Inland Port

One of the key attributes of the Virginia Inland Port is its ability to reduce congestion at maritime ports and alleviate pressure on the road infrastructure. By transferring

containerized cargo from trucks to rail, VIP facilitates a more sustainable and environmentally friendly transportation mode that minimizes carbon footprint. The facility operates with advanced handling equipment and technology, ensuring prompt and reliable service. It plays a crucial role in the supply chain by optimizing the transport of goods from inland locations to the global marketplace, significantly contributing to Virginia's economic development. The Virginia Inland Port also fosters regional economic growth by attracting businesses and encouraging industrial development. Its presence in Front Royal has led to the establishment of distribution centers, manufacturing plants, and logistics companies, creating job opportunities and boosting local economies. VIP's strategic location, coupled with its robust infrastructure, makes it an essential asset for businesses seeking efficient and cost-effective solutions for their cargo transportation needs. Overall, the Virginia Inland Port exemplifies how intermodal transport hubs can enhance connectivity, streamline operations, and drive economic success.

B. **Charlotte Inland Port, Charlotte, North Carolina** - The Charlotte Inland Port (CIP), strategically located in Charlotte, NC, serves as a pivotal hub connecting regional cargo with the Port of Wilmington via CSX Railroad. The CIP is located adjacent to the CSX Pinoca Yard and includes approximately 10 acres of container storage. The yard is operated by reach stackers. As an important component of the region's logistics infrastructure, the inland port facilitates the efficient transfer of goods between truck and rail, enhancing the overall supply chain network. By offering direct rail access to the NC State Ports Authority's Wilmington terminal, the Charlotte Inland Port plays a crucial role in streamlining the movement of goods to and from one of the key ports in North Carolina. This inland facility provides numerous advantages, including reducing road congestion and lowering transportation costs for businesses within the Charlotte metropolitan area. The use of rail for long-haul freight transportation not only alleviates strain on highways but also promotes more sustainable logistic practices by decreasing fuel consumption and emissions.

The inland port is equipped with modern infrastructure and technology to ensure the swift and secure handling of containerized cargo, contributing to improved efficiency and reliability in freight operations.

Figure 4-2: Charlotte Inland Port

The presence of the Charlotte Inland Port has also spurred economic development in the region. By providing a crucial link in the supply chain, it supports local industries and attracts new businesses looking to capitalize on its strategic advantages. The facility's ability to offer cost-effective logistics solutions has made it an attractive location for distribution centers, warehouses, and manufacturing facilities. This development has led to job creation and growth in the local economy, underscoring the significant role the Charlotte Inland Port plays in enhancing the regional and broader economic landscape.

C. **Inland Port Greer, Greer, South Carolina** - Inland Port Greer, located in Greer, SC, is a vital extension of the South Carolina State Ports Authority, designed to enhance the state's logistics and transportation infrastructure. Established in 2013, this inland port serves as an intermodal facility, streamlining the movement of containerized cargo between rail and truck. Its strategic location provides direct rail access to the Port of Charleston, a major gateway for international trade on the East Coast, thereby facilitating efficient and cost-effective connectivity for businesses in the upstate region. Inland port Greer is served by Norfolk Southern railroad. One of the significant benefits of Inland Port Greer is its ability to alleviate road congestion and improve environmental sustainability. By enabling the transfer of long-haul freight transportation from truck to rail, the facility helps reduce highway traffic, lower fuel consumption, and minimize carbon emissions. Equipped with state-of-the-art infrastructure and technology, Inland Port Greer ensures the seamless and secure handling of cargo, enhancing reliability and

efficiency in the supply chain. This optimized flow of goods is crucial for businesses looking to maintain competitive advantages in logistics and distribution.

Figure 4-3: Aerial Image of Inland Port Greer

Inland Port Greer has catalyzed economic growth and development in the region by attracting businesses and fostering industrial expansion. Its strategic advantages have led to the establishment of distribution centers, manufacturing facilities, and logistics companies around the area. The availability of cost-effective transportation solutions has brought significant job opportunities and contributed to the local economy's vitality. Overall, Inland Port Greer exemplifies how inland facilities can boost regional connectivity, streamline operations, and drive economic success, making it an indispensable asset in South Carolina's logistics landscape.

D. **Appalachian Regional Port, Crandall, Georgia -** The Appalachian Regional Port (ARP), located in Crandall, GA, is a strategic inland terminal operated by the Georgia Ports Authority (GPA). Opened in 2018, this facility acts as an intermodal hub, providing seamless rail connectivity to the Port of Savannah, one of the busiest and most vital ports on the Eastern Seaboard. ARP is served by CSX Transportation and is designed to streamline cargo movement between northwest Georgia, northeast Alabama, and Tennessee, thereby enhancing the efficiency and capacity of regional logistics operations. One of the key advantages of the ARP is its role in reducing road congestion and promoting sustainable transportation practices. By facilitating the transfer of containerized goods from trucks to trains, the ARP helps decrease highway traffic, lower fuel consumption, and minimize carbon emissions. The facility is equipped with modern infrastructure and advanced technology to ensure the swift and secure handling of cargo, boosting reliability and operational efficiency for businesses utilizing its services.

This optimization of freight transport is instrumental in maintaining competitiveness within the logistics and supply chain sectors.

Figure 4-4: Aerial Image of Appalachian Regional Port

The establishment of the ARP has also stimulated economic growth and development in the surrounding region. By providing a crucial link in the supply chain, the ARP attracts new businesses and supports existing industries by offering cost-effective and strategically advantageous transportation solutions. The availability of this inland port has led to the development of distribution centers, manufacturing plants, and logistics firms, creating job opportunities and bolstering the local economy. Overall, the ARP exemplifies how inland ports can enhance regional connectivity, streamline logistics operations, and drive economic prosperity.

E. **Cordele Intermodal Center, Cordele, GA –** The Cordele Inland Port, officially known as the Cordele Intermodal Center, is a strategic 40-acre logistics hub located in south-central Georgia. It serves as an inland extension of the Georgia Ports Authority, providing a direct rail link to the deepwater Port of Savannah approximately 183 miles to the east. Operated by Cordele Intermodal Services (CIS), the facility offers overnight rail service and is uniquely positioned near Interstate 75 and major highways, allowing it to support a wide market including Southwest Georgia, Southern Alabama, and the Florida Panhandle. The terminal's primary objective is to streamline regional supply chains by shifting heavy freight from trucks to more cost-effective and environmentally friendly rail transport. This shift significantly reduces highway congestion—particularly along the I-75 and around Savannah—and lowers carbon emissions. As a critical engine for regional economic growth, the facility facilitates the export of local commodities like

cotton, pecans, and kaolin clay. By acting as a central logistics gateway, the Cordele Inland Port enhances the competitiveness of Georgia's ports against Gulf Coast alternatives and attracts new industrial investments to the Crisp County area. Below is an aerial of the Cordele facility. The yellow area is the land owned by CIS, but adjacent to the railroads you can see additional industrial and manufacturing facilities. This terminal could be called a rail-centric inland port, but it also has intermodal activity in the yards shown in yellow.

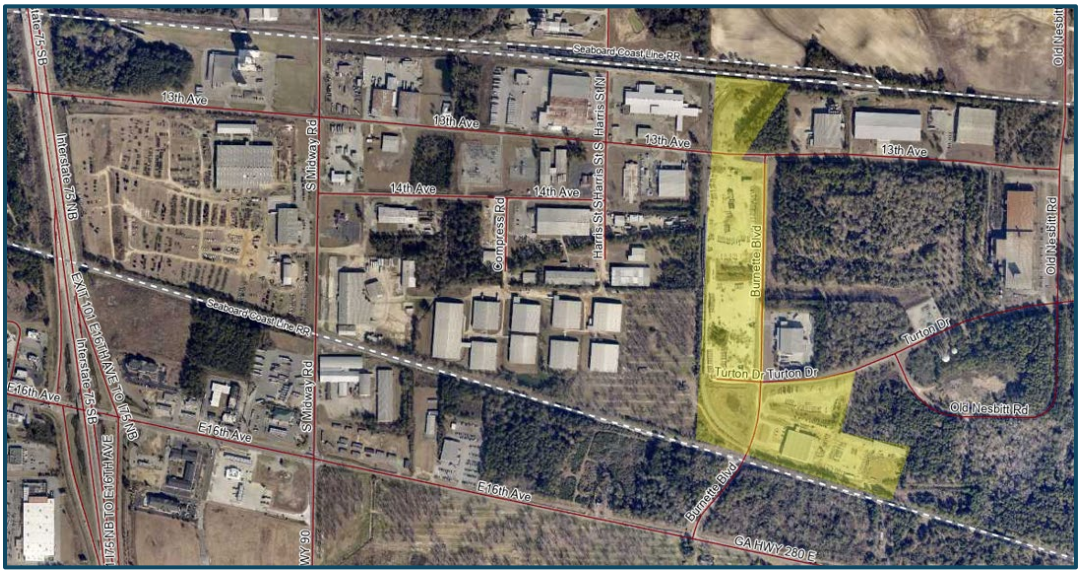


Figure 4-5: Aerial of Cordele Intermodal Center

Rail-Centric Inland Ports

The following summarizes several rail-centric inland ports on the east coast. These facilities could also be called rail-served industrial parks. This is not an exhaustive list of all rail-centric facilities, but a sample to describe what these types of facilities look like. These parks could have an intermodal element but are not primarily targeted toward intermodal. Again, each of these facilities was driven by an economic evaluation that determined the business case which drove the layout of the infrastructure necessary to serve the business model.

A. **Camp Hall Industrial Park, Berkeley County, South Carolina –** Located in Berkeley County, South Carolina, the Camp Hall Industrial Park is a premier 6,800-acre industrial hub designed to support large-scale manufacturing and advanced industry. The park serves as a "Smart Commerce Center," offering site-ready infrastructure including redundant power, diverse fiber connectivity, and high-capacity water and sewer systems. It is anchored by world-class manufacturers such as Volvo Cars, which operates its first U.S. plant on-site, and Redwood Materials, a leader in sustainable battery production. By integrating industrial productivity with over 2,500 acres of preserved land and worker-centric amenities like the Avian Commons, the park provides a sustainable environment for high-growth sectors including automotive,

aerospace, and logistics. A cornerstone of the park's long-term logistical strategy is the Camp Hall Rail Connection, a $190 million project managed by Palmetto Railways. Currently in its final construction phases and expected to be operational by Summer 2026, this 23-mile dedicated freight corridor will link the park directly to the national CSX Transportation network.

Figure 4-6: Master Plan of Camp Hall Industrial Park

This rail infrastructure is specifically engineered to handle high-volume exports, providing a critical multimodal link to the Port of Charleston—one of the nation's fastest-growing deepwater ports. For manufacturers, this connection significantly enhances supply chain efficiency by reducing reliance on highway trucking, lowering transportation costs, and providing direct access to global markets.

B. **Savannah Gateway Industrial Hub, Savannah, Georgia –** The Savannah Gateway Industrial Hub (SGIH) is a 2,600-acre master-planned multimodal logistics park in Rincon, Georgia, strategically positioned just 12 miles from the Port of Savannah. Its expansive layout is designed to support more than 18 million square feet of industrial and light manufacturing space at full build-out, with flexible building configurations ranging from 75,000 to over 2 million square feet. The park's infrastructure is anchored by a sophisticated on-site rail system managed by OmniTRAX, which provides rare dual-rail service from both CSX and Norfolk Southern Class I railroads. This dual connectivity, combined with the upcoming completion of the Effingham Parkway in July 2026, offers tenants unmatched routing flexibility and cost efficiencies for moving cargo between global shipping lanes and major U.S. markets. The hub presents robust opportunities for both large-scale distribution and high-tech manufacturing, particularly as a key supplier node for the nearby Hyundai Motor Group Metaplant America. Current manufacturing tenants, such as Kyungshin America Corporation and Lion Brand Yarn, benefit from the

park's Georgia Ready for Accelerated Development (GRAD) status, which fast-tracks site construction for new projects. Distribution operations are equally strong, with global leaders like DHL, Ryder Logistics, and Knight-Swift Transportation utilizing the park as a high-velocity inland extension of the port.

Figure 4-7: Master Plan of Camp Hall Industrial Park

With new facilities like the 584,820 SF Building 2F delivering in May 2026, SGIH continues to expand its capacity to house critical supply chain operations in one of the nation's fastest-growing logistics corridors

C. **Mid-Atlantic Industrial Rail Park (Brunswick County, North Carolina) –** The Mid-Atlantic Industrial Rail Park (MAIRP) is a 1,100-acre industrial megasite in Brunswick County, North Carolina, specifically designed to accommodate high-impact manufacturing and large-scale distribution. Located approximately 18 miles from the Port of Wilmington, the park is uniquely positioned as a CSX Select Site, a designation that ensures the land is fully vetted for rapid industrial development and immediate rail serviceability. Its layout is defined by heavy industrial zoning and prime frontage along U.S. Highway 74/76, providing a direct corridor to I-95 and I-40 via the nearby I-140 bypass. The site serves as a major hub for international supply chains, anchored by the CSX main rail line that runs directly adjacent to the property.

This direct rail access allows for seamless cargo movement between the port and the park, making it an ideal location for heavy manufacturing—highlighted by the planned $650 million battery component facility from Epsilon Advanced Materials, which is expected to span 1.5 million square feet.

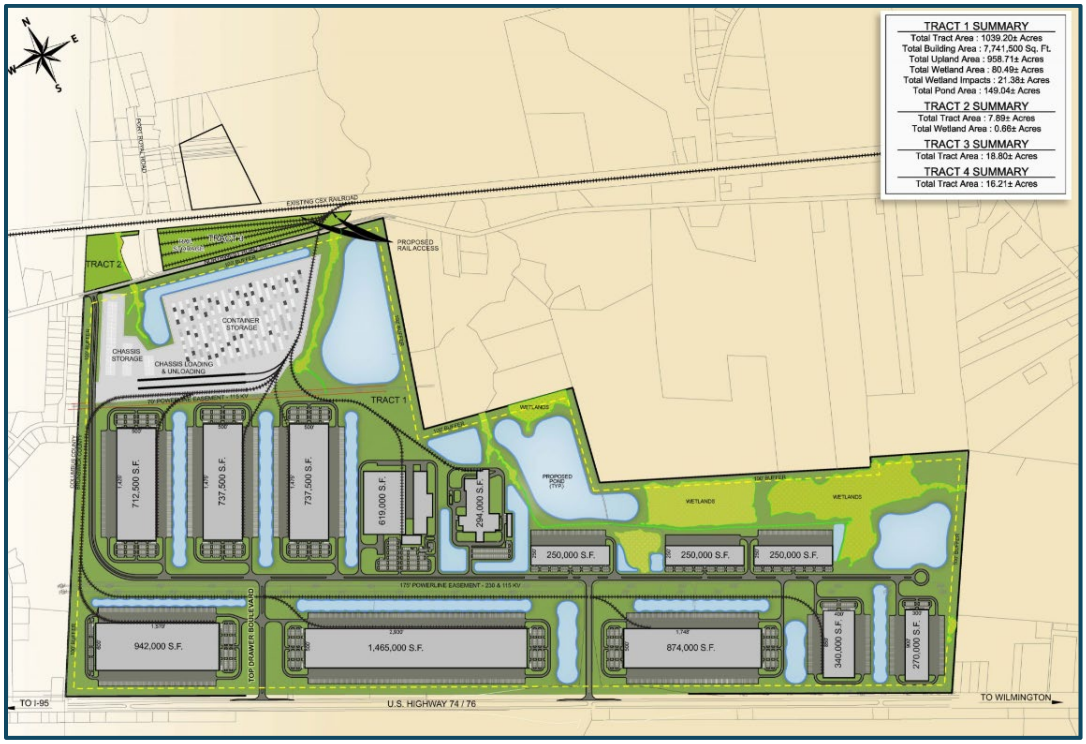


Figure 4-8: Mid-Atlantic Industrial Rail Park

Combined with its sister site, the International Logistics Park, MAIRP forms a powerful logistics cluster that offers significant utility infrastructure, including a new one-million-gallon water tank funded by recent state and federal grants to support its growing industrial base.

5.0 Background and Infrastructure

The figure below shows the location of City of Wauchula and Hardee County in relation to the existing ports on Florida's west and east coasts as well as the existing railroad infrastructure. The railroad main lines are owned and operated by CSX Transportation as shown in blue.

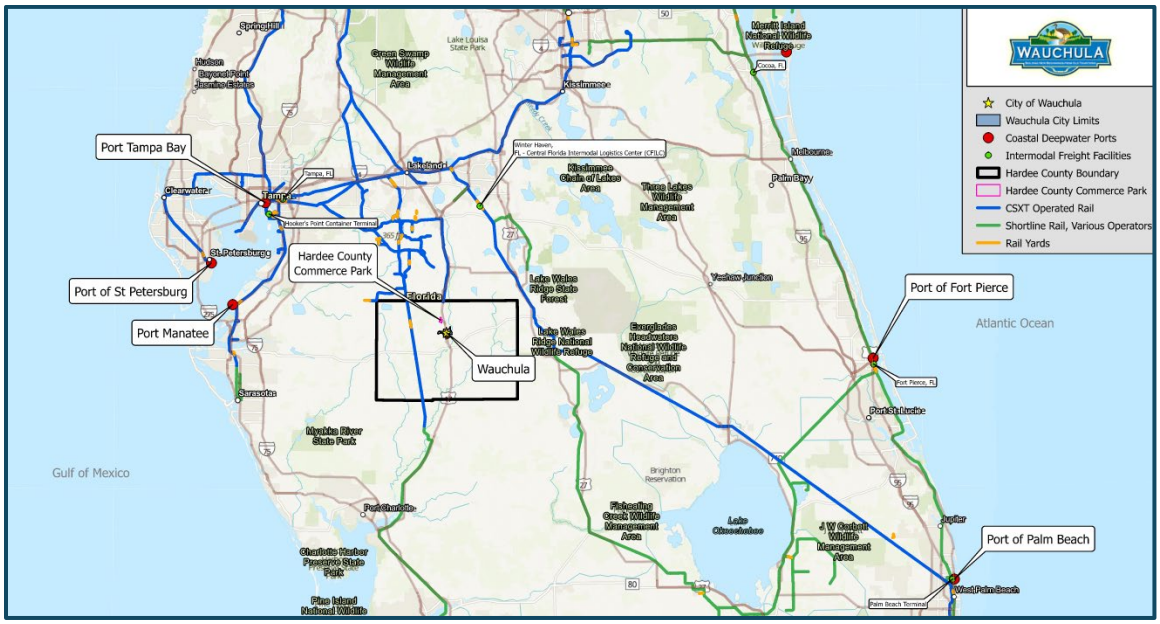


Figure 5-1: Map of Central Florida with Railroads and Ports

The City of Wauchula, Florida is in Hardee County in Central Florida, has a population of approximately 4,900 residents and covers an area of approximately 3.3 square miles. The city has a rich agricultural history and continues to be heavily influenced by this industry. Agriculture, including citrus and vegetable farming, has been a significant element of the local economy. In recent years, Wauchula has also seen growth in retail and service industries, supporting the local community's economic diversification. Historically, the development of Wauchula has been shaped by its transportation linkages and agricultural success. CSX Transportation has rail service to the area, offering additional freight transport options. The city maintains an inviting, small-town atmosphere while being conveniently connected to larger markets, which makes it a promising candidate for further development as an inland port. Wauchula's infrastructure includes several key transportation routes, making it strategically important for an inland port.

US Route 17 runs directly through the city, providing north-south connectivity, while State Road 64 allows for east-west travel.

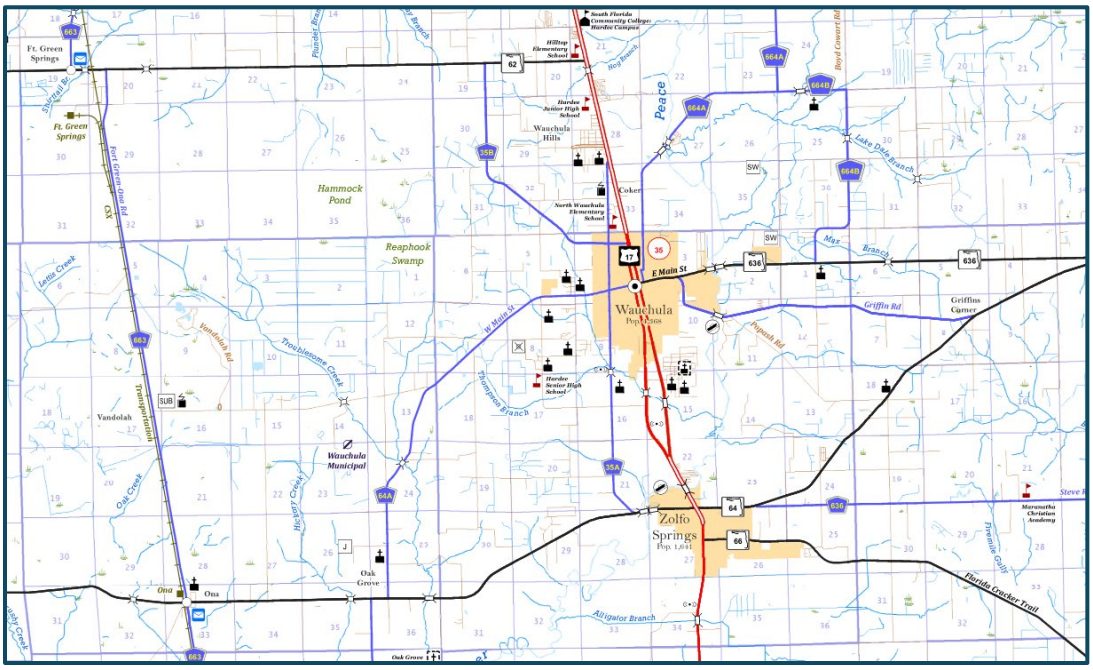


Figure 5-2: Roadway Infrastructure around Wauchula

The figure below shows the existing roadway infrastructure connecting the City of Wauchula to the rest of the state and the ports on the west and east coasts of Florida.

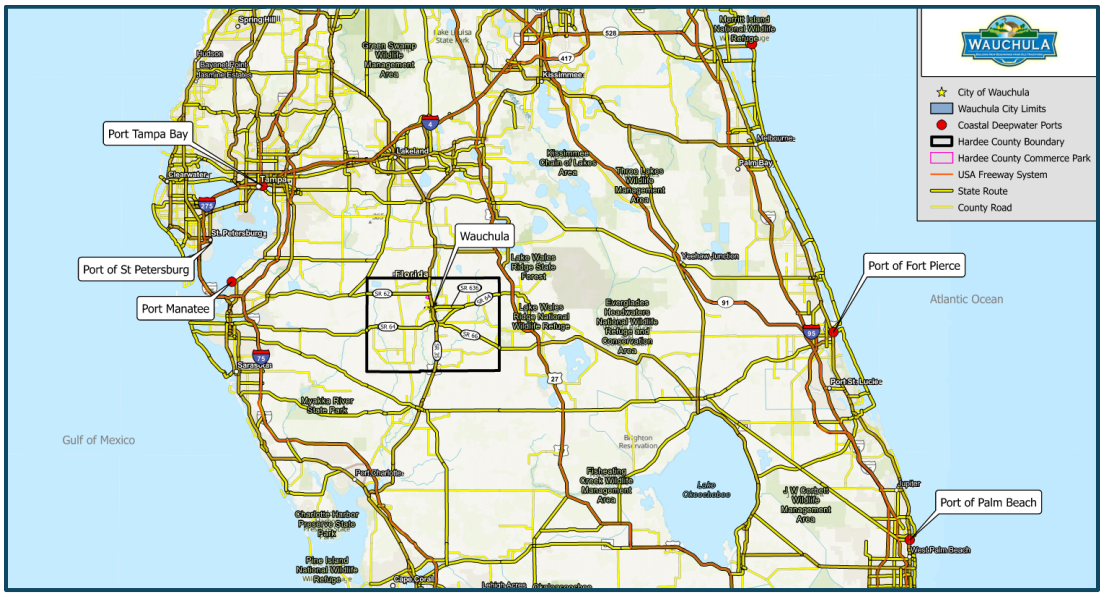


Figure 5-3: Roadway Infrastructure around Wauchula

Infrastructure in Hardee County includes several essential transportation routes that facilitate movement and connectivity. US Route 17, a major north-south corridor, passes through the county, providing access to larger urban centers. Additionally, State Roads 62 and 64 serve as important

east-west connectors. Historically, the railroads were central to growth in the Wauchula area, beginning with the Florida Southern Railway pushing through in 1886. Originally a narrow-gauge line used to support military efforts during the Seminole Wars and the region's "Cucumber Capital" agricultural exports, the tracks were later acquired by the Atlantic Coast Line (ACL) Railroad. The figure below shows a map of Hardee County from 1932 that includes railroads and major cities and towns as well as waterways and environmental features.

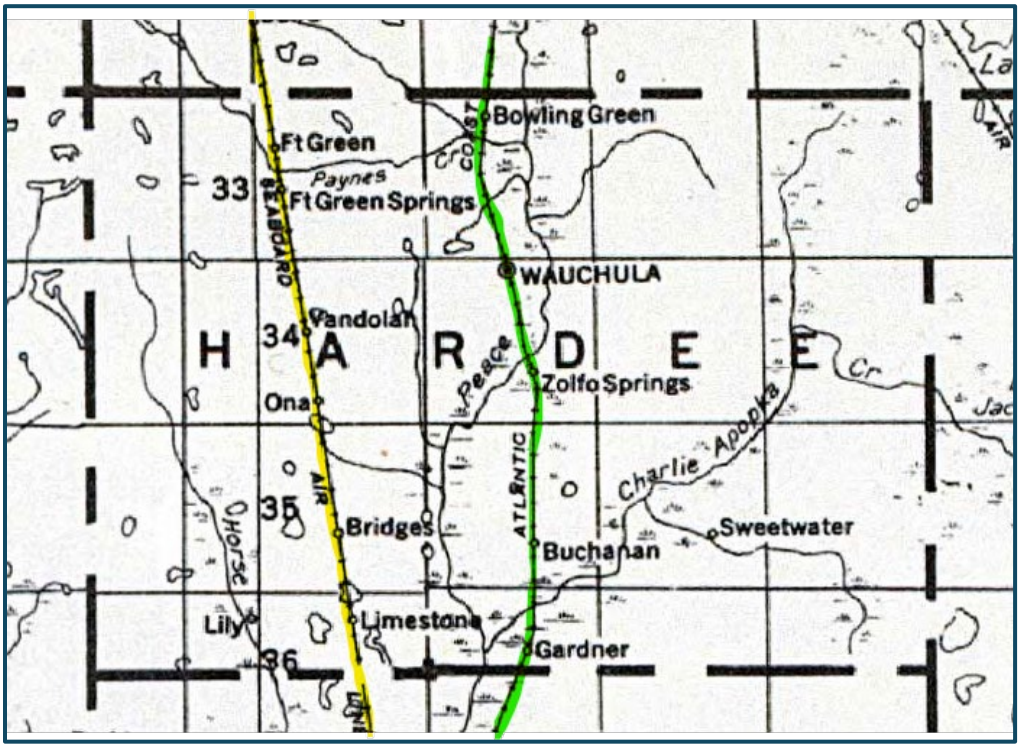


Figure 5-4: Hardee County 1932

The green track shown going through Wauchula was owned by ACL. In 1915, the ACL opened a prominent red-brick depot at 100 North 7th Avenue, which served as a vital hub for both freight and passenger travel for decades. The yellow track was originally owned by Seaboard Air Line (SAL) Railroad. Following the 1967 merger between the ACL and its rival, SAL, the tracks became part of the Seaboard Coast Line (SCL).

CSX Transportation officially took control of the SCL through Hardee County as part of the massive consolidation into the CSX system in the 1980s. While CSX was established as a holding company on November 1, 1980, the actual transition of the railroad line was a multi-step process:

- 1980 (The Parent Merger): CSX Corporation was formed on November 1 by merging Chessie System, Inc. and Seaboard Coast Line Industries.
- 1983 (The Intermediate Phase): Seaboard Coast Line was merged with other affiliate lines to form the Seaboard System Railroad.

- 1986 (The Final Brand): On July 1, 1986, the Seaboard System was officially renamed CSX Transportation, and the legacy railroad companies were formally absorbed.

Ironically, CSX only briefly operated the historical line through the center of Wauchula after the 1986 absorption. The track passing through downtown Wauchula—the former ACL route—was officially abandoned in June 1986, the same month the CSX Transportation name was formally adopted. Shortly thereafter, the tracks were removed to facilitate the expansion of US Highway 17. While the physical tracks were removed to make way for the expansion of US Highway 17, the historic Wauchula Depot remains as a fully renovated community center and museum.

Photo 5-5: Wauchula Train Depot (1970s and 2025)

Hardee County, located in Central Florida, is a primarily rural county with a strong agricultural heritage. The county encompasses an area of approximately 638 square miles and has a population of around 26,000 residents. The county's economy is predominantly based on agriculture, with citrus, cattle ranching, and vegetable farming being the major contributors. The presence of phosphate mining also plays a significant role in the local economy, adding to the county's economic diversity. Mosaic Company is the largest phosphate mining company in the United States and owns a significant portion of Hardee County's agricultural land. Today, the yellow track, called the Brewster Subdivision mainline is owned and operated by CSX Transportation. The combination of rich agricultural land and strategic transportation links positions Hardee County as a promising location for the development of an inland port.

According to the Federal Railroad Rail Crossing Inventory Database, this track handles between one and four trains per day, depending on the rail crossing location. According to the database, there are twenty-four at-grade rail crossings within Hardee Couty. The average frequency of the trains within Hardee County on this mainline is 1.8 trains per day with maximum train speeds varying from 10 mph for industrial leads to 35 mph for the mainline. The figure below summarizes the existing rail crossings.

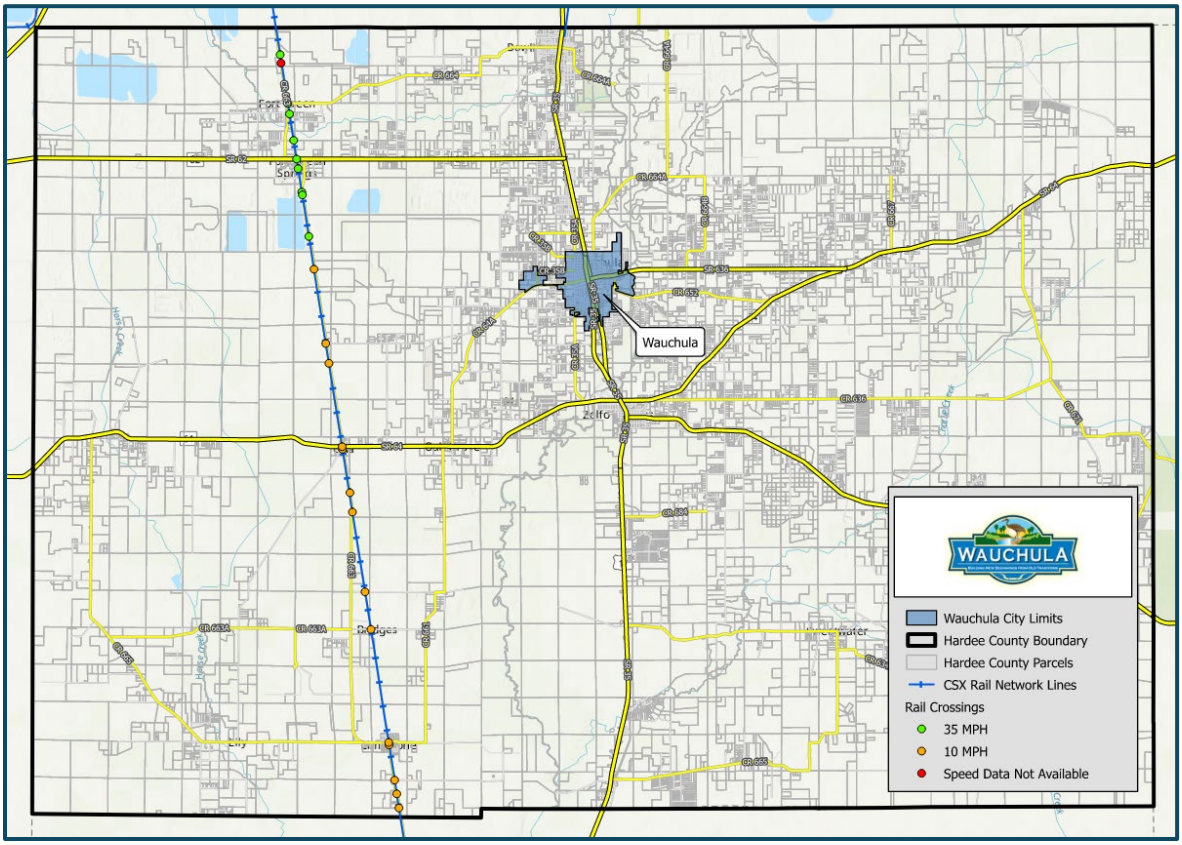


Figure 5-6: FRA Rail Crossing Inventory Map

While the rail line continues through Hardee County, the Brewster Subdivision and CSX ownership ends approximately five miles south of the county line into Desoto County before reaching a short-line interchange west of Arcadia, Florida.

From there the track continues south but it is owned by a short-line railroad, Seminole Gulf Railway (SGLR) as shown on the figure below:

Figure 5-7: FRA Rail Crossing Inventory Map

The SGLR, a Class III short-line carrier headquartered in Fort Myers, serves as a logistics link for Southwest Florida by operating over one hundred miles of track. South of Hardee County, specifically on its Fort Myers Division running from Arcadia to North Naples, the railway handles critical commodities that fuel the region's rapid growth, including lumber, plywood, drywall, rebar, and aggregates for the construction industry, alongside liquefied petroleum (LP) gas and electrical transformers for the energy sector. Beyond building materials and fuel, SGLR transports plastics, steel, scrap metal, and recyclables, while its transloading facilities in North Fort Myers facilitate the movement of frozen and refrigerated food products. While freight operations south of its Fort Myers yard are managed locally, the "Desoto Turn" services customers on the line extending north toward the CSX interchange near Arcadia.

6.0 Business Case Summary

An element of the Wauchula Inland Port Feasibility Study included preparing a business case evaluation. Below is a summary of analysis our team performed to support the master planning effort. A detailed summary of the economic evaluation can be found in **Appendix B** (Business Case Summary Slides). The economics work focused on the following:

Background on inland ports: a summary of the development of inland ports, beginning with Front Royal, VA that was instigated and supported by the Port of Virginia to the most recent Greer, SC, and Gainesville, GA. This discussion provided some benchmarks for the potential of an inland port.

Commodity flows: the focus of this section was on rural Florida's (1) construction industry's imports and exports (mostly project cargo) and (2) Wood, paper, and plastics/chemicals (including recycling activities). These flows were analyzed while Mosaic's exports from the area were not included as their infrastructure is already well established along with support from CSX Transportation.

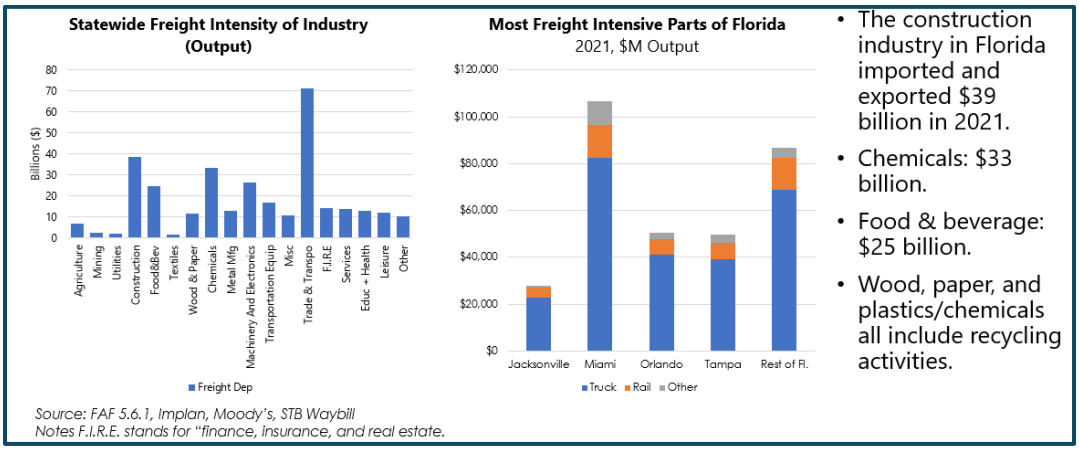


Figure 6-1: Statewide Commodity Flows

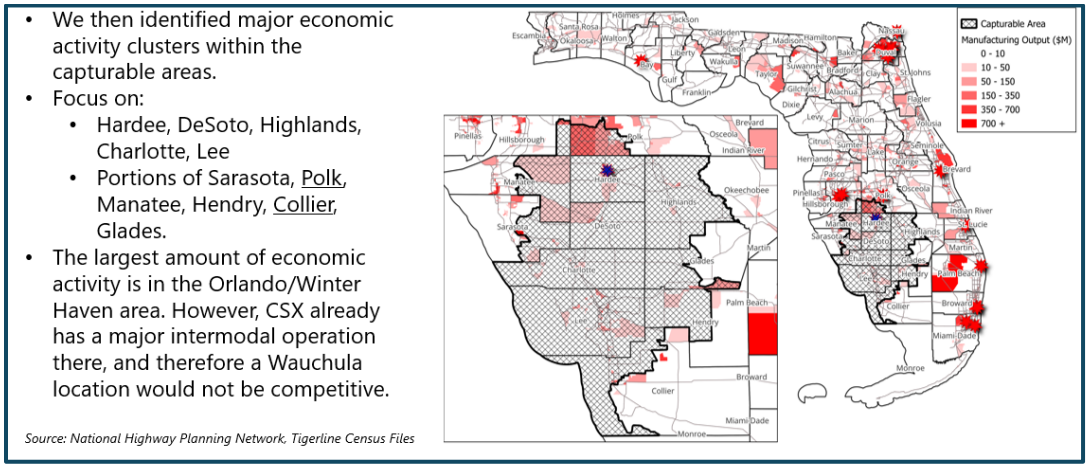


Figure 6-2: Potential Capturable Area for Hardee County

Florida port connectivity: This section considered connectivity with Port Tampa Bay and SeaPort Manatee, as well as potentially with the East Coast ports in Fort Lauderdale (Port Everglades) and Port Miami. The conclusions were that that the CSX inland port in Winter Haven was too competitive for a Wauchula inland port to overcome but that there was potential to partner with the Tampa Bay ports.

- The ports in Tampa Bay are well positioned for export growth upon completion of the Tampa Bay navigation channel.
- A rail yard or inland port in Wauchula has limited intermodal (international containerized cargo on rail) options via East Coast Florida ports due to the CSX Winter Haven inland port.
- Intermodal volumes between Wauchula and Tampa Bay ports would likely be low enough to require a subsidy to establish and maintain the rail service.
- There is potential for international bulk cargo between Wauchula and Port Manatee and Port Tampa Bay.
- Conversations with CSXT confirmed that an intermodal inland port near Wauchula would not be viable due to no intermodal volume currently on that route and sufficient capacity at the Winter Haven facility.

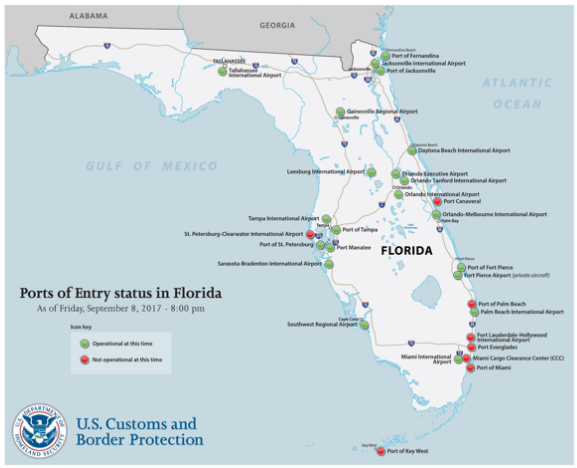


Figure 6-3: Florida Ports Connectivity

Labor requirements: Based on the potential occupiers of available land at or near the potential locations of the inland port identified by Kimley-Horn and the industries they come from, an evaluation of labor demand and potential supply was evaluated. The key conclusion was that there is sufficient labor to supply the needs of potential occupiers, especially considering that many residents in Hardee County commute to jobs in other counties in this region of Florida.

City/Town	County	22 to 29	30 to 39	40-49	50-59	Total
Bartow	Polk	2,510	2,953	2,580	1,838	9,881
Sebring	Highlands	1,031	1,220	1,402	1,071	4,724
Avon Park	Highlands	1,024	786	1,188	939	3,937
Arcadia	DeSoto	1,129	943	593	961	3,626
Southeast Arcadia	DeSoto	821	1,309	961	814	3,905
Fort Meade	Polk	399	591	540	512	2,042
Alturas	Polk	236	528	548	392	1,704
Wauchula	Hardee	453	596	775	322	2,146
Frostproof	Polk	161	351	159	350	1,021
Bowling Green	Hardee	399	197	292	209	1,097
Zolfo Springs	Hardee	198	234	220	198	850
Bradley Junction	Polk	75	88	87	93	343
Lemon Grove	Hardee	32	82	104	86	304
Ona	Hardee	31	70	88	32	221
Fort Green Springs	Hardee	17	181	25	12	235
Homeland	Polk	20	46	-	11	77
Fort Green	Hardee	-	-	6	48	54
Gardner	Hardee	15	-	39	24	78
Limestone	Hardee	-	-	-	4	4
Subotal		**8,551**	**10,175**	**9,607**	**7,916**	**36,249**

- A total of 36,249 residents living within 30 miles and 45 minutes drive of Wauchula in 2022 were between the ages of 22 and 59.
- And 10,175 between the ages of 30 and 39.

Data source: U.S. Census Bureau. "Sex by Age." American Community Survey, ACS 5-Year Estimates Detailed Tables, Table B01001, 2022.

Figure 6-4: Four-County Labor Market Demographics

Industrial real estate: Our team pulled data on industrial real estate occupiers of 100,000 square feet properties or larger for the entire state of Florida as well occupiers of properties larger than 10,000 square feet within 50 miles of the center of Wauchula. We identified a significant number of properties and classified them by their Standard Industrial Code classification. The analysis showed that there is a significant range of manufacturing activities taking place around Wauchula.

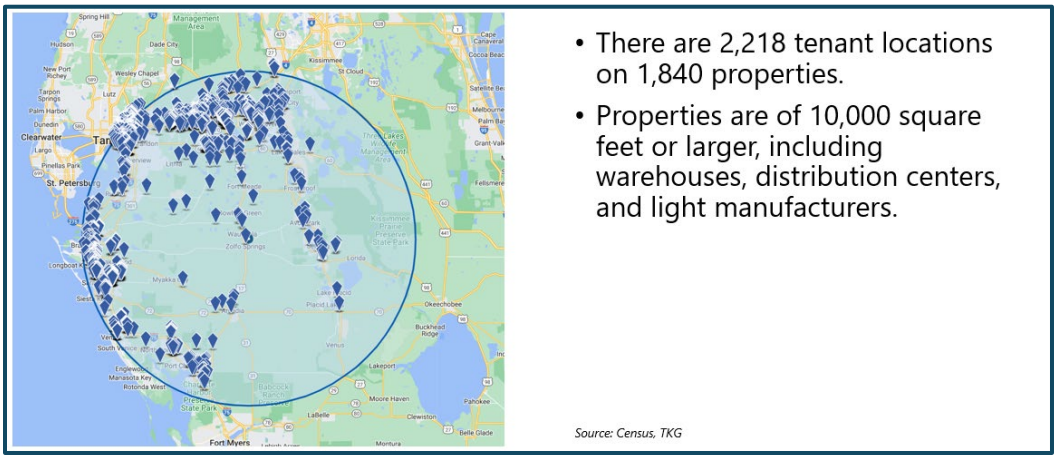


Figure 6-5: Industrial Real Estate

Potential occupiers: In the last key part of our data collection and analysis, we identified high potential industrial activities that could be motivated to invest in manufacturing activities in the Wauchula area due to the development of an inland port. These industries are mostly focused on recycling plastics, wood products, paper, and metal/steel products.

Potential Occupant	Commodity/Service	Activity	Background and Rationale	Market Potential
Recycling companies	• Plastics: Pure Cycle Technology. • Paper/Cardboard. • Other categories (listed in appendix).	Collecting primary recyclable materials for preparation for efficient transportation	Reduction in weight from removal of excess waste material is essential for recycling operations.	Recycled materials have a lower production cost of goods and a lower environmental footprint.
Manufacturers	• Food producers and distributors. • Agricultural and construction equipment components.	• Juice production, using raw materials imported from Central America/Mexico. • Repackaging fresh produce from Central America/Mexico. • Maintenance and repair/ assembly/disassembly of farm and construction equipment for further shipment.	• Most oranges nowadays are imported from Mexico after blight in Florida. • Modern agricultural and construction equipment have major big data and automation features, requiring extensive work in the U.S.	• Produce and food products can be distributed to the Southeast U.S. • Farm and construction equipment from international and domestic sources and returned to those locations. • High tech farming and construction equipment.
Services	• Local and interstate truck fleet management. • Space industry.	• Truck depot, e.g., chassis, bobtail trucks; clean and maintain equipment. • Disassembly/re-assembly of rockets; preparing reusable rockets for next mission.	• Lots of existing services but spread out. • Industry shift to reusable rockets.	• Growing southwest FL population served by truck. • Demand for maintenance and laydown space for reusable rockets.

Figure 6-6: Potential Occupiers

Our key conclusions were that Wauchula is not in a competitive position to attract containerized imported goods handled at Port Tampa Bay and SeaPort Manatee, but that exporters of recycled products that would use those ports could be attracted to Wauchula if a rail-centric inland port were established there. Additionally, there could be an opportunity to attract manufacturing related industries that need rail service and available land.

7.0 Intermodal Site Alternatives

The next phase of the Wauchula Inland Port Feasibility Study focused on identifying and evaluating potential sites located along the CSX railroad corridor that could be a future location of an intermodal inland port. Before determining potential sites, Kimley-Horn developed a site assessment criterion for the necessary elements required for the property to be developed as an intermodal inland port. The criterion included the following elements:

1. **Location of the property.** Based on land use and proximity to other development and traffic patterns, it was determined that the ideal site would be located north of SR 64. Properties south of SR 64 were considered but ranked lower than those north of SR 64.
2. **Proximity to the CSX mainline.** In addition, it was important to identify whether a new at-grade rail crossing would be required to bring rail to the site.
3. **Proximity to a public roadway.** Similar, to rail, providing roadway access to the site require a new at-grade rail crossing.
4. **Utilities.** Ability to have utilities provided to the property (water, sewer and power).
5. **Assumed status of the property is owned by the Mosaic Company.** Based on review of historical aerials and our limited understanding of phosphate mining, has the property been previously mined or could it be mined in the future.
6. **General developability.** Consider land use and zoning.
7. **Environmental sensitivity.** Would the development of the property require significant impacts to wetlands and/or floodplains.

A minimum property of 100 acres (or the ability to combine parcels to achieve 100 acres) was assumed to allow for an intermodal facility with working track, storage track, container storage and rail frontage. As an added benefit, this acreage was expanded to include the possible ability to build warehousing adjacent to the intermodal facility.

The following figure was developed to test potential properties.

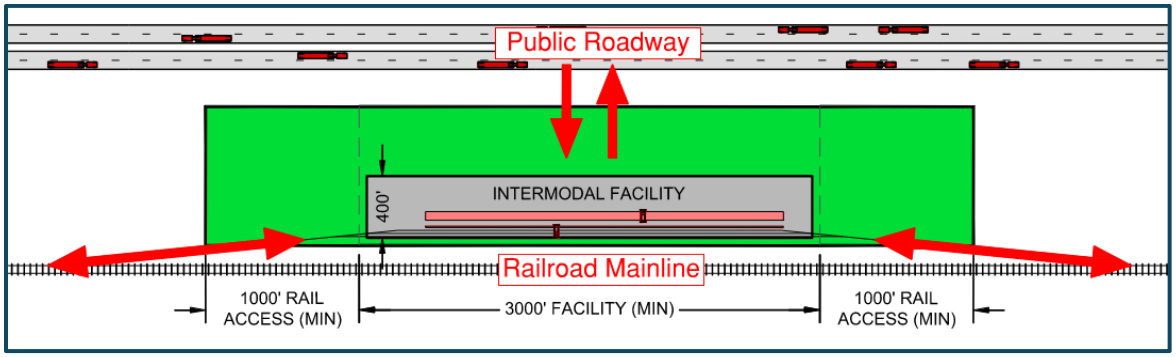


Figure 7-1: Intermodal Site Assessment Criteria

Using this information, a desktop GIS evaluation was performed to identify potential properties along the CSX railroad corridor that could be possible candidates for the intermodal inland port.

Data was collected to support the evaluation of potential intermodal sites. This included property ownership records, rail infrastructure data, and information on FDOT construction projects and roadway classifications. Environmental and geotechnical factors were also considered, including soil types, and the presence of wetlands and flood zones. Together, these datasets provided a preliminary understanding of each site's physical, regulatory, and logistical conditions, helping to inform the suitability for the development of an intermodal inland port along the CSX rail mainline.

Six (6) intermodal sites were identified that met the search criteria. These six sites are shown on the following figure which is also included in **Appendix A** (GIS Figures).

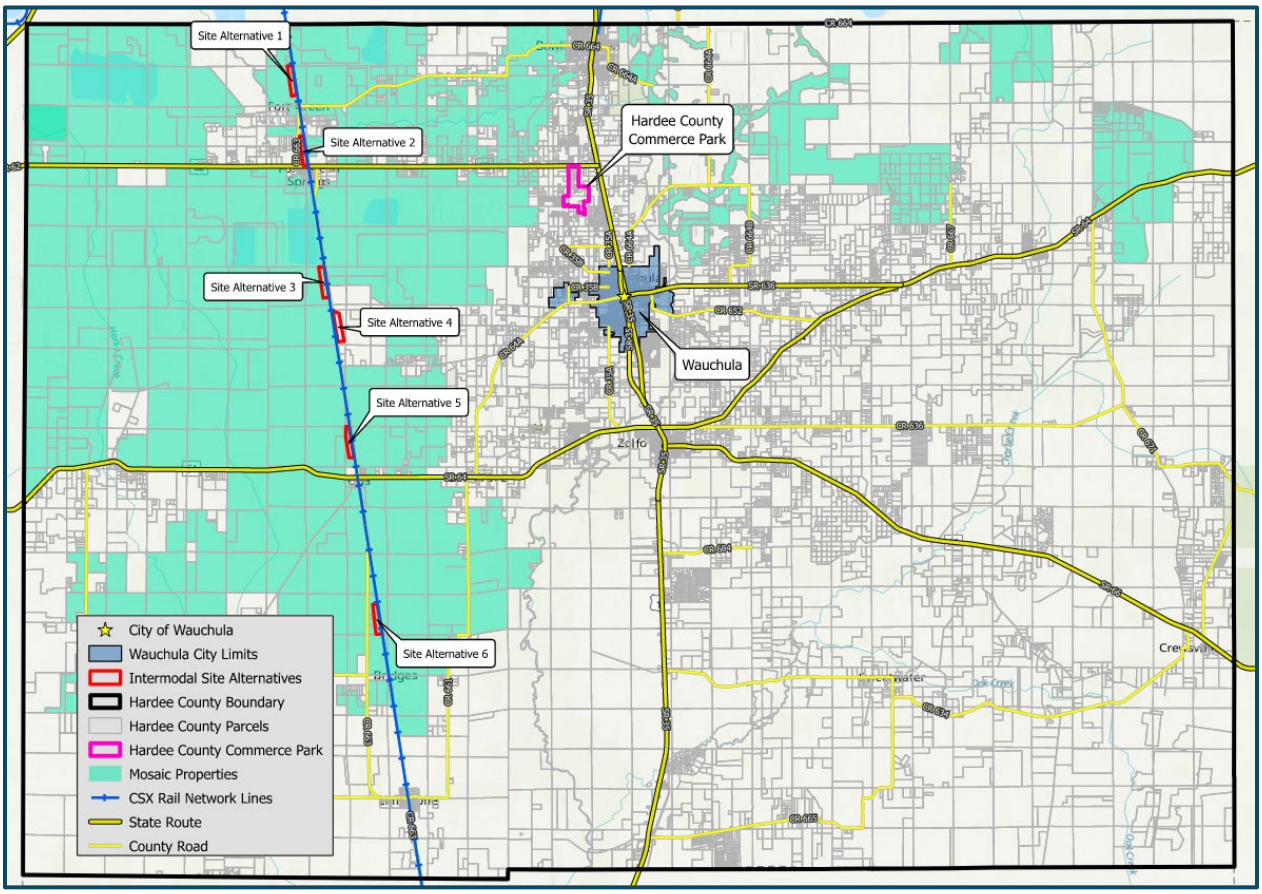


Figure 7-2: Six Intermodal Inland Port Sites

These sites were evaluated and a scoring color was determined based on each of the seven categories. The site was evaluated as green if it had favorable conditions. For example, is the property located north of SR 64 or can the site utilize existing rail to avoid having a new at-grade rail crossing. If the property required a new at-grade rail crossing it was given a red. Also, if the site is owned by Mosaic and appeared to not have been previously mined, we assumed it could be mined in the future; therefore, it was scored as red (Intermodal Site 3, for example). The color coding for each of the seven categories were tallied and an overall color was determined for the site.

The table below summarizes the scoring of the six intermodal sites. Site 2 was determined as the recommended site for an intermodal inland port. Site 6 was also identified as a second option; however, it is located south of SR 64.

Intermodal Optional Sites - Summary Table								
Site	Location (North of SR 64 Preferred)	Roadway Access (No New At-Grade for Road over Rail)	Rail Access (No New At-Grade for Rail over Road)	Proximity to Utilities (Water and Sewer)	Mining Status (If owned by Mosaic)	General Developability (Landuse and Zoning)	Environmentally Sensitive (Wetlands and Flood Zones)	Site Recommendation
1	🟢	🟢	🔴	🟡	🟡	🟡	🟢	🔴
2	🟢	🟢	🟢	🟢	🟢	🟢	🔴	🟢
3	🟢	🟢	🟢	🟢	🔴	🟡	🟢	🔴
4	🟢	🟢	🔴	🟡	⚪	🔴	🟡	🔴
5	🟢	🔴	🟢	🟢	🟢	🔴	🟡	🔴
6	🔴	🟢	🟢	🔴	🟢	🔴	🟡	🔴

Figure 7-3: Intermodal Site Summary Matrix

The location of Site 2 and Site 6 are shown below:

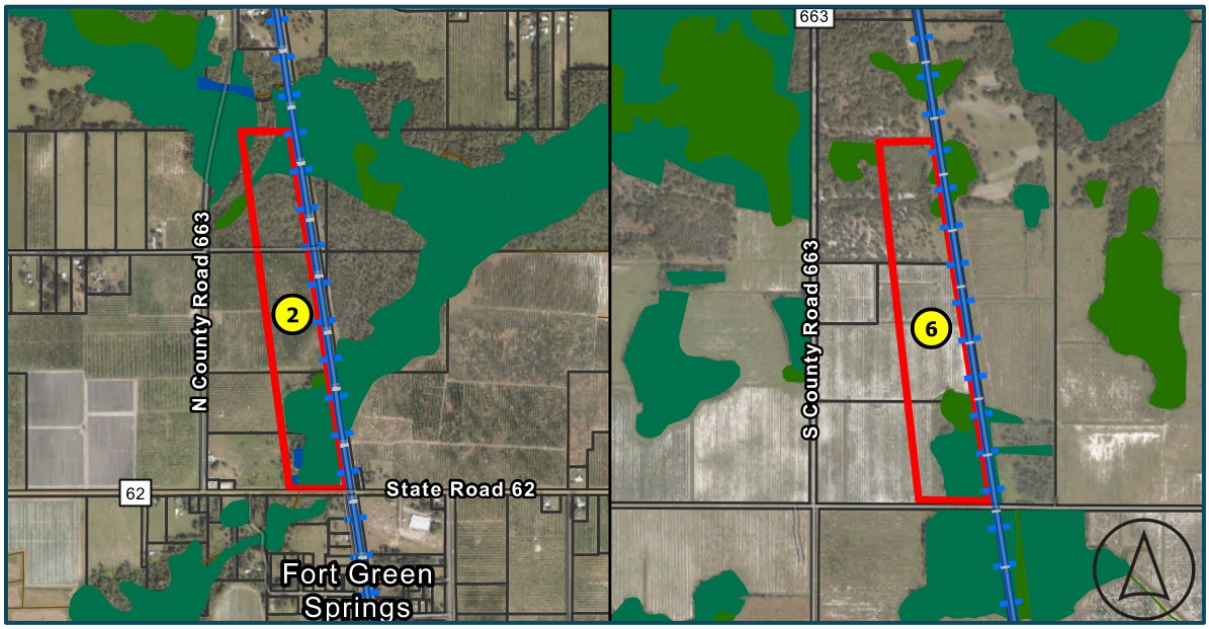


Figure 7-4: Site 2 and Site 6 Location

Additional information on Intermodal Site 2 and Site 6 are shown on the following figures. The red arrows identify the proposed location of rail access from the site to the CSX mainline. The blue arrows identify the proposed location of roadway access to the existing public roadways. Neither of these sites require an at-grade rail crossing. The summary table identifies the red/yellow/green classification for each of the seven scoring categories as well as the overall color recommendation for the site. Figures summarizing each of the six sites and their scoring matrix are included in **Appendix D** (Site Evaluation Matrix Exhibits).

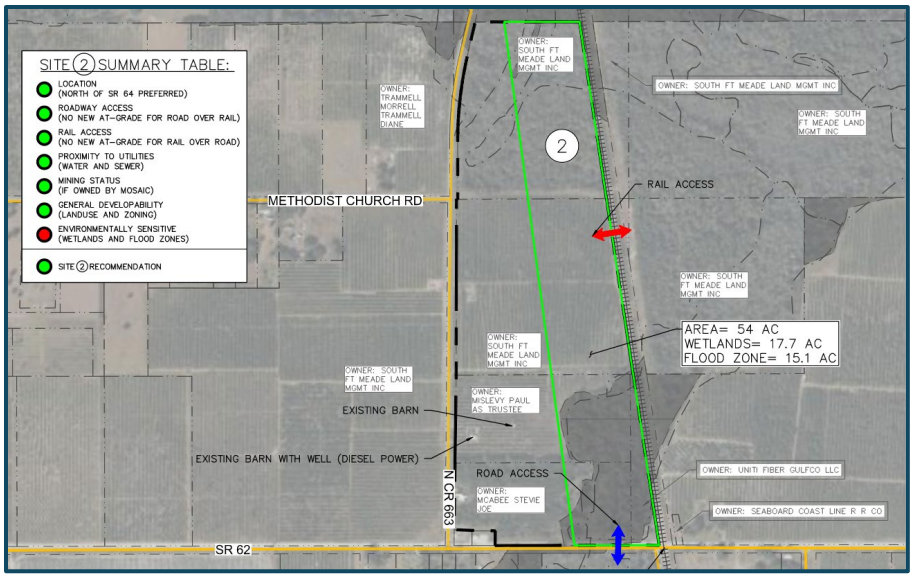


Figure 7-5: Intermodal Evaluation Matrix Exhibits (Site 2)

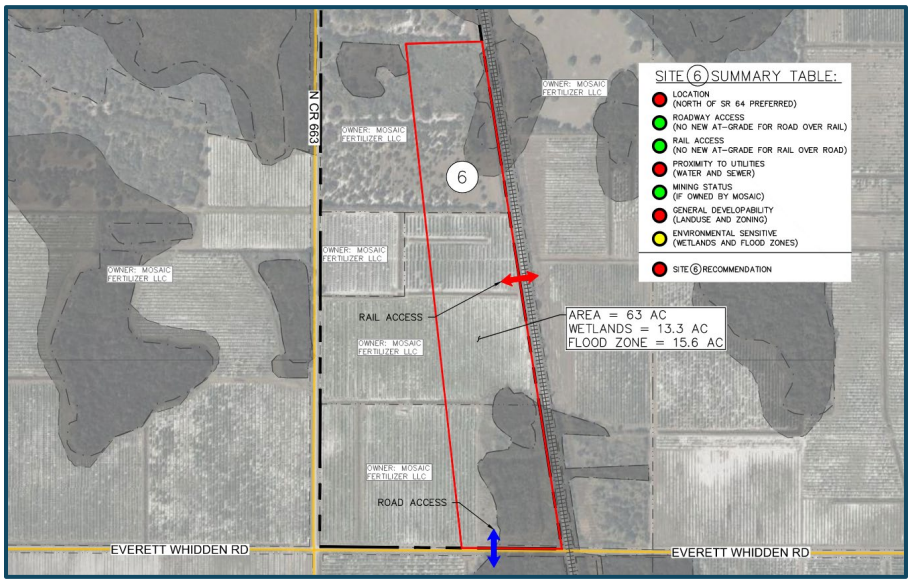


Figure 7-6: Intermodal Evaluation Matrix Exhibits (Site 6)

These sites were evaluated further, and concept plans were developed for what the properties could look like if an intermodal inland port were developed on these properties. The elements of the concept plan include an intermodal yard with working and storage tracks, a container storage area, and truck gates. These components were drawn first with connections to the CSX railroad mainline using CSX's minimum required geometry. The following is a cross section of what the intermodal facility could look like with RTG cranes:

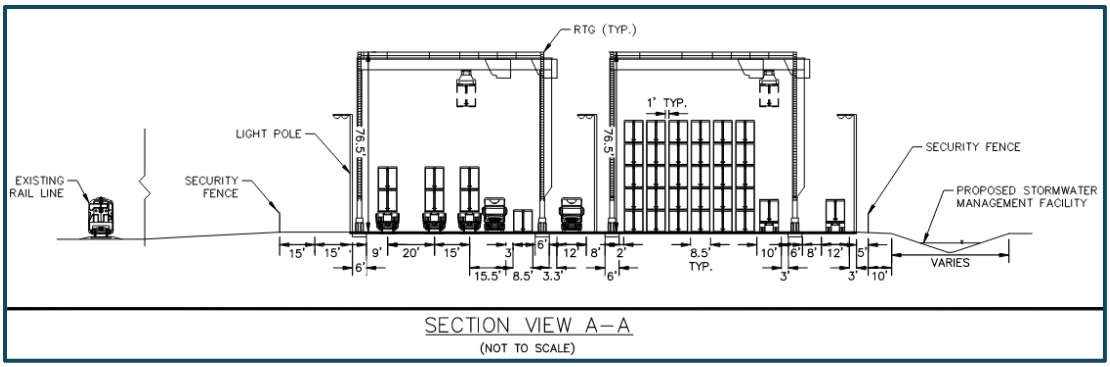


Figure 7-7: Intermodal Facility Cross Section

Below is a preliminary concept of what Site 2 could look like; a detailed drawing of this figure can be found in **Appendix E** (Conceptual Site Plans). The Site 2 property is approximately 115 acres, including around 30 acres of wetlands (according to the national wetland inventory map) and this site is preferred as rail access is separate from the roadway access. Rail access is on the eastern side of the property adjacent to the CSX mainline and roadway access is from County Road 663. The site does not require an at-grade rail crossing. West of the intermodal yard, four warehouses totaling approximately 700,000 square feet could be built with direct access to the intermodal facility. Stormwater management facilities would be provided adjacent to the wetlands and where appropriate to minimize fill.

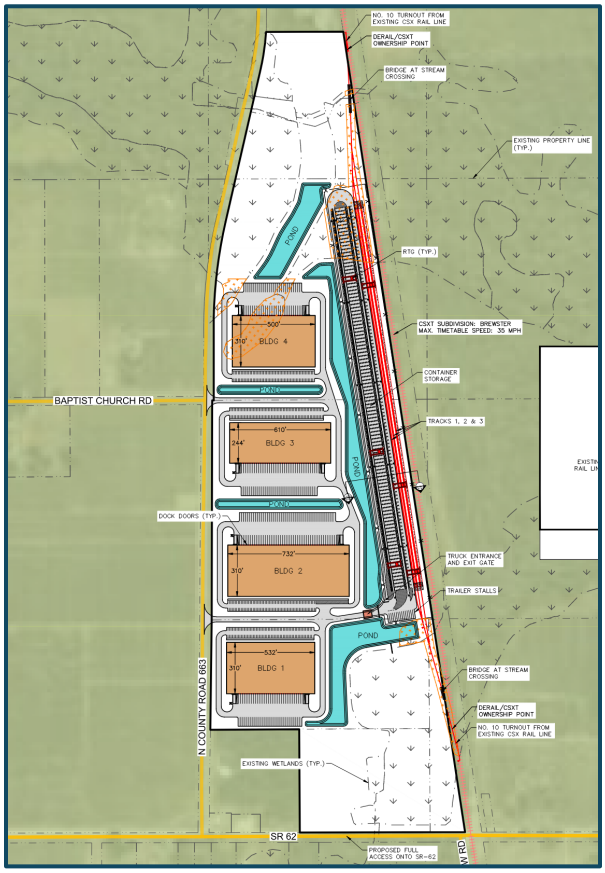


Figure 7-8: Site 2 Intermodal Conceptual Site Plan

Below is a preliminary concept of what Site 6 could look like. A detailed drawing of this figure can be found in **Appendix E** (Conceptual Site Plans). The Site 6 property is approximately 190 acres and includes around 22 acres of wetlands, according to the national wetland inventory map. This site also has rail access separate from the roadway access. Rail access is on the eastern side of the property adjacent to the CSX mainline and an at-grade rail crossing would not be required. Roadway access is from County Road 663 or Evertt Whidden Road. West of the intermodal yard, five warehouses of varying sizes totaling approximately 2,000,000 square feet could be built with direct access to the intermodal facility and public roadways. Stormwater management facilities would be provided adjacent to the wetlands and in locations to minimize the fill material required for the site. While this site is located south of SR 64, the site is larger and provides an opportunity for a larger industrial park.

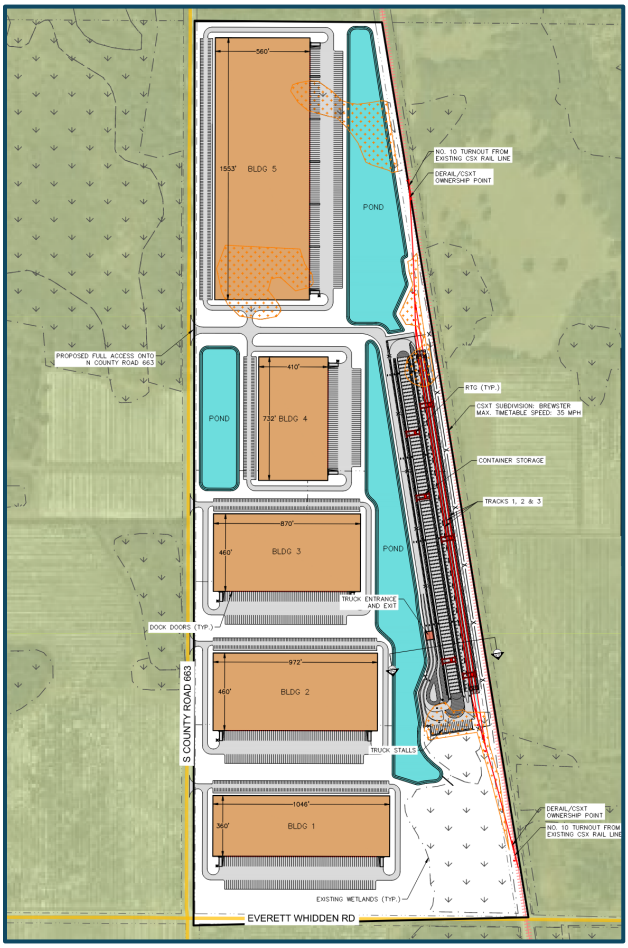


Figure 7-9: Site 6 Intermodal Conceptual Site Plan

Each site will require significant offsite improvements to provide water and sewer service. The development of these sites will require permitting and we anticipate the following permits may be required if the City or County chooses to proceed with design, permitting and development. It should be noted that each site requires significant offsite improvements to provide water and sewer service. This will be considered in the preliminary cost evaluation.

Estimated costs were developed for these two sites and is summarized on the following tables. These estimates are in today's dollars, exclude the cost of the property, environmental cleanup and/or soil remediation. This assumes the soils are sufficient for construction and do not require stabilizing or reinforcement. The following table summarizes the preliminary estimated cost of Intermodal Site 2:

Description	Intermodal Site 2		
	Quantity	Est. Cost	Percent Cost
Rail Yard Infrastructure & Equipment	10,200 Track Feet 3.1 acres	$12,000,000	6%
Site Development	91 Acres	$34,000,000	17%
Warehousing	695,610 Square Feet	$87,000,000	44%
Off-Site Utilities	26,550 LF Sewer Main 38,550 LF Water Main	$10,000,000	5%
Contingency	$36,000,000		18%
Engineering & Construction Administration Fees	$18,000,000		9%
Estimated Total	**$197,000,000**		
Estimated Cost per SF of Warehouse	*$283/SF*		
Total Property Area	*115 Acres*		
Total Cost per Acre	*$1,720,000/Acre*		

Table 7-10: Preliminary Opinion of Costs for Intermodal Site 2

The following table summarizes the preliminary estimated cost of Intermodal Site 6:

Description	Intermodal Site 6		
	Quantity	Est. Cost	Percent Cost
Rail Yard Infrastructure & Equipment	9,200 Track Feet 2.6 acres	$11,000,000	2%
Site Development	178 Acres	$64,000,000	12%
Warehousing	2,393,680 Square Feet	$300,000,000	56%
Off-Site Utilities	35,200 LF Sewer Main 58,750 LF Water Main	$15,000,000	3%
Contingency	$98,000,000		18%
Engineering & Construction Administration Fees	$47,000,000		9%
Estimated Total	**$535,000,000**		
Estimated Cost per SF of Warehouse	*$224/SF*		
Total Property Area	*189 Acres*		
Total Cost per Acre	*$2,830,000/Acre*		

Table 7-11: Preliminary Opinion of Costs for Intermodal Site 6

Kimley-Horn has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Kimley-Horn at this time and represent only Kimley-Horn's judgment as a design professional familiar with the construction industry. Kimley-Horn cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

8.0 Rail-Centric Site Alternatives

During the data collection and due diligence phase of the project it was determined that a new intermodal inland port in Hardee County would not be viable due to the proximity of CSX's Central ILC intermodal facility in Winter Haven as well as the existing rail infrastructure and lack of intermodal rail volume moving on the Brewster Subdivision through Hardee County. Therefore, the evaluation pivoted to identify properties for a rail-centric inland port. A rail-centric inland port handles domestic rail cars versus international cars and includes rail-served distribution and manufacturing warehouses or facilities that have access to rail but may also be served by trucks. A similar approach was taken to identify potential sites for the rail-centric inland port, which allowed more sites to be added due to a new search criterion and less rail frontage being required. These sites were ranked, the top two sites were identified, and concept plans were developed for these two sites. Before determining potential sites, Kimley-Horn developed a site assessment criterion for the necessary elements required for the property to be developed as a rail-centric inland port. The criterion included the following elements:

1. **Location of the property.**
2. **Proximity to the CSX mainline.**
3. **Proximity to a public roadway.**
4. **Ability to have utilities provided to the property (water, sewer and power)**
5. **Assumed status of the property is owned by the Mosaic Company.**
6. **General developability. Consider land use and zoning.**
7. **Environmental sensitivity.**

A property of 50 to 100 acres was assumed to allow for a cluster of rail-served manufacturing and industrial warehousing. The following figure was developed to test properties.

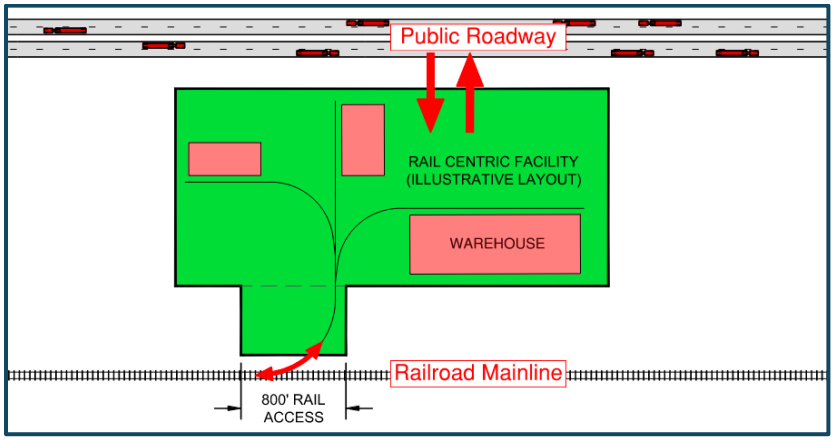


Figure 8-1: Rail-Centric Site Schematic

Due diligence efforts prioritized locations with direct rail frontage and direct roadway access to support operations without obstructing mainline traffic. A key consideration was whether the site required a new at-grade rail crossing, as avoiding additional crossings reduces safety risks and infrastructure costs. The study also emphasized properties located north of State Road 64, where land conditions, access, and infrastructure were generally more favorable for rail-centric development. The figure below identifies the location of seventeen (17) potential sites for a rail-centric inland port development. A detailed drawing of this map is included in **Appendix A** (GIS Figures).

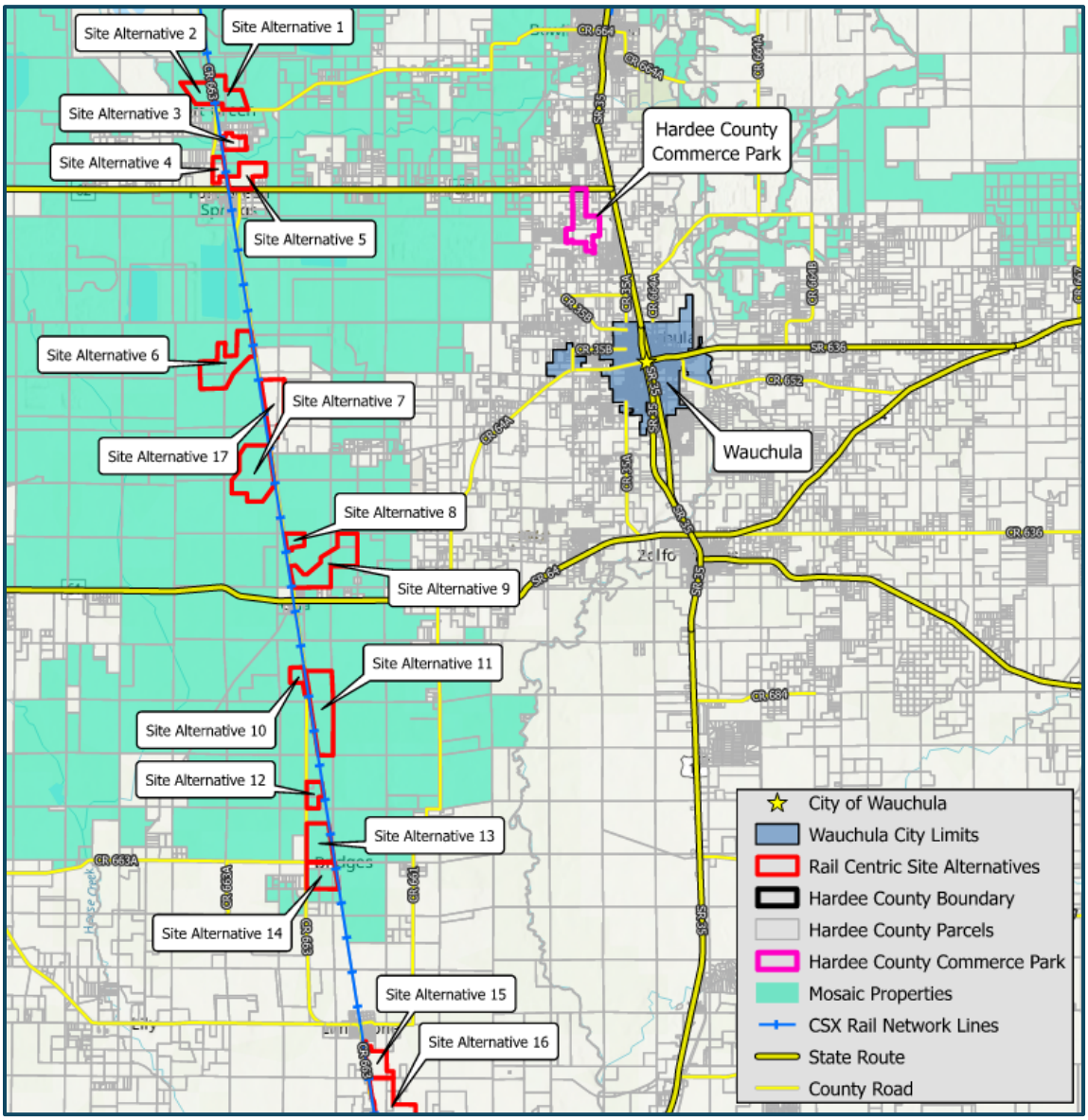


Figure 8-2: Seventeen (17) Rail-Centric Inland Port Sites

Each site was scored against key criteria to determine its suitability for rail-centric development. These criteria included the need for additional at-grade rail crossings, location relative to State Road 64, property ownership and mining status, compatibility with existing zoning and future land use designations, and the presence of environmental constraints such as wetlands and flood zones. This structured approach allowed the study team to compare sites objectively and identify those with the most favorable conditions for development.

A matrix-based scoring system was applied to evaluate all seventeen (17) potential sites. The table below summarizes the scoring of the seventeen rail-centric sites. Rail-centric Sites 4 and 5 were determined as the recommended sites for a rail-centric inland port. Maps summarizing each of these sites can be found in **Appendix D** (Site Evaluation Matrix Exhibits).

Rail-centric Optional Sites - Summary Table

Site	Location (North of SR 64 Preferred)	Roadway Access (No New At-Grade for Road over Rail)	Rail Access (No New At-Grade for Rail over Road)	Proximity to Utilities (Water and Sewer)	Mining Status (If owned by Mosaic)	General Developability (Landuse and Zoning)	Environmentally Sensitive (Wetlands and Flood Zones)	Site Recommendation
1	🟢	🟢	🟢	🟡	🟡	🟡	🟢	🟡
2	🟢	🟢	🔴	🟡	🟡	🟡	🟢	🔴
3	🟢	🟢	🟢	🟢	⚪	🔴	🔴	🟡
4	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢
5	🟢	🟢	🟢	🟢	⚪	🟢	🔴	🟢
6	🟢	🟢	🟢	🟢	🔴	🟡	🔴	🔴
7	🟢	🟢	🟢	🟢	🔴	🟡	🔴	🔴
8	🟢	🟢	🔴	🟢	🟢	🔴	🟡	🔴
9	🟢	🟢	🔴	🟢	🟢	🔴	🟡	🔴
10	🔴	🔴	🟢	🟡	🔴	🔴	🟢	🔴
11	🔴	🟢	🟢	🔴	🔴	🔴	🔴	🔴
12	🔴	🟢	🟢	🔴	🟢	🔴	🟢	🔴
13	🔴	🟢	🟢	🔴	🟢	🔴	🟡	🔴
14	🔴	🟢	🟢	🔴	🟢	🔴	🟢	🔴
15	🔴	🟢	🟢	🔴	🟢	🔴	🔴	🔴
16	🔴	🟢	🟢	🔴	🟢	🔴	🟢	🔴
17	🟢	🟢	🔴	🟡	⚪	🔴	🔴	🔴

Figure 8-3: Rail-Centric Site Summary Matrix

The location of Rail-centric Site 4 and Site 5 are shown below. The red arrows identify the proposed location of rail access from the site to the CSX mainline. The blue arrows identify the proposed location of roadway access to the existing public roadways. Neither of these sites require an at-grade rail crossing. Figures summarizing each of the seventeen sites and their scoring matrix are included in **Appendix D** (Site Evaluation Matrix Exhibits).

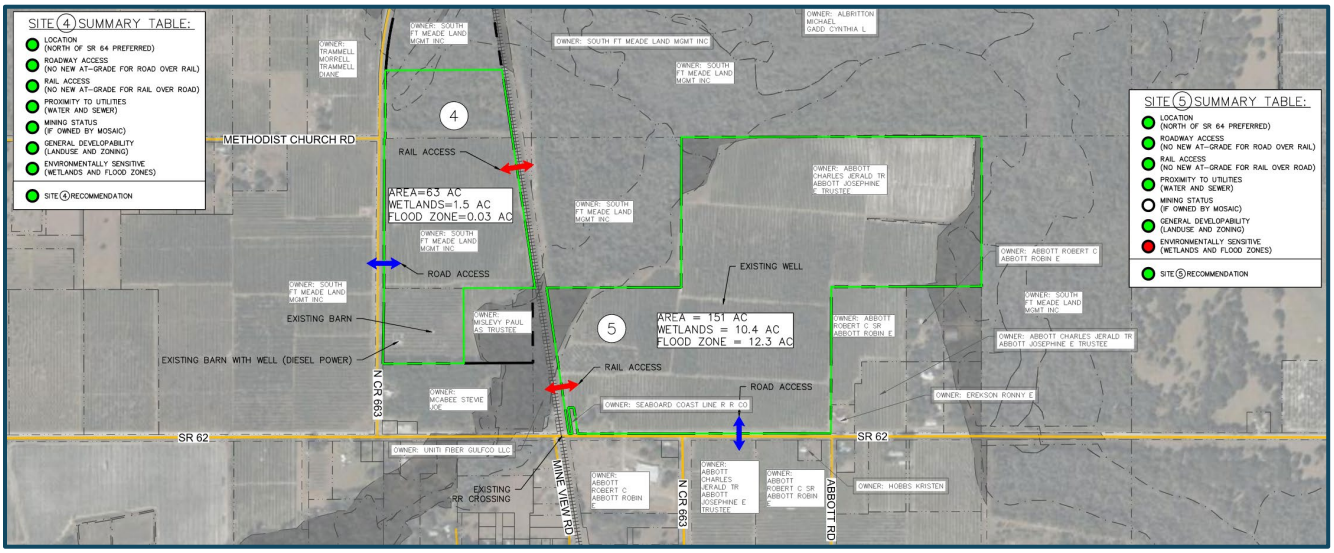


Figure 8-4: Rail-Centric Evaluation Matrix Exhibits (Sites 4 & 5)

These sites were evaluated further, and concept plans were developed for what the properties could look like if a rail centric inland port were developed on these properties. The elements of the concept plan include rail-served warehouses, storage tracks, truck courts with trailer storage and warehouse access, and employee parking facilities. These components were drawn first with connections to the CSX railroad mainline using CSX's minimum required geometry.

The Site 4 property lies within the area studied for the Intermodal Facility on Site 2; however, this conceptual plan has a smaller footprint of approximately 80 acres, including around 10 acres of wetlands (according to the national wetland inventory map). This site is preferred as rail access is separate from the roadway access. Rail access is on the eastern side of the property adjacent to the CSX mainline and roadway access is from County Road 663. The site does not require an at-grade rail crossing. West of the CSX mainline, three warehouses totaling approximately 200,000 square feet could be built with rail access and truck dock doors. On the eastern edge of the site, there is a rail yard including three storage tracks. Stormwater management facilities would be provided between the rail spurs on the eastern side of the site and where appropriate to minimize fill.

Below is a preliminary concept of what Site 4 could look like; a detailed drawing of this figure can be found in **Appendix E** (Conceptual Site Plans).

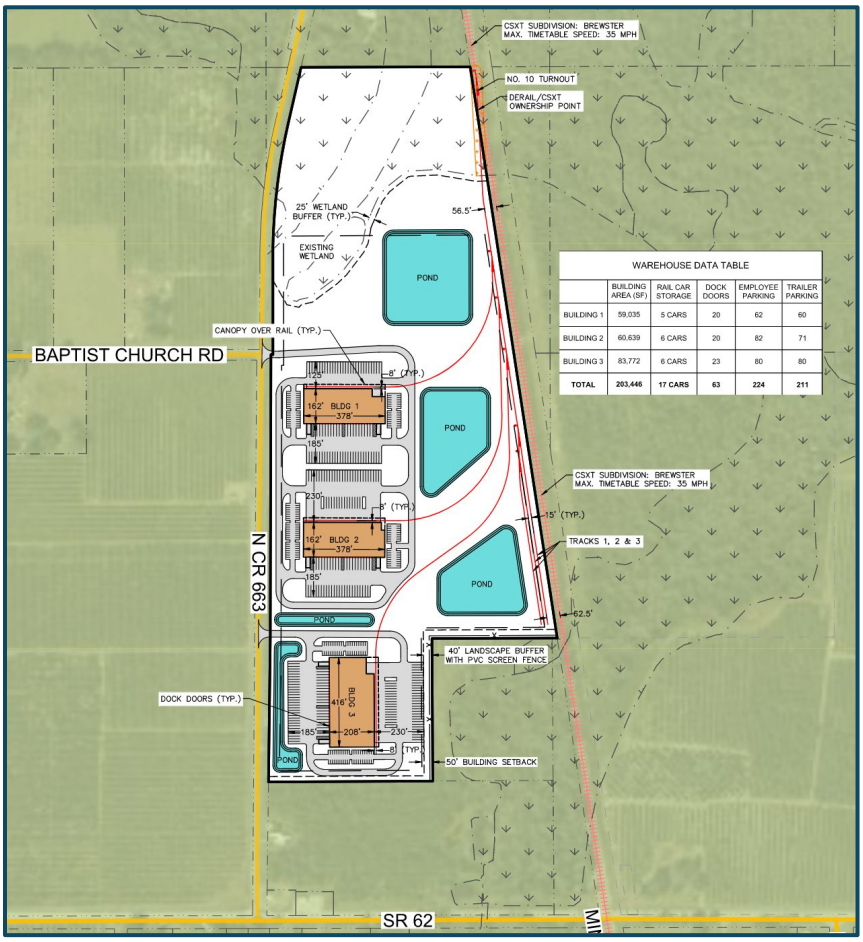


Figure 8-5: Rail-Centric Site 4 Conceptual Site Plan

A concept plan was also developed for Rail-Centric Site 5 which is located east of Site 4. Site 5 is approximately 151 acres and includes 11 acres of wetlands. To maximize the building square footage on the site, approximately 6 acres are of wetlands are proposed to be impacted. Rail access is provided off the CSX mainline west of the property. This spur track could provide access to four rail-served warehouses of varying sizes totaling just over 1 million square feet. This conceptual layout is very preliminary and was developed to give the City an idea of what the property could become with rail served industries.

The following figure summarizes a preliminary conceptual site plan for Rail-Centric Site 5. A detailed drawing of this figure can be found in **Appendix E** (Conceptual Site Plans).

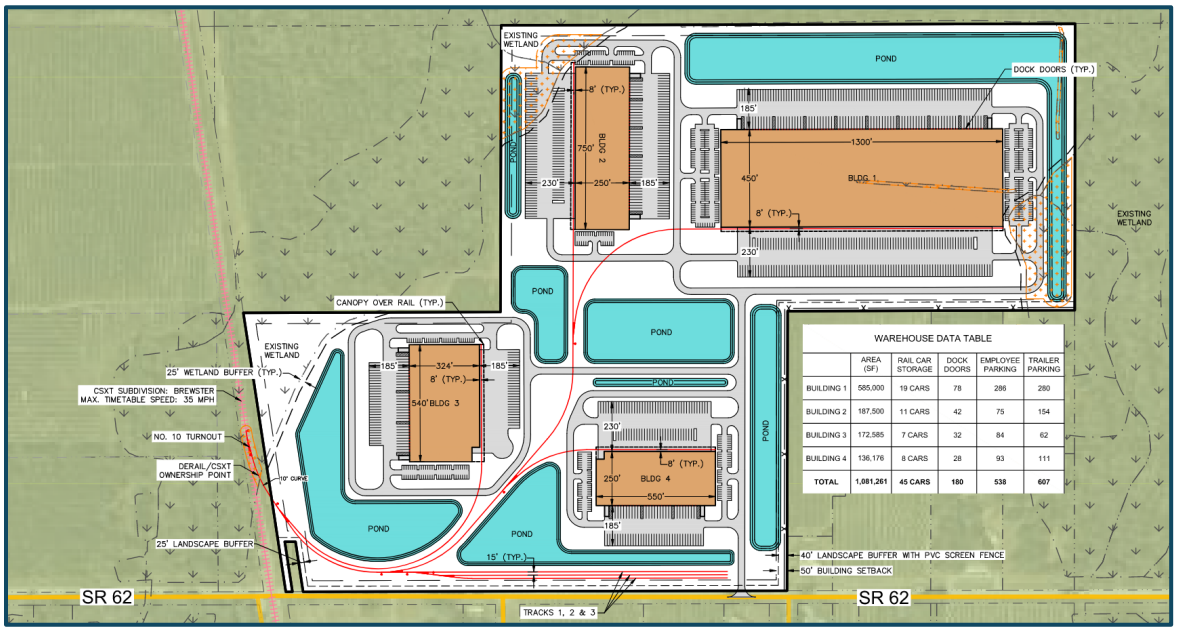


Figure 8-6: Rail-Centric Site 5 Conceptual Site Plan

Estimated costs were developed for these two sites and is summarized on the following tables. These estimates are in today's dollars, exclude the cost of the property, environment cleanup and/or soil remediation. This assumes the soils are sufficient for construction and do not require stabilizing or reinforcement.

Description	Rail-Centric Site 4		
	Quantity	Est. Cost	Percent Cost
Rail Infrastructure	9,400 Track Feet	$4,000,000	4%
Site Development	69 Acres	$26,000,000	29%
Warehousing	203,447 Square Feet	$26,000,000	29%
Off-Site Utilities	26,550 LF Sewer Main 38,550 LF Water Main	$10,000,000	11%
Contingency	$17,000,000		18%
Engineering & Construction Administration Fees	$8,000,000		9%
Estimated Total	**$91,000,000**		
Estimated Cost per SF of Warehouse	*$447/SF*		
Total Property Area	*79 Acres*		
Total Cost per Acre	*$1,160,000/Acre*		

Table 8-7: Preliminary Opinion of Costs for Rail-Centric Site 4

Description	Rail-Centric Site 5		
	Quantity	Est. Cost	Percent Cost
Rail Infrastructure	13,300 Track Feet	$6,000,000	2%
Site Development	147 Acres	$53,000,000	19%
Warehousing	1,081,262 Square Feet	$136,000,000	49%
Off-Site Utilities	22,350 LF Sewer Main 32,050 LF Water Main	$9,000,000	3%
Contingency	$51,000,000		18%
Engineering & Construction Administration Fees	$25,000,000		9%
Estimated Total	**$280,000,000**		
Estimated Cost per SF of Warehouse	*$259/SF*		
Total Property Area	*151 Acres*		
Total Cost per Acre	*$1,850,000/Acre*		

Table 8-8: Preliminary Opinion of Costs for Rail-Centric Site 5

Kimley-Horn has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Kimley-Horn at this time and represent only Kimley-Horn's judgment as a design professional familiar with the construction industry. Kimley-Horn cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

9.0 Permitting

The development of an inland port will require permitting and we anticipate the following permits may be required if the City or County chooses to proceed with design, permitting and development of the project. The level of permitting will depend on which site is selected and how the development may be phased.

1. **Southwest Florida Water Management District (SWFWMD) Environment Resource Permit (ERP**)
    - This is required to start moving dirt
    - Duration: Approximately 4-5 months
2. **Hardee County - Rezoning and Land use**
    - Required to entitle the land
    - Steps of the process:
        - Planning/zoning – DRC
        - Planning/Zoning Board – Meets once a month
        - Board of County Commissioners – Meets two times a month
    - Duration: Approximately 6 – 8 months
3. **Hardee County – Site Development Plan**
    - This is required for approval of the Civil Plans
    - Duration: Approximately 4 - 6 months
4. **Hardee County – Driveway Permit**
    - This is required for approval of the connection to the County Roadway
    - Duration: Approximately 4 - 6 months
5. **FDOT Driveway Permit**
    - This is required for approval of the connection to the FDOT Roadway (Rail-Centric Site 5)
    - Duration: Approximately 6 months
6. **FDOT Drainage Connection Permit**
    - Rail-centric Site Option 4 and Intermodal Site 2: The property boundary is adjacent to FDOT SR 62. If proposed boundary does not touch SR 62 (Rail-Centric Site 4), may apply for FDOT permit exemption to ensure improvements are not draining to FDOT R/W.
    - Rail-centric Site Option 5
    - Duration: Approximately 6 months
7. **FDOT Utility Permit**
    - This is required for utility impacts in FDOT R/W
    - Duration: Approximately 2 - 3 months
8. **USACE Wetland Permit**
    - This is required for wetland impacts depending on the acreage of the impacts

- Duration: Approximately 6 months - 1 year, depending on acreage of wetland impacts and available credits. 6 months for under 0.5 AC (nationwide permit) and 12+ months for over 0.5 AC (individual permit)

9. CSX Right-of-Entry Permit

- Needed to facilitate track survey efforts during design
- Duration: Approximately 4 -8 weeks

10. CSXT Sidetrack Track Agreement

- Issued at the time 100% Design plan approval is obtained by EOR
- Agreement between Tenant and CSXT
  - Establishes points of ownership, construction and maintenance responsibility, and service frequency
- This agreement serves as the ROE permit for the Contractor to perform construction activities and coordination flagging protection

11. CSX Utility Crossing Permit

- Only required if we have proposed utilities that will need to cross CSX R/W for building connections
- Duration: Typically 8 - 12 weeks for approval

12. FEMA floodplain permitting

- This is required for impacts to the existing floodplain on the property
- Duration: (1 - 2 years with 90-day review periods)
- Flood Zone A
  - Pre-construction – Submittal to determine flood elevation (CLOMR) – approximately 1 year
  - Post-construction – Submittal of as-built condition, this can run concurrent with construction of building (LOMR) – approximately 7-9 months
- Flood Zone AE
  - Elevation already established and will need to submit stormwater model and as-built conditions – approximately 7-9 months

13. FDEP Water/Sewer Permit

- This is required for proposed public utilities
- Duration: Approximately 2 - 3 months

14. FDEP Air Permit

- This is required depending on proposed uses (if manufacturing)
- Duration: Approximately 6 - 8 months

10.0 Conclusion

The City of Wauchula Inland Port Feasibility Study was funded from a grant from Florida Commerce. The study consisted of due diligence, economics analysis, stakeholder coordination, site planning and preliminary engineering. Six (6) sites were identified and evaluated for an intermodal inland port and seventeen (17) sites were evaluated for a rail-centric inland port. The primary difference between the site selection criteria between an intermodal and rail-centric site is that the rail-centric sites don't require an intermodal and container storage yard and require less rail frontage. Each option could plan for warehousing and/or manufacturing adjacent to the rail infrastructure. The study pivoted to identify rail-centric sites based on feedback from CSX Transportation and a determination that an inland port in Wauchula would not serve intermodal cargo.

Intermodal Site 2 and Rail-Centric Site 4 are the same property located at the northeast quadrant of SR 62 and CR 663. This property would not require a new at-grade rail crossing. This property is approximately 63 acres and is owned by South Ft. Meade Land Management Inc., which is a wholly owned subsidiary of The Mosaic Company. A preliminary meeting was held with representatives from Mosaic in May 2025 to notify them of the inland port feasibility study. At that time, due diligence was still being performed. It is recommended that the City attend additional meetings with Mosaic to present the findings of this report and discuss whether this site could be developed. As an alternative or concurrently, Rail-Centric Site 5, located east of Site 4 on the eastern side of the CSX main could also be evaluated further.

The total development cost for Rail-Centric Site 4 was estimated at $91M and Rail-Centric Site 5 at $280M but they vary in size and the amount of building square footage that could be developed. Projects of this magnitude typically take years to develop and are driven by market demand. The infrastructure could be built in phases to minimize initial capital expenditures. A possible preliminary phase would be entitlement and permitting as well as the construction of a spur track into the industrial park, roadway access connection to the public roadway, utility improvements to provide water and sewer to the site, and mass grading of the initial parcels to be marketed. This can be evaluated further in a future phase should be project move forward. Concurrently, it is recommended that the City and County collaborate with the State and other agencies to develop a marketing strategy to market the development opportunity of the rail-centric inland port. It is possible that additional grants are available to advance the project or elements of the project. Also, since the sites identified in this study are located outside of the City of Wauchula city limits, it is likely that Hardee County would advance the project, if it moves forward.

APPENDIX SUMMARY

A. GIS Figures

1. Overall Rail and Roads Map
2. Overall Roads and Port Map
3. Hardee County Rail Crossings Map
4. Hardee County Intermodal Site Alternatives Map (6 sites)
5. Hardee County Rail-Centric Site Alternatives Map (17 sites)
6. FDOT Projects Map
7. Existing Utilities Map

B. Business Case Summary Slides

C. Due Diligence Figures

1. 6 Intermodal Sites
    a. FEMA Maps with Intermodal Sites
    b. Wetland Maps with Intermodal Sites
    c. Zoning Maps with Intermodal Sites
    d. Soils Maps with Intermodal Sites
    e. Soils Legend
2. 17 Rail-Centric Sites
    a. FEMA Maps with Intermodal Sites
    b. Wetland Maps with Intermodal Sites
    c. Zoning Maps with Intermodal Sites
    d. Soils Maps with Intermodal Sites

D. Site Evaluation Matrix Exhibits

1. 6 Intermodal Sites (sheets 1 – 6)
2. 17 Rail-Centric Sites (sheets 1-10)

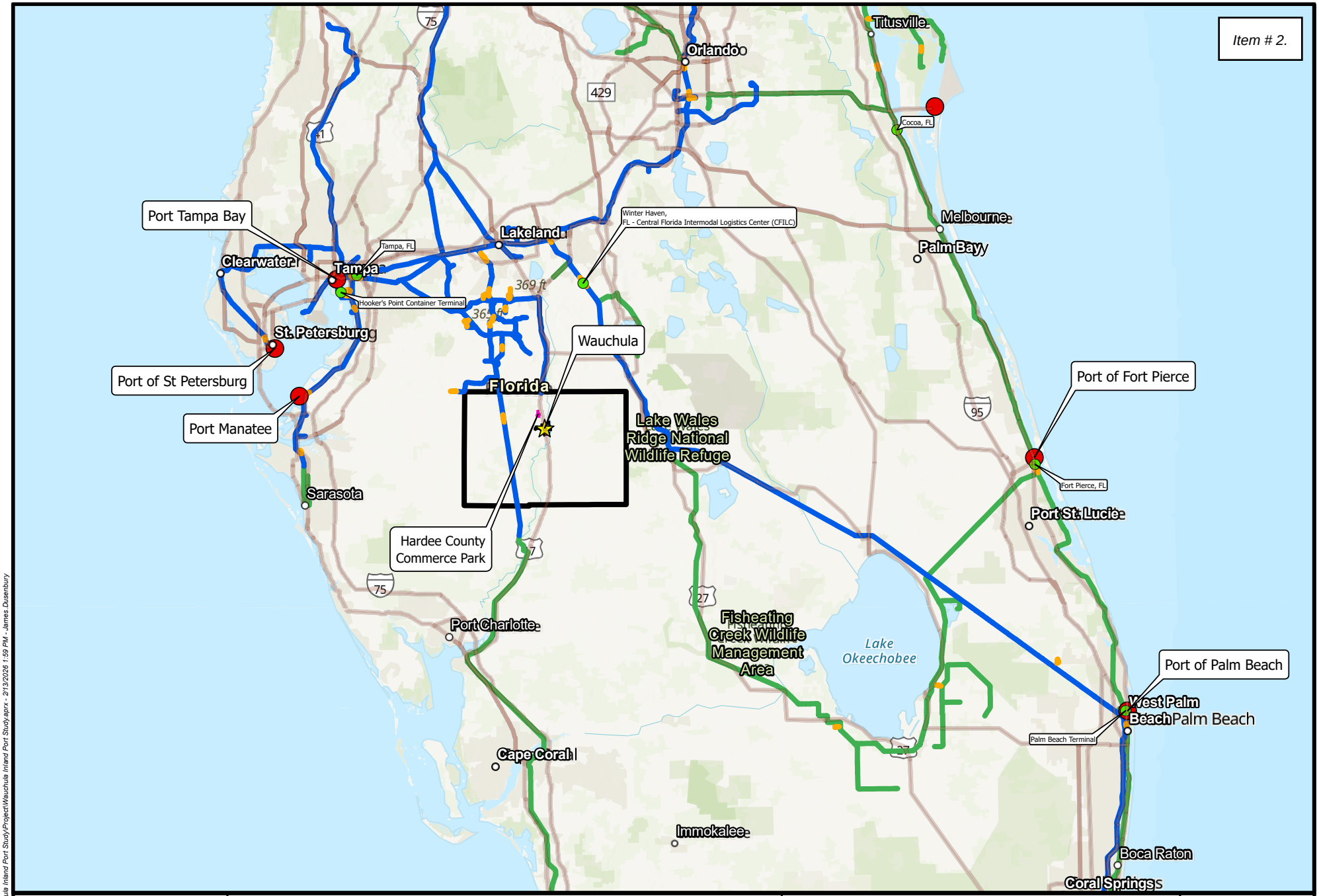
E. Conceptual Site Plans

1. Intermodal Site 2 Conceptual Site Plan
2. Intermodal Site 6 Conceptual Plan
3. Rail-Centric Site 4 Conceptual Site Plan
4. Rail-Centric Site 5 Conceptual Site Plan

Appendices

Appendix A.

GIS Figures



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Legend

- City of Wauchula
- Wauchula City Limits
- Coastal Deepwater Ports
- Intermodal Freight Facilities
- Hardee County Boundary
- Hardee County Commerce Park
- CSXT Operated Rail
- Shortline Rail, Various Operators
- Rail Yards

Rail and Port

Wauchula Inland Port

February 2026

Figure A-1

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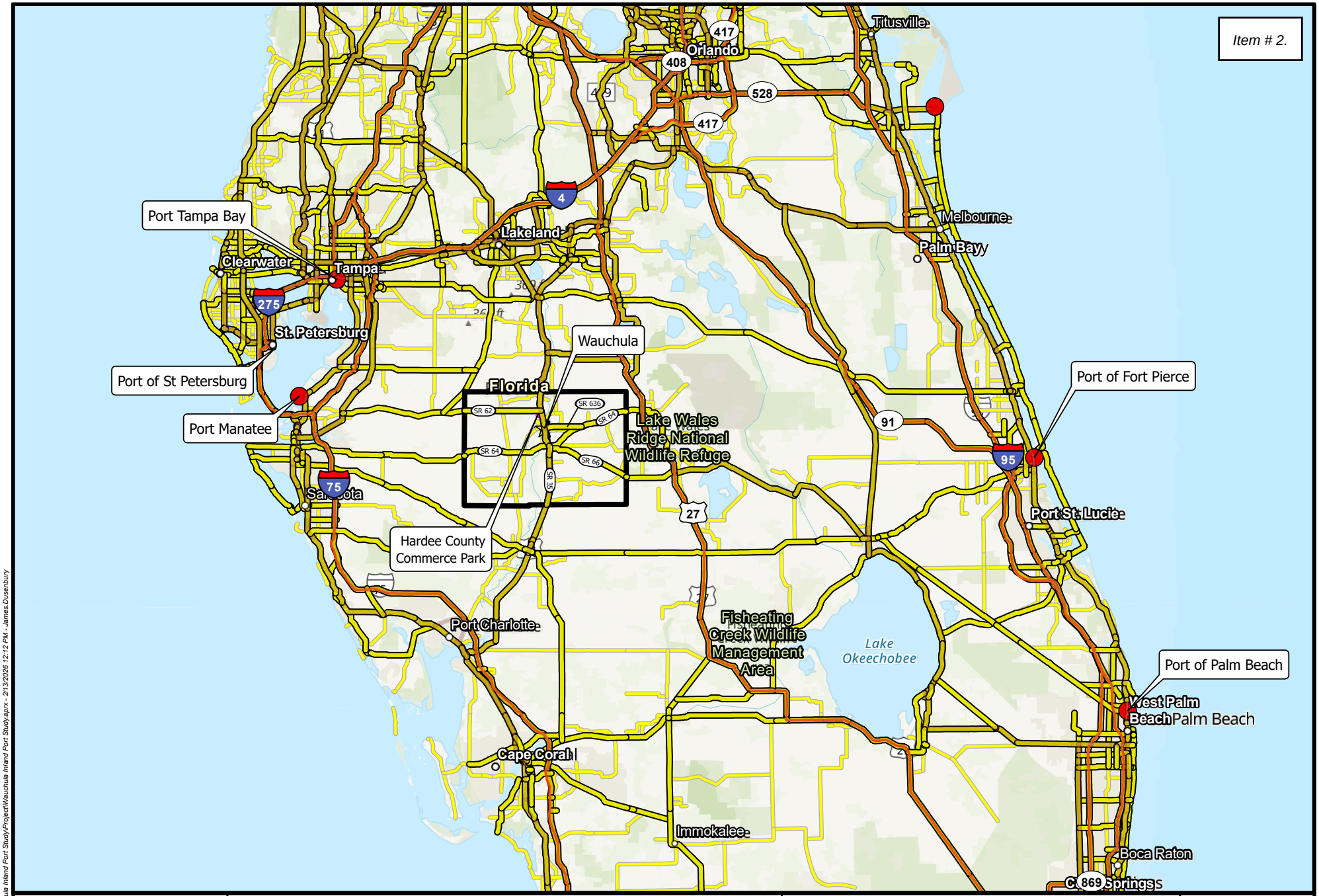

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Legend

- City of Wauchula
- Wauchula City Limits
- Coastal Deepwater Ports
- Hardee County Boundary
- Hardee County Commerce Park
- USA Freeway System
- State Route
- County Road

Roads and Port

Wauchula Inland Port

February 2026

Figure A-2

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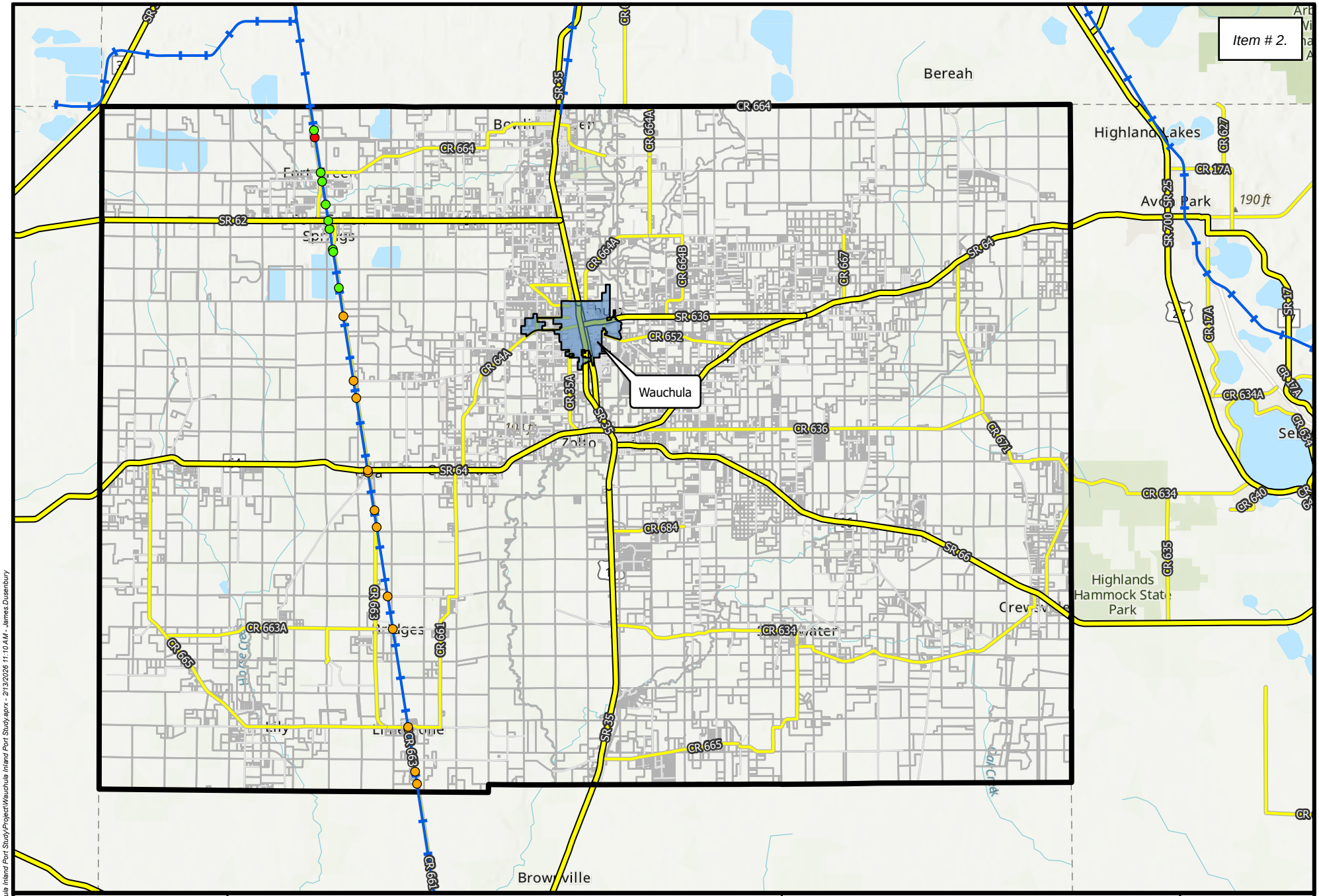

Legend

- Wauchula City Limits
- Hardee County Boundary
- Hardee County Parcels
- CSX Rail Network Lines
- Rail Crossings
  - 35 MPH
  - 10 MPH
  - Speed Data Not Available

Rail Crossings

Wauchula Inland Port

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Figure A-3

0 1

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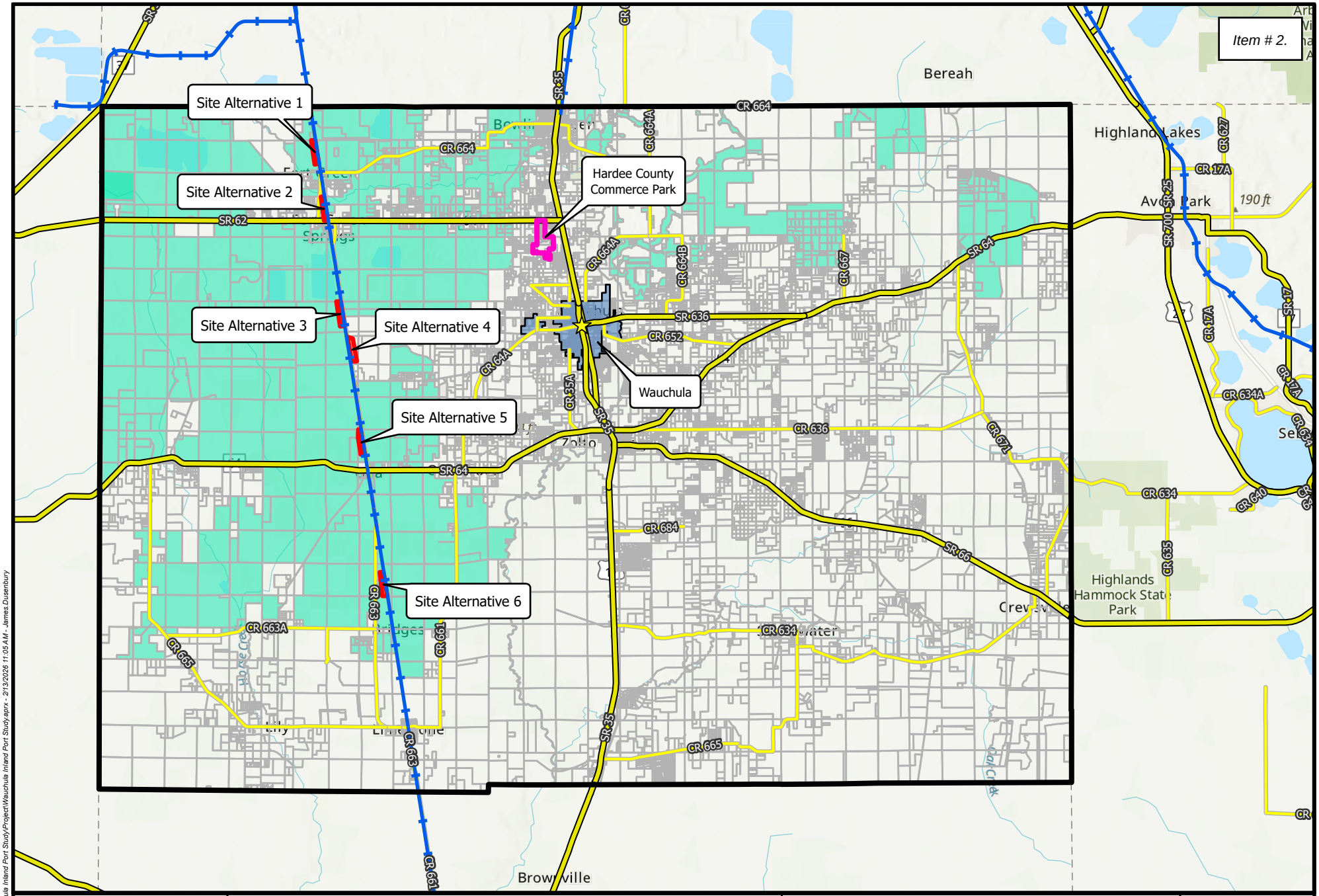

Legend

- City of Wauchula
- Wauchula City Limits
- Intermodal Site Alternatives
- Hardee County Boundary
- Hardee County Parcels
- Hardee County Commerce Park
- Mosaic Properties
- CSX Rail Network Lines
- State Route
- County Road

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Intermodal Site Alternatives

Wauchula Inland Port

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Figure A-4

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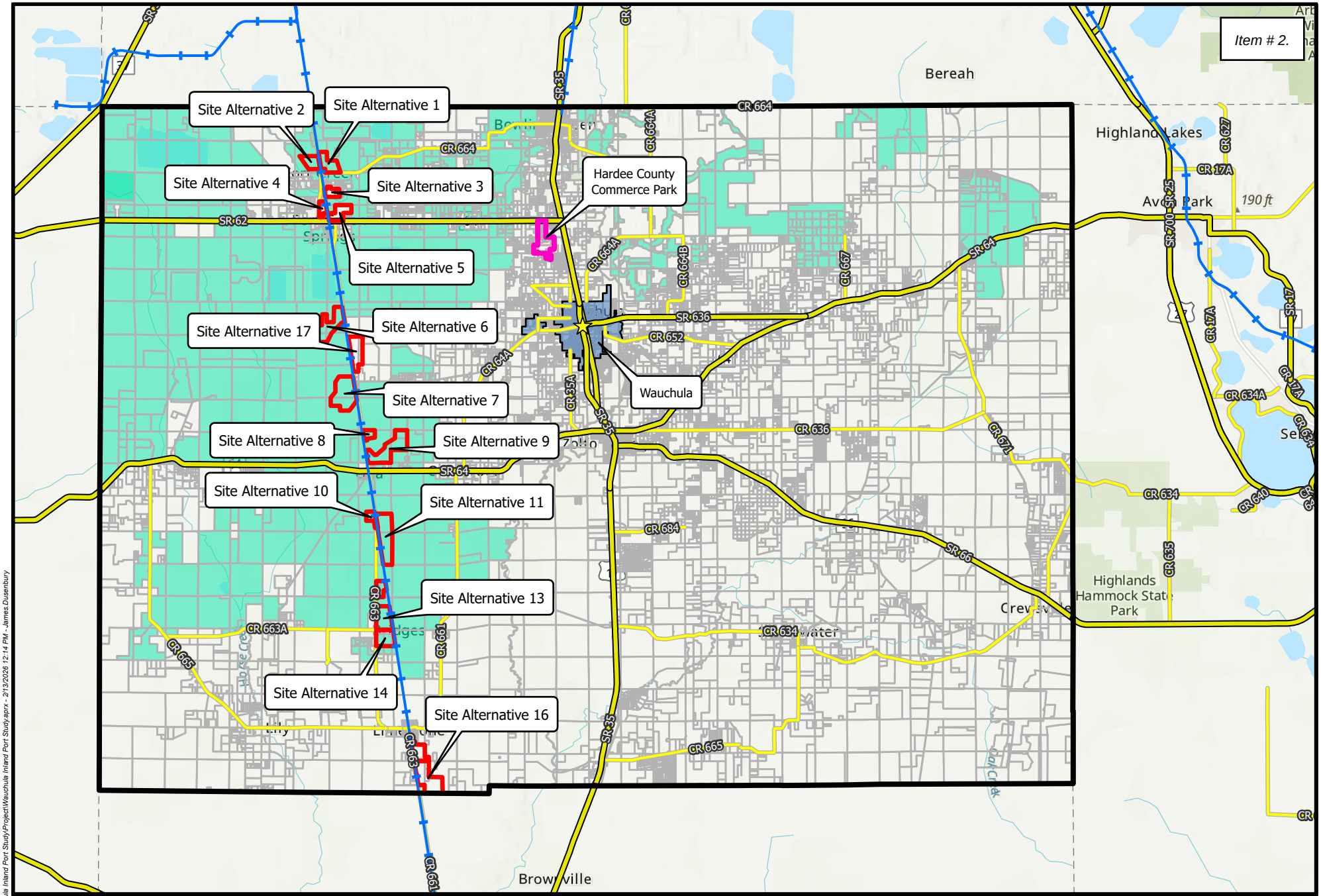

Legend

- City of Wauchula
- Wauchula City Limits
- Rail Centric Site Alternatives
- Hardee County Boundary
- Hardee County Parcels
- Hardee County Commerce Park
- Mosaic Properties
- CSX Rail Network Lines
- State Route
- County Road

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Rail Centric Site Alternatives

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Figure A-5

Wauchula Inland Port

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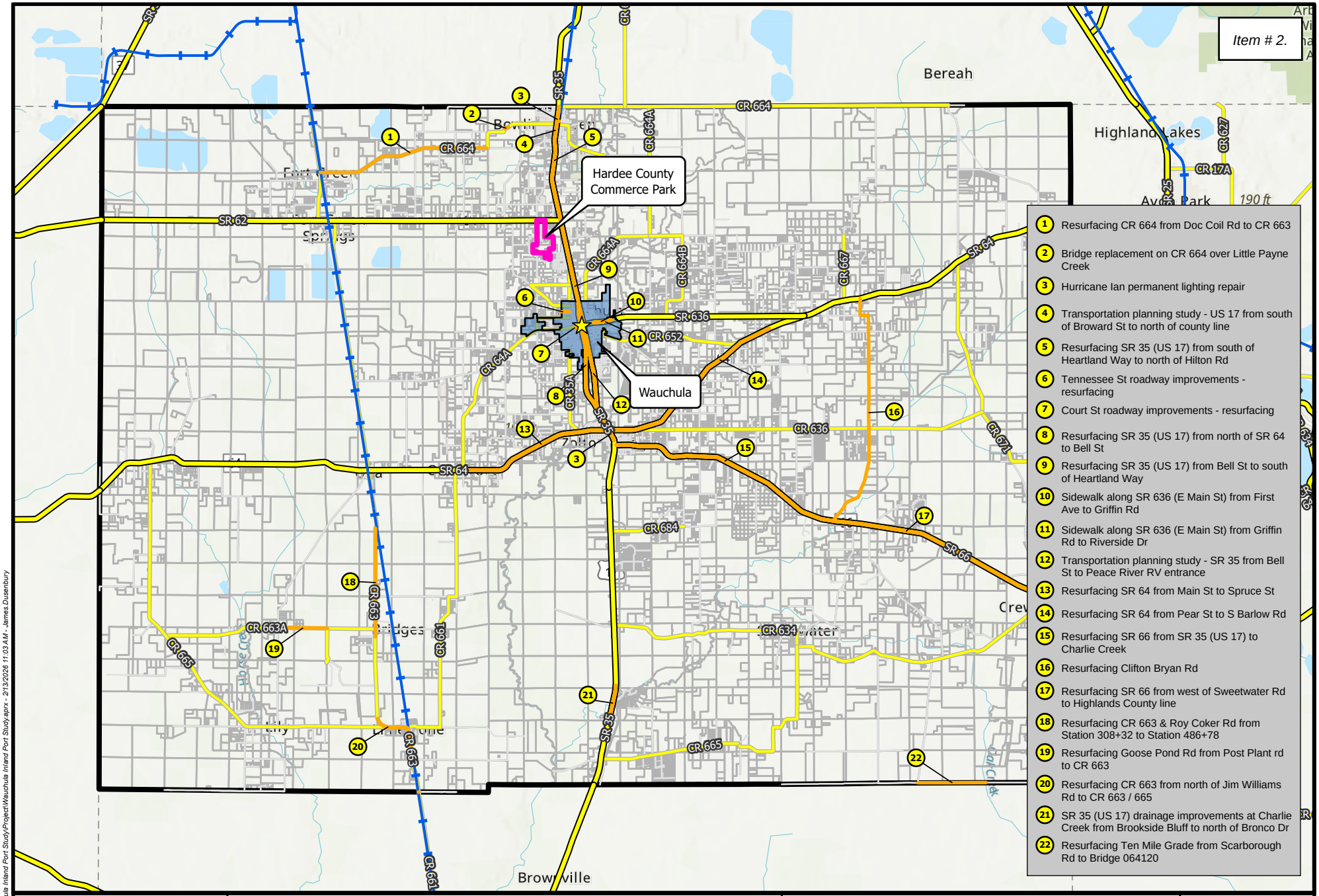

1. Resurfacing CR 664 from Doc Coil Rd to CR 663
2. Bridge replacement on CR 664 over Little Payne Creek
3. Hurricane Ian permanent lighting repair
4. Transportation planning study - US 17 from south of Broward St to north of county line
5. Resurfacing SR 35 (US 17) from south of Heartland Way to north of Hilton Rd
6. Tennessee St roadway improvements - resurfacing
7. Court St roadway improvements - resurfacing
8. Resurfacing SR 35 (US 17) from north of SR 64 to Bell St
9. Resurfacing SR 35 (US 17) from Bell St to south of Heartland Way
10. Sidewalk along SR 636 (E Main St) from First Ave to Griffin Rd
11. Sidewalk along SR 636 (E Main St) from Griffin Rd to Riverside Dr
12. Transportation planning study - SR 35 from Bell St to Peace River RV entrance
13. Resurfacing SR 64 from Main St to Spruce St
14. Resurfacing SR 64 from Pear St to S Barlow Rd
15. Resurfacing SR 66 from SR 35 (US 17) to Charlie Creek
16. Resurfacing Clifton Bryan Rd
17. Resurfacing SR 66 from west of Sweetwater Rd to Highlands County line
18. Resurfacing CR 663 & Roy Coker Rd from Station 308+32 to Station 486+78
19. Resurfacing Goose Pond Rd from Post Plant rd to CR 663
20. Resurfacing CR 663 from north of Jim Williams Rd to CR 663 / 665
21. SR 35 (US 17) drainage improvements at Charlie Creek from Brookside Bluff to north of Bronco Dr
22. Resurfacing Ten Mile Grade from Scarborough Rd to Bridge 064120

Legend

- City of Wauchula
- Wauchula City Limits
- CSX Rail Network Lines
- Hardee County Commerce Park
- Hardee County Boundary
- Hardee County Parcels
- FDOT Projects

FDOT Projects

Wauchula Inland Port

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Figure A-6

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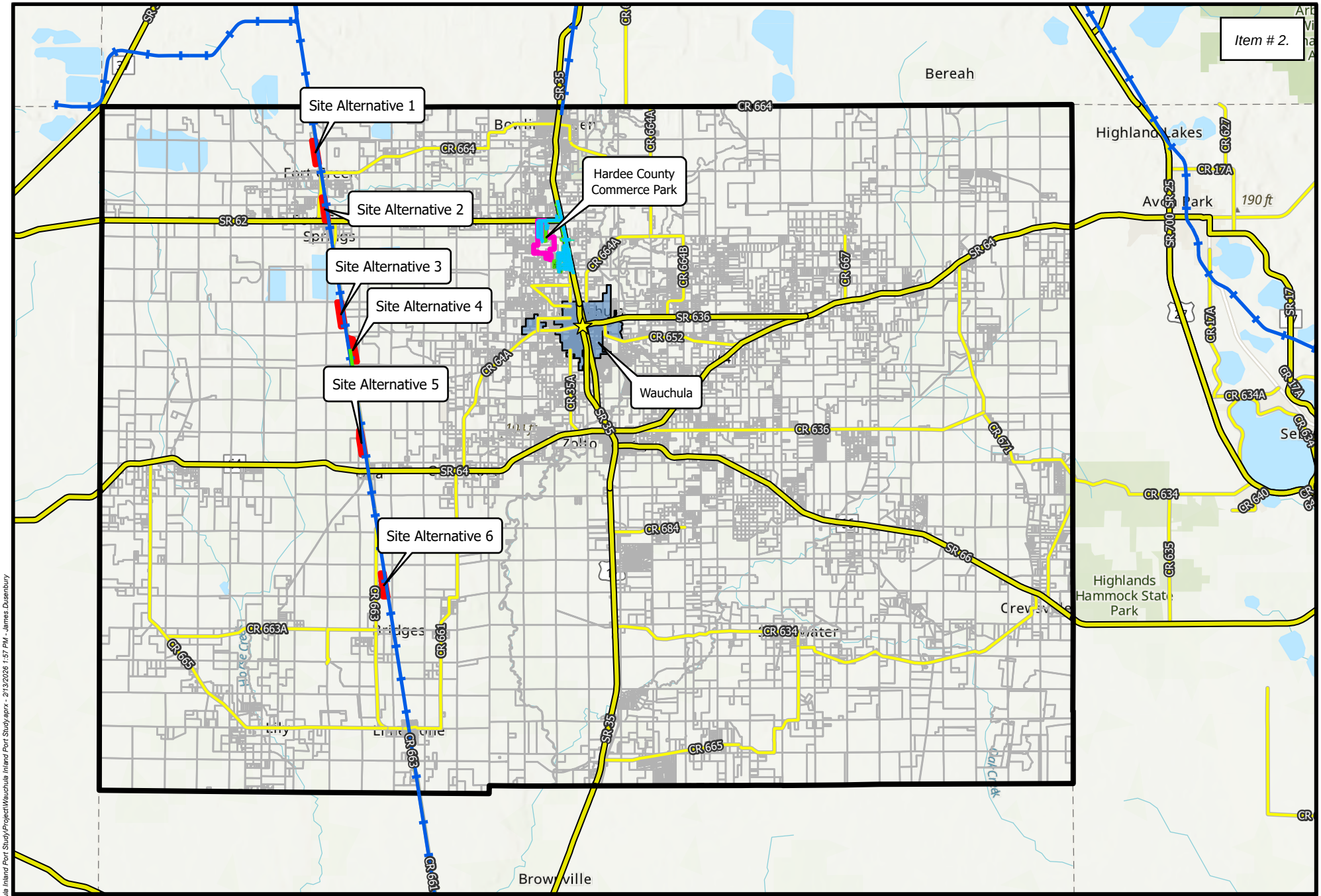

Legend

- City of Wauchula
- Wauchula City Limits
- Hardee County Boundary
- Hardee County Commerce Park
- Hardee County Parcels
- Intermodal Site Alternatives
- CSX Rail Network Lines
- State Route
- County Road
- Water Line
- Sewer Line

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Intermodal Utility Locations

Wauchula Inland Port

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Figure A-7

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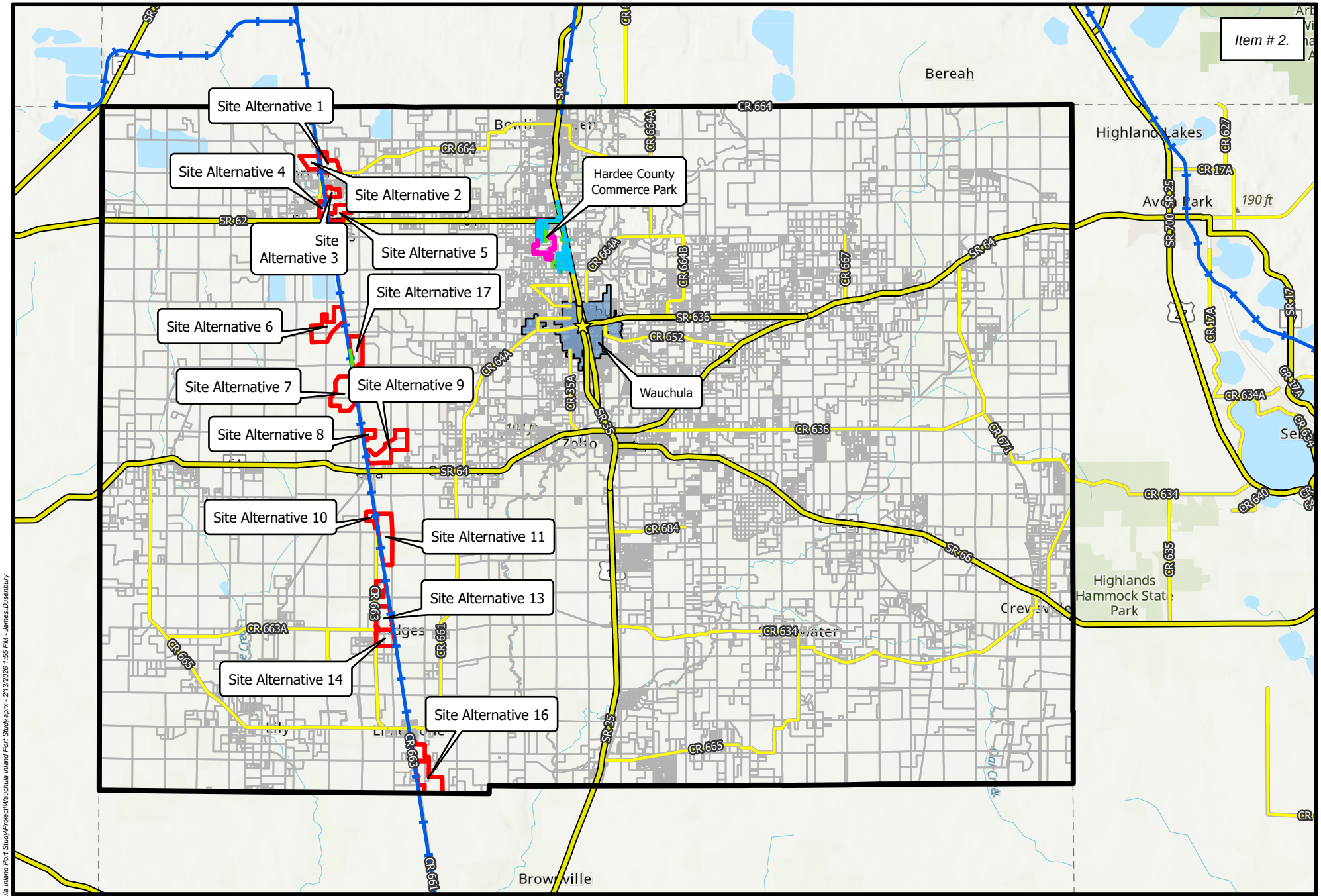

Legend

- City of Wauchula
- Wauchula City Limits
- Hardee County Boundary
- Hardee County Commerce Park
- Hardee County Parcels
- Rail Centric Site Alternatives
- CSX Rail Network Lines
- State Route
- County Road
- Water Line
- Sewer Line

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Rail Centric Utility Locations

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Figure A-8

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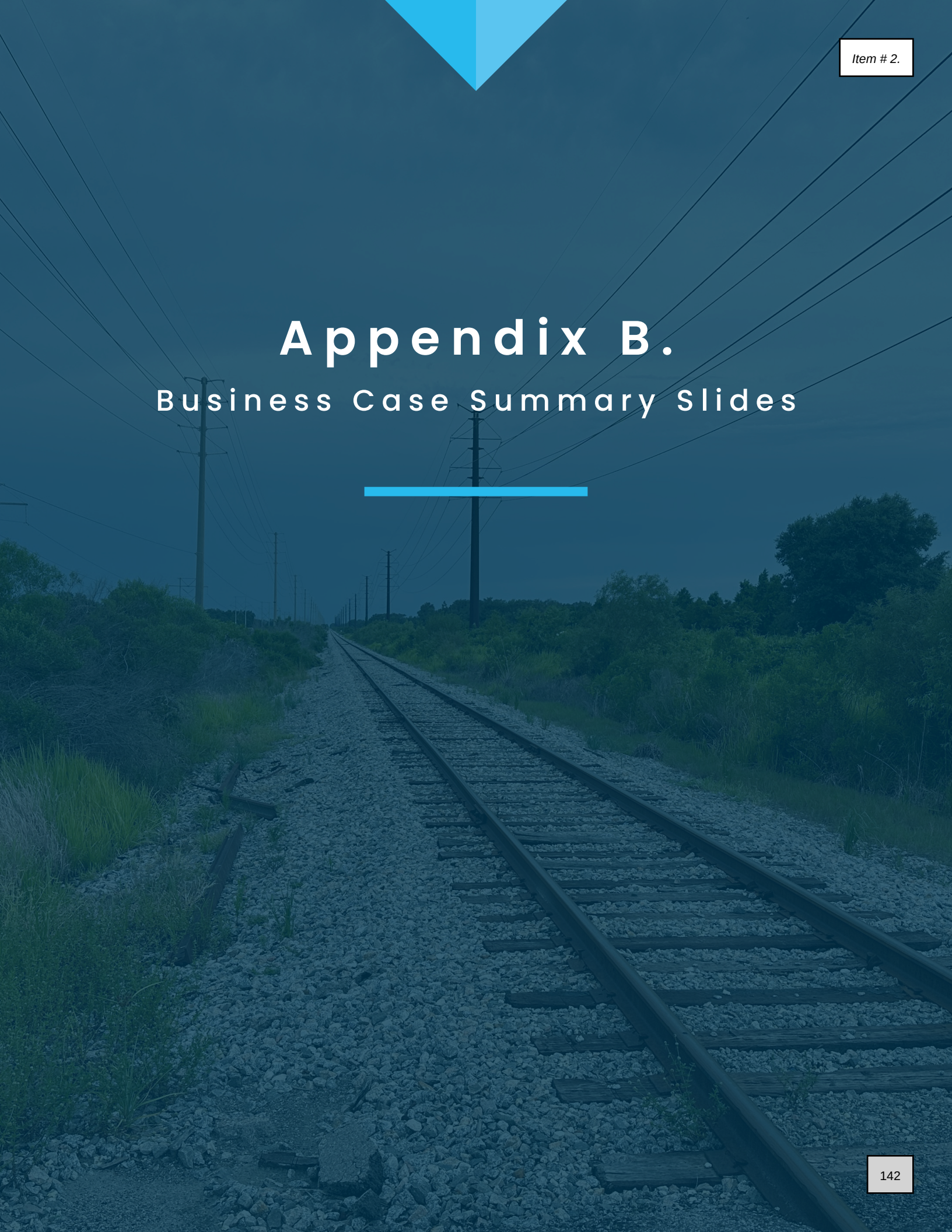
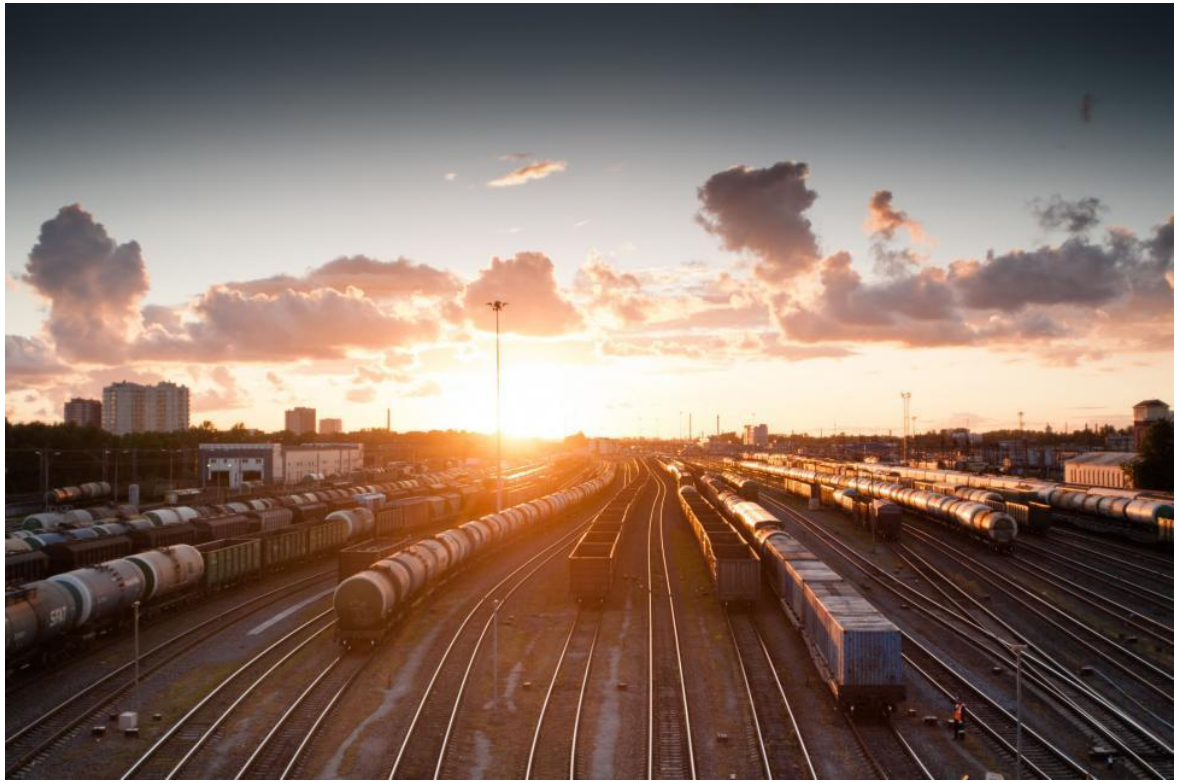


Appendix B.

Business Case Summary Slides

City of Wauchula

Inland Port Feasibility Analysis
Business Case Economic Evaluation



February 2026

Report Outline

- Executive Summary
- Background on inland ports
- Commodity flows
- Florida port connectivity
- Labor requirements
- Industrial real estate
- Potential occupiers
- Recommendations

Executive Summary

Commodity Flows and Port connectivity

- Focus on developing a project cargo and bulk-oriented rail-served industrial logistics park as low value heavy cargos are natural candidates to start such a development. Freight could flow from Wauchula to seaports as well as major railyards across the U.S.
- **Commodity Flows**
  - The construction industry imports and exports (project cargo) in Florida totaled $39 billion in 2021
  - Wood, paper, and plastics/chemicals all include recycling activities.
- **Port Connectivity**
  - The ports in Tampa Bay are well positioned for export growth upon completion of the Tampa Bay navigation channel.
  - A rail yard or inland port in Wauchula has limited intermodal (international containerized cargo on rail) options via East Coast Florida ports due to the centrally located automated CSX Winter Haven inland port.
  - Intermodal volumes between Wauchula and Tampa Bay ports would likely be low enough to require a substantial subsidy to establish and maintain the rail service.
  - There is potential for international bulk cargo between Wauchula and Tampa Bay ports.

Executive Summary

Labor Force and Industrial Real Estate

- **Labor Force**
  - The most likely anchor tenant would be either a warehousing facility or manufacturing facility, requiring between 100 and 140 workers. Production workers would represent 43% of these jobs.
  - There are sufficient workers within the surrounding region, including those unemployed but actively looking for work, those who commute long distances in similar wage and occupation categories, and workers who earn less than what would be offered at the site.
- **Industrial Real Estate and Potential Occupiers**
  - Likely future occupiers include recyclers, manufacturers/maintenance & repair, the space industry, logistics support, and distribution.

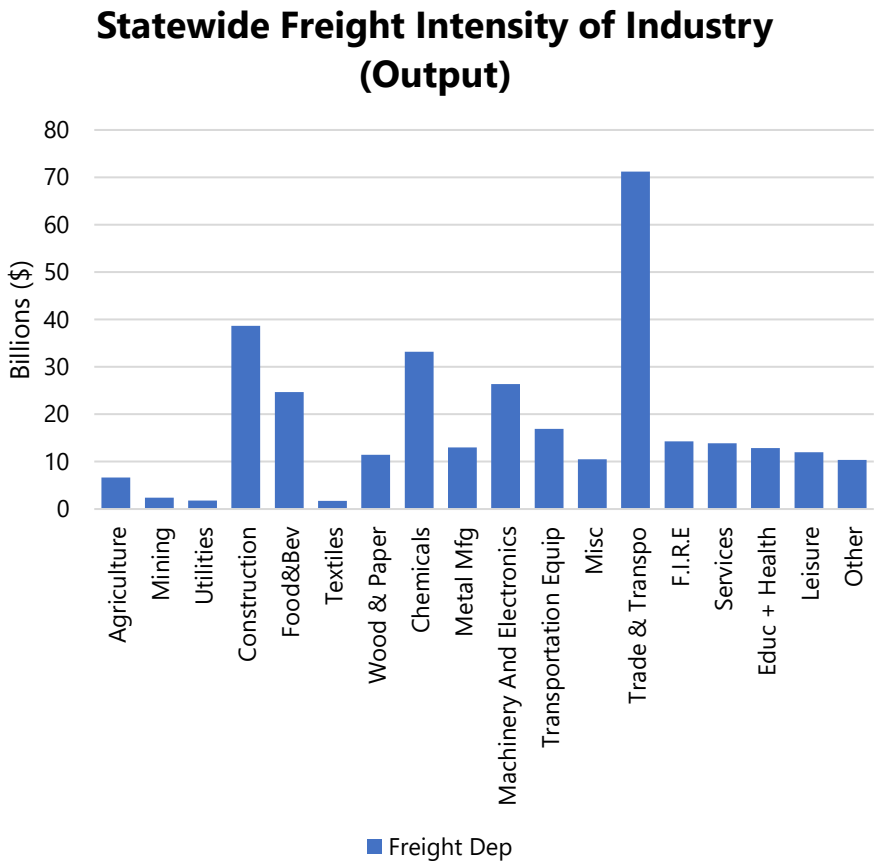
Background on Inland Ports

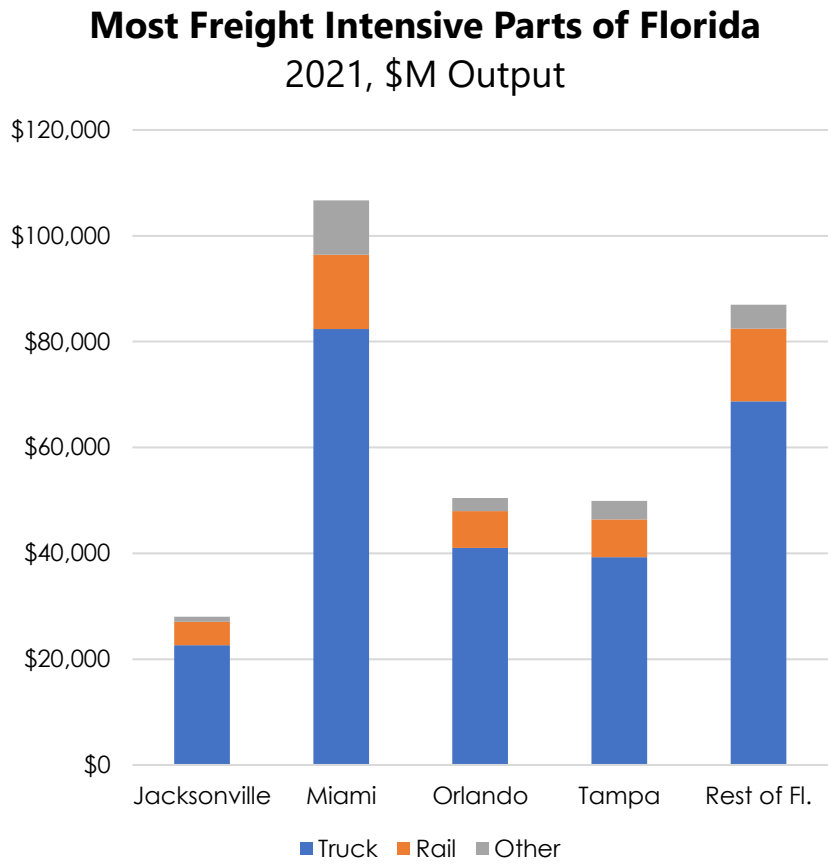
- First inland ports
  - Front Royal (Port of Virginia, Norfolk Southern) took over 20 years to reach breakeven.
  - Alliance (Dallas) (Hillwood) took around 20 years to reach breakeven.
  - Joliet/Elwood (Chicago) (Centerpoint) needed ~7 years to breakeven.
- More recent inland ports
  - Greer (South Carolina) (South Carolina Port Authority) needed less than 12 months until breakeven.
  - Appalachian Regional Port (Dalton, GA) (Georgia Port Authority) took 3 years to breakeven.
- **Key ingredient for success**: household name anchor tenant, e.g., BMW (Greer), Shaw Industries (Dalton), Kubota (Gainesville, GA).

Source: Interviews with consultants, developers, and other industry professionals

Commodity Flows

Statewide Freight Intensity





- The construction industry in Florida imported and exported $39 billion in 2021.
- Chemicals: $33 billion.
- Food & beverage: $25 billion.
- Wood, paper, and plastics/chemicals all include recycling activities.

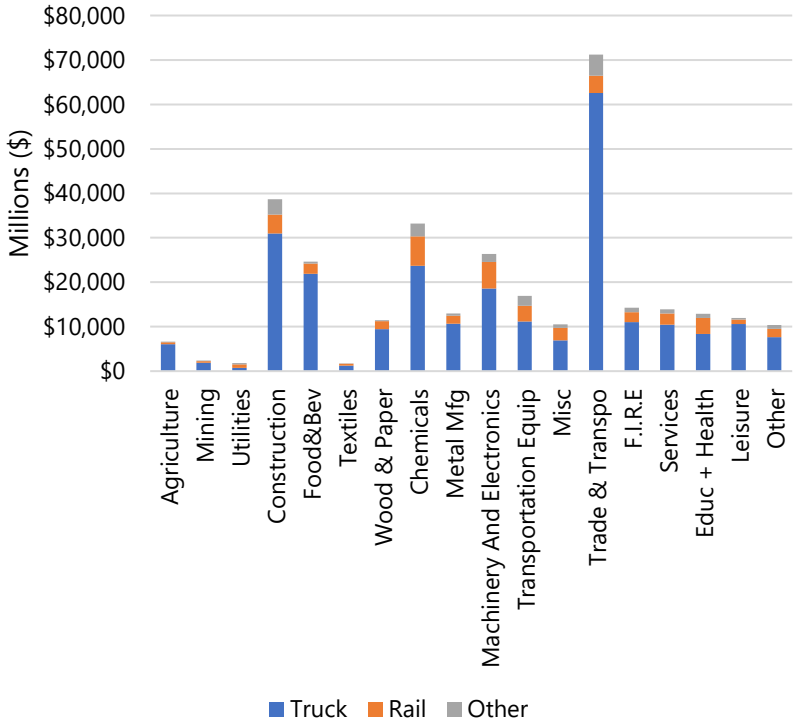
Source: FAF 5.6.1, Implan, Moody's, STB Waybill
Notes F.I.R.E. stands for "finance, insurance, and real estate.

Commodity Flows

Freight Intensive Industries (State)

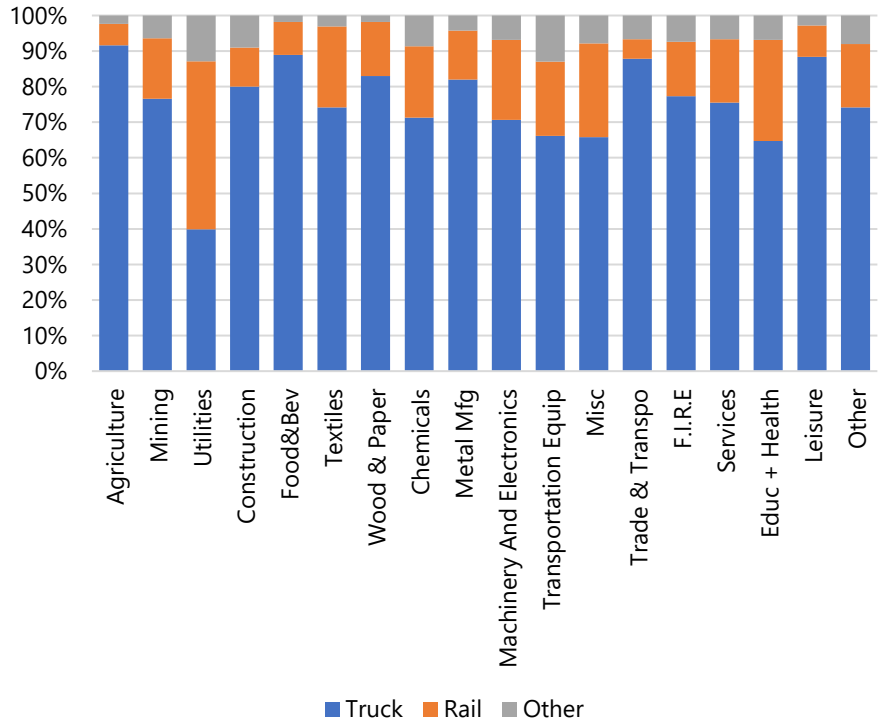
Freight Intensity of Industries in FL

Supported Industry Output



Modal Reliance by Sector

% Supported Industry Output



- More than 90% of agriculture products by value are moved by truck within Florida.
- Utilities is the most rail intensive sector in Florida, including the movement of fuels, although small in total volumes.

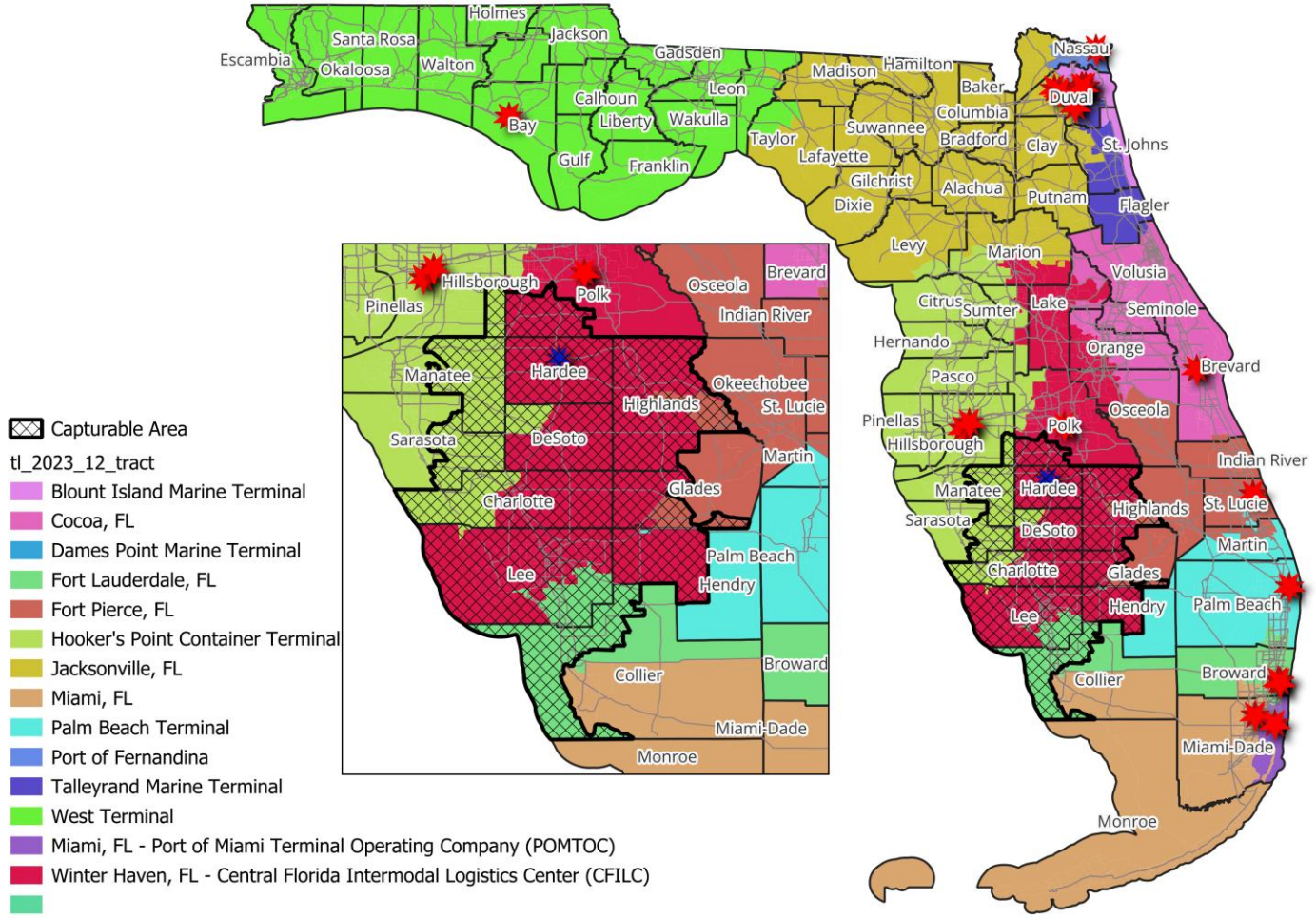
Source: FAF 5.6.1, Implan, Moody's, STB Waybill

Commodity Flows

Market Capture: Hinterlands

- We used a network-based approach to identify geographical markets for freight that may use existing terminals in Florida.
- Markets were determined by distance to each terminal.
- A hypothetical Wauchula terminal was then created and tested to see competitive advantage in hinterland markets.
- We then estimated for which rail-transported commodities was Wauchula a advantageous location.
- **These markets included high-income, growing regions of Florida**.

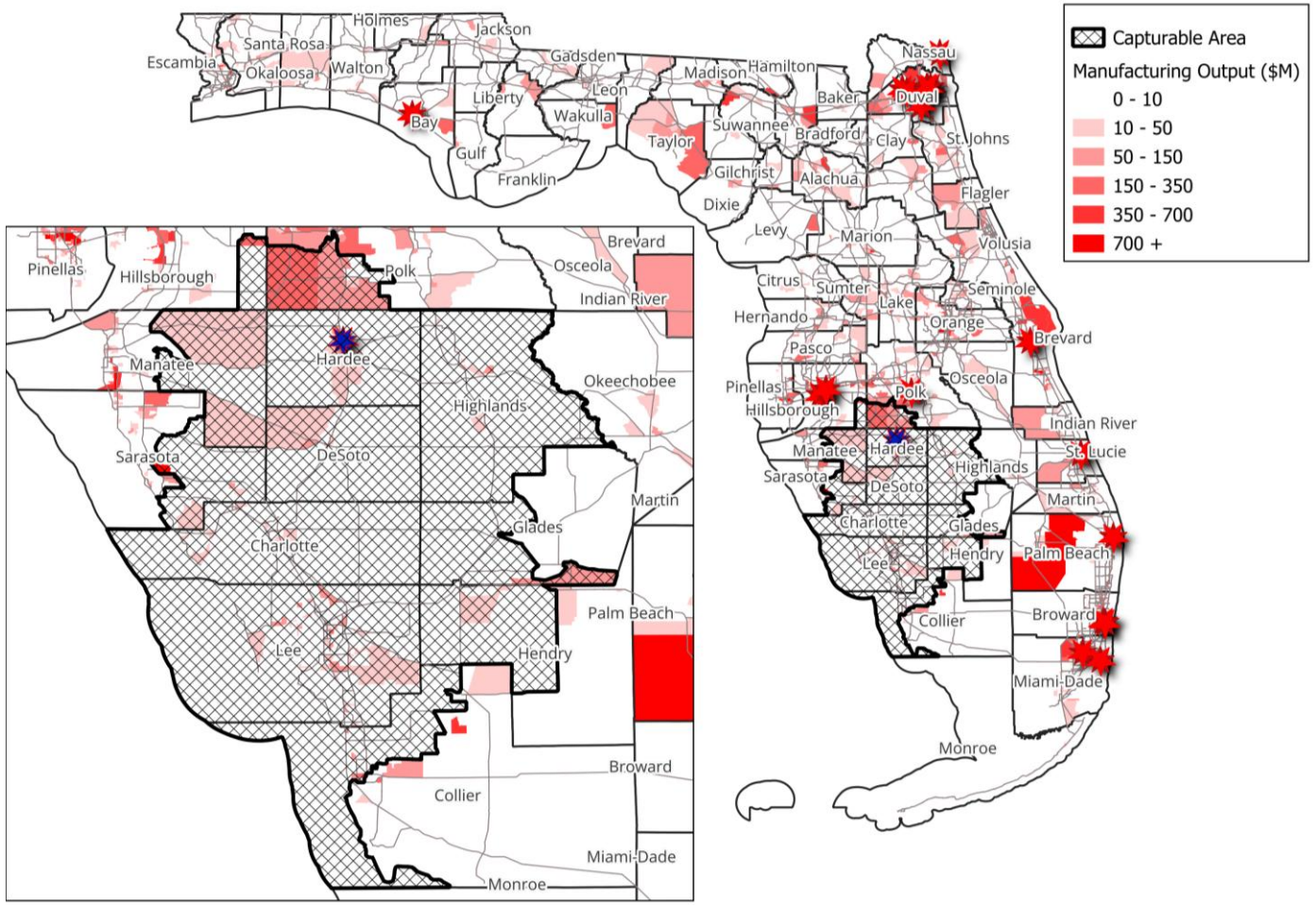
Source: National Highway Planning Network, Tigerline Census Files



Commodity Flows

Market Capture: Economic Activity

- We then identified major economic activity clusters within the capturable areas.
- Focus on:
  - Hardee, DeSoto, Highlands, Charlotte, Lee
  - Portions of Sarasota, Polk, Manatee, Hendry, Collier, Glades.
- The largest amount of economic activity is in the Orlando/Winter Haven area. However, CSX already has a major intermodal operation there, and therefore a Wauchula location would not be competitive.

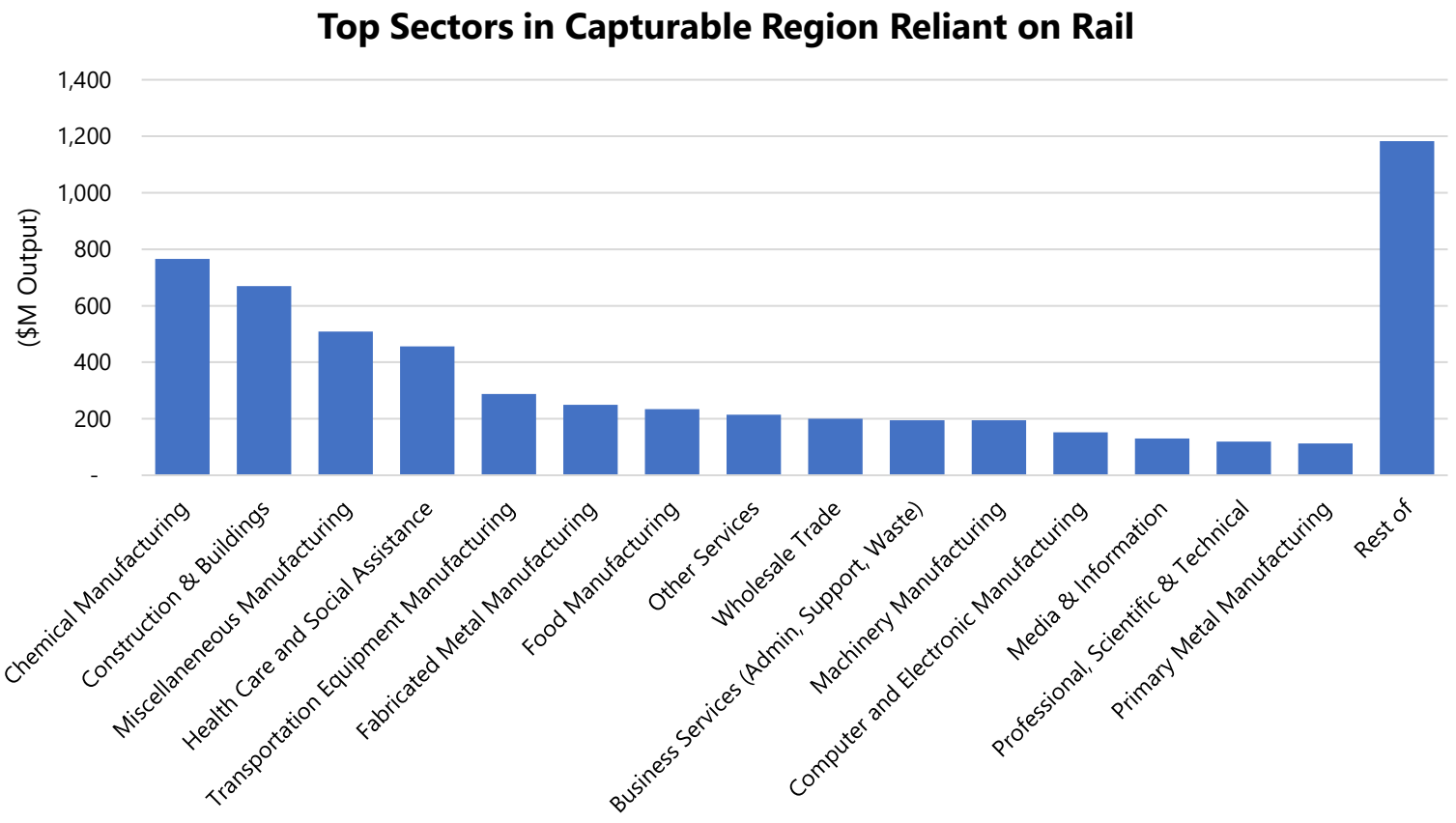


Source: National Highway Planning Network, Tigerline Census Files

Commodity Flows

Rail Reliant Sectors in SW Florida Region

- Sectors have varying of reliance on rail. Determining these informs which sectors could most likely benefit from rail access in Wauchula.
- Key rail-reliant sectors include chemicals, construction, and manufacturing.
- CSX provides regular service to Mosaic.

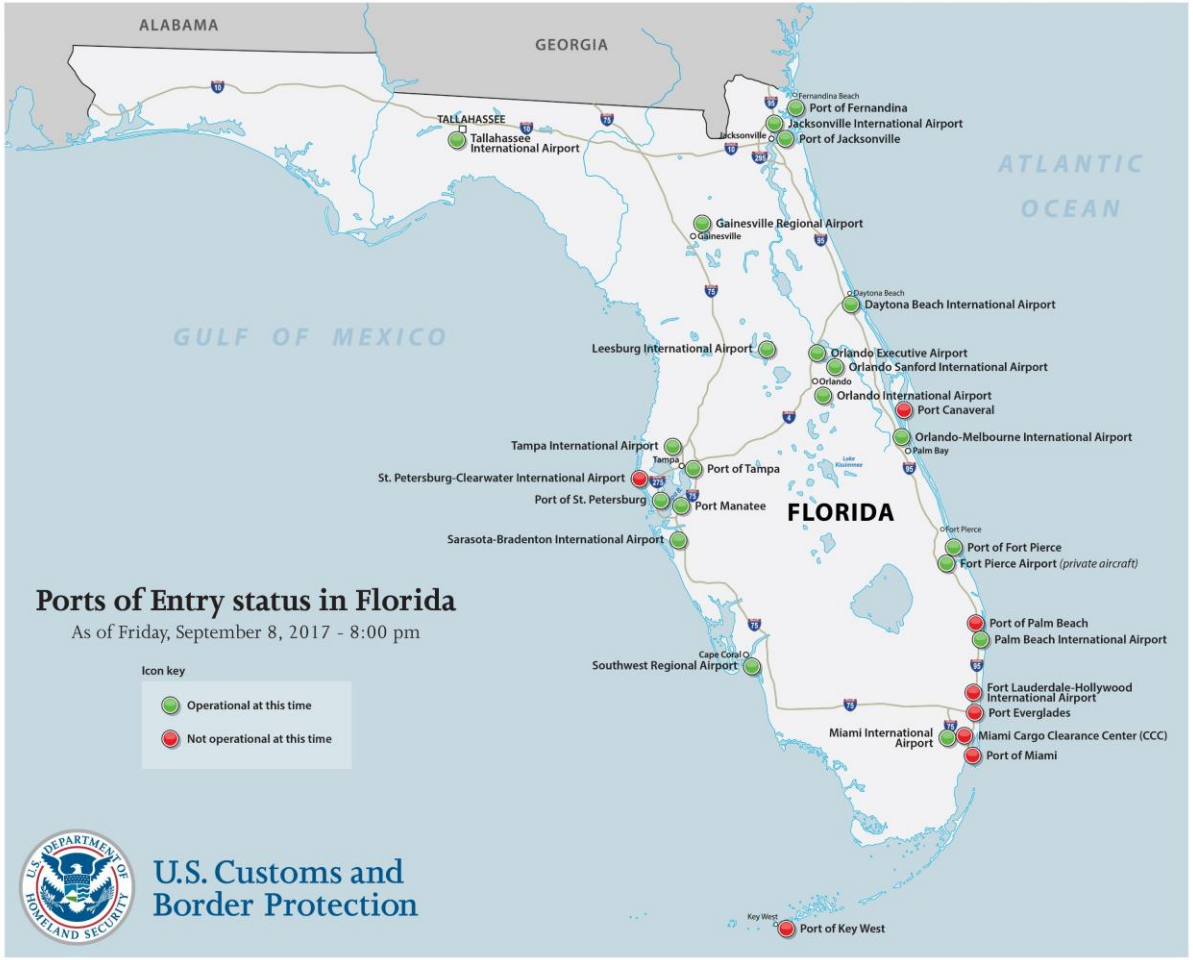


Source: FAF 5.6.1, Implan, Moody's, STB Waybill

Florida Ports Connectivity

Port and Rail Access

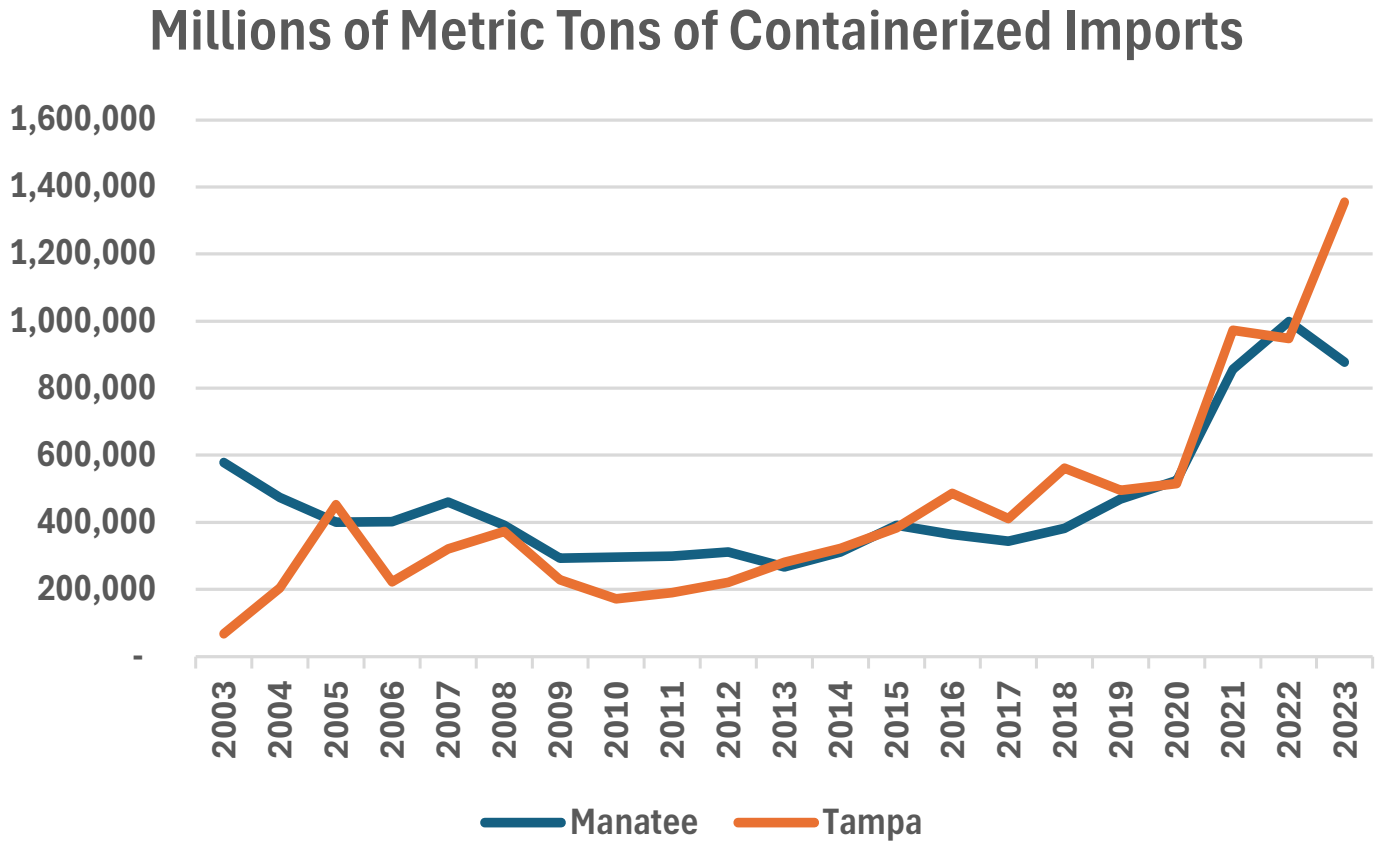
- The ports in Tampa Bay are well positioned for export growth upon completion of the Tampa Bay navigation channel.
- A rail yard or inland port in Wauchula has limited intermodal (international containerized cargo on rail) options via East Coast Florida ports due to the CSX Winter Haven inland port.
- Intermodal volumes between Wauchula and Tampa Bay ports would likely be low enough to require a subsidy to establish and maintain the rail service.
- There is potential for international bulk cargo between Wauchula and Port Manatee and Port Tampa Bay.
- Conversations with CSXT confirmed that an intermodal inland port near Wauchula would not be viable due to no intermodal volume currently on that route and sufficient capacity at the Winter Haven facility.



Florida Ports Connectivity

Tampa and Manatee Containerized Imports

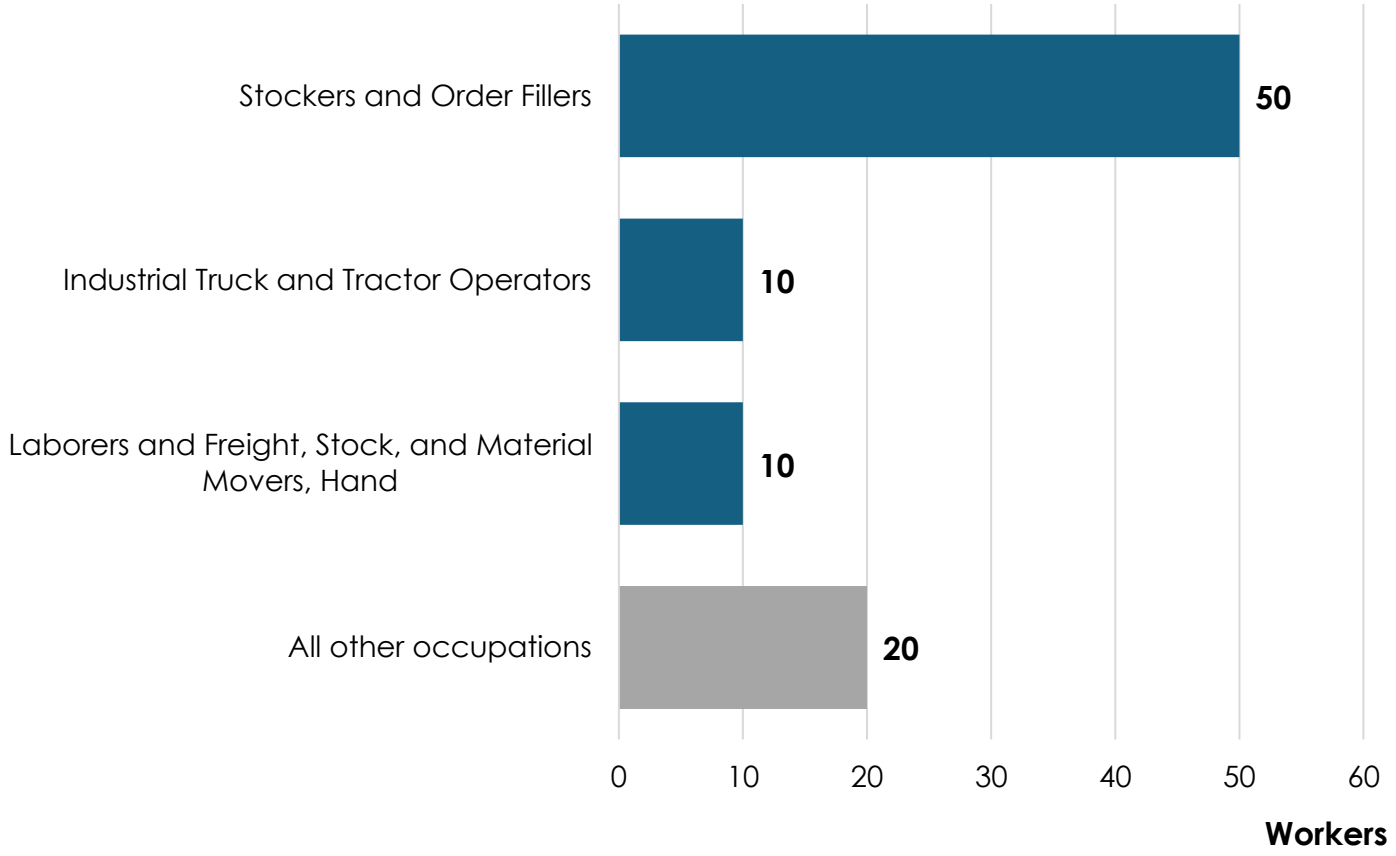
- Both Tampa and Manatee have seen significant growth in containerized imports
- Deepening of Tampa Bay navigation channel increases the viability of exports via the ports in Tampa and Manatee



Source: Census, TKGs

Labor Force Requirements

Scenario A: Warehousing Facility

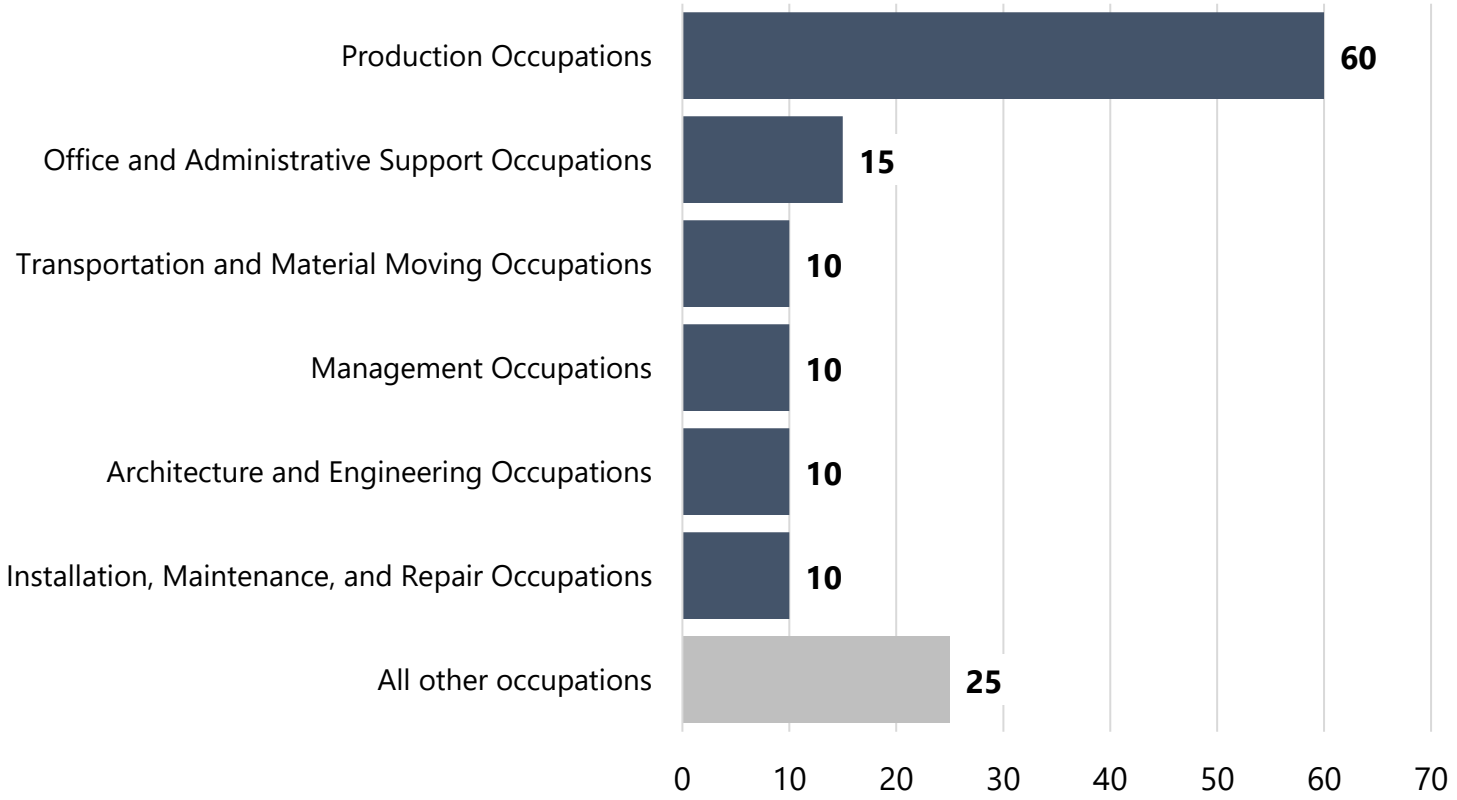


- 100 workers at site.
- Most common occupations would be "stockers and order filers," industrial truck and tractor movers," and laborers.
- Estimates based on the shares of occupations by industry for Florida.

Data source: U.S. Census Bureau, Quarterly Census of Employment and Wages, 2024, and NAICS-SOC Crosswalk, 2024.

Labor Force Requirements

Scenario B: Manufacturing Facility



- Based on average of the five most rail-reliant subsectors of manufacturing in Florida: chemicals, miscellaneous manufacturing, fabricated metal products transportation equipment, and food manufacturing.
- Assumes a facility with a workforce of 140 workers, based on CoStar data analysis.
- Production workers represent estimated 43% of workforce.

Data source: U.S. Census Bureau, Quarterly Census of Employment and Wages, 2024, and NAICS-SOC Crosswalk, 2024; CoStar, 2024.

Identifying Available Labor

Ways (non-mutually exclusive) of identifying who might be available to work at site

- Individuals without work but actively looking for work (i.e., #unemployed).
- Workers in similar industries who commute long distances (and who would likely prefer shorter commutes).
- Workers in the region earning significantly less than the average wage in "warehousing & storage" (NAICS 493) or manufacturing (NAICS 31-33).

Labor Supply

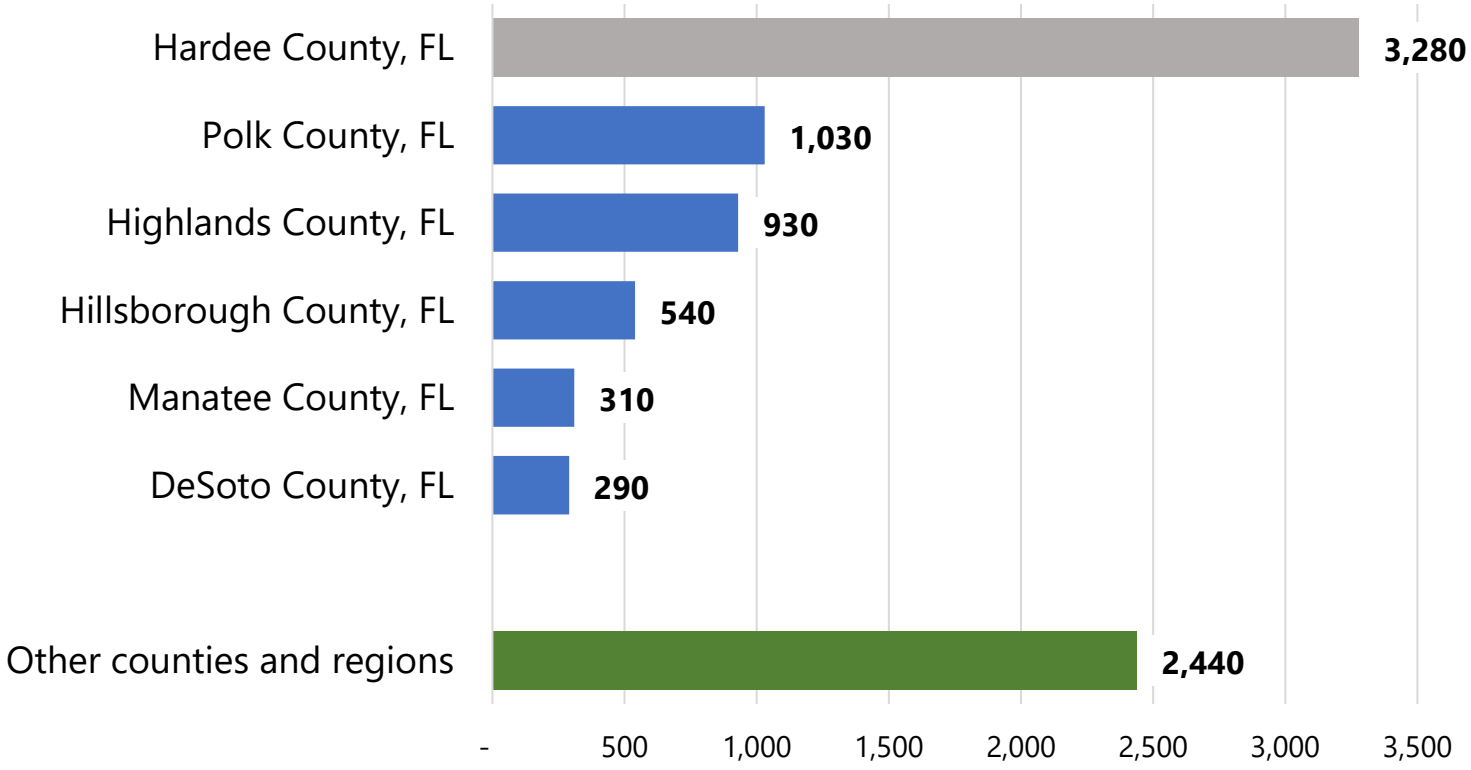
Potential workers within 30 miles AND less than 45-minute commute to Wauchula

City/Town	County	Civliian Population 16 years old and above, 2022	Production, Transportation, and Material Moving Occupations		Distance (miles) to Wauchula	Drive time to Wauchula
			Number of workers	*Median earnings*		
Bartow	Polk	9,750	1,250	$35,136	25.8	Between 27 and 37 minutes
Sebring	Highlands	3,730	500	$25,545	28.4	Between 34 and 44 minutes
Avon Park	Highlands	3,180	340	$34,150	19.5	Between 20 and 30 minutes
Arcadia	DeSoto	3,140	530	$28,320	24.1	Between 23 and 33 minutes
Southeast Arcadia	DeSoto	3,060	320	$47,130	24.7	Between 26 and 36 minutes
Fort Meade	Polk	1,640	270	$41,371	14.6	Between 12 and 22 minutes
Alturas	Polk	1,610	330	$41,012	29.7	Between 32 and 42 minutes
Wauchula	Hardee	1,590	330	$24,336	*	*
Frostproof	Polk	960	60	$61,250	29.6	Between 33 and 43 minutes
Bowling Green	Hardee	880	160	$45,043	6.4	Between 4 and 14 minutes
Zolfo Springs	Hardee	750	110	$57,102	4.1	Between 3 and 13 minutes
Bradley Junction	Polk	320	70	$41,250	25	Between 25 and 35 minutes
Lemon Grove	Hardee	310	40	*	8.3	Between 6 and 16 minutes
Ona	Hardee	240	40	$0	9.7	Between 8 and 18 minutes
Fort Green Springs	Hardee	210	90	$36,991	10.8	Between 8 and 18 minutes
Homeland	Polk	110	20	*	20.1	Between 19 and 29 minutes
Fort Green	Hardee	60	30	$46,375	12.1	Between 10 and 20 minutes
Gardner	Hardee	40	-	*	17.4	Between 15 and 25 minutes
Limestone	Hardee	10	-	*	18.6	Between 18 and 28 minutes

Data source: U.S. Census Bureau. "Occupation by Sex for the Civilian Employed Population 16 Years and Over." *American Community Survey, ACS 5-Year Estimates Subject Tables, Table S2401*, 2022; *Google Maps, 2024.*

Labor Supply: Commuting Patterns

Place of work among Hardee County-resident workers, 2021



- Only 37% of Hardee County-based workers work within the county.
- 12% of all Hardee-based workers work in Polk County, followed by Highlands.
- 3,100 workers live in Hardee County but work in adjacent counties.

Data source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD), 2024.

Labor Market

Demographics, Four-County Region

City/Town	County	22 to 29	30 to 39	40-49	50-59	Total
Bartow	Polk	2,510	2,953	2,580	1,838	9,881
Sebring	Highlands	1,031	1,220	1,402	1,071	4,724
Avon Park	Highlands	1,024	786	1,188	939	3,937
Arcadia	DeSoto	1,129	943	593	961	3,626
Southeast Arcadia	DeSoto	821	1,309	961	814	3,905
Fort Meade	Polk	399	591	540	512	2,042
Alturas	Polk	236	528	548	392	1,704
Wauchula	Hardee	453	596	775	322	2,146
Frostproof	Polk	161	351	159	350	1,021
Bowling Green	Hardee	399	197	292	209	1,097
Zolfo Springs	Hardee	198	234	220	198	850
Bradley Junction	Polk	75	88	87	93	343
Lemon Grove	Hardee	32	82	104	86	304
Ona	Hardee	31	70	88	32	221
Fort Green Springs	Hardee	17	181	25	12	235
Homeland	Polk	20	46	-	11	77
Fort Green	Hardee	-	-	6	48	54
Gardner	Hardee	15	-	39	24	78
Limestone	Hardee	-	-	-	4	4
Subotal		**8,551**	**10,175**	**9,607**	**7,916**	**36,249**

- A total of 36,249 residents living within 30 miles and 45 minutes drive of Wauchula in 2022 were between the ages of 22 and 59.
- And 10,175 between the ages of 30 and 39.

Data source: U.S. Census Bureau. "Sex by Age." American Community Survey, ACS 5-Year Estimates Detailed Tables, Table B01001, 2022.

Labor Market for Requirements

Workers either unemployed or potentially available to switch employment

County	Unemployed Workers	Potentially available workers Earning less than 80% regional wage for industrial work*	Total
DeSoto County, Florida	530	5,900	6,430
Highlands County, Florida	1,760	12,200	13,960
Polk County, Florida	13,930	116,000	129,930
Hardee County, Florida	420	3,600	4,020
Total	**16,640**	**137,700**	**154,340**

Data sources: U.S. Bureau of Labor Statistics, Current Population Statistics, 2024, and Quarterly Census of Employment and Wages, 2024; U.S. Census Bureau, American Community Survey 5-Year Estimates, 2023.

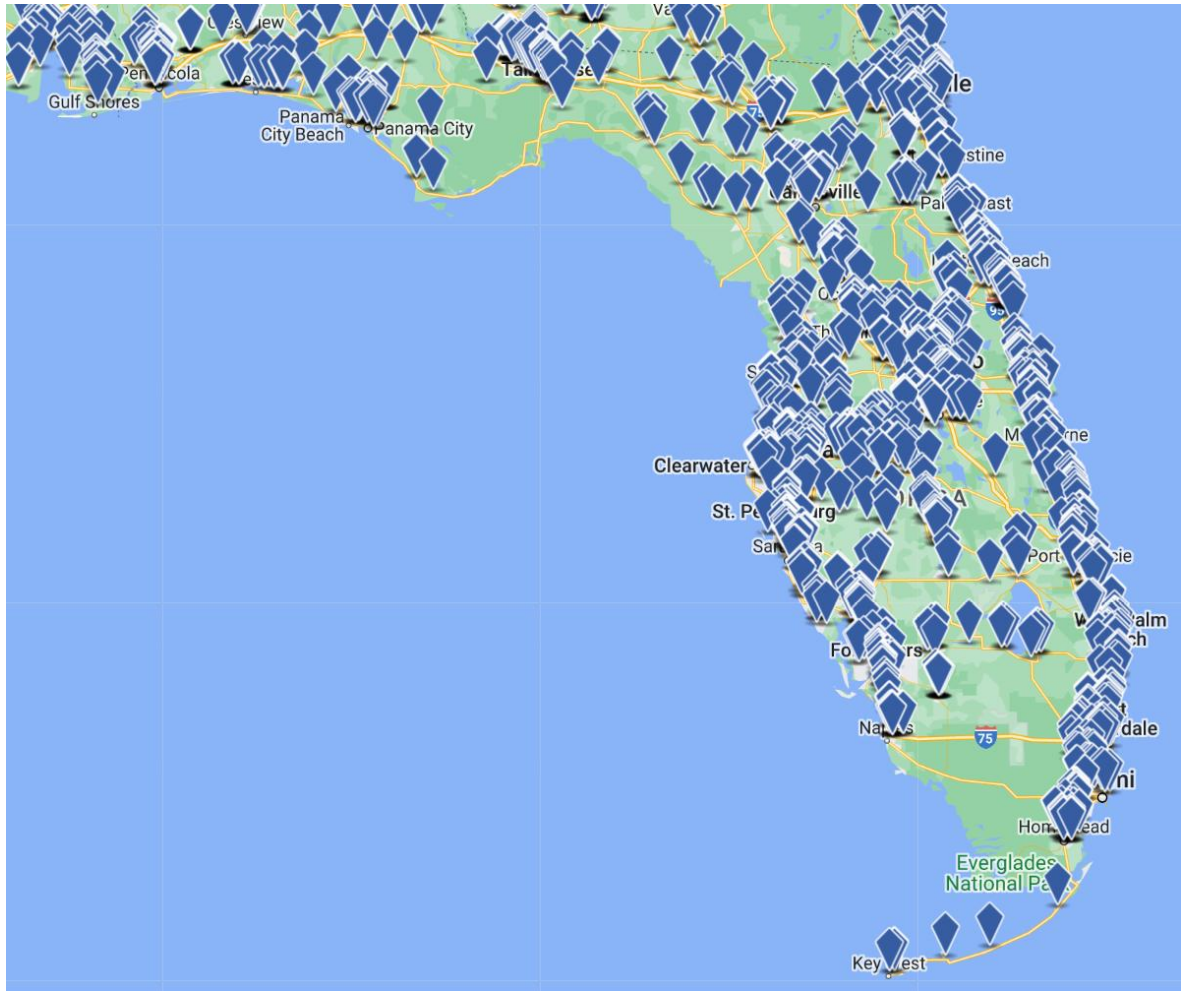
**Including transportation, warehousing, and manufacturing activities. The average wage statewide in these sectors in 2023 was $47,196 before fringe benefits.*

- An estimated 154,340 workers across the four-county region are either unemployed or work in positions earning less than 80% the average wage for industrial work.

Industrial Real Estate

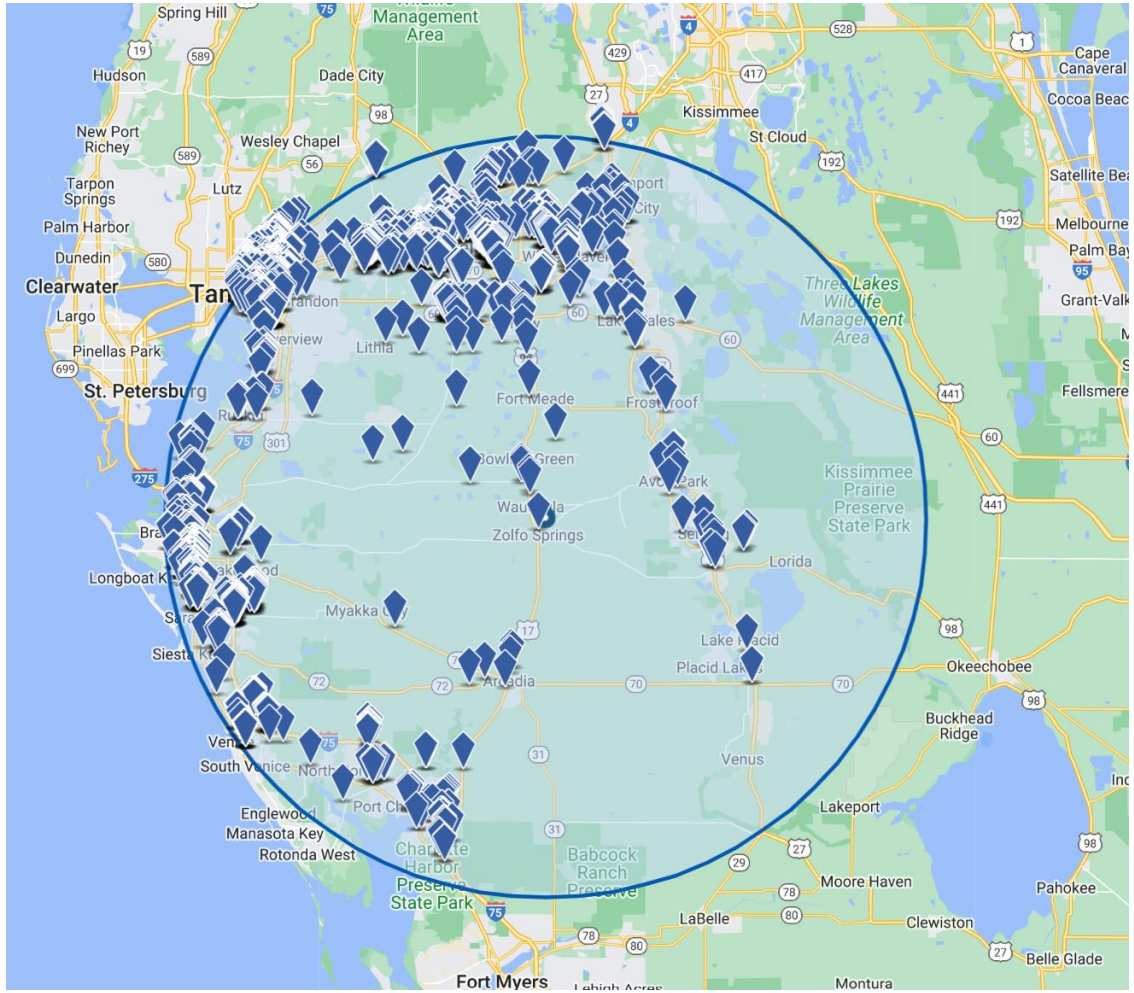
Wauchula Ports and Industrial Real Estate Trends

- Map shown here is for industrial real estate (manufacturing and distribution) buildings over 100,000 square feet.
- Wauchula is sparsely occupied by industrial occupiers/tenants.



Industrial Real Estate

50 Mile Radius Around Wauchula Industrial Real Estate > 10,000 SF

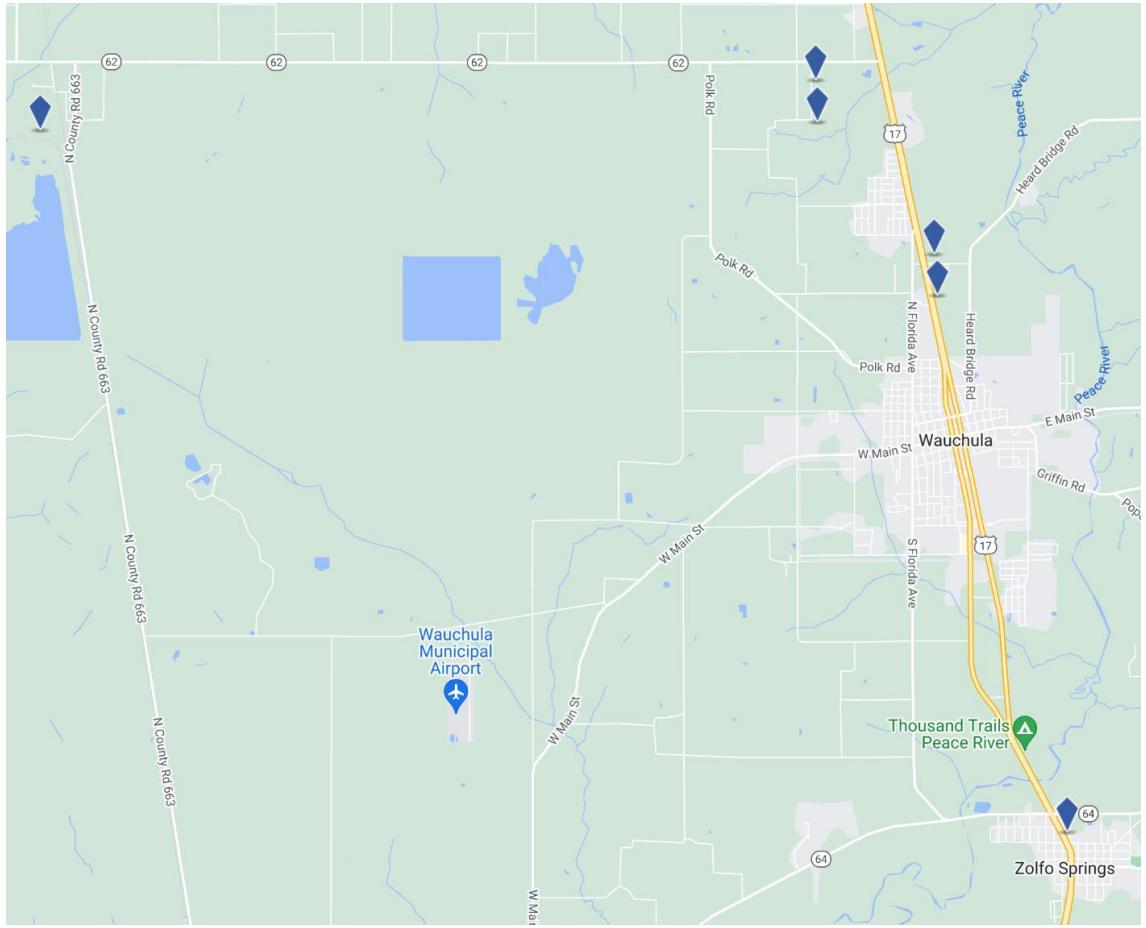


- There are 2,218 tenant locations on 1,840 properties.
- Properties are of 10,000 square feet or larger, including warehouses, distribution centers, and light manufacturers.

Source: Census, TKG

Industrial Real Estate

Wauchula Area Industrial Real Estate > 10,000 SF



US Containers
1510 US Highway 17 N
Wauchula, FL 33873 USA
★★★☆☆
44,700 SF · Industrial · Floor 1
Leased · Moved Oct 2019

Hardee Fresh LLC
1340 US Highway 17 N
Wauchula, FL 33873 USA
★★★☆☆
35,000 SF · Industrial · Floor 1
Owned · Moved Nov 2018

Cesaroni Aerospace
2280 Commerce Ct, Suite 104 & 103
Bowling Green, FL 33834 USA
★★★☆☆
20,677 SF · Industrial · Floor 1
Leased · Moved Mar 2020

The Mosaic Company
2555 Mine View Rd
Bowling Green, FL 33834 USA
★★☆☆☆
19,662 SF · Industrial · Floor 1
Owned · Moved Sep 2014

National Pump Company
195 E 3rd St
Zolfo Springs, FL 33890 USA
★★★☆☆
16,729 SF · Industrial · Floor 1
Leased · Moved Apr 2012

Howard Fertilizer & Chemical Compan...
2482 Commerce Ct
Bowling Green, FL 33834 USA
★★★☆☆
10,663 SF · Industrial · Floor 1
Leased · Moved Aug 2017

Notable occupiers

- The largest facility is US Containers.
- Howard Fertilizer & Chemical Company.
- Cessaroni Aerospace.

Source: Census, TKG

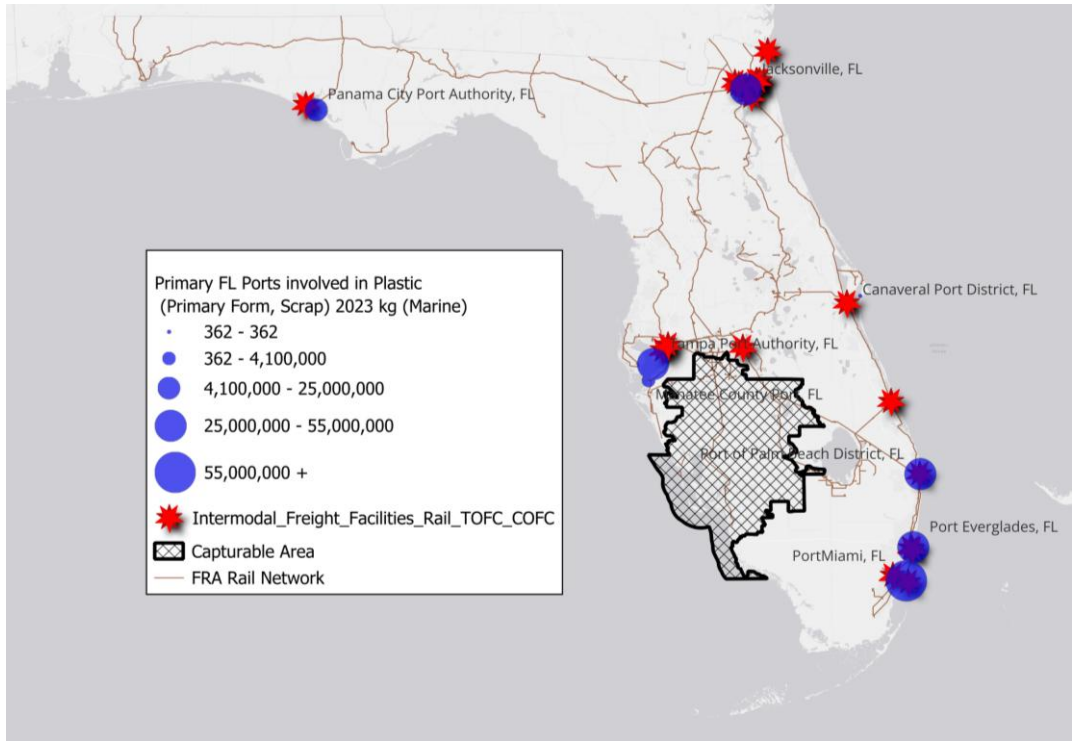
Wauchula Rail-served Industrial Park

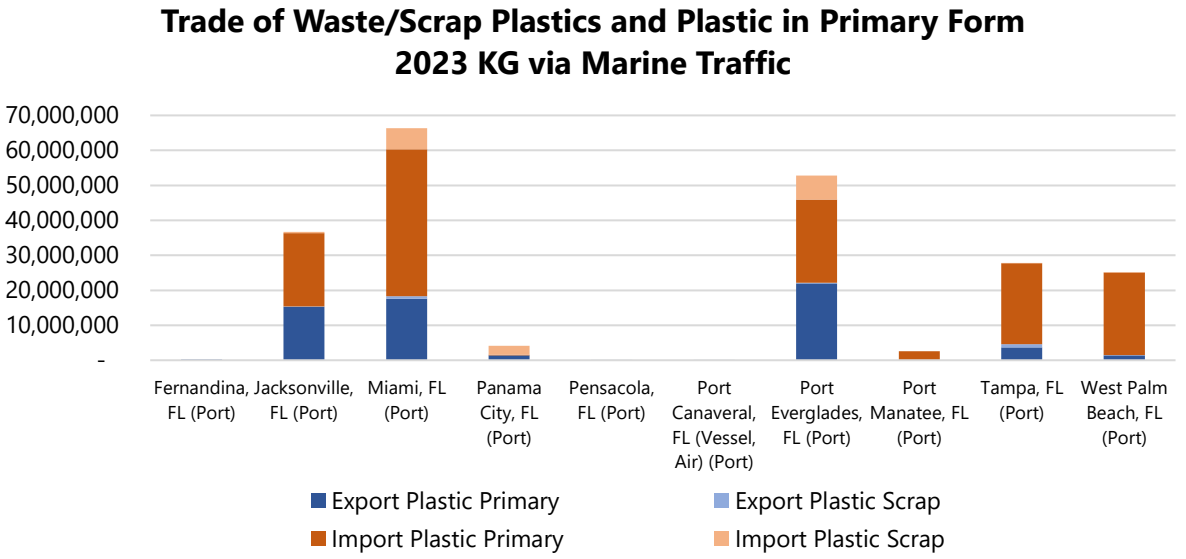
Potential Occupiers

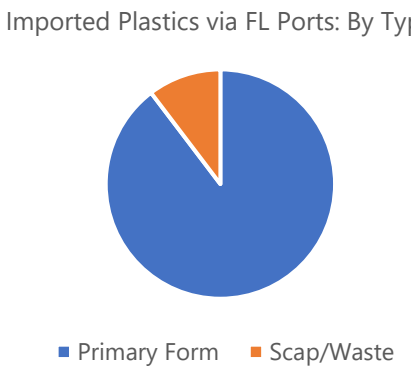
Potential Occupant	Commodity/Service	Activity	Background and Rationale	Market Potential
Recycling companies	• Plastics: Pure Cycle Technology. • Paper/Cardboard. • Other categories (listed in appendix).	Collecting primary recyclable materials for preparation for efficient transportation	Reduction in weight from removal of excess waste material is essential for recycling operations.	Recycled materials have a lower production cost of goods and a lower environmental footprint.
Manufacturers	• Food producers and distributors. • Agricultural and construction equipment components.	• Juice production, using raw materials imported from Central America/Mexico. • Repackaging fresh produce from Central America/Mexico. • Maintenance and repair/ assembly/disassembly of farm and construction equipment for further shipment.	• Most oranges nowadays are imported from Mexico after blight in Florida. • Modern agricultural and construction equipment have major big data and automation features, requiring extensive work in the U.S.	• Produce and food products can be distributed to the Southeast U.S. • Farm and construction equipment from international and domestic sources and returned to those locations. • High tech farming and construction equipment.
Services	• Local and interstate truck fleet management. • Space industry.	• Truck depot, e.g., chassis, bobtail trucks; clean and maintain equipment. • Disassembly/re-assembly of rockets; preparing reusable rockets for next mission.	• Lots of existing services but spread out. • Industry shift to reusable rockets.	• Growing southwest FL population served by truck. • Demand for maintenance and laydown space for reusable rockets.

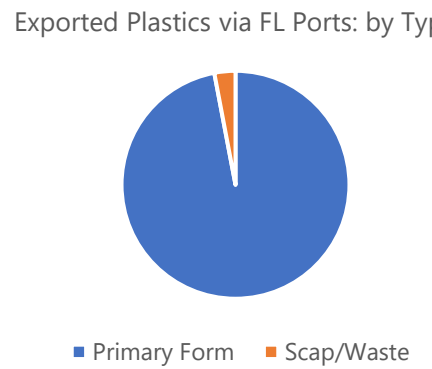
Potential Demand

Example: Plastics







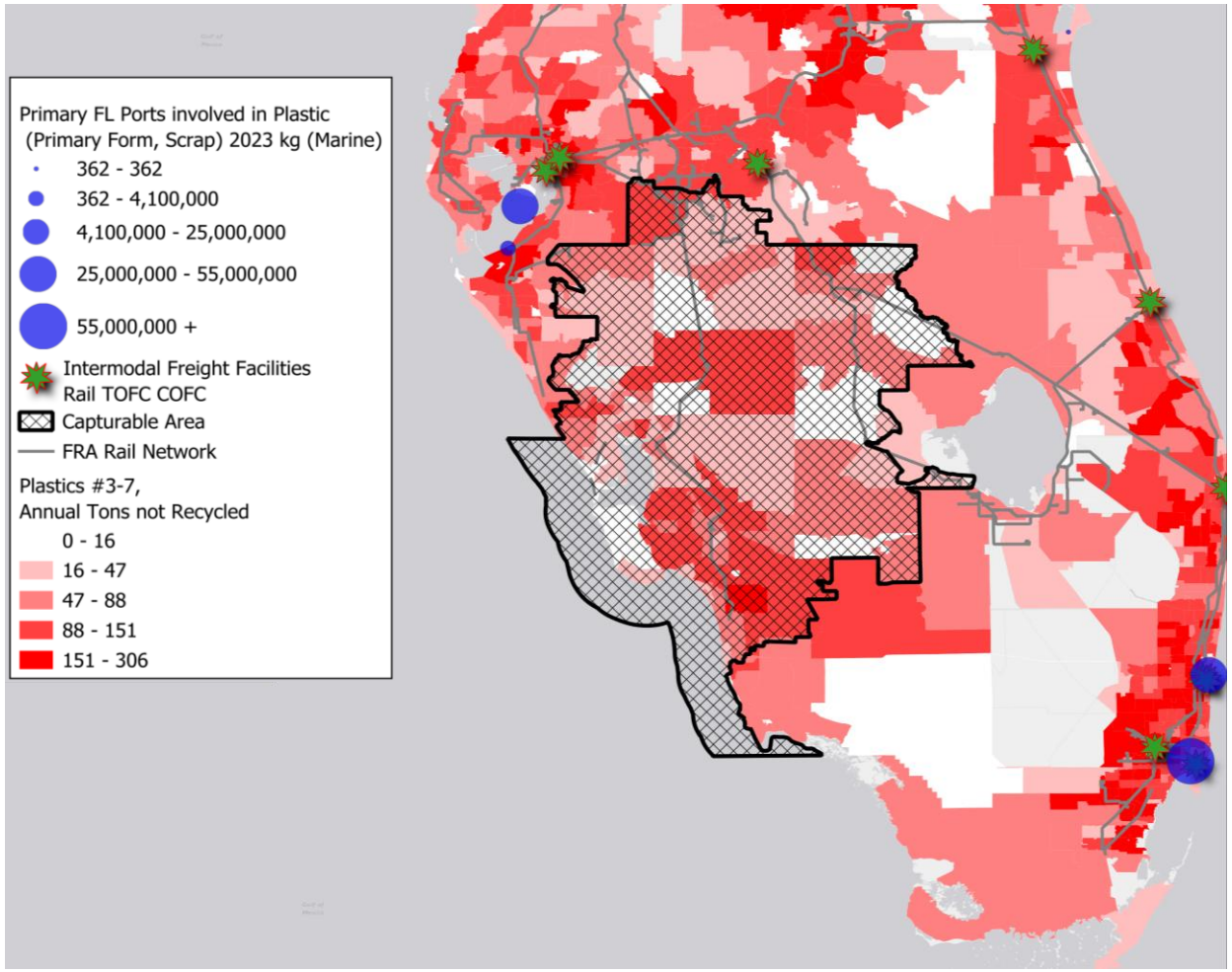


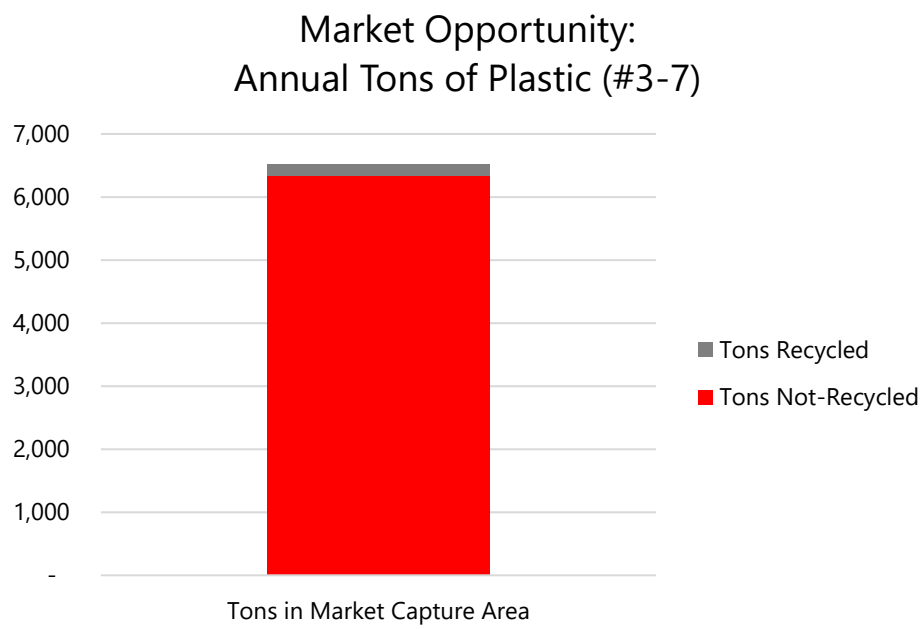
Examples of plastic recycling companies: PureCycle Technology (Orlando headquarters), ExxonMobil, Greenpath Recovery.

Data Source: USATrade Online, EPA

Potential Demand

Example: Plastics, Local Recyclable Market





Appendix

Recyclable Materials

Twelve major categories of recyclable of materials:

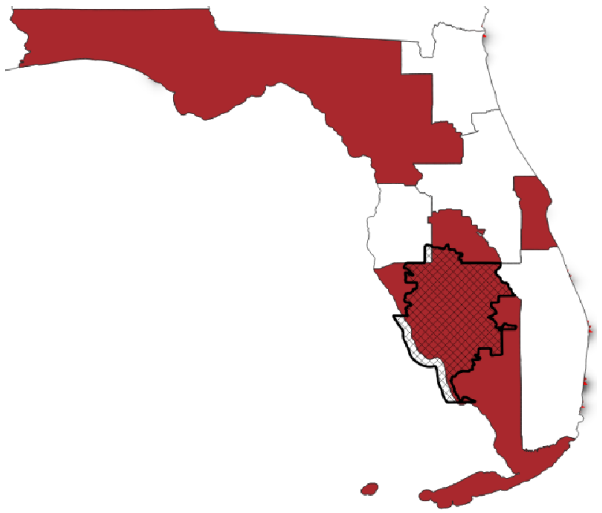
1. Reusable goods, including intact or repairable home or industrial appliances; household goods; clothing; intact materials in demolition debris, such as lumber; building materials such as doors, windows, cabinets, and sinks; business supplies and equipment; lighting fixtures; and any manufactured item or naturally occurring object that can be repaired or used again as is.
2. Paper, including newsprint; ledger paper; computer paper; corrugated cardboard; and mixed paper.
3. Metals, both ferrous and nonferrous, including cans; parts from abandoned vehicles; plumbing; fences; metal doors and screens; tools; machinery; and any other discarded metal objects.
4. Glass, including glass containers and window glass.
5. Textiles, including nonreusable clothing; upholstery; and pieces of fabric.
6. Plastics, including beverage containers; plastic packaging; plastic cases of consumer goods such as telephones or electronic equipment; films and tires
7. Plant debris, including leaves and cuttings; trimmings from trees, shrubs, and grass; whole plants, and sawdust.
8. Putrescibles, including animal, fruit, and vegetable debris; cooked food; manures; offal; and sewage sludge.
9. Wood, including un-reusable lumber; tree rounds; and pallets.
10. Ceramics, including rock; tile; china; brick; concrete; plaster; and asphalt.
11. Soils, including excavation soils from barren or developed land; and excess soils from people's yards.
12. Chemicals, including acids; bases; solvents; fuels; lubricating oils; and medicines.

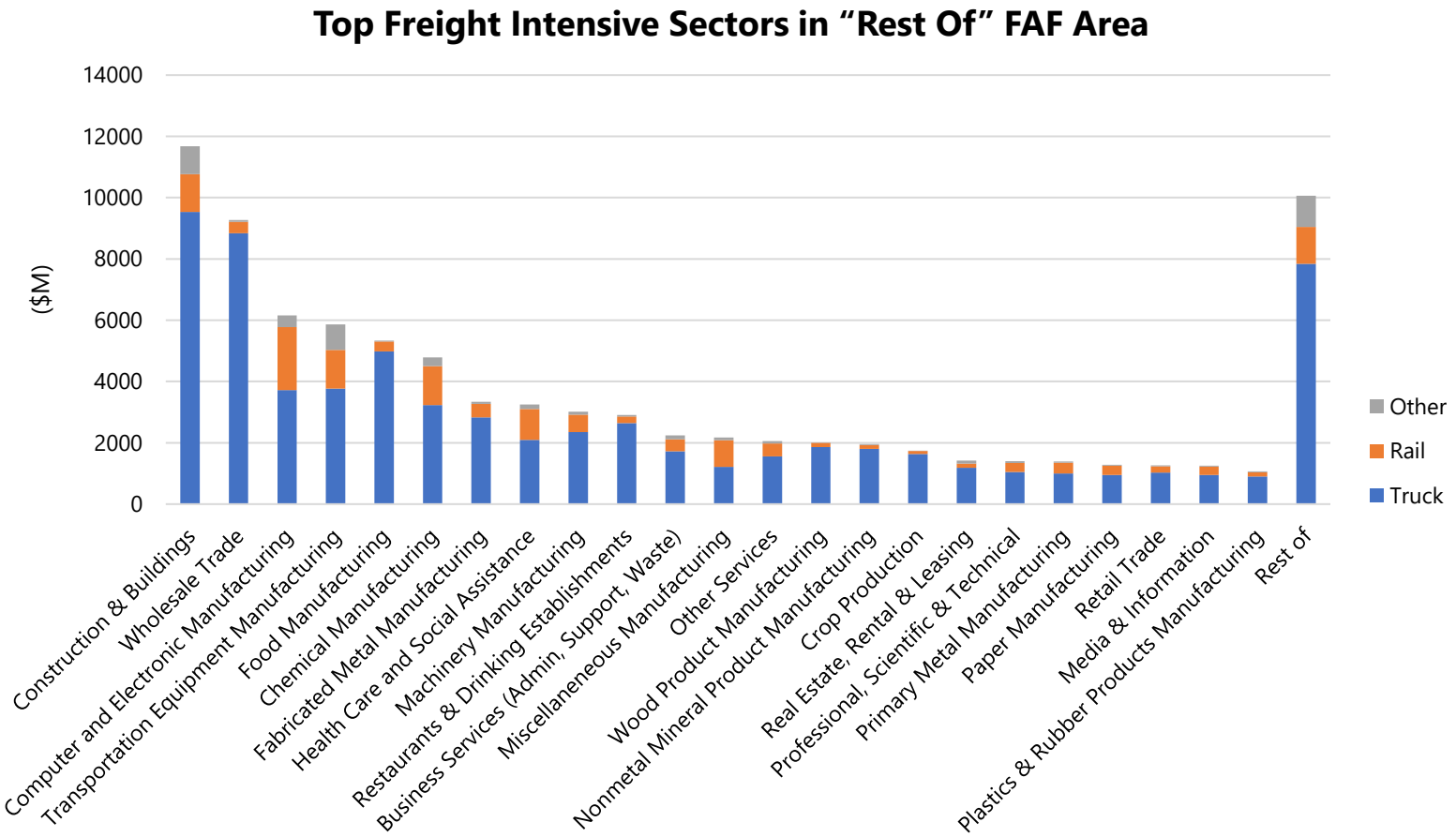
Source: 12 Master Categories of Recyclable Materials

Breakdown of Modal Reliance in Region

Rest of Florida

- Use the modal behavior of FAF zone encompassing catchment area to understand mode utilization (below image).
- Identify what economic activity to work from.
- Focus on kinds of industry which is served via rail.





Source: FAF 5.6.1, Implan, Moody's, STB Waybill

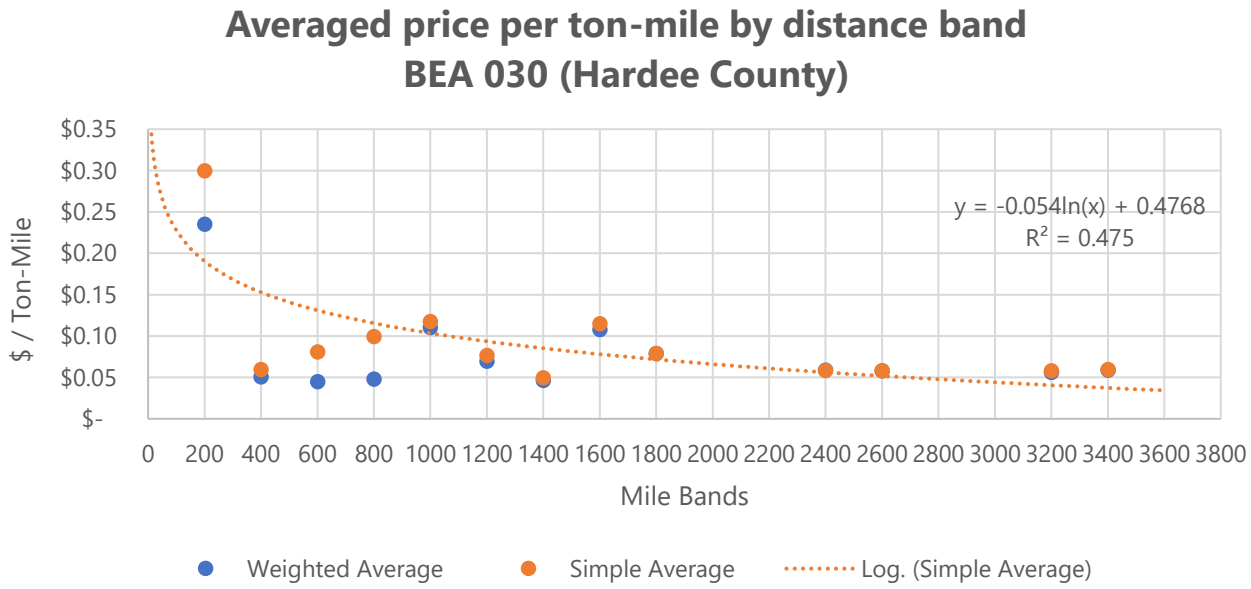
Rail Service

- CSX provides regular service to Mosaic. It would be helpful to know:
  - The capacity of existing train service to handle more railcars per day that currently serve Mosaic
  - The schedule or consistency of that service
  - The cost to move a rail car (loaded or unloaded) between Wauchula and Tampa Bay ports
- How can CSX's offering or potential offering be marketed by the promoters of the Wauchula Inland Port?

Rail Rates Used

- Rates by distance estimated from Surface Transportation Board waybill sample data

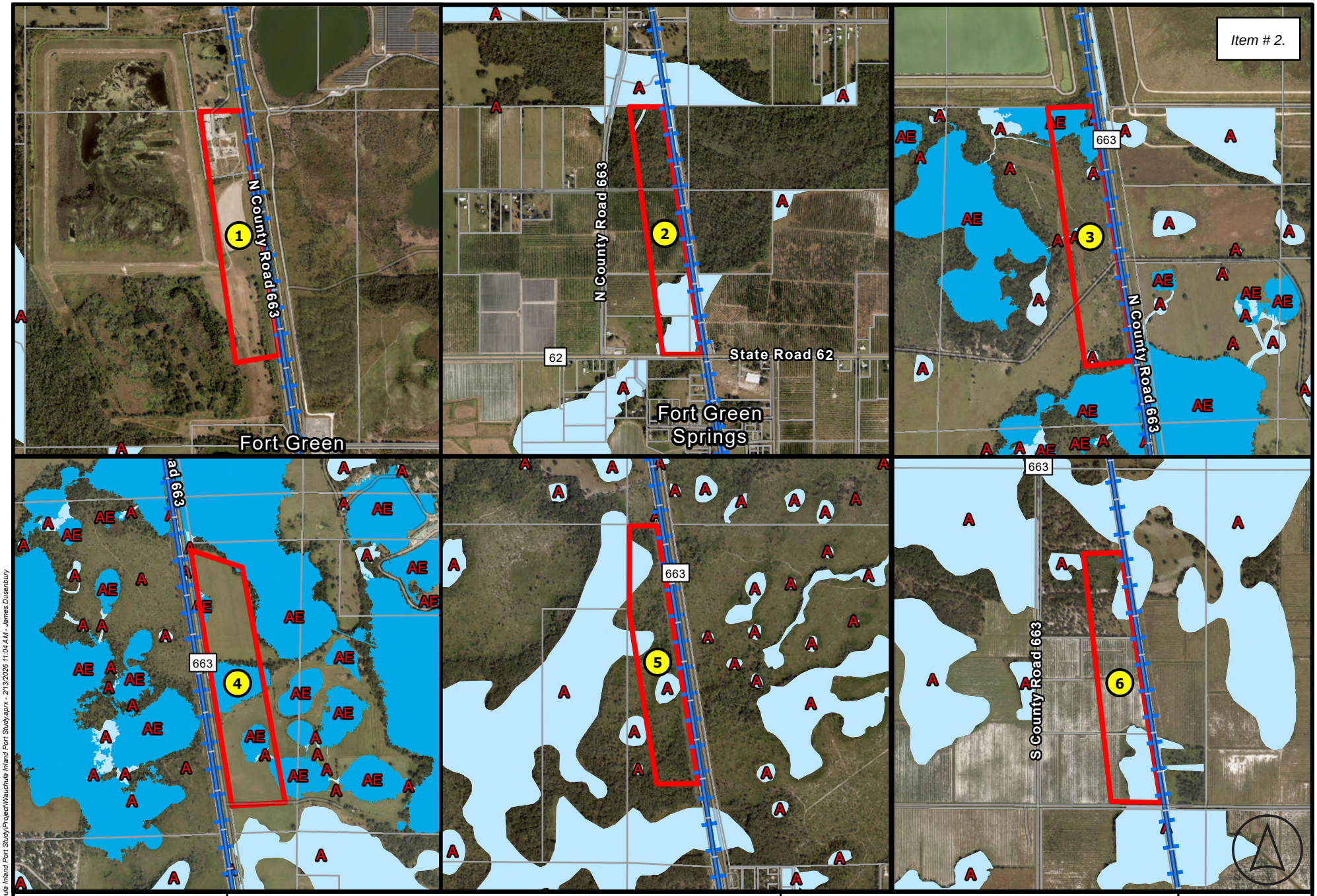
Miles	Tons	Revenue	Weighted Average	Simple Average
0				
200	15,935	$ 3,741	$ 0.23	$ 0.30
400	6,749,262	$ 341,638	$ 0.05	$ 0.06
600	3,553,511	$ 159,336	$ 0.04	$ 0.08
800	2,265,450	$ 107,886	$ 0.05	$ 0.10
1000	403,890	$ 44,410	$ 0.11	$ 0.12
1200	401,020	$ 27,902	$ 0.07	$ 0.08
1400	1,667,505	$ 76,938	$ 0.05	$ 0.05
1600	22,250	$ 2,395	$ 0.11	$ 0.11
1800	410	$ 32	$ 0.08	$ 0.08



Data source: Surface Transportation Board Waybill Samples

Appendix C.

Due Dligence Figures



Legend

- CSX Rail Network Lines
- Hardee County Boundary
- Intermodal Site Alternatives
- FEMAFloodZone
  - A,
  - AE,
  - FLOODWAY
- FEMA LOMC's

FEMA - Intermodal

Wauchula Inland Port

February 2026

Figure C-1a

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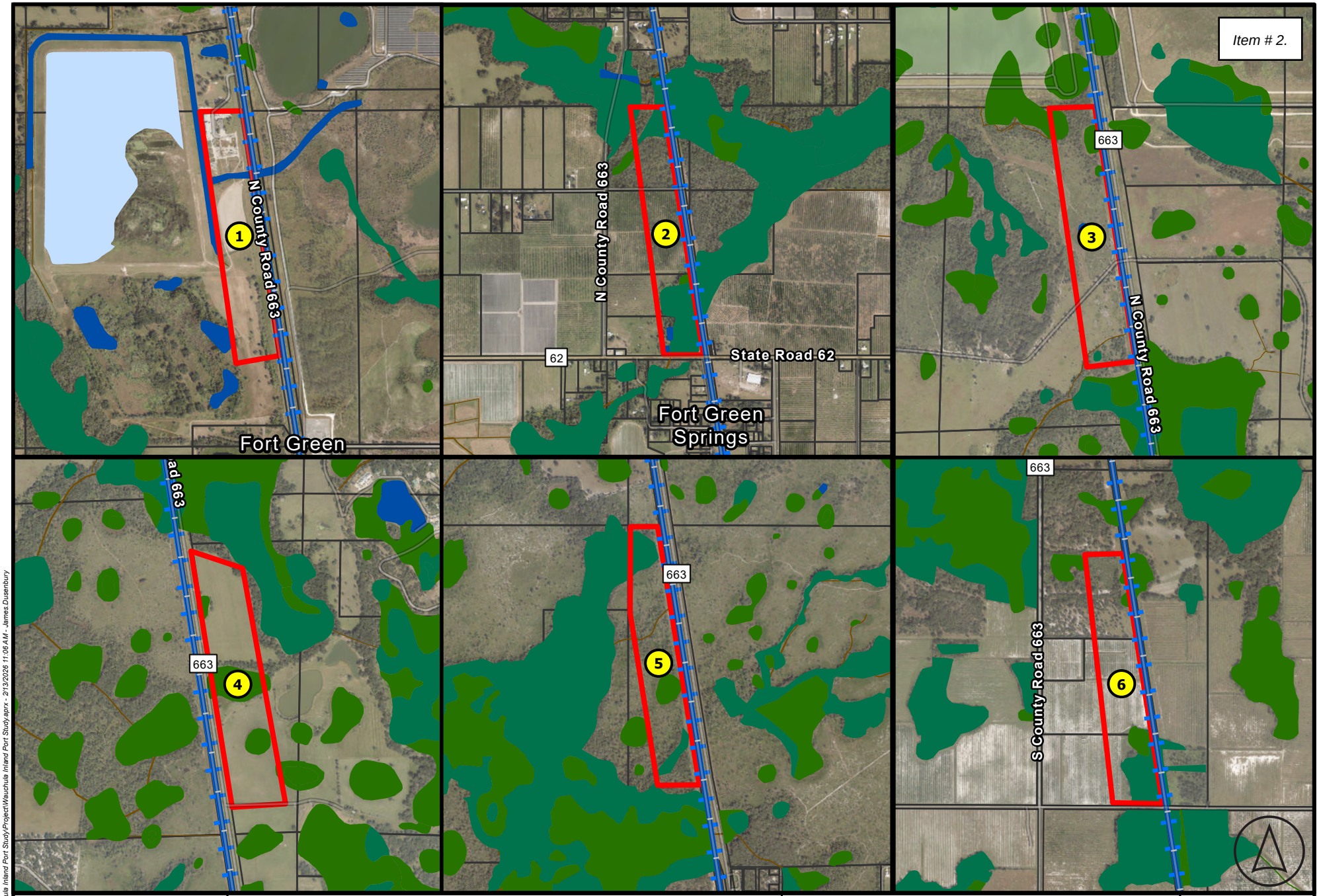

Legend

- CSX Rail Network Lines
- Intermodal Site Alternatives
- Hardee County Boundary

Wetland Type

- Freshwater Emergent Wetland
- Freshwater Forested/ Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

Wetlands - Intermodal

Wauchula Inland Port

February 2026

Figure C-1b

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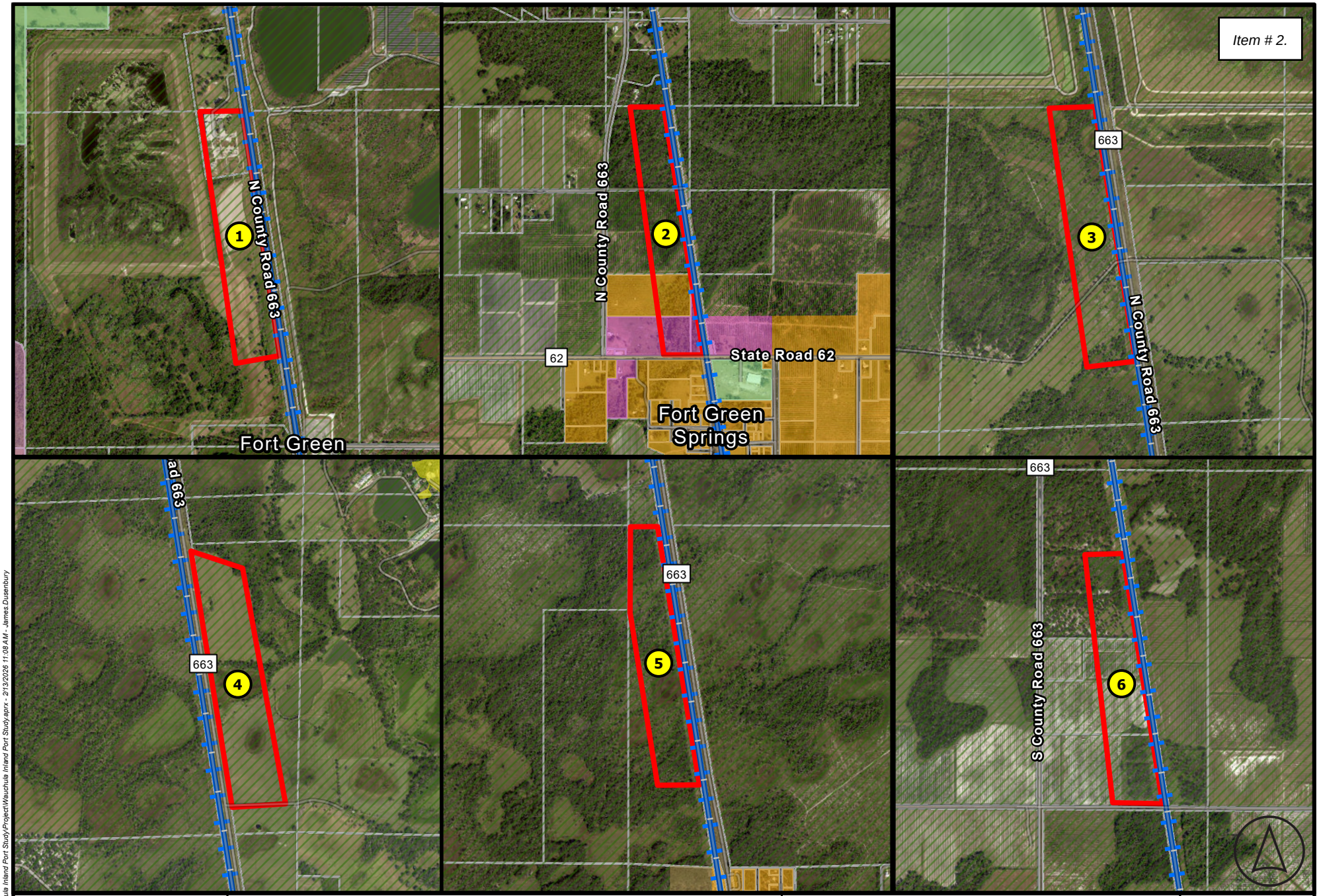

Legend

- CSX Rail Network Lines
- Intermodal Site Alternatives
- A-1
- C-1
- C-2
- C/IBC
- F-R
- I-1
- I-2
- P-I
- P-R
- PUD
- R-1
- R-2
- R-3

Zoning - Intermodal

Wauchula Inland Port

February 2026

Figure C-1c

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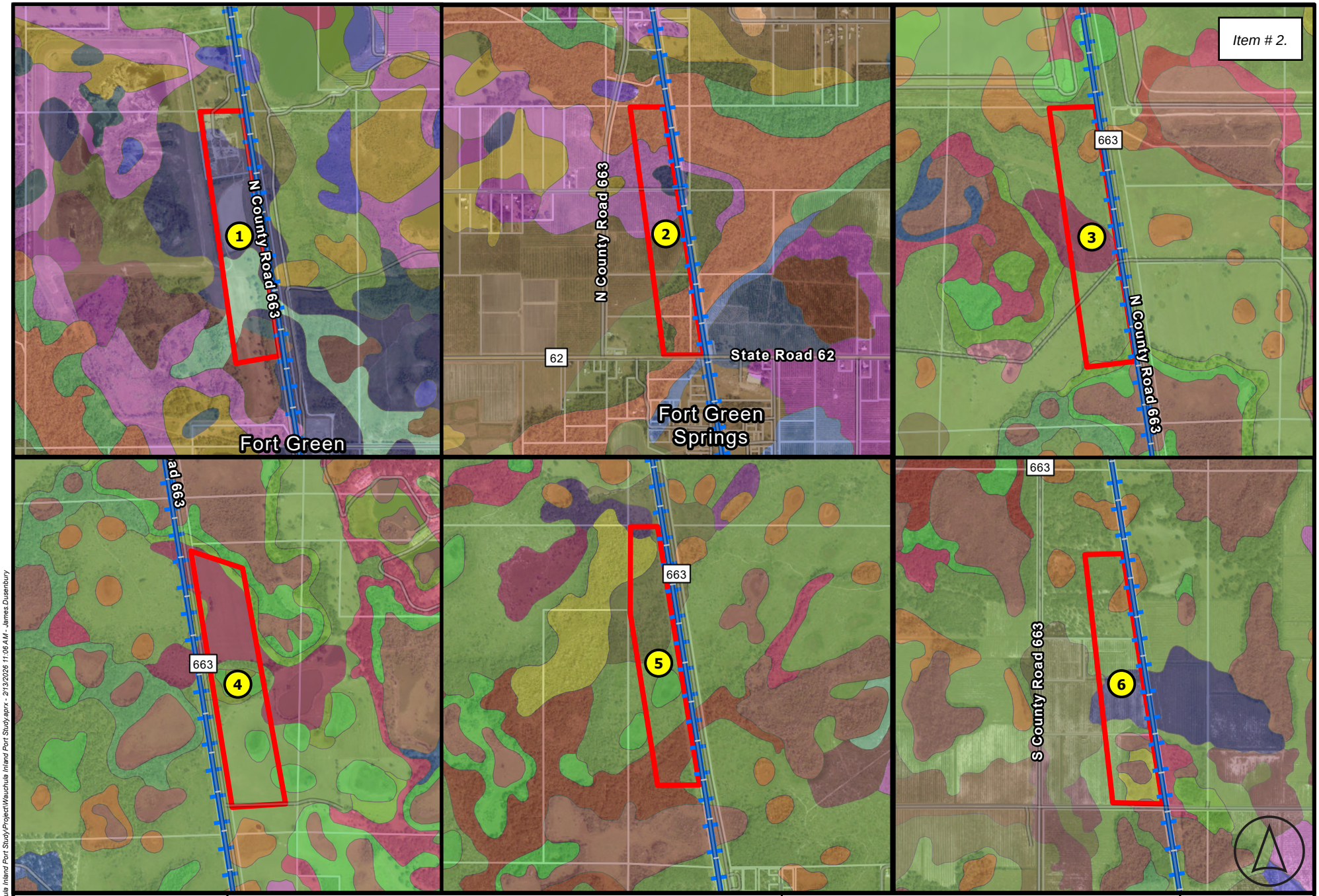

Legend

- CSX Rail Network Lines
- Hardee County Boundary
- Hardee County Parcels
- Intermodal Site Alternatives

Soils - Intermodal

Wauchula Inland Port

February 2026

Figure C-1d

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Legend

- ADAMSVILLE FINE SAND
- ANCLOTE MUCKY FINE SAND/DEPRESSIONAL
- APOPKA FINE SAND/0 TO 5 PERCENT SLOPES
- BASINGER FINE SAND
- BASINGER FINE SAND/ DEPRESSIONAL
- BASINGER MUCKY FINE SAND/DEPRESSIONAL
- BASINGER/HOLOPAW/ AND SAMSULA SOILS/ DEPRESSIONAL
- BRADENTON FINE SAND
- BRADENTON LOAMY FINE SAND
- BRADENTON LOAMY FINE SAND/ FREQUENTLY FLOODED
- BRADENTON-FELDA-CHOBEE ASSOCIATION/ FREQUENTLY FLOODED
- BRADENTON-FELDA-CHOBEE COMPLEX/ FREQUENTLY FLOODED
- BRADENTON-FELDA-CHOBEE COMPLEX/ OCCASIONALLY FLOODED
- CANDLER FINE SAND/1 TO 5 PERCENT SLOPES
- CANOVA/ANCLOTE/AND OKEELANTA SOILS
- CASSIA FINE SAND
- DELRAY MUCKY FINE SAND/DEPRESSIONAL
- DELRAY-POMONA COMPLEX
- DUETTE FINE SAND/0 TO 5 PERCENT SLOPES
- EAUGALLIE FINE SAND
- ELECTRA SAND
- FARMTON FINE SAND
- FELDA FINE SAND
- FELDA FINE SAND/ DEPRESSIONAL
- FELDA FINE SAND/ FREQUENTLY FLOODED
- FELDA-PALMETTO COMPLEX
- FELDA-WABASSO ASSOCIATION/ FREQUENTLY FLOODED
- FLORIDANA MUCKY FINE SAND/ DEPRESSIONAL
- FLORIDANA-IMMOKALEE-OKEELANTA ASSOCIATION/ DEPRESSIONAL
- FT. GREEN FINE SAND/ 2 TO 5 PERCENT SLOPES
- HOLOPAW FINE SAND
- HONTOON MUCK
- IMMOKALEE FINE SAND
- JONATHAN SAND
- KALIGA MUCK
- KALIGA MUCK/ DEPRESSIONAL
- MANATEE MUCKY FINE SAND/DEPRESSIONAL
- MYAKKA FINE SAND
- MYAKKA FINE SAND/0 TO 2 PERCENT SLOPES
- ONA FINE SAND
- ONA FINE SAND/ ORTSTEIN SUBSTRATUM
- PALMETTO SAND
- PITS
- PLACID AND MYAKKA FINE SANDS/ DEPRESSIONAL
- PLACID FINE SAND/ DEPRESSIONAL
- POMELLO FINE SAND
- POMELLO FINE SAND/0 TO 2 PERCENT SLOPES
- POMONA FINE SAND
- POMPANO FINE SAND/ FREQUENTLY FLOODED
- POPASH MUCKY FINE SAND/DEPRESSIONAL
- SAMSULA MUCK
- SATELLITE FINE SAND
- SMYRNA AND MYAKKA FINE SANDS
- SMYRNA FINE SAND
- SMYRNA SAND
- SPARR FINE SAND
- SPARR SAND/0 TO 5 PERCENT SLOPES
- ST. LUCIE FINE SAND
- TAVARES FINE SAND/0 TO 5 PERCENT SLOPES
- WABASSO FINE SAND
- WATER
- WAUCHULA FINE SAND/ 0 TO 2 PERCENT SLOPES
- WAUCHULA FINE SAND/ O TO 2 PERCENT SLOPES
- WAVELAND FINE SAND
- ZOLFO FINE SAND

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Soils Legend

Wauchula Inland Port

February 2026

Figure C-1e

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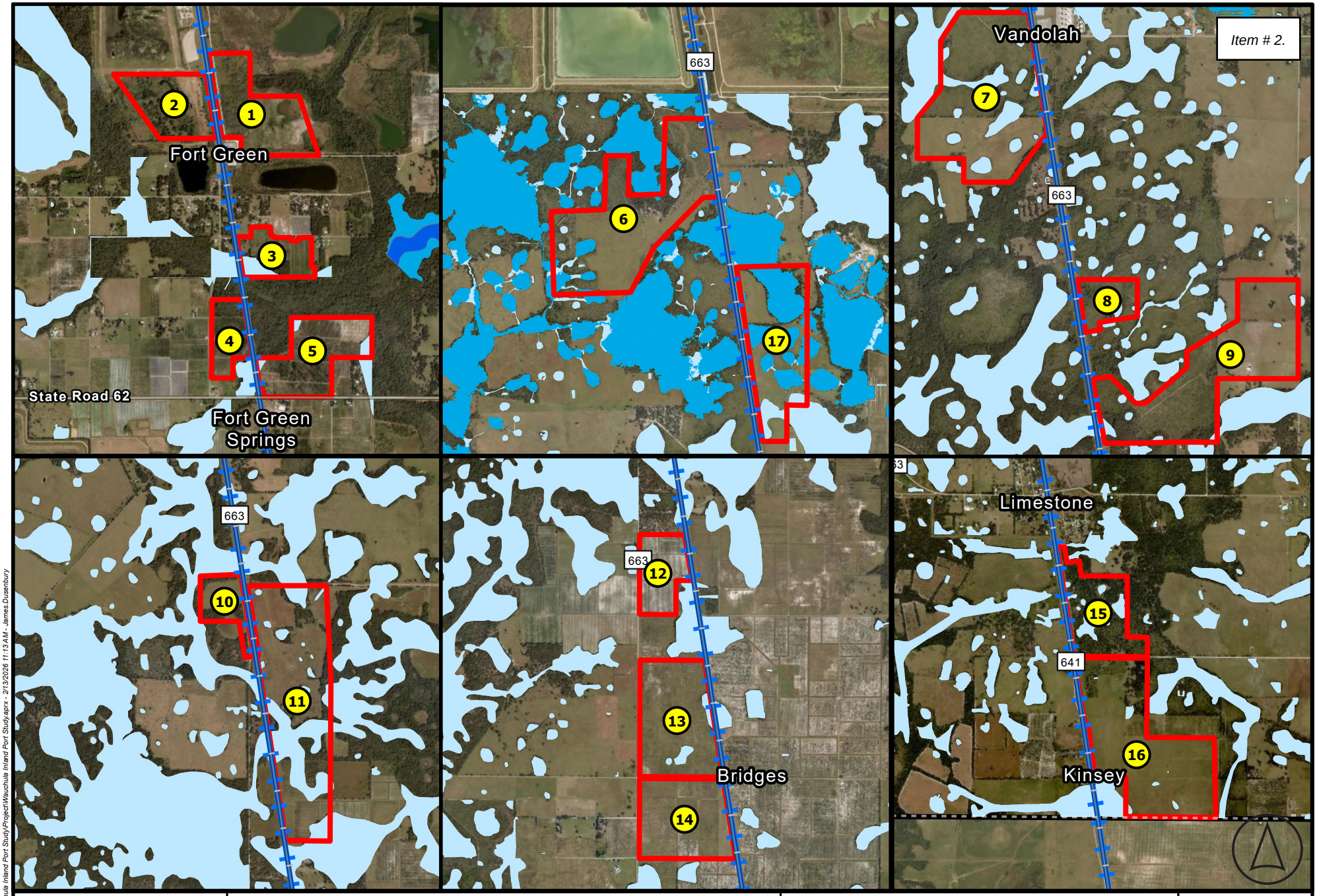

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Legend

- CSX Rail Network Lines
- Rail Centric Site Alternatives
- Hardee County Boundary
- FEMAFloodZone
- A,
- AE,
- FLOODWAY
- FEMA LOMC's

FEMA - Rail Centric

Wauchula Inland Port

February 2026

Figure C-2a

0 0.2 0

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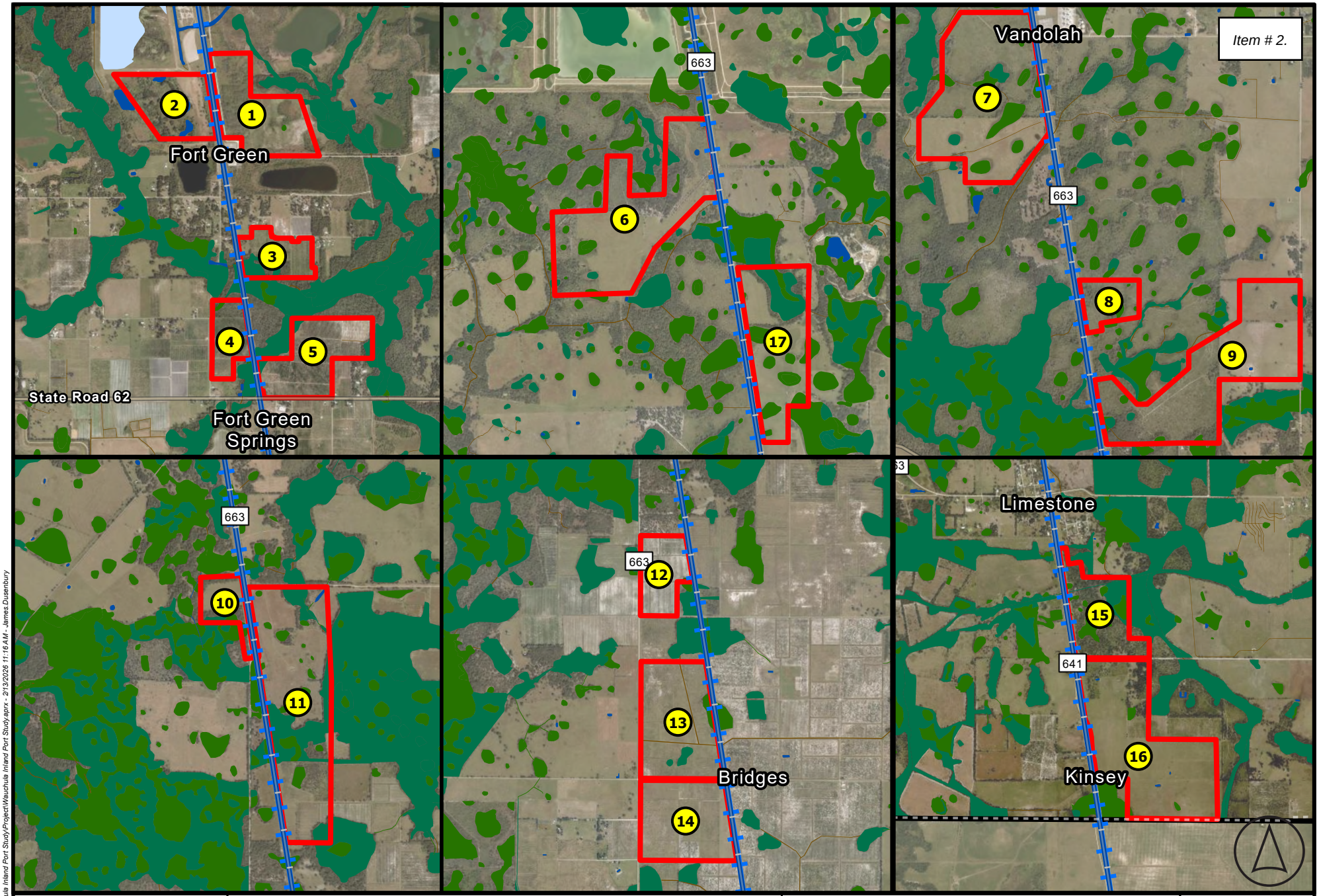

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Legend

- CSX Rail Network Lines
- Hardee County Boundary
- Rail Centric Site Alternatives

Wetland Type

- Freshwater Emergent Wetland
- Freshwater Forested/ Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

Wetlands - Rail Centric

Wauchula Inland Port

February 2026

Figure C-2b

0 0.2 0 180

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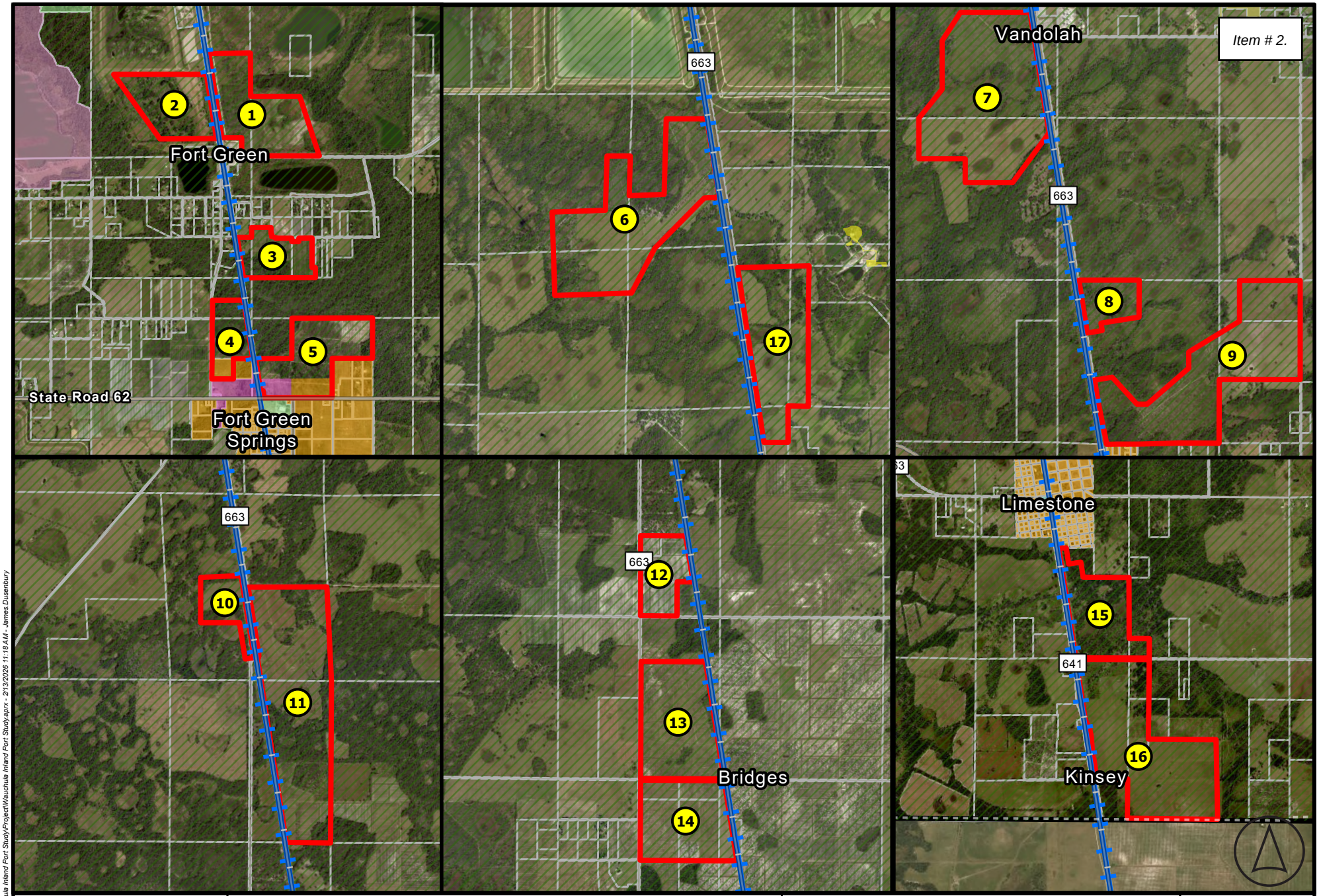

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Legend

- CSX Rail Network Lines
- Hardee County Boundary
- Hardee County Parcels
- Rail Centric Site Alternatives

Zoning
- A-1
- C-1
- C-2
- F-R
- I-1
- I-2
- P-I
- P-R

Zoning - Rail Centric

Wauchula Inland Port

February 2026

Figure C-2c

0 0.2 0

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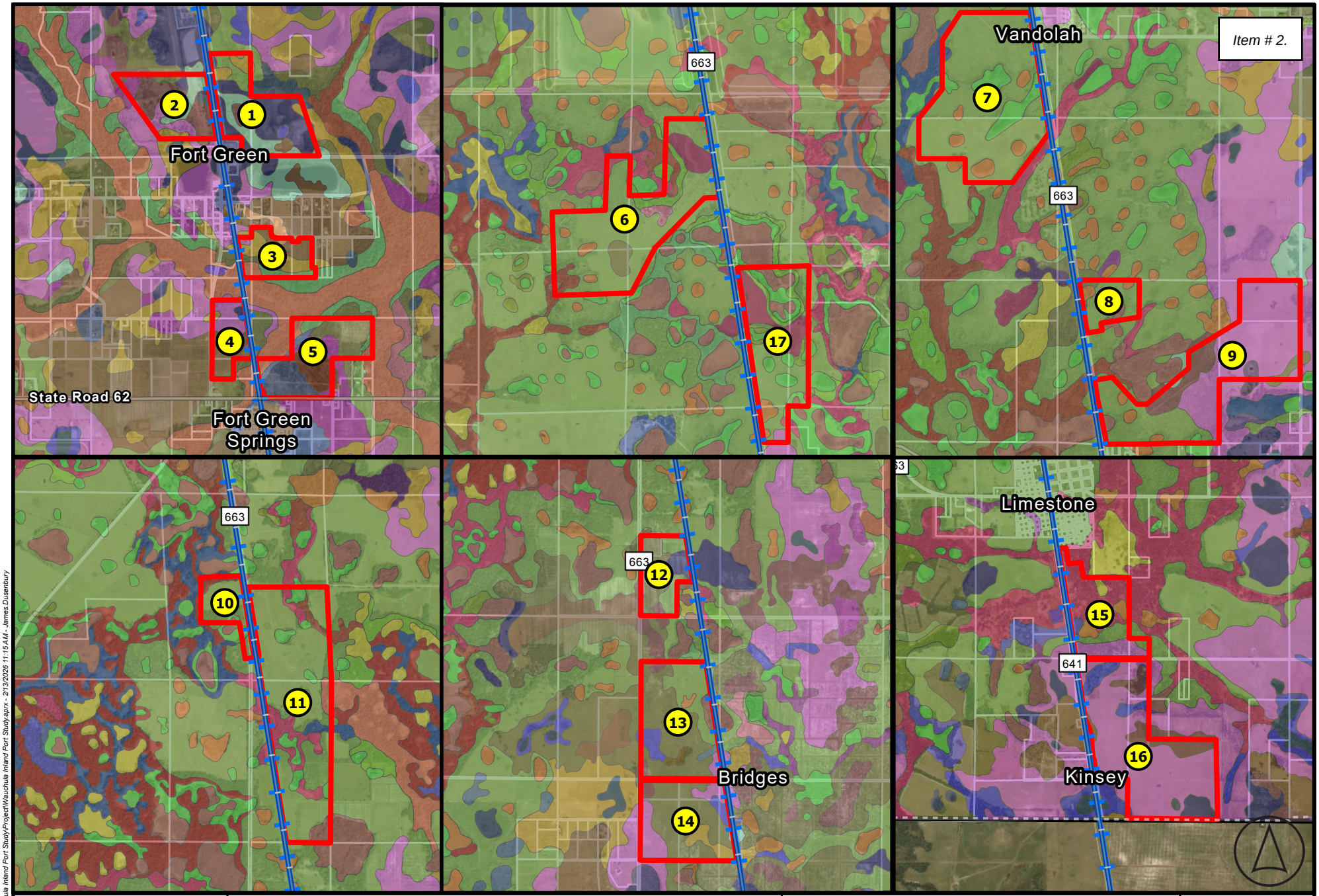

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Legend

- CSX Rail Network Lines
- Hardee County Boundary
- Hardee County Parcels
- Rail Centric Site Alternatives

Soils - Rail Centric

Wauchula Inland Port

February 2026

Figure C-2d

0 0.2 0

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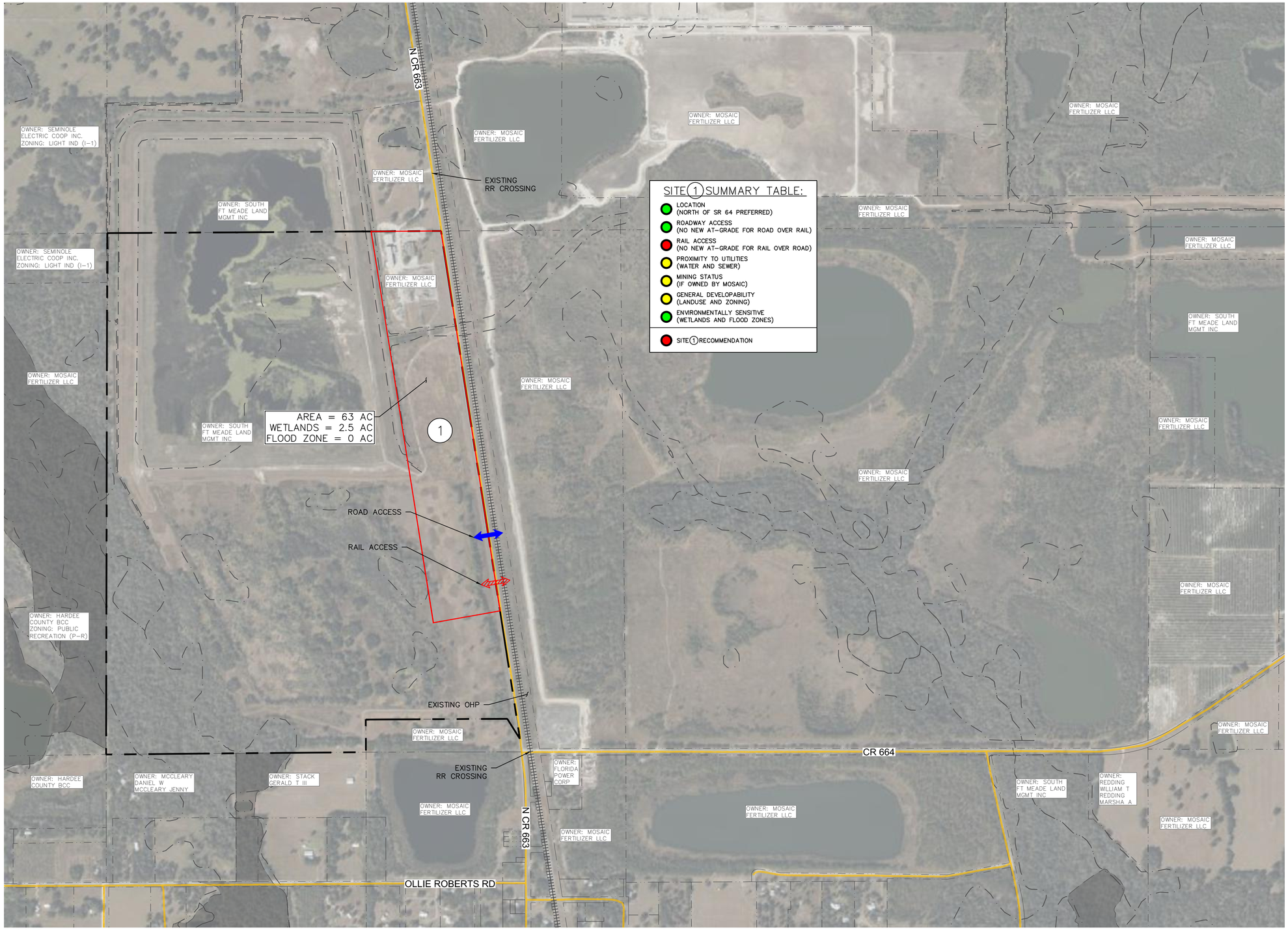
Appendix D.

Site Evaluation Matrix Exhibits



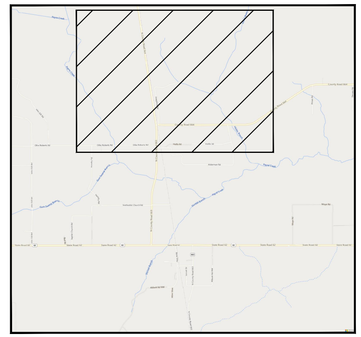
SITE 1 SUMMARY TABLE:

- LOCATION (NORTH OF SR 64 PREFERRED)
- ROADWAY ACCESS (NO NEW AT-GRADE FOR ROAD OVER RAIL)
- RAIL ACCESS (NO NEW AT-GRADE FOR RAIL OVER ROAD)
- PROXIMITY TO UTILITIES (WATER AND SEWER)
- MINING STATUS (IF OWNED BY MOSAIC)
- GENERAL DEVELOPABILITY (LANDUSE AND ZONING)
- ENVIRONMENTALLY SENSITIVE (WETLANDS AND FLOOD ZONES)

SITE 1 RECOMMENDATION

NORTH

GRAPHIC SCALE IN FEET
0 250 500 1000



VICINITY MAP
SCALE 1"=5000'

LEGEND:

- (X) OPTIONAL SITE #
- OPTIONAL SITE BOUNDARY (COLORED: GREEN, YELLOW OR RED)
- PARCEL LINES
- CSX RAIL LINE
- MAJOR ROADS
- WETLANDS
- FEMA FLOOD ZONES

ACCESS POINTS:

- ROAD ACCESS NO NEW AT GRADE RAIL CROSSING
- ROAD ACCESS NEW AT GRADE RAIL CROSSING
- RAIL ACCESS NO AT GRADE RAIL CROSSING
- RAIL ACCESS NEW AT GRADE RAIL CROSSING
- EXISTING ROAD ACCESS EXISTING AT GRADE RAIL CROSSING

NOTE:
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CITY OF WAUCHULA FLORIDA

SHEET NUMBER
FIGURE D-1.1
2/25/2026

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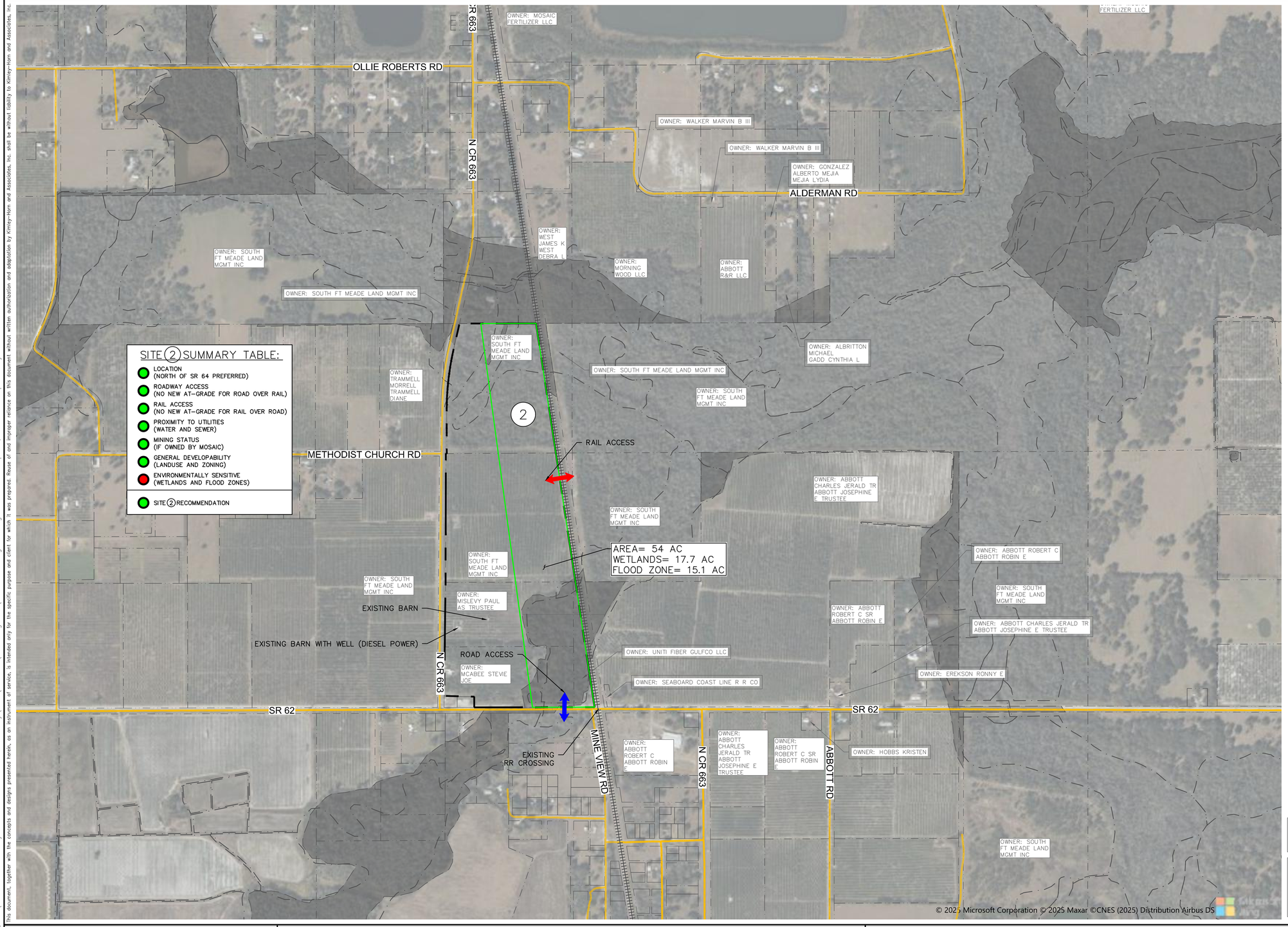


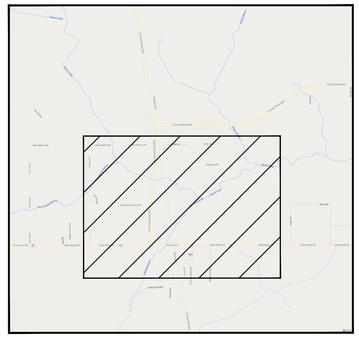
SITE (2) SUMMARY TABLE:

- LOCATION (NORTH OF SR 64 PREFERRED)
- ROADWAY ACCESS (NO NEW AT-GRADE FOR ROAD OVER RAIL)
- RAIL ACCESS (NO NEW AT-GRADE FOR RAIL OVER ROAD)
- PROXIMITY TO UTILITIES (WATER AND SEWER)
- MINING STATUS (IF OWNED BY MOSAIC)
- GENERAL DEVELOPABILITY (LANDUSE AND ZONING)
- ENVIRONMENTALLY SENSITIVE (WETLANDS AND FLOOD ZONES)

SITE (2) RECOMMENDATION

NORTH

GRAPHIC SCALE IN FEET
0 250 500 1000



VICINITY MAP
SCALE 1"=5000"

LEGEND:

- (X) OPTIONAL SITE #
- OPTIONAL SITE BOUNDARY (COLORED: GREEN, YELLOW OR RED)
- PARCEL LINES
- CSX RAIL LINE
- MAJOR ROADS
- WETLANDS
- FEMA FLOOD ZONES

ACCESS POINTS:

- ROAD ACCESS NO NEW AT GRADE RAIL CROSSING
- ROAD ACCESS NEW AT GRADE RAIL CROSSING
- RAIL ACCESS NO AT GRADE RAIL CROSSING
- RAIL ACCESS NEW AT GRADE RAIL CROSSING
- EXISTING ROAD ACCESS EXISTING AT GRADE RAIL CROSSING

NOTE:
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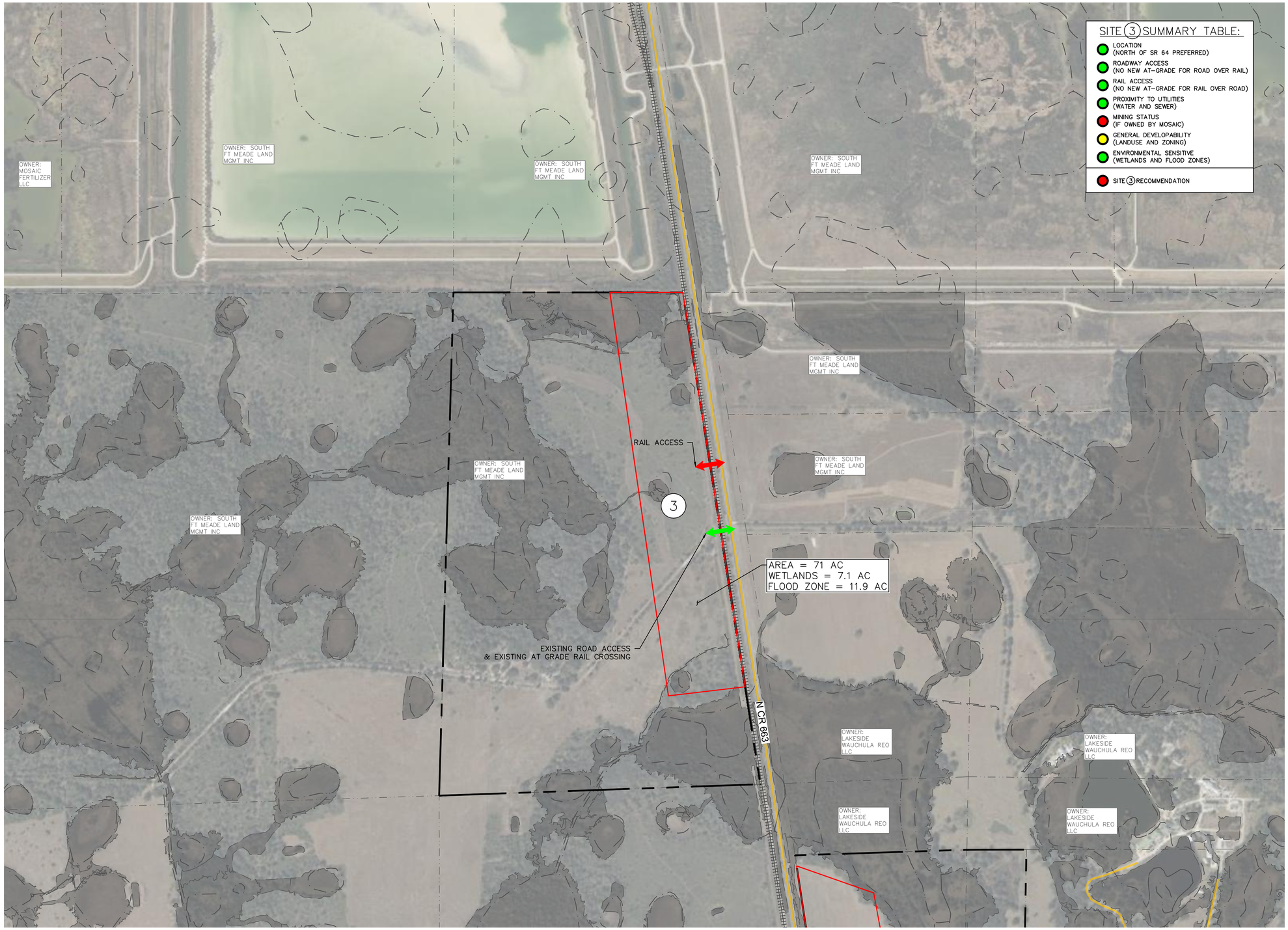
SHEET NUMBER
FIGURE D-1.2
2/25/2026

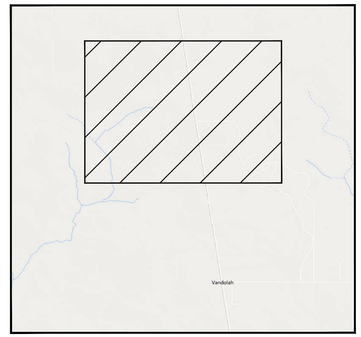


SITE (3) SUMMARY TABLE:

- LOCATION (NORTH OF SR 64 PREFERRED)
- ROADWAY ACCESS (NO NEW AT-GRADE FOR ROAD OVER RAIL)
- RAIL ACCESS (NO NEW AT-GRADE FOR RAIL OVER ROAD)
- PROXIMITY TO UTILITIES (WATER AND SEWER)
- MINING STATUS (IF OWNED BY MOSAIC)
- GENERAL DEVELOPABILITY (LANDUSE AND ZONING)
- ENVIRONMENTAL SENSITIVE (WETLANDS AND FLOOD ZONES)
- SITE (3) RECOMMENDATION

NORTH

GRAPHIC SCALE IN FEET
0 250 500 1000



VICINITY MAP
SCALE 1"=5000'

LEGEND:

- (X) OPTIONAL SITE #
- OPTIONAL SITE BOUNDARY (COLORED: GREEN, YELLOW OR RED)
- PARCEL LINES
- CSX RAIL LINE
- MAJOR ROADS
- WETLANDS
- FEMA FLOOD ZONES

ACCESS POINTS:

- ROAD ACCESS NO NEW AT GRADE RAIL CROSSING
- ROAD ACCESS NEW AT GRADE RAIL CROSSING
- RAIL ACCESS NO AT GRADE RAIL CROSSING
- RAIL ACCESS NEW AT GRADE RAIL CROSSING
- EXISTING ROAD ACCESS EXISTING AT GRADE RAIL CROSSING

NOTE:
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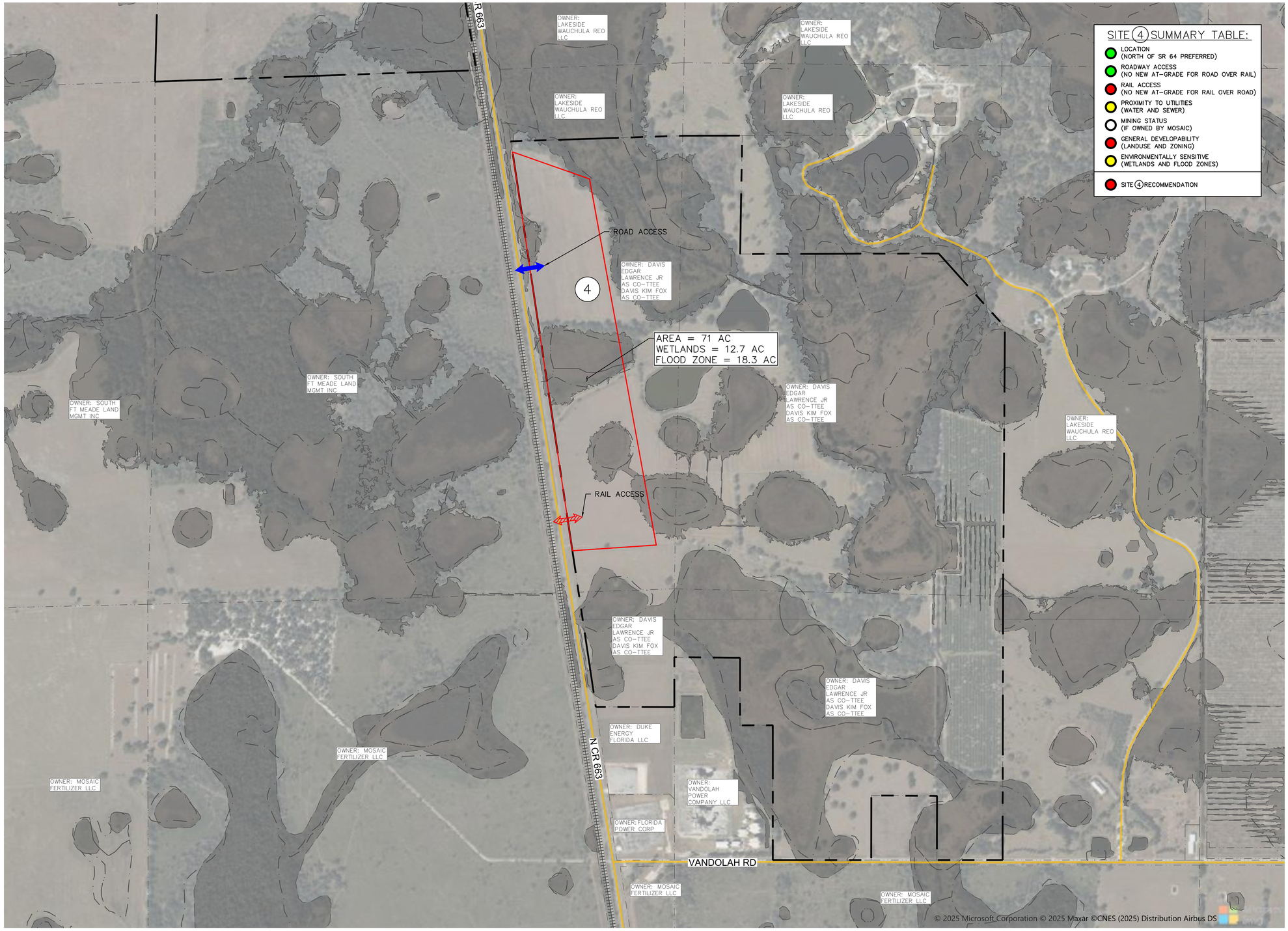
CITY OF WAUCHULA FLORIDA

SHEET NUMBER
FIGURE D-1.3
2/25/2026



SITE 4 SUMMARY TABLE:

- LOCATION (NORTH OF SR 64 PREFERRED)
- ROADWAY ACCESS (NO NEW AT-GRADE FOR ROAD OVER RAIL)
- RAIL ACCESS (NO NEW AT-GRADE FOR RAIL OVER ROAD)
- PROXIMITY TO UTILITIES (WATER AND SEWER)
- MINING STATUS (IF OWNED BY MOSAIC)
- GENERAL DEVELOPABILITY (LANDUSE AND ZONING)
- ENVIRONMENTALLY SENSITIVE (WETLANDS AND FLOOD ZONES)

SITE 4 RECOMMENDATION

NORTH

GRAPHIC SCALE IN FEET
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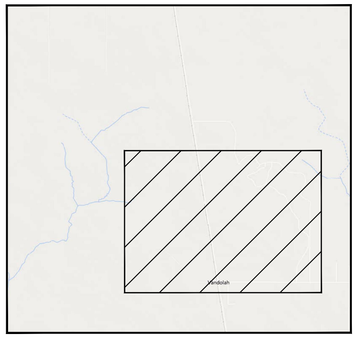

VICINITY MAP
SCALE 1"=5000"

LEGEND:

- (X) OPTIONAL SITE #
- OPTIONAL SITE BOUNDARY (COLORED: GREEN, YELLOW OR RED)
- PARCEL LINES
- CSX RAIL LINE
- MAJOR ROADS
- WETLANDS
- FEMA FLOOD ZONES

ACCESS POINTS:

- ROAD ACCESS NO NEW AT GRADE RAIL CROSSING
- ROAD ACCESS NEW AT GRADE RAIL CROSSING
- RAIL ACCESS NO AT GRADE RAIL CROSSING
- RAIL ACCESS NEW AT GRADE RAIL CROSSING
- EXISTING ROAD ACCESS EXISTING AT GRADE RAIL CROSSING

NOTE:
THIS SITE PLAN, BEING PRELIMINARY IN NATURE, DOES NOT GUARANTEE THAT ALL REQUIREMENTS FOR ZONING ISSUES, NOR STORM DRAINAGE, GRADING, UTILITY EASEMENTS, AND THE LIKE ARE PROPERLY ADDRESSED AT THIS TIME. THE ABOVE REQUIREMENTS CAN AFFECT THE LAYOUT OF THIS SITE.

NOTE:
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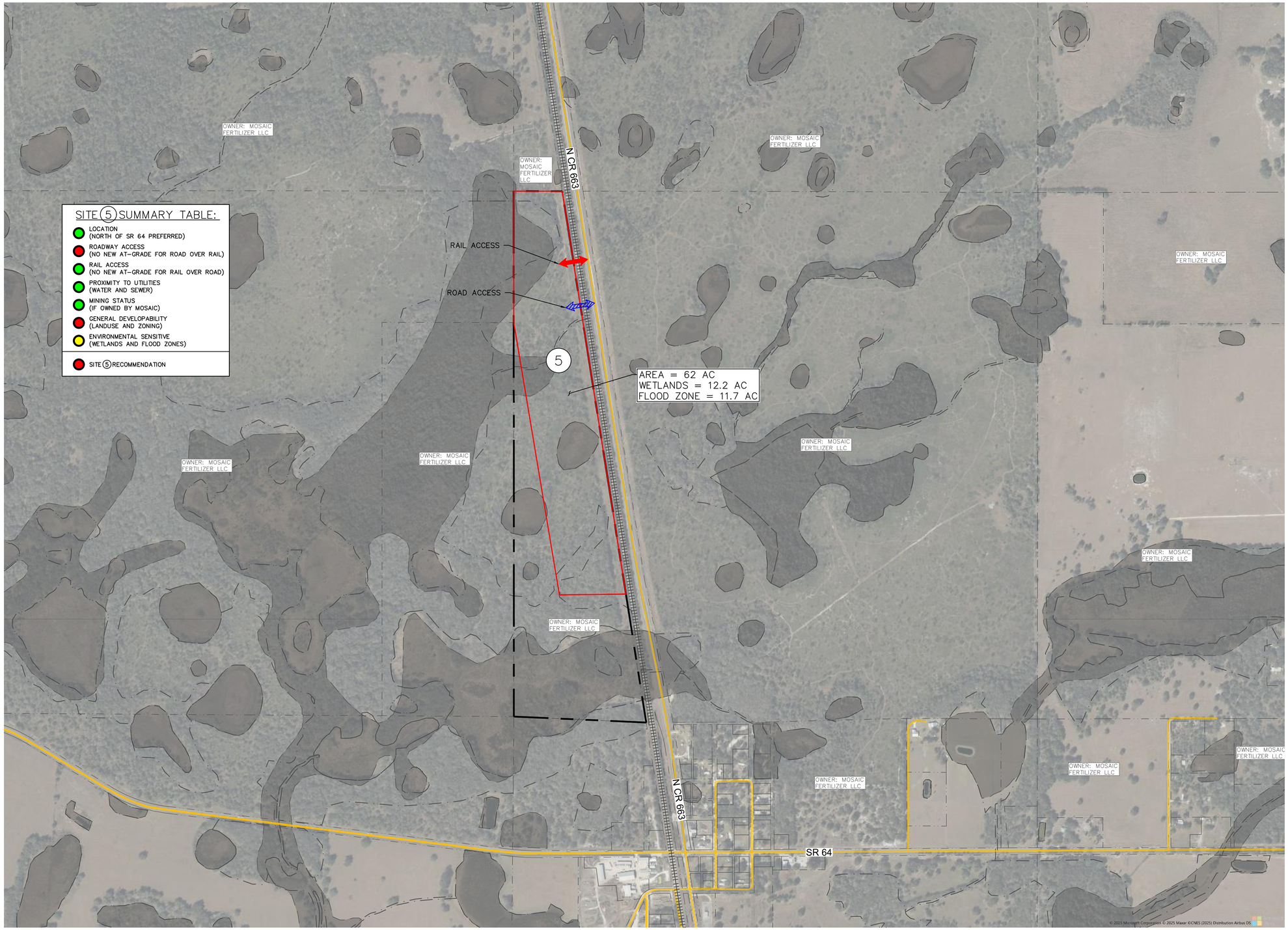
SHEET NUMBER
FIGURE D-1.4
2/25/2026



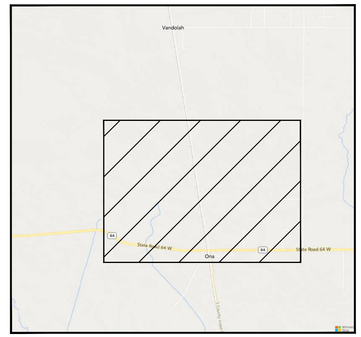
SITE (5) SUMMARY TABLE:

- LOCATION (NORTH OF SR 64 PREFERRED)
- ROADWAY ACCESS (NO NEW AT-GRADE FOR ROAD OVER RAIL)
- RAIL ACCESS (NO NEW AT-GRADE FOR RAIL OVER ROAD)
- PROXIMITY TO UTILITIES (WATER AND SEWER)
- MINING STATUS (IF OWNED BY MOSAIC)
- GENERAL DEVELOPABILITY (LANDUSE AND ZONING)
- ENVIRONMENTAL SENSITIVE (WETLANDS AND FLOOD ZONES)

SITE (5) RECOMMENDATION

NORTH

GRAPHIC SCALE IN FEET
0 250 500 1000



VICINITY MAP
SCALE 1"=5000'

LEGEND:

- (X) OPTIONAL SITE #
- OPTIONAL SITE BOUNDARY (COLORED: GREEN, YELLOW OR RED)
- PARCEL LINES
- CSX RAIL LINE
- MAJOR ROADS
- WETLANDS
- FEMA FLOOD ZONES

ACCESS POINTS:

- ROAD ACCESS NO NEW AT GRADE RAIL CROSSING
- ROAD ACCESS NEW AT GRADE RAIL CROSSING
- RAIL ACCESS NO AT GRADE RAIL CROSSING
- RAIL ACCESS NEW AT GRADE RAIL CROSSING
- EXISTING ROAD ACCESS EXISTING AT GRADE RAIL CROSSING

NOTE:
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PHONE: 863-701-8702
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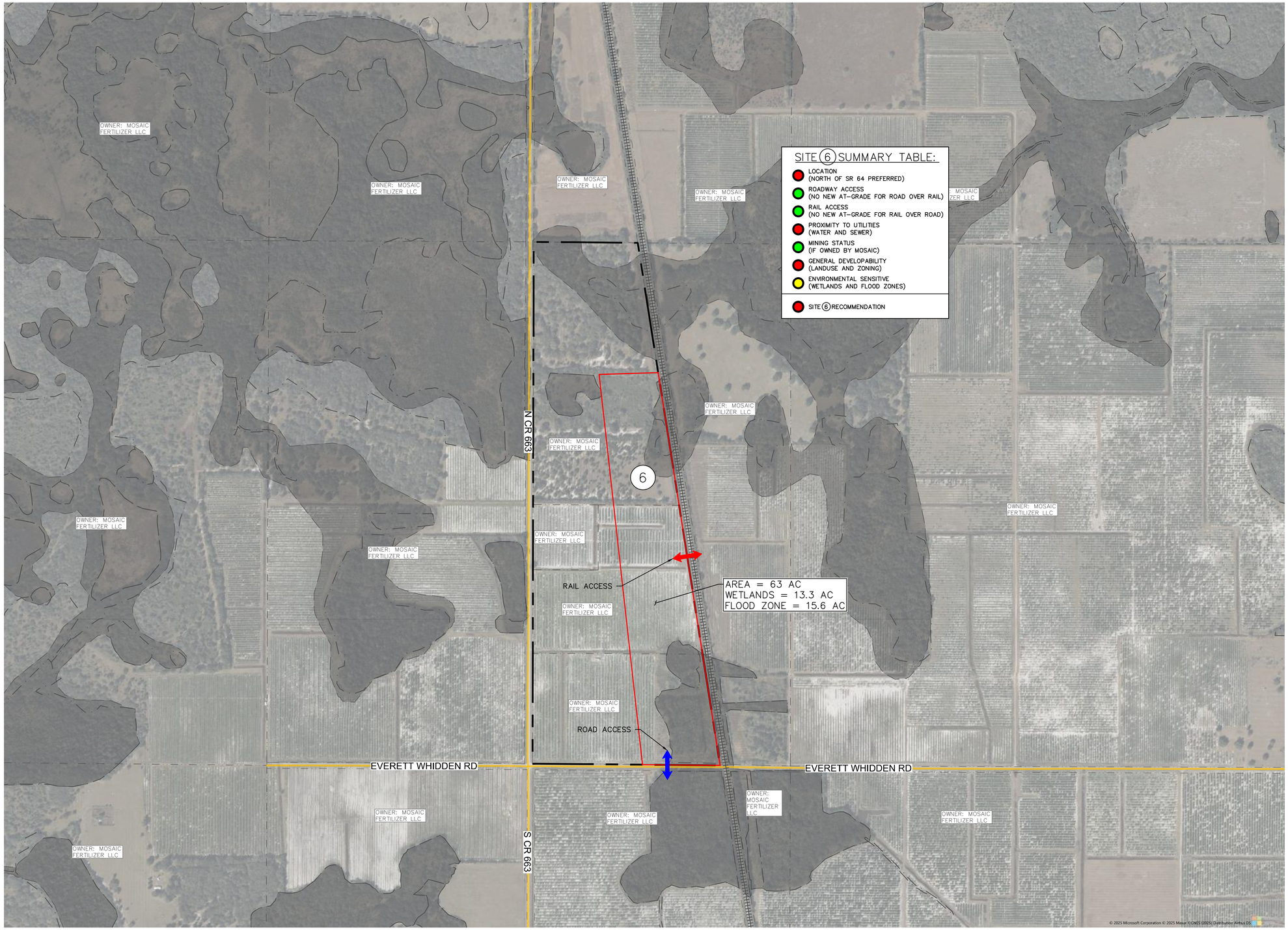
PREPARED FOR
THE CITY OF WAUCHULA

INTERMODAL SITES
INLAND PORT FEASIBILITY STUDY

CITY OF WAUCHULA FLORIDA

SHEET NUMBER
FIGURE D-1.5
2/25/2026



NORTH

GRAPHIC SCALE IN FEET
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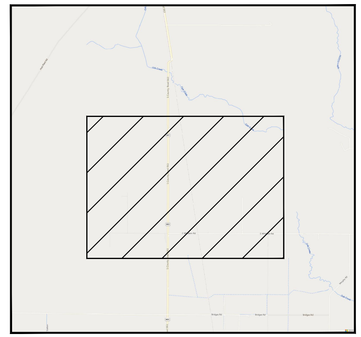

VICINITY MAP
SCALE 1"=5000'

LEGEND:

- (X) OPTIONAL SITE #
- OPTIONAL SITE BOUNDARY (COLORED: GREEN, YELLOW OR RED)
- PARCEL LINES
- CSX RAIL LINE
- MAJOR ROADS
- WETLANDS
- FEMA FLOOD ZONES

ACCESS POINTS:

- ROAD ACCESS NO NEW AT GRADE RAIL CROSSING
- ROAD ACCESS NEW AT GRADE RAIL CROSSING
- RAIL ACCESS NO AT GRADE RAIL CROSSING
- RAIL ACCESS NEW AT GRADE RAIL CROSSING
- EXISTING ROAD ACCESS EXISTING AT GRADE RAIL CROSSING

NOTE:
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NOTE:
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PREPARED FOR
THE CITY OF WAUCHULA

INTERMODAL SITES
INLAND PORT FEASIBILITY STUDY
CITY OF WAUCHULA FLORIDA

SHEET NUMBER
FIGURE D-1.6
2/25/2026

Drawing name: C:\Users\JAMES~1.DUS\AppData\Local\Temp\AcPublish_22516\Railcentric Figures.dwg Site 1_2 Feb 13, 2026 1:18pm by: James.Dusenbury
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SITE (2) SUMMARY TABLE:

- LOCATION (NORTH OF SR 64 PREFERRED)
- ROADWAY ACCESS (NO NEW AT-GRADE FOR ROAD OVER RAIL)
- RAIL ACCESS (NO NEW AT-GRADE FOR RAIL OVER ROAD)
- PROXIMITY TO UTILITIES (WATER AND SEWER)
- MINING STATUS (IF OWNED BY MOSAIC)
- GENERAL DEVELOPABILITY (LANDUSE AND ZONING)
- ENVIRONMENTALLY SENSITIVE (WETLANDS AND FLOOD ZONES)
- SITE (2) RECOMMENDATION

SITE (1) SUMMARY TABLE:

- LOCATION (NORTH OF SR 64 PREFERRED)
- ROADWAY ACCESS (NO NEW AT-GRADE FOR ROAD OVER RAIL)
- RAIL ACCESS (NO NEW AT-GRADE FOR RAIL OVER ROAD)
- PROXIMITY TO UTILITIES (WATER AND SEWER)
- MINING STATUS (IF OWNED BY MOSAIC)
- GENERAL DEVELOPABILITY (LANDUSE AND ZONING)
- ENVIRONMENTALLY SENSITIVE (WETLANDS AND FLOOD ZONES)
- SITE (1) RECOMMENDATION

N CR 663

EXISTING RR CROSSING

OWNER: SEMINOLE ELECTRIC COOP INC. ZONING: LIGHT IND (I-1)

OWNER: SOUTH FT MEADE LAND MGMT INC

OWNER: MOSAIC FERTILIZER LLC

ROAD ACCESS

RAIL ACCESS

AREA = 119 AC
WETLANDS = 7.8 AC
FLOOD ZONE = 0 AC

(2)

(1)

AREA = 164 AC
WETLANDS = 0.6 AC
FLOOD ZONE = 0 AC

EXISTING OHP

EXISTING RR CROSSING

OWNER: HARDEE COUNTY BCC ZONING: PUBLIC RECREATION (P-R)

OWNER: HARDEE COUNTY BCC

OWNER: MCCLEARY DANIEL W MCCLEARY JENNY

OWNER: STACK GERALD T III

OWNER: FLORIDA POWER CORP

OWNER: SOUTH FT MEADE LAND MGMT INC

OWNER: REDDING WILLIAM T REDDING MARSHA A

CR 664

OLLIE ROBERTS RD

NORTH

GRAPHIC SCALE IN FEET
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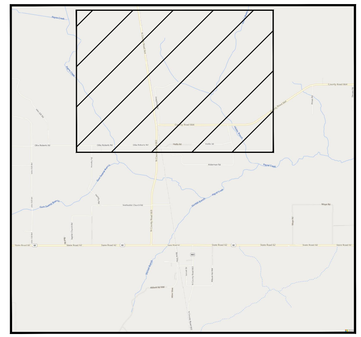

VICINITY MAP
SCALE 1"=5000'

LEGEND:

- (X) OPTIONAL SITE #
- OPTIONAL SITE BOUNDARY (COLORED: GREEN, YELLOW OR RED)
- PARCEL LINES
- CSX RAIL LINE
- MAJOR ROADS
- WETLANDS
- FEMA FLOOD ZONES

ACCESS POINTS:

- ROAD ACCESS NO NEW AT GRADE RAIL CROSSING
- ROAD ACCESS NEW AT GRADE RAIL CROSSING
- RAIL ACCESS NO AT GRADE RAIL CROSSING
- RAIL ACCESS NEW AT GRADE RAIL CROSSING
- EXISTING ROAD ACCESS EXISTING AT GRADE RAIL CROSSING

NOTE:
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PREPARED FOR
THE CITY OF WAUCHULA

RAIL-CENTRIC SITES
INLAND PORT FEASIBILITY STUDY

CITY OF WAUCHULA FLORIDA

SHEET NUMBER
FIGURE D-2.1
2/25/2026

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OLLIE ROBERTS RD
METHODIST CHURCH RD
ALDERMAN RD
SR 62
N CR 663
MINE VIEW RD
ABBOTT RD

OWNER: MOSAIC FERTILIZER LLC
OWNER: WALKER MARVIN B III
OWNER: GONZALEZ ALBERTO MEJIA MEJIA LYDIA
OWNER: WEST JAMES K WEST DEBRA L
OWNER: SOUTH FT MEADE LAND MGMT INC
OWNER: MORNING WOOD LLC
OWNER: ABBOTT R&R LLC
OWNER: ALBRITTON MICHAEL GADD CYNTHIA L
OWNER: TRAMMELL MORRELL TRAMMELL DIANE
OWNER: ABBOTT CHARLES JERALD TR ABBOTT JOSEPHINE E TRUSTEE
OWNER: MISLEVY PAUL AS TRUSTEE
OWNER: MCABEE STEVIE JOE
OWNER: SEABOARD COAST LINE R R CO
OWNER: UNITI FIBER GULFCO LLC
OWNER: ABBOTT ROBERT C ABBOTT ROBIN E
OWNER: ABBOTT ROBERT C SR ABBOTT ROBIN E
OWNER: EREKSON RONNY E
OWNER: HOBBS KRISTEN

RAIL ACCESS
ROAD ACCESS
AREA = 76 AC
WETLANDS = 11.9 AC
FLOOD ZONE = 13.3 AC
3

AREA=63 AC
WETLANDS=1.5 AC
FLOOD ZONE=0.03 AC
4

AREA = 151 AC
WETLANDS = 10.4 AC
FLOOD ZONE = 12.3 AC
5

EXISTING WELL
EXISTING BARN
EXISTING BARN WITH WELL (DIESEL POWER)
EXISTING RR CROSSING

SITE (3) SUMMARY TABLE:

- LOCATION (NORTH OF SR 64 PREFERRED)
- ROADWAY ACCESS (NO NEW AT-GRADE FOR ROAD OVER RAIL)
- RAIL ACCESS (NO NEW AT-GRADE FOR RAIL OVER ROAD)
- PROXIMITY TO UTILITIES (WATER AND SEWER)
- MINING STATUS (IF OWNED BY MOSAIC)
- GENERAL DEVELOPABILITY (LANDUSE AND ZONING)
- ENVIRONMENTAL SENSITIVE (WETLANDS AND FLOOD ZONES)
- SITE (3) RECOMMENDATION

SITE (4) SUMMARY TABLE:

- LOCATION (NORTH OF SR 64 PREFERRED)
- ROADWAY ACCESS (NO NEW AT-GRADE FOR ROAD OVER RAIL)
- RAIL ACCESS (NO NEW AT-GRADE FOR RAIL OVER ROAD)
- PROXIMITY TO UTILITIES (WATER AND SEWER)
- MINING STATUS (IF OWNED BY MOSAIC)
- GENERAL DEVELOPABILITY (LANDUSE AND ZONING)
- ENVIRONMENTALLY SENSITIVE (WETLANDS AND FLOOD ZONES)
- SITE (4) RECOMMENDATION

SITE (5) SUMMARY TABLE:

- LOCATION (NORTH OF SR 64 PREFERRED)
- ROADWAY ACCESS (NO NEW AT-GRADE FOR ROAD OVER RAIL)
- RAIL ACCESS (NO NEW AT-GRADE FOR RAIL OVER ROAD)
- PROXIMITY TO UTILITIES (WATER AND SEWER)
- MINING STATUS (IF OWNED BY MOSAIC)
- GENERAL DEVELOPABILITY (LANDUSE AND ZONING)
- ENVIRONMENTALLY SENSITIVE (WETLANDS AND FLOOD ZONES)
- SITE (5) RECOMMENDATION

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NORTH

GRAPHIC SCALE IN FEET
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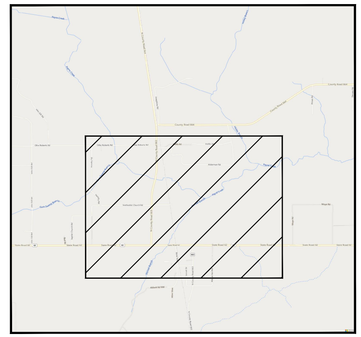

VICINITY MAP
SCALE 1"=5000'

LEGEND:

- (X) OPTIONAL SITE #
- OPTIONAL SITE BOUNDARY (COLORED: GREEN, YELLOW OR RED)
- PARCEL LINES
- CSX RAIL LINE
- MAJOR ROADS
- WETLANDS
- FEMA FLOOD ZONES

ACCESS POINTS:

- ROAD ACCESS NO NEW AT GRADE RAIL CROSSING
- ROAD ACCESS NEW AT GRADE RAIL CROSSING
- RAIL ACCESS NO AT GRADE RAIL CROSSING
- RAIL ACCESS NEW AT GRADE RAIL CROSSING
- EXISTING ROAD ACCESS EXISTING AT GRADE RAIL CROSSING

NOTE:
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PREPARED FOR
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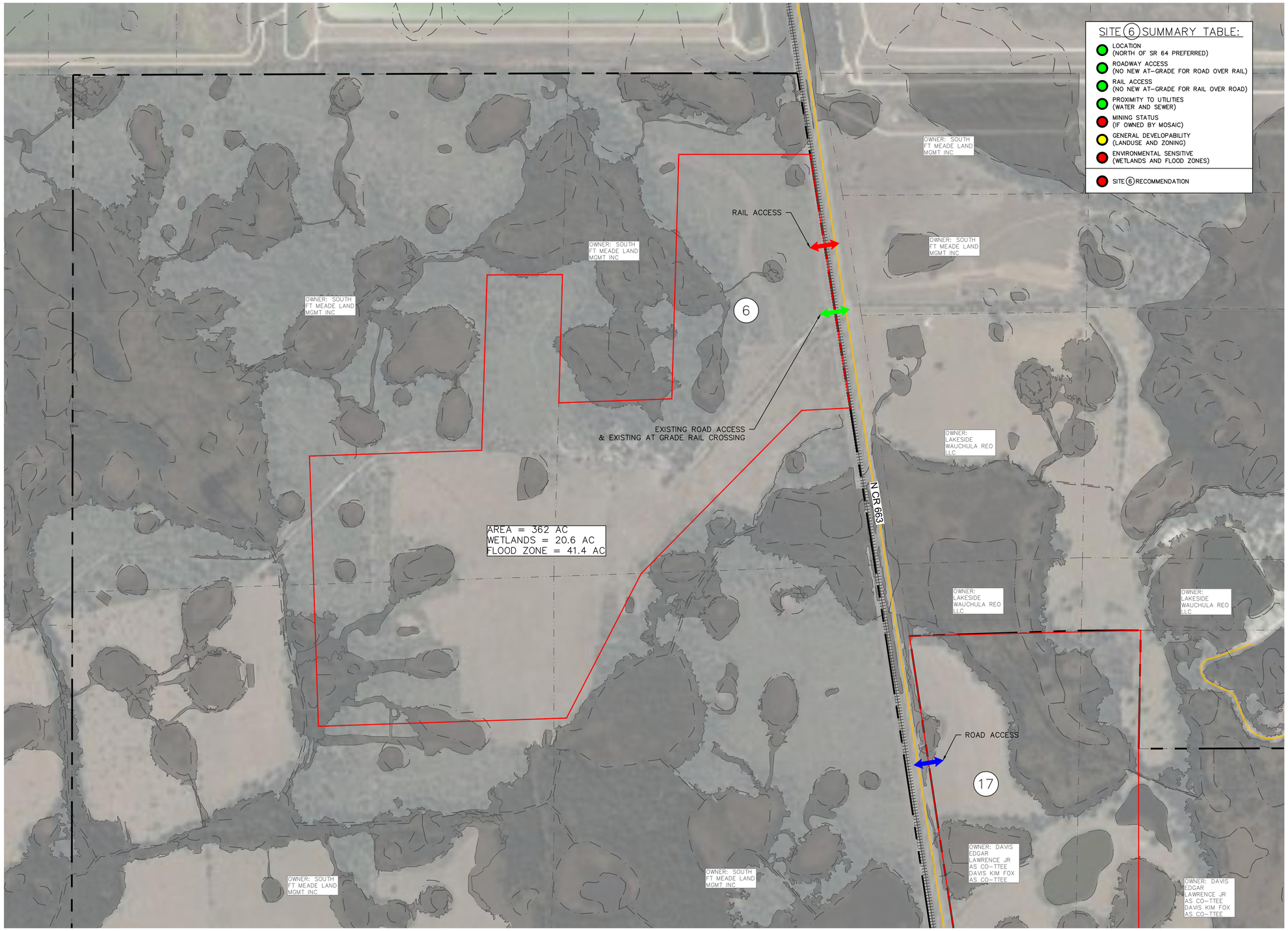
RAIL-CENTRIC SITES
INLAND PORT FEASIBILITY STUDY

CITY OF WAUCHULA FLORIDA

SHEET NUMBER
FIGURE D-2.2
2/25/2026



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GRAPHIC SCALE IN FEET
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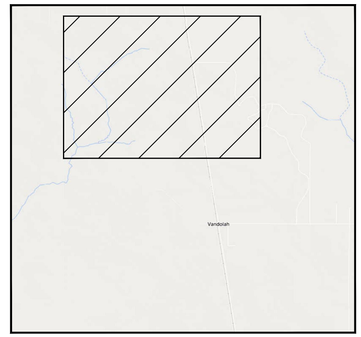

VICINITY MAP
SCALE 1"=5000'

LEGEND:

- (X) OPTIONAL SITE #
- OPTIONAL SITE BOUNDARY (COLORED: GREEN, YELLOW OR RED)
- PARCEL LINES
- CSX RAIL LINE
- MAJOR ROADS
- WETLANDS
- FEMA FLOOD ZONES

ACCESS POINTS:

- ROAD ACCESS NO NEW AT GRADE RAIL CROSSING
- ROAD ACCESS NEW AT GRADE RAIL CROSSING
- RAIL ACCESS NO AT GRADE RAIL CROSSING
- RAIL ACCESS NEW AT GRADE RAIL CROSSING
- EXISTING ROAD ACCESS EXISTING AT GRADE RAIL CROSSING

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PREPARED FOR
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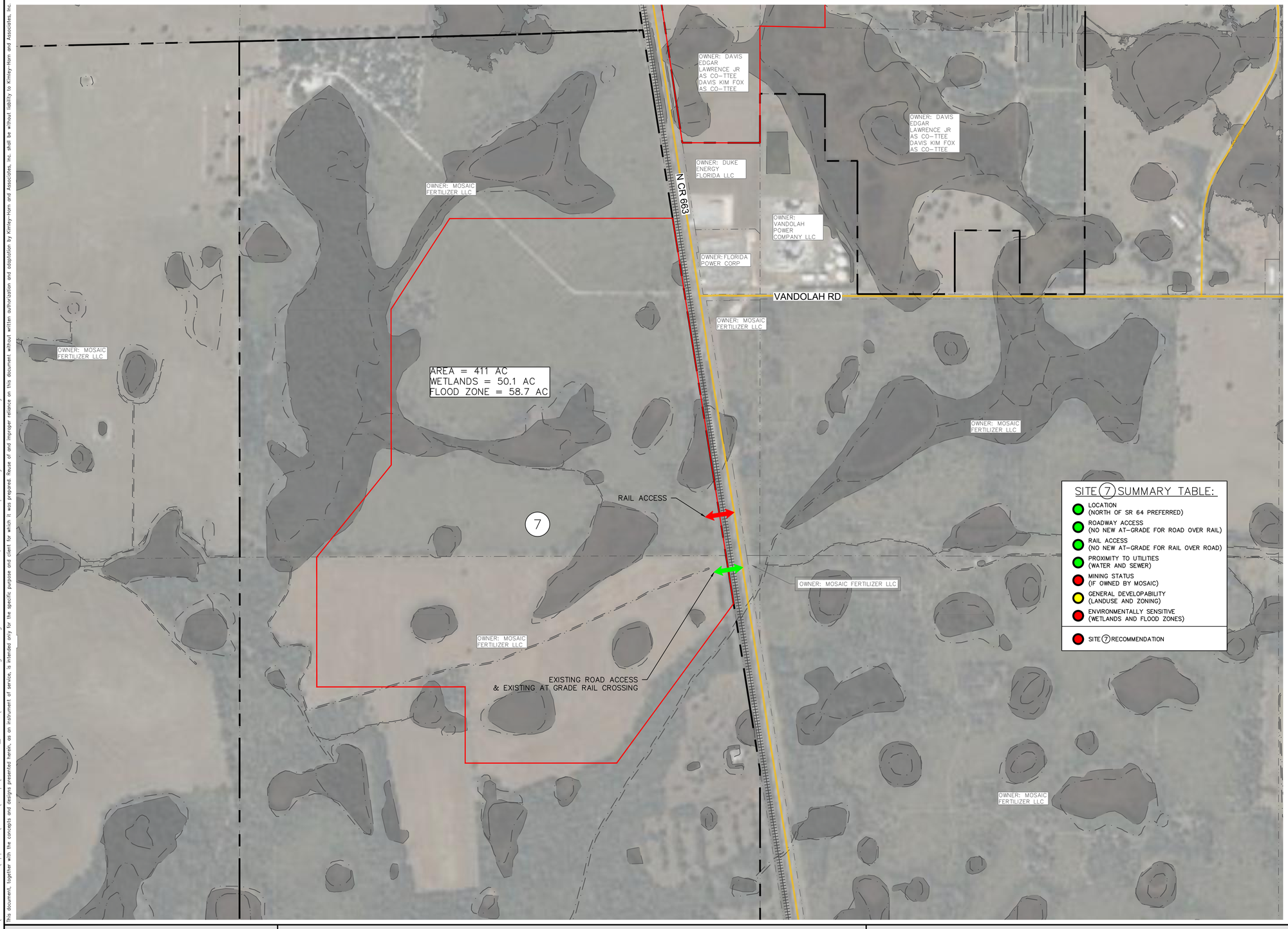
RAIL-CENTRIC SITES
INLAND PORT FEASIBILITY STUDY
CITY OF WAUCHULA FLORIDA

SHEET NUMBER
FIGURE D-2.3
2/25/2026



NORTH

GRAPHIC SCALE IN FEET
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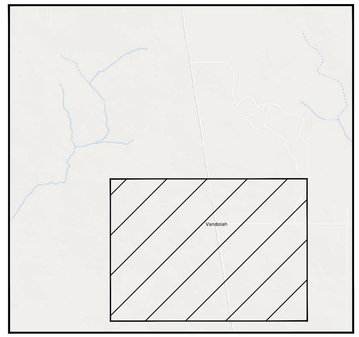

VICINITY MAP
SCALE 1"=5000'

LEGEND:

- (X) OPTIONAL SITE #
- OPTIONAL SITE BOUNDARY (COLORED: GREEN, YELLOW OR RED)
- PARCEL LINES
- CSX RAIL LINE
- MAJOR ROADS
- WETLANDS
- FEMA FLOOD ZONES

SITE (7) SUMMARY TABLE:

- LOCATION (NORTH OF SR 64 PREFERRED)
- ROADWAY ACCESS (NO NEW AT-GRADE FOR ROAD OVER RAIL)
- RAIL ACCESS (NO NEW AT-GRADE FOR RAIL OVER ROAD)
- PROXIMITY TO UTILITIES (WATER AND SEWER)
- MINING STATUS (IF OWNED BY MOSAIC)
- GENERAL DEVELOPABILITY (LANDUSE AND ZONING)
- ENVIRONMENTALLY SENSITIVE (WETLANDS AND FLOOD ZONES)
- SITE (7) RECOMMENDATION

ACCESS POINTS:

- ROAD ACCESS NO NEW AT GRADE RAIL CROSSING
- ROAD ACCESS NEW AT GRADE RAIL CROSSING
- RAIL ACCESS NO AT GRADE RAIL CROSSING
- RAIL ACCESS NEW AT GRADE RAIL CROSSING
- EXISTING ROAD ACCESS EXISTING AT GRADE RAIL CROSSING

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PREPARED FOR
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RAIL-CENTRIC SITES
INLAND PORT FEASIBILITY STUDY

CITY OF WAUCHULA FLORIDA

SHEET NUMBER
FIGURE D-2.4
2/25/2026

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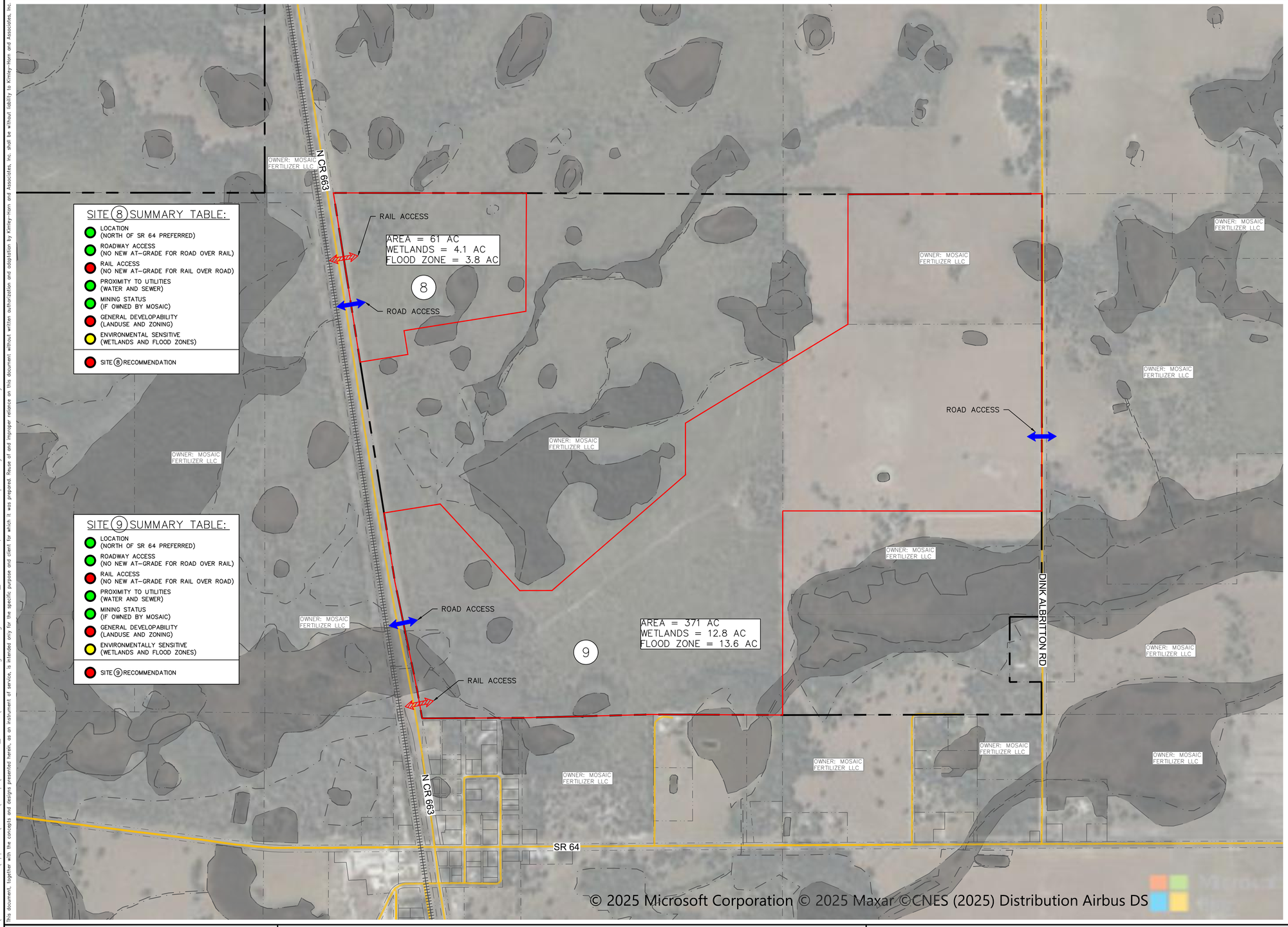

SITE (8) SUMMARY TABLE:

- LOCATION (NORTH OF SR 64 PREFERRED)
- ROADWAY ACCESS (NO NEW AT-GRADE FOR ROAD OVER RAIL)
- RAIL ACCESS (NO NEW AT-GRADE FOR RAIL OVER ROAD)
- PROXIMITY TO UTILITIES (WATER AND SEWER)
- MINING STATUS (IF OWNED BY MOSAIC)
- GENERAL DEVELOPABILITY (LANDUSE AND ZONING)
- ENVIRONMENTAL SENSITIVE (WETLANDS AND FLOOD ZONES)

SITE (8) RECOMMENDATION

SITE (9) SUMMARY TABLE:

- LOCATION (NORTH OF SR 64 PREFERRED)
- ROADWAY ACCESS (NO NEW AT-GRADE FOR ROAD OVER RAIL)
- RAIL ACCESS (NO NEW AT-GRADE FOR RAIL OVER ROAD)
- PROXIMITY TO UTILITIES (WATER AND SEWER)
- MINING STATUS (IF OWNED BY MOSAIC)
- GENERAL DEVELOPABILITY (LANDUSE AND ZONING)
- ENVIRONMENTALLY SENSITIVE (WETLANDS AND FLOOD ZONES)

SITE (9) RECOMMENDATION

NORTH

GRAPHIC SCALE IN FEET
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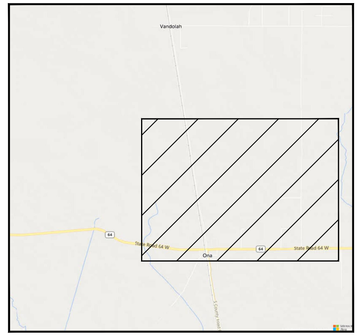

VICINITY MAP
SCALE 1"=5000'

LEGEND:

- (X) OPTIONAL SITE #
- OPTIONAL SITE BOUNDARY (COLORED: GREEN, YELLOW OR RED)
- PARCEL LINES
- CSX RAIL LINE
- MAJOR ROADS
- WETLANDS
- FEMA FLOOD ZONES

ACCESS POINTS:

- ROAD ACCESS NO NEW AT GRADE RAIL CROSSING
- ROAD ACCESS NEW AT GRADE RAIL CROSSING
- RAIL ACCESS NO AT GRADE RAIL CROSSING
- RAIL ACCESS NEW AT GRADE RAIL CROSSING
- EXISTING ROAD ACCESS EXISTING AT GRADE RAIL CROSSING

NOTE:
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PREPARED FOR
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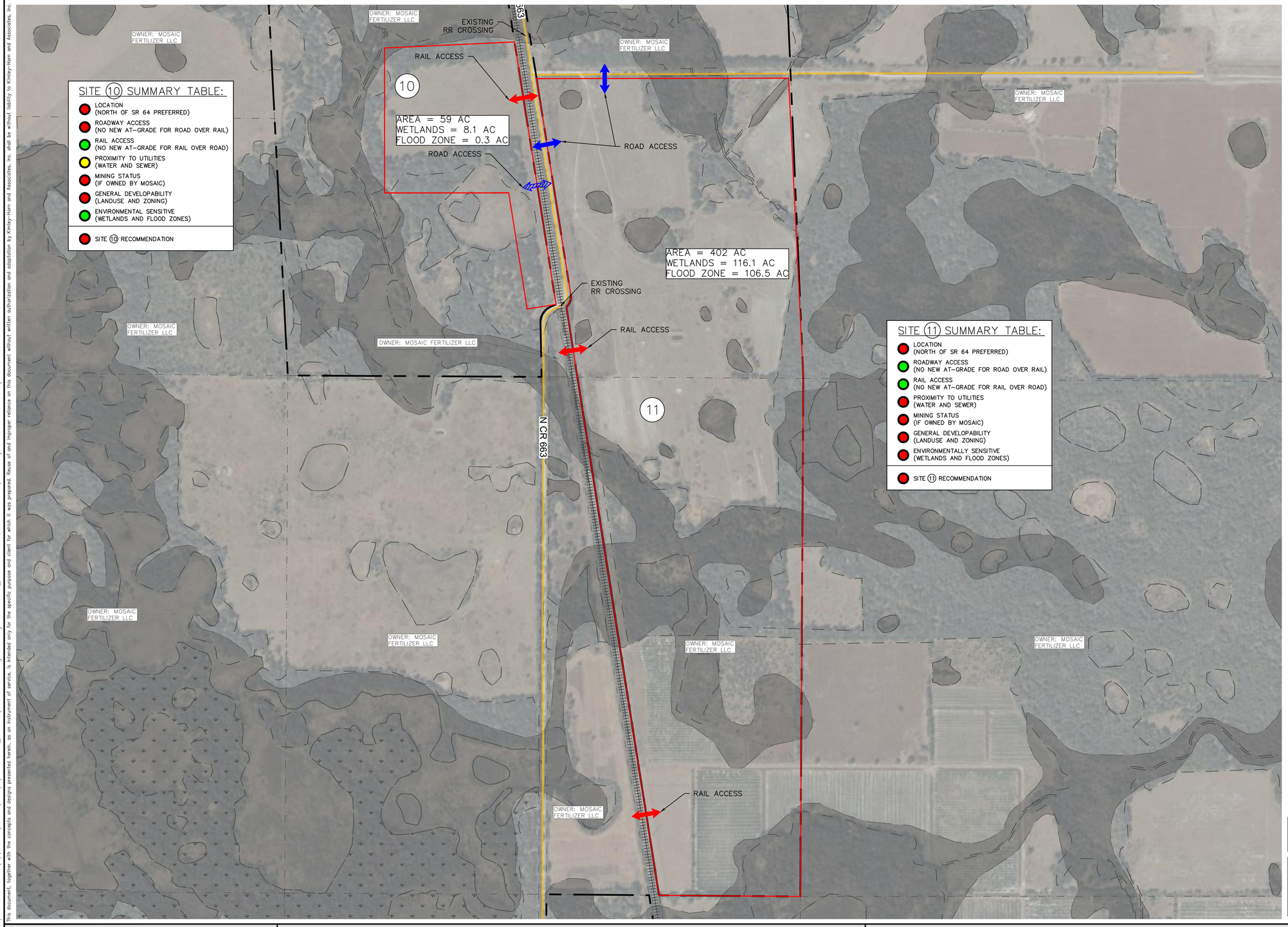
RAIL-CENTRIC SITES
INLAND PORT FEASIBILITY STUDY

CITY OF WAUCHULA FLORIDA

SHEET NUMBER
FIGURE D-2.5
2/25/2026



SITE (10) SUMMARY TABLE:

- LOCATION (NORTH OF SR 64 PREFERRED)
- ROADWAY ACCESS (NO NEW AT-GRADE FOR ROAD OVER RAIL)
- RAIL ACCESS (NO NEW AT-GRADE FOR RAIL OVER ROAD)
- PROXIMITY TO UTILITIES (WATER AND SEWER)
- MINING STATUS (IF OWNED BY MOSAIC)
- GENERAL DEVELOPABILITY (LANDUSE AND ZONING)
- ENVIRONMENTAL SENSITIVE (WETLANDS AND FLOOD ZONES)

SITE (10) RECOMMENDATION

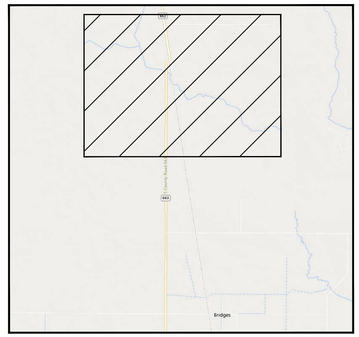
SITE (11) SUMMARY TABLE:

- LOCATION (NORTH OF SR 64 PREFERRED)
- ROADWAY ACCESS (NO NEW AT-GRADE FOR ROAD OVER RAIL)
- RAIL ACCESS (NO NEW AT-GRADE FOR RAIL OVER ROAD)
- PROXIMITY TO UTILITIES (WATER AND SEWER)
- MINING STATUS (IF OWNED BY MOSAIC)
- GENERAL DEVELOPABILITY (LANDUSE AND ZONING)
- ENVIRONMENTALLY SENSITIVE (WETLANDS AND FLOOD ZONES)

SITE (11) RECOMMENDATION

NORTH

GRAPHIC SCALE IN FEET
0 250 500 1000



VICINITY MAP
SCALE 1"=5000'

LEGEND:

- (X) OPTIONAL SITE #
- OPTIONAL SITE BOUNDARY (COLORED: GREEN, YELLOW OR RED)
- PARCEL LINES
- CSX RAIL LINE
- MAJOR ROADS
- WETLANDS
- FEMA FLOOD ZONES

ACCESS POINTS:

- ROAD ACCESS NO NEW AT GRADE RAIL CROSSING
- ROAD ACCESS NEW AT GRADE RAIL CROSSING
- RAIL ACCESS NO AT GRADE RAIL CROSSING
- RAIL ACCESS NEW AT GRADE RAIL CROSSING
- EXISTING ROAD ACCESS EXISTING AT GRADE RAIL CROSSING

NOTE:
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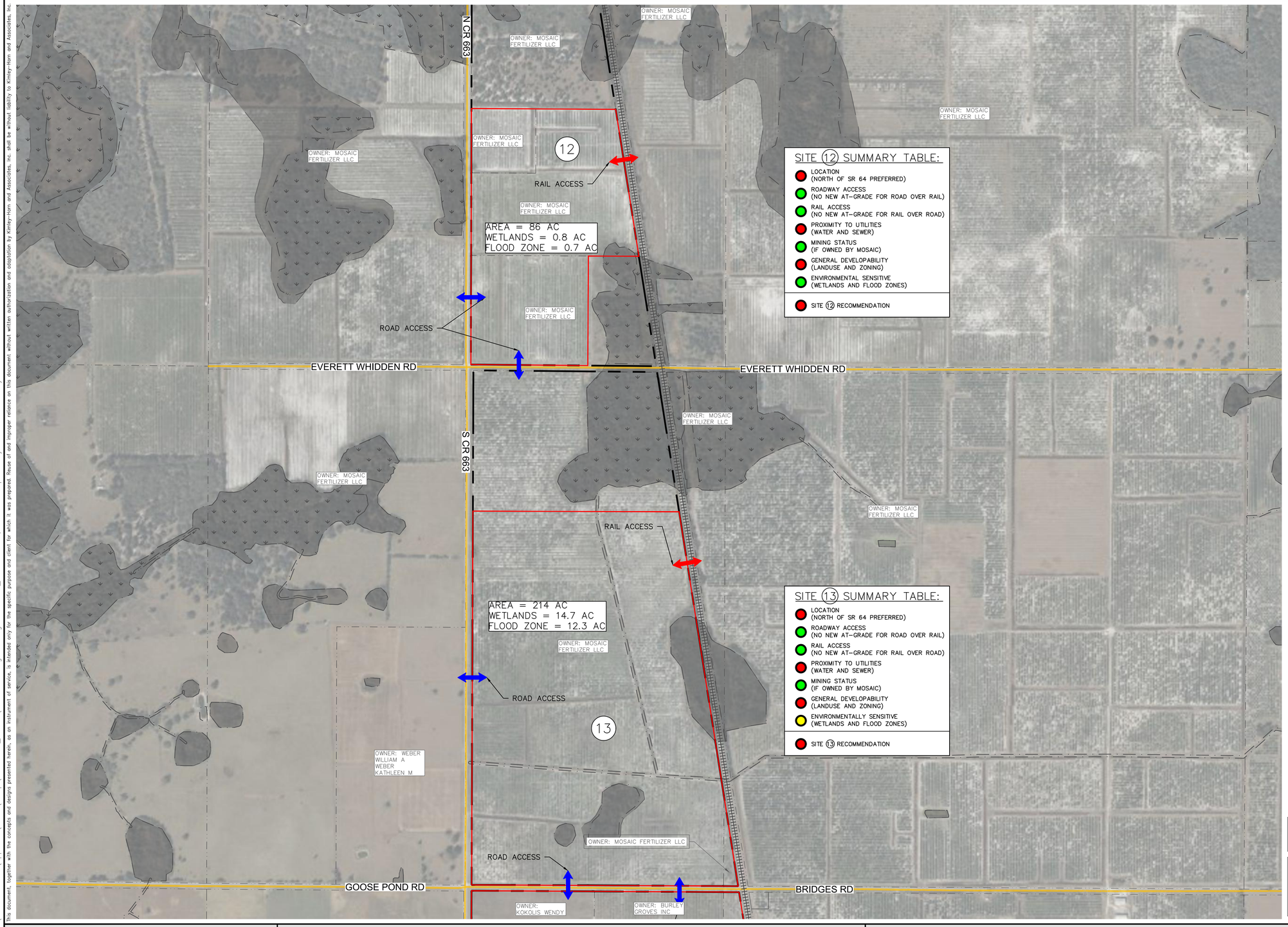
PREPARED FOR
THE CITY OF WAUCHULA

RAIL-CENTRIC SITES
INLAND PORT FEASIBILITY STUDY

CITY OF WAUCHULA FLORIDA

SHEET NUMBER
FIGURE D-2.6
2/25/2026



NORTH

GRAPHIC SCALE IN FEET
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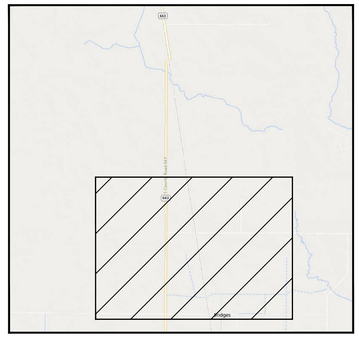

VICINITY MAP
SCALE 1"=5000'

LEGEND:

- (X) OPTIONAL SITE #
- OPTIONAL SITE BOUNDARY (COLORED: GREEN, YELLOW OR RED)
- PARCEL LINES
- CSX RAIL LINE
- MAJOR ROADS
- WETLANDS
- FEMA FLOOD ZONES

ACCESS POINTS:

- ROAD ACCESS NO NEW AT GRADE RAIL CROSSING
- ROAD ACCESS NEW AT GRADE RAIL CROSSING
- RAIL ACCESS NO AT GRADE RAIL CROSSING
- RAIL ACCESS NEW AT GRADE RAIL CROSSING
- EXISTING ROAD ACCESS EXISTING AT GRADE RAIL CROSSING

NOTE:
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PREPARED FOR
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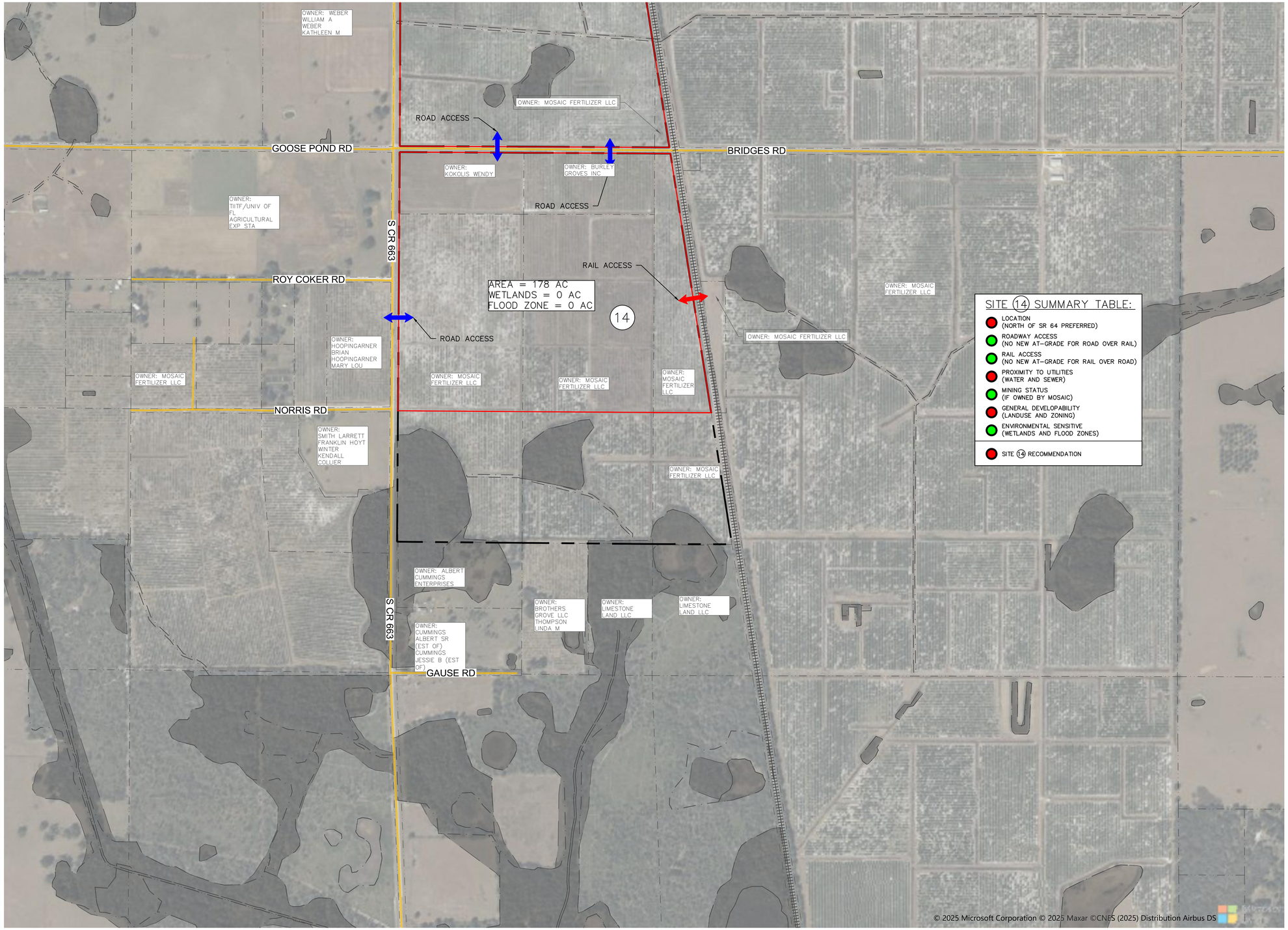
RAIL-CENTRIC SITES
INLAND PORT FEASIBILITY STUDY

CITY OF WAUCHULA FLORIDA

SHEET NUMBER
FIGURE D-2.7
2/25/2026



NORTH

GRAPHIC SCALE IN FEET
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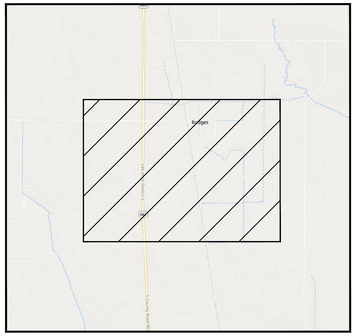

VICINITY MAP
SCALE 1"=5000'

SITE (14) SUMMARY TABLE:

- LOCATION (NORTH OF SR 64 PREFERRED)
- ROADWAY ACCESS (NO NEW AT-GRADE FOR ROAD OVER RAIL)
- RAIL ACCESS (NO NEW AT-GRADE FOR RAIL OVER ROAD)
- PROXIMITY TO UTILITIES (WATER AND SEWER)
- MINING STATUS (IF OWNED BY MOSAIC)
- GENERAL DEVELOPABILITY (LANDUSE AND ZONING)
- ENVIRONMENTAL SENSITIVE (WETLANDS AND FLOOD ZONES)

SITE (14) RECOMMENDATION

LEGEND:

- (X) OPTIONAL SITE #
- OPTIONAL SITE BOUNDARY (COLORED: GREEN, YELLOW OR RED)
- PARCEL LINES
- CSX RAIL LINE
- MAJOR ROADS
- WETLANDS
- FEMA FLOOD ZONES

ACCESS POINTS:

- ROAD ACCESS NO NEW AT GRADE RAIL CROSSING
- ROAD ACCESS NEW AT GRADE RAIL CROSSING
- RAIL ACCESS NO AT GRADE RAIL CROSSING
- RAIL ACCESS NEW AT GRADE RAIL CROSSING
- EXISTING ROAD ACCESS EXISTING AT GRADE RAIL CROSSING

NOTE:
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PREPARED FOR
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RAIL-CENTRIC SITES
INLAND PORT FEASIBILITY STUDY

CITY OF WAUCHULA FLORIDA

SHEET NUMBER
FIGURE D-2.8
2/25/2026

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SITE 15 SUMMARY TABLE:

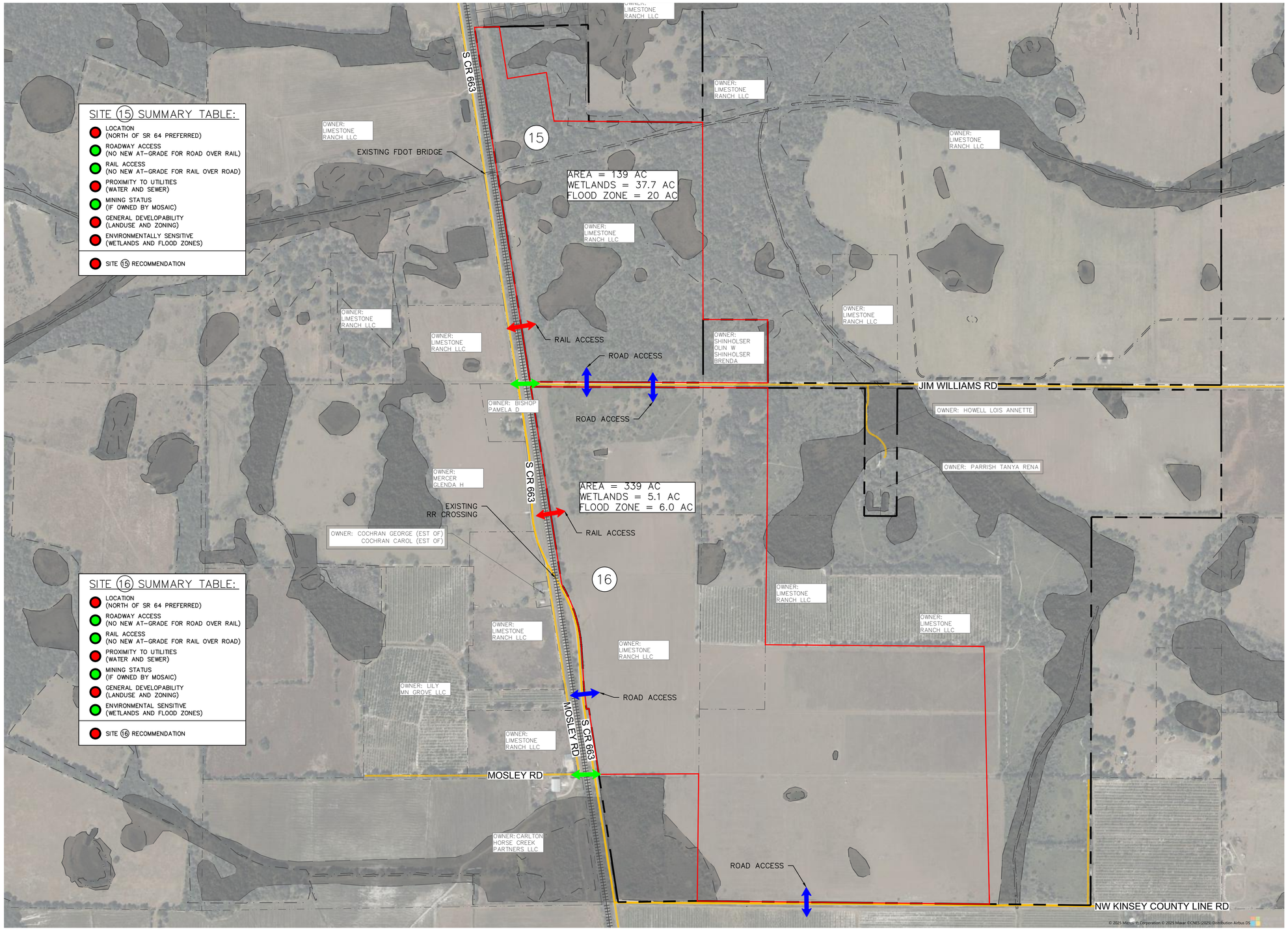
- LOCATION (NORTH OF SR 64 PREFERRED)
- ROADWAY ACCESS (NO NEW AT-GRADE FOR ROAD OVER RAIL)
- RAIL ACCESS (NO NEW AT-GRADE FOR RAIL OVER ROAD)
- PROXIMITY TO UTILITIES (WATER AND SEWER)
- MINING STATUS (IF OWNED BY MOSAIC)
- GENERAL DEVELOPABILITY (LANDUSE AND ZONING)
- ENVIRONMENTALLY SENSITIVE (WETLANDS AND FLOOD ZONES)

SITE 15 RECOMMENDATION

SITE 16 SUMMARY TABLE:

- LOCATION (NORTH OF SR 64 PREFERRED)
- ROADWAY ACCESS (NO NEW AT-GRADE FOR ROAD OVER RAIL)
- RAIL ACCESS (NO NEW AT-GRADE FOR RAIL OVER ROAD)
- PROXIMITY TO UTILITIES (WATER AND SEWER)
- MINING STATUS (IF OWNED BY MOSAIC)
- GENERAL DEVELOPABILITY (LANDUSE AND ZONING)
- ENVIRONMENTAL SENSITIVE (WETLANDS AND FLOOD ZONES)

SITE 16 RECOMMENDATION



NORTH

GRAPHIC SCALE IN FEET
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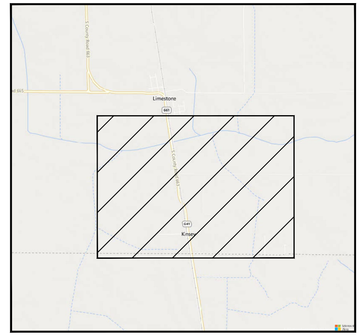

VICINITY MAP
SCALE 1"=5000'

LEGEND:

- (X) OPTIONAL SITE #
- OPTIONAL SITE BOUNDARY (COLORED: GREEN, YELLOW OR RED)
- PARCEL LINES
- CSX RAIL LINE
- MAJOR ROADS
- WETLANDS
- FEMA FLOOD ZONES

ACCESS POINTS:

- ROAD ACCESS NO NEW AT GRADE RAIL CROSSING
- ROAD ACCESS NEW AT GRADE RAIL CROSSING
- RAIL ACCESS NO AT GRADE RAIL CROSSING
- RAIL ACCESS NEW AT GRADE RAIL CROSSING
- EXISTING ROAD ACCESS EXISTING AT GRADE RAIL CROSSING

NOTE:
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PREPARED FOR
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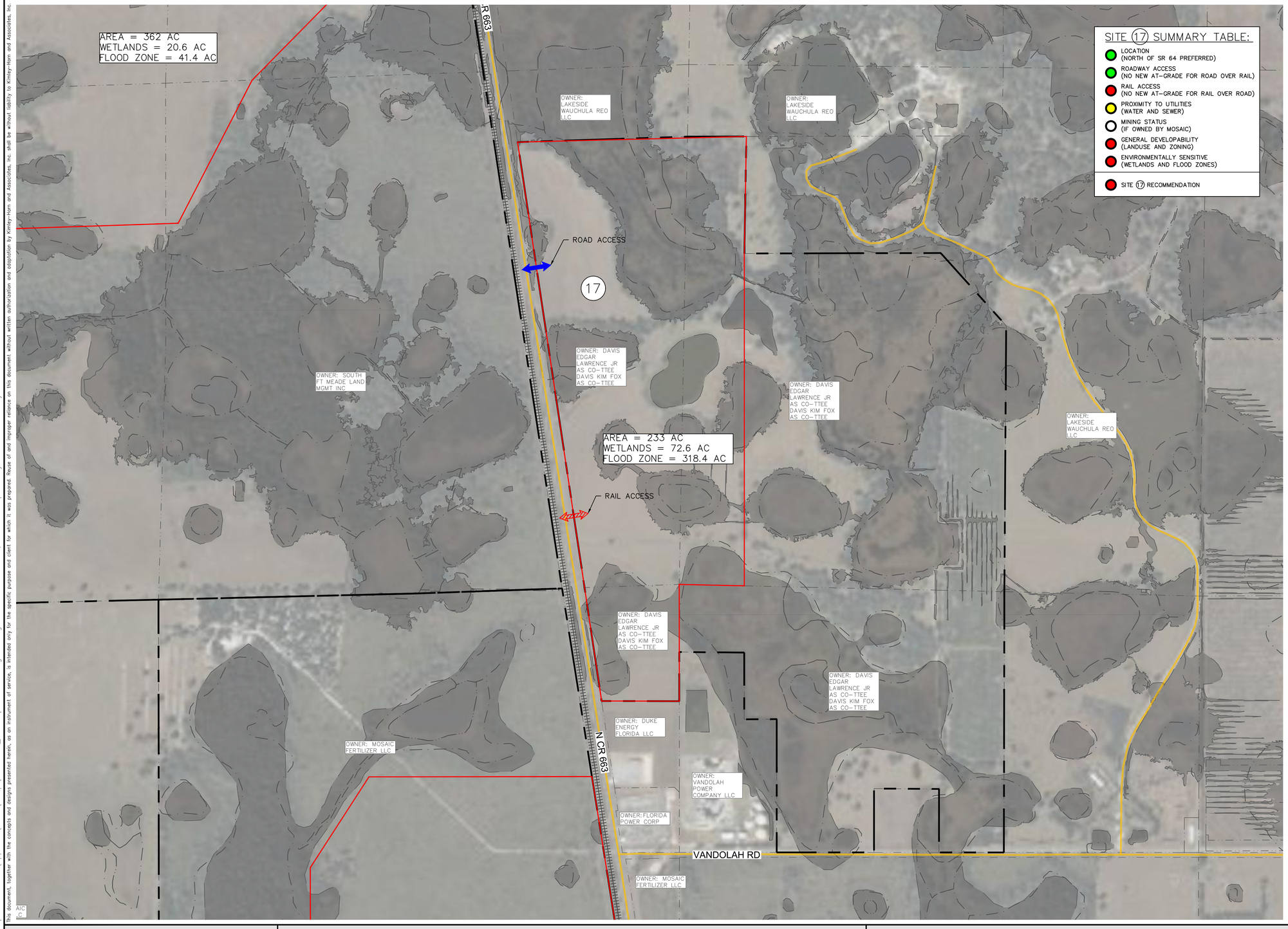
RAIL-CENTRIC SITES
INLAND PORT FEASIBILITY STUDY

CITY OF WAUCHULA FLORIDA

SHEET NUMBER
FIGURE D-2.9
2/25/2026



NORTH

GRAPHIC SCALE IN FEET
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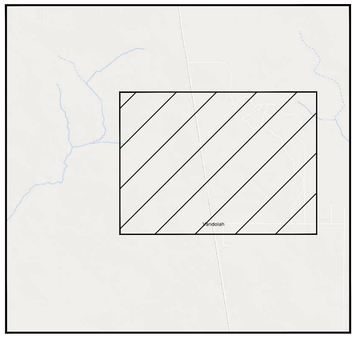

VICINITY MAP
SCALE 1"=5000'

LEGEND:

- (X) OPTIONAL SITE #
- OPTIONAL SITE BOUNDARY (COLORED: GREEN, YELLOW OR RED)
- PARCEL LINES
- CSX RAIL LINE
- MAJOR ROADS
- WETLANDS
- FEMA FLOOD ZONES

ACCESS POINTS:

- ROAD ACCESS NO NEW AT GRADE RAIL CROSSING
- ROAD ACCESS NEW AT GRADE RAIL CROSSING
- RAIL ACCESS NO AT GRADE RAIL CROSSING
- RAIL ACCESS NEW AT GRADE RAIL CROSSING
- EXISTING ROAD ACCESS EXISTING AT GRADE RAIL CROSSING

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PREPARED FOR
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RAIL-CENTRIC SITES
INLAND PORT FEASIBILITY STUDY
CITY OF WAUCHULA FLORIDA

SHEET NUMBER
FIGURE D-2.10
2/25/2026

Appendix E.

Conceptual Site Plans

LEGEND

- PROPERTY BOUNDARY
- LANDSCAPE BUFFER
- BUILDING SETBACK
- PARCEL
- EXISTING TRACK
- PROPOSED TRACK
- EXISTING WETLAND
- WETLAND IMPACTS

NOTE:

1. ALL TURNOUTS ARE NUMBER 8 TURNOUTS UNLESS OTHERWISE NOTED.
2. ALL RAIL CURVES ARE 12° UNLESS OTHERWISE NOTED.

WAREHOUSE DATA TABLE

BUILDING	AREA (SF)	DOCK DOORS	EMPLOYEE PARKING	TRAILER PARKING
1	164,920	30	116	32
2	226,920	45	118	48
3	148,770	36	126	38
4	155,000	27	110	29
TOTAL	**695,610**	**138**	**470**	**162**

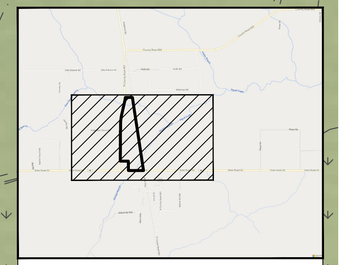
SITE DATA

SITE ACREAGE	114.75 AC
EXISTING WETLANDS	29.96 AC
WETLAND IMPACTS	6.34 AC
TRACK 1 CLEAR LENGTH	2,512 FT
TRACK 2 CLEAR LENGTH	2,725 FT
TRACK 3 CLEAR LENGTH	3,048 FT
TOTAL TRACK CLEAR LENGTH	8,285 FT

NO. 10 TURNOUT FROM EXISTING CSX RAIL LINE
DERAIL/CSXT OWNERSHIP POINT
BRIDGE AT STREAM CROSSING
EXISTING PROPERTY LINE (TYP.)
RTG (TYP.)
CSXT SUBDIVISION: BREWSTER MAX. TIMETABLE SPEED: 35 MPH
CONTAINER STORAGE
TRACKS 1, 2 & 3
DOCK DOORS (TYP.)
TRUCK ENTRANCE AND EXIT GATE
TRAILER STALLS
BRIDGE AT STREAM CROSSING
DERAIL/CSXT OWNERSHIP POINT
NO. 10 TURNOUT FROM EXISTING CSX RAIL LINE
EXISTING WETLANDS (TYP.)
PROPOSED FULL ACCESS ONTO SR-62

BLDG 4 — 500' × 310'
BLDG 3 — 610' × 244'
BLDG 2 — 732' × 310'
BLDG 1 — 532' × 310'
POND

BAPTIST CHURCH RD
N COUNTY ROAD 663
SR 62
MINE VIEW RD
N CR 663
ABBOTT RD



VICINITY MAP
SCALE 1"=5000'

GRAPHIC SCALE IN FEET
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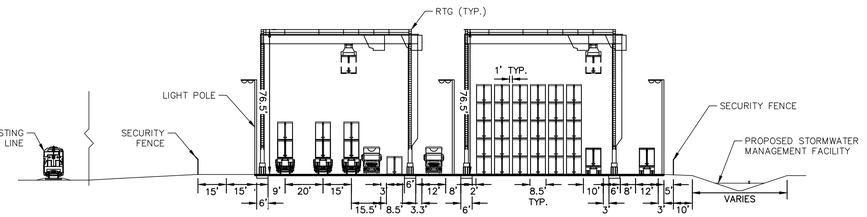
NORTH



SECTION VIEW A–A
(NOT TO SCALE)

NOTE:
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INTERMODAL DEVELOPMENT SITE OPTION 2

CONCEPTUAL SITE PLAN

CITY OF WAUCHULA FLORIDA

SHEET NUMBER
FIGURE E-1
2/25/2026

LEGEND

- PROPERTY BOUNDARY
- LANDSCAPE BUFFER
- BUILDING SETBACK
- PARCEL
- EXISTING TRACK
- PROPOSED TRACK
- EXISTING WETLAND
- WETLAND IMPACTS

NOTE:

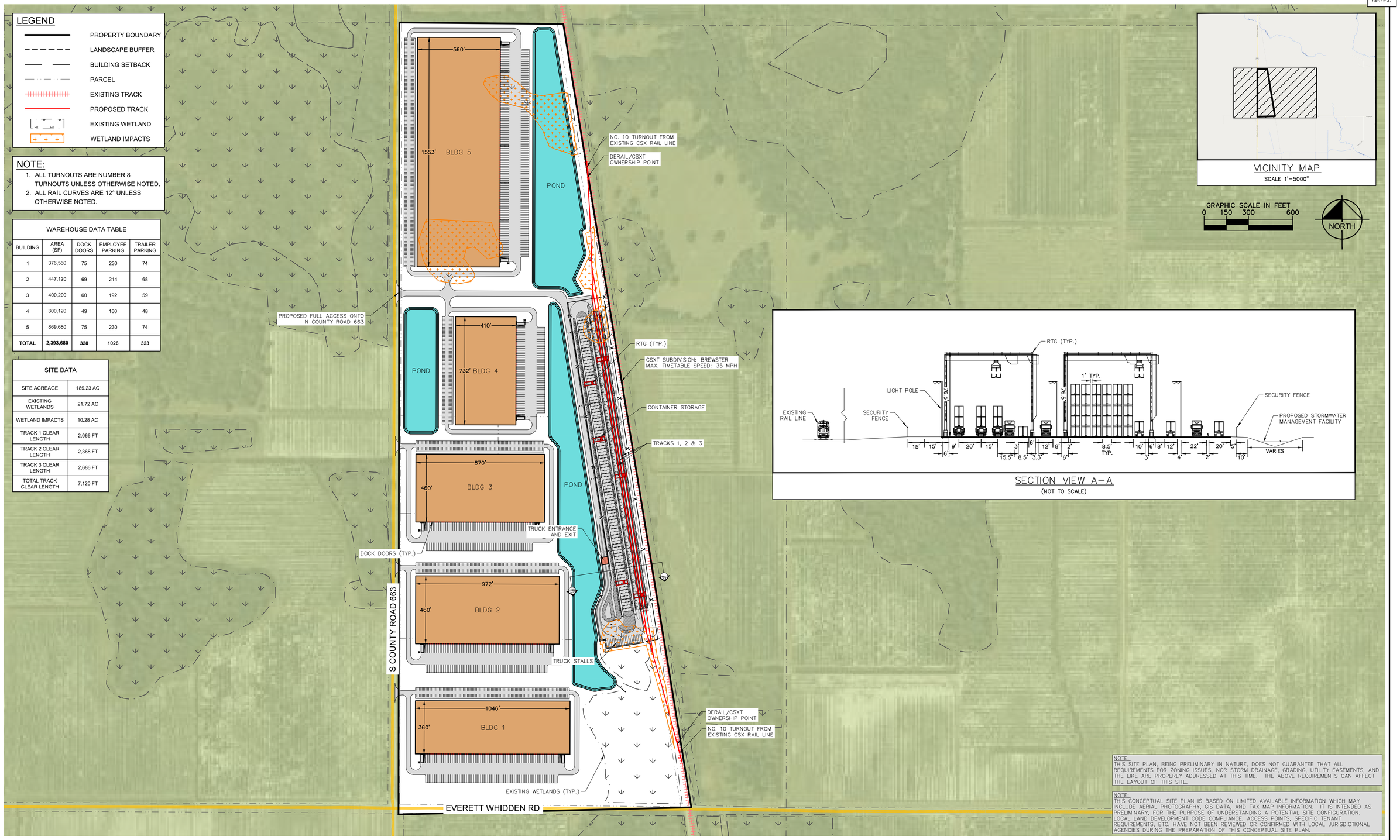
1. ALL TURNOUTS ARE NUMBER 8 TURNOUTS UNLESS OTHERWISE NOTED.
2. ALL RAIL CURVES ARE 12° UNLESS OTHERWISE NOTED.

WAREHOUSE DATA TABLE

BUILDING	AREA (SF)	DOCK DOORS	EMPLOYEE PARKING	TRAILER PARKING
1	376,560	75	230	74
2	447,120	69	214	68
3	400,200	60	192	59
4	300,120	49	160	48
5	869,680	75	230	74
TOTAL	**2,393,680**	**328**	**1026**	**323**

SITE DATA

SITE ACREAGE	189.23 AC
EXISTING WETLANDS	21.72 AC
WETLAND IMPACTS	10.28 AC
TRACK 1 CLEAR LENGTH	2,066 FT
TRACK 2 CLEAR LENGTH	2,368 FT
TRACK 3 CLEAR LENGTH	2,686 FT
TOTAL TRACK CLEAR LENGTH	7,120 FT



VICINITY MAP
SCALE 1"=5000"

GRAPHIC SCALE IN FEET
0 150 300 600

NORTH

SECTION VIEW A–A
(NOT TO SCALE)

NOTE:
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NOTE:
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Drawing name: K:\LAK_Civil\046292035 - City of Wauchula Inland Port Study\CAD\Exhibits\Conceptual Site Plans - Intermodal\Conceptual Site Plan 6.dwg exhibit Feb 13, 2026 12:27pm by James.Dusenbury

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109 SOUTH KENTUCKY AVENUE, LAKELAND FL, 33801
PHONE: 863–701–8702
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INTERMODAL DEVELOPMENT SITE OPTION 6

CONCEPTUAL SITE PLAN

CITY OF WAUCHULA FLORIDA

SHEET NUMBER
FIGURE E-2
2/25/2026

LEGEND

- PROPERTY BOUNDARY
- LANDSCAPE BUFFER
- BUILDING SETBACK
- PARCEL
- EXISTING TRACK
- PROPOSED TRACK
- EXISTING WETLAND
- WETLAND IMPACTS

NOTE:

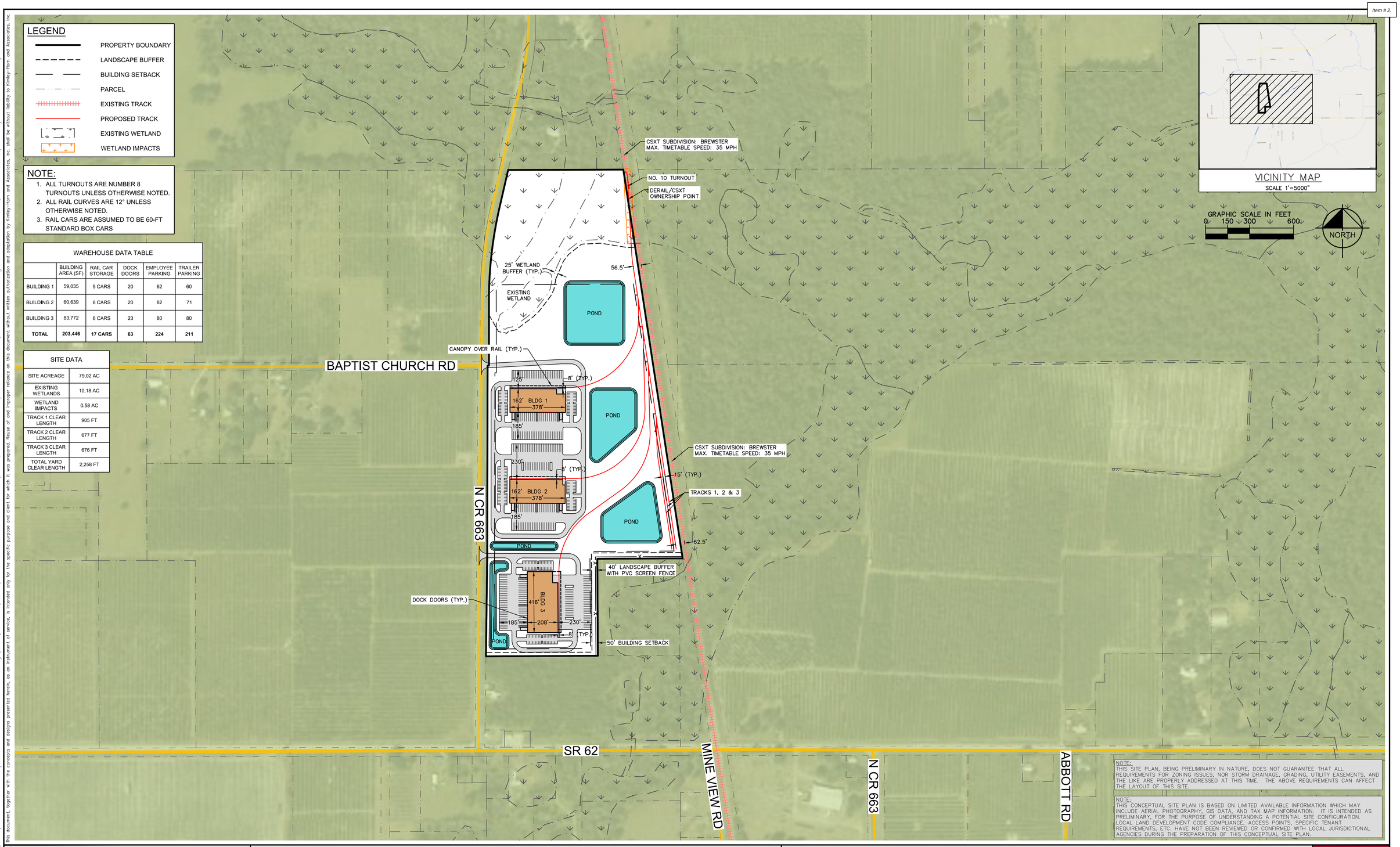
1. ALL TURNOUTS ARE NUMBER 8 TURNOUTS UNLESS OTHERWISE NOTED.
2. ALL RAIL CURVES ARE 12° UNLESS OTHERWISE NOTED.
3. RAIL CARS ARE ASSUMED TO BE 60-FT STANDARD BOX CARS

WAREHOUSE DATA TABLE

	BUILDING AREA (SF)	RAIL CAR STORAGE	DOCK DOORS	EMPLOYEE PARKING	TRAILER PARKING
BUILDING 1	59,035	5 CARS	20	62	60
BUILDING 2	60,639	6 CARS	20	82	71
BUILDING 3	83,772	6 CARS	23	80	80
TOTAL	**203,446**	**17 CARS**	**63**	**224**	**211**

SITE DATA

SITE ACREAGE	79.02 AC
EXISTING WETLANDS	10.18 AC
WETLAND IMPACTS	0.58 AC
TRACK 1 CLEAR LENGTH	905 FT
TRACK 2 CLEAR LENGTH	677 FT
TRACK 3 CLEAR LENGTH	676 FT
TOTAL YARD CLEAR LENGTH	2,258 FT



VICINITY MAP

SCALE 1"=5000"

GRAPHIC SCALE IN FEET
0 150 300 600

NORTH

NOTE:
THIS SITE PLAN, BEING PRELIMINARY IN NATURE, DOES NOT GUARANTEE THAT ALL REQUIREMENTS FOR ZONING ISSUES, NOR STORM DRAINAGE, GRADING, UTILITY EASEMENTS, AND THE LIKE ARE PROPERLY ADDRESSED AT THIS TIME. THE ABOVE REQUIREMENTS CAN AFFECT THE LAYOUT OF THIS SITE.

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Drawing name: K:\LAK_Civil\046292035 - City of Wauchula Inland Port Study\CAD\Exhibits\Conceptual Site Plans - Railcentric\Conceptual Site Plans\Railcentric Site Option 4 - CSP-1.dwg CSP-1 Feb 13, 2026 12:30pm by James.Dusenbury
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RAIL-CENTRIC DEVELOPMENT SITE OPTION 4

CONCEPTUAL SITE PLAN

CITY OF WAUCHULA FLORIDA

SHEET NUMBER
FIGURE E-3
2/25/2026

LEGEND

- PROPERTY BOUNDARY
- LANDSCAPE BUFFER
- BUILDING SETBACK
- PARCEL
- EXISTING TRACK
- PROPOSED TRACK
- EXISTING WETLAND
- WETLAND IMPACT

NOTE:

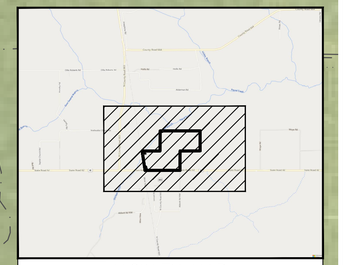
1. ALL TURNOUTS ARE NUMBER 8 TURNOUTS UNLESS OTHERWISE NOTED.
2. ALL RAIL CURVES ARE 12° UNLESS OTHERWISE NOTED.
3. RAIL CARS ARE ASSUMED TO BE 60-FT STANDARD BOX CARS

WAREHOUSE DATA TABLE

	AREA (SF)	RAIL CAR STORAGE	DOCK DOORS	EMPLOYEE PARKING	TRAILER PARKING
BUILDING 1	585,000	19 CARS	78	286	280
BUILDING 2	187,500	11 CARS	42	75	154
BUILDING 3	172,585	7 CARS	32	84	62
BUILDING 4	136,176	8 CARS	28	93	111
TOTAL	**1,081,261**	**45 CARS**	**180**	**538**	**607**

SITE DATA

SITE ACREAGE	151.36 AC
EXISTING WETLANDS	10.57 AC
WETLAND IMPACTS	5.82 AC
TRACK 1 CLEAR LENGTH	1,317 FT
TRACK 2 CLEAR LENGTH	1,318 FT
TRACK 3 CLEAR LENGTH	1,196 FT
TOTAL YARD CLEAR LENGTH	3,831 FT



VICINITY MAP
SCALE 1"=5000'

GRAPHIC SCALE IN FEET
0 150 300 600

NORTH

EXISTING WETLAND
EXISTING WETLAND
EXISTING WETLAND
POND
DOCK DOORS (TYP.)
8' (TYP.)
185'
BLDG 2
750'
1300'
450'
BLDG. 1
230'
250'
185'
8' (TYP.)
230'
POND
POND
POND
CANOPY OVER RAIL (TYP.)
EXISTING WETLAND
25' WETLAND BUFFER (TYP.)
CSXT SUBDIVISION: BREWSTER
MAX. TIMETABLE SPEED: 35 MPH
NO. 10 TURNOUT
DERAIL/CSXT OWNERSHIP POINT
10° CURVE
25' LANDSCAPE BUFFER
185'
324'
185'
8' (TYP.)
540' BLDG 3
POND
230'
8' (TYP.)
250'
BLDG 4
550'
185'
POND
POND
POND
15' (TYP.)
40' LANDSCAPE BUFFER WITH PVC SCREEN FENCE
50' BUILDING SETBACK
TRACKS 1, 2 & 3
N CR 663
SR 62
SR 62
MINE VIEW RD
N CR 663
ABBOTT RD

NOTE:
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Drawing name: K:\LAK_Civil\046292035 - City of Wauchula Inland Port Study\CAD\Exhibits\Conceptual Site Plans - Railcentric\Conceptual Site Plans\Railcentric Site Option 5 - CSP1.1.dwg CSP-1 Feb 13, 2026 12:37pm by James.Dusenbury

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RAIL-CENTRIC DEVELOPMENT SITE OPTION 5

CONCEPTUAL SITE PLAN

CITY OF WAUCHULA FLORIDA

SHEET NUMBER
FIGURE E-4
2/25/2026

City of Wauchula

Inland Port Feasibility Study

City of Wauchula

Inland Port Feasibility Study

HEARTLAND 250

CELEBRATING AMERICA 250 IN THE HEARTLAND

CELEBRATING AMERICA IN THE HEARTLAND

HARDEE COUNTY CIVIC CENTER - 507 CIVIC CENTER DRIVE, WAUCHULA, FL 33873

FRIDAY, JUNE 26, 2026 — DOORS OPEN AT 6:00 PM

EVENT DETAILS

- ADMISSION: FREE
- PARKING: FREE
- FEATURING: 100-VOICE COMMUNITY SINGERS, COMMUNITY ORCHESTRA, AND PEACE RIVER ENTERTAINMENT & PERFORMING ARTS PLAYERS
- SPECIAL ATTRACTION: REPLICA OF GEORGE WASHINGTON'S MILITARY WAR TENT
- REFRESHMENTS: FREE HOT DOGS AND WATER PROVIDED
- HONOR GUARD: PROVIDED BY THE SONS OF THE AMERICAN REVOLUTION

VISIT WWW.HEARTLAND250.COM FOR MORE INFORMATION.

HEARTLAND 250

SUPPORT THE HEARTLAND 250 CELEBRATION!
AN AMERICA 250 EVENT

BECOME A SPONSOR TODAY!

Your support of this community event is greatly appreciated.

GOLD	SILVER	BRONZE
$5,000	$2,500	$1,500

PAYABLE TO: Hardee Arts & Culture Trust, Inc.

MEMO LINE: Please indicate "For America 250" on your check.

MAIL CHECK TO: Hardee Arts & Culture Trust, Inc.
398 Bostick Rd
Bowling Green, FL 33834

VISIT WWW.HEARTLAND250.COM FOR MORE INFORMATION.

HEARTLAND 250

JOIN THE 100-VOICE CHOIR & ORCHESTRA

For "Heartland 250: America In The Heartland"

Hardee County Civic Center
Friday, June 26th, 2026 at 7:00 PM

SIGN UP NOW TO PARTICIPATE!

Contact: Tim Davis
Cell: 863-245-1262
Email: davis.timothy58@gmail.com

Visit heartland250.com for more information.

Rehearsal schedule, etc. will be announced at a later date.
We look forward to you joining the choir/orchestra for this event.

DESIGN \ BUILD
10-UNIT T-HANGARS

WAUCHULA MUNICIPAL AIRPORT

WAUCHULA, FLORIDA

PROJECT MANUAL

100% SUBMITTAL

MARCH 2026

Prepared for

CITY OF WAUCHULA

Prepared for

AVCON, INC.
5555 E. Michigan Street, Suite 200
Orlando, FL 32822
407.599.1122
407.599.1133
www.avconinc.com
2023.0052.02

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Contract Agreement ..... CA
Performance Bond ..... PB
Construction Payment Bond ..... CPB
Opinion of Attorney ..... OA
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Notice to Proceed ..... NTP
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Appendix II: Bid Conditions, Disadvantaged Business Enterprise Program ..... APP-II
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2) Rules and Regulations
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Proposal Requirements and Conditions GP20
Award and Execution of Contract GP30
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Control of Materials GP60
Legal Regulations and Responsibility to Public GP70
Prosecution and Progress GP80
Measurement and Payment GP90
Special Provision Design/Build Performance GP140

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Concrete Forming and Accessories 03 10 00
Concrete Reinforcing 03 20 00
Cast-in-Place Concrete 03 30 00
Concrete Finishing 03 35 00
Masonry Units 04 20 00
Architecturally-Exposed Structural Steel Framing 05 12 13
Penetration Firestopping 07 84 13
Joint Sealants 07 92 00

Hollow Metal Doors and Frames 08 11 13
Nono-Structural Metal Framing 09 22 16
Gypsum Board 09 29 00
Painting 09 91 00
Identifying Devices 10 14 00
Fire Protection Specialties 10 44 00
Metal Building Systems 13 34 19
Dewatering 31 23 19

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Contractor Quality Control Program (CQCP) C-100
Temporary Air and Water Pollution, Soil Erosion, and Siltation Control C-102
Mobilization C-105
Method of Estimating Percentage of Material within Specification Limits (PWL) C-110
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Excavation, Subgrade, and Embankment P-152
Controlled Low-Strength Material (CLSM) P-153
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Concrete Gutters, Ditches, and Flumes D-754
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Mulching T-908
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Low-Voltage Electrical Power Conductors and Cables SP-109S-26 05 19
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Hangers and Supports for Electrical Systems SP-109S-26 05 29
Pull and Junction Boxes SP-109S-26 05 31
Wireway SP-109S-26 05 33.02
Conduct for Electrical Systems SP-109S-26 05 33.13
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Low-Voltage Transformers SP-109S-26 22 00

Panelboards.....SP-109S-26 24 16
Distribution Panelboards SP-109S-26 24 16.13
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Wiring Devices.....SP-109S-26 27 26
Enclosed Switches and Circuit Breakers.....SP-109S-26 28 16
Lightning Protection for Structures SP-109S-26 41 13

FDOT SPEC

Superpave Asphalt Concrete S-334

APPENDIX

- Geotech Report dated 11/15/2023

REFERENCE SPECIFICATIONS: The following FAA Advisory Circular(s) and FDOT Specifications are not included in the Project Manual, but form a part of the executed contract by reference. FAA Advisory Circulars may be downloaded from www.faa.gov.

Operational Safety on Airports During Construction 150-5370-2G
300Prime and Tack Coats.....300
Hot Mix Asphalt - Plant Methods and Equipment 320
Hot Mix Asphalt – General Construction Requirements.....330

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Notice to Procure NP-1
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Certificate of Warranty ..... CW-1 thru 2

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ADVERTISEMENT

LOCATION: **WAUCHULA MUNICIPAL AIRPORT**
WAUCHULA, FLORIDA

PROJECT: **DESIGN\BUILD 10-UNIT T-HANGARS**

1. DESCRIPTION OF WORK

The work identified in the Advertisement for Bids consists of Airport Construction to be performed by qualified contractors as follows:

DESIGN\BUILD 10-UNIT T-HANGARS

The project includes, but is not limited to, the following primary sub-elements:

a. Finalize, sign\seal, and submit design plans for T-Hangar building structures, foundations, and site work, for review and approval by the Owner and Owner's representatives.
b. Obtain building and fire permits from City of Wauchula and Hardee County.
c. Procure PEMB, components, cladding, and all other materials.
d. Construct 10-Unit T-Hangar building structures and foundations, electrical, fire alarms, smoke detectors, and backup power supplies as specified, as a turnkey facility ready to turn over to the Owner for immediate use upon final acceptance.
e. Construct civil and electrical site work.

… pursuant to all local and state laws, and codes, and Florida Department of Transportation rules and regulations. The engineer has\will obtain FAA and SWFWMD permits prior to Notice to Proceed.

2. No pre-bid conference will be held. See below for procedures on site visits and questions.

3. SEALED BIDS will be received by the City of Wauchula, Florida, at City Hall, 126 South 7th Avenue, Wauchula, Florida, 33873 on **Wednesday, March XX, 2026 until 2:00 PM (Local Time).**

The Owner reserves the right to hold all bids for a maximum period of 180 calendar days prior to awarding the contract or rejecting all bids.

4. At the time mentioned above, bidding will be closed and those proposals received will be publicly opened and read aloud in the Office.

5. All proposals shall be submitted on the forms furnished by the Owner. Each proposal submitted shall be placed with all required attachments in a sealed envelope, and this envelope shall in turn be placed in a 9 x 12 inch envelope. Both envelopes must be sealed and marked as follows:

Bids for the Project: **DESIGN\BUILD 10-UNIT T-HANGARS**
Wauchula Municipal Airport

Wauchula, Florida
To Be Opened: Wednesday, April XX, 2026 – 2:00PM

Firm Submitting Bid: _____

6. Contract (Bid) Documents (consisting of the construction plans and project manual) will be available on and after **Monday, March XX, 2026**, and may be examined at no expense at the office of Ms. Olivia Minshew, City Manager, City of Wauchula, (863) 773-9193. No contract documents will be sold to bidders by the City.

7. On and after **Monday, March XX, 2026**, Bid Documents will be available electronically and may be obtained by contacting Sue Finney, phone: (407) 599-1122; email: sfinney@avconinc.com. **Bidders must be registered through AVCON, Inc. to be eligible to submit a Bid for the project.** A complete examination and understanding of the drawings and specifications contained in the Bid Documents is necessary in order for the Bidder to properly submit a Bid. The Bid Documents also include a detailed set of Instructions to Bidders. All Bids shall be prepared in accordance with the Instructions to Bidders. The failure to comply with any requirement contained in the Bid Documents may result in the rejection of the Bid as non- responsive or a finding that the Bidder is not qualified for this Project.

8. Any questions relative to this Project shall be submitted no later than **Wednesday, March XX, 2026, at 5:00 pm local time** in writing only via letter, fax, or email, to AVCON, INC. 5555 East Michigan Street, Suite 200, Orlando, Florida 32822. Attention: Ms. Sue Finney, email sfinney@avconinc.com, Fax 407-599-1133. Copies of written responses will be provided to all prospective Bidders who purchase bidding contract documents via the Addendum process.

9. A certified check, drawn upon a state or national bank, or a bid bond issued by a corporate Surety licensed to conduct business in the State of Florida, in a sum not less than five percent (5%) of the total amount bid, made payable to the City of Wauchula, Florida is required with each bid.

10. A Performance Bond for an amount not less than 100% of the bid price and a Payment Bond for an amount not less than 100% of the bid prices will be required from the selected bidder at the time he/she enters into a contract with the City.

11. The Owner reserves the right to waive any informalities or technicalities, to reject any or all Bids, or to re-advertise for Bids. The Owner reserves the right to award all bid schedules, no bid schedules, or any combination of bid schedules that are most advantageous to the Owner. Award, if made, will be to the responsible and qualified Bidder whose Bid is responsive to the invitation and is most advantageous to the Owner, price and other factors considered.

12. No proposal may be withdrawn after the scheduled closing time for the receipt of proposals for a period of 180 calendar days.

13. Liquidated damages for delay in completion of the contract will be in accordance with the Contract Documents.

14. Bids must be submitted on an exact reproduction of the bid forms supplied, including any addenda which may be issued, in sealed envelopes and Description(s) in bold as specified above.

15. Bidders shall submit a general one year project warranty certificate on workmanship and labor, in addition to any product, equipment, and/or materials-specific manufacturer's warranties prior to final payment.

16. The apparent low bidder will be announced based on the Total Bid. The contract will be awarded to a successful bidder based on a review of all bids received on all bid schedules and alternates in accordance with the contract documents. Bid Schedules or Alternates may or may not be awarded depending on available funds. The Owner reserves the right to award any combination of Bid Schedules/Alternates, or to reject all Bid Schedules/Alternates, or to reject any combination of Bid Schedules/Alternates, which are most advantageous to the Owner, price and all other factors considered, and as specified in accordance with the Contract Documents.

17. The FAA, along with other federal agencies, removed requirements for non-segregated facilities and EEO/affirmative action clauses following President Trump's Executive Order 14173 ("Ending Illegal Discrimination and Restoring Merit-Based Opportunity"). This order revoked the 1965 Executive Order 11246, which previously mandated these provisions, to prioritize "merit-based" hiring and reduce administrative burdens on contractors. While the specific contract clauses are removed, contractors are still obligated to comply with general anti-discrimination laws under Title VII of the Civil Rights Act. These changes were initiated through GSA Class Deviations in February 2025 to align with the new administration's policies.

18. The FDOT and the Florida State Attorney General have paused the Disadvantaged Business Enterprise (DBE) program established by Airports and other public entities based on the above referenced federal action. As such, the Airport's DBE program has been suspended and the goal set to 0.0% for this project. See Appendix IIA for more information.

19. Site visits may be scheduled during the bidding period by contacting the Airport Manager prior to bidding and a minimum 24 hours in advance. It will be the responsibility of the contractor to provide transportation for any site visit.

CITY OF WAUCHULA, FLORIDA

BY_____
Mr. John Eason, Deputy City Manager

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INSTRUCTIONS TO BIDDERS

1. DESCRIPTION OF WORK

The work identified in the Advertisement for Bids consists of Airport Construction to be performed by qualified contractors as follows:

DESIGN\BUILD 10-UNIT T-HANGARS

The project includes, but is not limited to, the following primary sub-elements:

a. Finalize, sign\seal, and submit design plans for T-Hangar building structures, foundations, and site work.
b. Obtain building and fire permits from City of Wauchula and Hardee County.
c. Procure PEMB, components, cladding, and all other materials.
d. Construct 10-Unit T-Hangar building structures and foundations.
e. Construct civil and electrical site work.

… pursuant to all local and state laws, and codes, and Florida Department of Transportation rules and regulations. The engineer has\will obtain FAA and SWFWMD permits prior to Notice to Proceed.

EXAMINATION OF PLANS, SPECIFICATIONS, SITE AND OTHER PROVISIONS

The following information is furnished in addition to and not in conflict with "General Provisions,"* Section 20, paragraph 20-06.

The Bidder is required to examine carefully the site of the Work and the Drawings, Specifications and other Contract Documents for the work contemplated at the Wauchula Municipal Airport, Wauchula, Florida. By submitting a Bid, the Bidder represents to the Owner that it has investigated and is fully informed of the conditions to be encountered, of the character, quality and quantities of Work to be performed and materials to be furnished and of all the requirements of the Plans, Specifications and other Contract Documents. A complete listing of the plan sheets may be found in **Volume 3 – Construction Plans.**

*** "General Provisions" referenced in this Contract Document is provided in Volume 2 "Technical Specifications."**

2.1 SILENCE OF SPECIFICATIONS

The apparent silence of this specification and any supplemental specifications attached to the project manual as to any details or the omission from same of any detailed description concerning any point shall be regarded as meaning that only the best commercial practices are to prevail and that only materials of first quality and correct type, size, and design are to be used. All workmanship is to be first quality. All interpretations of these specifications shall be made upon the basis of this statement.

2.2 CONFLICT OF INTEREST

The award hereunder is subject to the provisions of Chapter 112, Florida Statutes. All Bidders must disclose with their bid the name of any officer, director, or agent who is also an employee of the City or any of its agencies. Further, all Bidders must disclose the name of any City employee or volunteer working at the behest of the City, who owns, directly or indirectly, any interest of any amount in the Bidder's firm or any of its branches.

2.3 GENERAL SAFETY STANDARDS

Unless otherwise stipulated in the bid, all manufactured items and fabricated assemblies shall comply with all applicable requirements of the Occupational Safety and Health Act (OSHA) and carry evidence of all applicable Underwriters Laboratories (UL) listings. All work in and around Airport property shall conform to the Site and Safety Plan(s) and notes portions of the drawings, as well as FAA AC 150/5370-2 (latest edition), which is available on the world-wide web at www.faa.gov, if not attached to the project manual.

2.4 MEETS SPECIFICATIONS

All equipment, accessories, and fabricated assemblies furnished under these specifications shall be new, the latest model in current production, and shall be of good quality workmanship and materials. The Bidder represents that all equipment, accessories, and fabricated assemblies shall meet or exceed the minimum requirements specified. Delivery, inspection, testing, labeling, and installation specifications per the manufacturer's recommendations shall be strictly adhered to.

2.5 QUALITY ASSURANCE VERSUS QUALITY CONTROL

The Bidder will provide complete Quality Control testing, inspection, and daily supervision to satisfy itself that all constructed items as specified and bid conform to the contract documents and manufacturer's recommendations and requirements. All equipment, accessories, materials, fabricated assemblies, and any other products used on the project shall be tested and inspected according to the manufacturer's recommendations, the specifications, ASTM standards, and/or UL requirements. See other sections of the project manual for more detail on quality control and quality control programs.

The Owner or Owner's representative will provide Quality Assurance (also known as Quality Acceptance) testing at its discretion to assure itself that the project items are being constructed as represented by the Bidder. The Bidder will notify the Owner's Representative when it is ready for Quality Assurance testing by the Owner for each stage of construction, for each separate item to be constructed and tested according to the Technical Specifications, whether the specifications are performance in nature or not. The Bidder shall not proceed to cover up, backfill, or start (as applicable) the item in question until the Owner or Owner's Representatives have been first notified that the item is ready for QA testing (if testing is required by the specifications). The Owner or Owner's Representative will avail itself of the necessity of QA testing for its own purposes and notify the Bidder that it may or may not proceed. The Bidder will pay for all failing tests, operations, and remedies necessary to bring the item(s) up to the specification's standards.

2.6 MANUFACTURER'S NAMES AND APPROVED EQUIVALENTS

Any manufacturer's names, trade names, brand names, information and/or catalog numbers listed in a specification, with or without the words "or approved equal" or "or approved equivalent", shall be interpreted as determining a standard of quality and shall not be construed as limiting of competition.

2.7 SAMPLES

Samples of items, when called for, must be furnished free of expense and may upon request, be returned at the Bidder's expense. Each individual sample must be labeled with the Bidder's name, manufacturer's brand name and number, bid number, and item reference. Samples of successful Bidders' items may remain on file with the City for the term of the contract. Requests for return of samples shall be accompanied by instructions which include shipping authorization and name of carrier and must be received within ninety (90) calendar days after bid opening date. If instructions are not received within this time, the commodities shall be retained by the City indefinitely.

3. REGULAR CONSTRUCTION MEETINGS

The Contractor shall provide a designated superintendent to be available at all times and shall attend a regular construction meeting held at the airport. The specific location, dates, and times shall be determined at the Pre-Construction Conference. The Contractor shall be represented by the superintendent and shall be knowledgeable of the day to day construction activities. The Contractor shall submit at the meetings an anticipated schedule of work for the following meeting. The Contractor's superintendent shall be on-site daily during the actual construction period.

4. RECORD DRAWINGS

Record drawings shall be submitted by the Contractor within five (5) working days of the last working day of the contract. Record drawings shall be performed by a licensed surveyor in the state in which the work is being performed. The record drawings shall meet all guidelines established in Section 1A, paragraph 60-09 of the Technical Specifications. Failure to submit record drawings to the engineer in the time specified above will delay final payment to the Contractor.

5. OBLIGATION OF BIDDERS

The Bidder must inform itself fully of the construction and labor conditions under which the Work is to be performed. The Bidder shall not be relieved of its obligation to furnish all material, equipment and labor necessary to carry out the provisions of the Contract Documents and to complete the contemplated Work for the consideration set forth in its Bid by reason and having failed to inform itself with respect to those matters.

6. ADDENDA - CHANGES WHILE BIDDING

No interpretation of the Plans, Specifications or other Contract Documents or correction of any apparent ambiguity, inconsistency or error therein, will be made orally to any Bidder. Every request for such interpretation or corrections must be made in writing, addressed to the Engineer, AVCON, Inc., 5555 E. Michigan Street, Suite #200, Orlando, Florida 32822, and must be received at least seven (7) calendar days prior to the date fixed for the opening of Bids in order to be given consideration. All such interpretations, corrections and supplemental instructions will be in the form of written Addenda to the Contract Documents which, if issued, will be mailed, emailed, sent by

facsimile, or delivered by a reputable courier/delivery service to all prospective Bidders (to the address furnished to the Owner by the prospective Bidder for such purposes) not later than 24 hours prior to the date fixed for the opening of Bids. If the Bidder fails to acknowledge receipt of any such Addendum in the space provided in the Bid Form, its Bid will nevertheless be construed as though the Addendum had been received and acknowledged, and the submission of its Bid will constitute acknowledgment of the receipt of the same.

Only the interpretation or correction so given by the Engineer in writing shall be binding, and prospective Bidders are warned that no other source is authorized to give information concerning, or to explain or interpret, the Contract Documents.

7. PREPARATION OF PROPOSAL

The following information is furnished in addition to and not in conflict with General Provision, Section 20, paragraph 20-7.

Bids shall be submitted on a reproduced copy of the attached Bid Form and shall include the following:

1. Statement of Bidder's Qualifications (Section SBQ 1-2)
2. Bid Form (Section BF 1-6)
3. Sworn Statement on Public Entity Crimes (Section SS 1-3)
4. Required Bid Guarantee (Section BB 1-2)
5. Proof of Insurances
6. Powers of Attorney

All blank spaces in the Bid Form shall be completed legibly and correctly in ink. The Bidder shall specify the Total Bid Price for the entire Work described in the Contract Documents.

If the Bid is made by an individual, it must be signed in the name of the individual and identify the individual's post office address and the name and address of every person interested in the Bid as principal. If the Bid is made by a firm or partnership, its name and address must be stated, together with the name and address of each member of the firm, or partnership. If the Bid is made by a Corporation, the Bid must be signed by an authorized officer or agent, on behalf of the Corporation and the corporate seal must be affixed thereto. The officer or agent must also prove the state in which the Corporation is incorporated, the names and business addresses of the President, Secretary, and Treasurer, evidence that the Corporation is in good standing in its state of incorporation and in Florida, and evidence that the Corporation has registered with the Secretary of State of the State of Florida, as a foreign corporation for doing business in the State of Florida.

8. BID GUARANTY

Each Bid shall be accompanied by a Bid Guaranty in the form of a cashiers' check made payable to the Owner or a Bid Bond in the form contained in the Contract Documents, duly executed by the Bidder as Principal having a Surety thereon a surety company fulfilling the qualifications described in Paragraph entitled "Guaranty of Faithful Performance and Payment". The Bid Bond shall be written through a licensed Florida agency on behalf of a surety company licensed to do business in the State of Florida. The Bid Guaranty shall be in the amount not less than five percent (5%) of the amount of the Total Bid Price. The cashier's check, or Bid Bond shall be submitted with the understanding that it shall guarantee that the Bidder will not withdraw the Bid for a period of one hundred twenty (120) days after the time and date fixed for the opening of Bids, **that if the**

Bidder is provided with a Notice of Intent to Award the Contract, the Bidder will enter into a formal Contract with the Owner in the form contained in the Contract Documents, that the Bidder will supply evidence of the authority of the person executing the Contract and Bonds to do so, that the required Contract Bonds, Certificates of Insurance, certifications and submissions will be provided on the same day the contract is executed, given, that all other Contract Documents will be executed in the form provided therein. If any of the foregoing requirements are not met, the Owner shall be entitled to the full amount of the Bid Guaranty as damages to the Owner resulting from the Bidder's failure to meet those requirements. Cashier's checks or Bid Bonds will be returned to all except the three apparent low, qualified, responsible, responsive Bidders within ten (10) days after the opening of Bids, and the remaining cashier's checks or Bid Bonds will be returned within three (3) days after the Owner and successful Bidder have executed the Contract Documents required by the owner for the Work. Cash will not be accepted as a Bid Guaranty.

9. DELIVERY OF PROPOSALS

The following information is furnished in addition to and not in conflict with General Provision, Section 20, paragraph 20-10.

All proposals shall be submitted in sealed envelopes bearing on the outside the name of the Bidder, the Bidder's address, the name of the Project for which the Proposal is submitted, and the time and date fixed for the opening of Proposals. The Bid Guaranty specified in Paragraph 10 above, recognition of addendum, shall be enclosed in the sealed envelope with the Bid. The Bid shall be delivered by hand, by registered mail, or by overnight package service to the **City of Wauchula, 126 South 7th Avenue, Wauchula, FL 33873 (see Page ADV-1)**. Bids submitted by facsimile transmission will not be accepted. Proposals received after the time and date specified in the Advertisement for Proposals will not be considered, but will be returned unopened.

10. WITHDRAWAL OR REVISION OF PROPOSALS

A bidder may withdraw or revise his proposal in accordance with General Provision, Section 20, paragraph 20-11 reproduced as follows:

> *A bidder may withdraw or revise (by withdrawal of one proposal and submission of another) a proposal provided that the bidder's request for withdrawal is received by the owner in writing or by telegram before the time specified for opening bids. Revised proposals must be received at the place specified in the advertisement before the time specified for opening all bids.*

11. DISQUALIFICATION OF BIDDERS

General Provision, Section 20, paragraph 20-13 (a-c) is reproduced here for clarity with subparagraphs "d", "e", and "f" added as additional reasons for disqualifications.

20-13 DISQUALIFICATION OF BIDDERS. A bidder shall be considered disqualified for any of the following reasons:

a. Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name.

b. Evidence of collusion among bidders. Bidders participating in such collusion shall be disqualified as bidders for any future work of the owner until any such participating bidder has been reinstated by the owner as a qualified bidder.

c. If the bidder is considered to be in "default" for any reason specified in the subsection titled ISSUANCE OF PROPOSAL FORMS of this section.

d. Work for which the Bidder is committed by contract, which, in the Owner's judgment and sole discretion, might hinder or prevent the prompt completion of the Work under this contract if awarded to the Bidder;

e. Being behind on the approved completion schedule for any existing contracts with the Owner, in litigation with the owner or having defaulted on a previous contract with the Owner;

f. Any other cause which, in the Owner's judgment and sole discretion, is sufficient to justify disqualification of a Bidder or the rejection of its Bid.

12. REJECTION OF IRREGULAR PROPOSALS

The following information is furnished in addition to and not in conflict with General Provision, Section 20, paragraph 20-08.

Bids will be considered irregular and may be rejected if they show omissions, alterations of form, additions not called for, conditions, limitations, unauthorized alternate bids or other irregularities of any kind.

The owner shall have the right to waive any informalities or irregularities of Bids, or to reject any or all Bids.

13. NOTICE OF INTENT TO AWARD CONTRACT

Unless all Bids are rejected, a Notice of Intent to Award the Contract will be provided to the qualified, responsible Bidder whose Bid is responsive to the invitation and is most advantageous to the Owner, price and other factors considered.

If a conflict exists between the words and numerals of each Bid amount, the words shall govern.

14. GUARANTY OF FAITHFUL PERFORMANCE AND PAYMENT

The following information is furnished in addition to and not in conflict with General Provision, Section 30, paragraph 30-05.

a. A Performance Bond and a Payment Bond satisfactory to the Owner and in the form attached hereto, each in an initial amount of not less than the Total Contract Price, will be required of the successful Bidder for, among others, the following purposes:

1. To guarantee faithful performance of the requirements of the Contract Documents, including all applicable warranties.

2. To guarantee the payment of all labor, materials, or supplies used directly or indirectly in the prosecution of the Work provided for in the Contract.

The Penal Sum of the Performance Bond and the Payment Bond shall be increased or decreased during the course of the Work in the event that modifications, change orders or addenda increase or decrease the Total Contract Price so that the Penal Sum of each bond shall be in an amount equal to the completed Contract Price at the completion of the Work.

b. The Bonds shall be exactly in the forms contained in the Contract Documents, and written through a licensed Florida agency on behalf of a surety company licensed to do business in the State of Florida, meeting the following requirements:

1. Qualification - Management and Strength: The Surety must be rated no less than "A" as to management and no less than XII as to strength, by the latest edition of Best's Insurance Guide, published by A.M. Best Company, Post Office Box 1107, Summit, New Jersey 07901.

2. Qualification – Federal Project Approval: The Surety company executing the Bonds shall be on the current list of the U.S. Treasury Department as being approved by and for writing bonds for Federal projects in the amount not less than the Penal Sum of the bonds provided to the Owner.

3. Bonds shall be on the current list of the U.S. Treasury Department as being approved by and for writing bonds for Federal projects in the amount not less than the Penal Sum of the bonds provided to the Owner.

4. Bonding Limit - Any One Risk: The bonding limit of the Sureties shall not exceed five percent (5%) of the policy holder surplus (capital and surplus) as listed by the aforementioned Best's Insurance Guide.

The completed Bonds shall be delivered to the Owner with the executed Contract as required hereinafter in these Instructions to bidders, at the same time the executed contract is delivered.

Provisions for liquidated damages are provided in the Bid Form and Contract Documents.

15. POWER OF ATTORNEY AND COUNTERSIGNATURE

Attorneys-in-fact who sign Bid Bonds, Performance Bonds and Payment Bonds, must file with such Bonds a certified copy of their power-of-attorney to sign the bonds. All bonds must be countersigned by a resident Florida agent of the Surety, with proof of agency attached.

16. EXECUTION OF CONTRACT

The following information is furnished in addition to and not in conflict with General Provision, Section 30, paragraph 30-06.

The Bidder who received a Notice of Intent to Award the Contract shall, execute and deliver to the Owner the Contract Agreement, the completed Bonds listed above, satisfactory evidence of all required insurance coverage, and shall prove satisfactorily to the Owner of the authority of the person or persons executing the Contract Agreement and the Performance Bond and the Payment Bond on behalf of the Bidder. The above documents must be furnished, executed and delivered before the Contract Documents will be executed by the Owner. The Contract shall not be binding upon the Owner until it has been executed and approved by the Owner, and a copy of the fully executed Contract Documents is delivered to the Contractor. The Owner shall have the right to rescind its Notice of Intent to Award without liability, except for the return of the Bid Guaranty to the Bidder, at any time before the Contract Documents have been fully executed by all parties and delivered to the Contractor.

17. FAILURE TO EXECUTE CONTRACT - BID GUARANTY FORFEITED

The following information is furnished in addition to and not in conflict with General Provision, Section 30, paragraph 30-08. If the Bidder receiving a Notice of Intent to Award the Contract fails to execute and deliver to the Owner the Contract Agreement, the completed Bonds listed in Paragraph 16 above, the required evidences of insurance coverage, and the evidence of authority to execute required in Paragraph 17 above, the Owner may elect to rescind the Notice of Intent to Award and shall be entitled to the full amount of the Bid Guaranty, not as a penalty, but in liquidation of and compensation for damages sustained. A Notice of Intent to Award may then be provided to the next most qualified, responsible Bidder whose Bid is responsive to the invitation and is most advantageous to the Owner, price and other factors considered. Otherwise, all Bids may be rejected.

18. NOTICE AND SERVICE THEREOF

All notices given by the Owner or the Engineer, under the provisions of the Contract Documents, shall be in writing and service of same may be by either of the following methods:

a. By delivery of the notice to the Bidder or to any officer of the Bidder if Bidder is a corporation, or to any agent of the Bidder.

b. By mailing the notice by United States mail to the address of the Bidder shown on the Bid.

Notices given by the Owner or Engineer shall be effective upon mailing, if mailed.

19. FLORIDA SALES AND OTHER TAXES

Work under this Contract is subject to the provisions of Chapter 212, Florida Statutes, Tax on Sales, Use and Other Transactions. Other state, local or federal taxes may be applicable. The Bidder is responsible to remit to the appropriate governmental entity all applicable taxes. Any applicable tax shall be included in the Total Bid Price by the Bidder.

20. TIME OF COMPLETION

The time of the completion is of the essence of the Contract and, each Bidder, if delivered an executed Contract, shall proceed with the Work in accordance with the approved schedule and within the Contract time period specified in the Contract Documents. In the event of failure to complete the Work within the time specified, the Owner may assess damages as provided by law or the Contract Documents, unless an appropriate extension of time has been granted.

The time of completion for the entire project shall be 240 calendar days, regardless of the bid schedules awarded:

A. City Executes Contract with Successful Bidder
B. Contractor Submits Shop Drawings for Approval to Engineer
C. Engineer Issues Shop Drawing Approval
D. City Issues Notice to Procure for Fabrication and Delivery of Materials – Contract Time Begins
E. Contractor Takes Possession of the Materials
F. City Issues Notice to Proceed – Construction Time Begins

240 Calendar Days Total

The bidder's attention is directed to the Project Phasing or Site and Safety Plans for more detailed information on construction sequencing.

21. RECORD DOCUMENTS

The Contractor shall keep one record copy of the Contract Documents, Shop Drawings and samples at the site, in good order and annotated daily to show all changes made during the construction process. These shall be available to the Engineer for examination and shall be delivered to the Engineer for the City upon completion of the Work. Failure to maintain record documents current may be cause to withhold partial payment.

22. ADDITIONAL INSTRUCTIONS FOR APPARENT LOW, QUALIFIED, RESPONSIBLE, RESPONSIVE BIDDER

Contractor assistance is essential to execute specific documents promptly to execute a Contract with the Owner and to prepare for a Contractor's Notice to Proceed.

Contractor is instructed to carefully examine the General Provisions and to understand what is expected during each phase of the Project's construction. The Owner will maintain the original Bid Form and Bid Bond on file for record purposes. The Contractor will furnish six (6) executed copies of the Contract Documents for the Owner. The Contractor shall complete, execute and submit all required documentation to the Owner. Specific items that must be completed and executed are:

BID ITEMS - The Contractor shall confirm with the Owner Bid Items to be awarded in the final Contract, to confirm Total Contract Price.

CONTRACT, PAYMENT, PERFORMANCE AND GUARANTY BONDS - Complete in the amount of Total Contract Price, effective upon Owner execution of Contract.

EVIDENCE OF REQUIRED INSURANCE COVERAGE AND AUTHORITY TO EXECUTE - Complete.

Upon Owner's notification of concurrence in Contract award by Insurance Underwriters, Re-Insurers, and FEMA representatives, the following items must be completed prior to issuance of a Notice to Proceed according to Paragraphs 80-02 and 80-03 of the GENERAL PROVISIONS:

Owner: Execute Contract Documents and forward copies to Contractor, Funding Agencies, and Engineer.

Contractor: Prepare detailed procurement and construction schedule for immediate submittal to the Owner and Engineer. Confirm all subcontractor names and material suppliers. Schedule shall be submitted to the Owner and Engineer for review at the scheduled date of the Preconstruction Conference.

23. NOTIFICATION TO ALL BIDDERS – PERMITS REQUIRED

~~**Design-Bid Projects:**~~
~~Approvals for the design permitting are forthcoming from the Southwest Florida Water Management District, the Florida Department of Environmental Protection, and the Federal Aviation Administration, as necessary and applicable to the project. Issuance of the Notices to Procure/Proceed may be withheld until such time that the City of Wauchula receives these agencies' approvals.~~

~~The Contractor is responsible for all City of Wauchula site permits, NPDES permits, and any other construction-related permits and fees.~~

Design-Build Projects:
All approvals for the design permitting are the complete responsibility of Bidder/Contractor EXCEPT the Federal Aviation Administration Airspace Checklist approval. No construction shall take place without ALL of the necessary permits required for 100% design approval by all applicable agencies.

The Contractor is responsible for all City of Wauchula site permits, NPDES permits, and any other construction-related permits and fees.

24. CONTRACTOR'S LIABILITY INSURANCE REQUIREMENTS

The bidder shall provide with the Proposal a listing of both automobile and personal liability insurance coverage currently in force, along with a copy of a Certificate of Insurance as verification of that coverage. In addition, the bidder shall provide a statement of premium cost issued by the agent or insurance carrier for that coverage.

In the event the Owner determines that the low bidder's coverage in force is inadequate, the Owner may require the low bidder to procure additional coverage in amounts specified by the Owner. The cost of premiums for such additional coverage shall be paid by the Owner in the form of a reimbursement under the contract.

Third Party Coverage. In the event the bidding documents require the contractor to name the consultant and/or the Owner as additional insured, the bidder shall show the premium cost for the additional insured in the Proposal in the item for additional coverage. The amount shown in the bid item for additional premium cost shall be that amount of additional premium above the premium for the coverage shown in the Certificate of Insurance submitted with the bid.

See Section 70 of the "Part 1A – Supplemental General Provisions" for detailed requirements for required Insurance coverage (amounts). All insurance shall comply with local ordinances. No relief from insurance coverage is allowed in any case.

STATEMENT OF BIDDER'S QUALIFICATIONS

(Must Be Completed and Submitted with the Bid)

Each proposer shall furnish with his proposal the following completed and signed statements on "evidence of competency" and "evidence of financial responsibility" in accordance with General Provision 20-02. In addition, the Owner reserves the right to conduct such additional investigation into the competency and responsibility of the proposers (or any particular proposer) as the Owner may deem necessary.

1. Name of Proposer: _____

2. Business address: _____

   _____

3. Telephone number: _____

4. When organized: _____

5. Where incorporated: _____

6. How many years have you been engaged in the contracting business under the present firm name?

   _____

7. What is the type of construction work in which you are principally engaged?

   _____

8. On separate sheet, list major contracts in past ten years.

9. On separate sheet, list equipment and plant available for this project.

10. Enclose evidence of financial responsibility per General Provisions Section 20-02.

11. Credit available for this Contract $_____

12. On a separate sheet, list all projects over $50,000 presently under contract by name, gross amount, and percent complete.

13. Have you ever refused to sign a contract at your original proposal? _____

14. Have you ever been declared in default on a contract? _____

15. Total amount of bonding capacity $_____

16. Total bonding capacity available for the project $_____

17. Remarks:

_____

_____

_____

(The above statements must be subscribed and sworn to before a Notary Public.)

Date: _____

Firm Name: _____

By: _____
(Signature)

Title: _____

STATE OF _____

COUNTY OF _____

PERSONALLY APPEARED BEFORE ME, the undersigned authority,

_____
(Name of individual signing)

who, after first being sworn by me, affixed his/her signature in the space provided above on the ____ day of _____ 20___.

NOTARY PUBLIC
My Commission expires: _____

END OF SECTION

BID FORM

PROJECT:

Design\Build 10-Unit T-Hangars

Name of Bidder: (Type or Print)

_____

_____

TO:

The undersigned declares that no person in the employ the City of Wauchula, Florida, (herein referred to as OWNER) is pecuniarily interested in this proposal, or in the contract or the work which he proposed to do; that he has carefully examined the contract and the specifications and has informed himself fully in regard to all conditions pertaining to the site where the work is to be done and carefully estimated on the work. He understands that the OWNER, its agents, and employees, are not to be in any manner held responsible for the accuracy of, or bound by, any estimates or plans of underground structures relating to the work, and that if only have been given or made, they are to be considered solely as a base for filling out and preparing several proposals.

The undersigned proposes to furnish all labor, equipment material required for the above outlined construction at the airport known as Wauchula Municipal Airport located in the City of Wauchula, Florida, in accordance with the accompanying specifications and plans prepared for the OWNER for the sums specified herein, subject to additions and deductions according to the specifications and in all respects to the terms thereof.

It is understood that all workmanship and materials under all items of work are guaranteed for one year from the date of final acceptance, unless otherwise specified. It is understood that the OWNER reserves the right to accept or reject any or all bids and waive formalities.

It is agreed that the description under each item, being stated, implies although it does not mention, all incidentals and that the prices stated are intended to cover all such work, materials, and incidentals and constitute bidder's obligations as described in the specifications, and any details not specifically mentioned, by evidently included in the contract shall be compensated for in the item which most logically includes it.

It is understood that this proposal is submitted for the purpose of obtaining the work included in the subject project at the Wauchula Municipal Airport, City of Wauchula, Florida. Said work includes, but is not limited to, the following primary sub-elements:

DESIGN\BUILD 10-UNIT T-HANGARS

a. Finalize, sign\seal, and submit design plans for T-Hangar building structures, foundations, and site work.
b. Obtain building and fire permits from City of Wauchula and Hardee County.
c. Procure PEMB, components, cladding, and all other materials.
d. Construct 10-Unit T-Hangar building structures and foundations.
e. Construct civil and electrical site work.

The bidder expressly agrees that should environmental permits not be granted for items contingent on their receipt, the OWNER may delete those items from the Contract without Supplemental Agreement or Change Order. In this event, the bidder agrees that the unit prices for non-environmentally contingent items will remain unchanged and that no claims relating to the deletion of items contingent on environmental permitting will be made.

The bidder's attention is called to the fact that the estimate of quantities of work to be done and materials to be furnished under these Specifications, as shown on the proposal form is approximate and is given only as a basis of calculation upon which the award of the contract is to be made. The OWNER reserves the right to increase or diminish any or all of the above-mentioned quantities or work and to omit any of them as it may deem necessary. The Contractor further agrees to accept the "Unit Bid" prices in compensation for any additions or deductions caused by variation in quantities due to more accurate measurement, or by any changes or alterations in the plans or specifications of the work.

The bidder agrees that this proposal will remain valid and in full force and effect for a minimum period of ninety (90) days following the official bid opening date.

The bidder agrees that within ten (10) days of receipt of written notice of an award of the contract that bidder will execute the standard contract form, in accordance with the bids as accepted, and will furnish the required performance bond, a payment bond and insurance affidavits with good and sufficient surety or sureties, as required by the Specifications.

The bidder further agrees that if awarded the contract, he will commence work within ten (10) days of the date of receipt of a "Notice to Proceed" and he will fully complete the work ready for use within contract time specified following the date of receipt of a "Notice to Proceed."

It is understood that for each calendar day that any work remains uncompleted after the contract time has expired (including all extensions and adjustments as provided in the subsection titled DETERMINATION AND EXTENSION OF CONTRACT TIME) the sum of Five Hundred ($500) Dollars per calendar day as liquidated damages will be deducted from any money due or to become due to the Contractor or his surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages that will be incurred by the OWNER should the Contractor fail to complete the work in the time provided in his contract.

Enclosed is security as required, consisting of (cash, certified check or bid bond)_____ payable to the City of Wauchula, Florida in the amount of $_____. This amount equals five percent of the total amount bid.

Acknowledgement of Receipt of Project Addenda:

Addendum No. 1 Received _____ (Date)

Addendum No. 2 Received _____ (Date)

Addendum No. 3 Received _____ (Date)

Addendum No. 4 Received _____ (Date)

Addendum No. 5 Received _____ (Date)

Addendum No. 6 Received _____ (Date)

Dated, _____, 20___.

_____
Legal Name of Person, Firm, or Corporation

By:_____

_____
(Title)

_____
(Business Address)

TOTAL BID

For all work required in accordance with the applicable drawings, Specifications and other Contract Documents including the cost of the required Bonds and Insurance, the undersigned submits a Total Bid Price of:

_____and

_____/100 DOLLARS ($_____)

Based on the unit prices set forth in the following pages. The Total Bid Price represents the total amount of the Bid Schedules. It is the Owner's intent to award the Total Bid, should sufficient funding be available. Based on the actual amount of funding made available to complete the work, the project amount awarded may be less than the Total Bid Price.

Enclosed is security as required, consisting of (cash, certified check or bid bond) payable to the City of Wauchula in the amount of $_____. This amount equals five percent of the total amount of the Total Bid Price.

Dated _____, 20___.

IF A CORPORATION

NAME		ADDRESS
_____	President	_____
_____	Secretary	_____
_____	Treasurer	_____

IF A PARTNERSHIP OR INDIVIDUAL

NAME	ADDRESS
_____	_____
_____	_____
_____	_____

AFFIDAVIT

The following affidavit must be executed in order that your quotation may be considered.

STATE OF _____
COUNTY OF _____

_____of lawful age, being first duly sworn, upon his oath deposes and says: That he executed the accompanying Quotation of behalf of the Contractor therein named, and that he had lawful authority so to do, and said Contractor has not directly or indirectly, entered into any agreement, expressed or implied, with any Contractor or Contractors, having to its object the controlling of the price or amount of such quotation or any quotations, the limiting of the Quotation or Contractors, the parceling or farming out to any Contractor or Contractors, to other persons of any part of the contract or any of the subject matter or the Quotations, or of the profits thereof, and that he has not and will not divulge the sealed Quotation to any person whomsoever, except those having a partnership or other financial interest with him in said Quotation or Quotations, until after the sealed Quotation or Quotations are opened.

Signed _____

Subscribed and sworn to before me this ____day of _____, 20__.

My Commission Expires:

_____
Notary Public

END OF PROPOSAL

Bidder: _____

LIST OF PROPOSED SUBCONTRACTORS
(Must be completed and submitted with the Bid)

Responsible for: _____

Name: _____

Address: _____

Responsible for: _____

Name: _____

Address: _____

Responsible for: _____

Name: _____

Address: _____

LIST OF PROPOSED SUPPLIERS
(Must be completed and submitted with the Bid)

Responsible for: _____

Name: _____

Address: _____

Responsible for: _____

Name: _____

Address: _____

Responsible for: _____

Name: _____

Address: _____

(Use additional pages if necessary)

BUY AMERICAN CERTIFICATE (JAN 1991)

(Must be completed and submitted with the Bid)

By submitting a bid/proposal under this solicitation, except for those items listed by the offeror below or on a separate and clearly identified attachment to this bid/proposal, the offeror certifies that steel and each manufactured product, is produced in the United States (as defined in the clause *Buy American - Steel and Manufactured Products* or *Buy American - Steel and Manufactured Products for Construction Contracts* **Title 49 U.S.C., Chapter 501**) and that components of unknown origin are considered to have been produced or manufactured outside the United States.

Offerors may obtain a listing of articles, materials, and supplies excepted from this provision from Appendix 1, Section G of the bid documents.

Contractor shall list any and all steel and manufactured products below NOT manufactured in the United States.

PRODUCT	COUNTRY OF ORIGIN

WAUCHULA MUNICIPAL AIRPORT
DESIGN/BUILD 10-UNIT T-HANGARS
BID SCHEDULE

CONTRACTOR:

INDEX	PAY ITEM		QTY	UNIT	UNIT PRICE	EXTENSION
1	C-105-1	Mobilization (Limited to 10%)	1	LS		$0.00
2	C-105-2	Dewatering	1	LS		$0.00
3	C-105-3	Construction Surveys/As-Builts	1	LS		$0.00
4	C-105-4	Construction Safety and Phasing/MOT	1	LS		$0.00
5	C-105-5	Permits, Licenses, Fees, and AHJ Inspections	1	LS		$0.00
6	C-105-6	General, Supplemental, and Special Provisions	1	LS		$0.00
7	GP-140 - 1	Final Design\Build T-Hangar PE Sealed Complete Construction Plans, Calculations, and Specifications per all Codes	1	LS		$0.00
8	GP140 - 2	PEMB T-Hangar Building, BiFold Aircraft Doors, Floor Sealant System, Foundations, Structural, Components, Cladding, Insulation, Coverings, Seals, Electrical, Lighting, Outlets, Switches, Mechanical, HVACR, Fire Systems, All Other Systems, Fittings, Finishes, Hardware, All Coating Systems, Labor, Equipment, Weather Tight, Complete Turnkey Facility Ready For Use	1	LS		$0.00
9	GP140 - 3	Power Service Provisions and Electrical Site Work, Complete	1	LS		$0.00
10	GP140 - 4	Engine Generator, Pad, Automatic Transfer Switch Gear, Connection, Testing, Fuel Tank, and Filled Tank of Fuel, Complete	1	LS		$0.00
11	D701-1	10" Sch 80 PVC	140	LF		$0.00
12	D701-2	12" ADS HP HDPP	270	LF		$0.00
13	D701-3	15" ADS HP HDPP	192	LF		$0.00
14	D702-1	15" Concrete MES	2	EA		$0.00
15	D751-1	10" ADS Nyloplast Drain Basin\PCC collar	2	EA		$0.00
16	D751-2	12" ADS Nyloplast Drain Basin\PCC collar	6	EA		$0.00
17	D751-3	15" ADS Nyloplast Drain Basin\PCC collar	2	EA		$0.00
18	P-101-1	Milling/Full Depth Pavement Removal	667	SY		$0.00
19	P-152-1	Unclassified Excavation	1,000	CY		$0.00
20	P-152-2	6" Stripping and Stockpiling	4,150	SY		$0.00
21	P-152-3	Borrow Excavation	1,000	CY		$0.00
22	P-154-1	6" Subbase (Approach Aprons)	760	SY		$0.00
23	P-211-1	6" Limerock Base	733	SY		$0.00
24	P-602-1	Prime Coat	733	SY		$0.00
25	P-401-1	3" Asphalt Mix Pavement, 12.5 mm NMAS, Surface Course	125	TON		$0.00
26	P-610-1	6" Structural Cement Concrete, Approach Aprons	690	SY		$0.00
27	P-620-1	Runway and Taxiway Marking Paint, Yellow, with Beads	650	SF		$0.00
28	P-620-1	Runway and Taxiway Marking Paint, Black, no Beads	1,300	SF		$0.00
					TOTAL BID	**$0.00**

TOTAL BID (IN WORDS)

PLEASE USE EXCEL VERSION

CERTIFICATION OF OFFERER/BIDDER REGARDING TAX DELINQUENCY AND FELONY CONVICTIONS
(Must be completed and submitted with the Bid)

The applicant must complete the following two certification statements. The applicant must indicate its current status as it relates to tax delinquency and felony conviction by inserting a checkmark (__) in the space following the applicable response. The applicant agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification in all lower tier subcontracts.

Certifications:

1. The applicant represents that it is (__) is not (__) a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

2. The applicant represents that it is (___) is not (___) is not a corporation that was convicted of a criminal violation under any Federal law within the preceding 24 months.

The undersigned swear or affirm that the foregoing statements are correct and include all material information necessary to identify and explain the terms and operation of our joint venture and the intended participation by each joint venture in the undertaking. Further, the undersigned covenant and agree to provide to the Owner current, complete and accurate information regarding actual joint venture work and the payment therefore and any proposed changes in any of the joint venture arrangements and to permit the audit and examination of the books, records and files of the joint venture, or those of each joint venture relevant to the joint venture, by authorized representatives of the Owner or the Federal funding agency. Any material misrepresentation will be grounds for terminating any contract which may be awarded and for initiating action under Federal or State laws concerning false statements.

_____
Name of Firm

_____
Signature

_____
Name

_____
Title

Date _____

State of_____

County of_____

On this _____ day of _____, 20____, before me appeared (name) _____, to me personally known, who, being duly sworn, did execute the foregoing affidavit, and did state that he or she was properly authorized by (name of firm) _____ to execute the affidavit and did so as his or her free act and deed.

Notary Public _____

Commission Expires _____

(Seal)

SWORN STATEMENT UNDER SECTION 287.133 (3) (a),
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES
(Must Be Completed and Submitted with the Bid)

THIS FORM MUST BE SIGNED AND SWORN IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

1. This sworn statement is submitted to _____
City of Wauchula, Florida

by_____
[print individuals name and title]

for_____
[print name of entity submitting sworn statement]

whose business is _____
and (if applicable) its Federal Employer Identification Number (FEIN) is _____
_____(If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement:_____.)

2. I understand that a "public entity crime" as defined in Paragraph 287.133 (1) (g), **Florida Statutes**, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or of the United States, including, but not limited to, any bid or contract for goods or services to be provided to any public entity or an agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

3. I understand that "convicted" or "conviction" as defined in Paragraph 287.133 (1) (b), **Florida Statutes**, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, non-jury trial, or entry of a plea of guilty or nolo contendere.

4. I understand that an "affiliate" as defined in Paragraph 287.133 (1) (a), **Florida Statutes**, means:

A. A predecessor or successor of a person convicted of a public entity crime;
OR
B. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

5. I understand that a "person" as defined in Paragraph 287.133 (1) (e) **Florida Statutes**, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, and employees, members, and agents who are active in management of an entity.

6. Based on information and belief, the statement which I have marked below is true and in relation to the entity submitting this sworn statement. **[Indicate which statement applies.]**

___ Neither the entity submitting this sworn statement, nor any of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

___ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

___ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the submitting this sworn statement on the convicted vendor list. **[attach a copy of the final order]**

I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 (ONE) ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND, THAT THIS FORM IS VALID THOROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND THAT I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.107, FLORIDA STATUTES FOR CATEGORY TWO ON ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.

_____
[Signature]

_____
[Date]

STATE OF

COUNTY OF

PERSONALLY APPEARED BEFORE ME, the undersigned authority, _____ _____ who, after first being sworn by me, affixed his/her signature in the **[name of individual signing]** space provided above on this ___day of _____, 20__.

_____
NOTARY PUBLIC

My Commission expires:

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BID BOND
(Must Be Completed and Submitted with the Bid Unless Certified Check is Submitted)

WAUCHULA MUNICIPAL AIRPORT

KNOW ALL MEN BY THESE PRESENTS: THAT WE, THE UNDERSIGNED_____, as principal, and surety in the state of Florida to do business in the state of Florida and authorized to write this type of bond through a resident agent of the corporation located in the state of Florida, as surety, are held and firmly bound unto the City of Wauchula, Florida in the sum of _____dollars ($_____), which equals five percent of the amount bid, for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

The condition of the above obligation is such that if the attached proposal of _____ for the improvement of the airport facilities stipulated in said proposal in accordance with the plans and specifications provided therefore, is accepted and the contract awarded to the above-named bidder. The said principal shall within fifteen (15) days after notice of said award enter unto a contract in writing and furnish the required payment and performance bonds with surety, or sureties, to be approved by the City of Wauchula, Florida, this obligation shall be void: otherwise, the same shall be in full force and virtue of law, and the full amount of this proposal bond will be paid to the City of Wauchula, Florida, as stipulated for liquidated damages.

Signed this __ Day of _____, 20__.

(Principal must indicate whether corporation, partnership, company or individual)

_____

This person signing shall in his own handwriting sign the principal's name, and his title. Where the person signing for a corporation is other than the president or vice-president, he must, by affidavit, show his authority to bind the corporation.

_____
Principal

By:_____

_____
Title

_____
Surety

WAUCHULA MUNICIPAL AIRPORT

BOND AFFIDAVIT

STATE OF _____

COUNTY OF _____

BEFORE ME, THE UNDERSIGNED AUTHORITY, PERSONALLY APPEARED _____ _____, who being duly sworn, deposes and says that he is a duly authorized (resident) (nonresident) insurance agent, properly licensed under the laws of the state of _____, and the state of Florida, to represent _____ of _____ _____ a company authorized to make corporate surety bonds under the laws of the state of Florida. Said _____further certifies that as attorney-in-fact for the said _____ _____ he has signed the attached bond in the sum of _____ (U.S. $_____) on behalf of _____covering the **Wauchula Municipal Airport,** said _____ _____ further certifies that the premium on the said bond is _____, which will be paid in full direct to his as attorney-in-fact, and included in his regular accounts to said _____ and that he will receive his regular commission of ____ percent as attorney-in-fact for the execution of said bond and that his commission will not be divided with anyone except as follows, _____ percent to _____, who is duly authorized resident insurance agent and properly licensed under the laws of the state of Florida.

Countersigned

_____ _____
Florida resident agent Agent and attorney-in-fact

Acknowledgement for attorney-in-fact

Sworn and subscribed before me this _____ day of _____, 20__.

_____ Notary public, state of _____

My commission expires:

CONTRACT AGREEMENT

THIS CONTRACT is entered by and between City of Wauchula, Florida (hereinafter called the "City"), and _____. of _____, Florida (hereinafter called the "Contractor"), on this ____ day of _____, 20___.

WHEREAS, it has been determined that the execution of this contract is beneficial to the people of Wauchula, Florida;

WITNESSETH,

The City and the Contractor for TEN DOLLARS ($10.00) and other good and valuable consideration hereby covenant and agree as set forth below:

ARTICLE I.

THE CONTRACT DOCUMENTS

1. The Contractor shall perform all the work required by the Contract Documents to complete the Project as described and detailed in the drawings entitled: **"DESIGN\BUILD 10-UNIT T-HANGARS"** prepared by AVCON, Inc., and dated **March 2026** and in accordance with the Technical Specifications Manual prepared by AVCON, INC. all as pertaining to the City's property described in the Contract Documents. The Project comprises the completed construction required by the Contract Documents and includes all labor necessary to produce such construction, and all materials and equipment incorporated or to be incorporated in such construction.

2. Contractor represents and agrees that it has carefully examined and understands this Contract and the Contract Documents, has investigated the nature, locality and site of the Project and the conditions and difficulties under which it is to be performed, and that it enters into this Contract on the basis of its own examination, investigation and evaluation of all such matters and not in reliance upon any opinions or representations of the City, or of any of the City's agents, consultants or employees.

ARTICLE III.

TIME OF COMMENCEMENT AND COMPLETION DATE

1. The work to be performed under this Contract shall be commenced upon or immediately after delivery of notice from the City to Contractor to proceed ("Notice to Proceed"), Contractor shall thereafter diligently proceed with the completion of the Project within the number of calendar days specified in the contract documents, after Notice to Proceed (the "Completion Date").

2. Notwithstanding anything else contained herein, if the City in its sole judgment, shall deem it advisable to terminate this Contract before delivery of Notice to Proceed, then the City shall deliver written Notice of Termination of the Contract to the Contractor, the Contract shall be rendered null and void, and neither party shall be entitled to any damages or compensation in connection with such termination of the Contract.

3. Inasmuch as failure of the Contractor to complete the Project by the Completion Date may cause grave injury and damage to the City, time is of the essence in the performance of this Contract. Accordingly, the Contractor must commence work and complete the Project when and as required by this Contract.

4. In the event of delay in the completion of the Project by the Completion Date, the parties hereto acknowledge that the calculation of the actual damages to the City would be difficult, if not impossible, to determine. Consequently, should the Contractor fail to timely meet the work requirement of the Project by the Completion Date, the parties hereto agree that as liquidated damages, and not as penalty the Contractor will pay the City Five Hundred Dollars ($500) for each calendar day after the Completion Date, until the Project is Completed, all as certified by the Engineer or the City representatives as may be designated by the City hereunder.

5. In the event that the Contractor shall fall behind in schedule at any time, for any reason, and such delay is adversely affecting the City's ability to timely occupy and use the Project for its intended purpose, the City shall be entitled to direct acceleration or re-sequencing of the work to bring the project back on schedule. The Contractor shall reserve in each of its subcontracts entered into in connection with the Project, a right to accelerate consistent with the Contractor's obligations hereunder. In the even the Contractor determines that the Completion Date cannot be met by re-sequencing the work, then the Contractor shall immediately provide the City and in any event within three (3) calendar days after the date of receipt of the City's instruction for re-sequencing or accelerating, a plan to complete the Project in the shortest possible time. No approval by the City of any plan for re-sequencing or accelerating of the work submitted by the Contractor pursuant to this clause shall constitute a waiver by the City of its rights of recovery from damages or losses which the City may suffer by reason of delayed Project Completion.

6. Contractor agrees to provide the City with each application for progress payment pursuant to Article V hereof, the Contractor's best estimate of any anticipated revision to the Completion date for the purpose of the City's planning, provided, however, and notwithstanding the making of any progress payments, no anticipated revisions to the Completion Date shall be effective and binding on the City and the Contractor without a written Change Order executed by the City in accordance with the procedure set forth in Article VI hereof.

ARTICLE IV.

CONTRACT SUM

1. In consideration of the performance of the Contract, the City agrees to pay the Contractor, by City's check, the contract sum of _____ **Dollars (** **)**.

2. For changes in the work, ordered by the City, the contract sum shall be adjusted accordingly. Article VI stipulates the conditions governing changes in the work.

3. The Contractor shall be paid ninety percent (90%) of the proportional amount of the contract sum with each progress payment, (such payments to be in proportion to the percentage completion of the Project) and the balance of the contract sum shall be paid at the time of Final Payment as described in Article VII hereof.

ARTICLE V.

PROGRESS PAYMENTS

1. Based upon applications for payment submitted to the Engineer by the Contractor and certificates of payment assured by the Engineer and approved by the City, the City shall make progress payments to the Contractor as provided in the Contract Documents and as specified hereunder.

2. Applications for progress payments will be submitted not more often than monthly and shall be submitted on or before the twenty-fifth (25th) day of each month during the performance of the Contract for the Engineer's approval. Each such application for payment shall set forth the value of all work completed according to the Schedule of Values, including the sum of all prior payments. Quantities and other information shown on the Schedule of Values are for payment purposes only and are not to be construed as work description or limitation of quantities of materials required for completion of the Project. The Contract includes all labor and materials to complete the Project as described in the Contract Documents.

3. In each application for progress payment, the Contractor shall certify as follows: (A) "There are no known mechanic's or materialmen's liens outstanding at the date of this application other than those for which the Contractor has provided a bond or the approved security pursuant to the provisions of Article VII, paragraph 3, of the Construction Contract between City and the Contractor; all due and payable bills with respect to the Project have been paid to date or shall be paid from the proceeds of this application for payment; there is no known basis for the filing of any mechanic's or materialmen's liens on the Project, and waivers from all subcontractors and material men employed by the Contractor, have been or will be obtained in such form as to constitute an effective waiver of lien under the applicable laws of the State of Florida"; (B) "All improvements have been installed in accordance with the Contract Documents (except where noted or agreed upon in writing by the City pursuant to an approved Change order)".

4. Beginning with the second application for progress payment, the Contractor shall also deliver with each such application, as a condition precedent to payment thereof, waivers of lien for each of its subcontractors, current through the effective date of the previous application for payment. The Contractor may, if any subcontractor or supplier refuses to furnish a release in full, furnish a bond satisfactory to the City, against any lien.

5. The City shall promptly review each application for progress payment and make such exceptions as the City reasonable deems necessary or appropriate under the state of circumstances then prevailing.

6. On or about the fifteenth (15^{th} or 25^{th}) day of the month following application of progress payment, the City shall make payment to the Contractor in the amount approved, subject, however, to Article V, paragraph 8 hereof. The payment of any application for progress payment by the City, including the final application, does not constitute approval or acceptance of that part of the Project to which such payment relates or relieve the Contractor of any of its obligations hereunder with respect hereto.

7. The Contractor shall provide the City with each application for progress payment as an "as-built" diagram, drawing or an adequate number of photographs showing all improvements currently in place (foundations, roads, drives, water/sewer lines, etc.) including setbacks, rights of way and other restrictions governing the installation of improvements.

8. Any provisions hereof to the contrary notwithstanding, the City shall not be obligated to make current payment to the Contractor hereunder if any one of the following conditions exists:

A. the Contractor fails to diligently prosecute the work in an efficient, timely and workmanlike manner and in strict accordance with the provisions of the Contract Documents;

B. the Contractor fails to use an adequate number of qualified personnel and sufficient equipment to complete the Project without undue delay.

C. the Contractor fails to make prompt payments to its subcontractors, suppliers, material men or laborers;

D. any part of such payment to the Contractor is attributable to the work which is defective or not performed in accordance with the drawings and specifications; provided, however, such payment shall be made as to part thereof attributable to work which is performed in accordance with the drawings and specifications and is not defective;

E. the Contractor is otherwise in default of any of its obligations hereunder or otherwise is in default under any of the contract requirements; or

F. the Contractor fails to provide the City with an updated as-built diagram, as provided in Article V, paragraph 7, above.

ARTICLE VI.

CHANGES

1. The City may at any time, without notice to the sureties, make changes within the general scope of the project, issue additional instructions, require additional work or direct the omission of portions of the work; provided, however, that the Contractor shall not proceed with any change involving an increase or decrease in contract sum, without prior written authorization from the City in accordance with the procedure outlines hereunder.

2. The City shall order changes in the Project by giving the Contractor a written change order request ("Change Order Request"), receipt of a Change Order Request, the Contractor shall forthwith, but in no event later than 10 days thereafter, furnish to the City setting forth in detail, with a suitable breakdown by trades and work classifications, the Contractor's estimate of the changes in the contract sum attributable to the changes set forth in such Change Order Request, and a proposed adjustment to the Completion Date resulting from such changes and any adjustment of time and costs applicable to unchanged work resulting from such Contractor, such Change Order Request and such estimate shall constitute a Change Order, and the contract sum, and the Completion Date shall be adjusted as set forth in such estimate. The foregoing procedure shall apply to both additive and deductive settlement on all items covered therein, subject to performance thereof and payment thereof pursuant to the terms of this Contract. If the City and the Contractor cannot agree on the cost of any Change order work, then the City may direct the Contractor to proceed with the Change Order work and the cost will be determined in accordance the procedures established in the General Provisions of the Contract.

3. The price estimates for Change Order Requests shall be made on the basis of the actual cost of labor and materials involved in such work. Additional provision for determining the price of change orders are included in the General Provisions of the Contract.

ARTICLE VII.

FINAL PAYMENT

1. Final payment constituting the entire unpaid balance of the amount due to the Contractor under this Contract shall not be paid by the City to the Contractor until the Project has been completed, the Contract fully performed, and a final certificate for payment has been issued by the Engineer.

2. Anything to the contrary in this Contract or elsewhere in the Contract Documents notwithstanding, fifteen (15) days after final completion of the Project, including final punch-list items and acceptance thereof by the City or as soon thereafter as possible, the Contractor shall submit Final Application for payment ("Final Application") which shall set for the all amounts due to the Contractor and remaining unpaid. The City shall pay to the Contractor the amount due under such final application no sooner than twenty (20) days and not later than sixty (60) days following final completion of the Project (including final punch list items).

3. The Final Application shall not be made until the Contractor delivers to the City, a complete release of all liens arising out of this Contract in a form acceptable to the City and an affidavit that so far as the Contractor has knowledge or information, the release includes and covers all materials and services for which a lien could be filed, but the Contractor may, if any subcontractor or supplier refuses to furnish a release in full, furnish a bond satisfactory to the City, to properly indemnify the City against any lien.

4. In the event of a bona fide dispute by the City of any sums for which payment has been requested, no interest shall be due on disputed sums until such dispute is resolved, provided that all undisputed sums shall have been paid in due course.

ARTICLE VIII.

TERMINATION

1. The performance of work under this Contract may be terminated by the City in accordance with this clause in whole, or from time to time in part, whenever the City shall determine that such termination is in the best interest of the City. Any such termination shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which performance of work under the Contract is terminated, and the date upon which such termination becomes effective.

2. After receipt of a Notice of Termination, and except as otherwise directed by the City, the Contractor shall:

A. Stop work under the Contract on the date and to the extent specified in the Notice of Termination.

B. Place no further orders or subcontracts for materials, services or facilities, except as may be necessary for completion of such portion of the work under the contract as it is not terminated.

C. Terminate all orders and subcontracts to the extent that they relate to the performance of work terminated by the Notice of Termination.

D. Assign to the City, in the manner, at the times and to the extent directed by the City, all of the rights, title, and interest of the Contractor under the orders and subcontracts so terminated, in which case the City shall have the right, in its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts.

E. Settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, with the approval or ratification of the City, to the extent the City may require, which approval or ratification shall be final for all the purposes of this clause.

F. Transfer title and deliver to the City, in the manner, at the times, and to the extent, if any, directed by the City:

(1) the fabricated or unfabricated parts, components of work in process, completed work, supplies, equipment and other materials produced as a part of or acquired in connection with the performance of the work terminated by the Notice of Termination; and

(2) the completed or partially completed "as built" drawings, information, and other property which, if the Contract had been completed, would have been required to be furnished to the City.

G. Complete performance of such part of the Contract as shall not have been terminated by the Notice of Termination.

3. After a receipt of Notice of Termination, the Contractor shall submit to the City its termination claim, in the form and with certification prescribed by the City. Such claim shall be submitted promptly but in no event later than thirty (30) days form the effective date of termination, unless one or more extension, in writing, are granted by the City upon request of the Contractor made in writing within such thirty (30) days period or authorized extension thereof. Upon failure of the Contractor to submit its termination claim within the time allowed, the City may determine on the basis of information available to it, the amount, if any, due to the Contractor by reason of the termination and shall thereupon pay to the Contractor the amount so determined.

4. Subject to the provisions of Article VIII, paragraph 3 above, the Contractor and the City may agree upon the whole or any part of the amount or amounts to be paid to the Contractor by reason of the total or partial termination of work pursuant to this clause, which amount or amounts may include a reasonable allowance for profit on work done; provided, that such agreed amount or amounts exclusive of settlement costs, shall not exceed the total contract sum as reduced by the amount of payments otherwise made and as further reduced by the contract price of work not terminated. The Contract shall be amended accordingly and the Contractor shall be paid the agreed amount. Nothing in paragraph 5 hereof, prescribing the amount to be paid to the Contractor in the event of failure of the Contractor and the City to agree upon the whole amount to be paid to the Contractor by reason of the termination of work pursuant to this clause, shall be deemed to limit, restrict, or otherwise determine or affect the amount or amounts which may be agreed upon to be paid to the Contractor pursuant to this paragraph.

5. In the event of the failure of the Contractor and he City to agree upon the whole amount to be paid to the Contractor by reason of the termination of work pursuant to this clause, as provided in paragraph 4 above, the city shall pay to the Contractor the amounts determined by the City as follows, but without duplication of any amount agreed upon in accordance with Article VIII, paragraph 4 above:

A. For completed work and services accepted by the City, the price or prices specified in the contract Document for such work, less any payments previously made.

B. The total of:

(1) the costs incurred in the performance of the work and services terminated, including initial costs and reparatory expenses allocable thereto, but exclusive of any costs attributable to the work and services paid or to be paid for under paragraph 5(a) hereof;

(2) a sum, as profit on (i) above, determined by the City to be fair and reasonable.

6. In the event the Contract is terminated because of the Contractor's default, the City may take over the work and services and complete the same by contract or otherwise, and the Contractor shall be liable to the City for any increased cost of the project.

7. If the Contractor's failure to perform and default arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor (such causes may include, but are not restricted to act of God, acts of the public enemy, acts of the City in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes and unusually severe weather; but in every case the failure to perform must be beyond the control and without the fault or negligence of the Contractor) and the Contractor, within ten (10) days from the beginning of any such delay notifies the City in writing of the causes of delay, then the City shall ascertain the facts and the extent of delay and extend the time for completing the Project within the findings of fact justify such an extension.

8. If, after Notice of Termination of the Contract for default, it is determined for any reason that the Contractor was not in default or that the default was excusable under the provisions of paragraph 7 above, the rights and obligations of the parties shall be the same as if the Notice of Termination had been issued pursuant to the stipulations of Article VIII paragraph 1, hereof.

ARTICLE IX

MISCELLANEOUS PROVISIONS

1. Terms used in the Contract which are defined in the General Provisions of the Contract shall have the meanings designated in those Provisions.

2. The Contractor shall provide insurance coverage in the amounts, type and classification required by the City, as provided in the Contract Documents, prior to commencement of the work. He shall provide all policies and certificates evidencing such insurance coverage for City's review and approval.

3. The City shall require and the Contractor shall provide separate payment and performance bonds each in the amount of the contract sum, appearing in Article IV hereof, in such form as the City requires and with a surety acceptable to the City. The cost thereof is included in the contract sum. Upon approval by the City of any Change Order increasing the contract sum, Contractor shall provide new bonds reflecting the adjustment in Penal Sums, accordingly.

4. All references herein and in the General Provisions to "Engineer" in the context of supervisor/inspecting authority, including review of change orders and applications for payment, shall refer to any City's representative authorized as such by the City.

5. All covenants and agreements herein contained shall extend to and be obligatory on the successors and assigns of the Contractor and of the City, but the Contractor shall not assign this agreement or any payments to become due thereunder except with the prior written consent of the City. The Contractor agrees that its rights to payment hereunder and

the rights of any assignee shall be subject to the rights of the City arising prior to such payment. The City shall have the right to assign its rights hereunder without prior notice to the Contractor and, in the event of such assignment, the Contractor shall continue to perform its obligations hereunder for the account of the assignee; provided, however, that such obligation shall be conditioned upon such assignee covenanting to make all payments required by the Contract Documents and not paid prior to the date of such substitution.

6. The Contractor hereby assigns to the City (and its assigns) all its interest in any subcontracts and purchase orders now existing or hereinafter entered into by the Contractor for performance of any part of the work which assignment will be effective upon acceptance by the City in writing and only as to those subcontracts and purchase orders which the City designates in said assignment at any time during the course of construction prior to final completion. IT IS FURTHER UNDERSTOOD AND AGREED THAT ALL SUBCONTRACTS AND PURCHASE ORDERS SHALL PROVIDE THAT THEY ARE FREELY ASSIGNABLE BY THE CONTRACTOR TO THE CITY AND/OR ITS ASSIGNS. THIS ASSIGNMENT IS PART OF THE CONSIDERATION FOR ENTERING INTO THIS CONTRACT WITH THE CONTRACTOR AND MAY NOT BE WITHDRAWN PRIOR TO FINAL COMPLETION OF THE PROJECT.

7. For purposes of verifying that cost or pricing data submitted, in conjunction with the negotiation of this Contract or any contract change or other modification, are accurate, complete, and current, the City or its authorized representatives, shall -- until the expiration of three (3) years from the date of Final Payment under this Contract -- have the right to examine those books, records, documents and other supporting data which will permit adequate evaluation of the cost or pricing data submitted, along with the computation and projections used therein, which are prepared by the Contractor prior to and after the date of execution of the Contract, but relating to the Contract. The Contractor agrees to insert the substance of this clause in all subcontracts hereunder so as to apply until three (3) years after Final subcontracts hereunder so as to apply until three (3) years after Final Payment under the subcontract, unless the price is based on established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices are set by law or regulation.

CONTRACT

IN WITNESS WHEREOF, the parties have made and executed this Agreement, the day and year first above written.

_____

BY:_____ (Seal)

_____
(Title)

Date:_____

ATTEST:
_____

CITY OF WAUCHULA

BY: CITY OF WAUCHULA, FLORIDA (Seal)

BY: CITY COMMISSION OF WAUCHULA, FLORIDA

BY: _____
(MAYOR)

Date:_____

ATTEST:
_____

APPROVED AS TO FORM

_____
CITY ATTORNEY

Date_____

TECHNICAL PROVISIONS OF CONTRACT APPROVED:

_____
CITY MANAGER

Date_____

PERFORMANCE BOND

STATE OF FLORIDA
COUNTY OF _____

KNOW ALL MEN BY THESE PRESENTS that _____ a Principal, hereinafter called Contractor, and _____ as Surety, hereinafter called Surety, are held and firmly bound unto the City of Wauchula, Florida as Obligee, hereinafter called Owner, in the amount of _____ Dollars ($_____) for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written agreement dated _____, 20____, entered into a Contract with Owner for: **DESIGN\BUILD 10-UNIT T-HANGARS** in accordance with Contract Documents, Drawings, and Specifications prepared by the City's consultant, which Contract is by reference made a part hereof and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION ARE SUCH, that, if the Principal shall in all respects promptly and faithfully perform and comply with the terms and conditions of said Contract and his obligations thereunder and shall indemnify the Owner and the Consulting Engineer and save either or all of them against and from all costs, expenses and damages arising from the performance of said Contract or the repair of any work there under, then this obligation shall be void; otherwise, this Bond shall remain in full force and effect, in accordance with the following terms and conditions:

1. The Principal and Surety jointly and severally agree to pay the Owner any difference between the sum to which the said Principal would be entitled on the completion of the Contract, and that sum which the Owner may be obliged to pay for the completion of said work by Contract or otherwise, and any damages, direct or indirect or consequential, including without limitation those for delay, expenses, costs, and attorney's fees including appellate proceedings, which the said Owner may sustain on account of such work, or on account of the failure of said Contractor to properly and in all things, keep and execute all of the provisions of said Contract.

2. And this Bond shall remain in full force and effect for a period of one (1) year from the date of acceptance of the project by the Owner and shall provide that the Contractor guarantees to repair or replace for said period of one (1) year all work performed and materials and equipment furnished that were not performed and materials and equipment furnished that were not performed or furnished according to the terms of the Contract, and shall make good, defects thereof which have become apparent before the expiration of said period of one (1) year. If any part of the project, in the judgment of the Owner, for the reasons above stated needs to be replaced, repaired or made good during that time, the Owner shall so notify the Contractor in writing. If the Contractor refuses or neglects to do such work within five (5) days from the date of service of such Notice, the Owner shall have the work done by others an the cost thereof shall be paid by the Contractor or his Surety.

3. And the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to work to be performed thereunder or the specifications accompanying the same shall in any wise affect its obligations on this bond, and it does hereby waive Notice of any change, extension of time, alteration or addition to the terms of the Contract or to the work or to the Specifications.

4. The Surety presents and warrants to the Owner that they have a Best's Key Rating Guide General Policyholder's Rating of "_____" and Financial Category of "Class__".

IN WITNESS WHEREOF, the above bounded parties executed this instrument under their several seals, this ____ day of _____, 20__, A.D., the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

WITNESS:
(If Sole Ownership or Partnership, two (2) Witnesses required).
(If Corporation, Secretary Only will attest and affix seal).

PRINCIPAL:

_____

_____

_____
Authorized Officer (Affix Seal)

WITNESSES:

_____ _____
Title

_____ _____
Title

Business Address

_____
City State

SURETY:

_____
Corporate Surety

_____
Attorney-in-Fact (Affix Seal)

WITNESS:

_____ _____
Title

Business Address

_____
City State

_____
Name of Local Insurance Agency

CERTIFICATES AS TO CORPORATE PRINCIPAL

I, _____, certify that I am the Secretary of the Corporation named as Principal in the within bond; that _____ who signed the said bond on behalf of the Principal, was then of said Corporation; that I know his signature, and his signature hereto is genuine; and that said bond was duly signed, sealed, and attested for and in behalf of said Corporation by authority of its governing body.

_____
Secretary (Corporate Seal)

STATE OF FLORIDA
COUNTY OF _____

Before me, a Notary Public, duly commissioned, qualified and acting, personally appeared to me well known, who being my first duly sworn upon oath, says that he is the Attorney-in-Fact, for the _____ and that he has been authorized by _____ to execute the foregoing bond on behalf of the Contractor named therein in favor of the City of Wauchula, Florida.

Subscribed and sworn to before me this _____ day of _____, 20_____, A.D.

[Attach Power of Attorney to Original Bid Bond and Financial Statement from Surety Company]

_____
Notary Public
State of Florida-at-Large

My Commission Expires:
_____

END OF PERFORMANCE BOND

CONSTRUCTION PAYMENT BOND

STATE OF FLORIDA
COUNTY OF _____

BOND NO: _____

KNOW ALL MEN BY THESE PRESENTS that _____ a Principal, hereinafter called Contractor, and _____ as Surety, hereinafter called Surety, are held and firmly bound unto the City of Wauchula, Florida as Obligee, hereinafter called Owner, in the amount of _____ Dollars ($_____) for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written agreement dated _____, 20____, entered into a Contract with Owner for the project "**DESIGN\BUILD 10-UNIT T-HANGARS**" in accordance with Drawings and Specifications prepared by the City Engineers office, which Contract is by reference made a part hereof and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION ARE SUCH, that, if the Principal shall promptly make payments to all claimants, as hereinbelow defined, then this obligation shall be void; otherwise, this Bond shall remain in full force and effect, subject to the following terms and conditions:

1. A claimant is defined as any person supplying the Principal with labor, material and supplies, used directly or indirectly by the said Principal of any subcontractor in the prosecution of the work provided for in said Contract.

2. The above-named Principal and Surety hereby jointly and severally agree with the Owner that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after performance of the labor or after complete delivery of materials and supplies by such claimant, may sue on the Bond for the use of such claimant, prosecute the suite to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The Owner shall not be liable for the payment of the costs or expenses of any such suit.

3. No suit or action shall be commenced hereunder by any claimant:

A. Unless claimant, other than one having a direct contract with the Principal, shall within ninety (90) days after such claimant's performance of the labor or complete delivery of materials and supplies, deliver to the Principal written notice of the performance of such labor or delivery of such material and supplies and the nonpayment therefor.

B. After the expiration of one (1) year from the performance of the labor or completion of delivery of the materials and supplies; it being understood, however, that if any limitation embodied in this Bond is prohibited by any law controlling the construction hereof such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

C. Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the project, or any part thereof, is situated, or in the United States District Court for the district in which the project, or any part thereof, is situated, and not elsewhere.

4. The Principal and the Surety jointly and severally, shall repay the Owner any sum which the Owner may be compelled to pay because of any lien for labor or materials furnished for any work included in or provided by said Contract.

5. The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration of or addition to the terms of the Contractor r to the work to be performed thereunder or the Specifications applicable thereto shall in anywise affect its obligation on this Bond, and the Surety hereby waives notice of any such change, extension of time, alterations of or addition to the terms of the Contract, or to the work or the Specifications.

6. The Surety represents and warrants to the Owner that they have a Best's Key Rating Guide General Policyholder's Rating of "_____" and Financial Category of "Class _____".

IN WITNESS WHEREOF, the above bounded parties executed this instrument under their several seals, this ____ day of _____, 20____, A.D., the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

WITNESS:
(If Sole Ownership or Partnership, two (2) Witnesses required).
(If Corporation, Secretary Only will attest and affix seal).

PRINCIPAL:

_____

_____

_____
Authorized Officer (Affix Seal)

WITNESSES:

_____ _____
Title

_____ _____

Business Address

_____
City State

SURETY:

_____
Corporate Surety

_____
Attorney-in-Fact (Affix Seal)

WITNESS:

_____ _____
Title

Business Address

_____
City State

_____
Name of Local Insurance Agency

CERTIFICATES AS TO CORPORATE PRINCIPAL

I, _____, certify that I am the Secretary of the Corporation named as Principal in the within bond; that _____ who signed the said bond on behalf of the Principal, was then of said Corporation; that I know his signature, and his signature hereto is genuine; and that said bond was duly signed, sealed, and attested for and in behalf of said Corporation by authority of its governing body.

_____
Secretary (Corporate Seal)

STATE OF FLORIDA
COUNTY OF _____

Before me, a Notary Public, duly commissioned, qualified and acting, personally appeared to me well known, who being my first duly sworn upon oath, says that he is the Attorney-in-Fact, for the _____ and that he has been authorized by _____ to execute the foregoing bond on behalf of the Contractor named therein in favor of the City of Wauchula, Florida.

Subscribed and sworn to before me this _____ day of _____, 20_____, A.D.

[Attach Power of Attorney to Original Bid Bond and Financial Statement from Surety Company]

_____
Notary Public
State of Florida-at-Large

My Commission Expires:
_____

END OF PAYMENT BOND

OPINION OF ATTORNEY

This is to certify that I have examined the attached Contract Documents, that after examination, I am of the opinion that such Documents conform to the laws of the State of Florida, that the execution of the construction contract and the Performance and Payment Bonds are in due and proper form, and that the representatives of the respective contracting parties have pull power and authority to execute such construction contract and bond on behalf of the respective contracting parties and that the foregoing agreements constitute valid and binding obligations on such parties.

_____
Attorney for the City of Wauchula, Florida

THIS _____ DAY OF _____, 20_____.

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NOTICE OF INTENT TO AWARD

DATE: **See Signing Date(s) Below**

TO:

PROJECT: **DESIGN\BUILD 10-UNIT T-HANGARS**
WAUCHULA MUNICIPAL AIRPORT – WAUCHULA, FLORIDA

The Owner has reviewed the Bid submitted by your firm for the above described work in response to its Advertisement for Bids dated the _____ day of _____, 20___ and the contract documents.

You are hereby notified that your Bid is being considered for acceptance for the PROJECT, in the Total Amount **_____ Dollars ($_____)** for the work, subject to the availability of funds, and less any items not to be constructed.

You are required by the Instructions to Bidders to execute five (5) copies of the Contract Documents and furnish the required Contractor's Performance Bond, Payment Bond, evidences of all required insurance coverage and authority to execute plus satisfactory evidence of compliance with the Bid Conditions pertaining to the Disadvantaged Business Enterprise Program within fifteen (15) calendar days from the date of this Notice to you.

If you fail to execute said Contract Documents and to furnish said Bonds and other required documents and information within the time specified, said Owner will be entitled to consider all your rights arising out of the Owner's acceptance of your Bid as abandoned and as a forfeiture of your Bid Bond. The Owner will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this Notice of Intent to Award to the Owner.

Dated this ____day of _____20_____.

City of Wauchula
Owner

By: _____
Ms. Olivia Minshew

Title: City Manager

ACCEPTANCE OF NOTICE
Receipt of the above Notice of Intent to Award is hereby acknowledged by:

_____

on this _____ day of _____ 20____.

Signed: _____
(Name) (Title)

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NOTICE TO PROCEED

DATE:

TO:

PROJECT: DESIGN\BUILD 10-UNIT T-HANGARS
WAUCHULA MUNICIPAL AIRPORT
WAUCHULA, FLORIDA

You are hereby given notice to commence Work on the Project in accordance with the Contract Agreement dated on the ____ day of _____ on or before the ____ day of _____, 20__ and you are to substantially complete the Work within the times stipulated in the Special Provisions. The date of substantial completion of all Work is therefore the ____ day of ___ 20___.

You are required to return an acknowledged copy of this Notice to Proceed to the Owner.

Owner: City of Wauchula

By: _____
Olivia Minshew

Title: City Manager

ACCEPTANCE OF NOTICE

Receipt of the above Notice to Proceed is hereby acknowledged by:

_____

on this ____ day of _____ 20____.

Signed: _____

Title: _____

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NOTICE TO PROCURE

DATE:

TO:

PROJECT: DESIGN\BUILD 10-UNIT T-HANGARS
WAUCHULA MUNICIPAL AIRPORT
WAUCHULA, FLORIDA

You are hereby given notice to commence procurement of materials in accordance with the Contract Agreement dated the _____ day of _____, 20___ for the contracted work. All materials necessary for the completion of the work shall be stored on site and/or immediately available for installation in-place within _____ calendar days of this Notice to Procure, unless extension has been granted by Owner in writing.

You are required to return an acknowledged copy of this Notice to Procure to the Owner.

Owner: City of Wauchula

By: _____
Ms. Olivia Minshew

Title: City Manager

ACCEPTANCE OF NOTICE

Receipt of the above Notice to
Procure is hereby acknowledged by:

_____

on this _____ day of _____ 20__.

Signed: _____

Title: _____

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FINAL RELEASE OF LIEN

CITY OF WAUCHULA

KNOW ALL MEN BY THESE PRESENTS, that the undersigned, for and in consideration of the payment of the sum of _____ Dollars ($_____), paid by the City of WAUCHULA, Florida, hereinafter referred to as "Owner", receipt of which is hereby acknowledged as total compensation for performance of the below-described Contract for the Project, does hereby fully and completely discharge and release the owner from and waives any and all debts, accounts, promises, damages, liens, encumbrances, causes of action, suits, bonds, judgments, claims and demands whatsoever, in law or in equity, which the undersigned ever had, now has or might hereafter have on account of labor performed, material furnished or services rendered, directly or indirectly, for the Contract between the parties dated _____ , 20 ___, known as **DESIGN\BUILD 10-UNIT T-HANGARS** except for those claims, disputes and other matters arising out of or relating to said Contract which have been raised by written demand in accordance with the Contract Documents prior to this date and identified by the Contractor as unsettled in the final Application for Payment and are either in arbitration or court litigation, as the case may be, in accordance with the Contract Documents.

The undersigned further covenants that subcontractors, suppliers, and material suppliers, and any or all other persons supplying materials, supplies, service or labor used directly or indirectly in the prosecution of the work provided for in the Contract, have been paid in full for all work under this contract.

The undersigned agrees to maintain in full force and effect the provisions of the Contract Documents respecting the guaranty against defective work, and any other special guaranties required by the Contract Documents, for the terms provided in the Contract Documents, which terms shall begin to run from the date specified in the Contract Documents.

The undersigned represents and warrants that the statements contained in the foregoing Release are true and correct.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this _____ day of

_____, 20___,

WITNESSES:

_____
CONTRACTOR

_____

By: _____

Title:_____

STATE OF _____ _____

COUNTY OF _____

Sworn to and subscribed before me this _____ day of _____ 20_____

_____
NOTARY PUBLIC

(NOTARY SEAL) My Commission Expires:_____

PROJECT CLOSEOUT

Project closeout is hereby defined to include general requirements near end of contract time, in preparation for final acceptance, final payment, normal termination of contract, occupancy by Owner, and similar actions evidencing completion of the work. Specific requirements for individual units of work are specified in other sections. Time of closeout is directly related to substantial completion and, therefore, may be a single time period for entire work or a series of time periods for individual parts of the work which have been certified as substantially complete at different dates. The time variation, if any, shall be applicable to other provisions of this contract and the specifications.

PREREQUISITES TO FINAL ACCEPTANCE

A. General

Prior to requesting final payment, as required by General Conditions, complete the following and list known exceptions in request:

1. Submit final payment request with Final Release of Lien and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.

2. Submit one year project warranty, equipment and materials-specific manufacturer's warranties, workmanship-maintenance bonds, maintenance agreements, final certifications, and similar documents. Certificate of Warranty form follows this page.

3. Submit lien waivers from all subcontractors and suppliers.

4. Submit consent of surety.

5. Submit red lined drawings and electronic as-built survey drawings on USB drive in AutoCAD version 2024 or earlier to the Engineer.

CERTIFICATE OF WARRANTY

Project Name: _____

Project Number: _____

Contractor: _____

Date of Substantial Completion: _____

I, _____, being the _____

_____ of _____ do hereby certify that the one (1) year warranty called for in the Contract Specifications is now in force and effect until after such time one (1) year has passed after the date of Final Completion.

Signed: _____

Title: _____

STATE OF _____

COUNTY OF _____

Subscribed and sworn to before me, a Notary Public, in and for the County and State aforesaid by

_____ duly authorized so to sign this

_____day of _____, 20___.

Notary Public_____

My commission expires:_____

SECTION G - BUY AMERICAN EXCLUSIONS

List of supplies and materials that the U.S. Government has determined are not produced in the United States in sufficient and reasonably available quantities and of sufficient quality. (Jan 1991)

Acetylene, black
Agar, bulk
Anise
Antimony, as metal or oxide
Asbestos, amosite, chrysolite, and Crocidolite
Bananas
Bauxite
Beef, corned, canned
Beef extract
Bephenium Hydroxynapthoate
Bismuth
Books, trade, text, technical, or scientific; newspapers; pamphlets; magazines; periodicals; printed briefs and films; not printed in the United States and for which domestic editions are not available.
Brazil nuts, unroasted
Cadmium, ores and flue dust
Calcium cyanamide
Capers
Cashew nuts
Castor beans and castor oil
Chalk, English
Chestnuts
Chicle
Chrome ore or chromite
Cinchona bark
Cobalt, in cathodes, rondelles, or other primary ore and metal forms.
Cocoa beans
Coconut and coconut meat, unsweetened, in shredded, desiccated or similarly prepared form.
Coffee, raw or green bean
Colchicine alkaloid, raw
Copra
Cork, wood or bark and waste
Cover glass, microscope slide
Cryolite, natural
Dammar gum
Diamonds, industrial, stones and abrasives
Emetine, bulk
Ergot, crude
Erthrityl tetranitrate
Fair linen, altar
Fibers of the following types: abaca, abace, agave, coir, flax, jute, jute burlaps, palmyra and sisal.
Goat and kidskins
Graphite, natural, crystalline, crucible grade
Handsewing needles
Hemp yarn
Hogbristles for brushes
Hyoscine, bulk
Ipecac, root
Iodine, crude
Kaurigum
Lac
Leather, sheepskin, hair type
Lavender oil
Manganese
Menthol, natural bulk
Mica
Microprocessor chips (brought onto a construction site as separate units for incorporation into building systems during construction or repair and alteration of real property.)
Nickel, primary, in ingots, pigs, shots, cathodes, or similar forms; nickel oxide and nickel salts.
Nitroguanidine (also known as picrite)
Nux vomica, crude
Oiticica oil
Olive oil Olives (green), pitted or unpitted, or stuffed, in bulk.
Opium, crude
Oranges, mandarin, canned
Petroleum, crude oil, unfinished oils, and finished products (see definitions at the end)
Pine needle oil
Platinum and related group metals, refined as sponge, powder, ingots, or cast bars.
Pyrethrum flowers
Quartz crystals
Quebrancho
Quinidine
Quinine
Rabbit fur felt
Radium salts, source and special nuclear materials
Rosettes
Rubber, crude and latex
Rutile
Santonin, crude
Secretin
Shellac
Silk, raw and unmanufactured
Spare and replacement parts for equipment of foreign manufacture, and for which domestic parts are not available.
Spices and herbs, in bulk
Sugars, raw
Swords and scabbards
Talc, block, steatite
Tantalum
Tapioca flour and cassava
Tartar, crude; tartaric acid and cream of tartar in bulk.
Tea in bulk
Thread, metallic (gold)
Thyme oil
Tin in bars, blocks, and pigs
Triprolidine hydrochloride
Tungsten
Vanilla beans
Venom, cobra
Wax, canauba
Woods; logs, veneer, and lumber of the following species: Alaskan yellow cedar, angelique, balsa, ekki greenhart, lignum vitae, mahogany, and teak.
Yarn, 50 Denier rayon

List of Supplies/Materials that the U.S. Government Has Determined Are Not Produced In the United States In Sufficient and Reasonably Available Quantities And of Sufficient Quality (Jan 1991) (CONTINUED)

Petroleum terms are used as follows:

"Crude oil" means crude petroleum, as it is produced at the wellhead, and liquids (under atmospheric conditions) that have been recovered from mixtures of hydrocarbons that existed in a vaporous phase in a reservoir and that are not natural gas products.

"Finished products" means any one or more of the following petroleum oils, or a mixture or combination of these oils, to be used without further processing except blending by mechanical means:

(A) "Asphalt" - a solid or semi-solid cementitious material that (1) gradually liquefies when heated, (2) has bitumens as its predominating constituents, and (3) is obtained in refining crude oil.

(B) "Fuel oil" - a liquid or liquefiable petroleum product burned for lighting or for the generation of heat or power and derived directly or indirectly from crude oil, such as kerosene, range oil, distillate fuel oils, gas oil, diesel fuel, topped crude oil, or residues.

(C) "Gasoline" - a refined petroleum distillate that, by its consumption, is suitable for use as a carburant in internal combustion engines.

(D) "Jet fuel" - a refined petroleum distillate used to fuel jet propulsion engines.

(E) "Liquefied gases" - hydrocarbon gases recovered from natural gas or produced from petroleum refining and kept under pressure to maintain a liquid state at ambient temperatures.

(F) "Lubricating oil" - a refined petroleum distillate or specially treated petroleum residue used to lessen friction between surfaces.

(G) "Naphtha" - a refined petroleum distillate falling within a distillation range overlapping the higher gasoline and the lower kerosenes.

(H) "Natural gas products" - liquids (under atmospheric conditions) including natural gasoline, that -

(1) are recovered by a process of absorption, adsorption, compression, refrigeration, cycling, or a combination of these processes, from mixtures of hydrocarbons that existed in a vaporous phase in a reservoir, and

(2) when recovered and without processing in a refinery, definitions of products contained in subdivision (B), (C), and (G) above.

(I) "Residual fuel oil" - a topped crude oil or viscous residuum that, as obtained in refining or after blending with other fuel oil, meets or is the equivalent of MILSPEC Mil-F-859 for Navy Special Fuel Oil and any more viscous fuel oil, such as No. 5 or Bunker C.

"Unfinished oils" means one or more of the petroleum oils listed under "Finished products" above, or a mixture or combination of these oils, that are to be further processed other than by blending by mechanical means.

SECTION H

EQUAL EMPLOYMENT OPPORTUNITY
(41 CFR PART 60-1.4(b))

During the performance of this contract, the contractor agrees as follows:

H-1 The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following:

Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

H-2 The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin.

H-3 The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

H-4 The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, as amended, and of the rules, regulations, and relevant orders of the Secretary of Labor.

H-5 The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

H-6 In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedure authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

~~H-7 The contractor will include the portion of the sentence immediately preceding paragraph D-1 and the provisions of paragraphs D-1 through D-7 in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provision, including sanctions for noncompliance: Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the contractor may request the United States to enter into such litigation to protect the interests of the United States.~~

SECTION I

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS
(41 CFR 60-4.3)

1. As used in these specifications:

a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;

b. "Director" means Director, Office of Federal Contract Compliance Programs (OFCCP), U.S. Department of Labor, or any person to whom the Director delegates authority;

c. "Employer identification number" means the Federal social security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941;

d. "Minority" includes:

(1) Black (all) persons having origins in any of the Black African racial groups not of Hispanic origin);

(2) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin regardless of race);

(3) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and

(4) American Indian or Alaskan native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors shall be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each contractor or subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO clause and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved Plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The contractor shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in a geographical area where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement nor the failure by a union with whom the contractor has a collective bargaining agreement to refer either minorities or women shall excuse the contractor's obligations under these specifications, Executive Order 11246 or the regulations promulgated pursuant thereto.

6. In order for the non working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees shall be employed by the contractor during the training period and the contractor shall have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees shall be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The contractor shall document these efforts fully and shall implement affirmative action steps at least as extensive as the following:

a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the contractor's employees are assigned to work. The contractor, where possible, will assign two or more women to each construction project. The contractor shall specifically ensure that all foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

c. Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the contractor by the union or, if referred, not employed by the contractor, this shall be documented in the file with the reason therefore along with whatever additional actions the contractor may have taken.

d. Provide immediate written notification to the Director when the union or unions with which the contractor has a collective bargaining agreement has not referred to the contractor a minority person or female sent by the contractor, or when the contractor has other information that the union referral process has impeded the contractor's efforts to meet its obligations.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the contractor's employment needs, especially those programs funded or approved by the Department of Labor. The contractor shall provide notice of these programs to the sources compiled under 7b above.

f. Disseminate the contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with onsite supervisory personnel such a superintendents, general foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the contractor's EEO policy with other contractors and subcontractors with whom the contractor does or anticipates doing business.

i. Direct its recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students; and to minority and female recruitment and training organizations serving the contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the contractor shall send written notification to organizations, such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable provide after school, summer, and vacation employment to minority and female youth both on the site and in other areas of a contractor's workforce.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel, for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are nonsegregated except that separate or single user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor union, contractor community, or other similar groups of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the contractor. The obligation to comply, however, is the contractor's and failure of such a group to fulfill an obligation shall not be a defense for the contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, if the particular group is employed in a substantially disparate manner (for example, even though the contractor has achieved its goals for women generally,) the contractor may be in violation of the Executive Order if a specific minority group of women is underutilized.

10. The contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

11. The contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records shall at least include for each employee, the name, address, telephone number, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

SECTION J

MANDATORY REQUIREMENT FOR ALL AIP FUNDED CONSTRUCTION PROJECTS INVOLVING ELECTRICAL ENERGY OR OTHER HAZARDOUS ENERGY SOURCES

For projects involving electrical energy or other hazardous energy source, the contractor shall submit a copy of their Lockout/Tagout program which meets the requirements of 29 CFR 1910.331, Safety Related Work Practices (OSHA). During the performance of electrical work, it is recommended than an unannounced inspection be performed by the airport sponsor or his agent to determine if the Lockout/Tagout program is being followed. Immediate action shall be taken to correct noncompliance, including suspension of work when necessary.

APPENDIX II
BID CONDITIONS, DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

1. Contract Assurance.

The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy, as the recipient deems appropriate.

2. Prompt Payment.

The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than 30 days from the receipt of each payment the prime contractor receives from the City of Wauchula. The prime contractor agrees further to return retainage payments to each subcontractor within 30 days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the City of Wauchula. This clause applies to both DBE and non-DBE subcontractors.

B. Other Contract Provisions.

1. Good Faith Efforts.

The requirements of 49 CFR Part 26, Regulations of the U.S. Department of Transportation, apply to this contract. It is the policy of the City of Wauchula to practice nondiscrimination based on race, color, sex, or national origin in the award or performance of this contract. All firms qualifying under this solicitation are encouraged to submit bids/proposals. Award of this contact will be conditioned upon satisfying the requirements of this bid specification. These requirements apply to all bidders/offerors, including those who qualify as a DBE. A DBE contract goal of **0 percent** has been established for this contract. The bidder/offeror shall make good faith efforts, as defined in Appendix A, 49 CFR Part 26 (Attachment 1), to meet the contract goal for DBE participation in the performance of this contract.

The bidder/offeror will be required to submit the following information: (1) the names and addresses of DBE firms that will participate in the contract; (2) a description of the work that each DBE firm will perform; (3) the dollar amount of the participation of each DBE firm participating; (4) written documentation of the bidder/offeror's commitment to use a DBE subcontractor whose participation it submits to meet the contract goal; (5) written confirmation from the DBE that it is participating in the contract as provided in the commitment under (4); and (6) if the contract goal is not met, evidence of good faith efforts.

"The bidder/offeror shall submit the information in (4) and (5) prior to a commitment by the City of Wauchula to award the contract to the apparent successful competitor, at a time to be specified by the City of Wauchula as a condition of responsibility."

All other submissions are required at the time of bidding, as specified in the Instructions to Bidders, and Bid Form. DBE participation in this contract may be in form of a prime contract, subcontract, joint venture, or another arrangement that qualifies under 49 CFR Sections 26.55, "How is DBE participation counted toward goals?" or 26.53(g), both of which are included as Attachment 2.

Appendix A to Part 26

I. When, as a recipient, you establish a contract goal on a DOT-assisted contract, a bidder must, in order to be responsible and/or responsive, make good faith efforts to meet the goal. The bidder can meet this requirement in either of two ways. First, the bidder can meet the goal, documenting commitments for participation by DBE firms sufficient for this purpose. Second, even if it doesn't meet the goal, the bidder can document adequate good faith efforts. This means that the bidder must show that it took all necessary and reasonable steps to achieve a DBE goal or other requirement of this part which, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not fully successful.

II. In any situation in which you have established a contract goal, part 26 requires you to use the good faith efforts mechanism of this part. As a recipient, it is up to you to make a fair and reasonable judgment whether a bidder that did not meet the goal made adequate good faith efforts. It is important for you to consider the quality, quantity, and intensity of the different kinds of efforts that the bidder has made. The efforts employed by the bidder should be those that one could reasonably expect a bidder to take if the bidder were actively and aggressively trying to obtain DBE participation sufficient to meet the DBE contract goal. Mere *pro forma* efforts are not good faith efforts to meet the DBE contract requirements. We emphasize, however, that your determination concerning the sufficiency of the firm's good faith efforts is a judgment call: meeting quantitative formulas is not required.

III. The Department also strongly cautions you against requiring that a bidder meet a contract goal (i.e., obtain a specified amount of DBE participation) in order to be awarded a contract, even though the bidder makes an adequate good faith efforts showing. This rule specifically prohibits you from ignoring *bona fide* good faith efforts.

IV. The following is a list of types of actions which you should consider as part of the bidder's good faith efforts to obtain DBE participation. It is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases.

A. Soliciting through all reasonable and available means (e.g., attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBEs who have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the DBEs to respond to the solicitation. The bidder must determine with certainty if the DBEs are interested by taking appropriate steps to follow up initial solicitations.

B. Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces.

C. Providing interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.

D. (1) Negotiating in good faith with interested DBEs. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBEs to perform the work.

(2) A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Prime contractors are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable.

E. Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The contractor's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the contractor's efforts to meet the project goal.

F. Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or contractor.

G. Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.

H. Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBEs.

V. In determining whether a bidder has made good faith efforts, you may take into account the performance of other bidders in meeting the contract. For example, when the apparent successful bidder fails to meet the contract goal, but others meet it, you may reasonably raise the question of whether, with additional reasonable efforts, the apparent successful bidder could have met the goal. If the apparent successful bidder fails to meet the goal, but meets or exceeds the average DBE participation obtained by other bidders, you may view this, in conjunction with other factors, as evidence of the apparent successful bidder having made good faith efforts.

49 CFR - Subtitle A - PART 26.55

(a) When a DBE participates in a contract, you count only the value of the work actually performed by the DBE toward DBE goals.

(1) Count the entire amount of that portion of a construction contract (or other contract not covered by paragraph (a)(2) of this section) that is performed by the DBE's own forces. Include the cost of supplies and materials obtained by the DBE for the work of the contract, including supplies purchased or equipment leased by the DBE (except supplies and equipment the DBE subcontractor purchases or leases from the prime contractor or its affiliate).

(2) Count the entire amount of fees or commissions charged by a DBE firm for providing a bona fide service, such as professional, technical, consultant, or managerial services, or for providing bonds or insurance specifically required for the performance of a DOT-assisted contract, toward DBE goals, provided you determine the fee to be reasonable and not excessive as compared with fees customarily allowed for similar services.

(3) When a DBE subcontracts part of the work of its contract to another firm, the value of the subcontracted work may be counted toward DBE goals only if the DBE's subcontractor is itself a DBE. Work that a DBE subcontracts to a non-DBE firm does not count toward DBE goals.

(b) When a DBE performs as a participant in a joint venture, count a portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work of the contract that the DBE performs with its own forces toward DBE goals.

(c) Count expenditures to a DBE contractor toward DBE goals only if the DBE is performing a commercially useful function on that contract.

(1) A DBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself. To determine whether a DBE is performing a commercially useful function, you must evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the contract is commensurate with the work it is actually performing and the DBE credit claimed for its performance of the work, and other relevant factors.

(2) A DBE does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of DBE participation. In determining whether a DBE is such an extra participant, you must examine similar transactions, particularly those in which DBEs do not participate.

(3) If a DBE does not perform or exercise responsibility for at least 30 percent of the total cost of its contract with its own work force, or the DBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involved, you must presume that it is not performing a commercially useful function.

(4) When a DBE is presumed not to be performing a commercially useful function as provided in paragraph (c)(3) of this section, the DBE may present evidence to rebut this presumption. You may determine that the firm is performing a commercially useful function given the type of work involved and normal industry practices.

(5) Your decisions on commercially useful function matters are subject to review by the concerned operating administration, but are not administratively appealable to DOT.

(d) Use the following factors in determining whether a DBE trucking company is performing a commercially useful function:

(1) The DBE must be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract, and there cannot be a contrived arrangement for the purpose of meeting DBE goals.

(2) The DBE must itself own and operate at least one fully licensed, insured, and operational truck used on the contract.

(3) The DBE receives credit for the total value of the transportation services it provides on the contract using trucks it owns, insures, and operates using drivers it employs.

(4) The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract.

(5) The DBE may also lease trucks from a non-DBE firm, including an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit only for the fee or commission it receives as a result of the lease arrangement. The DBE does not receive credit for the total value of the transportation services provided by the lessee, since these services are not provided by a DBE.

(6) For purposes of this paragraph (d), a lease must indicate that the DBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, so long as the lease gives the DBE absolute priority for use of the leased truck. Leased trucks must display the name and identification number of the DBE.

(e) Count expenditures with DBEs for materials or supplies toward DBE goals as provided in the following:

(1) (i) If the materials or supplies are obtained from a DBE manufacturer, count 100 percent of the cost of the materials or supplies toward DBE goals.

(ii) For purposes of this paragraph (e)(1), a manufacturer is a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract and of the general character described by the specifications.

(2) (i) If the materials or supplies are purchased from a DBE regular dealer, count 60 percent of the cost of the materials or supplies toward DBE goals.

(ii) For purposes of this section, a regular dealer is a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business.

(A) To be a regular dealer, the firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question.

(B) A person may be a regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone, or asphalt without owning, operating, or maintaining a place of business as provided in this paragraph (e)(2)(ii) if the person both owns and operates distribution equipment for the products. Any supplementing of regular dealers' own distribution equipment shall be by a long-term lease agreement and not on an ad hoc or contract-by-contract basis.

(C) Packagers, brokers, manufacturers' representatives, or other persons who arrange or expedite transactions are not regular dealers within the meaning of this paragraph (e)(2).

(3) With respect to materials or supplies purchased from a DBE which is neither a manufacturer nor a regular dealer, count the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on a job site, toward DBE goals, provided you determine the fees to be reasonable and not excessive as compared with fees customarily allowed for similar services. Do not count any portion of the cost of the materials and supplies themselves toward DBE goals, however.

(f) If a firm is not currently certified as a DBE in accordance with the standards of subpart D of this part at the time of the execution of the contract, do not count the firm's participation toward any DBE goals, except as provided for in § 26.87(i).

(g) Do not count the dollar value of work performed under a contract with a firm after it has ceased to be certified toward your overall goal.

(h) Do not count the participation of a DBE subcontractor toward a contractor's final compliance with its DBE obligations on a contract until the amount being counted has actually been paid to the DBE.

~~49 CFR - Subtitle A - PART 26.53(g)~~

~~(g) You must apply the requirements of this section to DBE bidders/offerors for prime contracts. In determining whether a DBE bidder/offeror for a prime contract has met a contract goal, you count the work the DBE has committed to performing with its own forces as well as the work that it has committed to be performed by DBE subcontractors and DBE suppliers.~~

END OF APPENDIX II

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STATE OF FLORIDA

JAMES UTHMEIER
ATTORNEY GENERAL

January 19, 2026

Racial discrimination is wrong. It is also unconstitutional. Yet Florida maintains several laws on its books that promote and require discrimination on its face. Therefore, I requested, and I am now giving, an official opinion in writing on a question of law relating to my official duties.[1] As Florida's chief legal officer, the constitutionality of laws that seek to mandate discrimination based on race relates to my official duties as Attorney General.

The question of law presented here is: Are Florida laws that mandate discrimination based on race by giving preferences to certain racial groups, using race-based classifications, or employing racial quotas, constitutional? In short, the answer is no. Any laws requiring race-based state action are presumptively unconstitutional under the Fourteenth Amendment's Equal Protection Clause and Article I, section 2, of Florida's Constitution.[2]

I. Constitutional Framework for Race-Based State Action

The Equal Protection Clause of the Fourteenth Amendment provides that "[n]o State shall . . . deny to any person within its jurisdiction the equal protection of the laws."[3] Article I, section 2 of Florida's Constitution similarly guarantees that all residents of Florida "are equal before the law" and prohibits any person from being "deprived of any right because of race, religion, national origin, or physical disability." "The central purpose of the Equal Protection Clause of the Fourteenth Amendment is the prevention of official conduct discriminating on the basis of race."[4] Our country and our Constitution are therefore committed to "treat[ing] citizens as individuals, not as simply components of a racial, religious, sexual, or

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[1] *See* § 16.01(3), Fla. Stat.

[2] In addition to the statutes and rules cited throughout this Opinion, see the **Appendix** to this Opinion for a non-exhaustive list of other state laws that require race-based discrimination.

[3] U.S. Const. amend. XIV § 1.

[4] *Washington v. Davis*, 426 U.S. 229, 239 (1976); *see also Palmore v. Sidoti*, 466 U.S. 429, 432 (1984) ("A core purpose of the Fourteenth Amendment was to do away with all governmentally imposed discrimination based on race."); *Loving v. Virginia*, 388 U.S. 1, 10 (1967) ("The clear and central purpose of the Fourteenth Amendment was to eliminate all official state sources of invidious racial discrimination in the States.").

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national class."[5] Were it otherwise, we would "effectively assur[e] that race will always be relevant in American life, and that the ultimate goal of eliminating entirely from governmental decision making such irrelevant factors as a human being's race will never be achieved."[6]

For government officials, the path forward is simple: "The way to stop discrimination on the basis of race is to stop discriminating on the basis of race."[7] The Supreme Court recently reaffirmed as much in *Students for Fair Admissions, Inc. v. President & Fellows of Harvard College* (*SFFA*), 600 U.S. 181 (2023). There, the Supreme Court invalidated Harvard College's and the University of North Carolina's race-based admissions procedures because they violated the Equal Protection Clause and Title VI of the federal Civil Rights Act. In doing so, the Court explained that such racial preferences are "by their very nature odious to a free people whose institutions are founded upon the doctrine of equality."[8] The Court further explained that "[a]ny exception to the Constitution's demand for equal protection must survive a daunting two-step examination known . . . as 'strict scrutiny.'"[9]

Strict scrutiny requires that any race-based state action be: (1) "used to 'further compelling governmental interests'" and (2) "'narrowly tailored'—meaning 'necessary'—to achieve that interest."[10] The Supreme Court has identified only two compelling interests that permit race-based state action: (1) "remediating specific, identified instances of past discrimination that violated the Constitution or a statute" and (2) "avoiding imminent and serious risks to human safety in prisons, such as a race riot."[11] These constitutional justifications are narrow and may not be extended lightly.

Narrow tailoring also requires race-based state action to be limited in duration because "all governmental use of race must have a logical end point."[12] Finally, race-based state action cannot be undertaken—and can never be narrowly tailored—if race-neutral alternatives have not been considered before a state resorts to utilizing race.[13] Putting this all

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[5] *Parents Involved in Cmty. Sch. v. Seattle Sch. Dist. No. 1*, 551 U.S. 701, 730 (2007) (quoting *Miller v. Johnson*, 515 U.S. 900, 911 (1995)).

[6] *Id.* (quotation marks omitted).

[7] *Id.* at 748.

[8] *SFFA*, 600 U.S. at 208 (quoting *Rice v. Cayetano*, 528 U.S. 495, 517 (2007)).

[9] *Id.* at 206 (citing *Adarand Constructors, Inc.* v. *Peña*, 515 U.S. 200, 227 (1995)).

[10] *Id.* at 206-07.

[11] *Id.* at 207.

[12] *Grutter v. Bollinger*, 539 U.S. 306, 342 (2003); *see also SFFA*, 600 U.S. at 221 (explaining that the colleges' admission procedures "also lack a 'logical end point'" (quoting *Grutter*, 539 U.S. at 342)).

[13] *See Fisher v. Univ. of Tex. at Austin*, 579 U.S. 365, 377 (2016) (reasoning that narrow tailoring requires the government to show that no workable race-neutral alternatives would achieve its compelling interest). The Supreme Court in *SFFA* permitted states to consider race-neutral alternatives. "The entire point of the Equal Protection Clause is that treating someone differently because of their skin color is *not* like treating them differently because they are from a city or from a suburb." 600 U.S. at 220, 230 (emphasis in original) (explaining that "nothing in [*SFFA*] should be construed as prohibiting universities from considering an applicant's discussion of how race affected his or her life, be it through discrimination, inspiration, or otherwise"); *see also Bos. Parent Coal. for Acad. Excellence Corp. v. Sch. Comm. for City of Bos.*, 89 F.4th 46, 62 (1st Cir. 2023) (explaining that "treating students differently based on the zip codes in which they reside was not like treating them differently because of their skin color"). Consequently, there would likely be no constitutional issues if a state, like Florida, were to replace racially biased language in policy or laws with language giving preferences to groups

together, the "moral imperative of racial neutrality" ensured by the Fourteenth Amendment demands that racial classifications are permitted only "as a last resort."[14]

These principles are "universal in [their] application."[15] *SFFA*'s reasoning and strict scrutiny analysis applies equally to race-based state action occurring in any context—whether it be in government contracting, business, healthcare, appointments, or other areas.[16] Indeed, the Florida Supreme Court recently applied *SFFA* outside of the educational context,[17] as have several federal courts.[18] Courts are therefore clear that honoring and enforcing the Fourteenth Amendment's promise to root out all forms of racial discrimination must be uniform throughout contexts and circumstances. After more than a century, it appears that American jurisprudence has finally caught up with Justice John Marshall Harlan's dissent in *Plessy*:

> Our constitution is color-blind, and neither knows nor tolerates classes among citizens. In respect of civil rights, all citizens are equal before the law. The humblest is the peer of the most powerful. The law regards man as man, and takes no account of his surroundings or of his color when his civil rights as guaranteed by the supreme law of the land are involved.[19]

II. Florida Laws That Discriminate Based on Race

Despite the principles discussed above, Florida still has numerous race-based discrimination laws on its books.[20] These discriminatory laws generally come in the form of race-based classifications, preferences, or quotas. But as the Supreme Court directed in *SFFA*, "[e]liminating racial discrimination means *eliminating all of it*."[21] Accordingly, for the reasons explained below, Florida laws that mandate race-based discrimination violate the U.S. and Florida Constitutions. Consistent with the Fourteenth Amendment, the Florida Constitution, and my oath of office, my studied opinion is that these laws are unconstitutional.

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based on factors such as geography or socioeconomic status, so long as they are not proxies for race. *See SFFA*, 600 U.S. at 230-31.

[14] *Bartlett v. Strickland*, 556 U.S. 1, 21 (2009).

[15] *SFFA*, 600 U.S. at 206.

[16] *See Ultima Servs. Corp. v. U.S. Dep't of Agric.*, 683 F. Supp. 3d 745, 770 n.8 (E.D. Tenn. 2023) ("The facts in [*SFFA*] concerned college admissions programs, but its reasoning is not limited to just those programs.").

[17] *Black Voters Matter Capacity Bldg. Inst., Inc. v. Sec'y of Fla. Dep't of State*, 415 So. 3d 180, 196 (Fla. 2025).

[18] *See, e.g.*, *Ultima Servs. Corp.*, 683 F. Supp. 3d at 764-74 (applying the *SFFA* analysis to a contract award program administered by the U.S. Department of Agriculture and the Small Business Administration); *Mid-Am. Milling Co., LLC v. United States Dep't of Transp.*, 2024 WL 4267183, at *9 (E.D. Ky. Sept. 23, 2024), *opinion clarified*, 2024 WL 4635430 (E.D. Ky. Oct. 31, 2024) (applying *SFFA* to the Department of Transportation's Disadvantaged Business Enterprise Program); *Fellowship of Christian Athletes v. D.C.*, 2024 WL 3400104, at *87-88 (D.D.C. July 11, 2024) (applying *SFFA* when evaluating an anti-discrimination policy applied against a high school chapter of the Fellowship of Christian Athletes); *Smyer v. Kroger Ltd. P'ship I*, 2024 WL 1007116, at *7-8 (6th Cir. Mar. 8, 2024) (Boggs, J., concurring) (considering *SFFA's* application in the context of employment discrimination).

[19] *Plessy v. Ferguson*, 163 U.S. 537, 559 (1896) (Harlan, J., dissenting).

[20] *See* **Appendix**.

[21] *SFFA*, 600 U.S. at 206 (emphasis added).

A. Race-Based Classifications

Florida law currently employs a system of race-based classifications that seeks to compel state agencies and other entities to discriminate based on race.[22] None of these laws withstands strict scrutiny. First, these laws do not further a compelling governmental interest because none of these laws identifies any of the limited, recognized constitutional justifications for race-based classifications—namely remedying specific instances of past discrimination or avoiding imminent and serious risks to human safety.[23] These laws further fail strict scrutiny because none are limited in duration and because they preclude race-neutral alternatives.[24]

One of the most egregious examples of race-based discrimination is section 110.112, Florida Statutes, which mandates state-wide participation in "programs of affirmative and positive action." Under section 110.112(2), the head of every executive agency must "develop and implement an affirmative action plan" which includes goals for race-based hires. Heads of agencies must also establish "annual goals for ensuring full utilization of groups underrepresented in the agency's workforce, including women, minorities, and individuals who have a disability, as compared to the relevant labor market."[25] To implement section 110.112, the Department of Management Services further promulgated detailed requirements for the content of each affirmative action plan: one such requirement is the listing of an organizational profile depicting the agency's organizational structure and "demographic information for all supervisors and employees within each unit and ... a total employee count ... by race or ethnicity."[26] The affirmative action plan must also describe the agency's auditing procedure used to measure and determine the agency's progress toward meeting its goals[27] and requires each agency to report race-based metrics, ostensibly as evidence of progress in meeting numeric goals outlined in each agency's plan.[28]

Neither section 110.112 nor Rule 60L-40.002 would survive strict scrutiny. First, compliance with the statute or the Rule would not achieve a compelling public interest because the policy does not address either of the constitutionally recognized race-based justifications. And neither section 110.112 nor Rule 60L-40.002 are narrowly tailored because they are not limited in duration and disregard other potential means of achieving diversity in a workforce through race-neutral alternatives like geographic residence or socioeconomic status.

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[22] *See, e.g.*, § 288.1167(1)-(3), Fla. Stat. (giving preferences to minorities in sports franchise contracting); § 1002.32(4), Fla. Stat. (requiring laboratory schools to create and utilize admissions programs considering race); § 1006.20(6)(a), Fla. Stat. (requiring a minority principal to be placed on every public liaison advisory committee).

[23] *SFFA*, 600 U.S. at 207.

[24] *Id.* at 221.

[25] § 110.112(2)(b), Fla. Stat.

[26] Rule 60L-40.002(2)(c), Fla. Admin. Code (titled, "Equal Employment Opportunity and Affirmative Action").

[27] Rule 60L-40.002(2)(i), Fla. Admin. Code.

[28] Rule 60L-40.002(2)(o)-(p), Fla. Admin. Code.

In sum, Florida law contains numerous race-based classifications that seek to compel state agencies and other entities to discriminate based on race. Because these laws compel discriminatory race-based state action and fail strict scrutiny, these and any other similar Florida laws are unconstitutional.

B. Race-Based Preferences in Government Contracting

Like the race-based classifications, Florida law also contains a variety of discriminatory provisions for government contracting.[29] Because these provisions are simply another form of race-based state action, these government contracting laws are subject to the same strict scrutiny review discussed in *SFFA*. In *City of Richmond v. J.A. Croson Co.*, 488 U.S. 469 (1989), the Supreme Court provided additional instruction on the issue of discriminatory contracting provisions. There, the Court struck down a city's plan requiring contractors awarded city construction contracts to subcontract at least 30% of the dollar amount of their contracts to minority businesses, stating that an amorphous claim of past discrimination made by the city could not justify such quotas.[30] Instead, the Court noted that the Constitution requires a "strong basis in evidence" for any race-based remedial action.[31]

Like the race-based contracting plan in *Croson*, Florida's discriminatory contracting provisions earmark certain opportunities for minority contractors without providing any "strong basis in evidence" to support this race-based action. For example, section 287.09451, Florida Statutes, provides "spending goal[s]" based on race for state contracts:

a. For construction contracts: 4 percent for black Americans, 6 percent for Hispanic-Americans, and 11 percent for American women.

b. For architectural and engineering contracts: 9 percent for Hispanic-Americans, 1 percent for Asian-Americans, and 15 percent for American women.

c. For commodities: 2 percent for black Americans, 4 percent for Hispanic-Americans, 0.5 percent for Asian-Americans, 0.5 percent for Native Americans, and 17 percent for American women.

d. For contractual services: 6 percent for black Americans, 7 percent for Hispanic-Americans, 1 percent for Asian-Americans, 0.5 percent for Native Americans, and 36 percent for American women.

As justification, the Legislature simply pointed to "a systematic pattern of past and continuing racial discrimination against minority business enterprises and a disparity in the availability and use of minority business enterprises in the state procurement system."[32] This hat-tip to the racial lingo du jour falls woefully short of evidencing "specific, identified instances of past discrimination."[33] This and other provisions fail to satisfy strict scrutiny under *SFFA* because they are not tied to a compelling governmental interest, are not limited in

[29] *See, e.g.*, § 288.706, Fla. Stat.; § 1013.46(1)(c), Fla. Stat.
[30] *Croson*, 488 U.S. at 497-99.
[31] *Id.* at 510 (quoting *Wygant v. Jackson Bd. of Educ.*, 476 U.S. 267, 277 (1986)).
[32] § 287.09451(1).
[33] *SFFA*, 600 U.S. at 207.

duration, and do not appear to have considered any race-neutral alternatives.[34] Accordingly, any Florida law that seeks to compel race-based discriminatory provisions through government contracting is unconstitutional.

C. Race-Based Quotas

Finally, Florida law contains various explicit and implicit quota requirements for minority representation on different boards, councils, and other similar entities.[35] Like the other forms of race-based state action, race-based quotas are subject to strict scrutiny. The Supreme Court has addressed race-based quotas in the past and held that such quotas cannot satisfy strict scrutiny review.[36]

Specifically, in *Regents of University of California v. Bakke*, the Supreme Court reviewed an admissions policy that reserved 16 out of 100 seats in a medical school class for members of certain minority groups.[37] Under this racial spoils system, non-minorities were ineligible for the reserved minority seats, while minorities were eligible for both the reserved minority seats and the remaining 84 unreserved seats.[38] The Court struck down the policy because it violated the Fourteenth Amendment.[39] And the Court has reaffirmed *Bakke* time and again.[40]

Like the quotas at issue in *Bakke*, Florida's explicit quota provisions reserve a proportional share of opportunities for minorities alone. For example, at least four members of the Florida Cancer Control and Research Advisory Council must be minorities.[41] Those statutes mention no remedial justifications for the discriminatory provisions. These and other similar quotas fail to comply with the Equal Protection Clause. They are tied to no compelling interests, are unlimited in duration, and have not considered any race-neutral alternatives. Accordingly, all race-based quota requirements in Florida law are unconstitutional.

III. Conclusion

Any Florida law that seeks to mandate discrimination based on race by giving preferences to certain racial groups, using race-based classifications, or by employing racial quotas is unconstitutional.[42] The Supreme Court has spoken directly and clearly on this

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[34] A Florida federal court has already held that section 287.09451 violates the Fourteenth Amendment. *Fla. A.G.C. Council, Inc. v. Florida*, 303 F. Supp. 2d 1307, 1316 (N.D. Fla. 2004) (holding "that § 287.09451 *et seq.* is not narrowly tailored to serve a compelling governmental interest, and consequently violates the Equal Protection Clause of the Fourteenth Amendment").

[35] *See, e.g.*, § 420.622(2), Fla. Stat. (requiring minority representation to be considered in the appointment of members to the Council on Homelessness).

[36] *See* 438 U.S. 265, 319-20 (1978).

[37] *Id.* at 289.

[38] *Id.* at 319-20.

[39] *Id.* at 320.

[40] *See, e.g.*, *Grutter*, 539 U.S. at 334 (holding that race-based quota programs are not narrowly tailored and are thus incapable of surviving strict scrutiny review).

[41] § 1004.435(4)(a), Fla. Stat.

[42] To be clear, this Opinion does not purport to discuss every race-based discriminatory law in the State of Florida. The laws cited herein are examples of *some* of these discriminatory laws. The

issue: "Eliminating racial discrimination means *eliminating all of it*."[43] As Attorney General, I and my office must honor the U.S. and Florida Constitutions' guarantee of equal protection under the law. Because enforcing and obeying these discriminatory laws would violate those bedrock legal guarantees, those laws are unconstitutional. "The law regards man as man, and takes no account of his surroundings or of his color when his civil rights as guaranteed by the supreme law of the land are involved."[44] My office, therefore, will not defend or enforce any of these discriminatory provisions.

Sincerely,

James Uthmeier
ATTORNEY GENERAL

Appendix to this opinion contains additional laws that—for reasons expressed herein—are unconstitutional as applied in a racial context.

[43] *SFFA*, 600 U.S. at 206 (emphasis added).

[44] *Plessy*, 163 U.S. at 559 (Harlan, J., dissenting).

APPENDIX[45]

AHCA § 395.807, Fla. Stat.: the family practice retention advisory committee is required to develop a program for recruiting minority physicians into family practice residency programs and to promote further efforts to retain and place minority physicians into local communities.

AHCA § 409.901, Fla. Stat.: defines "minority physician network" as a network of primary care physicians with experience managing Medicaid or Medicare recipients that are predominantly owned by minorities and have a partnership with a public college/university.

AHCA § 409.920, Fla. Stat.: includes minority physician networks in the definition of "managed care plans."

AHCA § 641.217, Fla. Stat.: requires any entity contracting with AHCA to provide services to Medicaid recipients or state employees to submit a plan outlining its plan for recruitment and retention of minority providers.

Commerce § 20.60, Fla. Stat.: requires the Secretary of the Department of Commerce to promote minority businesses.

Commerce § 288.001, Fla. Stat.: provides that minority status must be taken into consideration when making appointments to the Florida Small Business Development Center Network advisory board.

Commerce § 288.0065, Fla. Stat.: the annual report provided on annual incentives as part of the commercial development and capital improvements plan must include a description of the trends relating to business interest in and usage of incentives by minority-owned businesses receiving incentives.

Commerce §§ 288.702-288.706, Fla. Stat.: establishes the "Florida Small and Minority Business Assistance Act," which includes a loan program for minority businesses.

Commerce § 288.7094, Fla. Stat.: provides that black business investment corporations are eligible to participate in the Black Business Loan Program established under § 288.7102 and shall receive priority consideration.

Commerce § 288.7102, Fla. Stat.: Establishes the "Black Business Loan Program."

Commerce §§ 288.7103 and 288.714, Fla. Stat.: establishes the conditions of the black business loan program.

Commerce § 288.1167, Fla. Stat.: sets aside 15% of contracts for sports franchise food and beverage concessions for minority businesses.

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[45] The state agency or branch primarily affected by the statute is listed next to the applicable statute along with a general description of the statute.

Commerce § 288.12266, Fla. Stat.: creates the Targeted Marketing Assistance Program to enhance the tourism business marketing of small, minority, rural, and agritourism businesses in the state.

Commerce § 288.1229, Fla. Stat.: the Florida Sports Foundation's board of directors is required to contain representatives of all regions of the state and must represent ethnic diversity.

Commerce § 288.124, Fla. Stat.: authorizes the "Florida Tourism Industry Marketing Corporation" to establish a convention grants program to attract minority conventions.

Commerce § 288.7015, Fla. Stat.: requires the Governor to appoint a rules ombudsman who—among other things—reviews rules for any disproportionate impact on small and minority businesses.

Commerce § 288.776, Fla. Stat.: provides that minority representation must be taken into consideration when making appointments to the Florida Tourism Industry Marketing Corporation.

Commerce § 290.0056, Fla. Stat.: provides that minority representation in enterprise zone development agencies must be taken into account when making appointments.

Commerce § 290.0057, Fla. Stat.: requires strategic plans for new enterprise zones to identify the amount of private/public partnerships which may include cooperation with black business investment corporations.

Commerce § 290.046, Fla. Stat.: as part of the application for grants in the urban redevelopment program, the "needs score" may take into account the use of minority-owned enterprises in previous grants.

Commerce § 625.3255, Fla. Stat.: "An insurer may invest in any capital participation instrument or evidence of indebtedness issued by the Department of Commerce pursuant to the Florida Small and Minority Business Assistance Act."

Commerce § 658.67, Fla. Stat.: "up to 10 percent of the capital accounts of a bank or trust company may be invested in any capital participation instrument or evidence of indebtedness issued by the Department of Commerce pursuant to the Florida Small and Minority Business Assistance Act."

DBPR § 320.63, Fla. Stat.: motor vehicle applicants and licensees must report annually to DBPR on its efforts to add new minority dealer points.

DBPR § 473.3065, Fla. Stat.: establishes the "Clay Ford Scholarship Program" to assist minority people in becoming Certified Public Accountants.

DBPR § 489.111, Fla. Stat.: requires DBPR to establish "a sensitivity review committee" made of representatives of various ethnic and minority groups to ensure that no discriminatory questions are present in the contracting licensing exam.

DEP § 373.1135, Fla. Stat.: authorizes water management districts to implement a program to encourage minority owned businesses to participate in district procurement and contract activities.

DEP § 373.607, Fla. Stat.: authorizes water management districts to implement recommendations to achieve minority business enterprise procurement goals.

DEP § 376.84, Fla. Stat.: provides for incentives for minority business enterprises program for brownfield redevelopment.

DFS § 17.11, Fla. Stat.: requires the Chief Financial Officer to submit a report regarding disbursements to minority-owned businesses.

DFS § 626.2415, Fla. Stat.: authorizes DFS to provide life insurance examinations providers demographic information on applications relating to examinations taken to qualify for an insurance agent license if DFS requires the provider to review and analyze examination results in conjunction with the race or ethnicity and native language of examinees.

DHSMV § 320.605, Fla. Stat.: declares it the intent of the Legislature to provide minorities with opportunities for full participation as motor vehicle dealers.

DHSMV § 322.292, Fla. Stat.: when considering applications for DUI program licenses, the Department of Highway Safety and Motor Vehicles is required to take into account if the program will provide improved services for minority clients.

DMS § 110.112, Fla. Stat.: declares the policy of this state is to assist in providing the assurance of equal opportunity through programs of affirmative and positive action that will allow the full utilization of minorities.

DMS § 110.211, Fla. Stat.: requires state employment recruitment efforts to place special emphasis on attracting minorities and other groups that are underrepresented in the workforce of the employing agency.

DMS § 110.605, Fla. Stat.: requires DMS to develop an affirmative action program to ensure the "full utilization" of minorities in Selected Exempt Service positions in the state.

DMS § 255.101, Fla. Stat.: cross references to §§ 287.093 and 287.09451, which relate to affirmative action in contracts for public construction works.

DMS § 255.102, Fla. Stat.: establishes affirmative action programs in construction contracts for state universities capital projects.

DMS § 255.20, Fla. Stat.: provides that the local government may further consider the impact on local economic development, the impact on small and minority business owners as part of their consideration of bids for public construction work.

DMS § 287.012, Fla. Stat.: defines "minority business enterprise" and "office" (Office of Supplier Diversity).

DMS § 287.042, Fla. Stat.: the Office of Supplier Diversity within DMS may monitor to ensure that opportunities are afforded for contracting with minority businesses as part of state contracts for commodities and contractual services. DMS must explore "reasonable and economical" ways to use certified minority businesses.

DMS § 287.055, Fla. Stat.: acquisition of professional architectural, engineering, landscape architectural, or surveying and mapping services—when securing professional services, an agency must endeavor to meet goals set by § 287.09451. One of the requirements agencies must consider as part of the procurement process is whether the vendor is a minority business.

DMS § 287.057, Fla. Stat.: procurement of commodities or contractual services—several provisions related to the use of minority businesses and the Office of Supplier Diversity.

DMS § 287.059, Fla. Stat.: one of the characteristics that agencies are "encouraged" to consider when hiring outside counsel is the law firm's minority status.

DMS § 287.093, Fla. Stat.: authorizes counties, municipalities, community colleges, and district school boards to set aside up to 10% of funds allocated for the procurement of personal property and services for the purpose of entering into contracts with minority business enterprises.

DMS § 287.0931, Fla. Stat.: state and local government agencies are encouraged to offer at least 20% participation to minority firms in bond underwriting.

DMS § 287.094, Fla. Stat.: establishes the certification of minority business enterprises.

DMS § 287.0943, Fla. Stat.: creates a task force to establish criteria to increase minority business participation in the procurement process.

DMS § 287.09431, Fla. Stat.: statewide and local government agreement to "remedy social and economic disadvantage suffered by certain groups."

DMS § 287.09451, Fla. Stat.: creates the Office of Supplier Diversity within DMS to assist minority businesses in becoming suppliers of commodities, services, and construction to the state. Establishes racial quotas for several professions who may contract with the state, such as construction workers, architects, engineers, and other contracted services.

DMS § 287.0947, Fla. Stat.: creates the Florida Advisory Council on Small and Minority Business Development. The council researches and reviews the role of small and minority businesses in the state, reviews emerging issues relating to small and minority business development, and assesses the reasonableness and effectiveness of agency actions to assist minority businesses.

DOE § 446.041, Fla. Stat.: establishes the duties of DOE in administering apprenticeship programs; requires DOE to ensure that "minority ... diversity" is considered in administering the program.

DOE § 1001.216, Fla. Stat.: establishes the Council on the Social Status of Black Men and Boys. The Council's goal is to make a systematic study of the conditions affecting black men and boys, including homicide rates, arrest and incarceration rates, poverty, violence, drug abuse, death rates, disparate annual income levels, school performance, and health issues.

DOE § 1001.452, Fla. Stat.: requirements for district and school advisory councils to be representative of the "ethnic, racial, and economic" community served by the school; requires councils to appoint additional member to ensure proper representation; requires the Commissioner of Education to determine that each council has maximized their efforts to include minority persons and persons of lower socioeconomic status.

DOE § 1002.32, Fla. Stat.: requires lab schools to promote and encourage the student admissions process to result in a representative sample of public-school enrollment based on race, socioeconomic status, and academic ability, notwithstanding non-discrimination requirements in schools, set forth ins. 1000.05.

DOE § 1004.42, Fla. Stat.: establishes the FSU College of Medicine with a principal focus on recruiting and training professionals to meet the primary health care needs of the state, especially the needs of the state's elderly, rural, minority, and other underserved citizens. Clinical exposures are programmed with a focus on that goal. The College is directed to increase recruitment of minority students by participating in outreach efforts like the Program in Medical Sciences targeting middle and high school students.

DOE § 1006.20, Fla. Stat.: the Florida High School Athletic Association's public liaison advisory committee is required to include a member school principal who is a member of a racial minority.

DOE § 1007.34, Fla. Stat.: creates a college reach-out program to increase the number of low- income educationally disadvantaged minority students to increase their likelihood of attending post-secondary institutions.

DOH § 20.43, Fla. Stat.: establishing within the Department of Health the Office of Minority Health and Health Equity.

DOH § 383.216, Fla. Stat.: mandating that the membership of any prenatal and infant health care coalition must represent a community's racial composition.

DOE § 1007.35, Fla. Stat.: creates the Florida Partnership for Minority and Underrepresented Student Achievement with the aim to "prepare, inspire, and connect" students to success in higher education with a particular emphasis on minority students.

DOH § 383.402, Fla. Stat.: appointments to the Child Abuse Death Review Committee must represent the regional and ethnic diversity of the state.

DOH § 1004.435, Fla. Stat.: four appointed members of the Florida Cancer Control and Research Advisory Council must be minorities.

EOG § 187.201, Fla. Stat.: state comprehensive plan includes the goal to promote entrepreneurship and minority owned business startup by providing technical and informational resources, facilitating capital formation, and removing regulatory restraints which are unnecessary for the protection of consumers and society.

Elder § 430.502, Fla. Stat.: a requirement for memory disorder clinics to receive above base-level funding to show that they are significantly increasing their outreach to low- income and minority populations.

FCHR § 760.80, Fla. Stat.: minority representation on boards, commissions, councils, and committees—requires that all appointments select among the best-qualified candidates those who would best represent the proportion of each minority group in the state. Applies to any statutorily created decision making or regulatory board, commission, council, or committee of the state.

Gaming § 16.71, Fla. Stat.: requires the Governor to take into consideration the state's racial and ethnic diversity when making appointments to the Florida Gaming Control Commission.

Gaming § 551.104, Fla. Stat.: the FGCC is required to create a written policy creating opportunities to purchase from vendors in this state "including minority vendors."

Judiciary § 25.382, Fla. Stat.: requires the Supreme Court to have written goals for the recruitment of minorities, including women, throughout the state courts system. The Chief Justice is to receive an annual report on the progress of this goal.

Judiciary § 26.021, Fla. Stat.: requires then Judicial Nominating Commissions ("JNC") of each circuit court to take into account racial and ethnic considerations when making judicial appointment recommendations.

Judiciary § 43.291, Fla. Stat.: requires the Governor to take into consideration the racial and ethnic diversity of the state when making appointments to the JNC.

Lottery § 24.113, Fla. Stat.: requires the Florida Lottery to promote minority business participation in Lottery retail.

OIR § 627.3511, Fla. Stat.: minority businesses may exempt up to $50 of the escrow requirements of the take-out bonus and the business may simultaneously file the business' proposed take-out plan with Citizens.

Space Florida § 331.351, Fla. Stat.: Space Florida is required to "involve and utilize women, minorities, and socially and economically disadvantaged business enterprises" in the operation of spaceports.

State University System § 1001.706, Fla. Stat.: the Board of Governors is required to ensure compliance with §§ 287.09451, 255.101, and 255.102 for most procurement and construction contracts (these sections relate to the usage of minority business enterprises).

State University System § 1009.23, Fla. Stat.: authorizes each Florida College System institution board of trustees to charge a fee up to 5% of the student tuition for the purposes of financial aid. The statute authorizes up to 25% of $600,000—whichever is greater—of those fees to be used to provide merit scholarships for students but also for students who "identify" as members of a targeted ethnic minority population.

State University System § 1009.60, Fla. Stat.: creates the minority teacher education scholars program, which provides scholarships for education majors who are African American, Hispanic American, Asian American, or Native American.

State University System § 1009.605, Fla. Stat.: creates the "Florida Fund for Minority Teachers."

State University System § 1009.70, Fla. Stat.: creates the Florida Education Fund which among other goals, aims to enhance access to higher education programs by minority and economically deprived individuals, with particular consideration given to the needs of both blacks and women. The funds were obtained through a grant from the McKnight Foundation.

State University System § 1009.72, Fla. Stat.: creates the Jose Marti Scholarship Challenge Grant Program for Hispanic American students.

State University System § 1013.46, Fla. Stat.: authorizes counties, municipalities, or boards to set aside up to 10% of funds allocated for capital construction project contracts to enter into contracts with minority business enterprises in order to redress present effects of past discriminatory practices.

Transportation § 339.175, Fla. Stat.: appointments to each metropolitan planning organization's citizens' advisory board must be made with the consideration that minorities, the elderly, and the handicapped are adequately represented.

Workforce Development § 445.004, Fla. Stat.: when making appointments to the CareerSource Florida Board the Governor must take into account the minority and geographic composition of the Board.

Workforce Development § 445.007, Fla. Stat.: appointments to the local workforce development board must take into account minority representation.

Rules and Regulations

Federal Register
Vol. 90, No. 190
Friday, October 3, 2025

This section of the FEDERAL REGISTER contains regulatory documents having general applicability and legal effect, most of which are keyed to and codified in the Code of Federal Regulations, which is published under 50 titles pursuant to 44 U.S.C. 1510.

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 107

[Docket No. FAA–2025–0412]

Accepted Means of Compliance for Small Unmanned (sUA) Aircraft Category 2 and Category 3 Operations Over Human Beings; Aerial Vehicle Safety Solutions Inc. (AVSS)

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Notification of availability.

SUMMARY: This document announces the acceptance of a means of compliance with FAA regulations for sUA Category 2 and Category 3 operations over human beings. The Administrator finds that AVSS's ''Means of Compliance with §§ 107.120(a) and 107.130(a) for Small Unmanned Aircraft,'' revision 6, dated January 7, 2025, provides an acceptable means, but not the only means, of showing compliance with FAA regulations.

DATES: The means of compliance is accepted effective October 3, 2025.

FOR FURTHER INFORMATION CONTACT:

FAA Contact: Kimberly Luu, Cabin Safety Section, AIR–624, Technical Policy Branch, Policy and Standards Division, Aircraft Certification Service, Federal Aviation Administration, 2200 South 216th Street, Des Moines, Washington 98198; telephone and fax 206–231–3414; email *Kimberly.H.Luu@faa.gov.*

AVSS Contact: Josh Ogden, CEO, AVSS, 570 Queen Street, Suite 600, Fredericton, New Brunswick, E3B–6Z6, Canada, +1 (650) 741–1326; *Info@avss.co.*

SUPPLEMENTARY INFORMATION:

Background

Title 14, Code of Federal Regulations, part 107, subpart D, prescribes the eligibility and operating requirements for civil sUA to operate over human beings in the United States. To be eligible for use, the sUA must meet the requirements of § 107.120(a) for Category 2 operations or § 107.130(a) for Category 3 operations. These sections require the sUA to be designed, produced, or modified such that it will not cause injury to a human being above a specified severity limit, does not contain any exposed rotating parts that would lacerate human skin, and does not contain any safety defects. Section 107.155 requires that means of compliance with § 107.120(a) or § 107.130(a) be established and FAA-accepted. Section 107.160 requires an applicant to declare that sUA for Category 2 or Category 3 operations meet an FAA-accepted means of compliance.

Means of Compliance Accepted

This notification of availability serves as a formal acceptance by the FAA of the AVSS's ''Means of Compliance with §§ 107.120(a) and 107.130(a) for Small Unmanned Aircraft,'' revision 6, as an acceptable means of compliance, but not the only means of compliance with §§ 107.120(a) and 107.130(a). Applicants may also propose alternative means of compliance for FAA review and possible acceptance.

Revisions

Revisions to AVSS's ''Means of Compliance (MOC) with §§ 107.120(a) and 107.130(a) for Small Unmanned Aircraft (sUA),'' revision 6, will not be automatically accepted and will require further FAA acceptance for any revisions to be considered an accepted means of compliance.

Issued in Kansas City, Missouri, on September 30, 2025.

Patrick R. Mullen,

Manager, Technical Policy Branch, Policy and Standards Division, Aircraft Certification Service.

[FR Doc. 2025–19435 Filed 10–2–25; 8:45 am]

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DEPARTMENT OF TRANSPORTATION

Office of the Secretary of Transportation

49 CFR Parts 23 and 26

[Docket No. DOT–OST–2025–0897]

RIN 2105–AF33

Disadvantaged Business Enterprise Program and Disadvantaged Business Enterprise in Airport Concessions Program Implementation Modifications

AGENCY: Office of the Secretary of Transportation (OST), U.S. Department of Transportation (DOT).

ACTION: Interim final rule.

SUMMARY: This interim final rule (IFR) ensures that the U.S. Department of Transportation (DOT or Department) operates its Disadvantaged Business Enterprise (DBE) and Airport Concession Disadvantaged Business Enterprise (ACDBE) Programs (collectively, Programs) in a nondiscriminatory fashion—in line with law and the U.S. Constitution. The IFR removes race- and sex-based presumptions of social and economic disadvantage that violate the U.S. Constitution.

DATES: This IFR is effective October 3, 2025. Comments must be received on or before November 3, 2025. To the extent practicable, DOT will consider late-filed comments.

ADDRESSES: You may submit comments identified by the docket number DOT–OST–2025–0897 by any of the following methods:

- *Federal Rulemaking Portal: http://www.regulations.gov.* Follow the online instructions for submitting comments.
- *Mail:* U.S. Department of Transportation, Docket Operations, M–30, West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue SE, Washington, DC 20590.
- *Hand Delivery:* U.S. Department of Transportation, Docket Operations, West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue SE, Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Instructions: All submissions must include the agency name, docket name, and docket number DOT–OST–2025–0897 or Regulatory Identifier Number

(RIN) 2105–AF33 for this rulemaking. DOT solicits comments from the public to inform its rulemaking process. DOT posts these comments, without edit, including any personal information the commenter provides, to *www.regulations.gov,* as described in the system of records notice (DOT/ALL–14 FDMS), which can be reviewed at *www.dot.gov/privacy.*

Docket: For access to the docket to read background documents or comments received, go to *http://www.regulations.gov* at any time or to U.S. Department of Transportation, Docket Operations, M–30, West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue SE, Washington, DC 20950, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Confidential Business Information: Confidential Business Information (CBI) is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA; 5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this IFR contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this IFR, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as ''PROPIN.'' Submissions containing CBI should be sent to the individual listed in the **FOR FURTHER INFORMATION CONTACT** section below. Any commentary that OST receives that is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Electronic Access and Filing

A copy of the IFR, all comments received, and all background material may be viewed online at *http://www.regulations.gov.* Electronic retrieval help and guidelines are available on the website. It is available 24 hours each day, 365 days each year. An electronic copy of this document may also be downloaded from the Office of the Federal Register's website at *http://www.ofr.gov* and the Government Publishing Office's website at *http://www.gpo.gov.*

FOR FURTHER INFORMATION CONTACT: Peter Constantine, Office of the General Counsel, Office of the Secretary, U.S. Department of Transportation, 1200 New Jersey Avenue SE, Washington, DC 20590 at (202) 658–9670 or *peter.constantine@dot.gov.*

SUPPLEMENTARY INFORMATION:

I. Introduction

Spanning nearly 40 years, the Department's DBE and ACDBE programs are small business initiatives intended to level the playing field for businesses seeking to participate in federally assisted contracts and in airport concessions. Rooted in a desire to give small businesses a fair shake in the process, the Programs must balance a desire to help the small business community with an overriding government obligation to serve the public. The government must undertake all these efforts consistent with law—including constitutional nondiscrimination requirements that establish the conditions for national harmony and unity. This IFR advances the administration's goals of nondiscrimination, fairness, and excellence in serving the American public.

Although the Programs aim to assist small businesses owned and controlled by ''socially and economically disadvantaged individuals,'' Congress has mandated by statute that DOT treat certain individuals—women and members of certain racial and ethnic groups—as ''presumed'' to be disadvantaged.[1] Other individuals do not benefit from that statutory presumption. This means that two similarly situated small business owners may face different standards for entering the program, based solely on their race, ethnicity, or sex.

On September 23, 2024, the U.S. District Court for the Eastern District of Kentucky determined that the DBE program's statutory race- and sex-based presumptions likely do not comply with the Constitution's promise of equal protection under the law.[2] The Court held that the Government may only use a racial classification to ''further a compelling government interest'' and may only use race in a ''narrowly tailored fashion.'' It held that although courts have identified a compelling government interest in ''remediating specific, identified instance[s] of past discrimination that violated the constitution or a statute,'' the Government did not present evidence of such discrimination by DOT against each of the groups covered by the DBE program's presumptions. The Court held, moreover, that the presumptions were not narrowly tailored because Congress used an unexplained ''scattershot'' approach in identifying the covered groups, and because the presumptions had no ''logical end point.'' The Court also held that the sex-based presumptions failed heightened scrutiny. Accordingly, the Court issued a preliminary injunction that prohibits DOT from mandating the use of presumptions with respect to contracts on which the two plaintiff entities bid. DOT has implemented the injunction by requiring funding recipients to remove DBE contract goals from any contracts on which the plaintiffs intend to bid.

On January 20, 2025, the President issued Executive Order 14151, *Ending Radical and Wasteful Government DEI Programs and Preferencing,* which affirmed that ''Americans deserve a government committed to serving every person with equal dignity and respect'' and directed agencies to recommend actions to align their programs and activities with this policy. On January 21, 2025, the President issued Executive Order 14173, *Ending Illegal Discrimination and Restoring Merit-Based Opportunity,* which ordered agencies to ''terminate all discriminatory and illegal preferences, mandates, policies, programs, activities, guidance, regulations, enforcement actions, consent orders, and requirements.''

On March 21, 2025, the Attorney General issued a memorandum to all Federal agencies on implementing these Executive Orders.[3] The Attorney General noted that ''federal policies that give preference to job applicants, employees, or contractors based on race or sex trigger heightened scrutiny under the Constitution's equal protection guarantees and can only survive in rare circumstances.'' The Attorney General directed all Federal agencies immediately to ''[d]iscontinue any policies that establish numerical goals, targets, or quotas based on race or sex,'' and to ''[r]emove any contracting or

[1] Congress has provided that: (1) ''women shall be presumed to be socially and economically disadvantaged individuals''; and (2) the term ''socially and economically disadvantaged individuals'' should otherwise be given the meaning given by section 8(d) of the Small Business Act and its implementing regulations. *See* Infrastructure Investment and Jobs Act, Public Law 117–58, 11101(e)(2) (B) (2021) (DBE program for highway and transit funding); 49 U.S.C. 47107(e)(1) (ACDBE program); 49 U.S.C. 47113(a)(2) (DBE program for airport funding). Section 8(d) of the Small Business Act and its implementing regulations create a rebuttable presumption that ''Black Americans,'' ''Hispanic Americans,'' ''Native Americans,'' ''Asian Pacific Americans,'' and ''Subcontinent Asian Americans'' are disadvantaged. *See* 15 U.S.C. 637(d)(3); 13 CFR 124.103(b)(1).

[2] *Mid-America Milling Co.* v. *U.S. Dep't of Transp.,* No. 3:23–cv–00072, 2024 WL 4267183 (Sept. 23, 2024).

[3] Memorandum from the Attorney General for All Federal Agencies, *Implementation of Executive Orders 14151 and 14173; Eliminating Unlawful DEI Programs in Federal Operations* (March 21, 2025), available at *https://www.justice.gov/ag/media/1409556/dl?inline.*

funding requirement or guidance that induces, requires, or encourages private parties to adopt discriminatory practices.''

On February 19, 2025, the President issued Executive Order 14219, *Ensuring Lawful Governance and Implementing the President's ''Department of Government Efficiency'' Deregulatory Initiative,* which directed agencies to identify ''unconstitutional regulations and regulations that raise serious constitutional difficulties,'' and to target those regulations for repeal. On April 9, 2025, the President issued a memorandum directing that this effort should prioritize regulations that conflict with certain Supreme Court decisions, including *Students for Fair Admissions, Inc.* v. *Harvard (SFFA).*[4]

In accordance with the directives of the President and the Attorney General, DOT and the U.S. Department of Justice (''DOJ'') have evaluated the DBE and ACDBE programs. DOT and DOJ, consistent with the ruling of the District Court, have determined that the race- and sex-based presumptions of DOT's DBE programs are unconstitutional. In *SFFA,* the Supreme Court held that race-based admissions programs at universities violated the Equal Protection Clause of the Fourteenth Amendment—and, by corollary, Title VI of the Civil Rights Act. In light of *SFFA,* multiple Federal courts have held unlawful the use of presumptions similar to those used in the DBE and ACDBE programs. In *Ultima Serv. Corp.* v. *U.S. Dep't of Ag.,* the Eastern District of Tennessee held that a Small Business Act program violated the equal protection component of the Fifth Amendment's Due Process Clause to the extent that it used the exact same type of race-based presumptions used by the DBE and ACDBE programs.[5] And in *Nuziard* v. *Minority Business Development Agency,* the Northern District of Texas held that a race-based statutory presumption of disadvantage was unconstitutional and that the U.S. Department of Commerce's application of this statutory preference violated the equal protection principle of the Fifth Amendment.[6] As with the presumptions at issue in *Ultima* and *Nuziard,* there is not a strong basis in evidence that the race- and sex-based presumptions used by the DBE and ACDBE programs are necessary to support a compelling governmental interest, and the presumptions are not narrowly tailored. The government has no compelling justification for engaging in overt race or sex discrimination in the awarding of contracts in the absence of clear and individualized evidence that the award is needed to redress the economic effects of actual previous discrimination suffered by the awardee. For these reasons, the presumptions must be disregarded, and the Department's DBE and ACDBE programs must be administered in all other respects in accordance with the law and consistent with the U.S. Constitution.

On May 28, 2025, DOT (represented by DOJ), along with the plaintiffs in the litigation in the U.S. District Court for the Eastern District of Kentucky, asked the Court to enter a Consent Order resolving a constitutional challenge to the DBE program.[7] The motion is currently pending. In the proposed Consent Order, DOT stipulated and agreed that ''the DBE program's use of race- and sex-based presumptions of social and economic disadvantage . . . violates the equal protection component of the Due Process Clause of the Fifth Amendment of the U.S. Constitution.'' The parties asked the Court to declare that ''the use of DBE contract goals in a jurisdiction, where any DBE in that jurisdiction was determined to be eligible based on a race- or sex-based presumption, violates the equal protection component of the Due Process Clause of the Fifth Amendment,'' and to ''hold and declare that [DOT] may not approve any Federal, State, or local DOT-funded projects with DBE contract goals where any DBE in that jurisdiction was determined to be eligible based on a race- or sex-based presumption.''

On June 25, 2025, the Solicitor General wrote to the Speaker of the House, consistent with 28 U.S.C. 530D, to advise the Speaker that DOJ had concluded that the DBE program's presumptions violate the U.S. Constitution, that DOJ would no longer defend the presumptions in court, and that DOJ had taken that position in ongoing litigation.[8] The Solicitor General noted that DOJ ''had previously defended the DBE program's race-and sex-based presumptions by pointing to societal discrimination against minority-owned businesses generally.'' He stated, however, that ''[c]onsistent with *SFFA*'s rejection of a similar justification in the university-admissions context, [DOJ] has determined that an interest in remedying the effects of societal discrimination does not justify the use of race-and sex-based presumptions in the DBE program.'' The Solicitor General also reported that DOJ has determined that ''like the admissions programs at issue in *SFFA,* the DBE program relies on arbitrary, overbroad, and underinclusive racial categories and lacks any logical end point.'' DOT agrees with and adopts the Solicitor General's analysis.

In light of DOT and DOJ's determination that the DBE program's race- and sex-based presumptions are unconstitutional, DOT is issuing this IFR to remove the presumptions from the DBE program regulations set forth in 49 CFR part 26. Because the ACDBE presumptions are functionally identical and suffer the same constitutional infirmity, this IFR also removes the presumptions from the ACDBE regulations set forth in 49 CFR part 23. To ensure a level playing field between existing participants and new applicants, while also eliminating the effects of the unconstitutional presumptions and reliance in whole or in part on claims of disadvantage based on race or sex, this IFR requires each Unified Certification Program (UCP) to reevaluate any currently certified DBE or ACDBE, to recertify any DBE or ACDBE that meets the new certification standards, and to decertify any DBE or ACDBE that does not meet the new certification standards. The IFR includes certain requirements that apply during the pendency of this reevaluation process.

II. Revisions

Part 26

Subpart A—General

1. Objectives (§ 26.1)

The Department amends § 26.1 to clarify the proper objectives of the DBE program. The Department's amendments replace references to the DBE program being ''narrowly tailored'' with an objective intended to ensure that the DBE program operates in a nondiscriminatory manner and without regard to race or sex, while maximizing efficiency of service. These amendments center the DBE program's purpose of leveling the playing field for businesses owned and controlled by socially and economically disadvantaged individuals while providing excellent service to the American people.

2. Definitions (§ 26.5)

The Department changes the definition of ''socially and economically disadvantaged individual'' in § 26.5 to

[4] 600 U.S. 181 (2023).

[5] *Ultima Servs. Corp.* v. *U.S. Dep't of Agric.,* 683 F. Supp. 3d 745 (E.D. Tenn. 2023).

[6] *Nuziard* v. *Minority Bus. Dev. Agency,* 721 F. Supp. 3d 431 (N.D. Tex. 2024).

[7] Joint Motion for Entry of Consent Order, *Mid-America Milling Co.* v. *U.S. Dep't of Transp.,* No. 3:23–cv–00072 (E.D. Ky. May 28, 2025).

[8] Letter from Solicitor General D. John Sauer to Hon. Mike Johnson (June 25, 2025), *https://www.justice.gov/oip/media/1404871/dl?inline.*

remove the race- and sex-based presumptions that DOT and DOJ and have found to violate the Fifth Amendment. Under the revised rule, any individual seeking to demonstrate that he or she is a ''socially and economically disadvantaged individual'' will be required to make the same individualized showing of disadvantage, regardless of the individual's race or sex.

In furtherance of these legal conclusions, the IFR also replaces the terms ''race-neutral'' and ''race-conscious'' in § 26.5 with ''DBE-neutral'' and ''DBE-conscious'' and modifies the definitions slightly for the same reasons.

3. Recordkeeping and Reporting (§ 26.11)

Similarly, the IFR eliminates the requirement in § 26.11(c)(2)(iv) for recipients to obtain bidders list information about the majority owner's race and sex for all DBEs and non-DBEs who bid as prime contractors and subcontractors on each of a recipient's federally assisted contracts, and then renumbers the requirements in current §§ 26.11(c)(v) through (c)(vii) as §§ 26.11(c)(iv) through (c)(vi).

The IFR also eliminates the requirement in § 26.11(e)(1) that recipients report and categorize the percentage of in-State and out-of-State DBE certifications by sex and ethnicity. The IFR also eliminates the requirements in §§ 26.11(e)(5) and (6) that recipients report the number of in-State and out-of-State applications for an ''individualized'' determination of social or economic disadvantage status, and the number of in-State and out-of-State applicants who made an individualized showing of social and economic disadvantaged status. This IFR requires all applicants to demonstrate social and economic disadvantage affirmatively to participate in the DBE program, which renders these reporting requirements unnecessary. The IFR further renumbers the reporting requirements in current §§ 26.11(e)(2) through (e)(4) as §§ 26.11(e)(1) through (e)(3).

Subpart B—Administrative Requirements for DBE Programs for Federally Assisted Contracting

4. Recipient Monitoring Responsibilities (§ 26.37)

For consistency, the IFR replaces the word ''race-neutral'' with ''DBE-neutral'' in § 26.37(b).

5. Fostering Small Business Participation (§ 26.39)

For consistency, the IFR replaces the word ''race-neutral'' with ''DBE-neutral'' in §§ 26.39(b)(1) and (5).

Subpart C—Goals, Good Faith Efforts, and Counting

6. Setting Goals (§ 26.45)

For consistency, the IFR replaces the phrase ''race-neutral DBE program'' with ''DBE-neutral program'' in § 26.45(a)(2).

For consistency, the IFR amends the second sentence of § 26.45(b) to replace the word ''discrimination'' with ''social and economic disadvantage'' so it will read as follows: ''The goal must reflect your determination of the level of DBE participation you would expect absent the effects of social and economic disadvantage.''

For consistency and to ensure recipients establish overall goals that include only DBEs who are ready, willing, and able to compete for and participate in DOT-assisted contracts, the Department amends § 26.45(c)(3) to clarify that any disparity studies utilized by recipients in setting their goals must provide a detailed capacity analysis, including the methodology used. The Department makes the same clarification regarding the use of disparity studies in § 26.45(d)(ii).

For consistency, the IFR amends § 26.45(f)(3) to remove references to race-neutral and race-conscious measures.

The IFR amends § 26.45(g)(1) to remove consultation requirements for minority and women's contractor groups, as well as the language related to posting proposed overall goals in minority-focused media.

The IFR amends § 26.45(h) by removing the existing language, as there will be no opportunity to create group-specific goals now that race and sex have been removed from the regulation. In its place, the IFR adds new language in § 26.45(h) to indicate that a recipient is not required to update its overall goal until its UCP completes the reevaluation process described in § 26.111.

7. Failing To Meet Overall Goals (§ 26.47)

For consistency, the IFR replaces the words ''race-conscious'' and ''race-neutral'' with ''DBE-conscious'' and ''DBE-neutral'' in in § 26.47(c)(4) and § 26.47(d).

The IFR adds § 26.47(e) to provide that until a Unified Certification Program (UCP) completes the reevaluation process described in § 26.111, the compliance provisions of § 26.47 will not apply to any recipient covered by that UCP. This requirement ensures fairness to recipients during the transition period.

8. Means Used To Meet Overall Goals (§ 26.51)

For consistency, the IFR replaces the words ''race-conscious'' and ''race-neutral'' with ''DBE-conscious'' and ''DBE-neutral'' throughout § 26.51 and the corresponding examples.

The IFR adds § 26.51(h) to provide that until a UCP completes the reevaluation process described in § 26.111, a recipient covered by that UCP may not set any contract goals. This provision ensures that existing DBEs do not continue to receive any benefits as a result of their certification under the old standards.

9. Counting DBE Participation Toward Goals (§ 26.55)

The IFR adds § 26.55(i) to provide that until a UCP completes the reevaluation process described in § 26.111, a recipient covered by that UCP may not count any DBE participation toward DBE goals. This provision ensures that existing DBEs do not continue to receive any benefits as a result of their certification under the old standards.

Subpart D—Certification Standards

10. Burden of Proof (§ 26.61)

The IFR eliminates § 26.61(b)(2), which imposed a burden of proof on certifiers with respect to individuals subject to the race- and sex-based presumptions that the IFR eliminates.

11. Social and Economic Disadvantage (§ 26.67)

The IFR revises § 26.67 to implement the removal of unconstitutional race- and sex-based presumptions. The IFR requires all small business concerns to demonstrate social and economic disadvantage based on their own experiences and circumstances without reliance in whole or in part on race or sex.

Subpart F—Compliance and Enforcement

12. Reevaluation Process (§ 26.111)

This IFR adds § 26.111 to require each UCP to reevaluate any currently certified DBE, to recertify any DBE that meets the new certification standards, and to decertify any DBE that does not meet the new certification standards or fails to provide additional information required for submission under the new certification standards. The IFR provides that decertification procedures of 49 CFR 26.87 do not apply to any

decertification decisions under this process. The IFR requires each UCP to complete the reevaluation process as quickly as practicable following issuance of this IFR. The Department will work with each UCP to minimize the practical impact of this rule change during the pendency of the reevaluation process. This reevaluation process will ensure a level playing field between existing participants and new applicants, while also eliminating the effects of the unconstitutional presumptions and reliance on claims of disadvantage based in whole or in part on race or sex. This process does not replace or restrict the Department's ability to conduct a review or take action under Title VI or other applicable law regarding compliance with equal protection principles. A companion provision has been added to part 23 with respect to reevaluation of ACDBEs.

Part 23

Subpart A—General

13. Aligning Part 23 With Part 26 Objectives (§ 23.1)

The IFR amends the program objectives for the ACDBE program in § 23.1 that are similar to the amendments to the DBE program objectives in § 26.1.

14. Definitions (§ 23.3)

The IFR amends the definition of the phrase ''socially and economically disadvantaged individual'' in § 23.3 to conform to the definition of the phrase in § 26.5. In addition, the IFR replaces the terms ''race-conscious'' and ''race-neutral'' with ''ACDBE-conscious'' and ''ACDBE-neutral'' in § 23.3.

Subpart B—ACDBE Programs

15. Measures To Ensure Nondiscrimination Participation of ACDBEs (§ 23.25)

For consistency, the IFR replaces the words ''race-neutral'' and ''race-conscious'' with ''DBE-neutral'' and ''DBE-conscious'' in §§ 23.25(d) and (e).

The IFR adds § 23.25(h) to provide that until a UCP completes the reevaluation process described in § 23.81, a recipient covered by that UCP may not set concession-specific goals or use any of the other methods described in § 23.25(e). This provision ensures that existing ACDBEs do not continue to receive any benefits as a result of their certification under the old standards.

16. Fostering Small Business Participation (§ 23.26)

For consistency, the IFR replaces the words ''race-neutral'' with ''DBE-neutral'' in § 23.26(b)(1).

For consistency, the IFR replaces the words ''minority and women owned'' with ''socially and economically disadvantaged'' in § 23.26(d)(5).

For consistency, the IFR replaces the word ''gender'' with ''sex'' in § 23.26(e).

17. Reporting and Recordkeeping (§ 23.27)

The IFR eliminates the requirement in § 23.27(c)(2)(iv) for recipients to obtain information about the majority owner's race and sex for all ACDBEs and non-ACDBEs who seek to work on each of a recipient's concession opportunities, and then renumbers the requirements in current §§ 23.27(c)(v) through (c)(vii) as §§ 23.27(c)(iv) through (c)(vi). The IFR also eliminates the requirement in § 23.27(d)(1) that recipients report and categorize the percentage of in-State and out-of-State ACDBE certifications by sex and ethnicity. The IFR also eliminates the requirements in §§ 23.27(d)(5) and (6) that recipients report the number of in-State and out-of-State applications for ''individualized'' determinations of social or economic disadvantage status, and the number of in-State and out-of-State applicants who made an individualized showing of social and economic disadvantaged status. This IFR requires all applicants to demonstrate social and economic disadvantage affirmatively to participate in the ACDBE program, which renders these reporting requirements unnecessary. The IFR further renumbers the reporting requirements in current §§ 23.27(d)(2) through (d)(4) as §§ 23.27(d)(1) through (d)(3).

Subpart D—Goals, Good Faith Efforts, and Counting

18. Goal and Consultation Requirements (§§ 23.41, 23.43)

The IFR amends § 23.41(d) by removing the existing language, as there will be no opportunity to create group-specific goals now that race and sex have been removed from the regulation. In its place, the IFR adds new language to indicate that a recipient is not required to update its overall goal until its UCP completes the reevaluation process described in § 23.81.

The IFR amends § 23.43(b) to remove consultation requirements for minority and women's contractor groups, as well as the language related to posting proposed overall goals in minority-focused media.

19. Setting Goals (§ 23.51)

For consistency, the Department amends § 23.51(a) to replace the words ''discrimination and its effects'' with ''social and economic disadvantage.'' For consistency, the IFR replaces the words ''race-neutral'' and ''race-conscious'' with ''ACDBE-neutral'' and ''ACDBE-conscious'' in §§ 23.51(f), (g), and (h), and in § 23.51(d)(5).

For consistency and to ensure recipients establish overall goals that include only DBEs who are ready, willing, and able to compete for and participate in DOT-assisted contracts, the Department amends § 23.51(c)(3) to clarify that any disparity studies utilized by recipients in setting their goals must provide a detailed capacity analysis, including the methodology used.

20. Counting ACDBE Participation During Transition Period (§§ 23.53, 23.55)

The IFR adds § 23.53(g) and § 23.55(m) to provide that until a UCP completes the reevaluation process described in § 23.81, recipients covered by that UCP, and car rental companies operating at airports covered by that UCP, may not count any ACDBE participation toward ACDBE goals. These provisions ensure that existing ACDBEs do not continue to receive any benefits as a result of their certification under the old standards.

21. Failing To Meet Overall Goals (§ 23.57)

For consistency, the IFR replaces the words ''race-conscious'' and ''race-neutral'' with ''DBE-conscious'' and ''DBE-neutral'' in in § 23.57(b)(4) and § 23.57(c).

The IFR adds § 23.57(d) to provide that until a UCP completes the reevaluation process described in § 23.81, the compliance provisions of § 23.57 will not apply to any recipient covered by that UCP. This requirement ensures fairness to recipients during the transition period.

22. Reevaluation Process (§ 23.81)

This IFR adds § 23.81 to require each UCP to reevaluate any currently certified ACDBE, to recertify any ACDBE that meets the new certification standards, and to decertify any DBE that does not meet the new certification standards or fails to provide additional information required for submission under the new certification standards. The IFR provides that decertification procedures of 49 CFR 26.87 do not apply to any decertification decisions under this process. The IFR requires each UCP to complete the reevaluation process as quickly as practicable following issuance of this IFR. The Department will work with each UCP to minimize the practical impact of this rule change during the pendency of the reevaluation process. This reevaluation

process will ensure a level playing field between existing participants and new applicants, while also eliminating the effects of the unconstitutional presumptions and reliance on claims of disadvantage based in whole or in part on race or sex. This process does not replace or restrict the Department's ability to conduct a review or take action under Title VI or other applicable law regarding compliance with equal protection principles. A companion provision has been added to part 26 with respect to reevaluation of DBEs.

III. Public Proceedings

The Administrative Procedure Act generally requires agencies to provide the public with notice of proposed rulemaking and an opportunity to comment prior to publication of a substantive rule. However, 5 U.S.C. 553(b)(B) authorizes agencies to publish a final rule without first seeking public comment on a proposed rule ''when the agency for good cause finds (and incorporates the finding and a brief statement of reasons therefor in the rules issued) that notice and public procedure thereon are impracticable, unnecessary, or contrary to the public interest.'' DOT finds that providing advance notice and an opportunity to comment on these regulatory changes pertaining to the DBE and ACDBE programs would be impracticable, unnecessary, and contrary to the public interest. Consistent with the letter authored by the Solicitor General and discussed elsewhere in the preamble,[9] DOT has determined that race- and sex-based presumptions of the DBE and ACDBE programs violate the U.S. Constitution. In the absence of this IFR, however, DOT's own regulations would continue to require funding recipients to apply those very same presumptions. Allowing this confusing and contradictory situation to continue during a notice-and-comment process would be impracticable and contrary to the public interest. Further, notice-and-comment is unnecessary where a regulatory action is required as a matter of law to ensure consistency with rulings of the United States Supreme Court. It is well-established that an agency is not required to continue to enforce a statutory provision that it has found to be unconstitutional.[10] By the same token, an agency is not required to subject the public to unconstitutional requirements. This IFR provides notice of the amendments to the regulations' provisions and invites the public to comment. DOT has determined, however, that it should not delay the effectiveness of the amendments and that it should act immediately to remedy the unconstitutional programs. For the foregoing reasons, the good cause exception in 5 U.S.C. 553(d)(3) also applies to DOT's decision to make this IFR effective upon publication.

IV. Regulatory Analyses and Notices

A. Executive Order: 12866 (''Regulatory Planning and Review''), Executive Order 13563 (''Improving Regulation and Regulatory Review''), and DOT Regulatory Policies and Procedures

The IFR is a significant regulatory action under Executive Order 12866, ''Regulatory Planning and Review,'' as supplemented by Executive Order 13563, ''Improving Regulation and Regulatory Review.'' Accordingly, the Office of Management and Budget (OMB) has reviewed it under that Executive Order.

The IFR amends reporting and eligibility requirements for the Department's Airport Concession Disadvantaged Business Enterprises (ACDBE) program and Disadvantaged Business Enterprise (DBE) program. These programs are implemented and overseen by recipients of certain Department funds. The changes to the requirements would affect businesses participating in the programs, recipients of Department funds who oversee the programs, and the Department.

The IFR replaces the race- and sex-based presumptions previously embedded in these programs with a requirement for individualized demonstrations of social and economic disadvantage. The IFR also modifies terminology and data reporting requirements to align with constitutional principles while maintaining the programs' statutory objectives.

Need for Regulatory Revisions

The IFR is being issued pursuant to legal determinations by DOT and DOJ that the race- and sex-based presumptions previously embedded in these programs are unconstitutional. In addition to legal compliance, this action corrects a regulatory failure—namely, reliance on presumptions that no longer withstand judicial scrutiny—by shifting to individualized determinations. The IFR aligns the programs with constitutional mandates.

Costs and Benefits

Costs

While DOT is unable to quantify all the economic costs and benefits of the IFR, the Department has identified both qualitative and quantitative impacts. Several provisions may lead to increased or decreased burdens for applicants, certifying agencies, and recipients related to transitional documentation requirements, the degree of technical rigor in disparity studies, and changes in program reporting. The magnitude of these costs and benefits would depend on the scope of the change; the likelihood of behavior adjustment; and potential legal, administrative, or programmatic effects.

Unquantified Costs

Key provisions of the IFR and their related cost impacts include:

• *Removal of race- and sex-based presumptions.* This provision eliminates presumptive eligibility based on race or sex and requires applicants to submit individualized evidence of social disadvantage, alongside the remaining required showing of economic disadvantage. Although the underlying economic disadvantage documentation (*e.g.,* Personal Net Worth, income verification) was already a component of many applications, the shift to a required narrative or case-specific justification for all applications, as opposed to just those that did not meet the presumption of eligibility, may introduce additional procedural burdens and time costs on some applicants. This may increase the complexity of preparing applications and even potentially deter participation among some eligible small businesses, especially those with limited administrative capacity or legal support. This may also implicate reliance interests for businesses that were previously certified based on presumptive eligibility. However, many eligible small businesses will continue efforts at applying for certification and assume the additional burden to apply because of the benefits to being certified and the potential opportunity it brings outweighs the added burden of the application process. All eligible businesses may apply for and potentially obtain certification under the new certification process, which mitigates any impact on reliance interests. In addition, businesses'

[9] Letter from Solicitor General D. John Sauer to Hon. Mike Johnson (June 25, 2025), *https://www.justice.gov/oip/media/1404871/dl?inline.*

[10] *See In re Aiken County,* 725 F.3d 255, 259 (D.C. Cir. 2013) (Kavanaugh, J.) (''If the President has a constitutional objection to a statutory mandate or prohibition, the President may decline to follow the law unless and until a final Court order dictates otherwise. . . . [This] basic constitutional principle[ ] appl[ies] to the President and subordinate executive agencies.''); Office of Legal Counsel Opinion, *Presidential Authority to Decline to Execute Unconstitutional Statutes,* 18 U.S. Op. Off. Legal Counsel 199 (1994).

reliance interests do not justify continuing to implement presumptions that DOT and DOJ have determined are unconstitutional.

• *Certification burden.* As the burden of production and persuasion shifts away from certifying officials to individual applicants, certifying agencies may experience increased numbers of intake inquiries and clarification requests as applicants navigate the new social disadvantage requirements, or face inconsistent application quality, especially during the transition period. This would require certifying agencies to spend time following up with applicants and guiding them through the application as they go through the re-certification process, which implicates certifying agencies' reliance interests. In the short-term, the increase in workload and support services on certifying agencies may temporarily elevate the demands on the recipients' staff demands or delay determinations, which could at least partially offset any cost savings from shifting this burden to applicants. However, in the long run, it is expected that after the initial review of each applicant, subsequent reviews of applicants will require minimal agency time and will not implicate agencies' reliance interests.

• *Reevaluation of all affected DBEs/ACDBEs.* DBE/ACDBE participants who have previously qualified based in whole or in part on their race or sex will incur additional costs to develop and provide the individualized narrative required by the IFR. In addition, all firms will temporarily lose certifications until the reevaluation process is complete, and some firms may lose the certifications that currently lead to opportunities for them to participate, potentially leading to a loss of business opportunities and implicating firms' reliance interests (though this would be offset by other firms who face increased access to the same opportunities). Additional administrative burdens will also fall on certifiers (UCPs) performing the reevaluations. This could also lead to delays in goal setting and program participation, resulting from the temporary pause in counting DBE participation while the reevaluation process is underway.

• *Clarified disparity study expectations.* The rule requires that disparity studies include detailed capacity analyses, which may necessitate additional economic modeling, data collection, and expert analysis beyond what is standard practice in many jurisdictions. These requirements could increase costs, particularly for large or multi-jurisdictional studies. While such studies are episodic rather than annual, the enhanced methodology could impose non-trivial compliance costs when undertaken.

• *Elimination of race/sex reporting in bidder lists.* The removal of demographic fields from bidder list reporting will reduce the administrative burden of data entry for participants and recipients, though the cost impact would likely be negligible.

• *Terminology changes and redefinitions.* These changes update program language to reflect constitutional terminology but do not alter administrative procedures or eligibility. The impact is purely semantic and is not expected to have any material cost impacts.

Quantified Costs: Information Collection Burden (Paperwork Reduction Act)

In addition to the above qualitative costs, the Department has quantified a portion of the expected compliance burdens as part of its Paperwork Reduction Act (PRA) package of the rule. These burdens represent the time and resources required to prepare, submit, and review program-related information.

Requirement	Estimated cost burden	Timing
Certification narratives (firms)	$91.9 million	One-time.
UCP reevaluations	$3.4 million	One-time.
Interstate certification	$0.46 million	One-time.
Bidders' list reporting	$1.24 million	Annual.
ACDBE annual report	$0.58 million	Annual.
Goal setting (disparity studies)	$0.46 million (annual cost)	Every three years.

These figures reflect fully loaded labor costs consistent with the Bureau of Labor Statistics data and DOT's standard methodology. One-time burdens primarily reflect transaction costs related to individualized certification requirements, while recurring burdens are associated with ongoing reporting and program administration. Overall, the IFR's primary quantified costs are transitional and one-time, totaling approximately $95 million, with recurring annualized burdens of about $1.8 million.

Benefits

With respect to benefits, the IFR will enhance constitutional compliance and reduce risks associated with constitutional litigation. It may also improve public trust by reinforcing fairness in eligibility determinations, which, although not easily quantifiable, represent important benefits from improved program integrity.

B. Executive Order 14192 (''Unleashing Prosperity Through Deregulation'')

This interim final rule is considered an E.O. 14219 deregulatory action because the unquantified cost-savings associated with constitutional compliance outweigh the quantified costs.

C. Executive Order 13132 (''Federalism'')

This IFR has been analyzed in accordance with the principles and criteria contained in Executive Order 13132 (''Federalism''), and the rule satisfies the requirements of the Executive Order. While the rule may include provisions that impose substantial direct compliance costs on State and local governments, the Department has determined that consultation with State and local governments prior to promulgation of the rule is not practicable given the urgent need to cure constitutional infirmities with the existing DBE and ACDBE regulations. These changes are required not by statute, but to ensure that the DBE and ACDBE programs do not violate the U.S. Constitution. We seek comment from State and local governments on these burdens during the comment period for this IFR.

D. Executive Order 13175 (''Consultation and Coordination With Indian Tribal Governments'')

This rulemaking has been analyzed in accordance with the principles and criteria contained in Executive Order 13175 (''Consultation and Coordination with Indian Tribal Governments''). Because this rulemaking does not significantly or uniquely affect the communities of the Indian Tribal

governments or impose substantial direct compliance costs on them, the funding and consultation requirements of Executive Order 13175 do not apply.

E. Unfunded Mandates Reform Act

The Unfunded Mandates Reform Act (UMRA) of 1995 (Pub. L. 104–4) requires agencies to prepare a written assessment of the costs, benefits, and other effects of proposed or final rules that include a Federal mandate likely to result in expenditures by State, local, or tribal governments, in the aggregate, or by the private sector, of more than $100 million annually (adjusted annually for inflation with the base year of 1995). This rulemaking would not result in annual State expenditures exceeding the minimum threshold. The Department has determined that the requirements of the Title II of the Unfunded Mandates Reform Act of 1995 therefore do not apply to this rulemaking.

F. National Environmental Policy Act

The Department has analyzed the environmental impacts of this action pursuant to the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321 *et seq.*) and has determined that it is categorically excluded pursuant to DOT Order 5610.1D, available at *https://www.transportation.gov/mission/dots-procedures-considering-environmental-impacts.* Categorical exclusions are actions identified in an agency's NEPA implementing procedures that do not normally have a significant impact on the environment and therefore do not require either an environmental assessment (EA) or environmental impact statement (EIS). The purpose of this rulemaking is to amend the Department's DBE and ACDBE regulations. Section 9(f) of DOT Order 5610.1D states that a DOT Operating Administration can use the categorical exclusions developed by another Operating Administration. This action is covered by the categorical exclusion listed in the Federal Transit Administration's implementing procedures, ''[p]lanning and administrative activities that do not involve or lead directly to construction, such as: . . . promulgation of rules, regulations, directives . . .'' 23 CFR 771.118(c)(4). In analyzing the applicability of a categorical exclusion, the agency must also consider whether extraordinary circumstances are present that would warrant the preparation of an EA or EIS. The Department does not anticipate any environmental impacts, and there are no extraordinary circumstances present in connection with this rulemaking.

G. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) of 1980 (5 U.S.C. 601 *et seq.*) requires agencies to evaluate the potential effects of their proposed and final rules on small businesses, small organizations, and small governmental jurisdictions. Whenever an agency is required by 5 U.S.C. 553, or any other law, to publish general notice of proposed rulemaking for any proposed rule, the agency must conduct and publish for public comment a regulatory flexibility analysis. Because the Department is not required to publish a proposed rulemaking for this action, an analysis under the RFA is not required.

H. Paperwork Reduction Act

The Paperwork Reduction Act (PRA) of 1995 (Pub. L. 104–13, 49 U.S.C. 3501, 3507) requires Federal agencies to obtain approval from the Office of Management and Budget (OMB) before undertaking a new collection of information imposed on ten or more persons, or continuing a collection previously approved by OMB that is set to expire.

This IFR modifies existing collection instruments in both parts 23 and 26. The following is a description of the sections that contain new and modified information collection requirements, along with the estimated hours and cost to fulfill them.

For purposes of estimating the cost burden on recipients, the State government wage rate was taken from the Bureau of Labor and Statistics (BLS) estimate of median wages for employees in the category of ''Eligibility Interviewer in Government Programs'' (OEWS Designation 43–4061). For the purpose of calculating loaded wage rates, these burden estimates assume wages represent 61.9 percent of total compensation, which is consistent with similar loaded wage rate estimates identified by BLS and used by DOT for related purposes. Because wages represent 61.9 percent of total compensation, the appropriate cost multiplier is 1.62 (1/0.619). Accordingly, the wage rate ($25.95) is multiplied by 1.62 to get a fully loaded hourly wage rate of $42.04 to account for the cost of employer-provided benefits.

For purposes of estimating the cost burden on applicant and certified DBE/ACDBE firms, the wage rate was taken from the BLS estimate of median wages for individuals in the category of ''Cross-industry, Private Ownership Only'' (OEWS Designation 00–0001). Using the same loaded wage rate identified above, the wage rate for DBE/ACDBE applicant firms ($69.20) is multiplied by 1.62 to get a fully loaded hourly wage rate of $112.10 to account for the cost of employer-provided benefits. The Department emphasizes that many of these hour and cost burdens are one-time burdens as a result of the change in the DBE certification eligibility requirements. After the initial transition to the new requirements, increases in annual burdens will be modest. For DOT recipients, reporting burdens are expected to decrease as a result of reduced DBE/ACDBE reporting requirements.

i. Reapplication Review for DBE/ACDBE Certification Based on Individualized Showing of Social Disadvantage

To satisfy the social and economic disadvantage (SED) requirement and ensure all determinations of disadvantage are not based in whole or in part on race or sex, an owner must provide the certifier a Personal Narrative (PN) that establishes the existence of disadvantage by a preponderance of the evidence based on individualized proof regarding specific instances of economic hardship, systemic barriers, and denied opportunities that impeded the owner's progress or success in education, employment, or business, including obtaining financing on terms available to similarly situated persons who did not face barriers in obtaining terms.

The PN must state how and to what extent the impediments caused the owner economic harm, including a full description of type and magnitude, and must establish the owner is economically disadvantaged in fact relative to similarly situated non-disadvantaged individuals.

The owner must attach to the PN a current personal net worth (PNW) statement and any other financial information the owner considers relevant. The total annual burden hours below were calculated based on the average of three stakeholder responses ranging from 240–2,000 hours. The total annual cost burden was calculated based on one stakeholder response of $80,000.

In preparing this estimate, DOT estimated a 10 percent decrease in the number of currently certified firms who will submit documentation to maintain their DBE/ACDBE decertification status. DOT also assumed a 50 percent reduction in the total burden hours compared to the pre-existing estimated burden for completing the full Uniform Certification Application (UCA), as firms will be able to use many of their other existing certification documents for resubmission.

Respondents: Firms seeking to maintain their DBE/ACDBE certification.
Estimated Number of Respondents: 41,000.
Frequency: One time per respondent.
Total Annual Burden Hours: 820,000 (one-time burden).
Total Annual Cost Burden: $91,922,000 (one-time burden).

ii. Unified Certification Program (UCP) Reevaluation of Applications for DBE/ACDBE Certification Based on Individualized Showing of Social Disadvantage

UCPs will need to reevaluate DBE/ACDBE applicant firms based on updated submission of application materials, including the PN and PNW statement. This estimate assumes an average burden of two hours to complete a review and make a disposition for each DBE/ACDBE certification application, including notifications to other jurisdictions.
Respondents: UCPs.
Estimated Number of Respondents: 53.
Frequency: One-time reevaluation of 41,000 applicant firms.
Total Annual Burden Hours: 82,000 (one-time burden).
Total Annual Cost Burden: $3,447,280 (one-time cost).

iii. Maintaining and Updating Bidders' Lists

We estimate that recipients will experience a reduced burden to implement 49 CFR 26.11 as a result of eliminating the race- and sex-based reporting requirements for bidders' lists, in addition to eliminating the requirement to report data related to applications for and determinations of individualized social and economic disadvantage.
Respondents: FAA, FHWA, and FTA funding recipients.
Estimated Number of Respondents: 1,639.
Frequency: 3 times per year.
Total Annual Burden Hours: 29,502.
Total Annual Cost Burden: $1,240,264.

iv. ACDBE Annual Report of Percentages of ACDBEs in Various Categories

We estimate that FAA airport recipients will experience a reduced burden to implement 49 CFR 26.11 as a result of eliminating the race- and sex-based reporting requirements for bidders' lists, in addition to eliminating the requirement to report data related to applications for and determinations of individualized social and economic disadvantage.
Respondents: State Departments of Transportation, District of Columbia, U.S. Virgin Islands, and Puerto Rico.
Estimated Number of Respondents: 53.
Frequency: Once per year.
Total Annual Burden Hours: 13,780.
Total Annual Cost Burden: $579,311.

v. Setting Overall Goals for DBE Participation in DOT-Assisted Contracts

The Department estimates a modest increase in burden for setting overall DBE goals as a result of the transition to the new DBE certification requirements and enhanced expectations related to disparity studies used in setting overall goals. These changes may result in increases in the amount of time for recipients to set goals based on the relative availability of certified DBEs.
Respondents: DOT funding recipients.
Estimated Number of Respondents: 1,639.
Frequency: Once every three years.
Total Annual Burden Hours: 10,927.
Total Annual Cost Burden: $459,371.

vi. Providing Evidence of Certification to an Additional State When a Firm Certified in Its Home State Applies to Another State for Certification (Interstate Certification)

The Department estimates a one-time increase in the burden for firms to provide evidence of certification to an additional State when a firm certified in its home State applies to another State for certification.
Respondents: DBE/ACDBE firms applying for interstate certification.
Estimated Number of Respondents: 4,100.
Frequency: Once.
Total Annual Burden Hours: 4,100.
Total Annual Cost Burden: $459,610 (one-time cost).

As noted in the Costs and Benefits section of this analysis, these burden hour and cost estimates have been incorporated into the Department's overall assessment of regulatory costs.

Notwithstanding any other provision of law, no person is required to respond to a collection of information unless that collection displays a valid OMB control number.

I. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801 *et seq.,* generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. DOT will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States. This rule does not constitute a major rule as defined in 5 U.S.C. 804(2).

List of Subjects in 49 CFR Parts 23 and 26

Administrative practice and procedure, Airports, Civil rights, Government contracts, Grant programs—transportation, Mass transportation, Minority businesses, Reporting and recordkeeping requirements.

Sean P. Duffy,
Secretary of Transportation.

For the reasons stated in the preamble, the Department of Transportation amends 49 CFR parts 23 and 26 as follows:

PART 23—PARTICIPATION OF DISADVANTAGED BUSINESS ENTERPRISE IN AIRPORT CONCESSIONS

■ 1. The authority for part 23 continues to read as follows:

Authority: 49 U.S.C. 47107 and 47113; 42 U.S.C. 2000d; 49 U.S.C. 322; E.O. 12138, 44 FR 29637, 3 CFR, 1979 Comp., p. 393.

■ 2. Amend § 23.1 by revising paragraph (c) to read as follows:

§ 23.1 What are the objectives of this part?

* * * * *

(c) To ensure that the Department's ACDBE program operates in a nondiscriminatory manner and without regard to race or sex, while maximizing efficiency of service;

* * * * *

■ 3. Amend § 23.3 as follows:
■ a. Add definitions for ACDBE-conscious and ACDBE-neutral in alphabetical order;
■ b. Remove the definitions of Race-conscious and Race-neutral; and
■ c. Revise the definition of Socially and economically disadvantaged individual.

The additions and revisions read as follows:

§ 23.3 What do the terms used in this part mean?

ACDBE-conscious measure or program is one that is focused specifically on assisting only ACDBEs.

ACDBE-neutral measure or program is one that is, or can be, used to assist all small business concerns.

* * * * *

Socially and economically disadvantaged individual means any individual who is a citizen (or lawfully admitted permanent resident) of the United States and who a certifier finds to be socially and economically

disadvantaged on a case-by-case basis. A determination that an individual is socially and economically disadvantaged must not be based in whole or in part on race or sex. For that reason, applicants may qualify as socially and economically disadvantaged only if they can meet the relevant criteria described in § 26.67.

* * * * *

■ 4. Amend § 23.25 as follows:
■ a. Revise the introductory text of paragraphs (d) and (e); and
■ b. Add paragraph (h).

The revisions read as follows:

§ 23.25 What measures must recipients include in their ACDBE programs to ensure nondiscriminatory participation of ACDBEs in concessions?

* * * * *

(d) Your ACDBE program must include ACDBE-neutral measures that you will take. You must maximize the use of ACDBE-neutral measures, obtaining as much as possible of the ACDBE participation needed to meet overall goals through such measures. These are responsibilities that you directly undertake as a recipient, in addition to the efforts that concessionaires make, to obtain ACDBE participation. The following are examples of ACDBE-neutral measures you can implement:

* * * * *

(e) Your ACDBE program must also provide for the use of ACDBE-conscious measures when ACDBE-neutral measures, standing alone, are not projected to be sufficient to meet an overall goal. The following are examples of ACDBE-conscious measures you can implement:

* * * * *

(h) Effective October 3, 2025, you may not use any of the measures described in paragraph (e) of this section until the UCP that covers you has completed the reevaluation process described in § 23.81.

■ 5. Amend § 23.26 by revising paragraphs (b) introductory text, (b)(1), (d)(5), and (e) to read as follows:

§ 23.26 Fostering small business participation.

* * * * *

(b) This element must be submitted to the FAA for approval as a part of your ACDBE program. As part of this program element, you may include, but are not limited to including, the following strategies:

(1) Establish an ACDBE-neutral small business set-aside for certain concession opportunities. Such a strategy would include the rationale for selecting small business set-aside concession opportunities that may include consideration of size and availability of small businesses to operate the concession.

* * * * *

(d) * * *

(5) You will take aggressive steps to encourage those socially and economically disadvantaged firms eligible for ACDBE certification to become certified; and

* * * * *

(e) A State, local, or other program, in which eligibility requires satisfaction of race, sex, or other criteria in addition to business size, may not be used to comply with the requirements of this part.

* * * * *

§ 23.27 [Amended]

■ 6. Amend § 23.27 as follows:
■ a. Remove paragraph (c)(2)(iv);
■ b. Redesignate paragraphs (c)(2)(v), (c)(2)(vi), and (c)(2)(vii) as paragraphs (c)(2)(iv), (c)(2)(v), and (c)(2)(vi), respectively;
■ c. Remove paragraph (d)(1);
■ d. Redesignate subparagraphs (d)(2), (d)(3), and (d)(4) as paragraphs (d)(1), (d)(2), and (d)(3), respectively; and
■ e. Remove paragraphs (d)(5) and (d)(6).

■ 7. Amend § 23.41 by revising paragraph (d) to read as follows:

§ 23.41 What is the basic overall goal requirement for recipients?

* * * * *

(d) Effective October 3, 2025, you are not required to update your overall goals until the UCP that covers you has completed the reevaluation process described in § 23.81.

* * * * *

■ 8. Amend § 23.43 by revising paragraph (b) to read as follows:

§ 23.43 What are the consultation requirements in the development of recipients' overall goals?

* * * * *

(b) Stakeholders with whom you must consult include, but are not limited to, business groups, community organizations, trade associations representing concessionaires currently located at the airport, as well as existing concessionaires themselves, and other officials or organizations that could be expected to have information concerning the availability of disadvantaged businesses and the recipient's efforts to increase participation of ACDBEs.

* * * * *

■ 9. Amend § 23.45 by revising paragraphs (f), (g), and (h) to read as follows:

§ 23.45 What are the requirements for submitting overall goal information to the FAA?

* * * * *

(f) Your submission must include your projection of the portions of your overall goals you propose to meet through use of ACDBE-neutral and ACDBE-conscious means, respectively, and the basis for making this projection (see § 23.51(d)(5)).

(g) FAA may approve or disapprove the way you calculated your goal, including your ACDBE-neutral/ACDBE-conscious ''split,'' as part of its review of your plan or goal submission. Except as provided in paragraph (h) of this section, the FAA does not approve or disapprove the goal itself (*i.e.,* the number).

(h) If the FAA determines that your goals have not been correctly calculated or the justification is inadequate, the FAA may, after consulting with you, adjust your overall goal or ACDBE-neutral/ACDBE-conscious ''split.'' The adjusted goal represents the FAA's determination of an appropriate overall goal for ACDBE participation in the recipient's concession program, based on relevant data and analysis. The adjusted goal is binding.

* * * * *

■ 10. Amend § 23.51 as follows:
■ a. Revise the introductory text of paragraph (a);
■ b. Revise paragraph (a)(2);
■ c. Revise paragraph (c)(3); and
■ d. Revise paragraph (d)(5).

The revisions read as follows:

§ 23.51 How are a recipient's overall goals expressed and calculated?

(a) Your objective in setting a goal is to estimate the percentage of the base calculated under §§ 23.47 through 23.49 that would be performed by ACDBEs in the absence of social and economic disadvantage and its effects.

* * * * *

(2) In conducting this goal setting process, you are determining the extent, if any, to which the firms in your market area have been impacted by social and economic disadvantage in connection with concession opportunities or related business opportunities.

* * * * *

(c) * * *

(3) Use data from a disparity study. Use a percentage figure derived from data in a valid, applicable disparity study. Any disparity study utilized must

provide a detailed capacity analysis, including the methodology used.

* * * * *

(d) * * *

(5) Among the information you submit with your overall goal (see § 23.45(e)), you must include description of the methodology you used to establish the goal, including your base figure and the evidence with which it was calculated, as well as the adjustments you made to the base figure and the evidence relied on for the adjustments. You should also include a summary listing of the relevant available evidence in your jurisdiction and an explanation of how you used that evidence to adjust your base figure. You must also include your projection of the portions of the overall goal you expect to meet through ACDBE-neutral and ACDBE-conscious measures, respectively (see §§ 26.51(c) of this chapter).

* * * * *

■ 11. Amend § 23.53 by adding paragraph (g) to read as follows:

§ 23.53 How do car rental companies count ACDBE participation toward their goals?

* * * * *

(g) Effective October 3, 2025, you as a car rental company may not count any ACDBE participation toward the goal that an airport has set for you until the UCP covering that airport has completed the reevaluation process described in part 26, § 23.81

■ 12. Amend § 23.55 by adding paragraph (m) to read as follows:

§ 23.55 How do recipients count ACDBE participation toward goals for items other than car rentals?

* * * * *

(m) Effective October 3, 2025, you may not count any ACDBE participation toward ACDBE goals until the UCP covering you has completed the reevaluation process described in § 23.81.

■ 13. Amend § 23.57 as follows:

■ a. Revise paragraphs (b)(4) and (c); and

■ b. Add paragraph (d).

The revision and addition read as follows:

§ 23.57 What happens if a recipient falls short of meeting its overall goals?

* * * * *

(b) * * *

(4) The FAA may impose conditions on the recipient as part of its approval of the recipient's analysis and corrective actions including, but not limited to, modifications to your overall goal methodology, changes in your ACDBE-neutral/ACDBE-conscious split, or the introduction of additional ACDBE-neutral or ACDBE-conscious measures.

* * * * *

(c) If information coming to the attention of FAA demonstrates that current trends make it unlikely that you, as an airport, will achieve ACDBE awards and commitments that would be necessary to allow you to meet your overall goal at the end of the fiscal year, FAA may require you to make further good faith efforts, such as modifying your ACDBE-conscious/ACDBE-neutral split or introducing additional ACDBE-neutral or ACDBE-conscious measures for the remainder of the fiscal year.

(d) Effective October 3, 2025, you are not subject to this section until the UCP that covers you has completed the reevaluation process described in § 23.81.

■ 14. Add § 23.81 to subpart E to read as follows:

§ 23.81 ACDBE reevaluation process.

(a) Effective October 3, 2025, each UCP must:

(1) Identify each currently certified ACDBE;

(2) Provide each firm identified pursuant to paragraph (a)(1) of this section with the opportunity to submit documentation demonstrating its ACDBE eligibility under the standards set forth in this part;

(3) Determine whether each firm identified pursuant to paragraph (a)(1) of this section meets the ACDBE eligibility standards set forth in this part; and

(4) Issue a written decision to each firm reevaluated pursuant to subparagraph (a)(3), indicating that it has either been recertified or is decertified.

(b) The provisions of § 26.87 of this chapter shall not apply to any action taken pursuant to paragraph (a) of this section.

(c) Each UCP must reevaluate each firm identified pursuant to paragraph (a)(1) of this section as quickly as practicable and must promptly notify the Department when it has done so. The Department reserves the right to review a UCP's reevaluation process.

PART 26—PARTICIPATION BY DISADVANTAGED BUSINESS ENTERPRISES IN DEPARTMENT OF TRANSPORTATION FINANCIAL ASSISTANCE PROGRAMS

■ 15. The authority for part 26 continues to read as follows:

Authority: 23 U.S.C. 304 and 324; 42 U.S.C. 2000d, *et seq.;* 49 U.S.C. 47113, 47123; Sec. 1101(b), Pub. L. 114–94, 129 Stat. 1312, 1324 (23 U.S.C. 101 note); Sec. 150, Pub. L. 115–254, 132 Stat. 3215 (23 U.S.C. 101 note); Pub. L. 117–58, 135 Stat. 429 (23 U.S.C. 101 note).

■ 16. Amend § 26.1 by revising paragraph (c) to read as follows:

§ 26.1 What are the objectives of this part?

* * * * *

(c) To ensure that the Department's DBE program operates in a nondiscriminatory manner and without regard to race or sex, while maximizing efficiency of service;

* * * * *

■ 17. Amend § 26.5 as follows:

■ a. Add definitions for DBE-conscious and DBE-neutral in alphabetical order;

■ b. Remove the definitions of Race-conscious and Race-neutral; and

■ c. Revise the definition of Socially and economically disadvantaged individual.

The addition and revision read as follows:

§ 26.5 Definitions.

* * * * *

DBE-conscious measure or program is one that is focused specifically on assisting only DBEs.

DBE-neutral measure or program is one that is, or can be, used to assist all small businesses.

* * * * *

Socially and economically disadvantaged individual means any individual who is a citizen (or lawfully admitted permanent resident) of the United States and who a certifier finds to be socially and economically disadvantaged on a case-by-case basis. A determination that an individual is socially and economically disadvantaged must not be based in whole or in part on race or sex. For that reason, all applicants shall qualify as socially and economically disadvantaged if they can meet the relevant criteria described in § 26.67. Being born in a particular country does not, standing alone, mean that a person is necessarily socially and economically disadvantaged.

* * * * *

§ 26.11 [Amended]

■ 18. Amend § 26.11 as follows:

■ a. Remove paragraph (c)(2)(iv);

■ b. Redesignate paragraphs (c)(2)(v), (c)(2)(vi), and (c)(2)(vii) as subparagraphs (c)(2)(iv), (c)(2)(v), and (c)(2)(vi), respectively;

■ c. Remove paragraph (e)(1);

■ d. Redesignateparagraphs (e)(2), (e)(3), and (e)(4) as paragraphs (e)(1), (e)(2), and (e)(3), respectively; and

■ e. Remove paragraphs (e)(5) and (e)(6).

■ 19. Amend § 26.37 by revising paragraph (b) to read as follows:

§ 26.37 What are a recipient's responsibilities for monitoring?

* * * * *

(b) A recipient's DBE program must also include a monitoring and enforcement mechanism to ensure that work committed, or in the case of DBE-neutral participation, the work subcontracted, to all DBEs at contract award or subsequently is performed by the DBEs to which the work was committed or subcontracted to, and such work is counted according to the requirements of § 26.55. This mechanism must include a written verification that you have reviewed contracting records and monitored the work site to ensure the counting of each DBE's participation is consistent with its function on the contract. The monitoring to which this paragraph (b) refers may be conducted in conjunction with monitoring of contract performance for other purposes such as a commercially useful function review.

* * * * *

■ 20. Amend § 26.39 by revising paragraphs (b)(1) and (b)(5) to read as follows:

§ 26.39 Fostering small business participation.

* * * * *

(b) * * *

(1) Establishing a DBE-neutral small business set-aside for prime contracts under a stated amount (*e.g.,* $1 million).

* * * * *

(5) To meet the portion of your overall goal you project to meet through DBE-neutral measures, ensuring that a reasonable number of prime contracts are of a size that small businesses, including DBEs, can reasonably perform.

* * * * *

■ 21. Amend § 26.45 as follows:
■ a. Revise paragraph (a)(2);
■ b. Revise paragraph (b);
■ c. Revise paragraph (c)(3);
■ d. Revise paragraph (d)(1)(ii);
■ e. Revise paragraph (d)(3);
■ f. Revise paragraph (f)(3);
■ g. Revise paragraph (g)(1); and
■ h. Revise paragraph (h);

The revisions read as follows:

§ 26.45 How do recipients set overall goals?

(a) * * *

(2) If you are an FTA Tier II recipient who intends to operate a DBE-neutral program, or if you are an FAA recipient who reasonably anticipates awarding $250,000 or less in FAA prime contract funds in a Federal fiscal year, you are not required to develop overall goals for FTA or FAA, respectively, for that Federal fiscal year.

(b) Your overall goal must be based on demonstrable evidence of the availability of ready, willing, and able DBEs relative to all businesses ready, willing, and able to participate on your DOT-assisted contracts (hereafter, the ''relative availability of DBEs''). The goal must reflect your determination of the level of DBE participation you would expect absent the effects of social and economic disadvantage. You cannot simply rely on either the 10 percent national goal, your previous overall goal, or past DBE participation rates in your program without reference to the relative availability of DBEs in your market.

(c) * * *

(3) Use data from a disparity study. Use a percentage figure derived from data in a valid, applicable disparity study. Any disparity study utilized must provide a detailed capacity analysis, including the methodology used.

* * * * *

(d) * * *

(1) * * *

(ii) Evidence from disparity studies conducted anywhere within your jurisdiction, to the extent it is not already accounted for in your base figure. To the extent that the disparity study provides a detailed capacity analysis, include the methodology used;

* * * * *

(3) If you attempt to make an adjustment to your base figure to account for the effects of an ongoing DBE program, the adjustment must be based on demonstrable evidence that is logically and directly related to the effect for which the adjustment is sought.

* * * * *

(f) * * *

(3) You must include with your overall goal submission a description of the methodology you used to establish the goal, including your base figure and the evidence with which it was calculated, and the adjustments you made to the base figure and the evidence you relied on for the adjustments. You should also include a summary listing of the relevant available evidence in your jurisdiction and, where applicable, an explanation of why you did not use that evidence to adjust your base figure. You must also include your projection of the portions of the overall goal you expect to meet through DBE-neutral and DBE-conscious measures, respectively (*see* § 26.51(c)).

* * * * *

(g)(1) In establishing an overall goal, you must provide for consultation and publication. This includes:

(i) Consultation with general contractor groups, community organizations, and other officials or organizations that could be expected to have information concerning the availability of disadvantaged and non-disadvantaged businesses and your efforts to establish a level playing field for the participation of DBEs. The consultation must include a scheduled, direct, interactive exchange (*e.g.,* a face-to-face meeting, video conference, teleconference) with as many interested stakeholders as possible focused on obtaining information relevant to the goal setting process, and it must occur before you are required to submit your methodology to the operating administration for review pursuant to paragraph (f) of this section. You must document in your goal submission the consultation process you engaged in. Notwithstanding paragraph (f)(4) of this section, you may not implement your proposed goal until you have complied with this requirement.

(ii) A published notice announcing your proposed overall goal before submission to the operating administration on August 1st. The notice must be posted on your official internet website and may be posted in any other sources (*e.g.,* trade association publications). If the proposed goal changes following review by the operating administration, the revised goal must be posted on your official internet website.

* * * * *

(h) Effective October 3, 2025you are not required to update your overall goals until the UCP that covers you has completed the reevaluation process described in § 26.111.

■ 22. Amend § 26.47 as follows:
■ a. Revise paragraph (c)(4);
■ b. Revise paragraph (d); and
■ c. Add paragraph (e).

§ 26.47 Can recipients be penalized for failing to meet overall goals?

* * * * *

(c) * * *

(4) FHWA, FTA, or FAA may impose conditions on the recipient as part of its approval of the recipient's analysis and corrective actions including, but not limited to, modifications to your overall goal methodology, changes in your DBE-conscious/DBE-neutral split, or the introduction of additional DBE-neutral or DBE-conscious measures.

* * * * *

(d) If, as recipient, your Uniform Report of DBE Awards or Commitments and Payments or other information coming to the attention of FTA, FHWA, or FAA, demonstrates that current

trends make it unlikely that you will achieve DBE awards and commitments that would be necessary to allow you to meet your overall goal at the end of the fiscal year, FHWA, FTA, or FAA, as applicable, may require you to make further good faith efforts, such as by modifying your DBE-conscious/DBE-neutral or introducing additional DBE-neutral or DBE-conscious measures for the remainder of the fiscal year.

(e) Effective October 3, 2025, you are not subject to this section until the UCP that covers you has completed the reevaluation process described in § 26.111.

■ 23. Amend § 26.51 as follows:
■ a. Revise paragraph (a);
■ b. Revise the introductory text to paragraph (b);
■ c. Revise paragraph (c);
■ d. Revise paragraph (d);
■ e. Revise paragraph (e)(2);
■ f. Revise paragraph (f);
■ g. Revise paragraph (g); and
■ h. Add paragraph (h).

The revisions read as follows:

§ 26.51 What means do recipients use to meet overall goals?

(a) You must meet the maximum feasible portion of your overall goal by using DBE-neutral means of facilitating DBE-neutral participation. DBE-neutral participation includes any time a DBE wins a prime contract through customary competitive procurement procedures or is awarded a subcontract on a prime contract that does not carry a DBE contract goal.

(b) DBE-neutral means include, but are not limited to, the following:

* * * * *

(c) Each time you submit your overall goal for review by the concerned operating administration, you must also submit your projection of the portion of the goal that you expect to meet through DBE-neutral means and your basis for that projection. This projection is subject to approval by the concerned operating administration, in conjunction with its review of your overall goal.

(d) You must establish contract goals to meet any portion of your overall goal you do not project being able to meet using DBE-neutral means.

* * * * *

(e) * * *

(2) You are not required to set a contract goal on every DOT-assisted contract. You are not required to set each contract goal at the same percentage level as the overall goal. The goal for a specific contract may be higher or lower than that percentage level of the overall goal, depending on such factors as the type of work involved, the location of the work, and the availability of DBEs for the work of the particular contract. However, over the period covered by your overall goal, you must set contract goals so that they will cumulatively result in meeting any portion of your overall goal you do not project being able to meet through the use of DBE-neutral means.

* * * * *

(f) To ensure that your DBE program continues to be narrowly tailored to overcome the effects of social and economic disadvantage, you must adjust your use of contract goals as follows:

(1) If your approved projection under paragraph (c) of this section estimates that you can meet your entire overall goal for a given year through DBE-neutral means, you must implement your program without setting contract goals during that year, unless it becomes necessary in order meet your overall goal.

Example 1 to paragraph (f)(1): Your overall goal for Year I is 12 percent. You estimate that you can obtain 12 percent or more DBE participation through DBE-neutral measures, without any use of contract goals. In this case, you do not set any contract goals for the contracts that will be performed in Year I. However, if part way through Year I, your DBE awards or commitments are not at a level that would permit you to achieve your overall goal for Year I, you could begin setting DBE-conscious contract goals during the remainder of the year as part of your obligation to implement your program in good faith.

(2) If, during any year in which you are using contract goals, you determine that you will exceed your overall goal, you must reduce or eliminate the use of contract goals to the extent necessary to ensure that the use of contract goals does not result in exceeding the overall goal. If you determine that you will fall short of your overall goal, then you must make appropriate modifications in your use of DBE-neutral or DBE-conscious measures to allow you to meet the overall goal.

Example 2 to paragraph (f)(2): In Year II, your overall goal is 12 percent. You have estimated that you can obtain 5 percent DBE participation through use of DBE-neutral measures. You therefore plan to obtain the remaining 7 percent participation through use of DBE goals. By September, you have already obtained 11 percent DBE participation for the year. For contracts let during the remainder of the year, you use contract goals only to the extent necessary to obtain an additional one percent DBE participation. However, if you determine in September that your participation for the year is likely to be only 8 percent total, then you would increase your use of DBE-neutral or DBE-conscious means during the remainder of the year in order to achieve your overall goal.

(3) If the DBE participation you have obtained by DBE-neutral means alone meets or exceeds your overall goals for two consecutive years, you are not required to make a projection of the amount of your goal you can meet using such means in the next year. You do not set contract goals on any contracts in the next year. You continue using only DBE-neutral means to meet your overall goals unless and until you do not meet your overall goal for a year.

Example 3 to paragraph (f)(3): Your overall goal for Years I and Year II is 10 percent. The DBE participation you obtain through DBE-neutral measures alone is 10 percent or more in each year. (For this purpose, it does not matter whether you obtained additional DBE participation through using contract goals in these years.) In Year III and following years, you do not need to make a projection under paragraph (c) of this section of the portion of your overall goal you expect to meet using DBE-neutral means. You simply use DBE-neutral means to achieve your overall goals. However, if in Year VI your DBE participation falls short of your overall goal, then you must make a paragraph (c) of this section projection for Year VII and, if necessary, resume use of contract goals in that year.

(4) If you obtain DBE participation that exceeds your overall goal in two consecutive years using contract goals (*i.e.,* not through DBE-neutral means alone), you must reduce your use of contract goals proportionately in the following year.

Example 4 to paragraph (f)(4): In Years I and II, your overall goal is 12 percent, and you obtain 14 and 16 percent DBE participation, respectively. You have exceeded your goals over the two-year period by an average of 25 percent. In Year III, your overall goal is again 12 percent, and your paragraph (c) of this section projection estimates that you will obtain 4 percent DBE participation through DBE-neutral means and 8 percent through contract goals. You then reduce the contract goal projection by 25 percent (*i.e.,* from 8 to 6 percent) and set contract goals accordingly during the year. If in Year III you obtain 11 percent participation, you do not use this contract goal adjustment mechanism for Year IV, because there have not been two consecutive years of exceeding overall goals.

(g) In any year in which you project meeting part of your goal through DBE-neutral means and the remainder through contract goals, you must maintain data separately on DBE achievements in those contracts with and without contract goals, respectively. You must report this data to the concerned operating administration as provided in § 26.11.

(h) Effective October 3, 2025, you may not set any contract goals until the UCP that covers you has completed the reevaluation process described in § 26.111.

■ 24. Amend § 26.55 by adding paragraph (i) to read as follows:

§ 26.55 How is DBE participation counted toward goals?

* * * * *

(i) Effective October 3, 2025, you may not count any DBE participation toward DBE goals until the UCP that covers you has completed the reevaluation process described in § 26.111.

■ 25. Amend § 26.61 by revising paragraph (b) to read as follows:

§ 26.61 Burden of proof.

* * * * *

(b) The firm has the burden of demonstrating, by a preponderance of the evidence, *i.e.,* more likely than not, that it satisfies all of the requirements in this subpart. In determining whether the firm has met its burden, the certifier must consider all the information in the record, viewed as a whole. In a decertification proceeding the certifier bears the burden of proving, by a preponderance of the evidence, that the firm is no longer eligible for certification under the rules of this part.

■ 26. Revise § 26.67 to read as follows:

§ 26.67 Social and economic disadvantage.

(a) Non-presumptive Disadvantage. All applicants must demonstrate social and economic disadvantage (SED) affirmatively based on their own experiences and circumstances within American society, and without regard to race or sex.

(1) To satisfy the SED requirement and ensure all determinations of disadvantage are not based in whole or in part on race or sex, an owner must provide the certifier a Personal Narrative (PN) that establishes the existence of disadvantage by a preponderance of the evidence based on individualized proof regarding specific instances of economic hardship, systemic barriers, and denied opportunities that impeded the owner's progress or success in education, employment, or business, including obtaining financing on terms available to similarly situated, non-disadvantaged persons.

(2) The PN must state how and to what extent the impediments caused the owner economic harm, including a full description of type and magnitude, and must establish the owner is economically disadvantaged in fact relative to similarly situated non-disadvantaged individuals.

(3) The owner must attach to the PN a current PNW statement and any other financial information he considers relevant.

■ 27. Add § 26.111 to subpart F to read as follows:

§ 26.111 DBE Reevaluation Process.

(a) Effective October 3, 2025, each UCP must:

(1) Identify each currently certified DBE;

(2) Provide each firm identified pursuant to subparagraph (a)(1) with the opportunity to submit documentation demonstrating its DBE eligibility under the standards set forth in this part;

(3) Determine whether each firm identified pursuant to subparagraph (a)(1) meets the DBE eligibility standards set forth in this part; and

(4) Issue a written decision to each firm reevaluated pursuant to subparagraph (a)(3), indicating that it has either been recertified or is decertified.

(b) The provisions of § 26.87 of this part shall not apply to any action taken pursuant to paragraph (a).

(c) Each UCP must reevaluate each firm identified pursuant to subparagraph (a)(1) as quickly as practicable and must promptly notify the Department when it has done so. The Department reserves the right to review a UCP's reevaluation process.

[FR Doc. 2025–19460 Filed 10–2–25; 8:45 am]

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Parts 600 and 622

[Docket No. 250915–0853]

RIN 0648–BM94

Fisheries of the Caribbean, Gulf of America, and South Atlantic; Fishery Management Plans of Puerto Rico, St. Croix, and St. Thomas and St. John; Amendment 2

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Final rule.

SUMMARY: NMFS issues regulations to implement management measures described in Amendment 2 to the Fishery Management Plans (FMPs) for Puerto Rico, St. Croix, St. Thomas and St. John FMP (Amendment 2), as prepared by the Caribbean Fishery Management Council (Council). This final rule prohibits and restricts the use of certain net gear in U.S. Caribbean Federal waters and requires a descending device to be available and ready for use on vessels when fishing for federally managed reef fish species in U.S. Caribbean Federal waters. The purpose of this final rule and Amendment 2 is to protect habitats and species from the potential negative impacts associated with the use of certain net gear and to enhance the survival of released reef fish in U.S. Caribbean Federal waters.

DATES: This final rule is effective November 3, 2025, except for the revisions for §§ 622.437(a)(4), 622.477(a)(4), and 622.512(a)(4), which are effective April 1, 2026.

ADDRESSES: Electronic copies of Amendment 2, which includes a fishery impact statement, an environmental assessment, a regulatory impact review, and a Regulatory Flexibility Act (RFA) analysis, may be obtained from the Southeast Regional Office website at *https://www.fisheries.noaa.gov/action/amendment-2-puerto-rico-st-croix-and-st-thomas-and-st-john-fishery-management-plans-trawl.*

FOR FURTHER INFORMATION CONTACT: Maria Lopez-Mercer, NMFS Southeast Regional Office, 727–824–5305, *maria.lopez@noaa.gov.*

SUPPLEMENTARY INFORMATION: NMFS, with the advice of the Council, manages the Puerto Rico, St. Croix, and St. Thomas and St. John fisheries in U.S. Caribbean Federal waters under the Puerto Rico, St. Croix, and St. Thomas and St. John FMPs. The Council prepared the FMPs, which the Secretary of Commerce approved, and NMFS implements the FMPs through regulations at 50 CFR parts 600 and 622 under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).

On August 27, 2024, NMFS published a notice of availability for Amendment 2 and requested public comment (89 FR 68572). On September 30, 2024, NMFS published a proposed rule for Amendment 2 and requested public comment (89 FR 79492). NMFS

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Florida Department of Transportation

RON DESANTIS
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

JARED W. PERDUE, P.E.
SECRETARY

November 20, 2025

ATTN: Important Changes to Business Certification Programs

Dear Modal Partners:

The purpose of this letter is to inform Florida's modal partners of recent changes in both state and federal law to reduce discriminatory practices included within the U.S. Department of Transportation's (USDOT) Disadvantaged Business Enterprise (DBE) and Airport Concession Disadvantaged Business Enterprise (ACDBE) programs.

As expressed in FDOT's response to USDOT's Request for Information (RFI) titled "Advancing a Surface Transportation Proposal that Focuses on America's Most Fundamental Infrastructure Needs", published in the Federal Register on July 21, 2025, Florida firmly believes the DBE and ACDBE programs must be repealed entirely and replaced with a program whose primary purpose is advocating for improving economic competitiveness and small business development.

Last month, USDOT issued an Interim Final Rule concerning its DBE and ACDBE programs, effectively removing the presumption based on race and sex with a focus on economic disadvantage for certification. These rules are in addition to FDOT's repeal of references to these programs in Florida Law, replacing discriminatory requirements with a state-led program focused on small business development, regardless of someone's race or sex.

Accordingly, we have notified all Florida-based federally funded transportation entities of these changes. In this notification, FDOT provided a copy of the most recent USDOT guidance and Interim Final Rule. While FDOT continues to work with USDOT to transition the state entirely away from DBE and ACDBE programs, all authorities were reminded of the requirement to follow the new federal rules.

Separately, FDOT will launch a new state-led small business development program through the FDOT Business Growth and Engagement Office next year which will focus on economic competitiveness and small business development over any discriminatory methodology. Additional information will be provided in the months ahead including:

- Technical assistance on how to do business with FDOT
- Guidance on obtaining FDOT business certifications
- Business networking opportunities
- Additional resources to support business growth
- Setting performance goals to spur small business growth

In the interim, if you become aware of a federally-funded transportation entity that is not in compliance with the new federal protections against discriminatory contracting practices, you are encouraged to notify the department at bge.office@dot.state.fl.us. Upon receipt, FDOT will notify the

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entity of the requirements of Federal law and further refer such complaint to the appropriate Federal authority.

Should you have any questions about these changes, please feel free to contact us at bge.office@dot.state.fl.us or 850-414-4747.

We thank you for your continued efforts to reduce congestion and prioritize the movement of our state's supply chain.

Sincerely,

Signed by:
Dan Fitz-Patrick
EBCEDD8913E6488...

Dan Fitz-Patrick
Chief Strategy Officer, Assistant Secretary

GENERAL PROVISIONS

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SECTION 1A
SUPPLEMENTAL GENERAL PROVISIONS

The following Supplemental General Provisions are included to supplement the Part I General Provisions as required by the FAA AC 150/5370-10, latest edition. If there is a conflict between the FAA Standard General Provisions and other provisions, the FAA Standard will prevail, unless the other provisions are more strict and required by local ordinances.

SECTION 10 DEFINITION OF TERMS

10-50a RESIDENT PROJECT REPRESENTATIVE. An authorized representative of the Engineer assigned to make all necessary observations and/or tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor in the execution of this contract. The Resident Project Representative (RPR) is the Engineer's agent, will act as directed by and under the supervision of the Engineer, and will confer with the Engineer regarding his/her actions. The RPR's dealings in matters pertaining to the on-site work shall, in general, be only with Engineer and Contractor. Written communications with Owner will be through or as directed by the Engineer.

SECTION 20 PROPOSAL REQUIREMENTS AND CONDITIONS

Supplement to Paragraph 20-9 IRREGULAR PROPOSALS. Proposals shall be considered irregular for any of the reasons stated in paragraph 20-08, and if the proposal is "nonresponsive" with respect to the requirements of Executive Order 11246 and 49 CFR Part 23.

Supplement to Paragraph 20-14 DISQUALIFICATION OF BIDDERS.

A bidder shall be disqualified for any of the reasons stated in paragraph 20-14, as well as the following:

(d) Lack of responsibility as shown by past work judged from the standpoint of workmanship and/or performance as determined by the Owner;

(e) Lack of competency, as revealed by inability to produce valid license as required by law;

(f) Uncompleted work for which the bidder is committed by contract, which, in the judgment of the Owner, might hinder or prevent the prompt completion of work under this contract if awarded to such bidder; and

(g) Being in arrears on any of his existing contracts with the Owner or in litigation with the Owner resulting from having defaulted on a previous contract with the Owner.

SECTION 30 AWARD AND EXECUTION OF CONTRACT

Supplement to Paragraph 30-2 AWARD OF CONTRACT. Award of the contract may be subject to the availability of FAA/FDOT AIP/PTGA funds, and will be made after the necessary determinations of the responsibility of the low bidders have been made. Upon approval by the Federal Aviation Administration and based on the recommendations of the Engineer, contract award notification will be made.

Supplement to Paragraph 30-05 REQUIREMENTS OF CONTRACT BONDS. For all contracts, separate performance and payment bonds shall each be in a sum equal to the full amount of the contract awarded. The bond shall be written through a company licensed to do business in the State of Florida and meeting the following requirements, ***in addition to local ordinances***.

(a) **Qualifications - Management and Strength**

(1) The surety must be rated no less than "A" as to management, and no less than VII as to strength, by the latest edition of Best's Insurance Guide, published by Alfred M. Best Company, Inc., 75 Fulton St., New York, New York 10038;

(2) The surety company executing the bond shall be listed by the U.S. Treasury Department as being approved by and for writing bonds for federal projects on its current list in an amount not less than the amount of the bond to the owner;

(b) **Bonding Limit - Any One Risk.** The bonding limit of the sureties shall not exceed five percent (5%) of the policyholder surplus (capital and surplus) as listed by the aforementioned Best's Insurance Guide; and

(c) **Authorization.** Attorneys-in-fact who sign performance, payment and guaranty bonds must file with such bond a certified copy of their power of attorney to sign such bonds. All bonds must be countersigned by a resident Florida agent of the surety with proof of agency attached.

Supplement to Paragraph 30-06 EXECUTION OF CONTRACT. The successful bidder shall provide satisfactory evidence of all required insurance coverage to the Owner or the persons executing the contract. The above documents must be furnished, executed, and delivered before the contract will be executed by the Owner and a copy of such fully executed contract is delivered to the Contractor. If the contract is mailed, special handling is recommended.

SECTION 40 SCOPE OF WORK

40-1a PRE-CONSTRUCTION CONFERENCE. After contract has been awarded and signed, but prior to the commencement of the work, a Pre-Construction Conference shall be held at the office of the Owner. Such conference shall be attended by authorized representatives of the Owner, Engineer, Contractor, and appropriate airport users. The purpose of this conference will be to review the Contractor's submitted progress schedule, clarify any issues that might arise with regard to responsibility and jurisdiction, and acquaint all parties with the respective authorized representatives.

The Contractor's progress schedule shall be furnished to the Engineer five (5) working days in advance of this conference. The exact time and place of this meeting shall be established by the Owner and written notice shall be given.

Supplement to Paragraph 40-05 MAINTENANCE OF TRAFFIC. Contractor vehicles, and construction equipment shall be limited to the areas of runway and taxiway which are closed to air traffic, except when approved by the Owner. Safety practices shall be in accordance with FAA AC 150/5370-2, latest edition, Operational Safety on Airports during Construction. Vehicle traffic patterns to and from construction areas shall be as approved by the Owner after coordination with the Owner. Grassed areas damaged by ground traffic will be restored by the Contractor at his expense prior to completion and acceptance of the project.

The Contractor shall furnish flaggers in sufficient numbers to protect and divert vehicular, aircraft, and pedestrian traffic from working areas closed to traffic, or to protect any new work. Failure to comply with these requirements will result in the Owner shutting down the work until the Contractor can demonstrate the necessary protection.

When contractor vehicles must repeatedly cross the active runway, or be within 250 feet of an active runway centerline, the Contractor shall furnish flagmen to control such movements to assure safety to aircraft and personnel using the active runway. Vehicles shall be flagged and lighted in accordance with AC 150/5370-2, latest edition.

Supplement to 40-08 FINAL CLEANING UP. Areas disturbed during construction are to be restored to the conditions existing prior to construction. No separate payment will be made for this work.

40-09 UTILITIES AND TEMPORARY FACILITIES.

(a) **Existing Utilities and Facilities** indicated on the drawings may not be complete and location could vary from that shown. The Contractor shall verify the exact location of those existing utilities and facilities which are directly involved in the construction and/or within the limits of the work.

(b) **Protection.** All active utilities and facilities traversing the site of the work shall be preserved in operating condition. All property including, but not limited to, sewer and water mains, conduit, manholes, catch basins, valve boxes, poles, guys, electrical and telephone cables and other appurtenances shall be protected. The Contractor shall repair damage to any such utility and facility due to the work under this contract to the satisfaction of the local authority and the utility, at no cost to the Owner.

(c) **Approval** shall be obtained from the appropriate utility authority prior to making adjustments to, or in any way altering the operation of existing utilities and facilities or making connections to existing pipes and structures.

(d) **Electrical Power.** Temporary wiring and electrical power for construction shall be furnished by the Contractor. Contractor shall make all necessary arrangements with the local power company for temporary services, at Contractor's expense.

(1) Temporary wiring shall meet all safety requirements of the National Electrical Code and local code requirements.

(2) Temporary power shall be made available by the Contractor to all subcontractors to enable them to properly carry out their work. An adequate number of outlets shall be provided, each properly and clearly labeled with maximum voltage and fuse protection, and provided with ground fault protection.

(3) Temporary lighting shall consist of a weatherproof socket properly insulated and provided with a locking wire-type guard.

(4) All devices shall be properly grounded.

(e) **Water.** The Contractor shall arrange with local authorities for water and pay all costs in connection therewith.

(f) **Temporary Sanitary Facilities.**

(1) Provide temporary toilet facilities separate from the job office. Maintain these during the entire period of construction under this Contract for use of all construction personnel on the job. Provide enough chemical toilets to conveniently serve the needs of all personnel.

(2) Chemical toilets and their maintenance shall meet the requirements of State and local health regulations and ordinances. Any facilities or maintenance methods failing to meet these requirements shall be corrected immediately.

SECTION 50 CONTROL OF WORK

Supplement to Paragraph 50-01 AUTHORITY OF THE RESIDENT PROJECT REPRESENTATIVE (RPR). All notices given by the Owner or the Engineer under the provisions of this contract shall be in writing and service of same may be in either of the following manners:

(a) By delivery of such notice to the Contractor or to any officer of the Contractor if said Contractor be a corporation, or to any agent or superintendent of the Contractor.

(b) By mailing such notice by certified mail to the address of the Contractor shown on the Contractor's bid.

The Engineer shall be permitted to inspect and review all payrolls, records or personnel, conditions of employment, invoices of materials, books of accounts, and other relevant data and records pertinent to the contract and subcontracts.

Supplement to Paragraph 50-6 COOPERATION BETWEEN CONTRACTORS. The Contractor shall not commit or permit any act which will interfere with the performance of the work by any other contractor or fail to perform such acts as required to avoid interference with the performance of work by any other contractor.

If there is a difference of opinion as to the respective rights of the Contractor and others doing the work within the limits of or adjacent to the project, the Engineer will decide as to the respective rights of the various parties involved in order to secure the completion of the Owner's work in general harmony and in a satisfactory manner. His decision shall be final and binding on the Contractor.

Supplement to Paragraph 50-7 CONSTRUCTION LAYOUT AND STAKES. The Contractor must establish all layout required for the construction of the work and shall perform all other surveys required during construction. Initial staking for the construction layout, grade control, and the final measurements for the proposed Work shall be performed by a competent licensed surveyor at the expense of the Contractor, who shall cooperate with the Engineer to facilitate checking of the work.

Supplement to Paragraph 50-08, AUTHORITIES AND DUTIES OF QUALITY ASSURANCE (QA) INSPECTORS. Resident Project Representative (RPR) will:

1. SCHEDULES: Review the progress schedule, schedule of Shop Drawing submissions and schedule of values prepared by Contractor and consult with Engineer concerning their acceptability.

2. CONFERENCES: Attend pre-construction conferences. Arrange a schedule of progress meetings and other job conferences as required in consultation with Engineer and notify those expected to attend in advance. Attend meetings, and maintain and circulate copies of minutes thereof.

3. LIAISON:

a. Serve as Engineer's liaison with Contractor, working principally through Contractor's superintendent and assist him in understanding the intent of the Contract Documents. Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-site operations.

b. As requested by the Engineer, assist in obtaining from Owner additional details or information, when required at the job site for proper execution of the work.

4. SHOP DRAWINGS AND SAMPLES:

a. Receive and record date of receipt of shop drawings and samples, receive samples which are furnished at the site by Contractor, and notify Engineer of their availability for examination.

b. Advise Engineer and Contractor or its superintendent immediately of the commencement of any work requiring a shop drawing or sample submission if the submission has not been reviewed by the Engineer.

5. REVIEW OF WORK, REJECTION OF DEFECTIVE WORK, INSPECTIONS AND TESTS:

a. Conduct on-site observations of the work in progress to assist Engineer in determining if the work is proceeding in accordance with the Contract Documents and that completed work will conform to the Contract Documents.

b. Report to Engineer whenever he believes that any work is unsatisfactory, faulty or defective, or does not conform to the Contract Documents, or does not meet the requirements of any inspections, tests, or approval required to be made or has been damaged prior to final payment. Advise Engineer when he believes work should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.

c. Verify that test, equipment and systems startups and operating and maintenance instructions are conducted as required by the Contract Documents and in presence of the required personnel, and the Contractor maintains adequate records thereof; observe, record and report to Engineer appropriate details relative to the test procedures and startups.

d. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the outcome of these inspections and report to Engineer.

6. INTERPRETATION OF CONTRACT DOCUMENTS: Transmit Engineer's clarification and interpretations of the Contract Documents to Contractor.

7. MODIFICATIONS: Consider and evaluate Contractor's suggestions for modifications in drawings or specifications and report them with recommendations to Engineer.

8. RECORDS:

   a. Maintain at the job site orderly files for correspondence, reports of job conferences, shop drawings and sample submissions, reproductions of original Contract Documents, including all addenda, change orders, field orders, additional drawings issued subsequent to the execution of the contract, Engineer's clarifications and interpretations of the Contract Documents, progress reports and other project related documents.

   b. Keep a diary or log book, recording hours on the job site, weather conditions, data relative to questions of extras or deductions, list of visiting officials and representatives or manufacturers, fabricators, suppliers and distributors, daily activities, decisions, observations in general and specific observations in more detail as in the case of observing test procedures. Send copies to Engineer.

   c. Record names, addresses and telephone numbers of all contractors, subcontractors and major suppliers of material and equipment.

9. REPORTS:

   a. Furnish Engineer daily reports as required to show progress of the work and Contractor's compliance with the approved progress schedule of shop drawing submissions.

   b. Consult with Engineer in advance of scheduled major tests, inspections or start of important phases of the work.

   c. Report immediately to Engineer upon the occurrence of any accident.

10. PAYMENT REQUISITIONS: Review applications for payment with Contractor for compliance with the established procedure for their submission and forward them with recommendations to Engineer, noting particularly their relation to the schedule of values, work completed and materials and equipment delivered at the site, but not incorporated in the work.

11. CERTIFICATES, MAINTENANCE AND OPERATION MANUALS: During the course of the work, verify that certificates, maintenance and operation manuals and other data required to be assembled and furnished by Contractor are applicable to the items actually installed; and deliver this material to Engineer for his review and forwarding to Owner prior to final acceptance of the work.

12. COMPLETION:

   a. Before Engineer issues a Certificate of Substantial Completion, submit to Contractor a list of observed items requiring completion or correction.

   b. Conduct final inspection in the company of Engineer, Owner and Contractor and prepare a final list of items to be completed or corrected.

c. Verify that all items on final list have been completed or corrected and make recommendations to Engineer concerning acceptance.

13. PAYMENT OF COMPENSATION, ETC.: The payment of any compensation, whatever may be its character or form, or the giving of any gratuity, or the granting of any valuable favor by the Contractor to any inspector, directly or indirectly, is strictly prohibited and any such act on the part of the Contractor will constitute a violation of this contract.

LIMITATIONS OF AUTHORITY

Except upon written instructions of the Engineer, Resident Project Representative shall not:

1. Authorize any deviation from the Contract Documents or approve any substitute materials or equipment;

2. Exceed limitations of Engineer's authority as set forth in the Contract Documents;

3. Undertake any of the responsibilities of Contractor, subcontractor or Contractor's superintendent, or expedite the work;

4. Advise on, or issue, directions relative to any aspect of the means, methods, techniques, sequences, or procedures of construction unless such is specifically called for in the Contract Documents.

5. Advise on, or issue, directions as to safety precautions and programs in connection with the work;

6. Authorize Owner to occupy the project in whole or in part; and,

7. Participate in specialized field or laboratory tests.

Supplement to Paragraph 50-10 REMOVAL OF UNACCEPTABLE AND UNAUTHORIZED WORK. No work shall be done without lines and grades having been given to and approved by the Engineer.

SECTION 60 CONTROL OF MATERIALS

Supplement to Paragraph 60-2 SAMPLES, TESTS, AND CITED SPECIFICATIONS. All costs in connection with any failed tests necessary to confirm compliance with specifications, shall be borne by the Contractor.

Supplement to Paragraph 60-3 CERTIFICATION OF COMPLIANCE/ANALYSIS (COC/COA). Time expended by the Engineer in excess of one hour to establish or determine the "or equal" status of a material or product substitution shall be at Contractor's expense.

60-09 RECORD DRAWINGS. At the completion of the project construction and prior to the final inspection, the Contractor shall provide complete record drawings. The record drawings shall consist of one set of the latest edition of the contract drawings on which shall be clearly and neatly marked all variations from the contract drawings in the work actually installed. At every design elevation and dimension called out in the contract drawings, and areas as designated by the Engineer, the Contractor shall insure that a record elevation or dimension shall be provided for the record plans. The Contractor shall provide a competent, licensed surveyor to validate the record drawings. If any of the Contractor surveyor's data are found to be inaccurate, all (100%) of the record data shall be verified by a second independent registered land surveyor at the Contractor's expense.

SECTION 70 LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC

Supplement to Paragraph 70-6 SANITARY, HEALTH, AND SAFETY PROVISIONS. The Contractor, his personnel, and subcontractors will not be permitted to use the sanitary facilities in the existing buildings on the airport, and all personnel at the site shall be so advised. Enclosed temporary toilets shall be provided in sufficient numbers and located where directed and approved by the Owner. Drinking water shall be provided from a safe and sanitary source. All such facilities shall be furnished in strict accordance with existing governing health regulations.

Supplement to Paragraph 70-7 PUBLIC CONVENIENCE AND SAFETY. Particular attention is directed to safety on the project during the construction set forth under this contract, in order that the Contractor's personnel as well as the general public will be adequately protected. Construction equipment will not be operated or parked in the vicinity of the active airport runway, taxiways and apron during construction. Trenches, channels, holes and the like, dug for installation of underground items, will be left open a minimum length of time.

Equipment not in use will be parked in areas designated on the drawings and at least ***500 feet*** from the active runway and at least ***65.5 feet*** from active taxiways and aprons. Working equipment closer than this to active paved areas will be permitted only with specific permission from and coordination with the Owner through the resident project representative.

No excavation will be made closer than 50 feet to active paved areas except with express permission and coordinated with the Owner through the resident project representative. All such excavation left open over night will be adequately lighted with flashing lights.

When construction requires cutting of active taxiways or runways, same shall have adequate warning barricades and flashing lights placed at key locations to insure safety of operations. The Owner will publish NOTAM stating times of construction on a runway and advise aviators that the runway is closed.

Precaution shall be exercised at all times for the protection of persons and property. The safety provisions of the Manual of Accident Prevention in Construction, published by the Association of General Contractors of America shall be followed to the extent that such provisions are not contrary to applicable law.

Supplement to Paragraphs 70-11 RESPONSIBILITY FOR DAMAGE CLAIMS and 70-21 INSURANCE REQUIREMENTS.

The Contractor shall not commence work under this contract until he has obtained the following required insurance and such insurance has been approved by the Owner, nor shall the Contractor allow any subcontractor to commence work on his subcontract until all the insurance required of the subcontractor has been obtained and approved, ***subject to local ordinance.*** Prior to the commencement of work hereunder, the Contractor shall furnish to the Owner and Engineer certification that the above insurance requirements have been met by providing a Certificate of Insurance that names as an additional insured the Owner, and all of its Officers, Agents, Employees, and City Commissioners, excluding worker's compensation and professional liability, and that provides such insurance is primary to any other insurance available to the additional insureds with respect to claims covered under the policy, and that such insurance coverage applies separately to each insured against whom claims are made or suit is brought; but the inclusion of one or more insureds shall not operate to increase the insurer's limit of liability. The policies evidencing required insurance shall contain an endorsement to the effect that cancellation or any material change in the policies adversely affecting the interests of the Owner in such insurance shall not be effective until ten (10) days after written notice thereof to the owner and the Engineer. The Contractor shall indemnify and save harmless the Engineer and the Owner and their officers, and employees from all suits actions, or claims of any character brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the "Workmen's Compensation Act," or any other law, ordinance, order, or decree. Money due the Contractor under and by virtue of his/her contract as may be considered necessary by the Owner for such purpose may be retained for the use of the Owner or, in case no money is due, his/her surety may be held until such suit(s), action(s), or claim(s) for injuries or damages as aforesaid shall have been settled and suitable evidence to that effect furnished to the Owner, except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he is adequately protected by public liability and property damage insurance. All policies required under this paragraph must be an "Occurrence" form. The policies shall contain a waiver of subrogation in favor of the City of Wauchula. All insurance coverage shall be written with an insurer having an A.M. Best Rating of a least the "A" category and size category of VIII. The Contractor's self-insured retention or deductible per line of coverage shall not exceed $25,000.00 without the permission of the Owner. ***Minimum requirements and coverage amounts are as follows, not in conflict with other Sections, and whichever is requirement is greater:***

(a) **Compensation Insurance.** The Contractor shall take out and maintain during the life of this contract, Workmen's Compensation Insurance for all his employees at the site of the project and, in case any work is sublet, the Contractor shall require the subcontractor similarly to provide Workmen's Compensation Insurance for all of the latter's employees unless such employees are covered by the protection afforded by the Contractor. In case any class of employees engaged in hazardous work under this contract at the site of the project is not protected under the Workmen's Compensation Statute, the Contractor shall provide and cause each subcontractor to provide adequate insurance for the protection of his employees not otherwise protected.

(b) **Contractor's Public Liability and Property Damage Liability Insurance.** The Contractor shall take out and maintain regular Contractor's Public Liability and Property Damage Liability Insurance that will protect him from claims for damage for personal injury, including accidental death, as well as from claims for property damage that may arise from operations under this contract, whether such operations are by himself or by any subcontractor or by anyone directly or indirectly employed by either of them. The minimum amounts of such insurance shall be the greater of that as required by Local Ordinance and as follows:

(1) **Contractors' public liability insurance including automobile liability** in an amount not less than $1,000,000 for injuries, including wrongful death to any one person and subject to the same limit for each person in an amount not less than $1,000,000 for injuries including wrongful death to more than one person in any one occurrence.

(2) **Contractors' property damage liability insurance** in an amount not less than $50,000 for damages on account of any one occurrence and in an amount not less than $100,000 for damages on account of all occurrences.

(3) **Contractors' automobile property damage liability insurance** in an amount not less than $1,000,000.

(c) **Contingent Liability.** The above policies for comprehensive liability and property damage insurance must be so written as to include contingent liability and contingent property damage insurance to protect the Contractor against claims arising from the operation of subcontractors.

(d) **Contractual Liability.** To recognize and hold harmless the requirements of this contract.

(e) **Builder's Risk.** The Contractor shall secure and maintain during the term of this contract, builder's risk insurance to include but not limited to fire, lightning, extended coverage, vandalism and malicious mischief, in the amount of the project value or greater.

(f) **Umbrella (Excess) Liability Insurance**. Umbrella Liability with limits of not less than $1,000,000.00, exclusive of defense costs, to be in excess of all other coverages. Such coverage shall be at least as broad as the primary coverages above, with any excess umbrella layers written on a strict following form basis over the primary coverage. All such policies shall be endorsed to provide defense coverage obligations.

See GP Sections 70-11 and 70-21 for additional information and requirements.

70-22 PROJECT INSPECTION BY OTHERS. The Contractor is advised that the project may be inspected by the Design Engineers, City of Wauchula, Hardee County Inspectors, Insurance/Re-Insurance company appointed inspectors, and any other Agencies having jurisdiction over this project.

SECTION 80 EXECUTION AND PROGRESS

Supplement to Paragraph 80-04 LIMITATION OF OPERATIONS. The construction work shall be accomplished in such a manner that the runway is subject to closure only during the times required for construction, and that such closures for construction receive timely publication of NOTAM as to timing and frequency of occurrences.

SECTION 90 MEASUREMENT AND PAYMENT

Supplement to Paragraph 90-09 ACCEPTANCE AND FINAL PAYMENT. Before the final payment is made, the Contractor shall show to the Owner satisfactory evidence that all just liens, claims, and demands of his employees and of other parties from whom materials used in the construction of the work have been purchased or procured, are fully satisfied. The Contractor shall execute and furnish a release of lien of the form included with the contract documents.

Before acceptance and final payment is made, the Contractor shall furnish to the Owner a guarantee to remain in full force and effect for a period of one (1) year from the date of the acceptance of the project by the Owner. This guarantee shall provide that the Contractor shall repair or replace for said period of one year, all work performed and materials and equipment furnished that were not performed or furnished according to the terms of the contract, and made good all defects thereof that have become apparent before the expiration of one year. Such guarantees shall be covered by the surety bond. If any part of the project, in the opinion of the Owner for the reasons stated above, needs to be replaced, repaired or made good during that time, he shall so notify the Contractor in writing. If the Contractor refuses or neglects to do such work within five (5) days from the date of service of such notice, the Owner shall have the work done by others and the cost thereof shall be paid by the Contractor or his surety. Before the surety bond is released, the Owner shall certify in writing that the foregoing obligations have been fully discharged.

When the contract work has been accepted in accordance with the requirements of the subsection titled FINAL ACCEPTANCE of Section 50, the Engineer will prepare the final estimate of the items of work actually performed. The Contractor shall approve the Engineer's final estimate or advise the Engineer of his/her objections to the final quantities to be paid under the contract as amended by change order or supplemental agreement. The Contractor and the Engineer shall resolve all disputes (if any) in the measurement and computation of final quantities to be paid within 30 calendar days of the Contractor's receipt of the Engineer's final estimate. If, after such 30-day period, a dispute still exists, the Contractor may approve the Engineer's estimate under protest of the quantities in dispute, and such disputed quantities shall be considered by the owner as a claim in accordance with the subsection titled CLAIMS FOR ADJUSTMENT AND DISPUTES of Section 50.

After the Contractor has approved, or approved under protest, the Engineer's final estimate, final payment will be processed based on the entire sum, or the undisputed sum in case of approval under protest, determined to be due the Contractor less all previous payments and all amounts to be deducted under the provisions of the contract. All prior partial payments shall be subject to correction in the final estimate and payment.

If the Contractor has filed a claim for additional compensation under the provisions of paragraph 50-16, CLAIMS FOR ADJUSTMENTS AND DISPUTES of Section 50, or under the provisions of this subsection, such claims will be considered by the owner in accordance with local laws or ordinances. Upon final adjudication of such claims, any additional payment determined to be due the Contractor will be paid pursuant to a supplemental final estimate.

END OF SECTION 1A

SECTION 10 DEFINITION OF TERMS

When the following terms are used in these specifications, in the contract, or in any documents or other instruments pertaining to construction where these specifications govern, the intent and meaning shall be defined as follows:

Paragraph Number	Term	Definition
10-01	**AASHTO**	The American Association of State Highway and Transportation Officials.
10-02	**Access Road**	The right-of-way, the roadway and all improvements constructed thereon connecting the airport to a public roadway.
10-03	**Advertisement**	A public announcement, as required by local law, inviting bids for work to be performed and materials to be furnished.
10-04	**Airport**	Airport means an area of land or water which is used or intended to be used for the landing and takeoff of aircraft; an appurtenant area used or intended to be used for airport buildings or other airport facilities or rights of way; airport buildings and facilities located in any of these areas, and a heliport.
10-05	**Airport Improvement Program (AIP)**	A grant-in-aid program, administered by the Federal Aviation Administration (FAA).
10-06	**Air Operations Area (AOA)**	The term air operations area (AOA) shall mean any area of the airport used or intended to be used for the landing, takeoff, or surface maneuvering of aircraft. An air operation area shall include such paved or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiway, or apron.
10-07	**Apron**	Area where aircraft are parked, unloaded or loaded, fueled and/or serviced.
10-08	**ASTM International (ASTM)**	Formerly known as the American Society for Testing and Materials (ASTM).
10-09	**Award**	The Owner's notice to the successful bidder of the acceptance of the submitted bid.
10-10	**Bidder**	Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.
10-11	**Building Area**	An area on the airport to be used, considered, or intended to be used for airport buildings or other airport facilities or rights-of-way together with all airport buildings and facilities located thereon.
10-12	**Calendar Day**	Every day shown on the calendar.
10-13	**Certificate of Analysis (COA)**	The COA is the manufacturer's Certificate of Compliance (COC) including all applicable test results required by the specifications.

Paragraph Number	Term	Definition
10-14	**Certificate of Compliance (COC)**	The manufacturer's certification stating that materials or assemblies furnished fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer's authorized representative.
10-15	**Change Order**	A written order to the Contractor covering changes in the plans, specifications, or proposal quantities and establishing the basis of payment and contract time adjustment, if any, for work within the scope of the contract and necessary to complete the project.
10-16	**Contract**	A written agreement between the Owner and the Contractor that establishes the obligations of the parties including but not limited to performance of work, furnishing of labor, equipment and materials and the basis of payment. The awarded contract includes but may not be limited to: Advertisement, Contract form, Proposal, Performance bond, payment bond, General provisions, certifications and representations, Technical Specifications, Plans, Supplemental Provisions, standards incorporated by reference and issued addenda.
10-17	**Contract Documents**	The complete documentation setting forth the contractual obligations set forth for the construction of the project, including but not limited to, the entire project manual (front ends, general and special provisions, technical specifications, and any referenced standards therein), as well as the construction plans and drawings. Contract Documents also refers to the contract agreement pages and other supporting advertisement, bidding requirements, and bidding procedures documents, also known as the "Front Ends".
10-18	**Contract Item (Pay Item)**	A specific unit of work for which a price is provided in the contract.
10-19	**Contract Time**	The number of calendar days or working days, stated in the proposal, allowed for completion of the contract, including authorized time extensions. If a calendar date of completion is stated in the proposal, in lieu of a number of calendar or working days, the contract shall be completed by that date.
10-20	**Contractor**	The individual, partnership, firm, or corporation primarily liable for the acceptable performance of the work contracted and for the payment of all legal debts pertaining to the work who acts directly or through lawful agents or employees to complete the contract work.

Paragraph Number	Term	Definition
10-21	**Contractors Quality Control (QC) Facilities**	The Contractor's QC facilities in accordance with the Contractor Quality Control Program (CQCP).
10-22	**Contractor Quality Control Program (CQCP)**	Details the methods and procedures that will be taken to assure that all materials and completed construction required by the contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors.
10-23	**Control Strip**	A demonstration by the Contractor that the materials, equipment, and construction processes results in a product meeting the requirements of the specification.
10-24	**Construction Safety and Phasing Plan (CSPP)**	The overall plan for safety and phasing of a construction project developed by the airport operator, or developed by the airport operator's consultant and approved by the airport operator. It is included in the invitation for bids and becomes part of the project specifications.
10-25	**Drainage System**	The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.
10-26	**Engineer**	The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for engineering, inspection, and/or observation of the contract work and acting directly or through an authorized representative.
10-27	**Equipment**	All machinery, together with the necessary supplies for upkeep and maintenance; and all tools and apparatus necessary for the proper construction and acceptable completion of the work.
10-28	**Extra Work**	An item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which is found by the Owner's Engineer or Resident Project Representative (RPR) to be necessary to complete the work within the intended scope of the contract as previously modified.
10-29	**FAA**	The Federal Aviation Administration. When used to designate a person, FAA shall mean the Administrator or their duly authorized representative.
10-30	**Federal Specifications**	The federal specifications and standards, commercial item descriptions, and supplements, amendments, and indices prepared and issued by the General Services Administration.

Paragraph Number	Term	Definition
10-31	**Force Account**	**a.** Contract Force Account - A method of payment that addresses extra work performed by the Contractor on a time and material basis. **b.** Owner Force Account - Work performed for the project by the Owner's employees.
10-32	**Intention of Terms**	Whenever, in these specifications or on the plans, the words “directed,” “required,” “permitted,” “ordered,” “designated,” “prescribed,” or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Engineer and/or Resident Project Representative (RPR) is intended; and similarly, the words “approved,” “acceptable,” “satisfactory,” or words of like import, shall mean approved by, or acceptable to, or satisfactory to the Engineer and/or RPR, subject in each case to the final determination of the Owner. Any reference to a specific requirement of a numbered paragraph of the contract specifications or a cited standard shall be interpreted to include all general requirements of the entire section, specification item, or cited standard that may be pertinent to such specific reference.
10-33	**Lighting**	A system of fixtures providing or controlling the light sources used on or near the airport or within the airport buildings. The field lighting includes all luminous signals, markers, floodlights, and illuminating devices used on or near the airport or to aid in the operation of aircraft landing at, taking off from, or taxiing on the airport surface.
10-34	**Major and Minor Contract Items**	A major contract item shall be any item that is listed in the proposal, the total cost of which is equal to or greater than 20% of the total amount of the award contract. All other items shall be considered minor contract items.
10-35	**Materials**	Any substance specified for use in the construction of the contract work.
10-36	**Modification of Standards (MOS)**	Any deviation from standard specifications applicable to material and construction methods in accordance with FAA Order 5300.1.
10-37	**Notice to Proceed (NTP)**	A written notice to the Contractor to begin the actual contract work on a previously agreed to date. If applicable, the Notice to Proceed shall state the date on which the contract time begins.

Paragraph Number	Term	Definition
10-38	**Owner**	The term “Owner” shall mean the party of the first part or the contracting agency signatory to the contract. Where the term “Owner” is capitalized in this document, it shall mean airport Sponsor only. The Owner for this project is ***The City of Wauchula Municipal Airport***.
10-39	**Passenger Facility Charge (PFC)**	Per 14 Code of Federal Regulations (CFR) Part 158 and 49 United States Code (USC) § 40117, a PFC is a charge imposed by a public agency on passengers enplaned at a commercial service airport it controls.
10-40	**Pavement Structure**	The combined surface course, base course(s), and subbase course(s), if any, considered as a single unit.
10-41	**Payment bond**	The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will pay in full all bills and accounts for materials and labor used in the construction of the work.
10-42	**Performance bond**	The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will complete the work in accordance with the terms of the contract.
10-43	**Plans**	The official drawings or exact reproductions which show the location, character, dimensions and details of the airport and the work to be done and which are to be considered as a part of the contract, supplementary to the specifications. Plans may also be referred to as 'contract drawings.’
10-44	**Project**	The agreed scope of work for accomplishing specific airport development with respect to a particular airport.
10-45	**Proposal**	The written offer of the bidder (when submitted on the approved proposal form) to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the plans and specifications.
10-46	**Proposal guaranty**	The security furnished with a proposal to guarantee that the bidder will enter into a contract if their own proposal is accepted by the Owner.
10-47	**Quality Assurance (QA)**	Owner’s responsibility to assure that construction work completed complies with specifications for payment.
10-48	**Quality Control (QC)**	Contractor’s responsibility to control material(s) and construction processes to complete construction in accordance with project specifications.

Paragraph Number	Term	Definition
10-49	**Quality Assurance (QA) Inspector**	An authorized representative of the Engineer and/or Resident Project Representative (RPR) assigned to make all necessary inspections, observations, tests, and/or observation of tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.
10-50	**Quality Assurance (QA) Laboratory**	The official quality assurance testing laboratories of the Owner or such other laboratories as may be designated by the Engineer or RPR. May also be referred to as Engineer's, Owner's, or QA Laboratory.
10-51	**Resident Project Representative (RPR)**	The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for all necessary inspections, observations, tests, and/or observations of tests of the contract work performed or being performed, or of the materials furnished or being furnished by the Contractor, and acting directly or through an authorized representative.
10-52	**Runway**	The area on the airport prepared for the landing and takeoff of aircraft.
10-53	**Runway Safety Area (RSA)**	A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to aircraft. See the construction safety and phasing plan (CSPP) for limits of the RSA.
10-54	**Safety Plan Compliance Document (SPCD)**	Details how the Contractor will comply with the CSPP.
10-55	**Specifications**	A part of the contract containing the written directions and requirements for completing the contract work. Standards for specifying materials or testing which are cited in the contract specifications by reference shall have the same force and effect as if included in the contract physically.
10-56	**Sponsor**	A Sponsor is defined in 49 USC § 47102(24) as a public agency that submits to the FAA for an AIP grant; or a private Owner of a public-use airport that submits to the FAA an application for an AIP grant for the airport.
10-57	**Structures**	Airport facilities such as bridges; culverts; catch basins, inlets, retaining walls, cribbing; storm and sanitary sewer lines; water lines; underdrains; electrical ducts, manholes, handholes, lighting fixtures and bases; transformers; navigational aids; buildings; vaults; and, other manmade features of the airport that may be encountered in the work and not otherwise classified herein.
10-58	**Subgrade**	The soil that forms the pavement foundation.

Paragraph Number	Term	Definition
10-59	**Superintendent**	The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the RPR, and who shall supervise and direct the construction.
10-60	**Supplemental Agreement**	A written agreement between the Contractor and the Owner that establishes the basis of payment and contract time adjustment, if any, for the work affected by the supplemental agreement. A supplemental agreement is required if: (1) in scope work would increase or decrease the total amount of the awarded contract by more than 25%: (2) in scope work would increase or decrease the total of any major contract item by more than 25%; (3) work that is not within the scope of the originally awarded contract; or (4) adding or deleting of a major contract item.
10-61	**Surety**	The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds that are furnished to the Owner by the Contractor.
10-62	**Taxilane**	A taxiway designed for low speed movement of aircraft between aircraft parking areas and terminal areas.
10-63	**Taxiway**	The portion of the air operations area of an airport that has been designated by competent airport authority for movement of aircraft to and from the airport's runways, aircraft parking areas, and terminal areas.
10-64	**Taxiway/Taxilane Safety Area (TSA)**	A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an aircraft. See the construction safety and phasing plan (CSPP) for limits of the TSA.
10-65	**Work**	The furnishing of all labor, materials, tools, equipment, and incidentals necessary or convenient to the Contractor's performance of all duties and obligations imposed by the contract, plans, and specifications.
10-66	**Working day**	A working day shall be any day other than a legal holiday, Saturday, or Sunday on which the normal working forces of the Contractor may proceed with regular work for at least six (6) hours toward completion of the contract. When work is suspended for causes beyond the Contractor's control, it will not be counted as a working day. Saturdays, Sundays and holidays on which the Contractor's forces engage in regular work will be considered as working days.

10-67	**Owner Defined terms**	***None***

END OF SECTION 10

SECTION 20 PROPOSAL REQUIREMENTS AND CONDITIONS

20-01 ADVERTISEMENT (NOTICE TO BIDDERS).

The Owner, or his/her authorized agent, shall publish the advertisement at such places and at such times as are required by local law or ordinances. The published advertisement shall state the time and place for submitting sealed proposals; a description of the proposed work; instructions to bidders as to obtaining proposal forms, plans, and specifications; proposal guaranty required; and the Owner's right to reject any and all bids. ***See the Invitation to Bid.***

20-02 QUALIFICATION OF BIDDERS. Each bidder shall submit evidence of competency and evidence of financial responsibility to perform the work to the Owner at the time of bid opening.

Evidence of competency, unless otherwise specified, shall consist of statements covering the bidder's past experience on similar work, and a list of equipment and a list of key personnel that would be available for the work.

Each bidder shall furnish the Owner satisfactory evidence of their financial responsibility. Evidence of financial responsibility, unless otherwise specified, shall consist of a confidential statement or report of the bidder's financial resources and liabilities as of the last calendar year or the bidder's last fiscal year. Such statements or reports shall be certified by a public accountant. At the time of submitting such financial statements or reports, the bidder shall further certify whether their financial responsibility is approximately the same as stated or reported by the public accountant. If the bidder's financial responsibility has changed, the bidder shall qualify the public accountant's statement or report to reflect the bidder's true financial condition at the time such qualified statement or report is submitted to the Owner.

~~Unless otherwise specified, a bidder may submit evidence that they are prequalified with the State Highway Division and are on the current "bidder's list" of the state in which the proposed work is located. Evidence of State Highway Division prequalification may be submitted as evidence of financial responsibility in lieu of the certified statements or reports specified above.~~

Each bidder shall submit "evidence of competency" and "evidence of financial responsibility" to the Owner at the time of bid opening. Each bidder shall submit the information in Section SBQ of the Bid Proposal Forms.

20-03 CONTENTS OF PROPOSAL FORMS. The Owner's proposal forms state the location and description of the proposed construction; the place, date, and time of opening of the proposals; and the estimated quantities of the various items of work to be performed and materials to be furnished for which unit bid prices are asked. The proposal form states the time in which the work must be completed, and the amount of the proposal guaranty that must accompany the proposal. The Owner will accept only those Proposals properly executed on physical forms or electronic forms provided by the Owner. Bidder actions that may cause the Owner to deem a proposal irregular are given in paragraph 20-09 *Irregular proposals*.

Mobilization is limited to 10 percent of the total project cost.

20-04 ISSUANCE OF PROPOSAL FORMS. The Owner reserves the right to refuse to issue a proposal form to a prospective bidder if the bidder is in default for any of the following reasons:

a. Failure to comply with any prequalification regulations of the Owner, if such regulations are cited, or otherwise included, in the proposal as a requirement for bidding.

b. Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts in force with the Owner at the time the Owner issues the proposal to a prospective bidder.

c. Documented record of Contractor default under previous contracts with the Owner.

d. Documented record of unsatisfactory work on previous contracts with the Owner.

20-05 INTERPRETATION OF ESTIMATED PROPOSAL QUANTITIES. An estimate of quantities of work to be done and materials to be furnished under these specifications is given in the proposal. It is the result of careful calculations and is believed to be correct. It is given only as a basis for comparison of proposals and the award of the contract. The Owner does not expressly, or by implication, agree that the actual quantities involved will correspond exactly therewith; nor shall the bidder plead misunderstanding or deception because of such estimates of quantities, or of the character, location, or other conditions pertaining to the work. Payment to the Contractor will be made only for the actual quantities of work performed or materials furnished in accordance with the plans and specifications. It is understood that the quantities may be increased or decreased as provided in the Section 40, paragraph 40-02, Alteration of Work and Quantities, without in any way invalidating the unit bid prices.

20-06 EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE. The bidder is expected to carefully examine the site of the proposed work, the proposal, plans, specifications, and contract forms. Bidders shall satisfy themselves to the character, quality, and quantities of work to be performed, materials to be furnished, and to the requirements of the proposed contract. The submission of a proposal shall be prima facie evidence that the bidder has made such examination and is satisfied to the conditions to be encountered in performing the work and the requirements of the proposed contract, plans, and specifications.

20-07 PREPARATION OF PROPOSAL. The bidder shall submit their proposal on the forms furnished by the Owner. All blank spaces in the proposal forms, unless explicitly stated otherwise, must be correctly filled in where indicated for each and every item for which a quantity is given. The bidder shall state the price (written in ink or typed) both in words and numerals which they propose for each pay item furnished in the proposal. In case of conflict between words and numerals, the words, unless obviously incorrect, shall govern.

Prices should be written in whole dollars and cents. The extended total amount of each item should not be rounded.

The bidder shall correctly sign the proposal in ink. If the proposal is made by an individual, their name and post office address must be shown. If made by a partnership, the name and post office address of each member of the partnership must be shown. If made by a corporation, the person signing the proposal shall give the name of the state where the corporation was chartered and the name, titles, and business address of the president, secretary, and the treasurer. Anyone signing a proposal as an agent shall file evidence of their authority to do so and that the signature is binding upon the firm or corporation.

20-08 RESPONSIVE AND RESPONSIBLE BIDDER. A responsive bid conforms to all significant terms and conditions contained in the Owner's invitation for bid. It is the Owner's responsibility to decide if the exceptions taken by a bidder to the solicitation are material or not and the extent of deviation it is willing to accept.

A responsible bidder has the ability to perform successfully under the terms and conditions of a proposed procurement, as defined in 2 CFR § 200.318(h). This includes such matters as Contractor integrity, compliance with public policy, record of past performance, and financial and technical resources.

20-09 IRREGULAR PROPOSALS. Proposals shall be considered irregular for the following reasons:

a. If the proposal is on a form other than that furnished by the Owner, or if the Owner's form is altered, or if any part of the proposal form is detached.

b. If there are unauthorized additions, conditional or alternate pay items, or irregularities of any kind that make the proposal incomplete, indefinite, or otherwise ambiguous.

c. If the proposal does not contain a unit price for each pay item listed in the proposal, except in the case of authorized alternate pay items, for which the bidder is not required to furnish a unit price.

d. If the proposal contains unit prices that are obviously unbalanced.

e. If the proposal is not accompanied by the proposal guaranty specified by the Owner.

~~**f.** If the applicable Disadvantaged Business Enterprise information is incomplete.~~

The Owner reserves the right to reject any irregular proposal and the right to waive technicalities if such waiver is in the best interest of the Owner and conforms to local laws and ordinances pertaining to the letting of construction contracts.

20-10 BID GUARANTEE. Each separate proposal shall be accompanied by a bid bond, certified check, or other specified acceptable collateral, in the amount specified in the proposal form. Such bond, check, or collateral, shall be made payable to the Owner.

20-11 DELIVERY OF PROPOSAL. Each proposal submitted shall be placed in a sealed envelope plainly marked with the project number, location of airport, and name and business address of the bidder on the outside. When sent by mail, preferably registered, the sealed proposal, marked as indicated above, should be enclosed in an additional envelope. No proposal will be considered unless received at the place specified in the advertisement or as modified by Addendum before the time specified for opening all bids. Proposals received after the bid opening time shall be returned to the bidder unopened.

20-12 WITHDRAWAL OR REVISION OF PROPOSALS. A bidder may withdraw or revise (by withdrawal of one proposal and submission of another) a proposal provided that the bidder's request for withdrawal is received by the Owner in writing ***by fax or by email*** before the time specified for opening bids. Revised proposals must be received at the place specified in the advertisement before the time specified for opening all bids.

20-13 PUBLIC OPENING OF PROPOSALS. Proposals shall be opened, and read, publicly at the time and place specified in the advertisement. Bidders, their authorized agents, and other interested persons are invited to attend. Proposals that have been withdrawn (by written or telegraphic request) or received after the time specified for opening bids shall be returned to the bidder unopened.

20-14 DISQUALIFICATION OF BIDDERS. A bidder shall be considered disqualified for any of the following reasons:

a. Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name.

b. Evidence of collusion among bidders. Bidders participating in such collusion shall be disqualified as bidders for any future work of the Owner until any such participating bidder has been reinstated by the Owner as a qualified bidder.

c. If the bidder is considered to be in "default" for any reason specified in paragraph 20-04, *Issuance of Proposal Forms,* of this section.

20-15 Discrepancies and Omissions. A Bidder who discovers discrepancies or omissions with the project bid documents shall immediately notify the Owner's Engineer of the matter. A bidder that has doubt as to the true meaning of a project requirement may submit to the Owner's Engineer a written request for interpretation no later than ***seven 7 calendar*** days prior to bid opening.

Any interpretation of the project bid documents by the Owner's Engineer will be by written addendum issued by the Owner. The Owner will not consider any instructions, clarifications or interpretations of the bidding documents in any manner other than written addendum.

END OF SECTION 20

SECTION 30 AWARD AND EXECUTION OF CONTRACT

30-01 CONSIDERATION OF PROPOSALS. After the proposals are publicly opened and read, they will be compared on the basis of the summation of the products obtained by multiplying the estimated quantities shown in the proposal by the unit bid prices. If a bidder's proposal contains a discrepancy between unit bid prices written in words and unit bid prices written in numbers, the unit bid price written in words shall govern.

Until the award of a contract is made, the Owner reserves the right to reject a bidder's proposal for any of the following reasons:

a. If the proposal is irregular as specified in Section 20, paragraph 20-09, *Irregular Proposals*.

b. If the bidder is disqualified for any of the reasons specified Section 20, paragraph 20-14, *Disqualification of Bidders*.

In addition, until the award of a contract is made, the Owner reserves the right to reject any or all proposals, waive technicalities, if such waiver is in the best interest of the Owner and is in conformance with applicable state and local laws or regulations pertaining to the letting of construction contracts; advertise for new proposals; or proceed with the work otherwise. All such actions shall promote the Owner's best interests.

30-02 AWARD OF CONTRACT. The award of a contract, if it is to be awarded, shall be made within **180** calendar days of the date specified for publicly opening proposals, unless otherwise specified herein.

If the Owner elects to proceed with an award of contract, the Owner will make award to the responsible bidder whose bid, conforming with all the material terms and conditions of the bid documents, is the lowest in price.

30-03 CANCELLATION OF AWARD. The Owner reserves the right to cancel the award without liability to the bidder, except return of proposal guaranty, at any time before a contract has been fully executed by all parties and is approved by the Owner in accordance with paragraph 30-07 *Approval of Contract*.

30-04 RETURN OF PROPOSAL GUARANTY. All proposal guaranties, except those of the two lowest bidders, will be returned immediately after the Owner has made a comparison of bids as specified in the paragraph 30-01, *Consideration of Proposals.* Proposal guaranties of the two lowest bidders will be retained by the Owner until such time as an award is made, at which time, the unsuccessful bidder's proposal guaranty will be returned. The successful bidder's proposal guaranty will be returned as soon as the Owner receives the contract bonds as specified in paragraph 30-05, *Requirements of Contract Bonds.*

30-05 REQUIREMENTS OF CONTRACT BONDS. At the time of the execution of the contract, the successful bidder shall furnish the Owner a surety bond or bonds that have been fully executed by the bidder and the surety guaranteeing the performance of the work and the payment of all legal debts that may be incurred by reason of the Contractor's performance of the work. The surety and the form of the bond or bonds shall be acceptable to the Owner. Unless otherwise specified in this subsection, the surety bond or bonds shall be in a sum equal to the full amount of the contract.

Separate performance and payment bonds are required for the contract.

30-06 EXECUTION OF CONTRACT. The successful bidder shall sign (execute) the necessary agreements for entering into the contract and return the signed contract to the Owner, along with the fully executed surety bond or bonds specified in paragraph 30-05, *Requirements of Contract Bonds,* of this section, within ***15*** calendar days from the date mailed or otherwise delivered to the successful bidder.

30-07 APPROVAL OF CONTRACT. Upon receipt of the contract and contract bond or bonds that have been executed by the successful bidder, the Owner shall complete the execution of the contract in accordance with local laws or ordinances, and return the fully executed contract to the Contractor. Delivery of the fully executed contract to the Contractor shall constitute the Owner's approval to be bound by the successful bidder's proposal and the terms of the contract.

30-08 FAILURE TO EXECUTE CONTRACT. Failure of the successful bidder to execute the contract and furnish an acceptable surety bond or bonds within the period specified in paragraph 30-06, *Execution of Contract,* of this section shall be just cause for cancellation of the award and forfeiture of the proposal guaranty, not as a penalty, but as liquidated damages to the Owner.

END OF SECTION 30

SECTION 40 SCOPE OF WORK

40-01 INTENT OF CONTRACT. The intent of the contract is to provide for construction and completion, in every detail, of the work described. It is further intended that the Contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the work in accordance with the plans, specifications, and terms of the contract.

40-02 ALTERATION OF WORK AND QUANTITIES. The Owner reserves the right to make such changes in quantities and work as may be necessary or desirable to complete, in a satisfactory manner, the original intended work. Unless otherwise specified in the Contract, the Owner's Engineer or RPR shall be and is hereby authorized to make, in writing, such in-scope alterations in the work and variation of quantities as may be necessary to complete the work, provided such action does not represent a significant change in the character of the work.

For purpose of this section, a significant change in character of work means: any change that is outside the current contract scope of work; any change (increase or decrease) in the total contract cost by more than 25%; or any change in the total cost of a major contract item by more than 25%.

Work alterations and quantity variances that do not meet the definition of significant change in character of work shall not invalidate the contract nor release the surety. Contractor agrees to accept payment for such work alterations and quantity variances in accordance with Section 90, paragraph 90-03, *Compensation for Altered Quantities*.

Should the value of altered work or quantity variance meet the criteria for significant change in character of work, such altered work and quantity variance shall be covered by a supplemental agreement. Supplemental agreements shall also require consent of the Contractor's surety and separate performance and payment bonds. If the Owner and the Contractor are unable to agree on a unit adjustment for any contract item that requires a supplemental agreement, the Owner reserves the right to terminate the contract with respect to the item and make other arrangements for its completion.

40-03 OMITTED ITEMS. The Owner, the Owner's Engineer or the RPR may provide written notice to the Contractor to omit from the work any contract item that does not meet the definition of major contract item. Major contract items may be omitted by a supplemental agreement. Such omission of contract items shall not invalidate any other contract provision or requirement.

Should a contract item be omitted or otherwise ordered to be non-performed, the Contractor shall be paid for all work performed toward completion of such item prior to the date of the order to omit such item. Payment for work performed shall be in accordance with Section 90, paragraph 90-04, *Payment for Omitted Items*.

40-04 EXTRA WORK. Should acceptable completion of the contract require the Contractor to perform an item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, Owner may issue a Change Order to cover the necessary extra work. Change orders for extra work shall contain agreed unit prices for performing the change order work in accordance with the requirements specified in the order, and shall contain any adjustment to the contract time that, in the RPR's opinion, is necessary for completion of the extra work.

When determined by the RPR to be in the Owner's best interest, the RPR may order the Contractor to proceed with extra work as provided in Section 90, paragraph 90-05, *Payment for Extra Work*. Extra work that is necessary for acceptable completion of the project, but is not within the general scope of the work covered by the original contract shall be covered by a supplemental agreement as defined in Section 10, paragraph 10-59, *Supplemental Agreement*.

If extra work is essential to maintaining the project critical path, RPR may order the Contractor to commence the extra work under a Time and Material contract method. Once sufficient detail is available to establish the level of effort necessary for the extra work, the Owner shall initiate a change order or supplemental agreement to cover the extra work.

Any claim for payment of extra work that is not covered by written agreement (change order or supplemental agreement) shall be rejected by the Owner.

40-05 MAINTENANCE OF TRAFFIC. It is the explicit intention of the contract that the safety of aircraft, as well as the Contractor's equipment and personnel, is the most important consideration. The Contractor shall maintain traffic in the manner detailed in the Construction Safety and Phasing Plan (CSPP).

a. It is understood and agreed that the Contractor shall provide for the free and unobstructed movement of aircraft in the air operations areas (AOAs) of the airport with respect to their own operations and the operations of all subcontractors as specified in Section 80, paragraph 80-04, *Limitation of Operations*. It is further understood and agreed that the Contractor shall provide for the uninterrupted operation of visual and electronic signals (including power supplies thereto) used in the guidance of aircraft while operating to, from, and upon the airport as specified in Section 70, paragraph 70-15, *Contractor's Responsibility for Utility Service and Facilities of Others*.

b. With respect to their own operations and the operations of all subcontractors, the Contractor shall provide marking, lighting, and other acceptable means of identifying personnel, equipment, vehicles, storage areas, and any work area or condition that may be hazardous to the operation of aircraft, fire-rescue equipment, or maintenance vehicles at the airport in accordance with the construction safety and phasing plan (CSPP) and the safety plan compliance document (SPCD).

c. When the contract requires the maintenance of an existing road, street, or highway during the Contractor's performance of work that is otherwise provided for in the contract, plans, and specifications, the Contractor shall keep the road, street, or highway open to all traffic and shall provide maintenance as may be required to accommodate traffic. The Contractor, at their expense, shall be responsible for the repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel. The Contractor shall furnish, erect, and maintain barricades, warning signs, flag person, and other traffic control devices in reasonable conformity with the Manual on Uniform Traffic Control Devices (MUTCD) (http://mutcd.fhwa.dot.gov/), unless otherwise specified. The Contractor shall also construct and maintain in a safe condition any temporary connections necessary for ingress to and egress from abutting property or intersecting roads, streets or highways.

40-06 REMOVAL OF EXISTING STRUCTURES. All existing structures encountered within the established lines, grades, or grading sections shall be removed by the Contractor, unless such existing structures are otherwise specified to be relocated, adjusted up or down, salvaged, abandoned in place, reused in the work or to remain in place. The cost of removing such existing

structures shall not be measured or paid for directly, but shall be included in the various contract items.

Should the Contractor encounter an existing structure (above or below ground) in the work for which the disposition is not indicated on the plans, the Resident Project Representative (RPR) shall be notified prior to disturbing such structure. The disposition of existing structures so encountered shall be immediately determined by the RPR in accordance with the provisions of the contract.

Except as provided in Section 40, paragraph 40-07, *Rights in and Use of Materials Found in the Work*, it is intended that all existing materials or structures that may be encountered (within the lines, grades, or grading sections established for completion of the work) shall be used in the work as otherwise provided for in the contract and shall remain the property of the Owner when so used in the work.

40-07 RIGHTS IN AND USE OF MATERIALS FOUND IN THE WORK. Should the Contractor encounter any material such as (but not restricted to) sand, stone, gravel, slag, or concrete slabs within the established lines, grades, or grading sections, the use of which is intended by the terms of the contract to be embankment, the Contractor may at their own option either:

a. Use such material in another contract item, providing such use is approved by the RPR and is in conformance with the contract specifications applicable to such use; or,

b. Remove such material from the site, upon written approval of the RPR; or

c. Use such material for the Contractor's own temporary construction on site; or,

d. Use such material as intended by the terms of the contract.

Should the Contractor wish to exercise option a., b., or c., the Contractor shall request the RPR's approval in advance of such use.

Should the RPR approve the Contractor's request to exercise option a., b., or c., the Contractor shall be paid for the excavation or removal of such material at the applicable contract price. The Contractor shall replace, at their expense, such removed or excavated material with an agreed equal volume of material that is acceptable for use in constructing embankment, backfills, or otherwise to the extent that such replacement material is needed to complete the contract work. The Contractor shall not be charged for use of such material used in the work or removed from the site.

Should the RPR approve the Contractor's exercise of option a., the Contractor shall be paid, at the applicable contract price, for furnishing and installing such material in accordance with requirements of the contract item in which the material is used.

It is understood and agreed that the Contractor shall make no claim for delays by reason of their own exercise of option a., b., or c.

The Contractor shall not excavate, remove, or otherwise disturb any material, structure, or part of a structure which is located outside the lines, grades, or grading sections established for the work, except where such excavation or removal is provided for in the contract, plans, or specifications.

40-08 FINAL CLEANUP. Upon completion of the work and before acceptance and final payment will be made, the Contractor shall remove from the site all machinery, equipment, surplus and discarded materials, rubbish, temporary structures, and stumps or portions of trees. The Contractor shall cut all brush and woods within the limits indicated and shall leave the site in a neat and presentable condition. Material cleared from the site and deposited on adjacent property will not be considered as having been disposed of satisfactorily, unless the Contractor has obtained the written permission of the property Owner.

END OF SECTION 40

SECTION 50 CONTROL OF WORK

50-01 AUTHORITY OF THE RESIDENT PROJECT REPRESENTATIVE (RPR). The RPR has final authority regarding the interpretation of project specification requirements. The RPR shall determine acceptability of the quality of materials furnished, method of performance of work performed, and the manner and rate of performance of the work. The RPR does not have the authority to accept work that does not conform to specification requirements.

50-02 CONFORMITY WITH PLANS AND SPECIFICATIONS. All work and all materials furnished shall be in reasonably close conformity with the lines, grades, grading sections, cross-sections, dimensions, material requirements, and testing requirements that are specified (including specified tolerances) in the contract, plans, or specifications.

If the RPR finds the materials furnished, work performed, or the finished product not within reasonably close conformity with the plans and specifications, but that the portion of the work affected will, in their opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the Owner, the RPR will advise the Owner of their determination that the affected work be accepted and remain in place. The RPR will document the determination and recommend to the Owner a basis of acceptance that will provide for an adjustment in the contract price for the affected portion of the work. Changes in the contract price must be covered by contract change order or supplemental agreement as applicable.

If the RPR finds the materials furnished, work performed, or the finished product are not in reasonably close conformity with the plans and specifications and have resulted in an unacceptable finished product, the affected work or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor in accordance with the RPR's written orders.

The term "reasonably close conformity" shall not be construed as waiving the Contractor's responsibility to complete the work in accordance with the contract, plans, and specifications. The term shall not be construed as waiving the RPR's responsibility to insist on strict compliance with the requirements of the contract, plans, and specifications during the Contractor's execution of the work, when, in the RPR's opinion, such compliance is essential to provide an acceptable finished portion of the work.

The term "reasonably close conformity" is also intended to provide the RPR with the authority, after consultation with the Sponsor, to use sound engineering judgment in their determinations to accept work that is not in strict conformity, but will provide a finished product equal to or better than that required by the requirements of the contract, plans and specifications.

The RPR will not be responsible for the Contractor's means, methods, techniques, sequences, or procedures of construction or the safety precautions incident thereto.

50-03 COORDINATION OF CONTRACT, PLANS, AND SPECIFICATIONS. The contract, plans, specifications, and all referenced standards cited are essential parts of the contract requirements. If electronic files are provided and used on the project and there is a conflict between the electronic files and hard copy plans, the hard copy plans shall govern. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, calculated dimensions will govern over scaled dimensions; contract technical specifications shall govern over contract

general provisions, plans, cited standards for materials or testing, and cited advisory circulars (ACs); contract general provisions shall govern over plans, cited standards for materials or testing, and cited ACs; plans shall govern over cited standards for materials or testing and cited ACs. If any paragraphs contained in the Special Provisions conflict with General Provisions or Technical Specifications, the Special Provisions shall govern.

From time to time, discrepancies within cited testing standards occur due to the timing of the change, edits, and/or replacement of the standards. If the Contractor discovers any apparent discrepancy within standard test methods, the Contractor shall immediately ask the RPR for an interpretation and decision, and such decision shall be final.

The Contractor shall not take advantage of any apparent error or omission on the plans or specifications. In the event the Contractor discovers any apparent error or discrepancy, Contractor shall immediately notify the Owner or the designated representative in writing requesting their written interpretation and decision.

50-04 LIST OF SPECIAL PROVISIONS.

Special Provisions are listed in General Provision Section 130, and furthermore in the Technical Specifications as "SP-" specifications.

50-05 COOPERATION OF CONTRACTOR. The Contractor shall be supplied with ***one*** hard copies or an electronic PDF of the plans and specifications. The Contractor shall have available on the construction site at all times one hardcopy each of the plans and specifications. Additional hard copies of plans and specifications may be obtained by the Contractor for the cost of reproduction.

The Contractor shall give constant attention to the work to facilitate the progress thereof, and shall cooperate with the RPR and their inspectors and with other Contractors in every way possible. The Contractor shall have a competent superintendent on the work at all times who is fully authorized as their agent on the work. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the RPR or their authorized representative.

50-06 COOPERATION BETWEEN CONTRACTORS. The Owner reserves the right to contract for and perform other or additional work on or near the work covered by this contract.

When separate contracts are let within the limits of any one project, each Contractor shall conduct the work not to interfere with or hinder the progress of completion of the work being performed by other Contractors. Contractors working on the same project shall cooperate with each other as directed.

Each Contractor involved shall assume all liability, financial or otherwise, in connection with their own contract and shall protect and hold harmless the Owner from any and all damages or claims that may arise because of inconvenience, delays, or loss experienced because of the presence and operations of other Contractors working within the limits of the same project.

The Contractor shall arrange their work and shall place and dispose of the materials being used to not interfere with the operations of the other Contractors within the limits of the same project. The Contractor shall join their work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

50-07 CONSTRUCTION LAYOUT AND STAKES. The Engineer/RPR shall establish necessary horizontal and vertical control. The establishment of Survey Control and/or reestablishment of survey control shall be by a State Licensed Land Surveyor. Contractor is responsible for preserving integrity of horizontal and vertical controls established by Engineer/RPR. In case of negligence on the part of the Contractor or their employees, resulting in the destruction of any horizontal and vertical control, the resulting costs will be deducted as a liquidated damage against the Contractor.

Prior to the start of construction, the Contractor will check all control points for horizontal and vertical accuracy and certify in writing to the RPR that the Contractor concurs with survey control established for the project. All lines, grades and measurements from control points necessary for the proper execution and control of the work on this project will be provided to the RPR. The Contractor is responsible to establish all layout required for the construction of the project.

Copies of survey notes will be provided to the RPR for each area of construction and for each placement of material as specified to allow the RPR to make periodic checks for conformance with plan grades, alignments and grade tolerances required by the applicable material specifications. Surveys will be provided to the RPR prior to commencing work items that cover or disturb the survey staking. Survey(s) and notes shall be provided in the following format(s): **ASCII text or csv format compatible with AutoCAD Civil 3D Version 2024 or earlier.**

Laser, GPS, String line, or other automatic control shall be checked with temporary control as necessary. In the case of error, on the part of the Contractor, their surveyor, employees or subcontractors, resulting in established grades, alignment or grade tolerances that do not concur with those specified or shown on the plans, the Contractor is solely responsible for correction, removal, replacement and all associated costs at no additional cost to the Owner.

No direct payment will be made, unless otherwise specified in contract documents, for this labor, materials, or other expenses. The cost shall be included in the price of the bid for the various items of the Contract.

50-08 AUTHORITY AND DUTIES OF QUALITY ASSURANCE (QA) INSPECTORS. QA inspectors shall be authorized to inspect all work done and all material furnished. Such QA inspection may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. QA inspectors are not authorized to revoke, alter, or waive any provision of the contract. QA inspectors are not authorized to issue instructions contrary to the plans and specifications or to act as foreman for the Contractor.

QA Inspectors are authorized to notify the Contractor or their representatives of any failure of the work or materials to conform to the requirements of the contract, plans, or specifications and to reject such nonconforming materials in question until such issues can be referred to the RPR for a decision.

50-09 INSPECTION OF THE WORK. All materials and each part or detail of the work shall be subject to inspection. The RPR shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection.

If the RPR requests it, the Contractor, at any time before acceptance of the work, shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standard required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the work so exposed or examined prove unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be at the Contractor's expense.

Provide advance written notice to the RPR of work the Contractor plans to perform each week and each day. Any work done or materials used without written notice and allowing opportunity for inspection by the RPR may be ordered removed and replaced at the Contractor's expense.

Should the contract work include relocation, adjustment, or any other modification to existing facilities, not the property of the (contract) Owner, authorized representatives of the Owners of such facilities shall have the right to inspect such work. Such inspection shall in no sense make any facility owner a party to the contract, and shall in no way interfere with the rights of the parties to this contract.

50-10 REMOVAL OF UNACCEPTABLE AND UNAUTHORIZED WORK. All work that does not conform to the requirements of the contract, plans, and specifications will be considered unacceptable, unless otherwise determined acceptable by the RPR as provided in paragraph 50-02, *Conformity with Plans and Specifications*.

Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the final acceptance of the work, shall be removed immediately and replaced in an acceptable manner in accordance with the provisions of Section 70, paragraph 70-14, *Contractor's Responsibility for Work*.

No removal work made under provision of this paragraph shall be done without lines and grades having been established by the RPR. Work done contrary to the instructions of the RPR, work done beyond the lines shown on the plans or as established by the RPR, except as herein specified, or any extra work done without authority, will be considered as unauthorized and will not be paid for under the provisions of the contract. Work so done may be ordered removed or replaced at the Contractor's expense.

Upon failure on the part of the Contractor to comply with any order of the RPR made under the provisions of this subsection, the RPR will have authority to cause unacceptable work to be remedied or removed and replaced; and unauthorized work to be removed and recover the resulting costs as a liquidated damage against the Contractor.

50-11 LOAD RESTRICTIONS. The Contractor shall comply with all legal load restrictions in the hauling of materials on public roads beyond the limits of the work. A special permit will not relieve the Contractor of liability for damage that may result from the moving of material or equipment.

The operation of equipment of such weight or so loaded as to cause damage to structures or to any other type of construction will not be permitted. Hauling of materials over the base course or surface course under construction shall be limited as directed. No loads will be permitted on a concrete pavement, base, or structure before the expiration of the curing period. The Contractor, at their own expense, shall be responsible for the repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel.

50-12 MAINTENANCE DURING CONSTRUCTION. The Contractor shall maintain the work during construction and until the work is accepted. Maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and forces so that the work is maintained in satisfactory condition at all times.

In the case of a contract for the placing of a course upon a course or subgrade previously constructed, the Contractor shall maintain the previous course or subgrade during all construction operations.

All costs of maintenance work during construction and before the project is accepted shall be included in the unit prices bid on the various contract items, and the Contractor will not be paid an additional amount for such work.

50-13 FAILURE TO MAINTAIN THE WORK. Should the Contractor at any time fail to maintain the work as provided in paragraph 50-12, *Maintenance during Construction*, the RPR shall immediately notify the Contractor of such noncompliance. Such notification shall specify a reasonable time within which the Contractor shall be required to remedy such unsatisfactory maintenance condition. The time specified will give due consideration to the exigency that exists.

Should the Contractor fail to respond to the RPR's notification, the Owner may suspend any work necessary for the Owner to correct such unsatisfactory maintenance condition, depending on the exigency that exists. Any maintenance cost incurred by the Owner, shall be recovered as a liquidated damage against the Contractor.

50-14 PARTIAL ACCEPTANCE. If at any time during the execution of the project the Contractor substantially completes a usable unit or portion of the work, the occupancy of which will benefit the Owner, the Contractor may request the RPR to make final inspection of that unit. If the RPR finds upon inspection that the unit has been satisfactorily completed in compliance with the contract, the RPR may accept it as being complete, and the Contractor may be relieved of further responsibility for that unit. Such partial acceptance and beneficial occupancy by the Owner shall not void or alter any provision of the contract.

50-15 FINAL ACCEPTANCE. Upon due notice from the Contractor of presumptive completion of the entire project, the RPR and Owner will make an inspection. If all construction provided for and contemplated by the contract is found to be complete in accordance with the contract, plans, and specifications, such inspection shall constitute the final inspection. The RPR shall notify the Contractor in writing of final acceptance as of the date of the final inspection.

If, however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the RPR will notify the Contractor and the Contractor shall correct the unsatisfactory work. Upon correction of the work, another inspection will be made which shall constitute the final inspection, provided the work has been satisfactorily completed. In such event, the RPR will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection.

50-16 CLAIMS FOR ADJUSTMENT AND DISPUTES. If for any reason the Contractor deems that additional compensation is due for work or materials not clearly provided for in the contract, plans, or specifications or previously authorized as extra work, the Contractor shall notify the RPR in writing of their intention to claim such additional compensation before the Contractor begins the work on which the Contractor bases the claim. If such notification is not given or the RPR is not afforded proper opportunity by the Contractor for keeping strict account of actual cost as required, then the Contractor hereby agrees to waive any claim for such additional compensation.

Such notice by the Contractor and the fact that the RPR has kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is based has been completed, the Contractor shall, within 10 calendar days, submit a written claim to the RPR who will present it to the Owner for consideration in accordance with local laws or ordinances.

Nothing in this subsection shall be construed as a waiver of the Contractor's right to dispute final payment based on differences in measurements or computations.

The provisions of this paragraph will apply only to contracts awarded to the lowest bidder pursuant to competitive bidding.

On projects with original contract amounts in excess of $100,000, the Contractor may submit to the RPR, in writing, proposals for modifying the plans, specifications or other requirements of the contract for the sole purpose of reducing the cost of construction. The value engineering cost proposal shall not impair, in any manner, the essential functions or characteristics of the project, including but not limited to service life, economy of operation, ease of maintenance, desired appearance, design and safety standards. This provision shall not apply unless the proposal submitted is specifically identified by the Contractor as being presented for consideration as a value engineering proposal.

Not eligible for value engineering cost proposals are changes in the basic design of a pavement type, runway and taxiway lighting, visual aids, hydraulic capacity of drainage facilities, or changes in grade or alignment that reduce the geometric standards of the project.

As a minimum, the following information shall be submitted by the Contractor with each proposal:

a. A description of both existing contract requirements for performing the work and the proposed changes, with a discussion of the comparative advantages and disadvantages of each.

b. An itemization of the contract requirements that must be changed if the proposal is adopted.

c. A detailed estimate of the cost of performing the work under the existing contract and under the proposed changes.

d. A statement of the time by which a change order adopting the proposal must be issued.

e. A statement of the effect adoption of the proposal will have on the time for completion of the contract.

f. The contract items of work affected by the proposed changes, including any quantity variation attributable to them.

The Contractor may withdraw, in whole or in part, any value engineering cost proposal not accepted by the RPR, within the period specified in the proposal. The provisions of this subsection shall not be construed to require the RPR to consider any value engineering cost proposal that may be submitted.

The Contractor shall continue to perform the work in accordance with the requirements of the contract until a change order incorporating the value engineering cost proposal has been issued. If a change order has not been issued by the date upon which the Contractor's value engineering cost proposal specifies that a decision should be made, or such other date as the Contractor may subsequently have requested in writing, such value engineering cost proposal shall be deemed rejected.

The RPR shall be the sole judge of the acceptability of a value engineering cost proposal and of the estimated net savings from the adoption of all or any part of such proposal. In determining the estimated net savings, the RPR may disregard the contract bid prices if, in the RPR's judgment such prices do not represent a fair measure of the value of the work to be performed or deleted.

The Owner may require the Contractor to share in the Owner's costs of investigating a value engineering cost proposal submitted by the Contractor as a condition of considering such proposal. Where such a condition is imposed, the Contractor shall acknowledge acceptance of it in writing. Such acceptance shall constitute full authority for the Owner to deduct the cost of investigating a value engineering cost proposal from amounts payable to the Contractor under the contract.

If the Contractor's value engineering cost proposal is accepted in whole or in part, such acceptance will be by a contract change order that shall specifically state that it is executed pursuant to this paragraph. Such change order shall incorporate the changes in the plans and specifications which are necessary to permit the value engineering cost proposal or such part of it as has been accepted and shall include any conditions upon which the RPR's approval is based. The change order shall also set forth the estimated net savings attributable to the value engineering cost proposal. The net savings shall be determined as the difference in costs between the original contract costs for the involved work items and the costs occurring as a result of the proposed change. The change order shall also establish the net savings agreed upon and shall provide for adjustment in the contract price that will divide the net savings equally between the Contractor and the Owner.

The Contractor's 50% share of the net savings shall constitute full compensation to the Contractor for the value engineering cost proposal and the performance of the work.

Acceptance of the value engineering cost proposal and performance of the work shall not extend the time of completion of the contract unless specifically provided for in the contract change order.

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SECTION 60 CONTROL OF MATERIALS

60-01 SOURCE OF SUPPLY AND QUALITY REQUIREMENTS. The materials used in the work shall conform to the requirements of the contract, plans, and specifications. Unless otherwise specified, such materials that are manufactured or processed shall be new (as compared to used or reprocessed).

In order to expedite the inspection and testing of materials, the Contractor shall furnish documentation to the RPR as to the origin, composition, and manufacture of all materials to be used in the work. Documentation shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials.

At the RPR's option, materials may be approved at the source of supply before delivery. If it is found after trial that sources of supply for previously approved materials do not produce specified products, the Contractor shall furnish materials from other sources.

The Contractor shall furnish airport lighting equipment that meets the requirements of the specifications; and is listed in AC 150/5345-53, *Airport Lighting Equipment Certification Program* and *Addendum*, that is in effect on the date of advertisement.

60-02 SAMPLES, TESTS, AND CITED SPECIFICATIONS. All materials used in the work shall be inspected, tested, and approved by the RPR before incorporation in the work unless otherwise designated. Any work in which untested materials are used without approval or written permission of the RPR shall be performed at the Contractor's risk. Materials found to be unacceptable and unauthorized will not be paid for and, if directed by the RPR, shall be removed at the Contractor's expense.

Unless otherwise designated, quality assurance tests will be made by and at the expense of the Owner in accordance with the cited standard methods of ASTM, American Association of State Highway and Transportation Officials (AASHTO), federal specifications, Commercial Item Descriptions, and all other cited methods, which are current on the date of advertisement for bids.

The testing organizations performing on-site quality assurance field tests shall have copies of all referenced standards on the construction site for use by all technicians and other personnel. Unless otherwise designated, samples for quality assurance will be taken by a qualified representative of the RPR. All materials being used are subject to inspection, test, or rejection at any time prior to or during incorporation into the work. Copies of all tests will be furnished to the Contractor's representative at their request after review and approval of the RPR.

A copy of all Contractor QC test data shall be provided to the RPR daily, along with printed reports, in an approved format, on a weekly basis. After completion of the project, and prior to final payment, the Contractor shall submit a final report to the RPR showing all test data reports, plus an analysis of all results showing ranges, averages, and corrective action taken on all failing tests.

The Contractor shall employ a Quality Control (QC) testing organization to perform all Contractor required QC tests in accordance with Item C-100 Contractor Quality Control Program (CQCP).

60-03 CERTIFICATION OF COMPLIANCE/ANALYSIS (COC/COA). The RPR may permit the use, prior to sampling and testing, of certain materials or assemblies when accompanied by manufacturer's COC stating that such materials or assemblies fully comply with the requirements

of the contract. The certificate shall be signed by the manufacturer. Each lot of such materials or assemblies delivered to the work must be accompanied by a certificate of compliance in which the lot is clearly identified. The COA is the manufacturer's COC and includes all applicable test results.

Materials or assemblies used on the basis of certificates of compliance may be sampled and tested at any time and if found not to be in conformity with contract requirements will be subject to rejection whether in place or not.

The form and distribution of certificates of compliance shall be as approved by the RPR.

When a material or assembly is specified by "brand name or equal" and the Contractor elects to furnish the specified "or equal," the Contractor shall be required to furnish the manufacturer's certificate of compliance for each lot of such material or assembly delivered to the work. Such certificate of compliance shall clearly identify each lot delivered and shall certify as to:

a. Conformance to the specified performance, testing, quality or dimensional requirements; and,

b. Suitability of the material or assembly for the use intended in the contract work.

The RPR shall be the sole judge as to whether the proposed "or equal" is suitable for use in the work.

The RPR reserves the right to refuse permission for use of materials or assemblies on the basis of certificates of compliance.

60-04 PLANT INSPECTION. The RPR or their authorized representative may inspect, at its source, any specified material or assembly to be used in the work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the work and to obtain samples required for acceptance of the material or assembly.

Should the RPR conduct plant inspections, the following conditions shall exist:

a. The RPR shall have the cooperation and assistance of the Contractor and the producer with whom the Contractor has contracted for materials.

b. The RPR shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.

c. If required by the RPR, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Place office or working space in a convenient location with respect to the plant.

It is understood and agreed that the Owner shall have the right to retest any material that has been tested and approved at the source of supply after it has been delivered to the site. The RPR shall have the right to reject only material which, when retested, does not meet the requirements of the contract, plans, or specifications.

60-05 ENGINEER/ RESIDENT PROJECT REPRESENTATIVE (RPR) FIELD OFFICE. **Engineer's field office is not required for this project.**

60-06 STORAGE OF MATERIALS. Materials shall be stored to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in the work. Stored materials shall be located to facilitate their prompt inspection. The Contractor shall coordinate the storage of all materials with the RPR. Materials to be stored on airport property shall not create an obstruction to air navigation nor shall they interfere with the free and unobstructed movement of aircraft. Unless otherwise shown on the plans and/or CSPP, the storage of materials and the location of the Contractor's plant and parked equipment or vehicles shall be as directed by the RPR. Private property shall not be used for storage purposes without written permission of the Owner or lessee of such property. The Contractor shall make all arrangements and bear all expenses for the storage of materials on private property. Upon request, the Contractor shall furnish the RPR a copy of the property Owner's permission.

All storage sites on private or airport property shall be restored to their original condition by the Contractor at their expense, except as otherwise agreed to (in writing) by the Owner or lessee of the property.

60-07 UNACCEPTABLE MATERIALS. Any material or assembly that does not conform to the requirements of the contract, plans, or specifications shall be considered unacceptable and shall be rejected. The Contractor shall remove any rejected material or assembly from the site of the work, unless otherwise instructed by the RPR.

Rejected material or assembly, the defects of which have been corrected by the Contractor, shall not be returned to the site of the work until such time as the RPR has approved its use in the work.

60-08 OWNER FURNISHED MATERIALS. The Contractor shall furnish all materials required to complete the work, except those specified, if any, to be furnished by the Owner. Owner-furnished materials shall be made available to the Contractor at the location specified.

All costs of handling, transportation from the specified location to the site of work, storage, and installing Owner-furnished materials shall be included in the unit price bid for the contract item in which such Owner-furnished material is used.

After any Owner-furnished material has been delivered to the location specified, the Contractor shall be responsible for any demurrage, damage, loss, or other deficiencies that may occur during the Contractor's handling, storage, or use of such Owner-furnished material. The Owner will deduct from any monies due or to become due the Contractor any cost incurred by the Owner in making good such loss due to the Contractor's handling, storage, or use of Owner-furnished materials.

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SECTION 70 LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC

70-01 LAWS TO BE OBSERVED. The Contractor shall keep fully informed of all federal and state laws, all local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. The Contractor shall at all times observe and comply with all such laws, ordinances, regulations, orders, and decrees; and shall protect and indemnify the Owner and all their officers, agents, or servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by the Contractor or the Contractor's employees.

70-02 PERMITS, LICENSES, AND TAXES. The Contractor shall procure all permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incidental to the due and lawful execution of the work.

70-03 PATENTED DEVICES, MATERIALS, AND PROCESSES. If the Contractor is required or desires to use any design, device, material, or process covered by letters of patent or copyright, the Contractor shall provide for such use by suitable legal agreement with the Patentee or Owner. The Contractor and the surety shall indemnify and hold harmless the Owner, any third party, or political subdivision from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright, and shall indemnify the Owner for any costs, expenses, and damages which it may be obliged to pay by reason of an infringement, at any time during the execution or after the completion of the work.

70-04 RESTORATION OF SURFACES DISTURBED BY OTHERS. The Owner reserves the right to authorize the construction, reconstruction, or maintenance of any public or private utility service, FAA or National Oceanic and Atmospheric Administration (NOAA) facility, or a utility service of another government agency at any time during the progress of the work. To the extent that such construction, reconstruction, or maintenance has been coordinated with the Owner, such authorized work (by others) must be shown on the plans and is indicated as follows:

City of Wauchula Power service connection and coordination.

Except as listed above, the Contractor shall not permit any individual, firm, or corporation to excavate or otherwise disturb such utility services or facilities located within the limits of the work without the written permission of the RPR.

Should the Owner of public or private utility service, FAA, or NOAA facility, or a utility service of another government agency be authorized to construct, reconstruct, or maintain such utility service or facility during the progress of the work, the Contractor shall cooperate with such Owners by arranging and performing the work in this contract to facilitate such construction, reconstruction or maintenance by others whether or not such work by others is listed above. When ordered as extra work by the RPR, the Contractor shall make all necessary repairs to the work which are due to such authorized work by others, unless otherwise provided for in the contract, plans, or specifications. It is understood and agreed that the Contractor shall not be entitled to make any claim for damages due to such authorized work by others or for any delay to the work resulting from such authorized work.

70-05 FEDERAL PARTICIPATION. The United States Government may agree/may have agreed to reimburse the Owner for some portion of the contract costs. The contract work is subject to the inspection and approval of duly authorized representatives of the FAA Administrator. No requirement of this contract shall be construed as making the United States a party to the contract nor will any such requirement interfere, in any way, with the rights of either party to the contract.

70-06 SANITARY, HEALTH, AND SAFETY PROVISIONS. The Contractor's worksite and facilities shall comply with applicable federal, state, and local requirements for health, safety and sanitary provisions.

70-07 PUBLIC CONVENIENCE AND SAFETY. The Contractor shall control their operations and those of their subcontractors and all suppliers, to assure the least inconvenience to the traveling public. Under all circumstances, safety shall be the most important consideration.

The Contractor shall maintain the free and unobstructed movement of aircraft and vehicular traffic with respect to their own operations and those of their own subcontractors and all suppliers in accordance with Section 40, paragraph 40-05, *Maintenance of Traffic,* and shall limit such operations for the convenience and safety of the traveling public as specified in Section 80, paragraph 80-04, *Limitation of Operations*.

The Contractor shall remove or control debris and rubbish resulting from its work operations at frequent intervals, and upon the order of the RPR. If the RPR determines the existence of Contractor debris in the work site represents a hazard to airport operations and the Contractor is unable to respond in a prompt and reasonable manner, the RPR reserves the right to assign the task of debris removal to a third party and recover the resulting costs as a liquidated damage against the Contractor.

70-08 CONSTRUCTION SAFETY AND PHASING PLAN (CSPP). The Contractor shall complete the work in accordance with the approved Construction Safety and Phasing Plan (CSPP) developed in accordance with AC 150/5370-2, Operational Safety on Airports During Construction. The CSPP is on sheet(s) **G004 through G014** of the project plans.

70-09 USE OF EXPLOSIVES. The use of explosives is not permitted on this project.

70-10 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE. The Contractor shall be responsible for the preservation of all public and private property and shall protect carefully from disturbance or damage all land monuments and property markers until the Engineer/RPR has witnessed or otherwise referenced their location and shall not move them until directed.

The Contractor shall be responsible for all damage or injury to property of any character, during the execution of the work, resulting from any act, omission, neglect, or misconduct in manner or method of executing the work, or at any time due to defective work or materials, and said responsibility shall not be released until the project has been completed and accepted.

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or in consequence of the non-execution thereof by the Contractor, the Contractor shall restore, at their expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, or otherwise restoring as may be directed, or the Contractor shall make good such damage or injury in an acceptable manner.

70-11 RESPONSIBILITY FOR DAMAGE CLAIMS. The Contractor shall indemnify and hold harmless the Engineer/RPR and the Owner and their officers, agents, and employees from all suits, actions, or claims, of any character, brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the “Workmen’s Compensation Act,” or any other law, ordinance, order, or decree. Money due the Contractor under and by virtue of their own contract considered necessary by the Owner for such purpose may be retained for the use of the Owner or, in case no money is due, their own surety may be held until such suits, actions, or claims for injuries or damages shall have been settled and suitable evidence to that effect furnished to the Owner, except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he or she is adequately protected by public liability and property damage insurance.

70-12 THIRD PARTY BENEFICIARY CLAUSE. It is specifically agreed between the parties executing the contract that it is not intended by any of the provisions of any part of the contract to create for the public or any member thereof, a third-party beneficiary or to authorize anyone not a party to the contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of the contract.

70-13 OPENING SECTIONS OF THE WORK TO TRAFFIC. If it is necessary for the Contractor to complete portions of the contract work for the beneficial occupancy of the Owner prior to completion of the entire contract, such “phasing” of the work must be specified below and indicated on the approved Construction Safety and Phasing Plan (CSPP) and the project plans. When so specified, the Contractor shall complete such portions of the work on or before the date specified or as otherwise specified.

Refer to the Construction Safety and Phasing Plans and Documentation (CSPP)

Upon completion of any portion of work listed above, such portion shall be accepted by the Owner in accordance with Section 50, paragraph 50-14, *Partial Acceptance*.

No portion of the work may be opened by the Contractor until directed by the Owner in writing. Should it become necessary to open a portion of the work to traffic on a temporary or intermittent basis, such openings shall be made when, in the opinion of the RPR, such portion of the work is in an acceptable condition to support the intended traffic. Temporary or intermittent openings are considered to be inherent in the work and shall not constitute either acceptance of the portion of the work so opened or a waiver of any provision of the contract. Any damage to the portion of the work so opened that is not attributable to traffic which is permitted by the Owner shall be repaired by the Contractor at their expense.

The Contractor shall make their own estimate of the inherent difficulties involved in completing the work under the conditions herein described and shall not claim any added compensation by reason of delay or increased cost due to opening a portion of the contract work.

The Contractor must conform to safety standards contained AC 150/5370-2 and the approved CSPP.

Contractor shall refer to the plans, specifications, and the approved CSPP to identify barricade requirements, temporary and/or permanent markings, airfield lighting, guidance signs and other safety requirements prior to opening up sections of work to traffic.

70-14 CONTRACTOR'S RESPONSIBILITY FOR WORK. Until the RPR's final written acceptance of the entire completed work, excepting only those portions of the work accepted in accordance with Section 50, paragraph 50-14, *Partial Acceptance*, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part due to the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God such as earthquake, tidal wave, tornado, hurricane or other cataclysmic phenomenon of nature, or acts of the public enemy or of government authorities.

If the work is suspended for any cause whatever, the Contractor shall be responsible for the work and shall take such precautions necessary to prevent damage to the work. The Contractor shall provide for normal drainage and shall erect necessary temporary structures, signs, or other facilities at their own expense. During such period of suspension of work, the Contractor shall properly and continuously maintain in an acceptable growing condition all living material in newly established planting, seeding, and sodding furnished under the contract, and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury.

70-15 CONTRACTOR'S RESPONSIBILITY FOR UTILITY SERVICE AND FACILITIES OF OTHERS. As provided in paragraph 70-04, *Restoration of Surfaces Disturbed by Others*, the Contractor shall cooperate with the owner of any public or private utility service, FAA or NOAA, or a utility service of another government agency that may be authorized by the Owner to construct, reconstruct or maintain such utility services or facilities during the progress of the work. In addition, the Contractor shall control their operations to prevent the unscheduled interruption of such utility services and facilities.

To the extent that such public or private utility services, FAA, or NOAA facilities, or utility services of another governmental agency are known to exist within the limits of the contract work, the approximate locations have been indicated on the plans and/or in the contract documents.

Facilities on the Airport but not necessarily in the project area:
TECO Natural Gas Main – along Vandolah Road
Fiber Optic Cables – along Vandolah Road and possibly into the Airport

Facilities known to be in the project area:
Runway and taxiway lighting cables, including Primary Wind Cone

Automatic Security Gate Controllers, and Overhead Light Poles
Underground single and 3-phase Power lines and service
Overhead Apron lighting / poles
Underground and overhead telephone and cable television lines – Owners Unknown
Lift Station, Septic tanks and lines
Drainage culverts
Potable water services and sanitary mains (as applicable) – City of Wauchula Department of Public Works and Engineering
Telephone lines and service
High voltage 3-phase power underground lines east of the project along fence line
Runway and Taxiway Lighting and Navigational Aids – City of Wauchula Municipal Airport
Power Lines Duke Energy

See also the Design Survey and the Construction Plans for known utilities. It is the Contractor's responsibility to coordinate utilities, and call for locates prior to construction. By State of Florida Law, the Contractor is required to contact SUNSHINE STATE ONE CALL 811 prior to any construction activity.

It is understood and agreed that the Owner does not guarantee the accuracy or the completeness of the location information relating to existing utility services, facilities, or structures that may be shown on the plans or encountered in the work. Any inaccuracy or omission in such information shall not relieve the Contractor of the responsibility to protect such existing features from damage or unscheduled interruption of service.

It is further understood and agreed that the Contractor shall, upon execution of the contract, notify the Owners of all utility services or other facilities of their plan of operations. Such notification shall be in writing addressed to "The Person to Contact" as provided in this paragraph and paragraph 70-04, *Restoration of Surfaces Disturbed By Others*. A copy of each notification shall be given to the RPR.

In addition to the general written notification provided, it shall be the responsibility of the Contractor to keep such individual Owners advised of changes in their plan of operations that would affect such Owners.

Prior to beginning the work in the general vicinity of an existing utility service or facility, the Contractor shall again notify each such Owner of their plan of operation. If, in the Contractor's opinion, the Owner's assistance is needed to locate the utility service or facility or the presence of a representative of the Owner is desirable to observe the work, such advice should be included in the notification. Such notification shall be given by the most expeditious means to reach the utility owner's "Person to Contact" no later than two normal business days prior to the Contractor's commencement of operations in such general vicinity. The Contractor shall furnish a written summary of the notification to the RPR.

The Contractor's failure to give the two days' notice shall be cause for the Owner to suspend the Contractor's operations in the general vicinity of a utility service or facility.

Where the outside limits of an underground utility service have been located and staked on the ground, the Contractor shall be required to use hand excavation methods within 3 feet (1 m) of such outside limits at such points as may be required to ensure protection from damage due to the Contractor's operations.

Should the Contractor damage or interrupt the operation of a utility service or facility by accident or otherwise, the Contractor shall immediately notify the proper authority and the RPR and shall take all reasonable measures to prevent further damage or interruption of service. The Contractor, in such events, shall cooperate with the utility service or facility owner and the RPR continuously until such damage has been repaired and service restored to the satisfaction of the utility or facility owner.

The Contractor shall bear all costs of damage and restoration of service to any utility service or facility due to their operations whether due to negligence or accident. The Owner reserves the right to deduct such costs from any monies due or which may become due the Contractor, or their own surety.

70-15.1 FAA FACILITIES AND CABLE RUNS. The Contractor is hereby advised that the construction limits of the project ***may*** include existing facilities and buried cable runs that are owned, operated and maintained by the FAA. The Contractor, during the execution of the project work, shall comply with the following:

a. The Contractor shall permit FAA maintenance personnel the right of access to the project work site for purposes of inspecting and maintaining all existing FAA owned facilities.

b. The Contractor shall provide notice to the FAA Air Traffic Organization (ATO)/Technical Operations/System Support Center (SSC) Point-of-Contact through the airport *manager* a minimum of seven (7) calendar days prior to commencement of construction activities in order to permit sufficient time to locate and mark existing buried cables and to schedule any required facility outages.

c. If execution of the project work requires a facility outage, the Contractor shall contact the FAA Point-of-Contact a minimum of 72 hours prior to the time of the required outage.

d. Any damage to FAA cables, access roads, or FAA facilities during construction caused by the Contractor's equipment or personnel whether by negligence or accident will require the Contractor to repair or replace the damaged cables, access road, or FAA facilities to FAA requirements. The Contractor shall not bear the cost to repair damage to underground facilities or utilities improperly located by the FAA.

e. If the project work requires the cutting or splicing of FAA owned cables, the FAA Point-of-Contact shall be contacted a minimum of 72 hours prior to the time the cable work commences. The FAA reserves the right to have a FAA representative on site to observe the splicing of the cables as a condition of acceptance. All cable splices are to be accomplished in accordance with FAA specifications and require approval by the FAA Point-of-Contact as a condition of acceptance by the Owner. The Contractor is hereby advised that FAA restricts the location of where splices may be installed. If a cable splice is required in a location that is not permitted by FAA, the Contractor shall furnish and install a sufficient length of new cable that eliminates the need for any splice.

70-16 FURNISHING RIGHTS-OF-WAY. The Owner will be responsible for furnishing all rights-of-way upon which the work is to be constructed in advance of the Contractor's operations.

70-17 PERSONAL LIABILITY OF PUBLIC OFFICIALS. In carrying out any of the contract provisions or in exercising any power or authority granted by this contract, there shall be no liability upon the Engineer, RPR, their authorized representatives, or any officials of the Owner either personally or as an official of the Owner. It is understood that in such matters they act solely as agents and representatives of the Owner.

70-18 NO WAIVER OF LEGAL RIGHTS. Upon completion of the work, the Owner will expeditiously make final inspection and notify the Contractor of final acceptance. Such final acceptance, however, shall not preclude or stop the Owner from correcting any measurement, estimate, or certificate made before or after completion of the work, nor shall the Owner be precluded or stopped from recovering from the Contractor or their surety, or both, such overpayment as may be sustained, or by failure on the part of the Contractor to fulfill their obligations under the contract. A waiver on the part of the Owner of any breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach.

The Contractor, without prejudice to the terms of the contract, shall be liable to the Owner for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Owner's rights under any warranty or guaranty.

70-19 ENVIRONMENTAL PROTECTION. The Contractor shall comply with all federal, state, and local laws and regulations controlling pollution of the environment. The Contractor shall take necessary precautions to prevent pollution of streams, lakes, ponds, and reservoirs with fuels, oils, asphalts, chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.

70-20 ARCHAEOLOGICAL AND HISTORICAL FINDINGS. Unless otherwise specified in this subsection, the Contractor is advised that the site of the work is not within any property, district, or site, and does not contain any building, structure, or object listed in the current National Register of Historic Places published by the United States Department of Interior.

Should the Contractor encounter, during their operations, any building, part of a building, structure, or object that is incongruous with its surroundings, the Contractor shall immediately cease operations in that location and notify the RPR. The RPR will immediately investigate the Contractor's finding and the Owner will direct the Contractor to either resume operations or to suspend operations as directed.

Should the Owner order suspension of the Contractor's operations in order to protect an archaeological or historical finding, or order the Contractor to perform extra work, such shall be covered by an appropriate contract change order or supplemental agreement as provided in Section 40, paragraph 40-04, *Extra Work,* and Section 90, paragraph 90-05, *Payment for Extra Work*. If appropriate, the contract change order or supplemental agreement shall include an extension of contract time in accordance with Section 80, paragraph 80-07, *Determination and Extension of Contract Time*.

70-21 INSURANCE REQUIREMENTS.

a. Before any work commences, Contractor shall, without in any way altering their liability, obtain, pay for, and maintain insurance for the coverages and amounts of coverage not less than those set forth in the subsections below, and shall provide the CITY with a Certificate of Insurance and an opportunity to inspect a certified copy of each policy applicable to this Agreement. The

Certificate of Insurance must name as an additional insured the City of Wauchula and all of its Officers, Agents, Employees, and City Commissioners, excluding worker's compensation and professional liability; must provide that such insurance is primary to any other insurance available to the additional insureds with respect to claims covered under the policy; and must provide that such insurance coverage applies separately to each insured against whom claims are made or suit is brought; but the inclusion of more than one insured shall not operate to increase the insurer's limit of liability. Contractor shall thereafter provide the CITY an annual Certificate of Insurance satisfactory to the CITY to evidence such coverage. Such Certificates of Insurance will provide that there shall be no termination, non-renewal, modification or expiration of such coverage without thirty (30) days prior written notice to the CITY. Contractor shall maintain, at all times, the minimum levels of insurance set forth below.

b. The CITY shall be named as an additional insured on all Contractor policies related to the project, excluding professional liability and worker's compensation. All policies required under this section must be an "Occurrence" form. The policies shall contain a waiver of subrogation in favor of the City of Wauchula. All insurance coverage shall be written with an insurer having an A.M. Best Rating of a least the "A" category and size category of VIII.

c. The Contractor's self-insured retention or deductible per line of coverage shall not exceed $25,000.00 without the permission of the CITY.

d. If there is any failure by the Contractor to comply with the provisions of this section, the CITY may, at its option, and on notice to the Contractor, suspend the Contractor's work for cause until there is full compliance.

e. CITY may, at its sole discretion, purchase such insurance at Contractor's expense provided that the CITY shall have no obligation to do so and if the CITY shall do so, it shall not relieve Contractor of its obligation to obtain insurance.

f. The Contractor shall not be relieved of or excused from the obligation to obtain and maintain such insurance amount and coverages.

g. To the extent applicable, Contractor will ensure that all subcontractors comply with the requirements of this Section relating to insurance, and maintain coverage throughout the term of the Service Agreement. All Contractor's sub-contractors shall be required to include CITY and Contractor as additional insured on their General Liability Insurance policies.

h. In the event that subconsultants used by the Contractor do not have insurance, or do not meet the insurance limits, Contractor shall indemnify and hold harmless the CITY for any claim in excess of the subconsultants' insurance coverage.

i. The Contractor shall not commence work under this Agreement until all insurance required as stated herein has been obtained and such insurance has been approved by the CITY.

1. Comprehensive Automobile Liability Insurance. $1,000,000.00 combined single limit of liability for bodily injuries, death and property damage resulting from any one occurrence, including all owned, hired, and non-owned vehicles.

2. Commercial General Liability. $1,000,000.00 combined single limit of liability for bodily injuries, death and property damage, and personal injury resulting from any one occurrence, including the following coverages:

3. Premises and Operations: Broad Form Commercial General Liability Endorsement to include Blanket Contractual liability (specifically covering, but not limited to, the contractual obligations assumed by the Firm); Personal Injury (with employment and contractual exclusions deleted); and Broad Form Property Damage coverage.

4. Independent Contractors: Delete Exclusion relative to collapse, explosion and underground; Property Damage Hazards; Cross Liability Endorsement; and Contractual liability (specifically covering, but not limited to, the contractual obligations assumed by the Firm)

5. Umbrella (Excess) Liability Insurance. Umbrella Liability with limits of not less than $1,000,000.00, exclusive of defense costs, to be in excess of all other coverages. Such coverage shall be at least as broad as the primary coverages above, with any excess umbrella layers written on a strict following form basis over the primary coverage. All such policies shall be endorsed to provide defense coverage obligations.

6. Professional Liability Insurance. $1,000,000.00 for design errors and omissions, exclusive of defense costs. Contractor shall be required to provide continuing Professional Liability Insurance to cover each project for a period of two (2) years after the project is completed. Insurance requirements may vary depending on projects as determined by the City Manager. The CITY may require the Contractor to provide a higher level of coverage for a specific project and time frame.

7. Performance, Payment and Other Bonds. Contractor shall furnish Performance and Payment Bonds specific to each project if required and agreed to under the Consultant Service Agreement for the project.

8. Worker's Compensation. The Contractor shall provide, pay for, and maintain worker's compensation insurance on all employees, its agents or subcontractors as required by Florida Statutes.

Refer also to Section 70-11 of the Supplemental General Provisions and other sections of the Contract Documents for Insurance Requirements.

70-22: UNITED STATES IRON AND STEEL PRODUCTS

a. The Contractor acknowledges to and for the benefit of the Owner that it understands that the products to be installed as a part of this contract must be in compliance with 255.0993, Florida Statutes, Public works projects; United States-produced iron and steel products.

1. DEFINITIONS.— As used in this section, the term:

   a) “Governmental entity” means the state, or any office, board, bureau, commission, department, branch, division, or institution thereof, or a separate agency or unit of local government created or established by law or ordinance and the officers thereof. The term includes, but is not limited to, a county; a city, a town, or other municipality; or a department, a commission, an authority, a school district, a taxing district, a water management district, a board, a public corporation, an institution of higher education, or other public agency or body thereof authorized to expend public funds for the construction, maintenance, repair, renovation, remodeling, or improvement of public works.

   b) Iron or steel product” means any product made primarily of iron or steel, including, but not limited to, lined or unlined pipes and fittings; bars and rods; wire, wire ropes, and link chains; forgings; grating and drainage products; access covers, hatches, manhole covers, and other castings; hydrants; electric transmission and distribution poles; tanks; flanges; pipe clamps and restraints; valves; structural steel and other steel mill products; materials made primarily of iron and steel within precast concrete; and other construction materials made primarily of iron or steel.

   c) “Manufacturing process” means the application of a process to alter the form or function of materials or elements of a product in a manner that adds value and transforms the materials or elements into a new finished product functionally different from a finished product produced merely from assembling materials or elements into a product without applying such a process.

   d) “Produced in the United States” means that, with respect to iron and steel, all manufacturing processes, from initial melting through application of coatings, occur in the United States, other than metallurgical processes to refine steel additives.

   e) “Public works project” means an activity paid for with any state-appropriated funds or state funds administered by a governmental entity which consists of the construction, maintenance, repair, renovation, remodeling, or improvement of a building, road, street, sewer, storm drain, water system, site development, irrigation system, reclamation project, gas or electrical distribution system, gas or electrical substation, or other facility, project, or portion thereof owned in whole or in part by any governmental entity.

2. UNITED STATES-PRODUCED IRON AND STEEL REQUIREMENT.

   a) Notwithstanding any other law, a governmental entity entering into a contract for a public works project or for the purchase of materials for a public works project must include in the contract a requirement that any iron or steel product permanently incorporated in the project be produced in the United States.

   b) Paragraph (a) does not apply if the governmental entity administering the funds for a public works project or the purchase of materials for a public works project solely determines that any of the following applies:

1) Iron or steel products produced in the United States are not produced in sufficient quantities, reasonably available, or of satisfactory quality.

2) The use of iron or steel products produced in the United States will increase the total cost of the project by more than 20 percent.

3) Complying with paragraph (a) is inconsistent with the public interest.

c) When steel and iron materials are used in a public works project, paragraph (a) does not prevent a minimal use of foreign steel and iron materials if:

1. Such materials are incidental or ancillary to the primary product and are not separately identified in the project specifications; and

2. The cost of such materials does not exceed one-tenth of 1 percent of the total contract cost or $2,500, whichever is greater. For purposes of this subparagraph, the cost of such materials is that shown to be the value of the iron or steel products as they are delivered to the project.

(d) Electrical components, equipment, systems, and appurtenances, including supports, covers, shielding, and other appurtenances related to an electrical system, necessary for operation or concealment, except transmission and distribution poles, are not considered iron or steel products and are exempt from the requirements of paragraph (a).

3. INTERNATIONAL AGREEMENTS.—This section shall be applied in a manner consistent with, and may not be construed to impair, the state's obligations under any international agreement.

4. RULEMAKING.—The Department of Management Services shall develop guidelines and procedures by rule to implement this section.

5. APPLICABILITY.—This section does not apply to contracts procured by the Department of Transportation subject to the Buy America requirements of 23 C.F.R. s. 635.410.

70-23 E-VERIFY REQUIREMENTS

Effective January 1, 2021, public and private employers, contractors, and subcontractors must require registration with, and use of the E-Verify system in order to verify the work authorization status of all newly hired employees. Contractor acknowledges and agrees to utilize the U.S. Department of Homeland Security's E-Verify System to verify the employment eligibility of:

a. All persons employed by Contractor to perform employment duties within the State of Florida during the term of the Contract; and

b. All persons (including subcontractors/subvendors/subconsultants) assigned by Contractor to perform work pursuant to this Contract with the City. Contractor acknowledges and agrees that the use of the U.S. Department of Homeland Security's E-Verify System during the term of this Contract is a condition of the Contract with the City.

By entering this Contract with the City, Contractor becomes obligated to comply with the provisions of Section 448.095, Florida Statutes, "Employment Eligibility." This includes, but is not limited to, use of the E-Verify System to verify the work authorization status of all newly hired employees, and requiring all subcontractors to provide an affidavit to Contractor attesting that the subcontractor does not employ, contract with, or subcontract with, an unauthorized alien. Contractor agrees to maintain a copy of such affidavit for the duration of this Contract. Failure to comply with this section will result in the termination of this Contract as provided in Section 448.095, Florida Statutes, and Contractor may not be awarded a public contract for at least one (1) year after the date on which the Contract was terminated. Contractor will also be liable for any additional costs to the City incurred as a result of the termination of this Contract in accordance with this section.

70-24 PUBLIC RECORD LAWS

The parties acknowledge and agree that the City is a public agency subject to Chapter 119, Florida Statutes. All documents, including but not limited to, letters, memos, e-mails, computer files, photographs, drawings, tracings, plans, specifications, maps, evaluations, reports and other records and data of any type relating to the Project received, prepared, or developed by Contractor under this Contract are public records subject to Florida Statutes Chapter 119 and shall not be destroyed. Accordingly, pursuant to Section 119.0701, Florida Statutes, the Contractor must comply with all public records laws in accordance with Chapter 119, Florida Statutes. In accordance with Chapter 119, Florida Statutes, the Contractor agrees to:

a. Keep and maintain all records that ordinarily and necessarily would be required by the Owner to perform the services under this Contract.

b. Upon request from the City, provide the City with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the costs provided in Chapter 119, Florida Statutes, or as otherwise provided by law.

c. Ensure that public records that are exempt, or confidential and exempt, from public records disclosures are not disclosed as except as authorized by law for the duration of the Contract term and following completion of the Contract if the Contractor does not transfer the records to the City.

d. Upon completion of the services under this Contract, at no cost to the City, either transfer to the City all public records in the Contractor's possession that were not previously provided or keep and maintain public records required by the City to perform the services. If the Contractor transfers all public records to the City upon completion of the services, the Contractor must destroy any duplicate public records that are exempt, or confidential and exempt, from public records disclosure requirements. If the Contractor keeps and maintains public records upon completion of the services under this Contract, its obligations shall survive the termination or expiration of the Contract, and the Contractor must meet all applicable requirements for retaining public records, including abiding by all State of Florida records retention schedules. All records stored electronically must be provided to the City, upon request from the City, in a format that is compatible with the information technology systems of the City.

e. IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO ITS DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE OWNER'S CUSTODIAN OF PUBLIC RECORDS AT: STEPHANIE CAMACHO, CITY CLERK, VIA EMAIL: SCAMACHO@CITYOFWAUCHULA.COM

If the Contractor does not comply with the provisions of this section, the CITY will enforce the Contract provisions in accordance herewith and may unilaterally cancel this Contract in accordance with Florida law.

70-25 TRADE SECRETS AND PROPRIETARY CONFIDENTIAL BUSINESS INFORMATION:

a. Documents submitted by Contractor which it contends constitute trade secrets as defined in Sections 812.081 and 688.002, Florida Statutes, or confidential and propriety business information when held by the City as a utility owner, consistent with Section 119.0713(5), Florida Statutes, or information related to cybersecurity that is exempt and confidential under Section 119.0725, Florida Statutes, and which are clearly marked or stamped as confidential by the Contractor at the time of submission to the City, will not be subject to public access. Except as may be required under applicable law, court order, or regulation, or to the extent required to perform and enforce this Contract, both parties shall (and shall cause their employees and contractors to) keep all Confidential Information strictly confidential and shall not disclose it to any third party. The Confidential Information may be transmitted orally, in writing, electronically or otherwise observed by either party. However, should a requestor of public records challenge Contractor's claim of trade secret or confidential and proprietary business information, within five (5) calendar days of such challenge, Contractor must provide a separate written affidavit and a separate indemnification and release guarantee, as approved by the City's Attorney or designee, to the City to support its claim that the alleged trade secrets or proprietary and confidential business information actually constitutes same as defined by law. Contractor must demonstrate the need for confidentiality of the documentation by showing a business advantage or opportunity to obtain an advantage would be gained if the documentation were released. Otherwise, Contractor is required to timely seek a protective order in the Circuit Court of Hardee County to prevent the City's release of the requested records.

b. "Confidential Information" means all non-public information of either party, including the terms of this agreement, all technical information about either party's products or services, pricing information, marketing and marketing plans, other business and financial information of either party and all trade secrets of either party. Notwithstanding the foregoing, "Confidential Information" shall not include (i) any information that is in the public domain other than due to Recipient's breach of this Contract; (ii) any information in the possession of the Recipient without restriction prior to disclosure by the Discloser; or (iii) any information independently developed by the Recipient without reliance on the information disclosed hereunder by the Discloser. "Discloser" means either party that discloses Confidential Information, and "Recipient" means either party that receives it.

c. To the extent Contractor regards certain terms and provisions of this Contract to contain data or information that is covered by one or more of the following: (1) information related to critical infrastructure, and (2) network schematics, hardware and software configurations, or encryption information or information that identifies detection, investigation, or response practices for suspected or confirmed cybersecurity incidents, Contractor must clearly mark such provisions as confidential and exempt. To the extent such terms and provisions are clearly marked as confidential and exempt from public record law requirements, the parties agree to treat the terms and conditions in accordance with the provisions of Paragraph a) above.

70-26 SOLICITATION OF CONTRACT

Contractor warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for Contractor, to solicit or secure this Contract and that it has not paid or agreed to pay any person, company, corporation, individual or firm, other than a bona fide employee working solely for Contractor, any fee, commission, percentage, gift, or other compensation contingent upon or resulting from the award or making of this Contract.

70-27 PUBLIC ENTITY CRIME

As provided by Florida Statute 287.133(2)(a), a person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or a public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Florida Statute 287.017 for Category Two for a period of 36 months from the date of being placed on the convicted vendor list. Any person must notify the City within 30 days after a conviction of a public entity crime applicable to that person or to an affiliate of that person. By its execution hereof, Contractor certifies that neither it nor an affiliate is on the convicted vendor list.

70-28 SCRUTINIZED COMPANIES LIST/COUNTRIES OF CONCERN/INTERESTS OF FOREIGN COUNTRIES

Contractor hereby certifies that it: (a) has not been placed on the Scrutinized Companies that Boycott Israel List, nor is engaged in a boycott of Israel; (b) has not been placed on the Scrutinized Companies with Activities in Sudan List nor the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List; and (c) has not been engaged in business operations in Cuba or Syria. This Contract may be terminated at the option of the City if the Contractor is found to have submitted a false certification as provided under Florida Statute 287.135(5), been placed on the Scrutinized Companies that Boycott Israel List, or is engaged in a boycott of Israel, been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or been engaged in business operations in Cuba or Syria.

70-29 ANTI-TRUST VENDOR VIOLATOR

The Contractor has a continuous duty, throughout the entire Contract Term identified in Section 4, and any renewal, to disclose to the City if the Contractor or any of its affiliates, as defined by section 287.137(1), Fla. Stat., are placed on the Antitrust Violator Vendor List. Pursuant to section

287.137, Fla. Stat., “A person or an affiliate who has been placed on the antitrust violator vendor list following a conviction or being held civilly liable for an antitrust violation may not submit a bid, proposal, or reply for any new contract to provide any goods or services to a public entity; may not submit a bid, proposal, or reply for a new contract with a public entity for the construction or repair of a public building or public work; may not submit a bid, proposal, or reply on new leases of real property to a public entity; may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a new contract with a public entity; and may not transact new business with a public entity.”

70-30 JESSICA LUNSFORD ACT (SECTION 1012.32, FLORIDA STATUTES)

Background screening requirements for certain non-instructional school district employees and contractors. (1) Except as provided in s. 1012.467 or s. 1012.468, non-instructional school district employees or contractual personnel who are permitted access on school grounds when students are present, who have direct contact with students or who have access to or control of school funds must meet level 2 screening requirements as described in s. 1012.32. Contractual personnel shall include any contractor, individual, or entity under contract with a school or the school board. (2) Every 5 years following employment or entry into a contract in a capacity described in subsection (1), each person who is so employed or under contract with the school district must meet level 2 screening requirements as described in s. 1012.32, at which time the school district shall request the Department of Law Enforcement to forward the fingerprints to the Federal Bureau of Investigation for the level 2 screening. If, for any reason following employment or entry into a contract in a capacity described in subsection (1), the fingerprints of a person who is so employed or under contract with the school district are not retained by the Department of Law Enforcement under s. 1012.32(3)(a) and (b), the person must file a complete set of fingerprints with the district school superintendent of the employing or contracting school district. Upon submission of fingerprints for this purpose, the school district shall request the Department of Law Enforcement to forward the fingerprints to the Federal Bureau of Investigation for the level 2 screening, and the fingerprints shall be retained by the Department of Law Enforcement under s. 1012.32(3)(a) and (b). The cost of the state and federal criminal history check required by level 2 screening may be borne by the district school board, the contractor, or the person fingerprinted. Under penalty of perjury, each person who is employed or under contract in a capacity described in subsection (1) must agree to inform his or her employer or the party with whom he or she is under contract within 48 hours if convicted of any disqualifying offense while he or she is employed or under contract in that capacity.(3) If it is found that a person who is employed or under contract in a capacity described in subsection (1) does not meet the level 2 requirements, the person shall be immediately suspended from working in that capacity and shall remain suspended until final resolution of any appeals.

70-31 CONFLICT OF INTEREST

This Contract is subject to Chapter 112, Florida Statutes, and Contractor shall disclose the name of any officer, director, employee, or other agent who is also an employee of the City of Wauchula. The Contractor shall also disclose the name of any City of Wauchula employee who owns, directly or indirectly, more than a 5% interest in Contractor’s, or its affiliates, business entity.

70-32 CHOICE OF LAW, VENUE, AND WAIVER OF JURY TRIAL

a. This Contract, and the rights and duties of the parties arising from or relating to this Contract or its subject matter, shall be construed in accordance with the laws of the State of Florida and the ordinances of the City of Wauchula without regard to its conflicts of law provisions. Each of the parties irrevocably submits to the exclusive jurisdiction of the courts of Hardee County, Florida, and further agree that the venue for any legal action brought by or filed against the City for any matter arising out of or relating to this Contract shall be exclusively in that state or federal court for Hardee County, Florida that has jurisdiction over such legal actions.

b. WAIVER OF JURY TRIAL. BY ENTERING INTO THIS AGREEMENT, THE CONTRACTOR AND THE CITY HEREBY EXPRESSLY AND IRREVOCABLY WAIVE ANY RIGHTS THEY MAY HAVE TO A TRIAL BY JURY IN ANY LITIGATION ARISING OUT OF OR RELATED TO THIS AGREEMENT.

70-33 DRUG FREE WORKPLACE

Contractor shall comply with the applicable provisions of the Drug-Free Work Place Act of 1988 (Public Law 100-690, Title V, Subtitle D; 41 USC § 701 et seq.) and maintain a drug-free work environment; and the final rule, government-wide requirements for drug-free work place issued by the Office of Management and Budget to implement the provisions of the Drug-Free Work Place Act of 1988 is incorporated by reference and the Contractor shall comply with the relevant provisions thereof, including any amendments, which are made part of this Agreement.

70-34 DISCRIMINATORY VENDOR LIST

Contractor hereby acknowledges its continuous duty to disclose to the City if Contractor or any of its affiliates, as defined by Section 287.134(1)(a), Florida Statutes, has been placed on the Discriminatory Vendor List. Pursuant to Section 287.134(2)(a), Florida Statutes: “An entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid, proposal, or reply on a contract to provide any goods or services to a public entity; may not submit a bid, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals, or replies on leases of real property to a public entity; may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity; and may not transact business with any public entity.”

70-35 ACCESS AND AUDITS

1. Contractor agrees to comply with Section 20.055(5), Florida Statutes, and to incorporate in all agreements with subconsultants, subvendors, and subcontractors, the obligation to comply with the provisions of Section 20.055(5), Florida Statutes.

2. Contractor shall maintain adequate records to justify all charges and costs incurred in performing the work for at least five (5) years from the date of final payment under this Agreement. The CITY shall have access to such books, records, and documents as required in this section for the purpose of inspection or audit during normal business hours at the Contractor's place of business.

3. Misrepresentations of billable time or reimbursable expenses as determined by the Auditor to the City of Wauchula shall result in the recovery of any resulting overpayments. The CITY's cost of recovery shall be the sole expense of the Contractor, including accounting and legal fees, court costs, and administrative expenses.

4. Intentional misrepresentations of billable hours and reimbursable expenses will be criminally prosecuted to the fullest extent of the law.

5. All invoices submitted are subject to audit and demand for refund of overpayment up to five (5) years following final payment under this Agreement.

70-36 ANNUAL APPROPRIATIONS

Contractor acknowledges that the CITY, during any fiscal year, shall not expend money, incur any liability, or enter into any agreement which, by its terms, involves the expenditure of money in excess of the amounts budgeted as available for expenditure during such fiscal year. Any agreement, verbal or written, made in violation of this subsection is null and void, and no money may be paid on such agreement. Nothing herein contained shall prevent the making of agreements for a period exceeding one year, but any agreement so made shall be executory only for the value of the services to be rendered or agreed to be paid for in succeeding fiscal years. This Agreement will remain in full force and effect only as long as the expenditures provided for in the Agreement have been appropriated by the City Commission of the City of Wauchula in the annual budget for each fiscal year of the Service Agreement, and is subject to termination without any penalty due to lack of funding. Accordingly, the CITY's performance and obligation to pay under this agreement is contingent upon annual appropriation.

70-37 LIMITATION OF LIABILITY

In no event, shall the CITY be liable to the Contractor for indirect, incidental, consequential, special, exemplary, or punitive damages of any kind or nature, including loss of profit, whether foreseeable or not, arising out of or resulting from the nonperformance or breach of this contract by the CITY whether based in contract, common law, warranty, tort, strict liability, contribution, indemnity or otherwise.

END OF SECTION 70

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SECTION 80 EXECUTION AND PROGRESS

80-01 SUBLETTING OF CONTRACT. The Owner will not recognize any subcontractor on the work. The Contractor shall at all times when work is in progress be represented either in person, by a qualified superintendent, or by other designated, qualified representative who is duly authorized to receive and execute orders of the Resident Project Representative (RPR).

The Contractor shall perform, with his organization, an amount of work equal to at least **25%** percent of the total contract cost.

Should the Contractor elect to assign their contract, said assignment shall be concurred in by the surety, shall be presented for the consideration and approval of the Owner, and shall be consummated only on the written approval of the Owner.

The Contractor shall provide copies of all subcontracts to the RPR 14 calendar **days prior to being utilized on the project. As a minimum, the information shall include the following:**

- Subcontractor's legal company name.
- Subcontractor's legal company address, including County name.
- Principal contact person's name, telephone and fax number.
- Complete narrative description, and dollar value of the work to be performed by the subcontractor.
- Copies of required insurance certificates in accordance with the specifications.
- Minority/ non-minority status.

80-02 NOTICE TO PROCEED (NTP). The notice to proceed shall state the date on which it is expected the Contractor will begin the construction and from which date contract time will be charged. The Contractor shall begin the work to be performed under the contract within 10 days of the date set by the Engineer in the written notice to proceed, but in any event, the Contractor shall notify the Engineer at least 24 hours in advance of the time actual construction operations will begin. The Contractor shall not commence any actual construction prior to the date on which the notice to proceed is issued by the Owner.

80-03 EXECUTION AND PROGRESS. Unless otherwise specified, the Contractor shall submit their coordinated construction schedule showing all work activities for the RPR’s review and acceptance at least 10 days prior to the start of work. The Contractor’s progress schedule, once accepted by the RPR, will represent the Contractor's baseline plan to accomplish the project in accordance with the terms and conditions of the Contract. The RPR will compare actual Contractor progress against the baseline schedule to determine that status of the Contractor's performance. The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the project in accordance with the plans and specifications within the time set forth in the proposal.

If the Contractor falls significantly behind the submitted schedule, the Contractor shall, upon the RPR's request, submit a revised schedule for completion of the work within the contract time and modify their operations to provide such additional materials, equipment, and labor necessary to meet the revised schedule. Should the execution of the work be discontinued for any reason, the Contractor shall notify the RPR at least 24 hours in advance of resuming operations.

The Contractor shall not commence any actual construction prior to the date on which the NTP is issued by the Owner.

The project schedule shall be prepared as a network diagram in Critical Path Method (CPM), Program Evaluation and Review Technique (PERT), or other format, or as otherwise specified. It shall include information on the sequence of work activities, milestone dates, and activity duration. The schedule shall show all work items identified in the project proposal for each work area and shall include the project start date and end date.

The Contractor shall maintain the work schedule and provide an update and analysis of the progress schedule on a twice monthly basis, or as otherwise specified in the contract. Submission of the work schedule shall not relieve the Contractor of overall responsibility for scheduling, sequencing, and coordinating all work to comply with the requirements of the contract.

80-04 LIMITATION OF OPERATIONS. The Contractor shall control their operations and the operations of their subcontractors and all suppliers to provide for the free and unobstructed movement of aircraft in the air operations areas (AOA) of the airport.

When the work requires the Contractor to conduct their operations within an AOA of the airport, the work shall be coordinated with airport operations (through the RPR) at least 48 hours prior to commencement of such work. The Contractor shall not close an AOA until so authorized by the RPR and until the necessary temporary marking, signage and associated lighting is in place as provided in Section 70, paragraph 70-08, *Construction Safety and Phasing Plan (CSPP)*.

When the contract work requires the Contractor to work within an AOA of the airport on an intermittent basis (intermittent opening and closing of the AOA), the Contractor shall maintain constant communications as specified; immediately obey all instructions to vacate the AOA; and immediately obey all instructions to resume work in such AOA. Failure to maintain the specified communications or to obey instructions shall be cause for suspension of the Contractor's operations in the AOA until satisfactory conditions are provided. The areas of the AOA identified in the Construction Safety Phasing Plan (CSPP) and as listed below, cannot be closed to operating aircraft to permit the Contractor's operations on a continuous basis and will therefore be closed to aircraft operations intermittently as follows:

Taxiways shall be closed anytime there is activity within the Safety Area. Refer to the Construction Safety and Phasing Plan for detailed phasing requirements.

The Contractor shall be required to conform to safety standards contained in AC 150/5370-2, Operational Safety on Airports During Construction and the approved CSPP.

80-04.1 OPERATIONAL SAFETY ON AIRPORT DURING CONSTRUCTION. All Contractors' operations shall be conducted in accordance with the approved project Construction Safety and Phasing Plan (CSPP) and the Safety Plan Compliance Document (SPCD) and the provisions set forth within the current version of AC 150/5370-2, Operational Safety on Airports During Construction. The CSPP included within the contract documents conveys minimum requirements for operational safety on the airport during construction activities. The Contractor shall prepare and submit a SPCD that details how it proposes to comply with the requirements presented within the CSPP.

The Contractor shall implement all necessary safety plan measures prior to commencement of any work activity. The Contractor shall conduct routine checks to assure compliance with the safety plan measures.

The Contractor is responsible to the Owner for the conduct of all subcontractors it employs on the project. The Contractor shall assure that all subcontractors are made aware of the requirements of the CSPP and SPCD and that they implement and maintain all necessary measures.

No deviation or modifications may be made to the approved CSPP and SPCD unless approved in writing by the Owner. The necessary coordination actions to review Contractor proposed modifications to an approved CSPP or approved SPCD can require a significant amount of time.

80-05 CHARACTER OF WORKERS, METHODS, AND EQUIPMENT. The Contractor shall, at all times, employ sufficient labor and equipment for prosecuting the work to full completion in the manner and time required by the contract, plans, and specifications.

All workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special work or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform the work satisfactorily.

Any person employed by the Contractor or by any subcontractor who violates any operational regulations or operational safety requirements and, in the opinion of the RPR, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the RPR, be removed immediately by the Contractor or subcontractor employing such person, and shall not be employed again in any portion of the work without approval of the RPR.

Should the Contractor fail to remove such person or persons, or fail to furnish suitable and sufficient personnel for the proper execution of the work, the RPR may suspend the work by written notice until compliance with such orders.

All equipment that is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to meet requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the work shall not cause injury to previously completed work, adjacent property, or existing airport facilities due to its use.

When the methods and equipment to be used by the Contractor in accomplishing the work are not prescribed in the contract, the Contractor is free to use any methods or equipment that will accomplish the work in conformity with the requirements of the contract, plans, and specifications.

When the contract specifies the use of certain methods and equipment, such methods and equipment shall be used unless otherwise authorized by the RPR. If the Contractor desires to use a method or type of equipment other than specified in the contract, the Contractor may request authority from the RPR to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the RPR determines that the work produced does not meet contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining work with the specified methods and equipment. The Contractor shall remove any deficient work and replace it with work of specified quality, or take such other corrective action as the RPR may direct. No change will be made in basis of payment for the contract items involved nor in contract time as a result of authorizing a change in methods or equipment under this paragraph.

80-06 TEMPORARY SUSPENSION OF THE WORK. The Owner shall have the authority to suspend the work wholly, or in part, for such period or periods the Owner may deem necessary, due to unsuitable weather, or other conditions considered unfavorable for the execution of the work, or for such time necessary due to the failure on the part of the Contractor to carry out orders given or perform any or all provisions of the contract.

In the event that the Contractor is ordered by the Owner, in writing, to suspend work for some unforeseen cause not otherwise provided for in the contract and over which the Contractor has no control, the Contractor may be reimbursed for actual money expended on the work during the period of shutdown. No allowance will be made for anticipated profits. The period of shutdown shall be computed from the effective date of the written order to suspend work to the effective date of the written order to resume the work. Claims for such compensation shall be filed with the RPR within the time period stated in the RPR's order to resume work. The Contractor shall submit with their own claim information substantiating the amount shown on the claim. The RPR will forward the Contractor's claim to the Owner for consideration in accordance with local laws or ordinances. No provision of this article shall be construed as entitling the Contractor to compensation for delays due to inclement weather or for any other delay provided for in the contract, plans, or specifications.

If it becomes necessary to suspend work for an indefinite period, the Contractor shall store all materials in such manner that they will not become an obstruction nor become damaged in any way. The Contractor shall take every precaution to prevent damage or deterioration of the work performed and provide for normal drainage of the work. The Contractor shall erect temporary structures where necessary to provide for traffic on, to, or from the airport.

80-07 DETERMINATION AND EXTENSION OF CONTRACT TIME. The ***number of calendar days*** shall be stated in the proposal and contract and shall be known as the Contract Time.

If the contract time requires extension for reasons beyond the Contractor's control, it shall be adjusted as follows:

80-07.1 CONTRACT TIME BASED ON CALENDAR DAYS. Contract Time based on calendar days shall consist of the number of calendar days stated in the contract counting from the effective date of the Notice to Proceed and including all Saturdays, Sundays, holidays, and non-work days. All calendar days elapsing between the effective dates of the Owner's orders to suspend and resume all work, due to causes not the fault of the Contractor, shall be excluded.

At the time of final payment, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in the contract time shall not consider either cost of work or the extension of contract time that has been covered by a change order or supplemental agreement. Charges against the contract time will cease as of the date of final acceptance.

80-08 FAILURE TO COMPLETE ON TIME. For each calendar day or working day, as specified in the contract, that any work remains uncompleted after the contract time (including all extensions and adjustments as provided in paragraph 80-07, *Determination and Extension of Contract Time*) the sum specified in the contract and proposal as liquidated damages (LD) will be deducted from any money due or to become due the Contractor or their own surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages including but not limited to additional engineering services that will be incurred by the Owner should the Contractor fail to complete the work in the time provided in their contract.

Schedule	Liquidated Damages Cost	Allowed Construction Time
All Schedules	$500 per Calendar Day	240 Calendar Days

The maximum construction time allowed for all Schedules will be the sum of the time allowed for individual schedules but not more than **240 Calendar Days**. Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a wavier on the part of the Owner of any of its rights under the contract.

80-09 DEFAULT AND TERMINATION OF CONTRACT. The Contractor shall be considered in default of their contract and such default will be considered as cause for the Owner to terminate the contract for any of the following reasons, if the Contractor:

a. Fails to begin the work under the contract within the time specified in the Notice to Proceed, or

b. Fails to perform the work or fails to provide sufficient workers, equipment and/or materials to assure completion of work in accordance with the terms of the contract, or

c. Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or

d. Discontinues the execution of the work, or

e. Fails to resume work which has been discontinued within a reasonable time after notice to do so, or

f. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or

g. Allows any final judgment to stand against the Contractor unsatisfied for a period of 10 days, or

h. Makes an assignment for the benefit of creditors, or

i. For any other cause whatsoever, fails to carry on the work in an acceptable manner.

Should the Owner consider the Contractor in default of the contract for any reason above, the Owner shall immediately give written notice to the Contractor and the Contractor's surety as to the reasons for considering the Contractor in default and the Owner's intentions to terminate the contract.

If the Contractor or surety, within a period of 10 days after such notice, does not proceed in accordance therewith, then the Owner will, upon written notification from the RPR of the facts of such delay, neglect, or default and the Contractor's failure to comply with such notice, have full power and authority without violating the contract, to take the execution of the work out of the hands of the Contractor. The Owner may appropriate or use any or all materials and equipment that have been mobilized for use in the work and are acceptable and may enter into an agreement for the completion of said contract according to the terms and provisions thereof, or use such other methods as in the opinion of the RPR will be required for the completion of said contract in an acceptable manner.

All costs and charges incurred by the Owner, together with the cost of completing the work under contract, will be deducted from any monies due or which may become due the Contractor. If such expense exceeds the sum which would have been payable under the contract, then the Contractor and the surety shall be liable and shall pay to the Owner the amount of such excess.

80-10 TERMINATION FOR NATIONAL EMERGENCIES. The Owner shall terminate the contract or portion thereof by written notice when the Contractor is prevented from proceeding with the construction contract as a direct result of an Executive Order of the President with respect to the execution of war or in the interest of national defense.

When the contract, or any portion thereof, is terminated before completion of all items of work in the contract, payment will be made for the actual number of units or items of work completed at the contract price or as mutually agreed for items of work partially completed or not started. No claims or loss of anticipated profits shall be considered.

Reimbursement for organization of the work, and other overhead expenses, (when not otherwise included in the contract) and moving equipment and materials to and from the job will be considered, the intent being that an equitable settlement will be made with the Contractor.

Acceptable materials, obtained or ordered by the Contractor for the work and that are not incorporated in the work shall, at the option of the Contractor, be purchased from the Contractor at actual cost as shown by receipted bills and actual cost records at such points of delivery as may be designated by the RPR.

Termination of the contract or a portion thereof shall neither relieve the Contractor of their responsibilities for the completed work nor shall it relieve their surety of its obligation for and concerning any just claim arising out of the work performed.

80-11 WORK AREA, STORAGE AREA AND SEQUENCE OF OPERATIONS. The Contractor shall obtain approval from the RPR prior to beginning any work in all areas of the airport. No operating runway, taxiway, or air operations area (AOA) shall be crossed, entered, or obstructed while it is operational. The Contractor shall plan and coordinate work in accordance with the approved CSPP and SPCD.

END OF SECTION 80

SECTION 90 MEASUREMENT AND PAYMENT

90-01 MEASUREMENT OF QUANTITIES. All work completed under the contract will be measured by the RPR, or their authorized representatives, using United States Customary Units of Measurement.

The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract will be those methods generally recognized as conforming to good engineering practice.

Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures (or leave-outs) having an area of 9 square feet (0.8 square meters) or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the plans or ordered in writing by the RPR.

Unless otherwise specified, all contract items which are measured by the linear foot such as electrical ducts, conduits, pipe culverts, underdrains, and similar items shall be measured parallel to the base or foundation upon which such items are placed.

The term “lump sum” when used as an item of payment will mean complete payment for the work described in the contract. When a complete structure or structural unit (in effect, “lump sum” work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.

When requested by the Contractor and approved by the RPR in writing, material specified to be measured by the cubic yard (cubic meter) may be weighed, and such weights will be converted to cubic yards (cubic meters) for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the RPR and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.

Measurement and Payment Terms

Term	Description
Excavation and Embankment Volume	In computing volumes of excavation, the average end area method will be used unless otherwise specified.
Measurement and Proportion by Weight	The term “ton” will mean the short ton consisting of 2,000 pounds (907 km) avoirdupois. All materials that are measured or proportioned by weights shall be weighed on accurate, independently certified scales by competent, qualified personnel at locations designated by the RPR. If material is shipped by rail, the car weight may be accepted provided that only the actual weight of material is paid for. However, car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty daily at such times as the RPR directs, and each truck shall bear a plainly legible identification mark.

Term	Description
Measurement by Volume	Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or type acceptable for the materials hauled, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles shall be loaded to at least their water level capacity, and all loads shall be leveled when the vehicles arrive at the point of delivery.
Asphalt Material	Asphalt materials will be measured by the gallon (liter) or ton (kg). When measured by volume, such volumes will be measured at 60°F (16°C) or will be corrected to the volume at 60°F (16°C) using ASTM D1250 for asphalts. Net certified scale weights or weights based on certified volumes in the case of rail shipments will be used as a basis of measurement, subject to correction when asphalt material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the work. When asphalt materials are shipped by truck or transport, net certified weights by volume, subject to correction for loss or foaming, will be used for computing quantities.
Cement	Cement will be measured by the ton (kg) or hundredweight (km).
Structure	Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.
Timber	Timber will be measured by the thousand feet board measure (MFBM) actually incorporated in the structure. Measurement will be based on nominal widths and thicknesses and the extreme length of each piece.
Plates and Sheets	The thickness of plates and galvanized sheet used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing will be specified and measured in decimal fraction of inch.
Miscellaneous Items	When standard manufactured items are specified such as fence, wire, plates, rolled shapes, pipe conduit, etc., and these items are identified by gauge, unit weight, section dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted.
Scales	Scales must be tested for accuracy and serviced before use. Scales for weighing materials which are required to be proportioned or measured and paid for by weight shall be furnished, erected, and maintained by the Contractor, or be certified permanently installed commercial scales. Platform scales shall be installed and maintained with the platform level and rigid bulkheads at each end. Scales shall be accurate within 0.5% of the correct weight throughout the range of use. The Contractor shall have the scales checked under the observation of the RPR before beginning work and at such other times as

Term	Description
	requested. The intervals shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed 0.1% of the nominal rated capacity of the scale, but not less than one pound (454 grams). The use of spring balances will not be permitted. In the event inspection reveals the scales have been “overweighing” (indicating more than correct weight) they will be immediately adjusted. All materials received subsequent to the last previous correct weighting-accuracy test will be reduced by the percentage of error in excess of 0.5%. In the event inspection reveals the scales have been under-weighing (indicating less than correct weight), they shall be immediately adjusted. No additional payment to the Contractor will be allowed for materials previously weighed and recorded. Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and the RPR can safely and conveniently view them. Scale installations shall have available ten standard 50-pound (2.3 km) weights for testing the weighing equipment or suitable weights and devices for other approved equipment. All costs in connection with furnishing, installing, certifying, testing, and maintaining scales; for furnishing check weights and scale house; and for all other items specified in this subsection, for the weighing of materials for proportioning or payment, shall be included in the unit contract prices for the various items of the project.
Rental Equipment	Rental of equipment will be measured by time in hours of actual working time and necessary traveling time of the equipment within the limits of the work. Special equipment ordered in connection with extra work will be measured as agreed in the change order or supplemental agreement authorizing such work as provided in paragraph 90-05 *Payment for Extra Work*.
Pay Quantities	When the estimated quantities for a specific portion of the work are designated as the pay quantities in the contract, they shall be the final quantities for which payment for such specific portion of the work will be made, unless the dimensions of said portions of the work shown on the plans are revised by the RPR. If revised dimensions result in an increase or decrease in the quantities of such work, the final quantities for payment will be revised in the amount represented by the authorized changes in the dimensions.

90-02 SCOPE OF PAYMENT. The Contractor shall receive and accept compensation provided for in the contract as full payment for furnishing all materials, for performing all work under the contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of whatever character arising out of the nature of the work or the execution thereof, subject to the provisions of Section 70, paragraph 70-18, *No Waiver of Legal Rights*.

When the "basis of payment" subsection of a technical specification requires that the contract price (price bid) include compensation for certain work or material essential to the item, this same work or material will not also be measured for payment under any other contract item which may appear elsewhere in the contract, plans, or specifications.

90-03 COMPENSATION FOR ALTERED QUANTITIES. When the accepted quantities of work vary from the quantities in the proposal, the Contractor shall accept as payment in full, so far as contract items are concerned, payment at the original contract price for the accepted quantities of work actually completed and accepted. No allowance, except as provided for in Section 40, paragraph 40-02, *Alteration of Work and Quantities,* will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor which results directly from such alterations or indirectly from their own unbalanced allocation of overhead and profit among the contract items, or from any other cause.

90-04 PAYMENT FOR OMITTED ITEMS. As specified in Section 40, paragraph 40-03, *Omitted Items,* the RPR shall have the right to omit from the work (order nonperformance) any contract item, except major contract items, in the best interest of the Owner.

Should the RPR omit or order nonperformance of a contract item or portion of such item from the work, the Contractor shall accept payment in full at the contract prices for any work actually completed and acceptable prior to the RPR's order to omit or non-perform such contract item.

Acceptable materials ordered by the Contractor or delivered on the work prior to the date of the RPR's order will be paid for at the actual cost to the Contractor and shall thereupon become the property of the Owner.

In addition to the reimbursement hereinbefore provided, the Contractor shall be reimbursed for all actual costs incurred for the purpose of performing the omitted contract item prior to the date of the RPR's order. Such additional costs incurred by the Contractor must be directly related to the deleted contract item and shall be supported by certified statements by the Contractor as to the nature the amount of such costs.

90-05 PAYMENT FOR EXTRA WORK. Extra work, performed in accordance with Section 40, paragraph 40-04, *Extra Work*, will be paid for at the contract prices or agreed prices specified in the change order or supplemental agreement authorizing the extra work.

90-06 PARTIAL PAYMENTS. Partial payments will be made to the Contractor at least once each month as the work progresses. Said payments will be based upon estimates, prepared by the RPR, of the value of the work performed and materials complete and in place, in accordance with the contract, plans, and specifications. Such partial payments may also include the delivered actual cost of those materials stockpiled and stored in accordance with paragraph 90-07, *Payment for Materials on Hand*. No partial payment will be made when the amount due to the Contractor since the last estimate amounts to less than five hundred dollars.

From the total of the amount determined to be payable on a partial payment, **10** percent of such total amount will be deducted and retained by the Owner for protection of the Owner's interests. Unless otherwise instructed by the Owner, the amount retained by the Owner will be in effect until the final payment is made except as follows:

(1) Contractor may request release of retainage on work that has been partially accepted by the Owner in accordance with Section 50-14. Contractor must provide a certified invoice to the RPR that supports the value of retainage held by the Owner for partially accepted work.

(2) In lieu of retainage, the Contractor may exercise at its option the establishment of an escrow account per paragraph 90-08.

b. The Contractor is required to pay all subcontractors for satisfactory performance of their contracts no later than 30 days after the Contractor has received a partial payment. Contractor must provide the Owner evidence of prompt and full payment of retainage held by the prime Contractor to the subcontractor within 30 days after the subcontractor's work is satisfactorily completed. A subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented as required by the Owner. When the Owner has made an incremental acceptance of a portion of a prime contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed.

c. When at least 95% of the work has been completed to the satisfaction of the RPR, the RPR shall, at the Owner's discretion and with the consent of the surety, prepare estimates of both the contract value and the cost of the remaining work to be done. The Owner may retain an amount not less than twice the contract value or estimated cost, whichever is greater, of the work remaining to be done. The remainder, less all previous payments and deductions, will then be certified for payment to the Contractor.

It is understood and agreed that the Contractor shall not be entitled to demand or receive partial payment based on quantities of work in excess of those provided in the proposal or covered by approved change orders or supplemental agreements, except when such excess quantities have been determined by the RPR to be a part of the final quantity for the item of work in question.

No partial payment shall bind the Owner to the acceptance of any materials or work in place as to quality or quantity. All partial payments are subject to correction at the time of final payment as provided in paragraph 90-09, *Acceptance and Final Payment*. ***Retainage shall be subject to Florida Law.***

The Contractor shall deliver to the Owner a complete release of all claims for labor and material arising out of this contract before the final payment is made. If any subcontractor or supplier fails to furnish such a release in full, the Contractor may furnish a bond or other collateral satisfactory to the Owner to indemnify the Owner against any potential lien or other such claim. The bond or collateral shall include all costs, expenses, and attorney fees the Owner may be compelled to pay in discharging any such lien or claim.

Lien releases shall be subject to Florida Law.

90-07 PAYMENT FOR MATERIALS ON HAND. Partial payments may be made to the extent of the delivered cost of materials to be incorporated in the work, provided that such materials meet the requirements of the contract, plans, and specifications and are delivered to acceptable sites on the airport property or at other sites in the vicinity that are acceptable to the Owner. Such delivered costs of stored or stockpiled materials may be included in the next partial payment after the following conditions are met:

a. The material has been stored or stockpiled in a manner acceptable to the RPR at or on an approved site.

b. The Contractor has furnished the RPR with acceptable evidence of the quantity and quality of such stored or stockpiled materials.

c. The Contractor has furnished the RPR with satisfactory evidence that the material and transportation costs have been paid.

d. The Contractor has furnished the Owner legal title (free of liens or encumbrances of any kind) to the material stored or stockpiled.

e. The Contractor has furnished the Owner evidence that the material stored or stockpiled is insured against loss by damage to or disappearance of such materials at any time prior to use in the work.

It is understood and agreed that the transfer of title and the Owner's payment for such stored or stockpiled materials shall in no way relieve the Contractor of their responsibility for furnishing and placing such materials in accordance with the requirements of the contract, plans, and specifications.

In no case will the amount of partial payments for materials on hand exceed the contract price for such materials or the contract price for the contract item in which the material is intended to be used.

No partial payment will be made for stored or stockpiled living or perishable plant materials.

The Contractor shall bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this paragraph.

90-08 PAYMENT OF WITHHELD FUNDS. At the Contractor's option, if an Owner withholds retainage in accordance with the methods described in paragraph 90-06 *Partial Payments*, the Contractor may request that the Owner deposit the retainage into an escrow account. The Owner's deposit of retainage into an escrow account is subject to the following conditions:

a. The Contractor shall bear all expenses of establishing and maintaining an escrow account and escrow agreement acceptable to the Owner.

b. The Contractor shall deposit to and maintain in such escrow only those securities or bank certificates of deposit as are acceptable to the Owner and having a value not less than the retainage that would otherwise be withheld from partial payment.

c. The Contractor shall enter into an escrow agreement satisfactory to the Owner.

d. The Contractor shall obtain the written consent of the surety to such agreement.

90-09 ACCEPTANCE AND FINAL PAYMENT. When the contract work has been accepted in accordance with the requirements of Section 50, paragraph 50-15, *Final Acceptance*, the RPR will prepare the final estimate of the items of work actually performed. The Contractor shall approve the RPR's final estimate or advise the RPR of the Contractor's objections to the final estimate which are based on disputes in measurements or computations of the final quantities to be paid under the contract as amended by change order or supplemental agreement. The Contractor and the RPR shall resolve all disputes (if any) in the measurement and computation of final quantities to be paid within 30 calendar days of the Contractor's receipt of the RPR's final estimate. If, after such 30-day period, a dispute still exists, the Contractor may approve the RPR's estimate under protest of the quantities in dispute, and such disputed quantities shall be considered by the Owner as a claim in accordance with Section 50, paragraph 50-16, *Claims for Adjustment and Disputes*.

After the Contractor has approved, or approved under protest, the RPR's final estimate, and after the RPR's receipt of the project closeout documentation required in paragraph 90-11, *Contractor Final Project Documentation*, final payment will be processed based on the entire sum, or the undisputed sum in case of approval under protest, determined to be due the Contractor less all previous payments and all amounts to be deducted under the provisions of the contract. All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

If the Contractor has filed a claim for additional compensation under the provisions of Section 50, paragraph 50-16, *Claims for Adjustments and Disputes,* or under the provisions of this paragraph, such claims will be considered by the Owner in accordance with local laws or ordinances. Upon final adjudication of such claims, any additional payment determined to be due the Contractor will be paid pursuant to a supplemental final estimate.

90-10 CONSTRUCTION WARRANTY.

a. In addition to any other warranties in this contract, the Contractor warrants that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, workmanship, or design furnished, or performed by the Contractor or any subcontractor or supplier at any tier.

b. This warranty shall continue for a period of one year from the date of final acceptance of the work, except as noted. If the Owner takes possession of any part of the work before final acceptance, this warranty shall continue for a period of one year from the date the Owner takes possession. However, this will not relieve the Contractor from corrective items required by the final acceptance of the project work. Light Emitting Diode emitting diode (LED) light fixtures with the exception of obstruction lighting, must be warranted by the manufacturer for a minimum of four (4) years after date of installation inclusive of all electronics.

c. The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Owner real or personal property, when that damage is the result of the Contractor's failure to conform to contract requirements; or any defect of equipment, material, workmanship, or design furnished by the Contractor.

d. The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for one year from the date of repair or replacement.

e. The Owner will notify the Contractor, in writing, within ***14 calendar*** days after the discovery of any failure, defect, or damage.

f. If the Contractor fails to remedy any failure, defect, or damage within ***14 calendar*** days after receipt of notice, the Owner shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

g. With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall: (1) Obtain all warranties that would be given in normal commercial practice; (2) Require all warranties to be executed, in writing, for the benefit of the Owner, as directed by the Owner, and (3) Enforce all warranties for the benefit of the Owner.

h. This warranty shall not limit the Owner's rights with respect to latent defects, gross mistakes, or fraud.

Note that Engineering Brief (EB) #67, Light Sources Other than Incandescent and Xenon for Airport and Obstruction Lighting Fixtures, requires that all light-emitting diode (LED) light fixtures with the exception of obstruction lighting, (advisory circular (AC) 150/5345-43) must be warranted by the manufacturer for a minimum of four (4) years after date of installation inclusive of all electronics.

90-11 CONTRACTOR FINAL PROJECT DOCUMENTATION. Approval of final payment to the Contractor is contingent upon completion and submittal of the items listed below. The final payment will not be approved until the RPR approves the Contractor's final submittal. The Contractor shall:

a. Provide two (2) copies of all manufacturers' warranties specified for materials, equipment, and installations.

b. Provide weekly payroll records (not previously received) from the general Contractor and all subcontractors.

c. Complete final cleanup in accordance with Section 40, paragraph 40-08, *Final Cleanup*.

d. Complete all punch list items identified during the Final Inspection.

e. Provide complete release of all claims for labor and material arising out of the Contract.

f. ~~Provide a certified statement signed by the subcontractors, indicating actual amounts paid to the Disadvantaged Business Enterprise (DBE) subcontractors and/or suppliers associated with the project.~~

g. When applicable per state requirements, return copies of sales tax completion forms.

h. Manufacturer's certifications for all items incorporated in the work.

i. All required record drawings, as-built drawings or as-constructed drawings.

j. Project Operation and Maintenance (O&M) Manual(s).

k. Security for Construction Warranty.

l. Equipment commissioning documentation submitted, if required.

END OF SECTION 90

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SECTION 120 FEDERAL CONTRACT CLAUSES

Go to www.faa.gov for additional information, incorporated by reference.

A1 ACCESS TO RECORDS AND REPORTS

ACCESS TO RECORDS AND REPORTS

The Contractor must maintain an acceptable cost accounting system. The Contractor agrees to provide the Owner, the Federal Aviation Administration and the Comptroller General of the United States or any of their duly authorized representatives access to any books, documents, papers and records of the Contractor which are directly pertinent to the specific contract for the purpose of making audit, examination, excerpts and transcriptions. The Contractor agrees to maintain all books, records and reports required under this contract for a period of not less than three years after final payment is made and all pending matters are closed.

A2 BREACH OF CONTRACT TERMS

BREACH OF CONTRACT TERMS

Any violation or breach of terms of this contract on the part of the [*Contractor | Consultant*] or its subcontractors may result in the suspension or termination of this contract or such other action that may be necessary to enforce the rights of the parties of this agreement.

Owner will provide [*Contractor | Consultant*] written notice that describes the nature of the breach and corrective actions the [*Contractor | Consultant*] must undertake in order to avoid termination of the contract. Owner reserves the right to withhold payments to Contractor until such time the Contractor corrects the breach or the Owner elects to terminate the contract. The Owner's notice will identify a specific date by which the [*Contractor | Consultant*] must correct the breach. Owner may proceed with termination of the contract if the [*Contractor | Consultant*] fails to correct the breach by the deadline indicated in the Owner's notice.

The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder are in addition to, and not a limitation of, any duties, obligations, rights and remedies otherwise imposed or available by law.

A3 BUY AMERICAN PREFERENCE

A3.1.1 Certification of Compliance with FAA Buy American Preference Statement

FAA BUY AMERICAN PREFERENCE

The Contractor certifies that its bid/offer is in compliance with 49 U.S.C. § 50101, BABA and other related Made in America Laws,[1] U.S. statutes, guidance, and FAA policies, which provide that Federal funds may not be obligated unless all iron, steel and manufactured goods used in AIP funded projects are produced in the United States, unless the Federal Aviation Administration has issued a waiver for the product; the product is listed as an Excepted Article, Material Or Supply in Federal Acquisition Regulation subpart 25.108; or is included in the FAA Nationwide Buy American Waivers Issued list.

The bidder or offeror must complete and submit the certification of compliance with FAA's Buy American Preference, BABA and Made in America laws included herein with their bid or offer. The Airport Sponsor/Owner will reject as nonresponsive any bid or offer that does not include a completed certification of compliance with FAA's Buy American Preference and BABA.

The bidder or offeror certifies that all constructions materials, defined to mean an article, material, or supply other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives that are or consist primarily of: non-ferrous metals; plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); glass (including optic glass); lumber; or drywall used in the project are manufactured in the U.S.

The bidder or offeror certifies procurement of certain rolling stock using FAA grant funds will prohibit airports from using Federal financial assistance to procure buses or rail car vehicle rolling stock from covered entities.

[1] Per Executive Order 14005 "Made in America Laws" means all statutes, regulations, rules, and Executive Orders relating to federal financial assistance awards or federal procurement, including those that refer to "Buy America" or "Buy American," that require, or provide a preference for, the purchase or acquisition of goods, products, or materials produced in the United States, including iron, steel, and manufactured products offered in the United States.

A3.1.2 Certification of Compliance with FAA Buy American Preference – Construction Projects

As a matter of bid responsiveness, the bidder or offeror must complete, sign, date, and submit this certification statement with its proposal. The bidder or offeror must indicate how it intends to comply with 49 U.S.C. § 50101, BABA and other related Made in America Laws, U.S. statutes, guidance, and FAA policies, by selecting one of the following certification statements. These statements are mutually exclusive. Bidder must select one or the other (i.e., not both) by inserting a checkmark (ü) or the letter "X".

☐ Bidder or offeror hereby certifies that it will comply with 49 U.S.C. § 50101, BABA and other related U.S. statutes, guidance, and policies of the FAA by:

a) Only installing iron, steel and manufactured products produced in the United States;

b) Only installing construction materials defined as: an article, material, or supply – other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives that are or consist primarily of non-ferrous metals; plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); glass (including optic glass); lumber or drywall that have been manufactured in the United States.

c) Installing manufactured products for which the Federal Aviation Administration (FAA) has issued a waiver as indicated by inclusion on the current FAA Nationwide Buy American Waivers Issued listing; or

d) Installing products listed as an Excepted Article, Material or Supply in Federal Acquisition Regulation Subpart 25.108.

By selecting this certification statement, the bidder or offeror agrees:

a) To provide to the Airport Sponsor or the FAA evidence that documents the source and origin of the iron, steel, and/or manufactured product.
b) To faithfully comply with providing U.S. domestic products.
c) To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.
d) Certify that all construction materials used in the project are manufactured in the U.S.

☐ The bidder or offeror hereby certifies it cannot comply with the 100 percent Buy American Preferences of 49 U.S.C. § 50101(a) but may qualify for a Type 3 or Type 4 waiver under 49 USC § 50101(b). By selecting this certification statement, the apparent bidder or offeror with the apparent low bid agrees:

a) To the submit to the Airport Sponsor or FAA within 15 calendar days of being selected as the responsive bidder, a formal waiver request and required documentation that supports the type of waiver being requested.

b) That failure to submit the required documentation within the specified timeframe is cause for a non-responsive determination that may result in rejection of the proposal.
c) To faithfully comply with providing U.S. domestic products at or above the approved U.S. domestic content percentage as approved by the FAA.
d) To furnish U.S. domestic product for any waiver request that the FAA rejects.
e) To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

Required Documentation

Type 2 Waiver (Nonavailability) - The iron, steel, manufactured goods or construction materials or manufactured goods are not available in sufficient quantity or quality in the United States. The required documentation for the Nonavailability waiver is

a) Completed Content Percentage Worksheet and Final Assembly Questionnaire
b) Record of thorough market research, consideration where appropriate of qualifying alternate items, products, or materials including;
c) A description of the market research activities and methods used to identify domestically manufactured items capable of satisfying the requirement, including the timing of the research and conclusions reached on the availability of sources.

Type 3 Waiver – The cost of components and subcomponents produced in the United States is more than 60 percent of the cost of all components and subcomponents of the "facility/project." The required documentation for a Type 3 waiver is:

a) Completed Content Percentage Worksheet and Final Assembly Questionnaire including;
b) Listing of all manufactured products that are not comprised of 100 percent U.S. domestic content (excludes products listed on the FAA Nationwide Buy American Waivers Issued listing and products excluded by Federal Acquisition Regulation Subpart 25.108; products of unknown origin must be considered as non-domestic products in their entirety).
c) Cost of non-domestic components and subcomponents, excluding labor costs associated with final assembly and installation at project location.
d) Percentage of non-domestic component and subcomponent cost as compared to total "facility" component and subcomponent costs, excluding labor costs associated with final assembly and installation at project location.

Type 4 Waiver (Unreasonable Costs) - Applying this provision for iron, steel, manufactured goods or construction materials would increase the cost of the overall project by more than 25 percent. The required documentation for this waiver is:

a) A completed Content Percentage Worksheet and Final Assembly Questionnaire from
b) At minimum two comparable equal bids and/or offers;
c) Receipt or record that demonstrates that supplier scouting called for in Executive Order 14005, indicates that no domestic source exists for the project and/or component;
d) Completed waiver applications for each comparable bid and/or offer.

False Statements: Per 49 USC § 47126, this certification concerns a matter within the jurisdiction of the Federal Aviation Administration and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code.

Date	Signature
Company Name	Title

A3.1.3 Certification of Compliance with FAA Buy American Preference – Equipment/Building Projects

As a matter of bid responsiveness, the bidder or offeror must complete, sign, date, and submit this certification statement with their proposal. The bidder or offeror must indicate how they intend to comply with 49 U.S.C. § 50101, and other Made in America Laws, U.S. statutes, guidance, and FAA policies by selecting one on the following certification statements. These statements are mutually exclusive. Bidder must select one or the other (not both) by inserting a checkmark (ü) or the letter "X".

☐ Bidder or offeror hereby certifies that it will comply with 49 U.S.C. § 50101, BABA and other related U.S. statutes, guidance, and policies of the FAA by:

a) Only installing steel and manufactured products produced in the United States;
b) Only installing construction materials defined as: an article, material, or supply – other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives that are or consist primarily of non-ferrous metals; plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); glass (including optic glass); lumber or drywall that have been manufactured in the United States.
c) Installing manufactured products for which the Federal Aviation Administration (FAA) has issued a waiver as indicated by inclusion on the current FAA Nationwide Buy American Waivers Issued listing; or
d) Installing products listed as an Excepted Article, Material or Supply in Federal Acquisition Regulation Subpart 25.108.

By selecting this certification statement, the bidder or offeror agrees:

a) To provide to the Airport Sponsor or FAA evidence that documents the source and origin of the steel and manufactured product.
b) To faithfully comply with providing U.S. domestic product.
c) To furnish U.S. domestic product for any waiver request that the FAA rejects.
d) To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

☐ The bidder or offeror hereby certifies it cannot comply with the 100 percent Buy American Preferences of 49 U.S.C. § 50101(a) but may qualify for a Type 3 waiver under 49 U.S.C. § 50101(b). By selecting this certification statement, the apparent bidder or offeror with the apparent low bid agrees:

a) To submit to the Airport Sponsor or FAA within 15 calendar days of being selected as the responsive bidder, a formal waiver request and required documentation that supports the type of waiver being requested.
b) That failure to submit the required documentation within the specified timeframe is cause for a non-responsive determination that may result in rejection of the proposal.

c) To faithfully comply with providing U.S. domestic products at or above the approved U.S. domestic content percentage as approved by the FAA.
d) To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

Required Documentation

Type 2 Waiver (**Nonavailability)** - The iron, steel, manufactured goods or construction materials are not available in sufficient quantity or quality in the United States. The required documentation for the Nonavailability waiver is:

a) Completed Content Percentage Worksheet and Final Assembly Questionnaire
b) Record of thorough market research, consideration where appropriate of qualifying alternate items, products, or materials including;
c) A description of the market research activities and methods used to identify domestically manufactured items capable of satisfying the requirement, including the timing of the research and conclusions reached on the availability of sources.

Type 3 Waiver – The cost of the item components and subcomponents produced in the United States is more that 60 percent of the cost of all components and subcomponents of the "item". The required documentation for a Type 3 waiver is:

a) Completed Content Percentage Worksheet and Final Assembly Questionnaire including;
b) Listing of all product components and subcomponents that are not comprised of 100 percent U.S. domestic content (Excludes products listed on the FAA Nationwide Buy American Waivers Issued listing and products excluded by Federal Acquisition Regulation Subpart 25.108 (products of unknown origin must be considered as non-domestic products in their entirety).
c) Cost of non-domestic components and subcomponents, excluding labor costs associated with final assembly at place of manufacture.
d) Percentage of non-domestic component and subcomponent cost as compared to total "item" component and subcomponent costs, excluding labor costs associated with final assembly at place of manufacture.

Type 4 Waiver (Unreasonable Costs) - Applying this provision for iron, steel, manufactured goods or construction materials, would increase the cost of the overall project by more than 25 percent. The required documentation for this waiver is:

a) Completed Content Percentage Worksheet and Final Assembly Questionnaire from
b) At minimum two comparable equal bidders and/or offerors;
c) Receipt or record that demonstrates that supplier scouting called for in Executive Order 14005, indicates that no domestic source exists for the project and/or component;
d) Completed waiver applications for each comparable bid and/or offer.

False Statements: Per 49 U.S.C. § 47126, this certification concerns a matter within the jurisdiction of the Federal Aviation Administration and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code.

Date	Signature
Company Name	Title

A4 CIVIL RIGHTS - GENERAL

A4.1.1 General Clause that is used for Contracts, Lease Agreements, and Transfer Agreements

GENERAL CIVIL RIGHTS PROVISIONS

In all its activities within the scope of its airport program, the Contractor agrees to comply with pertinent statutes, Executive Orders, and such rules as identified in Title VI List of Pertinent Nondiscrimination Acts and Authorities to ensure that no person shall, on the grounds of race, color, national origin, creed, sex, age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance.

This provision is in addition to that required by Title VI of the Civil Rights Act of 1964.

A4.1.2 Specific Clause that is used for General Contract Agreements

The above provision binds the Contractor and subcontractors from the bid solicitation period through the completion of the contract.

A5 CIVIL RIGHTS – TITLE VI ASSURANCE

A5.1.1 Title VI Solicitation Notice

Title VI Solicitation Notice:

As a condition of a grant award, the Sponsor shall demonstrate that it complies with the provisions of Title VI of the Civil Rights Act of 1964 (42 U.S.C. §§ 2000d et seq) and implementing regulations (49 CFR part 21) including amendments thereto, the Airport and Airway Improvement Act of 1982 (49 U.S.C. § 47123), the Age Discrimination Act of 1975 (42 U.S.C. 6101 et seq.), Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. § 794 et seq.), the Americans with Disabilities Act of 1990 (42 U.S.C. § 12101, et seq.), U.S. Department of Transportation and Federal Aviation Administration (FAA) Assurances, and other relevant civil rights statutes, regulations, or authorities, including any amendments or updates thereto. This may include, as applicable, providing a current Title VI Program Plan to the FAA for approval, in the format and according to the timeline required by the FAA, and other information about the communities that will be benefited and impacted by the project. A completed FAA Title VI Pre-Grant Award Checklist is required for every grant application, unless excused by the FAA. The Sponsor shall affirmatively ensure that when carrying out any project supported by this grant that it complies with all federal nondiscrimination and civil rights laws based on race, color, national origin, sex, creed, age, disability, genetic information, in consideration for federal financial assistance. The Department's and FAA's Office of Civil Rights may provide resources and technical assistance to recipients to ensure full and sustainable compliance with Federal civil rights requirements. Failure to comply with civil rights requirements will be considered a violation of the agreement or contract and be subject to any enforcement action as authorized by law.

A5.1.2 Title VI List of Pertinent Nondiscrimination Acts and Authorities

Title VI List of Pertinent Nondiscrimination Acts and Authorities

During the performance of this contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "Contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq*., 78 stat. 252) (prohibits discrimination on the basis of race, color, national origin);
- 49 CFR Part 21 (Non-discrimination in Federally-Assisted programs of the Department of Transportation—Effectuation of Title VI of the Civil Rights Act of 1964) including amendments thereto;
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601) (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. § 794 *et seq*.), as amended (prohibits discrimination on the basis of disability); and 49 CFR part 27 (Nondiscrimination on the Basis of Disability in Programs or Activities Receiving Federal Financial Assistance);
- The Age Discrimination Act of 1975, as amended (42 .U.S.C. § 6101 *et seq*.) (prohibits discrimination on the basis of age);

- Airport and Airway Improvement Act of 1982 (49 U.S.C. § 47123), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987 (P.L. 100-259) (broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, the Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act of 1990 (42 U.S.C. § 12101, et seq) (prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities) as implemented by U.S. Department of Transportation regulations at 49 CFR Parts 37 and 38;
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. § 1681, et seq).

A5.1.3 Nondiscrimination Requirements/Title VI Clauses for Compliance

Compliance with Nondiscrimination Requirements:

During the performance of this contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "Contractor"), agrees as follows:

1. **Compliance with Regulations:** The Contractor (hereinafter includes consultants) will comply with the Title VI List of Pertinent Nondiscrimination Acts and Authorities, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Nondiscrimination:** The Contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, national origin), creed, sex, age, or disability in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor will not participate directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21 including amendments thereto.
3. **Solicitations for Subcontracts, including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the Contractor of the contractor's obligations under this contract and the Nondiscrimination Acts and Authorities on the grounds of race, color, or national origin.
4. **Information and Reports:** The Contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Sponsor or the Federal Aviation Administration to be pertinent to ascertain compliance with such Nondiscrimination Acts and Authorities and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or

refuses to furnish the information, the Contractor will so certify to the Sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

5. **Sanctions for Noncompliance: In** the event of a Contractor's noncompliance with the non-discrimination provisions of this contract, the Sponsor will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:

    a. Withholding payments to the Contractor under the contract until the Contractor complies; and/or

    b. Cancelling, terminating, or suspending a contract, in whole or in part.

6. **Incorporation of Provisions:** The Contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations, and directives issued pursuant thereto. The Contractor will take action with respect to any subcontract or procurement as the Sponsor or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the Contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the Contractor may request the Sponsor to enter into any litigation to protect the interests of the Sponsor. In addition, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

(HABENDUM CLAUSE)

TO HAVE AND TO HOLD said lands and interests therein unto (***Title of Sponsor***) and its successors forever, subject, however, to the covenants, conditions, restrictions and reservations herein contained as follows, which will remain in effect for the period during which the real property or structures are used for a purpose for which Federal financial assistance is extended or for another purpose involving the provision of similar services or benefits and will be binding on the (***Title of Sponsor***), its successors and assigns.

The (***Title of Sponsor***), in consideration of the conveyance of said lands and interests in lands, does hereby covenant and agree as a covenant running with the land for itself, its successors and assigns, that (1) no person will on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination with regard to any facility located wholly or in part on, over, or under such lands hereby conveyed [,] [and]* (2) that the (***Title of Sponsor***) will use the lands and interests in lands and interests in lands so conveyed, in compliance with all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations and Acts may be amended[, and (3) that in the event of breach of any of the above-mentioned nondiscrimination conditions, the Department will have a right to enter or re-enter said lands and facilities on said land, and that above described land and facilities will thereon revert to and vest in and become the absolute property of the Federal Aviation Administration and its assigns as such interest existed prior to this instruction].*

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary in order to make clear the purpose of Title VI.)

A6 CLEAN AIR AND WATER POLLUTION CONTROL

CLEAN AIR AND WATER POLLUTION CONTROL

Contractor agrees to comply with all applicable standards, orders, and regulations issued pursuant to the Clean Air Act (42 U.S.C. §§ 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. §§ 1251-1387). The Contractor agrees to report any violation to the Owner immediately upon discovery. The Owner assumes responsibility for notifying the Environmental Protection Agency (EPA) and the Federal Aviation Administration.

Contractor must include this requirement in all subcontracts that exceed $150,000.

A7 CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS

CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS

1. Overtime Requirements.

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic, including watchmen and guards, in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; Liability for Unpaid Wages; Liquidated Damages.

In the event of any violation of the clause set forth in paragraph (1) of this clause, the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this clause, in the sum of $29 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this clause.

3. Withholding for Unpaid Wages and Liquidated Damages.

The Federal Aviation Administration (FAA) or the Owner shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this clause.

4. Subcontractors.

The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (1) through (4) and also a clause requiring the subcontractor to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this clause.

A8 COPELAND "ANTI-KICKBACK" ACT

COPELAND "ANTI-KICKBACK" ACT

Contractor must comply with the requirements of the Copeland "Anti-Kickback" Act (18 USC 874 and 40 USC 3145), as supplemented by Department of Labor regulation 29 CFR part 3. Contractor and subcontractors are prohibited from inducing, by any means, any person employed on the project to give up any part of the compensation to which the employee is entitled. The Contractor and each Subcontractor must submit to the Owner, a weekly statement on the wages paid to each employee performing on covered work during the prior week. Owner must report any violations of the Act to the Federal Aviation Administration.

A9 DAVIS-BACON REQUIREMENTS

DAVIS-BACON REQUIREMENTS

1. Minimum Wages.

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by the Secretary of Labor under regulations implementing the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalent thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided,* that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can easily be seen by the workers.

(ii)(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination;

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the

amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the Contractor, the laborers, or mechanics to be employed in the classification, or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii) (B) or (C) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided,* that the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding. The Federal Aviation Administration or the Sponsor shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the Contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the Federal Aviation Administration may, after written notice to the Contractor, Sponsor, Applicant, or Owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and Basic Records.

(i) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 1(b)(2)(B) of the Davis-Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records that show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual costs incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The Contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the Contractor will submit the payrolls to the applicant, Sponsor, or Owner, as the case may be, for transmission to the Federal Aviation Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR § 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead, the payrolls shall only need to include an individually identifying number for each employee (*e.g.,* the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site at *https://www.dol.gov/agencies/whd/government-contracts/construction/payroll-certification* or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker and shall provide them upon request to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the Contractor will submit them to the applicant, Sponsor, or Owner, as the case may be, for transmission to the Federal Aviation Administration, the Contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, Sponsor, or Owner).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under 29 CFR § 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR § 5.5 (a)(3)(i), and that such information is correct and complete;

(2) That each laborer and mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR Part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the “Statement of Compliance” required by paragraph (3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the Contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The Contractor or subcontractor shall make the records required under paragraph (3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the Sponsor, the Federal Aviation Administration, or the Department of Labor and shall permit such representatives to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the Contractor, Sponsor, applicant, or Owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR § 5.12.

4. Apprentices and Trainees.

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any

craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR § 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at no less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination that provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate that is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be

permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

5. Compliance with Copeland Act Requirements.

The Contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this contract.

6. Subcontracts.

The Contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR §§ 5.5(a)(1) through (10) and such other clauses as the Federal Aviation Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR § 5.5.

7. Contract Termination: Debarment.

A breach of the contract clauses in paragraph 1 through 10 of this section may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR § 5.12.

8. Compliance with Davis-Bacon and Related Act Requirements.

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes Concerning Labor Standards.

Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of Eligibility.

(i) By entering into this contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR § 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR § 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 USC § 1001.

A10 DEBARMENT AND SUSPENSION

CERTIFICATION OF OFFEROR/BIDDER REGARDING DEBARMENT

By submitting a bid/proposal under this solicitation, the bidder or offeror certifies that neither it nor its principals are presently debarred or suspended by any Federal department or agency from participation in this transaction.

CERTIFICATION OF LOWER TIER CONTRACTORS REGARDING DEBARMENT

The successful bidder, by administering each lower tier subcontract that exceeds $25,000 as a "covered transaction", must confirm each lower tier participant of a "covered transaction" under the project is not presently debarred or otherwise disqualified from participation in this federally-assisted project. The successful bidder will accomplish this by:

1. Checking the System for Award Management at website: http://www.sam.gov.
2. Collecting a certification statement similar to the Certification of Offeror /Bidder Regarding Debarment, above.
3. Inserting a clause or condition in the covered transaction with the lower tier contract.

If the Federal Aviation Administration later determines that a lower tier participant failed to disclose to a higher tier participant that it was excluded or disqualified at the time it entered the covered transaction, the FAA may pursue any available remedies, including suspension and debarment of the non-compliant participant.

A11 DISADVANTAGED BUSINESS ENTERPRISE

A11.1.1 Solicitation Language (Solicitations with a DBE Contract Goal)

For traditional design-bid-build projects, the decision on whether DBE information is a matter of responsiveness or responsibility is laid out in the Sponsor's approved DBE program and the Sponsor should incorporate the applicable solicitation language accordingly. Special procedures apply in the case of negotiated procurements and for projects that follow the Design-Build method of procurement. In all cases, Sponsors should include only the applicable solicitation language from the examples below.

Bid Information Submitted as a matter of **responsiveness**:

The Owner's award of this contract is conditioned upon Bidder or Offeror satisfying the good faith effort requirements of 49 CFR § 26.53.

As a condition of responsiveness, the Bidder or Offeror must submit the following information with its proposal on the forms provided herein:

1) The names and addresses of Disadvantaged Business Enterprise (DBE) firms that will participate in the contract;
2) A description of the work that each DBE firm will perform;
3) The dollar amount of the participation of each DBE firm listed under (1);
4) Written statement from Bidder or Offeror that attests their commitment to use the DBE firm(s) listed under (1) to meet the Owner's project goal
5) Written confirmation from each listed DBE firm that it is participating in the contract in the kind and amount of work provided in the prime contractor's commitment; and
6) If Bidder or Offeror cannot meet the advertised project DBE goal, evidence of good faith efforts undertaken by the Bidder or Offeror as described in appendix A to 49 CFR part 26 including any amendments thereto. The documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor was selected over a DBE for work on the contract.

Bid Information submitted as a matter of **responsibility**:

The Owner's award of this contract is conditioned upon Bidder or Offeror satisfying the good faith effort requirements of 49 CFR § 26.53.

As a condition of responsibility, every Bidder or Offeror must submit the following information on the forms provided herein within five days after bid opening.

1) The names and addresses of Disadvantaged Business Enterprise (DBE) firms that will participate in the contract;
2) A description of the work that each DBE firm will perform;
3) The dollar amount of the participation of each DBE firm listed under (1);

4) Written statement from Bidder or Offeror that attests their commitment to use the DBE firm(s) listed under (1) to meet the Owner's project goal;
5) Written confirmation from each listed DBE firm that it is participating in the contract in the kind and amount of work provided in the prime contractor's commitment; and
6) If Bidder or Offeror cannot meet the advertised project DBE goal, evidence of good faith efforts undertaken by the Bidder or Offeror as described in appendix A to 49 CFR Part 26 including any amendments thereto. The documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor was selected over a DBE for work on the contract.

Bid Information requirements for **negotiated procurements**:
In a negotiated procurement, such as a procurement for professional services, the Sponsor may allow the bidder/offeror to make a contractually binding commitment to meet the goal at the time of bid submission or the presentation of initial proposals but provide the information required under the above *responsiveness* or *responsibility* procedures before the final selection for the contract is made by the recipient.

Bid Information submitted for **Design-Build projects**:
In a design-build contracting situation, in which the Sponsor solicits proposals to design and build a project with minimal-project details at time of letting, the Sponsor may set a DBE goal that proposers must meet by submitting a DBE Open-Ended DBE Performance Plan (OEPP) with the proposal. The OEPP replaces the requirement to provide the information required in paragraph (b) of 49 CFR § 26.53 that applies to design-bid-build contracts. To be considered responsive, the OEPP must include a commitment to meet the goal and provide details of the types of subcontracting work or services (with projected dollar amount) that the proposer will solicit DBEs to perform. The OEPP must include an estimated time frame in which actual DBE subcontracts would be executed. Once the design-build contract is awarded, the recipient must provide ongoing monitoring and oversight to evaluate whether the design-builder is using good faith efforts to comply with the OEPP and schedule. The recipient and the design-builder may agree to make written revisions of the OEPP throughout the life of the project, *e.g.,* replacing the type of work items the design-builder will solicit DBEs to perform and/or adjusting the proposed schedule, as long as the design-builder continues to use good faith efforts to meet the goal.

A11.1.2 Solicitation Language (Solicitations with No DBE Contract Goal)

The requirements of 49 CFR Part 26 including any amendments thereto apply to this contract. It is the policy of the [Insert Name of Owner] to practice nondiscrimination based on race, color, sex, or national origin in the award or performance of this contract. The Owner encourages participation by all firms qualifying under this solicitation regardless of business size or ownership.

A11.1.3 Prime Contracts (Contracts Covered by a DBE Program)

Contract Assurance (49 CFR § 26.13; mandatory text provided) –

The Contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26, including any amendments thereto, in the award and administration of DOT-assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

1) Withholding monthly progress payments;
2) Assessing sanctions;
3) Liquidated damages; and/or
4) Disqualifying the Contractor from future bidding as non-responsible.

Prompt Payment (49 CFR § 26.29; acceptable/sample text provided) –

The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than [specify number of days, not to exceed 30] days from the receipt of each payment the prime contractor receives from [Name of recipient]. The prime contractor agrees further to return retainage payments to each subcontractor within [specify number of days, not to exceed 30] days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the [Name of Recipient]. This clause applies to both DBE and non-DBE subcontractors.

Termination of DBE Subcontracts (49 CFR § 26.53(f); acceptable/sample text provided) –

The prime contractor must not terminate a DBE subcontractor listed in response to [include Solicitation paragraph number where paragraph 12.3.1, Solicitation Language appears] (or an approved substitute DBE firm) without prior written consent of [Name of Recipient]. This includes, but is not limited to, instances in which the prime contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm.

The prime contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the contractor obtains written consent [Name of Recipient]. Unless [Name of Recipient] consent is provided, the prime contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE.

[Name of Recipient] may provide such written consent only if [Name of Recipient] agrees, for reasons stated in the concurrence document, that the prime contractor has good cause to terminate the DBE firm. For purposes of this paragraph, good cause includes the circumstances listed in 49 CFR § 26.53.

Before transmitting to [Name of Recipient] its request to terminate and/or substitute a DBE subcontractor, the prime contractor must give notice in writing to the DBE subcontractor, with a copy to [Name of Recipient], of its intent to request to terminate and/or substitute, and the reason for the request.

The prime contractor must give the DBE five days to respond to the prime contractor's notice and advise [Name of Recipient] and the contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why [Name of Recipient] should not approve the prime contractor's action. If required in a particular case as a matter of public necessity (e.g., safety), [Name of Recipient] may provide a response period shorter than five days.

In addition to post-award terminations, the provisions of this section apply to pre-award deletions of or substitutions for DBE firms put forward by offerors in negotiated procurements.

A12 DISTRACTED DRIVING

TEXTING WHEN DRIVING

In accordance with Executive Order 13513, "Federal Leadership on Reducing Text Messaging While Driving", (10/1/2009) and DOT Order 3902.10, "Text Messaging While Driving", (12/30/2009), the Federal Aviation Administration encourages recipients of Federal grant funds to adopt and enforce safety policies that decrease crashes by distracted drivers, including policies to ban text messaging while driving when performing work related to a grant or subgrant.

In support of this initiative, the Owner encourages the Contractor to promote policies and initiatives for its employees and other work personnel that decrease crashes by distracted drivers, including policies that ban text messaging while driving motor vehicles while performing work activities associated with the project. The Contractor must include the substance of this clause in all sub-tier contracts exceeding $15,000 that involve driving a motor vehicle in performance of work activities associated with the project.

A13 PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT

PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT

Contractor and Subcontractor agree to comply with mandatory standards and policies relating to use and procurement of certain telecommunications and video surveillance services or equipment in compliance with the National Defense Authorization Act P.L. 115-232, § 889(f)(1)).

A14 DRUG FREE WORKPLACE REQUIREMENTS

See 70-33.

A15 FEDERAL FAIR LABOR STANDARDS ACT (FEDERAL MINIMUM WAGE)

All contracts and subcontracts that result from this solicitation incorporate by reference the provisions of 29 CFR Part 201, et seq, the Federal Fair Labor Standards Act (FLSA), with the same force and effect as if given in full text. The FLSA sets minimum wage, overtime pay, recordkeeping, and child labor standards for full and part-time workers.

The [*Contractor | Consultant*] has full responsibility to monitor compliance to the referenced statute or regulation. The [*Contractor | Consultant*] must address any claims or disputes that arise from this requirement directly with the U.S. Department of Labor – Wage and Hour Division.

A16 LOBBYING AND INFLUENCING FEDERAL EMPLOYEES

CERTIFICATION REGARDING LOBBYING

The Bidder or Offeror certifies by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the Bidder or Offeror, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. § 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

A17 OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970

All contracts and subcontracts that result from this solicitation incorporate by reference the requirements of 29 CFR Part 1910 with the same force and effect as if given in full text. The employer must provide a work environment that is free from recognized hazards that may cause death or serious physical harm to the employee. The employer retains full responsibility to monitor its compliance and their subcontractor's compliance with the applicable requirements of the Occupational Safety and Health Act of 1970 (29 CFR Part 1910). The employer must address any claims or disputes that pertain to a referenced requirement directly with the U.S. Department of Labor – Occupational Safety and Health Administration.

A18 PROCUREMENT OF RECOVERED MATERIALS

PROCUREMENT OF RECOVERED MATERIALS

Contractor and subcontractor agree to comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, and the regulatory provisions of 40 CFR Part 247. In the performance of this contract and to the extent practicable, the Contractor and subcontractors are to use products containing the highest percentage of recovered materials for items designated by the Environmental Protection Agency (EPA) under 40 CFR Part 247 whenever:

1) The contract requires procurement of $10,000 or more of a designated item during the fiscal year; or
2) The contractor has procured $10,000 or more of a designated item using Federal funding during the previous fiscal year.

The list of EPA-designated items is available at www.epa.gov/smm/comprehensive-procurement-guidelines-construction-products.

Section 6002(c) establishes exceptions to the preference for recovery of EPA-designated products if the contractor can demonstrate the item is:

a) Not reasonably available within a timeframe providing for compliance with the contract performance schedule;
b) Fails to meet reasonable contract performance requirements; or
c) Is only available at an unreasonable price.

A19 RIGHT TO INVENTIONS

RIGHTS TO INVENTIONS

Contracts or agreements that include the performance of experimental, developmental, or research work must provide for the rights of the Federal Government and the Owner in any resulting invention as established by 37 CFR part 401, Rights to Inventions Made by Non-profit Organizations and Small Business Firms under Government Grants, Contracts, and Cooperative Agreements. This contract incorporates by reference the patent and inventions rights as specified within 37 CFR § 401.14. Contractor must include this requirement in all sub-tier contracts involving experimental, developmental, or research work.

A20 SEISMIC SAFETY

A20.1.1 Professional Service Agreements for Design

SEISMIC SAFETY

In the performance of design services, the Consultant agrees to furnish a building design and associated construction specification that conform to a building code standard that provides a level of seismic safety substantially equivalent to standards as established by the National Earthquake Hazards Reduction Program (NEHRP). Local building codes that model their building code after the current version of the International Building Code (IBC) meet the NEHRP equivalency level for seismic safety. At the conclusion of the design services, the Consultant agrees to furnish the Owner a "certification of compliance" that attests conformance of the building design and the construction specifications with the seismic standards of NEHRP or an equivalent building code.

A20.1.2 Construction Contracts

SEISMIC SAFETY

The Contractor agrees to ensure that all work performed under this contract, including work performed by subcontractors, conforms to a building code standard that provides a level of seismic safety substantially equivalent to standards established by the National Earthquake Hazards Reduction Program (NEHRP). Local building codes that model their code after the current version of the International Building Code (IBC) meet the NEHRP equivalency level for seismic safety.

A21 TAX DELINQUENCY AND FELONY CONVICTIONS

CERTIFICATION OF OFFEROR/BIDDER REGARDING TAX DELINQUENCY AND FELONY CONVICTIONS

The applicant must complete the following two certification statements. The applicant must indicate its current status as it relates to tax delinquency and felony conviction by inserting a checkmark (ü) in the space following the applicable response. The applicant agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification in all lower tier subcontracts.

Certifications

1) The applicant represents that it is ( ) is not ( ) a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

2) The applicant represents that it is ( ) is not ( ) a corporation that was convicted of a criminal violation under any Federal law within the preceding 24 months.

Note

If an applicant responds in the affirmative to either of the above representations, the applicant is ineligible to receive an award unless the Sponsor has received notification from the agency suspension and debarment official (SDO) that the SDO has considered suspension or debarment and determined that further action is not required to protect the Government's interests. The applicant therefore must provide information to the owner about its tax liability or conviction to the Owner, who will then notify the FAA Airports District Office, which will then notify the agency's SDO to facilitate completion of the required considerations before award decisions are made.

Term Definitions

Felony conviction: Felony conviction means a conviction within the preceding twenty four (24) months of a felony criminal violation under any Federal law and includes conviction of an offense defined in a section of the U.S. Code that specifically classifies the offense as a felony and conviction of an offense that is classified as a felony under 18 USC § 3559.

Tax Delinquency: A tax delinquency is any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

A22 TERMINATION OF CONTRACT

TERMINATION FOR CONVENIENCE (CONSTRUCTION & EQUIPMENT CONTRACTS)

The Owner may terminate this contract in whole or in part at any time by providing written notice to the Contractor. Such action may be without cause and without prejudice to any other right or remedy of Owner. Upon receipt of a written notice of termination, except as explicitly directed by the Owner, the Contractor shall immediately proceed with the following obligations regardless of any delay in determining or adjusting amounts due under this clause:

1. Contractor must immediately discontinue work as specified in the written notice.
2. Terminate all subcontracts to the extent they relate to the work terminated under the notice.
3. Discontinue orders for materials and services except as directed by the written notice.
4. Deliver to the Owner all fabricated and partially fabricated parts, completed and partially completed work, supplies, equipment and materials acquired prior to termination of the work, and as directed in the written notice.
5. Complete performance of the work not terminated by the notice.
6. Take action as directed by the Owner to protect and preserve property and work related to this contract that Owner will take possession.

Owner agrees to pay Contractor for:

1. Completed and acceptable work executed in accordance with the contract documents prior to the effective date of termination;
2. Documented expenses sustained prior to the effective date of termination in performing work and furnishing labor, materials, or equipment as required by the contract documents in connection with uncompleted work;
3. Reasonable and substantiated claims, costs, and damages incurred in settlement of terminated contracts with Subcontractors and Suppliers; and
4. Reasonable and substantiated expenses to the Contractor directly attributable to Owner's termination action.

Owner will not pay Contractor for loss of anticipated profits or revenue or other economic loss arising out of or resulting from the Owner's termination action.

The rights and remedies this clause provides are in addition to any other rights and remedies provided by law or under this contract.

TERMINATION FOR CONVENIENCE (PROFESSIONAL SERVICES)

The Owner may, by written notice to the Consultant, terminate this Agreement for its convenience and without cause or default on the part of Consultant. Upon receipt of the notice of termination, except as explicitly directed by the Owner, the Contractor must immediately discontinue all services affected.

Upon termination of the Agreement, the Consultant must deliver to the Owner all data, surveys, models, drawings, specifications, reports, maps, photographs, estimates, summaries, and other documents and materials prepared by the Engineer under this contract, whether complete or partially complete.

Owner agrees to make just and equitable compensation to the Consultant for satisfactory work completed up through the date the Consultant receives the termination notice. Compensation will not include anticipated profit on non-performed services.

Owner further agrees to hold Consultant harmless for errors or omissions in documents that are incomplete as a result of the termination action under this clause.

A22.1.1 Termination for Default

TERMINATION FOR CAUSE (CONSTRUCTION)

Section 80-09 of FAA Advisory Circular 150/5370-10 establishes standard language for conditions, rights, and remedies associated with Owner termination of this contract for cause due to default of the Contractor.

TERMINATION FOR CAUSE (EQUIPMENT)

The Owner may, by written notice of default to the Contractor, terminate all or part of this Contract for cause if the Contractor:

1. Fails to begin the Work under the Contract within the time specified in the Notice- to-Proceed;
2. Fails to make adequate progress as to endanger performance of this Contract in accordance with its terms;
3. Fails to make delivery of the equipment within the time specified in the Contract, including any Owner approved extensions;
4. Fails to comply with material provisions of the Contract;
5. Submits certifications made under the Contract and as part of their proposal that include false or fraudulent statements; or
6. Becomes insolvent or declares bankruptcy.

If one or more of the stated events occur, the Owner will give notice in writing to the Contractor and Surety of its intent to terminate the contract for cause. At the Owner's discretion, the notice may allow the Contractor and Surety an opportunity to cure the breach or default.

If within [10] days of the receipt of notice, the Contractor or Surety fails to remedy the breach or default to the satisfaction of the Owner, the Owner has authority to acquire equipment by other procurement action. The Contractor will be liable to the Owner for any excess costs the Owner incurs for acquiring such similar equipment.

Payment for completed equipment delivered to and accepted by the Owner shall be at the Contract price. The Owner may withhold from amounts otherwise due the Contractor for such completed equipment, such sum as the Owner determines to be necessary to protect the Owner against loss because of Contractor default.

Owner will not terminate the Contractor's right to proceed with the work under this clause if the delay in completing the work arises from unforeseeable causes beyond the control and without the fault or

negligence of the Contractor. Examples of such acceptable causes include: acts of God, acts of the Owner, acts of another Contractor in the performance of a contract with the Owner, and severe weather events that substantially exceed normal conditions for the location.

If, after termination of the Contractor's right to proceed, the Owner determines that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the Owner issued the termination for the convenience the Owner.

The rights and remedies of the Owner in this clause are in addition to any other rights and remedies provided by law or under this contract.

TERMINATION FOR CAUSE (PROFESSIONAL SERVICES)

Either party may terminate this Agreement for cause if the other party fails to fulfill its obligations that are essential to the completion of the work per the terms and conditions of the Agreement. The party initiating the termination action must allow the breaching party an opportunity to dispute or cure the breach.

The terminating party must provide the breaching party [7] days advance written notice of its intent to terminate the Agreement. The notice must specify the nature and extent of the breach, the conditions necessary to cure the breach, and the effective date of the termination action. The rights and remedies in this clause are in addition to any other rights and remedies provided by law or under this agreement.

a) **Termination by Owner**: The Owner may terminate this Agreement for cause in whole or in part, for the failure of the Consultant to:
   1. Perform the services within the time specified in this contract or by Owner approved extension;
   2. Make adequate progress so as to endanger satisfactory performance of the Project; or
   3. Fulfill the obligations of the Agreement that are essential to the completion of the Project.

   Upon receipt of the notice of termination, the Consultant must immediately discontinue all services affected unless the notice directs otherwise. Upon termination of the Agreement, the Consultant must deliver to the Owner all data, surveys, models, drawings, specifications, reports, maps, photographs, estimates, summaries, and other documents and materials prepared by the Engineer under this contract, whether complete or partially complete.

   Owner agrees to make just and equitable compensation to the Consultant for satisfactory work completed up through the date the Consultant receives the termination notice. Compensation will not include anticipated profit on non-performed services.

   Owner further agrees to hold Consultant harmless for errors or omissions in documents that are incomplete as a result of the termination action under this clause.

   If, after finalization of the termination action, the Owner determines the Consultant was not in default of the Agreement, the rights and obligations of the parties shall be the same as if the Owner issued the termination for the convenience of the Owner.

b) **Termination by Consultant**: The Consultant may terminate this Agreement for cause in whole or in part, if the Owner:

1. Defaults on its obligations under this Agreement;
2. Fails to make payment to the Consultant in accordance with the terms of this Agreement;
3. Suspends the project for more than [180] days due to reasons beyond the control of the Consultant.

Upon receipt of a notice of termination from the Consultant, Owner agrees to cooperate with Consultant for the purpose of terminating the agreement or portion thereof, by mutual consent. If Owner and Consultant cannot reach mutual agreement on the termination settlement, the Consultant may, without prejudice to any rights and remedies it may have, proceed with terminating all or parts of this Agreement based upon the Owner's breach of the contract.

In the event of termination due to Owner breach, the Consultant is entitled to invoice Owner and to receive full payment for all services performed or furnished in accordance with this Agreement and all justified reimbursable expenses incurred by the Consultant through the effective date of termination action. Owner agrees to hold Consultant harmless for errors or omissions in documents that are incomplete as a result of the termination action under this clause.

A23 TRADE RESTRICTION CERTIFICATION

TRADE RESTRICTION CERTIFICATION

By submission of an offer, the Offeror certifies that with respect to this solicitation and any resultant contract, the Offeror –

1) is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms as published by the Office of the United States Trade Representative (USTR);

2) has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country included on the list of countries that discriminate against U.S. firms as published by the USTR; and

3) has not entered into any subcontract for any product to be used on the Federal project that is produced in a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR.

This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18 USC § 1001.

The Offeror/Contractor must provide immediate written notice to the Owner if the Offeror/Contractor learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The Contractor must require subcontractors provide immediate written notice to the Contractor if at any time it learns that its certification was erroneous by reason of changed circumstances.

Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR § 30.17, no contract shall be awarded to an Offeror or subcontractor:

1) who is owned or controlled by one or more citizens or nationals of a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR; or
2) whose subcontractors are owned or controlled by one or more citizens or nationals of a foreign country on such USTR list; or
3) who incorporates in the public works project any product of a foreign country on such USTR list.

Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by this provision. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

The Offeror agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in all lower tier subcontracts. The Contractor may rely on the certification of a prospective subcontractor that it is not a firm from a foreign country included on the list of countries that discriminate against U.S. firms as published by USTR, unless the Offeror has knowledge that the certification is erroneous.

This certification is a material representation of fact upon which reliance was placed when making an award. If it is later determined that the Contractor or subcontractor knowingly rendered an erroneous certification, the Federal Aviation Administration (FAA) may direct through the Owner cancellation of the contract or subcontract for default at no cost to the Owner or the FAA.

A24 VETERAN'S PREFERENCE

VETERAN'S PREFERENCE

In the employment of labor (excluding executive, administrative, and supervisory positions), the Contractor and all sub-tier contractors must give preference to covered veterans as defined within 49 U.S.C. § 47112. Covered veterans include Vietnam-era veterans, Persian Gulf veterans, Afghanistan-Iraq war veterans, disabled veterans, and small business concerns (as defined by 15 U.S.C. § 632) owned and controlled by disabled veterans. This preference only applies when there are covered veterans readily available and qualified to perform the work to which the employment relates.

A25 DOMESTIC PREFERENCES FOR PROCUREMENTS

CERTIFICATION REGARDING DOMESTIC PREFERENCES FOR PROCUREMENTS

The Bidder or Offeror certifies by signing and submitting this bid or proposal that, to the greatest extent practicable, the Bidder or Offeror has provided a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including, but not limited to, iron, aluminum, steel, cement, and other manufactured products) in compliance with 2 CFR § 200.322.

A26 PROHIBITION OF COVERED UNMANNED AIRCRAFT SYSTEMS (UAS)

The Bidder or Offeror certifies that they are aware of and comply with relevant Federal statutes and regulations, including those from the Federal Aviation Administration (FAA), for operating unmanned aircraft systems (UAS) in accordance, and in compliance with all related requirements in the FAA Reauthorization Act of 2024 (Public Law 118-63), section 936 (49 U.S.C. § 44801 note).

Contractor warrants that all UAS operations will be conducted in full compliance with all applicable Federal Aviation Administration (FAA) regulations, including but not limited to 14 CFR Part 107, and any other applicable local, state, or Federal laws and regulations.

Sponsors and subgrant recipients cannot use AIP grant funds to enter into, extend, or renew a contract related to covered unmanned aircraft systems (UAS). This includes both procurement and operational contracts, as well as contracts with entities that operate such systems.

SECTION 130
SPECIAL PROVISIONS

1.0 CONTRACT DOCUMENTS. This section of these specifications is a part of the Contract Documents as defined in the General Provisions. All applicable parts of the balance of the Contract Documents are equally as binding for this as for all other sections.

2.0 GENERAL. The special requirements set forth in this section of these specifications shall govern any aspect of the contract work which such requirements are deemed applicable by the Owner or the Engineer. The purpose of these requirements is to ensure that the contract work does not damage private property or create any hazard to aircraft operations, and point out special coordination or schedule conditions that the Contractor should be aware of. It shall be the Contractor's responsibility to conduct all work in strict accordance with the special requirements set forth herein and to fully cooperate with the Owner and the Engineer in every way necessary to fulfill the purposes of these requirements.

All civil construction and earthwork to be accomplished in accordance with FAA Advisory Circulars 150/5370-10 Standards for Specifying Construction of Airports, 150/5370-7, Airport Construction Controls to prevent Air and Water Pollution, and FAA Advisory Circular 150/5320-5, Airport Drainage, latest versions, as applicable to the project.

3.0 STRUCTURAL STANDARDS. Refer to Structural General Notes sheet and Specification Section 13120 Pre-Engineered Metal Building for the applicable standards.

4.0 DESCRIPTION OF WORK. The project consists of, but is not limited to, the following primary sub-elements:

a. Finalize, sign\seal, and submit design plans for T-Hangar building structures, foundations, and site work.
b. Obtain building and fire permits from City of Wauchula and Hardee County.
c. Procure PEMB, components, cladding, and all other materials.
d. Construct 10-Unit T-Hangar building structures and foundations.
e. Construct civil and electrical site work.

Attention shall be directed to the balance of these Contract Documents for more specific information on the work to be performed. All construction and materials will be specified in more detail on the drawings and hereinafter.

5.0 SITE EXAMINATION. The Contractor's attention is called to Section 20-6 of the General Provisions which requires all Bidders to examine the project site prior to submission of a proposal.

6.0 CONSTRUCTION SEQUENCE AND CONTRACT TIME. Upon execution of the Contract(s), the Owner shall issue a written "Notice To Proceed" which will specify an effective date for the Contractor(s) to commence work. Between the execution of the Contract and the date specified for the commencement of work, the Contractor shall prepare and submit the materials, equipment and work schedules as specified in the various sections of these specifications. Upon approval of the materials and equipment schedules by the Owner's Representative, the Contractor shall proceed with the ordering of the materials and equipment. The Contractor shall notify the Owner's Representative of the receipt of any materials and equipment and of any changes in the delivery schedules. During this period, the Contractor shall

install the Owner's Representative's field office and may bring equipment and materials into the Contractor's staging area. All work under this Contract must be completed within the number of calendar days stated herein below of the date specified in the written "Notice To Proceed":

The number of calendar days for the completion of the Bid Schedules is presented as follows:

Segment	**Contract Time****
All Bid Schedules	***60 Calendar Days – Procurement****
	150 Calendar Days – Substantial Completion
	30 Calendar Days – Final Completion
	240 Calendar Days Total

** Procurement will be conducted in advance of construction.

7.0 LIQUIDATED DAMAGES. If the work remains incomplete after the time specified in paragraph 1-5.0 for the completion of all work, the Contractor shall pay the Owner as liquidated damages the sum of ***Five Hundred Dollars ($500.00)*** per calendar day for each and every calendar day that the work remains incomplete beyond the above specified time as provided in the General Provisions.

Following are the general objectives that must be attained in order to minimize time and economic loss to the aviation community, airline passengers, and construction contractors:

- Keep the airport operational for all user aircraft
- Minimize flight operation delays
- Maintain safety of aircraft operations
- Minimize delays to contractor activities
- Minimize aircraft operations and construction activity conflicts

8.0 SCHEDULING OF WORK. Prior to commencement of any work, the Contractor must confer with the Airport operator to assure that the scheduling of construction activities in conjunction with aircraft operations is fully understood.

9.0 WORKING NEAR RUNWAYS AND/OR TAXIWAYS. Normal airport operations will be conducted on the airfield during construction and the work shall be carried on in such a manner as not to interfere with the necessary operation of the airport. The Contractor shall take all precautions necessary to ensure the safety of operating aircraft as well as his own equipment and personnel.

No construction operations shall be carried on within 39.5 feet (12 m) from the centerline of any taxiway or within 75 feet (76 m) of the centerline of any active runway or within the limits of active runway approach zones unless prior approval has been obtained. When permission has been granted to work inside these limits, no equipment shall be left within the lines when not actually working. During lunch hour or other breaks in the daily work schedule, nights, weekends, and the days when work is not permitted or is not progressing, the equipment shall be located outside of these restriction lines. All booms shall be lowered when the equipment is not in operation. No construction operations, including an open flame such as welding or burning, shall be carried on near any aircraft.

10.0 LIMITATION ON CONSTRUCTION.

(a) Open-flame welding or torch cutting operations is prohibited unless adequate fire and safety precautions are provided by the Contractor and have been approved by the airport operator.

(b) Open trenches, excavations and stockpiled material at the construction site will be prominently marked by red flags and lighted by light units (acceptable to the Airport Operator and the FAA) during the hours of restricted visibility and/or darkness.

(c) Stockpiled material will be constrained in a manner to prevent movement resulting from aircraft blast or wind conditions in excess of 10 knots.

(d) The fire department will be notified when construction could alter or block access routes.

(e) Local regulations regarding noise abatement will be adhered to.

(f) Where construction involves areas requiring maintenance of traffic with lighting and/or signage, the manual on Uniform Traffic Control Devices for Streets and Highways shall be followed.

11.0 OBSTRUCTIONS TO NAVIGATION. Penetration of approach/departure clearance surfaces and the transitional surfaces shall not be allowed without advance notification of the Project Engineer and approval by the Airport Operator and FAA. This includes any penetrations whatsoever by the Contractor including but not limited to motor vehicles, cranes, other construction equipment, structures, stockpiled materials, rock, aggregates, excavated earth, etc.

When such penetration is unavoidable they shall be brought to the attention of the FAA, the Airport Operator and the Engineer as far in advance as is practical to allow Notices to Airmen (NIGHTTIME) to be prepared and distributed to appropriate FAA divisions for publication and distribution.

12.0 TAXIWAY CLEARANCES. Large aircraft wings extend beyond the edges of paved taxiways when they are taxiing. It is therefore critical that no construction vehicles, equipment, or materials enter or be placed within taxiway obstacle free areas without prior approval from the Airport Owner, FAA and the Engineer. It is required during construction activities, taxiway obstacle free areas be flagged and lighted in critical areas of construction activity by the Contractor. The flagging alignments will be designated by the Airport Owner and the Engineer. When safety and obstacle free areas must be infringed upon by construction activities for extended periods of time, plans of infringements will be agreed by the Contractor with the Engineer, Airport Owner and FAA adequately in advance so that NOTAMS may be issues and airlines informed.

When required and approved, taxiways may be closed and aircraft detoured. Figure 1 depicts typical taxiway clearance and flagging requirements.

13.0 NAVIGATIONAL AIDS. Any unplanned, unapproved or accidental shutdown of any navigational aid requires immediate notification of the Airport Owner, and the FAA by the Engineer and the Contractor.

14.0 DEBRIS, DIRT, ETC. ON APRON, RUNWAY OR TAXIWAYS. Aprons, runways and taxiways shall be kept free of all debris, dirt, etc. at all times. Any accidental spillage of excavation or other materials shall be cleaned up immediately by the contractor after prompt notification by the Airport Owner or the Engineer. A program of regular apron and taxiway inspection will be planned by the Airport Owner, the Engineer and the Contractor. Inspections shall be made before the time for commencement of normal aircraft operations and more frequently if construction activities are of a nature that debris may accumulate on runway, taxiways or aprons.

15.0 STORAGE OF EQUIPMENT, MATERIAL OR EXCAVATION. The Contractor shall not store materials or park equipment in aircraft operational areas when the equipment or material is not in use or about to be installed. Material or equipment in use, in operation areas must be stored or parked in a manner that they may be quickly removed to accommodate aircraft operations.

No vehicles, equipment or material shall be operated or stored within 500' of the centerline of existing runway pavement or 65.5' of the centerline of existing taxiway pavement. A line 65.5' from the centerline of the existing taxiway or apron pavements will be flagged and lighted as required in AC 150/5370-2, latest edition, by the contractor.

Space will be made available at the site for the temporary field offices of the Contractor (and his subcontractor) and for storage of construction equipment and materials. The Contractor (and his subcontractor) shall provide all necessary temporary fencing and gates to protect materials from theft. The Contractor shall make arrangements with the Engineer for space for his own needs and the needs of his subcontractors.

16.0 GROUND VEHICLE TRAFFIC CONTROL.

(a) When any vehicle other than those routinely used in the aircraft movement area and runway approach area is required to travel over any portion of that area, it should be escorted by a vehicle properly identified to operate in the area or provided with a flag on a staff so attached to the vehicle so that the flag will be readily visible. The flag should be not less than 3 feet square consisting of a checkered pattern on international orange and white squares of not less than 1 foot on each side and displayed in full view above the vehicle. A flag or escort vehicle is not required for vehicles which have been painted, marked and lighted for routine use on aircraft movement areas. Any vehicle operating on the movement area during the hours of darkness should be equipped with a flashing dome-type light, the color to be in accordance with local and/or state codes.

(b) Vehicular traffic crossing active movement areas must be controlled either by two-way radio with the Airport Traffic Control Tower’s Ground Frequency (see safety notes plan), by escort, flagman, signal light or the means appropriate for the particular airport. The clearance should be confirmed by the driver's personal observation that no aircraft is approaching his position.

(c) All Contractor's vehicles shall have the company identification plainly visible on both sides of the vehicle in order to identify the vehicle. It may be desirable to clearly identify the vehicles for control purpose by either assigned initials or numbers prominently displayed on each side. The identifying symbols should be 8-inch minimum, black-type characters of a color easily read. They may be applied by use of tape or water soluble paint to facilitate removal.

(d) Security measures at the airport will require that Contractor employees park their personal cars in the area of the Contractor's storage area. Parking of personal cars at the site of the work will not be permitted. The Contractor, as a subsidiary obligation, shall provide adequate and safe transportation for his employees from the area where the cars are parked to and from the work area. Employees and drivers of work vehicles will be instructed as to proper access roads and will be cautioned that unauthorized use of aircraft pavements or other areas outside the designated work area may lead to their arrest and subsequent payment of fines.

(e) Trucks delivering material to an actual work area shall be provided with an escort.

17.0 APPLICABLE STANDARDS. Advisory Circular AC No. 150/5370-2 will be used as a guideline to assist in maintaining operational safety during construction activities. This document also refers to other applicable Advisory Circulars.

Federal Aviation Regulations - Part 77, not included herein, will also be used to define "Objects Affecting Navigable Airspace".

18.0 OSHA and OTHER SAFETY PRECAUTIONS. In addition to the safety requirements outlined thus far, all pertinent Occupational Safety and Health Administration rules shall be complied with. Specifically,

(a) Prior to each days work, the Contractor's supervisor should call the tower shift supervisor and inform him of that day's activities and where he will be working. The supervisor and one of his representatives shall have a two-way radio available at all times. It will be turned on any time work is underway adjacent to the terminal apron or any taxiway.

(b) The Contractor's supervisor shall be responsible for insuring all workmen comply with the Airport Security Program. He will control ingress and egress of his and subcontractor's personnel and ensure construction work gates remain locked or manned by a flagman at all times.

19.0 CONFINED SPACE ENTRY PROCEDURES. Contractor shall be aware of and follow proper confined space entry procedures as outlined by the National Institute for Occupational Safety and Health (NIOSH). Confined spaces are generally defined as spaces which:

1. Are NOT designed for continuous worker presence.
2. Have limited openings for entry or exit.
3. Have less than ideal natural ventilation.

The Contractor shall, as a minimum, have the following equipment on hand for use by his employees, subcontractors, inspectors, etc.:

3 Harnesses
3 40' Lengths of 5/8" Nylon Rope
3 Sets of Leather Gloves
3 Sets of Safety Glasses
1 Ventilation Blower
1 Tripod w/ Winch
1 Tri Gas Detectors of the latest approved models

Contractor shall make at least one person available as an assistant for all inspections in confined areas.

20.0 VIOLATIONS. The responsibilities of meeting the requirements of this Safety Plan rests with the Contractor. The Engineer, the appropriate FAA representative, and the Airport Operator each have the right to stop work at the Contractor's expense if violation of this plan is encountered.

21.0 EXISTING FAA CABLE PROTECTION. The local FAA Airway Facilities personnel will mark the cable alignment once prior to construction, thereafter, the cable alignment markings shall be maintained by the Contractor. The uncovering of the cables shall be performed in the presence of FAA local Airway Facilities personnel. A notice of 48 hours shall be given the FAA before commencing the excavation. Any cable that lays within the work areas shall be covered by planing or metal sheets to protect the cables from direct bearing pressure by heavy equipment. If the Contractor causes a disruption in FAA service due to cutting of the cable, he shall be liable for all costs of replacement plus a penalty fine of $500.00 (Five Hundred Dollars) per day of disruption.

22.0 PHASED CONSTRUCTION. The Contractor will submit a proposed construction schedule within 15 days of Notice to Proceed. He will include calendar dates and will phase schedule his work to minimize any conflict with normal airport operation. The Contractor's attention is directed to the General Site and Safety Plan of the Contract Drawings for more specific detail on phasing construction.

23.0 NIGHT WORK. All necessary equipment including lights, generators, etc., required for night work shall be supplied by the Contractor and no separate measurement or payment will be made for lighting equipment, but rather it shall be considered incidental to the various contract work items. The Contractor may elect to work night hours in order to complete the project within the given time.

Before commencing with night work, the Contractor shall demonstrate the capabilities of his lighting system to the Engineer. If the Engineer is not completely satisfied that adequate light is being provided the Contractor shall provide additional lighting apparatus to the Engineer's satisfaction before the Contractor is allowed to commence work.

24.0 PROJECT SCHEDULE. Upon execution of a contract for the designated Bid Schedule, the Contractor may proceed with preparation and submittal of shop drawings for approval and with subsequent ordering and fabricating of materials. When the Contractor is ready to commence work on the site, he shall inform the Owner who will issue a written "Notice to Proceed" which will specify an effective date for the Contractor to commence work at the site. All work under this contract must be completed within the time schedule, as shown on page 3 of this section, of the date specified in the written "Notice to Proceed". The Owner reserves the right to issue the "Notice to Proceed" at any time in order to preclude the Contractor from taking an extraordinary amount of time to prepare for work at the site.

The Contractor shall be required to submit a tentative schedule of how the work will be accomplished over the contract period. This tentative schedule shall provide for a minimal disruption of general aviation and no disruption to the existing aircraft parking areas.

Also, in accordance with paragraph 80-02 of Section 80, the Contractor shall notify the Engineer at least 48 hours is the time required by the Owner to issue a proper Notice to Airmen (NOTAM) of the pending construction activities. The Contractor shall coordinate his overall schedule with the other contractors through the Owner. The Contractor's daily schedule must be coordinated with the Owner and the Engineer.

25.0 WEEKLY SCHEDULE UPDATE REQUIRED. To facilitate the specific requirements and intent of this section, the Contractor shall prepare and submit weekly, a schedule of operations for the following work week. The schedule shall be given to the Engineer by the end of the work week preceding the week covered by the schedule. The weekly schedules shall be subject to the approval of the Engineer, and shall include as a minimum, the following:

1. Major work items to be accomplished.
2. Number of men to be on site.
3. Type and quantity of equipment to be on site.
4. Areas of the site where construction is scheduled.
5. Any anticipated closing of facilities which will be required.
6. Other information requested by the Owner or Engineer.

The Engineer may disallow work in areas not included in the current work schedule.

26.0 HAUL ROUTES AND AIRPORT ACCESS FOR CONSTRUCTION. When public roads and highways must be used for haul routes, it will become the contractor's responsibility to obtain the proper permits needed for this function and to obey all rules and regulations pertinent to the public roads and highways. The Contractor shall be responsible for keeping the haul routes, including state, Owner, and county roads, swept clean of any debris introduced by his construction equipment.

Haul routes on the airport shall be as shown on the Contract Drawings or as directed by the Engineer. Access to the construction areas shall be in accordance with the General Site and Safety Plan of the Contract Drawings. Trucks loaded in the construction areas shall have loads trimmed as necessary to ensure that no particles, stones, or debris will fall off.

All paved haul routes or access roads shall be kept clean at all times to prevent the accumulation of dirt and mud and the generation of dust by sweeping, washing or other methods directed by the Engineer. Unpaved haul roads, if any, shall be maintained by blading and filling when directed by the Engineer, and dust shall be controlled at all times.

All haul roads disturbed shall be restored to their original or better condition before the Project will be considered complete. No separate payment will be made for the construction, repair and maintenance, including dust control of haul and access roads, and all costs thereof shall be included in the contract price for the various work.

27.0 STORAGE AREA AND EQUIPMENT AREA. The areas for the location of all of the Contractor(s)'s Field Offices and for storing materials and servicing, repairing and parking construction equipment are located where shown on the drawings. All material to be used in the work shall be stored in these areas. The Owner will not be responsible for any vandalized equipment or material stored in the Airport property. Any area occupied by the Contractor shall be maintained in a clean and orderly condition satisfactory to the Engineer. Particular attention shall be given to the elimination of combustible rubbish or debris in the areas, and none shall be left exposed overnight or at other periods of time the work is shut down. At the completion of the contract, all Contractor's and subcontractor's facilities will be removed promptly in a workmanlike manner, and the area left clean and free of all debris or surplus material.

28.0 APPROVAL OF SUBCONTRACTORS. The names of the subcontractors shall be submitted for approval. The Contractor shall submit a list of recent work of similar scope and nature that the proposed subcontractor has successfully completed. Failure of the Contractor to prove to the satisfaction of the Engineer that the subcontractor he proposes has expertise in the services to be performed will be cause for rejection.

~~**29.0 ENGINEER'S FIELD OFFICE AND SANITARY FACILITIES**. Contractor shall furnish prior to beginning construction and maintain during construction of the improvements embraced in the contract a suitable field office for the Engineer at the site of the work. The location of the field office shall be approved by the Engineer. The Contractor shall maintain the office during construction and remove it upon completion of the work.~~

~~The office shall be equipped with electric lights, heating and air conditioning facilities and telephone service. The field office shall contain not less than 150 square feet of floor area and shall be provided with glazed and screened windows. Each door shall be equipped with locks. The office shall be equipped with the following furniture:~~

~~1 - standard size flat top desk~~
~~1 - table at least 2 feet 6 inches wide and 5 feet long~~
~~1 - desk chair, 1 straight chair, and 1 drafting stool~~
~~1 - drafting table~~
~~1 - shelving, closets and plan racks as may be required~~
~~1 – telephone and 1- fax machine or combination device~~
~~1 - telephone message recorder~~
~~1 - copier (may be shared in Contractor's office)~~
~~1 - at least one reverse cycle air conditioner capable of maintaining the office at 72 degrees F.~~

~~The above Contractor shall be assessed $800 per day for each day that the field office is not installed, while construction has started.~~

~~The Contractor awarded the contract shall pay all copying, telephone, heating, and electric bills applicable to the Contract incurred by the Engineer in the field office, except for ***personal*** long distance toll calls. Any long distance toll calls for project business purposes shall be borne by the Contractor.~~ ***An Engineer's Field Trailer will NOT be required on this project.***

30.0 DISPOSAL SITE FOR SURPLUS AND UNSUITABLE MATERIALS. ~~A disposal site for excavated surplus and unsuitable material will be available as shown on the plans or as otherwise specified or may be designated by the Owner prior to construction. The material if disposed of on airport property shall be maintained at a uniform height and shall be sloped and graded to drain. The area shown on the plans shall be graded level and compacted with a vibratory roller. Concrete debris and pavement excavation to be disposed of shall not exceed 4 feet in the maximum dimension and shall be buried and covered with the excavated materials.~~ ***No disposal site is authorized for this project. All unsuitable, unused, or unnecessary materials shall be hauled off of Airport property and legally disposed.***

31.0 COORDINATION WITH OTHERS. It is essential that work under this contract be coordinated with other Contractors, the Owner, county, and/or utilities companies which may be performing other work on or adjacent to the airport.

32.0 AIRCRAFT BARRICADES. The Contractor shall furnish and place as required, lighted barricades to clearly define work areas to aircraft operators. The barricades shall be placed as shown on the plans or as directed by the Engineer. The barricades shall be low profile type, a maximum of 24 inches high (including flag heights), shall be bright reflective red and white, with red and white striped or checkered flags, and shall be lighted with red reflective lights. No open flame lighting shall be used. All temporary lights and barricades shall be weighted against jet blast (100 mph). Barricades shall be placed no more than 8 feet apart.

Barricades shall be maintained throughout each calendar day for the duration of the project. Should moving the position of barricades to accomplish a day's work be necessary, the original position of the barricades shall be restored at each day's end.

33.0 MEASUREMENT AND PAYMENT. No separate measurement or payment will be made for the provisions of physical facilities or the compliance with requirements under this section of these specifications except for stated allowances. The provision of facilities and compliance with requirements covered by this section of these specifications shall be included in the unit price bid for mobilization.

34.0 MATERIALS, WORKMANSHIP, AND EQUIPMENT SPECIFICATIONS. Unless otherwise specifically provided for in the Technical Specifications, all workmanship, equipment, materials and articles incorporated in the work shall be new and the best grade of the respective kinds for the purpose. Where equipment, materials, articles, or workmanship are referred to in the Technical Specifications, as "equal to" or of a particular standard, the Owner's authorized representative shall decide the question of equality.

All materials, equipment, parts, and assemblies thereof, entering into the work shall be new and tested as specified. Unless waived in writing by the Owner, all field and operating tests shall be made in the presence of the Owner's authorized representative. When such a waiver is issued, a sworn statement in duplicate of the test made and the results thereof shall be furnished to the Owner by the Contractor or manufacturer. Costs of all test and trials specified hereto, other than laboratory tests, and with the exception of the Owner's expenses shall be borne by the Contractor and shall be included in the Contract price.

All workmanship and materials shall be of the highest quality. The equipment shall be the product of a manufacturer who is experienced and skilled in the field with an established record of research and development. No equipment will be considered unless the manufacturer has designed and manufactured equipment of comparable type and size for at least five (5) years.

The Contractor shall furnish to the Owner for approval the manufacturer's detailed specifications for all machinery, mechanical and other special equipment which he contemplates installing together with full information as to type, performance characteristics, and all other pertinent information as required, and shall likewise submit for approval as required full information concerning all other materials or articles which he proposes to incorporate in the work.

Machinery, mechanical, and other equipment, materials, or articles installed or used without such prior approval shall be at the risk of subsequent rejection.

Materials specified by reference to the number or symbol of a specific standard, such as ASTM standard, AASHTO standard, an FDOT specification, a Federal specification, the requirements in the Structural General Notes and Specification Section 13120 Pre-Engineered Metal Building. Underwriter's Laboratories number, Construction Specifications Institute specification, or other similar standard, shall conform and comply with requirements in the latest revision thereof, and any amendment or supplements thereto in effect on the date of the Instruction to Bidders, except as limited to type, class or grade, or modified in such reference. The standards referred to, except as modified in the Technical Specifications shall have full force and effect as though printed therein.

The Owner may require the Contractor to dismiss from the work such employee or employees as the Owner may deem incompetent, careless, or insubordinate.

35.0 CARE AND PROTECTION OF THE WORK. The Contractor shall be responsible for all damages to persons or property that occur as the result of its fault or negligence in connection with the prosecution of the work. The Contractor shall be responsible for the proper care and protection of all materials delivered and work performed until completion and final acceptance, whether or not the same has been covered in whole or in part by payments made by the Owner.

The Contractor shall shore up, brace, underpin, secure, and protect as may be necessary, all foundations and other parts of existing structures adjacent to, adjoining, and in the vicinity of the site, which may be in any way effected by the excavations or other operations connected with the construction of the improvements embraced by this Contract. The Contractor shall be responsible for the giving of any and all required notices to any adjoining or adjacent property owners or other party before commencement of any work. The Contractor shall indemnify and hold harmless the Owner from any damages on account of settlement or the loss of lateral support of adjoining or adjacent properties, and from all loss or expense and all damages for which the Owner may become liable in consequence of such injury or damages to adjoining and adjacent structures and/or their premises.

36.0 **DEWATERING AND STORM-WATER ABATEMENT.** The contractor shall maintain and protect the project from storm-water runoff and ground water at all times. The contractor shall provide all the necessary men, materials, and equipment necessary for construction of the project in dry conditions for the entire duration of the project. If no specific pay item is provided for dewatering, the contractor shall include money in other bid items for the cost of dewatering the site. The Owner will not be responsible for delays or other problems caused by groundwater

welling or storm-water runoff, due to the negligence of the contractor in providing the proper dewatering efforts necessary to build the project. The contractor is responsible for making all inquiries, examinations of the site, and requests for geotechnical information available regarding groundwater and storm-water runoff.

The contractor shall provide a temporary dewatering plan to the Engineer for review a minimum of 14 calendar days prior to the start of construction. The plan should incorporate any ditches, dikes, dams, swales, well points, sock pipes, ditch blocks, pumps, alum drips, hay bales, silt fences, concrete ditch paving, or any other features necessary for construction of the project in dry conditions with regard to ground-water; and necessary for the mitigation of storm-water run-off during a storm event. This would include any features necessary over and above those designed by the Engineer for the project.

The Engineer is not responsible for the sequencing, phasing, or means and methods of construction. The means and methods of providing groundwater dewatering and storm-water runoff abatement is the responsibility of the contractor. However, storm-water structures and dewatering features shall be constructed in the earliest point of the project possible so as to prevent detrimental effects from groundwater and storm-water run-off. The exact timing of such preventative constructions are the responsibility of the contractor.

It is the contractor's responsibility to prevent all upstream and downstream flooding of all properties and structures during the entire duration of the project. The contractor shall maintain and protect all existing, proposed, and temporary storm-water structures for the entire duration of the project in good working order so as to prevent such flooding.

The contractor shall provide the dewatering and storm-water run-off abatement men, materials, and equipment at no additional cost to the Owner above that specified in the executed contract.

37.0 **CONSTRUCTION SAFETY AND PHASING PLAN (CSPP).** The contractor shall fully comply with all safety requirements as indicated in the Construction Safety and Phasing Plan (CSPP) drawings included in the construction plans, as well as the approved CSPP document. The approved CSPP document submitted and approved by the FAA forms a part of these contract documents, whether physically attached or not, and will be made available to the contractor upon request. The report documentation describes in detail the additional requirements to preserve safety during the project, and is considered a supplement to the plans.

In addition to the CSPP documentation, the contractor is required to read and comply with Advisory Circular 150\5370-2, *Operational Safety on Airports During Construction*, latest edition. Refer also to the remainder of these General Provisions.

As part of the submittals process prior to construction, the contractor shall submit the Safety Plan Compliance Document (SPCD), to the Engineer for review and approval.

END OF SECTION 130

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The Special Provisions are intended as modifications or supplements to Information for Bidders; General Conditions; or governing specifications, with the intent that any provisions of this section shall govern. If at any time the Drawings or specifications for this Work are unclear, the Contractor shall contact the Engineer immediately.

Performance Specifications and Minimum Project Requirements

Location of the Work

The work is located at **Wauchula Municipal Airport, City of Wauchula, Florida**.

Description of the Work

1. Intent

The Project's intent is to provide and establish the minimum dimensions, material, design, and erection criteria of T-Hangar buildings for approval by Florida Department of Transportation (FDOT) and for eligibility for funds under FDOT's General Aviation Airport Improvement Program (AIP).

The exact door dimensions shall be as called for herein, unless specified otherwise in the Instruction to Bidders, the Proposal Form or on the associated plans (signed and sealed by a Professional Engineer (P.E.) licensed in the state of Florida). The exact number, size, and location of the hangar or hangars shall be as noted in the Proposal Form and shall be in accordance with the approved Airport Layout Plan (ALP) for the airport.

These specifications may be used as guides for the construction of T-Hangars on any airport in the state of Florida, provided they are compliant with all local codes and laws. If local requirements are more stringent, then they must be followed. The various types of hangars covered by these specifications and guidelines shall be designated as Standard T-Hangars, Nested T-Hangars or Shop-Storage Hangars.

The owner of the airport shall designate the area where the hangar is to be built in accordance with the approved ALP and establish or designate the finished floor elevations. The building supplier shall include the size and shape of the necessary foundation and footings to support the building, according to the minimum standards included herein, in his design computations and plans. However, the local codes or the requirements of the specific building, depending upon local soil conditions, whichever is the most critical, shall not be exceeded.

Hangars shall be designed and fabricated as a permanent structure, but shall be capable of being dismantled, moved, and re-erected with no loss of material except possibly a few bolts, screws, clips, or minor hardware parts that may be embedded in concrete. Hangars shall be designed to allow a future extension of additional units of similar design at either end without modification or change of the basic structural design and bracing of the units of the original building. All necessary base plates, anchor bolts, door tracks and guides, and connecting hardware to be installed in or attached to any concrete foundation or footings shall be furnished by the bidder, as soon as possible, to permit incorporation of same into the foundations and footings for receiving the

remaining building units or parts. ***Wauchula Municipal Airport*** may, if noted in the *Instructions to Bidders* or indicated as an option in the *Proposal Form*, have the foundation and footing work done by others.

a. This contract covers the supply and construction of the T-Hangar building(s), generally described but not limited to the following:

- Design, construction, testing, commissioning, and post-construction
- Mobilizing labor and equipment on site and establishing construction offices, storage, and other temporary facilities, utilities, and controls as required
- Construction of the building, including all excavation, foundation, structural, architectural, mechanical, and electrical work
- Extension and hook-up of all services and utilities
- Construction and/or reconstruction of affected aircraft aprons
- Removal of all temporary facilities and debris at the end of the work
- Landscaping

Note: Office furniture, fitments, and lockers are not part of the project scope.

2. Codes and Jurisdiction

a. As a minimum, all work shall conform to the Florida Building Code (FBC) and other codes as referenced within the FBC, the National Fire code, the National Electrical Safety Code, NFPA 409, and to all local regulations mandated by authorities having jurisdiction. Some airports may wish to allow kit plane construction. In these instances, local fire code may be more stringent and should be followed.

b. Legal requirements, Statutory Code, and National Standards must include, but are not limited to, the following:

- Florida Building Code
- County Ordinances and Resolutions that are applicable, but not part of the FBC
- Florida Statutes (FS) and the Florida Administrative Code (FAC)
- NFPA 409 (applicable sections shall be verified with local authorities having jurisdiction)
- Florida Fire Prevention Code
- Federal Laws, Rules, and Regulations, particularly including, but not limited to, those of the Federal Aviation Administration (FAA) and the Transportation Security Administration (TSA)
- Requirements of the Department of Environmental Resources Management (DERM)
- Florida Energy Efficiency Code for Building Construction
- Federal Occupational Safety & Health Administration (OSHA)
- Federal Americans with Disabilities Acts (ADA) and the Florida Accessibility Code for Building Construction (FACBC)
- National Electrical Safety Code

3. Introduction

The following summarizes the performance criteria specification of the 10 Unit Nested T-Hangar Building for *Wauchula Municipal Airport*. Please refer to attached drawings for dimensions and location data. ***Note: Drawings are for bidding purposes and are not to be used for construction, except for site civil engineering. Designs for the building envelope are 30% schematic in nature to depict the basis of design and Owner intent.***

The location of the hangar complex is assumed to conform to height and electronic zoning of ***Wauchula Municipal Airport*.**

4. Site

a. Access Roads/Parking – ***See schematic performance bid plans. No additional parking is required for this project.***

~~New car parking area to be provided *(location of parking area)* for *(Number of Cars)* cars. Pavement requirements include:~~

- ~~Light duty car traffic~~
- ~~Entrances, truck access routes, and airside roads~~
- ~~Line painting, as appropriate~~

b. Security Fencing - ***See schematic performance bid plans. No additional fencing is required for this project except SWPPP countermeasures.***

~~The T-Hangar complex must provide a security fence to create a landside/airside barrier in accordance with FDOT/FAA standards. The fence shall be located so that there are vehicle parking spots dedicated to airside use so as to minimize use of apron areas dedicated for aircraft use.~~

~~Landside property perimeter fencing shall also be provided.~~

~~Throughout the duration of the project, the contractor shall ensure and maintain adequate temporary fencing to allow all work to be conducted landside while maintaining airport security at all times. The contractor shall consult with airport security as to the fencing material and installation requirements.~~

c. Watermains - ***See schematic performance bid plans. No water mains are required for this project. There is no water available at this site.***

~~The contractor must connect to the airport's watermain in accordance with local code guidelines and specifications. The airport must provide a watermain that meets the minimum requirements of applicable codes.~~

~~Required fire hydrants and watermains on the airside and landside, as specified by local building code, National Fire Code, and National Fire Protection Agency (NFPA), must be provided. Additionally, a separate watermain to the building for domestic use and to service the fire suppression system must be provided. This watermain must also provide the required flows.~~

d. Sanitary - ***See schematic performance bid plans. No sanitary systems or bathrooms are required for this project. There is no sanitary system available at this site.***

~~The contractor must connect to the airport's sanitary sewer within the property line. The sanitary sewer must be built in accordance with local code guidelines and in accordance with airport specifications.~~

e. Storm

All roof and surface drainage is to be routed to the airport's surface drainage system. Catch basins and manholes must be in accordance with local specifications, and as shown on the DB Performance bid plans.

Interior T-Hangar drainage shall be designed to sheet flow from the back of each unit to the front of each unit.

f. Demolitions

Portions of existing concrete aprons, runways, or taxiways may be demolished to facilitate new apron construction. This includes all underground services and curbs to facilitate new construction.

g. Apron

See civil engineering site bid plans for apron construction between T-Hangar building and existing taxilane pavements.

h. Site Electrical

The main electrical feed must come from the existing high voltage supply in accordance with the authority having jurisdiction. The main feed to the facility from the property must be underground and be constructed and suitably protected at a point conducive with the proposed construction and agreed by the authority.

The total available dedicated supply shall be a minimum of two times the calculated load for the current proposed complex. Additional empty conduits for future connections should also be provided in the existing electrical room.

Design and construct a diesel fuel operated generator set with tank, concrete pad foundation, hookups, automatic transfer switch, and all appurtenances appropriate for the loads required to operate the bifold doors, lights and outlets during a power outage. Final sealed designs by contractor's engineer.

i. Site Lighting

External lighting mounted from the hangar structure shall be provided along all faces of the hangar, excluding apron, to provide illumination of 0.93 footcandles. Exterior lighting must be shielded and directed away from the tower and aircraft operations.

Parking areas and access roads shall be provided with exterior lighting of 0.46 to 0.93 footcandles mounted on poles. All exterior lighting shall be operated by photocell. Final sealed designs by contractor's engineer.

5. Nested T-Hangar Building – Aircraft Storage Only – No Aircraft Maintenance

a. Dimensions - Exterior

The exterior dimensions shall be similar to the existing 10 unit T-Hangar buildings in the area, to fit the existing available construction site as shown on the plans, but must clear the Taxilane Object Free Area (TLOFA) offset width for FAA ADG Group I aircraft of 39.50' clear from the adjacent existing taxilanes existing, and the ADG-II parallel TW Bravo Taxiway Object Free Area (TOFA) = 55' clear.

1. Overall Length of building = 240 ft – 260 ft, to fit on available site.
2. Overall Width of building = 60 ft max
3. Basis of Performance Design PEMB = Erect-A-Tube Nested General Aviation Hangar Buildings Model N60-45 with electrically powered Bi-Fold Doors or similar and the provided FDOT Design Standards drawings (see performance plans).

b. Dimensions – Interior

1. Clear Door Width Opening = 44.50' min to 46.33' max
2. Clear Door Tail Height Opening = 14.0' min
3. Personnel doors in aircraft bifold doors with keyed locks.
4. End storage area bays with chain operated overhead roll up doors with locking mechanisms.

c. Foundations

The building foundations shall be adequately designed to carry the proposed structure, using conventional concrete footings. The support foundation for the exterior and firewall blockwork shall be either grade beam or spread footing construction.

The concrete to be used in the construction of foundations, footings, floors, or hangar ramps for the proposed building must meet the minimum requirements of the *Description of Work Section*. If the building supplier indicates on the approved plans that a concrete mixture will produce a specified compressive strength or a greater cement-aggregate ratio, the more stringent requirements shall be met. Final sealed designs by contractor's engineer.

d. Foundations and Footings.

The necessary foundation, footings, column supports, bearing walls or other substructure building items shall be of the size, shape, and at the location shown on the building suppliers' plans for the building. In no case will foundation walls be less than eight inches thick nor less than 30 inches below finished ground line. An additional width of foundation wall on the exterior side thereof through the full width of the guides, buffer plates, rub rails or other necessary door hardware. The individual piers or column supports shall be a minimum depth of 36 inches below the finish floor grade. All individual piers or column supports must have the same top elevation as the outer foundation walls, unless noted otherwise on the plans.

The size and location of any required reinforcement in the foundations, footings, or slabs shall be as stated on the plans furnished by the hangar building supplier. All necessary base plates anchor bolts and foundation ties shall be provided by the hangar building supplier along with a foundation and footing plan to assure proper installation of same.

The foundation walls, footings, and piers must be properly covered and cured for a minimum of three days prior to the construction of any steel hangar members thereon.

A geotechnical report was completed as part of the performance design plans and specifications by Tierra Testing included with this Project Manual. The contract design\builder shall include the results in the considerations for final design. Final sealed designs by contractor's engineer.

e. Hangar Floor

The hangar floor, either full or partial, shall be constructed of the same concrete design proportions used for the footings and foundation walls, as a minimum. The floor and footing support minimum sections shall be per the FDOT minimum design guidelines shown in the performance bid plans, and subject to the corresponding Geotech Report.

At all places where the concrete floor adjoins the foundation walls or an individual pier or column support, a piece of pre-molded expansion joint material at least one-half inch thick shall be placed for the full depth of the concrete slab.

The placing of a partial floor shall, as a minimum, extend from the large hangar door to the center of the unit and for a width to match the full tail section width of the design aircraft.

The floor, either partial or full, must be cured for a period of seven days prior to being used to support any power operated equipment or vehicles.

The hangar floors are to be screeded using a high frequency mechanical vibratory screed and the surface floated to provide a non-slip finish. Joints between floor slabs are to be filled with a sealant resistive to oil, grease, fuel, and aircraft hydraulic fluids. The contractor must provide an option for the floors and the surface must be finished with a nonoxidizing metallic hardener and cured utilizing a clear sealing compound.

A 0.5 percent minimum slope is to be incorporated in floor design to provide drainage to the exterior opening from back to front. Slopes must be equal on either side of the centerline so that aircraft are symmetrical when jacked.

f. Concrete and Floor Coating System

Concrete used for the foundations footing, floors, and hangar ramps shall be constructed of Portland Cement Concrete per the technical specifications.

The concrete T-hangar floor(s) shall be treated with a multi-stage epoxy-type or equivalent floor coating system suitable for the purpose of sealing, protection and light reflection, in a color and gloss selected by the Owner during shop drawing review phase. The coating system shall not be applied until the concrete floor is fully cured, released all water vapor, and subsequently properly prepared per the manufacturer's recommendations. The multi-stage system shall have a proven track record of performance without skinning, peeling, or flaking, or other defects and guaranteed to last for a minimum period of at least 10 years.

g. T-Hangar Approach Aprons

Hangar approach aprons shall be constructed to serve individual T-Hangar units to transition from the hangar bay to the adjacent taxilanes. Hangar aprons shall comply with the project performance site bid drawings and project manual (bid documents). T-Hangar Approach Aprons may be made of cement concrete or asphalt pavement structure at the contractor's option.

h. Steel Structure

The hangar building steel structure shall consist of a structural steel system, designed in accordance with the latest National Building Code and appropriate Federal standards. The requirements below are considered minimum requirements, with the latest applicable standards governing. In the case of a conflict the strictest standard will apply.

All materials supplied for any building to be erected under these specifications shall be as a minimum; however, in no case shall the limits of any material be exceeded, nor shall the local codes, ordinances, or statutes which may be more restrictive, be exceeded.

All design calculations for any structural member or members of the T-Hangar shall be submitted with the final design plans for review and approval by the Owner's representative, prior to fabrication.

Structural steel shall conform to the *Standard Specifications for Structural Steel for Bridges and Buildings, Serial Designation A 7* of the American Society of Testing Materials, as amended to date.

The complete building shall be designed for a minimum roof live load of 20 pounds per square foot on the horizontal projection in addition to the dead load. The design wind load shall be a minimum of 15 pounds per square foot on the vertical projection of the hangar. The wind load, live load, and dead load shall be computed in such a manner that all members will withstand the probable maximum stresses in all elements of the structure with the hangar doors in either the open or closed positions. The roof system shall be designed to meet each of the following conditions, when separately applied:

- Live load plus dead load
- Half of the live load on one-half of the roof with the wind load acting upward and normal to the roof sheets on the cantilevered half, thus producing a reversal of stresses in the truss members
- Wind load on end walls
- Wind load on side walls and roof

Adequate wind bracing shall be provided in the walls and roof of the structure to safely withstand the design loads and to provide rigidity. Such bracing may be utilized for attachment of the wall and roof, provided that members are designed to carry the combination of stresses incurred. In the event any member is built up to a composite section, adequate lacing shall be designed so that the combination of stresses will not exceed the maximum allowable stresses nor result in excessive deflection, and will be included with the design calculation, including open hangar door condition.

Main spans of the steel structure are to be rigid frame, single story, single span type, and must be fabricated from hot-rolled structural steel sections. Frames must have attachment plates, bearing plates, splice members, and all other needed components. Secondary framing (girts, purlins, etc.) shall be comprised of roll formed sections.

The structure may be designed using inclined chord umbrella type shop fabricated trusses cantilevering over and supporting the large hangar doors through the “T” unit section of the hangar. The structure shall be supported to provide the necessary clear opening space and provide sufficient support minimize deflection. Structures utilizing trusses spanning the full hangar door width must have absolute minimum deflection.

Exterior covering sheets for walls and gable ends shall be a minimum of 26 gauge steel with ribbed channels or corrugated metal. The sheets shall be sufficient length to eliminate end lapping or field cutting on the end wall section to eave height and shall be placed on the building with the ribbed channels or corrugations running vertically. At some airports, it may be necessary to treat the steel to delay corrosion. Airports should determine on an individual basis whether or not they need to treat the T-Hangars.

Gable ends shall be furnished with sheets requiring no end lapping except at the eave height lap. End laps for gable end sheets over the wall sheets shall provide a minimum lap of four inches. Wall sections and gable end sheets shall be furnished and installed with approved fasteners to provide a rigid connection. Each fastener must be equipped with a neoprene washer to provide a weather tight seal. As a minimum, wall sheets shall be fastened to the building framework at each end of the sheet and at intermediate girts with fasteners at a minimum of eight inches on centers. One sheet-metal screw (or equal) with lead or neoprene washer shall be installed on all sides laps between girts at a maximum spacing of 24 inches on centers. Gable ends shall be installed with sufficient fasteners to firmly secure the sheets to all end roof truss members on eight centers. Nylon color coded caps shall be provided on exposed fasteners. Girt installation shall be either notched or outset.

The bottom framing member to which all wall sheets (or partition sheets) are fastened shall be of sufficient strength and rigidity to support its portion of the sheet. Additionally, they must provide adequate wind and load bracing between the wall column supports (10-to-20-foot span) without requiring a continuous foundation and footing, so that the building column supports may be erected on concrete piers only.

The roof pitch for a gable roof shall be a minimum of four inches per foot. A lesser pitch, from four inches per foot to one inch per foot, is allowable if each transverse sheet is a continuous sheet, extending from the gable to the outside eave of the roof. A flat roof, (pitch of less than one inch per foot) will be allowed if each transverse roof sheet is one continuous sheet for the entire width of the roof. A flat roof is also allowed if the end lapping of the sheets is at least six inches and occurs over purlins (or supports) and is secured and sealed with a continuous bead of caulking compound at least one-half inch wide.

The roof covering shall be a minimum of 26 gauge steel ribbed channels or corrugated metal. Where a roof pitch of four inches per foot or more is used, sheets shall be of sufficient length so that an end lap occurs only over the purlins or supports and with a minimum end lap of six inches. Roof sheets shall be placed on the building with ribbed channels or corrugation running parallel to the slope of the roof. Approved washer fasteners shall be installed to adequately secure the sheets to the roof purlins on eight inch centers.

The roof ridge shall be installed with an approved galvanized metal roof ridge roll, designed to lap and match the ribbed channel or corrugations of the roof sheets by sufficient width, to provide a weather tight lap. Approved filler strips shall be furnished to seal the ridge or approved formed ribbed channel, or corrugated sheets may be furnished to seal the ridge. Approved weather tight fasteners shall be provided on eight inch centers on both sides.

Roof deck exterior shall be dull matte color or baked enamel grey to minimize reflection. Gutters, downspouts (outside of the building), trim flashings, copings, soffit closures, etc. to suit adjacent construction must also be provided. Gutters and downspouts shall be sized and spaced to suit the rainfall intensity as specified in the National Building Code. Provide splash pads beneath all downspouts to direct storm flow away from the building.

Adequate flashing shall be installed to make all joints and intersections weather tight and provide a neat and uniform covering. All flashing shall be a minimum of 24 gauge galvanized sheeting and shall be fabricated and installed to assure a weather tight building.

Provide system thermal resistances of not less than 90 percent of the following:

- R12 for walls
- R30 for roof

Building walls and roof shall be designed to allow for thermal movement of component materials without causing buckling, failure of joint seals, undue stress on fasteners, or other detrimental effects. Condensation should be avoided on interior surfaces. A vapor barrier made with white metalized polypropylene film and fiberglass scrim reinforcement with foil backing laminated together should be used.

All exposed steel within the hangar shall be primed and painted using a suitable oil-resistive epoxy based gloss paint.

i. Hangar Doors and Others

In accordance with the manufacturing standard, T-Hangar doors shall be constructed of metal and shall be bottom supported or overhead suspension type, either overhead canopy bi-fold or overhead suspended sliding configuration. Doors shall be equipped with fastening devices, as required, to secure them against wind either in the closed or open position. Required door guides, buffer plates, rubrail, approved hardware and/or tracks to provide maximum smooth uncomplicated operation shall be installed. The doors must be capable of being easily operated by the clear space requirements. Doors shall be equipped with padlock plates and hasps.

The type of hangar doors to be installed shall be clearly shown on the drawings submitted with the final design plans for review and approval by the Owner’s representative, prior to fabrication.. These drawings shall indicate the door’s weight and method of suspension, operation, and all fastenings. Any guide proposed to be used for bottom guides on sliding or bottom supported doors shall be designed to minimize the collection of water and debris, and shall provide a definite means of permitting drainage.

The hangar door system shall include mechanical drive systems, upper guide rollers, ground rail assembly, bumper stops, exterior and interior cladding, weather seals, and electrical systems. When possible, hangar doors should be

designed so that the user does not have to push his aircraft over more than a one-half inch lip to allow for pilots to be able to move their aircraft into the hangar without assistance.

Doors shall be designed for minimum weight and maximum strength and shall be capable of withstanding the design wind load of the building in open or closed position.

Bi-fold aircraft doors should be used for the hangar design. Door framing members should be made of a square tube jig welded in full size panels. Door frames shall have prelocated top hinges factory aligned with the door truss hinges. Structural steel shall be ASTM A500 Grade B square structural welded steel tubing.

The electric bi-fold door operator shall be mounted on the center of the door truss and shall be provided with adjustable turnbuckles and fastened securely. Motor shall be ¾ HP, 230 VAC, single phase thermally protected and supplied with a reset button. Motor shall have a totally enclosed capacitor start. Cable drum shall be a direct drive drum by shaft mounted gearbox. Gearbox shall be oil bath two-stage gearbox, bronze worm gear, hardened steel spur gears, tapered roller, and ball bearings. Door operator shall be prewired at factory with 24 VAC momentary-up, constant pressure-down push button control, magnetic controllers, spring-set electric brake, up-stop safety switch, mercury tilt type to disconnect power in case of over travel, and geared rotary limit switch attached to cable drum designed to coordinate reversing operations. Power connection shall be by heavy duty 230 volt plug for easy connection.

Bi-fold hardware shall include three inch diameter bottom guide roller with sealed bearing and column followers, side door cam locks shall be self-unlatching type with white vinyl pull handles attached to vertical end members, center cane bolt pin one inch diameter minimum and embedded floor sockets, 16 inch minimum center plated door poppers and skid plates, all required hinge pins, 3/16 inch diameter seven by nine inch galvanized aircraft cables with wire rope clips and thimbles, bottom and top two ply rubber astragals, and five inch diameter steel sheave wheels with ball bearings.

Ground support rails shall be flush with the concrete and the door track shall be provided with a transverse slope away from the hangar.

The walk-in or access door to an end corner unit or shop hangar unit shall be a nominal clear width of 32 inches and a nominal clear height of six feet eight inches and of the hollow-metal, panel type, 1 3/4 inches thick flush, fabricated from 20 gauge galvanized steel sheets, with full honeycomb core and edges mechanically locked and welded. The door frame shall be 16 gauge galvanized steel channels, into which the wall girts will be framed, and the frame shall be attached to the concrete slab or foundation with at least two anchor bolts at each jamb. Door hinges shall be galvanized template built type with removable pins, interlocking, and each door shall be hung on three hinges. The threshold shall be interlocking aluminum type anchored to the concrete floor or foundation with counter sunk screws, and shall be designed to counter flash the door.

All exterior doors shall be insulated and all doors within the hangar shall be designed for heavy duty use. All doors leading to the hangar areas through the firewall shall be suitably fire rated. Doors shall be fitted with panic devices, closers (exterior doors shall be equipped with restraining device to prevent racking under wind conditions and be fastened to the interior face of the door), floor stops, and kick plates, as necessary.

Concrete filled bollards shall be installed on both interior and exterior sides of all vehicle doors. Overhead doors to be finished to match building colors. Firewall overhead doors shall be connected to the fire alarm system and designed to close at a safe rate. All interior man doors shall be painted with semi-gloss enamel and exterior doors painted with high gloss enamel.

When installing automated doors in T-Hangars, instructions and provisions for the responsibility of proper use in the lease with the tenant should be provided, if deemed necessary by the airport.

j. Mechanical Systems

The mechanical design conditions for the hangar area are as follows:

Outdoor Conditions
Proponent to use one percent occurrence maximum and minimum temperatures as described in the International Building Code.

Indoor Conditions
Summer - The design temperature shall apply at three feet above finished floor level.

General Ventilation Rates One-half air change per hour

Interior Noise Levels
NC45

The noise criteria applies to noise generated from sources external to the building or internally from mechanical and electrical equipment.

Mechanical systems shall maintain a positive pressure in the building.

1. Heating and Ventilation

   Provide a complete general ventilation system for the hangar area to provide 0.5 air changes per hour with normal intake and exhaust. All electric motors one horsepower and larger shall have a minimum efficiency of 85 percent.

2. Plumbing

   No plumbing is required for this project as there is no available water supply.

Fire extinguishers must be supplied for each hangar bay, as required by local Fire AHJ.

3. Electrical Systems

The Contractor shall obtain the necessary local inspection authority approvals and/or inspections for the design and installation of the electrical systems.

- All conduits beneath the hangar floor shall be galvanized and classified as Class I, Div I
- All electric motors one HP and larger shall have a minimum efficiency of 85 percent
- All controls shall be line voltage
- Security system is not included as part of the electrical system

In some instances, it may be beneficial not to have individual meters; therefore, airports should determine if providing individual electric meters for each T-Hangar is appropriate for their airport.

4. Power

Power distribution shall include all transformation and distribution equipment required to supply the hangar and related work. All hangar supplies shall be supplied from a single point within the hangar complete with step down transformers, panels, etc. All step down transformers shall have neutral points connected to the building ground system. All panel boards shall be designed with a ten percent allowance of spare circuits.

5. Lighting

Exit and emergency lighting should be provided as per International Building Code. Maintained emergency lighting luminaries shall be provided over all personnel doorways to provide lighting during power failure for one hour at an average lighting level of 4.65 footcandles. Approach lighting in front of the hangar illuminated to an average of 5.6 footcandles should also be provided. Fixtures shall include 45 degree cutoff type glare control louvers and mounting shall be provided with a mounting assembly to allow relamping and servicing fixtures from the roof. Skylights are also an option for lighting in a hangar. If a T-Hangar is designed with skylights, it may be beneficial to install them on the on the door of the T-Hangar, as this will cause fewer penetrations and less roof maintenance in the future.

6. Grounding System

An equipotential building and aircraft grounding system is to be installed to ground the building during electrical storms and to ground the aircraft when positioned within the hangar. The system shall consist of bare copper cables, ground rods, ground bars, accessible ground pits at

connections to ground rods, building column connections, and equipment connections to connect all conductive metal together to establish a low impedance equal potential structure at or near earth potential.

The incoming high voltage power feeder conductors' shields shall be grounded to the equipment ground bus in the main incoming high voltage switchgear along with the feeder grounding conductor. All conduits shall be continuous and shall be connected at panel enclosures and equipment for low impedance grounding. All branch circuits and feeders shall be installed with equipment grounding conductors in addition to the raceway system. Each feeder and branch circuit shall consist of phase and neutral conductors, as necessary, plus an equipment grounding conductor sized in accordance with National Electrical Code.

Aircraft static grounding receptacles shall be provided in the hangar floor. The grounding receptacles shall be uniformly spaced within the hangar floor, and the grounding point should be strategically located on hangar floor.

k. Specialized Equipment

1. Backup Power Engine Generator - Contractor shall construct a standby engine generator, diesel fueled tank under the engine generator or underground propane tank, with automatic transfer switchgear, circuit breakers, distribution panels, etcetera; including everything necessary to power the T-Hangar building bifold doors and electrical systems in the case of a power outage. Final design by contract design\builder. The genset fuel capacity shall be enough for 3 days of auxiliary backup power.

2. Primary Power Equipment - Contractor shall provide primary power design, construction, and coordination with the local Authority Having Jurisdiction, transformer pads, conduits, grounds, warning tape, trenching, handholes, and metering, labor and incidentals as necessary to provide full electrical service. Final design by contract design\builder.

3. Bifold Doors Manual Emergency Operation – in the case of primary and backup power failure or outage, the bifold door system design shall include a manual crank override to open the bifold aircraft doors manually by a single individual. Final design by contract design\builder.

4. Fire Alarm System and Smoke\Heat Detectors – The T-Hangar Building will require a centralized fire alarm system with appropriate smoke\heat detectors tied to audible warning annunciators, design and constructed per local Fire AHJ. A fire radio with signal boost system may be required. Final design by contract design\builder.

l. Data and Telecommunication Systems

Data comm is not required for this project except for any systems required for the Fire Alarm System and Smoke\Heat Detectors.

m. Finishes

1. Painting

All exterior and interior ferrous metals (except bolts), rough hardware, and metals with non-ferrous coatings shall be covered with a shop coat of rust inhibitive paint, including any field cuts or welds.

2. Partitions

Partition coverings shall be a minimum of 28 gauge ribbed channels or corrugated steel to be installed in the same manner as the wall and end sections. Material furnished and installed to cover trusses may be galvanized flat steel sheets to cover the truss completely from the roof sheets to the wall height sheets with sufficient side and bottom end lap. Adequate bracing members and fasteners shall be installed to secure the metal sheets at both ends and at all intermediate girts through the wall height sections. Fasteners used in partitioning need not be weather tight. Partitions shall be installed to completely separate each of the regular and nested units from floor level to roof covering and shall be bird proof. Cutting around the top of the sheets to fit the roof purlins or flush type roof bracing will be permitted.

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APPENDIX

- Geotech Report dated 11/15/2023

REFERENCE SPECIFICATIONS: The following FAA Advisory Circular(s) are not included in the Project Manual, but form a part of the executed contract by reference. FAA Advisory Circulars may be downloaded from www.faa.gov.

150/5370-2G Operational Safety on Airports During Construction

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SECTION 03 10 00 - CONCRETE FORMING AND ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Form-facing material for cast-in-place concrete.
2. Shoring, bracing, and anchoring.

1.3 DEFINITIONS

A. Form-Facing Material: Temporary structure or mold for the support of concrete while the concrete is setting and gaining sufficient strength to be self-supporting.

B. Formwork: The total system of support of freshly placed concrete, including the mold or sheathing that contacts the concrete, as well as supporting members, hardware, and necessary bracing.

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Review the following:

a. Special inspection and testing and inspecting agency procedures for field quality control.
b. Construction, movement, contraction, and isolation joints
c. Forms and form-removal limitations.
d. Shoring and reshoring procedures.
e. Anchor rod and anchorage device installation tolerances.

1.5 ACTION SUBMITTALS

A. Product Data: For each of the following:

1. Exposed surface form-facing material.
2. Concealed surface form-facing material.

3. Form ties.
4. Waterstops.
5. Form-release agent.

B. Shop Drawings: Prepared by, and signed and sealed by, a qualified professional engineer responsible for their preparation, detailing fabrication, assembly, and support of forms.

1. For exposed vertical concrete walls, indicate dimensions and form tie locations.
2. Indicate dimension and locations of construction and movement joints required to construct the structure in accordance with ACI 301.

    a. Location of construction joints is subject to approval of the Architect.

3. Indicate location of waterstops.
4. Indicate proposed schedule and sequence of stripping of forms, shoring removal, and reshoring installation and removal.

C. Samples:

1. For waterstops.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For testing and inspection agency.

B. Field quality-control reports.

C. Minutes of preinstallation conference.

1.7 QUALITY ASSURANCE

A. Testing and Inspection Agency Qualifications: An independent agency, acceptable to authorities having jurisdiction, qualified in accordance with ASTM C1077 and ASTM E329 for testing indicated.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Waterstops: Store waterstops under cover to protect from moisture, sunlight, dirt, oil, and other contaminants.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Concrete Formwork: Design, engineer, erect, shore, brace, and maintain formwork, shores, and reshores in accordance with ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads, so that resulting concrete conforms to the required shapes, lines, and dimensions.

1. Design wood panel forms in accordance with APA's "Concrete Forming Design/Construction Guide."
2. Design formwork to limit deflection of form-facing material to 1/240 of center-to-center spacing of supports.

2.2 FORM-FACING MATERIALS

A. As-Cast Surface Form-Facing Material:

1. Provide continuous, true, and smooth concrete surfaces.
2. Furnish in largest practicable sizes to minimize number of joints.
3. Acceptable Materials: As required to comply with Surface Finish designations specified in Section 033000 "Cast-In-Place Concrete, and as follows:

a. Plywood, metal, or other approved panel materials.
b. Exterior-grade plywood panels, suitable for concrete forms, complying with DOC PS 1, and as follows:

1) APA Structural 1 Plyform, B-B or better; mill oiled and edge sealed.
2) APA Plyform Class I, B-B or better; mill oiled and edge sealed.

B. Concealed Surface Form-Facing Material: Lumber, plywood, metal, plastic, or another approved material.

1. Provide lumber dressed on at least two edges and one side for tight fit.

2.3 WATERSTOPS

A. Flexible PVC Waterstops: U.S. Army Corps of Engineers CRD-C 572, for embedding in concrete to prevent passage of fluids through joints, with factory fabricate corners, intersections, and directional changes.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Greenstreak
b. Progress Unlimited, Inc.

c. Williams Products, Inc.

2. Profile: Flat dumbbell with center bulb.
3. Dimensions: 4 inches by 3/16 inch thick; nontapered.

2.4 RELATED MATERIALS

A. Reglets: Fabricate reglets of not less than 0.022-inch-thick, galvanized-steel sheet. Temporarily fill or cover face opening of reglet to prevent intrusion of concrete or debris.

B. Dovetail Anchor Slots: Hot-dip galvanized-steel sheet, not less than 0.034 inchthick, with bent tab anchors. Temporarily fill or cover face opening of slots to prevent intrusion of concrete or debris.

C. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch, minimum.

D. Form-Release Agent: Commercially formulated form-release agent that does not bond with, stain, or adversely affect concrete surfaces and does not impair subsequent treatments of concrete surfaces.

1. Formulate form-release agent with rust inhibitor for steel form-facing materials.

E. Form Ties: Factory-fabricated, removable or snap-off, glass-fiber-reinforced plastic or metal form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.

1. Furnish units that leave no corrodible metal closer than 1 inchto the plane of exposed concrete surface.
2. Furnish ties with integral water-barrier plates to walls indicated to receive dampproofing or waterproofing.

PART 3 - EXECUTION

3.1 INSTALLATION OF FORMWORK

A. Comply with ACI 301.

B. Construct formwork, so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117 and to comply with the Surface Finish designations specified in Section 033000 "Cast-In-Place Concrete" for as-cast finishes.

C. Limit concrete surface irregularities as follows:

1. Surface Finish-1.0: ACI 117 Class D, 1 inch.
2. Surface Finish-2.0: ACI 117 Class B, 1/4 inch.

D. Construct forms tight enough to prevent loss of concrete mortar.

1. Minimize joints.
2. Exposed Concrete: Symmetrically align joints in forms.

E. Construct removable forms for easy removal without hammering or prying against concrete surfaces.

1. Provide crush or wrecking plates where stripping may damage cast-concrete surfaces.
2. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.
3. Install keyways, reglets, recesses, and other accessories, for easy removal.

F. Do not use rust-stained, steel, form-facing material.

G. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces.

1. Provide and secure units to support screed strips
2. Use strike-off templates or compacting-type screeds.

H. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible.

1. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar.
2. Locate temporary openings in forms at inconspicuous locations.

I. Chamfer exterior corners and edges of permanently exposed concrete.

J. At construction joints, overlap forms onto previously placed concrete not less than 12 inches.

K. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work.

1. Determine sizes and locations from trades providing such items.
2. Obtain written approval of Architect prior to forming openings not indicated on Drawings.

L. Construction and Movement Joints:

1. Construct joints true to line with faces perpendicular to surface plane of concrete.
2. Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.
3. Place joints perpendicular to main reinforcement.
4. Locate joints for beams, slabs, joists, and girders in the middle third of spans.

    a. Offset joints in girders a minimum distance of twice the beam width from a beam-girder intersection.

5. Locate horizontal joints in walls and columns at underside of floors, slabs, beams, and girders and at the top of footings or floor slabs.
6. Space vertical joints in walls as indicated on Drawings.

    a. Locate joints beside piers integral with walls, near corners, and in concealed locations where possible.

M. Provide temporary ports or openings in formwork where required to facilitate cleaning and inspection.

1. Locate ports and openings in bottom of vertical forms, in inconspicuous location, to allow flushing water to drain.
2. Close temporary ports and openings with tight-fitting panels, flush with inside face of form, and neatly fitted, so joints will not be apparent in exposed concrete surfaces.

N. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.

O. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.

P. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.2 INSTALLATION OF EMBEDDED ITEMS

A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete.

1. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
2. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC 303.
3. Install reglets to receive waterproofing and to receive through-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, shelf angles, and other conditions.
4. Install dovetail anchor slots in concrete structures, as indicated on Drawings.
5. Clean embedded items immediately prior to concrete placement.

3.3 INSTALLATION OF WATERSTOPS

A. Flexible Waterstops: Install in construction joints and at other joints indicated to form a continuous diaphragm.

1. Install in longest lengths practicable.
2. Locate waterstops in center of joint unless otherwise indicated on Drawings.

3. Allow clearance between waterstop and reinforcing steel of not less than 2 times the largest concrete aggregate size specified in Section 033000 "Cast-In-Place Concrete."
4. Secure waterstops in correct position at 12 incheson center.
5. Clean waterstops immediately prior to placement of concrete.

3.4 REMOVING AND REUSING FORMS

A. Formwork for sides of beams, walls, columns, and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg Ffor 24 hours after placing concrete. Concrete has to be hard enough to not be damaged by form-removal operations, and curing and protection operations need to be maintained.

1. Leave formwork for beam soffits, joists, slabs, and other structural elements that support weight of concrete in place until concrete has achieved at least 70 percent of its 28-day design compressive strength.
2. Remove forms only if shores have been arranged to permit removal of forms without loosening or disturbing shores.

B. Clean and repair surfaces of forms to be reused in the Work.

1. Split, frayed, delaminated, or otherwise damaged form-facing material are unacceptable for exposed surfaces.
2. Apply new form-release agent.

C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints.

1. Align and secure joints to avoid offsets.
2. Do not use patched forms for exposed concrete surfaces unless approved by Architect.

3.5 SHORING AND RESHORING INSTALLATION

A. Comply with ACI 318and ACI 301for design, installation, and removal of shoring and reshoring.

1. Do not remove shoring or reshoring until measurement of slab tolerances is complete.

B. In multistory construction, extend shoring or reshoring over a sufficient number of stories to distribute loads in such a manner that no floor or member will be excessively loaded or will induce tensile stress in concrete members without sufficient steel reinforcement.

C. Plan sequence of removal of shores and reshore to avoid damage to concrete. Locate and provide adequate reshoring to support construction without excessive stress or deflection.

3.6 FIELD QUALITY CONTROL

A. Special Inspections: Owner will engage a special inspector to perform field tests and inspections and prepare test reports.

B. Testing Agency: Engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.

C. Inspections:

1. Inspect formwork for shape, location, and dimensions of the concrete member being formed.

END OF SECTION 03 10 00

SECTION 03 20 00 - CONCRETE REINFORCING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Steel reinforcement bars.
2. Welded-wire reinforcement.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Review the following:

a. Special inspection and testing and inspecting agency procedures for field quality control.
b. Construction contraction and isolation joints.
c. Steel-reinforcement installation.

1.3 ACTION SUBMITTALS

A. Product Data: For the following:

1. Each type of steel reinforcement.
2. Zinc repair material.
3. Bar supports.
4. Mechanical splice couplers.

B. Shop Drawings: Comply with ACI SP-066:

1. Include placing drawings that detail fabrication, bending, and placement.
2. Include bar sizes, lengths, materials, grades, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, location of splices, lengths of lap splices, details of mechanical splice couplers, details of welding splices, tie spacing, hoop spacing, and supports for concrete reinforcement.

C. Construction Joint Layout: Indicate proposed construction joints required to build the structure.

1. Location of construction joints is subject to approval of Architect.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Statements: For testing and inspection agency.

B. Delegated Design Engineer Qualifications: Include the following:

1. Experience providing delegated design engineering services of the type indicated.
2. Documentation that delegated design engineer is licensed in the state in which Project is located.

C. Material Test Reports: For the following, from a qualified testing agency:

1. Mechanical splice couplers.

D. Field quality-control reports.

E. Minutes of preinstallation conference.

1.5 QUALITY ASSURANCE

A. Testing Agency Qualifications: An independent agency, acceptable to authorities having jurisdiction, qualified in accordance with ASTM C1077 and ASTM E329 for testing indicated.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage.

1. Store reinforcement to avoid contact with earth.

PART 2 - PRODUCTS

2.1 STEEL REINFORCEMENT

A. Reinforcing Bars: ASTM A615/A615M, Grade 60, deformed.

B. Low-Alloy Steel Reinforcing Bars: ASTM A706/A706M, deformed.

C. Headed-Steel Reinforcing Bars: ASTM A970/A970M.

D. Steel Bar Mats: ASTM A184/A184M, fabricated from ASTM A615/A615M, Grade 60, deformed bars, assembled with clips.

E. Plain-Steel Welded-Wire Reinforcement: ASTM A1064/A1064M, plain, fabricated from as-drawn steel wire into flat sheets.

F. Deformed-Steel Welded-Wire Reinforcement: ASTM A1064/A1064M, flat sheet.

2.2 REINFORCEMENT ACCESSORIES

A. Joint Dowel Bars: ASTM A615/A615M, Grade 60, plain-steel bars, cut true to length with ends square and free of burrs.

B. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded-wire reinforcement in place.

1. Manufacture bar supports from steel wire, plastic, or precast concrete in accordance with CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:

a. For concrete surfaces exposed to view, where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire, all-plastic bar supports, or CRSI Class 2 stainless steel bar supports.

C. Mechanical Splice Couplers: ACI 318Type 1, same material of reinforcing bar being spliced.

D. Steel Tie Wire: ASTM A1064/A1064M, annealed steel, not less than 0.0508 inch in diameter.

1. Finish: Plain.

2.3 FABRICATING REINFORCEMENT

A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

PART 3 - EXECUTION

3.1 PREPARATION

A. Protection of In-Place Conditions:

1. Do not cut or puncture vapor retarder.
2. Repair damage and reseal vapor retarder before placing concrete.

B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that reduce bond to concrete.

3.2 INSTALLATION OF STEEL REINFORCEMENT

A. Comply with CRSI's "Manual of Standard Practice" for placing and supporting reinforcement.

B. Accurately position, support, and secure reinforcement against displacement.

1. Locate and support reinforcement with bar supports to maintain minimum concrete cover.
2. Do not tack weld crossing reinforcing bars.

C. Preserve clearance between bars of not less than 1 inch, not less than one bar diameter, or not less than 1-1/3 times size of large aggregate, whichever is greater.

D. Provide concrete coverage in accordance with ACI 318.

E. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

F. Splices: Lap splices as indicated on Drawings.

1. Bars indicated to be continuous, and all vertical bars to be lapped not less than 36 bar diameters at splices, or 24 inches, whichever is greater.
2. Stagger splices in accordance with ACI 318.
3. Mechanical Splice Couplers: Install in accordance with manufacturer's instructions.
4. Do not weld reinforcing bars.

G. Install welded-wire reinforcement in longest practicable lengths.

1. Support welded-wire reinforcement in accordance with CRSI "Manual of Standard Practice."

   a. For reinforcement less than W4.0 or D4.0, continuous support spacing to not exceed 12 inches.

2. Lap edges and ends of adjoining sheets at least one wire spacing plus 2 inches for plain wire and 8 inches for deformed wire.
3. Offset laps of adjoining sheet widths to prevent continuous laps in either direction.
4. Lace overlaps with wire.

3.3 JOINTS

A. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.

1. Place joints perpendicular to main reinforcement.
2. Continue reinforcement across construction joints unless otherwise indicated.
3. Do not continue reinforcement through sides of strip placements of floors and slabs.

B. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt coat one-half of dowel length, to prevent concrete bonding to one side of joint.

3.4 INSTALLATION TOLERANCES

A. Comply with ACI 117.

3.5 FIELD QUALITY CONTROL

A. Special Inspections: Owner will engage a special inspector to perform field tests and inspections and prepare test reports.

B. Testing Agency: Engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.

C. Inspections:

1. Steel-reinforcement placement.
2. Steel-reinforcement mechanical splice couplers.

END OF SECTION 03 20 00

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SECTION 03 30 00 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Concrete standards.
2. Concrete materials.
3. Admixtures.
4. Fiber reinforcement.
5. Vapor retarders.
6. Floor and slab treatments.
7. Liquid floor treatments.
8. Curing materials.
9. Accessories.
10. Repair materials.
11. Concrete mixture materials.
12. Concrete mixture class types.
13. Concrete mixing.
14. Footings.
15. Foundation walls.
16. Slabs-on-grade.
17. Composite slabs.
18. Concrete toppings.
19. Concrete applications addressed in other specifications such as duct banks, curb and gutter, and concrete paving.
20. Mass concrete for mat foundation.

B. Related Requirements:

1. Section 031000 "Concrete Forming and Accessories" for form-facing materials, form liners, insulating concrete forms, and waterstops.
2. Section 032000 "Concrete Reinforcing" for steel reinforcing bars and welded-wire reinforcement.

1.2 DEFINITIONS

A. Cementitious Materials: Portland cement or blended hydraulic cement alone or in combination with one or more of the following:

1. Fly ash, other pozzolans, and silica fume; materials subject to compliance with requirements.

B. Water/Cementitious Materials (w/cm) Ratio: The ratio by weight of mixing water to cementitious materials.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Require representatives of each entity directly concerned with cast-in-place concrete to attend, including the following:

a. Contractor's superintendent.
b. Independent testing agency responsible for inspections and acceptance testing of concrete at Project site.
c. Ready-mix concrete manufacturer.
d. Concrete Subcontractor.

2. Review the following:

a. Special inspection and testing and inspecting agency procedures for field quality control.
b. Construction joints, control joints, isolation joints, and joint-filler strips.
c. Semirigid joint fillers.
d. Vapor-retarder installation.
e. Anchor rod and anchorage device installation tolerances.
f. Cold- and hot-weather concreting procedures.
g. Concrete finishes and finishing.
h. Curing procedures.
i. Forms and form-removal limitations.
j. Shoring and reshoring procedures.
k. Methods for achieving specified floor and slab flatness and levelness.
l. Floor and slab flatness and levelness measurements.
m. Concrete repair procedures.
n. Concrete protection.
o. Initial curing of standard-cured and field curing of field-cured test cylinders (ASTM C31/C31M.)
p. Protection of field cured field test cylinders.
q. Distribution of test reports.
r. Mass concrete for mat foundation pouring procedures, temperature control plan, and submittal requirements.

1.4 ACTION SUBMITTALS

A. Product Data:

1. Portland cement.
2. Blended hydraulic cement.
3. Performance-based hydraulic cement.
4. Fly ash.
5. Natural or other pozzolans.
6. Aggregates.
7. Ground calcium carbonate and aggregate mineral fillers.
8. Admixtures:

a. Include limitations of use. Admixtures that do not comply with reference ASTM International requirements must be submitted with test data for approval.

9. Color pigments.
10. Fiber reinforcement.
11. Vapor retarders.
12. Floor and slab treatments.
13. Liquid floor treatments.
14. Curing materials.
15. Joint fillers.
16. Repair materials.

B. Design Mixtures: For each concrete mixture, include the following:

1. Mixture identification. Mix numbers or other positive, unique identification. A written description indicating where each particular mix is to be placed within the structure.
2. Compressive strength at 28 days or other age as specified.
3. Compressive strength required at stages of construction.
4. Durability exposure classes for Exposure Categories F, S, W, and C.
5. Maximum w/cm ratio.
6. Calculated equilibrium and fresh density for lightweight concrete.
7. Slump or slump flow limit.
8. Air content.
9. Nominal maximum aggregate size.
10. Intended placement method.
11. A statement stating additional water shall not be added to concrete at the job site.
12. Submit adjustments to design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant changes.

C. Shop Drawings:

1. Construction Joint Layout: Indicate proposed construction joints required to construct the structure.

a. Location of construction joints is subject to approval of the Architect.

2. Formwork Shop Drawings: Prepared by or under the supervision of a qualified professional engineer detailing fabrication, assembly, and support of formwork.

a. Shoring and Reshoring: Indicate proposed schedule and sequence of stripping formwork, shoring removal, and installing and removing reshoring.

D. Mass Concrete for mat foundation:

Submittal for mass concrete shall be submitted concurrently. Incomplete submittals will be rejected without review.

1. Thermal Control Plan (TCP): Developed by a qualified engineer registered in the state the project is located in. The TCP shall include, at a minimum:

   a. Proposed concrete mix for mat foundation.
   b. Calculated or measured adiabatic temperature rise of concrete.
   c. Upper limit for concrete temperature at time of placement.
   d. Description of specific measures and equipment that will be used to ensure maximum temperature in placement will not exceed specified maximum temperature limit.
   e. Calculated maximum temperature in placement based on expected conditions at time of placement and use of proposed measure to control temperatures.
   f. Description of specific measures and equipment that will be used to ensure temperature difference will not exceed specified temperature difference limit.
   g. Calculated maximum temperature difference in placement based on expected conditions at time of placement and use of proposed measures to control temperature difference.
   h. Description of equipment and procedures that will be used to monitor and log temperatures and temperature differences.
   i. Drawing of locations for temperature sensors in placement.
   j. Description of format of providing temperature data. (Temperature readings shall be taken one each hour.)
   k. Description of measures to address and reduce excessive temperature differences, if they occur.
   l. Description of curing procedures, including materials and methods, and curing duration.
   m. Description of formwork removal procedures to ensure temperature difference at temporarily exposed surface will not exceed temperature different limit, and how curing will be maintained.
   n. Proposed methods to control maximum temperature during curing. A mechanical cooling system may be used to control the internal concrete temperatures of mass concrete during curing. If used, details of the mechanical cooling system operations and final grouting shall be included in the TCP.
   o. Actions to be taken when the concrete exceeds the maximum allowable internal and differential temperatures.
   p. Product data of the proposed temperature sensors and date logging equipment.

   If the concrete mixture proportions are changed, the thermal control plan shall be updated and resubmitted to the Architect.

2. Monitoring report: Contractor shall submit temperature monitoring records to the Architect daily. A final report shall be prepared and submitted to the Architect with all collected data after the mat foundation has cured.

E. Samples: For vapor retarder and mockups for slab finishes..

F. Concrete Schedule: For each location of each class of concrete indicated in "Concrete Mixture Class Types" Article, including the following:

1. Concrete class designation.
2. Location within Project.
3. Exposure class designation.
4. Formed surface finish designation and final finish.
5. Final finish for floors.
6. Floor treatment, if any.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For the following:

1. Installer: Include copies of applicable ACI certificates.
2. Testing Agency: Include documentation indicating compliance with ASTM E329 or ASTM C1077 and copies of applicable ACI certificates for testing technicians or ACI Concrete Construction Special Inspector - MH, ASCC.

B. Material Certificates: For each of the following:

1. Cementitious materials.
2. Admixtures.
3. Curing compounds.
4. Floor and slab treatments.
5. Bonding agents.
6. Adhesives.
7. Vapor retarders.
8. Semirigid joint filler.
9. Joint-filler strips.
10. Repair materials.

C. Material Test Reports: For the following:

1. Portland cement.
2. Blended hydraulic cement.
3. Performance-based hydraulic cement.
4. Fly ash.
5. Natural or other pozzolans.
6. Aggregates.
7. Ground calcium carbonate and aggregate mineral filler.
8. Admixtures.

D. Floor surface flatness and levelness measurements report, indicating compliance with specified tolerances in accordance with ACI 117 and in compliance with ASTM E1155.

E. Research Reports:

1. For concrete admixtures in accordance with ICC's Acceptance Criteria AC198.

F. Preconstruction Test Reports: For each mix design.

G. Field quality-control reports.

H. Minutes of preinstallation conference.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: A qualified Installer who employs Project personnel qualified as an ACI-certified Concrete Flatwork Associate and Concrete Flatwork Finisher and a supervisor who is a certified ACI Advanced Concrete Flatwork Finisher/Technician or an ACI Concrete Flatwork Finisher with experience installing and finishing concrete.

1. Post-Installed Concrete Anchors Installers: ACI-certified Adhesive Anchor Installer.

B. Ready-Mixed Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C94/C94M requirements for production facilities and equipment.

C. Laboratory Testing Agency Qualifications: A testing agency qualified in accordance with ASTM C1077 and ASTM E329 for testing that performs duties on behalf of the Architect/Engineer.

1. Personnel performing laboratory tests to be an ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician, Level 1. Testing agency laboratory supervisor tests to be an ACI-certified Concrete Laboratory Testing Technician, Level 2.

D. Field Quality-Control Testing Agency Qualifications: An independent agency, acceptable to authorities having jurisdiction, qualified in accordance with ASTM C1077 and ASTM E329 for testing indicated.

1. Personnel conducting field tests on plastic concrete properties are to be qualified as an ACI Concrete Field Testing Technician, Grade 1, in accordance with policies from ACI CPP 610.1 or an equivalent certification program.

1.7 PRECONSTRUCTION TESTING

A. Preconstruction Testing Service: Engage a qualified testing agency to perform preconstruction testing on each concrete mixture.

1. Include the following information in each test report:

a. Admixture dosage rates.
b. Slump.
c. Air content.
d. Seven-day compressive strength.
e. 28-day compressive strength.
f. Evaluation of permeability-reducing admixtures.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Comply with ASTM C94/C94M and ACI 301.

B. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage. Avoid damaging coatings on steel reinforcement.

C. Waterstops: Store waterstops under cover to protect from moisture, sunlight, dirt, oil, and other contaminants.

1.9 FIELD CONDITIONS

A. Cold-Weather Placement: Comply with ACI 301 as follows:

1. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
2. When air temperature has fallen to, or is expected to fall below 40 deg Fduring the protection period, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
3. Do not use frozen materials or materials containing ice or snow.
4. Do not place concrete in contact with surfaces less than 35 deg F, other than reinforcing steel.

B. Hot-Weather Placement: Comply with ACI 301 and ACI 305.1, and as follows:

1. Maintain concrete temperature at time of discharge to not exceed 95 deg F.
2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

PART 2 - PRODUCTS

2. 1 CONCRETE STANDARDS

A. ACI Publications: Comply with ACI 301 unless modified by requirements in the Contract Documents.

2. 2 CONCRETE MATERIALS

A. Source Limitations:

1. Obtain all concrete mixtures from a single ready-mixed concrete manufacturer for entire Project.
2. Obtain each type of admixture from single source from single manufacturer.

B. Cementitious Materials:

1. Portland Cement: ASTM C150/C150M, Type I/II, gray.
2. Blended Hydraulic Cement: ASTM C595/C595M, Type IL, portland-limestone cement.
3. Pozzolans: ASTM C618, Class C, F, or N.
4. Ground Glass Pozzolan: ASTM C1866/C1866M, Type GS or GE.

C. Normal-Weight Aggregates:

1. Coarse Aggregate: ASTM C33/C33M, Class 3M
2. Maximum Coarse-Aggregate Size: 3/4 inch nominal.
3. Fine Aggregate: ASTM C33/C33M.

D. Lightweight Aggregate: ASTM C330/C330M, 3/4-inch nominal maximum aggregate size.

2. 3 ADMIXTURES

A. Air-Entraining Admixture: ASTM C260/C260M.

B. Chemical Admixtures: Do not use calcium chloride or admixtures containing calcium chloride.

1. Water-Reducing Admixture: ASTM C494/C494M, Type A.

a. Sikament-475 or equal. See Section CONCRETE MIXTURES FOR BUILDING ELEMENTS for usage location and amounts.

2. Retarding Admixture: ASTM C494/C494M, Type B.
3. Water-Reducing and -Retarding Admixture: ASTM C494/C494M, Type D.
4. High-Range, Water-Reducing Admixture: ASTM C494/C494M, Type F.
5. High-Range, Water-Reducing and -Retarding Admixture: ASTM C494/C494M, Type G.

6. Admixtures with special properties, with documentation of claimed performance enhancement, ASTM C494/C494M, Type S.
7. Shrinkage Reducing/Compensating Admixture: ASTM C494/C494M, Type S.

    a. SikaControl NS or equal. See Section CONCRETE MIXTURES FOR BUILDING ELEMENTS for usage location and amounts.

8. Permeability-Reducing Admixture: ASTM C494/C494M, Type S, hydrophilic, permeability-reducing crystalline or colloidal silica admixture, capable of reducing water absorption of concrete exposed to hydrostatic pressure (PRAH).

B. Mixing Water for Concrete Mixtures and Water Used to Make Ice: ASTM C1602/C1602M. Include documentation of compliance with limits for alkalis, sulfates, chlorides, or solids content of mixing water from Table 2 in ASTM C1602/C1602M.

2.4 VAPOR RETARDERS

A. Sheet Vapor Retarder, Class A: ASTM E1745, Class A. Include manufacturer's recommended thickness and adhesive or pressure-sensitive tape.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
    a. Fortifiber Corporation; Moistop Ultra 15.
    b. Raven Industries Inc.; Vapor Block 15.

B. Granular Fill: Clean mixture of crushed stone or crushed or uncrushed gravel; ASTM D 448, Size 57, with 100 percent passing a 1-1/2-inch sieve and 0 to 5 percent passing a No. 8sieve.

C. Fine-Graded Granular Material: Clean mixture of crushed stone, crushed gravel, and manufactured or natural sand; ASTM D 448, Size 10, with 100 percent passing a 3/8-inchsieve,
10 to 30 percent passing a No. 100sieve, and at least 5 percent passing No. 200 sieve; complying with deleterious substance limits of ASTM C 33 for fine aggregates.

2.5 FLOOR AND SLAB TREATMENTS

A. Slip-Resistive Emery Aggregate Finish to be used at exterior cab walkway: Factory-graded, packaged, rustproof, nonglazing, abrasive, crushed emery aggregate containing not less than 50 percent aluminum oxide and not less than 20 percent ferric oxide; unaffected by freezing, moisture, and cleaning materials with 100 percent passing 3/8-inch sieve.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Anti-Hydro International, Inc.; Emery.
b. Dayton Superior Corporation; Emery Non-Slip.
c. Emeri-Crete, Inc.; Emeri-Topcrete.
d. Lambert Corporation; EMAG-20.
e. L&M Construction Chemicals, Inc.; Grip It.
f. Metalcrete Industries; Metco Anti-Skid Aggregate.

2.6 LIQUID FLOOR TREATMENTS

A. Penetrating Liquid Floor Treatment: Clear, chemically reactive, waterborne solution of inorganic silicate or siliconate materials and proprietary components; odorless; that penetrates, hardens, and densifies concrete surfaces.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Burke by Edoco; Titan Hard.
b. ChemMasters; Chemisil Plus.
c. ChemTec International; ChemTec One.
d. Conspec Marketing & Manufacturing Co., Inc., a Dayton Superior Company; Intraseal.
e. Curecrete Distribution Inc.; Ashford Formula.
f. Dayton Superior Corporation; Day-Chem Sure Hard.
g. Euclid Chemical Company (The); Euco Diamond Hard.
h. Kaufman Products, Inc.; SureHard.
i. L&M Construction Chemicals, Inc.; Seal Hard.
j. Meadows, W. R., Inc.; Liqui-Hard.
k. Metalcrete Industries; Floorsaver.
l. Nox-Crete Products Group, Kinsman Corporation; Duranox.
m. Symons Corporation, a Dayton Superior Company; Buff Hard.
n. US Mix Products Company; US Spec Industraseal.
o. Vexcon Chemicals, Inc.; Vexcon StarSeal PS.

2.7 CURING MATERIALS

A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.

1. Products:

a. Axim Concrete Technologies; Cimfilm.
b. Burke by Edoco; BurkeFilm.
c. ChemMasters; Spray-Film.
d. Conspec Marketing & Manufacturing Co., Inc., a Dayton Superior Company; Aquafilm.
e. Dayton Superior Corporation; Sure Film.
f. Euclid Chemical Company (The); Eucobar.
g. Kaufman Products, Inc.; Vapor Aid.

h. Lambert Corporation; Lambco Skin.
i. L&M Construction Chemicals, Inc.; E-Con.
j. MBT Protection and Repair, Div. of ChemRex; Confilm.
k. Meadows, W. R., Inc.; Sealtight Evapre.
l. Metalcrete Industries; Waterhold.
m. Nox-Crete Products Group, Kinsman Corporation; Monofilm.
n. Sika Corporation, Inc.; SikaFilm.
o. Symons Corporation, a Dayton Superior Company; Finishing Aid.
p. Unitex; Pro-Film.
q. US Mix Products Company; US Spec Monofilm ER.
r. Vexcon Chemicals, Inc.; Certi-Vex EnvioAssist

B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd.when dry.

C. Moisture-Retaining Cover: ASTM C171, polyethylene film burlap-polyethylene sheet.

1. Color:

a. Ambient Temperature Below 50 deg F (10 deg C): Black.
b. Ambient Temperature between 50 and 85 deg F (10 and 29 deg C): Any color.
c. Ambient Temperature Above 85 deg F (29 deg C): White.

D. Clear, Waterborne, Membrane-Forming, Dissipating Curing Compound: ASTM C309, Type 1, Class B.

1. Products:

a. Anti-Hydro International, Inc.; AH Curing Compound #2 DR WB.
b. Burke by Edoco; Aqua Resin Cure.
c. ChemMasters; Safe-Cure Clear.
d. Conspec Marketing & Manufacturing Co., Inc., a Dayton Superior Company;
W.B. Resin Cure.
e. Dayton Superior Corporation; Day Chem Rez Cure (J-11-W).
f. Euclid Chemical Company (The); Kurez DR VOX.
g. Kaufman Products, Inc.; Thinfilm 420.
h. Lambert Corporation; Aqua Kure-Clear.
i. L&M Construction Chemicals, Inc.; L&M Cure R.
j. Meadows, W. R., Inc.; 1100 Clear.
k. Nox-Crete Products Group, Kinsman Corporation; Resin Cure E.
l. Symons Corporation, a Dayton Superior Company; Resi-Chem Clear Cure.
m. Tamms Industries, Inc.; Horncure WB 30.
n. Unitex; Hydro Cure 309.
o. US Mix Products Company; US Spec Maxcure Resin Clear.
p. Vexcon Chemicals, Inc.; Certi-Vex Enviocure 100.

E. Clear, Waterborne, Membrane-Forming, Curing Compound: ASTM C309, Type 1, Class B, 18 to 25 percent solids, nondissipating, certified by curing compound manufacturer to not interfere with bonding of floor covering.

a. Anti-Hydro International, Inc.; AH Clear Cure WB.
b. Burke by Edoco; Spartan Cote WB II.
c. ChemMasters; Safe-Cure & Seal 20.
d. Conspec Marketing & Manufacturing Co., Inc., a Dayton Superior Company; Cure and Seal WB.
e. Dayton Superior Corporation; Safe Cure and Seal (J-18).
f. Euclid Chemical Company (The); Aqua Cure VOX.
g. Kaufman Products, Inc.; Cure & Seal 309 Emulsion.
h. Lambert Corporation; Glazecote Sealer-20.
i. L&M Construction Chemicals, Inc.; Dress & Seal WB.
j. Meadows, W. R., Inc.; Vocomp-20.
k. Metalcrete Industries; Metcure.
l. Nox-Crete Products Group, Kinsman Corporation; Cure & Seal 150E.
m. Symons Corporation, a Dayton Superior Company; Cure & Seal 18 Percent E.
n. Tamms Industries, Inc.; Clearseal WB 150.
o. Unitex; Hydro Seal.
p. US Mix Products Company; US Spec Hydrasheen 15 percent
q. Vexcon Chemicals, Inc.; Starseal 309.

F. Clear, Waterborne, Membrane-Forming, Curing and Sealing Compound: ASTM C1315, Type 1, Class A.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Burke by Edoco; Cureseal 1315 WB.
b. ChemMasters; Polyseal WB.
c. Conspec Marketing & Manufacturing Co., Inc., a Dayton Superior Company; Sealcure 1315 WB.
d. Euclid Chemical Company (The); Super Diamond Clear VOX.
e. Kaufman Products, Inc.; Sure Cure 25 Emulsion.
f. Lambert Corporation; UV Safe Seal.
g. L&M Construction Chemicals, Inc.; Lumiseal WB Plus.
h. Meadows, W. R., Inc.; Vocomp-30.
i. Metalcrete Industries; Metcure 30.
j. Symons Corporation, a Dayton Superior Company; Cure & Seal 31 Percent E.
k. Tamms Industries, Inc.; LusterSeal WB 300.
l. Unitex; Hydro Seal 25.
m. US Mix Products Company; US Spec Radiance UV-25.
n. Vexcon Chemicals, Inc.; Vexcon Starseal 1315.

2.8 ACCESSORIES

A. Expansion- and Isolation-Joint-Filler Strips: ASTM D1751, asphalt-saturated cellulosic fiber **or** ASTM D1752, cork or self-expanding cork.

B. Semirigid Joint Filler: Two-component, semirigid, 100 percent solids, epoxy resin with a Type A shore durometer hardness of 80 in accordance with ASTM D2240.

C. Bonding Agent: ASTM C1059/C1059M, Type II, nonredispersible, acrylic emulsion or styrene butadiene.

1. SikaLatex Sikament-475 or equal. See Section CONCRETE MIXTURES FOR BUILDING ELEMENTS for usage location and amounts.

D. Epoxy Bonding Adhesive: ASTM C881/C881M, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class suitable for application temperature and of grade and class to suit requirements, and as follows:

1. Types IV and V, load bearing, for bonding hardened or freshly mixed concrete to hardened concrete.

2.9 REPAIR MATERIALS

A. Repair Underlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch and that can be feathered at edges to match adjacent floor elevations.

1. Cement Binder: ASTM C150/C150M portland cement or hydraulic or blended hydraulic cement, as defined in ASTM C219.
2. Primer: Product of underlayment manufacturer recommended for substrate, conditions, and application.
3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inchor coarse sand, as recommended by underlayment manufacturer.
4. Compressive Strength: Not less than 4100 psi at 28 days when tested in accordance with ASTM C109/C109M.

B. Repair Overlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/4 inch and that can be filled in over a scarified surface to match adjacent floor elevations.

1. Cement Binder: ASTM C150/C150M portland cement or hydraulic or blended hydraulic cement, as defined in ASTM C219.
2. Primer: Product of topping manufacturer recommended for substrate, conditions, and application.
3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch or coarse sand as recommended by topping manufacturer.

4. Compressive Strength: Not less than 5000 psi at 28 days when tested in accordance with ASTM C109/C109M.

2.10 CONCRETE MIXTURE MATERIALS

A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, in accordance with ACI 301.

1. Use a qualified testing agency for preparing and reporting proposed mixture designs, based on laboratory trial mixtures.

B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland or hydraulic cement in concrete assigned to Exposure Class F3 as follows:

1. Fly Ash:15% min and 30% max for all concrete other than the mat foundation. 30% min and 40% max for mat foundation.

C. Admixtures: Use admixtures in accordance with manufacturer's written instructions.

2.11 CONCRETE MIXTURE CLASS TYPES

A. Mat foundation and Foundation Walls: Proportion normal-weight concrete mixture as follows:

1. Minimum Compressive Strength: As indicated on design drawings
2. Maximum Water-Cementitious Materials Ratio: 0.45
3. Slump Limit: 8inches for concrete with verified slump of 2 to 4 inches before adding high-range water-reducing admixture or plasticizing admixture, plus or minus 1 inch.
4. Air Content: Exposed concrete shall have 4.5 +/- 1.5 percent air entrainment for 3/4-inch nominal maximum aggregate size.
5. See Specification for additional requirements and minimum fly ash requirements.

B. Interior and Exterior Slabs-on-Grade: Proportion normal-weight concrete mixture as follows:

1. Minimum Compressive Strength: As indicated on design drawings
2. Maximum Water-Cementitious Materials Ratio: 0.45
3. Slump Limit: 5inches, plus or minus 1 inch.
4. Air Content: Exposed concrete shall have 4-6 percent air entrainment for 3/4-inch nominal maximum aggregate size. Interior concrete shall have 3 percent or less air entrainment for 3/4-inch nominal maximum aggregate size.

C. Equipment and Housekeeping Pads: Proportion normal-weight concrete mixture as follows:

1. Minimum Compressive Strength: As indicated on design drawings
2. Maximum Water-Cementitious Materials Ratio: 0.50
3. Slump Limit: 5inches, plus or minus 1 inch.
4. Air Content: Exposed concrete shall have 4-6 percent air entrainment for 3/4-inch nominal maximum aggregate size. Interior concrete shall have 3 percent or less air entrainment for 3/4-inch nominal maximum aggregate size.

D. Composite Deck Slabs at Suspended Slabs – Levels 2-5 and Roof Level: Proportion normal-weight concrete mixture as follows:

1. Minimum Compressive Strength: As indicated on design drawings
2. Maximum Water-Cementitious Materials Ratio: 0.45
3. Slump Limit: 5inches, plus or minus 1 inch.
4. Air Content: Interior concrete shall have 1.5 percent or less air entrainment for 3/4-inch nominal maximum aggregate size.

E. Composite Deck Slabs at Suspended Slabs – Level 6: Proportion normal-weight concrete mixture as follows:

1. Minimum Compressive Strength: As indicated on design drawings
2. Maximum Water-Cementitious Materials Ratio: 0.45
3. Slump Limit: 5inches, plus or minus 1 inch.
4. Air Content: Exposed concrete shall have 4.5 +/- 1.5 percent air entrainment for 3/4-inch nominal maximum aggregate size.

F. Walkway Concrete Topping Slab and Curb – Level 6: Proportion light-weight concrete mixture as follows:

1. Maximum weight 115 lbs/cu. ft.
2. Minimum Compressive Strength: As indicated on design drawings
3. Maximum Water-Cementitious Materials Ratio: 0.45
4. Slump Limit: 5inches, plus or minus 1 inch.
5. Air Content: Exposed concrete shall have 4.5 +/- 1.5 percent air entrainment for 3/4-inch nominal maximum aggregate size.

G. Interior metal pan stairs and landings, normal-weight concrete:

1. Minimum Compressive Strength: As indicated on design drawings
2. Maximum w/cm: 0.50.
3. Maximum Size Aggregate: 1/2 inch.
4. Slump Limit: 3 inches, plus 1 inch or minus 2 inches.
5. Air Content: 0 percent, plus or minus 0.5 percent at point of delivery.
6. Retarding Admixture: Not allowed.
7. Accelerating Admixture: Not allowed.

2.12 CONCRETE MIXING

A. Project-Site Mixing: Measure, batch, and mix concrete materials and concrete in accordance with ASTM C94/C94M. Mix concrete materials in appropriate drum-type batch machine mixer.

1. For mixer capacity of 1 cu. yd.or smaller, continue mixing at least 1-1/2 minutes, but not more than five minutes after ingredients are in mixer, before any part of batch is released.
2. For mixer capacity larger than 1 cu. yd., increase mixing time by 15 seconds for each additional 1 cu. yd..
3. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mixture type, mixture time, quantity, and amount of water added. Record approximate location of final deposit in structure.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification of Conditions:

1. Before placing concrete, verify that installation of concrete forms, accessories, reinforcement, and embedded items is complete and that required inspections have been performed.
2. Do not proceed until unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Provide reasonable auxiliary services to accommodate field testing and inspections, acceptable to testing agency, including the following:

1. Daily access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Secure space for storage, initial curing, and field curing of test samples, including source of water and continuous electrical power at Project site during site curing period for test samples.
4. Security and protection for test samples and for testing and inspection equipment at Project site.

3.3 TOLERANCES

A. Comply with ACI 117.

3.4 INSTALLATION OF EMBEDDED ITEMS

A. Place and secure anchorage devices and other embedded items required for adjoining Work that is attached to or supported by cast-in-place concrete.

1. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
2. Install reglets to receive waterproofing and through-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, shelf angles, and other conditions.
3. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC's "Code of Standard Practice for Steel Buildings and Bridges."

3.5 INSTALLATION OF VAPOR RETARDERS

A. Sheet Vapor Retarders: Place, protect, and repair sheet vapor retarder in accordance with ASTM E1643 and manufacturer's written instructions.

1. Install vapor retarder with longest dimension parallel with direction of concrete pour.
2. Face laps away from exposed direction of concrete pour.
3. Lap vapor retarder over footings and grade beams not less than 6 inches, sealing vapor retarder to concrete.
4. Lap joints 6 inches and seal with manufacturer's recommended tape.
5. Terminate vapor retarder at the top of floor slabs, grade beams, and pile caps, sealing entire perimeter to floor slabs, grade beams, foundation walls, or pile caps.
6. Seal penetrations in accordance with vapor retarder manufacturer's instructions.
7. Protect vapor retarder during placement of reinforcement and concrete.

a. Repair damaged areas by patching with vapor retarder material, overlapping damages area by 6 inches on all sides and sealing to vapor retarder.

B. Granular Course: Provide fine-graded granular material, moisten, and compact with mechanical equipment to elevation tolerances of plus 0 inch or minus 3/4 inch. Cover with vapor retarder before applying concrete and reinforcement.

3.6 INSTALLATION OF CAST-IN-PLACE CONCRETE

A. Before placing concrete, verify that installation of formwork, reinforcement, embedded items, and vapor retarder is complete and that required inspections are completed.

1. Immediately prior to concrete placement, inspect vapor retarder for damage and deficient installation, and repair defective areas.

2. Provide continuous inspection of vapor retarder during concrete placement and make necessary repairs to damaged areas as Work progresses.

B. Notify Architect and testing and inspection agencies 24 hours prior to commencement of concrete placement.

C. Water addition in transit or at the Project site must be in accordance with ASTM C94/C94M and must not exceed the permitted amount indicated on the concrete delivery ticket.

D. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete is placed on concrete that has hardened enough to cause seams or planes of weakness.

1. If a section cannot be placed continuously, provide construction joints as indicated.
2. Deposit concrete to avoid segregation.
3. Deposit concrete in horizontal layers of depth not to exceed formwork design pressures and in a manner to avoid inclined construction joints.
4. Consolidate placed concrete with mechanical vibrating equipment in accordance with ACI 301.

a. Do not use vibrators to transport concrete inside forms.
b. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer.
c. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity.
d. At each insertion, limit duration of vibration to time necessary to consolidate concrete, and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.

E. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.

1. When average high and low temperature is expected to fall below 40 deg F for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.

F. Hot-Weather Placement: Comply with ACI 301 and as follows:

1. Maintain concrete temperature below 90 deg Fat time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

G. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.

1. Do not place concrete floors and slabs in a checkerboard sequence.
2. Consolidate concrete during placement operations, so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
3. Maintain reinforcement in position on chairs during concrete placement.
4. Screed slab surfaces with a straightedge and strike off to correct elevations.
5. Level concrete, cut high areas, and fill low areas.
6. Slope surfaces uniformly to drains where required.
7. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface.
8. Do not further disturb slab surfaces before starting finishing operations.

H. MASS CONCRETE for Mat Foundation

1. All mass concrete shall be constructed in accordance with the following publications:

   a. ACI 207.1-05: Guide to Mass Concrete
   b. ACI 207.2-07: Report on Thermal and Volume Change Effect on Cracking on Mass Concrete
   c. ACI 207.4-05: Cooling and Insulating System for Mass Concrete
   d. ACI 301-16: Specifications for Structural Concrete

2. Temperature sensors:

   a. At each location where the concrete temperature is to be monitored, include two independent sets of sensing devices and at locations included in the TCP. One primary sensor and one backup sensor.
   b. Sensors shall be electronic, accurate to within ±2 deg F, and fully capable of measuring temperature ranges of 32 deg F to 212 deg F.
   c. Sensors shall be placed at the following locations:

      1) Centroid of the mass pour (vertical and horizontal)

2) Nearest surface in a horizontal and vertical line to the centroid. Sensor shall be placed at a depth of 2 inches below the surface.
3) On-site ambient air around the mass pour. Place sensor in a shaded location.

d. Temperature readings shall be taken once each hour.

3. Cooling system, if used:

a. Fill cooling system lines solid with pumpable, 5000 psi grout after mass concrete internal temperature has stabilized.

3.7 INSTALLATION OF JOINTS

A. Construct joints true to line, with faces perpendicular to surface plane of concrete.

B. Construction Joints: Coordinate with floor slab pattern and concrete placement sequence.

1. Install so strength and appearance of concrete are not impaired, at locations indicated on Drawings or as approved by Architect.
2. Place joints perpendicular to main reinforcement.

a. Continue reinforcement across construction joints unless otherwise indicated.

3. Form keyed joints as indicated. Embed keys at least 1-1/2 inches into concrete.
4. Locate joints for beams, slabs, joists, and girders at third points of spans. Offset joints in girders a minimum distance of twice the beam width from a beam-girder intersection.
5. Locate horizontal joints in walls and columns at underside of floors, slabs, beams, and girders and at the top of footings or floor slabs.
6. Space vertical joints in walls as indicated on Drawings. Unless otherwise indicated on Drawings, locate vertical joints beside piers integral with walls, near corners, and in concealed locations where possible.
7. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.

C. Control Joints in Slabs-on-Ground: Form weakened-plane control joints, sectioning concrete into areas as indicated. Construct control joints for a depth equal to at least one-fourth of concrete thickness as follows:

1. Grooved Joints: Form control joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch. Repeat grooving of control joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.

2. Sawed Joints: Form control joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch wide joints into concrete when cutting action does not tear, abrade, or otherwise damage surface and before concrete develops random cracks.

D. Isolation Joints in Slabs-on-Ground: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.

1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated on Drawings.
2. Terminate full-width joint-filler strips not less than 1/2 inch or more than 1 inch below finished concrete surface, where joint sealants, specified in Section 079200 "Joint Sealants," are indicated.
3. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.

E. Doweled Joints:

1. Install dowel bars and support assemblies at joints where indicated on Drawings.
2. Lubricate or asphalt coat one-half of dowel bar length to prevent concrete bonding to one side of joint.

F. Dowel Plates: Install dowel plates at joints where indicated on Drawings.

3.8 APPLICATION OF FINISHING FLOORS AND SLABS

A. Scratch Finish:

1. While still plastic, texture concrete surface that has been screeded and bull-floated or darbied.
2. Use stiff brushes, brooms, or rakes to produce a profile depth of 1/4 inch in one direction.
3. Apply scratch finish to surfaces to receive concrete floor toppings.

B. Float Finish:

1. When bleedwater sheen has disappeared and concrete surface has stiffened sufficiently to permit operation of specific float apparatus, consolidate concrete surface with power-driven floats or by hand floating if area is small or inaccessible to power-driven floats.
2. Repeat float passes and restraightening until surface is left with a uniform, smooth, granular texture and complies with ACI 117 tolerances for conventional concrete.
3. Apply float finish to surfaces to receive trowel finish and to be covered with fluid-applied or sheet waterproofing, built-up or membrane roofing.
4. High spots shall be cut down and low spots filled during this procedure to produce a surface level conforming with ASTM E 1155 tolerances as follows:

a. Minimum overall area F Flatness of FF-20 and minimum overall area F Levelness of FL-17.
b. Minimum local area F Flatness of FF-15 and minimum local area F Levelness of FL-13.

C. Trowel Finish:

1. After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel.
2. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance.
3. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.
4. Do not add water to concrete surface. Use of an approved finishing aid is acceptable.
5. Do not apply troweled finish to concrete, which has a total air content greater than 3 percent.
6. Apply a trowel finish to surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin-film-finish coating system.
7. Finish surfaces to the following tolerances, in accordance with ASTM E1155, for a randomly trafficked floor surface:

a. Slabs on Ground:

1) Specified overall values of flatness, F_F 30; and of levelness, F_L 25; with minimum local values of flatness, F_F 18; and of levelness, F_L 13.

b. Suspended Slabs:

1) Specified overall values of flatness, F_F 30; and of levelness, F_L 25; with minimum local values of flatness, F_F 18; and of levelness, F_L 13.

D. Trowel and Fine-Broom Finish: First apply a trowel finish to surfaces where ceramic or quarry tile is to be installed by either thickset or thinset method. While concrete is still plastic, slightly scarify surface with a fine broom perpendicular to main traffic route.

1. Coordinate required final finish with Architect before application.
2. Comply with flatness and levelness tolerances for trowel-finished floor surfaces.

E. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, ramps, and locations indicated on Drawings.

1. Immediately after float finishing, slightly roughen trafficked surface by brooming with a fiber-bristle broom perpendicular to main traffic route.
2. Coordinate required final finish with Architect before application.

F. Slip-Resistive Finish: Before final floating, apply slip-resistive aggregate finish to concrete stair treads, platforms, and ramps, as indicated on Drawings.

1. Apply in accordance with manufacturer's written instructions and as follows:

a. Uniformly spread 25 lb/100 sq. ft.of dampened slip-resistive aggregate over surface in one or two applications.
b. Tamp aggregate flush with surface, but do not force below surface.
c. After broadcasting and tamping, apply float finish.
d. After curing, lightly work surface with a steel wire brush or an abrasive stone and water to expose slip-resistive aggregate.

3.9 APPLICATION OF FINISHING FORMED SURFACES

A. As-Cast Surface Finishes:

1. ACI 301 (ACI 301M) Surface Finish SF-1.0: As-cast concrete texture imparted by form-facing material.

a. Patch voids larger than 1-1/2 inches wide or 1/2 inch deep.
b. Remove projections larger than 1 inch.
c. Tie holes do not require patching.
d. Surface Tolerance: ACI 117, Class D.
e. Apply to concrete surfaces for metal lap pan deck formed surfaces and those surfaces that are buried or covered with subsequent installed surfaces.

2. ACI 301 (ACI 301M) Surface Finish SF-2.0: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams.

a. Patch voids larger than 3/4 inch wide or 1/2 inch deep.
b. Remove projections larger than 1/4 inch.
c. Patch tie holes.
d. Surface Tolerance: ACI 117, Class B.
e. Locations: Apply to concrete surfaces exposed to public view, to receive a rubbed finish, or to be covered with a coating or covering material applied directly to concrete.

B. Rubbed Finish: Apply the following to as-cast surface finishes where indicated on Drawings:

1. Smooth-Rubbed Finish:

a. Perform no later than one day after form removal.
b. Moisten concrete surfaces and rub with carborundum brick or another abrasive until producing a uniform color and texture.
c. If sufficient cement paste cannot be drawn from the concrete by the rubbing process, use a grout made from the same cementitious materials used in the in-place concrete.

d. Maintain required patterns or variances as shown on Drawings or to match mockups.

C. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.10 INSTALLATION OF MISCELLANEOUS CONCRETE ITEMS

A. Filling in:

1. Fill in holes and openings left in concrete structures after Work of other trades is in place unless otherwise indicated.
2. Mix, place, and cure concrete, as specified, to match color and texture with in-place construction exposed to view.
3. Provide other miscellaneous concrete filling indicated or required to complete the Work.

B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.

C. Equipment Bases and Foundations:

1. Coordinate sizes and locations of concrete bases with actual equipment provided.
2. Construct concrete bases 4 inches high unless otherwise indicated on Drawings, and extend base not less than 6 inches in each direction beyond the maximum dimensions of supported equipment unless otherwise indicated on Drawings, or unless required for seismic anchor support.
3. Minimum Compressive Strength: [3000 psi at 28 days.
4. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch centers around the full perimeter of concrete base.
5. For supported equipment, install epoxy-coated anchor bolts that extend through concrete base and anchor into structural concrete substrate.
6. Prior to pouring concrete, place and secure anchorage devices.

    a. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
    b. Cast anchor-bolt insert into bases.
    c. Install anchor bolts to elevations required for proper attachment to supported equipment.

D. Steel Pan Stairs: Provide concrete fill for steel pan stair treads, landings, and associated items.

1. Cast-in inserts and accessories, as shown on Drawings.
2. Screed, tamp, and trowel finish concrete surfaces.

3.11 APPLICATION OF CONCRETE CURING

A. Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

1. Comply with ACI 301 for cold weather protection during curing.
2. Comply with ACI 301 and ACI 305.1 for hot-weather protection during curing.
3. Maintain moisture loss no more than 0.2 lb/sq. ft. x h, calculated in accordance with ACI 305R, before and during finishing operations.

B. MASS CONCRETE at Mat Foundation

1. The maximum allowable internal temperature of mass concrete shall not exceed 160 deg F.
2. The maximum temperature differential between the interior core temperature and the exterior surface portions of the mass concrete element shall not exceed 35 deg F.
3. The maximum temperature of the concrete when delivered and prior to placement shall not exceed 95 deg F.

C. Curing Formed Surfaces: Comply with ACI 308.1 as follows:

1. Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces.
2. Cure concrete containing color pigments in accordance with color pigment manufacturer's instructions.
3. If forms remain during curing period, moist cure after loosening forms.
4. If removing forms before end of curing period, continue curing for remainder of curing period as follows:

    a. Continuous Fogging: Maintain standing water on concrete surface until final setting of concrete.
    b. Continuous Sprinkling: Maintain concrete surface continuously wet.
    c. Absorptive Cover: Pre-dampen absorptive material before application; apply additional water to absorptive material to maintain concrete surface continuously wet.
    d. Water-Retention Sheeting Materials: Cover exposed concrete surfaces with sheeting material, taping, or lapping seams.
    e. Membrane-Forming Curing Compound: Apply uniformly in continuous operation by power spray or roller in accordance with manufacturer's written instructions.

        1) Recoat areas subject to heavy rainfall within three hours after initial application.
        2) Maintain continuity of coating and repair damage during curing period.

D. Curing Unformed Surfaces: Comply with ACI 308.1 as follows:

1. Begin curing after finishing concrete.
2. Interior Concrete Floors:

a. Floors to Receive Floor Coverings Specified in Other Sections: Contractor has option of the following:

1) Absorptive Cover: As soon as concrete has sufficient set to permit application without marring concrete surface, install prewetted absorptive cover over entire area of floor.

a) Lap edges and ends of absorptive cover not less than 12 inches.
b) Maintain absorptive cover water saturated, and in place, for duration of curing period, but not less than seven days.

2) Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive.

a) Immediately repair any holes or tears during curing period, using cover material and waterproof tape.
b) Cure for not less than seven days.

3) Ponding or Continuous Sprinkling of Water: Maintain concrete surfaces continuously wet for not less than seven days, utilizing one, or a combination of, the following not in cold weather:

a) Water.
b) Continuous water-fog spray.

b. Floors To Receive Curing Compound:

1) Apply uniformly in continuous operation by power spray or roller in accordance with manufacturer's written instructions.
2) Recoat areas subjected to heavy rainfall within three hours after initial application.
3) Maintain continuity of coating, and repair damage during curing period.

c. Floors To Receive Curing and Sealing Compound:

1) Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller in accordance with manufacturer's written instructions.
2) Recoat areas subjected to heavy rainfall within three hours after initial application.
3) Repeat process 24 hours later, and apply a second coat. Maintain continuity of coating, and repair damage during curing period.

3.12 APPLICATION OF LIQUID FLOOR TREATMENTS

A. Sealing Coat: Uniformly apply a continuous sealing coat of curing and sealing compound to hardened concrete by power spray or roller in accordance with manufacturer's written instructions.

3.13 INSTALLATION OF JOINT FILLING

A. Prepare, clean, and install joint filler in accordance with manufacturer's written instructions.

1. Defer joint filling until concrete has aged at least six month(s).

B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joints clean and dry.

C. Install semirigid joint filler full depth in saw-cut joints and at least 2 inches deep in formed joints.

D. Overfill joint, and trim joint filler flush with top of joint after hardening.

3.14 INSTALLATION OF CONCRETE SURFACE REPAIRS

A. Defective Concrete:

1. Repair and patch defective areas when approved by Architect.
2. Remove and replace concrete that cannot be repaired and patched to meet specification requirements.

B. Patching Mortar: Mix dry-pack patching mortar, consisting of 1 part portland cement to 2-1/2 parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.

C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks in excess of 0.01 inch spalls, air bubbles exceeding surface finish limits, honeycombs, rock pockets, fins and other projections on the surface exceeding surface finish limits, and stains and other discolorations that cannot be removed by cleaning.

1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension to solid concrete.

a. Limit cut depth to 3/4 inch.
b. Make edges of cuts perpendicular to concrete surface.
c. Clean, dampen with water, and brush-coat holes and voids with bonding agent.
d. Fill and compact with patching mortar before bonding agent has dried.
e. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.

2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement, so that, when dry, patching mortar matches surrounding color.

    a. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching.
    b. Compact mortar in place and match surrounding surface.

3. Repair defects on concealed formed surfaces that will affect concrete's durability and structural performance, as determined by Architect.

D. Repairing Unformed Surfaces:

1. Test unformed surfaces, such as floors and slabs, for finish, and verify surface tolerances specified for each surface.

    a. Correct low and high areas.
    b. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.

2. Repair finished surfaces containing surface defects, including spalls, popouts, honeycombs, rock pockets, crazing, and cracks in excess of 0.01 inch wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width.
3. After concrete has cured at least 14 days, correct high areas by grinding.
4. Correct localized low areas during, or immediately after, completing surface-finishing operations by adding patching mortar.

    a. Finish repaired areas to blend into adjacent concrete.

5. Correct other low areas scheduled to receive floor coverings with a repair underlayment.

    a. Prepare, mix, and apply repair underlayment and primer in accordance with manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
    b. Feather edges to match adjacent floor elevations.

6. Correct other low areas scheduled to remain exposed with repair topping.

    a. Cut out low areas to ensure a minimum repair topping depth of 1/4 inch to match adjacent floor elevations.
    b. Prepare, mix, and apply repair topping and primer in accordance with manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.

7. Repair defective areas, except random cracks and single holes 1 inch or less in diameter, by cutting out and replacing with fresh concrete.

    a. Remove defective areas with clean, square cuts, and expose steel reinforcement with at least a 3/4-inch clearance all around.

b. Dampen concrete surfaces in contact with patching concrete and apply bonding agent.
c. Mix patching concrete of same materials and mixture as original concrete, except without coarse aggregate.
d. Place, compact, and finish to blend with adjacent finished concrete.
e. Cure in same manner as adjacent concrete.

8. Repair random cracks and single holes 1 inch or less in diameter with patching mortar.

a. Groove top of cracks and cut out holes to sound concrete, and clean off dust, dirt, and loose particles.
b. Dampen cleaned concrete surfaces and apply bonding agent.
c. Place patching mortar before bonding agent has dried.
d. Compact patching mortar and finish to match adjacent concrete.
e. Keep patched area continuously moist for at least 72 hours.

E. Perform structural repairs of concrete, subject to Architect's approval, using epoxy adhesive and patching mortar.

F. Repair materials and installation not specified above may be used, subject to Architect's approval.

3.15 FIELD QUALITY CONTROL

A. Special Inspections: Owner will engage a special inspector to perform field tests and inspections and prepare testing and inspection reports.

B. Testing Agency: Engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.

1. Testing agency to be responsible for providing curing facility for initial curing of strength test specimens on-site and verifying that test specimens are cured in accordance with standard curing requirements in ASTM C31/C31M.
2. Testing agency to immediately report to Architect, Contractor, and concrete manufacturer any failure of Work to comply with Contract Documents.
3. Testing agency to report results of tests and inspections, in writing, to Owner, Architect, Contractor, and concrete manufacturer within 48 hours of inspections and tests.

a. Test reports to include reporting requirements of ASTM C31/C31M, ASTM C39/C39M, and ACI 301, including the following as applicable to each test and inspection:

1) Project name.
2) Name of testing agency.
3) Names and certification numbers of field and laboratory technicians performing inspections and testing.

4) Name of concrete manufacturer.
5) Date and time of inspection, sampling, and field testing.
6) Date and time of concrete placement.
7) Location in Work of concrete represented by samples.
8) Date and time sample was obtained.
9) Truck and batch ticket numbers.
10) Design compressive strength at 28 days.
11) Concrete mixture designation, proportions, and materials.
12) Field test results of fresh concrete, including slump or slump flow, air content, temperature and density.
13) Information on storage and curing of samples at the Project site, including curing method and maximum and minimum temperatures during initial curing period.
14) Type of fracture and compressive break strengths at seven days and 28 days.

4. Provide a space and source of power or other resources for curing and access to test specimens by the testing agency.

C. Delivery Tickets: comply with ASTM C94/C94M.

D. Inspections:

1. Headed bolts and studs.
2. Verification of use of required design mixture.
3. Concrete placement, including conveying and depositing.
4. Curing procedures and maintenance of curing temperature.
5. Verification of concrete strength before removal of shores and forms from beams and slabs.
6. Batch Plant Inspections: On a random basis, as determined by Architect.

E. Concrete Tests: Testing of composite samples of fresh concrete obtained in accordance with ASTM C 172/C 172M to be performed in accordance with the following requirements:

1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd., but less than 25 cu. yd., plus one set for each additional 150 cu. yd.or fraction thereof.

a. When frequency of testing provides fewer than five compressive-strength tests for each concrete mixture, testing is to be conducted from at least five randomly selected batches or from each batch if fewer than five are used.

2. Slump: ASTM C143/C143M:

a. One test at point of delivery for each composite sample, but not less than one test for each day's pour of each concrete mixture.
b. Perform additional tests as needed.

3. Air Content: ASTM C231/C231M pressure method, for normal-weight concrete; ASTM C173/C173M volumetric method, for structural lightweight concrete.

   a. One test for each composite sample when strength test specimens are cast, but not less than one test for each day's pour of each concrete mixture.

4. Concrete Temperature: ASTM C1064/C1064M:

   a. One test hourly when air temperature is 40 deg F and below or 80 deg F and above, and one test for each composite sample when strength test specimens are cast.

5. Concrete Density: ASTM C138/C138M:

   a. One test for each composite sample when strength test specimens are cast.

6. Unit Weight: ASTM C138/C138M density of fresh structural lightweight concrete.

   a. One test for each composite sample, but not less than one test for each day's pour of each concrete mixture. The fresh density should be consistent with that associated with the equilibrium density within a tolerance of plus or minus 4 lb/ft.^{3}.

7. Compression Test Specimens: ASTM C31/C31M:

   a. Cast and standard cure two sets of three 6 inches by 12-inches or 4-inch by 8-inch cylindrical specimens for each composite sample.
   b. Cast, and field cure three sets of two standard cylindrical specimens for each composite sample.
   c. One additional reserve standard cylinder shall be provided and may be tested under the direction of the engineer, if deemed necessary. However, if the 28 day strength is achieved, then the additional cylinder may be discarded.

8. Compressive-Strength Tests: ASTM C39/C39M.

   a. Test one set of two standard cured specimens three days, then one set of two at seven days, and one set of two specimens at 28 days.
   b. Test one set of two field-cured specimens at seven days and one set of two specimens at 28 days.
   c. A compressive-strength test to be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.

9. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor to evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
10. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests of standard cured cylinders equals or exceeds specified compressive strength, and no compressive-strength test value falls below specified compressive strength by more than 500 psi if specified compressive strength is 5000 psi, or no compressive strength test value is less than 10 percent of specified compressive strength if specified compressive strength is greater than 5000 psi.
11. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
12. Additional Tests:

    a. Testing and inspecting agency to make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect.
    b. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C42/C42M or by other methods as directed by Architect.

        1) Acceptance criteria for concrete strength to be in accordance with ACI 301, Section 1.7.6.3.

13. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
14. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.

F. Measure floor and slab flatness and levelness in accordance with ASTM E1155 within 48 hours of completion of floor finishing and promptly report test results to Architect.

G. Mass Concrete for Mat Foundation:

1. Contractor shall monitor and maintain records of the concrete temperatures, beginning when the casting is complete and continuing until the maximum temperature is reached, begins to drop, and stabilizes to its final temperature.
2. If the temperature differential between the interior core temperature and the exterior surface portions exceeds 30 deg F, take immediate corrective actions to retard further growth of the temperature differential to limit it to the 35 deg F maximum.

3.16 PROTECTION

A. Protect concrete surfaces as follows:

1. Protect from petroleum stains.
2. Diaper hydraulic equipment used over concrete surfaces.
3. Prohibit vehicles from interior concrete slabs.
4. Prohibit use of pipe-cutting machinery over concrete surfaces.
5. Prohibit placement of steel items on concrete surfaces.
6. Prohibit use of acids or acidic detergents over concrete surfaces.
7. Protect liquid floor treatment from damage and wear during the remainder of construction period. Use protective methods and materials, including temporary covering, recommended in writing by liquid floor treatments installer.

END OF SECTION 03 30 00

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ITEM 03 35 00 - CONCRETE FINISHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Single application cure-densifier-hardener for concrete floors.
2. Densifier Guard Coat.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Certificates: Manufacturer's certification that the installer is acceptable.

C. Maintenance Data: Maintenance instructions, including precautions for avoiding staining after application.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Acceptable to the manufacturer.

1.5 FIELD CONDITIONS

A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.

PART 2 - PRODUCTS

2.1 DENSIFIER

A. Basis of Design: Ashford Formula, Curecrete Chemical Company, or subject to compliance with requirements, other acceptable Manufacturers offering products which may be incorporated into the work include the following:

a. Euclid Chemicals Company.
b. L & M Construction Chemicals.

B. Colorless, transparent, penetrating liquid.

C. Contains no silicone.

D. Highly resistant to oils, greases, and acids.

E. Non-toxic, non-combustible, and non-flammable. Shall not harm lungs or hands. Shall comply with all V.O.C. regulations in effect at the time of manufacture.

2.2 DENSIFIER GUARD

A. Basis of Design: RetroPel, Curecrete Chemical Company, or subject to compliance with requirements, other acceptable Manufacturers offering products which may be incorporated into the work include the following:

1. Euclid Chemicals Company.
2. L & M Construction Chemicals.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

A. Examine concrete after wet curing a minimum of three (3) days and removal of any curing covering. Notify the Architect of any deficiencies prior to proceeding with the Work of this Section.

3.2 INSTALLATION

A. Upon removal of curing cover, mechanically clean the concrete to remove contaminants, form oils, bond breakers, and staining from the wet cure operation. All cleaning compounds shall be removed in their entirety and the concrete surface shall be neutralized.

B. Avoid contact with glass, aluminum, plant life, asphaltic concrete, and finished surfaces.

C. Densifier Application:

1. Apply cure-densifier hardener to new concrete as soon as the concrete is firm enough to work on after troweling.
2. Spray on at rate of 200 ft^2/gal.

3. Keep surface wet with cure-densifier-hardener for a minimum soak-in period of 30 minutes without allowing it to dry or become slippery. If slipperiness occurs before the 30-minute time period has elapsed, apply additional cure-densifier-hardener, as needed, to keep the entire surface in a non-slippery state for the first 15 minutes; for the remaining 15 minutes, mist the surface as needed with water to keep the material in a non-slippery state. In hot weather conditions, follow manufacturer's special application procedures.
4. When the treated surface becomes slippery after this period, lightly mist with water until slipperiness disappears.
5. Wait for surface to become slippery again, and then flush entire surface with water to remove all cure-densifier-hardener residue.
6. Squeegee surface completely dry, flushing any remaining slippery areas until no residue remains.
7. Wet vacuum or scrubbing machines can be used in accordance with manufacturer's instructions to remove residue.

D. Densifier Guard Application:

1. Mask off and protect any baseboards or adjacent areas to avoid splashing and overspray onto surfaces not intended to be treated.
2. Liberally apply an even coat of sealer with a pump-up sprayer 600-1200 sf/gal. Allow the product to soak into the floor and work it in with a microfiber pad until the floor is completely saturated.
3. If first application is immediately absorbed, a second application should be applied "wet-on-wet" prior to the first application drying.
4. All of the product should penetrate the concrete and should not dry on the surface. If excess product is allowed to dry on the surface, buffing can be used to remove haze.

3.3 PROTECTION

A. Protect installed floors for at least 24 hours or until densifier guard has fully cured.

1. Do not allow pipe cutting using pipe cutting machinery on concrete slab.
2. Do not allow temporary placement and storage of steel members on concrete slabs.
3. Clean up spills immediately and spot-treat stains with degreaser or oil emulsifier.

END OF ITEM 03 35 00

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ITEM 04 20 00 MASONRY UNITS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes:

1. Concrete masonry units (CMUs).
2. Mortar and grout.
3. Reinforcing steel.
4. Masonry joint reinforcement.
5. Ties and anchors.
6. Embedded flashing.
7. Miscellaneous masonry accessories.

1.2 DEFINITIONS

A. Reinforced Masonry: Masonry containing reinforcing steel in grouted cells.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: For the following:
1. Reinforcing Steel: Detail bending and placement of unit masonry reinforcing bars. Comply with ACI 315, "Details and Detailing of Concrete Reinforcement."
2. Fabricated Flashing: Detail corner units, end-dam units, and other special applications.

C. Material Certificates: Include statements of material properties indicating compliance with requirements including compliance with standards and type designations within standards. Provide for each type and size of the following:

1. Masonry units.
2. Grout mixes. Include description of type and proportions of ingredients.
3. Reinforcing bars.
4. Joint reinforcement.
5. Anchors, ties, and metal accessories.

D. Codes and Standards: Comply with ACI 530.1/ASCE 6/TMS 602 unless modified by requirements in the Contract Documents.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Store masonry units on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied. If units become wet, do not install until they are dry.

B. Deliver preblended, dry mortar mix in moisture-resistant containers designed for lifting and emptying into dispensing silo. Store preblended, dry mortar mix in delivery containers on elevated platforms, under cover, and in a dry location or in a metal dispensing silo with weatherproof cover.

C. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

1.5 PROJECT CONDITIONS

A. Protection of Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.

1. Extend cover a minimum of 24 inches down both sides and hold cover securely in place.

B. Do not apply uniform floor or roof loads for at least 12 hours and concentrated loads for at least 3 days after building masonry walls or columns.

C. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout, mortar, and soil that come in contact with such masonry.

1. Protect base of walls from rain-splashed mud and from mortar splatter by spreading coverings on ground and over wall surface.
2. Protect sills, ledges, and projections from mortar droppings.
3. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes, from mortar droppings.
4. Turn scaffold boards near the wall on edge at the end of each day to prevent rain from splashing mortar and dirt onto completed masonry.

D. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F and above and will remain so until masonry has dried, but not less than 7 days after completing cleaning.

E. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:

1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products specified.
2. Products: Subject to compliance with requirements, provide one of the products specified.
3. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.
4. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

2.2 MASONRY UNITS, GENERAL

A. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to exceed tolerances and to contain chips, cracks, or other defects exceeding limits stated in the standard. Do not use units where such defects, including dimensions that vary from specified dimensions by more than stated tolerances, will be exposed in the completed Work or will impair the quality of completed masonry.

2.3 CONCRETE MASONRY UNITS (CMUs)

A. Shapes: Provide shapes indicated and as follows:

1. Provide special shapes for lintels, corners, jambs, movement joints, headers, bonding, and other special conditions.
2. Provide square-edged units for outside corners, unless otherwise indicated.

B. Concrete Masonry Units: ASTM C 90.

1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 1900 psi.
2. Weight Classification: Normal weight.
3. Size (Width): Manufactured to dimensions 3/8 inch less than nominal dimensions.

C. General: Provide either concrete or masonry lintels, at Contractor's option, complying with requirements below.

D. Concrete Lintels: Precast units made from concrete matching concrete masonry units in color, texture, and compressive strength and with reinforcing bars indicated or required to support loads indicated. Cure precast lintels by same method used for concrete masonry units.

E. Masonry Lintels: Prefabricated or built-in-place masonry lintels made from bond beam concrete masonry units with reinforcing bars placed as indicated and filled with coarse grout. Cure precast lintels before handling and installing. Temporarily support built-in-place lintels until cured.

2.4 MORTAR AND GROUT MATERIALS

A. Portland Cement: ASTM C 150, Type II. Provide natural color or white cement as required to produce mortar color indicated.

B. Hydrated Lime: ASTM C 207, Type S.

C. Masonry Cement: ASTM C 91.

D. Aggregate for Grout: ASTM C 404.

E. Water: Potable.

2.5 REINFORCEMENT

A. Uncoated Steel Reinforcing Bars: ASTM A 615/A 615M or ASTM A 996/A 996M, Grade 60.

B. Masonry Joint Reinforcement, General: ASTM A 951.

1. Hot-dip galvanized, carbon steel wire for both interior walls.
2. Wire Size for Side Rods: W1.7 diameter.
3. Wire Size for Cross Rods: W1.7 diameter.
4. Wire Size for Veneer Ties: W1.7 diameter.
5. Spacing of Cross Rods, Tabs, and Cross Ties: Not more than 16 inches o.c.
6. Provide in lengths of not less than 10 feet, with prefabricated corner and tee units.

C. Masonry Joint Reinforcement for Single-Wythe Masonry: Either ladder or truss type with single pair of side rods.

2.6 TIES AND ANCHORS

A. Materials: Provide ties and anchors specified in subsequent paragraphs that are made from materials that comply with subparagraphs below, unless otherwise indicated.
1. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.

B. Adjustable Anchors for Connecting to Structure: Provide anchors that allow vertical or horizontal adjustment but resist tension and compression forces perpendicular to plane of wall.

1. Tie Section for Steel Frame: Triangular-shaped wire tie, sized to extend within 1 inch of masonry face, made from 0.25-inch- diameter, hot-dip galvanized steel wire.

C. Partition Top anchors: 0.097-inch-thick metal plate with 3/8-inch- diameter metal rod 6 inches long welded to plate and with closed-end plastic tube fitted over rod that allows rod to move in and out of tube. Fabricate from steel, hot-dip galvanized after fabrication.

D. Rigid Anchors: Fabricate from steel bars 1-1/2 inches wide by 1/4 inch thick by 24 inches long, with ends turned up 2 inches or with cross pins, unless otherwise indicated, bent to configuration indicated.

1. Corrosion Protection: Hot-dip galvanized to comply with ASTM A 153/A 153M.

E. Adjustable Masonry-Veneer Anchors

1. General: Provide anchors that allow vertical adjustment but resist tension and compression forces perpendicular to plane of wall, for attachment over sheathing to studs, and as follows:

a. Structural Performance Characteristics: Capable of withstanding a 100-lbf load in both tension and compression without deforming or developing play in excess of 0.05 inch.

2. Contractor's Option: Unless otherwise indicated, provide any of the following types of anchors:

a. Anchor Section: Rib-stiffened, sheet metal plate with screw holes top and bottom, 2-3/4 inches wide by 3 inches high; with projecting tabs having slotted holes for inserting vertical legs of wire tie specially formed to fit anchor section.
b. Anchor Section: Sheet metal plate, 1-1/4 inches wide by 6 inches long, with screw holes top and bottom and with raised rib-stiffened strap, 5/8 inch wide by 3-5/8 inches long, stamped into center to provide a slot between strap and plate for inserting wire tie.
c. Anchor Section: Zinc-alloy barrel section with flanged head with eye and corrosion-resistant, self-drilling screw. Eye designed to receive wire tie and to serve as head for drilling fastener into framing. Barrel length to suit sheathing thickness, allowing screw to seat directly against framing with flanged head covering hole in sheathing.
d. Fabricate sheet metal anchor sections and other sheet metal parts from 0.097-inch- thick, steel sheet, galvanized after fabrication.
e. Wire Ties: Triangular-, rectangular-, or T-shaped wire ties fabricated from 0.25-inch- diameter, hot-dip galvanized steel wire.

2.7 MISCELLANEOUS ANCHORS

A. Anchor Bolts: Headed steel bolts complying with ASTM F1554, Grade 36; with ASTM A 563 hex nuts and, where indicated, flat washers; hot-dip galvanized to comply with ASTM A 153/A 153M, Class C; of dimensions indicated.

2.8 MASONRY CLEANERS

A. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry surfaces. Use product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units being cleaned.

B. Job-Mixed Detergent Solution: Solution of 1/2-cup dry measure tetrasodium polyphosphate and 1/2-cup dry measure laundry detergent dissolved in 1 gal. of water.

2.9 MORTAR AND GROUT MIXES

A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures, unless otherwise indicated.

1. Do not use calcium chloride in mortar or grout.
2. Limit cementitious materials in mortar to Portland cement and lime.

B. Mortar for Unit Masonry: Comply with ASTM 270, Proportion Specification. Provide for applications stated unless another type is indicated or needed to provide required compressive strength of masonry.
1. For reinforced masonry, use Type S.
2. For exterior, above-grade, load-bearing and non-load-bearing walls, and parapet walls; for interior load-bearing walls; for interior non-load-bearing partitions; and for other applications where another type is not indicated, use Type N.

C. Grout for Unit Masonry: Comply with ASTM C 476.

1. Use grout of type indicated or, if not otherwise indicated, of type (fine or coarse) that will comply with Table 1.15.1 in ACI 530.1/ASCE 6/TMS 602 for dimensions of grout spaces and pour height.
2. Provide grout with a slump of 8 to 11 inches as measured according to ASTM C 143/C 143M.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.

1. Verify that foundations are within tolerances specified.
2. Verify that reinforcing dowels are properly placed.

B. Before installation, examine rough-in and built-in construction for piping systems to verify actual locations of piping connections.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. Thickness: Build single-wythe walls to actual widths of masonry units, using units of widths indicated.

B. Build chases and recesses to accommodate items specified in this and other Sections.

C. Leave openings for equipment to be installed before completing masonry. After installing equipment, complete masonry to match the construction immediately adjacent to opening.

D. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.

E. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures.

1. Mix units from several pallets or cubes as they are placed.

F. Wetting of Brick: Wet brick before laying if initial rate of absorption exceeds 30 g/30 sq. in. per minute when tested per ASTM C 67. Allow units to absorb water so they are damp but not wet at time of laying.

G. Comply with construction tolerances in ACI 530.1/ASCE 6/TMS 602 and with the following:

1. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2 inch maximum.
2. For vertical alignment of exposed head joints, do not vary from plumb by more than 1/4 inch in 10 feet, or 1/2 inch maximum.
3. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2 inch maximum.
4. For exposed bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch, with a maximum thickness limited to 1/2 inch. Do not vary from bed-joint thickness of adjacent courses by more than 1/8 inch.
5. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch. Do not vary from adjacent bed-joint and head-joint thicknesses by more than 1/8 inch.
6. For faces of adjacent exposed masonry units, do not vary from flush alignment by more than 1/16 inch except due to warpage of masonry units within tolerances specified for warpage of units.
7. For exposed bed joints and head joints of stacked bond, do not vary from a straight line by more than 1/16 inch from one masonry unit to the next.

3.3 LAYING MASONRY WALLS

A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.

B. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in running bond do not use units with less than nominal 4-inch horizontal face dimensions at corners or jambs.

C. Lay concealed masonry with all units in a wythe in running bond. Bond and interlock each course of each wythe at corners. Do not use units with less than nominal 4-inch horizontal face dimensions at corners or jambs.

D. Stopping and Resuming Work: Stop work by racking back units in each course from those in course below; do not tooth. When resuming work, clean masonry surfaces that are to receive mortar, remove loose masonry units and mortar, and wet brick if required before laying fresh masonry.

E. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.

F. Fill space between steel frames and masonry solidly with mortar, unless otherwise indicated.

G. Fill cores in hollow concrete masonry units with grout 24 inches under bearing plates, beams, lintels, posts, and similar items, unless otherwise indicated.

H. Build non-load-bearing interior partitions full height of story to underside of solid floor or roof structure above, unless otherwise indicated.

1. Fasten partition top anchors to structure above and build into top of partition. Grout cells of CMUs solidly around plastic tubes of anchors and push tubes down into grout to provide 1/2-inch clearance between end of anchor rod and end of tube. Space anchors 48 inches, o.c., unless otherwise indicated.

3.4 MORTAR BEDDING AND JOINTING

A. Lay hollow brick and concrete masonry units as follows:

1. With face shells fully bedded in mortar and with head joints of depth equal to bed joints.
2. With webs fully bedded in mortar in all courses of piers, columns, and pilasters.
3. With webs fully bedded in mortar in grouted masonry, including starting course on footings.
4. With entire units, including areas under cells, fully bedded in mortar at starting course on footings where cells are not grouted.

B. Lay solid masonry units with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.

C. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness, unless otherwise indicated.

3.5 MASONRY JOINT REINFORCEMENT

A. General: Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8 inch exterior side of walls, 1/2 inch elsewhere. Lap reinforcement a minimum of 6 inches (150 mm).

1. Space reinforcement not more than 16 inches o.c.
2. Provide reinforcement not more than 8 inches above and below wall openings and extending 12 inches beyond openings. For the first and second block course above and below openings, run reinforcing continuous and extend two feet back from opening edge.

B. Cut and bend reinforcing units as directed by manufacturer for continuity at corners, returns, offsets, column fireproofing, pipe enclosures, and other special conditions.

3.6 ANCHORING MASONRY TO STRUCTURAL MEMBERS

A. Anchor masonry to structural members where masonry abuts or faces structural members to comply with the following:

1. Provide an open space not less than 1/2 inch in width between masonry and structural member, unless otherwise indicated. Keep open space free of mortar and other rigid materials.
2. Anchor masonry to structural members with anchors embedded in masonry joints and attached to structure.
3. Space anchors as indicated, but not more than 24 inches on center vertically and 36 inches on center horizontally.

3.7 LINTELS

A. Provide concrete or masonry lintels where shown and where openings of more than 12 inches for brick-size units and 24 inches for block-size units are shown without structural steel or other supporting lintels.

B. Provide minimum bearing of 8 inches at each jamb, unless otherwise indicated.

3.8 REINFORCED UNIT MASONRY INSTALLATION

3.9 REPAIRING, POINTING, AND CLEANING

A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Install new units to match adjoining units; install in fresh mortar, pointed to eliminate evidence of replacement.

B. Pointing: During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point up joints, including corners, openings, and adjacent construction, to provide a neat, uniform appearance. Prepare joints for sealant application, where indicated.

C. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.

D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:

1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes. Obtain approval of sample cleaning from Design Build Contractor's Architect in writing, with concurrence of Sheltair before proceeding with cleaning of masonry.
3. Protect adjacent stone and non-masonry surfaces from contact with cleaner by covering them with liquid strippable masking agent or polyethylene film and waterproof masking tape.
4. Clean masonry with a proprietary acidic cleaner applied according to manufacturer's written instructions.
5. Clean concrete masonry by cleaning method indicated in NCMA TEK 8-2A applicable to type of stain on exposed surfaces.

3.10 MASONRY WASTE DISPOSAL

A. Salvageable Materials: Unless otherwise indicated, excess masonry materials are Contractor's property. At completion of unit masonry work, remove from Project site.

END OF ITEM 04 20 00

SECTION 051213
ARCHITECTURALLY-EXPOSED STRUCTURAL STEEL FRAMING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Additional requirements for structural steel members designated as architecturally-exposed structural steel (AESS).

1.02 RELATED REQUIREMENTS

A. Section 051200 - Structural Steel Framing: General requirements for structural steel members, including AESS framing specified in this section.

B. Section 052100 - Steel Joist Framing: Alignment and location of bridging where joists are visible.

C. Section 053100 - Steel Decking: Erection requirements relating to exposed steel decking and its connections.

D. Section 055000 - Metal Fabrications: Loose steel bearing plates and miscellaneous steel framing.

E. Section 078100 - Applied Fire Protection: Fireproof protection to framing and metal deck systems.

F. Section 099113 - Exterior Painting: Finish coat requirements and coordination with primer and surface preparation specified in this section.

G. Section 099123 - Interior Painting: Finish coat requirements and coordination with primer and surface preparation specified in this section.

H. Section 099600 - High-Performance Coatings: Finish coat requirements and coordination with primer and surface preparation specified in this section.

1.03 DEFINITIONS

A. Architecturally-Exposed Structural Steel: Structural steel complying with designated AESS category as defined in AISC 303.

1.04 REFERENCE STANDARDS

A. AISC 303 - Code of Standard Practice for Steel Buildings and Bridges; 2022, with Errata (2025).

B. AISC 325 - Steel Construction Manual; 2023.

C. AISC 360 - Specification for Structural Steel Buildings; 2022, with Errata (2025).

D. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2019.

E. ASTM A572/A572M - Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel; 2025.

F. ASTM A6/A6M - Standard Specification for General Requirements for Rolled Structural Steel Bars, Plates, Shapes, and Sheet Piling; 2024b.

G. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2024.

H. ASTM A500/A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes; 2023.

I. ASTM A780/A780M - Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings; 2020.

J. ASTM A1085/A1085M - Standard Specification for Cold-Formed Welded Carbon Steel Hollow Structural Sections (HSS); 2022.

K. ASTM A992/A992M - Standard Specification for Structural Steel Shapes; 2022.

L. ASTM F3125/F3125M - Standard Specification for High Strength Structural Bolts and Assemblies, Steel and Alloy Steel, Heat Treated, Inch Dimensions 120 ksi, 144 ksi, and 150 ksi Minimum Tensile Strength, and Metric Dimensions 830 MPa and 1040 MPa Minimum Tensile Strength; 2025a.

M. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination; 2020.

N. AWS B2.1/B2.1M - Specification for Welding Procedure and Performance Qualification; 2021, with Errata (2023).

O. AWS D1.1/D1.1M - Structural Welding Code - Steel; 2025, with Errata (2026).

P. SSPC-SP 1 - Solvent Cleaning; 2015, with Editorial Revision (2016).

Q. SSPC-SP 6/NACE No.3 - Commercial Blast Cleaning; 2006.

1.05 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Schedule and conduct a preinstallation meeting at project site one week prior to start of work of this section; require attendance by all affected installers. Coordinate requirements for shipping, special handling, storage, attachment of safety cables and temporary erection bracing, final coating, touch-up painting, mock-up coordination, Architect's observations, and other requirements for AESS.

1.06 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product data for each type of product specified. Submit paint systems in accordance with Section 099113.

C. Shop Drawings: Detailing for fabrication of AESS components.
   1. Provide erection documents clearly indicating which members are AESS members and the AESS category of each part.
   2. Include details that clearly identify AESS requirements found in this specification. Provide connections for AESS consistent with concepts shown on drawings.
   3. Indicate welds by AWS A2.4 symbols, distinguishing between shop and field welds, and show size, length and type of each weld. Identify grinding, finish and profile of welds as defined by the designated AESS category.
   4. Indicate orientation of hollow structural section (HSS) seams and mill marks (where applicable).
   5. Indicate type, size, finish and length of bolts, distinguishing between shop and field bolts. Identify high-strength bolted slip-critical, direct-tensioned shear/bearing connections. Indicate orientation of bolt heads.
   6. Indicate which surfaces or edges are exposed and what class of surface preparation is being used.
   7. Indicate special tolerances and erection requirements as noted on drawings or defined by the designated AESS category.
   8. Indicate vent or drainage holes for HSS members.

D. AESS 1, AESS 2, AESS 3, AESS 4, and AESS C Samples: Provide samples of specific AESS characteristics. Samples may be small size samples or components of conventional structural steel demonstrating specific AESS characteristics, including surface preparation, sharp edges ground smooth, continuous weld appearance, weld show through, and fabrication mark removal.

E. Welders' Qualification Statement: Welders' certificates in accordance with AWS B2.1/B2.1M and dated no more than 12 months before start of scheduled welding work.

F. Qualification data for fabricator and erector to demonstrate their capabilities and experience. Include lists of completed projects names and address, names and addresses of architects and owners, photographs showing detail of installed AESS, and other information specified.

1.07 QUALITY ASSURANCE

A. Fabricator Qualifications: In addition to those qualifications listed in Section 051200, engage an AISC Certified Fabricator, experienced in fabricating AESS similar to that indicated for this project with a record of successful in-service performance, as well as sufficient production capacity to fabricate AESS without delaying the work.

B. Erector Qualifications: In addition to those qualifications listed in Section 051200, engage an AISC Certified Erector, experienced in erecting AESS work similar in material, design, and extent to that indicated for this project and with a record of successful in-service performance.

C. Welder Qualifications: Welding processes and welding operators qualified within previous 12 months in accordance with AWS D1.1/D1.1M and dated no more than 12 months before start of scheduled welding work..

D. Comply with applicable provisions of AISC 303, Section 10 for the designated AESS category.

E. Owner to engage a quality assurance agency per requirements of AISC 360, Chapter N and AISC 303, Section 10.

F. Contractor to engage a quality assurance agency per requirements of AISC 360, Chapter N and AISC 303, Section 10.

1.08 MOCK-UP

A. Provide mock-ups for AESS 3, AESS 4, and AESS C of nature and extent indicated in Contract Documents.

B. See Section 014000 - Quality Requirements for additional requirements.

C. Locate mock-ups in fabricator's shop. Mock-ups to be full-size unless Architect approves smaller models. Alternatively, when a mock-up is not practical, the first piece of an element or connection can be used to determine acceptability.

D. Notify Architect one week in advance of dates and times when mock-ups will be available for review.

E. Demonstrate applicable AESS characteristics for specified category of AESS on elements and joints in mock-up.

F. Build mock-ups using member sizes and materials indicated for final work.

G. Mock-up to demonstrate weld quality, contouring of welds at aligned walls of members, specified surface preparation, and finish coating.

H. HSS members to extend at least 6 inches (152.4 mm) from joint in mock-up.

I. Obtain Architect’s written approval of mock-ups before starting fabrication.

J. Retain and maintain mock-ups during construction in an undisturbed condition as a standard for judging completed work.

K. Approved mock-ups in an undisturbed condition at Date of Substantial Completion may become part of completed work.

1.09 DELIVERY, STORAGE, AND HANDLING

A. Handle finished pieces in accordance with Section 10 of AISC 303, using nylon-type slings, or chains with softeners, or wire ropes with softeners such that they are not damaged.

B. Store materials to permit easy access for inspection and identification. Keep steel members off ground by using pallets, platforms, or other supports. Protect steel members and packaged materials from erosion and deterioration. Use special care in handling to prevent twisting or warping of AESS members.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Comply with Section 051200, except as amended in this section for aesthetic purposes.

B. Comply with AISC 303, Section 10 for specific AESS category designated on drawings.

C. Comply with AISC 303, Section 10 for specific AESS as follows:

2.02 FABRICATION

A. Fabricate and assemble AESS in shop to greatest extent possible. Locate field joints in AESS assemblies at concealed locations or as approved by Architect. Detail AESS assemblies to minimize field handling and expedite erection.

B. Permissible tolerances for member depth, width, out of square, and camber and sweep to be as specified in ASTM A6/A6M, ASTM A500/A500M, and ASTM A1085/A1085M.

C. For curved structural members, whether composed of a single standard structural shape or built-up, the as-fabricated variation from theoretical curvature to be equal to or less than standard camber and sweep tolerances permitted for straight members in applicable ASTM standard.

D. Use special care in handling and shipping of AESS both before and after shop painting to minimize damage to any shop finish. Use nylon-type slings or softeners when using chains or wire rope slings.

E. Bolted Connections:
   1. Make in accordance with Section 051200. Provide bolt type and finish as noted herein.

F. Welded Connections:
   1. Comply with AWS D1.1/D1.1M and Section 051200.
   2. Assemble and weld built-up sections by methods that will maintain alignment of members without warp exceeding tolerances of this section.

G. Surface Preparation:
   1. Remove blemishes or unsightly surfaces resulting from temporary braces or fixtures.
   2. Remove backing and run out tabs.

H. Fabricate AESS in accordance with categories defined in AISC 303, as follows:
   1. AESS 1: Basic elements.
   2. AESS 2: Feature elements viewed at a distance greater than 20 feet (6 m) (feature elements not in close view).
   3. AESS 3: Feature elements viewed at a distance less than 20 feet (6 m) (feature elements in close view).
   4. AESS 4: Showcase elements with special surface and edge treatment beyond fabrication (showcase elements).
   5. AESS C: Custom elements; fabricate to requirements of AESS 1 and the following characteristics:

2.03 PAINT SYSTEM

A. Compatibility: All components/procedures of AESS paint system to comply with coating system specified, submitted, and approved per Sections 099113, 099123, and 099600. As a minimum, identify required surface preparation, primer, intermediate coat (if applicable), and finish coat. Primer, intermediate coating, and finish coating to be from a single manufacturer combined in a system documented by manufacturer with adequate guidance for fabricator to procure and execute.

B. Primer: As specified in Sections 099113, 099123, and 099600. Primer to comply with all federal standards for VOC, lead and chromate levels.

C. Primer: Organic, epoxy/zinc rich meeting class B surface requirements for slip critical connections, as found in AISC 360. Primer to comply with all federal standards for VOC, lead and chromate levels.

D. Finish Coating: Field apply intermediate and top coats per Sections 099113, 099123, and 099600.

2.04 SHOP PRIMING

A. Surface Preparation:
   1. Comply with SSPC-SP 6/NACE No.3.
   2. Coordinate required surface profile with approved paint submittal prior to beginning surface preparation.
   3. Prior to blasting, remove any grease and oil using solvent cleaning to meet SSPC-SP 1.
   4. Remove weld spatter, slivers and similar surface discontinuities.
   5. Ease sharp corners resulting from shearing, flame cutting or grinding.

B. Shop prime structural steel members. Do not prime surfaces that will be fireproofed, field welded, in contact with concrete, or high strength bolted with slip-critical connections.
   1. Extend priming of members partially embedded in concrete or mortar to a depth of 2 inches (50.8 mm).

C. Priming: Immediately after surface preparation, apply primer according to manufacturer's instructions to provide a dry film thickness of not less than 1.5 mils (0.038 mm). Use priming methods that result in full coverage of joints, corners, edges, and exposed surfaces.
   1. Stripe paint corners, crevices, bolts, welds, and sharp edges.
   2. Apply two coats of shop primer to surfaces that are inaccessible after assembly or erection.

2.05 GALVANIZING

A. Hot-Dip Galvanized Finish: Apply zinc coating by hot-dip process to AESS indicated for galvanizing according to ASTM A123/A123M. Fabricate such that all connections of assemblies are made in the field with bolted connections where possible.

2.06 MATERIALS

A. General: Meet requirements of 051200 as amended below.

B. Factory-Fabricated Fire-Resistant Steel Columns: Load-bearing structural steel members encased in manufacturer's standard fire-resistant insulating material and covered with non-load-bearing steel shell.
   1. Structural Steel: Comply with ASTM A36/A36M, ASTM A572/A572M, and ASTM A992/A992M.
   2. Steel Bolts: Comply with ASTM F3125/F3125M,
   3. Column Fill: Portland cement with manufacturer's standard aggregates, additives, and fire-resistant coating.
   4. Steel Flanges and Casings: AISC 325.
   5. Configuration: As shown on drawings.
   6. Fire-Resistance: As shown on drawings.
   7. Manufacturers:
      a. Fire-Trol Fireproof Column Company: www.fire-trol.com/#sle.
      b. Substitutions: See Section 016000 - Product Requirements.

C. Tension Control, High-Strength Bolts, Nuts, and Washers: Per section 051200, Tension Control Bolts. Provide standard carbon steel finish rounded bolt heads with twist off bolts; ASTM F3125/F3125M.

2.07 SOURCE QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for additional requirements.

B. Structural Requirements:
   1. Comply with quality control requirements per AISC 360, Chapter N and AISC 303, Section 10. Refer to Section 051200 for additional requirements.
   2. Quality assurance agency to review work for compliance with requirements of AISC 360, Chapter N and AISC 303, Section 10.

C. AESS 1 and 2 Acceptance: Architect to observe AESS in the shop at a viewing distance consistent with final installation and determine acceptability based on qualification data and

submittals. Quality assurance agency has no responsibility for enforcing requirements related to aesthetic effect.

D. AESS 3,4, and C Acceptance: Architect to observe AESS in the shop at a viewing distance consistent with final installation and determine acceptability based on approved mock-up. Quality assurance agency has no responsibility for enforcing requirements related to aesthetic effect.

PART 3 EXECUTION

3.01 EXAMINATION

A. Erector to check all AESS members upon delivery for twist, kinks, gouges or other imperfections which may result in rejection of appearance of member. Coordinate remedial action with fabricator prior to erecting steel.

3.02 PREPARATION

A. Provide connections for temporary shoring, bracing and supports only where noted on approved fabrication documents. Temporary connections not shown are to be made at locations not exposed to view in final structure or as approved by Architect.

B. Handle, lift and align pieces using nylon straps or chains with softeners required to maintain appearance of AESS through process of erection.

3.03 ERECTION

A. AESS 1 and 2: Basic elements; feature elements not in close view:
   1. Employ special care to handle and erect AESS. Erect finished pieces using nylon straps or chains with softeners such that they are not damaged.
   2. Place weld tabs for temporary bracing and safety cabling at points concealed from view in completed structure or where approved by Architect during pre-installation meeting. Obtain Architect approval of methods for removing temporary devices and finishing AESS members prior to erection.
   3. AESS Erection Tolerances: Erect to standard frame tolerances for structural steel per Chapter 7 of AISC 303.
   4. Set AESS accurately in locations and to elevations indicated and according to AISC 303 and AISC 360.
   5. Remove blemishes or unsightly surfaces resulting from temporary braces or fixtures.
   6. Remove all backing and run out tabs.
   7. When temporary braces or fixtures are required to facilitate erection, take care to avoid any blemishes, holes or unsightly surfaces resulting from use or removal of such temporary elements.
   8. Bolted Connections: Align bolt heads on same side of connection as indicated on approved fabrication or erection documents.
   9. Welded Connections: Comply with AWS D1.1/D1.1M and Section 051200. Appearance and quality of welds to be consistent. Employ methods that will maintain alignment of members without warp exceeding tolerance of this section.
   10. Remove weld spatter exposed to view.
   11. Grind off projections larger than 1/16 inch (1.5875 mm) at field butt and plug welds.
   12. Continuous Welds: Where continuous welding is noted on drawings, provide continuous welds of a uniform size and profile.
   13. Do not enlarge holes in members by burning or by using drift pins. Ream holes that must be enlarged to admit bolts. Replace connection plates that are misaligned where holes cannot be aligned with acceptable final appearance.
   14. Splice members only where indicated.
   15. Obtain permission for any torch cutting or field fabrication from Architect. Finish sections thermally cut during erection to a surface appearance consistent with mock-up.

B. AESS 3: Feature elements in close view:
   1. Erect to requirements of AESS 1 and 2 and as follows:

2. Field Welding: Weld profile, quality, and finish to be consistent with mock-ups approved prior to fabrication.
3. Provide a continuous appearance to all welded joints including tack welds. Provide joint filler at intermittent welds.

C. AESS 4: Showcase elements:
1. Erect to requirements of AESS 3 and as follows:
2. Grind welds smooth.
3. Minimize Weld Show Through: At locations where welding on far side of an exposed connection creates distortion, grind distortion and marking of steel to a smooth profile with adjacent material.
4. Filling of Weld Access Holes: Where holes must be cut in web at intersection with flanges on W shapes and structural tees to permit field welding of flanges, fill holes with joint filler.
5. Where welds are indicated to be ground, contoured, or blended, oversize welds as required and grind to provide a smooth transition and match profile on approved mock-up.

D. ----------

E. Add modifications to characteristics included in AISC 303 matrix in order to modify one of the defined AESS categories and create a custom AESS C.

F. ----------

G. AESS C: Custom elements:
1. Erect to requirements of AESS 1 and 2 and as follows:
a. _____.
b. _____.

3.04 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for additional requirements.

B. Structural Requirements:
1. Comply with quality control requirements per AISC 360, Chapter N and AISC 303, Section 10. Refer to Section 051200 for additional requirements.
2. Quality assurance agency to review work for compliance with requirements of AISC 360, Chapter N and AISC 303, Section 10.

C. AESS 1 and 2 Acceptance: Architect to observe AESS in place and determine acceptability based on qualification data and submittals. Quality assurance agency has no responsibility for enforcing requirements related to aesthetic effect.

D. AESS 3,4, and C Acceptance: Architect to observe AESS in place and determine acceptability based on qualification data and submittals as well as on approved mock- up. Quality assurance agency has no responsibility for enforcing requirements related to aesthetic effect.

3.05 CLEANING

A. Touch-up Painting: Complete cleaning and touch-up painting of field welds, bolted connections, and abraded areas of shop paint to blend with adjacent surfaces of AESS. Perform touch-up work in accordance with manufacturer's instructions and as specified in Section 099113, 099123, and 099600.

B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas. Repair galvanized surfaces in accordance with ASTM A780/A780M.

C. See Section 017419 - Construction Waste Management and Disposal, for additional requirements.

END OF SECTION

ITEM 07 84 13 - PENETRATION FIRESTOPPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Penetrations in fire-resistance-rated walls.
2. Penetrations in smoke barriers.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Product Schedule: For each penetration firestopping system. Include location, illustration of firestopping system, and design designation of qualified testing and inspecting agency.

1. Engineering Judgments: Where Project conditions require modification to a qualified testing and inspecting agency's illustration for a particular penetration firestopping system, submit illustration, with modifications marked, approved by penetration firestopping system manufacturer's fire-protection engineer as an engineering judgment or equivalent fire-resistance-rated assembly. Obtain approval of authorities having jurisdiction prior to submittal.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Product Test Reports: For each penetration firestopping system, for tests performed by a qualified testing agency.

1.6 CLOSEOUT SUBMITTALS

A. Installer Certificates: From Installer indicating that penetration firestopping systems have been installed in compliance with requirements and manufacturer's written instructions.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: A firm that has been approved by FM Global according to FM Global 4991, "Approval of Firestop Contractors," or been evaluated by UL and found to comply with its "Qualified Firestop Contractor Program Requirements."

1.8 PROJECT CONDITIONS

A. Environmental Limitations: Do not install penetration firestopping system when ambient or substrate temperatures are outside limits permitted by penetration firestopping system manufacturers or when substrates are wet because of rain, frost, condensation, or other causes.

B. Install and cure penetration firestopping materials per manufacturer's written instructions using natural means of ventilations or, where this is inadequate, forced-air circulation.

1.9 COORDINATION

A. Coordinate construction of openings and penetrating items to ensure that penetration firestopping systems can be installed according to specified firestopping system design.

B. Coordinate sizing of sleeves, openings, core-drilled holes, or cut openings to accommodate penetration firestopping systems.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Test-Response Characteristics:

1. Perform penetration firestopping system tests by a qualified testing agency acceptable to authorities having jurisdiction.
2. Test per testing standards referenced in "Penetration Firestopping Systems" Article. Provide rated systems complying with the following requirements:

a. Penetration firestopping systems shall bear classification marking of a qualified testing agency.

1) UL in its "Fire Resistance Directory."

2) Intertek Group in its "Directory of Listed Building Products."
3) FM Global in its "Building Materials Approval Guide."

2.2 PENETRATION FIRESTOPPING SYSTEMS

A. Penetration Firestopping Systems: Systems that resist spread of fire, passage of smoke and other gases, and maintain original fire-resistance rating of construction penetrated. Penetration firestopping systems shall be compatible with one another, with the substrates forming openings, and with penetrating items if any.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. 3M Fire Protection Products.
b. Hilti, Inc.
c. Specified Technologies, Inc.

B. Penetrations in Fire-Resistance-Rated Walls: Penetration firestopping systems with ratings determined per ASTM E814 or UL 1479, based on testing at a positive pressure differential of 0.01-inch water gauge.

1. F-Rating: Not less than the fire-resistance rating of constructions penetrated.

C. Penetrations in Smoke Barriers: Penetration firestopping systems with ratings determined per UL 1479, based on testing at a positive pressure differential of 0.30-inch water gauge.

1. L-Rating: Not exceeding 5.0 cfm/sq. ft. of penetration opening at and no more than 50-cfm cumulative total for any 100 sq. ft. at both ambient and elevated temperatures.

D. Exposed Penetration Firestopping Systems: Flame-spread and smoke-developed indexes of less than 25 and 450, respectively, per ASTM E84.

E. Accessories: Provide components for each penetration firestopping system that are needed to install fill materials and to maintain ratings required. Use only those components specified by penetration firestopping system manufacturer and approved by qualified testing and inspecting agency for conditions indicated.

1. Permanent forming/damming/backing materials.
2. Substrate primers.
3. Collars.
4. Steel sleeves.

2.3 FILL MATERIALS

A. Cast-in-Place Firestop Devices: Factory-assembled devices for use in cast-in-place concrete floors and consisting of an outer sleeve lined with an intumescent strip, a flange attached to one end of the sleeve for fastening to concrete formwork, and a neoprene gasket.

B. Latex Sealants: Single-component latex formulations that do not re-emulsify after cure during exposure to moisture.

C. Firestop Devices: Factory-assembled collars formed from galvanized steel and lined with intumescent material sized to fit specific diameter of penetrant.

D. Intumescent Composite Sheets: Rigid panels consisting of aluminum-foil-faced intumescent elastomeric sheet bonded to galvanized-steel sheet.

E. Intumescent Putties: Nonhardening, water-resistant, intumescent putties containing no solvents or inorganic fibers.

F. Intumescent Wrap Strips: Single-component intumescent elastomeric sheets with aluminum foil on one side.

G. Mortars: Prepackaged dry mixes consisting of a blend of inorganic binders, hydraulic cement, fillers, and lightweight aggregate formulated for mixing with water at Project site to form a non-shrinking, homogeneous mortar.

H. Pillows/Bags: Reusable heat-expanding pillows/bags consisting of glass-fiber cloth cases filled with a combination of mineral-fiber, water-insoluble expansion agents, and fire-retardant additives. Where exposed, cover openings with steel-reinforcing wire mesh to protect pillows/bags from being easily removed.

I. Silicone Foams: Multicomponent, silicone-based liquid elastomers that, when mixed, expand and cure in place to produce a flexible, non-shrinking foam.

J. Silicone Sealants: Single-component, silicone-based, neutral-curing elastomeric sealants.

2.4 MIXING

A. Penetration Firestopping Materials: For those products requiring mixing before application, comply with penetration firestopping system manufacturer's written instructions for accurate proportioning of materials, water (if required), type of mixing equipment, selection of mixer speeds, mixing containers, mixing time, and other items or procedures needed to produce products of uniform quality with optimum performance characteristics for application indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for opening configurations, penetrating items, substrates, and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning: Before installing penetration firestopping systems, clean out openings immediately to comply with manufacturer's written instructions and with the following requirements:

1. Remove from surfaces of opening substrates and from penetrating items foreign materials that could interfere with adhesion of penetration firestopping materials.
2. Clean opening substrates and penetrating items to produce clean, sound surfaces capable of developing optimum bond with penetration firestopping materials. Remove loose particles remaining from cleaning operation.
3. Remove laitance and form-release agents from concrete.

B. Prime substrates where recommended in writing by manufacturer using that manufacturer's recommended products and methods. Confine primers to areas of bond; do not allow spillage and migration onto exposed surfaces.

3.3 INSTALLATION

A. General: Install penetration firestopping systems to comply with manufacturer's written installation instructions and published drawings for products and applications.

B. Install forming materials and other accessories of types required to support fill materials during their application and in the position needed to produce cross-sectional shapes and depths required to achieve fire ratings.

1. After installing fill materials and allowing them to fully cure, remove combustible forming materials and other accessories not forming permanent components of firestopping.

C. Install fill materials by proven techniques to produce the following results:

1. Fill voids and cavities formed by openings, forming materials, accessories, and penetrating items to achieve required fire-resistance ratings.
2. Apply materials so they contact and adhere to substrates formed by openings and penetrating items.
3. For fill materials that will remain exposed after completing the Work, finish to produce smooth, uniform surfaces that are flush with adjoining finishes.

3.4 FIELD QUALITY CONTROL

A. Owner will engage a qualified testing agency to perform tests and inspections according to ASTM E2174.

B. Where deficiencies are found or penetration firestopping system is damaged or removed because of testing, repair or replace penetration firestopping system to comply with requirements.

C. Proceed with enclosing penetration firestopping systems with other construction only after inspection reports are issued and installations comply with requirements.

3.5 CLEANING AND PROTECTION

A. Clean off excess fill materials adjacent to openings as the Work progresses by methods and with cleaning materials that are approved in writing by penetration firestopping system manufacturers and that do not damage materials in which openings occur.

B. Provide final protection and maintain conditions during and after installation that ensure that penetration firestopping systems are without damage or deterioration at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, immediately cut out and remove damaged or deteriorated penetration firestopping material and install new materials to produce systems complying with specified requirements.

END OF ITEM 07 84 13

ITEM 07 92 00 - JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Sealants for interior applications.
2. Sealants for exterior applications.

1.3 PERFORMANCE REQUIREMENTS

A. Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.

B. Provide joint sealants for interior applications that establish and maintain airtight and water-resistant continuous joint seals without staining or deteriorating joint substrates.

1.4 SUBMITTALS

A. Product Data: For each joint-sealant product indicated.

B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.

C. Product Certificates: Signed by manufacturers of joint sealants certifying that products furnished comply with requirements and are suitable for the use indicated.

D. Warranties: Special warranties specified in this Section.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An experienced installer who has specialized in installing joint sealants similar in material, design, and extent to those indicated for this Project and whose work has resulted in joint-sealant installations with a record of successful in-service performance.

B. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.

C. Manufacturer's Representative: Manufacturer's representative shall certify the installation of sealant materials and shall attend pre-construction meetings, make site visits during construction and after completion of each phase of work that directly applies to the materials being installed before issuing a warrantee certification.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to Project site in original unopened containers or bundles with labels indicating manufacturer, product name and designation, color, expiration date, pot life, curing time, and mixing instructions for multicomponent materials.

B. Store and handle materials in compliance with manufacturer's written instructions to prevent their deterioration or damage due to moisture, high or low temperatures, contaminants, or other causes.

1.7 PROJECT CONDITIONS

A. Environmental Limitations: Do not proceed with installation of joint sealants under the following conditions:

1. When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer or are below 40 degrees F.
2. When joint substrates are wet.

B. Joint-Width Conditions: Do not proceed with installation of joint sealants where joint widths are less than those allowed by joint sealant manufacturer for applications indicated.

C. Joint-Substrate Conditions: Do not proceed with installation of joint sealants until contaminants capable of interfering with adhesion are removed from joint substrates.

1.8 WARRANTY

A. General Warranty: Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. Special Manufacturer's Warranty: Written warranty, signed by elastomeric sealant manufacturer agreeing to furnish elastomeric joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: As specified beginning from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS, GENERAL

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

2.2 PRODUCTS AND MANUFACTURERS

A. Products: Provide the following products for each application listed. Substitutions for exterior building joint sealants shall be listed on the Validated Products list published by the Sealant, Waterproofing, and Restoration Institute (SWRI).

1. Joint Sealant - One-Part: For precast concrete, poured-in-place concrete, and concrete-to-concrete and concrete-to-masonry; one-part silicone sealant, having a joint movement capability of plus-or-minus 100% elongation, minus 50% compression, and Shore A durometer hardness of 15.

   a. Product and Manufacturer:

      1) Dow Corning 790 Silicone Building Sealant; Dow Corning Corp.

   b. Warranty: Manufacturer's standard 20-year warranty.

2. Joint Sealant - One-Part: For masonry-to-aluminum, steel-to-aluminum, concrete-to-aluminum, steel-to-steel, and other metal-to-metal joints (including KYNAR coatings); one-part silicone sealant having a joint movement capability of plus-or-minus 50% elongation, and Shore A durometer hardness of 30.

   a. Product and Manufacturer:

      1) Dow Corning 795 Silicone Building Sealant; Dow Corning Corp.

   b. Warranty: Manufacturer's extended 20-year warranty.

3. Joint Sealant - Two-Part, Pourable Urethane Sealant: For horizontal joints, exterior and interior; provide joint sealant with a joint movement capability of plus-or-minus 25%.

   a. Products and Manufacturers: Provide one of the following.

      1) Vulkem 245; Tremco, Inc.
      2) NR200 Urexpan; Pecora Corp.
      3) Sikaflex 2c SL; Sika Corp.
      4) THC-900; Tremco, Inc.

b. Warranty: Manufacturer's extended 5-year warranty.

4. Joint Sealant - Two-Part Urethane Non-Sag Sealant: For general interior use; provide joint sealant with a joint movement capability of plus-or-minus 50%.

a. Products and Manufacturers: Provide one of the following.

1) Vulkem 922; Tremco, Inc.
2) Dynatrol II; Pecora Corp.
3) Sikaflex 2c NS; Sika Corp.
4) NP II; Sonneborne Building Products Division, ChemRex, Inc.

b. Warranty: Manufacturer's extended 5-year warranty.

5. Joint Sealant - One-Part Latex Sealant: For interior use for horizontal and vertical joints around door frames, and joints between dissimilar materials.

a. Products and Manufacturers: Provide one of the following.

1) AC-20 + Silicone; Pecora Corp.
2) Sherwin Williams; 850A
3) Sonolac; Sonneborn Building Products Div., ChemRex, Inc.
4) Tremflex 834; Tremco, Inc.

b. Warranty: Manufacturer's standard warranty.

6. Joint Sealant - One-Part Silicone - Sanitary Sealant: For Interior use at plumbing fixtures in toilets and janitor closets, and horizontal and vertical joints of dissimilar materials in toilets and other wet areas.

a. Products and Manufacturers: Provide one of the following.

1) Dow Corning 786 Silicone Mildew Resistant Sealant; Dow Corning Corp.
2) SCS1700 Sanitary; General Electric Co.
3) Pecora 898 Silicone Mildew Resistant Silicone Sealant; Pecora Corp.
4) Tremsil 200; Tremco, Inc.

b. Warranty: Manufacturer's extended 3-year warranty.

2.3 MATERIALS, GENERAL

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.

B. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range for this characteristic.

2.4 JOINT-SEALANT BACKING

A. General: Provide sealant backings of material and type that are non-staining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

B. Backer Rod (Joint Fillers, Compressible Filler): Type B, ASTM C 1330, preformed, cylindrical, flexible, compressible, resilient, non-staining, bi-cellular material, with a density of 24-48 km/m3 per ASTM D1622, tensile strength greater than 200 kPa per ASTM D 1623, and water absorption less than 0.1 g/cc per ASTM C 1016.

1. Product and Manufacturer - Basis of Design:

a. Sof Rod; Nomaco, Inc., Zebulon, NC.

2. Other Acceptable Manufacturers: Manufacturers offering products having performance characteristics meeting or exceeding those specified may be incorporated into the Work.

C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

2.5 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants with joint substrates.

C. Masking Tape: Non-staining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

C. Verify location and application of all sealants indicated. Do not allow sealants to come into contact with incompatible materials. Prevent reaction to metals and other substances; protect all surfaces.

3.2 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint sealant manufacturer's written instructions.

B. Joint Priming: Prime joint substrates, unless otherwise recommended in writing by joint sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience.

1. Apply primer to comply with joint sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint sealant manufacturer's written installation instructions for products and applications indicated unless more stringent requirements apply.

1. Install sealants by proven techniques and at the same time backings are installed.
2. Place sealants so they directly contact and fully wet joint substrates.
3. Completely fill recesses provided for each joint configuration.
4. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

B. Backing Materials: Install sealant backings of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

1. Do not leave gaps between ends of sealant backings.
2. Do not stretch, twist, puncture, or tear sealant backings.
3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.

C. Bond-Breaker Tape: Install bond-breaker tape behind sealants where sealant backings are not used between sealants and back of joints.

D. Tooling of Non-sag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

1. Remove excess sealants from surfaces adjacent to joint.
2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
3. Provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.

3.4 CLEANING

A. Clean off excess sealants or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from the original work.

END OF ITEM 07 92 00

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ITEM 08 11 13 - HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes:

1. Exterior standard steel doors and frames.

1.3 DEFINITIONS

A. Minimum Thickness: Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or ANSI/SDI A250.8.

1.4 COORDINATION

A. Coordinate anchorage installation for hollow-metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

B. Coordinate requirements for installation of door hardware.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details and material descriptions.

B. Shop Drawings: Include the following:

1. Elevations of each door type.
2. Details of doors, including vertical- and horizontal-edge details and metal thicknesses.
3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
4. Locations of reinforcement and preparations for hardware.

5. Details of each different wall opening condition.
6. Details of anchorages, joints, field splices, and connections.
7. Details of accessories.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver hollow-metal doors and frames palletized, packaged, or crated to provide protection during transit and Project-site storage. Do not use non-vented plastic.

1. Provide additional protection to prevent damage to factory-finished units.

B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.

C. Store hollow-metal doors and frames vertically under cover at Project site with head up. Place on minimum 4-inch-high wood blocking. Provide minimum 1/4-inch space between each stacked door to permit air circulation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by the following:

1. Ceco Door; ASSA ABLOY.
2. Mesker Door Inc.
3. Republic Doors and Frames.
4. Steelcraft; an Allegion brand.

2.2 INTERIOR STANDARD STEEL DOORS AND FRAMES

A. Construct hollow-metal doors and frames to comply with standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.

1. Doors:

a. Type: As indicated in the Door and Frame Schedule.
b. Thickness: 1-3/4 inches.
c. Face: Metallic-coated steel sheet, minimum thickness of 0.053 inch.
d. Edge Construction: Model 2, Seamless.
e. Edge Bevel: Provide manufacturer's standard beveled or square edges.
f. Core: Manufacturer's standard.

2. Frames:

   a. Materials: Metallic-coated steel sheet, minimum thickness of 0.053 inch.
   b. Construction: Face welded.

3. Exposed Finish: Prime.

2.3 EXTERIOR STANDARD STEEL DOORS AND FRAMES

A. Construct hollow-metal doors and frames to comply with standards indicated for materials, fabrications, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.

B. Extra-Heavy-Duy Doors and Frames: SDI A250.8, Level 3; SDI A250.4 Level A.

1. Doors:

   a. Type: As indicated in the Door and Frame Schedule.
   b. Thickness: 1 ¾ inches.
   c. Face: Metallic-coated steel sheet, minimum thickness of 0.053 inch, with minimum A60 coating.
   d. Edge construction: Model 2, Seamless.
   e. Edge Bevel: Provide manufacturer's standard beveled or square edges.
   f. Top Edge Closures: Close top edges of doors with flush closures of same material as face sheets. Seal joints against water penetration
   g. Bottom Edges: Close bottom edges of doors where required for attachment of weather stripping with end closures or channels of same material as face sheets. Provide weep-hole openings in bottoms of exterior door to permit moisture to escape.
   h. Core: Polyurethane.

2. Frames:

   a. Materials: Metallic-coated steel sheet, minimum thickness of 0.097 inch, with minimum A60 coating,
   b. Construction: Full profile welded.

3. Exposed Finish: Prime.

2.4 LOUVERS

A. Construct Louvers in hollow metal doors in compliance with ANSI/SDI A250.8-2017

1. Install louvers in doors as indicated in the Door and Frame Schedule.
2. Louvers shall be of the inverted "Y" or chevron blade type.
3. Finish: Prime.
4. Provide insect screen to the louver.

2.5 FRAME ANCHORS

A. Jamb Anchors:

1. Type: Anchors of minimum size and type required by applicable door and frame standard, and suitable for performance level indicated.
2. Quantity: Minimum of three anchors per jamb, with one additional anchor for frames with no floor anchor. Provide one additional anchor for each 24 inches of frame height above 7 feet.
3. Post-installed Expansion Anchor: Minimum 3/8-inch-diameter bolts with expansion shields or inserts, with manufacturer's standard pipe spacer.

B. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor.

1. Material: ASTM A879/A879M, Commercial Steel (CS), 04Z coating designation; mill phosphatized.

2.6 MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A1008/A1008M, Commercial Steel (CS), Type B; suitable for exposed applications.

B. Hot-Rolled Steel Sheet: ASTM A1011/A1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.

C. Metallic-Coated Steel Sheet: ASTM A653/A653M, Commercial Steel (CS), Type B.

D. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A153/A153M.

E. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hollow-metal frames of type indicated.

F. Glazing: Comply with requirements in Section 08 80 00 "Glazing."

2.7 FABRICATION

A. Hollow-Metal Frames: Fabricate in one piece except where handling and shipping limitations require multiple sections. Where frames are fabricated in sections, provide alignment plates or angles at each joint, fabricated of metal of same or greater thickness as frames.

1. Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as door frame. Fasten members at crossings and to jambs by welding.

2. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
3. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers as follows. Keep holes clear during construction.

    a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.

B. Hardware Preparation: Factory prepare hollow-metal doors and frames to receive templated mortised hardware, include cutouts, reinforcement, mortising, drilling, and tapping according to ANSI/SDI A250.6, the Door Hardware Schedule, and templates.

1. Reinforce doors and frames to receive non-templated, mortised, and surface-mounted door hardware.
2. Comply with BHMA A156.115 for preparing hollow-metal doors and frames for hardware.

2.8 STEEL FINISHES

A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.

1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with ANSI/SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

PART 3 - EXECUTION

3.1 PREPARATION

A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces. Touch up factory-applied finishes where spreaders are removed.

B. Drill and tap doors and frames to receive non-templated, mortised, and surface-mounted door hardware.

3.2 INSTALLATION

A. Install hollow-metal doors and frames plumb, rigid, properly aligned, and securely fastened in place. Comply with approved Shop Drawings and with manufacturer's written instructions.

B. Hollow-Metal Frames: Comply with ANSI/SDI A250.11.

1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces without damage to completed Work.

    a. Where frames are fabricated in sections, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces. Touch-up finishes.
    b. Install frames with removable stops located on secure side of opening.

2. Floor Anchors: Secure with post installed expansion anchors.

    a. Floor anchors may be set with power-actuated fasteners instead of post installed expansion anchors if so indicated and approved on Shop Drawings.

3. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout or mortar.

4. In-Place Concrete or Masonry Construction: Secure frames in place with post installed expansion anchors. Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.

5. Installation Tolerances: Adjust hollow-metal frames to the following tolerances:

    a. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
    b. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
    c. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
    d. Plumbness: Plus or minus 1/16 inch, measured at jambs at floor.

C. Hollow-Metal Doors: Fit and adjust hollow-metal doors accurately in frames, within clearances specified below.

1. Steel Doors: Comply with ANSI/SDI A250.8.

3.3 REPAIR

A. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

B. Touchup Painting: Cleaning and touchup painting of abraded areas of paint are specified in Painting Sections.

END OF ITEM 08 11 13

ITEM 09 22 16 - NON-STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Non-load-bearing steel framing systems for interior gypsum board assemblies.
2. Suspension systems for interior gypsum ceilings and soffits.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Studs and Runners: Provide documentation that framing members' certification is according to SFIA's "Code Compliance Certification Program for Cold-Formed Steel Structural and Non-Structural Framing Members". SFIA's program certifies that studs and runners comply with the IBC, ASTM C 645, AISI S100, and AISI S220. Mechanical properties, coatings, dimensions, and labeling are checked.
2. Manufacturers' limiting tables indicating products provided.
3. Manufacturer's Certification: Submit manufacturer's certification of product compliance with codes and standards along with product literature and data sheets for specified products.
4. Evaluation Reports: For Metal Framing, from ICC-ES or other qualified testing agency acceptable to authorities having jurisdiction.

B. Delegated-Design by Specialty Structural Engineer (SSE) Delegated-Design Submittal: For steel framing, ceiling framing, and related fasteners, accessories, and support. The design professional, individual or organization having responsibility for the design of the specialty items. This responsibility shall be in accordance with the state's statues and regulations governing the professional registration and certification of architects or engineers.

1.4 INFORMATIONAL SUBMITTALS

A. Product Certificates: For each type of code-compliance certification for studs and tracks.

B. Evaluation Reports: For firestop tracks post-installed anchors and power-actuated fasteners, from ICC-ES or other qualified testing agency acceptable to authorities having jurisdiction.

1.5 QUALITY ASSURANCE

A. Fire-Test-Response Characteristics: For fire-resistance-rated assemblies that incorporate non-load-bearing steel framing, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.

B. Single-Source Responsibility for Steel Framing: Obtain steel framing members for gypsum board assemblies from a single manufacturer.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Test-Response Characteristics: For fire-resistance-rated assemblies that incorporate non-load-bearing steel framing, provide materials and construction identical to those tested in assembly indicated, according to ASTM E 119 by an independent testing agency.

B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated on Drawings, according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

C. Horizontal Deflection: For wall assemblies, limited to 1/240 of the wall height based on horizontal loading of 5 lbf/sq. ft.

D. Delegated Design: Engage a qualified professional engineer, to design steel framing systems.

1. Design framing systems in accordance with American Iron and Steel Institute Publication S220 “North American Specification for the Design of Cold-Formed Steel Framing – Non-Structural Members”, except as otherwise shown or specified.
2. Design loads: 5 PSF minimum as required by the Building Code.
3. Design framing systems to accommodate deflection of primary building structure and construction tolerances and to withstand design loads with a maximum deflection of 1/240 inches and including finish material.

E. Fire-Test-Response Characteristics: Provide materials and construction identical to those tested according to ASTM E 119.

F. Structural Performance: Provide cold-formed steel framing capable of withstanding design loads within limits and under conditions indicated.

1. Deflection Limits: Design framing systems to withstand design loads without deflections greater than the following:

    a. Interior Wall Framing: Horizontal deflection of L/240 of the wall height under a horizontal load of 5 lbf/sq. ft.

2.2 NON-LOAD-BEARING STEEL FRAMING, GENERAL

A. Framing Members, General: Comply with ASTM C 754 for conditions indicated.

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

    a. ClarkDietrich Building Systems
    b. MarinoWARE.
    c. MRI Steel Framing, LLC.
    d. SCAFCO Steel Stud Company.

2. Steel Sheet Components: Comply with ASTM C 645 requirements for metal, unless otherwise indicated.
3. Protective Coating: ASTM A 653/A 653M, G90, hot-dip galvanized.
4. Depth: As indicated on Drawings.
5. Minimum Base-Metal Thickness: 0.0296 inch, except as indicated below.

    a. Framed openings (heads and jambs of door and window openings) - 16 gauge.

        1) 16 gauge studs include both (2) studs at each jamb, full height, and horizontal headers.

B. Cold-Rolled Channel Bridging: Steel, 0.053-inch minimum base-metal thickness, with minimum 1/2-inch-wide flanges.

1. Depth: As indicated on Drawings.
2. Clip Angle: Not less than 1-1/2 by 1-1/2 inches, 0.068-inch-thick, galvanized steel.

C. Slip-Type Head Joints: Where indicated, provide one of the following:

1. Single Long-Leg Track System: ASTM C 645 top track with 2-inch-deep flanges in thickness not less than indicated for studs, installed with studs' friction fit into top track and with continuous bridging located within 12 inches of the top of studs to provide lateral bracing.
2. Double-Track System: ASTM C 645 top outer tracks, inside track with 2-inch-deep flanges in thickness not less than indicated for studs and fastened to studs, and outer track sized to friction-fit over inner track.
3. Deflection Track: Steel sheet top track manufactured to prevent cracking of finishes applied to interior partition framing resulting from deflection of structure above; in thickness not less than indicated for studs and in width to accommodate depth of studs.

D. Firestop Tracks: Top track manufactured to allow partition heads to expand and contract with movement of structure while maintaining continuity of fire-resistance-rated assembly indicated; in thickness not less than indicated for studs and in width to accommodate depth of studs.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. SLP-TRK by Slip Track Systems
b. Snap Track by Total Steel Solutions
c. Slotted Stud by Steeler Inc.

E. Backerplates: Except grab bars for the handicapped, and stair rails use 6 in. wide 18 ga. galvanized sheet steel per ASTM A164, latest edition, type RS or heavier, lengths of backerplates as required, minimum length of 4 studs, fastened to studs for the attachment of surface mounted accessories, shelving locations, etc., at required locations and where indicated.

2.3 SUSPENSION SYSTEM COMPONENTS

A. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.0625-inch-diameter wire, or double strand of 0.0475-inch-diameter wire.

B. Hanger Attachments to Concrete:

1. Post-Installed Anchors: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES as appropriate for the substrate.

a. Uses: Securing hangers to structure.

b. Type: Torque-controlled, expansion anchor torque-controlled, adhesive anchor or adhesive anchor.
c. Material for Interior Locations: Carbon-steel components zinc-plated to comply with ASTM B 633 or ASTM F 1941, Class Fe/Zn 5, unless otherwise indicated.

2. Power-Actuated Anchors: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

C. Wire Hangers: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.162-inch diameter.

D. Flat Hangers: Steel sheet, 1 by 3/16 inch by length indicated.

E. Carrying Channels (Main Runners): Cold-rolled, commercial-steel sheet with a base- metal thickness of 0.0538 inch and minimum 1/2-inch-wide flanges.

1. Depth: 1-1/2 inches.

2. Steel Sheet Components: Comply with ASTM C 645 requirements for metal, unless otherwise indicated.
3. Protective Coating: ASTM A 653/A 653M, G90, hot dip galvanized.

2.4 AUXILIARY MATERIALS

A. General: Provide auxiliary materials that comply with referenced installation standards.

1. Fasteners for Steel Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

B. Isolation Strip at Exterior Walls: Provide one of the following:

1. Asphalt-Saturated Organic Felt: ASTM D 226/D 226M, Type I (No. 15 asphalt felt), nonperforated.
2. Foam Gasket: Adhesive-backed, closed-cell vinyl foam strips that allow fastener penetration without foam displacement, 1/8 inch thick, in width to suit steel stud size.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Suspended Assemblies: Coordinate installation of suspension systems with installation of overhead structure to ensure that inserts and other provisions for anchorages to building structure have been installed to receive hangers at spacing required to support the Work and that hangers will develop their full strength.

1. Furnish concrete inserts and other devices indicated to other trades for installation in advance of time needed for coordination and construction.

B. Coordination with Sprayed Fire-Resistive Materials:

1. Before sprayed fire-resistive materials are applied, attach offset anchor plates or ceiling tracks to surfaces indicated to receive sprayed fire-resistive materials. Where offset anchor plates are required, provide continuous plates fastened to building structure not more than 24 inches on center

2. After sprayed fire-resistive materials are applied, remove them only to extent necessary for installation of non-load-bearing steel framing. Do not reduce thickness of fire-resistive materials below that are required for fire-resistance ratings indicated. Protect adjacent fire-resistive materials from damage.

3.3 INSTALLATION, GENERAL

A. Installation Standard: ASTM C 754.

1. Gypsum Board Assemblies: Also comply with requirements in ASTM C 840 that apply to framing installation.

B. Install framing and accessories plumb, square, and true to line, with connections securely fastened.

C. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.

D. Install bracing at terminations in assemblies.

3.4 INSTALLING FRAMED ASSEMBLIES

A. Install framing system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types and other assembly components indicated.

B. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.

C. Install studs so flanges within framing system point in same direction.

D. Stud Spacing: 16-inches on center maximum.

E. Install tracks (runners) at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings, except where partitions are indicated to terminate at suspended ceilings. Continue framing around ducts penetrating partitions above ceiling.

1. Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.
2. Fire-Resistance-Rated Partitions: Install framing to comply with fire-resistance-rated assembly indicated and support closures and to make partitions continuous from floor to underside of solid structure.

a. Firestop Track: Where indicated, install to maintain continuity of fire-resistance-rated assembly indicated.

F. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/8 inch from the plane formed by faces of adjacent framing.

3.5 INSTALLING SUSPENSION SYSTEMS

A. Install suspension system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.

1. Hangers: 48 inches on center
2. Carrying Channels (Main Runners): 48 inches on center
3. Furring Channels (Furring Members): 16 inches on center

B. Isolate suspension systems from building structure where they abut or are penetrated by building structure to prevent transfer of loading imposed by structural movement.

C. Suspend hangers from building structure as follows:

1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or suspension system.

   a. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, counter splaying, or other equally effective means.

2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with locations of hangers, install supplemental suspension members and hangers in the form of trapezes or equivalent devices.

   a. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced installation standards.

3. Wire Hangers: Secure by looping and wire tying, either directly to structures or to inserts, eye screws, or other devices and fasteners that are secure and appropriate for substrate, and in a manner that will not cause hangers to deteriorate or otherwise fail.
4. Do not attach hangers to steel roof deck.

5. Do not attach hangers to permanent metal forms. Furnish cast-in-place hanger inserts that extend through forms.
6. Do not attach hangers to rolled-in hanger tabs of composite steel floor deck.
7. Do not connect or suspend steel framing from ducts, pipes, or conduit.
8. Attach hangers to concrete slab only. In no case should anchors be drilled or shot into precast structural concrete beams or joists.

D. Fire-Resistance-Rated Assemblies: Wire tie furring channels to supports.

E. Grid Suspension Systems: Attach perimeter wall track or angle where grid suspension systems meet vertical surfaces. Mechanically join main beam and cross-furring members to each other and butt-cut to fit into wall track.

F. Installation Tolerances: Install suspension systems that are level to within 1/8 inch in 12 feet measured lengthwise on each member that will receive finishes and transversely between parallel members that will receive finishes.

END OF ITEM 09 22 16

ITEM 09 29 00 - GYPSUM BOARD

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Interior gypsum board.

1.3 ACTION SUBMITTALS

A. Product Data: For the following:

1. Gypsum wallboard.
2. Gypsum board, Type X.
3. Interior trim.

B. Samples: For the following products:

1. Trim Accessories: Full-size Sample in 12-inch-long length for each trim accessory indicated.

1.4 DELIVERY, STORAGE AND HANDLING

A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.5 FIELD CONDITIONS

A. Environmental Limitations: Comply with ASTM C840 requirements or gypsum board manufacturer's written instructions, whichever are more stringent.

B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.

C. Do not install panels that are wet, moisture damaged, and mold damaged.

1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E119 by an independent testing agency.

2.2 GYPSUM BOARD, GENERAL

A. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.3 INTERIOR GYPSUM BOARD

A. Gypsum Wallboard: ASTM C1396/C1396M.

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

a. Georgia-Pacific Gypsum LLC.
b. National Gypsum Company.
c. USG Corporation.

2. Thickness: As indicated.
3. Long Edges: Tapered.

B. Gypsum Board, Type X: ASTM C1396/C1396M.

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

a. Georgia-Pacific Gypsum LLC.
b. National Gypsum Company.
c. USG Corporation.

2. Thickness: As indicated.
3. Long Edges: Tapered.

C. Gypsum Ceiling Board: ASTM C1396/C1396M.

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

    a. Georgia-Pacific Gypsum LLC.
    b. National Gypsum Company.
    c. USG Corporation.

2. Thickness: As indicated.
3. Long Edges: Tapered.

D. Abuse-Resistant Gypsum Board: ASTM C1396/C1396M gypsum board, tested according to ASTM C1629/C1629M.

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

    a. Georgia-Pacific Gypsum LLC.
    b. National Gypsum Company.
    c. USG Corporation.

2. Core: As indicated., Type X.
3. Surface Abrasion: ASTM C1629/C1629M, meets or exceeds Level 3 requirements.
4. Indentation: ASTM C1629/C1629M, meets or exceeds Level 3 requirements.
5. Soft-Body Impact: ASTM C1629/C1629M, meets or exceeds Level 3 requirements.
6. Long Edges: Tapered.
7. Mold Resistance: ASTM D3273, score of 10 as rated according to ASTM D3274.

2.4 TRIM ACCESSORIES

A. Interior Trim: ASTM C1047.

1. Material: Galvanized or aluminum-coated steel sheet or rolled zinc.
2. Shapes:

    a. Cornerbead.
    b. LC-Bead: J-shaped; exposed long flange receives joint compound.
    c. L-Bead: L-shaped; exposed long flange receives joint compound.
    d. U-Bead: J-shaped; exposed short flange does not receive joint compound.

2.5 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C475/C475M.

B. Joint Tape:

1. Interior Gypsum Board: Paper.

C. Joint Compound for Interior Gypsum Board: For each coat, use formulation that is compatible with other compounds applied on previous or for successive coats.

1. Prefilling: At open joints and damaged surface areas, use setting-type taping compound.
2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use drying-type, all-purpose compound.

a. Use setting-type compound for installing paper-faced metal trim accessories.

3. Fill Coat: For second coat, use drying-type, all-purpose compound.
4. Finish Coat: For third coat, use setting-type, sandable topping compound.

2.6 AUXILIARY MATERIALS

A. Provide auxiliary materials that comply with referenced installation standards and manufacturer's written instructions.

B. Steel Drill Screws: ASTM C1002 unless otherwise indicated.

1. Use screws complying with ASTM C954 for fastening panels to steel members from 0.033 to 0.112 inch thick.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and substrates including welded hollow-metal frames and support framing, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.

B. Examine panels before installation. Reject panels that are wet, moisture damaged, or mold damaged.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION AND FINISHING OF PANELS, GENERAL

A. Comply with ASTM C840.

B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.

C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.

D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.

E. Form control and expansion joints with space between edges of adjoining gypsum panels.

F. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.

1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. in area.
2. Fit gypsum panels around ducts, pipes, and conduits.
3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch-wide joints to install sealant.

G. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments. Provide 1/4- to 1/2-inch-wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

H. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.

3.3 INSTALLATION OF INTERIOR GYPSUM BOARD

A. Single-Layer Application:

1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing unless otherwise indicated.
2. On partitions/walls, apply gypsum panels horizontally (perpendicular to framing) unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.

    a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
    b. At stairwells and other high walls, install panels horizontally unless otherwise indicated or required by fire-resistance-rated assembly.

3. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

3.4 INSTALLATION OF TRIM ACCESSORIES

A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.

B. Control Joints: Install control joints according to ASTM C840 and in specific locations approved by Architect for visual effect.

C. Interior Trim: Install in the following locations:

1. Cornerbead: Use at outside corners.
2. LC-Bead: Use at exposed panel edges.

3.5 FINISHING GYPSUM BOARD

A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.

B. Prefill open joints and damaged surface areas.

C. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.

D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C840:

1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
2. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated.

3.6 PROTECTION

A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.

B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.

C. Remove and replace panels that are wet, moisture damaged, or mold damaged.

1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.

2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF ITEM 09 29 00

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ITEM 09 91 00 - PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes surface preparation and field painting of the following:

1. Exposed exterior items and surfaces.
2. Exposed interior items and surfaces.
3. Surface preparation, priming, and finish coats specified in this Section are in addition to shop priming and surface treatment specified in other Sections.

B. Paint exposed surfaces, except where the paint schedules indicate that a surface or material is not to be painted or is to remain natural. If the paint schedules do not specifically mention an item or a surface, paint the item or surface the same as similar adjacent materials or surfaces whether schedules indicate colors. If the schedules do not indicate color or finish, the Architect will select from standard colors and finishes available. Painting includes field painting of exposed bare and covered pipes and ducts (including color coding), hangers, exposed steel and iron work, and primed metal surfaces of mechanical and electrical equipment and application of paint coats to all finish coated mechanical and electrical equipment in exterior locations, except as otherwise indicated.

C. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels.

D. Do not paint over Underwriters Laboratories (UL), Factory Mutual (FM), or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.

1.3 SUBMITTALS

A. Product Data: For each paint system specified. Include block fillers and primers.

1. Material List: Provide an inclusive list of required coating materials. Indicate each material and cross-reference specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.

2. Manufacturer's Information: Provide manufacturer's technical information, including label analysis and instructions for handling, storing, and applying each coating material proposed for use.

B. Samples for Verification: Of each color and material to be applied, with texture (if applicable) to simulate actual conditions.

1. Provide Samples, on block fillers and/ or primers. Use representative colors when preparing Samples for review. Resubmit until required sheen, color, and texture are achieved.
2. Provide a list of materials and applications for each coat of each sample. Label each sample for location and application.

1.4 QUALITY ASSURANCE

A. Applicator Qualifications: Engage an experienced applicator who has completed painting system applications similar in material and extent to that indicated for this Project with a record of successful in-service performance.

B. Source Limitations: Obtain block fillers, primers, and undercoat materials for each coating system from the same manufacturer as the finish coats.

C. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Architect will select one surface to represent surfaces and conditions for application of each paint system specified in Part 3.

a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft.
b. Other Items: Architect will designate items or areas required.

2. Final approval of color selections will be based on mockups.

a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to the Project Site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label, and the following information:

1. Product name or title of material.
2. Product description (generic classification or binder type).
3. Manufacturer's stock number and date of manufacture.
4. Contents by volume, for pigment and vehicle constituents.

5. Thinning instructions.
6. Application instructions.

7. Color name and number.

B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F. Maintain containers used in storage in a clean condition, free of foreign materials and residue.

1. Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily. Take necessary measures to ensure that workers and work areas are protected from fire and health hazards resulting from handling, mixing, and application.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Product: Subject to compliance with requirements, provide Sherwin Williams or comparable product. Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Benjamin Moore.
2. ICI Paints
3. PPG Industries, Inc.

2.2 PAINT MATERIALS, GENERAL

A. Material Compatibility:

1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

B. Material Quality: Provide manufacturer's best-quality paint material of the various coating types specified. Paint-material containers not displaying manufacturer's product identification will not be acceptable.

1. Proprietary Names: Use of manufacturer's proprietary product names to designate colors or materials is not intended to imply that products named are required to be used to the exclusion of equivalent products of other manufacturers. Furnish manufacturer's material data and certificates of performance for proposed substitutions.

C. Colors: As selected by Architect from manufacturer's full range.

2.3 INTERIOR PAINT SCHEDULE

A. Concrete and Masonry:

1. Epoxy Finish, 2 finish coats over primer.

a. Primer: Loxon Concrete & Masonry Primer/ Sealer.
b. Finish Coats: (2) Coats Pro-Industrial water based Catalyzed Epoxy.
c. Sheen: Semi-Gloss.

B. Gypsum Board:

1. Epoxy Finish: two finish coats over primer.

a. Primer: (1) Coat SW Promar 200 Zero VOC Latex Primer.
b. Finish Coats: (2) Coats Pro-Industrial water based Catalyzed Epoxy.
c. Sheen: Eggshell.

C. Ferrous Metal.

1. Epoxy Finish: two finish coats over primer.

a. Primer: SW Pro Industrial Pro-Cryl Primer.
b. Second and Third Coats: Pro-Industrial water based Catalyzed Epoxy.
c. Sheen: Semi-Gloss.

2.4 EXTERIOR PAINT SCHEDULE

A. Provide the following exterior paint systems based on Tnemec for substrates indicated:

B. Zinc Coated Metal, Primed and Unprimed:

1. Primer: Tnemac: Series 66 Polyamide Epoxy, 3.0 - 5.0 DFT.
2. Tnemac: Series 1095, 2.5 - 3.5 DFT.
3. Sheen: Semi-

Gloss. PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with the Applicator present, under which painting will be performed for compliance with paint application requirements.

1. Do not begin to apply paint until unsatisfactory conditions have been corrected and surfaces receiving paint are thoroughly dry.
2. Start of painting will be construed as the Applicator's acceptance of surfaces and conditions within a particular area.

B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:

1. Concrete: 12 percent.
2. Masonry: 12 percent.
3. Gypsum Board: 12 percent.

C. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.

D. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

E. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. General: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of the size or weight of the item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.

B. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
2. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.

C. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each substrate condition and as specified.

D. Materials Preparation: Mix and prepare paint materials according to manufacturer's written instructions.

E. Tinting: Tint each undercoat a lighter shade to simplify identification of each coat when multiple coats of the same material are applied. Tint undercoats to match the color of the finish coat but provide sufficient differences in shade of undercoats to distinguish each separate coat.

3.3 APPLICATION

A. General: Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.

B. Doors: Paint all surfaces of doors including tops and bottoms and sides of exterior and interior doors. Paint tops and bottoms and sides of doors using the same coating system specified for face surfaces.

C. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 CLEANING

A. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

B. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.5 PROTECTION

A. Protect work of other trades, whether being painted or not, against damage by painting. Correct damage by cleaning, repairing, or replacing, and repainting, as approved by Architect.

B. Provide "Wet Paint" signs to protect newly painted finishes. Remove temporary protective wrappings provided by others to protect their work after completing painting operations.

1. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA P1.

END OF ITEM 09 91 00

SECTION 10 14 00 - IDENTIFYING DEVICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Furnish all labor, materials, tools, equipment, etc. and services necessary and incidental to the complete fabrication, furnishing and erection of this Section as shown, noted, detailed, and reasonably implied on the drawings and in the specifications.

B. The scope of work included in this Section is as follows:

1. Interior and Exterior Building Signs (Owner required and Code required).

1.3 SUBMITTALS

A. Submit shop drawings and product data under provisions of Section 01 33 00 “Submittal Procedures.”

B. Submit manufacturer's printed data describing products, model or series numbers, colors for selection, and finishes of all items in this Section.

1. Samples for Initial Selection: For each sign type and for each color and texture required, for each type of sign material indicated that involves color selection.

C. Submit shop drawings of all items, showing locations, sizes, quantities, methods of supporting, methods of anchoring, markings, finishes and operating hardware.

1. Show sign mounting heights, locations of supplementary supports to be provided by others, and accessories.
2. Provide message list, typestyles, graphic elements, including tactile characters and Braille, and layout for each sign.

D. Submit samples of all signs for review, for each type of sign, include the following Samples to verify color selected:

1. Panel Signs: Full-size Samples of each type of sign required.
2. Approved samples will be returned for installation into Project.

E. Submit two (2) complete building signage schedules for review. After review, provide four (4) corrected copies of this schedule for distribution. No factory order shall be placed for materials until this review process has been completed.

F. The architect shall review and approve all required submittals. The architect shall consult with all stakeholders including the owner during the review process and prior to approval of submittals.

G. Maintenance Data: For signage cleaning and maintenance requirements to include in maintenance manuals.

1.4 DELIVERY AND STORAGE

A. Deliver products to site under provisions of Section 01 60 00 “Products, Materials and Equipment.”

B. All materials under this Section shall be delivered to the project site in their original unbroken containers bearing the manufacturer's name, brand and specification designation.

C. All materials shall be stored in a dry, protected area and above floor level.

1.5 PROJECT CONDITIONS

A. Field Measurements: Where sizes of signs are determined by dimensions of surfaces on which they are installed, verify dimensions by field measurement before fabrication and indicate measurements on Shop Drawings.

1.6 COORDINATION

A. For signs supported by or anchored to permanent construction, advise installers of anchorage devices about specific requirements for placement of anchorage devices and similar items to be used for attaching signs.

1. For signs supported by or anchored to permanent construction, furnish templates for installation of anchorage devices.

1.7 CODES

A. All signage shall conform to the Department of Community Affairs, Florida Building Code Latest Edition in effect (FBC), Florida Accessibility Code for Building Construction, and local codes. Signage shall conform to ICC/ANSI A117.1, American National Standard for Accessible and Usable Buildings and Facilities. This shall includethe Florida Truss Signage requirement at the main entry door, as required by Florida Statues or the local Fire Marshall.

B. Character proportions and heights, Raised and Braille Characters, and Pictorial Symbol signs shall conform to 36 C.F.R. Part 1191 (ADAAG) and ADA 2010.

1.8 WARRANTY

A. This manufacturer shall warranty against defects in materials and workmanship for a period of one (1) year from the date of substantial completion of the building.

B. Refer to Section 01 70 00 “Closeout Procedures.”

1.9 QUALITY ASSURANCE

A. All interior signage in this Section shall be fabricated by a single manufacturer with experience in providing work similar to that specified.

B. Regulatory Requirements: Comply with applicable provisions in ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1

C. Regulatory Requirements: Comply with applicable provisions of MUTCD.

D. The materials used shall have flammability and smoke values that meet the standards for flammability for interior materials.

E. Source Limitations: Obtain each sign type through one source from a single manufacturer.

1.10 WARRANTY

A. Exterior Signage shall be warranted to be free from deterioration/discoloration for ten (10) years from date of installation.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Aluminum Sheet and Plate: ASTM B 209, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with at least the strength and durability properties of Alloy 5005-H32.

1. Exterior Sheeting Panels; Modular panels shall be fabricated with minimum 0.09-inch-thick aluminum.

B. Aluminum Extrusions: (used for panel frames and stiffeners) ASTM B 221, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with at least the strength and durability properties of Alloy 6063-T5.

C. Aluminum extrusions shall be at least one-eighth (1/8) inch thick and aluminum plate orsheet at least sixteen (16) gauge thick. Welding for aluminum products shall conform toAWS C1.1M/C1.1.

D. Aluminum alloy products shall conform to ASTM B 209M for sheet or plate, ASTM B 221M for extrusions, and ASTM B26/B 26M or ASTM B 108 for castings.

E. Steel Products shall conform to ASTM A 36/A 36M or KS D 3503. Sheet and strip steel products shall conform to ASTM A 1011/A 1011M. Welding for steel products shall conform to AWS D1.2.

2.2 ACRYLIC - CODE REQUIRED & ROOM IDENTIFICATION SIGNAGE

A. Code required signage, as the Project Basis of Design, shall be ASI INTOUCH Series plaques, 0.080-inch-thick acrylic plastic, embossed ADA, wall or door mounted, with tactile and braille graphics, conform with ANSI Z97.1, or equal as approved by the Architect or Owner.

1. Coordinate with the Owner and the Architect for mounting locations before anchorage to finished substrate. Refer to Florida Building Code, and Florida Accessibility Code for Building Construction.
2. Characters and background of all signs shall have eggshell, non-glare finish. Braille characters shall be same color as background.
3. Sign edges shall be smooth and free of saw marks and imperfections. The corners of the sign shall be square.
4. Mount signs with manufacturer’s suggested permanent type mounting.

B. Graphic Content and Style: Provide sign copy that complies with requirements for size, style, spacing, content, mounting height and location.

1. Type style: As Indicated.
2. All letters, numbers, and/or symbols shall contrast with the background, either light characters on a dark background or dark characters on a light background. Characters and background will have a non-glare finish.
3. Signage copy shall be accompanied by Grade 2 Braille. Braille shall be separated (0.5-inch) from the corresponding raised character symbols. Grade 2 Braille translation to be provided by signage manufacturer.
4. Copy Position: As indicated on drawings.
5. Text Height: As indicated on drawings.
6. Where graphic pictograms are indicated, symbol size shall be nominal (4-inch) diameter.

C. Colored Coatings for Acrylic Sheet: For copy and background colors, provide colored coatings, including inks, dyes, and paints, that are recommended by acrylic manufacturers for optimum adherence to acrylic surface and that are UV and water resistant for five years for application intended.

D. Laminated Interior Signs: Solid phenolic panel core with graphic image covered with thermosetting resin face layer.

1. Surface Finish: Mat.
2. Edge Condition: Match existing building standard.
3. Corner Condition: Match existing building standard.
4. Thickness: (1/8 inch).

2.3 ALUMINUM SIGNAGE

A. Aluminum Alloy products shall be at least one-eighth (1/8) inch thick, and aluminum plate or sheet shall be at least 0.0508” thick. Extrusions shall conform to ASTM B221M or KS D 6759 plate and sheet shall conform to ASTM B 209M or KS D 6701. When anodic coatings are specified, alloy shall conform to AA PK-1 alloy designation 514.0. Welding for aluminum products shall conform to AWS D1.2/D1.2M.

2.4 DIMENSIONAL LETTERING SIGNAGE

A. Aluminum or cast aluminum letters with anodized aluminum finish shall be provided. Concealed anchorage of the type and in the quantity recommended by the manufacturer shall be provided. Letters which protrude from the wall surface shall havestud spacer sleeves of the same material as the letters.

B. Aluminum Castings: ASTM B 26/B 26M, alloy and temper recommended by sign manufacturer for casting process used and for type of use and finish indicated.

C. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signs, noncorrosive and compatible with each material joined, and complying with the following:

1. Use concealed fasteners and anchors unless indicated to be exposed.

2. Sign Mounting Fasteners:

a. Concealed Studs: Concealed (blind), threaded studs welded or brazed to back of sign material, screwed into back of sign assembly, or screwed into tapped lugs cast integrally into back of cast sign material, unless otherwise indicated.

2.5 ACCESSORIES

A. Anchors and Inserts: Provide nonferrous-metal or hot-dip galvanized anchors and inserts for exterior installations and elsewhere as required for corrosion resistance. Use toothed steel or lead expansion-bolt devices for drilled-in-place anchors. Furnish inserts, as required, to be set into concrete or masonry work.

B. Fasteners anchored to aluminum substances or framing shall be stainless steel.

C. Exposed anchor and fastener material shall be compatible with metal to which applied, shall match in color and finish, shall be non-rusting, non-corroding, non-staining, and tamper-proof.

2.6 FABRICATION

A. Signage should be assembled in the shop, as far as practical, ready for installation at the site. Work that cannot be shop assembled shall be given a trial fit in the shop to ensure proper field assembly.

B. Dimensional Lettering signage and seal:

1. General: Provide manufacturer's standard sign assemblies according to requirements indicated.

a. Preassemble signs and assemblies in the shop to greatest extent possible. Disassemble signs and assemblies only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation; apply markings in locations concealed from view after final assembly.
b. Mill joints to a tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.
c. Comply with AWS for recommended practices in welding and brazing. Provide welds and brazes behind finished surfaces without distorting or discoloring exposed side. Clean exposed welded and brazed connectionsof flux, and dress exposed and contact surfaces.
d. Conceal connections if possible; otherwise, locate connections where they are inconspicuous.
e. Castings: Fabricate castings free of warp, cracks, blowholes, pits, scale, sand holes, and other defects that impair appearance or strength. Grind, wire brush, sandblast, and buff castings to remove seams, gate marks, casting flash, and other casting marks before finishing.

2.7 FINISHES, GENERAL

A. Protect mechanical finishes on exposed surfaces from damage by applying strippable, temporary protective covering before shipping.

B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of range of approved Samples. Noticeable variations in same piece are not acceptable. Variations in appearance of other components are acceptable if they are within range of approved Samples and are assembled or installed to minimize contrast.

C. All finishes shall conform to AA DAF-45.

D. Anodized finishes shall conform to AA DAF-45 Clear (natural) designation AA-M10-C22-A31, Architectural Class II, minimum 0.4 mil thick.

E. Organic Coating Surfaces shall be cleaned, primed, and given a two-component acrylicpolyurethane finish in accordance with NAAMM MFM, AMP 505, shall conform to AAMA 204, with total dry film thickness minimum 1.2 mils.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.

B. Verify that items, including anchor inserts, provided under other sections of Work are sized and located to accommodate signs.

C. Examine supporting members to ensure that surfaces are at the elevations indicated orthat may be required to comply with Authorities Having Jurisdiction and are free from dirt and other deleterious matter.

D. Substrates shall be capable of supporting all loads imposed by the signage.

E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. The Architect shall have final decision on the location of all items in this Section.

B. After erection, the General Contractor shall adequately protect exposed portions of signage from damage by stucco, lime, cement, or other harmful compounds.

C. All items in this Section shall be installed by experienced skilled mechanics in the best workmanlike manner of the trade's best standard practice.

D. All items shall be installed true, level, plumb and in strict accordance with the manufacturer's printed instructions and approved submittals.

E. Wall mounted signs shall be installed 60 inches above finished floor to centerline of sign, and generally on latch side of door. Location shall be such that a person may approach within 3 inches of sign without encountering protruding objects or standing within swing of door.

F. Signs shall not be installed on the door.

G. Where dissimilar metals are in contact, or where aluminum is in contact with concrete, mortar, masonry, or absorptive materials subject to wetting, the surfaces shall be protected with a coat of asphalt varnish or a coat of zinc-molybdate primer to prevent galvanic or corrosive action.

3.3 INSTALLATION OF DIMENSIONAL LETTERING SIGNAGE

A. General: Install signs using mounting methods indicated and according to manufacturer's written instructions.

1. Install signs level, plumb, true to line, and at locations and heights indicated, with sign surfaces free of distortion and other defects in appearance.
2. Before installation, verify that sign surfaces are clean and free of materials or debris that would impair installation.
3. Corrosion Protection: Coat concealed surfaces of exterior aluminum in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.

B. Mounting Methods:

1. Concealed Studs: Using a template, drill holes in substrate aligning with studs onback of sign. Remove loose debris from hole and substrate surface.

a. Masonry Substrates: Fill holes with adhesive. Leave recess space in hole for displaced adhesive. Place sign in position and push until flush to surface, embedding studs in holes. Temporarily support sign in position until adhesive fully sets.
b. Thin or Hollow Surfaces: Place sign in position and flush to surface, install washers and nuts on studs projecting through opposite side of surface, andtighten.

3.4 INSPECTION

A. Inspect building areas prior to sign(s) installation. Do not install signs until surfaces are acceptable to installer.

B. Notify the Architect, in writing, if there are any questions as to suitability of sign(s), installation location(s), or surface(s).

C. Locate signs and accessories where indicated, using mounting methods of types described and complying with manufacturer’s written instructions.

1. Install signs level, plumb, and at heights indicated, with sign surfaces free of distortion and other defects in appearance.
2. Interior Wall Signs: Install signs on walls adjacent to latch side of door where applicable. Where not indicated or possible, such as double doors, install signs on nearest adjacent walls. Locate to allow approach within (3 inches) of sign without encountering protruding objects or standing within swing of door.

D. The architect shall review and approve all completed and installed signage. The architect shall consult with the owner during the inspection process and prior to acceptance of installed signage.

3.5 SIGN MOUNTING

A. Comply with sign manufacturer's written instructions except where more stringent requirements apply.

B. All mounting hardware and materials for mounting to vertical surfaces shall be via adhesives or threaded stainless-steel posts affixed to the backs of each element, including Seal, letters, and bars. The number of these posts for each element will be determined by the size, weight, and configuration of each element to ensure proper attachment and orientation.

C. Silicone-Adhesive Mounting: Attach signs to irregular, porous, or vinyl covered surfaces.

D. Shim Plate Mounting: Provide (1/8-inch-) thick, concealed aluminum shim plates with predrilled and countersunk holes, at locations indicated, and where other mounting methods are not practicable. Attach plate with fasteners and anchors suitable for secure attachment to substrate. Attach panel signs to plate using method specified above.

E. Mechanical Fasteners: Use nonremovable mechanical fasteners placed through predrilled holes. Attach signs with fasteners and anchors suitable for secure attachment to substrate as recommended in writing by sign manufacturer.

F. Posts; One-piece aluminum posts shall be provided with minimum 0.125-inch wall thickness.

G. Panel Framing System; Panel framing consisting of aluminum sections and interlockingtrack components shall be designed to interlock with posts with concealed fasteners.

H. Mounting of Interior Signage; Extruded aluminum brackets shall be furnished for hanging, projecting, and double-sided signs. Mounting for framed, hanging, and projecting signs shall be by mechanical fasteners. Surface Mounted Signs shall be mounted with undersized spacers, mechanical fasteners, and anchors.

3.6 CLEANING

A. The General Contractor shall be responsible for removal of protective materials and cleaning as recommended by manufacturer. The General Contractor shall be held responsible for damages resulting from the use of other cleaning materials.

3.7 MATERIAL AND WORKMANSHIP

A. All damaged material and faulty workmanship shall be removed and be replaced with new material in the best workmanlike manner at no extra cost to the Owner.

END OF SECTION 10 14 00

ITEM 10 44 00 - FIRE PROTECTION SPECIALTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Section includes portable, hand-carried fire extinguishers and mounting brackets for fire extinguishers.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product. Include rating and classification, material descriptions and finishes for fire extinguisher and mounting brackets.

1.4 INFORMATIONAL SUBMITTALS

A. Warranty: Sample of special warranty.

1.5 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace fire extinguishers that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Failure of hydrostatic test according to NFPA 10 when testing interval required by NFPA 10 is within the warranty period.
b. Faulty operation of valves or release levers.

2. Warranty Period: Six years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. NFPA Compliance: Fabricate and label fire extinguishers to comply with NFPA 10, "Portable Fire Extinguishers."

B. Fire Extinguishers: Listed and labeled for type, rating, and classification by an independent testing agency acceptable to authorities having jurisdiction.

1. Provide fire extinguishers approved, listed, and labeled by FM Global.

2.2 PORTABLE, HAND-CARRIED FIRE EXTINGUISHERS

A. Fire Extinguishers: Type, size, and capacity for each mounting bracket indicated.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Amerex Corporation.
b. Kidde Residential and Commercial Division.
c. Larsens Manufacturing Company.
d. Potter Roemer LLC; a Division of Morris Group International.

2. Source Limitations: Obtain fire extinguishers and brackets, from single source from single manufacturer.
3. Valves: Manufacturer's standard.
4. Handles and Levers: Manufacturer's standard.
5. Instruction Labels: Include pictorial marking system complying with NFPA 10, Appendix B, and bar coding for documenting fire-extinguisher location, inspections, maintenance, and recharging.

B. Multipurpose Dry-Chemical Type in Steel Container: UL-rated 4-A:80-B:C, 10-lb nominal capacity, with monoammonium phosphate-based dry chemical in enameled-steel container.

2.3 MOUNTING BRACKETS

A. Mounting Brackets: Manufacturer's standard steel, designed to secure fire extinguisher to wall or structure, of sizes required for types and capacities of fire extinguishers indicated, with red baked-enamel finish.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Amerex Corporation.

b. Kidde Residential and Commercial Division.
c. Larsens Manufacturing Company.
d. Potter Roemer LLC; a Division of Morris Group International.

2. Source Limitations: Obtain mounting brackets and fire extinguishers from single source from single manufacturer.

B. Identification: Lettering complying with authorities having jurisdiction for letter style, size, spacing, and location. Locate as indicated by Architect.

1. Identify bracket-mounted fire extinguishers with the words "FIRE EXTINGUISHER" in red letter decals applied to mounting surface.

a. Orientation: Vertical.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine fire extinguishers for proper charging and tagging.

1. Remove and replace damaged, defective, or undercharged fire extinguishers.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Identification: Apply decals after painting is complete.

B. General: Install fire extinguishers and mounting brackets in locations indicated and in compliance with requirements of authorities having jurisdiction.

C. Mounting Brackets: Fasten mounting brackets to surfaces, square and plumb, at locations indicated.

END OF ITEM 10 44 00

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SECTION 133419
METAL BUILDING SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Manufacturer-engineered, shop-fabricated structural steel building frame.

B. Insulated Metal wall and roof panels including soffits, gutters and downspouts, and roof mounted equipment curbs.

C. Exterior doors, windows, skylights, overhead doors, and louvers.

1.02 RELATED REQUIREMENTS

A. Section 055000 - Metal Fabrications.

B. Section 079200 - Joint Sealants: Sealing joints between accessory components and wall system.

C. Section 081113 - Hollow Metal Doors and Frames.

D. Section 081213 - Hollow Metal Frames.

E. Section 083613 - Sectional Doors.

F. Section 085113 - Aluminum Windows.

G. Section 085123 - Steel Windows.

H. Section 085200 - Wood Windows.

I. Section 085313 - Vinyl Windows.

J. Section 086200 - Unit Skylights.

K. Section 088000 - Glazing.

1.03 REFERENCE STANDARDS

A. AISC 360 - Specification for Structural Steel Buildings; 2022, with Errata (2025).

B. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2019.

C. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2024.

D. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2023.

E. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength; 2021.

F. ASTM A500/A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes; 2023.

G. ASTM A501/A501M - Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing; 2021.

H. ASTM A529/A529M - Standard Specification for High-Strength Carbon-Manganese Steel of Structural Quality; 2019.

I. ASTM A572/A572M - Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel; 2025.

J. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2025a.

K. ASTM A792/A792M - Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process; 2025a.

L. ASTM A992/A992M - Standard Specification for Structural Steel Shapes; 2022.

M. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2024.

N. ASTM C827/C827M - Standard Test Method for Change in Height at Early Ages of Cylindrical Specimens of Cementitious Mixtures; 2023.

O. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018 (Reapproved 2024).

P. ASTM C991 - Standard Specification for Flexible Fibrous Glass Insulation for Metal Buildings; 2025a.

Q. ASTM C1107/C1107M - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink); 2020.

R. ASTM C1224 - Standard Specification for Reflective Insulation for Building Applications; 2022.

S. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board; 2025.

T. ASTM C1363 - Standard Test Method for Thermal Performance of Building Materials and Envelope Assemblies by Means of a Hot Box Apparatus; 2024.

U. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2026.

V. ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials; 2024a.

W. ASTM F1554 - Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength; 2020.

X. ASTM F3125/F3125M - Standard Specification for High Strength Structural Bolts and Assemblies, Steel and Alloy Steel, Heat Treated, Inch Dimensions 120 ksi, 144 ksi, and 150 ksi Minimum Tensile Strength, and Metric Dimensions 830 MPa and 1040 MPa Minimum Tensile Strength; 2025a.

Y. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination; 2020.

Z. AWS B2.1/B2.1M - Specification for Welding Procedure and Performance Qualification; 2021, with Errata (2023).

AA. AWS D1.1/D1.1M - Structural Welding Code - Steel; 2025, with Errata (2026).

BB. IAS AC472 - Accreditation Criteria for Inspection Programs for Manufacturers of Metal Building Systems; 2024.

CC. MBMA (MBSM) - Metal Building Systems Manual; 2024.

DD. NFPA 285 - Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components; 2025.

EE. NFPA 286 - Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth; 2024.

FF. SSPC-Paint 20 - Zinc-Rich Coating (Type I - Inorganic, and Type II - Organic); 2019.

GG. UL 580 - Standard for Tests for Uplift Resistance of Roof Assemblies; Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene one week before starting work of this section.

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide data on profiles, component dimensions, fasteners.

C. Shop Drawings: Indicate assembly dimensions, locations of structural members, connections; wall and roof system dimensions, panel layout, general construction details, anchors and methods of anchorage, and installation; framing anchor bolt settings, sizes, locations from

datum, and foundation loads; indicate welded connections with AWS A2.4 welding symbols; indicate net weld lengths; provide professional seal and signature.

D. Samples: Submit two samples of precoated metal panels for each color selected, ____by____ inch (____by____ mm) in size illustrating color and texture of finish.

E. Manufacturer's Instructions: Indicate preparation requirements, anchor bolt placement.

F. Erection Drawings: Indicate members by label, assembly sequence, and temporary erection bracing.

G. Designer's Qualification Statement.

H. Manufacturer's Qualification Statement: Provide documentation showing metal building manufacturer is accredited under IAS AC472.
   1. Include statement that manufacturer designs and fabricates metal building system as integrated components and assemblies, including but not limited to primary structural members, secondary members, joints, roof, and wall cladding components specifically designed to support and transfer loads and properly assembled components form a complete or partial building shell.

I. Erector's Qualification Statement.

J. Welders' Qualification Statement: Welders' certificates in accordance with AWS B2.1/B2.1M and dated no more than 12 months before start of scheduled welding work.

K. Project Record Documents: Record actual locations of concealed components and utilities.

1.06 QUALITY ASSURANCE

A. Designer Qualifications: Design structural components, develop shop drawings, and perform shop and site work under direct supervision of a Professional Structural Engineer experienced in design of this type of work.
   1. Design Engineer Qualifications: Licensed in the State in which the Project is located.
   2. Comply with applicable code for submission of design calculations as required for acquiring permits.
   3. Cooperate with regulatory agency or authorities having jurisdiction (AHJ), and provide data as requested.

B. Perform work in accordance with AISC 360, MBMA (MBSM), and _____.
   1. Maintain one copy on site.

C. Manufacturer Qualifications: Company specializing in the manufacture of products similar to those required for this project.
   1. Not less than three years of documented experience.
   2. Accredited by IAS in accordance with IAS AC472.

D. Erector Qualifications: Company specializing in performing the work of this section approved by manufacturer.

E. Welder Qualifications: Welding processes and welding operators qualified in accordance with AWS D1.1/D1.1M and no more than 12 months before start of scheduled welding work.

1.07 WARRANTY

A. See Section 017800 - Closeout Submittals for additional warranty requirements.

B. Correct defective Work within a five year period after Date of Substantial Completion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Metal Buildings Systems:
   1. Butler Manufacturing Company: www.butlermfg.com/#sle.
   2. Ceco Building Systems: www.cecobuildings.com/#sle.
   3. Chief Buildings: www.chiefbuildings.com/#sle.
   4. Kirby Building Systems, a Nucor Company: www.kirbybuildingsystems.com/#sle.

5. Metallic Building Systems: www.metallic.com/#sle.
6. Nucor Building Systems: www.nucorbuildingsystems.com/#sle.
7. Red Dot Buildings: www.reddotbuildings.com/#sle.
8. VP Buildings: www.vp.com/#sle.
9. Substitutions: See Section 016000 - Product Requirements.

2.02 ASSEMBLIES

A. Single span rigid frame.

B. Primary Framing: Rigid frame of rafter beams and columns, canopy beams, and wind bracing.

C. Secondary Framing: Purlins, and other items detailed.

D. Wall System: Preformed metal panels of horizontal profile, with sub-girt framing/anchorage assembly, and accessory components.

E. Roof System: Preformed metal panels oriented parallel to slope, with sub-girt framing/anchorage assembly, insulation, and liner panels, and accessory components.

F. Roof Slope: 1/8 inches in 12 inches (1/100).

2.03 PERFORMANCE REQUIREMENTS

A. Installed Thermal Resistance of Wall System: R-value of ____ (RSI-value of ____).

B. Installed Thermal Resistance of Roof System: R-value of ____ (RSI-value of ____).

C. Design structural members to withstand dead load, applicable snow load, and design loads due to pressure and suction of wind calculated in accordance with applicable code.

D. Design structural members to withstand ____ psf (____ kPa) live load, ____ psf nominal snow load, (____ kPa nominal snow load,) and ____ psf (____ kPa) positive and negative wind loads.

E. Provide drainage to exterior for water entering or condensation occurring within wall or roof system.

F. Permit movement of components without buckling, failure of joint seals, undue stress on fasteners or other detrimental effects, when subject to temperature range of ____ degrees F (____ degrees C).

2.04 MATERIALS - FRAMING

2.05 MATERIALS - WALLS AND ROOF

2.06 COMPONENTS

END OF SECTION

SECTION 31 23 19 - DEWATERING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Construction dewatering.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Verify availability of Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
2. Review condition of site to be dewatered, including coordination with temporary erosion-control measures and temporary controls and protections.
3. Review geotechnical report.
4. Review proposed site clearing and excavations.
5. Review existing utilities and subsurface conditions.
6. Review observation and monitoring of dewatering system.

1.3 ACTION SUBMITTALS

A. Shop Drawings: For dewatering system, prepared by or under the supervision of a qualified professional engineer.

1. Include plans, elevations, sections, and details.
2. Show arrangement, locations, and details of wells and well points; locations of risers, headers, filters, pumps, power units, and discharge lines; and means of discharge, control of sediment, and disposal of water.
3. Include layouts of piezometers and flow-measuring devices for monitoring performance of dewatering system.
4. Include written plan for dewatering operations, including sequence of well and well-point placement coordinated with excavation shoring and bracings and control procedures to be adopted if dewatering problems arise.

B. Delegated Design Submittals: For dewatering system, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.4 INFORMATIONAL SUBMITTALS

A. Field Quality-Control Submittals:

1. Field quality-control reports.

B. Qualification Statements: For Installer.

C. Delegated design engineer qualifications.

D. Existing Conditions: Using photographs or video recordings, show existing conditions of adjacent construction and site improvements that might be misconstrued as damage caused by dewatering operations. Submit before Work begins.

E. Record Drawings: Identify locations and depths of capped wells and well points and other abandoned-in-place dewatering equipment.

1.5 QUALITY ASSURANCE

A. Qualifications:

1. Installer: An experienced installer that has specialized in design of dewatering systems and dewatering work.
2. Delegated Design Engineer: A professional engineer who is legally qualified to practice in state where Project is located and who is experienced in providing engineering services of the type indicated.
3. Land Surveyor: A professional land surveyor who is legally qualified to practice in state where Project is located.

1.6 FIELD CONDITIONS

A. Project-Site Information: A geotechnical report has been prepared for this Project and is available for information only. The opinions expressed in this report are those of a geotechnical engineer and represent interpretations of subsoil conditions, tests, and results of analyses conducted by a geotechnical engineer. Owner is not responsible for interpretations or conclusions drawn from this data.

1. Make additional test borings and conduct other exploratory operations necessary for dewatering in accordance with the performance requirements.
2. The geotechnical report is referenced elsewhere in Project Manual.

B. Survey Work: Engage a qualified land surveyor or professional engineer to survey adjacent existing buildings, structures, and site improvements; establish exact elevations at fixed points to act as benchmarks. Clearly identify benchmarks and record existing elevations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design dewatering system.

B. Dewatering Performance: Design, furnish, install, test, operate, monitor, and maintain dewatering system of sufficient scope, size, and capacity to control hydrostatic pressures and to

lower, control, remove, and dispose of groundwater and permit excavation and construction to proceed on dry, stable subgrades.

1. Design dewatering system, including comprehensive engineering analysis by a qualified professional engineer.
2. Continuously monitor and maintain dewatering operations to ensure erosion control, stability of excavations and constructed slopes, prevention of flooding in excavation, and prevention of damage to subgrades and permanent structures.
3. Prevent surface water from entering excavations by grading, dikes, or other means.
4. Accomplish dewatering without damaging existing buildings, structures, and site improvements adjacent to excavation.
5. Remove dewatering system when no longer required for construction.

C. Regulatory Requirements: Comply with governing EPA notification regulations before beginning dewatering. Comply with water- and debris-disposal regulations of authorities having jurisdiction.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by dewatering operations.

1. Prevent surface water and subsurface or groundwater from entering excavations, from ponding on prepared subgrades, and from flooding site or surrounding area.
2. Protect subgrades and foundation soils from softening and damage by rain or water accumulation.

B. Install dewatering system to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.

C. Provide temporary grading to facilitate dewatering and control of surface water.

D. Protect and maintain temporary erosion and sedimentation controls during dewatering operations.

3.2 INSTALLATION

A. Install dewatering system utilizing wells, well points, or similar methods complete with pump equipment, standby power and pumps, filter material gradation, valves, appurtenances, water disposal, and surface-water controls.

1. Space well points or wells at intervals required to provide sufficient dewatering.
2. Use filters or other means to prevent pumping of fine sands or silts from the subsurface.

B. Place dewatering system into operation to lower water to specified levels before excavating below groundwater level.

C. Provide sumps, sedimentation tanks, and other flow-control devices as required by authorities having jurisdiction.

D. Provide standby equipment on-site, installed and available for immediate operation, to maintain dewatering on continuous basis if any part of system becomes inadequate or fails.

3.3 OPERATION

A. Operate system continuously until drains, sewers, and structures have been constructed and fill materials have been placed or until dewatering is no longer required.

B. Operate system to lower and control groundwater to permit excavation, construction of structures, and placement of fill materials on dry subgrades. Drain water-bearing strata above and below bottom of foundations, drains, sewers, and other excavations.

1. Do not permit open-sump pumping that leads to loss of fines, soil piping, subgrade softening, and slope instability.
2. Reduce hydrostatic head in water-bearing strata below subgrade elevations of foundations, drains, sewers, and other excavations.
3. Maintain piezometric water level a minimum of 24 inches below bottom of excavation.

C. Dispose of water removed by dewatering in a manner that avoids endangering public health, property, and portions of work under construction or completed. Dispose of water and sediment in a manner that avoids inconvenience to others.

D. Remove dewatering system from Project site on completion of dewatering. Plug or fill well holes with sand or cut off and cap wells a minimum of 36 inches below overlying construction.

3.4 FIELD QUALITY CONTROL

A. Observation Wells: Provide observation wells or piezometers, take measurements, and maintain at least the minimum number indicated; additional observation wells may be required by authorities having jurisdiction.

1. Observe and record daily elevation of groundwater and piezometric water levels in observation wells.
2. Repair or replace, within 24 hours, observation wells that become inactive, damaged, or destroyed. In areas where observation wells are not functioning properly, suspend construction activities until reliable observations can be made. Add or remove water from observation-well risers to demonstrate that observation wells are functioning properly.
3. Fill observation wells, remove piezometers, and fill holes when dewatering is completed.

B. Survey-Work Benchmarks: Resurvey benchmarks regularly during dewatering and maintain an accurate log of surveyed elevations for comparison with original elevations. Promptly notify Architect if changes in elevations occur or if cracks, sags, or other damage is evident in adjacent construction.

C. Provide continual observation to ensure that subsurface soils are not being removed by the dewatering operation.

D. Prepare reports of observations.

3.5 PROTECTION

A. Protect and maintain dewatering system during dewatering operations.

B. Promptly repair damages to adjacent facilities caused by dewatering.

END OF SECTION 31 23 19

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SECTION 13120 - PRE-ENGINEERED STRUCTURES

PART 1- GENERAL

1.1 RELATED DOCUMENTS

A. The General Provisions of the Contract, including General and Supplementary Conditions and General Requirements, apply to work specified in this Section.

B. Section 09900 “Painting”

C. Section 03300 “Structural Concrete”

Related work provided by the Pre-Engineered Structures:

D. Section 13121 “Pre-Engineered Architecturally Exposed Structural Steel Framing”

E. Section 13511 “Pre-Engineered Steel Stairs”

F. Section 13521 “Pre-Engineered Pipe Railings”

G. Section 13710 “Pre-Engineered Spiral Stairs”

1.2 DESCRIPTION OF THE WORK

A. The extent of the Work shall include hangar, two-story office spaces, stairs, balconies and lean-to. The design shall meet the standards set by the latest edition of the Florida Building Code for pre-engineered metal structures, walls, floors, stairs, and roofs (components of cladding).

B. See structural Drawing for required loading and wind pressures required for design of structure and components of cladding, as well as second floor framing.

1.3 QUALITY ASSURANCE

A. Provide pre-engineered building components from a single-building manufacturer for the hangar/two-story office building.

B. Metal building manufacturer shall be a member in good standing with “MBMA.”

1.4 SUBMITTAL

A. As per Section 01340, provide fully engineered drawings and calculations signed and sealed by a P.E. registered in the State of Florida. The structural design shall include, but not limited to, all components including point load super imposed by the hoist, mechanical, and electrical equipment. Submit twelve (12) sets of signed and sealed drawings, and calculations of which six (6) shall be used for the Building Department for permits.

B. Product data consisting of metal building structural framing system, roofing and siding panels, and other metal building components.

C. Provide complete erection drawing prepared under the direction of a Florida Registered Professional Engineer. Include details showing fabrication and assembly of the metal building system. Show anchor bolt settings, reactions end-wall and roof framing. Include transverse cross-sections.

1. Erection drawings prepared to scale will show the relationship of building components.
2. Erection drawings show proposed openings coordinated for the size and location of component that is to be installed. Components include, but not limited to, louvers, doors, windows, storefront, hangar doors, balconies, canopies, stairs, changes in level, chases, ducts, fans, vents, and other building components shown on the drawings and other sections of the specifications.

D. Roofing and Siding Panels: Provide layouts of panels on walls and roofs, details of edge conditions, joints, corners, custom profiles, supports, anchorages, trim, flashings, closures, and special details. Include flashing details of roof to wall intersection. Include transverse cross-sections.

E. Provide details to drawn to scale of plan, section of opening conditions. Coordinate all required clearances for installation of all framing components and comply with rough opening requirements for components installed in the openings. Coordinate with drawings and other section of work shown and specified elsewhere in the specifications.

F. Where UL-Listed assemblies are required by drawings and other sections of the specifications. Comply with the structural requirements for compliance with the UL listing. Fire ratings and details are shown on the drawings.

G. Building Accessory Components: Provide details of metal building accessory components to clearly indicate methods of installation, including the following:

1. Personnel doors: Provide elevations and details of each type of door and requirements for finish hardware. Provide schedule of doors and frames using the same reference numbers for details and openings as those indicated on the drawings; include complete hardware schedule.
2. Aluminum louvers: Provide 1/4" scale elevations of louver units and not less than 3/4" scale details showing anchors, hardware, and flashing details.
3. Sheet metal accessories: Provide layouts at 1/4“ scale. Provide details of ventilators, louvers, gutters, downspouts, and other sheet metal accessories at not less than 1-1/2” scale showing profiles, methods of joining, and anchorages.
4. All building accessory components will have wind-rated assemblies that comply and are installed per Miami/Dade County Approval System or the Florida Building Code Approval System for wind loads and exposure listed on the drawings.

H. Samples for initial selection purposes in form of manufacturer’s color charts or chips showing full range of colors, textures, and patterns available for metal roofing and siding panels with factory-applied finishes.

I. Samples for verification purposes of roofing and siding panels. Provide sample panels 12” long by actual panel width, in the profile, style, color, and texture indicated. Include clips, battens, fasteners, closures, and other panel accessories.

J. Installer certificates signed by metal building manufacturer written certification certifying that the installer complies with requirements included under the “Quality Assurance” Article.

K. Professional Engineer’s certificate prepared and signed by a Professional Engineer, legally authorized to practice in the jurisdiction where project is located, verifying that the structural framing and covering panels meet indicated loading requirements and codes of authorities having jurisdiction.

1.5 DESIGN

A. Design Authorities:

1. Structural Steel: All structural steel sections and welded plate members shall be designed in accordance with the allowable stresses and design requirement sections of the latest edition of the "A.I.S.C. Manual of Steel Construction".
2. Cold-Formed: All cold-formed members, including exterior covering, shall be designed in accordance with the allowable stresses and design requirement sections of the latest edition of "The A.I.S.I. Cold-Formed Steel Design Manual".

1.6 DESIGN LOADS

A. Wind and Live Loads: Loads shall be applied in accordance with the requirements set forth by the "Florida Building Code 2023" requirements latest edition. Wind design three- (3) second gust at 140 m.p.h. minimum, Exposure Category C.

B. Dead Loads: Dead loads shall be the weight of the structure, mechanical systems, electrical and lighting systems, suspended ceiling system, roof, insulation, hangar door with operators, partition walls and miscellaneous loads. Include dead load required by the Florida Building Code 2023 and as indicated in the plans.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: Engage an experienced Installer to erect the pre-engineered metal building who has specialized in the erection and installation of types of metal buildings systems similar to that required for this project and who is certified in writing by the metal building system manufacturer as qualified for erection of the manufacturer’s products.

B. Manufacturer’s Qualifications: Provide pre-engineered metal buildings manufactured by a firm experienced in manufacturing metal buildings systems that are similar to those indicated for this project and have a record of successful in-service performance.

C. Single-Source Responsibility: Obtain the metal building system components, including structural framing, wall and roof covering, and accessory components, from one source from a single manufacturer.

D. Design Criteria: The drawings indicate size, profiles, and dimensional requirements of the pre-engineered metal buildings and are based on the specific type and model indicated. Metal building systems having equal characteristics by other manufacturers may be considered provided that deviations in dimensions and profiles are minor and do not change the design concept or intended performance as judged by the Architect. The burden of proof of equality is on the proposer.

1.8 **DELIVERY, STORAGE, AND HANDLING**

A. Deliver prefabricated components, sheets, panels, and other manufactured items so they will not be damaged or deformed. Package wall and roof panels for protection against transportation damage.

B. Handling: Exercise care in unloading, storing, and erecting wall and roof covering panels to prevent bending, warping, twisting, and surface damage.

C. Stack materials on platforms or pallets, covered with tarpaulins or other suitable weather-tight ventilated covering. Store metal wall and roof panels so that water accumulations will drain freely. Do not store panels in contact with other materials that might cause staining, denting or other surface damage.

1.9 **WARRANTY**

A. Roofing and Siding Panel Finish Warranty: Furnish the roofing and siding panel manufacturer's written warranty, covering failure of the factory-applied exterior finish on metal wall and roof panels within the warranty period. This warranty shall be in addition to and not a limitation of other rights the Owner may have against the Contractor under the Contract Documents. Warranty period for factory-applied exterior finishes on wall and roof panels is twenty (20) years after the date of Substantial Completion.

1.10 **EXTRA MATERIALS**

A. Maintenance Stock: Furnish at least 5% excess over required amount of nuts, bolts, screws, washers, wall panels, trim, fascias, and other required fasteners. Pack in cartons labeled to identify the contents and store on the site where directed.

PART 2 - PRODUCT

2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering metal building systems that may be incorporated in the work include, but are not limited to, the following:

1. Butler Manufacturing Company
2. Ceco Buildings Division
3. Gulf States Manufacturers, Inc.
4. Mesco Metal Buildings Corp.
5. Star Buildings Division, H.H. Robertson Company
6. Varco-Pruden Buildings
7. Whirlwind Steel Buildings, Inc.

2.2 LOAD COMBINATIONS

A. The design load combinations for all buildings shall be the most stringent of the following specified by the "Florida Building Code 2007", latest edition through 2009 supplements. The Delegated Engineer shall design second floor framing as part of the entire shell design including the second floor balconies and elevated walkways. The most stringent load conditions in the building framing design shall be considered based on inclusion and exclusion of the second floor balconies and walkway (ADD ALTERNATE A scope of work).

2.3 ANCHOR BOLTS

A. Anchor bolts shall be sized to resist all shears and uplifts induced by the structure and shall not be less than the sizes and quantities shown by the structural plans. All anchor bolts shall be unpainted to bond to the concrete and shall be set in strict accordance with the structural drawings. See Structural for foundation and load criteria.

2.4 MATERIALS

2.4.1 PRIMARY FRAMING STEEL

A. Steel for hot-rolled structural sections shall conform to the requirements of ASTM specification A-36.

B. Steel for all built-up sections shall meet as applicable the physical and chemical properties of ASTM A572-88C modified to 55,000 psi minimum yield and 70,000 psi minimum tensile strength, or ASTM A607-85, Grade 55, or ASTM A570-88, Grade 55.Steel for all end wall "C" sections shall meet the physical and chemical properties of ASTM A570-88, Grade 55.

2.4.2 SECONDARY FRAMING STEEL

A. Steel used to form purlins, girts, eave struts, and "C" sections shall meet the physical and chemical properties of ASTM A570-88, Grade 55.

2.4.3 ROOF PANEL MATERIAL

A. Roof for hangar and office:

1. Standing seam.

2. 22-gauge, Grade 50B, aluminum-zinc, alloy-coated steel, coating designation, galvanized, factory-applied, baked-on paint with a total film thickness of 1 mil on exposed white as manufactured by Bethlehem, ASTM A792 sheet coating 55% aluminum, 43.4% zinc, 1.6% silicon nominal percentage by weight. Roof design based on Florida Building Code 2007 wind load requirement, but not less than 22-gauge material.

B. Fasteners:

1. Clips: 16-guage panel clips.
2. Cleats: Factory-caulked, mechanically seamed cleats formed from 24-gauge, Grade C, zinc-coated-steel sheets.

C. All roofing components, fasteners, and connections will have wind-rated assemblies that comply and are installed as per Miami/Dade County Approval System or the Florida Building Code Approval System.

2.4.4 SIDING PANELS

A. All materials and assemblies shall comply with the Florida Building Code wind pressures for cladding. Provide certified engineered lab test that shows compliance. See structural drawing for wind pressure and load required for compliance.

B. Face Sheets: Fabricate wall and roof panel face sheets to the profile or configuration indicated from 22-gauge, structural quality, Grade 50B, alloy-coated steel. Coating designation, galvanized with factory-applied, baked-on paint with a total film thickness of 1 mil on exposed side. Color to be selected by Architect, Bethlehem, ASTM A792, sheet coating 55% aluminum, 43.4% zinc, 1.6% silicone, nominal percentage by weight.

C. Fasteners: Self-tappings screws, bolts, nuts, self-locking rivets, self-locking bolts, end-welded studs, and other suitable fasteners designed to withstand design loads.

1. Provide metal-backed neoprene washers under heads of fasteners bearing on weather side of panels.
2. Use aluminum or stainless-steel fasteners for exterior application and galvanized or cadmium-plated fasteners for interior applications.
3. Locate and space fastenings in true vertical and horizontal alignment. Use proper tools to obtain controlled uniform compression for positive seal without rupture of neoprene washer.
4. Provide fasteners with heads matching color of roofing or siding sheets by means of plastic caps or factory applied coating.

D. Accessories: Provide the following sheet metal accessories factory-formed of the same material in the same finish as roof and wall panels:

1. Flashings
2. Closers
3. Fillers
4. Ridge covers

5. Fascias
6. Inside closure strip
7. Base angle
8. Miscellaneous accessories as required to complete a weatherproof installation.

E. Flexible Closure Strips: Closed-cell, expanded cellular rubber, self-extinguishing flexible closure strips. Cut or premold to match configuration of roofing and siding sheets. Provide closure strips where indicated or necessary to ensure weather-tight construction.

F. Sealing Tape: Pressure-sensitive, 100% solid, gray polyisobutylene, compound-sealing tape with release paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2" wide and 1/8” thick.

G. Joint Sealant: One-part elastomeric polyurethane, polysulfide, or silicone rubber sealant as recommended by the building manufacturer.

H. Fluoropolymer Finish: Provide shop-applied fluoropolymer finish to galvanized-steel roofing and siding panels, and related trim and accessory elements.

1. Clean galvanized steel with an alkaline compound, then treat with a zinc phosphate conversion coating and seal with a chromic acid rinse.
2. Apply a two- (2) coat fluoropolymer coating system to pretreated steel. Coating shall consist of a specially-formulated inhibitive primer applied to a dry film thickness of 0.15 mil to 0.25 mil, and a fluorocarbon color coat containing not less than 70% polyvinylidene fluoride resin by weight applied to a dry film thickness of 0.80 mils to 1.3 mils. Color to be selected by the Architect from the Architect’s sample listed:

a. Imetco, Solar White
b. Imetco, Cardinal Red

I. All roofing and wall components, fasteners, and connections will have wind-rated assemblies that comply and are installed as per Miami/Dade County Approval System or the Florida Building Code Approval System.

2.4.5 OTHER MATERIALS

A. Sealant Materials Provide:

1. Silicone Sealant: Single-component elastomeric silicone sealant complying with FS TT-S-001543, Class A, nonsag, and ASTM C920, Type S, Grade NS, Class 25, Uses G, A, and O. Provide low-modulus, nonacid curing type, except use acid type if channel surfaces are porous.
2. Polysulfide Sealant: 2-component elastomeric polysulfide sealant complying with FS TT-S-00227, Class A, Type2, and ASTM C920, Type M, Grade NS, Class 25, Uses G, A, and O, as applicable.
3. Acrylic Sealant: Single-component acrylic terpolymer or polypropenate solvent-based, thermo-plastic sealant complying with FS 55-2-00230, Class B, Type II,

and ASTM C920, Type S, Grade NS, Class 12-1/2, Uses G, A, and O, as applicable.

4. Filler Rods: Compressible closed-cell or waterproof-jacketed rod stock of flexible and resilient synthetic rubber or plastic foam with 5-10 psi compression strength for 25% deflection.

B. Thermal Insulation at roof of office; glass fiber blanket insulation, complying with ASTM C991, of 0.5 lb per cu. ft. density, thickness as indicated, with UL flame spread classification of 25 or less, and 2" wide continuous vapor-tight edge tabs, and retainer clips, 26-gauge, formed galvanized-steel retainer clip painted to match vinyl ad noted on the drawings.

C. Thermal Insulation at roof of hangar; glass fiber blanket insulation, complying with ASTM C991, of 0.5 lb per cu. ft. density, thickness as indicated, with UL flame spread classification of 25 or less, and 2" wide continuous vapor-tight edge tabs as noted on drawings.

2.4.6 PAINT AND COATING MATERIALS

A. Comply with performance requirements of the federal specifications indicated. Unless specifically indicated otherwise, compliance with compositional requirements of federal specifications indicated is not required.

1. Shop Primer for Ferrous Metal: Fast-curing, lead-free, universal primer, selected by the manufacturer for resistance to normal atmospheric corrosion, compatibility with finish paint systems, and capability to provide a sound foundation for field-applied topcoats despite prolonged exposure. Comply with FS TT-P-636D.
2. Pre-painted galvalume panel each face.

a. Roof Panels
b. Wal Panels

2.4.7 ROD

A. All rod used as structural bracing shall have a minimum yield strength of 36,000 psi.

2.4.8 HIGH-STRENGTH BOLTS

A. All bolts used in primary structural connections shall be zinc-plated, high-strength (ASTM A325) bolts with a yellow dichromate dip.

2.4.9 HIGH-STRENGTH NUTS

A. ASTM 194 Grade 2H, ASTM 563 Grade C, C3, D, D4, D43

2.4.10 STANDARD BOLTS

A. All bolts used in secondary structural connections shall be standard zinc-plated machine bolts (ASTM A-307, Grade 2).

2.4.11 STANDARD NUTS

A. ASTM A563 Grade A or Grade 2

2.4.12 WIND BRACING

A. Wind bracing shall be as shown on the building manufacturer's erection drawings and shall be accomplished by diagonal, rod bracing, steel column, or other means necessary to satisfy roof and wall wind loads. All diagonal wind bracing shall include necessary hillside washers and adjustment nuts at each end. Do not use diagonal rod bracing at locations of doors, louvers, and openings.

2.5 HORIZONTAL ACCENT PANELS

A. Manufacturer – Basis of Design: Centria, 1005 Beaver Grade Road, Moon Township, PA 15108

B. Product: Econo Lap, 3/4" as manufactured by Centria. Profile shall have 34-2/3” of coverage width and 3/4" deep sysmetrical corrugations spaced at 2.67” center to center. Exterior metal panels shall be fabricated from zinc-coated steel conforming to ASTM A653 SS, Grade 37, G90 coating. Material gauge shall be as required to meet specified structural performance requirements, but not less than 20 gauge. Metal panels shall have a smooth surface.

C. Finish:

1. Color: Custom color match, “Imetco” Cardinal Red
2. Finish: Duragard, consisting of 0.8 mil primer with 0.8 mil 70% Keynar 500 coat.

D. Accessories: As shown on drawings and as required by structural requirement and weather tightness.

2.6 BUILDING TRIM

A. General: Preformed 24-gauge galvalume steel with factory baked-on paint flashing shall be provided at corners, end wall rakes, eaves, and openings to assure a neat, weather-tight structure. All trim shall comply with wind loads in structural drawing for wind pressures for components of cladding. Provide approved engineered testing certificates that show compliance with Florida Building Code.

B. Eave Flashing: The junction of the roof panels and side wall panels shall be adequately flashed with preformed 24-gauge galvalume steel with factory baked-on paint. Eave flashing shall be as shown on Architectural drawings and as per manufacturer's recommendations.

C. Eave Gutter: Eave gutter shall be a suspended box section supported at 3'-0" on center maximum and formed to match the configuration shown on Architectural drawings. Eave gutters shall have a minimum cross-sectioned area as required by rainfall amounts set by the Florida Building Code. Pop rivets and sealant shall be used to secure and seal the gutter end laps.

D. Eave Gutter Downspouts: Downspouts shall be 28-gauge, galvalume, factory-painted, square sections sized per Florida Building Code Requirements. Spacing of the downspouts as shown on Architectural drawings. Eave gutter outlets shall be provided to connect the downspouts to the eave gutter. Field connected downspout elbows shall be provided to divert water away from the building.

E. Corner Flashing: The junction of side wall panels and end wall panels shall be adequately flashed to provide weather tightness and good appearance. The flashing shall be designed to compliment the wall panel used and shall match the wall panel color.

F. Accessory Flashing: Accessories which penetrate the wall or roof panels shall be adequately flashed and sealed as necessary for weather tightness and neat appearance.

2.6.1 PERSONNEL DOORS

A. Materials: Fabricate personnel doors and frames from commercial quality, cold-rolled carbon steel sheet, or commercial quality hot-rolled, pickled, and oiled carbon steel sheet.

1. Zinc-coated Steel Sheets: Comply with ASTM A526; with G60 coating complying with ASTM A525, mill phosphatized.

B. Anchors and Accessories: Provide manufacturer's standard units for items built into exterior walls, use galvanized units complying with ASTM A153. Spacing and type per Miami-Dade NOA-tested assembly.

C. Doors: Provide doors of types and styles indicated. Comply with SDI-100 for material quality, metal gages, and construction details.

1. Provide sightproof lovers for interior doors with indicated, constructed of 24-gauge (0.0239-inch) steel V-shaped or Y-shaped blades, set into 20-gauge (0.0359-inch) steel frame.
2. Provide Miami-Dade NOA-tested assembly.

D. Frames: Provide frames of the types and sizes indicated. Comply with SDI-100 for material quality, metal gages, and construction details.

1. Provide standard hollow metal frames for doors, transoms, sidelights, borrowed lights, and other openings as indicated.
2. Provide Miami-Dade NOA-tested assembly.

E. Fabrication: Fabricate units to be rigid, neat in appearance, and free from defects, warp, or buckle. Provide continuous welds on exposed joints; grind, dress, and make welds smooth, flush, and invisible.

F. Hardware: See Door Hardware Section 08700.

G. Shop-paint exposed surfaces, including galvanized surfaces, using manufacturer's standard baked-on, rust-inhibitive primer.

H. Factory-painted doors and door frames with baked enamel paint.

2.7 SOFFIT PANELS

A. Product: Standard soffit panel. Profile is concealed fastener soffit, flat appearance 12" coverage with 1" panel depth. Panels shall be fabricated from zinc-coated steel conforming to ASTM A792 with coating class AZ50 or heavier, minimum spangle, as specified by coater - G90 coating. Material gauge shall be as required to meet specified structural performance requirements, but not less than 26 gauge. Metal panels shall have a smooth surface.

B. Finish:

1. Color: Custom color match, "Imetco" Cardinal Red
2. Finish: Duragard, consisting of 0.8 mil primer with 0.8 mil 70% Keynar 500 coat.

C. Accessories: As shown on drawings and as required by structural requirement and weather tightness.

2.8 SHOP FABRICATION

A. Scope: All fabricated members shall be sheared, formed, punched, welded, painted in the plant of the manufacturer. All holes and clips required to facilitate the attachment of secondary framing shall be provided by the metal building manufacturer. See Architectural, Structural, Mechanical drawings for other items to be attached to the structure.

B. Welding: All shop welding shall be in accordance with the American Welding Society's Structural Welding Code (AWS D1.1) current edition, except for Sections 3.5 and 8.13. All welding shall be done by welders certified in accordance with AWS Code. Flanges and webs of "I" sections shall be joined by a continuous automatic submerged arc welding process or a semi-automatic GMAW process. The web shall be joined to the flanges by a minimum of 50% web penetration.

C. Structural Primer: All fabricated members other than galvalume, galvanized, pre-painted panel, and flashing material shall receive a factory-applied coat of rust-inhibiting green primer. The primer shall be formulated to equal or exceed the performance of Federal Specification TT-P-636D.

D. Identification: All fabricated or purchased items shall have an identifying mark that corresponds to the mark shown on the erection drawings. The mark shall be stamped, stenciled, or printed on or attached to the items.

2.9 CLOSURE AND SEALANTS

A. Closure Strips: The corrugations of the roof and wall panels shall be filled with preformed closed cell non-shrinking, laminated polyethylene closures along the eave, ridge, and rake for weather tightness.

B. Metal Closures: The corrugations and pan area of the standing seam roof panel shall be filled with formed-metal closures. The closures shall be formed from 20-gauge steel to the shape of the configuration. The closure exterior finish shall be AZ 55 Aluminum-zinc alloy coated.

C. Sealer: Standing Seam, side laps shall have factory-applied mastic, Sika SikaCaulk 501, or approved equal. Its composition shall be 91% solids by weight. Service temperature range shall be -60 degrees F to +250 degrees F. The material shall or surpass the requirements of Federal Specification TT-C-1796A, Type I, Class A.

D. Sealer: Standing Seam, ridges and eave closures shall be sealed with tape mastic, Sika SikaTape 65, or approved equal. The material shall be non-staining, non-corrosive, non-toxic, and non-volatile. Composition shall be 100% solid-ethylene propylene copolymer tape. Service Temperature shall be from -60 degrees F to + 212 degrees F. The material shall meet or surpass the requirements of Federal Specifications TT-C-1796a Type II, Class B.

E. Pipe Flashing: Manufactured one- (1) piece construction from EPDM membrane and shall have an aluminum base that can be field conformed to any panel configuration.

F. Louvers: See drawing and Section 10200 for requirements.

2.10 MISCELLANEOUS TRIM

A. Provide miscellaneous custom section, trim, flashing, and panels as required by the drawings to achieve final function and/or aesthetic effect.

PART-3 EXECUTION

3.1 INSTALLATION

A. The erection of the structural members and the installation of the standing seam roofing, insulation, wall panels and miscellaneous accessories shall be performed in accordance with the drawings, project manual, and in accordance to the manufacturers written and drawn instructions. The erection shall be performed by a manufacturer-approved erector. All erection practices shall conform to Section 6, Common Industry Practices found in the "Low Rise Building Systems Manual", MBMA latest edition. Do not make any field modifications to structural members without the written acceptance of the Architect/Engineer of Record.

B. Clean surfaces as per manufacturer’s recommendations.

3.2 ERECTION

A. Framing: Erect framing true to line, level, plumb, rigid, and secure. Level base plates to a true even plane with full bearing to supporting structures, set with double-nutted anchor bolts. Use a non-shrinking grout to obtain uniform bearing and to maintain a level base line elevation. Moist cure grout for not less than seven (7) days after placement.

B. Purlins and Girts: Provide rake or gable purlins with tight-fitting closure channels and fascias. Locate and space wall girts to suit door and window arrangements and heights. Secure purlins and girts to structural framing and hold rigidly to a straight line by sag rods.

C. Bracing: Provide diagonal rod or angle bracing in roof and side walls as indicated.

1. Movement-resisting frames may be used in lieu of side wall rod bracing, to suit manufacturer's standards.
2. Where diaphragm strength of roof or wall covering is adequate to resist wind forces, rod or angle bracing will not be required.

D. Framed Openings: Provide shapes of proper design and size to reinforce openings and to carry loads and vibrations imposed, including equipment furnished under mechanical and electrical work. Securely attach to building structural frame.

E. Coordinate erection of structure with Section 09900 " Painting".

3.3 ROOFING AND SIDING

A. General: Arrange and nest side lap joints so prevailing winds blow over, not into, lapped joints. Lap ribbed or fluted sheets one full-rib corrugation. Apply panels and associated items for neat and weather-tight enclosure. Avoid "panel creep" or application not true to line. Protect factory finishes from damage.

1. Field cutting of exterior panels by torch is not permitted.
2. Provide weather seal under ridge cap. Flash and seal roof panels at eave and rake with rubber, neoprene, or other closures to exclude weather.

B. Standing-Seam Roof Panel System: Fasten roof panels to purlins with concealed clip in accordance with the manufacturer's instructions.

1. Install clips at each support with self-drilling fasteners.
2. At end laps of panels, install tape caulk between panels.
3. Install factory-caulked cleats at standing-seam points. Machine-seam cleats to the panels to provide a weather-tight joint.
4. Provide for system thermal expansion.

C. Wall Sheets: Apply elastomeric sealant continuously between metal-base channel (sill angle) and concrete and elsewhere as necessary for waterproofing. Handle and apply sealant and backup in accordance with the sealant manufacturer's recommendations.

1. Align bottom of wall panels and fasten panels with blind rivets, bolts, or self-tapping screws. Fasten flashings and trim around openings and similar elements with self-tapping screws. Fasten window and door frames with machine screws or bolts. When building height requires two (2) rows of panels at gable ends, align lap of gable panels over wall panels at eave height.
2. Install screw fasteners with power tools having controlled torque adjusted to compress neoprene washer tightly without damage to washer, screw threads, or panels. Install screws in predrilled holes.

3. Provide weatherproof escutcheons for pipe and conduit penetrating exterior walls.

D. Sheet Metal Accessories: Install gutters, downspouts, ventilators, louvers, and other sheet metal accessories in accordance with manufacturer's recommendations for positive anchorage to building and weather-tight mounting. Adjust operating mechanism for precise operation.

E. Hollow Metal Doors and Frames: Install doors and frames straight, plumb, and level. Securely anchor frames to building structure. Set units with 1/8" maximum clearance between door and frame at jambs and head and 3/4" maximum between door and floor. Adjust hardware for proper operation.

F. Aircraft Doors: Set doors and operating equipment complete with necessary hardware, jamb and head mold stops, anchors, inserts, hangers, and equipment supports in accordance with manufacturer's instructions. Adjust moving hardware for proper operation.

G. Thermal Insulation: Install insulation concurrently with installation of roof panels in accordance with manufacturer's directions. Install blankets straight and true in one-piece lengths with both sets of tabs sealed to provide a complete vapor barrier. Locate insulation on underside of roof sheets, extending across the top flange of purlin members and held taut and snug to roofing panels with retainer clips. Install retainer strips at each longitudinal joint, straight and taut, nesting with roof rib to hold insulation in place.

END OF SECTION 13120

SECTION C-100 CONTRACTOR QUALITY CONTROL PROGRAM (CQCP)

1.1 GENERAL. Quality is more than test results. Quality is the combination of proper materials, testing, workmanship, equipment, inspection, and documentation of the project. Establishing and maintaining a culture of quality is key to achieving a quality project. The Contractor shall establish, provide, and maintain an effective Contractor Quality Control Program (CQCP) that details the methods and procedures that will be taken to assure that all materials and completed construction required by this contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors. Although guidelines are established and certain minimum requirements are specified here and elsewhere in the contract technical specifications, the Contractor shall assume full responsibility for accomplishing the stated purpose.

The Contractor shall establish a CQCP that will:

a. Provide qualified personnel to develop and implement the CQCP.

b. Provide for the production of acceptable quality materials.

c. Provide sufficient information to assure that the specification requirements can be met.

d. Document the CQCP process.

The Contractor shall not begin any construction or production of materials to be incorporated into the completed work until the CQCP has been reviewed and approved by the Resident Project Representative (RPR). No partial payment will be made for materials subject to specific quality control (QC) requirements until the CQCP has been reviewed and approved.

The QC requirements contained in this section and elsewhere in the contract technical specifications are in addition to and separate from the quality assurance (QA) testing requirements. QA testing requirements are the responsibility of the RPR or Contractor as specified in the specifications.

A Quality Control (QC)/Quality Assurance (QA) workshop with the Engineer, Resident Project Representative (RPR), Contractor, subcontractors, testing laboratories, and Owner's representative must be held prior to start of construction. The QC/QA workshop will be facilitated by the Contractor. The Contractor shall coordinate with the Airport and the RPR on time and location of the QC/QA workshop. Items to be addressed, at a minimum, will include:

a. Review of the CQCP including submittals, QC Testing, Action & Suspension Limits for Production, Corrective Action Plans, Distribution of QC reports, and Control Charts.

b. Discussion of the QA program.

c. Discussion of the QC and QA Organization and authority including coordination and information exchange between QC and QA.

d. Establish regular meetings to discuss control of materials, methods and testing.

e. Establishment of the overall QC culture.

1.2 DESCRIPTION OF PROGRAM.

a. General description. The Contractor shall establish a CQCP to perform QC inspection and testing of all items of work required by the technical specifications, including those performed by subcontractors. The CQCP shall ensure conformance to applicable specifications and plans with respect to materials, off-site fabrication, workmanship, construction, finish, and functional performance. The CQCP shall be effective for control of all construction work performed under this Contract and shall specifically include surveillance and tests required by the technical specifications, in addition to other requirements of this section and any other activities deemed necessary by the Contractor to establish an effective level of QC.

b. Contractor Quality Control Program (CQCP). The Contractor shall describe the CQCP in a written document that shall be reviewed and approved by the RPR prior to the start of any production, construction, or off-site fabrication. The written CQCP shall be submitted to the RPR for review and approval at least 10 calendar days before the CQCP Workshop. The Contractor's CQCP and QC testing laboratory must be approved in writing by the RPR prior to the Notice to Proceed (NTP).

The CQCP shall be organized to address, as a minimum, the following:

1. QC organization and resumes of key staff
2. Project progress schedule
3. Submittals schedule
4. Inspection requirements
5. QC testing plan
6. Documentation of QC activities and distribution of QC reports
7. Requirements for corrective action when QC and/or QA acceptance criteria are not met
8. Material quality and construction means and methods. Address all elements applicable to the project that affect the quality of the pavement structure including subgrade, subbase, base, and surface course. Some elements that must be addressed include, but is not limited to mix design, aggregate grading, stockpile management, mixing and transporting, placing and finishing, quality control testing and inspection, smoothness, laydown plan, equipment, and temperature management plan.

The Contractor must add any additional elements to the CQCP that is necessary to adequately control all production and/or construction processes required by this contract.

1.3 CQCP ORGANIZATION. The CQCP shall be implemented by the establishment of a QC organization. An organizational chart shall be developed to show all QC personnel, their authority, and how these personnel integrate with other management/production and construction functions and personnel.

The organizational chart shall identify all QC staff by name and function, and shall indicate the total staff required to implement all elements of the CQCP, including inspection and testing for each item of work. If necessary, different technicians can be used for specific inspection and testing functions for different items of work. If an outside organization or independent testing laboratory is used for implementation of all or part of the CQCP, the personnel assigned shall be subject to the qualification requirements of paragraphs 100-03a and 100-03b. The organizational chart shall indicate which personnel are Contractor employees and which are provided by an outside organization.

The QC organization shall, as a minimum, consist of the following personnel:

a. Program Administrator. The Contractor Quality Control Program Administrator (CQCPA) must be a full-time employee of the Contractor, or a consultant engaged by the Contractor. The CQCPA must have a minimum of five (5) years of experience in QC pavement construction with prior QC experience on a project of comparable size and scope as the contract.

Included in the five (5) years of paving/QC experience, the CQCPA must meet at least one of the following requirements:

(1) Professional Engineer with one (1) year of airport paving experience.

(2) Engineer-in-training with two (2) years of airport paving experience.

(3) National Institute for Certification in Engineering Technologies (NICET) Civil Engineering Technology Level IV with three (3) years of airport paving experience.

(4) An individual with four (4) years of airport paving experience, with a Bachelor of Science Degree in Civil Engineering, Civil Engineering Technology or Construction.

The CQCPA must have full authority to institute any and all actions necessary for the successful implementation of the CQCP to ensure compliance with the contract plans and technical specifications. The CQCPA authority must include the ability to immediately stop production until materials and/or processes are in compliance with contract specifications. The CQCPA must report directly to a principal officer of the construction firm. The CQCPA may supervise the Quality Control Program on more than one project provided that person can be at the job site within two (2) hours after being notified of a problem.

b. QC technicians. A sufficient number of QC technicians necessary to adequately implement the CQCP must be provided. These personnel must be either Engineers, engineering technicians, or experienced craftsman with qualifications in the appropriate field equivalent to NICET Level II in Civil Engineering Technology or higher, and shall have a minimum of two (2) years of experience in their area of expertise.

The QC technicians must report directly to the CQCPA and shall perform the following functions:

(1) Inspection of all materials, construction, plant, and equipment for conformance to the technical specifications, and as required by paragraph 100-6.

(2) Performance of all QC tests as required by the technical specifications and paragraph100-8.

(3) Performance of tests for the RPR when required by the technical specifications.

Certification at an equivalent level of qualification and experience by a state or nationally recognized organization will be acceptable in lieu of NICET certification.

c. Staffing levels. The Contractor shall provide sufficient qualified QC personnel to monitor each work activity at all times. Where material is being produced in a plant for incorporation into the work, separate plant and field technicians shall be provided at each plant and field placement location. The scheduling and coordinating of all inspection and testing must match the type and pace of work activity. The CQCP shall state where different technicians will be required for different work elements.

1.4 PROJECT PROGRESS SCHEDULE. Critical QC activities must be shown on the project schedule as required by Section 80, paragraph 80-03, *Execution and Progress*.

1.5 SUBMITTALS SCHEDULE. The Contractor shall submit a detailed listing of all submittals (for example, mix designs, material certifications) and shop drawings required by the technical specifications. The listing can be developed in a spreadsheet format and shall include as a minimum:

a. Specification item number

b. Item description

c. Description of submittal

d. Specification paragraph requiring submittal

e. Scheduled date of submittal

1.6 INSPECTION REQUIREMENTS. QC inspection functions shall be organized to provide inspections for all definable features of work, as detailed below. All inspections shall be documented by the Contractor as specified by paragraph 100-9.

Inspections shall be performed as needed to ensure continuing compliance with contract requirements until completion of the particular feature of work. Inspections shall include the following minimum requirements:

a. During plant operation for material production, QC test results and periodic inspections shall be used to ensure the quality of aggregates and other mix components, and to adjust and control mix proportioning to meet the approved mix design and other requirements of the technical specifications. All equipment used in proportioning and mixing shall be inspected to ensure its proper operating condition. The CQCP shall detail how these and other QC functions will be accomplished and used.

b. During field operations, QC test results and periodic inspections shall be used to ensure the quality of all materials and workmanship. All equipment used in placing, finishing, and compacting shall be inspected to ensure its proper operating condition and to ensure that all such operations are in conformance to the technical specifications and are within the plan dimensions, lines, grades, and tolerances specified. The CQCP shall document how these and other QC functions will be accomplished and used.

1.7 CONTRACTOR QC TESTING FACILITY.

a. For projects that include Item P-401, Item P-403, and Item P-404, the Contractor shall ensure facilities, including all necessary equipment, materials, and current reference standards, are provided that meet requirements in the following paragraphs of ASTM D3666, *Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials*:

- 8.1.3 Equipment Calibration and Checks;
- 8.1.9 Equipment Calibration, Standardization, and Check Records;
- 8.1.12 Test Methods and Procedures

b. For projects that include P-501, the Contractor shall ensure facilities, including all necessary equipment, materials, and current reference standards, are provided that meet requirements in the following paragraphs of ASTM C1077, Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation:

- 7 Test Methods and Procedures
- 8 Facilities, Equipment, and Supplemental Procedures

1.8 QC TESTING PLAN. As a part of the overall CQCP, the Contractor shall implement a QC testing plan, as required by the technical specifications. The testing plan shall include the minimum tests and test frequencies required by each technical specification Item, as well as any additional QC tests that the Contractor deems necessary to adequately control production and/or construction processes.

The QC testing plan can be developed in a spreadsheet fashion and shall, as a minimum, include the following:

a. Specification item number (e.g., P-401)

b. Item description (e.g., Hot Mix Asphalt Pavements)

c. Test type (e.g., gradation, grade, asphalt content)

d. Test standard (e.g., ASTM or American Association of State Highway and Transportation Officials (AASHTO) test number, as applicable)

e. Test frequency (e.g., as required by technical specifications or minimum frequency when requirements are not stated)

f. Responsibility (e.g., plant technician)

g. Control requirements (e.g., target, permissible deviations)

The QC testing plan shall contain a statistically-based procedure of random sampling for acquiring test samples in accordance with ASTM D3665. The RPR shall be provided the opportunity to witness QC sampling and testing.

All QC test results shall be documented by the Contractor as required by paragraph 100-9.

1.9 DOCUMENTATION. The Contractor shall maintain current QC records of all inspections and tests performed. These records shall include factual evidence that the required QC inspections or tests have been performed, including type and number of inspections or tests involved; results of inspections or tests; nature of defects, deviations, causes for rejection, etc.; proposed remedial action; and corrective actions taken.

These records must cover both conforming and defective or deficient features, and must include a statement that all supplies and materials incorporated in the work are in full compliance with the terms of the contract. Legible copies of these records shall be furnished to the RPR daily. The records shall cover all work placed subsequent to the previously furnished records and shall be verified and signed by the CQCPA.

Contractor QC records required for the contract shall include, but are not necessarily limited to, the following records:

a. Daily inspection reports. Each Contractor QC technician shall maintain a daily log of all inspections performed for both Contractor and subcontractor operations. These technician’s daily reports shall provide factual evidence that continuous QC inspections have been performed and shall, as a minimum, include the following:

(1) Technical specification item number and description

(2) Compliance with approved submittals

(3) Proper storage of materials and equipment

(4) Proper operation of all equipment

(5) Adherence to plans and technical specifications

(6) Summary of any necessary corrective actions

(7) Safety inspection.

(8) Photographs and/or video

The daily inspection reports shall identify all QC inspections and QC tests conducted, results of inspections, location and nature of defects found, causes for rejection, and remedial or corrective actions taken or proposed.

The daily inspection reports shall be signed by the responsible QC technician and the CQCPA. The RPR shall be provided at least one copy of each daily inspection report on the work day following the day of record. When QC inspection and test results are recorded and transmitted electronically, the results must be archived.

b. Daily test reports. The Contractor shall be responsible for establishing a system that will record all QC test results. Daily test reports shall document the following information:

(1) Technical specification item number and description
(2) Test designation
(3) Location
(4) Date of test
(5) Control requirements
(6) Test results
(7) Causes for rejection
(8) Recommended remedial actions
(9) Retests

Test results from each day's work period shall be submitted to the RPR prior to the start of the next day's work period. When required by the technical specifications, the Contractor shall maintain statistical QC charts. When QC daily test results are recorded and transmitted electronically, the results must be archived.

1.10 CORRECTIVE ACTION REQUIREMENTS. The CQCP shall indicate the appropriate action to be taken when a process is deemed, or believed, to be out of control (out of tolerance) and detail what action will be taken to bring the process into control. The requirements for corrective action shall include both general requirements for operation of the CQCP as a whole, and for individual items of work contained in the technical specifications.

The CQCP shall detail how the results of QC inspections and tests will be used for determining the need for corrective action and shall contain clear rules to gauge when a process is out of control and the type of correction to be taken to regain process control.

When applicable or required by the technical specifications, the Contractor shall establish and use statistical QC charts for individual QC tests. The requirements for corrective action shall be linked to the control charts.

1.11 INSPECTION AND/OR OBSERVATIONS BY THE RPR. All items of material and equipment are subject to inspection and/or observation by the RPR at the point of production, manufacture or shipment to determine if the Contractor, producer, manufacturer or shipper maintains an adequate QC system in conformance with the requirements detailed here and the applicable technical specifications and plans. In addition, all items of materials, equipment and work in place shall be subject to inspection and/or observation by the RPR at the site for the same purpose.

Inspection and/or observations by the RPR does not relieve the Contractor of performing QC inspections of either on-site or off-site Contractor's or subcontractor's work.

1.12 NONCOMPLIANCE.

a. The Resident Project Representative (RPR) will provide written notice to the Contractor of any noncompliance with their CQCP. After receipt of such notice, the Contractor must take corrective action.

b. When QC activities do not comply with either the CQCP or the contract provisions or when the Contractor fails to properly operate and maintain an effective CQCP, and no effective corrective actions have been taken after notification of non-compliance, the RPR will recommend the Owner take the following actions:

(1) Order the Contractor to replace ineffective or unqualified QC personnel or subcontractors and/or

(2) Order the Contractor to stop operations until appropriate corrective actions are taken.

METHOD OF MEASUREMENT

2.1 BASIS OF MEASUREMENT AND PAYMENT. [Not Used] [Contractor Quality Control Program (CQCP) is for the personnel, tests, facilities and documentation required to implement the CQCP. The CQCP will be paid as a lump sum with the following schedule of partial payments:

a. With first pay request, 25% with approval of CQCP and completion of the Quality Control (QC)/Quality Assurance (QA) workshop.

b. When 25% or more of the original contract is earned, an additional 25%.

c. When 50% or more of the original contract is earned, an additional 20%.

d. When 75% or more of the original contract is earned, an additional 20%

e. After final inspection and acceptance of project, the final 10%.

BASIS OF PAYMENT

3.1 PAYMENT WILL BE MADE UNDER:

Item C-100-1 Contractor Quality Control Program (CQCP)

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

National Institute for Certification in Engineering Technologies (NICET)

ASTM International (ASTM)

ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D3666	Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials

END OF SECTION C-100

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SECTION C-102 TEMPORARY AIR AND WATER POLLUTION, SOIL EROSION, AND SILTATION CONTROL

PART 1 - DESCRIPTION

1.1. This item shall consist of temporary control measures as shown on the plans or as ordered by the Resident Project Representative (RPR) during the life of a contract to control pollution of air and water, soil erosion, and siltation through the use of silt fences, berms, dikes, dams, sediment basins, fiber mats, gravel, mulches, grasses, slope drains, and other erosion control devices or methods.

Temporary erosion control shall be in accordance with the approved erosion control plan; the approved Construction Safety and Phasing Plan (CSPP) and AC 150/5370-2, *Operational Safety on Airports During Construction*. The temporary erosion control measures contained herein shall be coordinated with the permanent erosion control measures specified as part of this contract to the extent practical to assure economical, effective, and continuous erosion control throughout the construction period.

Temporary control may include work outside the construction limits such as borrow pit operations, equipment and material storage sites, waste areas, and temporary plant sites.

Temporary control measures shall be designed, installed and maintained to minimize the creation of wildlife attractants that have the potential to attract hazardous wildlife on or near public-use airports.

PART 2 - MATERIALS

2.1 GRASS. Grass that will not compete with the grasses sown later for permanent cover per Item T-901shall be a quick-growing species (such as ryegrass, Italian ryegrass, or cereal grasses) suitable to the area providing a temporary cover. Selected grass species shall not create a wildlife attractant.

2.2 MULCHES. Mulches may be hay, straw, fiber mats, netting, bark, wood chips, or other suitable material reasonably clean and free of noxious weeds and deleterious materials per Item T-908. Mulches shall not create a wildlife attractant.

2.3 FERTILIZER. Fertilizer shall be a standard commercial grade and shall conform to all federal and state regulations and to the standards of the Association of Official Agricultural Chemists.

2.4 SLOPE DRAINS. Slope drains may be constructed of pipe, fiber mats, rubble, concrete, asphalt, or other materials that will adequately control erosion.

2.5 SILT FENCE. Silt fence shall consist of polymeric filaments which are formed into a stable network such that filaments retain their relative positions. Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six months of expected usable construction life. Silt fence shall meet the requirements of ASTM D6461.

2.6 OTHER. All other materials shall meet commercial grade standards and shall be approved by the RPR before being incorporated into the project.

PART 3 - CONSTRUCTION REQUIREMENTS

3.1 GENERAL. In the event of conflict between these requirements and pollution control laws, rules, or regulations of other federal, state, or local agencies, the more restrictive laws, rules, or regulations shall apply.

The RPR shall be responsible for assuring compliance to the extent that construction practices, construction operations, and construction work are involved.

3.2 SCHEDULE. Prior to the start of construction, the Contractor shall submit schedules in accordance with the approved Construction Safety and Phasing Plan (CSPP) and the plans for accomplishment of temporary and permanent erosion control work for clearing and grubbing; grading; construction; paving; and structures at watercourses. The Contractor shall also submit a proposed method of erosion and dust control on haul roads and borrow pits and a plan for disposal of waste materials. Work shall not be started until the erosion control schedules and methods of operation for the applicable construction have been accepted by the RPR.

3.3 CONSTRUCTION DETAILS. The Contractor will be required to incorporate all permanent erosion control features into the project at the earliest practicable time as outlined in the plans and approved CSPP. Except where future construction operations will damage slopes, the Contractor shall perform the permanent seeding and mulching and other specified slope protection work in stages, as soon as substantial areas of exposed slopes can be made available. Temporary erosion and pollution control measures will be used to correct conditions that develop during construction that were not foreseen during the design stage; that are needed prior to installation of permanent control features; or that are needed temporarily to control erosion that develops during normal construction practices, but are not associated with permanent control features on the project.

Where erosion may be a problem, schedule and perform clearing and grubbing operations so that grading operations and permanent erosion control features can follow immediately if project conditions permit. Temporary erosion control measures are required if permanent measures cannot immediately follow grading operations. The RPR shall limit the area of clearing and grubbing, excavation, borrow, and embankment operations in progress, commensurate with the Contractor’s capability and progress in keeping the finish grading, mulching, seeding, and other such permanent control measures current with the accepted schedule. If seasonal limitations make such coordination unrealistic, temporary erosion control measures shall be taken immediately to the extent feasible and justified as directed by the RPR.

The Contractor shall provide immediate permanent or temporary pollution control measures to minimize contamination of adjacent streams or other watercourses, lakes, ponds, or other areas of water impoundment as directed by the RPR. If temporary erosion and pollution control measures are required due to the Contractor’s negligence, carelessness, or failure to install permanent controls as a part of the work as scheduled or directed by the RPR, the work shall be performed by the Contractor and the cost shall be incidental to this item.

The RPR may increase or decrease the area of erodible earth material that can be exposed at any time based on an analysis of project conditions.

The erosion control features installed by the Contractor shall be maintained by the Contractor during the construction period.

Provide temporary structures whenever construction equipment must cross watercourses at frequent intervals. Pollutants such as fuels, lubricants, bitumen, raw sewage, wash water from concrete mixing operations, and other harmful materials shall not be discharged into any waterways, impoundments or into natural or manmade channels.

Coordinate with the project Storm Water Pollution Prevention Plans (SWPPP)

3**.4 INSTALLATION, MAINTENANCE AND REMOVAL OF SILT FENCE**. Silt fences shall extend a minimum of 16 inches (41 cm) and a maximum of 34 inches (86 cm) above the ground surface. Posts shall be set no more than 10 feet (3 m) on center. Filter fabric shall be cut from a continuous roll to the length required minimizing joints where possible. When joints are necessary, the fabric shall be spliced at a support post with a minimum 12-inch (300-mm) overlap and securely sealed. A trench shall be excavated approximately 4 inches (100 mm) deep by 4 inches (100 mm) wide on the upslope side of the silt fence. The trench shall be backfilled and the soil compacted over the silt fence fabric. The Contractor shall remove and dispose of silt that accumulates during construction and prior to establishment of permanent erosion control. The fence shall be maintained in good working condition until permanent erosion control is established. Silt fence shall be removed upon approval of the RPR.

PART 4 - METHOD OF MEASUREMENT

4.1 Temporary erosion and pollution control work required will be performed as scheduled or directed by the RPR. Completed and accepted work will be measured as follows:

a. Temporary seeding and mulching will be measured by the square yard (square meter).

b. Temporary slope drains will be measured by the linear foot (meter).

c. Temporary benches, dikes, dams, and sediment basins will be measured by the cubic yard (cubic meter) of excavation performed, including necessary cleaning of sediment basins, and the cubic yard (cubic meter) of embankment placed as directed by the RPR.

d. All fertilizing will be measured by the ton (kg).

e. Installation and removal of silt fence will be measured by the linear foot.

4.2 Control work performed for protection of construction areas outside the construction limits, such as borrow and waste areas, haul roads, equipment and material storage sites, and temporary plant sites, will not be measured and paid for directly but shall be considered as a subsidiary obligation of the Contractor.

PART 5 - BASIS OF PAYMENT

5.1 Accepted quantities of temporary water pollution, soil erosion, and siltation control work ordered by the RPR and measured as provided in paragraph 102-4.1 will be paid for ***on a percent complete basis*** under:

Item C-102-1 Temporary Erosion Controls \ SWPPP - Lump Sum (LS)

~~Item C-102-5.1a Temporary seeding and mulching - per square yard (square meter)~~

~~Item C-102-5.1b Temporary slope drains - per linear foot (meter)~~

~~Item C-102-5.1c Temporary benches, dikes, dams and sediment basins - per cubic yard (cubic meter)~~

~~Item C-102-5.1d Fertilizing - per ton (kg)~~

~~Item C-102-5.1e Installation and removal of silt fence **[** per linear foot (meter) **]** **[** lump sum **]**~~

Where other directed work falls within the specifications for a work item that has a contract price, the units of work shall be measured and paid for at the contract unit price bid for the various items.

Temporary control features not covered by contract items that are ordered by the RPR will be paid for in accordance with Section 90, paragraph 90-05 *Payment for Extra Work*.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5200-33 *Hazardous Wildlife Attractants on or Near Airports*

AC 150/5370-2 *Operational Safety on Airports During Construction*

ASTM International (ASTM)

ASTM D6461 *Standard Specification for Silt Fence Materials*

United States Department of Agriculture (USDA)

FAA/USDA Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM C-102

SECTION C-105 MOBILIZATION

1.1 DESCRIPTION. This item of work shall consist of, but is not limited to, work and operations necessary for the movement of personnel, equipment, material and supplies to and from the project site for work on the project except as provided in the contract as separate pay items.

Additionally, this item shall consist of the establishment of temporary offices, buildings, utilities, safety equipment and first aid supplies, sanitary and other facilities, maintenance of traffic, as required by these specifications and State and local laws and regulations. The costs of bonds and any required insurances, and any other preconstruction expenses necessary for the start of the work may also be included in this Section.

1.2 MOBILIZATION LIMIT. Mobilization shall be limited to ***10*** percent of the total project cost.

1.3 POSTED NOTICES. Prior to commencement of construction activities, the Contractor must post the following documents in a prominent and accessible place where they may be easily viewed by all employees of the prime Contractor and by all employees of subcontractors engaged by the prime Contractor: Equal Employment Opportunity (EEO) Poster "Equal Employment Opportunity is the Law" in accordance with the Office of Federal Contract Compliance Programs Executive Order 11246, as amended; Davis Bacon Wage Poster (WH 1321) - DOL "Notice to All Employees" Poster; and Applicable Davis-Bacon Wage Rate Determination. These notices must remain posted until final acceptance of the work by the Owner.

Links to the posters available at: https://www.faa.gov/airports/engineering/

1**.4 ENGINEER/RPR FIELD OFFICE.** ***An Engineer/RPR field office is not required for this project.***

1.5 Demobilization. ***Upon or before issuance of substantial completion, the Contractor shall promptly begin to demobilize men, equipment and facilities from the project site. At the time of final completion all materials, equipment, offices and temporary facilities shall be removed from the site. The site shall be fully restored to its previous condition or as otherwise approved by the Engineer, including establishment of stabilized areas or turfing disturbed areas. Final payment for the Mobilization pay item as well as all retainage may be withheld until the site restoration and demobilization are complete. Demobilization is considered a part of Mobilization, and is paid for by the Mobilization pay item.***

1.*6 Dewatering. See General Provision 130 (Special Provisions, Section 35).*

1.7 Construction Surveys. See Technical Specification P-100.

1.8 Construction Safety and Phasing. See General Provision 130 (Special Provisions, Section 36).

METHOD OF MEASUREMENT

2.1 BASIS OF MEASUREMENT AND PAYMENT. Based upon the contract lump sum price for "Mobilization", ***"Dewatering", "Construction Surveys", and "Construction Safety and Phasing",*** partial payments will be allowed as follows:

a. With first pay request, 25%.

b. When 25% or more of the original contract is earned, an additional 25%.

c. When 50% or more of the original contract is earned, an additional 40%.

d. After Final Inspection, Staging area clean-up and delivery of all Project Closeout materials as required by Section 90, paragraph 90-11, *Contractor Final Project Documentation,* the final 10%.

BASIS OF PAYMENT

3.1 PAYMENT WILL BE MADE UNDER:

C-105-1	Mobilization	-- Lump Sum
C-105-2	Dewatering	-- Lump Sum
C-105-3	Construction Surveys	-- Lump Sum
C-105-4	Construction Safety and Phasing	-- Lump Sum

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Office of Federal Contract Compliance Programs (OFCCP)

Executive Order 11246, as amended

EEOC-P/E-1 – Equal Employment Opportunity is the Law Poster

United States Department of Labor, Wage and Hour Division (WHD)

WH 1321 – Employee Rights under the Davis-Bacon Act Poster

END OF SECTION C-105

SECTION C-110 METHOD OF ESTIMATING PERCENTAGE OF MATERIAL WITHIN SPECIFICATION LIMITS (PWL)

1.1 **GENERAL**. When the specifications provide for acceptance of material based on the method of estimating percentage of material within specification limits (PWL), the PWL will be determined in accordance with this section. All test results for a lot will be analyzed statistically to determine the total estimated percent of the lot that is within specification limits. The PWL is computed using the sample average (X) and sample standard deviation (S_n) of the specified number (n) of sublots for the lot and the specification tolerance limits, L for lower and U for upper, for the particular acceptance parameter. From these values, the respective Quality index, Q_L for Lower Quality Index and/or Q_U for Upper Quality Index, is computed and the PWL for the lot for the specified n is determined from Table 1. All specification limits specified in the technical sections shall be absolute values. Test results used in the calculations shall be to the significant figure given in the test procedure.

There is some degree of uncertainty (risk) in the measurement for acceptance because only a small fraction of production material (the population) is sampled and tested. This uncertainty exists because all portions of the production material have the same probability to be randomly sampled. The Contractor's risk is the probability that material produced at the acceptable quality level is rejected or subjected to a pay adjustment. The Owner's risk is the probability that material produced at the rejectable quality level is accepted.

It is the intent of this section to inform the Contractor that, in order to consistently offset the Contractor's risk for material evaluated, production quality (using population average and population standard deviation) must be maintained at the acceptable quality specified or higher. In all cases, it is the responsibility of the Contractor to produce at quality levels that will meet the specified acceptance criteria when sampled and tested at the frequencies specified.

1.2 METHOD FOR COMPUTING PWL. The computational sequence for computing PWL is as follows:

a. Divide the lot into n sublots in accordance with the acceptance requirements of the specification.

b. Locate the random sampling position within the sublot in accordance with the requirements of the specification.

c. Make a measurement at each location, or take a test portion and make the measurement on the test portion in accordance with the testing requirements of the specification.

d. Find the sample average (X) for all sublot test values within the lot by using the following formula:

$$X = (x_1 + x_2 + x_3 + \ldots x_n) / n$$

Where: X = Sample average of all sublot test values within a lot

$x_1, x_2, \ldots x_n$ = Individual sublot test values

n = Number of sublot test values

e. Find the sample standard deviation (S_n) by use of the following formula:

$$S_n = [(d_1^2 + d_2^2 + d_3^2 + \ldots d_n^2)/(n-1)]^{1/2}$$

Where: S_n = Sample standard deviation of the number of sublot test values in the set

$d_1, d_2, \ldots d_n$ = Deviations of the individual sublot test values $x_1, x_2, \ldots$ from the average value X

that is: $d_1 = (x_1 - X)$, $d_2 = (x_2 - X) \ldots d_n = (x_n - X)$

n = Number of sublot test values

f. For single sided specification limits (i.e., L only), compute the Lower Quality Index Q_L by use of the following formula:

$$Q_L = (X - L) / S_n$$

Where: L = specification lower tolerance limit

Estimate the percentage of material within limits (PWL) by entering Table 1 with Q_L, using the column appropriate to the total number (n) of measurements. If the value of Q_L falls between values shown on the table, use the next higher value of PWL.

g. For double-sided specification limits (i.e., L and U), compute the Quality Indexes Q_L and Q_U by use of the following formulas:

$$Q_L = (X - L) / S_n$$
and
$$Q_U = (U - X) / S_n$$

Where: L and U = specification lower and upper tolerance limits

Estimate the percentage of material between the lower (L) and upper (U) tolerance limits (PWL) by entering Table 1 separately with Q_L and Q_U, using the column appropriate to the total number (n) of measurements, and determining the percent of material above P_L and percent of material below P_U for each tolerance limit. If the values of Q_L fall between values shown on the table, use the next higher value of P_L or P_U. Determine the PWL by use of the following formula:

$$PWL = (P_U + P_L) - 100$$

Where: P_L = percent within lower specification limit

P_U = percent within upper specification limit

EXAMPLE OF PWL CALCULATION

Project: Example Project

Test Item: Item P-401, Lot A.

A. PWL Determination for Mat Density.

1. Density of four random cores taken from Lot A.

A-1 = 96.60
A-2 = 97.55
A-3 = 99.30
A-4 = 98.35
n = 4

2. Calculate average density for the lot.

$X = (x_1 + x_2 + x_3 + . . . x_n) / n$
X = (96.60 + 97.55 + 99.30 + 98.35) / 4
X = 97.95% density

3. Calculate the standard deviation for the lot.

$S_n = [((96.60 - 97.95)^2 + (97.55 - 97.95)^2 + (99.30 - 97.95)^2 + (98.35 - 97.95)^2)) / (4 - 1)]^{1/2}$
$S_n = [(1.82 + 0.16 + 1.82 + 0.16) / 3]^{1/2}$
$S_n = 1.15$

4. Calculate the Lower Quality Index Q_L for the lot. (L=96.3)

$Q_L = (X - L) / S_n$
$Q_L = (97.95 - 96.30) / 1.15$
$Q_L = 1.4348$

5. Determine PWL by entering Table 1 with Q_L= 1.44 and n= 4.

PWL = 98

B. PWL Determination for Air Voids.

1. Air Voids of four random samples taken from Lot A.

A-1 = 5.00
A-2 = 3.74
A-3 = 2.30
A-4 = 3.25

2. Calculate the average air voids for the lot.

$X = (x_1 + x_2 + x_3 . . . n) / n$
X = (5.00 + 3.74 + 2.30 + 3.25) / 4
X = 3.57%

3. Calculate the standard deviation S_n for the lot.

$S_n = [((3.57 - 5.00)^2 + (3.57 - 3.74)^2 + (3.57 - 2.30)^2 + (3.57 - 3.25)^2) / (4 - 1)]^{1/2}$
$S_n = [(2.04 + 0.03 + 1.62 + 0.10) / 3]^{1/2}$
$S_n = 1.12$

4. Calculate the Lower Quality Index Q_L for the lot. (L= 2.0)

$Q_L = (X - L) / S_n$
$Q_L = (3.57 - 2.00) / 1.12$
$Q_L = 1.3992$

5. Determine P_L by entering Table 1 with Q_L = 1.41 and n = 4.

P_L = 97

6. Calculate the Upper Quality Index Q_U for the lot. (U= 5.0)

$Q_U = (U - X) / S_n$

$Q_U = (5.00 - 3.57) / 1.12$

$Q_U = 1.2702$

7. Determine P_U by entering Table 1 with Q_U = 1.29 and n = 4.

P_U = 93

8. Calculate Air Voids PWL

$PWL = (P_L + P_U) - 100$

PWL = (97 + 93) - 100 = 90

EXAMPLE OF OUTLIER CALCULATION (REFERENCE ASTM E178)

Project: Example Project

Test Item: Item P-401, Lot A.

A. Outlier Determination for Mat Density.

1. Density of four random cores taken from Lot A arranged in descending order.

A-3 = 99.30

A-4 = 98.35

A-2 = 97.55

A-1 = 96.60

2. From ASTM E178, Table 1, for n=4 an upper 5% significance level, the critical value for test criterion = 1.463.

3. Use average density, standard deviation, and test criterion value to evaluate density measurements.

a. For measurements greater than the average:

If (measurement - average)/(standard deviation) is less than test criterion, then the measurement is not considered an outlier.

For A-3, check if (99.30 - 97.95) / 1.15 is greater than 1.463.

Since 1.174 is less than 1.463, the value is not an outlier.

b. For measurements less than the average:

If (average - measurement)/(standard deviation) is less than test criterion, then the measurement is not considered an outlier.

For A-1, check if (97.95 - 96.60) / 1.15 is greater than 1.463.

Since 1.435 is less than 1.463, the value is not an outlier.

Note: In this example, a measurement would be considered an outlier if the density were:

Greater than (97.95 + 1.463 × 1.15) = 99.63%

OR

less than (97.95 - 1.463 × 1.15) = 96.27%.

Table 1. Table for Estimating Percent of Lot Within Limits (PWL)

Percent Within Limits (P_L and P_U)	Positive Values of Q (Q_L and Q_U)							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
99	1.1541	1.4700	1.6714	1.8008	1.8888	1.9520	1.9994	2.0362
98	1.1524	1.4400	1.6016	1.6982	1.7612	1.8053	1.8379	1.8630
97	1.1496	1.4100	1.5427	1.6181	1.6661	1.6993	1.7235	1.7420
96	1.1456	1.3800	1.4897	1.5497	1.5871	1.6127	1.6313	1.6454
95	1.1405	1.3500	1.4407	1.4887	1.5181	1.5381	1.5525	1.5635
94	1.1342	1.3200	1.3946	1.4329	1.4561	1.4717	1.4829	1.4914
93	1.1269	1.2900	1.3508	1.3810	1.3991	1.4112	1.4199	1.4265
92	1.1184	1.2600	1.3088	1.3323	1.3461	1.3554	1.3620	1.3670
91	1.1089	1.2300	1.2683	1.2860	1.2964	1.3032	1.3081	1.3118
90	1.0982	1.2000	1.2290	1.2419	1.2492	1.2541	1.2576	1.2602
89	1.0864	1.1700	1.1909	1.1995	1.2043	1.2075	1.2098	1.2115
88	1.0736	1.1400	1.1537	1.1587	1.1613	1.1630	1.1643	1.1653
87	1.0597	1.1100	1.1173	1.1192	1.1199	1.1204	1.1208	1.1212
86	1.0448	1.0800	1.0817	1.0808	1.0800	1.0794	1.0791	1.0789
85	1.0288	1.0500	1.0467	1.0435	1.0413	1.0399	1.0389	1.0382
84	1.0119	1.0200	1.0124	1.0071	1.0037	1.0015	1.0000	0.9990
83	0.9939	0.9900	0.9785	0.9715	0.9671	0.9643	0.9624	0.9610
82	0.9749	0.9600	0.9452	0.9367	0.9315	0.9281	0.9258	0.9241
81	0.9550	0.9300	0.9123	0.9025	0.8966	0.8928	0.8901	0.8882
80	0.9342	0.9000	0.8799	0.8690	0.8625	0.8583	0.8554	0.8533
79	0.9124	0.8700	0.8478	0.8360	0.8291	0.8245	0.8214	0.8192
78	0.8897	0.8400	0.8160	0.8036	0.7962	0.7915	0.7882	0.7858
77	0.8662	0.8100	0.7846	0.7716	0.7640	0.7590	0.7556	0.7531
76	0.8417	0.7800	0.7535	0.7401	0.7322	0.7271	0.7236	0.7211
75	0.8165	0.7500	0.7226	0.7089	0.7009	0.6958	0.6922	0.6896
74	0.7904	0.7200	0.6921	0.6781	0.6701	0.6649	0.6613	0.6587
73	0.7636	0.6900	0.6617	0.6477	0.6396	0.6344	0.6308	0.6282
72	0.7360	0.6600	0.6316	0.6176	0.6095	0.6044	0.6008	0.5982
71	0.7077	0.6300	0.6016	0.5878	0.5798	0.5747	0.5712	0.5686
70	0.6787	0.6000	0.5719	0.5582	0.5504	0.5454	0.5419	0.5394
69	0.6490	0.5700	0.5423	0.5290	0.5213	0.5164	0.5130	0.5105
68	0.6187	0.5400	0.5129	0.4999	0.4924	0.4877	0.4844	0.4820
67	0.5878	0.5100	0.4836	0.4710	0.4638	0.4592	0.4560	0.4537
66	0.5563	0.4800	0.4545	0.4424	0.4355	0.4310	0.4280	0.4257
65	0.5242	0.4500	0.4255	0.4139	0.4073	0.4030	0.4001	0.3980
64	0.4916	0.4200	0.3967	0.3856	0.3793	0.3753	0.3725	0.3705
63	0.4586	0.3900	0.3679	0.3575	0.3515	0.3477	0.3451	0.3432
62	0.4251	0.3600	0.3392	0.3295	0.3239	0.3203	0.3179	0.3161
61	0.3911	0.3300	0.3107	0.3016	0.2964	0.2931	0.2908	0.2892
60	0.3568	0.3000	0.2822	0.2738	0.2691	0.2660	0.2639	0.2624
59	0.3222	0.2700	0.2537	0.2461	0.2418	0.2391	0.2372	0.2358
58	0.2872	0.2400	0.2254	0.2186	0.2147	0.2122	0.2105	0.2093
57	0.2519	0.2100	0.1971	0.1911	0.1877	0.1855	0.1840	0.1829
56	0.2164	0.1800	0.1688	0.1636	0.1607	0.1588	0.1575	0.1566
55	0.1806	0.1500	0.1406	0.1363	0.1338	0.1322	0.1312	0.1304
54	0.1447	0.1200	0.1125	0.1090	0.1070	0.1057	0.1049	0.1042
53	0.1087	0.0900	0.0843	0.0817	0.0802	0.0793	0.0786	0.0781
52	0.0725	0.0600	0.0562	0.0544	0.0534	0.0528	0.0524	0.0521
51	0.0363	0.0300	0.0281	0.0272	0.0267	0.0264	0.0262	0.0260
50	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Percent Within Limits (P_L and P_U)	Negative Values of Q (Q_L and Q_U)							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
49	-0.0363	-0.0300	-0.0281	-0.0272	-0.0267	-0.0264	-0.0262	-0.0260
48	-0.0725	-0.0600	-0.0562	-0.0544	-0.0534	-0.0528	-0.0524	-0.0521
47	-0.1087	-0.0900	-0.0843	-0.0817	-0.0802	-0.0793	-0.0786	-0.0781
46	-0.1447	-0.1200	-0.1125	-0.1090	-0.1070	-0.1057	-0.1049	-0.1042
45	-0.1806	-0.1500	-0.1406	-0.1363	-0.1338	-0.1322	-0.1312	-0.1304
44	-0.2164	-0.1800	-0.1688	-0.1636	-0.1607	-0.1588	-0.1575	-0.1566
43	-0.2519	-0.2100	-0.1971	-0.1911	-0.1877	-0.1855	-0.1840	-0.1829
42	-0.2872	-0.2400	-0.2254	-0.2186	-0.2147	-0.2122	-0.2105	-0.2093
41	-0.3222	-0.2700	-0.2537	-0.2461	-0.2418	-0.2391	-0.2372	-0.2358
40	-0.3568	-0.3000	-0.2822	-0.2738	-0.2691	-0.2660	-0.2639	-0.2624
39	-0.3911	-0.3300	-0.3107	-0.3016	-0.2964	-0.2931	-0.2908	-0.2892
38	-0.4251	-0.3600	-0.3392	-0.3295	-0.3239	-0.3203	-0.3179	-0.3161
37	-0.4586	-0.3900	-0.3679	-0.3575	-0.3515	-0.3477	-0.3451	-0.3432
36	-0.4916	-0.4200	-0.3967	-0.3856	-0.3793	-0.3753	-0.3725	-0.3705
35	-0.5242	-0.4500	-0.4255	-0.4139	-0.4073	-0.4030	-0.4001	-0.3980
34	-0.5563	-0.4800	-0.4545	-0.4424	-0.4355	-0.4310	-0.4280	-0.4257
33	-0.5878	-0.5100	-0.4836	-0.4710	-0.4638	-0.4592	-0.4560	-0.4537
32	-0.6187	-0.5400	-0.5129	-0.4999	-0.4924	-0.4877	-0.4844	-0.4820
31	-0.6490	-0.5700	-0.5423	-0.5290	-0.5213	-0.5164	-0.5130	-0.5105
30	-0.6787	-0.6000	-0.5719	-0.5582	-0.5504	-0.5454	-0.5419	-0.5394
29	-0.7077	-0.6300	-0.6016	-0.5878	-0.5798	-0.5747	-0.5712	-0.5686
28	-0.7360	-0.6600	-0.6316	-0.6176	-0.6095	-0.6044	-0.6008	-0.5982
27	-0.7636	-0.6900	-0.6617	-0.6477	-0.6396	-0.6344	-0.6308	-0.6282
26	-0.7904	-0.7200	-0.6921	-0.6781	-0.6701	-0.6649	-0.6613	-0.6587
25	-0.8165	-0.7500	-0.7226	-0.7089	-0.7009	-0.6958	-0.6922	-0.6896
24	-0.8417	-0.7800	-0.7535	-0.7401	-0.7322	-0.7271	-0.7236	-0.7211
23	-0.8662	-0.8100	-0.7846	-0.7716	-0.7640	-0.7590	-0.7556	-0.7531
22	-0.8897	-0.8400	-0.8160	-0.8036	-0.7962	-0.7915	-0.7882	-0.7858
21	-0.9124	-0.8700	-0.8478	-0.8360	-0.8291	-0.8245	-0.8214	-0.8192
20	-0.9342	-0.9000	-0.8799	-0.8690	-0.8625	-0.8583	-0.8554	-0.8533
19	-0.9550	-0.9300	-0.9123	-0.9025	-0.8966	-0.8928	-0.8901	-0.8882
18	-0.9749	-0.9600	-0.9452	-0.9367	-0.9315	-0.9281	-0.9258	-0.9241
17	-0.9939	-0.9900	-0.9785	-0.9715	-0.9671	-0.9643	-0.9624	-0.9610
16	-1.0119	-1.0200	-1.0124	-1.0071	-1.0037	-1.0015	-1.0000	-0.9990
15	-1.0288	-1.0500	-1.0467	-1.0435	-1.0413	-1.0399	-1.0389	-1.0382
14	-1.0448	-1.0800	-1.0817	-1.0808	-1.0800	-1.0794	-1.0791	-1.0789
13	-1.0597	-1.1100	-1.1173	-1.1192	-1.1199	-1.1204	-1.1208	-1.1212
12	-1.0736	-1.1400	-1.1537	-1.1587	-1.1613	-1.1630	-1.1643	-1.1653
11	-1.0864	-1.1700	-1.1909	-1.1995	-1.2043	-1.2075	-1.2098	-1.2115
10	-1.0982	-1.2000	-1.2290	-1.2419	-1.2492	-1.2541	-1.2576	-1.2602
9	-1.1089	-1.2300	-1.2683	-1.2860	-1.2964	-1.3032	-1.3081	-1.3118
8	-1.1184	-1.2600	-1.3088	-1.3323	-1.3461	-1.3554	-1.3620	-1.3670
7	-1.1269	-1.2900	-1.3508	-1.3810	-1.3991	-1.4112	-1.4199	-1.4265
6	-1.1342	-1.3200	-1.3946	-1.4329	-1.4561	-1.4717	-1.4829	-1.4914
5	-1.1405	-1.3500	-1.4407	-1.4887	-1.5181	-1.5381	-1.5525	-1.5635
4	-1.1456	-1.3800	-1.4897	-1.5497	-1.5871	-1.6127	-1.6313	-1.6454
3	-1.1496	-1.4100	-1.5427	-1.6181	-1.6661	-1.6993	-1.7235	-1.7420
2	-1.1524	-1.4400	-1.6016	-1.6982	-1.7612	-1.8053	-1.8379	-1.8630
1	-1.1541	-1.4700	-1.6714	-1.8008	-1.8888	-1.9520	-1.9994	-2.0362

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM E178	Standard Practice for Dealing with Outlying Observations

END OF SECTION C-110

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SECTION P-100 CONSTRUCTION SURVEY

PART 1 - DESCRIPTION

100-1.1 GENERAL. Under this item, the Contractor shall perform all necessary surveying and project stakeout required to construct all elements of the Project as shown on the Contract Drawings and required by the Specifications. This shall include but not be limited to stakeout, layout and elevations for pavements, structures, forms and appurtenances as shown and required, consistent with the current practices and shall be performed by or under the direction of a State of Florida licensed professional land surveyor or Owner approved equal. The stakeout survey shall proceed immediately following the Notice to Proceed or as soon as authorized by the Engineer in accordance with the phasing of the construction and shall be expeditiously progressed to completion in a manner and at a rate satisfactory to the Airport and/or Engineer. The Contractor shall keep the Engineer fully informed as to the progress of the stakeout survey.

Construction survey shall be required for submittal to the Engineer at several stages of the project for design verification. At a minimum, the following surveys shall be completed by the Contractor:

1. Verification survey of existing conditions;
2. Survey of ground surface after unclassified excavation and prior to placement of base course;
3. Survey of ground surface after placement of base course and prior to placement of pavement;
4. Survey of the milled surface, after cleaning.
5. As-Built Survey as described below.

The surveys of the project during different phases shall be on the same grid.

Contractor shall submit baseline survey, which verifies the design survey, fifteen (15) days prior to any construction. Subsequent design verification surveys shall be submitted and approved by the Engineer prior to progressing with any further work (i.e. the base survey must be approved by the Engineer prior to placing pavements).

PART 2 - MATERIALS

100-2.1 All instruments, equipment, stakes and any other material necessary to perform the work satisfactorily shall be provided by the Contractor.

All stakes, nails, discs, pins, or other markers used shall be of a type approved by the Engineer. It shall be the Contractor’s responsibility to maintain these stakes in their proper position and location at all times.

PART 3 - CONSTRUCTION METHODS

100-3.1 The Contractor shall trim trees, brush and other interfering objects, not inconsistent with the Contract Drawings, from survey lines in advance of all survey work to permit accurate and unimpeded work by his stakeout survey crews. Incidental clearing of any permitted wetland area shall be withheld pending issuance of the required permits unless otherwise approved in writing by the Owner.

The exact position of all work shall be established from control points, baseline transit points or other points of similar nature which are shown on the Contract Drawings and/or modified by the Engineer. Prior to any layout of work to be constructed, the Contractor shall verify the location and accuracy of all control points provided in the plans. Any error, apparent discrepancy or absence in or of data shown or required for accurately accomplishing the stakeout survey shall be referred to the Engineer for interpretation or furnishing when such is observed or required.

The Contractor shall place two offset stakes or references at each centerline station and at such intermediate locations as the Engineer may direct. From computations and measurements made by the Contractor, these stakes shall be clearly and legibly marked with the correct centerline station number (if available), offset and cut or fill so as to permit the establishment of the exact centerline location and elevation during construction. If markings become faded or blurred for any reason, the markings shall be restored by the Contractor at the request of the Engineer. He shall locate and place all cut, fill, slope, fine grade or other stakes and points, as the engineer may direct, for the proper progress of the work. All control points shall be properly guarded and flagged for easy identification.

Drainage structures shall be staked out by the Contractor at the locations and elevations shown on the Contract Drawings or specified by the Engineer.

Reference points, baselines, stakes and benchmarks for stockpiles shall be established by the Contractor.

The Contractor shall be responsible for the accuracy of his work and shall maintain all reference points, stakes, etc., throughout the life of the Contract. Damaged or destroyed points, benchmarks or stakes, or any reference points made inaccessible by the progress of the construction, shall be replaced or transferred by the Contractor. Any of the above points which may be destroyed or damaged shall be transferred by the Contractor before they are damaged or destroyed. All control points shall be referenced by ties to acceptable objects and recorded. Any alterations or revisions in the ties shall be so noted and the information furnished to the Engineer immediately. All stakeout survey work shall be referenced to the layout or centerlines shown on the Contract Drawings. All computations necessary to establish the exact position of the work from control points shall be made and preserved by the Contractor. All computations, survey notes and other records shall be made available to the Engineer upon request and shall become the property of the Owner and delivered no later than the date of acceptance of the Contract.

The Contractor shall furnish, at his expense, all horizontal and vertical control, all staking and layout of construction work called for on the plans. The Engineer and Owner shall not be responsible for such work. However, the Owner and Engineer reserve the right to check all said lines, grades, and measurements with their appointed surveyor. Should the Owner’s surveyor detect errors in said lines, grades, and measurements, the contractor shall pay for all said surveying costs and subsequent surveying costs performed to verify correction of errors found in said lines, grades and measurements. Definition of an error shall be a discrepancy of ¼” or more. In the case of a discrepancy between the technical specifications and this defined tolerance, the more severe tolerance shall govern.

During the progress of the construction work, the Contractor will be required to furnish all of the surveying and stakeout incidental to the proper location by line and grade for each phase of the work. For paving and any other operation requiring extreme accuracy, the Contractor will re-stake with pins or other acceptable hubs located directly adjacent to the work at a spacing acceptable to the Engineer.

Any existing stakes, iron pins, survey monuments or other markers defining property lines which may be disturbed during construction shall be properly tied into fixed reference points before being disturbed and accurately reset in their proper position upon completion of the work.

Just prior to completion of the Contract, the Contractor shall reestablish, if necessary, and retie all control points as permanently as possible and to the satisfaction of the Engineer.

100-3.2 AS-BUILT SURVEY. Upon completion of the work, after Substantial Completion and before Final Acceptance, the Contractor shall supply to the Engineer a complete As-Built survey of the entire project site including drainage structures, utilities, and pavement markings. All survey points, including horizontal and vertical control, property corners, section corners and references (hereinafter referred to as “survey point”) shall be clearly marked and referenced prior to construction. These survey points must be sufficiently referenced so that they can be reestablished after construction if they are disturbed. All horizontal survey data shall be state plane coordinates, NAD 83 datum. All vertical topographic data shall be in the same datum as provided in the construction plans.

This As-Built survey will be a complete topographic and physical features survey of the entire project site surrounded by the limits of construction plus an additional 10’ beyond the limits of construction in all directions. Elevations shall be obtained on all rigid pavement joint intersections and ends. If any work is done outside the limits of construction for any reason, this limit of survey will be increased to include this area plus 25’. This survey shall be certified by a Florida Licensed Professional Land Surveyor as meeting the minimum Technical Standards for topographic surveys as set forth in chapter 21HH-6, Florida Administrative Code. The survey data must be supplied as a compilation of signed and sealed drawings (24” x 36” maximum size) at a minimum scale as the design documents and be electronically submitted in ***AutoCAD V2020*** or ***earlier compatible format***. Signed and sealed copies of all field notes, sketches and calculations must be submitted concurrently with the as-built survey. Larger scale details shall be provided to clarify any complicated or complex areas. A separate point database file shall be electronically submitted in TXT or ASCII format, with each point on a single row with comma delimited columns with data ordered as follows: point number, northing, easting, elevation, description.

The As-Built survey is to be supplied to the Engineer for review and approval not more than thirty (30) calendar days after substantial completion for the project has been issued. If the acceptable as-built survey is not supplied within the required time, the Owner reserves the right to perform the required survey and bill the Contractor for this work.

PART 4 - METHOD OF MEASUREMENT

100-4.1 The method of measurement will be per Item C-105.

PART 5 - BASIS OF PAYMENT

100-5.1 The lump sum price bid shall include the cost of furnishing all labor, equipment, instruments and all other material necessary to satisfactorily complete the Project stakeout, existing surface verification, milled surface, base, and as built surveys. This item will not be increased or decreased based on changes to the total contract amount.

Payment will be made under the stepped progress table per:

Item C-105-3 Construction Surveys -- Lump Sum (LS)

END OF SECTION P-100

ITEM P-101 - PREPARATION/REMOVAL OF EXISTING PAVEMENTS

DESCRIPTION

101-1 This item shall consist of preparation of existing pavement surfaces for overlay, surface treatments, removal of existing pavement, and other miscellaneous items. The work shall be accomplished in accordance with these specifications and the applicable plans.

EQUIPMENT AND MATERIALS

101-2 All equipment and materials shall be specified here and in the following paragraphs or approved by the Resident Project Representative (RPR). The equipment shall not cause damage to the pavement to remain in place.

CONSTRUCTION

101-3.1 REMOVAL OF EXISTING PAVEMENT.

The Contractor's removal operation shall be controlled to not damage adjacent pavement structure, and base material, cables, utility ducts, pipelines, or drainage structures which are to remain under the pavement.

a. Concrete pavement removal. Full depth saw cuts shall be made perpendicular to the slab surface. The Contractor shall saw through the full depth of the slab including any dowels at the joint, removing the pavement and installing new dowels as shown on the plans and per the specifications. Where the perimeter of the removal limits is not located on the joint and there are no dowels present, the perimeter shall be saw cut the full depth of the pavement. The pavement inside the saw cut shall be removed by methods which will not cause distress in the pavement which is to remain in place. If the material is to be wasted on the airport site, it shall be reduced to a maximum size of 2 inches. Concrete slabs that are damaged by under breaking shall be repaired or removed and replaced as directed by the RPR.

The edge of existing concrete pavement against which new pavement abuts shall be protected from damage at all times. Spall and underbreak repair shall be in accordance with the plans. Any underlaying material that is to remain in place, shall be recompacted and/or replaced as shown on the plans. Adjacent areas damaged during repair shall be repaired or replaced at the Contractor's expense.

Full depth concrete pavement removal includes the removal of the concrete surface course, base courses, and subbase courses to proposed grades.

b. Asphalt pavement removal. Asphalt pavement to be removed shall be cut to the full depth of the asphalt pavement around the perimeter of the area to be removed.

The asphalt pavement shall be removed so the joint for each layer of pavement replacement is offset 1 foot (30 cm) from the joint in the preceding layer. This does not apply if the removed pavement is to be replaced with concrete or soil.

Full depth asphalt pavement removal includes the removal of the asphalt surface course, base courses, and subbase courses.

c. Repair or removal of Base, Subbase, and/or Subgrade. All failed material including surface, base course, subbase course, and subgrade shall be removed and repaired as shown on the plans or as directed by the RPR. Materials and methods of construction shall comply with the applicable sections of these specifications. Any damage caused by Contractor's removal process shall be repaired at the Contractor's expense.

101-3.2 PREPARATION OF JOINTS AND CRACKS PRIOR TO OVERLAY/SURFACE TREATMENT. Remove all vegetation and debris from cracks to a minimum depth of 1 inch (25 mm). If extensive vegetation exists, treat the specific area with a concentrated solution of a water-based herbicide approved by the RPR. Fill all cracks greater than 1/4 inch (6 mm) wide) with a crack sealant per ASTM D6690. The crack sealant, preparation, and application shall be compatible with the surface treatment/overlay to be used. To minimize contamination of the asphalt with the crack sealant, underfill the crack sealant a minimum of 1/8 inch (3 mm), not to exceed ¼ inch (6 mm). Any excess joint or crack sealer shall be removed from the pavement surface.

Wider cracks (over 1-1/2 inch wide (38 mm)), along with soft or sunken spots, indicate that the pavement or the pavement base should be repaired or replaced as stated below, ***or filled with approved P-401 asphalt plant mix leveling material, as approved by the RPR.***

Cracks and joints may be filled with a mixture of emulsified asphalt and aggregate. The aggregate shall consist of limestone, volcanic ash, sand, or other material that will cure to form a hard substance. The combined gradation shall be as shown in the following table.

Gradation

Sieve Size	Percent Passing
No. 4 (4.75 mm)	100
No. 8 (2.36 mm)	90-100
No. 16 (1.18 mm)	65-90
No. 30 (600 µm)	40-60
No. 50 (300 µm)	25-42
No. 100 (150 µm)	15-30
No. 200 (75 µm)	10-20

Up to 3% cement can be added to accelerate the set time. The mixture shall not contain more than 20% natural sand without approval in writing from the RPR.

The proportions of asphalt emulsion and aggregate shall be determined in the field and may be varied to facilitate construction requirements. Normally, these proportions will be approximately one part asphalt emulsion to five parts aggregate by volume. The material shall be poured or placed into the joints or cracks and compacted to form a voidless mass. The joint or crack shall be filled to within +0 to -1/8 inches (+0 to -3 mm) of the surface. Any material spilled outside the width of the joint shall be removed from the pavement surface prior to constructing the overlay.

Where concrete overlays are to be constructed, only the excess joint material on the pavement surface and vegetation in the joints need to be removed.

101-3.3 REMOVAL OF FOREIGN SUBSTANCES/CONTAMINATES PRIOR TO REMARKING. Removal of foreign substances/contaminates from existing pavement that will affect the bond of the new treatment shall consist of removal of rubber, fuel spills, oil, crack sealer, at least 90% of paint, and other foreign substances from the surface of the pavement. Areas that require removal are designated on the plans and as directed by the RPR in the field during construction.

High-pressure water, heater scarifier (asphaltic concrete only), cold milling, rotary grinding, or sandblasting may be used. If chemicals are used, they shall comply with the state's environmental protection regulations. Removal methods used shall not cause major damage to the pavement, or to any structure or utility within or adjacent to the work area. Major damage is defined as changing the properties of the pavement, removal of asphalt causing the aggregate to ravel, or removing pavement over 1/8 inch (3 mm) deep. If it is deemed by the RPR that damage to the existing pavement is caused by operational error, such as permitting the application method to dwell in one location for too long, the Contractor shall repair the damaged area without compensation and as directed by the RPR.

Removal of foreign substances shall not proceed until approved by the RPR. Water used for high-pressure water equipment shall be provided by the Contractor at the Contractor's expense. No material shall be deposited on the pavement shoulders. All wastes shall be disposed of in areas indicated in this specification or shown on the plans.

101-3.4 CONCRETE SPALL OR FAILED ASPHALTIC CONCRETE PAVEMENT REPAIR.

a. Repair of concrete spalls in areas to be overlaid with asphalt. The Contractor shall repair all spalled concrete as shown on the plans or as directed by the RPR. The perimeter of the repair shall be saw cut a minimum of 2 inches (50 mm) outside the affected area and 2 inches (50 mm) deep. The deteriorated material shall be removed to a depth where the existing material is firm or cannot be easily removed with a geologist pick. The removed area shall be filled with asphalt mixture with aggregate sized appropriately for the depth of the patch. The material shall be compacted with equipment approved by the RPR until the material is dense and no movement or marks are visible. The material shall not be placed in lifts over 4 inches (100 mm) in depth. This method of repair applies only to pavement to be overlaid.

b. Asphalt pavement repair. The Contractor shall repair all spalled concrete as shown on the plans or as directed by the RPR. The failed areas shall be removed as specified in paragraph 101-3.1b. All failed material including surface, base course, subbase course, and subgrade shall be removed. Materials and methods of construction shall comply with the applicable sections of these specifications.

101-3.5 COLD MILLING. Milling shall be performed with a power-operated milling machine or grinder, capable of producing a uniform finished surface. The milling machine or grinder shall operate without tearing or gouging the underlaying surface. The milling machine or grinder shall be equipped with grade and slope controls, and a positive means of dust control. All millings shall removed and disposed off Airport property, unless otherwise specified. If the Contractor mills or grinds deeper or wider than the plans specify, the Contractor shall replace the material removed with new material at the Contractor's Expense.

a. Patching. The milling machine shall be capable of cutting a vertical edge without chipping or spalling the edges of the remaining pavement and it shall have a positive method of controlling the depth of cut. The RPR shall layout the area to be milled with a straightedge in increments of 1-foot (30 cm) widths. The area to be milled shall cover only the failed area. Any excessive area that is milled because the Contractor doesn't have the appropriate milling machine, or areas that are damaged because of his negligence, shall be repaired by the Contractor at the Contractor's Expense.

b. Profiling, grade correction, or surface correction. The milling machine shall have a minimum width of 7 feet (2 m) and it shall be equipped with electronic grade control devices that will cut the surface to the grade specified. The tolerances shall be maintained within +0 inch and -1/4 inch (+0 mm and -6mm) of the specified grade. The machine must cut vertical edges and have a positive method of dust control. The machine must have the ability to remove the millings or cuttings from the pavement and load them into a truck. All millings shall be removed and disposed of off the Airport property.

c. Clean-up. The Contractor shall sweep the milled surface daily and immediately after the milling until all residual materials are removed from the pavement surface. Prior to paving, the Contractor shall wet down the milled pavement and thoroughly sweep and/or blow the surface to remove loose residual material. Waste materials shall be collected and removed from the pavement surface and adjacent areas by sweeping or vacuuming. Waste materials shall be removed and disposed off Airport property.

101-3.6. PREPARATION OF ASPHALT PAVEMENT SURFACES PRIOR TO SURFACE TREATMENT. Existing asphalt pavements to be treated with a surface treatment shall be prepared as follows:

a. Patch asphalt pavement surfaces that have been softened by petroleum derivatives or have failed due to any other cause. Remove damaged pavement to the full depth of the damage and replace with new asphalt pavement similar to that of the existing pavement in accordance with paragraph 101-3.4b.

b. Repair joints and cracks in accordance with paragraph 101-3.2.

c. Remove oil or grease that has not penetrated the asphalt pavement by scrubbing with a detergent and washing thoroughly with clean water. After cleaning, treat these areas with an oil spot primer.

d. Clean pavement surface immediately prior to placing the surface treatment so that it is free of dust, dirt, grease, vegetation, oil or any type of objectionable surface film.

101-3.7 MAINTENANCE. The Contractor shall perform all maintenance work necessary to keep the pavement in a satisfactory condition until the full section is complete and accepted by the RPR. The surface shall be kept clean and free from foreign material. The pavement shall be properly drained at all times. If cleaning is necessary or if the pavement becomes disturbed, any work repairs necessary shall be performed at the Contractor's expense.

101-3.8 PREPARATION OF JOINTS IN RIGID PAVEMENT PRIOR TO RESEALING. Prior to application of sealant material, clean and dry the joints of all scale, dirt, dust, old sealant, curing compound, moisture and other foreign matter. The Contractor shall demonstrate, in the presence of the RPR, that the method used cleans the joint and does not damage the joint.

101-3.8.1 Removal of Existing Joint Sealant. *See Specification P-605*.

101-3.8.2 Cleaning prior to sealing. Immediately before sealing, joints shall be cleaned by removing any remaining laitance and other foreign material. Allow sufficient time to dry out joints prior to sealing. Joint surfaces will be surface-dry prior to installation of sealant.

101-3.8.3 Joint sealant. Joint material and installation will be in accordance with Item P-605.

101-3.9 PREPARATION OF CRACKS IN FLEXIBLE PAVEMENT PRIOR TO SEALING. Prior to application of sealant material, clean and dry the joints of all scale, dirt, dust, old sealant, curing compound, moisture and other foreign matter. The Contractor shall demonstrate, in the presence of the RPR, that the method used cleans the cracks and does not damage the pavement.

101-3.9.1 Preparation of Crack. Widen crack with a router or random crack saw by removing a minimum of 1/16 inch (2 mm) from each side of crack. Immediately before sealing, cracks will be blown out with a hot air lance combined with oil and water-free compressed air.

101-3.9.2 Removal of Existing Crack Sealant. Existing sealants will be removed by a routing or random crack saw. Following routing or sawing any remaining debris will be removed by use of a hot lance combined with oil and water-free compressed air.

101-3.9.3 Crack Sealant. Crack sealant material and installation will be in accordance with Item P-605.

101-3.9.4 Removal of Pipe and other Buried Structures.

a. Removal of Existing Pipe Material.

1) Remove the types of pipe as indicated on the plans. The pipe material shall be legally disposed of off-site in a timely manner following removal. Trenches shall be backfilled with material equal to or better in quality than adjacent embankment. Trenches under paved areas must be compacted to ***100% of ASTM D1557, when outside of paved areas must be compacted to 95% of ASTM D698, per Specification P-152.***

2) Removal and re-use of full lengths of existing round or elliptical concrete pipes, if specifically called for in the plans, is permissible, as applicable. The pipes, if re-used, shall be inspected by the RPR, with the bell and spigot ends and insides thoroughly cleaned prior to inspection. If the pipes pass inspection, new ring seals\gaskets and lubricants shall be used to construction new pipe runs. Any existing pipes that are rejected by the RPR shall be removed from the project, and legally disposed, at no additional cost to the Owner. Existing pipes to be re-used must also comply with Specification D-701.

3) Removal of Inlets/Manholes. Where indicated on the plans or as directed by the RPR, inlets and/or manholes shall be removed and legally disposed of off-site in a timely fashion after removal. Excavations after removal shall be backfilled with material equal or better in quality than adjacent embankment. When under paved areas, ***excavations*** must be compacted to ***100% of ASTM D1557***, when outside of paved areas must be compacted to ***95% of ASTM D698, per Specification P-152.***

METHOD OF MEASUREMENT

101-4.1 PAVEMENT REMOVAL. The unit of measurement for pavement removal shall be the number of square yards (square meters) removed by the Contractor. Any pavement removed outside the limits of removal because the pavement was damaged by negligence on the part of the Contractor shall not be included in the measurement for payment. No direct measurement or payment shall be made for saw cutting. Saw cutting shall be incidental to pavement removal. Dowel bar installation shall be incidental to pavement removal. Full depth pavement removal includes the removal of the surface courses, base courses, and subbase courses.

101-4.2 JOINT AND CRACK REPAIR. The joint and crack repair quantities shall not be measured directly for payment. Payment for joint and crack repair shall be measured and paid for under the applicable P-605 pay items.

101-4.3 REMOVAL OF FOREIGN SUBSTANCES/CONTAMINANTS. The unit of measurement for foreign Substances/contaminants removal shall be the square foot (meter).

101-4.4 SPALLED AND FAILED ASPHALT PAVEMENT REPAIR. The unit of measure for failed asphalt pavement repair shall be square foot (square meter). Any pavement removed outside the limits of removal because the pavement was damaged by negligence on the part of the Contractor shall not be included in the measurement for payment. No direct measurement or payment shall be made for saw cutting.

101-4.5 CONCRETE SPALL REPAIR. The unit of measure for concrete spall repair shall be the number of square feet (square meter). The location and average depth of the patch shall be determined and agreed upon by the RPR and the Contractor. Any pavement removed outside the limits of removal because the pavement was damaged by negligence on the part of the Contractor shall not be included in the measurement for payment. No direct measurement or payment shall be made for saw cutting.

101-4.6 COLD MILLING. The unit of measure for cold milling shall be by milling per square yard (square meter). The location and average depth of the cold milling shall be as shown on the plans. If the initial cut does not correct the condition or scabbing occurs, the Contractor shall re-mill the area an additional nominal 2-inches within the limits identified by the RPR. This additional milling shall be considered incidental to the milling pay item and shall not be measured directly for payment. Payment for asphalt shall be measured and paid under the applicable P-401 pay items.

101-4.7 REMOVAL OF PIPE AND OTHER BURIED STRUCTURES. ***Removal of pipe and other buried structures is not measured and paid for separately. Lengths of pipes, inlets, boxes, mitered end sections, or other structures to be removed and disposed, or removed and re-used are measured and paid for by D-701, D-751, and\or D-752 pay items, based on the type of item removed as covered by the appropriate specification. Measurement will be made by the RPR, in accordance with the requirements shown on the plans.***

BASIS OF PAYMENT

101-5.1 PAYMENT. Payment shall be made at contract unit price for the unit of measurement as specified above. This price shall be full compensation for furnishing all materials and for all preparation, hauling, and placing of the material and for all labor, equipment, tools, and incidentals necessary to complete this item.

P-101-1	Milling/Full Depth Pavement Removal	-- per Square Yard (SY)

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5380-6	Guidelines and Procedures for Maintenance of Airport Pavements.

ASTM International (ASTM)

ASTM D6690	Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements

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ITEM P-152 EXCAVATION, SUBGRADE, AND EMBANKMENT

DESCRIPTION

152-1.1 This item covers excavation, disposal, placement, and compaction of all materials within the limits of the work required to construct safety areas, runways, taxiways, aprons, and intermediate areas as well as other areas for drainage, building construction, parking, or other purposes in accordance with these specifications and in conformity to the dimensions and typical sections shown on the plans.

152-1.2 CLASSIFICATION. All material excavated shall be classified as defined below:

a. **Unclassified excavation.** Unclassified excavation shall consist of the excavation and disposal of all material, regardless of its nature, which is not otherwise classified and paid for under one of the following items.

b. **Drainage excavation.** Drainage excavation shall consist of all excavation made for the primary purpose of drainage and includes drainage ditches, such as intercepting, inlet or outlet ditches; temporary levee construction; or any other type as shown on the plans.

c. ***Stripping & Stockpiling. Stripping and stockpiling excavation shall consist of removing the top surface of the existing natural ground of vegetative materials, to the depths specified on the plans or elsewhere in this specification. Stripping shall be performed by approved pan, dozer, or other suitable equipment. Strippings shall be stockpiled temporarily at a designated site for use as Topsoil (specification T-905). The areas designated for stripping are shown on the plans.***

152-1.3 UNSUITABLE EXCAVATION. Unsuitable material shall be disposed in designated waste areas as shown on the plans. Materials containing vegetable or organic matter, such as muck, peat, organic silt, or sod shall be considered unsuitable for use in embankment construction. Material suitable for topsoil may be used on the embankment slope when approved by the RPR.

CONSTRUCTION METHODS

152-2.1 GENERAL. Before beginning excavation, grading, and embankment operations in any area, the area shall be cleared or cleared and grubbed in accordance with Item P-151, if specified in the plans, ***or stripped and stockpiled per the requirements of this specification.***

The suitability of material to be placed in embankments shall be subject to approval by the RPR. All unsuitable material shall be disposed of in waste areas as shown on the plans. All waste areas shall be graded to allow positive drainage of the area and adjacent areas. The surface elevation of waste areas shall be specified on the plans or approved by the RPR.

When the Contractor's excavating operations encounter artifacts of historical or archaeological significance, the operations shall be temporarily discontinued and the ~~RPR~~ notified per Section 70, paragraph 70-20. At the direction of the RPR, the Contractor shall excavate the site in such a manner as to preserve the artifacts encountered and allow for their removal. Such excavation will be paid for as extra work.

Areas outside the limits of the pavement areas where the top layer of soil has become compacted by hauling or other Contractor activities shall be scarified and disked to a depth of 4 inches (100 mm), to loosen and pulverize the soil. Stones or rock fragments larger than 4 inches (100 mm) in their greatest dimension will not be permitted in the top 6 inches (150 mm) of the subgrade.

If it is necessary to interrupt existing surface drainage, sewers or under-drainage, conduits, utilities, or similar underground structures, the Contractor shall be responsible for and shall take all necessary precautions to preserve them or provide temporary services. When such facilities are encountered, the Contractor shall notify the RPR, who shall arrange for their removal if necessary. The Contractor, at their own expense, shall satisfactorily repair or pay the cost of all damage to such facilities or structures that may result from any of the Contractor's operations during the period of the contract.

a. Blasting. Blasting shall not be allowed.

152-2.2 EXCAVATION. No excavation shall be started until the work has been staked out by the Contractor and the RPR has obtained from the Contractor, the survey notes of the elevations and measurements of the ground surface. The Contractor and RPR shall agree that the original ground lines shown on the original topographic mapping are accurate, or agree to any adjustments made to the original ground lines.

Digital terrain model (DTM) files of the existing surfaces, finished surfaces and other various surfaces were used to develop the design plans.

Existing grades on the design cross sections or DTM's, where they do not match the locations of actual spot elevations shown on the topographic map, were developed by computer interpolation from those spot elevations. Prior to disturbing original grade, Contractor shall verify the accuracy of the existing ground surface by verifying spot elevations at the same locations where original field survey data was obtained as indicated on the topographic map. Contractor shall recognize that, due to the interpolation process, the actual ground surface at any particular location may differ somewhat from the interpolated surface shown on the design cross sections or obtained from the DTM's. Contractor's verification of original ground surface, however, shall be limited to verification of spot elevations as indicated herein, and no adjustments will be made to the original ground surface unless the Contractor demonstrates that spot elevations shown are incorrect. For this purpose, spot elevations which are within 0.1 foot (30 mm) of the stated elevations for ground surfaces, or within 0.04 foot (12 mm) for hard surfaces (pavements, buildings, foundations, structures, etc.) shall be considered "no change". Only deviations in excess of these will be considered for adjustment of the original ground surface. If Contractor's verification identifies discrepancies in the topographic map, Contractor shall notify the RPR in writing at least two weeks before disturbance of existing grade to allow sufficient time to verify the submitted information and make adjustments to the design cross sections or DTMs. Disturbance of existing grade in any area shall constitute acceptance by the Contractor of the accuracy of the original elevations shown on the topographic map for that area.

All areas to be excavated shall be stripped of vegetation and topsoil. Topsoil shall be stockpiled for future use in areas designated on the plans or by the RPR. All suitable excavated material shall be used in the formation of embankment, subgrade, or other purposes as shown on the plans. All unsuitable material shall be disposed of as shown on the plans.

The grade shall be maintained so that the surface is well drained at all times.

When the volume of the excavation exceeds that required to construct the embankments to the grades as indicated on the plans, the excess shall be used to grade the areas of ultimate development or disposed as directed by the RPR. When the volume of excavation is not sufficient for constructing the embankments to the grades indicated, the deficiency shall be obtained from borrow areas.

a. Selective grading. When selective grading is indicated on the plans, the more suitable material designated by the RPR shall be used in constructing the embankment or in capping the pavement subgrade. If, at the time of excavation, it is not possible to place this material in its final location, it shall be stockpiled in approved areas until it can be placed. The more suitable material shall then be placed and compacted as specified. Selective grading shall be considered incidental to the work involved. The cost of stockpiling and placing the material shall be included in the various pay items of work involved.

b. Undercutting. Rock, shale, hardpan, loose rock, boulders, or other material unsatisfactory for safety areas, subgrades, roads, shoulders, or any areas intended for turf shall be excavated to a minimum depth of 12 inches (300 mm) below the subgrade or to the depth specified by the RPR. Muck, peat, matted roots, or other yielding material, unsatisfactory for subgrade foundation, shall be removed to the depth specified. Unsuitable materials shall be disposed off the airport. The cost is incidental to this item. This excavated material shall be paid for at the contract unit price per cubic yard (per cubic meter) for unclassified excavation. The excavated area shall be backfilled with suitable material obtained from the grading operations or borrow areas and compacted to specified densities. The necessary backfill will constitute a part of the embankment. Where rock cuts are made, backfill with select material. Any pockets created in the rock surface shall be drained in accordance with the details shown on the plans. Undercutting will be paid as unclassified excavation.

c. Over-break. Over-break, including slides, is that portion of any material displaced or loosened beyond the finished work as planned or authorized by the RPR. All over-break shall be graded or removed by the Contractor and disposed of as directed by the RPR. The RPR shall determine if the displacement of such material was unavoidable and their own decision shall be final. Payment will not be made for the removal and disposal of over-break that the RPR determines as avoidable. Unavoidable over-break will be classified as “Unclassified Excavation.”

d. Removal of utilities. The removal of existing structures and utilities required to permit the orderly progress of work will be accomplished by the Contractor as indicated on the plans. All existing foundations shall be excavated at least 2 feet (60 cm) below the top of subgrade or as indicated on the plans, and the material disposed of as directed by the RPR. All foundations thus excavated shall be backfilled with suitable material and compacted as specified for embankment or as shown on the plans.

152-2.3 BORROW EXCAVATION. Borrow excavation is not required.

152-2.4 DRAINAGE EXCAVATION. Drainage excavation shall consist of excavating drainage ditches including intercepting, inlet, or outlet ditches; or other types as shown on the plans. The work shall be performed in sequence with the other construction. Ditches shall be constructed prior to starting adjacent excavation operations. All satisfactory material shall be placed in embankment fills; unsuitable material shall be placed in designated waste areas or as directed by the RPR. All necessary work shall be performed true to final line, elevation, and cross-section.

The Contractor shall maintain ditches constructed on the project to the required cross-section and shall keep them free of debris or obstructions until the project is accepted.

152-2.5 PREPARATION OF CUT AREAS OR AREAS WHERE EXISTING PAVEMENT HAS BEEN REMOVED. In those areas on which a subbase or base course is to be placed, the top 12 inches (300 mm) of subgrade shall be compacted to not less than 100 % of maximum density for non-cohesive soils, and 95% of maximum density for cohesive soils as determined by ASTM D1557. As used in this specification, "non-cohesive" shall mean those soils having a plasticity index (PI) of less than 3 as determined by ASTM D4318.

152-2.6 PREPARATION OF EMBANKMENT AREA. All sod and vegetative matter shall be removed from the surface upon which the embankment is to be placed. The cleared surface shall be broken up by plowing or scarifying to a minimum depth of 6 inches (150 mm) and shall then be compacted per paragraph 152-2.10.

Sloped surfaces steeper than one (1) vertical to four (4) horizontal shall be plowed, stepped, benched, or broken up so that the fill material will bond with the existing material. When the subgrade is part fill and part excavation or natural ground, the excavated or natural ground portion shall be scarified to a depth of 12 inches (300 mm) and compacted as specified for the adjacent fill.

No direct payment shall be made for the work performed under this section. The necessary clearing and grubbing and the quantity of excavation removed will be paid for under the respective items of work.

152-2.7 CONTROL STRIP. The first half-day of construction of subgrade and/or embankment shall be considered as a control strip for the Contractor to demonstrate, in the presence of the RPR, that the materials, equipment, and construction processes meet the requirements of this specification. The sequence and manner of rolling necessary to obtain specified density requirements shall be determined. The maximum compacted thickness may be increased to a maximum of 12 inches (300 mm) upon the Contractor’s demonstration that approved equipment and operations will uniformly compact the lift to the specified density. The RPR must witness this demonstration and approve the lift thickness prior to full production.

Control strips that do not meet specification requirements shall be reworked, re-compacted, or removed and replaced at the Contractor’s expense. Full operations shall not begin until the control strip has been accepted by the RPR. The Contractor shall use the same equipment, materials, and construction methods for the remainder of construction, unless adjustments made by the Contractor are approved in advance by the RPR.

152-2.8 FORMATION OF EMBANKMENTS. The material shall be constructed in lifts as established in the control strip, but not less than 6 inches (150 mm) nor more than 12 inches (300 mm) of compacted thickness.

When more than one lift is required to establish the layer thickness shown on the plans, the construction procedure described here shall apply to each lift. No lift shall be covered by subsequent lifts until tests verify that compaction requirements have been met. The Contractor shall rework, re-compact and retest any material placed which does not meet the specifications.

The lifts shall be placed, to produce a soil structure as shown on the typical cross-section or as directed by the RPR. Materials such as brush, hedge, roots, stumps, grass and other organic matter, shall not be incorporated or buried in the embankment.

Earthwork operations shall be suspended at any time when satisfactory results cannot be obtained due to rain, freezing, or other unsatisfactory weather conditions in the field. Frozen material shall not be placed in the embankment nor shall embankment be placed upon frozen material. Material shall not be placed on surfaces that are muddy, frozen, or contain frost. The Contractor shall drag, blade, or slope the embankment to provide surface drainage at all times.

The material in each lift shall be within ±2% of optimum moisture content before rolling to obtain the prescribed compaction. The material shall be moistened or aerated as necessary to achieve a uniform moisture content throughout the lift. Natural drying may be accelerated by blending in dry material or manipulation alone to increase the rate of evaporation.

The Contractor shall make the necessary corrections and adjustments in methods, materials or moisture content to achieve the specified embankment density.

The Contractor will take samples of excavated materials which will be used in embankment for testing and develop a Moisture-Density Relations of Soils Report (Proctor) in accordance with ASTM D 1557. A new Proctor shall be developed for each soil type based on visual classification.

Density tests will be taken by the Contractor for every 3,000 square yards of compacted embankment for each lift which is required to be compacted, or other appropriate frequencies as determined by the RPR.

If the material has greater than 30% retained on the 3/4-inch (19.0 mm) sieve, follow AASHTO T-180 Annex Correction of maximum dry density and optimum moisture for oversized particles.

Rolling operations shall be continued until the embankment is compacted to not less than 100% of maximum density for non-cohesive soils, and 95% of maximum density for cohesive soils as determined by ASTM D1557. Under all areas to be paved, the embankments shall be compacted to a depth of 12-inches and to a density of not less than 100% percent of the maximum density as determined by ASTM D1557. As used in this specification, "non-cohesive" shall mean those soils having a plasticity index (PI) of less than 3 as determined by ASTM D4318.

On all areas outside of the pavement areas, no compaction will be required on the top 4 inches (100 mm) which shall be prepared for a seedbed in accordance with Item T-904.

The in-place field density shall be determined in accordance with ASTM 6938 using Procedure A, the direct transmission method, and ASTM D6938 shall be used to determine the moisture content of the material. The machine shall be calibrated in accordance with ASTM D6938. The Contractor’s laboratory shall perform all density tests in the RPR’s presence and provide the test results upon completion to the RPR for acceptance. If the specified density is not attained, the area represented by the test or as designated by the RPR shall be reworked and/or re-compacted and additional random tests made. This procedure shall be followed until the specified density is reached.

Compaction areas shall be kept separate, and no lift shall be covered by another lift until the proper density is obtained.

During construction of the embankment, the Contractor shall route all construction equipment evenly over the entire width of the embankment as each lift is placed. Lift placement shall begin in the deepest portion of the embankment fill. As placement progresses, the lifts shall be constructed approximately parallel to the finished pavement grade line.

When rock, concrete pavement, asphalt pavement, and other embankment material are excavated at approximately the same time as the subgrade, the material shall be incorporated into the outer portion of the embankment and the subgrade material shall be incorporated under the future paved areas. Stones, fragmentary rock, and recycled pavement larger than 4 inches (100 mm) in their greatest dimensions will not be allowed in the top 12 inches (300 mm) of the subgrade. Rockfill shall be brought up in lifts as specified or as directed by the RPR and the finer material shall be used to fill the voids forming a dense, compact mass. Rock, cement concrete pavement, asphalt pavement, and other embankment material shall not be disposed of except at places and in the manner designated on the plans or by the RPR.

When the excavated material consists predominantly of rock fragments of such size that the material cannot be placed in lifts of the prescribed thickness without crushing, pulverizing or further breaking down the pieces, such material may be placed in the embankment as directed in lifts not exceeding 2 feet (60 cm) in thickness. Each lift shall be leveled and smoothed with suitable equipment by distribution of spalls and finer fragments of rock. The lift shall not be constructed above an elevation 4 feet (1.2 m) below the finished subgrade.

There will be no separate measurement of payment for compacted embankment. All costs incidental to placing in lifts, compacting, discing, watering, mixing, sloping, and other operations necessary for construction of embankments will be included in the contract price for excavation, borrow, or other items.

152-2.9 PROOF ROLLING. The purpose of proof rolling the subgrade is to identify any weak areas in the subgrade and not for compaction of the subgrade. After compaction is completed, the subgrade area shall be proof rolled with a 20 ton (18.1 metric ton) Tandem axle Dual Wheel Dump Truck loaded to the legal limit with tires inflated to 100 psi (0.689 MPa) in the presence of the RPR. Apply a minimum of 10 coverage, or as specified by the RPR, under pavement areas. A coverage is defined as the application of one tire print over the designated area. Soft areas of subgrade that deflect more than 1 inch (25 mm) or show permanent deformation greater than 1 inch (25 mm) shall be removed and replaced with suitable material or reworked to conform to the moisture content and compaction requirements in accordance with these specifications. Removal and replacement of soft areas is incidental to this item.

152-2.10 COMPACTION REQUIREMENTS. The subgrade under areas to be paved shall be compacted to a depth of 12 inches (300 mm) and to a density of not less than 100 percent of the maximum dry density as determined by ASTM D1557. The subgrade in areas outside the limits of the pavement areas shall be compacted to a depth of 12 inches (300 mm) and to a density of not less than 95 percent of the maximum density as determined by ASTM D1557.

The material to be compacted shall be within ±2% of optimum moisture content before being rolled to obtain the prescribed compaction (except for expansive soils). When the material has greater than 30 percent retained on the ¾ inch (19.0 mm) sieve, follow ASTM D1557**.** Tests for moisture content and compaction will be taken at a minimum of 1,200 S.Y. of subgrade. All quality assurance testing shall be done by the Contractor's laboratory in the presence of the RPR, and density test results shall be furnished upon completion to the RPR for acceptance determination.

The in-place field density shall be determined in accordance with ASTM D6938 using Procedure A, the direct transmission method, and ASTM D6938 shall be used to determine the moisture content of the material. The machine shall be calibrated in accordance with ASTM D6938 within 12 months prior to its use on this contract. The gage shall be field standardized daily.

Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

If the specified density is not attained, the entire lot shall be reworked and/or re-compacted and additional random tests made. This procedure shall be followed until the specified density is reached.

All cut-and-fill slopes shall be uniformly dressed to the slope, cross-section, and alignment shown on the plans or as directed by the RPR and the finished subgrade shall be maintained.

152-2.11 FINISHING AND PROTECTION OF SUBGRADE. Finishing and protection of the subgrade is incidental to this item. Grading and compacting of the subgrade shall be performed so that it will drain readily. All low areas, holes or depressions in the subgrade shall be brought to grade. Scarifying, blading, rolling and other methods shall be performed to provide a thoroughly compacted subgrade shaped to the lines and grades shown on the plans. All ruts or rough places that develop in the completed subgrade shall be graded, re-compacted, and retested. The Contractor shall protect the subgrade from damage and limit hauling over the finished subgrade to only traffic essential for construction purposes.

The Contractor shall maintain the completed course in satisfactory condition throughout placement of subsequent layers. No subbase, base, or surface course shall be placed on the subgrade until the subgrade has been accepted by the RPR.

152-2.12 HAUL. All hauling will be considered a necessary and incidental part of the work. The Contractor shall include the cost in the contract unit price for the pay of items of work involved. No payment will be made separately or directly for hauling on any part of the work.

The Contractor's equipment shall not cause damage to any excavated surface, compacted lift or to the subgrade as a result of hauling operations. Any damage caused as a result of the Contractor's hauling operations shall be repaired at the Contractor's expense.

The Contractor shall be responsible for providing, maintaining and removing any haul roads or routes within or outside of the work area, and shall return the affected areas to their former condition, unless otherwise authorized in writing by the Owner. No separate payment will be made for any work or materials associated with providing, maintaining and removing haul roads or routes.

152-2.13 SURFACE TOLERANCES. In those areas on which a subbase or base course is to be placed, the surface shall be tested for smoothness and accuracy of grade and crown. Any portion lacking the required smoothness or failing in accuracy of grade or crown shall be scarified to a depth of at least 3 inches (75 mm), reshaped and re-compacted to grade until the required smoothness and accuracy are obtained and approved by the RPR. The Contractor shall perform all final smoothness and grade checks in the presence of the RPR. Any deviation in surface tolerances shall be corrected by the Contractor at the Contractor’s expense.

Smoothness. The finished surface shall not vary more than +/- ½ inch (12 mm) when tested with a 12-foot (3.7-m) straightedge applied parallel with and at right angles to the centerline. The straightedge shall be moved continuously forward at half the length of the 12-foot (3.7-m) straightedge for the full length of each line on a 50-foot (15-m) grid.

a. **Grade.** The grade and crown shall be measured on a 50-foot (15-m) grid and shall be within +/-0.05 feet (15 mm) of the specified grade.

On safety areas, turfed areas and other designated areas within the grading limits where no subbase or base is to placed, grade shall not vary more than 0.10 feet (30 mm) from specified grade. Any deviation in excess of this amount shall be corrected by loosening, adding or removing materials, and reshaping.

152-2.14 TOPSOIL. When topsoil is specified or required as shown on the plans or under Item T-905, it shall be salvaged from stripping or other grading operations. The topsoil shall meet the requirements of Item T-905. If, at the time of excavation or stripping, the topsoil cannot be placed in its final section of finished construction, the material shall be stockpiled at approved locations. Stockpiles shall be located as shown on the plans and the approved CSPP, and shall not be placed on areas that subsequently will require any excavation or embankment fill. If, in the judgment of the RPR, it is practical to place the salvaged topsoil at the time of excavation or stripping, the material shall be placed in its final position without stockpiling or further re-handling.

Upon completion of grading operations, stockpiled topsoil shall be handled and placed as shown on the plans and as required in Item T-905. Topsoil shall be paid for as provided in Item T-905. No direct payment will be made for topsoil under Item P-152.

METHOD OF MEASUREMENT

152-3.1 Measurement for payment specified by the cubic yard (cubic meter) shall be computed by the comparison of digital terrain model (DTM) surfaces for computation of neat line design quantities. ***No excavation/dirt quantities will be measured by truck load.***

152-3.2 The quantity of unclassified excavation to be paid for shall be the number of cubic yards (cubic meters) measured in its original position. Measurement shall not include the quantity of materials excavated without authorization beyond normal slope lines, or the quantity of material used for purposes other than those directed. Measurement shall not include the quantity of excess excavated material that must be used to grade the areas of ultimate development or disposed of as directed by the RPR.

152.33 The quantity of stripping and stockpiling shall be measured by the number of square yards (square meters), at the depths indicated on the plans.

BASIS OF PAYMENT

152-4.1 Unclassified excavation payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item. ***No excavation/dirt quantities will be paid for by truck load.***

Payment will be made under:

P-152-1	Unclassified Excavation	-- per Cubic Yard
P-152-2	Drainage Excavation	-- per Cubic Yard
P-152-3	6" Stripping and Stockpiling	-- per Square Yard

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO T-180 Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop

ASTM International (ASTM)

ASTM D698 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3 (600 kN-m/m^3))

ASTM D1556 Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method

ASTM D1557 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2700 kN-m/m^3))

ASTM D6938 Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)

Advisory Circulars (AC)

AC 150/5370-2 Operational Safety on Airports During Construction Software

Software

FAARFIELD – FAA Rigid and Flexible Iterative Elastic Layered Design

U.S. Department of Transportation

FAA RD-76-66 Design and Construction of Airport Pavements on Expansive Soils

END OF ITEM P-152

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ITEM P-153 CONTROLLED LOW-STRENGTH MATERIAL (CLSM)

DESCRIPTION

1.1 This item shall consist of furnishing, transporting, and placing a controlled low-strength material (CLSM) as flowable backfill in trenches or at other locations shown on the plans or as directed by the Resident Project Representative (RPR).

MATERIALS

2.1 MATERIALS

a. Cement. Cement shall conform to the requirements of ASTM C150 Type **I, II, or V**.

b. Fly ash. Fly ash shall conform to ASTM C618, Class C or F.

c. Fine aggregate (sand). Fine aggregate shall conform to the requirements of ASTM C33 except for aggregate gradation. Any aggregate gradation which produces the specified performance characteristics of the CLSM and meets the following requirements, will be accepted.

Sieve Size	Percent Passing by weight
3/4 inch (19.0 mm)	100
No. 200 (75 µm)	0 - 12

d. Water. Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use.

MIX DESIGN

3.1 PROPORTIONS. The Contractor shall submit, to the RPR, a mix design including the proportions and source of aggregate, fly ash, cement, water, and approved admixtures. No CLSM mixture shall be produced for payment until the RPR has given written approval of the proportions. The proportions shall be prepared by a laboratory and shall remain in effect for the duration of the project. The proportions shall establish a single percentage or weight for aggregate, fly ash, cement, water, and any admixtures proposed. Laboratory costs are incidental to this item.

a. Compressive strength. CLSM shall be designed to achieve a 28-day compressive strength of 100 to 200 psi (690 to 1379 kPa) when tested in accordance with ASTM D4832, with no significant strength gain after 28 days.

b. Consistency. Design CLSM to achieve a consistency that will produce an approximate 8-inch (200 mm) diameter circular-type spread without segregation. CLSM consistency shall be determined per ASTM D6103.

CONSTRUCTION METHODS

4.1 PLACEMENT

a. Placement. CLSM may be placed by any reasonable means from the mixing unit into the space to be filled. Agitation is required during transportation and waiting time. Placement shall be performed so structures or pipes are not displaced from their final position and intrusion of CLSM into unwanted areas is avoided. The material shall be brought up uniformly to the fill line shown on the plans or as directed by the RPR. Each placement of CLSM shall be as continuous an operation as possible. If CLSM is placed in more than one lift, the base lift shall be free of surface water and loose foreign material prior to placement of the next lift.

b. Contractor Quality Control. The Contractor shall collect all batch tickets to verify the CLSM delivered to the project conforms to the mix design. The Contractor shall verify daily that the CLSM is consistent with 3.1a and 3.1b. Adjustments shall be made as necessary to the proportions and materials as needed. The Contractor shall provide all batch tickets to the RPR.

c. Limitations of placement. CLSM shall not be placed on frozen ground. Mixing and placing may begin when the air or ground temperature is at least 35°F (2°C) and rising. Mixing and placement shall stop when the air temperature is 40°F (4°C) and falling or when the anticipated air or ground temperature will be 35°F (2°C) or less in the 24-hour period following proposed placement. At the time of placement, CLSM shall have a temperature of at least 40°F (4°C).

4.2 CURING AND PROTECTION

a. Curing. The air in contact with the CLSM shall be maintained at temperatures above freezing for a minimum of 72 hours. If the CLSM is subjected to temperatures below 32°F (0°C), the material may be rejected by the RPR if damage to the material is observed.

b. Protection. The CLSM shall not be subject to loads and shall remain undisturbed by construction activities for a period of 48 hours or until a compressive strength of 15 psi (105 kPa) is obtained. The Contractor shall be responsible for providing evidence to the RPR that the material has reached the desired strength. Acceptable evidence shall be based upon compressive tests made in accordance with paragraph 3.1a.

4.3 Quality Assurance (QA) Acceptance. CLSM QA acceptance shall be based upon batch tickets provided by the Contractor to the RPR to confirm that the delivered material conforms to the mix design.

METHOD OF MEASUREMENT

5.1 MEASUREMENT

No separate measurement for payment shall be made for controlled low strength material (CLSM). CLSM shall be considered necessary and incidental to the work of this Contract***, if selected for use by the contractor in lieu of P-152 materials P-152 materials to save time in special areas of construction. P-153 will be measured by the Unclassified Excavation pay item, if substituted by the Contractor, for the same volume of P-152 that would have been used, as approved by the RPR.***

BASIS OF PAYMENT

6.1 PAYMENT

No payment will be made separately or directly for controlled low strength material (CLSM). CLSM shall be considered necessary and incidental to the work of this Contract***, if selected for use by the contractor in lieu of P-152 materials to save time in special areas of construction. P-153 will be paid for by the Unclassified Excavation pay item, if substituted by the Contractor for the same volume of P-152 that would have been used, as approved by the RPR.***

Payment will be made under:

~~Item P-153-6.1 Controlled Low-Strength Material (CLSM) - per [Cubic Yard] [Cubic Meter].]~~

P-152-1 Unclassified Excavation --per Cubic Yard (CY)

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C33	Standard Specification for Concrete Aggregates
ASTM C150	Standard Specification for Portland Cement
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C595	Standard Specification for Blended Hydraulic Cements
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D4832	Standard Test Method for Preparation and Testing of Controlled Low-Strength Material (CLSM) Test Cylinders
ASTM D6103	Flow Consistency of Controlled Low Strength Material (CLSM)

END OF ITEM P-153

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ITEM P-154 SUBBASE COURSE

DESCRIPTION

1.1 This item shall consist of a subbase course composed of granular materials constructed on a prepared subgrade or underlying course in accordance with these specifications, and in conformity with the dimensions and typical cross-section shown on the plans.

MATERIALS

2.1 MATERIALS. The subbase material shall consist of hard durable particles or fragments of granular aggregates, recycled asphalt pavement (RAP), and/or recycled concrete pavement (RCO). ***RAP and RCO may be used as long as all other requirements of this specification are met.*** The material may be obtained from gravel pits, stockpiles, or may be produced from a crushing and screening plant with proper blending. The materials from these sources shall meet the requirements for gradation, quality, and consistency. The material shall be free from vegetative matter, excessive amounts of clay, and other objectionable substances; uniformly blended; and be capable of being compacted into a dense, stable subbase.

The subbase material shall exhibit a California Bearing Ratio (CBR) value of at least ~~20~~ ***32 (LBR = 40)*** when tested in accordance with ASTM D1883. The subbase material shall meet the gradation specified in the table below.Subbase Gradation Requirements

Sieve designation	Percentage by weight passing sieves		Contractor's Final Gradation	Job Control Grading Band Tolerances[1] (Percent)
	Subbase Aggregate	Recycled pavement (RAP or RCO)		
3 inch (75 mm)	100			0
1 1/2 inch (37.5 mm)		100		0
3/4 inch (19.0 mm)	70-100	70-100		±10
No. 10 (2.00 mm)	20-100	20-100		±10
No. 40 (425 µm)	5-60	5-60		±5
No. 200 (75 µm)	**[** 0-15 **]**	**[** 0-15 **]**		±5

[1]The "Job Control Grading Band Tolerances" shall be applied to "Contractor's Final Gradation" to establish the job control grading band.

The portion of the material passing the No. 40 (425 µm) sieve shall have a liquid limit of not more than 25 and a plasticity index of not more than six (6) when tested in accordance with ASTM D4318.

2.2 SAMPLING AND TESTING.

a. Aggregate base materials. Samples shall be taken by the Contractor per ASTM D75 for initial aggregate subbase requirements and gradation. Material shall meet the requirements in paragraph 2.1. The Contractor shall submit to the Resident Project Representative (RPR) certified test results showing that the aggregate meets the Material requirements of this section. Tests shall be representative of the material to be used for the project.

b. Gradation requirements. The Contractor shall take at least **[** one **]** aggregate subbase sample per day in the presence of the RPR to check the final gradation. Samples shall be taken from the in-place, un-compacted material at sampling locations determined by the RPR on a random basis per ASTM D3665. Sampling shall be per ASTM D75 and tested per ASTM C136 and ASTM C117. Results shall be furnished to the RPR by the Contractor each day during construction. Material shall meet the requirements in paragraph 2.1.

2.3 SEPARATION GEOTEXTILE. Not used

2.4 GEOGRID. Not used

CONSTRUCTION METHODS

3.1 GENERAL. The subbase course shall be placed where designated on the plans or as directed by the RPR. The material shall be shaped and thoroughly compacted within the tolerances specified.

Granular subbases which, due to grain sizes or shapes, are not sufficiently stable to support the construction equipment without movement, shall be mechanically modified to the depth necessary to provide stability as directed by the RPR. The mechanical modification shall include the addition of a fine-grained medium to bind the particles of the subbase material sufficiently to furnish a bearing strength, so the course will not deform under construction equipment traffic.

3.2 PREPARING UNDERLYING COURSE. Prior to constructing the subbase course, clean the underlying course or subgrade of all foreign substances. The surface of the underlying course or subgrade shall meet specified compaction and surface tolerances in accordance with Item P-152. Correct ruts, soft yielding spots in the underlying courses, and subgrade areas having inadequate compaction and/or deviations of the surface from the specified requirements, by loosening and removing soft or unsatisfactory material, adding approved material, reshaping to line and grade, and recompacting to specified density requirements. For cohesionless underlying courses or subgrades containing sands or gravels, as defined in ASTM D2487, the surface shall be stabilized prior to placement of the overlying course by mixing the overlying course material into the underlying course, and compacting by approved methods. The finished underlying course shall not be disturbed by traffic or other operations and shall be maintained in a satisfactory condition until the overlying course is placed. The underlying course shall be checked and accepted by the RPR before placing and spreading operations are started.

To protect the subgrade and to ensure proper drainage, spreading of the subbase shall begin along the centerline of the pavement on a crowned section or on the high side of pavements with a one-way slope.

3.3 CONTROL STRIP. The first half-day of subbase construction shall be considered as a control strip for the Contractor to demonstrate, in the presence of the RPR, that the materials, equipment, and construction processes meet the requirements of this specification. The sequence and manner of rolling necessary to obtain specified density requirements shall be determined. The maximum compacted thickness may be increased to a maximum of 12 inches (300 mm) upon the Contractor's demonstration that approved equipment and operations will uniformly compact the lift to the specified density. The RPR must witness this demonstration and approve the lift thickness prior to full production.

Control strips that do not meet specification requirements shall be reworked, re-compacted, or removed and replaced at the Contractor's expense. Full operations shall not begin until the control strip has been accepted by the RPR. The Contractor shall use the same equipment, materials, and construction methods for the remainder of construction, unless adjustments made by the Contractor are approved in advance by the RPR.

3.4 PLACEMENT. The material shall be placed and spread on the prepared underlying layer by spreader boxes or other devices as approved by the RPR, to a uniform thickness and width. The equipment shall have positive thickness controls to minimize the need for additional manipulation of the material. Dumping from vehicles that require re-handling shall not be permitted. Hauling over the uncompacted base course shall not be permitted. The material shall not be placed when the underlying course is soft or yielding.

The material shall meet gradation and moisture requirements prior to compaction. Material may be free-draining and the minimum moisture content shall be established for placement and compaction of the material.

The material shall be constructed in lifts as established in the control strip, but not less than 4 inches (100 mm) nor more than 12 inches (300 mm) of compacted thickness.

When more than one lift is required to establish the layer thickness shown on the plans, the construction procedure described here shall apply to each lift. No lift shall be covered by subsequent lifts until tests verify that compaction requirements have been met. The Contractor shall rework, re-compact and retest any material placed which does not meet the specifications.

3.5 COMPACTION. The subbase material shall be compacted, adjusting moisture as necessary, to be within ±2% of optimum moisture. The field density of the compacted material shall be at least ***100%*** of the maximum density as specified in paragraph 3.9a. If the specified density is not attained, the area of the lift represented by the test shall be reworked and/or re-compacted and additional random tests made. This procedure shall be followed until the specified density is reached. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

3.6 WEATHER LIMITATION. Material shall not be placed unless the ambient air temperature is at least 40°F (4°C) and rising. Work on subbase course shall not be conducted when the subgrade is wet or frozen or the subbase material contains frozen material.

3.7 MAINTENANCE. No base or surface course shall be placed on the subbase until the subbase has been accepted by the RPR. The Contractor shall maintain the completed course in satisfactory condition throughout placement of subsequent layers. When material has been exposed to excessive rain, snow, or freeze-thaw conditions, the Contractor shall verify that materials still meet all specification requirements before placement of additional material. Equipment may be routed over completed sections of subbase course, provided the equipment does not damage the subbase course and the equipment is routed over the full width of the completed subbase course. Any damage to the subbase course from routing equipment over the subbase course shall be repaired by the Contractor at their expense.

3.8 SURFACE TOLERANCE. In those areas on which a subbase or base course is to be placed, the surface shall be tested for smoothness and accuracy of grade and crown. Any portion lacking the required smoothness or failing in accuracy of grade or crown shall be scarified to a depth of at least 3 inches (75 mm), reshaped and re-compacted to grade until the required smoothness and accuracy are obtained and approved by the RPR. The Contractor shall perform all final smoothness and grade checks in the presence of the RPR. Any deviation in surface tolerances shall be corrected by the Contractor at the Contractor's expense.

a. Smoothness. The finished surface shall not vary more than +/- ½ inch (12 mm) when tested with a 12-foot (3.7-m) straightedge applied parallel with and at right angles to the centerline. The straightedge shall be moved continuously forward at half the length of the 12-foot (3.7-m) straightedge for the full length of each line on a 50-foot (15-m) grid.

b. Grade. The grade and crown shall be measured on a 50-foot (15-m) grid and shall be within +/-0.05 feet (15 mm) of the specified grade.

3.9 ACCEPTANCE SAMPLING AND TESTING. The aggregate base course shall be accepted for density and thickness on an area basis. Two test shall be made for density and thickness for each 1200 square yards (1000 square meters). Sampling locations will be determined on a random basis per ASTM D3665.

a. Density. Contractor's laboratory shall perform all ***QC*** density tests in the RPR's presence and provide the test results upon completion to the RPR for acceptance ***testing***.

Each area shall be accepted for density when the field density is at least ***100%*** of the maximum density of laboratory specimens compacted and tested per ASTM D1557. The in-place field density shall be determined per ASTM D6938 using Procedure A, the direct transmission method, and ASTM D6938 shall be used to determine the moisture content of the material. The machine shall be calibrated in accordance with ASTM D6938.. If the specified density is not attained, the area represented by the failed test shall be reworked and/or recompacted and two additional random tests made. This procedure shall be followed until the specified density is reached. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

When the material has greater than 30 percent retained on the ¾ inch (19.0 mm) sieve, use methods in ASTM D1557 and the procedures in AASHTO T180 Annex for correction of maximum dry density and optimum moisture for oversized particles.

b. Thickness. The thickness of the base course shall be within +0 and -1/2 inch (12 mm) of the specified thickness as determined by depth tests taken by the Contractor in the presence of the RPR for each area. Where the thickness is deficient by more than 1/2-inch (12 mm), the Contractor shall correct such areas at no additional cost by scarifying to a depth of at least 3 inches (75 mm), adding new material of proper gradation, and the material shall be blended and recompacted to grade. The Contractor shall replace, at his expense, base material where depth tests have been taken.

METHOD OF MEASUREMENT

4.1 Subbase course shall be measured by the number of square yards (square meters) of subbase course material placed and compacted to specified density and plan thickness requirements in the completed course. The quantity of subbase course material shall be measured in final position based upon depth tests or cores taken as directed by the RPR, at the rate of two test per each 1200 square yards (1000 square meters) of subbase course. On individual depth measurements, thicknesses more than 1/2 inch (12 mm) in excess of that shown on the plans shall be considered as the specified thickness plus 1/2 inch (12 mm) in computing the yardage for payment, ***for cubic yard measurements only***. Subbase materials shall not be included in any other excavation quantities.

BASIS OF PAYMENT

5.1 Payment shall be made at the contract unit price per square yard (square meter) for subbase course. This price shall be full compensation for furnishing all materials; for all preparation, hauling, and placing of these materials; and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

~~Item P-154-5.1 Subbase Course - per [Square Yard (Square Meter)]~~
~~[Cubic Yard (Cubic Meter)]~~

~~[Item P-154-5.2 Separation geotextile - per [Square Yard]~~
~~[Square Meter]]~~

P-154-1	6" Subbase	-- per Square Yard (SY)
P-154-2	6" Subbase - Shoulders	-- per Square Yard (SY)

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C117	Standard Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM D75	Standard Practice for Sampling Aggregates
ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3 (600 kN-m/m^3))
ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D1557	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2,700 kN-m/m^3))
ASTM D2487	Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D4253	Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table
ASTM D4759	Practice for Determining the Specification Conformance of Geosynthetics
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D6938	Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)

American Association of State Highway and Transportation Officials (AASHTO)

M 288	Geotextile Specification for Highway Applications

END OF ITEM P-154

ITEM P-211 LIME ROCK BASE COURSE

DESCRIPTION

211-1.1 This item shall consist of a base course composed of lime rock constructed on the prepared underlying course per these specifications and shall conform to the dimensions and typical cross-section shown on the plans.

MATERIALS

211-2.1 MATERIALS. The lime rock base course material shall consist of fossiliferous limestone of uniform quality. The material shall not contain hard or flinty pieces that will cause a rough surface containing pits and pockets. The rock shall show no tendency to “air slake” or undergo chemical change when exposed to the weather. The material when watered and rolled shall be capable of compacting to a dense and well-bonded base.

Lime Rock Base Course Material Properties[2]

	Lime Rock	Oolitic	Non-Oolitic
Carbonates of calcium and magnesium[1]	95% minimum	70% minimum	75% minimum
Oxides of iron and aluminum[1]	Less than or equal to 2%	Less than or equal to 2%	Less than or equal to 2%
Liquid limit	Not greater than 35	NA	Not greater than 35
Plasticity Index	Not greater than 6	NA	Not greater than 6
Organic or foreign matter	Not more than 0.5%	Not more than 0.5%	Not more than 0.5%
Lime Bearing Ratio (LBR)[3] at 0 to +1.5% optimum	125	125	125

[1] The combined amount of carbonates, oxides, and silica shall be at least 97%. The material shall be non-plastic.

[2] The chemical analysis of lime rock shall consist of determining the insoluble silica, iron oxide, and alumina by solution of the sample in hydrochloric (HCl) acid, evaporating, dehydrating, re-dissolving the residue, and neutralizing with ammonium hydroxide, filtering, washing, and igniting the residue lime rock. The difference between the percentage of insoluble matter and 100% is reported as carbonates of calcium and magnesium.

[3] FM 5-515, Florida Method of Test for Lime Rock Bearing Ratio

Lime Rock Base Course Gradation

Sieve Designation (square openings)	Percentage by Weight Passing Sieves
3-1/2 inch (87.5 mm)	100
3/4 inch (19.0 mm)	50-100

All fine material shall consist entirely of dust of fracture (fine portion passing the No. 10 (2.00 mm) sieve).

211-2.2 SAMPLING AND TESTING.

a. Aggregate base materials. The Contractor shall take samples of the aggregate base in accordance with ASTM D75 to verify initial aggregate base requirements and gradation. Material shall meet the requirements in paragraph 211-2.1. This sampling and testing will be the basis for approval of the aggregate base quality requirements.

b. Gradation requirements. The Contractor shall take at least two aggregate base samples per day in the presence of the Resident Project Representative (RPR) to check the final gradation. Sampling shall be per ASTM D75. Material shall meet the requirements in paragraph 209-2.1. The lot will be consistent with the lot size used for density. The samples shall be taken from the in-place, un-compacted material at sampling points and intervals designated by the RPR.

211-2.3 SEPARATION GEOTEXTILE. Not used.

CONSTRUCTION METHODS

211-3.1 CONTROL STRIP. The first half-day of construction shall be considered the control strip. The Contractor shall demonstrate, in the presence of the RPR, that the materials, equipment, and construction processes meet the requirements of the specification. The sequence and manner of rolling necessary to obtain specified density requirements shall be determined. Control strips that do not meet specification requirements shall be removed and replaced at the Contractor's expense. Full operations shall not continue until the control strip has been accepted by the RPR. Upon acceptance of the control strip by the RPR, the Contractor shall use the same equipment, materials, and construction methods for the remainder of construction, unless adjustments made by the Contractor are approved in advance by the RPR.

211-3.2 PREPARING UNDERLYING COURSE. The RPR shall check and accept the underlying course before placing and spreading operations are started. Any ruts or soft yielding places caused by improper drainage conditions, hauling, or any other cause shall be corrected at the Contractor's expense before the base course is placed. Material shall not be placed on frozen subgrade.

211-3.3 PLACEMENT. The material shall be placed and spread on the prepared underlying layer by spreader boxes or other devices as approved by the RPR, to a uniform thickness and width. The equipment shall have positive thickness controls to minimize the need for additional manipulation of the material. Dumping from vehicles that require re-handling shall not be permitted. Hauling over the uncompacted base course shall not be permitted.

The material shall meet gradation and moisture requirements prior to compaction. The layer shall be constructed in lifts as established in the control strip, but not less than 4 inches (100 mm) nor more than 12 inches (300 mm) of compacted thickness.

When more than one lift is required to establish the layer thickness shown on the plans, the construction procedure described here shall apply to each lift. No lift shall be covered by subsequent lifts until tests verify that compaction requirements have been met. The Contractor shall rework, re-compact and retest any material placed which does not meet the specifications.

211-3.4 COMPACTION. Immediately upon completion of the spreading operations, compact each layer of the base course, as specified, with approved compaction equipment. The number, type, and weight of rollers shall be sufficient to compact the material to the required density within the same day that the aggregate is placed on the subgrade. The field density of each compacted lift of material shall be at least 100% of the maximum density of laboratory specimens prepared from samples of the subbase material delivered to the jobsite. The moisture content of the material during placing operations shall be within ±2 percentage points of the optimum moisture content as determined by ASTM D1557. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

211-3.5 FINISHING. After the watering and rolling of the base course, the entire surface shall be scarified to a depth of at least 3 inches (75 mm) and shaped to the exact crown and cross-section with a blade grader. The scarified material shall be rewetted and thoroughly rolled. Rolling shall continue until the base is bonded and compacted to a dense, unyielding mass, true to grade and cross-section. Scarifying and rolling of the surface of the base shall follow the initial rolling of the lime rock by not more than four (4) days. When the lime rock base is constructed in two layers, the scarifying of the surface shall be to a depth of 2 inches (50 mm).

If cracks or checks appear in the base before the surface course is laid, the Contractor shall rescarifying, reshaping, watering, add lime rock where necessary, and recompact. If the underlying material becomes mixed with the base course material, the Contractor shall, without additional compensation, remove, reshape, and recompact the mixture.

211-3.6 WEATHER LIMITATIONS. Material shall not be placed unless the ambient air temperature is at least 40°F (4°C) and rising. Work on base course shall not be conducted when the subgrade or subbase is wet or frozen or the base material contains frozen material.

211-3.7 MAINTENANCE. The base course shall be maintained in a condition that will meet all specification requirements until the work is accepted by the RPR. When material has been exposed to excessive rain, snow, or freeze-thaw conditions, prior to placement of additional material, the Contractor shall verify that materials still meet all specification requirements. Equipment may be routed over completed sections of base course, provided that no damage results and the equipment is routed over the full width of the completed base course. Any damage resulting to the base course from routing equipment over the base course shall be repaired by the Contractor at the Contractor's expense.

211-3.8 SURFACE TOLERANCE. After the course has been compacted, the surface shall be tested for smoothness and accuracy of grade and crown. Any portion lacking the required smoothness or failing in accuracy of grade or crown shall be scarified to a depth of at least 3 inches (75 mm), reshaped and recompacted to grade. until the required smoothness and accuracy are obtained and approved by the RPR. Any deviation in surface tolerances shall be

corrected by the Contractor at the Contractor's expense. The smoothness and accuracy requirements specified here apply only to the top layer when base course is constructed in more than one layer.

a. Smoothness. The finished surface shall not vary more than 3/8-inch (9 mm) when tested with a 12-foot (3.7-m) straightedge applied parallel with and at right angles to the centerline. The straightedge shall be moved continuously at half the length of the 12-foot (3.7-m) straightedge for the full length of each line on a 50-foot (15-m) grid.

b. Grade. The grade and crown shall be measured on a 50-foot (15-m) grid and shall be within +0 and -1/2 inch (12 mm) of the specified grade.

211-3.9 ACCEPTANCE SAMPLING AND TESTING. Lime rock base course shall be accepted for density on an area basis. Two tests shall be made for density and thickness for each 1200 square yds (1000 m^2). Sampling locations will be determined on a random basis per ASTM D3665.

a. Density. The Contractor's laboratory shall perform all density tests in the RPR's presence and provide the test results upon completion to the RPR for acceptance**.**

Each area shall be accepted for density when the field density is at least 100% of the maximum density of laboratory specimens compacted and tested per ASTM D1557. The in-place field density shall be determined per ASTM D6938 using Procedure A, the direct transmission method, and ASTM D6938 shall be used to determine the moisture content of the material. The machine shall be calibrated in accordance with ASTM D6938. If the specified density is not attained, the entire area shall be reworked and/or recompacted and two additional random tests made. This procedure shall be followed until the specified density is reached. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

b. Thickness. Depth tests shall be made by test holes or cores at least 3 inches (75 mm) in diameter that extend through the base. The thickness of the base course shall be within +0 and -1/2 inch (12 mm) of the specified thickness as determined by depth tests taken by the Contractor in the presence of the RPR for each area. Where the thickness is deficient by more than 1/2-inch (12 mm), the Contractor shall correct such areas at no additional cost by scarifying to a depth of at least 3 inches (75 mm), adding new material of proper gradation, and the material shall be blended and recompacted to grade. The Contractor shall replace, at his expense, base material where depth tests have been taken.

METHOD OF MEASUREMENT

211-4.1 The quantity of lime rock base course shall be the number of square yards (square meters) of base material placed, bonded, and accepted in the completed base course. The quantity of base course material shall be measured in final position based upon depth tests taken as directed by the RPR**.** On individual depth measurements, thicknesses more than 1/2 inch (12 mm) in excess of that shown on the plans shall be considered as the specified thickness plus 1/2 inch (12 mm) in computing the yardage for payment.

BASIS OF PAYMENT

211-5.1 Payment shall be made at the contract unit price per square yards (square meters) for lime rock base course ***as a substitute for P-219-1 Recycled Concrete Aggregate Base, at the contractor's option.*** This price shall be full compensation for furnishing all materials and for all preparation, hauling, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

The cost of removing cracks and checks including the labor, and the additional lime rock necessary for crack elimination, will not be paid for separately but shall be included in the contract price per square yard (square meter) for lime rock base course.

Payment will be made under:

P-219-1 6" Recycled Concrete Aggregate Base --per Square Yard (SY)

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM D75	Standard Practice for Sampling Aggregates
ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3 (600 kN-m/m^3))
ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D1557	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2700 kN-m/m^3))
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4491	Standard Test Methods for Water Permeability of Geotextiles by Permittivity
ASTM D4751	Standard Test Methods for Determining Apparent Opening Size of a Geotextile

American Association of State Highway and Transportation Officials (AASHTO)

M288	Standard Specification for Geosynthetic Specification for Highway Applications

END OF ITEM P-211

ITEM P-219 RECYCLED CONCRETE AGGREGATE BASE COURSE

DESCRIPTION

1.1 This item consists of a base course composed of recycled concrete aggregate, crushed to meet a particular gradation, constructed on a prepared course per these specifications and in conformity to the dimensions and typical cross-sections shown on the plans.

MATERIALS

2.1 AGGREGATE. Recycled concrete aggregate shall consist of cement concrete. The recycled concrete material shall be free of reinforcing steel and expansion material. Asphalt overlays and any full slab asphalt panels shall be removed from the concrete surface prior to removal and crushing.

Recycled concrete aggregate shall consist of at least 90%, by weight, cement concrete; virgin aggregates may be added to meet the 90% minimum concrete requirement. The remaining 10% may consist of the following materials:

Deleterious Materials

Material	Quantity
Wood	0.1% maximum
Brick, mica, schist, or other friable materials	4% maximum
Asphalt concrete	10% maximum
Total	10 % maximum

Recycled Concrete Aggregate Base Material Requirements

Material Test	Requirement	Standard
Coarse Aggregate		
Resistance to Degradation	Loss: 45% maximum	ASTM C131
Flat Particles, Elongated Particles, or Flat and Elongated Particles[1]	10% maximum, by weight, for fraction retained on the ½ inch (12.5mm) sieve and 10% maximum, by weight, for the fraction passing the 1/2-inch (12.5 mm) sieve	ASTM D4791
Clay lumps and friable particles	Less than or equal to 3 percent	ASTM C142
Fine Aggregate Portion		
Liquid limit	Less than or equal to 25	ASTM D4318
Plasticity Index	Not more than four (4)	ASTM D4318

[1] A flat particle is one having a ratio of width to thickness greater than five (5); an elongated particle is one having a ratio of length to width greater than five (5).

The fine aggregate shall be produced by crushing stone, gravel, slag, or recycled concrete that meet the requirements for wear and soundness specified for coarse aggregate. Fine aggregate may be added to produce the correct gradation.

Each source of recycled concrete aggregate shall meet the above requirements.

Recycled concrete aggregate shape depends on the characteristics of the recycled concrete, plant type, and plant operation speed. This may require a number of trial batches before crushed recycled concrete aggregate meeting the shape and gradation requirements can be produced.

2.2 GRADATION REQUIREMENTS. The gradation (job mix) of the final mixture shall fall within the design range indicated in the following table, when tested per ASTM C117 and ASTM C136. The final gradation shall be continuously graded from coarse to fine and shall not vary from the low limit on one sieve to the high limit on an adjacent sieve or vice versa.

Gradation of Recycled Concrete Aggregate Base

Sieve Size	Percentage by Weight Passing Sieves	Contractor's Final Gradation	Job Mix Tolerances Percent
2 inch (50 mm)	100		--
1-1/2 inch (37.5 mm)	95 - 100		±5
1 inch (25.0 mm)	70 - 95		±8
3/4 inch (19.0 mm)	55 - 85		±8
No. 4 (4.75 mm)	30 - 60		±8
No. 30 (600 µm)	12 - 30		±5
No. 200 (75 µm)	0 - 10		±3

The job mix tolerances in the table shall be applied to the job mix gradation to establish a job control gradation band. The full tolerance still will apply if application of the tolerances results in a job control gradation band outside the design range.

2.3 SAMPLING AND TESTING.

a. Aggregate base materials. The Contractor shall take samples of the aggregate base in accordance with ASTM D75 to verify initial aggregate base requirements and gradation. Material shall meet the requirements in paragraphs 2.1 and 2.2. This sampling and testing will be the basis for approval of the aggregate base quality requirements.

b. Gradation requirements. The Contractor shall take at least two aggregate base samples per day in the presence of the Resident Project Representative (RPR) to check the final gradation. Sampling shall be per ASTM D75. Material shall meet the requirements in paragraph 2.2. The lot will be consistent with the lot size used for density. The samples shall be taken from the in-place, un-compacted material at sampling points and intervals designated by the RPR.

2.4 SEPARATION GEOTEXTILE. Not used.

CONSTRUCTION METHODS

3.1 CONTROL STRIP. The first half-day of construction shall be considered the control strip. The Contractor shall demonstrate, in the presence of the RPR, that the materials, equipment, and construction processes meet the requirements of the specification. The sequence and manner of rolling necessary to obtain specified density requirements shall be determined. The maximum compacted thickness may be increased to a maximum of 12 inches (300 mm) upon the Contractor's demonstration that approved equipment and operations will uniformly compact the lift to the specified density. The RPR must witness this demonstration and approve the lift thickness prior to full production.

Control strips that do not meet specification requirements shall be reworked, re-compacted or removed and replaced at the Contractor's expense. Full operations shall not continue until the control strip has been accepted by the RPR. The Contractor shall use the same equipment, materials, and construction methods for the remainder of construction, unless adjustments made by the Contractor are approved by the RPR.

3.2 PREPARING UNDERLYING COURSE. The underlying course shall be checked by the RPR before placing and spreading operations are started. Any ruts or soft yielding places caused by improper drainage conditions, hauling, or any other cause shall be corrected at the Contractor's expense before the base course is placed there. Material shall not be placed on frozen material.

To protect the existing layers and to ensure proper drainage, the spreading of the recycled concrete aggregate base course shall begin along the centerline of the pavement on a crowned section or on the greatest contour elevation of a pavement with a variable uniform cross slope.

3.3 PLACEMENT. The aggregate shall be placed and spread on the prepared underlying layer by spreader boxes or other devices as approved by the RPR, to a uniform thickness and width. The equipment shall have positive thickness controls to minimize the need for additional

manipulation of the material. Dumping from vehicles that require re-handling shall not be permitted. Hauling over the uncompacted base course shall not be permitted.

The aggregate shall meet gradation and moisture requirements prior to compaction. The subbase course shall be constructed in lifts as established in the control strip, but not less than 4 inches (100 mm) nor more than 12 inches (300 mm) of compacted thickness.

When more than one lift is required to establish the layer thickness shown on the plans, the construction procedure described here shall apply to each lift. No lift shall be covered by subsequent lifts until tests verify that compaction requirements have been met. The Contractor shall rework, re-compact and retest any material placed which does not meet the specifications.

3.4 COMPACTION. Immediately upon completion of the spreading operations, compact each layer of the base course, as specified, with approved compaction equipment. The number, type, and weight of rollers shall be sufficient to compact the material to the required density within the same day that the aggregate is placed on the subgrade.

The field density of each compacted lift of material shall be at least ***100%*** of the maximum density of laboratory specimens prepared from samples of the subbase material delivered to the jobsite. The laboratory specimens shall be compacted and tested in accordance with ASTM D1557. The moisture content of the material during placing operations shall be within ±2 percentage points of the optimum moisture content as determined by ASTM D1557. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

Material meeting the requirements of P-219 may be free-draining and to achieve compaction may need to be compacted on the wet-side of optimum.

3.5 WEATHER LIMITATIONS. Material shall not be placed unless the ambient air temperature is at least 40°F (4°C) and rising. Work on base course shall not be conducted when the subgrade or subbase is wet or frozen or the base material contains frozen material.

3.6 MAINTENANCE. The base course shall be maintained in a condition that will meet all specification requirements. When material has been exposed to excessive rain, snow, or freeze-thaw conditions, prior to placement of additional material, the Contractor shall verify that materials still meet all specification requirements. Equipment may be routed over completed sections of base course, provided that no damage results and the equipment is routed over the full width of the completed base course. Any damage resulting to the base course from routing equipment over the base course shall be repaired by the Contractor at their expense.

3.7 SURFACE TOLERANCES. After the course has been compacted, the surface shall be tested for smoothness and accuracy of grade and crown. Any portion lacking the required smoothness or failing in accuracy of grade or crown shall be scarified to a depth of at least 3 inches (75 mm), reshaped and recompacted to grade until the required smoothness and accuracy are obtained and approved by the RPR. Any deviation in surface tolerances shall be corrected by the Contractor at the Contractor’s expense. The smoothness and accuracy requirements specified here apply only to the top layer when base course is constructed in more than one layer.

a. Smoothness. The finished surface shall not vary more than 3/8-inch (9 mm) when tested with a 12-foot (3.7-m) straightedge applied parallel with and at right angles to the centerline. The straightedge shall be moved continuously forward at half the length of the 12-foot (3.7-m) straightedge for the full length of each line on a 50-foot (15-m) grid.

b. Grade. The grade and crown shall be measured on a 50-foot (15-m) grid and shall be within +0 and 1/2 inch (12 mm) of the specified grade.

3.8 ACCEPTANCE SAMPLING AND TESTING FOR DENSITY. Recycled Concrete Aggregate base course shall be accepted for density and thickness on an area basis. Two tests shall be made for density and thickness for each 1200 square yds (1000 m^2). Sampling locations will be determined on a random basis per ASTM D3665

a. Density. The Contractor's laboratory shall perform all density tests in the RPR's presence and provide the test results upon completion to the RPR for acceptance ***testing***.

Each area shall be accepted for density when the field density is at least 100% of the maximum density of laboratory specimens compacted and tested per ASTM 1557. The in-place field density shall be determined per ASTM D6938 using Procedure A, the direct transmission method, and ASTM D6938 shall be used to determine the moisture content of the material. The machine shall be calibrated in accordance with ASTM D6938.. If the specified density is not attained, the area represented by the failed test must be reworked and/or recompacted and two additional random tests made. This procedure shall be followed until the specified density is reached. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

b. Thickness. Depth tests shall be made by test holes at least 3 inches (75 mm) in diameter that extend through the base. The thickness of the base course shall be within +0 and -1/2 inch (12 mm) of the specified thickness as determined by depth tests taken by the Contractor in the presence of the RPR for each area. Where the thickness is deficient by more than 1/2-inch (12 mm), the Contractor shall correct such areas at no additional cost by scarifying to a depth of at least 3 inches (75 mm), adding new material of proper gradation, and the material shall be blended and recompacted to grade. The Contractor shall replace, at his expense, base material where depth tests have been taken.

METHOD OF MEASUREMENT

4.1 The quantity of recycled concrete aggregate base course will be determined by measurement of the number of square yards (square meters) of material actually constructed and accepted as complying with the plans and specifications.

BASIS OF PAYMENT

5.1 Payment shall be made at the contract unit price per square yard (square meter) for recycled concrete aggregate base course. This price shall be full compensation for furnishing all materials, for preparing and placing these materials, and for all labor, equipment tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-219-5.1	Recycled Concrete Aggregate Base Course	per Square Yard (SY)

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C29	Standard Test Method for Bulk Density (“Unit Weight”) and Voids in Aggregate
ASTM C88	Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C117	Standard Test Method for Materials Finer than 75 µm (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C131	Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregate
ASTM D75	Standard Practice for Sampling Aggregates
ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3 (600 kN-m/m^3))
ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by the Sand Cone Method
ASTM D1557	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2700 kN-m/m^3))
ASTM D2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4643	Standard Test Method for Determination of Water (Moisture) Content of Soil by Microwave Oven Heating

ASTM D4791	Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D6938	Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)

END OF ITEM P-219

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ITEM P-341 GEOSYNTHETIC PAVEMENT INTERLAYER

DESCRIPTION

1.1 This item shall consist of construction of a Geosynthetic Pavement Membrane Interlayer (GPMI) GlasPave25 manufactured by Saint-Gobain Technical Fabrics, distributed by TENSAR International Corporation (or pre-approved equivalent, aka “Fabric(s) or Mat(s)”). The membrane fabric shall be placed per the manufacturer’s recommendations, after milling operations have been completed, and after the surface has been properly prepared.

The material shall not be ordered for delivery on the project until direction to order the material has been granted in writing by the Engineer. Review and acceptance of the shop drawings does NOT constitute approval for ordering the material. The Owner will not be responsible for any re-stocking fees, delivery fees, or any other fees for any materials ordered without the written direction of the Engineer to the Contractor to order the material.

MATERIALS

2.1 GEOSYNTHETIC PAVEMENT MEMBRANE INTERLAYER (FABRIC). The Contractor shall use a rolled hybrid fiberglass matrix material, specifically suited for interlayer applications on a milled surface. The material shall be GLASSPave 25 as manufactured by Saint-Gobain Technical Fabrics or other pre-approved material. The selected manufacturer shall provide submittals for their proposed product for the review and concurrence by the Engineer. The material shall be placed as a complete interlayer at the minimum widths shown on the plans and per the manufacturer’s recommendations. The fabric shall be compatible with the proposed Crack Sealing Filler and the sealing process as set forth in Specification P-605.

2.2 BITUMINOUS MATERIAL. The Bituminous tack coat shall be a hot applied paving asphalt cement meeting ASTM D6373, “Standard Specification for Performance Graded Asphalt Binder”, including but not limited to, Performance Grade asphalt binder PG 64-22 or PG 70-10. Solvent cutback asphalts or emulsified asphalts may not be used for the Geo-composite Membrane Interlayer pavement surface bonding adhesive.

EQUIPMENT

3.1 POWER BROOM. Provide a power broom for cleaning the existing pavement capable of removing all loose material from the milled surface.

3.2 FABRIC LAYDOWN EQUIPMENT. Provide self-propelled equipment designed specifically for the application of paving fabrics in a full width roll of material, accurately and uniformly. A brush or light roller shall be mounted on the back of the equipment to set the material in the tack coat. The equipment shall be capable of passing over the newly placed fabric without tearing or tracing the material due to the underlying tack coat. The Contractor shall maintain the equipment tires at all time to prevent tracking, clotting, or other detrimental deposits on the newly placed materials.

3.3 BITUMINOUS DISTRIBUTOR. The Contractor shall provide equipment for heating and applying the bituminous material. The bituminous material shall be uniformly applied with a motorized bituminous distributor capable of adjusting application rates by 1/100th of a gallon (0.01 gal/SY). The distributor must be capable of applying a proper fan of tack coat from each valve on the distributor bar, the full width of the mat and cover any overlapping joints.

The distributor shall be designed, equipped, maintained, and operated so that bituminous material at even heat may be applied uniformly on variable widths of surface at the specified rate. The allowable variation from the specified rate shall not exceed 10 percent. Distributor equipment shall include a tachometer, pressure gages, volume-measuring devices or a calibrated tank, and a thermometer for measuring temperatures of tank contents. The distributor shall be self-powered and shall be equipped with a power unit for the pump and full circulation spray bars adjustable laterally and vertically. A power broom and/or blower shall be provided for any required cleaning of the surface to be treated.

CONTRACTOR'S QUALITY CONTROL

4.1 Provide the necessary quality control of the asphalt rubber binder and construction in accordance with Contract requirements. Provide in the Quality Control Plan procedures for monitoring and controlling the rate of application. If the rate of application varies by more than 5% percent from the rate set by the Engineer in accordance with 341-6, immediately make all corrections necessary to bring the spread rate into the acceptable range. The Engineer may make additional measurements at any time. The Engineer will randomly check the Contractor's measurement to verify the spread rate.

4.2 Samples of the bituminous material that the Contractor proposes to use, together with a statement as to its source and character, must be submitted and approved before use of such material begins. The Contractor shall require the manufacturer or producer of the bituminous material to furnish material subject to this and all other pertinent requirements of the contract. Only satisfactory materials so demonstrated by service tests, shall be acceptable.

The Contractor shall furnish the vendor's certified test reports for each carload, or equivalent, of bituminous material shipped to the project. The report shall be delivered to the Engineer before permission is granted for use of the material. The furnishing of the vendor's certified test report for the bituminous material shall not be interpreted as a basis for final acceptance. All such test reports shall be subject to verification by testing samples of material received for use on the project.

CONSTRUCTION PROCEDURE

5.1 PREPARATION OF SURFACE. Prior to application of tack coat, cracks in the milled surface shall be cleaned, routed, and sealed per P-605 and the contract drawings. At a minimum, immediately before applying the tack coat, the full width of surface to be treated shall be swept with a power broom and/or airblast to remove all loose dirt and other objectionable material. Follow any additional manufacturer's instructions completely for cleaning and preparation of the proposed surface to receive the geosynthetic pavement membrane interlayer product.

5.2 APPLICATION OF BITUMINOUS TACK COAT MATERIAL. Immediately before applying the tack coat, the full width of surface to be treated shall be swept with a power broom and/or airblasted to remove all remaining loose dirt, dust, cover aggregate or sand, and other objectionable material.

The bituminous material distributor shall apply a uniform application of tack coat at an application rate of 0.08 to 0.18 gallons per square yard based on final recommendations from the fabric installer and based on the condition of the existing milled surface. Fat spots in the tack coat application shall not be permitted following the fabric application. Suitable precautions shall be taken by the Contractor to protect the tacked and fabric surface against damage during this interval.

Following the application, the surface shall be allowed to kick without being disturbed for such period of time as may be necessary to permit drying out, breaking, and setting of the tack coat. This period shall be determined jointly by the Engineer and the fabric supplier. The surface shall then be maintained by the Contractor until the fabric installation installed and in place.

Apply the tack coat binder only under the following conditions:

The air temperature is above 60°F and rising.
The pavement is absolutely dry.
The wind conditions are such that cooling of the tack will not be so rapid to prevent good bonding of the interlayer fabric.

5.3 BITUMINOUS MATERIAL SUPPLIERS RESPONSIBILITY. Samples of the bituminous material that the Contractor proposes to use, together with a statement as to its source and character, must be submitted and approved before use of such material begins. The Contractor shall require the manufacturer or producer of the bituminous material to furnish material subject to this and all other pertinent requirements of the contract. Only satisfactory materials so demonstrated by service tests, shall be acceptable.

The Contractor shall furnish the vendor's certified test reports for each carload, or equivalent, of bituminous material shipped to the project. The report shall be delivered to the Engineer before permission is granted for use of the material. The furnishing of the vendor's certified test report for the bituminous material shall not be interpreted as a basis for final acceptance. All such test reports shall be subject to verification by testing samples of material received for use on the project.

5.4 APPLICATION. Immediately after application of the tack coat binder, and when approved by the supplier’s representative, the Contractor shall uniformly spread the cover fabric over the surface. The material shall be placed at the full width of the roll of material for the longest length run available from the manufacturer to prevent necessary overlaps in the transverse joints. The tack coat and fabric shall be installed at the same width of material with approved overlap, as specified in the manufacturer’s instructions. The finished fabric surface shall be smooth and uniform with complete adhesion to the underlying surface and no visible bubbles in the completed work surface. The fabric placement shall follow the tack coat placement at the distance provided in the written manufacturer’s instructions, and after the tack coat has completely cured.

The GPMI fabric shall be overlapped a minimum of 3 inches in the transverse direction and 2 inches in the longitudinal direction. Transverse overlaps, if required, shall be in the direction of the paving operation.

In areas where the fabric needs to be installed by hand, the fabric shall be broomed to ensure good contact with the applied tack coat, removing any ensuing bubbles. If wrinkles greater than 1 inch occur during installation they need to be repaired by slitting the wrinkle and lapping in the direction of the paver. The fabric shall be laid with the black side up and the lighter side embedded in the tack coat.

5.5 EMBEDMENT. In order to ensure maximum embedment of the fabric, the entire width of the mat shall be smoothed by brush or approved rubber tired or rubber drum roller immediately following the fabric laydown. After the embedment, immediately correct any portions of the completed surface that the Engineer deems are defective (not properly covered, bubbled, fat spots, ripples etc) per the manufacturer's construction.

5.6 TRAFFIC CONTROL. For the normal sequence of construction operations, protect the GPMI or fabric surface until the first course of asphalt concrete overlay is placed over the membrane.

UNACCEPTABLE GPMI.

6.1 If the GPMI (Fabric) is unacceptable due to incorrect application rate, or not meeting the requirements of this Section, or damaged prior to placement of the asphalt concrete layer, remove and replace it as directed by the Engineer. Do not apply multiple layers of fabric.

PLACEMENT OF ASPHALT CONCRETE OVERLAY

7.1 Ensure that the thickness and temperature of the initial layer of asphalt concrete placed on top of the asphalt rubber membrane interlayer are such that the overlay bonds to the interlayer and the underlying layer without voids or excessive binder. Any initial cover asphalt layer shall be at least 1.5 inches in thickness. Core the asphalt overlay as directed by the Engineer to evaluate the binder and aggregate spread rates, as well as the effectiveness of the asphalt concrete overlay in producing a well-bonded interlayer.

7.2 The Contractor shall place the asphaltic concrete mix on the Hybrid Paving Mat the same day the mat is applied. The initial asphalt surface course placed on hybrid paving mat must have a compacted thickness of at least 1.5 inches. Ensure that the thickness and temperature of the initial layer of asphalt concrete placed on top of the fabric membrane interlayer are such that the overlay bonds to the interlayer and the underlying tack without voids or excessive binder. Two cores shall be taken by the Engineer in each area of each day's application and overlay following the initial lift installation over the membrane interlayer to evaluate the effectiveness of the membrane and asphalt concrete overlay in producing a well-bonded interlayer.

METHOD OF MEASUREMENT

8.1 GEOSYNTHETIC PAVEMENT MEMBRANE INTERLAYER (FABRIC). The quantity of GPMI to be paid will be determined by measurement of the number of square yards (square meters) of material actually constructed and accepted as complying with the plans and specifications. Overlaps required in the installation of the GPMI will not be measured for payment.

8.2 BITUMINOUS MATERIAL. The bituminous tack coat material described in P-341 shall be incidental to the asphalt paving pay items and shall not be measured for payment. All work shall be included in the unit price for Plant Mix Bituminous Pavements, pay items P-401.

BASIS OF PAYMENT

9.1 GEOSYNTHETIC PAVEMENT MEMBRANE INTERLAYER (FABRIC). Payment will be made by other items for which the interlayer is incidental. This price shall be full compensation for furnishing all materials, for all preparation, delivery, and application of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

9.2 BITUMINOUS MATERIAL. No direct payment shall be made for the bituminous material described in P-341. The work described is incidental to the Plant Mix Bituminous Pavements, pay items P-401. All Tack Coats shall meet P-603, P-341, and P-401, as applicable.

9.3 PAYMENT ITEMS: Payment will be made under (contractor's option):

P-401-1	Asphalt Mix Pavement - Surface Course, 12.5 mm NMAS	-- per Ton (TN)
P-401-2	Asphalt Mix Pavement - Leveling, 9.5 mm NMAS	-- per Ton (TN)

END OF SECTION P-341

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ITEM P-401 ASPHALT MIX PAVEMENT

DESCRIPTION

401-1.1 This item shall consist of pavement courses composed of mineral aggregate and asphalt binder mixed in a central mixing plant and placed on a prepared base or stabilized course in accordance with these specifications and shall conform to the lines, grades, thicknesses, and typical cross-sections shown on the plans. Each course shall be constructed to the depth, typical section, and elevation required by the plans and shall be rolled, finished, and approved before the placement of the next course.

MATERIALS

401-2.1 AGGREGATE. Aggregates shall consist of crushed stone, crushed gravel, crushed slag, screenings, natural sand, and mineral filler, as required. The aggregates should have no known history of detrimental pavement staining due to ferrous sulfides, such as pyrite. Coarse aggregate is the material retained on the No. 4 (4.75 mm) sieve. Fine aggregate is the material passing the No. 4 (4.75 mm) sieve.

a. Coarse aggregate. Coarse aggregate shall consist of sound, tough, durable particles, free from films of matter that would prevent thorough coating and bonding with the asphalt material and free from organic matter and other deleterious substances. Coarse aggregate material requirements are given in the table below.

Coarse Aggregate Material Requirements

Material Test	Requirement	Standard
Resistance to Degradation	Loss: 40% maximum	ASTM C131
Soundness of Aggregates by Use of Sodium Sulfate **or** Magnesium Sulfate	Loss after 5 cycles: 12% maximum using Sodium sulfate - or - 18% maximum using magnesium sulfate	ASTM C88
Clay lumps and friable particles	0.3% maximum	ASTM C142
Percentage of Fractured Particles	For pavements designed for aircraft gross weights of 60,000 pounds (27200 kg) or more: Minimum 75% by weight of particles with at least two fractured faces and 85% with at least one fractured face[1]	ASTM D5821
	For pavements designed for aircraft gross weights less than 60,000 pounds (27200 kg): Minimum 50% by weight of particles with at least two fractured faces and 65% with at least one fractured face[1]	

Material Test	Requirement	Standard
Flat, Elongated, or Flat and Elongated Particles	8% maximum, by weight, of flat, elongated, or flat and elongated particles at 5:1 [2]	ASTM D4791
Bulk density of slag [3]	Weigh not less than 70 pounds per cubic foot (1.12 Mg/cubic meter)	ASTM C29.

[1] The area of each face shall be equal to at least 75% of the smallest mid-sectional area of the piece. When two fractured faces are contiguous, the angle between the planes of fractures shall be at least 30 degrees to count as two fractured faces.

[2] A flat particle is one having a ratio of width to thickness greater than five (5); an elongated particle is one having a ratio of length to width greater than five (5).

[3] Only required if slag is specified.

b. Fine aggregate. Fine aggregate shall consist of clean, sound, tough, durable, angular shaped particles produced by crushing stone, slag, or gravel and shall be free from coatings of clay, silt, or other objectionable matter. Natural (non-manufactured) sand may be used to obtain the gradation of the fine aggregate blend or to improve the workability of the mix. Fine aggregate material requirements are listed in the table below.

Fine Aggregate Material Requirements

Material Test	Requirement	Standard
Liquid limit	25 maximum	ASTM D4318
Plasticity Index	4 maximum	ASTM D4318
Soundness of Aggregates by Use of Sodium Sulfate **or** Magnesium Sulfate	Loss after 5 cycles: 10% maximum using Sodium sulfate - or - 15% maximum using magnesium sulfate	ASTM C88
Clay lumps and friable particles	0.3% maximum	ASTM C142
Sand equivalent	45 minimum	ASTM D2419
Natural Sand	0% to 15% maximum by weight of total aggregate	ASTM D1073

c. Sampling. ASTM D75 shall be used in sampling coarse and fine aggregate.

401-2.2 MINERAL FILLER. Mineral filler (baghouse fines) may be added in addition to material naturally present in the aggregate. Mineral filler shall meet the requirements of ASTM D242.

Mineral Filler Requirements

Material Test	Requirement	Standard
Plasticity Index	4 maximum	ASTM D4318

401-2.3 ASPHALT BINDER. Asphalt binder shall conform to ASTM D6373 Performance Grade (PG) 76-22.

Asphalt Binder PG Plus Test Requirements

Material Test	Requirement	Standard
Elastic Recovery	75% minimum	ASTM D6084[1]

[1]Follow procedure B on RTFO aged binder.

401-2.4 ANTI-STRIPPING AGENT. Any anti-stripping agent or additive (anti-strip) shall be heat stable and shall not change the asphalt binder grade beyond specifications. Anti-strip shall be an approved material of the Department of Transportation of the State in which the project is located.

COMPOSITION

401-3.1 COMPOSITION OF MIXTURE(S). The asphalt mix shall be composed of a mixture of aggregates, filler and anti-strip agent if required, and asphalt binder. The aggregate fractions shall be sized, handled in separate size groups, and combined in such proportions that the resulting mixture meets the grading requirements of the job mix formula (JMF).

401-3.2 JOB MIX FORMULA (JMF) LABORATORY. The laboratory used to develop the JMF shall possess a current certificate of accreditation, listing D3666 from a national accrediting authority and all test methods required for developing the JMF; and be listed on the accrediting authority's website. A copy of the laboratory's current accreditation and accredited test methods shall be submitted to the Resident Project Representative (RPR) prior to start of construction.

401-3.3 JOB MIX FORMULA (JMF). No asphalt mixture shall be placed until an acceptable mix design has been submitted to the RPR for review and accepted in writing. The RPR's review shall not relieve the Contractor of the responsibility to select and proportion the materials to comply with this section.

When the project requires asphalt mixtures of differing aggregate gradations and/or binders, a separate JMF shall be submitted for each mix. Add anti-stripping agent to meet tensile strength requirements.

The JMF shall be prepared by an accredited laboratory that meets the requirements of paragraph 401-3.2. The asphalt mixture shall be designed using procedures contained in Asphalt Institute MS-2 Mix Design Manual, 7th Edition**.** Samples shall be prepared and compacted using the gyratory compactor in accordance with ASTM D6925.

Should a change in sources of materials be made, a new JMF must be submitted to the RPR for review and accepted in writing before the new material is used. After the initial production JMF has been approved by the RPR and a new or modified JMF is required for whatever reason, the subsequent cost of the new or modified JMF, including a new control strip when required by the RPR, will be borne by the Contractor.

The RPR may request samples at any time for testing, prior to and during production, to verify the quality of the materials and to ensure conformance with the applicable specifications.

The JMF shall be submitted in writing by the Contractor at least 30 days prior to the start of paving operations. The JMF shall be developed within the same construction season using aggregates proposed for project use.

The JMF shall be dated, and stamped or sealed by the responsible professional Engineer of the laboratory and shall include the following items as a minimum:

- Manufacturer's Certificate of Analysis (COA) for the asphalt binder used in the JMF in accordance with paragraph 401-2.3. Certificate of asphalt performance grade is with modifier already added, if used and must indicate compliance with ASTM D6373. For plant modified asphalt binder, certified test report indicating grade certification of modified asphalt binder.

- Manufacturer's Certificate of Analysis (COA) for the anti-stripping agent if used in the JMF in accordance with paragraph 401-2.4.

- Certified material test reports for the course and fine aggregate and mineral filler in accordance with paragraphs 401-2.1.

- Percent passing each sieve size for individual gradation of each aggregate cold feed and/or hot bin; percent by weight of each cold feed and/or hot bin used; and the total combined gradation in the JMF.

- Specific Gravity and absorption of each coarse and fine aggregate.

- Percent natural sand.

- Percent fractured faces.

- Percent by weight of flat particles, elongated particles, and flat and elongated particles (and criteria).

- Percent of asphalt.

- Number of blows or gyrations

- Laboratory mixing and compaction temperatures.

- Supplier-recommended field mixing and compaction temperatures.

- Plot of the combined gradation on a 0.45 power gradation curve.

- Graphical plots of air voids, voids in the mineral aggregate (VMA), and unit weight versus asphalt content. To achieve minimum VMA during production, the mix design needs to account for material breakdown during production.

- Tensile Strength Ratio (TSR).

- Type and amount of Anti-strip agent when used.
- Asphalt Pavement Analyzer (APA) results.
- Date the JMF was developed. Mix designs that are not dated or which are from a prior construction season shall not be accepted.

Table 1. Asphalt Design Criteria

Test Property	Value	Test Method
Number of blows or gyrations	75	
Air voids (%)	3.5	ASTM D3203
Percent voids in mineral aggregate (VMA), minimum	See Table 2	ASTM D6995
Tensile Strength Ratio (TSR)[1]	not less than 80 at a saturation of 70-80%	ASTM D4867
Asphalt Pavement Analyzer (APA)[2]	Less than 10 mm @ 4000 passes	AASHTO T340 at 250 psi hose pressure at 64°C test temperature

[1] Test specimens for TSR shall be compacted at 7 ± 1.0 % air voids. In areas subject to freeze-thaw, use freeze-thaw conditioning in lieu of moisture conditioning per ASTM D4867.

[2] AASHTO T340 at 100 psi hose pressure at 64°C test temperature may be used in the interim. If this method is used the required Value shall be less than 5 mm @ 8000 passes

The mineral aggregate shall be of such size that the percentage composition by weight, as determined by laboratory sieves, will conform to the gradation or gradations specified in Table 2 when tested in accordance with ASTM C136 and ASTM C117.

The gradations in Table 2 represent the limits that shall determine the suitability of aggregate for use from the sources of supply; be well graded from coarse to fine and shall not vary from the low limit on one sieve to the high limit on the adjacent sieve, or vice versa.

Table 2. Aggregate - Asphalt Pavements

Sieve Size	Percentage by Weight Passing Sieve *(12.5 mm NMAS) for Surface Courses*	Percentage by Weight Passing Sieve *(9.5 mm NMAS) for Leveling Courses*
1 inch (25.0 mm)	--	--
3/4 inch (19.0 mm)	100	--
1/2 inch (12.5 mm)	90-100	100
3/8 inch (9.5 mm)	72-88	90-100
No. 4 (4.75 mm)	53-73	58-78
No. 8 (2.36 mm)	38-60	40-60

Sieve Size	Percentage by Weight Passing Sieve *(12.5 mm NMAS) for Surface Courses*	Percentage by Weight Passing Sieve *(9.5 mm NMAS) for Leveling Courses*
No. 16 (1.18 mm)	26-48	28-48
No. 30 (600 µm)	18-38	18-38
No. 50 (300 µm)	11-27	11-27
No. 100 (150 µm)	6-18	6-18
No. 200 (75 µm)	3-6	3-6
Minimum Voids in Mineral Aggregate (VMA)[1]	15.0	16.0
Asphalt Percent:		
Stone or gravel	5.0-7.5	5.5-8.0
Slag	6.5-9.5	7.0-10.5
Recommended Minimum Construction Lift Thickness	2 inch	1 1/2 inch

[1]To achieve minimum VMA during production, the mix design needs to account for material breakdown during production.

The aggregate gradations shown are based on aggregates of uniform specific gravity. The percentages passing the various sieves shall be corrected when aggregates of varying specific gravities are used, as indicated in the Asphalt Institute MS-2 Mix Design Manual, 7th Edition.

401-3.4 RECLAIMED ASPHALT PAVEMENT (RAP). RAP shall not be used.

401-3.5 CONTROL STRIP. Full production shall not begin until an acceptable control strip has been constructed and accepted in writing by the RPR**.** The Contractor shall prepare and place a quantity of asphalt according to the JMF. The underlying grade or pavement structure upon which the control strip is to be constructed shall be the same as the remainder of the course represented by the control strip.

The Contractor will not be allowed to place the control strip until the Contractor quality control program (CQCP), showing conformance with the requirements of paragraph 401-5.1, has been accepted, in writing, by the RPR.

The control strip will consist of at least 250 tons (227 metric tons) or 1/2 sublot, whichever is greater. The control strip shall be placed in two lanes of the same width and depth to be used in production with a longitudinal cold joint. The cold joint must be cut back in accordance with paragraph 401-4.14 using the same procedure that will be used during production. The cold joint for the control strip will be an exposed construction joint at least four (4) hours old or when the mat has cooled to less than 160°F (71°C). The equipment used in construction of the control strip shall be the same type, configuration and weight to be used on the project.

The control strip will be considered acceptable by the RPR if the gradation, asphalt content, and VMA are within the action limits specified in paragraph 401-5.5a; and Mat density greater than or equal to 94.5%, air voids 3.5% +/- 1%, and joint density greater than or equal to 92.5%.

If the control strip is unacceptable, necessary adjustments to the JMF, plant operation, placing procedures, and/or rolling procedures shall be made and another control strip shall be placed. Unacceptable control strips shall be removed at the Contractor's expense.

Payment will only be made for an acceptable control strip in accordance with paragraph 401-8.1 using a lot pay factor equal to 100.

CONSTRUCTION METHODS

401-4.1 WEATHER LIMITATIONS. The asphalt shall not be placed upon a wet surface or when the surface temperature of the underlying course is less than specified in Table 4. The temperature requirements may be waived by the RPR, if requested; however, all other requirements including compaction shall be met.

Table 4. Surface Temperature Limitations of Underlying Course

Mat Thickness	Base Temperature (Minimum)	
	°F	°C
3 inches (7.5 cm) or greater	40 [1]	4
Greater than 2 inches (50 mm) but less than 3 inches (7.5 cm)	45	7

401-4.2 ASPHALT PLANT. Plants used for the preparation of asphalt shall conform to the requirements of American Association of State Highway and Transportation Officials (AASHTO) M156 including the following items.

a. Inspection of plant. The RPR, or RPR's authorized representative, shall have access, at all times, to all areas of the plant for checking adequacy of equipment; inspecting operation of the plant: verifying weights, proportions, and material properties; and checking the temperatures maintained in the preparation of the mixtures.

b. Storage bins and surge bins. The asphalt mixture stored in storage and/or surge bins shall meet the same requirements as asphalt mixture loaded directly into trucks. Asphalt mixture shall not be stored in storage and/or surge bins for a period greater than twelve (12) hours. If the RPR determines there is an excessive heat loss, segregation, or oxidation of the asphalt mixture due to temporary storage, temporary storage shall not be allowed.

401-4.3 AGGREGATE STOCKPILE MANAGEMENT. Aggregate stockpiles shall be constructed in a manner that prevents segregation and intermixing of deleterious materials. Aggregates from different sources shall be stockpiled, weighed and batched separately at the asphalt batch plant. Aggregates that have become segregated or mixed with earth or foreign material shall not be used.

A continuous supply of materials shall be provided to the work to ensure continuous placement.

401-4.4 HAULING EQUIPMENT. Trucks used for hauling asphalt shall have tight, clean, and smooth metal beds. To prevent the asphalt from sticking to the truck beds, the truck beds shall be lightly coated with a minimum amount of paraffin oil, lime solution, or other material approved by the RPR. Petroleum products shall not be used for coating truck beds. Each truck shall have a suitable cover to protect the mixture from adverse weather. When necessary, to ensure that the mixture will be delivered to the site at the specified temperature, truck beds shall be insulated or heated and covers shall be securely fastened.

401-4.4.1 Material transfer vehicle (MTV). ***A Material Transfer Vehicle is required.*** Material transfer vehicles used to transfer the material from the hauling equipment to the paver, shall use a self-propelled, material transfer vehicle with a swing conveyor that can deliver material to the paver without making contact with the paver. The MTV shall be able to move back and forth between the hauling equipment and the paver providing material transfer to the paver, while allowing the paver to operate at a constant speed. The Material Transfer Vehicle will have remixing and storage capability to prevent physical and thermal segregation.

401-4.5 ASPHALT PAVERS. Asphalt pavers shall be self-propelled with an activated heated screed, capable of spreading and finishing courses of asphalt that will meet the specified thickness, smoothness, and grade. The paver shall have sufficient power to propel itself and the hauling equipment without adversely affecting the finished surface. The asphalt paver shall be equipped with a control system capable of automatically maintaining the specified screed grade and elevation.

If the spreading and finishing equipment in use leaves tracks or indented areas, or produces other blemishes in the pavement that are not satisfactorily corrected by the scheduled operations, the use of such equipment shall be discontinued.

The paver shall be capable of paving to a minimum width specified in paragraph 401-4.12.

401-4.6 ROLLERS. The number, type, and weight of rollers shall be sufficient to compact the asphalt to the required density while it is still in a workable condition without crushing of the aggregate, depressions or other damage to the pavement surface. Rollers shall be in good condition, clean, and capable of operating at slow speeds to avoid displacement of the asphalt. All rollers shall be specifically designed and suitable for compacting asphalt concrete and shall be properly used. Rollers that impair the stability of any layer of a pavement structure or underlying soils shall not be used.

401-4.7 DENSITY DEVICE. The Contractor shall have on site a density gauge during all paving operations in order to assist in the determination of the optimum rolling pattern, type of roller and frequencies, as well as to monitor the effect of the rolling operations during production paving. The Contractor shall supply a qualified technician during all paving operations to calibrate the gauge and obtain accurate density readings for all new asphalt. These densities shall be supplied to the RPR upon request at any time during construction. No separate payment will be made for supplying the density gauge and technician.

401-4.8 PREPARATION OF ASPHALT BINDER. The asphalt binder shall be heated in a manner that will avoid local overheating and provide a continuous supply of the asphalt binder to the mixer at a uniform temperature. The temperature of unmodified asphalt binder delivered to the mixer

shall be sufficient to provide a suitable viscosity for adequate coating of the aggregate particles, but shall not exceed 325°F (160°C) when added to the aggregate. The temperature of modified asphalt binder shall be no more than 350°F (175°C) when added to the aggregate.

401-4.9 PREPARATION OF MINERAL AGGREGATE. The aggregate for the asphalt shall be heated and dried. The maximum temperature and rate of heating shall be such that no damage occurs to the aggregates. The temperature of the aggregate and mineral filler shall not exceed 350°F (175°C) when the asphalt binder is added. Particular care shall be taken that aggregates high in calcium or magnesium content are not damaged by overheating. The temperature shall not be lower than is required to obtain complete coating and uniform distribution on the aggregate particles and to provide a mixture of satisfactory workability.

401-4.10 PREPARATION OF ASPHALT MIXTURE. The aggregates and the asphalt binder shall be weighed or metered and mixed in the amount specified by the JMF. The combined materials shall be mixed until the aggregate obtains a uniform coating of asphalt binder and is thoroughly distributed throughout the mixture. Wet mixing time shall be the shortest time that will produce a satisfactory mixture, but not less than 25 seconds for batch plants. The wet mixing time for all plants shall be established by the Contractor, based on the procedure for determining the percentage of coated particles described in ASTM D2489, for each individual plant and for each type of aggregate used. The wet mixing time will be set to achieve 95% of coated particles. For continuous mix plants, the minimum mixing time shall be determined by dividing the weight of its contents at operating level by the weight of the mixture delivered per second by the mixer. The moisture content of all asphalt upon discharge shall not exceed 0.5%.

401-4.11 APPLICATION OF PRIME AND TACK COAT. Immediately before placing the asphalt mixture, the underlying course shall be cleaned of all dust and debris.

A prime coat in accordance with Item P-602 shall be applied to aggregate base prior to placing the asphalt mixture.

A tack coat shall be applied in accordance with Item P-603 to all vertical and horizontal asphalt and concrete surfaces prior to placement of the first and each subsequent lift of asphalt mixture.

401-4.12 LAYDOWN PLAN, TRANSPORTING, PLACING, AND FINISHING. Prior to the placement of the asphalt, the Contractor shall prepare a laydown plan with the sequence of paving lanes and width to minimize the number of cold joints; the location of any temporary ramps; laydown temperature; and estimated time of completion for each portion of the work (milling, paving, rolling, cooling, etc.). The laydown plan and any modifications shall be approved by the RPR.

Deliveries shall be scheduled so that placing and compacting of asphalt is uniform with minimum stopping and starting of the paver. Hauling over freshly placed material shall not be permitted until the material has been compacted, as specified, and allowed to cool to approximately ambient temperature. The Contractor, at their expense, shall be responsible for repair of any damage to the pavement caused by hauling operations.

Contractor shall survey each lift of asphalt surface course and certify to RPR that every lot of each lift meets the grade tolerances of paragraph 401-6.2d before the next lift can be placed.

Edges of existing asphalt pavement abutting the new work shall be saw cut and the cut off material and laitance removed. Apply a tack coat in accordance with P-603 before new asphalt material is placed against it.

The speed of the paver shall be regulated to eliminate pulling and tearing of the asphalt mat. Placement of the asphalt mix shall begin along the centerline of a crowned section or on the high side of areas with a one way slope unless shown otherwise on the laydown plan as accepted by the RPR. The asphalt mix shall be placed in consecutive adjacent lanes having a minimum width of 12 feet (3.6 m) except where edge lanes require less width to complete the area. Additional screed sections attached to widen the paver to meet the minimum lane width requirements must include additional auger sections to move the asphalt mixture uniformly along the screed extension.

The longitudinal joint in one course shall offset the longitudinal joint in the course immediately below by at least one foot (30 cm); however, the joint in the surface top course shall be at the centerline of crowned pavements. Transverse joints in one course shall be offset by at least 10 feet (3 m) from transverse joints in the previous course. Transverse joints in adjacent lanes shall be offset a minimum of 10 feet (3 m). On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impractical, the asphalt may be spread and luted by hand tools.

The RPR may at any time, reject any batch of asphalt, on the truck or placed in the mat, which is rendered unfit for use due to contamination, segregation, incomplete coating of aggregate, or overheated asphalt mixture. Such rejection may be based on only visual inspection or temperature measurements. In the event of such rejection, the Contractor may take a representative sample of the rejected material in the presence of the RPR, and if it can be demonstrated in the laboratory, in the presence of the RPR, that such material was erroneously rejected, payment will be made for the material at the contract unit price.

Areas of segregation in the surface course, as determined by the RPR, shall be removed and replaced at the Contractor’s expense. The area shall be removed by saw cutting and milling a minimum of the construction lift thickness as specified in paragraph 401-3.3, Table 2 for the approved mix design. The area to be removed and replaced shall be a minimum width of the paver and a minimum of 10 feet (3 m) long.

401-4.13 COMPACTION OF ASPHALT MIXTURE. After placing, the asphalt mixture shall be thoroughly and uniformly compacted by self-propelled rollers. The surface shall be compacted as soon as possible when the asphalt has attained sufficient stability so that the rolling does not cause undue displacement, cracking or shoving. The sequence of rolling operations and the type of rollers used shall be at the discretion of the Contractor. The speed of the roller shall, at all times, be sufficiently slow to avoid displacement of the hot mixture and be effective in compaction. Any surface defects and/or displacement occurring as a result of the roller, or from any other cause, shall be corrected at the Contractor’s expense.

Sufficient rollers shall be furnished to handle the output of the plant. Rolling shall continue until the surface is of uniform texture, true to grade and cross-section, and the required field density is obtained. To prevent adhesion of the asphalt to the roller, the wheels shall be equipped with a scraper and kept moistened with water as necessary.

In areas not accessible to the roller, the mixture shall be thoroughly compacted with approved power tampers.

Any asphalt that becomes loose and broken, mixed with dirt, contains check-cracking, or in any way defective shall be removed and replaced with fresh hot mixture and immediately compacted to conform to the surrounding area. This work shall be done at the Contractor's expense. Skin patching shall not be allowed.

401-4.14 JOINTS. The formation of all joints shall be made to ensure a continuous bond between the courses and obtain the required density. All joints shall have the same texture as other sections of the course and meet the requirements for smoothness and grade.

The roller shall not pass over the unprotected end of the freshly laid asphalt except when necessary to form a transverse joint. When necessary to form a transverse joint, it shall be made by means of placing a bulkhead or by tapering the course. The tapered edge shall be cut back to its full depth and width on a straight line to expose a vertical face prior to placing the adjacent lane. In both methods, all contact surfaces shall be coated with an asphalt tack coat before placing any fresh asphalt against the joint.

Longitudinal joints which have been left exposed for more than four (4) hours; the surface temperature has cooled to less than 175°F (80°C**)**; or are irregular, damaged, uncompacted or otherwise defective shall be cut back with a cutting wheel or pavement saw a maximum of 3 inches (75 mm) to expose a clean, sound, uniform vertical surface for the full depth of the course. All cutback material and any laitance produced from cutting joints shall be removed from the project. Asphalt tack coat in accordance with P-603 shall be applied to the clean, dry joint prior to placing any additional fresh asphalt against the joint. The cost of this work shall be considered incidental to the cost of the asphalt.

401-4.15 SAW-CUT GROOVING. Saw-cut grooves shall be provided as specified in Item P-621.

401-4.16 DIAMOND GRINDING. Diamond grinding shall be completed prior to pavement grooving. Diamond grinding shall be accomplished by sawing with saw blades impregnated with industrial diamond abrasive.

Diamond grinding shall be performed with a machine designed specifically for diamond grinding capable of cutting a path at least 3 feet (0.9 m) wide. The saw blades shall be 1/8-inch (3-mm) wide with a sufficient number of blades to create grooves between 0.090 and 0.130 inches (2 and 3.5 mm) wide; and peaks and ridges approximately 1/32 inch (1 mm) higher than the bottom of the grinding cut. The actual number of blades will be determined by the Contractor and depend on the hardness of the aggregate. Equipment or grinding procedures that cause ravels, aggregate fractures, spalls or disturbance to the pavement will not be permitted. Contractor shall demonstrate to the RPR that the grinding equipment will produce satisfactory results prior to making corrections to surfaces. Grinding will be tapered in all directions to provide smooth transitions to areas not requiring grinding. The slurry resulting from the grinding operation shall be continuously removed and the pavement left in a clean condition. The Contractor shall apply a surface treatment per P-608 to all areas that have been subject to grinding.

401-4.17 NIGHTTIME PAVING REQUIREMENTS. The Contractor shall provide adequate lighting during any nighttime construction. A lighting plan shall be submitted by the Contractor and approved by the RPR prior to the start of any nighttime work. All work shall be in accordance with the approved CSPP and lighting plan.

CONTRACTOR QUALITY CONTROL (CQC)

401-5.1 GENERAL. The Contractor shall develop a Contractor Quality Control Program (CQCP) in accordance with Item C-100. No partial payment will be made for materials without an approved CQCP.

401-5.2 CONTRACTOR QUALITY CONTROL (QC) FACILITIES. The Contractor shall provide or contract for testing facilities in accordance with Item C-100. The RPR shall be permitted unrestricted access to inspect the Contractor's QC facilities and witness QC activities. The RPR will advise the Contractor in writing of any noted deficiencies concerning the QC facility, equipment, supplies, or testing personnel and procedures. When the deficiencies are serious enough to be adversely affecting the test results, the incorporation of the materials into the work shall be suspended immediately and will not be permitted to resume until the deficiencies are satisfactorily corrected.

401-5.3 CONTRACTOR QC TESTING. The Contractor shall perform all QC tests necessary to control the production and construction processes applicable to these specifications and as set forth in the approved CQCP. The testing program shall include, but not necessarily be limited to, tests for the control of asphalt content, aggregate gradation, temperatures, aggregate moisture, field compaction, and surface smoothness. A QC Testing Plan shall be developed as part of the CQCP.

a. Asphalt content. A minimum of two tests shall be performed per day in accordance with ASTM D6307 or ASTM D2172 for determination of asphalt content. When using ASTM D6307, the correction factor shall be determined as part of the first test performed at the beginning of plant production; and as part of every tenth test performed thereafter. The asphalt content for the day will be determined by averaging the test results.

b. Gradation. Aggregate gradations shall be determined a minimum of twice per day from mechanical analysis of extracted aggregate in accordance with ASTM D5444, ASTM C136, and ASTM C117.

c. Moisture content of aggregate. The moisture content of aggregate used for production shall be determined a minimum of once per day in accordance with ASTM C566.

d. Moisture content of asphalt. The moisture content shall be determined once per day in accordance with AASHTO T329 or ASTM D1461.

e. Temperatures. Temperatures shall be checked, at least four times per day, at necessary locations to determine the temperatures of the dryer, the asphalt binder in the storage tank, the asphalt at the plant, and the asphalt at the job site.

f. In-place density monitoring. The Contractor shall conduct any necessary testing to ensure that the specified density is being achieved. A nuclear gauge may be used to monitor the pavement density in accordance with ASTM D2950.

g. Smoothness for Contractor Quality Control.

The Contractor shall perform smoothness testing in transverse and longitudinal directions daily to verify that the construction processes are producing pavement with variances less than ¼ inch in 12 feet, identifying areas that may pond water which could lead to hydroplaning of aircraft. If the smoothness criteria is not met, appropriate changes and corrections to the construction process shall be made by the Contractor before construction continues.

The Contractor may use a 12-foot (3.7 m) straightedge, a rolling inclinometer meeting the requirements of ASTM E2133 or rolling external reference device that can simulate a 12-foot (3.7m) straightedge approved by the RPR. Straight-edge testing shall start with one-half the length of the straightedge at the edge of pavement section being tested and then moved ahead one-half the length of the straightedge for each successive measurement. Testing shall be continuous across all joints. The surface irregularity shall be determined by placing the freestanding (unleveled) straightedge on the pavement surface and allowing it to rest upon the two highest spots covered by its length, and measuring the maximum gap between the straightedge and the pavement surface in the area between the two high points. If the rolling inclinometer or external reference device is used, the data may be evaluated using the FAA profile program, ProFAA, or FHWA ProVal, using the 12-foot straightedge simulation function.

Smoothness readings shall not be made across grade changes or cross slope transitions. The transition between new and existing pavement shall be evaluated separately for conformance with the plans.

(1) Transverse measurements. Transverse measurements shall be taken for each day's production placed. Transverse measurements shall be taken perpendicular to the pavement centerline each 50 feet (15 m) or more often as determined by the RPR. The joint between lanes shall be tested separately to facilitate smoothness between lanes.

(2) Longitudinal measurements. Longitudinal measurements shall be taken for each day's production placed. Longitudinal tests shall be parallel to the centerline of paving; at the center of paving lanes when widths of paving lanes are less than 20 feet (6 m); and at the third points of paving lanes when widths of paving lanes are 20 ft (6 m) or greater.

Deviations on the final surface course in either the transverse or longitudinal direction that will trap water greater than 1/4 inch (6 mm) shall be corrected with diamond grinding per paragraph 401-4.16 or by removing and replacing the surface course to full depth. Grinding shall be tapered in all directions to provide smooth transitions to areas not requiring grinding. All areas in which diamond grinding has been performed shall be subject to the final pavement thickness tolerances specified in paragraph 401-6.1d(3). Areas that have been ground shall be sealed with a surface treatment in accordance with Item P-608. To avoid the surface treatment creating any conflict with runway or taxiway markings, it may be necessary to seal a larger area.

Control charts shall be kept to show area of each day's placement and the percentage of corrective grinding required. Corrections to production and placement shall be initiated when corrective grinding is required. If the Contractor's machines and/or methods produce significant areas that need corrective actions in excess of 10 percent of a day's production, production shall be stopped until corrective measures are implemented by the Contractor.

h. Grade. Grade shall be evaluated daily to allow adjustments to paving operations when grade measurements do not meet specifications. As a minimum, grade shall be evaluated prior to and after the placement of the first lift and after placement of the surface lift.

Measurements will be taken at appropriate gradelines (as a minimum at center and edges of paving lane) and longitudinal spacing as shown on cross-sections and plans. The final surface of the pavement will not vary from the gradeline elevations and cross-sections shown on the plans by more than 1/2 inch (12 mm) vertically and 0.1 feet (30 mm) laterally. The documentation will be provided by the Contractor to the RPR within 24 hours.

Areas with humps or depressions that exceed grade or smoothness criteria and that retain water on the surface must be ground off provided the course thickness after grinding is not more than 1/2 inch (12 mm) less than the thickness specified on the plans. Grinding shall be in accordance with paragraph 401-4.16.

The Contractor shall repair low areas or areas that cannot be corrected by grinding by removal of deficient areas to the depth of the final course plus ½ inch and replacing with new material. Skin patching is not allowed.

401-5.4 SAMPLING. When directed by the RPR, the Contractor shall sample and test any material that appears inconsistent with similar material being sampled, unless such material is voluntarily removed and replaced or deficiencies corrected by the Contractor. All sampling shall be in accordance with standard procedures specified.

401-5.5 CONTROL CHARTS. The Contractor shall maintain linear control charts for both individual measurements and range (i.e. difference between highest and lowest measurements) for aggregate gradation, asphalt content, and VMA. The VMA for each day will be calculated and monitored by the QC laboratory.

Control charts shall be posted in a location satisfactory to the RPR and kept current. As a minimum, the control charts shall identify the project number, the contract item number, the test number, each test parameter, the Action and Suspension Limits applicable to each test parameter, and the Contractor's test results. The Contractor shall use the control charts as part of a process control system for identifying potential problems and assignable causes before they occur. If the Contractor's projected data during production indicates a problem and the Contractor is not taking satisfactory corrective action, the RPR may suspend production or acceptance of the material.

a. Individual measurements. Control charts for individual measurements shall be established to maintain process control within tolerance for aggregate gradation, asphalt content, and VMA. The control charts shall use the job mix formula target values as indicators of central tendency for the following test parameters with associated Action and Suspension Limits:

Control Chart Limits for Individual Measurements

Sieve	Action Limit	Suspension Limit
3/4 inch (19.0 mm)	±6%	±9%
1/2 inch (12.5 mm)	±6%	±9%
3/8 inch (9.5 mm)	±6%	±9%
No. 4 (4.75 mm)	±6%	±9%
No. 16 (1.18 mm)	±5%	±7.5%
No. 50 (300 µm)	±3%	±4.5%
No. 200 (75 µm)	±2%	±3%
Asphalt Content	±0.45%	±0.70%
Minimum VMA	-0.5%	-1.0%

b. Range. Control charts shall be established to control gradation process variability. The range shall be plotted as the difference between the two test results for each control parameter. The Suspension Limits specified below are based on a sample size of n = 2. Should the Contractor elect to perform more than two tests per lot, the Suspension Limits shall be adjusted by multiplying the Suspension Limit by 1.18 for n = 3 and by 1.27 for n = 4.

Control Chart Limits Based on Range

Sieve	Suspension Limit
1/2 inch (12.5 mm)	11%
3/8 inch (9.5 mm)	11%
No. 4 (4.75 mm)	11%
No. 16 (1.18 mm)	9%
No. 50 (300 µm)	6%
No. 200 (75 µm)	3.5%
Asphalt Content	0.8%

c. Corrective Action. The CQCP shall indicate that appropriate action shall be taken when the process is believed to be out of tolerance. The Plan shall contain rules to gauge when a process is out of control and detail what action will be taken to bring the process into control. As a minimum, a process shall be deemed out of control and production stopped and corrective action taken, if:

(1) One point falls outside the Suspension Limit line for individual measurements or range; or

(2) Two points in a row fall outside the Action Limit line for individual measurements.

401-5.6 QC REPORTS. The Contractor shall maintain records and shall submit reports of QC activities daily, in accordance with Item C-100.

MATERIAL ACCEPTANCE

401-6.1 ACCEPTANCE SAMPLING AND TESTING. Unless otherwise specified, all acceptance sampling and testing necessary to determine conformance with the requirements specified in this section will be performed by the RPR at no cost to the Contractor except that coring as required in this section shall be completed and paid for by the Contractor.

a. Quality assurance (QA) testing laboratory. The QA testing laboratory performing these acceptance tests will be accredited in accordance with ASTM D3666. The QA laboratory accreditation will be current and listed on the accrediting authority's website. All test methods required for acceptance sampling and testing will be listed on the lab accreditation.

b. Lot size. A standard lot will be equal to one day's production divided into approximately equal sublots of between 400 to 600 tons. When only one or two sublots are produced in a day's production, the sublots will be combined with the production lot from the previous or next day.

Where more than one plant is simultaneously producing asphalt for the job, the lot sizes will apply separately for each plant.

c. Asphalt air voids. Plant-produced asphalt will be tested for air voids on a sublot basis.

(1) Sampling. Material from each sublot shall be sampled in accordance with ASTM D3665. Samples shall be taken from material deposited into trucks at the plant or at the job site in accordance with ASTM D979. The sample of asphalt may be put in a covered metal tin and placed in an oven for not less than 30 minutes nor more than 60 minutes to maintain the material at or above the compaction temperature as specified in the JMF.

(2) Testing. Air voids will be determined for each sublot in accordance with ASTM D3203 for a set of compacted specimens prepared in accordance with ASTM D6925.

d. In-place asphalt mat and joint density. Each sublot will be tested for in-place mat and joint density as a percentage of the theoretical maximum density (TMD).

(1) Sampling. The Contractor will cut minimum 5 inch (125 mm) diameter samples in accordance with ASTM D5361. The Contractor shall furnish all tools, labor, and materials for cleaning, and filling the cored pavement. Laitance produced by the coring operation shall be removed immediately after coring, and core holes shall be filled within one day after sampling in a manner acceptable to the RPR.

(2) Bond. Each lift of asphalt shall be bonded to the underlying layer. If cores reveal that the surface is not bonded, additional cores shall be taken as directed by the RPR to determine the extent of unbonded areas. Unbonded areas shall be removed by milling and replaced at no additional cost as directed by the RPR.

(3) Thickness. Thickness of each lift of surface course will be evaluated by the RPR for compliance to the requirements shown on the plans after any necessary corrections for grade.

Measurements of thickness will be made using the cores extracted for each sublot for density measurement. The maximum allowable deficiency at any point will not be more than 1/4 inch (6 mm) less than the thickness indicated for the lift. Average thickness of lift, or combined lifts, will not be less than the indicated thickness. Where the thickness tolerances are not met, the lot or sublot shall be corrected by the Contractor at his expense by removing the deficient area and replacing with new pavement. The Contractor, at his expense, may take additional cores as approved by the RPR to circumscribe the deficient area.

(4) Mat density. One core shall be taken from each sublot. Core locations will be determined by the RPR in accordance with ASTM D3665. Cores for mat density shall not be taken closer than one foot (30 cm) from a transverse or longitudinal joint. The bulk specific gravity of each cored sample will be determined in accordance with ASTM D2726. The percent compaction (density) of each sample will be determined by dividing the bulk specific gravity of each sublot sample by the TMD for that sublot.

(5) Joint density. One core centered over the longitudinal joint shall be taken for each sublot that has a longitudinal joint. Core locations will be determined by the RPR in accordance with ASTM D3665. The bulk specific gravity of each core sample will be determined in accordance with ASTM D2726. The percent compaction (density) of each sample will be determined by dividing the bulk specific gravity of each joint density sample by the average TMD for the lot. The TMD used to determine the joint density at joints formed between lots will be the lower of the average TMD values from the adjacent lots.

401-6.2 ACCEPTANCE CRITERIA.

a. General. Acceptance will be based on the implementation of the Contractor Quality Control Program (CQCP) and the following characteristics of the asphalt and completed pavements: air voids, mat density, joint density, grade and Profilograph roughness**.**

b. Air Voids and Mat density. Acceptance of each lot of plant produced material for mat density and air voids will be based on the percentage of material within specification limits (PWL). If the PWL of the lot equals or exceeds 90%, the lot will be acceptable. Acceptance and payment will be determined in accordance with paragraph 401-8.1.

c. Joint density. Acceptance of each lot of plant produced asphalt for joint density will be based on the PWL. If the PWL of the lot is equal to or exceeds 90%, the lot will be considered acceptable. If the PWL is less than 90%, the Contractor shall evaluate the reason and act accordingly. If the PWL is less than 80%, the Contractor shall cease operations and until the reason for poor compaction has been determined. If the PWL is less than 71%, the pay factor for the lot used to complete the joint will be reduced by five (5) percentage points. This lot pay factor reduction will be incorporated and evaluated in accordance with paragraph 401-8.1.

d. Grade. The final finished surface of the pavement shall be surveyed to verify that the grade elevations and cross-sections shown on the plans do not deviate more than 1/2 inch (12 mm) vertically or 0.1 feet (30 mm) laterally**.**

Cross-sections of the pavement shall be taken at a minimum 25-foot (7.6-m) longitudinal spacing and at all longitudinal grade breaks. Minimum cross-section grade points shall include grade at centerline, and edge of runway and taxiway pavement.

The survey and documentation shall be stamped and signed by a licensed surveyor. Payment for sublots that do not meet grade for over 25% of the sublot shall not be more than 95%.

e. Profilograph roughness for QA Acceptance. The final profilograph shall be the full length of the project to facilitate testing of roughness between lots. The Contractor, in the presence of the RPR shall perform a profilograph roughness test on the completed project with a profilograph meeting the requirements of ASTM E1274 or a Class I inertial profiler meeting ASTM E950. Data and results shall be provided within 48 hrs of profilograph roughness tests.

The pavement shall have an average profile index less than 15 inches per mile per 1/10 mile. The equipment shall utilize electronic recording and automatic computerized reduction of data to indicate “must grind” bumps and the Profile Index for the pavement using a 0.2-inch (5 mm) blanking band. The bump template must span one inch (25 mm) with an offset of 0.4 inches (10 mm). The profilograph must be calibrated prior to use and operated by a factory or State DOT approved, trained operator. Profilograms shall be recorded on a longitudinal scale of one inch (25 mm) equals 25 feet (7.5 m) and a vertical scale of one inch (25 mm) equals one inch (25 mm). Profilograph shall be performed one foot right and left of project centerline and 15 feet (4.5 m) right and left of project centerline. Any areas that indicate “must grind” shall be corrected with diamond grinding per paragraph 401-4.16 or by removing and replacing full depth of surface course. as directed by the RPR. Where corrections are necessary, a second profilograph run shall be performed to verify that the corrections produced an average profile index of 15 inches per mile per 1/10 mile or less.

401-6.3 PERCENTAGE OF MATERIAL WITHIN SPECIFICATION LIMITS (PWL). The PWL will be determined in accordance with procedures specified in Item C-110. The specification tolerance limits (L) for lower and (U) for upper are contained in Table 5.

Table 5. Acceptance Limits for Air Voids and Density

Test Property	Pavements Specification Tolerance Limits	
	L	**U**
Air Voids Total Mix (%)	2.0	5.0
Surface Course Mat Density (%)	92.8	**-**
Base Course Mat Density (%)	92.0	**-**
Joint density (%)	90.5	--

a. Outliers. All individual tests for mat density and air voids will be checked for outliers (test criterion) in accordance with ASTM E178, at a significance level of 5%. Outliers will be discarded, and the PWL will be determined using the remaining test values. The criteria in Table 5 is based on production processes which have a variability with the following standard deviations: Surface Course Mat Density (%), 1.30; Base Course Mat Density (%), 1.55; Joint Density (%), 1.55.

The Contractor should note that (1) 90 PWL is achieved when consistently producing a surface course with an average mat density of at least 94.5% with 1.30% or less variability, (2) 90 PWL is achieved when consistently producing a base course with an average mat density of at least 94.0% with 1.55% or less variability, and (3) 90 PWL is achieved when consistently producing joints with an average joint density of at least 92.5% with 1.55% or less variability.

401-6.4 RESAMPLING PAVEMENT FOR MAT DENSITY.

a. General. Resampling of a lot of pavement will only be allowed for mat density, and then, only if the Contractor requests same, in writing, within 48 hours after receiving the written test results from the RPR. A retest will consist of all the sampling and testing procedures contained in paragraphs 401-6.1d and 401-6.2b. Only one resampling per lot will be permitted.

(1) A redefined PWL will be calculated for the resampled lot. The number of tests used to calculate the redefined PWL will include the initial tests made for that lot plus the retests.

(2) The cost for resampling and retesting shall be borne by the Contractor.

b. Payment for resampled lots. The redefined PWL for a resampled lot will be used to calculate the payment for that lot in accordance with Table 6.

c. Outliers. Check for outliers in accordance with ASTM E178, at a significance level of 5%.

401-6.5 LEVELING COURSE. The leveling course is the first variable thickness lift placed to correct surface irregularities prior to placement of subsequent courses. The leveling course shall meet the aggregate gradation in Table 2, paragraph 401-3.3. The leveling course shall meet the requirements of paragraph 401-3.3, 401-6.2b for air voids, but shall not be subject to the density requirements of paragraph 401-6.2b for mat density and 401-6.2c for joint density. The leveling course shall be compacted with the same effort used to achieve density of the control strip. The leveling course shall not exceed the lift thickness associated with each gradation in Table 2, paragraph 401-3.3.

METHOD OF MEASUREMENT

401-7.1 MEASUREMENT. Asphalt shall be measured by the number of tons of asphalt used in the accepted work. Batch weights or truck scale weights will be used to determine the basis for the tonnage.

BASIS OF PAYMENT

401-8.1 PAYMENT. Payment for a lot of asphalt meeting all acceptance criteria as specified in paragraph 401-6.2 shall be made based on results of tests for mat density and air voids. Payment for acceptable lots shall be adjusted according to paragraph 401-8.1c for mat density and air voids; and paragraph 401-6.2c for joint density, subject to the limitation that:

a. The total project payment for plant mix asphalt pavement shall not exceed 100 percent of the product of the contract unit price and the total number of tons (kg) of asphalt used in the accepted work.

b. The price shall be compensation for furnishing all materials, for all preparation, mixing, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

c. Basis of adjusted payment. The pay factor for each individual lot shall be calculated in accordance with Table 6. A pay factor shall be calculated for both mat density and air voids. The lot pay factor shall be the higher of the two values when calculations for both mat density and air voids are 100% or higher. The lot pay factor shall be the product of the two values when only one of the calculations for either mat density or air voids is 100% or higher. The lot pay factor shall be the lower of the two values when calculations for both mat density and air voids are less than 100%. If PWL for joint density is less than 71% then the lot pay factor shall be reduced by 5% but be no higher than 95%.

For each lot accepted, the adjusted contract unit price shall be the product of the lot pay factor for the lot and the contract unit price. Payment shall be subject to the total project payment limitation specified in paragraph 401-8.1a. Payment in excess of 100% for accepted lots of asphalt shall be used to offset payment for accepted lots of asphalt pavement that achieve a lot pay factor less than 100%.

Payment for sublots which do not meet grade in accordance with paragraph 401-6.2d after correction for over 25% of the sublot shall be reduced by 5%.

Table 6. Price adjustment schedule[1]

Percentage of material within specification limits (PWL)	Lot pay factor (percent of contract unit price)
96 – 100	106
90 – 95	PWL + 10
75 – 89	0.5 PWL + 55
55 – 74	1.4 PWL – 12
Below 55	Reject [2]

[1] Although it is theoretically possible to achieve a pay factor of 106% for each lot, actual payment above 100% shall be subject to the total project payment limitation specified in paragraph 401-8.1a.

[2] The lot shall be removed and replaced. However, the RPR may decide to allow the rejected lot to remain. In that case, if the RPR and Contractor agree in writing that the lot shall not be removed, it shall be paid for at 50% of the contract unit price and the total project payment shall be reduced by the amount withheld for the rejected lot.

d. Profilograph Roughness. The Contractor will receive full payment when the profilograph average profile index is in accordance with paragraph 401-6.2e. When the final average profile index for the entire length of pavement does not exceed 15 inches per mile per 1/10 mile, payment will be made at the contract unit price for the completed pavement.

401-8.1 PAYMENT.

Payment will be made under:

~~Item P-401-1 Asphalt Mix Pavement - per Ton (TN)~~

P-401-1	Asphalt Mix Pavement - Surface Course, 12.5 mm NMAS	--per Ton (TN)
P-401-2	Asphalt Mix Pavement - Leveling, 9.5 mm NMAS	--per Ton (TN)

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C29	Standard Test Method for Bulk Density (“Unit Weight”) and Voids in Aggregate
ASTM C88	Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C117	Standard Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C127	Standard Test Method for Density, Relative Density (Specific Gravity) and Absorption of Coarse Aggregate
ASTM C131	Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C142	Standard Test Method for Clay Lumps and Friable Particles in Aggregates
ASTM C566	Standard Test Method for Total Evaporable Moisture Content of Aggregate by Drying
ASTM D75	Standard Practice for Sampling Aggregates
ASTM D242	Standard Specification for Mineral Filler for Bituminous Paving Mixtures
ASTM D946	Standard Specification for Penetration-Graded Asphalt Cement for Use in Pavement Construction

ASTM D979	Standard Practice for Sampling Asphalt Paving Mixtures
ASTM D1073	Standard Specification for Fine Aggregate for Asphalt Paving Mixtures
ASTM D1188	Standard Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Coated Samples
ASTM D2172	Standard Test Method for Quantitative Extraction of Bitumen from Asphalt Paving Mixtures
ASTM D1461	Standard Test Method for Moisture or Volatile Distillates in Asphalt Paving Mixtures
ASTM D2041	Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
ASTM D2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
ASTM D2489	Standard Practice for Estimating Degree of Particle Coating of Bituminous-Aggregate Mixtures
ASTM D2726	Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures
ASTM D2950	Standard Test Method for Density of Bituminous Concrete in Place by Nuclear Methods
ASTM D3203	Standard Test Method for Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
ASTM D3381	Standard Specification for Viscosity-Graded Asphalt Cement for Use in Pavement Construction
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D3666	Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4552	Standard Practice for Classifying Hot-Mix Recycling Agents
ASTM D4791	Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D4867	Standard Test Method for Effect of Moisture on Asphalt Concrete Paving Mixtures

ASTM D5361	Standard Practice for Sampling Compacted Asphalt Mixtures for Laboratory Testing
ASTM D5444	Standard Test Method for Mechanical Size Analysis of Extracted Aggregate
ASTM D5821	Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate
ASTM D6084	Standard Test Method for Elastic Recovery of Bituminous Materials by Ductilometer
ASTM D6307	Standard Test Method for Asphalt Content of Hot Mix Asphalt by Ignition Method
ASTM D6373	Standard Specification for Performance Graded Asphalt Binder
ASTM D6752	Standard Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Automatic Vacuum Sealing Method
ASTM D6925	Standard Test Method for Preparation and Determination of the Relative Density of Hot Mix Asphalt (HMA) Specimens by Means of the SuperPave Gyratory Compactor.
ASTM D6926	Standard Practice for Preparation of Bituminous Specimens Using Marshall Apparatus
ASTM D6927	Standard Test Method for Marshall Stability and Flow of Bituminous Mixtures
ASTM D6995	Standard Test Method for Determining Field VMA based on the Maximum Specific Gravity of the Mix (Gmm)
ASTM E11	Standard Specification for Woven Wire Test Sieve Cloth and Test Sieves
ASTM E178	Standard Practice for Dealing with Outlying Observations
ASTM E1274	Standard Test Method for Measuring Pavement Roughness Using a Profilograph
ASTM E950	Standard Test Method for Measuring the Longitudinal Profile of Traveled Surfaces with an Accelerometer Established Inertial Profiling Reference
ASTM E2133	Standard Test Method for Using a Rolling Inclinometer to Measure Longitudinal and Transverse Profiles of a Traveled Surface

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO M156	Standard Specification for Requirements for Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures.
AASHTO T329	Standard Method of Test for Moisture Content of Hot Mix Asphalt (HMA) by Oven Method
AASHTO T324	Standard Method of Test for Hamburg Wheel-Track Testing of Compacted Asphalt Mixtures
AASHTO T 340	Standard Method of Test for Determining the Rutting Susceptibility of Hot Mix Asphalt (APA) Using the Asphalt Pavement Analyzer (APA)

Asphalt Institute (AI)

Asphalt Institute Handbook MS-26, Asphalt Binder

Asphalt Institute MS-2Mix Design Manual, 7th Edition

AI State Binder Specification Database

Federal Highway Administration (FHWA)

Long Term Pavement Performance Binder Program

Advisory Circulars (AC)

AC 150/5320-6	Airport Pavement Design and Evaluation

FAA Orders

5300.1	Modifications to Agency Airport Design, Construction, and Equipment Standards

Software

FAARFIELD

END OF ITEM P-401

ITEM P-602 EMULSIFIED ASPHALT PRIME COAT

DESCRIPTION

602-1.1 This item shall consist of an application of emulsified asphalt material on the prepared base course in accordance with these specifications and in reasonably close conformity to the lines shown on the plans.

MATERIALS

602-2.1 EMULSIFIED ASPHALT MATERIAL. The emulsified asphalt material shall be as specified in ASTM D3628 for use as a prime coat appropriate to local conditions. The Contractor shall provide a copy of the manufacturer's Certificate of Analysis (COA) for the emulsified asphalt material. The COA shall be provided to and approved by the Resident Project Representative (RPR) before the emulsified asphalt material is applied. The furnishing of the COA for the emulsified asphalt material shall not be interpreted as a basis for final acceptance. The manufacturer's COA may be subject to verification by testing the material delivered for use on the project.

CONSTRUCTION METHODS

602-3.1 WEATHER LIMITATIONS. The emulsified asphalt prime coat shall be applied only when the existing surface is dry; the atmospheric temperature is 50°F (10°C) or above, and the temperature has not been below 35°F (2°C) for the 12 hours prior to application; and when the weather is not foggy or rainy. The temperature requirements may be waived when directed by the RPR.

602-3.2 EQUIPMENT. The equipment shall include a self-powered pressure asphalt material distributor and equipment for heating asphalt material.

Provide a distributor with pneumatic tires of such size and number that the load produced on the base surface does not exceed 65.0 psi (4.5 kg/sq cm) of tire width to prevent rutting, shoving or otherwise damaging the base, surface or other layers in the pavement structure. Design and equip the distributor to spray the asphalt material in a uniform coverage at the specified temperature, at readily determined and controlled rates from 0.05 to 1.0 gallons per square yard (0.23 to 4.5 L/square meter), with a pressure range of 25 to 75 psi (172.4 to 517.1 kPa) and with an allowable variation from the specified rate of not more than ±5%, and at variable widths. Include with the distributor equipment a separate power unit for the bitumen pump, full-circulation spray bars, tachometer, pressure gauges, volume-measuring devices, adequate heaters for heating of materials to the proper application temperature, a thermometer for reading the temperature of tank contents, and a hand hose attachment suitable for applying asphalt material manually to areas inaccessible to the distributor. Equip the distributor to circulate and agitate the asphalt material during the heating process. If the distributor is not equipped with an operable quick shutoff valve, the prime operations shall be started and stopped on building paper.

A power broom and power blower suitable for cleaning the surfaces to which the asphalt coat is to be applied shall be provided.

Asphalt distributors must be calibrated annually in accordance with ASTM D2995. The Contractor must furnish a current calibration certification for the asphalt distributor truck from any State or other agency as approved by the RPR.

602-3.3 APPLICATION OF EMULSIFIED ASPHALT MATERIAL. Immediately before applying the prime coat, the full width of the surface to be primed shall be swept with a power broom to remove all loose dirt and other objectionable material.

The asphalt emulsion material shall be uniformly applied with an asphalt distributor at the rate of 0.15 to 0.30 gallons per square yard (0.68 to 1.36 liters per square meter) depending on the base course surface texture. The type of asphalt material and application rate shall be approved by the RPR prior to application.

Following application of the emulsified asphalt material and prior to application of the succeeding layer of pavement, allow the asphalt coat to cure and to obtain evaporation of any volatiles or moisture. Maintain the coated surface until the succeeding layer of pavement is placed, by protecting the surface against damage and by repairing and recoating deficient areas. Allow the prime coat to cure without being disturbed for a period of at least 48 hours or longer, as may be necessary to attain penetration into the treated course. Furnish and spread sand to effectively blot up and cure excess asphalt material. The Contractor shall remove blotting sand prior to asphalt concrete lay down operations at no additional expense to the Owner. Keep traffic off surfaces freshly treated with asphalt material. Provide sufficient warning signs and barricades so that traffic will not travel over freshly treated surfaces.

602-3.4 TRIAL APPLICATION RATES. The Contractor shall apply a minimum of three lengths of at least 100 feet (30 m) for the full width of the distributor bar to evaluate the amount of emulsified asphalt material that can be satisfactorily applied with the equipment. Apply three different application rates of emulsified asphalt materials within the application range specified in paragraph 602-3.3. Other trial applications can be made using various amounts of material as directed by the RPR. The trial application is to demonstrate the equipment can uniformly apply the emulsified asphalt material within the rates specified and determine the application rate for the project.

602-3.5 FREIGHT AND WAYBILLS. The Contractor shall submit waybills and delivery tickets during the progress of the work. Before the final estimate is allowed, file with the RPR certified waybills and certified delivery tickets for all emulsified asphalt materials used in the construction of the pavement covered by the contract. Do not remove emulsified asphalt material from storage until the initial outage and temperature measurements have been taken. The delivery or storage units will not be released until the final outage has been taken.

METHOD OF MEASUREMENT

602-4.1 The emulsified asphalt material for prime coat shall be measured by ~~the gallon (liter). Volume shall be corrected to the volume at 60°F (16°C) in accordance with ASTM D4311~~. ***square yard (square meter) of approved base course as an incidental item of work and a component part of the base***. The emulsified asphalt material paid for will be the measured quantities used in the accepted work, provided that the measured quantities are not 10% over the

specified application rate. Any amount of emulsified asphalt material more than 10% over the specified application rate for each application will be deducted from the measured quantities, except for irregular areas where hand spraying of the emulsified asphalt material is necessary. Water added to emulsified asphalt will not be measured for payment.

BASIS OF PAYMENT

602-5.1 Payment shall be made at the contract unit price ~~per gallon (liter) for emulsified asphalt prime coat~~ ***square yard (square meter) of approved base course as an incidental item of work and a component part of the base***. This price shall be full compensation for furnishing all materials and for all preparation, delivering, and applying the materials, and for all labor, equipment, tools, and incidentals necessary to complete this item.

Payment will be made under:

~~Item P-602-1 Emulsified Asphalt Prime Coat - per Gallon (GAL)~~

P-219-1 6" Recycled Concrete Aggregate Base --per Square Yard (SY)

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D2995	Standard Practice for Estimating Application Rate and Residual Application Rate of Bituminous Distributors
ASTM D3628	Standard Practice for Selection and Use of Emulsified Asphalts

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ITEM P-603 EMULSIFIED ASPHALT TACK COAT

DESCRIPTION

1.1 This item shall consist of preparing and treating an asphalt or concrete surface with asphalt material in accordance with these specifications and in reasonably close conformity to the lines shown on the plans.

MATERIALS

2.1 ASPHALT MATERIALS. The asphalt material shall be an emulsified asphalt as specified in ASTM D3628 as an asphalt application for tack coat appropriate to local conditions. The emulsified asphalt shall not be diluted. The Contractor shall provide a copy of the manufacturer's Certificate of Analysis (COA) for the asphalt material to the Resident Project Representative (RPR) before the asphalt material is applied for review and acceptance. The furnishing of COA for the asphalt material shall not be interpreted as a basis for final acceptance. The manufacturer's COA may be subject to verification by testing the material delivered for use on the project.

CONSTRUCTION METHODS

3.1 WEATHER LIMITATIONS. The tack coat shall be applied only when the existing surface is dry and the atmospheric temperature is 50°F (10°C) or above; the temperature has not been below 35°F (2°C) for the 12 hours prior to application; and when the weather is not foggy or rainy. The temperature requirements may be waived when directed by the RPR.

3.2 EQUIPMENT. The Contractor shall provide equipment for heating and applying the emulsified asphalt material. The emulsion shall be applied with a manufacturer-approved computer rate-controlled asphalt distributor. The equipment shall be in good working order and contain no contaminants or diluents in the tank. Spray bar tips must be clean, free of burrs, and of a size to maintain an even distribution of the emulsion. Any type of tip or pressure source is suitable that will maintain predetermined flow rates and constant pressure during the application process with application speeds under eight (8) miles per hour (13 km per hour) or seven (700) feet per minute (213 m per minute).

The equipment will be tested under pressure for leaks and to ensure proper set-up before use to verify truck set-up (via a test-shot area), including but not limited to, nozzle tip size appropriate for application, spray-bar height and pressure and pump speed, evidence of triple-overlap spray pattern, lack of leaks, and any other factors relevant to ensure the truck is in good working order before use.

The distributor truck shall be equipped with a minimum 12-foot (3.7-m) spreader spray bar with individual nozzle control with computer-controlled application rates. The distributor truck shall have an easily accessible thermometer that constantly monitors the temperature of the emulsion, and have an operable mechanical tank gauge that can be used to cross-check the computer accuracy. If the distributor is not equipped with an operable quick shutoff valve, the prime operations shall be started and stopped on building paper.

The distributor truck shall be equipped to effectively heat and mix the material to the required temperature prior to application as required. Heating and mixing shall be done in accordance with the manufacturer's recommendations. Do not overheat or over mix the material.

The distributor shall be equipped with a hand sprayer.

Asphalt distributors must be calibrated annually in accordance with ASTM D2995. The Contractor must furnish a current calibration certification for the asphalt distributor truck from any State or other agency as approved by the RPR.

A power broom and/or power blower suitable for cleaning the surfaces to which the asphalt tack coat is to be applied shall be provided.

3.3 APPLICATION OF EMULSIFIED ASPHALT MATERIAL. The emulsified asphalt shall not be diluted. Immediately before applying the emulsified asphalt tack coat, the full width of surface to be treated shall be swept with a power broom and/or power blower to remove all loose dirt and other objectionable material.

The emulsified asphalt material shall be uniformly applied with an asphalt distributor at the rates appropriate for the conditions and surface specified in the table below. The type of asphalt material and application rate shall be approved by the RPR prior to application.

Emulsified Asphalt

Surface Type	Residual Rate, gal/SY (L/square meter)	Emulsion Application Bar Rate, gal/SY (L/square meter)
New asphalt	0.02-0.05 (0.09-0.23)	0.03-0.07 (0.13-0.32)
Existing asphalt	0.04-0.07 (0.18-0.32)	0.06-0.11 (0.27-0.50)
Milled Surface	0.04-0.08 (0.18-0.36)	.0.06-0.12 (0.27-0.54)
Concrete	0.03-0.05 (0.13-0.23)	0.05-0.08 (0.23-0.36)

After application of the tack coat, the surface shall be allowed to cure without being disturbed for the period of time necessary to permit drying and setting of the tack coat. This period shall be determined by the RPR. The Contractor shall protect the tack coat and maintain the surface until the next course has been placed. When the tack coat has been disturbed by the Contractor, tack coat shall be reapplied at the Contractor's expense.

3.4 FREIGHT AND WAYBILLS. The Contractor shall submit waybills and delivery tickets, during progress of the work. Before the final statement is allowed, file with the RPR certified waybills and certified delivery tickets for all emulsified asphalt materials used in the construction of the pavement covered by the contract. Do not remove emulsified asphalt material from storage until the initial outage and temperature measurements have been taken. The delivery or storage units will not be released until the final outage has been taken.

METHOD OF MEASUREMENT

4.1 The emulsified asphalt material for tack coat shall be measured by the ton (kg) per ton (kg) ***of asphalt mix pavement items as an incidental item of work and a component part of paving.***. Volume shall be corrected to the volume at 60°F (16°C) in accordance with ASTM

D1250. The emulsified asphalt material paid for will be the measured quantities used in the accepted work, provided that the measured quantities are not 10% over the specified application rate. Any amount of emulsified asphalt material more than 10% over the specified application rate for each application will be deducted from the measured quantities, except for irregular areas where hand spraying of the emulsified asphalt material is necessary. Water added to emulsified asphalt will not be measured for payment.

BASIS OF PAYMENT

5-1 Payment shall be made at the contract unit price per ton (kg) ***of asphalt mix pavement items as an incidental item of work and a component part of paving*** ~~emulsified asphalt material.~~ This price shall be full compensation for furnishing all materials, for all preparation, delivery, and application of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

~~Item P-603-5.1 Emulsified Asphalt Tack Coat - per **[** gallon (liter) **] [** ton (kg) **]~~

P-401-1	Asphalt Mix Pavement - Surface Course, 12.5 mm NMAS	-	per Ton (TN)
P-401-2	Asphalt Mix Pavement - Leveling, 9.5 mm NMAS	-	per Ton (TN)

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D1250	Standard Guide for Use of the Petroleum Measurement Tables
ASTM D2995	Standard Practice for Estimating Application Rate and Residual Application Rate of Bituminous Distributors
ASTM D3628	Standard Practice for Selection and Use of Emulsified Asphalts

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ITEM P-605 JOINT SEALANTS FOR PAVEMENTS

DESCRIPTION

605-1.1 This item shall consist of providing and installing a resilient and adhesive joint sealing material capable of effectively sealing joints in pavement; joints between different types of pavements; and cracks in existing pavement.

MATERIALS

605-2.1 JOINT SEALANTS. Joint sealant materials for concrete joints and cracks shall meet the requirements of ASTM D5893 and crack sealant materials for asphalt cracks shall meet the requirements of ASTM D6690.

Each lot or batch of sealant shall be delivered to the jobsite in the manufacturer's original sealed container. Each container shall be marked with the manufacturer's name, batch or lot number, the safe heating temperature, and shall be accompanied by the manufacturer's certification stating that the sealant meets the requirements of this specification.

605-2.2 BACKER ROD. The material furnished shall be a compressible, non-shrinking, non-staining, non-absorbing material that is non-reactive with the joint sealant in accordance with ASTM D5249. The backer-rod material shall be 25% ± 5 % larger in diameter than the nominal width of the joint.

605-2.3 BOND BREAKING TAPES. Provide a bond breaking tape or separating material that is a flexible, non-shrinkable, non-absorbing, non-staining, and non-reacting adhesive-backed tape. The material shall have a melting point at least 5°F (3°C) greater than the pouring temperature of the sealant being used when tested in accordance with ASTM D789. The bond breaker tape shall be approximately 1/8 inch (3 mm) wider than the nominal width of the joint and shall not bond to the joint sealant.

CONSTRUCTION METHODS

605-3.1 TIME OF APPLICATION. Joints shall be sealed as soon after completion of the curing period as feasible and before the pavement is opened to traffic, including construction equipment. The pavement temperature shall be 50°F (10°C) and rising at the time of application of the poured joint sealing material. Do not apply sealant if moisture is observed in the joint.

605-3.2 EQUIPMENT. Machines, tools, and equipment used in the performance of the work required by this section shall be approved before the work is started and maintained in satisfactory condition at all times. Submit a list of proposed equipment to be used in performance of construction work including descriptive data, 10 days prior to use on the project.

a. Tractor-mounted routing tool. Provide a routing tool, used for removing old sealant from the joints, of such shape and dimensions and so mounted on the tractor that it will not damage the sides of the joints. The tool shall be designed so that it can be adjusted to remove the old material to varying depths as required. The use of V-shaped tools or rotary impact routing devices will not be permitted. Hand-operated spindle routing devices may be used to clean and enlarge random cracks.

b. Concrete saw. Provide a self-propelled power saw, with water-cooled diamond or abrasive saw blades, for cutting joints to the depths and widths specified.

c. Sandblasting equipment. The Contractor must demonstrate sandblasting equipment including the air compressor, hose, guide and nozzle size, under job conditions, before approval in accordance with paragraph 605-3.3. The Contractor shall demonstrate, in the presence of the Resident Project Representative (RPR), that the method cleans the joint and does not damage the joint.

d. Waterblasting equipment. The Contractor must demonstrate waterblasting equipment including the pumps, hose, guide and nozzle size, under job conditions, before approval in accordance with paragraph 605-3.3. The Contractor shall demonstrate, in the presence of the RPR, that the method cleans the joint and does not damage the joint.

e. Hand tools. Hand tools may be used, when approved, for removing defective sealant from a crack and repairing or cleaning the crack faces. Hand tools should be carefully evaluated for potential spalling effects prior to approval for use.

f. Hot-poured sealing equipment. The unit applicators used for heating and installing ASTM D6690 joint sealant materials shall be mobile and shall be equipped with a double-boiler, agitator-type kettle with an oil medium in the outer space for heat transfer; a direct-connected pressure-type extruding device with a nozzle shaped for inserting in the joint to be filled; positive temperature devices for controlling the temperature of the transfer oil and sealant; and a recording type thermometer for indicating the temperature of the sealant. The applicator unit shall be designed so that the sealant will circulate through the delivery hose and return to the inner kettle when not in use.

g. Cold-applied, single-component sealing equipment. The equipment for installing ASTM D5893 single component joint sealants shall consist of an extrusion pump, air compressor, following plate, hoses, and nozzle for transferring the sealant from the storage container into the joint opening. The dimension of the nozzle shall be such that the tip of the nozzle will extend into the joint to allow sealing from the bottom of the joint to the top. Maintain the initially approved equipment in good working condition, serviced in accordance with the supplier's instructions, and unaltered in any way without obtaining prior approval. Small hand-held air-powered equipment (i.e., caulking guns) may be used for small applications.

605-3.3 PREPARATION OF JOINTS. Pavement joints for application of material in this specification must be dry, clean of all scale, dirt, dust, curing compound, and other foreign matter.

The Contractor shall demonstrate, in the presence of the RPR, that the method cleans the joint and does not damage the joint.

a. Sawing. All joints shall be sawed in accordance with specifications and plan details. Immediately after sawing the joint, the resulting slurry shall be completely removed from joint and adjacent area by flushing with a jet of water, and by use of other tools as necessary.

b. Sealing. Immediately before sealing, the joints shall be thoroughly cleaned of all remaining laitance, curing compound, filler, protrusions of hardened concrete, old sealant and other foreign material from the sides and upper edges of the joint space to be sealed. Cleaning shall be accomplished by sandblasting**,** tractor-mounted routing equipment**,** concrete saw**,** and waterblaster as specified in paragraph 605-3.2. The newly exposed concrete joint faces and the pavement surface extending a minimum of 1/2 inch (12 mm) from the joint edge shall be sandblasted clean. Sandblasting shall be accomplished in a minimum of two passes. One pass per joint face with the nozzle held at an angle directly toward the joint face and not more than 3 inches (75 mm) from it. After final cleaning and immediately prior to sealing, blow out the joints with compressed air and leave them completely free of debris and water. The joint faces shall be surface dry when the seal is applied.

c. Backer Rod. When the joint opening is of a greater depth than indicated for the sealant depth, plug or seal off the lower portion of the joint opening using a backer rod in accordance with paragraph 605-2.2 to prevent the entrance of the sealant below the specified depth. Take care to ensure that the backer rod is placed at the specified depth and is not stretched or twisted during installation.

d. Bond-breaking tape. Where inserts or filler materials contain bitumen, or the depth of the joint opening does not allow for the use of a backup material, insert a bond-separating tape breaker in accordance with paragraph 605-2.3 to prevent incompatibility with the filler materials and three-sided adhesion of the sealant. Securely bond the tape to the bottom of the joint opening so it will not float up into the new sealant.

605-3.4 INSTALLATION OF SEALANTS. Joints shall be inspected for proper width, depth, alignment, and preparation, and shall be approved by the RPR before sealing is allowed. Sealants shall be installed in accordance with the following requirements:

Immediately preceding, but not more than 50 feet (15 m) ahead of the joint sealing operations, perform a final cleaning with compressed air. Fill the joints from the bottom up to 1/4 inch (6 mm) ±1/16 inch (2 mm) below the top of pavement surface; or bottom of groove for grooved pavement. Remove and discard excess or spilled sealant from the pavement by approved methods. Install the sealant in such a manner as to prevent the formation of voids and entrapped air. In no case shall gravity methods or pouring pots be used to install the sealant material. Traffic shall not be permitted over newly sealed pavement until authorized by the RPR. When a primer is recommended by the manufacturer, apply it evenly to the joint faces in accordance with the manufacturer’s instructions. Check the joints frequently to ensure that the newly installed sealant is cured to a tack-free condition within the time specified.

605-3.5 INSPECTION. The Contractor shall inspect the joint sealant for proper rate of cure and set, bonding to the joint walls, cohesive separation within the sealant, reversion to liquid, entrapped air and voids. Sealants exhibiting any of these deficiencies at any time prior to the final acceptance of the project shall be removed from the joint, wasted, and replaced as specified at no additional cost to the airport.

605-3.6 CLEAN-UP. Upon completion of the project, remove all unused materials from the site and leave the pavement in a clean condition.

METHOD OF MEASUREMENT

605-4.1 Joint sealing material shall be measured by the linear foot (meter) of sealant in place, completed, and accepted. Joint and crack repair as required per Specification P-101, including routing and cleaning prior to sealing, shall be considered incidental to the P-605 pay items.

BASIS OF PAYMENT

605-5.1 Payment for joint sealing material shall be made at the contract unit price per linear foot (meter). The price shall be full compensation for furnishing all materials, for all preparation, delivering, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-605-1	Rout, Clean, and Seal Asphalt Crack	- per Linear Foot (LF)

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D789	Standard Test Method for Determination of Relative Viscosity of Polyamide (PA)
ASTM D5249	Standard Specification for Backer Material for Use with Cold- and Hot-Applied Joint Sealants in Portland-Cement Concrete and Asphalt Joints
ASTM D5893	Standard Specification for Cold Applied, Single Component, Chemically Curing Silicone Joint Sealant for Portland Cement Concrete Pavements
ASTM D6690	Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt

Advisory Circulars (AC)

AC 150/5340-30 Design and Installation Details for Airport Visual Aids

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ITEM P-606 ADHESIVE COMPOUNDS, TWO-COMPONENT FOR SEALING WIRE AND LIGHTS IN PAVEMENT

DESCRIPTION

606-1.1 This specification covers two types of material; a liquid suitable for sealing electrical wire in saw cuts in pavement and for sealing light fixtures or bases in pavement, and a paste suitable for embedding light fixtures in the pavement. Both types of material are two-component filled formulas with the characteristics specified in paragraph 606-2.4. Materials supplied for use with asphalt and/or concrete pavements must be formulated so they are compatible with the asphalt and/or concrete.

MATERIALS

606-2.1 CURING. When pre-warmed to 77°F (25°C), mixed, and placed in accordance with manufacturer's directions, the materials shall cure at temperatures of 45°F (7°C) or above without the application of external heat.

606-2.2 STORAGE. The adhesive components shall not be stored at temperatures over 86°F (30°C), unless otherwise specified by the manufacturer.

606-2.3 CAUTION. Installation and use shall be in accordance with the manufacturer's recommended procedures. Avoid prolonged or repeated contact with skin. In case of contact, wash with soap and flush with water. If taken internally, call doctor. Keep away from heat or flame. Avoid vapor. Use in well-ventilated areas. Keep in cool place. Keep away from children.

606-2.4 CHARACTERISTICS. When mixed and cured in accordance with the manufacturer's directions, the materials shall have the following properties shown in Table 1.

Table 1. Property Requirements

Physical or Electrical Property	Minimum	Maximum	ASTM Method
Tensile			
Portland cement concrete	1,000 psi (70 kg/sq cm)		D 638
Asphalt concrete	500 psi (35 kg/sq cm)		
Elongation			
Portland cement concrete		See note [1]	D 638
Asphalt concrete	50%		D 638
Coef. of cub. exp. cu. cm/cu. cm/°C	0.00090	0.00120	D 1168
Coef. of lin. exp. cm/cm/°C	0.000030	0.000040	D 1168

Physical or Electrical Property	Minimum	Maximum	ASTM Method
Dielectric strength, short time test	350 volts/mil.		D 149
Arc resistance	125 sec		
Pull-off			
Adhesion to steel	1,000 psi (70 kg/sq cm)		
Adhesion to Portland cement concrete	200 psi (14 kg/sq cm)		
Adhesion to asphalt concrete	No test available.		
Adhesion to aluminum	250 psi		

[1] 20% or more (without filler) for formulations to be supplied for areas subject to freezing.

SAMPLING, INSPECTION, AND TEST PROCEDURES

606-3.1 TENSILE PROPERTIES. Tests for tensile strength and elongation shall be conducted in accordance with ASTM D638.

606-3.2 EXPANSION. Tests for coefficients of linear and cubical expansion shall be conducted in accordance with, Method B, except that mercury shall be used instead of glycerine. The test specimen shall be mixed in the proportions specified by the manufacturer, and cured in a glass tub approximately 2 inch (50 mm) long by 3/8 inch (9 mm) in diameter. The interior of the tube shall be precoated with a silicone mold release agent. The hardened sample shall be removed from the tube and aged at room temperature for one (1) week before conducting the test. The test temperature range shall be from 35°F (2°C) to 140°F (60°C).

606-3.3 TEST FOR DIELECTRIC STRENGTH. Test for dielectric strength shall be conducted in accordance with ASTM D149 for sealing compounds to be furnished for sealing electrical wires in pavement.

606-3.4 TEST FOR ARC RESISTANCE. Test for arc resistance shall be conducted for sealing compounds to be furnished for sealing electrical wires in pavement.

606-3.5 TEST FOR ADHESION TO STEEL. The ends of two smooth, clean, steel specimens of convenient size (1 inch by 1 inch by 6 inch) (25 mm by 25 mm by 150 mm) would be satisfactory when bonded together with adhesive mixture and allowed to cure at room temperature for a period of time to meet formulation requirements and then tested to failure on a Riehle (or similar) tensile tester. The thickness of adhesive to be tested shall be 1/4 inch (6 mm).

606-3.6 ADHESION TO PORTLAND CEMENT CONCRETE.

a. Concrete test block preparation. The aggregate grading shall be as shown in Table 2.

The coarse aggregate shall consist of crushed rock having a minimum of 75% of the particles with at least one fractured face and having a water absorption of not more than 1.5%. The fine aggregate shall consist of crushed sand manufactured from the same parent rock as the coarse aggregate. The concrete shall have a water-cement ratio of 5.5 gallons (21 liters) of water per bag of cement, a cement factor of 6, ±0.5, bags of cement per cubic yard (0.76 cubic meter) of concrete, and a slump of 2-1/2 inch (60 mm), ±1/2 inch (60 mm ±12 mm). The ratio of fine aggregate to total aggregate shall be approximately 40% by solid volume. The air content shall be 5.0%, ±0.5%, and it shall be obtained by the addition to the batch of an air-entraining admixture such as Vinsol® resin. The mold shall be of metal and shall be provided with a metal base plate.

Means shall be provided for securing the base plate to the mold. The assembled mold and base plate shall be watertight and shall be oiled with mineral oil before use. The inside measurement of the mold shall be such that several one inch (25 mm) by 2-inch (75 mm) by 3-inch (25 mm by 50 mm by 75 mm) test blocks can be cut from the specimen with a concrete saw having a diamond blade. The concrete shall be prepared and cured in accordance with ASTM C192.

Table 2. Aggregate for Bond Test Blocks

Type	Sieve Size	Percent Passing
Coarse Aggregate	3/4 inch (19.0 mm)	97 to 100
	1/2 inch (12.5 mm)	63 to 69
	3/8 inch (9.5 mm)	30 to 36
	No. 4 (4.75 mm)	0 to 3
Fine Aggregate	No. 4 (4.75 mm)	100
	No. 8 (2.36 mm)	82 to 88
	No. 16 (1.18 mm)	60 to 70
	No. 30 (600 µm)	40 to 50
	No. 50 (300 µm)	16 to 26
	No. 100 (150 µm)	5 to 9

b. Bond test. Prior to use, oven-dry the test blocks to constant weight at a temperature of 220°F to 230°F (104°C to 110°C), cool to room temperature, 73.4°F ±3°F (23°C ±1.6°C), in a desiccator, and clean the surface of the blocks of film or powder by vigorous brushing with a stiff-bristled fiber brush. Two test blocks shall be bonded together on the one inch by 3 inch (25 mm by 75 mm) sawed face with the adhesive mixture and allowed to cure at room temperature for a period of time to meet formulation requirements and then tested to failure in a Riehle (or similar) tensile tester. The thickness of the adhesive to be tested shall be 1/4 inch (6 mm).

606-3.7 COMPATIBILITY WITH ASPHALT MIX. Test for compatibility with asphalt in accordance with ASTM D5329.

606-3.8 ADHESIVE COMPOUNDS - CONTRACTOR'S RESPONSIBILITY. The Contractor shall furnish the vendor's certified test reports for each batch of material delivered to the project. The report shall certify that the material meets specification requirements and is suitable for use with concrete and asphalt concrete pavements. The report shall be provided to and accepted by the Resident Project Representative (RPR) before use of the material. In addition, the Contractor shall obtain a statement from the supplier or manufacturer that guarantees the material for one year. The supplier or manufacturer shall furnish evidence that the material has performed satisfactorily on other projects.

606-3.9 APPLICATION. Adhesive shall be applied on a dry, clean surface, free of grease, dust, and other loose particles. The method of mixing and application shall be in strict accordance with the manufacturer's recommendations. When used with Item P-605, such as light can installation, Item P-605 shall not be applied until the Item P-606 has fully cured.

METHOD OF MEASUREMENT

606-4.1 The adhesive compound shall ***not be measured separately, but included as an incidental work item for which it is a component part of other items*** ~~be measured by the gallon (l) of adhesive as specified, in place, complete and accepted~~. When required in the installation of an in-runway lighting system or portion thereof, no measurement will be made for direct payment of adhesive, as the cost of furnishing and installing shall be considered as a subsidiary obligation in the completion of the installation.

BASIS OF PAYMENT

606-5.1 Payment shall be made separately***, but included as an incidental work item for which it is a component part of other items***, ~~where applicable, at the contract unit price per gallon (l) for the adhesive.~~ This price shall be full compensation for furnishing all materials, and for all preparation, delivering, and application of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C192	Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory
ASTM D149	Standard Test Method for Dielectric Breakdown Voltage and Dielectric Strength of Solid Electrical Insulating Materials at Commercial Power Frequencies
ASTM D638	Standard Test Method for Tensile Properties of Plastics

ASTM D5329 Standard Test Methods for Sealants and Fillers, Hot-applied, for Joints and Cracks in Asphaltic and Portland Cement Concrete Pavements

END OF ITEM P-606

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ITEM P-610 CONCRETE FOR MISCELLANEOUS STRUCTURES

DESCRIPTION

610-1.1 This item shall consist of concrete and reinforcement, as shown on the plans, prepared and constructed in accordance with these specifications. This specification shall be used for all concrete other than airfield pavement which are cast-in-place.

MATERIALS

610-2.1 GENERAL. Only approved materials, conforming to the requirements of these specifications, shall be used in the work. Materials may be subject to inspection and tests at any time during their preparation or use. The source of all materials shall be approved by the Resident Project Representative (RPR) before delivery or use in the work. Representative preliminary samples of the materials shall be submitted by the Contractor, when required, for examination and test. Materials shall be stored and handled to ensure preservation of their quality and fitness for use and shall be located to facilitate prompt inspection. All equipment for handling and transporting materials and concrete must be clean before any material or concrete is placed in them.

The use of pit-run aggregates shall not be permitted unless the pit-run aggregate has been screened and washed, and all fine and coarse aggregates stored separately and kept clean. The mixing of different aggregates from different sources in one storage stockpile or alternating batches of different aggregates shall not be permitted.

a. Reactivity. Fine aggregate and coarse aggregates to be used in all concrete shall have been tested separately within six months of the project in accordance with ASTM C1260. Test results shall be submitted to the RPR. The aggregate shall be considered innocuous if the expansion of test specimens, tested in accordance with ASTM C1260, does not exceed 0.08% at 14 days (16 days from casting). If the expansion either or both test specimen is greater than 0.08% at 14 days, but less than 0.20%, a minimum of 25% of Type F fly ash, or between 40% and 55% of slag cement shall be used in the concrete mix.

If the expansion is greater than 0.20% the aggregates shall not be used, and test results for other aggregates must be submitted for evaluation; or aggregates that meet P-501 reactivity test requirements may be utilized.

610-2.2 COARSE AGGREGATE. The coarse aggregate for concrete shall meet the requirements of ASTM C33 and the requirements of Table 4, Class Designation 5S; and the grading requirements shown below, as required for the project.

Coarse Aggregate Grading Requirements

Maximum Aggregate Size	ASTM C33, Table 3 Grading Requirements (Size No.)
1 1/2 inch (37.5 mm)	467 or 4 and 67
1 inch (25 mm)	57
¾ inch (19 mm)	67
½ inch (12.5 mm)	7

610-2.2.1 Coarse Aggregate susceptibility to durability (D) cracking. Not used.

610-2.3 FINE AGGREGATE. The fine aggregate for concrete shall meet all fine aggregate requirements of ASTM C33.

610-2.4 CEMENT. Cement shall conform to the requirements of ***ASTM C150 Type I/II***.

610-2.5 CEMENTITIOUS MATERIALS.

a. Fly ash. Fly ash shall meet the requirements of ASTM C618, with the exception of loss of ignition, where the maximum shall be less than 6%. Fly ash shall have a Calcium Oxide (CaO) content of less than 15% and a total available alkali content less than 3% per ASTM C311. Fly ash produced in furnace operations using liming materials or soda ash (sodium carbonate) as an additive shall not be acceptable. The Contractor shall furnish the previous three most recent, consecutive ASTM C618 reports for each source of fly ash proposed in the concrete mix, and shall furnish each additional report as they become available during the project. The reports can be used for acceptance or the material may be tested independently by the RPR.

b. Slag cement (ground granulated blast furnace (GGBF)). Slag cement shall conform to ASTM C989, Grade 100 or Grade 120. Slag cement shall be used only at a rate between 25% and 55% of the total cementitious material by mass.

610-2.6 WATER. Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use.

610-2.7 ADMIXTURES. The Contractor shall submit certificates indicating that the material to be furnished meets all of the requirements indicated below. In addition, the RPR may require the Contractor to submit complete test data from an approved laboratory showing that the material to be furnished meets all of the requirements of the cited specifications. Subsequent tests may be made of samples taken by the RPR from the supply of the material being furnished or proposed for use on the work to determine whether the admixture is uniform in quality with that approved.

a. Air-entraining admixtures. Air-entraining admixtures shall meet the requirements of ASTM C260 and shall consistently entrain the air content in the specified ranges under field conditions. The air-entrainment agent and any water reducer admixture shall be compatible.

b. Water-reducing admixtures. Water-reducing admixture shall meet the requirements of ASTM C494, Type A, B, or D. ASTM C494, Type F and G high range water reducing admixtures and ASTM C1017 flowable admixtures shall not be used.

c. Other chemical admixtures. The use of set retarding and set-accelerating admixtures shall be approved by the RPR. Retarding shall meet the requirements of ASTM C494, Type A, B, or D and set-accelerating shall meet the requirements of ASTM C494, Type C. Calcium chloride and admixtures containing calcium chloride shall not be used.

610-2.8 PREMOLDED JOINT MATERIAL. Premolded joint material for expansion joints shall meet the requirements of ASTM D1751**.**

610-2.9 JOINT FILLER. The filler for joints shall meet the requirements of Item P-605, unless otherwise specified.

610-2.10 STEEL REINFORCEMENT. Reinforcing shall consist of reinforcing steel conforming to the requirements of ASTM A615, ASTM A706, ASTM A775, or ASTM A934 or welded steel wire or deformed steel fabric conforming to ASTM A1064 or ASTM A884**.**

610-2.11 MATERIALS FOR CURING CONCRETE. Curing materials shall conform to ASTM C309 and consist of White-pigmented Liquid Membrane-Forming Compound, Type 2, Class B.

CONSTRUCTION METHODS

610-3.1 GENERAL. The Contractor shall furnish all labor, materials, and services necessary for, and incidental to, the completion of all work as shown on the drawings and specified here. All machinery and equipment used by the Contractor on the work, shall be of sufficient size to meet the requirements of the work. All work shall be subject to the inspection and approval of the RPR.

610-3.2 CONCRETE MIXTURE. The concrete shall develop a compressive strength of 4000 psi in 28 days as determined by test cylinders made in accordance with ASTM C31 and tested in accordance with ASTM C39. The concrete shall contain not less than 470 pounds of cementitious material per cubic yard (280 kg per cubic meter). The water cementitious ratio shall not exceed 0.45 by weight. The air content of the concrete shall be 5% +/- 1.2% as determined by ASTM C231 and shall have a slump of not more than 4 inches (100 mm) as determined by ASTM C143.

610-3.3 MIXING. Concrete may be mixed at the construction site, at a central point, or wholly or in part in truck mixers. The concrete shall be mixed and delivered in accordance with the requirements of ASTM C94 or ASTM C685.

The concrete shall be mixed only in quantities required for immediate use. Concrete shall not be mixed while the air temperature is below 40°F (4°C) without the RPR's approval. If approval is granted for mixing under such conditions, aggregates or water, or both, shall be heated and the concrete shall be placed at a temperature not less than 50°F (10°C) nor more than 100°F (38°C). The Contractor shall be held responsible for any defective work, resulting from freezing or injury in any manner during placing and curing, and shall replace such work at his expense.

Retempering of concrete by adding water or any other material is not permitted.

The rate of delivery of concrete to the job shall be sufficient to allow uninterrupted placement of the concrete.

610-3.4 FORMS. Concrete shall not be placed until all the forms and reinforcements have been inspected and approved by the RPR. Forms shall be of suitable material and shall be of the type, size, shape, quality, and strength to build the structure as shown on the plans. The forms shall be true to line and grade and shall be mortar-tight and sufficiently rigid to prevent displacement and sagging between supports. The surfaces of forms shall be smooth and free from irregularities, dents, sags, and holes. The Contractor shall be responsible for their adequacy.

The internal form ties shall be arranged so no metal will show in the concrete surface or discolor the surface when exposed to weathering when the forms are removed. All forms shall be wetted with water or with a non-staining mineral oil, which shall be applied immediately before the concrete is placed. Forms shall be constructed so they can be removed without injuring the concrete or concrete surface.

610-3.5 PLACING REINFORCEMENT. All reinforcement shall be accurately placed, as shown on the plans, and shall be firmly held in position during concrete placement. Bars shall be fastened together at intersections. The reinforcement shall be supported by approved metal chairs. Shop drawings, lists, and bending details shall be supplied by the Contractor when required.

610-3.6 EMBEDDED ITEMS. Before placing concrete, all embedded items shall be firmly and securely fastened in place as indicated. All embedded items shall be clean and free from coating, rust, scale, oil, or any foreign matter. The concrete shall be spaded and consolidated around and against embedded items. The embedding of wood shall not be allowed.

610-3.7 CONCRETE CONSISTENCY. The Contractor shall monitor the consistency of the concrete delivered to the project site; collect each batch ticket; check temperature; and perform slump tests on each truck at the project site in accordance with ASTM C143.

610-3.8 PLACING CONCRETE. All concrete shall be placed during daylight hours, unless otherwise approved. The concrete shall not be placed until the depth and condition of foundations, the adequacy of forms and falsework, and the placing of the steel reinforcing have been approved by the RPR. Concrete shall be placed as soon as practical after mixing, but in no case later than one (1) hour after water has been added to the mix. The method and manner of placing shall avoid segregation and displacement of the reinforcement. Troughs, pipes, and chutes shall be used as an aid in placing concrete when necessary. The concrete shall not be dropped from a height of more than 5 feet (1.5 m). Concrete shall be deposited as nearly as practical in its final position to avoid segregation due to rehandling or flowing. Do not subject concrete to procedures which cause segregation. Concrete shall be placed on clean, damp surfaces, free from running water, or on a properly consolidated soil foundation.

610-3.9 VIBRATION. Vibration shall follow the guidelines in American Concrete Institute (ACI) Committee 309R, Guide for Consolidation of Concrete.

610-3.10 JOINTS. Joints shall be constructed as indicated on the plans.

610-3.11 FINISHING. All exposed concrete surfaces shall be true, smooth, and free from open or rough areas, depressions, or projections. All concrete horizontal plane surfaces shall be brought flush to the proper elevation with the finished top surface struck-off with a straightedge and floated.

610-3.12 CURING AND PROTECTION. All concrete shall be properly cured in accordance with the recommendations in American Concrete Institute (ACI) 308R, Guide to External Curing of Concrete. The concrete shall be protected from damage until project acceptance.

610-3.13 COLD WEATHER PLACING. When concrete is placed at temperatures below 40°F (4°C), follow the cold weather concreting recommendations found in ACI 306R, Cold Weather Concreting.

610-3.14 HOT WEATHER PLACING. When concrete is placed in hot weather greater than 85ºF (30 ºC), follow the hot weather concreting recommendations found in ACI 305R, Hot Weather Concreting.

QUALITY ASSURANCE (QA)

610-4.1 QUALITY ASSURANCE SAMPLING AND TESTING. Concrete for each day's placement will be accepted on the basis of the compressive strength specified in paragraph 610-3.2. The RPR will sample the concrete in accordance with ASTM C172; test the slump in accordance with ASTM C143; test air content in accordance with ASTM C231; make and cure compressive strength specimens in accordance with ASTM C31; and test in accordance with ASTM C39. The QA testing agency will meet the requirements of ASTM C1077.

The Contractor shall provide adequate facilities for the initial curing of cylinders.

610-4.2 DEFECTIVE WORK. Any defective work that cannot be satisfactorily repaired as determined by the RPR, shall be removed and replaced at the Contractor's expense. Defective work includes, but is not limited to, uneven dimensions, honeycombing and other voids on the surface or edges of the concrete.

METHOD OF MEASUREMENT

610-5.1 Concrete shall be considered incidental and no separate measurement shall be made.

BASIS OF PAYMENT

610-6.1 Concrete shall be considered incidental and no separate payment shall be made

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM A184	Standard Specification for Welded Deformed Steel Bar Mats for Concrete Reinforcement

ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A704	Standard Specification for Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement
ASTM A706	Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement
ASTM A775	Standard Specification for Epoxy-Coated Steel Reinforcing Bars
ASTM A884	Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement
ASTM A934	Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars
ASTM A1064	Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
ASTM C31	Standard Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C33	Standard Specification for Concrete Aggregates
ASTM C39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C94	Standard Specification for Ready-Mixed Concrete
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C114	Standard Test Methods for Chemical Analysis of Hydraulic Cement
ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C143	Standard Test Method for Slump of Hydraulic-Cement Concrete
ASTM C150	Standard Specification for Portland Cement
ASTM C171	Standard Specification for Sheet Materials for Curing Concrete
ASTM C172	Standard Practice for Sampling Freshly Mixed Concrete
ASTM C231	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C260	Standard Specification for Air-Entraining Admixtures for Concrete

ASTM C309	Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C311	Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete
ASTM C494	Standard Specification for Chemical Admixtures for Concrete
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C666	Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing
ASTM C685	Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing
ASTM C989	Standard Specification for Slag Cement for Use in Concrete and Mortars
ASTM C1017	Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete
ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM C1157	Standard Performance Specification for Hydraulic Cement
ASTM C1260	Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)
ASTM C1365	Standard Test Method for Determination of the Proportion of Phases in Portland Cement and Portland-Cement Clinker Using X-Ray Powder Diffraction Analysis
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D1751	Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Asphalt Types)
ASTM D1752	Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction

American Concrete Institute (ACI)

ACI 305R	Hot Weather Concreting

ACI 306R	Cold Weather Concreting
ACI 308R	Guide to External Curing of Concrete
ACI 309R	Guide for Consolidation of Concrete

END OF ITEM P-610

ITEM P-620 - RUNWAY AND TAXIWAY MARKING

DESCRIPTION

620-1.1 This item shall consist of the preparation and painting of numbers, markings, and stripes on the surface of runways, taxiways, and aprons, in accordance with these specifications and at the locations shown on the plans, or as directed by the Resident Project Representative (RPR). The terms “paint” and “marking material” as well as “painting” and “application of markings” are interchangeable throughout this specification.

MATERIALS

620-2.1 MATERIALS ACCEPTANCE. The Contractor shall furnish manufacturer’s certified test reports, for materials shipped to the project. The certified test reports shall include a statement that the materials meet the specification requirements. This certification along with a copy of the paint manufacturer’s surface preparation; marking materials, including adhesion, flow promoting and/or floatation additive; and application requirements must be submitted and approved by the Resident Project Representative (RPR) prior to the initial application of markings. The reports can be used for material acceptance or the RPR may perform verification testing. The reports shall not be interpreted as a basis for payment. The Contractor shall notify the RPR upon arrival of a shipment of materials to the site. All material shall arrive in sealed containers that are easily quantifiable for inspection by the RPR.

620-2.2 MARKING MATERIALS.

Table 1. Marking Materials

Paint[1]				Glass Beads[2]	
Type	**Color**	**Fed Std. 595 Number**	**Application Rate Maximum**	**Type**	**Application Rate Minimum**
Waterborne Type I or II	White	37925	115 ft^2/gal (2.8 m^2/l)	Type I, Gradation A	7 lb/gal (0.85 kg/l)
Waterborne Type I or II	Yellow	33538 or 33655	115 ft^2/gal (2.8 m^2/l)	Type I, Gradation A	7 lb/gal (0.85 kg/l)
Waterborne Type I or II	Yellow	33538 or 33655	115 ft^2/gal (2.8 m^2/l)	Type III*	8 lb/gal (1.0 kg/l)
Waterborne Type I or II	Black	37038	115 ft^2/gal (2.8 m^2/l)	Type I, Gradation A	7 lb/gal (0.85 kg/l)

[1] See paragraph 620-2.2a

[2] See paragraph 620-2.2b*

a. Paint. Paint shall be waterborne in accordance with the requirements of this paragraph. Paint colors shall comply with Federal Standard No. 595.

Prior to application of permanent markings, a 30-day pavement cure period is required for all types of paint used for pavement marking on new pavement. The final application should occur after the waiting period has passed. The final marking application must be at a rate equal to 100% of the full application rate with glass beads.

Markings may be required before paving operations are complete. Temporary markings at 50% of the specified application rates shall be applied as necessary for the opening of the pavement to aircraft prior to the 30-day cure period. Temporary markings shall not use reflective media.

All permanent markings shall receive a 6-inch black border on all sides. Black borders shall not use reflective media.

Waterborne. Paint shall meet the requirements of Federal Specification TT-P-1952F, Type I or II. The non-volatile portion of the vehicle for all paint types shall be composed of a 100% acrylic polymer as determined by infrared spectral analysis.

b. Reflective media. Glass beads for white and yellow paint shall meet the requirements for Federal Specification TT-B-1325D Type I, Gradation A, where permitted. ***Type III glass beads shall be used for all Holding Position Markings or Enhanced Centerline Markings (yellow paint only).***

Glass beads for red and pink paint shall meet the requirements for Type I, Gradation A.

Glass beads shall be treated with all compatible coupling agents recommended by the manufacturers of the paint and reflective media to ensure adhesion and embedment.

Glass beads shall not be used in black and green paint.

Type III glass beads shall not be used in red and pink paint.

CONSTRUCTION METHODS

620-3.1 WEATHER LIMITATIONS. Painting shall only be performed when the surface is dry, and the ambient temperature and the pavement surface temperature meet the manufacturer's recommendations in accordance with paragraph 620-2.1. Painting operations shall be discontinued when the ambient or surface temperatures does not meet the manufacturer's recommendations. Markings shall not be applied when the wind speed exceeds 10 mph unless windscreens are used to shroud the material guns. Markings shall not be applied when weather conditions are forecasts to not be within the manufacturers' recommendations for application and dry time.

620-3.2 EQUIPMENT. Equipment shall include the apparatus necessary to properly clean the existing surface, a mechanical marking machine, a bead dispensing machine, and such auxiliary hand-painting equipment as may be necessary to satisfactorily complete the job.

The mechanical marker shall be an atomizing spray-type or airless type marking machine with automatic glass bead dispensers suitable for application of traffic paint. It shall produce an even and uniform film thickness and appearance of both paint and glass beads at the required coverage and shall apply markings of uniform cross-sections and clear-cut edges without running or spattering and without over spray. The marking equipment for both paint and beads shall be calibrated daily.

620-3.3 PREPARATION OF SURFACES. Immediately before application of the paint, the surface shall be dry and free from dirt, grease, oil, laitance, or other contaminates that would reduce the bond between the paint and the pavement. Use of any chemicals or impact abrasives during surface preparation shall be approved in advance by the RPR. After the cleaning operations, sweeping, blowing, or rinsing with pressurized water shall be performed to ensure the surface is clean and free of grit or other debris left from the cleaning process.

a. Preparation of new pavement surfaces. The area to be painted shall be cleaned by broom, blower, water blasting, or by other methods approved by the RPR to remove all contaminants, including PCC curing compounds, minimizing damage to the pavement surface.

b. Preparation of pavement to remove existing markings. Existing pavement markings shall be removed by rotary grinding, water blasting, or by other methods approved by the RPR minimizing damage to the pavement surface. The removal area may need to be larger than the area of the markings to eliminate ghost markings. After removal of markings on asphalt pavements, apply a fog seal or seal coat to 'block out' the removal area to eliminate 'ghost' markings ***when the markings are not to be repainted***. ***Existing markings on PCC pavement shall be completely removed prior to repainting. Existing markings on asphalt pavement shall be cleaned and prepared prior to repainting. Curing compound on new PCC pavement shall be removed under new markings prior to repainting.***

c. Preparation of pavement markings prior to remarking. Prior to remarking existing markings, loose existing markings must be removed minimizing damage to the pavement surface, with a method approved by the RPR. After removal, the surface shall be cleaned of all residue or debris.

Prior to the application of markings, the Contractor shall certify in writing that the surface is dry and free from dirt, grease, oil, laitance, or other foreign material that would prevent the bond of the paint to the pavement or existing markings. This certification along with a copy of the paint manufactures application and surface preparation requirements must be submitted to the RPR prior to the initial application of markings.

620-3.4 LAYOUT OF MARKINGS. The proposed markings shall be laid out in advance of the paint application. The locations of markings to receive glass beads shall be shown on the plans.

620-3.5 APPLICATION. A period of 30 days shall elapse between placement of surface course or seal coat and application of the permanent paint markings. Paint shall be applied at the locations and to the dimensions and spacing shown on the plans. Paint shall not be applied until the layout and condition of the surface has been approved by the RPR.

The edges of the markings shall not vary from a straight line more than 1/2 inch (12 mm) in 50 feet (15 m), and marking dimensions and spacing shall be within the following tolerances:

Marking Dimensions and Spacing Tolerance

Dimension and Spacing	Tolerance
36 inch (910 mm) or less	±1/2 inch (12 mm)
greater than 36 inch to 6 feet (910 mm to 1.85 m)	±1 inch (25 mm)
greater than 6 feet to 60 feet (1.85 m to 18.3 m)	±2 inch (50 mm)
greater than 60 feet (18.3 m)	±3 inch (76 mm)

The paint shall be mixed in accordance with the manufacturer's instructions and applied to the pavement with a marking machine at the rate shown in Table 1. The addition of thinner will not be permitted.

Glass beads shall be distributed upon the marked areas at the locations shown on the plans to receive glass beads immediately after application of the paint. A dispenser shall be furnished that is properly designed for attachment to the marking machine and suitable for dispensing glass beads. Glass beads shall be applied at the rate shown in Table 1. Glass beads shall not be applied to black paint or green paint. Glass beads shall adhere to the cured paint or all marking operations shall cease until corrections are made. Different bead types shall not be mixed. Regular monitoring of glass bead embedment and distribution should be performed.

620-3.6 APPLICATION-PREFORMED THERMOPLASTIC AIRPORT PAVEMENT MARKINGS.

Preformed thermoplastic pavement markings not used.

620-3.7 CONTROL STRIP. Prior to the full application of airfield markings, the Contractor shall prepare a control strip in the presence of the RPR. The Contractor shall demonstrate the surface preparation method and all striping equipment to be used on the project. The marking equipment must achieve the prescribed application rate of paint and population of glass beads (per Table 1) that are properly embedded and evenly distributed across the full width of the marking. Prior to acceptance of the control strip, markings must be evaluated during darkness to ensure a uniform appearance.

620-3.8 RETRO-REFLECTANCE. Reflectance shall be measured with a portable retro-reflectometer meeting ASTM E1710 (or equivalent). A total of 6 reading shall be taken over a 6 square foot area with 3 readings taken from each direction. The average shall be equal to or above the minimum levels of all readings which are within 30% of each other.

Minimum Retro-Reflectance Values

Material	Retro-reflectance mcd/m^2/lux		
	White	Yellow	Red
Initial Type I	300	175	35
Initial Type III	600	300	35
Initial Thermoplastic	225	100	35
All materials, remark when less than[1]	100	75	10

[1] 'Prior to remarking determine if removal of contaminants on markings will restore retro-reflectance

620-3.9 PROTECTION AND CLEANUP. After application of the markings, all markings shall be protected from damage until dry. All surfaces shall be protected from excess moisture and/or rain and from disfiguration by spatter, splashes, spillage, or drippings. The Contractor shall remove from the work area all debris, waste, loose reflective media, and by-products generated by the surface preparation and application operations to the satisfaction of the RPR. The Contractor shall dispose of these wastes in strict compliance with all applicable state, local, and federal environmental statutes and regulations.

METHOD OF MEASUREMENT

620-4.1a The quantity of surface preparation shall not be measured directly for payment but shall be considered incidental to the work in which it is a component part.

620-4.1b The quantity of markings shall be paid for shall be measured by the number of square feet (square meters) of painting.

620-4.1c The quantity of reflective media shall not be measured directly for payment but shall be considered incidental to the work in which it is a component part.

BASIS OF PAYMENT

620-5.1 This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item complete in place and accepted by the RPR in accordance with these specifications.

620-5.1a Payment for surface preparation shall be incidental to the marking pay items requiring surface preparation specified in paragraph 620-3.3. ***Existing markings on PCC pavement shall be completely removed prior to repainting. Existing markings on asphalt pavement shall be cleaned and prepared prior to repainting. Curing compound on new PCC pavement shall be removed under new markings prior to repainting.***

620-5.2b Payment for markings shall be made at the contract price by the number of square feet (square meters) of painting.

620-5.3c Payment for reflective media shall be incidental to the marking pay items requiring reflective media.

Payment will be made under:

P-620-1	Paint Removal	-- per Square Foot (SF)
P-620-2	Temporary Marking, Yellow, No Beads	-- per Square Foot (SF)
P-620-3	Temporary Marking, White, No Beads	-- per Square Foot (SF)
P-620-4	Permanent Marking, Yellow, Type III Beads	-- per Square Foot (SF)
P-620-5	Permanent Marking, White, Type III Beads	-- per Square Foot (SF)
P-620-6	Permanent Marking, Black, No Beads	-- per Square Foot (SF)
P-620-7	Permanent Marking, Red, No Beads	-- per Square Foot (SF)

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D476	Standard Classification for Dry Pigmentary Titanium Dioxide Products
ASTM D968	Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive
ASTM D1652	Standard Test Method for Epoxy Content of Epoxy Resins
ASTM D2074	Standard Test Method for Total, Primary, Secondary, and Tertiary Amine Values of Fatty Amines by Alternative Indicator Method
ASTM D2240	Standard Test Method for Rubber Property - Durometer Hardness
ASTM D7585	Standard Practice for Evaluating Retroreflective Pavement Markings Using Portable Hand-Operated Instruments
ASTM E303	Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester
ASTM E1710	Standard Test Method for Measurement of Retroreflective Pavement Marking Materials with CEN-Prescribed Geometry Using a Portable Retroreflectometer
ASTM E2302	Standard Test Method for Measurement of the Luminance Coefficient Under Diffuse Illumination of Pavement Marking Materials Using a Portable Reflectometer
ASTM G154	Standard Practice for Operating Fluorescent Ultraviolet (UV) Lamp Apparatus for Exposure of Nonmetallic Materials

Code of Federal Regulations (CFR)

40 CFR Part 60, Appendix A-7, Method 24	Determination of volatile matter content, water content, density, volume solids, and weight solids of surface coatings
29 CFR Part 1910.1200	Hazard Communication

Federal Specifications (FED SPEC)

FED SPEC TT-B-1325D	Beads (Glass Spheres) Retro-Reflective
FED SPEC TT-P-1952F	Paint, Traffic and Airfield Marking, Waterborne

FED STD 595 Colors used in Government Procurement

Commercial Item Description

A-A-2886B Paint, Traffic, Solvent Based

Advisory Circulars (AC)

AC 150/5340-1 Standards for Airport Markings

AC 150/5320-12 Measurement, Construction, and Maintenance of Skid Resistant Airport Pavement Surfaces

END OF ITEM P-620

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ITEM F-162 CHAIN-LINK FENCE

DESCRIPTION

162-1.1 This item shall consist of furnishing and erecting a chain-link fence ***or vehicle access gates*** in accordance with these specifications, the details shown on the plans, and in conformity with the lines and grades shown on the plans or established by the RPR.

MATERIALS

162-2.1 FABRIC. The fabric shall be woven with a 9-gauge galvanized steel wire in a 2-inch (50 mm) mesh and shall meet the requirements of ASTM A392, Class 2.

162-2.2 BARBED WIRE. Barbed wire shall be 2-strand 12-1/2 gauge zinc-coated wire with 4-point barbs and shall conform to the requirements of ASTM A121, Class 3, Chain Link Fence Grade.

162-2.3 POSTS, RAILS, AND BRACES. Line posts, rails, and braces shall conform to the requirements of ASTM F1043 or ASTM F1083 as follows:

- Galvanized tubular steel pipe shall conform to the requirements of Group IA, (Schedule 40) coatings conforming to Type A, or Group IC (High Strength Pipe), External coating Type B, and internal coating Type B or D.
- Roll Formed Steel Shapes (C-Sections) shall conform to the requirements of Group IIA, and be galvanized in accordance with the requirements of ASTM F1043, Type A.
- Hot-Rolled Shapes (H Beams) shall meet the requirements of Group III, and be galvanized in accordance with the requirements of ASTM F1043, Type A.
- Aluminum Pipe shall conform to the requirements of Group IB.
- Aluminum Shapes shall conform to the requirements of Group IIB.
- Vinyl or polyester coated steel shall conform to the requirements of ASTM F1043, Paragraph 7.3, Optional Supplemental Color Coating.
- Composite posts shall conform to the strength requirements of ASTM F1043 or ASTM F1083. The strength loss of composite posts shall not exceed 10% when subjected to 3,600 hours of exposure to light and water in accordance with ASTM G152, ASTM G153, ASTM G154, and ASTM G155.
- Posts, rails, and braces furnished for use in conjunction with aluminum alloy fabric shall be aluminum alloy or composite.

Posts, rails, and braces, with the exception of galvanized steel conforming to ASTM F1043 or ASTM F1083, Group 1A, Type A, or aluminum alloy, shall demonstrate the ability to withstand testing in salt spray in accordance with ASTM B117 as follows:

- External: 1,000 hours with a maximum of 5% red rust.
- Internal: 650 hours with a maximum of 5% red rust.

The dimensions of the posts, rails, and braces shall be in accordance with Tables I through VI of Federal Specification RR-F-191/3.

162-2.4 GATES. Gate frames shall consist of galvanized steel and shall conform to the specifications for the same material under paragraph 162-2.3. The fabric shall be of the same type material as used in the fence.

162-2.5 WIRE TIES AND TENSION WIRES. Wire ties for use in conjunction with a given type of fabric shall be of the same material and coating weight identified with the fabric type. Tension wire shall be 7-gauge marcelled steel wire with the same coating as the fabric type and shall conform to ASTM A824.

All material shall conform to Federal Specification RR-F-191/4.

162-2.6 MISCELLANEOUS FITTINGS AND HARDWARE. Miscellaneous steel fittings and hardware for use with zinc-coated steel fabric shall be of commercial grade steel or better quality, wrought or cast as appropriate to the article, and sufficient in strength to provide a balanced design when used in conjunction with fabric posts, and wires of the quality specified herein. All steel fittings and hardware shall be protected with a zinc coating applied in conformance with ASTM A153. Barbed wire support arms shall withstand a load of 250 pounds (113 kg) applied vertically to the outermost end of the arm.

162-2.7 CONCRETE. Concrete shall have a minimum 28-day compressive strength of 3000 psi (2670 kPa), and ***conform to Specification P-610.***

162-2.8 MARKING. Each roll of fabric shall carry a tag showing the kind of base metal (steel, aluminum, or aluminum alloy number), kind of coating, the gauge of the wire, the length of fencing in the roll, and the name of the manufacturer. Posts, wire, and other fittings shall be identified as to manufacturer, kind of base metal (steel, aluminum, or aluminum alloy number), and kind of coating.

CONSTRUCTION METHODS

162-3.1 GENERAL. The fence shall be constructed in accordance with the details on the plans and as specified here using new materials. All work shall be performed in a workmanlike manner satisfactory to the RPR. The Contractor shall layout the fence line based on the plans. The Contractor shall span the opening below the fence with barbed wire at all locations where it is not practical to conform the fence to the general contour of the ground surface because of natural or manmade features such as drainage ditches. The new fence shall be permanently tied to the terminals of existing fences as shown on the plans. The Contractor shall stake down the woven wire fence at several points between posts as shown on the plans.

The Contractor shall arrange the work so that construction of the new fence will immediately follow the removal of existing fences. The length of unfenced section at any time shall not exceed 300 feet (90 m). The work shall progress in this manner and at the close of the working day the newly constructed fence shall be tied to the existing fence.

162-3.2 CLEARING FENCE LINE. Clearing shall consist of the removal of all stumps, brush, rocks, trees, or other obstructions that will interfere with proper construction of the fence. Stumps within the cleared area of the fence shall be grubbed or excavated. The bottom of the fence shall be placed a uniform distance above ground, as specified in the plans. When shown on the plans or as directed by the RPR, the existing fences which interfere with the new fence location shall be removed by the Contractor as a part of the construction work unless such removal is listed as a separate item in the bid schedule. All holes remaining after post and stump removal shall be refilled with suitable soil, gravel, or other suitable material and compacted with tampers.

The cost of removing and disposing of the material shall not constitute a pay item and shall be considered incidental to fence construction.

162-3.3 INSTALLING POSTS. All posts shall be set in concrete at the required dimension and depth and at the spacing shown on the plans.

Posts shall be spaced not more than 10 feet (3 m) apart and should be set a minimum of 36 inches (90 cm) in concrete footings. If the frost depth is greater than 36 inches (90 cm), the posts should be set accordingly. The posts holes shall be in proper alignment so that there is a minimum of 3 inches (75 mm) of concrete on all sides of the posts.

The concrete shall be thoroughly compacted around the posts by tamping or vibrating and shall have a smooth finish slightly higher than the ground and sloped to drain away from the posts. All posts shall be set plumb and to the required grade and alignment. No materials shall be installed on the posts, nor shall the posts be disturbed in any manner within seven (7) days after the individual post footing is completed.

Should rock be encountered at a depth less than the planned footing depth, a hole 2 inches (50 mm) larger than the greatest dimension of the posts shall be drilled to a depth of 12 inches (300 mm). After the posts are set, the remainder of the drilled hole shall be filled with grout, composed of one part Portland cement and two parts mortar sand. Any remaining space above the rock shall be filled with concrete in the manner described above.

In lieu of drilling, the rock may be excavated to the required footing depth. No extra compensation shall be made for rock excavation.

162-3.4 INSTALLING TOP RAILS. The top rail shall be continuous and shall pass through the post tops. The coupling used to join the top rail lengths shall allow for expansion.

162-3.5 INSTALLING BRACES. Horizontal brace rails, with diagonal truss rods and turnbuckles, shall be installed at all terminal posts.

162-3.6 INSTALLING FABRIC. The wire fabric shall be firmly attached to the posts and braced as shown on the plans. All wire shall be stretched taut and shall be installed to the required elevations. The fence shall generally follow the contour of the ground, with the bottom of the fence fabric no less than one inch (25 mm) or more than 4 inches (100 mm) from the ground surface. Grading shall be performed where necessary to provide a neat appearance.

At locations of small natural swales or drainage ditches and where it is not practical to have the fence conform to the general contour of the ground surface, longer posts may be used and multiple strands of barbed wire stretched to span the opening below the fence. The vertical clearance between strands of barbed wire shall be 6 inches (150 mm) or less.

162-3.7 ELECTRICAL GROUNDS. Electrical grounds shall be constructed at 500 feet (150 m) intervals ***or as shown on the plans for access gates***. The ground shall be accomplished with a copper clad rod 8 feet (2.4 m) long and a minimum of 5/8 inches (16 mm) in diameter driven vertically until the top is 6 inches (150 mm) below the ground surface. A No. 6 solid copper conductor shall be clamped to the rod and to the fence in such a manner that each element of the fence is grounded. Installation of ground rods shall not constitute a pay item and shall be considered incidental to fence construction. The Contractor shall comply with FAA-STD-019, Lightning and Surge Protection, Grounding, Bonding and Shielding Requirements for Facilities and Electronic Equipment, paragraph 4.2.3.8, Lightning Protection for Fences and Gates, when fencing is adjacent to FAA facilities.

162-3.8 CLEANING UP. The Contractor shall remove from the vicinity of the completed work all tools, buildings, equipment, etc., used during construction. All disturbed areas shall be seeded per T-901.

METHOD OF MEASUREMENT

162-4.1 ~~Chain-link fence will be measured for payment by the linear foot (meter). Measurement will be along the top of the fence from center to center of end posts, excluding the length occupied by gate openings.~~

162-4.2 Gates will be measured as complete units.

BASIS OF PAYMENT

162-5.1 ~~Payment for chain-link fence will be made at the contract unit price per linear foot (meter).~~

162-5.2 Payment for vehicle ~~or pedestrian~~ ***gates for site access***~~,~~ will be made at the contract unit price ~~for each gate~~, ***under the C-105-1 Mobilization pay item.***

The price shall be full compensation for furnishing all materials, and for all preparation, erection, and installation of these materials, and for all labor equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

C-105-1 Mobilization (Limited to 10%)	***-- Lump Sum (LS)***

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM A121	Standard Specification for Metallic-Coated Carbon Steel Barbed Wire

ASTM A153	Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A392	Standard Specification for Zinc-Coated Steel Chain-Link Fence Fabric
ASTM A491	Standard Specification for Aluminum-Coated Steel Chain-Link Fence Fabric
ASTM A824	Standard Specification for Metallic-Coated Steel Marcelled Tension Wire for Use with Chain Link Fence
ASTM B117	Standard Practice for Operating Salt Spray (Fog) Apparatus
ASTM F668	Standard Specification for Polyvinyl Chloride (PVC), Polyolefin and other Organic Polymer Coated Steel Chain-Link Fence Fabric
ASTM F1043	Standard Specification for Strength and Protective Coatings on Steel Industrial Fence Framework
ASTM F1083	Standard Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures
ASTM F1183	Standard Specification for Aluminum Alloy Chain Link Fence Fabric
ASTM F1345	Standard Specification for Zinc 5% Aluminum-Mischmetal Alloy Coated Steel Chain-Link Fence Fabric
ASTM G152	Standard Practice for Operating Open Flame Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials
ASTM G153	Standard Practice for Operating Enclosed Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials
ASTM G154	Standard Practice for Operating Fluorescent Ultraviolet (UV) Lamp Apparatus for Exposure of Nonmetallic Materials
ASTM G155	Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Nonmetallic Materials

Federal Specifications (FED SPEC)

FED SPEC RR-F-191/3	Fencing, Wire and Post, Metal (Chain-Link Fence Posts, Top Rails and Braces)
FED SPEC RR-F-191/4	Fencing, Wire and Post, Metal (Chain-Link Fence Accessories)

FAA Standard

FAA-STD-019	Lightning and Surge Protection, Grounding, Bonding and Shielding Requirements for Facilities and Electronic Equipment

FAA Orders

5300.38	AIP Handbook

END OF ITEM F-162

ITEM D-701 PIPE FOR STORM DRAINS AND CULVERTS

DESCRIPTION

701-1.1 This item shall consist of the construction of pipe culverts and storm drains in accordance with these specifications and in reasonably close conformity with the lines and grades shown on the plans.

MATERIALS

701-2.1 Materials shall meet the requirements shown on the plans and specified below.

All pipe shall be Class III or higher in accordance with ASTM C76.

701-2.2 PIPE. The pipe shall be of the type called for on the plans or in the proposal and shall be in accordance with the following appropriate requirements:

American Association of State Highway and Transportation Officials (AASHTO) M167	Standard Specification for Corrugated Steel Structural Plate, Zinc-Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches
AASHTO M190	Standard Specification for Bituminous-Coated Corrugated Metal Culvert Pipe and Pipe Arches
AASHTO M196	Standard Specification for Corrugated Aluminum Pipe for Sewers and Drains
AASHTO R73	Standard Practice for Evaluation of Precast Concrete Drainage Productions
ASTM C1433	Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers
ASTM C1479	Standard Practice for Installation of Precast Concrete Sewer, Storm Drain, and Culvert Pipe Using Standard Installations
ASTM C1577	Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers Designed According to AASHTO LRFD
ASTM C1786	Standard Specification for Segmental Precast Reinforced Concrete Box Sections for Culverts, Storm Drains, and Sewers Designed According to AASHTO LRFD
ASTM C1840	Standard Practice for Inspection and Acceptance of Installed Reinforced Concrete Culvert, Storm Drain, and Storm Sewer Pipe
ASTM F667	Standard Specification for 3 through 24 in Corrugated Polyethylene Pipe

701-2.3 CONCRETE. Concrete for pipe cradles shall have a minimum compressive strength of 2000 psi (13.8 MPa) at 28 days and conform to the requirements of ASTM C94.

701-2.4 RUBBER GASKETS. Rubber gaskets for rigid pipe shall conform to the requirements of ASTM C443. Rubber gaskets for PVC pipe, polyethylene, and polypropylene pipe shall conform to the requirements of ASTM F477. Rubber gaskets for zinc-coated steel pipe and precoated galvanized pipe shall conform to the requirements of ASTM D1056, for the “RE” closed cell grades. Rubber gaskets for steel reinforced thermoplastic ribbed pipe shall conform to the requirements of ASTM F477.

701-2.5 JOINT MORTAR. Pipe joint mortar shall consist of one part Portland cement and two parts sand. The Portland cement shall conform to the requirements of ASTM C150, Type I. The sand shall conform to the requirements of ASTM C144.

701-2.6 JOINT FILLERS. Poured filler for joints shall conform to the requirements of ASTM D6690.

701-2.7 PLASTIC GASKETS. Plastic gaskets shall conform to the requirements of AASHTO M198 (Type B).

701-2.8. CONTROLLED LOW-STRENGTH MATERIAL (CLSM). Controlled low-strength material shall conform to the requirements of Item P-153. When CLSM is used, all joints shall have gaskets.

701-2.9 PRECAST BOX CULVERTS. Manufactured in accordance with and conforming to ASTM C1433.

701-2.10 Precast concrete pipe. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or American Concrete Pipe Association QCast Plant Certification program.

CONSTRUCTION METHODS

701-3.1 EXCAVATION. The width of the pipe trench shall be sufficient to permit satisfactory jointing of the pipe and thorough tamping of the bedding material under and around the pipe, but it shall not be less than the external diameter of the pipe plus 12 inches (300 mm) on each side. The trench walls shall be approximately vertical.

The Contractor shall comply with all current federal, state and local rules and regulations governing the safety of men and materials during the excavation, installation and backfilling operations. Specifically, the Contractor shall observe that all requirements of the Occupational Safety and Health Administration (OSHA) relating to excavations, trenching and shoring are strictly adhered to. The width of the trench shall be sufficient to permit satisfactorily jointing of the pipe and thorough compaction of the bedding material under the pipe and backfill material around the pipe, but it shall not be greater than the widths shown on the plans trench detail.

Where rock, hardpan, or other unyielding material is encountered, the Contractor shall remove it from below the foundation grade for a depth of at least 8 inch (200 mm) or 1/2 inch (12 mm) for each foot of fill over the top of the pipe (whichever is greater) but for no more than three-quarters of the nominal diameter of the pipe. The excavation below grade should be filled with granular material to form a uniform foundation.

Where a firm foundation is not encountered at the grade established, due to soft, spongy, or other unstable soil, the unstable soil shall be removed and replaced with approved granular material for the full trench width. The RPR shall determine the depth of removal necessary. The granular material shall be compacted to provide adequate support for the pipe.

The excavation for pipes placed in embankment fill shall not be made until the embankment has been completed to a height above the top of the pipe as shown on the plans.

701-3.2 BEDDING. The bedding surface for the pipe shall provide a foundation of uniform density to support the pipe throughout its entire length.

a. Rigid pipe. The pipe bedding shall be constructed uniformly for the full length of the pipe barrel, as required on the plans. The maximum aggregate size shall be 1 in when the bedding thickness is less than 6 inches, and 1-1/2 in when the bedding thickness is greater than 6 inches. Bedding shall be loosely placed uncompacted material under the middle third of the pipe prior to placement of the pipe.

b. Flexible pipe. For flexible pipe, the bed shall be roughly shaped to fit the pipe, and a bedding blanket of sand or fine granular material shall be provided as follows:

Flexible Pipe Bedding

Pipe Corrugation Depth		Minimum Bedding Depth	
inch	**mm**	**inch**	**mm**
1/2	12	1	25
1	25	2	50
2	50	3	75
2-1/2	60	3-1/2	90

c. Other pipe materials. For PVC, polyethylene, polypropylene, or fiberglass pipe, the bedding material shall consist of coarse sands and gravels with a maximum particle size of 3/4 inches (19 mm). For pipes installed under paved areas, no more than 12% of the material shall pass the No. 200 (0.075 mm) sieve. For all other areas, no more than 50% of the material shall pass the No. 200 (0.075 mm) sieve. The bedding shall have a thickness of at least 6 inches (150 mm) below the bottom of the pipe and extend up around the pipe for a depth of not less than 50% of the pipe's vertical outside diameter.

701-3.3 LAYING PIPE. The pipe laying shall begin at the lowest point of the trench and proceed upgrade. The lower segment of the pipe shall be in contact with the bedding throughout its full length. Bell or groove ends of rigid pipes and outside circumferential laps of flexible pipes shall be placed facing upgrade.

Paved or partially lined pipe shall be placed so that the longitudinal center line of the paved segment coincides with the flow line.

Elliptical and elliptically reinforced concrete pipes shall be placed with the manufacturer's reference lines designating the top of the pipe within five degrees of a vertical plane through the longitudinal axis of the pipe.

701-3.4 JOINING PIPE. Joints shall be made with (1) Portland cement mortar, (2) Portland cement grout, rubber gaskets, (4) plastic gaskets, or (5) coupling bands.

Mortar joints shall be made with an excess of mortar to form a continuous bead around the outside of the pipe and shall be finished smooth on the inside. Molds or runners shall be used for grouted joints to retain the poured grout. Rubber ring gaskets shall be installed to form a flexible watertight seal.

a. Concrete pipe. Concrete pipe may be either bell and spigot or tongue and groove. Pipe sections at joints shall be fully seated and the inner surfaces flush and even. Concrete pipe joints shall be sealed with rubber gaskets meeting ASTM C443 when leak resistant joints are required.

b. Metal pipe. Metal pipe shall be firmly joined by form-fitting bands conforming to the requirements of ASTM A760 for steel pipe and AASHTO M196 for aluminum pipe.

c. PVC, Polyethylene, or Polypropylene pipe. Joints for PVC, Polyethylene, or Polypropylene pipe shall conform to the requirements of ASTM D3212 when leak resistant joints are required. Joints for PVC and Polyethylene pipe shall conform to the requirements of AASHTO M304 when soil tight joints are required. Fittings for polyethylene pipe shall conform to the requirements of AASHTO M252 or ASTM M294. Fittings for polypropylene pipe shall conform to ASTM F2881, ASTM F2736, or ASTM F2764.

d. Fiberglass pipe. Joints and fittings shall be as detailed on the plans and in accordance with the manufacturer's recommendations.

701-3.5 EMBEDMENT AND OVERFILL. Pipes shall be inspected before any fill material is placed; any pipes found to be out of alignment, unduly settled, or damaged shall be removed and re-laid or replaced at the Contractor's expense.

701-3.5-1 Embedment Material Requirements

a. Concrete Pipe. Embedment material and compaction requirements shall be in accordance with the applicable Type of Standard Installation (Types 1, 2, 3, or 4) per ASTM C1479. If a concrete cradle or CLSM embedment material is used, it shall conform to the plan details.

b. Plastic and fiberglass Pipe. Embedment material shall meet the requirements of ASTM D3282, A-1, A-2-4, A-2-5, or A-3. Embedment material shall be free of organic material, stones larger than 1.5 inches in the greatest dimension, or frozen lumps. Embedment material shall extend to 12 inches above the top of the pipe.

c. Metal Pipe. Embedment material shall be granular as specified in the contract document and specifications, and shall be free of organic material, rock fragments larger than 1.5 inches in the greatest dimension and frozen lumps. As a minimum, backfill materials shall meet the requirements of ASTM D3282, A-1, A-2, or A-3. Embedment material shall extend to 12 inches above the top of the pipe.

701-3.5-2 Placement of Embedment Material

The embedment material shall be compacted in layers not exceeding 6 inches (150 mm) on each side of the pipe and shall be brought up one foot (30 cm) above the top of the pipe or to natural ground level, whichever is greater. Thoroughly compact the embedment material under the haunches of the pipe without displacing the pipe. Material shall be brought up evenly on each side of the pipe for the full length of the pipe.

When the top of the pipe is above the top of the trench, the embedment material shall be compacted in layers not exceeding 6 inches (150 mm) and shall be brought up evenly on each side of the pipe to one foot (30 cm) above the top of the pipe. All embedment material shall be compacted to a density required under Item P-152.

Concrete cradles and flowable fills, such as controlled low strength material (CLSM) or controlled density fill (CDF), may be used for embedment provided adequate flotation resistance can be achieved by restraints, weighing, or placement technique.

It shall be the Contractor’s responsibility to protect installed pipes and culverts from damage due to construction equipment operations. The Contractor shall be responsible for installation of any extra strutting or backfill required to protect pipes from the construction equipment.

701-3.6 OVERFILL

Pipes shall be inspected before any overfill is in place. Any pipes found to be out of alignment, unduly settled, or damaged shall be removed and relaid or replaced at the Contractor’s expense. Evaluation of any damage to RCP shall be evaluated based on AASHTO R73.

Overfill material shall be place and compacted in layers as required to achieve compaction to at least 95 percent modified proctor per ASTM D1557. The soil shall contain no debris, organic matter, frozen material, or stones with a diameter greater than one half the thickness of the compacted layers being placed.

701-3.7 INSPECTION REQUIREMENTS

An initial post installation inspection shall be performed by the RPR no sooner than 30 days after completion of installation and final backfill. Clean or flush all lines prior to inspection.

Use a camera with lighting suitable to allow a clear picture of the entire periphery of the pipe interior. Center the camera in the pipe both vertically and horizontally and be able to pan and tilt to a 90-degree angle with the axis of the pipe rotating 360 degrees. Use equipment to move the camera through the pipe that will not obstruct the camera's view or interfere with proper documentation of the pipe's condition. The video image shall be clear, focused, and relatively free from roll, static, or other image distortion qualities that would prevent the reviewer from evaluating the condition of the pipe.

Incorporate specific inspection requirements for the various types of pipes beneath the general inspection requirements.

Reinforced concrete pipe shall be inspected, evaluated, and reported on in accordance with ASTM C1840, "Standard Practice for Inspection and Acceptance of Installed Reinforced Concrete Culvert, Storm Drain, and Storm Sewer Pipe." Any issues reported shall include still photo and video documentation. The zoom ratio shall be provided for all still or video images that document any issues of concern by the inspection firm.

Flexible pipes shall be inspected for rips, tears, joint separations, soil migration, cracks, localized buckling, settlement, alignment, and deflection. Determine whether the allowable deflection has been exceeded by use of a laser profiler for internal pipe diameters of 48 inches or less, or direct measurement for internal pipe diameters greater than 48 inches. Laser profile equipment shall utilize low barrel distortion video equipment. Deflection of installed pipe shall not exceed the limits provided in the table below, as a percentage of the average inside diameter of the pipe.

Maximum Allowable Pipe Deflection

Type of Pipe	Maximum Allowable Deflection (%)
Corrugated Metal Pipe	5
Concrete Lined CMP	3
Thermoplastic Pipe	5
Fiberglass	5

If deflection readings in excess of the allowable deflection are obtained, remove the pipe with excessive deflection and replace with new pipe. Isolated areas may exceed allowable by 2.5% with concurrence of RPR. Repair or replace any pipe with cracks exhibiting displacement across the crack, bulges, creases, tears, spalls, or delamination. The report for flexible pipe shall include as a minimum, the deflection results and final post installation inspection report. The inspection report shall include: a copy of all video taken, pipe location identification, equipment used for inspection, inspector name, deviation from design line and grade, and inspector's notes.

METHOD OF MEASUREMENT

701-4.1 The length of pipe shall be measured in linear feet (m) of pipe in place, completed, and accepted. It shall be measured along the centerline of the pipe from end or inside face of structure to the end or inside face of structure, whichever is applicable. The several classes, types and size shall be measured separately ***as identified in the pay item***. All fittings shall be included in the footage as typical pipe sections in the pipe being measured.

701-4.2. Not used.

701-4.3 Not used.

701-4.4 Not used.

BASIS OF PAYMENT

701-5.0 These prices shall fully compensate the Contractor for furnishing all materials and for all preparation, excavation, and installation of these materials; and for all labor, equipment, tools, and incidentals necessary to complete the item.

701-5.1 Payment will be made at the contract unit price per linear foot (meter) for each class and size of pipe ***shown on the Bid Form***.

701-5.2 Not Used.

These prices shall fully compensate the Contractor for furnishing all materials and for all preparation, excavation, and installation of these materials; and for all labor, equipment, tools, and incidentals, including removal of existing pipes, structures, and other items, necessary to complete the item.

Payment will be made under:

D-701-1	***12x18 ERCP, Class III***	***-- per Linear Foot (LF)***
D-701-2	***14x23 ERCP, Class III***	***-- per Linear Foot (LF)***
D-701-3	***19x30 ERCP, Class III***	***-- per Linear Foot (LF)***
D-701-4	***30" RCP, Class III***	***-- per Linear Foot (LF)***

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO M167	Standard Specification for Corrugated Steel Structural Plate, Zinc-Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches
AASHTO M190	Standard Specification for Bituminous-Coated Corrugated Metal Culvert Pipe and Pipe Arches
AASHTO M196	Standard Specification for Corrugated Aluminum Pipe for Sewers and Drains
AASHTO M219	Standard Specification for Corrugated Aluminum Alloy Structural Plate for Field-Bolted Pipe, Pipe-Arches, and Arches
AASHTO M243	Standard Specification for Field Applied Coating of Corrugated Metal Structural Plate for Pipe, Pipe-Arches, and Arches
AASHTO M252	Standard Specification for Corrugated Polyethylene Drainage Pipe
AASHTO M294	Standard Specification for Corrugated Polyethylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter
AASHTO M304	Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Wall Drain Pipe and Fittings Based on Controlled Inside Diameter
AASHTO MP20	Standard Specification for Steel Reinforced Polyethylene (PE) Ribbed Pipe, 300- to 900-mm (12- to 36-in.) Diameter

ASTM International (ASTM)

ASTM A760	Standard Specification for Corrugated Steel Pipe, Metallic Coated for Sewers and Drains
ASTM A761	Standard Specification for Corrugated Steel Structural Plate, Zinc Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches
ASTM A762	Standard Specification for Corrugated Steel Pipe, Polymer Precoated for Sewers and Drains
ASTM A849	Standard Specification for Post-Applied Coatings, Pavings, and Linings for Corrugated Steel Sewer and Drainage Pipe
ASTM B745	Standard Specification for Corrugated Aluminum Pipe for Sewers and Drains
ASTM C14	Standard Specification for Nonreinforced Concrete Sewer, Storm Drain, and Culvert Pipe
ASTM C76	Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe

ASTM C94	Standard Specification for Ready Mixed Concrete
ASTM C144	Standard Specification for Aggregate for Masonry Mortar
ASTM C150	Standard Specification for Portland Cement
ASTM C443	Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets
ASTM C506	Standard Specification for Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe
ASTM C507	Standard Specification for Reinforced Concrete Elliptical Culvert, Storm Drain and Sewer Pipe
ASTM C655	Standard Specification for Reinforced Concrete D-Load Culvert, Storm Drain and Sewer Pipe
ASTM C990	Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants
ASTM C1433	Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers
ASTM D1056	Standard Specification for Flexible Cellular Materials Sponge or Expanded Rubber
ASTM D3034	Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
ASTM D3212	Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
ASTM D3262	Standard Specification for "Fiberglass" (Glass-Fiber Reinforced Thermosetting Resin) Sewer Pipe
ASTM D3282	Standard Practice for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes
ASTM D4161	Standard Specification for "Fiberglass" (Glass-Fiber Reinforced Thermosetting Resin) Pipe Joints Using Flexible Elastomeric Seals
ASTM D6690	Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements
ASTM F477	Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe
ASTM F667	Standard Specification for 3 through 24 in. Corrugated Polyethylene Pipe and Fittings

ASTM F714	Standard Specification for Polyethylene (PE) Plastic Pipe (DR PR) Based on Outside Diameter
ASTM F794	Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Gravity Sewer Pipe & Fittings Based on Controlled Inside Diameter
ASTM F894	Standard Specification for Polyethylene (PE) Large Diameter Profile Wall Sewer and Drain Pipe
ASTM F949	Standard Specification for Poly (Vinyl Chloride) (PVC) Corrugated Sewer Pipe with a Smooth Interior and Fittings
ASTM F2435	Standard Specification for Steel Reinforced Polyethylene (PE) Corrugated Pipe
ASTM F2562	Specification for Steel Reinforced Thermoplastic Ribbed Pipe and Fittings for Non-Pressure Drainage and Sewerage
ASTM F2736	Standard Specification for 6 to 30 in. (152 to 762 mm) Polypropylene (PP) Corrugated Single Wall Pipe and Double Wall Pipe
ASTM F2764	Standard Specification for 30 to 60 in. (750 to 1500 mm) Polypropylene (PP) Triple Wall Pipe and Fittings for Non-Pressure Sanitary Sewer Applications
ASTM F2881	Standard Specification for 12 to 60 in. (300 to 1500 mm) Polypropylene (PP) Dual Wall Pipe and Fittings for Non-Pressure Storm Sewer Applications

National Fire Protection Association (NFPA)

NFPA 415	Standard on Airport Terminal Buildings, Fueling Ramp Drainage, and Loading Walkways

END OF ITEM D-701

ITEM D-751 MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES

DESCRIPTION

751-1.1 This item shall consist of construction of manholes, catch basins, inlets, and inspection holes, in accordance with these specifications, at the specified locations and conforming to the lines, grades, and dimensions shown on the plans or required by the RPR.

MATERIALS

751-2.1 BRICK. The brick ***for closing and sealing structure openings*** shall conform to the requirements of ASTM C32, Grade MS.

751-2.2 MORTAR. Mortar ***for closing and sealing structure openings and other uses*** shall consist of one part Portland cement and two parts sand. The cement shall conform to the requirements of ASTM C150, Type I. The sand shall conform to the requirements of ASTM C144.

751-2.3 CONCRETE. Plain and reinforced concrete used in structures, connections of pipes with structures, and the support of structures or frames shall conform to the requirements of Item P-610.

751-2.4 PRECAST CONCRETE PIPE MANHOLE RINGS. Precast concrete pipe manhole rings shall conform to the requirements of ASTM C478. Unless otherwise specified, the risers and offset cone sections shall have an inside diameter of not less than 36 inches (90 cm) nor more than 48 inches (120 cm). There shall be a gasket between individual sections and sections cemented together with mortar on the inside of the manhole. Gaskets shall conform to the requirements of ASTM C443.

751-2.5 CORRUGATED METAL. Not Used.

751-2.6 FRAMES, COVERS, AND GRATES. The castings shall conform to one of the following requirements:

a. ASTM A48, Class 35B: Gray iron castings

b. ASTM A47: Malleable iron castings

c. ASTM A27: Steel castings

d. ASTM A283, Grade D: Structural steel for grates and frames

e. ASTM A536, Grade 65-45-12: Ductile iron castings

f. ASTM A897: Austempered ductile iron castings

All castings or structural steel units shall conform to the dimensions shown on the plans and shall be designed to support the loadings, aircraft gear configuration and/or direct loading, specified.

Each frame and cover or grate unit shall be provided with fastening members to prevent it from being dislodged by traffic but which will allow easy removal for access to the structure.

All castings shall be thoroughly cleaned. After fabrication, structural steel units shall be galvanized to meet the requirements of ASTM A123.

751-2.7 STEPS. Not used.

751-2.8 PRECAST INLET STRUCTURES. Manufactured in accordance with and conforming to ASTM C913.

CONSTRUCTION METHODS

751-3.1 UNCLASSIFIED EXCAVATION.

a. The Contractor shall excavate for structures and footings to the lines and grades or elevations, shown on the plans, or as staked by the RPR. The excavation shall be of sufficient size to permit the placing of the full width and length of the structure or structure footings shown. The elevations of the bottoms of footings, as shown on the plans, shall be considered as approximately only; and the RPR may direct, in writing, changes in dimensions or elevations of footings necessary for a satisfactory foundation.

b. Boulders, logs, or any other objectionable material encountered in excavation shall be removed. All rock or other hard foundation material shall be cleaned of all loose material and cut to a firm surface either level, stepped, or serrated, as directed by the RPR. All seams or crevices shall be cleaned out and grouted. All loose and disintegrated rock and thin strata shall be removed. Where concrete will rest on a surface other than rock, the bottom of the excavation shall not be disturbed and excavation to final grade shall not be made until immediately before the concrete or reinforcing is placed.

c. The Contractor shall do all bracing, sheathing, or shoring necessary to implement and protect the excavation and the structure as required for safety or conformance to governing laws. The cost of bracing, sheathing, or shoring shall be included in the unit price bid for the structure.

d. All bracing, sheathing, or shoring involved in the construction of this item shall be removed by the Contractor after the completion of the structure. Removal shall not disturb or damage finished masonry. The cost of removal shall be included in the unit price bid for the structure.

e. After excavation is completed for each structure, the Contractor shall notify the RPR. No concrete or reinforcing steel shall be placed until the RPR has approved the depth of the excavation and the character of the foundation material.

751-3.2 BRICK STRUCTURES. Not used.

751-3.3 CONCRETE STRUCTURES. Concrete structures which are to be cast-in-place within the project boundaries shall be built on prepared foundations, conforming to the dimensions and shape indicated on the plans. The construction shall conform to the requirements specified in Item P-610. Any reinforcement required shall be placed as indicated on the plans and shall be approved by the RPR before the concrete is placed.

All invert channels shall be constructed and shaped accurately to be smooth, uniform, and cause minimum resistance to flowing water. The interior bottom shall be sloped to the outlet.

751-3.4 PRECAST CONCRETE STRUCTURES. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another RPR approved third party certification program.

Precast concrete structures shall conform to ASTM C478. Precast concrete structures shall be constructed on prepared or previously placed slab foundations conforming to the dimensions and locations shown on the plans. All precast concrete sections necessary to build a completed structure shall be furnished. The different sections shall fit together readily. Joints between precast concrete risers and tops shall be full-bedded in cement mortar and shall: (1) be smoothed to a uniform surface on both interior and exterior of the structure or (2) utilize a rubber gasket per ASTM C443. The top of the upper precast concrete section shall be suitably formed and dimensioned to receive the metal frame and cover or grate, or other cap, as required. Provision shall be made for any connections for lateral pipe, including drops and leads that may be installed in the structure. The flow lines shall be smooth, uniform, and cause minimum resistance to flow. The metal or metal encapsulated steps that are embedded or built into the side walls shall be aligned and placed in accordance to ASTM C478. When a metal ladder replaces the steps, it shall be securely fastened into position.

751-3.5 CORRUGATED METAL STRUCTURES. Not used.

751-3.6 INLET AND OUTLET PIPES. Inlet and outlet pipes shall extend through the walls of the structures a sufficient distance beyond the outside surface to allow for connections. They shall be cut off flush with the wall on the inside surface of the structure, unless otherwise directed. For concrete or brick structures, mortar shall be placed around these pipes to form a tight, neat connection.

751-3.7 PLACEMENT AND TREATMENT OF CASTINGS, FRAMES, AND FITTINGS. All castings, frames, and fittings shall be placed in the positions indicated on the plans or as directed by the RPR, and shall be set true to line and elevation. If frames or fittings are to be set in concrete or cement mortar, all anchors or bolts shall be in place before the concrete or mortar is placed. The unit shall not be disturbed until the mortar or concrete has set.

When frames or fittings are placed on previously constructed masonry, the bearing surface of the masonry shall be brought true to line and grade and shall present an even bearing surface so the entire face or back of the unit will come in contact with the masonry. The unit shall be set in mortar beds and anchored to the masonry as indicated on the plans or as directed by the RPR. All units shall set firm and secure.

After the frames or fittings have been set in final position, the concrete or mortar shall be allowed to harden for seven (7) days before the grates or covers are placed and fastened down.

751-3.8 INSTALLATION OF STEPS. Not used.

751-3.9 BACKFILLING.

a. After a structure has been completed, the area around it shall be backfilled with approved material, in horizontal layers not to exceed 8 inches (200 mm) in loose depth, and compacted to the density required in Item P-152. Each layer shall be deposited evenly around the structure to approximately the same elevation. The top of the fill shall meet the elevation shown on the plans or as directed by the RPR.

b. Backfill shall not be placed against any structure until approved by the RPR. For concrete structures, approval shall not be given until the concrete has been in place seven (7) days, or until tests establish that the concrete has attained sufficient strength to withstand any pressure created by the backfill and placing methods.

c. Backfill shall not be measured for direct payment. Performance of this work shall be considered an obligation of the Contractor covered under the contract unit price for the structure involved.

When structures are located within the runway safety area, POFA, RPZ, etc., the elevation of the structures shall be set to meet the grading requirements of these areas. Structures shall not exceed 3 inches (75 mm) above the elevation the surrounding areas.

751-3.10 CLEANING AND RESTORATION OF SITE. After the backfill is completed, the Contractor shall dispose of all surplus material, dirt, and rubbish from the site. Surplus dirt may be deposited in embankments, shoulders, or as approved by the RPR. The Contractor shall restore all disturbed areas to their original condition. The Contractor shall remove all tools and equipment, leaving the entire site free, clear, and in good condition.

METHOD OF MEASUREMENT

751-4.1 Manholes, catch basins, inlets, and inspection holes shall be measured by the unit per each.

BASIS OF PAYMENT

751-5.1 The accepted quantities of manholes, catch basins, inlets, and inspection holes will be paid for at the contract unit price per each in place when completed. This price shall be full compensation for furnishing all materials and for all preparation, excavation, backfilling and placing of the materials; furnishing and installation of such specials and connections to pipes and other structures as may be required to complete the item as shown on the plans; and for all labor equipment, tools and incidentals necessary to complete the structure, ***including any demolition, removal, or re-use of pipes, structures or other objects necessary to complete the item.***

Payment will be made under:

D-751-1	***Inlet, FDOT Type D, Modified, Control Structure, Stl Ret Grate***	***--per Each (EA)***
D-751-2	***Inlet, FDOT Type F, Stl Ret Grate***	***--per Each (EA)***
D-751-3	***Inlet, FDOT Type G, Stl Ret Grate***	***--per Each (EA)***

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM A27	Standard Specification for Steel Castings, Carbon, for General Application
ASTM A47	Standard Specification for Ferritic Malleable Iron Castings
ASTM A48	Standard Specification for Gray Iron Castings
ASTM A123	Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A283	Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates
ASTM A536	Standard Specification for Ductile Iron Castings
ASTM A897	Standard Specification for Austempered Ductile Iron Castings
ASTM C32	Standard Specification for Sewer and Manhole Brick (Made from Clay or Shale)
ASTM C144	Standard Specification for Aggregate for Masonry Mortar
ASTM C150	Standard Specification for Portland Cement
ASTM C443	Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets.
ASTM C478	Standard Specification for Precast Reinforced Concrete Manhole Sections
ASTM C913	Standard Specification for Precast Concrete Water and Wastewater Structures.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO M36	Standard Specification for Corrugated Steel Pipe, Metallic-Coated, for Sewers and Drains

END OF ITEM D-751

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ITEM D-752 CONCRETE CULVERTS, HEADWALLS, AND MISCELLANEOUS DRAINAGE STRUCTURES

DESCRIPTION

752-1.1 This item shall consist of reinforced concrete culverts, headwalls, and miscellaneous drainage structures constructed in accordance with these specifications, at the specified locations and conforming to the lines, grades, and dimensions shown on the plans or required by the RPR.

MATERIALS

752-2.1 CONCRETE. Reinforced concrete shall meet the requirements of Item P-610.

CONSTRUCTION METHODS

752-3.1 UNCLASSIFIED EXCAVATION.

a. Trenches and foundation pits for structures or structure footings shall be excavated to the lines and grades and elevations shown on the plans. The excavation shall be of sufficient size to permit the placing of the full width and length of the structure or structure footings shown. The elevations of the bottoms of footings, as shown on the plans, shall be considered as approximate only; and the RPR may approve, in writing, changes in dimensions or elevations of footings necessary to secure a satisfactory foundation.

b. Boulders, logs, or any other objectionable material encountered in excavation shall be removed. All rock or other hard foundation material shall be cleaned of all loose material and cut to a firm surface either level, stepped, or serrated, as directed by the RPR. All seams or crevices shall be cleaned out and grouted. All loose and disintegrated rock and thin strata shall be removed. When concrete will rest on a surface other than rock, the bottom of the excavation shall not be disturbed and excavation to final grade shall not be made until immediately before the concrete or reinforcing steel is placed.

c. The Contractor shall do all bracing, sheathing, or shoring necessary to perform and protect the excavation and the structure as required for safety or conformance to governing laws. The cost of bracing, sheathing, or shoring shall be included in the unit price bid for excavation.

d. All bracing, sheathing, or shoring shall be removed by the Contractor after the completion of the structure. Removal shall not disturb or damage the finished concrete. The cost of removal shall be included in the unit price bid for excavation.

e. After each excavation is completed, the Contractor shall notify the RPR. No concrete or reinforcing steel shall be placed until the RPR has approved the depth of the excavation and the character of the foundation material.

752-3.2 BACKFILLING.

a. After a structure has been completed, backfilling with approved material shall be accomplished by applying the fill in horizontal layers not to exceed 8 inches (200 mm) in loose depth, and compacted. The field density of the compacted material shall be at least 90% of the maximum density for cohesive soils and 95% of the maximum density for noncohesive soils. The maximum density shall be determined in accordance with ASTM D698. The field density shall be determined in accordance with ASTM D1556.

b. No backfilling shall be placed against any structure until approved by the RPR. For concrete, approval shall not be given until the concrete has been in place seven (7) days, or until tests establish that the concrete has attained sufficient strength to withstand any pressure created by the backfill or the placement methods.

c. Fill placed around concrete culverts shall be deposited on each side at the same time and to approximately the same elevation. All slopes bounding or within the areas to be backfilled shall be stepped or serrated to prevent wedge action against the structure.

d. Backfill will not be measured for direct payment. Performance of this work shall be considered as a subsidiary obligation of the Contractor, covered under the contract unit price for “unclassified excavation for structures.”

752-3.3 WEEP HOLES. Weep holes shall be constructed as shown on the plans.

752-3.4 CLEANING AND RESTORATION OF SITE. After the backfill is completed, the Contractor shall dispose of all surplus material, dirt, and rubbish from the site. Surplus dirt may be deposited in embankment, shoulders, or as approved by the RPR. The Contractor shall restore all disturbed areas to their original condition. The Contractor shall remove all tools and equipment, leaving the entire site free, clear, and in good condition.

METHOD OF MEASUREMENT

752-4.1 The quantity of unclassified excavation for structures shall be the number of cubic yards (cubic meters), measured in original position, of material excavated in accordance with the plans, or as approved by the RPR; but in no case shall any yardage be included in the measurement for payment which is outside of a volume bounded by vertical planes 18 inches (0.5 m) outside of and parallel to the neat lines of the footings.

752-4.2 Concrete shall be measured by the number of cubic yards (cubic meters) of concrete, complete in place and accepted. In computing the yardage of concrete for payment, the dimensions used shall be those shown on the plans or approved by the RPR. No measurements or other allowances shall be made for forms, false work, cofferdams, pumping, bracing, expansion joints, or finishing of the concrete. No deductions in yardage shall be made for the volumes of reinforcing steel or embedded items.

752-4.3 The quantity of reinforcing steel shall be the calculated theoretical number of pounds (km) placed as shown on the plans, complete in place and accepted. The unit weight used for deformed bars shall be the weight of plain square or round bars, as the case may be, of equal nominal size.

BASIS OF PAYMENT

752-5.1 No used.

752-5.2 Not used.

752-5.3 Not used.

752-5.4 ***Payment will be made at the contract unit price each mitered end section (MES) constructed and installed in place at the size shown in the pay item on the bid form.***

These price shall be full compensation for furnishing all materials and for all preparation, excavation, and placing the materials, and for all labor, equipment, tools, and incidentals necessary to complete the structure, ***including any removal, disposal, authorized re-use of existing pipes, headwalls, mitered end sections, connections, or other structures.***

752-5.5 Payment for connection to existing pipe or inlet shall include verification of the existing structure to connect to prior to excavation. The pay item shall include excavation, coring, bricking, concrete, grout or any other miscellaneous materials or workmanship necessary to completely connect to the drainage structure to the details shown and to the satisfaction of the engineer.

Payment will be made under:

D-752-1	***12x18 MES***	***--per Each (EA)***
D-752-2	***14x23 MES***	***--per Each (EA)***
D-752-3	***19x30 MES***	***--per Each (EA)***
D-752-4	***30" MES***	***--per Each (EA)***
D-752-5	***Concrete\Earth Weir, Control Structure***	***--per Each (EA)***

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lb/ft^3 (600 kN-m/m^3))
ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method

END OF ITEM D-752

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ITEM D-754 CONCRETE GUTTERS, DITCHES, AND FLUMES

DESCRIPTION

1.1 This item shall consist of Portland cement concrete gutters, ditches, and flumes constructed in accordance with these specifications at the specified locations in accordance with the dimensions, lines, and grades as shown on the plans.

MATERIALS

2.1 CONCRETE. Plain and reinforced concrete shall meet the requirements of Item P-610.

2.2 JOINTS. Joint filler materials and premolded joint material shall conform to Item P-605.

CONSTRUCTION METHODS

3.1 PREPARING SUBGRADE. Excavation shall be made to the required width and depth, and the subgrade upon which the item is to be built shall be compacted to a firm uniform grade. All soft and unsuitable material shall be removed and replaced with suitable approved material. When required, a layer of approved granular material, compacted to the thickness indicated on the plans, shall be placed to form a subbase. The underlying course shall be checked and accepted by the RPR before placing and spreading operations are started.

3.2 PLACING. The forms and the mixing, placing, finishing, and curing of concrete shall conform to the requirements of Item P-610 and the following requirements.

The concrete shall be tamped until it is consolidated and mortar covers the top surface. The surface of the concrete shall be floated smooth and the edges rounded to the radii shown on the plans. Before the concrete is given the final finishing, the surface shall be tested with a 12-foot (3.7-m) straightedge, and any irregularities of more than 1/4 inch (6 mm) in 12-foot (3.7-m) shall be eliminated.

The concrete shall be placed with dummy-grooved joints not to exceed 25 feet (7.5 m) apart and no section shall be less than 4 feet (1.2 m) long.

Expansion joints of the type called for in the plans shall be constructed to replace dummy groove joints at a spacing of approximately 100 feet (30 m). When the gutter is placed next to concrete pavement, expansion joints in the gutter shall be located opposite expansion joints in the pavement. When a gutter abuts a pavement or other structure, an expansion joint shall be placed between the gutter and the other structure.

Forms shall not be removed within 24 hours after the concrete has been placed. Minor defects shall be repaired with mortar containing one (1) part cement and two (2) parts fine aggregate.

Depositing, compacting, and finishing the item shall be conducted to build a satisfactory structure. If any section of concrete is found to be porous, or is otherwise defective, it shall be removed and replaced by the Contractor without additional compensation.

3.3 BACKFILLING. After the concrete has set sufficiently, the spaces adjacent to the structure shall be refilled to the required elevation with material specified on the plans and compacted by mechanical equipment to at least 90% of the maximum density as determined by ASTM D698. The in-place density shall be determined in accordance with ASTM D1556.

3.4 CLEANING AND RESTORATION OF SITE. After the backfill is completed, the Contractor shall dispose of all surplus material, dirt, and rubbish from the site. Surplus dirt may be deposited in embankments, shoulders, or as ordered by the RPR. The Contractor shall restore all disturbed areas to their original condition. The Contractor shall remove all tools and equipment, leaving the entire site free, clear and in good condition.

Performance of the work described in this section shall be considered as a subsidiary obligation of the Contractor, covered under the contract unit price for the structure.

METHOD OF MEASUREMENT

4.1 Concrete shall be measured by the cubic yard (cubic meter) in accordance with the dimensions shown on the plans or ordered by the RPR. No deductions shall be made for the volume occupied by reinforcing steel, anchors, conduits, weep holes, or piling.

4.2 Reinforcing steel shall be measured by the pound (kg), based on the theoretical number of pounds (kg) complete in place as shown on the plans or placed as ordered by the RPR.

BASIS OF PAYMENT

5.1 The accepted quantities of structural concrete will be paid for at the contract unit price per cubic yard (cubic meter) complete in place.

5.2 The accepted quantities of reinforcing steel will be paid for at the contract price per pound (kg) complete in place. No allowance shall be made for clips, wire, or other material used for fastening reinforcement in place.

Payment will be made under:

D-754-1	***Concrete Ditch Paving***	***--per Square Yard (SY)***

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lb/ft^3 (600 kN-m/m^3))

ASTM D1556 Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method

END OF ITEM D-754

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ITEM T-901 SEEDING

DESCRIPTION

1.1 This item shall consist of soil preparation, seeding the areas shown on the plans or as directed by the RPR in accordance with these specifications.

MATERIALS

2.1 Seed. The species and application rates of grass, legume, and cover-crop seed furnished shall be those stipulated herein. Seed shall conform to the requirements of Federal Specification JJJ-S-181, Federal Specification, Seeds, Agricultural.

Seed shall be furnished separately or in mixtures in standard containers labeled in conformance with the Agricultural Marketing Service (AMS) Seed Act and applicable state seed laws with the seed name, lot number, net weight, percentages of purity and of germination and hard seed, and percentage of maximum weed seed content clearly marked for each kind of seed. The Contractor shall furnish the RPR duplicate signed copies of a statement by the vendor certifying that each lot of seed has been tested by a recognized laboratory for seed testing within six (6) months of date of delivery. This statement shall include: name and address of laboratory, date of test, lot number for each kind of seed, and the results of tests as to name, percentages of purity and of germination, and percentage of weed content for each kind of seed furnished, and, in case of a mixture, the proportions of each kind of seed. Wet, moldy, or otherwise damaged seed will be rejected.

Seeds shall be applied as follows:

The grass mixture to be furnished and minimum properties of seed of each species in each lot of seed shall be as follows:

Seed Type	***Minimum Seed Purity %***	***Minimum Germination %***	***Rate of Application lb./Acre***
Argentine Bahia	***95***	***90***	***60***
Bermuda (hulled)	***95***	***85***	***30***
Bermuda (unhulled)	***95***	***85***	***30***
Annual Rye* (Nov – Mar)	***95***	***90***	***40***
Total Application Rate (lb./acre)			***160***

**** The Contractor is to use Annual Type Rye in the specified amount (30 lbs./acre) based upon the time of the year the seeding operation occurs.***

Seeding ***of rye grasses*** shall be performed during the period between ***November*** and ***March*** inclusive, unless otherwise approved by the

2.2 Lime. Lime shall be ground limestone containing not less than 85% of total carbonates, and shall be ground to such fineness that 90% will pass through a No. 20 mesh sieve and 50% will pass through a No. 100 mesh sieve. Coarser material will be acceptable, providing the rates of application are increased to provide not less than the minimum quantities and depth specified in the special provisions on the basis of the two sieve requirements above. Dolomitic lime or a high magnesium lime shall contain at least 10% of magnesium oxide. Lime shall be applied at the rate ***800 to 1,000 lbs/acre***. All liming materials shall conform to the requirements of ASTM C602.

2.3 Fertilizer. Fertilizer shall be standard commercial fertilizers supplied separately or in mixtures containing the percentages of total nitrogen, available phosphoric acid, and water-soluble potash. They shall be applied at the rate and to the depth specified, and shall meet the requirements of applicable state laws. They shall be furnished in standard containers with name, weight, and guaranteed analysis of contents clearly marked thereon. No cyanamide compounds or hydrated lime shall be permitted in mixed fertilizers.

The fertilizers may be supplied in one of the following forms:

A. A dry, free-flowing fertilizer suitable for application by a common fertilizer spreader;

B. A finely-ground fertilizer soluble in water, suitable for application by power sprayers; or

A granular or pellet form suitable for application by blower equipment. Fertilizers shall be **a 12-12-12** commercial fertilizer and shall be spread at the rate of ***500 lbs/acre***.

2.4 Soil for repairs. The soil for fill and topsoiling of areas to be repaired shall be at least of equal quality to that which exists in areas adjacent to the area to be repaired. The soil shall be relatively free from large stones, roots, stumps, or other materials that will interfere with subsequent sowing of seed, compacting, and establishing turf, and shall be approved by the RPR before being placed.

901-2.5 MULCH. Mulch materials shall be virgin wood fibers premixed with a tackifier such as Hydromulch 2000, or equal.

CONSTRUCTION METHODS

3.1 Advance preparation and cleanup. After grading of areas has been completed and before applying fertilizer and ground limestone, areas to be seeded shall be raked or otherwise cleared of stones larger than 2 inches (50 mm) in any diameter, sticks, stumps, and other debris that might interfere with sowing of seed, growth of grasses, or subsequent maintenance of grass-covered areas. If any damage by erosion or other causes has occurred after the completion of grading and before beginning the application of fertilizer and ground limestone, the Contractor shall repair such damage include filling gullies, smoothing irregularities, and repairing other incidental damage.

An area to be seeded shall be considered a satisfactory seedbed without additional treatment if it has recently been thoroughly loosened and worked to a depth of not less than 5 inches (125 mm) as a result of grading operations and, if immediately prior to seeding, the top 3 inches (75 mm) of soil is loose, friable, reasonably free from large clods, rocks, large roots, or other undesirable matter, and if shaped to the required grade.

When the area to be seeded is sparsely sodded, weedy, barren and unworked, or packed and hard, any grass and weeds shall first be cut or otherwise satisfactorily disposed of, and the soil then scarified or otherwise loosened to a depth not less than 5 inches (125 mm). Clods shall be broken and the top 3 inches (75 mm) of soil shall be worked into a satisfactory seedbed by discing, or by use of cultipackers, rollers, drags, harrows, or other appropriate means.

3.2 Dry application method.

a. Liming. Lime shall be applied separately and prior to the application of any fertilizer or seed and only on seedbeds that have previously been prepared as described above. The lime shall then be worked into the top 3 inches (75 mm) of soil after which the seedbed shall again be properly graded and dressed to a smooth finish.

b. Fertilizing. Following advance preparations and cleanup fertilizer shall be uniformly spread at the rate that will provide not less than the minimum quantity stated in paragraph 2.3.

c. Seeding. Grass seed shall be sown at the rate specified in paragraph 2.1 immediately after fertilizing. The fertilizer and seed shall be raked within the depth range stated in the special provisions. Seeds of legumes, either alone or in mixtures, shall be inoculated before mixing or sowing, in accordance with the instructions of the manufacturer of the inoculant. When seeding is required at other than the seasons shown on the plans or in the special provisions, a cover crop shall be sown by the same methods required for grass and legume seeding.

d. Rolling. After the seed has been properly covered, the seedbed shall be immediately compacted by means of an approved lawn roller, weighing 40 to 65 pounds per foot (60 to 97 kg per meter) of width for clay soil (or any soil having a tendency to pack), and weighing 150 to 200 pounds per foot (223 to 298 kg per meter) of width for sandy or light soils.

3.3 Wet application method.

a. General. The Contractor may elect to apply seed and fertilizer (and lime, if required) by spraying them on the previously prepared seedbed in the form of an aqueous mixture and by using the methods and equipment described herein. The rates of application shall be as specified in the special provisions.

b. Spraying equipment. The spraying equipment shall have a container or water tank equipped with a liquid level gauge calibrated to read in increments not larger than 50 gallons (190 liters) over the entire range of the tank capacity, mounted so as to be visible to the nozzle operator. The container or tank shall also be equipped with a mechanical power-driven agitator capable of keeping all the solids in the mixture in complete suspension at all times until used.

The unit shall also be equipped with a pressure pump capable of delivering 100 gallons (380 liters) per minute at a pressure of 100 lb / sq inches (690 kPa). The pump shall be mounted in a line that will recirculate the mixture through the tank whenever it is not being sprayed from the nozzle. All pump passages and pipe lines shall be capable of providing clearance for 5/8 inch (16 mm) solids. The power unit for the pump and agitator shall have controls mounted so as to be accessible to the nozzle operator. There shall be an indicating pressure gauge connected and mounted immediately at the back of the nozzle.

The nozzle pipe shall be mounted on an elevated supporting stand in such a manner that it can be rotated through 360 degrees horizontally and inclined vertically from at least 20 degrees below to at least 60 degrees above the horizontal. There shall be a quick-acting, three-way control valve connecting the recirculating line to the nozzle pipe and mounted so that the nozzle operator can control and regulate the amount of flow of mixture delivered to the nozzle. At least three different types of nozzles shall be supplied so that mixtures may be properly sprayed over distance varying from 20 to 100 feet (6 to 30 m). One shall be a close-range ribbon nozzle, one a medium-range ribbon nozzle, and one a long-range jet nozzle. For case of removal and cleaning, all nozzles shall be connected to the nozzle pipe by means of quick-release couplings.

In order to reach areas inaccessible to the regular equipment, an extension hose at least 50 feet (15 m) in length shall be provided to which the nozzles may be connected.

c. Mixtures. Lime, if required, shall be applied separately, in the quantity specified, prior to the fertilizing and seeding operations. Not more than 220 pounds (100 kg) of lime shall be added to and mixed with each 100 gallons (380 liters) of water. Seed and fertilizer shall be mixed together in the relative proportions specified, but not more than a total of 220 pounds (100 kg) of these combined solids shall be added to and mixed with each 100 gallons (380 liters) of water.

All water used shall be obtained from fresh water sources and shall be free from injurious chemicals and other toxic substances harmful to plant life. The Contractor shall identify to the RPR all sources of water at least two (2) weeks prior to use. The RPR may take samples of the water at the source or from the tank at any time and have a laboratory test the samples for chemical and saline content. The Contractor shall not use any water from any source that is disapproved by the RPR following such tests.

All mixtures shall be constantly agitated from the time they are mixed until they are finally applied to the seedbed. All such mixtures shall be used within two (2) hours from the time they were mixed or they shall be wasted and disposed of at approved locations.

d. Spraying. Lime, if required, shall be sprayed only upon previously prepared seedbeds. After the applied lime mixture has dried, the lime shall be worked into the top 3 inches (75 mm), after which the seedbed shall again be properly graded and dressed to a smooth finish.

Mixtures of seed and fertilizer shall only be sprayed upon previously prepared seedbeds on which the lime, if required, shall already have been worked in. The mixtures shall be applied by means of a high-pressure spray that shall always be directed upward into the air so that the mixtures will fall to the ground like rain in a uniform spray. Nozzles or sprays shall never be directed toward the ground in such a manner as might produce erosion or runoff.

Particular care shall be exercised to ensure that the application is made uniformly and at the prescribed rate and to guard against misses and overlapped areas. Proper predetermined quantities of the mixture in accordance with specifications shall be used to cover specified sections of known area.

Checks on the rate and uniformity of application may be made by observing the degree of wetting of the ground or by distributing test sheets of paper or pans over the area at intervals and observing the quantity of material deposited thereon.

On surfaces that are to be mulched as indicated by the plans or designated by the RPR, seed and fertilizer applied by the spray method need not be raked into the soil or rolled. However, on surfaces on which mulch is not to be used, the raking and rolling operations will be required after the soil has dried.

3.4 Maintenance of seeded areas. The Contractor shall protect seeded areas against traffic or other use by warning signs or barricades, as approved by the RPR. Surfaces gullied or otherwise damaged following seeding shall be repaired by regrading and reseeding as directed. The Contractor shall mow, water as directed, and otherwise maintain seeded areas in a satisfactory condition until final inspection and acceptance of the work.

When either the dry or wet application method outlined above is used for work done out of season, it will be required that the Contractor establish a good stand of grass of uniform color and density to the satisfaction of the RPR. A grass stand shall be considered adequate when bare spots are one square foot (0.01 sq m) or less, randomly dispersed, and do not exceed 3% of the area seeded.

METHOD OF MEASUREMENT

4.1 The quantity of seeding to be paid for ***restoration outside the limits of grading*** shall be ~~the number of units measured on the ground surface~~, ***by C-105-1 Mobilization item, for all areas disturbed by the contractor outside the defined limits of work, completed and accepted.***

BASIS OF PAYMENT

5.1 Payment shall be made at the contract unit price ~~per or fraction thereof~~, for ***C-105-1 Mobilization item, for all areas disturbed by the contractor outside the defined limits of work, restoration outside the limits of grading*** which price and payment shall be full compensation for furnishing and placing all material and for all labor, equipment, tools, and incidentals necessary to complete the work prescribed in this item.

Payment will be made under:

~~Item 901-5.1 Seeding - per kilo-square feet~~

C-105-1 Mobilization (Limited to 10%) -- Lump Sum (LS)

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C602 Standard Specification for Agricultural Liming Materials

Federal Specifications (FED SPEC)

FED SPEC JJJ-S-181, Federal Specification, Seeds, Agricultural

Advisory Circulars (AC)

AC 150/5200-33 Hazardous Wildlife Attractants on or Near Airports

FAA/United States Department of Agriculture

Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM T-901

ITEM T-904 SODDING

DESCRIPTION

904-1.1 This item shall consist of furnishing, hauling, and placing approved live sod on prepared areas in accordance with this specification at the locations shown on the plans or as directed by the Resident Project Representative (RPR).

MATERIALS

904-2.1 SOD. Sod furnished by the Contractor shall have a good cover of living or growing grass. This shall be interpreted to include grass that is seasonally dormant during the cold or dry seasons and capable of renewing growth after the dormant period. All sod shall be obtained from areas where the soil is reasonably fertile and contains a high percentage of loamy topsoil. Sod shall be cut or stripped from living, thickly matted turf relatively free of weeds or other undesirable foreign plants, large stones, roots, or other materials that might be detrimental to the development of the sod or to future maintenance. At least 70% of the plants in the cut sod shall be composed of the species stated in the special provisions, and any vegetation more than 6 inches (150 mm) in height shall be mowed to a height of 3 inches (75 mm) or less before sod is lifted. Sod, including the soil containing the roots and the plant growth showing above, shall be cut uniformly to a thickness not less than that stated in the special provisions.

904-2.2 LIME. Not required.

904-2.3 FERTILIZER. Not required.

904-2.4 WATER. The water shall be sufficiently free from oil, acid, alkali, salt, or other harmful materials that would inhibit the growth of grass.

904-2.5 SOIL FOR REPAIRS. The soil for fill and topsoiling of areas to be repaired shall be at least of equal quality to that which exists in areas adjacent to the area to be repaired. The soil shall be relatively free from large stones, roots, stumps, or other materials that will interfere with subsequent sowing of seed, compacting, and establishing turf, and shall be approved by the RPR before being placed.

CONSTRUCTION METHODS

904-3.1 GENERAL. Areas to be solid, strip, or spot sodded shall be shown on the plans. Areas requiring special ground surface preparation such as tilling and those areas in a satisfactory condition that are to remain undisturbed shall also be shown on the plans.

Suitable equipment necessary for proper preparation of the ground surface and for the handling and placing of all required materials shall be on hand, in good condition, and shall be approved by the RPR before the various operations are started. The Contractor shall demonstrate to the RPR before starting the various operations that the application of required materials will be made at the specified rates.

904-3.2 PREPARING THE GROUND SURFACE. After grading of areas has been completed and before applying fertilizer and limestone, areas to be sodded shall be raked or otherwise cleared of stones larger than 2 inches (50 mm) in any diameter, sticks, stumps, and other debris which might interfere with sodding, growth of grasses, or subsequent maintenance of grass-covered areas. If any damage by erosion or other causes occurs after grading of areas and before beginning the application of fertilizer and ground limestone, the Contractor shall repair such damage. This may include filling gullies, smoothing irregularities, and repairing other incidental damage.

904-3.3 APPLYING FERTILIZER AND GROUND LIMESTONE. Not used.

904-3.4 OBTAINING AND DELIVERING SOD. After inspection and approval of the source of sod by the RPR, the sod shall be cut with approved sod cutters to such a thickness that after it has been transported and placed on the prepared bed, but before it has been compacted, it shall have a uniform thickness of not less than 2 inches (50 mm). Sod sections or strips shall be cut in uniform widths, not less than 10 inches (250 mm), and in lengths of not less than 18 inches (0.5 m), but of such length as may be readily lifted without breaking, tearing, or loss of soil. Where strips are required, the sod must be rolled without damage with the grass folded inside. The Contractor may be required to mow high grass before cutting sod.

The sod shall be transplanted within 24 hours from the time it is stripped, unless circumstances beyond the Contractor's control make storing necessary. In such cases, sod shall be stacked, kept moist, and protected from exposure to the air and sun and shall be kept from freezing. Sod shall be cut and moved only when the soil moisture conditions are such that favorable results can be expected. Where the soil is too dry, approval to cut sod may be granted only after it has been watered sufficiently to moisten the soil to the depth the sod is to be cut.

904-3.5 LAYING SOD. Sodding shall be performed only during the seasons when satisfactory results can be expected. Frozen sod shall not be used and sod shall not be placed upon frozen soil. Sod may be transplanted during periods of drought with the approval of the RPR, provided the sod bed is watered to moisten the soil to a depth of at least 4 inches (100 mm) immediately prior to laying the sod.

The sod shall be moist and shall be placed on a moist earth bed. Pitch forks shall not be used to handle sod, and dumping from vehicles shall not be permitted. The sod shall be carefully placed by hand, edge to edge and with staggered joints, in rows at right angles to the slopes, commencing at the base of the area to be sodded and working upward. The sod shall immediately be pressed firmly into contact with the sod bed by tamping or rolling with approved equipment to provide a true and even surface, and ensure knitting without displacement of the sod or deformation of the surfaces of sodded areas. Where the sod may be displaced during sodding operations, the workmen, when replacing it, shall work from ladders or treaded planks to prevent further displacement. Screened soil of good quality shall be used to fill all cracks between sods. The quantity of the fill soil shall not cause smothering of the grass. Where the grades are such that the flow of water will be from paved surfaces across sodded areas, the surface of the soil in the sod after compaction shall be set approximately one inch (25 mm) below the pavement edge. Where the flow will be over the sodded areas and onto the paved surfaces around manholes and inlets, the surface of the soil in the sod after compaction shall be placed flush with pavement edges.

On slopes steeper than one (1) vertical to 2-1/2 horizontal and in v-shaped or flat-bottom ditches or gutters, the sod shall be pegged with wooden pegs not less than 12 inches (300 mm) in length and have a cross-sectional area of not less than 3/4 sq inch (18 sq mm). The pegs shall be driven flush with the surface of the sod.

904-3.6 WATERING. Adequate water and watering equipment must be on hand before sodding begins, and sod shall be kept moist until it has become established and its continued growth assured. In all cases, watering shall be done in a manner that will avoid erosion from the application of excessive quantities and will avoid damage to the finished surface.

904-3.7 ESTABLISHING TURF. The Contractor shall provide general care for the sodded areas as soon as the sod has been laid and shall continue until final inspection and acceptance of the work. All sodded areas shall be protected against traffic or other use by warning signs or barricades approved by the RPR. The Contractor shall mow the sodded areas with approved mowing equipment, depending upon climatic and growth conditions and the needs for mowing specific areas. Weeds or other undesirable vegetation shall be mowed and the clippings raked and removed from the area.

904-3.8 REPAIRING. When the surface has become gullied or otherwise damaged during the period covered by this contract, the affected areas shall be repaired to re-establish the grade and the condition of the soil, as directed by the RPR, and shall then be sodded as specified in paragraph 904-3.5.

METHOD OF MEASUREMENT

904-4.1 This item shall be measured on the basis of the area in square yards (square meters) of the surface covered with sod and accepted.

BASIS OF PAYMENT

904-5.1 This item will be paid for on the basis of the contract unit price per square yard (square meter) for sodding, which price shall be full compensation for all labor, equipment, material, staking, and incidentals necessary to satisfactorily complete the items as specified.

Payment will be made under:

Item T-904-1 Sodding - per Square Yard (SY)

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C602 Standard Specification for Agricultural Liming Materials

Advisory Circulars (AC)

AC 150/5200-33 Hazardous Wildlife Attractants on or Near Airports

FAA/United States Department of Agriculture

Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM T-904

ITEM T-905 TOPSOIL

DESCRIPTION

1.1 This item shall consist of preparing the ground surface for topsoil application, removing topsoil from designated stockpiles or areas to be stripped on the site or from approved sources off the site, and placing and spreading the topsoil on prepared areas in accordance with this specification at the locations shown on the plans or as directed by the RPR.

MATERIALS

2.1 TOPSOIL. Topsoil shall be the surface layer of soil with no admixture of refuse or any material toxic to plant growth, and it shall be reasonably free from subsoil and stumps, roots, brush, stones (2 inches (50 mm) or more in diameter), and clay lumps or similar objects. Brush and other vegetation that will not be incorporated with the soil during handling operations shall be cut and removed. Ordinary sod and herbaceous growth such as grass and weeds are not to be removed, but shall be thoroughly broken up and intermixed with the soil during handling operations. Heavy sod or other cover, which cannot be incorporated into the topsoil by discing or other means, shall be removed. The topsoil or soil mixture, unless otherwise specified or approved, shall have a pH range of approximately 5.5 pH to 7.6 pH, when tested in accordance with the methods of testing of the Association of Official Agricultural Chemists in effect on the date of invitation of bids. The organic content shall be not less than 3% nor more than 20% as determined by the wet-combustion method (chromic acid reduction). There shall be not less than 20% nor more than 80% of the material passing the 200 mesh (75 µm) sieve as determined by the wash test in accordance with ASTM C117.

Natural topsoil may be amended by the Contractor with approved materials and methods to meet the above specifications.

2.2 INSPECTION AND TESTS. Within 10 days following acceptance of the bid, the RPR shall be notified of the source of topsoil to be furnished by the Contractor. The topsoil shall be inspected to determine if the selected soil meets the requirements specified and to determine the depth to which stripping will be permitted. At this time, the Contractor may be required to take representative soil samples from several locations within the area under consideration and to the proposed stripping depths, for testing purposes as specified in paragraph 2.1.

CONSTRUCTION METHODS

3.1 GENERAL. Areas to be topsoiled shall be shown on the plans. If topsoil is available on the site, the location of the stockpiles or areas to be stripped of topsoil and the stripping depths shall be shown on the plans.

Suitable equipment necessary for proper preparation and treatment of the ground surface, stripping of topsoil, and for the handling and placing of all required materials shall be on hand, in good condition, and approved by the RPR before the various operations are started.

3.2 PREPARING THE GROUND SURFACE. Immediately prior to dumping and spreading the topsoil on any area, the surface shall be loosened by discs or spike-tooth harrows, or by other means approved by the RPR, to a minimum depth of 2 inches (50 mm) to facilitate bonding of the topsoil to the covered subgrade soil. The surface of the area to be topsoiled shall be cleared of all stones larger than 2 inches (50 mm) in any diameter and all litter or other material which may be detrimental to proper bonding, the rise of capillary moisture, or the proper growth of the desired planting. Limited areas, as shown on the plans, which are too compact to respond to these operations shall receive special scarification.

Grades on the area to be topsoiled, which have been established by others as shown on the plans, shall be maintained in a true and even condition. Where grades have not been established, the areas shall be smooth-graded and the surface left at the prescribed grades in an even and compacted condition to prevent the formation of low places or pockets where water will stand.

3.3 OBTAINING TOPSOIL. Prior to the stripping of topsoil from designated areas, any vegetation, briars, stumps and large roots, rubbish or stones found on such areas, which may interfere with subsequent operations, shall be removed using methods approved by the RPR. Heavy sod or other cover, which cannot be incorporated into the topsoil by discing or other means shall be removed.

When suitable topsoil is available on the site, the Contractor shall remove this material from the designated areas and to the depth as directed by the RPR. The topsoil shall be spread on areas already tilled and smooth-graded, or stockpiled in areas approved by the RPR. Any topsoil stockpiled by the Contractor shall be rehandled and placed without additional compensation. Any topsoil that has been stockpiled on the site by others, and is required for topsoil purposes, shall be removed and placed by the Contractor. The sites of all stockpiles and areas adjacent thereto which have been disturbed by the Contractor shall be graded if required and put into a condition acceptable for seeding.

When suitable topsoil is secured off the airport site, the Contractor shall locate and obtain the supply, subject to the approval of the RPR. The Contractor shall notify the RPR sufficiently in advance of operations in order that necessary measurements and tests can be made. The Contractor shall remove the topsoil from approved areas and to the depth as directed. The topsoil shall be hauled to the site of the work and placed for spreading, or spread as required. Any topsoil hauled to the site of the work and stockpiled shall be rehandled and placed without additional compensation.

3.4 PLACING TOPSOIL. The topsoil shall be evenly spread on the prepared areas to a uniform depth of 2 inches (50 mm) after compaction, unless otherwise shown on the plans or stated in the special provisions. Spreading shall not be done when the ground or topsoil is frozen, excessively wet, or otherwise in a condition detrimental to the work. Spreading shall be carried on so that turfing operations can proceed with a minimum of soil preparation or tilling.

After spreading, any large, stiff clods and hard lumps shall be broken with a pulverizer or by other effective means, and all stones or rocks (2 inches (50 mm) or more in diameter), roots, litter, or any foreign matter shall be raked up and disposed of by the Contractor. after spreading is completed, the topsoil shall be satisfactorily compacted by rolling with a cultipacker or by other means approved by the RPR. The compacted topsoil surface shall conform to the required lines, grades, and cross-sections. Any topsoil or other dirt falling upon pavements as a result of hauling or handling of topsoil shall be promptly removed.

METHOD OF MEASUREMENT

~~4.1 Topsoil obtained on the site shall be measured by the number of cubic yards (cubic meters) of topsoil measured in its original position and stripped or excavated. Topsoil stockpiled by others and removed for topsoil by the Contractor shall be measured by the number of cubic yards (cubic meters) of topsoil measured in the stockpile. Topsoil shall be measured by volume in cubic yards (cubic meters) computed by the method of end areas.~~ ***Topsoil shall not be separately measured, but included in other items in accordance with the contract documents. Strippings stockpiled on site are intended for use as topsoil for this project.***

~~4.2 Topsoil obtained off the site shall be measured by the number of cubic yards (cubic meters) of topsoil measured in its original position and stripped or excavated. Topsoil shall be measured by volume in cubic yards (meters) computed by the method of end areas.~~ ***Topsoil shall not be separately measured, but included in other items in accordance with the contract documents. Strippings stockpiled on site are intended for use as topsoil for this project.***

BASIS OF PAYMENT

~~5.1 Payment will be made at the contract unit price per cubic yard (cubic meter) for topsoil (obtained on the site). This price shall be full compensation for furnishing all materials and for all preparation, placing, and spreading of the materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.~~ ***Topsoil shall not be separately paid for, but included in other items for which it is a component part in accordance with the contract documents. Strippings stockpiled on site are intended for use as topsoil for this project.***

~~5.2 Payment will be made at the contract unit price per cubic yard (cubic meter) for topsoil (obtained off the site). This price shall be full compensation for furnishing all materials and for all preparation, placing, and spreading of the materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.~~ ***Topsoil shall not be separately paid for, but included in other items for which it is a component part in accordance with the contract documents. Strippings stockpiled on site are intended for use as topsoil for this project.***

~~Payment will be made under:~~

~~Item T-905-5.1 Topsoil (Obtained on Site or Removed from Stockpile - per cubic yard (cubic meter)~~

~~Item T-905-5.2 Topsoil (Furnished from Off the Site) - per cubic yard (cubic meter)~~

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C117	Materials Finer than 75 μm (No. 200) Sieve in Mineral Aggregates by Washing

Advisory Circulars (AC)

AC 150/5200-33 Hazardous Wildlife Attractants on or Near Airports

FAA/United States Department of Agriculture

Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM T-905

ITEM T-908 MULCHING

DESCRIPTION

1.1 This item shall consist of furnishing, hauling, placing, and securing mulch on surfaces indicated on the plans or designated by the RPR, ***by hydroseeding or dry methods such as plowing, for restoration areas outside the project limits. Refer to specifications T-901 Seeding, and T-905 Topsoiling. Mulching is considered a component and incidental part of hydroseeding (seeding by the wet application method) or plowing in seed via dry application methods per T-901.***

MATERIALS

2.1 MULCH MATERIAL. Acceptable mulch shall be the materials listed below or any approved locally available material that is similar to those specified. Mulch shall be free from noxious weeds, mold, and other deleterious materials. Mulch materials, which contain matured seed of species that would volunteer and be detrimental to the proposed overseeding, or to surrounding farm land, will not be acceptable. Straw or other mulch material which is fresh and/or excessively brittle, or which is in such an advanced stage of decomposition as to smother or retard the planted grass, will not be acceptable.

a. Hay. Hay shall be native hay in an air-dry condition and of proper consistency for placing with commercial mulch blowing equipment. Hay shall be sterile, containing no fertile seed.

b. Straw. Straw shall be the stalks from threshed plant residue of oats, wheat, barley, rye, or rice from which grain has been removed. Furnish in air-dry condition and of proper consistency for placing with commercial mulch blowing equipment. Straw shall contain no fertile seed.

c. Hay mulch containing seed. Hay mulch shall be mature hay containing viable seed of native grasses or other desirable species stated in the special provisions or as approved by the RPR. The hay shall be cut and handled so as to preserve the maximum quantity of viable seed. Hay mulch that cannot be hauled and spread immediately after cutting shall be placed in weather-resistant stacks or baled and stored in a dry location until used.

d. Manufactured mulch. Cellulose-fiber or wood-pulp mulch shall be products commercially available for use in spray applications.

~~**e. Asphalt binder.** Asphalt binder material shall conform to the requirements of ASTM D977, Type SS-1 or RS-1.~~ ***Asphalt binder shall not be used for mulching purposes.***

2.2 INSPECTION. The RPR shall be notified of sources and quantities of mulch materials available and the Contractor shall furnish him with representative samples of the materials to be used 30 days before delivery to the project. These samples may be used as standards with the approval of the RPR and any materials brought on the site that do not meet these standards shall be rejected.

CONSTRUCTION METHODS

3.1 MULCHING. Before spreading mulch, all large clods, stumps, stones, brush, roots, and other foreign material shall be removed from the area to be mulched. Mulch shall be applied immediately after seeding. The spreading of the mulch may be by hand methods, blower, or other mechanical methods, provided a uniform covering is obtained.

Mulch material shall be furnished, hauled, and evenly applied on the area shown on the plans or designated by the RPR. Straw or hay shall be spread over the surface to a uniform thickness at the rate of 2 to 3 tons per acre (1800 - 2700 kg per acre) to provide a loose depth of not less than 1-1/2 inches (38 cm) nor more than 3 inches (75 mm). Other organic material shall be spread at the rate directed by the RPR. Mulch may be blown on the slopes and the use of cutters in the equipment for this purpose will be permitted to the extent that at least 95% of the mulch in place on the slope shall be 6 inches (150 mm) or more in length. When mulches applied by the blowing method are cut, the loose depth in place shall be not less than one inch (25 mm) nor more than 2 inches (50 mm).

3.2 SECURING MULCH. The mulch shall be held in place by light discing, a very thin covering of topsoil, pins, stakes, wire mesh, ~~asphalt binder~~, ***hydroseed water/fertilizer/seed/mulch paste***, or other adhesive material approved by the RPR. ~~Where mulches have been secured by either of the asphalt binder methods, it will not be permissible to walk on the slopes after the binder has been applied. When an application of asphalt binder material is used to secure the mulch, the Contractor must take every precaution to guard against damaging or disfiguring structures or property on or adjacent to the areas worked and will be held responsible for any such damage resulting from the operation.~~

If the “peg and string” method is used, the mulch shall be secured by the use of stakes or wire pins driven into the ground on 5-foot (1.5-m) centers or less. Binder twine shall be strung between adjacent stakes in straight lines and crisscrossed diagonally over the mulch, after which the stakes shall be firmly driven nearly flush to the ground to draw the twine down tight onto the mulch.

3.3 CARE AND REPAIR.

a. The Contractor shall care for the mulched areas until final acceptance of the project. Care shall consist of providing protection against traffic or other use by placing warning signs, as approved by the RPR, and erecting any barricades that may be shown on the plans before or immediately after mulching has been completed on the designated areas.

b. The Contractor shall be required to repair or replace any mulch that is defective or becomes damaged until the project is finally accepted. When, in the judgment of the RPR, such defects or damages are the result of poor workmanship or failure to meet the requirements of the specifications, the cost of the necessary repairs or replacement shall be borne by the Contractor.

c. ~~If the “asphalt spray” method is used, all mulched surfaces shall be sprayed with asphalt binder material so that the surface has a uniform appearance. The binder shall be uniformly applied to the mulch at the rate of approximately 8 gallons (32 liters) per 1,000 square feet (100 sq m), or as directed by the RPR, with a minimum of 6 gallons (24 liters) and a maximum of 10 gallons (40 liters) per 1,000 square feet (100 sq m) depending on the type of mulch and the effectiveness of the binder securing it. Asphalt binder material may be sprayed on the mulched slope areas from either the top or the bottom of the slope. An approved spray nozzle shall be used. The nozzle shall be operated at a distance of not less than 4 feet (1.2 m) from the surface~~

~~of the mulch and uniform distribution of the asphalt material shall be required. A pump or an air compressor of adequate capacity shall be used to ensure uniform distribution of the asphalt material.~~

~~**d.** If the "asphalt mix" method is used, the mulch shall be applied by blowing, and the asphalt binder material shall be sprayed into the mulch as it leaves the blower. The binder shall be uniformly applied to the mulch at the rate of approximately 8 gallons (32 liters) per 1,000 square feet (100 sq m) or as directed by the RPR, with a minimum of 6 gallons (24 liters) and a maximum of 10 gallons (40 liters) per 1,000 square feet (100 sq m) depending on the type of mulch and the effectiveness of the binder securing it.~~

METHOD OF MEASUREMENT

4.1 Mulching shall be measured in square yards (square meters) on the basis of the actual surface area acceptably mulched, ***for restoration areas outside the limits of grading requiring seeding applications per T-901.***

BASIS OF PAYMENT

5.1 Payment will be made at the contract unit price ~~per square yard (square meter) for mulching~~ ***for C-105-1 Mobilization, per lump sum, and the stepped progress table therein***. The price shall be full compensation for furnishing all materials and for placing and anchoring the materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

~~Item T-908-5.1 Mulching - per square yard (square meter)~~

C-105-1 Mobilization (Limited to 10%) -- Lump Sum (LS)

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D977 Standard Specification for Emulsified Asphalt

Advisory Circulars (AC)

AC 150/5200-33 Hazardous Wildlife Attractants on or Near Airports

FAA/United States Department of Agriculture

Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM T-908

SECTION SP-109S-26 05 01 - BASIC ELECTRICAL REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Contractual Conditions and other Specification sections apply to this section.

1.2 SUMMARY

A. This section includes Basic Electrical Requirements specifically applicable to Division 26 Sections.

1.3 DESCRIPTION

A. Provide and install all equipment, labor, material and accessories, and mounting hardware for a complete and operating system as described within these Division 26 Specification Sections.

B. Furnish, perform, or provide all labor including planning, purchasing, transporting, storing, installing, testing, cutting and patching, trenching, excavating, backfilling, coordination, field verification, equipment (installation and safety), supplies, and materials necessary for the installation of complete electrical systems (as described or implied by these specifications and the applicable drawings) in strict accordance with applicable codes, which may not be repeated in these specifications, but are expected to be common knowledge of qualified Bidders.

C. All work shall comply with all applicable codes as a minimum and with the additional requirements called for in these Contract Documents.

D. Only trained and licensed personnel shall perform work. No Work shall be performed which violates applicable Codes, even if called for in the Contract Documents.

E. Make connections of all items in the Work using electric power including wire, conduit, circuit protection, disconnects and accessories. Securing of roughing-in drawings and connection information for equipment involved shall also be included under this division. See other divisions for specifications for electrically operated equipment.

1.4 QUALITY ASSURANCE

A. Install Work in locations shown or described in the Contract Documents, unless prevented by Project conditions.

B. Install all equipment so that all Code and Manufacturer recommended working and servicing clearances are maintained. Properly arrange and install all equipment within designated spaces. If a departure from the Contract Documents is necessary, submit to the RPR for approval, detailed drawings of the proposed changes with written reasons for the changes. No change shall be implemented without the issuance of a change order or other directive permitted by the General Conditions.

C. The Contractor shall verify finish dimensions at the project site in preference to using dimensions noted on Contract Documents.

1.5 CONTRACT DOCUMENTS

A. The drawings are diagrammatic and are not intended to include every detail of construction, materials, methods, and equipment. They indicate the result to be achieved by an assemblage of various systems. Coordinate equipment locations with Architectural and Structural drawings. Layout equipment before installation so that all trades may install equipment in spaces available. Coordinate installation in a neat and workmanlike manner. Provide 1/4” scale coordination drawings per specifications prior to start of work.

B. Contractor shall provide 1/4” scale coordination drawings for all electrical, mechanical and communications rooms during the shop drawing submittal phase, utilizing detailed dimensions from equipment actually submitted (all disciplines) and field-measured/verified existing conditions. These drawings are also required for any room where conduits equal to or over 1-1/4” in size, equipment (panels, HVAC, disconnects, comm. racks) or other large objects are being installed. Drawings shall show all electrical, mechanical, plumbing, fire protection, structural, etc. coordinated so that problems are discovered/prevented prior to installation. Claims during construction for additional funding in rooms where properly coordinated drawings were not submitted will not be considered.

C. Wiring arrangements for equipment shown on the drawings are intended to be diagrammatic and do not show all required conductors and functional connections. All such items incidental to a complete and operating system shall be provided.

D. Submit specific shop drawings which indicate the fabrication, assembly, installation, and erection of particular systems’ components. Drawings that are part of the Contract Documents shall not be considered a substitute for required shop drawings, field installation drawings, code requirements, or applicable standards.

E. Locations indicated for outlets, switches, and equipment are approximate and shall be coordinated with the Contract Documents. Where instructions or notes are insufficient to locate the item, notify the RPR.

1.6 MATERIALS AND EQUIPMENT

A. Unless otherwise noted, all material shall be new and UL listed or labeled. In lieu of UL listing or labeling, a statement or data demonstrating compliance with contract documents from a nationally recognized testing agency shall be submitted to the RPR.

B. Where Contract Documents list design selection, manufacturer or type, this model shall set the standard of quality and performance required. Where no brand name is specified, the source and quality shall be subject to Designers/RPR review and approval. Where Contract Documents list approved substitutions, these items shall comply with specification requirements for substitutions.

C. When a product is specified to be in accordance with a trade association or government standard and at the request of Designers/RPR the Contractor shall furnish a certificate that the product complies with the referenced standard and supporting test data to substantiate compliance.

D. Where multiple items of the same equipment or materials are required, they shall be the product of the same Manufacturer.

E. Prior to placing equipment orders, verify the physical size of specified equipment to fit spaces allotted on the drawings and with NEC working clearances. Internal access for proposed equipment substitutions shall be provided. Provide 1/4” scale drawings showing that this coordination has taken place.

F. Electrical equipment shall be protected from the weather, during shipment, storage, and construction per manufacturer's recommendations. Should any apparatus be subjected to possible damage by water, it shall be thoroughly dried and put through a dielectric test, at the expense of the Contractor, to ascertain the suitability of the apparatus, or it shall be replaced without additional cost to the Owner.

G. Inspect all electrical equipment and materials prior to installation. Damaged equipment and materials shall not be installed or placed in service. Replace or repair and test damaged equipment in compliance with industry standards at no additional cost to the Owner. Equipment required for the test shall be provided by the Contractor.

H. Material and equipment shall be provided complete and shall function up to the specified capacity/function. Should any material or equipment as a part or as a whole fail to meet performance requirements, replacements shall be made to bring performance up to specified requirements. Damages to finish by such replacements, alterations, or repairs shall be restored to prior conditions, at no additional cost to the Owner.

I. Where tamperproof screws are specified or required, Phillips head or Allen head devices shall not be accepted. For each type used, provide RPR with three tools. RPR will designate the specific hardware design to correspond with existing devices elsewhere in the building, to limit special tool requirements.

J. Communications backboards shall be 3/4" A/B grade, Class A, flame spread, painted with light gray fire retardant paint. Neatly mask off a minimum of one (1) plywood Manufactures pre-printed certified fire rating stamp per section of board prior to application of paint. Remove masking after paint has cured.

1.7 SUPERVISION OF THE WORK

A. Reference the General Conditions for additional requirements.

B. A qualified and experienced electrical superintendent shall be in charge of the work in progress at all times. If, in the judgement of the RPR, the electrical superintendent is not performing his duties satisfactorily, the Contractor shall immediately replace him upon receipt of a letter of request from the RPR. Once a satisfactory electrical superintendent has been assigned to the work, he shall not be withdrawn by the Contractor without the written consent of the RPR.

C. Provide field superintendent who has had a minimum of four (4) years previous successful experience on projects of comparable sizes and complexity. Superintendent shall be present at all times that work under this Division is being installed or affected. All work performed by a non-licensed Journeyman shall be under the direct supervision (in the presence of) of a Licensed Journeyman as specified herein. Increase the quantity of licensed Journeymen as required for supervision of all areas where direct contact is not possible. Project Superintendent and supervising Journeyman shall have passed a proctored H.H. Block Journeyman Exam with 75% grade or better and shall be a licensed Journeyman within the State of Florida. A resume of the Project superintendent's experience shall be submitted to RPR before starting work. At least one member of the electrical contracting firm shall hold a State Master Certificate of Competency. Each Journeyman shall have possession of licensing documentation at all times during work. Display to designer/RPR when requested.

D. Superintendent shall be employed by a State Registered (Type "E.R." License) or State certified (Type "E.C." License) electrical contractor.

1.8 COORDINATION

A. Provide all required coordination and supervision where work connects to or is affected by work of others, and comply with all requirements affecting this Division. Work required under other divisions, specifications or drawings to be performed by this Division shall be coordinated with the Contractor and such work performed at no additional cost to Owner including but not limited to electrical work required for:

1. Door hardware
2. Signage

B. Provide electrical subcontractor a set of Contract Documents for all areas of Electrical Work.

C. Installation studies shall be made to coordinate the electrical work with other trades. Work shall be preplanned. Unresolved conflicts shall be referred to the RPR prior to installation of the equipment.

D. Coordination drawings shall be prepared prior to the start of work. Drawings shall show the actual physical dimension required for the installation to assure proper integration of equipment with building systems and NEC required clearances. Location of conduit racking, etc., shall be provided. Coordination drawings shall be provided for all areas.

E. Secure approved shop drawings from all required disciplines and verify final electrical characteristics before roughing power feeds to any equipment. When electrical data on approved shop drawings differs from that shown or called for in Construction Documents, make adjustments to the wiring, disconnects, and branch circuit protection to match that required for the equipment installed. Adjustments to contract value will not be considered due to lack of coordination.

F. Damage from interference caused by inadequate coordination shall be corrected at no additional cost to the Owner.

G. Coordinate the exact location of floor outlets, floor ducts, floor stub-ups, etc. with RPR and Designer (and receive their approval) prior to rough-in. Locations indicated in Contract Documents are only approximate locations.

H. The Contract Documents describe specific sizes of switches, breakers, fuses, conduits, conductors, motor starters and other items of wiring equipment. These sizes are based on specific items of power consuming equipment (heaters, lights, motors for fans, compressors, pumps, etc.). Coordinate the requirements of each load with each load's respective circuitry shown and with each load's requirements as noted on its nameplate data and manufacturer's published electrical criteria. Adjust circuit breaker, fuse, conduit, and conductor sizes to meet the actual requirements of the equipment being provided and installed and change from single point to multiple points of connection (or vice versa) to meet equipment requirements. Changes shall be made at no additional cost to the Owner.

1.9 PROVISION FOR OPENINGS

A. Locate openings required for work. Provide sleeves, guards or other approved methods to allow passage of items installed.

B. Coordinate with roofing Contractor on installation of electrical items which penetrate the roof. Roof penetrations shall be installed so as to not void roof warranty.

C. Where work pierces waterproofing, it shall maintain the integrity of the waterproofing. Coordinate roofing materials which pierce roof for compatibility with membrane or other roof types with Contractor.

1.10 SURFACE MOUNTED EQUIPMENT

A. Surface mounted fixtures, outlets, cabinets, conduit, panels, etc. shall have finish or shall be painted as directed by designer. Paint shall be in accordance with applicable sections and/or divisions of these specifications.

1.11 CUTTING AND PATCHING

A. New Construction:

1. Cutting of work in place shall be cut, drilled, patched and refinished by trade responsible for initial installation.
2. Backfill new grades to match adjacent undisturbed surface.

1.12 INSTALLATION

A. Erect equipment to minimize interference and delays with the execution of the Work.

B. Take care in erection and installation of equipment and materials to avoid marring finishes or surfaces. Any damage shall be repaired or replaced as determined by the designer/RPR at no additional cost to the Owner.

C. Equipment requiring electrical service shall not be energized or placed in service until RPR is notified and is present or have waived their right to be present. Where equipment to be placed in service involves service or connection from another Contractor or the RPR, notify the RPR in writing as appropriate when the equipment will be ready.

D. Equipment supports shall be secured and supported from structural members unless written approval is granted by RPR.

E. Plywood material shall not be used as a backboard for mounting panel boards, disconnects, motor starters, and dry type transformers. Provide "cast in place" type inserts or install expansion type anchor bolts. Electrical equipment shall not be mounted directly to dry wall for support without additional channels as anchors. Channels shall be anchored to the floor and structure above. Panelboards and terminal cabinets shall be provided with structural framing located within drywall partitions.

F. Inserts, pipe sleeves, supports, and anchorage of electrical equipment shall be provided. Where items are to be set or embedded in concrete or masonry, the items shall be furnished and layout made for setting or embedment thereof so as to cause no delay.

G. Conduit or piping systems that contain water or liquid of any kind shall not be installed over the top of any electrical equipment, transformers, racks, cabinets, or enclosures without prior written approval from the RPR.

1.13 AS-BUILT DOCUMENTS

A. As-Built Documents: As-built Documents include Drawings, Shop Drawings, Specifications, Addenda, Change Orders, and other modifications permitted by the General Conditions.

B. Comply with all requirements of Division 01

C. Verify aspects of redlined as-builts for accuracy. As-Built Documents shall show all components including but not limited to:

1. All raceways 1-1/4" and above, cable tray systems, and grouped raceway racking as installed, including dimensions from fixed building lines such as column lines.
2. All site underground raceways and duct banks indicating burial depths and distances from fixed building lines or global tracking coordinates.
3. Underground pull boxes and manholes including elevations. Detail manhole and pull boxes, conduit terminations (butterfly layout) including conduit sizes, designated systems and cabling description.
4. General conduit routing from receptacle to receptacle, fixture to fixture, device to device. (Exact routing is not required for raceways 1” and smaller.)
5. Lighting: Diagrammatically show junction boxes that are located above accessible ceiling with flexible conduit connections to luminaries.
6. All junction boxes for Sections 28 31 11, 27 13 00 / 27 15 00, 27 13 00 / 27 15 00 and 27 51 16 shall be shown exactly where installed.
7. Junction box splices shall be shown in exact location and clearly noted referring to the written authorization by the RPR.
8. The first junction box within each homerun, regardless of size shall be shown in the installed location.
9. All junction boxes and pull boxes located above non-accessible ceilings shall be shown in exact location. All junction boxes 6”X6” and larger shall be shown in exact location.
10. Any combining of circuits (which is only allowed by specific permission) or change in homerun outlet box shall be indicated.
11. Any circuit number changes.
12. All conductors and cables, conductors and cable sizes, raceway sizes, etc not shown on contract documents and any changes from the documents.
13. Any switchboard, panelboard, motor control center, relay panel, or dimming control panel schedule changes, including load changes.
14. All access panels.
15. All existing conditions.
16. Location of lighting control devices such as photocell controls, space occupancy sensors, etc.
17. Exact quantity of conductors and cables shall be shown for all raceway systems.
18. All devices, wall outlet boxes, and control components.
19. All wireway and cable tray systems.
20. Exact location of all driven grounding electrodes including burial depths and dimensions from fixed building lines. Location of all grounding system busbars.
21. All building automation system (BAS) control panels and associated electrical devices, connections, power supplies, and dampers.

22. Riser diagrams exactly as installed.
23. Motor control devices, terminal cabinets, equipment racks, disconnects and switches and surge protection devices.
24. Change the equipment schedules (i.e. symbol legends, light fixture schedule, etc) to agree with items actually furnished.
25. Change plan notes to agree with items actually furnished, actual installation methods, etc. respectfully.
26. Cross-out all items, circuitry, devices, etc. not applicable.

D. As-Built red line information shall not compromise the clarity of the Contract Documents and Shop Drawings. Major components such as grouped raceway assemblies, cable tray systems, larger conduits, duct banks, racking, elevations, dimensions, etc. shall be shown on a clean architectural base plan(s) separate from the Contract Electrical Documents, as required to clearly delineate work. Obtain electronic base plan file from RPR.

1.14 "OBSERVATION OF WORK" REPORT

A. Reference the General Conditions.

B. Items noted by designer/RPR during construction and before final acceptance which do not comply with the Contract Documents will be listed in a "Observation of Work" report which will be sent to the Contractor for action. Correct all deficiencies in a prompt concise manner. After completion of the outstanding items, provide a written confirmation report for each item. The report shall indicate each item noted, and method of correction. Enter the date on which the item was corrected, and return the signed reports so items can be rechecked. Failure to correct the deficiencies in a prompt concise manner or failure to return the signed reports shall be cause for disallowing request for payments.

C. The electrical project superintendent shall be present at all required observation of work reviews as project progresses. Provide the RPR with equipment for access and review of all Work in place, as well as personnel fully familiar with all aspects of the work. Provide access to all electrical components such as junction boxes, panelboards, switchboards, devices and fixtures for their review by the designer/RPR.

D. Prior to start of Substantial Completion inspection, provide access to and prepare all electrical equipment and related components complete and ready for review by designer/RPR including but not limited to the following :

1. All panelboard covers removed
2. Switchboard and distributions panelboards readily for immediate removal of covers
3. Terminal cabinet covers open or removed.
4. Wireway covers open or removed
5. Underground pull boxes ready for immediate removal of cover(s)
6. Access to all grounding/bonding terminations
7. Access to rated wall and through floor fire stopping
8. Access to mechanical equipment, electrical connection points, and control devices

9. Access to all raceways crossing structural expansion/deflection joints.
10. Access to power company equipment
11. Removal of access panels
12. Each and every item deemed necessary by A/E to perform a comprehensive review of the work as installed relative to the contract documents.

E. Items noted after acceptance during one-year guarantee period shall be checked by the Contractor in the same manner as above. The signed reports are to be returned by him when the items have been corrected.

1.15 SYSTEMS WARRANTY

A. Reference the General Conditions.

B. Warranty shall be by the Contractor to the Owner and shall cover for a period of one year from the date of the Substantial Completion. Warranty shall not include light bulbs lamps in service after one month from date of substantial completion of the System.

1. Explain the provisions of warranty to the Owner at the "Demonstration of Completed System" meeting to be scheduled with the RPR upon project completion.

C. Where items of equipment or materials carry a manufacturer's warranty for any period in excess of twelve (12) months, then the manufacturer's warranty shall apply for that particular piece of equipment or material.

D. Where extended Guarantees are called for herein, furnish three copies to be inserted in Operation and Maintenance Manuals.

E. All preventative maintenance and normal service will be performed by the Owner's maintenance personnel after final acceptance of the work which shall not alter the Contractor's warranty.

1.16 WASTE MATERIALS DISPOSAL

A. Include in base bid the transport and disposal or recycling of all waste materials generated by this project in accordance with all rules, regulations and guidelines applicable. Comply fully with Florida Statute 403.7186 regarding mercury containing devices and lamps. Lamps, ballasts and other materials shall be transported and disposed of in accordance with all DEP and EPA guidelines applicable at time of disposal. Provide RPR with written certification of approved disposal.

1.17 PROHIBITION OF ASBESTOS AND PCB

A. Prior to the Final Review field visit the Contractor shall certify in writing that the equipment and materials installed in this Project under this Division 26 contain no asbestos or PCB. Additionally, all manufacturers shall provide a statement with their submittal that indicates that their product contains no asbestos or PCB. This statement shall be signed by a duly authorized agent of the manufacturer.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

PART 4 – MEASUREMENT AND PAYMENT

4.1 MEASUREMENT OF PAYMENT

A. Measurement of electrical work will be made per lump sum.

4.2 BASIS OF PAYMENT

A. Payment will be made at the contract unit price per lump sum of repair work per the National Electrical Code. This price shall be full compensation for removal and disposal of existing electrical equipment, wiring, wireways, duct banks and conduits as shown on the plans, furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item per the provisions and intent of the plans and specifications, and insurance company representatives evaluations, and the contractor's own inspections.

Payment will be made under:

L-109-1	Steel Electrical Boxes, #12 and #8 Copper Wire, Conduit, and Installation Labor – Complete	- Lump Sum (LS)

END OF SECTION L-109S-26 05 01

SECTION SP-109S-26 05 19 – LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Contractual Conditions and Division 01 Specification sections apply to this section.

1.2 SUMMARY

A. This section includes the requirements for provision and installation of Building Wire and Cable.

1.3 DESCRIPTION

A. Provide all equipment, labor, material, accessories, and mounting hardware to properly install all conductors and cables rated 600 volts and less for a complete and operating system for the following:

1. Building wire and cable.
2. Wiring connectors and connections.

B. No aluminum conductors shall be permitted.

C. All sizes shall be given in American Wire Gauge (AWG) or in thousand circular mils (MCM/KCMIL).

1.4 SUBMITTALS

A. Product Data: Submit catalog cut sheet showing, type and UL listing of each type of conductor, connector and termination.

1.5 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum five years experience.

1.6 REFERENCES AND REGULATORY REQUIREMENTS

A. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

B. Conform to the requirements of ANSI/NFPA 70.

1.7 PROJECT CONDITIONS

A. Verify that field measurements are as shown on Drawings.

B. Conductor sizes are based on copper.

C. Wire and cable routing shown on Drawings is approximate unless dimensioned. Route wire and cable as required to meet Project Conditions.

D. Where wire and cable routing is not shown, and destination only is indicated, determine exact routing and lengths required. Record actual routing on red lined as-builts.

E. Conductors with different voltages (i.e. 120 volt and 277 volt) shall not be combined in the same conduit without prior written approval from RPR and Engineer.

F. Conductors for each branch of power (Normal, Life safety, Critical, Security, and Equipment) shall be installed in its own dedicated raceway system.

1.8 COORDINATION

A. Determine required separation between cable and other work.

B. Coordinate cable routing to avoid interference with other work disciplines.

PART 2 - PRODUCTS

2.1 BUILDING WIRE AND CABLE

A. Description: Single conductor insulated wire.

B. Conductor: Copper.

C. Insulation Voltage Rating: 600 volts.

D. Insulation: ANSI/NFPA 70, Type THHN/THWN and XHHW.

E. Cable supports shall be O Z/Gedney Type “S” or approved substitution.

PART 3 - EXECUTION

3.1 GENERAL

A. Install products in accordance with manufacturer’s instructions.

B. Neatly train and lace wiring inside boxes, equipment, and panelboards.

C. Before installing raceways and pulling wire to any mechanical equipment, verify electrical characteristics with final submittal on equipment to assure proper number and AWG of conductors. (As for multiple speed motors, different motor starter arrangements, etc.).

D. Conductors #12 AWG shall be 600 volt type THHN/THWN, solid unless specifically noted otherwise, rated 90 degrees C. dry.

E. Use conductor not smaller than 12 AWG for power and lighting circuits.

F. Provide dedicated neutral conductor for each branch phase conductor for 120V and 277V circuits (power and lighting). Multi-pole breakers to comply with NEC 210.4 are not permitted.

G. Use 10 AWG conductors for 20 ampere, 120 volt branch circuits longer than 75 feet (23 m).

H. All conductors shall be installed in raceway.

I. Conductor sizes indicated on circuit homeruns or in schedules shall be installed over the entire length of the circuit unless noted otherwise on the drawings or in these specifications.

J. Coordinate all wire sizes with lug sizes on equipment, devices, etc. Provide/install lugs as required to match wire size.

K. Where oversized conductors are called for due to voltage drop, etc., provide/install lugs as required to match conductors, or provide/install splice box, and splice to reduce conductor size to match lug size.

3.2 EXAMINATION

A. Verify that interior of building has been protected from weather.

B. Verify that mechanical work likely to damage wire has been completed.

3.3 PREPARATION

A. Completely and thoroughly swab raceway before installing wire.

3.4 WIRING METHODS

A. Use only building wire, Type THHN/THWN insulation, in raceway unless noted otherwise.

B. Wiring in vicinity of heat producing equipment: Use only XHHW insulation, in raceway.

C. Conductors installed within fluorescent fixture channels shall be Type THHN or XHHW, rated 90 degrees C dry. Conductors for all other light fixtures shall have temperature ratings as required to meet the UL listing of the fixture; however, in no case shall the temperature rating be less than 90 degrees Centigrade. Remove incorrect insulation types in new work.

3.5 INTERFACE WITH OTHER PRODUCTS

A. Identify wire and cable under provisions of Section 26 05 53 Identification for Electrical Systems.

B. Identify each conductor with its circuit number or other designation indicated on Drawings.

C. Identify neutrals with its associated circuit number(s) per NEC Article 210.4(D).

3.6 FIELD QUALITY CONTROL

A. Perform field inspection and testing under provisions of the General Requirements of the Contract Documents and Section 26 08 10 Tests and Performance Verification.

B. Inspect wire for physical damage and proper connection.

C. Measure tightness of bolted connections and compare torque measurements with manufacturer's recommended values.

D. Verify continuity of each branch circuit conductor.

E. Submit “Conductor Insulation Resistance Test” form as required in Section 26 08 10.

3.7 VERTICAL RISERS

A. Provide vertical cable riser supports per Article 300-19 in NFPA 70. These shall be located in accessible pullboxes of adequate size. Provide for adequate structural connection of cable supports to pullbox, which will transfer cable weight to building.

3.8 PULLING

A. No wire shall be pulled until the conduit system is complete from pull point to pull point and major equipment terminating conduits have been fixed in position.

B. Mechanical pulling devices shall not be used on conductors sized #8 and smaller. Pulling means which might damage the raceway shall not be used.

C. Use only powdered soapstone or other pulling lubricant acceptable to the Designer/RPR. Compound or lubricant shall not cause the conductor or insulation to deteriorate.

D. All conductors to be installed in a common raceway shall be pulled together. The manufacturer's recommended pulling tensions shall not be exceeded.

E. Bending radius of insulated wire or cable shall not be less than the minimum recommended by the manufacturer.

F. Where coaxial type conductors are installed, special requirements shall apply as outlined under that specific system detail specifications.

G. Where control or signal circuits with a lower insulation rating enter an enclosure with conductors having a 600 volt or higher insulation rating, a separate wire way will be installed or proper clearance distance will be maintained per NEC.

H. All conductors shall be pulled in conduits by industry approved cable pulling “tuggers” equipment. The use of construction equipment such as fork lifts, tractors and other vehicles will not be allowed. All conductors will be routed and protected by using the proper pulleys and sheaves.

3.9 CONTROL AND SIGNAL CIRCUITS

A. For control and signal circuits above 50 VAC, conductors shall be #14 AWG minimum size, Type XHHW or THHN/THWN as permitted by NFPA 70, within voltage drop limits, increased to #12 AWG as necessary for proper operation.

B. For control and signal circuits 50 VAC and below, conductors, at the Contractor's option, may be #16 AWG, 300 volt rated, PVC insulated, except where specifically noted otherwise in the contract documents.

C. Conductor insulation for fire alarm systems shall be as approved by Code Inspection Authority only. Wire approvals by the Designer/RPR shall not supersede this final approval for conditions of this specific project.

D. Install circuit conductors in conduit.

E. Circuit conductors #10AWG and larger to be stranded.

3.10 COLOR CODING

A. All power feeders and branch circuits No. 6 and smaller shall be wired with color-coded wire with the same color used for a system throughout the building. Power feeders above No. 6 shall either be fully color-coded or shall have black insulation and be similarly color-coded with tape in all junction boxes and panels. Tape shall completely cover the full length of conductor insulation within the box or panel.

B. Unless otherwise approved or required by DESIGNER to match existing, color-code shall be as follows: Neutrals to be white for 120/208V system, natural grey for 277/480V system; ground wire green, bare or green, insulated ground conductor green with yellow tracer. 120/208V, Phase A - black; Phase B - red; Phase C - blue. 480/277V, Phase A brown; Phase B - orange; Phase C - yellow. All switch legs, other voltage system wiring, control and interlock wiring shall be color-coded other than those above.

3.11 TAPS/SPLICES/CONNECTORS/TERMINATIONS

A. Taps and splices are not acceptable unless specifically noted otherwise on drawings or special written approval is granted by Designer/RPR. (See 3.1K) Submit locations, sizes, etc., where taps will be necessary to coordinate with lug sizes/quantities for review and approval prior to installation.

B. Clean conductor surfaces before installing lugs and connectors.

C. Make splices, taps, and terminations to carry full ampacity of conductors with no perceptible temperature rise.

D. Power and lighting conductors shall be continuous and unspliced where located within conduit. Splices shall occur within troughs, wireways, outlet boxes, or equipment enclosures where sufficient additional room is provided for all splices. No splices shall be made in in-ground pull boxes (without special written approval of RPR).

E. Splices in lighting and power outlet boxes, wireway, and troughs shall be kept to a minimum, pull conductors through to equipment, terminal cabinets, and devices.

F. No splices shall be made in junction box, and outlet boxes (wire No. 8 and larger) without written approval of RPR.

G. No splices shall be made in communications outlet boxes, pull boxes or wireways (i.e., fire alarm, computer, telephone, intercom, sound system, etc.) without written approval of RPR. Pull cables through to equipment cabinets, terminal cabinets and devices.

H. No splices shall be made in circuits of #8 AWG conductors or larger of 1000 feet or less without written approval of the RPR.

I. Allow adequate conductor lengths in all junction boxes, pull boxes and terminal cabinets. All termination of conductors in which conductor is in tension will be rejected and shall be replaced with conductors of adequate length. This requirement shall include the providing by the Contractor of sleeve type vertical cable supports in vertical raceway installations provided in pullboxes at proper vertical spacings.

J. A calibrated torque wrench shall be used for all bolt tightening. A torque mark should be used after torqueing is performed. Torque mark should consist of a permanent mark over the mechanical lug, bolt, nut, etc.

K. Interior Locations:

1. All (non-electronic systems) copper taps and splices in No. 8 or smaller shall be fastened together by means of "Screw-on spring type (wire nut)" connectors. All “Push-in” or “Stab-in” type connectors are prohibited. All taps and splices in wire larger than No. 8 shall be made with compression type connectors approved by RPR and taped to provide insulation equal to wire.

L. Exterior Locations:

1. Make splices, taps and terminations above grade in splice or termination cabinets. Do not splice any cable in ground or below finished grade.

2. All taps and splices shall be made with compression type connectors approved by RPR and covered with insulating material equivalent to conductor insulation or be terminated/connected to terminal strips in above grade terminal boxes suitable for use.

3. Provide and install above grade termination cabinets sized to meet applicable codes and standards, where required for splicing.

END OF SECTION SP-109S-26 05 19

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SECTION SP-109S-26 05 26 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Contractual Conditions and Division 01 Specification sections apply to this section.

1.2 SUMMARY

A. This section includes the requirements for provision and installation of grounding and bonding.

1.3 DESCRIPTION

A. Provide all labor, materials, and equipment necessary to properly install a grounding system conductor in all new branch wiring and feeder installations that shall be in full compliance with all applicable Codes as approved by the authorities having jurisdiction. The secondary distribution system shall include a grounding conductor in all raceways in addition to the return path of the metallic conduit.

B. In general, all electrical equipment (metallic conduit, motor frames, panelboards, etc.) shall be bonded together with a green insulated or bare copper system grounding conductor in accordance with specific rules of Article 250 of the N.E.C. and State codes. Bonding conductor through the raceway system shall be continuous from main switch ground bus to panel ground bar of each panelboard, and from panel grounding bar of each panelboard to branch circuit equipment and devices.

C. All raceways shall have an insulated copper system ground conductor throughout the entire length of circuit installed with-in conduit in strict accordance with NEC. Grounding conductor shall be included in total conduit fill determining conduit sizes, even though not included or shown on drawings. Grounding conductors run with feeders in PVC conduit outside of building(s) shall be bare only.

D. Section Includes

1. Grounding electrodes and conductors.
2. Equipment grounding conductors.
3. Bonding.
4. Ground Ring.

1.4 SUBMITTALS

A. Submit catalog cut sheet showing brand and selection for all conductors, test wells, components, etc., as specified herein showing that all materials are UL listed and labeled as applicable and manufactured in the United States.

B. Product data shall prove compliance with Contract Documents, National Electric Code, Underwriters Laboratories, manufacturer's specifications, manufacturer's written installation data and compliance with all performance criteria.

C. Include instructions for storage, handling, protection, examination, preparation, operation and installation of product.

D. Indicate application conditions and limitations of use stipulated by product testing agency specified under regulatory requirements.

E. Show all dimensions, colors, configurations, covers and applicable labeling/stamping.

F. Record actual locations of grounding electrodes on red lined as-built documents.

G. Submit test results of each ground rod. See Section 26 00 90.

1.5 REFERENCES AND REGULATORY REQUIREMENTS

A. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

B. Conform to requirements of ANSI/NFPA 70 - National Electrical Code.

PART 2 - PRODUCTS

2.1 ROD ELECTRODE

A. Material: Copper-clad steel.

B. Diameter: 5/8 inch.

C. Length: 30 feet minimum. Increase lengths as required to achieve specified resistance.

2.2 MECHANICAL CONNECTORS

A. All grounding connectors shall be in accordance with UL 467 and UL listed for use with rods, conductors, reinforcing bars, etc., as appropriate.

B. Connectors and devices used in the grounding systems shall be fabricated of copper or bronze materials, and properly applied for their intended use. Specified items of designated manufacturers indicate required criteria and equal products may be provided if approved. All connectors and devices shall be compatible with the surfaces being bonded and shall not cause galvanic corrosion by dissimilar metals. Materials in items not listed herein shall be of equal quality to the following specified items:

1. Lugs: substantial construction, of cast copper or cast bronze, with "ground" (micro-flat) surfaces equal to Burndy QQA-B Series, two hole, T&B, or approved substitution. Light weight and "competitive" devices shall be rejected.
2. Grounding and Bonding Bushings: Malleable iron, Thomas and Betts (T&B), or approved substitution.
3. Piping Clamps: Burndy "GAR-TC series" with two hole compression lug under U-Bolt nut, or T&B, or approved substitution.
4. Grounding Screw and Pigtail: Raco No. 983 or approved substitution.
5. Fastening hardware: Grade 5 silicone bronze with beveled washers. Copperplate is not acceptable

C. Mechanical lugs or wire terminals shall be used to bond ground wires together or to junction boxes and panel cabinets and shall be manufactured by Anderson, Buchanan, Thomas and Betts Co., or Burndy.

2.3 WIRE

A. Material: Stranded copper.

B. Size: Size to meet NFPA 70 requirements as a minimum, increase size if called for on drawings, in these specifications, or as required for voltage drop.

C. Insulated THWN (or bare as noted elsewhere).

2.4 GROUNDING WELL COMPONENTS

A. Grass Non-Traffic Areas:

1. Well: Minimum 12 inch long by 12 inch wide by 18 inches deep with open.
2. Well Cover: High density plastic, composolite, or cast iron with legend "GROUND" embossed on cover.
3. Material: Structural Plastic, composolite, or concrete.
4. Manufacturer: Brooks Products 70 Series or equal by Quazite or approved substitution.
5. Increase depth, diameter or size as required to provide proper access at installed location.

B. Paving and Low Traffic Areas:

1. Well: Minimum 12 inch long by 12 inch wide by 18 inches deep with open bottom.
2. Well Cover: Traffic rated for use with "GROUND" embossed on cover.

3. Material: Composolite.
4. Manufacturer: Quazite or approved substitution.
5. Increase depth, diameter or size as required to provide proper access at installed location.

2.5 GROUNDING BARS/GROUND BUS (INCLUDING 'SYSTEMS' GROUND BUS/BARS AND GROUND BUS BARS)

A. Ground bars shall be copper of the size and description as shown on the drawings. If not sized on drawings, bus bar shall be minimum 1/4" x 2" bus grade copper, spaced from wall on insulating 2" polyester molded insulator standoff/supports, and be 12" or greater minimum overall length, allowing 2" length per lug connected thereto. Increase overall length as required to facilitate all lugs required while maintaining 2" spacing. Size of bus bar used in main electrical room shall be similar except minimum of 4" high and 24" long.

B. Provide bolt tapping lug with two hex head mounting bolts for each terminating ground conductor, sized to match conductors. Mount on bus bar at 2 inches on center spacing. Lugs to be manufactured by Burndy, T&B or approved substitution.

C. Bus bar shall have rows of holes in accordance with NEMA Standards for specified lugs.

D. Standoff supports to be 2" polyester as manufactured by Glastic #2015-4C or approved substitution.

PART 3 - EXECUTION

3.1 GENERAL

A. Install products in accordance with manufacturer's instructions.

B. Install grounding electrodes conductor, bonding conductors, ground rods, etc. with all required accessories.

C. Grounding shall meet (or exceed as required to meet these specifications) all the requirements of the N.E.C., the NFPA, and applicable standards of IEEE.

D. Where there is a conflict between these specifications and the above applicable codes or standards, or between this section and other specifications sections then the most stringent or excessive requirement shall govern. Where there is an omission of a code/standard requirement in these specifications then the code/standard requirements shall be complied with.

E. Requirement in these specifications to comply with a specific code/standard article, etc. is not to be construed as deleting of requirements of other applicable codes/standards and their articles, etc.

F. Verify that final backfill and compaction has been completed before driving rod electrodes.

3.2 GROUNDING ELECTRODES

A. All connections shall be exothermic welded unless otherwise noted herein. All connections above grade and in accessible locations may be by exothermic welding or by brasing or clamping with devices UL listed as suitable for use except in locations where exothermic welding is specifically specified in these specifications or called for on drawings.

B. Each rod shall be die stamped with identification of manufacturer and rod length.

C. Install rod electrodes at locations indicated and/or as called for in these specifications.

D. Ground Resistance:

1. Main Electrical Service (to each building and Site) and Generator Locations:

a) Grounding resistance measured at each main service electrode system and at each generator electrode system shall not exceed 5 ohms.

2. Lightning Protection Ground Locations:

a) Lightning Protection system ground locations shall not exceed 5 ohms measured at ground electrode.

3. Site Distribution Counterpoise Ground Locations:

a) Counterpoise system ground locations shall not exceed 25 ohms measured at ground electrode.

4. Other Locations:

a) Resistance to ground of all non-current carrying metal parts shall not exceed 25 ohms measured at motors, panels, busses, cabinets, equipment racks, light poles, transformers, and other equipment.

5. Resistance called for above shall be maximum resistance of each ground electrode prior to connection to grounding electrode conductor. Where ground electrode system being measured consists of two (2) or more ground rod electrodes at each location, then the resistance specified above shall be the maximum resistance with two (2) or more rods connected together but not connected to the grounding electrode conductor.

E. Install additional rod electrodes as required to achieve specified resistance to ground (specified ground resistance is for each ground rod location prior to connection to ground electrode conductor).

F. Provide grounding well with cover at each rod location, with the only exception being a site distribution counterpoise ground rod. Install grounding well top flush with finished grade.

G. Install ground rods not less than 1 foot below grade level and not less than 2 feet from structure foundation.

3.3 GROUND RESISTANCE AT LOCATION OTHER THAN LOCATION OF GROUNDING ELECTRODES.

A. Resistance to ground of all non-current carrying metal parts shall not exceed 25 ohms measured at motors, panels, busses, cabinets, equipment racks, light poles, transformers, and other equipment.

3.4 GROUNDING ELECTRODE CONDUCTOR

A. Conductor shall be sized to meet (or exceed requirements of Contract Documents) the requirements of NEC 250.66.

3.5 EQUIPMENT GROUNDING CONDUCTOR

A. Grounding conductors shall be provided with every circuit to meet (or exceed requirements of Contract Documents) the requirements of NEC 250.122.

B. At every voltage level, new portions of the electrical power distribution system shall be grounded with a dedicated copper conductor which extends from termination back to power source in supply panelboard.

C. Provide separate, insulated (bare if with feeder in PVC conduit) conductor within each feeder and branch circuit raceway. Terminate each end on suitable lug, bus, or bushing.

D. Except as otherwise indicated, each feeder raceway on the load side of the service entrance shall contain a ground conductor sized as indicated and where not shown shall be sized to meet (or exceed requirements of Contract Documents) the requirements of NEC 250.122. Conductor shall be connected to the equipment grounding bus in switchboards and panelboards, to the Grounding Bus in all motor control centers, and as specified, to lighting fixtures, motors and other types of equipment and outlets. The ground shall be in addition to the metallic raceway and shall be connected, using a lug device located within each item enclosure at the point of electric power connections to permit convenient inspection.

E. Provide green insulated ground wire for all grounding type receptacles and for equipment of all voltages. In addition to grounding strap connection to metallic outlet boxes, a supplemental grounding wire and screw equal to Raco No. 983 shall be provided to connect receptacle ground terminal to the box.

F. All plugstrips and metallic surface raceway shall contain a green insulation ground conductor from supply panel ground bus connected to grounding screw on each receptacle in strip and to strip channel. Conductor shall be continuous.

G. Where integral grounding conductor is specified elsewhere in bus duct construction, provide equivalent capacity conductor from supply switchboard or panelboard grounding bus to the bus duct grounding conductor. Bond integral conductor to bus duct enclosure at each tap and each termination.

H. All motors, all heating coil assemblies, and all building equipment requiring flexible connections shall have a green grounding conductor properly connected to the frames and extending continuously inside conduit with circuit conductors to the supply source bus with approved connectors regardless of conduit size or type. This shall include "Equipment By Owner" to which an electric conduit is provided under this Division.

3.6 MAIN ELECTRICAL SERVICE

A. Complete installation shall meet or exceed the requirements of the NEC 250.

B. Artificial electrodes shall be provided for the main service in sufficient number and configuration to secure resistance specified.

C. Provide and bond to all of the following:

1. Ground rods.
2. Metal water pipe.
3. Building metal frame, structural steel or reinforced structural concrete.
4. Encased Electrodes.
5. Ground ring.
6. Site distribution counterpoise ground system.
7. Lightning protection system.

D. A main ground, bare copper conductor, sized per NEC Table 250.66, but in no case less than #2/0, shall be run in conduit from the main switchgear of each building to the building steel in respective building. This ground conductor shall also be run individually from the main switchgear and be bonded to the main water service ahead of any union in pipe and must be metal pipe of length and location as acceptable by authorities having jurisdiction. Provide properly sized bonding shunt around water meter and/or dielectric unions in the water pipe. Also required is the same size ground wire to ground rod electrode as called for below:

1. Three 30 ft. ground rods in a delta configuration at no less than 30 ft. spacing driven to a minimum depth of 30 feet, one foot below grade.
2. Bond ground rod electrodes together with a bare copper ground conductor that matches size required by NEC Table 250.66, but in no case less than #2/0.
3. Provide additional rod electrodes as required to achieve specified ground resistance.

E. Ground/bond neutral per NEC 250.

F. A main ground, bare copper conductor, sized per applicable Table in NEC 250, but in no case less than #2/0, shall be run in conduit from the main switchgear of each building to a concrete encased electrode per NEC 250.52(3).

G. Bond grounding electrodes to site counterpoise grounding system and lightning protection system where provided.

H. Provide and install ground bus bar on wall near main service disconnect/switchboard. Connect to ground bar in disconnect/switchboard bonded to switchboard/disconnect enclosure/neutral with copper grounding conductor sized per NEC Table 250.66.

3.7 TRANSFORMER GROUNDING

A. Ground all transformers and enclosures of 120/208V and 277/480V "separately derived systems" as specified herein.

1. Ground per NEC 250 and these specifications.
2. Bond neutral to transformer frame/enclosure and the equipment grounding conductors of the derived system with copper ground conductor sized per NEC Table 250.66.
3. Connect transformer neutral/ground to grounding electrode per NEC 250.30 with grounding electrode conductor sized per NEC Table 250.66.
4. In addition to connection to grounding electrode conductor called for above, provide supplemental grounding electrode as follows:

    a) Where grounding required per NEC 250.30 is to building steel/structure, supplement this grounding with connection to nearest available effectively grounded metal water pipe.
    b) Where grounding connection required per NEC 250.30 is to grounded metal water pipe, supplement with connection to building steel/structure in addition to any other available electrodes specified in NEC 250.50 and 250.52.
    c) Where supplemental grounding electrodes required above is a ground rod electrode, provide two or more 30 ft. ground rod electrodes at no less than 30 ft. spacing, driven full length into the earth one foot below grade.

5. Where neither building steel nor water pipe grounding electrodes are available (i.e. exterior locations with no available water pipe electrode) provide two (2) ground connections: each 30 ft. ground rod electrodes at not less than 30 ft. spacing, driven full length into the earth one foot below grade.
6. Where transformer is mounted to exterior of building, one (1) of the two (2) ground electrodes required shall be ground rod electrode as called for in 5. above. This ground rod electrode shall also be connected to counterpoise system.

B. Provide additional ground electrodes as required to achieve specified ground resistance.

C. Where two or more ground electrodes are used at any required ground location, they shall be bonded together with a copper ground conductor, sized to meet NEC Table 250.66, but in no case less than #2/0.

D. Complete installation shall meet or exceed the minimum requirements of NEC 250.

E. Equipment ground conductors shall be provided in addition to above grounding. See 'EQUIPMENT GROUNDING CONDUCTOR', NEC 250.122.

F. Provide ground bus bar on wall near transformer (or in associated electrical room for exterior mounted transformers). Connect to ground lug in transformer bonded to transformer enclosure/neutral with copper ground conductor sized per NEC Table 250.66.

G. Multiple separately derived systems may be grounded as allowed in NEC 250-30(A)(4).

3.8 GENERATOR GROUNDING

A. Separately derived systems (i.e. systems where generator neutral is not solidly interconnected to service supplied system neutral such as 4 pole switched neutral transfer switch systems).

1. Ground per NEC 250.20, 250.30, 250.66 and these specifications.
2. Bond neutral to transformer frame/enclosure and the equipment grounding conductors of the derived system with copper ground conductor sized per NEC Table 250.66.
3. Connect generator neutral/ground to grounding electrodes per NEC 250.30 with grounding electrode conductor sized per NEC Table 250.66.
4. In addition, provide supplemental grounding electrode as follows:

    a) Where grounding required per NEC 250.30 is to building steel/structure, supplement with connection to nearest available effectively grounded metal water pipe.
    b) Where grounding connection required per NEC 250.30 is to grounded metal water pipe, grounding with connection to other electrodes specified in NEC 250.50 and 250.52.
    c) Where supplemental grounding electrode required above is a ground rod electrode, provide two or more 30 ft. ground rod electrodes at no less than 30 ft. spacing, driven vertical to a minimum depth of 30 ft. plus 1 foot below grade.

5. Where neither building steel nor water pipe grounding electrodes are available provide two (2) ground connections: each to two (2) or more 30 ft. ground rod electrodes at no less than 30 ft. spacing, driven vertical to a minimum depth of 30 ft. plus 1 foot below grade.
6. Where generator is mounted to exterior of building, one (1) of the two (2) ground electrodes required shall be ground rod electrode as called for in Paragraph 3.8 A.5. This ground rod electrode shall also be connected to counterpoise system.

B. Provide additional ground electrodes as required to achieve specified ground resistance.

C. Where two or more ground electrodes are used at any one required ground location, they shall be bonded together with a copper ground conductor, sized to meet NEC Table 250.66, but in no case less than #2/0.

D. Complete installation shall meet or exceed the minimum requirements of NEC 250.

E. Equipment ground conductors shall be provided in addition to above grounding. See 'EQUIPMENT GROUNDING CONDUCTOR'.

3.9 LIGHTNING PROTECTION SYSTEMS

A. Ground per Section 26 41 13 – Lightning Protection for Structures, NFPA 780, and as specified herein. The most stringent requirements shall govern.

B. Bond lightning protection system grounds to electrical service system ground, and counterpoise system ground where provided.

3.10 EXTERIOR GRADE (OR FREE STANDING ABOVE GROUND) MOUNTED EQUIPMENT

A. General:

1. All equipment mounted exterior to building shall have their enclosures grounded directly to a grounding electrode at the equipment location in addition to the building equipment ground connection.
2. Bond each equipment enclosure, metal rack support, mounting channels, etc. to ground electrode system at each rack with an insulated copper ground conductor sized to match the grounding electrode conductor required by NEC Table 250.66 based on equipment feeder size, but in no case shall conductor be smaller than #6 copper or larger than #2 copper. This connection is in addition to grounding electrode connections required for services.

B. Main electrical service rack mounted equipment.

1. Ground per "MAIN ELECTRICAL SERVICE".
2. Bond all metal parts as noted in this section.

C. Electrical sub service rack mounted equipment.

1. Ground per "MAIN ELECTRICAL SERVICE", except do not bond neutral to ground.
2. Bond all metal parts as noted in this section.

D. Electrical equipment connection rack mounted equipment.

1. Bond all metal parts as noted in this section.

E. Grounding electrodes (ground electrodes system) shall be:

1. Located at each rack location.
2. For service equipment: Ground electrode required per "MAIN ELECTRICAL SERVICE".
3. For equipment connection: Two or more 30 ft. ground rods at no less than 30 ft. spacing, driven vertical to a minimum depth of 30 ft. plus 1 ft. below grade. Bond ground rods together with a size to meet NEC Table 250.66, but no less than a #2 copper ground conductor. Provide additional rod electrodes as required to achieve specified ground resistance.

F. Complete installation shall meet or exceed the minimum requirements of NEC 250 and, when applicable, NFPA 78.

3.11 ROOF MOUNTED EQUIPMENT

A. Bond all roof mounted electrical equipment to lightning protection system (when provided) per NFPA 780.

3.12 LIGHTING FIXTURES

A. All new and reinstalled fixtures shall be provided with green grounding conductor, solidly connected to unit. Individual fixtures grounds shall be with lug to fixture body, locate at point of electrical connection to the fixture unit.

B. All suspended fixtures and those supplied through flexible metallic conduit shall have green ground conductor from outlet box to fixture. Cord connected fixtures shall contain a separate green ground conductor.

C. Pole Light Fixtures:

1. Metal Pole Light Fixtures:

   a) Freestanding pole mounted lighting fixtures shall each have a - Class I or Class II Materials - lightning protection main copper down conductor connected to grounding electrodes at base of pole.
   b) Conductor shall be bonded to metal pole via UL Listed ground clamp suitable for use. Locate ground lug opposite to handhole (or adjacent if visible through handhole).

2. Concrete or Non-Metallic Pole:

   a) Freestanding pole mounted lighting fixtures shall each have a Class I or Class II lightning protection main copper down conductor connected to grounding electrodes at base of pole.
   b) Conductor shall be extended from grounding electrode to top of pole and terminate at the top of pole in a Class I or Class II copper lightning protection air terminal.
   c) Each metal part of light fixture assembly, bracket, ballast cabinet, disconnect, transformer, etc. that is mounted to pole shall be bonded to down conductor.

3. Fixtures located on elevated roadway ramps: provide with a connection to lightning counterpoise grounding system.
4. Grounding electrode(s) at each pole shall be bonded to site distribution counterpoise system.
5. Grounding Electrodes:

    a) Two or more 30 ft. ground rods at no less than 30 ft. spacing shall be driven full length into the earth one foot below grade.
    b) Bond ground rod electrodes together with a Class I or Class II lightning protection main copper conductor.
    c) Provide additional rod electrodes as required to achieve specified ground resistance.
    d) Two (2) or more grounding rod electrodes shall be installed at each light pole.

6. Installation shall exceed minimum requirements of NFPA 780.

3.13 PULLBOX, MANHOLE, HANDHOLE GROUNDING.

A. One 30 ft. ground rod electrode shall be driven vertically to a minimum depth of 30 ft. plus 1 ft. below grade in each manhole, handhole or pullbox (in ground).

B. The complete installation shall exceed the minimum requirements of the NEC.

C. Provide additional ground rod electrodes as required to provide resistance called for herein.

D. Bond grounding electrode to all exposed metal parts of manhole, handhole, pullbox (including metal cover) with #6 copper ground conductor. Connect to ground rod electrode with exothermic weld. Connect to metal cover with exothermic weld. Connect to other metal parts with exothermic weld or UL approved grounding clamp. Provide minimum 3 ft. slack ground cable on cover connection to facilitate removal of cover.

3.14 HAZARDOUS LOCATIONS

A. Grounding in hazardous locations shall be done in accordance with applicable portions of Articles 500, 501, 502, 503, 511 and 514 of the National Electrical Code.

3.15 GROUND RING

A. Provide complete underground building perimeter ground ring system, completely encircling building.

B. Install minimum 2-1/2 feet depth into earth.

C. Install ground rods (minimum 30 ft. long) every 150 feet section of ground ring conductor.

D. Bond ground ring to building steel every 150 feet of building perimeter, bond to any and all electrical and piping systems that cross the ground ring system, bond to lightning protection down conductors and to any lightning or other earth grounding electrodes that may be present on the premises.

E. Bond to building service.

3.16 MISCELLANEOUS GROUNDING CONNECTIONS

A. Provide bonding to meet regulatory requirements.

B. Required connections to building steel shall be with UL approved non-reversible crimp type ground lugs exothermically welded to bus bar that is either exothermically welded to steel or bolted to steel in locations where weld will affect the structural properties of the steel.

C. Install grounding conductors to permit shortest and most direct path from equipment to ground; install in conduit; bond to conduit at both ends when conduit is metal; have connections accessible for inspection; and made with approved solderless connectors brazed (or bolted) to the equipment ground; in NO case be a current carrying conductor; have a green jacket unless it is bare copper; be run in conduit with power and branch circuit conductors. The main grounding electrodes conductor shall be exothermically welded to ground rods, water pipe, and building steel.

D. All surfaces to which grounding connections are made shall be thoroughly cleaned to maximum conductive condition immediately before connections are made thereto. Metal rustproofing shall be removed at grounding contact surfaces, for 0 ohms by digital Vm. Exposed bare metal at the termination point shall be painted.

E. All ground connections that are buried or in otherwise inaccessible locations, shall be welded exothermically. The weld shall provide a connection which shall not corrode or loosen and which shall be equal or larger in size than the conductors joined together. The connection shall have the same current carrying capacity as the largest conductor.

F. Install ground bushings on all metal conduits entering enclosures where the continuity of grounding is broken between the conduit and enclosure (i.e. metal conduit stub-up into a motor control center enclosure or at ground bus bar). Provide an appropriately sized bond jumper from the ground bushing to the respective equipment ground bus or ground bus bar.

G. Each feeder metallic conduit shall be bonded at all discontinuities, including at switchboards and all subdistribution and branch circuit panels with conductors in accordance with Table 250.122 of NEC for parallel return with respective interior grounding conductor.

H. Grounding provisions shall include double locknuts on all heavywall conduits.

I. Install grounding bus in all existing panelboards of remodeled areas, for connection of new grounding conductors, connected to an approved ground point.

J. Bond together reinforcing steel and metal accessories in pool and fountain structures and bond to electrical system per NEC.

K. Where reinforced concrete is utilized for building grounding system, proper reinforced bonding shall be provided to secure low resistance to earth with "thermite" type devices, and #10AWG wire ties shall be provided to not less than ten (10) full length rebars which contact the connected rebar. Provide size and length of rod to meet NEC requirements.

3.17 GROUNDING BAR/GROUND BUS (INCLUDING 'SYSTEMS' GROUND BUS/BAR ON GROUND BUS/BAR) INSTALLATION

A. Where indicated on the drawings, provide grounding bar/ground bus (bus bar). Metal sheaths of underground cables are also to be grounded thereto at points of building entrance.

B. Mount bolt tapping lugs with hex head bolts to bus bar at 2" o.c. spacing, one for each ground conductor.

C. Mount bus bar to wall using 2" polyester molded insulator stand-off.

D. Extend a #2/0 (minimum size) or larger THWN insulated copper ground conductor (if larger size is called for on drawings or required by N.E.C. for service ground, etc.) in PVC conduit to approved service ground installation or ground bus/bar in main service equipment enclosure.

E. Extend #6 insulated copper ground wire from respective bus/bar to each 'local' ground bus/bar in each cabinet for system.

F. 'SYSTEMS' grounding bus/bar must be connected with #2/0 insulated copper conductor to grounding electrodes system as defined in NEC "Article 800-40(b).

3.18 TESTING AND REPORTS

A. Raceway Continuity: Metallic raceway system as a component of the facilities ground system shall be tested for electrical continuity. Resistance to ground throughout the system shall not exceed specified limits.

B. Ground resistance measurements shall be made on each system utilized including:

1. Building structural steel.
2. Driven grounding system.
3. Water pipe grounding system.
4. Other approved systems.

C. Ground resistance measurements shall be made in normally dry weather, not less than 24 hours after rainfall, and with the ground under test isolated from other grounds and equipment. Resistances measured shall not exceed specified limits.

D. Upon completion of testing, the testing conditions and results shall be certified by the Contractor and submitted to the Designer as called for in Section 26 00 90 - Test and Performance Verification.

3.19 INTERFACE WITH OTHER PRODUCTS

A. Interface with site grounding system.

B. Interface with lightning protection system installed under Section 26 41 13.

3.20 FIELD QUALITY CONTROL

A. Inspect grounding and bonding system conductors and connections for tightness and proper installation.

B. Use suitable test instruments to measure resistance to ground of system. Perform testing in accordance with test instrument manufacturer's recommendations using the fall- of-potential method.

END OF SECTION SP-109S-26 05 26

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SECTION SP-109S-26 05 29 – HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Contractual Conditions and Division 01 Specification sections apply to this section.

1.2 SUMMARY

A. This section includes the requirements for provision and installation of supporting devices.

1.3 DESCRIPTION

A. Furnish and install all supports, anchors, fasteners, hangers and inserts required to mount fixtures, conduit, cables, pullboxes and other equipment furnished under this Division.

1.4 REFERENCES AND REGULATORY REQUIREMENTS

A. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

B. Conform to the requirements of the following:

1. NECA - National Electrical Contractors Association.
2. ANSI/NFPA 70 - National Electrical Code.

1.5 SUBMITTALS

A. Submit catalog cut sheet showing brand of conduit supporting hardware to be used and (where applicable) showing that conduit supporting hardware is UL listed and labeled, and manufactured in the United States.

B. Submit catalog cut sheet on all types of conduit support fittings, hardware, straps, and hangers.

C. Product data shall be submitted for approval on:

1. Mounting hardware and inserts.
2. Conduit straps, hangers and fittings.
3. Supporting channel.

D. Product data shall prove compliance with Contract Documents, National Electric Code, National Board of Fire Underwriters, manufacturer's specifications and written installation data.

E. Submit shop drawing showing routing and location of all conduit racking systems. Provide coordination drawings.

PART 2 - PRODUCTS

2.1 PRODUCT REQUIREMENTS

A. Materials and Finishes: Provide corrosion resistance.

B. Provide materials, sizes, and types of anchors, fasteners and supports to carry the loads of equipment and conduit. Consider weight of wire in conduit when selecting products.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Provide anchors, fasteners, and supports in accordance with NECA "Standard of Installation."

C. Do not fasten supports to pipes, ducts, mechanical equipment, and conduit.

D. Do not use spring steel clips and clamps and metal banding straps.

E. Do not fasten supports to sides or bottom of pre-cast structural beams.

F. Obtain permission from RPR before drilling, or cutting structural members.

G. Fabricate supports from structural steel or steel channel. Rigidly weld members or use hexagon head bolts to present neat appearance with adequate strength and rigidity. Use spring lock washers under all nuts.

H. Install surface-mounted cabinets and panelboards with minimum of four anchors.

I. In wet and damp locations use stainless steel channel supports to stand cabinets and panelboards one inch (25) mm) off wall.

J. Use sheet metal channel to bridge studs above and below cabinets and panelboards recessed in hollow partitions.

K. All items shall be supported from the structural portion of the building, except standard ceiling-mounted lighting fixtures. Small devices may be supported from ceiling system where permitted by ceiling system manufacturer, however, no sagging of the ceiling will be permitted. Wire shall not be used as a support. Boxes and conduit shall not be supported or fastened to ceiling suspension wires or to ceiling channels.

L. Lay out and install work in advance of the laying of floors or walls, and provide all sleeves that may be required for openings through floors, walls, or other assemblies. Where plans call for conduit to be run exposed, provide all inserts and clamps for the supporting of conduit.

M. All conduits shall be securely fastened in place on maximum of 8 foot intervals. Hangers, supports or fastenings shall be provided at each elbow and at the end of each straight run terminating at a box or cabinet. The use of perforated iron for supporting conduits will not be permitted. The required strength of the supporting equipment and size and type of anchors shall be based on the combined weight of conduit, hanger and cables. Horizontal and vertical conduit runs may be supported by one-hole malleable straps, clamp-backs, or other approved devices with suitable bolts, expansion shields (where needed) or beam-clamps for mounting to building structure or special brackets.

N. Where two or more conduits are ran parallel or in a similar direction, they shall be grouped together and supported by means of 1½" x 1½", 12 gauge, pre-galvanized zinc (B-Line or approved substitution), conduit channel trapeze hanger system (racking) consisting of concrete inserts, threaded rods, washers, double nuts for each rod, locknut washers and galvanized "L" angle iron, or Unistrut cross members. Where galvanized "L" angle iron is used, conduits shall be individually fastened to the cross members with malleable iron hangers listed and approved for use on "L" angle iron, bolted with proper size cadmium machine bolts, washers and nuts. Conduits supported to unistrut channel shall be individually fastened with two piece unistrut straps with bolts and nuts listed and approved for such use. Mineralak hangers or one hole type straps fastened to Kindorf racking is not acceptable. Beam clamps shall be malleable iron. All single panelboard, switchboard and motor control center feeder raceway runs shall be supported by means of a trapeze channel hanger support system with provisions for future as specified.

O. All hangers and mounting hardware clamps shall be made of durable material suitable for the application involved. Where excessive corrosive conditions or exterior and damp conditions are encountered, hanger assemblies shall be malleable iron or protected after fabrication by hot dipped galvanizing and where written approval is authorized by the RPR, special paint or other suitable preservative methods may be used.

P. On concrete or brick construction, an electric or hand drill shall be used for drilling holes for all inserts in brick, concrete or similar construction. In brick, inserts shall be near center of brick, not near edge or in joint. Where steel members occur, same shall be drilled and tapped, and round head machine screws shall be used. All screws, bolts and washers used for supporting conduit or outlets shall be fabricated from rust-resisting metal. Self-tapping power driven fasteners are acceptable on block or brick construction only. Plastic anchors are not acceptable.

Q. Spring type conduit clip devices are not acceptable for conduit support.

R. Threaded rod hangers shall be galvanized continuous thread type, minimum 3/8" diameter. Increase size as required to support assembly. Bending of rod hangers is not permitted.

S. Concrete anchors, thread rods, or similar fasteners installed on side or bottom of pre-stressed beams are not acceptable.

T. Group related conduits; support using conduit rack. Construct rack using steel channel in dry locations and galvanized channel or aluminum channel in damp or wet locations (minimum of 24", increase, distance as required for quantity of conduits and spare capacity) provide space on each rack for Building Automation Systems (BAS) raceways and 25 percent additional conduits. Group conduits on channel racking adjacent to each other at one side, allowing all remaining unused space as spare capacity. Spacing between conduits shall not exceed 1" unless written permission is granted by RPR.

U. Each rack shall be provided with minimum of two (2) threaded rod hangers located at the ends of the channel. Increase number of hangers as required to support the assembly.

V. Rack Mounted Equipment: Use channel support system for all rack mounted equipment including all free standing rack mounted equipment. Exterior rack support system to be stainless steel channel. See details on drawings where available. Exterior units shall be thoroughly inspected after installation.

END OF SECTION SP-109S-26 05 29

SECTION SP-109S-26 05 31 - PULL AND JUNCTION BOXES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Contractual Conditions and Division 1 Specification sections apply to this section.

1.2 SUMMARY

A. This section includes the requirements for provision and installation of pull and junction boxes.

1.3 DESCRIPTION

A. Provide and install all equipment, labor, material, accessories, and mounting hardware for a complete and operating distribution system.

B. Install pull and junction boxes as shown on drawings or as required by the National Electric Code (NEC).

C. Install pull and junction boxes wherever required for a complete and operating distribution system whether shown on drawings or not.

D. Where outlet boxes are used for pull or junction boxes, they shall meet the requirements of the outlet box section of these specifications.

1.4 SUBMITTALS

A. Submit product data on all pull boxes showing.

1. Covers.
2. Dimensions - inside and out.
3. Rating of concrete or gauge of metal.
4. Manufacturer.

1.5 PROJECT AS-BUILT DOCUMENTS

A. Record actual locations and mounting heights of pull and junction boxes.

1.6 REFERENCES AND REGULATORY REQUIREMENTS

A. Furnish products listed and classified by Underwriters Laboratories, Inc. and requirements of NEC as suitable for purpose specified and shown.

B. Conform to requirements of the following:

1. ANSI/NEMA FB 1 - Fittings and Supports for Conduit and Cable Assemblies.
2. ANSI/NEMA OS 1 - Sheet-steel Outlet Boxes, Device Boxes, Covers, and Box Supports.

3. ANSI/NEMA OS 2 - Nonmetallic Outlet Boxes, Device Boxes, Covers and Box Supports.
4. ANSI/NFPA 70 - National Electrical Code.
5. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum).

1.7 PROJECT CONDITIONS

A. Verify field measurements shown on Drawings.

B. Verify locations of pull and junction boxes prior to rough-in.

C. Electrical boxes are shown on drawings in approximate locations unless dimensioned. Install at location required for box to serve intended purpose and to maintain required access.

PART 2 - PRODUCTS

2.1 GENERAL

A. Dimensions of pull and junction boxes shall meet dimensions shown on drawings or dimensions required by NEC, whichever is largest.

B. Standard 25 cubic inch pull boxes shall meet the requirements of these specifications for outlet boxes as a minimum.

C. All boxes of 100 cubic inches or more shall be constructed of 14 gauge steel with hot dip galvanized coating.

2.2 SHEET METAL BOXES:

A. NEMA OS 1, galvanized steel.

B. Pull and junction boxes (not in-ground type) used for systems (Sections 16700-16799) larger than 25 square inches shall be hinged cover type with flush latches operated with screwdriver.

C. Large Pull Boxes: Boxes larger than 400 cubic inches in volume or 20 inches in any dimension:

1. Use hinged enclosure under provisions of Section 16160 Cabinets and Enclosures.

D. Exterior, damp location and wet location pull and junction boxes shall be NEMA 4x stainless steel.

2.3 SURFACE-MOUNTED CAST METAL BOX:

A. NEMA 250, Type 4; flat-flanged, surface-mounted junction box.

B. Material: Cast aluminum.

C. Cover: Furnish with ground flange, neoprene gasket, and stainless steel cover screws.

D. Provide all hubs as required for conduit connections.

2.4 IN-GROUND PULL BOXES:

A. Material: Pre-cast concrete.

B. Bottom: Open with 6" of gravel for drainage.

C. Cover: Meet Florida Dept. of Transportation requirements for heavy traffic.

D. Solid sides constructed to facilitate conduit entries.

PART 3 - EXECUTION

3.1 GENERAL

A. Install per NEC.

B. Install electrical boxes as shown on Drawings, and as required for splices, taps, wire pulling, equipment connections and compliance with regulatory requirements.

C. Install pull boxes and junction boxes above accessible ceilings and in unfinished areas only.

D. Inaccessible Ceiling Areas: Install outlet and junction boxes no more than 6 inches (150 mm) from ceiling access panel or from removable recessed luminaire.

E. Install boxes to preserve fire resistance rating of partitions and other elements.

F. Align adjacent wall-mounted boxes with each other.

G. Use flush mounting boxes in finished areas.

H. Do not install flush mounting boxes back-to-back in walls; provide minimum 6 inch separation. Provide minimum 24 inches separation in acoustic rated walls.

I. Secure flush mounting box to interior wall and partition studs. Accurately position to allow for surface finish thickness.

J. Install flush mounting box without damaging wall insulation or reducing its effectiveness.

K. Pull and junction boxes larger than 25 square inches shall be supported with (2) all-thread rod hangers minimum. Increase quantity and size of all-thread rod hangers as required for application, and to eliminate movement and swaying.

L. Do not fasten boxes to ceiling support wires.

M. Support boxes independently of conduit.

N. Pull boxes shall be installed in straight runs of conduit only. Pull boxes shall not be used in place of a conduit bend.

3.2 IN GROUND PULL BOXES

A. Provide and install ground rod in each pull box. Connect #2 copper ground wires (counterpoise) to ground rod, run out pullbox 6" over conduits to next pull box; tie to respective building electrical ground rod at each building.

B. Install pull boxes flush with finished grade. Provide extensions as required.

3.3 INTERFACE WITH OTHER PRODUCTS

A. Coordinate locations and sizes of required access doors.

B. Locate flush mounting box in masonry wall to require cutting of masonry unit corner only. Coordinate masonry cutting to achieve neat opening.

3.4 ADJUSTING

A. Install knockout closure in unused box opening.

END OF SECTION SP-109S-16133

SECTION SP-109S-26 05 33.02 – WIREWAY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Contractual Conditions apply to this section.

1.2 SUMMARY

A. This section includes requirements for provisions and installation of wireway(s).

1.3 DESCRIPTION

A. Provide and install all equipment, labor, material, accessories and mounting hardware for a complete and operating wireway system for distribution and support of cables, installed in place.

B. Wireway shall include all supporting devices and equipment specified, with necessary interconnections, and accessories required for installation.

1.4 SUBMITTALS

A. Product Data: Provide dimensions, materials, fabrication details, finishes and accessories.

1.5 QUALITY ASSURANCE

A. Perform Work in accordance with NECA Standard of Installation.

1.6 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing Products specified in this Section with minimum three years experience.

1.7 REGULATORY REQUIREMENTS

A. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

B. Conform to the following:

1. ANSI/NFPA 70 - National Electrical Code.

2. NECA - National Electrical Contractor's Association, Standard of Installation.

1.8 STORAGE, AND HANDLING

A. Store, protect, and handle Products per manufacturer's recommendations.

PART 2 - PRODUCTS

2.1. MANUFACTURER

A. Hoffman Engineering Company or approved substitution.

2.2. DESCRIPTION

A. General Purpose, Horizontal, lay-in type.

1. Nema 1, interior dry location.
2. Nema 3R, interior damp location.
3. Nema 4X stainless steel, Interior wet location and exterior locations.

2.3. KNOCKOUTS

A. Wireway sides and bottom shall contain no knock-outs.

B. Only punch holes required.

2.4. SIZE

A. As indicated on Drawings.

2.5. MATERIAL

A. Covers and bodies shall be 16 gauge steel.

B. Cover shall be hinge type with quarter turn fasteners to hold cover shut.

2.6. FINISH

A. Rust inhibiting primer coating with gray enamel finish factory painted.

PART 3 - EXECUTION

3.1. INSPECTION

A. Examine area to receive wireway to assure adequate clearance for installation.

B. Start work only after unsatisfactory conditions are corrected.

3.2. INSTALLATION

A. Install wireway in accordance with manufacturer's written instructions, NEC, NEMA, and NECA.

B. Use flat-head screws, clips, and straps to fasten raceway to surfaces. Mount plumb and level.

C. Use suitable insulating bushings and inserts at connections.

D. Use threaded hubs at conduit terminations, at wet locations.

E. Wireway Supports: Provide channel as specified in Division 26.

F. Close ends of wireway and unused conduit openings.

G. Ground and bond wireway under provisions of Division 26.

3.3. PAINTING

A. Paint wireway as directed in field by Designer (i.e. paint on top of factory painting).

END OF SECTION SP109S-16119

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SECTION SP-109S-26 05 33.13 – CONDUIT FOR ELECTRICAL SYSTEMS

PART 1- GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Contractual Conditions and Division 01 Specification sections apply to this section.

1.2 SUMMARY

A. This section includes the requirements for provision and installation of conduit for electrical systems.

1.3 DESCRIPTION

A. Provide and install all equipment, labor, material, accessories, and mounting hardware for a complete and operating system for the following:

1. Rigid Metallic Conduit (RMC)
2. PVC coated Metal Conduit.
3. Flexible metal conduit (FMC)
4. Liquidtight flexible metal conduit (LFMC)
5. Electrical metallic tubing (EMT)
6. Rigid non-metallic conduit (PVC) (RNC)
7. Fittings and conduit bodies.

B. Raceways and conduits shall begin at an acceptable enclosure and terminate only in another such enclosure except conduit/raceway stub-outs.

C. A raceway shall be provided for all electrical power, lighting and electrical systems.

D. Where the Contract Documents refer to the terms "raceway," or "conduit" the materials shall be as listed above in conjunction with NEC article 100, definition of "raceway". MC and HCF flexible metal cables shall not be considered a substitute for raceway or conduit.

1.4 SUBMITTALS

A. Submit catalog cut sheet showing brand of conduit to be used and showing that conduit is UL listed and labeled, and manufactured in the United States.

B. Submit catalog cut sheet on all types of conduit bodies, and fittings.

C. Submit product data on:

1. Conduits.
2. Conduit straps, hangers and fittings.
3. PVC solvent(s) and bending box.
4. Fitting entering and leaving the ground or pavement.
5. Cables
6. Expansion/deflection fittings.

D. Submit UL listed fire and smoke stopping assemblies for each applicable application. Provide details from UL Fire Directory and manufacturers' corresponding product data and details.

E. Product data shall prove compliance with Specifications, National Electrical Code, National Board of Fire Underwriters, manufacturer's specifications and written installation data.

1.5 PROJECT AS-BUILT DOCUMENTS

A. As-built documents shall accurately record actual routing of conduits.

1.6 REFERENCE AND REGULATORY REQUIREMENTS

A. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

B. Conform to the following:

1. NFPA 70 - National Electrical Code (NEC).
2. ANSI C80.1 - Electrical Rigid Steel Conduit (ERSC).
3. ANSI C80.3 - Electrical Metallic Tubing (EMT).
4. ANSI/UL 651 - Rigid Non Metallic Conduit (PVC)
5. ANSI/NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing (EMT) and Cable.
6. NECA "Standard of Installation."
7. NEMA RN 1 - Polyvinyl Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit (IMC).
8. NEMA TC 3 – Polyvinyl Chloride (PVC) Fittings for Use with Rigid PVC Conduit and Tubing.
9. ANSI/Fed. Spec. J-C-30B - Flexible Metal Cables, Galvanized steel jacket.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Protect conduit from corrosion and entrance of debris by storing above grade. Provide appropriate covering.

B. Protect PVC conduit from sunlight.

1.8 PROJECT CONDITIONS

A. Verify that field measurements are as shown on Drawings.

B. Verify routing and termination locations of conduit prior to rough-in.

C. Conduit routing is shown on Drawings in approximate locations unless dimensioned. Route as required to complete wiring system.

D. Conductors with different voltages (i.e. 120 volt and 277 volt) shall not be combined in the same conduit without prior written approval from RPR and Engineer.

E. Conductors for each branch of power (Normal, Life safety, Critical, Security, and Equipment) shall be installed in its' own dedicated raceway system.

PART 2 - PRODUCTS

2.1 GENERAL

A. All conduits shall bear UL label (or other nationally recognized testing agency).

B. Conduit systems and all related fittings, boxes, supports, and hangers must meet all the requirements of national, state, requirements and all related FAA codes and other Federal codes where applicable.

2.2 MINIMUM TRADE SIZE

A. Power/Lighting Homeruns 3/4"

B. Power/Lighting Branch Circuits Between Devices 1/2"

C. Systems Conduit 1"

D. Flexible and Seal-tite metallic conduit – 1/2"C (maximum 6 ft. long).

2.3 RIGID METAL CONDUIT

A. Comply with:

1. ANSI C80.1
2. UL 6
3. NEC
4. Fed. Specification WW-C-581e.

B. Conduit material:

1. Hot-dipped galvanized steel.

C. Fittings:

1. Threaded.
2. Insulated bushings shall be used on all rigid metal conduits terminating in panels, boxes, wire gutters, or cabinets, and shall be impact resistant plastic molded in an irregular shape at the top to provide smooth insulating surface at top and inner edge. Material in these bushings must not melt or support flame.
3. Hot-dipped galvanized malleable iron or steel manufactured in accord with ANSI C80.4.

D. Conduit Bodies:

1. Comply with ANSI/NEMA FB 1.
2. Threaded hubs.
3. Hot-dipped galvanized malleable iron.

2.4 PVC COATED METAL CONDUIT

A. Comply with:

1. UL6
2. ANSI C80.1
3. NEC
4. NEMA RN1
5. Fed. Specification WW-C-581E.

B. Conduit material: Hot-dipped galvanized rigid steel with external PVC coating, 20 mil. thick.

C. Fittings:

1. Threaded.
2. Insulated bushings on terminations.
3. Hot-dipped galvanized malleable iron or steel with external PVC coating, 20 mil. thick.

D. Conduit bodies:

1. Comply with:

a. ANSI/NEMA FB 1
b. Threaded hubs
c. Hot-dipped galvanized malleable iron.

2.5 FLEXIBLE METAL CONDUIT

A. Comply with:

1. NEC
2. ANSI/UL 1

3. Fed. Specification WW-C-566

B. Conduit material: Hot-dip galvanized Steel, interlocked.

C. Fittings:

1. ANSI/NEMA FB 1
2. ANSI/UL 514B
3. Malleable iron, zinc plated.
4. Direct flexible conduit bearing set screw type not acceptable.
5. Insulated throat on terminations.
6. Compression EMT to flexible conduit coupling is not acceptable unless special written permission is grated by RPR.
7. Comply also with Fed. Specification W-F-406

2.6 LIQUID-TIGHT FLEXIBLE METAL CONDUIT

A. Comply with:

1. NEC
2. ANSI/UL 360

B. Conduit material:

1. Flexible hot-dipped galvanized steel core, interlocked.
2. Continuous copper ground, built into core up to 1-1/4" size.
3. Extruded polyvinyl gray jacket.

C. Fittings:

1. Threaded for IMC/rigid conduit connections.
2. Approved for hazardous locations where so installed.
3. Provide sealing washer in wet/damp locations.
4. Compression type.
5. ANSI/NEMA FB 1.
6. ANSI/UL 5148.
7. Hot-dipped galvanized malleable iron or steel.
8. Insulated throat on terminations.
9. Comply with Fed. Specification W-F-406.
10. Connections to vibrating equipment and transformers.

    a. Connectors to have wire mesh conduit grip.

2.7 ELECTRICAL METAL CONDUIT

A. Comply with:

1. U.L 797
2. ANSI C80.3

3. NEC
4. ANSI/UL797
5. Fed. Specification WWC-563

B. Conduit material: Hot-dip Galvanized steel tubing (Electrogalvanized zinc is not acceptable).

C. Fittings:

1. ANSI/NEMA FB 1
2. Compression type.
3. Insulated throat on terminations.
4. Hot-dipped galvanized malleable iron or steel.
5. Fed. Specification W-F-408.

2.8 RIGID NON-METALLIC CONDUIT (PVC)

A. Comply with:

1. NEMA TC-2
2. UL 651
3. NEC
4. Fed. Specification WC1094A.

B. Conduit material:

1. Shall be high impact P.V.C. - tensile strength 55 PSI, flexural strength 11000 PSI.

C. Fittings:

1. Comply with: NEMA TC-3 and UL 514.

D. General:

1. Shall be UL listed.
2. Fittings and elbows shall be by the same manufacture as conduit.

2.9 EXPANSION FITTINGS

A. Expansion/deflection fittings shall be:

1. Listed, hot dipped galvanized inside and outside providing a 4" expansion chamber and deflection (where applicable) when used with rigid conduit, intermediate metal conduit and electrical metallic conduit, or:
2. U.L. Listed, polyvinyl chloride providing a minimum 6” expansion chamber when used with non-metallic conduit (PVC), and shall meet the requirements of and as specified elsewhere for non-metallic conduit. Provide fittings as specified above for expansion/deflection conditions.

3. Hot dipped galvanized expansion and deflection (where applicable) fitting shall be provided with an external braided grounding and bonding jumper with approved clamps, UL Listed for the application.
4. Expansion fitting, UL Listed for the application and in compliance with the National Electrical Code without the necessity of an external bonding jumper may be considered. Submit fitting with manufacturer's data and UL Listing for approval prior to installation.

PART 3 - EXECUTION

3.1 LOCATION REQUIREMENTS

A. Underground Installations:

1. Use Schedule 40 thickwall nonmetallic conduit only unless local authority having jurisdiction or applicable codes/utility requirements, etc. require rigid steel conduit.
2. Encase conduit in a concrete envelope of not less than 3” thickness on all sides and not less than 1-1/2” between conduits (where more than one conduit is installed together) for:

    a. All conduits installed under roads, taxiways, and runways.
    b. All conduits installed for primary electric circuits, main feeders, and data/communications systems (i.e. Telephone, data, parking revenue, radio, flight information, air traffic control systems, security, fiber optic).

3. All conduits or elbows entering or leaving any slab or the ground shall be rigid steel conduit coated with asphalt paint.
4. Where rigid metallic conduit is installed underground as noted above it shall be coated with waterproofing black mastic before installation, and all joints shall be re-coated after installation.
5. All PVC runs over 100 ft. in length shall utilize rigid steel 90° elbows at each horizontal change in direction. All PVC risers shall utilize rigid steel 90° elbows. Elbows shall be coated with black mastic or PVC coating. Bond all metal elbows per NEC.
6. Underground raceway systems shall conform to all national, state, local and FAA regulations, in general and Article 300, Section 300.5 of the National Electrical Code specifically.

    a. Depth of conduits shall be not less than 18" with the following exceptions:

        1) Conduits installed in concrete floors of buildings to have a minimum concrete cover not less than 2".
        2) Conduits passing under taxiways, runways, ramps, holding areas, and docking areas, must be installed below the concrete pour, in the sub base, and shall be encased in not less than 3" of concrete, the specifications of which shall meet the same standards required for runways and taxiways except that slump shall be 3 to 4 inches.

7. Verify finished lines in areas where raceways will be installed underground before the grading is complete.

B. In Slab, Above or On Grade:

1. Use coated rigid steel conduit, coated intermediate metal conduit (if approved) or thickwall nonmetallic conduit.
2. In slab conduit is permitted only where written consent is granted by Architect and Structural Engineer, regardless of that shown or noted by drawings. Install as directed by Architect/Structural Engineer.

C. Penetration of Slab:

1. Exposed Location:

a. Where penetrating a floor in an exposed location from underground or in slab, a black coated galvanized rigid steel conduit shall be used.

2. Concealed Location:

a. Where penetrating a floor in a location concealed in block wall and acceptable by applicable codes, non-metallic conduit may be used up to first outlet box, provided outlet box is at a maximum height of 40" above finished floor.
b. Where penetrating a floor from underground or in slab, a coated galvanized rigid steel conduit shall be used.

D. Outdoor Location:

1. Above Grade:

a. Where penetrating the finished grade, a coated galvanized rigid steel conduit shall be used.
b. All exterior conduit runs shall be rigid conduit and threaded connectors as specified elsewhere.
c. All areas subject to exterior conditions such as overhangs, galvanized rigid steel conduit shall be used.

2. Roofs:

a. Conduit is not to be installed on roofs, without written authorization by RPR for specific conditions.
b. When approved by written authorization conduit shall comply with the following:

1) Be PVC coated rigid galvanized metal conduit.
2) All fittings, etc. are to be PVC coated.
3) Conduit shall be supported above roof at least 6 inches using approved conduit supporting devices. Refer to applicable roofing specifications.
4) Fasten supports to roof per roofing manufacturer’s recommendations.

3. Cooling Towers:

   a. Conduit installed at cooling towers shall be PVC coated rigid galvanized conduit.

E. Interior Dry Locations:

1. Concealed:
   a. Use rigid galvanized steel and electrical metallic tubing. Thickwall non-metallic conduit (PVC) may be used inside block walls up to first outlet to a maximum of 40" A.F.F. except where prohibited by the NEC.

2. Exposed:

   a. Use rigid galvanized steel and electrical metallic tubing. EMT may only be used where not subject to damage which is interpreted by this specification to be above 96" AFF and exiting the top of panelboards, terminal cabinets, and control panels.

3. Concealed or exposed flexible conduit:

   a. Concealed: Flexible steel conduit or seal tight flexible steel conduit shall be in lengths not longer than six (6) feet in length with a ground conductor firmly attached to the terminating fitting at the extreme end of the flex. Direct change over from conduit to flexible conduit is not acceptable unless written permission is granted by RPR or specifically noted on drawings.
   b. Exposed: Liquid tight flexible steel conduit shall be used for connections to motors, movable equipment, or vibration equipment (transformers, pumps, AHU's, loading bridges, etc.) as specified herein. Lengths shall not exceed four (4) feet in length unless written authorization by RPR for specific conduits is granted. Connections to vibration equipment, motors, etc shall be made with wire mesh grip fittings as specified herein. Flexible steel conduit is not acceptable in exposed locations. All exposed flexible metal conduit shall be liquid tight.

F. Interior Wet and Damp Locations:

1. Use rigid galvanized steel in interior wet and damp locations. Areas which are subject to direct exterior conditions such as parking garages and open ramp overhangs shall be classified "WET/EXTERIOR LOCATION."

G. Concrete Columns or Poured in-place Concrete Wall Locations:

1. Use thickwall non-metallic conduit. Penetration shall be by approved metal raceway (i.e. metal conduit as required elsewhere in these specifications).

H. Corrosive Locations:

1. Comply with all codes and standards.

3.2 ADDITIONAL REQUIREMENTS FOR RIGID METAL STEEL CONDUIT

A. Rigid metal conduit shall be cut and threaded with tools approved for the purpose and by qualified personnel.

1. Approved pipe vise.
2. Roller/bade type cutter or band saw.
3. Reamer capable of completely removing al ridges or burrs left by the cutter. Reaming with pliers is not acceptable.

B. Hangers shall be installed 8 ft. apart.

C. Conduits stubbed through floor slabs, above grade and not contained inside walls, shall be rigid galvanized metallic conduit.

D. One hole pipe straps shall be malleable iron. Wet location applications shall include malleable iron back clamp spacers.

E. Use of two piece threaded union fittings and rigid set screw fittings are not permitted. Threaded unions may be acceptable where required for special field conditions only when special written permission is granted by RPR.

3.3 ADDITIONAL REQUIREMENTS FOR INTERMEDIATE METAL CONDUIT (IMC)

A. May be installed only by special written permission.

B. If written approval is received then IMC may be used in locations acceptable by NEC and elsewhere in these specifications, whichever is most stringent.

3.4 ADDITIONAL REQUIREMENTS FOR FLEXIBLE STEEL CONDUIT AND LIQUID-TITE FLEXIBLE METAL CONDUIT

A. Shall be properly grounded.

B. Shall be installed with approved fittings.

C. Shall be used for final connections to vibrating equipment such as motors, pumps, transformers, etc.

D. Liquid-tight conduit termination connectors at vibration equipment (i.e. pumps, AHU’s, motors, moveable equipment, etc) shall be provided with wire mesh grips.

3.5 ADDITIONAL REQUIREMENTS FOR NON METALLIC CONDUIT (PVC)

A. PVC conduit is not allowed anywhere inside building(s) except underground, in slab, in poured in place concrete, and in block wall up to first outlet box (if not over 40" AFF) if allowed by codes. In elevated slabs, conduit is permitted only where written consent is granted by Structural Engineer, regardless of that shown or noted by drawings. Install as directed by Architect/Structural Engineer.

B. Join nonmetallic conduit using cement as recommended by manufacturer. Wipe nonmetallic conduit dry and clean before joining. Apply full even coat of cement to entire area inserted in fitting. Allow joint to cure for 20 minutes, minimum.

C. Threads will not be permitted on PVC conduit and fittings, except for rigid steel to PVC couplings.

D. Installation of PVC conduit shall be in accordance with manufacturer's recommendations.

E. PVC conduit shall not be used to support fixture or equipment.

F. Field bends or direction changes shall be by manufactured bends only. Heating with flame and hand held dryers are prohibited.

G. PVC fittings and elbows shall be by same manufacture as conduit.

3.6 ADDITIONAL REQUIREMENTS FOR PVC COATED CONDUIT

A. All cuts, pinholes and ends shall be sealed using liquid PVC patch. PVC coated conduit shall be thoroughly inspected after installation to assure all voids, cuts, pinholes or other violation of the integrity of the PVC coating are sealed.

3.7 SUPPORTS

A. Comply with the requirements of Section 26 05 29 Hangers and Supports for Electrical Systems.

B. Arrange supports to prevent misalignment during wiring installation.

3.8 EXPANSION/DEFLECTION FITTINGS

A. Provide suitable fittings to accommodate expansion and deflection where conduit crosses, control and expansion joints.

B. Expansion fittings shall be installed in the following cases:

1. In each conduit run wherever it crosses an expansion joint in the concrete structure.
2. On one side of joint with its sliding sleeve end flush with joint, and with a length of bonding jumper in expansion/deflection equal to at least three times the normal width of joints.
3. In each conduit run which mechanically attaches to separate structures to relieve strain caused by shift on one structure in relation to the other.
4. In straight conduit run above ground that is more than one hundred feet long and interval between expansion/deflection fittings in such runs shall not be greater than 100 feet.

3.9 GROUNDING

A. All raceways shall have a copper system ground conductor throughout the entire length of circuit installed within conduit in strict accordance with NEC codes.

B. Grounding conductor shall be included in total conduit fill determining conduit sizes, even though not included or shown on drawings.

C. Grounding conductors run with exterior/ underground feeders shall be bare only.

D. Grounding conductors run with feeders shall be bonded to portions of conduit that are metal by approved ground bushings.

E. See other sections of these specifications for additional requirements.

F. Grounding conductors (including lightning protection down conductors) run in metal conduit shall be bonded to metal conduit at both ends.

3.10 CONDUITS PENETRATING 2 HOUR ASSEMBLIES OR GREATER

A. Conduits with conductors penetrating the wall shall have blow out patches on each side of the wall.

B. Multiple conduits run through rated walls side by side shall have blow out patches on each side of the wall.

C. Data or telephone conductors run exposed and penetrating a wall rated 2 hour for fire, smoke or smoke/fire shall be sleeved with steel conduits 30" each side of the wall and conduit ends packed with approved fire sealant.

3.11 FIRE AND SMOKE STOPPING

A. Contractor is to provide fire stopping and smoke sealing for all penetrations of existing (or new if applicable) fire or smoke assemblies as required to maintain rating of assembly.

B. All penetrations shall be fire stopped in strict accordance with UL Fire Directory. Submit applicable details for acceptance. Prepare and install as delineated by UL detail(s).

C. Each penetration shall be identified with the corresponding UL fire assembly number. Labels shall be typed or computer generated minimum 1/2” high black lettering, self-adhesive type.

D. Comply with UL Fire Directory "F" and "T" ratings respectfully.

3.12 FIRE PROTECTION

A. Emergency life safety feeder-circuit wiring shall be installed either in spaces fully protected by an approved automatic fire suppression system or shall be a listed electrical circuit protection system with a 1-hour fire rating. Fire circuit protection shall be in accordance with UL Fire Protection equipment Directory and UL Building Materials Directory (latest edition).

3.13 VERTICAL RACEWAYS

A. Cables in vertical raceways shall be supported per NEC Article 300.19. Provide supporting devices for cables, including any necessary accessible pull boxes as required regardless if shown on drawings or not. Provide and install access panels as required. Coordinate location of pull box and access panel with designer prior to installation. This includes empty raceways for future use.

3.14 GENERAL

A. Install conduit in accordance with NECA "Standard of Installation." Contractor shall layout all work prior to rough-in.

B. Install nonmetallic conduit in accordance with manufacturer's instructions.

C. Arrange conduit to maintain headroom and present neat appearance.

D. Route conduit installed above accessible ceilings or exposed to view parallel or perpendicular to walls. Do not run from point to point.

E. Route conduit in and under slab from point-to-point.

F. Do not cross conduits in slab.

G. Maintain adequate clearance between conduit and piping.

H. Maintain 12-inch (300-mm) clearance between conduit and surfaces with temperatures exceeding 104 degrees F (40 degrees C).

I. Maintain minimum of 3” inch separation between power and communications raceways. Increase separation if so required to comply with EIA/TIA referenced standards.

J. Systems raceways shall be installed in accordance with ANSI/EIA/TIA Communications Standards.

1. Maintain proper separation between PDS system cables and all power and unshielded cables, as required to prevent noise or crosstalk interference.
2. Raceway bends shall have minimum inside radius of 6 times the internal diameter. Increase bend radius to 10 times for raceway larger than 2 inch size. Provide proper bend for all changes of direction. Pull and splice boxes shall not be used in lieu of a bend.

3. Install raceways so no more than two 90o bends are in any raceway section without a pullbox. Install additional pull boxes as required to maintain maximum of two 90o bends between pull boxes and termination points.
4. Install boxes in straight sections of raceway.

K. Cut conduit square using saw or pipecutter; de-burr cut ends.

L. Bring conduit to shoulder of fittings; fasten securely.

M. Use conduit hubs or sealing locknuts to fasten conduit to sheet metal boxes in damp locations and to cast boxes. Use threaded conduit hubs to fasten conduit to sheet metal boxes, disconnects switches and equipment control panels in wet and exterior locations.

N. Install no more than equivalent of three 90-degree bends between boxes for power and lighting systems. Use conduit bodies to make sharp changes in direction, as around beams, Use appropriate boxes and conduit bodies for fire alarm, voice/data and sound/paging systems. Use factory elbows for bends in metal conduit larger than 2-inch size.

O. Avoid moisture traps; provide junction box with drain fitting at low points in conduit system.

P. Provide pull boxes, junction boxes and fire barrier at fire rated walls as required by NEC Article 300, whether shown on drawings or not.

Q. Provide continuous fiber poly line 1000 lb. minimum tensile strength pull string in each empty conduit except sleeves and nipples. This includes all raceways which do not have furnished conductors. Pull cords must be fastened to prevent accidental removal. A phenolic or brass nameplate shall be attached to each end indicating the location of both ends of conduit as follows: THIS END = "LOCATION," OTHER END = "LOCATION."

R. Use suitable seals to protect installed conduit against entrance of dirt and moisture and insects.

S. Ground and bond conduit under provisions of Section 26 05 26.

T. Identify conduit under provisions of Section 26 05 53.

U. Install all conduit concealed from view unless specifically shown otherwise on drawings

V. Rigid steel box connections shall be made with double locknuts and bushings.

W. All wire raceways shall be kept clear of plumbing fixtures to facilitate future repair or replacement of said plumbing fixtures without disturbing wire raceways. Except where it is necessary for control purposes, all raceways shall be kept away from items producing heat.

X. All raceway runs in masonry shall be installed at the same time as the masonry so that no face cutting is required, except to accommodate boxes.

Y. All raceways shall be run from outlet to outlet as shown on the drawings, unless permission is granted, to alter arrangement shown. If permission is granted arrangement shall be marked on red lined As-Built drawings as previously specified.

Z. Spare conduit stubs shall be capped and location and use marked with concrete marker set flush with finish grade. Marker shall be 6" round x 6" deep with appropriate symbol embedded into top to indicate use. Also, tag conduits in panels where originating.

AA. All conduit stubbed above floor shall be strapped to a metal channel supported by conduit driven into ground or tied to steel. Spare conduit stubs shall be capped with a UL listed and approved cap or plug for the specific intended use and identified with ink markers as to source and labeled "Spare".

BB. All connections to motors or other vibrating equipment including transformers or at other locations where required shall be made with not less than 12" nor more than 24" of flexible liquid-tight steel conduit, with nylon insulated throat connectors and wire mesh grip fittings at both terminations of conduit. Use angle connectors wherever necessary to relieve angle strain on flex conduit.

CC. Provide a conduit sealing fitting or pliable compound wherever conduit system is exposed to widely temperature changes which may cause condensation within the raceway; as from the inside to the outside of coolers or freezers.

DD. Route conduit through roof openings for piping and ductwork or through suitable roof jack with pitch pocket. Coordinate location with roofing installation specified under other Sections of these specifications.

EE. All raceways shall be run in neat and workmanlike manner and shall be properly in accordance with latest edition of NEC with approved conduit clamps, hanger rods and structural fasteners.

FF. All raceway runs, whether terminated in boxes or not, shall be capped during the course of construction and until wires are pulled in, and covers are in place. No conductors shall be pulled into raceways until construction work which might damage the raceways has been completed.

GG. Electrical raceways shall be supported independently of all other systems and supports, and shall in every case avoid proximity to other systems which might cause confusion with such systems or might provide a chance of electrolytic actions, contact with live parts or excessive induced heat.

HH. Raceways, boxes, etc., shall not be attached to an acoustical grid ceiling system or support wire per NEC Article 300.11. Support all components directly from building structure.

END OF SECTION SP-109S-26 05 33.13

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SECTION SP-109S-26 05 33.16 - BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Contractual Conditions and Division 01 Specification sections apply to this section.

1.2 SUMMARY

A. This section includes the requirements for provision and installation of pull and boxes.

1.3 DESCRIPTION

A. Provide and install all boxes (flush or surface) complete with all accessories as required to facilitate installation of electrical system and as required by the N.E.C.

B. Section includes: Wall and ceiling boxes and junction and pullboxes.

C. Install pull and junction boxes wherever required for a complete and operating distribution system whether shown on drawings or not.

1.4 SUBMITTALS

A. Submit catalog cut sheet/product data on:

1. Surface cast boxes.
2. Covers.
3. Dimensions - inside and out.
4. Rating of concrete or gauge of metal.
5. Manufacturer
6. All boxes to be used on project.

1.5 PROJECT AS-BUILT DOCUMENTS

A. Record actual locations and mounting heights of pull and junction boxes.

1.6 REFERENCES AND REGULATORY REQUIREMENTS

A. Furnish products listed and classified by Underwriters Laboratories, Inc. and requirements of NEC as suitable for purpose specified and shown.

B. Conform to the requirements of the following:

1. ANSI/NEMA FB 1 - Fittings and Supports for Conduit and Cable Assemblies.
2. ANSI/NEMA OS 1 - Sheet-steel Outlet Boxes, Device Boxes, Covers, and Box Supports.
3. ANSI/NEMA OS 2 - Nonmetallic Outlet Boxes, Device Boxes, Covers and Box Supports.
4. ANSI/NFPA 70 - National Electrical Code.
5. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum).

1.7 PROJECT CONDITIONS

A. Verify field measurements are as shown on Drawings.

B. Verify locations of outlets in offices and work areas prior to rough-in.

C. Verify locations of pull and junction boxes prior to rough-in.

D. Electrical boxes are shown on Drawings in approximate locations unless dimensioned. Install at location required for box to serve intended purpose and to maintain required access.

PART 2 - PRODUCTS

2.1 GENERAL

A. Provide box accessories as required for each installation, including mounting brackets, wallboard hangers, extension rings, boxes, and corrosion-resistant knockout closures compatible with boxes being used and meeting requirements of individual wiring situations.

B. All boxes shall be of the size and shape required by NFPA 70 for their respective locations.

C. Boxes shall be of such form and dimensions as to be adapted to the specific use and location, type of device or fixtures to be used, and number and size of conductors and arrangement, size and number of conduits connecting thereto.

D. Dimensions of pull and junction boxes shall meet dimensions shown on drawings or dimensions required by NEC, whichever is largest.

E. Standard 25 cubic inch pull boxes shall meet the requirements of these specifications for outlet boxes as a minimum.

F. All boxes of 100 cubic inches or more shall be constructed of 14 gauge steel with hot dip galvanized coating.

G. Handy boxes shall not be used.

H. Boxes to be one-piece.

I. 4”x 4" boxes and 4 11/16" x 4 11/16" boxes used as junction boxes shall be one piece.

2.2 SHEET METAL BOXES:

A. ANSI/NEMA OS 1, Galvanized Steel.

B. Luminaire and Equipment Supporting Boxes: Rated for weight of equipment supported; include 1/2 inch (13 mm) male fixture studs where required.

C. Concrete Ceiling Boxes: For concrete location installation, providing fire resistance rating as required.

D. Interior flush boxes shall be galvanized steel constructed with stamped knockouts in back and sides, and threaded holes with screws for securing box coverplates or wiring devices. T & B, Steel City, Raco or approved substitution.

E. Ceiling boxes shall be 4" octagonal or 4" square X 1 1/2" deep or larger as required for number and size of conductors and arrangement, size and number of conduits terminating at them.

F. Switch, wall receptacle, telephone and other recessed wall boxes in drywall shall be 4" square X 1 1/2" deep. For recessing in exposed masonry, provide one piece 4" square x 1 1/2" deep wall boxes with appropriate 4" square cut tile wall covers Steel City series #52-C-49/52-C-52 or approved substitution. For recessing in furred-out block walls, provide 4" square box with required extension for block depth and required extension for drywall depth.

G. For Communication/Systems Telephone, Data, TV, CCTV, Video, and Computer device boxes shall be 4" square x 2 1/8" deep, minimum. Increase box to 4-11/16" with single gang plaster ring as required for special devices respectfully.

A. Large Pull Boxes: Boxes larger than 400 cubic inches in volume or 20 inches in any dimension:

1. Use hinged enclosure under provisions of Section 26 27 16 Electrical Cabinets and Enclosures.

H. Exterior, damp location and wet location pull and junction boxes shall be NEMA 4x stainless steel.

2.3 CAST BOXES:

A. NEMA FB 1

B. Interior surface boxes and conduit bodies installed from 0" AFF to 90" AFF (including fire alarm device backbox) shall be heavy cast aluminum or iron with external threaded hubs for power devices and threaded parts for low voltage devices - Appleton, Crouse Hinds or approved substitution. Trim rings shall also be of one piece construction.

C. Weatherproof boxes shall be constructed of corrosion-resistant cast iron suited to each application and having threaded conduit hubs, cast metal face plate with spring-hinged waterproof cap suitable configured, gasket, and corrosion-proof fasteners.

D. Boxes to be Type FD unless otherwise noted on drawings.

E. Free standing cast boxes are to be type FSY (with flange). Other cast zinc boxes are not acceptable.

2.4 SURFACE-MOUNTED CAST METAL BOX:

A. NEMA 250, Type 4; flat-flanged, surface-mounted junction box.

B. Material: Cast aluminum.

C. Cover: Furnish with ground flange, neoprene gasket, and stainless steel cover screws.

D. Provide all hubs as required for conduit connections.

2.5 IN-GROUND PULL BOXES:

A. Material: Pre-cast concrete.

B. Bottom: Open with 6" of gravel for drainage.

C. Cover: Meet Florida Dept. of Transportation requirements for heavy traffic.

D. Solid sides constructed to facilitate conduit entries.

PART 3 - EXECUTION

3.1 GENERAL

A. Install per NEC.

B. Install electrical boxes as shown on Drawings, and as required for splices, taps, wire pulling, equipment connections and compliance with regulatory requirements.

C. Install electrical boxes to maintain headroom and to present neat mechanical appearance.

D. Install pull boxes and junction boxes above accessible ceilings and in unfinished areas only.

E. Inaccessible Ceiling Areas: Install outlet and junction boxes no more than 6 inches (150 mm) from ceiling access panel or from removable recessed luminaire.

F. Above ceiling outlet and junction boxes shall be installed to permit readily accessible access from ladder or staging from corresponding floor without the need to extend ladder up through ceiling system to facilitate ease of maintenance.

G. Install boxes to preserve fire resistance rating of partitions and other elements.

H. Align adjacent wall-mounted boxes for switches, thermostats, and similar devices with each other.

I. Outlets for 120V clocks shall be recessed so that the clock will hang flush with the finished surface of the wall.

J. Use flush mounting boxes in finished areas.

K. Do not install flush mounting boxes back-to-back in walls; provide minimum 6 inch separation. Provide minimum 24 inches (one stud space) separation in acoustic and rated walls.

L. Secure flush mounting box to interior wall and partition studs. Accurately position to allow for surface finish thickness.

M. Use stamped steel bridges to fasten flush mounting box between studs.

N. Install flush mounting box without damaging wall insulation or reducing its effectiveness.

O. Lighting control switches shall be located at the latch side of door. If the drawings indicate otherwise, issue a request for clarification prior to rough-in.

P. Support all boxes from structure with minimum of one (1) 3/8" all-thread rod hangers. Boxes larger than 25 square inches shall be supported with two (2) all-thread rod hangers, minimum.

Q. Do not fasten boxes to ceiling support wires.

R. Support boxes independently of conduit.

S. Pull boxes shall be installed in straight runs of conduit only. Pull boxes shall not be used in place of a conduit bend.

T. Use gang box where more than one device is mounted together. Do not use sectional box.

U. Use gang box with plaster ring for single device outlets.

V. Comply with applicable portions of the National Electrical Contractor's Association's (NECA) "Standard of Installation".

W. Install outlets in the locations shown on the drawings; however, the RPR shall have the right to make, prior to rough-in, slight changes in locations to reflect room furniture layouts.

X. Coordinate each electrical box so that the type is suitable for the wall or ceiling construction anticipated and suitable fireproofing is built into fire rated assemblies.

Y. Relocate electrical boxes as required so that electrical devices, once installed, will be symmetrically located with respect to the room layout.

Z. All boxes shall be installed in a flush rigid manner with box lines at perpendicular and parallel angles to finished surfaces. Boxes shall be supported by appropriate hardware selected for the type of surface from which the box shall be supported. For example, provide metal screws for metal, wood screws for wood, and expansion devices for masonry or concrete. No surface mounted boxes will be allowed without RPR approval.

AA. For damp and wet locations provide weatherproof boxes and accessories.

BB. As a minimum, provide pull boxes in all raceways over 150 feet long. The pull box shall be located near the midpoint of the raceway length.

CC. Provide knockout closures to cap unused knockout holes where blanks have been removed, and plugs for unused threaded hubs.

DD. Provide conduit locknuts and bushings of the type and size to suit each respective use and installation.

EE. Boxes and conduit bodies shall be located so that all electrical wiring is accessible.

FF. Avoid using round boxes where conduit must enter box through side of box which would result in a difficult and insecure connection with a locknut or bushing on the rounded surface.

GG. All flush outlets shall be mounted so that covers and plates will finish flush with finished surfaces without the use of shims, mats or other devices not submitted or approved for the purpose. Add-a-Depth rings or switch box extension rings (Steel City #SBEX) are not acceptable. Plates shall not support wiring devices. Gang switches with common plate where two or more are indicated in the same location. Wall-mounted devices of different systems (switches, thermostats, etc.) shall be coordinated for symmetry when located near each other on the same wall. Outlets on each side of walls shall have separate boxes. Through-wall type boxes shall not be permitted. Back-to-back mounting shall not be permitted. Trim rings shall be extended to within 1/8" of finish wall surface.

HH. Boxes mounted in metal stud walls, are to be supported to studs with minimum of two (2) self-tapping screws inside, at the back of box, to a horizontal stud brace between vertical studs or pre-manufactured heavy duty box bracket equal to Caddy Corporation # SGB/TSGB series, to prevent movement of box after wall is finished.

II. All boxes that do not receive devices in this contract are to have blank plates installed matching wiring device plates.

JJ. Mount Height.

1. Height of wall outlets to bottom above finished floors shall be as follows, unless specifically noted otherwise, or unless otherwise required by applicable codes including ADA. Verify with the Architectural plans and shop drawings.

    a) Switches: 4'-0" AFF to top
    b) Receptacles: 1'-4" AFF to bottom
    c) Lighting Panels: 6'-6" AFF maximum to centerline of highest breaker/fuse
    d) Phone Outlets: 1'-4" AFF to bottom
    e) ADA Wall Phones: (See part 3.1, Item JJ.(4.) below)
    f) Fire Alarm Pull Stations: 4'-0" AFF to top
    g) Fire Alarm Strobe Lights: 80" AFF to bottom of globe or 6" below ceiling to top, whichever is lower

2. Bottoms of outlets and switches above counter tops or base cabinets shall be minimum 2" above counter top or backsplash, whichever is highest. Outlets and switches may be raised so that bottom rests on top of concrete block course, but all outlets above counters in same area shall be at the same height. Coordinate outlet locations in relation to all casework shown on Architectural plans, prior to rough-in, regardless of height shown on Electrical drawings.
3. Height of wall-mounted fixtures shall be as shown on the drawings. Fixture boxes shall be equipped with fixture studs when supporting fixtures.
4. Coordinate locations and mounting heights of boxes for all phones with architect, phone system installer and approved shop drawings prior to rough-in. Install as directed, including requirements of ADA. In general, ADA wall phones shall be at a maximum of 48" to highest operable part essential to basic operation of telephone with side reach and maximum of 48" forward reach.

KK. Special Purpose Outlets.

1. Locate special purpose outlets as indicated on the drawings for the equipment served. Location and type of outlets shall be coordinated with appropriate trades involved. Coordinate roughing-in locations. Provide plug for each outlet.

LL. Outlets in Rated Assemblies and Smoke Barriers.

1. Metallic and approved non-metallic electrical boxes may be installed in vertical fire resistive assemblies or smoke barriers without affecting the classification, provided such openings occur on one side only in each framing space and that openings do not exceed 16 sq. inches.
2. All clearances between such boxes and the gypsum board must be completely filled with joint compound or other approved materials.
3. The wall must be built around outlets of larger size so as not to interfere with the integrity of the wall rating.

3.2 IN GROUND PULL BOXES

A. Provide and install ground rod in each pull box. Connect #2 copper ground wires (counterpoise) to ground rod, run out pullbox 6" over conduits to next pull box; tie to respective building electrical ground rod at each building.

B. Install pull boxes flush with finished grade. Provide extensions as required.

3.3 INTERFACE WITH OTHER PRODUCTS

A. Coordinate installation of box for products furnished under all Sections of these specifications.

B. Coordinate locations and sizes of required access doors with applicable sections in these specifications.

C. Locate flush mounting box in masonry wall to require cutting of masonry unit corner only. Coordinate masonry cutting to achieve neat opening.

D. Coordinate mounting heights and locations of outlets mounted above counters, benches and backsplashes.

E. Position boxes to locate luminaires as shown on reflected ceiling plan.

3.4 ADJUSTING

A. Adjust flush-mounting outlets to make front flush with finished wall material.

B. Install knockout closure in unused box opening.

C. Install pull and junction boxes as shown on drawings or as required by the National Electric Code (NEC). Identification of boxes is required. Phenolic labels or permanent marks with voltage, circuit, panel, fed from, location of source, location of load.

D. Pull and junction boxes (not in-ground type) used for systems larger than 25 square inches shall be hinged cover type with flush latches operated with screwdriver.

E. Pull and junction boxes larger than 25 square inches shall be supported with (2) all-thread rod hangers minimum. Increase quantity and size of all-thread rod hangers as required for application, and to eliminate movement and swaying.

END OF SECTION SP-109S-26 05 33.16

SECTION SP-109S-26 05 53 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Contractual Conditions and Division 01 Specification sections apply to this section.

1.2 SUMMARY

A. This section includes the requirements for provision and installation of identification for electrical equipment.

1.3 DESCRIPTION

A. Provide and install all equipment, labor and material for a complete identification system, including but not limited to:

1. Nameplates and labels.
2. Wire and cable markers.
3. Conduit markers.
4. Identify all new and existing conduits, boxes, equipment, etc. as specified herein.

1.4 REFERENCES AND REGULATORY REQUIREMENTS

A. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

B. Conform to the requirements of the following:

1. ANSI/NFPA 70 - National Electrical Code.
2. Americans with Disabilities Act - 1990.

PART 2 - PRODUCTS

2.1 NAMEPLATES

A. Nameplates for Life Safety Branch Power shall be laminated red phenolic plastic with chamfered edges and white engraved lettering. Orange phenolic plastic border to be added around nameplate to denote branch.

B. Nameplates for Critical (Legally Required) Branch Power shall be laminated red phenolic plastic with chamfered edges and white engraved lettering. Green phenolic plastic border to be added around nameplate to denote branch.

C. Nameplates for Security Branch Power shall be laminated red phenolic plastic with chamfered edges and white engraved lettering. Purple phenolic plastic border to be added around nameplate to denote branch.

D. Nameplates for Equipment Branch Power shall be laminated red phenolic plastic with chamfered edges and white engraved lettering. Blue phenolic plastic border to be added around nameplate to denote branch.

E. Nameplates for Normal Branch Power shall be laminated black phenolic plastic with chamfered edges and white engraved lettering.

F. Letter Size:

1. 1/8 inch for identifying individual equipment and loads.
2. 1/4 inch for identifying grouped equipment and loads.

G. Nameplates shall adequately describe the function of the particular equipment involved. Where nameplates are detailed on the drawings, inscription and size of letters shall be as shown and shop drawing submitted for approval. Nameplates for panelboards and switchboards shall include the panel designation, voltage and phase of the supply. For example, "Panel A, 120/208V, 3-phase, 4-wire". In addition, provide phenolic label in panel to describe where the panel is fed from. For example, "Fed From MDP-1:3:5". The name of the machine on the nameplates for a particular machine shall be the same as the one used on all motor starters, disconnect and P.B. station nameplates for that machine.

H. The following items shall be equipped with nameplates: All motors, motor starters, motor-control centers, push-button stations, control panels, time switches, disconnect switches, transformers, panelboards, circuit breakers (i.e., all 2 pole, 3 pole C.B.'s), contactors or relays in separate enclosures, power receptacles where the nominal voltage between any pair of contacts is greater than 150V, wall switches controlling outlets that are not located within sight of the controlling switch, high voltage boxes and cabinets, large electrical, and electrical systems junction and pull boxes (larger than 4 11/16"), terminal cabinets, terminal boards, and equipment racks. Nameplates shall also describe the associated panel and circuit number (if applicable).

I. All Electrical System panels, transfer switches, etc. shall be labeled per branch, i.e.: "Panel ABC-Life Safety Branch" (similar for critical or equipment branch).

J. All receptacles shall be clearly labeled with panel/circuit designation.

K. All junction/pull boxes shall receive phenolic labels clearly labeling circuitry/cabling/etc., within.

2.2 WIRE MARKERS

A. Description: Cloth, tape, split sleeve, or tubing type wire markers.

B. Locations: Each conductor at panelboard gutters, pull boxes, outlet and junction boxes, and each load connection.

C. Legend:

1. Power and Lighting Circuits: Branch circuit or feeder number indicated on drawings including neutral conductor.
2. Low voltage circuits (circuits under 120V):

D. Control wire number indicated on schematic and interconnection diagrams on shop drawings.

2.3 CONDUIT/JUNCTION BOX COLOR CODE

A. All conduit system junction boxes (except those subject to view in public areas) shall be color coded as listed below:

Color Code for Junction Boxes	Krylon Paint Number
System Emergency 277/480 volt	Cherry Red K02101
System Emergency 120/208 volt	Zinger Pink S01150
Fire Alarm	Popsicle Orange K02410
Normal Power 277/480 Volt	Leather Brown K02501
Normal Power 120/208 Volt	Glossy Black K01601
Fiber Optics	Plum Purple K01929
Sound System	Daisy Yellow K01813
Clock	Light Blue S01540
Intercom	True Blue K01910
Computer Data	Gold K01701
TV	Glossy White K01501
BAS	Cameo White K04129
FIDS/BIDS	Saddle Tan K03554
Security/CCTV	John Deer Green K01817
Telephone	Clover Green K02012
Grounding	Fluorescent Green K03106
Access Control System	John Deer Green K01817
Lightning Detection & Notification	Global Blue K03546
Elevator Status	Georgia Clay K03531
800 Mhz Radio	Copper Metallic K02203
FCIC	Clover Green K02012
Positron	Clover Green K02012
DC Controls	Clover Green K02012

Duress	Fresh Salmon K03536
Fire Pump Status	Popsicle Orange K02410
Emergency Generator Status	Zinger Pink S01150

B. Conduits (not subject to public view) longer than 20 feet shall be painted with above color paint band 20 ft. on center. Paint band shall be 4" in length. Where conduit are parallel and on conduit racking, the paint bands shall be evenly aligned. Paint shall be neatly applied and uniformed. Paint boxes and raceways prior to installation or tape conduits and surrounding surfaces to avoid overspray. Paint overspray shall be removed.

C. Emergency (Backed by Generator). Conduit shall be painted red 20 ft. on center. Paint band shall be 4” in length. A smaller band, 1” in length, centered over the 4” red band shall be applied to denote Emergency Branch as follows:

Emergency Branch	Color Band
Life Safety	Orange
Critical	Green
Security	Purple
Equipment	Blue

D. Junction boxes and conduit located in public areas (i.e. areas that can be seen by the public) shall be painted to match surface attached to. Provide written request to DESIGNER for interpretation of those public areas which may be in question.

E. Where two colors apply to the same raceway, paint on opposite corners leaving room for panel/ckt./system/etc., labeling in center.

F. The Contractor may utilize conduit banding tape instead of paint, on interior conduits only, where specified colors are available. Surface of conduits shall be thoroughly cleaned prior to tape application, and tape shall be applied in a neat and workmanlike manner. Tape to be manufactured by Seton Identification Products only.

2.4 CONDUIT/JUNCTION BOX MARKER

A. All new and existing junction boxes/cover plates for power, lighting and systems (except those installed in public areas) shall adequately identify its associated systems panel and circuit number. Identification shall be by means of black permanent marker. (Paint one-half cover plate with appropriate color above, and one-half with associated panel/circuit or system as described above.)

2.5 DEVICE COVER PLATE IDENTIFICATION

A. Description: Self-adhesive clear printed labels with Black typed letters (pre-printed, dot matrix, or laser).

B. Locations:

1. Each new receptacle cover plate.
2. Each existing receptacle cover plate in areas of remodel/renovation.

C. Legend:

1. Receptacle plates shall adequately describe its associated panelboard and circuit reference.
2. System plates shall adequately describe its terminal board, or terminal cabinet, termination cable identifier and assigned user code number.

2.6 UNDERGROUND WARNING TAPE

A. Description: 6 inch wide plastic tape, detectable type, colored red with suitable warning legend describing buried electrical lines, one strip per 24” of duct.

PART 3 - EXECUTION

3.1 PREPARATION

A. Degrease and clean surfaces to receive nameplates and labels.

3.2 APPLICATION

A. Install nameplate parallel to equipment lines.

B. Secure nameplate to equipment front using stainless steel pop rivets.

C. Secure nameplate to inside surface of door on panelboard that is recessed in finished locations.

D. Nameplates installed inside on dead front cover shall be self adhesive tape. (Do not drill or install screws in dead front.)

E. Identify new and existing conduit, junction boxes, and outlet boxes using field painting.

F. Identify new underground conduits using underground warning tape. Install one tape per 24 inches of trench at 3 inches below finished grade.

G. Install wire markers at all new and existing connections and terminations.

END OF SECTION SP-109S-26 05 53

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SECTION SP-109S-26 05 73 – OVERCURRENT PROTECTION DEVICE COORDINATION STUDY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Contractual Conditions and Division 01 Specification sections apply to this section.

1.2 SCOPE

A. The contractor shall furnish short-circuit and protective device coordination studies as prepared by the electrical equipment manufacturer or an approved engineering firm.

B. The contractor shall furnish an Arc Flash Hazard Analysis Study per the requirements set forth in NFPA 70E - Standard for Electrical Safety in the Workplace. The arc flash hazard analysis shall be performed according to the IEEE Std. 1584-2002 equations that are presented in NFPA70E-2009, Annex D.

C. The scope of the studies shall include all new distribution equipment supplied by the equipment manufacturer under this contract as well as all directly affected existing distribution equipment associated with the Project.

1.3 DESCRIPTION

A. Provide all labor, materials, and equipment necessary to properly and completely perform a Power Systems Study for the electrical distribution and control equipment and submit results in a report.

B. Electrical distribution and control equipment is to include all equipment installed under this contract and all existing equipment that this project is connecting to, complete from new equipment to existing power company transformer(s) via all applicable existing power distribution and control equipment.

C. Provide an up to date electrical system single-line diagram as required by NFPA 70E, “Standard for Electrical Safety in the Workplace,” as referenced in OSHA 29 CFR 1910 Subpart S, Appendix A. This information shall include nameplate data for electrical components (e.g. transformers, medium voltage switchgear, panelboards, switchboards, motor control centers, etc.) for all portions of the electrical system from the utility intertie through the lowest rated panel.

D. Cable sizes, types and lengths between electrical equipment components and up to date utility source data shall be provided for an accurate single-line representation of the electrical system. Unique characteristics of the equipment installation shall be provided which may impact the magnitude of the potential hazard (e.g. open space versus enclosure). Overcurrent device settings shall be verified.

E. Data collection may require removal of barriers, opening of front panels, etc. while equipment is energized. The Contractor must provide proof (written documentation) that its employees working on the premises of the Landside Building have been properly trained in the use and application of personal protective equipment (PPE) and the hazards of working on or near energized equipment. The Contractor must provide its own PPE protection with a minimum arc thermal performance rating (ATPV) of 40 calories/cm2.

F. The contractor shall be responsible for obtaining all required data of all equipment.

G. The study shall verify adequacy of all equipment implemented under these specifications and to verify the correct application of circuit protective devices and other system components specified completely coordinated with the existing system.

H. A comprehensive analysis of the electrical system shall be performed for all equipment up to 480 volts and by a 125kVA or larger transformer based on the up to date single-line diagram provided from “Section A”. This analysis shall include the following:

1. Short Circuit Study – A short circuit analysis shall be performed in accordance with ANSI standard C37 and IEEE standard 141-1993 (Red Book) for each electrical component as defined in “Section A. “
2. Coordination Study – A coordination study shall be performed in accordance with IEEE 242-2001 “Buff” to determine the proper overcurrent device settings that will balance system reliability through selective coordination while minimizing the magnitude of an electrical arc flash hazard incident.
3. Incident Energy Study – An incident energy study shall be done in accordance with the IEEE 1584-2004a, ”IEEE Guide for Performing Arc Flash Hazard Calculations” as referenced in NFPA 70, “Standard for Electrical Safety in the Workplace”, latest revision, in order to quantify the hazard for selection of personal protective equipment (PPE). Tables that assume fault current levels and clearing time for proper PPE selection are not acceptable.

I. Reconcile arc flash protective device setting recommendations with the protective device time-current coordination study.

J. Adjust the System Design to optimize the results of the study as it relates to safety and reliable electrical system operation (e.g. overcurrent device settings, working distances, current limiting devices). This includes mitigation, where possible, of incident energy levels that exceed 40 calories/cm2. A qualified engineer with power systems design experience shall provide this assistance

K. The intent /goal of the protective system included herein is to establish arc flash levels that result in PPE levels of Category 2 or less.

L. Identify locations where Category 2 cannot be achieved.

M. The study shall address the case when the system is being powered from the normal source as well as from the on-site generating source.

N. Minimum as well as maximum possible fault conditions shall be covered in the study.

O. Fault conditions of all motors shall be considered.

1.4 REFERENCES

A. Institute of Electrical and Electronics Engineers, Inc. (IEEE):

1. IEEE 141 – Recommended Practice for Electric Power Distribution and Coordination of Industrial and Commercial Power Systems
2. IEEE 242 – Recommended Practice for Protection and Coordination of Industrial and Commercial Power Systems
3. IEEE 399 – Recommended Practice for Industrial and Commercial Power System Analysis
4. IEEE 241 – Recommended Practice for Electric Power Systems in Commercial Buildings
5. IEEE 1015 – Recommended Practice for Applying Low-Voltage Circuit Breakers Used in Industrial and Commercial Power Systems.
6. IEEE 1584 - Guide for Performing Arc-Flash Hazard Calculations

B. American National Standards Institute (ANSI):

1. ANSI C57.12.00 – Standard General Requirements for Liquid-Immersed Distribution, Power, and Regulating Transformers
2. ANSI C37.13 – Standard for Low Voltage AC Power Circuit Breakers Used in Enclosures
3. ANSI C37.010 – Standard Application Guide for AC High Voltage Circuit Breakers Rated on a Symmetrical Current Basis
4. ANSI C 37.41 – Standard Design Tests for High Voltage Fuses, Distribution Enclosed Single-Pole Air Switches, Fuse Disconnecting Switches and Accessories.

C. The National Fire Protection Association (NFPA)

1. NFPA 70 - National Electrical Code, latest edition
2. NFPA 70E – Standard for Electrical Safety in the Workplace

1.5 SUBMITTALS FOR REVIEW/APPROVAL

A. The short-circuit and protective device coordination results shall be submitted prior to receiving final approval of the distribution equipment shop drawings and prior to release of equipment drawings for manufacturing. This preliminary submittal of study data shall be sufficient to ensure that the selection of device and characteristics will be satisfactory.

B. SUBMITTALS FOR CONSTRUCTION

C. The results of the short-circuit, protective device coordination and arc flash hazard analysis studies shall be summarized in a final report. For large system studies, submittals requiring more than five (5) copies of the report will be provided without the section containing the computer printout of the short-circuit input and output data.

Additional copies of the short-circuit input and output data, where required, shall be provided on CD in PDF format.

D. For large system studies with more than 200 bus locations, the contractor is required to provide the study project files to the Owner in electronic format. In addition, a copy of the computer analysis software viewer program is required to accompany the electronic project files, to allow the Owner to review all aspects of the project and print arc flash labels, oneline diagrams, etc.

E. The report shall include the following sections:

1. Executive Summary.
2. Descriptions, purpose, basis and scope of the study
3. Tabulations of circuit breaker, fuse and other protective device ratings versus calculated short circuit duties
4. Protective device time versus current coordination curves, tabulations of relay and circuit breaker trip unit settings, fuse selection
5. Fault current calculations including a definition of terms and guide for interpretation of the computer printout
6. Details of the incident energy and flash protection boundary calculations
7. Recommendations for system improvements, where needed
8. One-line diagram

F. Arc flash labels shall be provided in hard copy only. For large system studies (more than 200 bus locations) arc flash labels shall be provided in hard copy and label images shall be provided in electronic format.

G. Report shall include:

1. Available fault current at each equipment location with comparison to equipment rating
2. Overcurrent device settings (e.g. pick-up, time delay, curve), “as found” and “as recommended”
3. Incident energy level (calories/cm2) for each equipment location and recommended PPE
4. Overcurrent device coordination curves including related section of the single-line diagram
5. List of prohibited energized work locations based on arc flash results.

1.6 QUALIFICATIONS

A. The short-circuit, protective device coordination and arc flash hazard analysis studies shall be conducted under the supervision and approval of a Registered Professional Electrical Engineer skilled in performing and interpreting the power system studies.

B. The Registered Professional Electrical Engineer shall be a full-time employee of the equipment manufacturer or an approved engineering firm.

C. The Registered Professional Electrical Engineer shall have a minimum of five (5) years of experience in performing power system studies.

D. The equipment manufacturer or approved engineering firm shall demonstrate experience with Arc Flash Hazard Analysis by submitting names of at least ten actual arc flash hazard analysis it has performed in the past year.

1.7 COMPUTER ANALYSIS SOFTWARE

A. The studies shall be performed using the latest revision of the SKM Systems Analysis Power*Tools for Windows (PTW) software program or prior approved equal.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 STUDIES

A. Contractor to furnish short-circuit and protective device coordination studies as prepared by equipment manufacturer or an approved engineering firm.

B. The contractor shall furnish an Arc Flash Hazard Analysis Study per NFPA 70E - Standard for Electrical Safety in the Workplace, reference Article 130.3 and Annex D.

3.2 DATA COLLECTION

A. Contractor shall furnish all data as required by the power system studies. The Engineer performing the short-circuit, protective device coordination and arc flash hazard analysis studies shall furnish the Contractor with a listing of required data after award of the contract. The Contractor shall expedite collection of the data to assure completion of the studies as required for final approval of the distribution equipment shop drawings and/or prior to the release of the equipment for manufacturing.

B. Source combination shall include present and future motors and generators.

C. Load data utilized may include existing and proposed loads obtained from Contract Documents provided by Owner, or Contractor when available.

D. Include fault contribution of existing motors in the study. The Contractor shall obtain required existing equipment data, if necessary, to satisfy the study requirements.

3.3 SHORT-CIRCUIT AND PROTECTIVE DEVICE EVALUATION STUDY

A. Use actual conductor impedances if known. If unknown, use typical conductor impedances based on IEEE Standard 141-1993.

B. Minimum transformer design impedances shall be used when test impedances are not available.

C. Provide the following:

1. Calculation methods and assumptions
2. Selected base per unit quantities
3. One-line diagram of the system being evaluated
4. Source impedance data, including electric utility system and motor fault contribution characteristics
5. Tabulations of calculated quantities
6. Results, conclusions, and recommendations.

D. Calculate short-circuit momentary and interrupting duties for a three-phase bolted fault at each:

1. Electric utility's supply termination point
2. Incoming switchgear
3. Unit substation primary and secondary terminals
4. Low voltage switchgear
5. Motor control centers
6. Standby generators and automatic transfer switches
7. Branch circuit panelboards
8. Other significant locations throughout the system.

E. For grounded systems, provide a bolted line-to-ground fault current study for areas as defined for the three-phase bolted fault short-circuit study.

F. Protective Device Evaluation:

1. Evaluate equipment and protective devices and compare to short circuit ratings
2. Adequacy of switchgear, motor control centers, and panelboard bus bars to withstand short-circuit stresses
3. Notify Owner in writing, of existing, circuit protective devices improperly rated for the calculated available fault current.

3.4 PROTECTIVE DEVICE COORDINATION STUDY

A. Proposed protective device coordination time-current curves (TCC) shall be displayed on log-log scale graphs.

B. Include on each TCC graph, a complete title and one-line diagram with legend identifying the specific portion of the system covered.

C. Terminate device characteristic curves at a point reflecting maximum symmetrical or asymmetrical fault current to which the device is exposed.

D. Identify the device associated with each curve by manufacturer type, function, and, if applicable, tap, time delay, and instantaneous settings recommended.

E. Plot the following characteristics on the TCC graphs, where applicable:

1. Electric utility's overcurrent protective device
2. Medium voltage equipment overcurrent relays
3. Medium and low voltage fuses including manufacturer's minimum melt, total clearing, tolerance, and damage bands
4. Low voltage equipment circuit breaker trip devices, including manufacturer's tolerance bands
5. Transformer full-load current, magnetizing inrush current, and ANSI through-fault protection curves
6. Conductor damage curves
7. Ground fault protective devices, as applicable
8. Pertinent motor starting characteristics and motor damage points, where applicable
9. Pertinent generator short-circuit decrement curve and generator damage point
10. The largest feeder circuit breaker in each motor control center and applicable panelboard.

F. Provide adequate time margins between device characteristics such that selective operation is provided, while providing proper protection.

3.5 ARC FLASH HAZARD ANALYSIS

A. The arc flash hazard analysis shall be performed according to the IEEE Std. 1584-2002 equations that are presented in NFPA70E-2009, Annex D.

B. The flash protection boundary and the incident energy shall be calculated at all significant locations in the electrical distribution system (switchboards, switchgear, motor-control centers, panelboards, busway and splitters) where work could be performed on energized parts.

C. The Arc-Flash Hazard Analysis shall include all significant locations in 240 volt and 208 volt systems fed from transformers equal to or greater than 125 kVA where work could be performed on energized parts.

D. Safe working distances shall be based upon the calculated arc flash boundary considering an incident energy of 1.2 cal/cm2.

E. When appropriate, the short circuit calculations and the clearing times of the phase overcurrent devices will be retrieved from the short-circuit and coordination study model. Ground overcurrent relays should not be taken into consideration when determining the clearing time when performing incident energy calculations

F. The short-circuit calculations and the corresponding incident energy calculations for multiple system scenarios must be compared and the greatest incident energy must be uniquely reported for each equipment location. Calculations must be performed to represent the maximum and minimum contributions of fault current magnitude for all normal and emergency operating conditions. The minimum calculation will assume that the utility contribution is at a minimum and will assume a minimum motor contribution (all motors off). Conversely, the maximum calculation will assume a maximum contribution from the utility and will assume the maximum amount of motors to be operating. Calculations shall take into consideration the parallel operation of synchronous generators with the electric utility, where applicable.

G. The incident energy calculations must consider the accumulation of energy over time when performing arc flash calculations on buses with multiple sources. Iterative calculations must take into account the changing current contributions, as the sources are interrupted or decremented with time. Fault contribution from motors and generators should be decremented as follows:

1. Fault contribution from induction motors should not be considered beyond 3-5 cycles.
2. Fault contribution from synchronous motors and generators should be decayed to match the actual decrement of each as closely as possible (e.g. contributions from permanent magnet generators will typically decay from 10 per unit to 3 per unit after 10 cycles).

H. For each equipment location with a separately enclosed main device (where there is adequate separation between the line side terminals of the main protective device and the work location), calculations for incident energy and flash protection boundary shall include both the line and load side of the main breaker.

I. When performing incident energy calculations on the line side of a main breaker (as required per above), the line side and load side contributions must be included in the fault calculation.

J. Mis-coordination should be checked amongst all devices within the branch containing the immediate protective device upstream of the calculation location and the calculation should utilize the fastest device to compute the incident energy for the corresponding location.

K. Arc Flash calculations shall be based on actual overcurrent protective device clearing time. Maximum clearing time will be capped at 2 seconds based on IEEE Std. 1584-2002 section B.1.2. Where it is not physically possible to move outside of the flash protection boundary in less than 2 seconds during an arc flash event, a maximum clearing time based on the specific location shall be utilized.

3.6 REPORT SECTIONS

A. Input data shall include, but not be limited to the following:

1. Feeder input data including feeder type (cable or bus), size, length, number per phase, conduit type (magnetic or non-magnetic) and conductor material (copper or aluminum).
2. Transformer input data, including winding connections, secondary neutral-ground connection, primary and secondary voltage ratings, kVA rating, impedance, % taps and phase shift.
3. Reactor data, including voltage rating, and impedance.
4. Generation contribution data, (synchronous generators and Utility), including short-circuit reactance (X'd), rated MVA, rated voltage, three-phase and single line-ground contribution (for Utility sources) and X/R ratio.
5. Motor contribution data (induction motors and synchronous motors), including short-circuit reactance, rated horsepower or kVA, rated voltage, and X/R ratio.

B. Short-Circuit Output Data shall include, but not be limited to the following reports:

1. Low Voltage Fault Report shall include a section for three-phase and unbalanced fault calculations and shall show the following information for each applicable location:

    a) Voltage
    b) Calculated fault current magnitude and angle
    c) Fault point X/R ratio
    d) Equivalent impedance

2. Momentary Duty Report shall include a section for three-phase and unbalanced fault calculations and shall show the following information for each applicable location:

    a) Voltage
    b) Calculated symmetrical fault current magnitude and angle
    c) Fault point X/R ratio
    d) Calculated asymmetrical fault currents

        1) Based on fault point X/R ratio
        2) Based on calculated symmetrical value multiplied by 1.6
        3) Based on calculated symmetrical value multiplied by 2.7

    e) Equivalent impedance

3. Interrupting Duty Report shall include a section for three-phase and unbalanced fault calculations and shall show the following information for each applicable location:

    a) Voltage
    b) Calculated symmetrical fault current magnitude and angle
    c) Fault point X/R ratio
    d) No AC Decrement (NACD) Ratio
    e) Equivalent impedance

f) Multiplying factors for 2, 3, 5 and 8 cycle circuit breakers rated on a symmetrical basis
g) Multiplying factors for 2, 3, 5 and 8 cycle circuit breakers rated on a total basis

C. Recommended Protective Device Settings:

1. Phase and Ground Relays:

a) Current transformer ratio
b) Current setting
c) Time setting
d) Instantaneous setting
e) Recommendations on improved relaying systems, if applicable.

2. Circuit Breakers:

a) Adjustable pickups and time delays (long time, short time, ground)
b) Adjustable time-current characteristic
c) Adjustable instantaneous pickup
d) Recommendations on improved trip systems, if applicable.

D. Incident energy and flash protection boundary calculations

1. Arcing fault magnitude
2. Protective device clearing time
3. Duration of arc
4. Arc flash boundary
5. Working distance
6. Incident energy
7. Hazard risk category
8. Recommendations for arc flash energy reduction

3.7 FIELD ADJUSTMENT

A. Adjust relay and protective device settings according to the recommended settings table provided by the coordination study. Field adjustments to be completed by the contractor and/or electrical equipment manufacturer’s field service personnel.

B. Make minor modifications to equipment as required to accomplish conformance with short circuit and protective device coordination studies.

C. Notify Owner in writing of any required major equipment modifications.

3.8 ARC FLASH WARNING LABELS

A. The contractor of the Arc Flash Hazard Analysis shall provide a 3.5 in. x 5 in. thermal transfer type label of high adhesion polyester for each work location analyzed.

B. All labels will be based on recommended overcurrent device settings and will be provided after the results of the analysis have been presented to the owner and after any system changes, upgrades or modifications have been incorporated in the system.

C. The label shall include the following information, at a minimum:

1. Location designation
2. Nominal voltage
3. Flash protection boundary
4. Incident energy or energy range corresponding to reported Hazard risk category.
5. Working distance
6. Engineering report number, revision number and issue date.

D. Labels shall be machine printed, with no field markings.

E. Arc flash labels shall be provided in the following manner and all labels shall be based on recommended overcurrent device settings.

1. For each 600, 480 and applicable 208 volt panelboard, at least one arc flash label shall be provided.
2. For each motor control center, one arc flash label shall be provided.
3. For each switchboard, one arc flash label shall be provided.
4. For each main switchboard with Utility Service, one flash label shall be provided for each section.

F. Labels shall be field installed by the contractor.

3.9 ARC FLASH TRAINING

A. The contractor of the Arc Flash Hazard Analysis shall train the owner’s qualified electrical personnel of the potential arc flash hazards associated with working on energized equipment (minimum of 4 hours). The training shall be certified for continuing education units (CEUs) by the International Association for Continuing Education Training (IACET) or equivalent.

END OF SECTION SP-109S-26 05 73

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SECTION SP-109S-26 22 00 – LOW-VOLTAGE TRANSFORMERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Contractual Conditions and Division 01 Specification sections apply to this section.

1.2 SUMMARY

A. This section includes the requirements for provision and installation of low-voltage transformers.

1.3 DESCRIPTION

A. Provide and install all equipment, labor, material, accessories, and mounting hardware for a complete and operating system for low-voltage transformers.

1.4 SUBMITTALS

A. Product Data: Provide outline and support point dimensions of enclosures and accessories, unit weight, voltage, KVA, and impedance ratings and characteristics, tap configurations, insulation system type, and rated temperature rise.

1.5 QUALIFICATIONS

A. Manufacturer: Same as for products specified in Section 26 24 16 Panelboards.

1.6 REFERENCES AND REGULATORY REQUIREMENTS

A. Furnish products listed and tested by UL as suitable for purpose specified and shown.

B. Conform to requirements of the following:

1. ANSI/NFPA 70 - National Electrical Code.
2. NECA - Standard of Installation.
3. NEMA ST 1 - Specialty Transformers.
4. NEMA ST 20 - Dry Type Transformers for General Applications.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store, protect, and handle products per manufacturer’s recommendations.

B. Deliver transformers individually wrapped for protection and mounted on shipping skids.

C. Accept transformers on site. Inspect for damage.

D. Store in a clean, dry space. Maintain factory wrapping or provide an additional heavy canvas or heavy plastic cover to protect units from dirt, water, construction debris, and traffic.

E. Handle in accordance with manufacturer's written instructions. Lift only with lugs provided for the purpose. Handle carefully to avoid damage to internal components, enclosure, and finish.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Eaton.

2.2 TWO-WINDING TRANSFORMERS

A. Description:

1. NEM2A ST 20, factory-assembled, air cooled dry type transformers, ratings as indicated.
2. Transformers serving computer loads (whether shown on drawings or not) shall be Non-Linear load K-13 rated.
3. Other Non-Linear load transformers shall be as scheduled and noted on drawing.
4. Isolation and shielded type transformers (if applicable) shall be as scheduled and noted on drawings.

B. Insulation system and average winding temperature rise for rated KVA as follows:

1. 1-15 KVA: Class 185 with 115 degrees C rise.
2. 16-500 KVA: Class 220 with 115 degrees C rise.

C. Case temperature: Do not exceed 35 degrees C rise above ambient at warmest point.

D. Winding Taps:

1. Transformers Less than 15 KVA: Two 5 percent below rated voltage, full capacity taps on primary winding.
2. Transformers 15 KVA and Larger: NEMA ST 20.

E. Sound Levels: NEMA ST 20.

F. Basic Impulse Level: 10 KV.13

G. Ground core and coil assembly to enclosure by means of a visible flexible copper grounding strap.

H. Mounting: Suitable for wall, floor, or trapeze mounting, except transformers larger than 30 KVA, suitable for floor or trapeze mounting.

I. Coil Conductors: Continuous windings with terminations brazed or welded.

J. Transformer windings shall be continuous wound copper (98% conductivity) construction.

K. Enclosure: NEMA ST 20; Type 1 or Type 3R ventilated as indicated. Provide lifting eyes or brackets.

L. Isolate core and coil from enclosure using vibration-absorbing mounts.

M. Nameplate: Include transformer connection data.

N. Lugs: Suitable for terminating conductors sized for full load ampacity of transformer unit. Transformer lugs and mounting hardware shall be furnished by Manufacturer of transformer and shall be grade 5 with beveled washers. Hardware shall be of suitable size of pad opening per NEMA Standards.

2.3 SOURCE QUALITY CONTROL

A. Provide production testing of each unit in accordance with NEMA ST 20.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify site condition. Do not install NEMA 1 equipment until building has reached the “dried-in” stage.

B. Verify that surfaces are suitable for installing transformer supports.

3.2 PREPARATION

A. Concrete Pad: Design per manufacturer’s requirements plus three inches on all sides.

3.3 INSTALLATION

A. Install Products in accordance with manufacturer's instructions.

B. Set transformer plumb and level.

C. Maintain clearances around enclosure for ventilation in accordance with manufacturer's instructions.

D. Use flexible conduit, under the provisions of Section 26 05 33, one foot minimum length, for connections to transformer case. Make conduit connections to side panel of enclosure.

E. Mount transformers on vibration isolating pads suitable for isolating the transformer noise from the building structure.

F. Provide grounding and bonding in accordance with Section 26 05 26.

G. Ground per NEC 250-26 and to meet local codes as applicable. Grounding lugs shall be multi-conductor type UL Listed for quantity and size of conductors terminated.

H. Wall Mounted Transformers: Wall brackets shall be securely attached to concrete or masonry construction only and have supplemental support by means of all-thread rod hangers from superstructure above. Wall mounted transformers at non structural walls shall be supported from superstructure above with all-thread rod hangers, angle iron channel site manufactured structural stand, or combination thereof.

1. Installation of wall mounted transformers shall be installed to maintain clear space about/above panels as defined by NEC.

I. Conduit or piping systems that contain water or liquid of any kind shall not be installed over the top of any electrical equipment, transformers, racks, cabinets, or enclosures without prior written approval from the Owner.

3.4 FIELD QUALITY CONTROL

A. Install field inspect and test per manufacturer recommendations prior to energizing.

B. Measure primary and secondary voltages and make appropriate tap adjustments.

END OF SECTION SP-109S-26 22 00

SECTION SP-109S-26 24 16 - PANELBOARDS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Contractual Conditions and Division 01 Specification sections apply to this section.

1.2 SUMMARY

A. This section includes the requirements for provision and installation of panelboards.

1.3 DESCRIPTION

A. Provide all labor, materials, and equipment necessary to properly and completely install panelboards as scheduled on the drawings and as required by this section.

1.4 SUBMITTALS

A. Submit product data on each basic panelboard construction type, showing manufacturer's standard construction data including:

1. Cabinet construction/dimensions.
2. Bus construction.
3. UL labeling.
4. Each overcurrent device.

B. Shop drawings shall be submitted for each panel and clearly indicate the following information:

1. Label.
2. Each circuit breaker amperage rating, circuit number and position/location in panel.
3. Electrical characteristics of panel.
4. Mains rating.
5. Main device rating.
6. Mounting.
7. Dimension, width, depth, height.
8. Bus material.
9. Interrupting capacity of minimum rated breaker.
10. Panel type.

1.5 PROJECT AS-BUILT DOCUMENTS

A. Record actual locations of Panelboards on red lined as-built documents and indicate actual branch circuit arrangement.

1.6 OPERATION AND MAINTENANCE DATA

A. Provide spare parts data listing; source and current prices of replacement parts and supplies; and recommended maintenance procedures and intervals.

1.7 QUALITY ASSURANCE

A. Manufacturer: Company specializing in manufacturing products specified for minimum ten years.

1.8 REFERENCES AND REGULATORY REQUIREMENTS

A. Furnish products listed and classified by UL as suitable for purpose specified and indicated.

B. Conform to the requirements of the following:

1. ANSI/NFPA 70 - National Electrical Code.
2. NECA (National Electrical Contractors Association) - "Standard of Installation."
3. NEMA AB 1 - Molded Case Circuit Breakers.
4. NEMA PB 1 - Panelboards.
5. NEMA PB 1.1 - Instructions for Safe Installation, Operation and Maintenance of Panelboards Rated 600 Volts or Less.
6. UL 67 - Panelboards
7. UL 50 - Cabinets and Boxes
8. Fed. Spec. W-P-115C

1.9 FIELD MEASUREMENTS

A. Verify that field measurements are as instructed by manufacturer.

1.10 MAINTENANCE MATERIALS

A. Provide two keys per panelboard.

1.11 DELIVERY, STORAGE AND HANDLING

A. Handle panelboards and enclosures carefully to prevent damage.

B. Store equipment indoors and protect from weather.

C. Deliver tubs and internal assemblies sufficiently in advance of installation period as necessary to prevent delay of work.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Eaton, or approved substitutions.

2.2 GENERAL

A. Lighting and Appliance Branch Circuit Panelboards: NEMA PB1, circuit breaker type, dead front, UL 67.

B. Panelboard Bus: Copper ratings as indicated. Provide copper ground bus in each panelboard. Provide isolated full size neutral bus where neutral is applicable. Provide non-linear load panelboards as specified on drawings. Non-linear panelboards shall have 200 percent rated neutral busbar.

C. Short-Circuit Rating:

1. Minimum short circuit interrupting capacity: 10,000 amperes rms symmetrical for 240 volt panelboards; 14,000 amperes rms symmetrical for 480 volt panelboards. Bus shall be braced for minimum capacity equal to or greater than the lowest breaker symmetrical interrupting capacity. Minimum short circuit rating shall be increased to meet the following requirements:

a) Individual C.B. AIC Rating shown on panel schedules indicate lowest AIC rating allowed for individual circuit breaker in panel.
b) Circuit breakers shall be based on a fully rated system.
c) Circuit breaker types are not specified. Provide breakers to comply with the required AIC specified.

D. Enclosure:

1. Enclosures shall be at least 20 inches wide made from galvanized steel. Provide minimum gutter space in accordance with the National Electrical Code. Where feeder cables supplying the mains of a panel are carried through its box to supply other electrical equipment, the box shall be sized to include the additional required wiring space. At least four interior mounting studs with adjustable nuts shall be provided.

2. Enclosures shall be provided with blank ends.

3. Where indicated on the drawings, branch circuit panelboards shall be column width type.

4. Regulatory Requirements:

a) NEMA PB 1, Type 1, Interior dry locations.
b) NEMA PB 1, Type 3R, Interior damp locations.

c) NEMA PB 1, Type 4X stainless steel watertight, Exterior locations including those noted on drawings to be NEMA 3R.
d) NEMA PB 1, Type 4X stainless steel watertight, interior wet locations, and wash-down areas, regardless of that noted on drawings.
e) UL 50

E. Cabinet box:

1. 6 inches (153 mm) deep; width: 20 inches (508 mm), minimum.
2. Interior dry and damp locations shall be constructed of galvanized code gauge steel, to prevent rust.
3. Exterior, wash-down areas, and Interior wet locations shall be constructed of type 4X stainless steel, watertight.

F. Cabinet Front:

1. Flush or surface with concealed trim clamps, concealed hinge, and flush lock all keyed alike.
2. Shall be door-in-door construction.
3. Finish in manufacturer's standard baked enamel finish for interior dry locations. Interior damp location panels to be painted with rust inhibit primer epoxy paint top coat system.
4. Exterior, wash-down areas, and Interior wet locations shall be constructed of type 4X stainless steel, watertight.

G. Panels and breakers shall be rated for voltage and class of service to which applied.

H. Spaces:

1. Space provisions or spaces for future breakers shall be located at the bottom of the panel and be fully bussed complete with all necessary mounting hardware less the breaker.

2.3 MAINS

A. Provide main lug only (MLO) or main circuit breaker (MCB) as noted on drawings either by riser diagram or by schedule. Where conflict exists, provide MCB.

B. Regardless of what is shown on drawings provide the following minimum requirements.

1. Main circuit breaker on each panel serving building main if required by applicable codes.
2. Main circuit breaker on each panel fed directly from a transformer (unless disconnect with overcurrent devices is installed in feeder between transformer and panel).

C. Provide lugs as required for conductors being connected to panelboard lugs, circuit breakers, etc.

D. Main circuit breaker is not to be mounted as branch breaker or subfeed breaker.

2.4 CIRCUIT BREAKERS

A. General

1. Molded Case Circuit Breakers: NEMA AB 1, plug-on type for 250V or less, bolt-on type for over 250V, thermal magnetic trip circuit breakers, with common trip handle for all poles. Provide circuit breakers UL listed as Type SWD for lighting circuits. Provide UL Class A ground fault interrupter circuit breakers where scheduled. Do not use tandem circuit breakers.
2. Current Limiting Molded Case Circuit Breakers: NEMA AB 1. Provide circuit breakers with integral thermal and instantaneous magnetic trip in each pole, coordinated with automatically resetting current limiting elements in each pole.

B. Main Breakers:

1. Main breakers shall be individually mounted separate from branch breakers.
2. Covered by a metal plate, except for operating handle.
3. Connection from the load's side to the panel bus shall be bus bar. Insulated wire not permitted.

C. Branch Breakers:

1. Thermal-magnetic, molded case, with inverse time-current overload and instantaneous magnetic tripping, unless otherwise shown. Breakers shall be calibrated for 40 degrees C or shall be ambient compensating.
2. Quick-make, quick-break, with tripped indication clearly shown by breaker handle taking a position between ON and OFF.
3. Multi-pole breakers shall have common internal trip. No handle ties between single pole breakers are acceptable for this Project.
4. Single pole 15 and 20 ampere circuit breakers shall be rated for switching duty and shall be labeled as "SWD".
5. Rating shall be as called for under "2.2 GENERAL".
6. Ground Fault Circuit Interrupters (GFI):

    a) Provide UL Class (5 milliamp sensitivity) ground fault circuit protection on 120 VAC branch circuits for exterior location receptacles and for interior locations where required by NEC. (These may not be indicated on Panel Schedule.) This protection shall be an integral part of the branch circuit breaker which also provides overload and short circuit protection for branch circuit wiring. Tripping of a branch circuit breaker containing ground fault circuit interruption shall not disturb the feeder circuit to the panelboard. Provide separate neutral for circuits on GFI breakers whether indicated on drawings or otherwise.

7. Breakers feeding heating and air conditioning equipment shall be rated HACR type breaker.

2.5 SERVICE ENTRANCE EQUIPMENT

A. Panelboards used as service entrance equipment shall be listed and labeled by UL for use as service equipment.

PART 3 - EXECUTION

3.1 PREPARATION/INSPECTION/EXAMINATION

A. Verify that surface is suitable for panelboard installation. Do not install NEMA 1 equipment until building has reached the “dried-in” stage.

B. Examine area to receive panelboard to assure adequate clearance for panelboard installation.

C. Verify prior to installation that National Electrical Code clearances will be maintained after installation. Rework equipment locations as required to provide electrical code clearances.

D. Start Work only after unsatisfactory conditions are corrected.

E. Submit coordination drawings of all electrical rooms, showing all equipment. Comply with Section 26 00 10 Basic Electrical Requirements.

3.2 INSTALLATION

A. Install panelboards in accordance with NEMA PB 1.1. Install all panelboards and panelboard enclosures in accordance with the manufacturer's written instructions, NECA's "Standard of Installation", the applicable requirements of the National Electrical Code, and recognized industry practices.

B. Install panelboards plumb. Install recessed panelboards flush with wall finishes. Provide supports in accordance with Section 26 05 29 Supporting Devices.

C. Panelboards shall be provided with structural framing located within gypsum board partitions. All enclosures shall be firmly anchored to walls and supporting structures (where used) using appropriate hardware. Provide supporting channels on walls constructed of gypsum board or where otherwise necessary to provide a mechanically secure and permanent installation. Attach channels to framing provided within gypsum board partitions.

D. Enclosures shall be installed so that the top is 6'-6" above finished floor.

1. Where the size of the enclosure is such that the top cannot be installed at 6'-6", the top of the enclosure shall be kept as low as possible.

E. Panelboard backboxes/trim covers mounted adjacent to each other (i.e. multi-section panels, etc.) installed in finished areas be of same size.

F. Provide filler plates for unused spaces in panelboards.

G. Provide typed circuit directory from panelboard manufacturers' original card stock, for each branch circuit panelboard. Mount a typewritten directory showing the actual circuit numbers, type of load and room names on inside of door. Room names shall be actual names or numbers used, not necessarily shown on the drawings. Progress Drawings shall show same arrangements as the Directory. Revise directory to reflect circuiting changes required to balance phase loads.

H. Provide four each 1 inch spare conduits out of each recessed panelboard to an accessible location above ceiling. Identify each as SPARE.

I. Clean the interior of each panelboard before installing conductors. At all times, keep the interior trim and exterior surfaces of the panelboard free of rust and debris. Repaint finishes if necessary.

J. Coordinate all raceways and conductors with their respective panelboards so that all connections and conductors routing present an orderly appearance. Conductors in the panelboards shall be neatly laced and arranged in orderly manner.

K. Collect all keys upon delivery of panelboard. Store keys on one ring to be kept by project superintendent. Forward key ring with keys to OAR at substantial completion.

L. Provide a separate neutral conductor for each GFI breaker. These shall not be combined to serve more than 1 circuit, even where on different phases. Increase plan indications of conductors for neutral wires required, as necessary.

M. Conduit or piping systems that contain water or liquid of any kind shall not be installed over the top of any electrical equipment, transformers, racks, cabinets, or enclosures without prior written approval from the Owner.

3.3 IDENTIFICATION

A. Refer to Section 26 05 53 Electrical Identification for products and content.

B. Provide engraved plastic nameplates under the provisions of 26 05 53.

C. Nameplate shall show panel name, voltage and name of panel that feeds this respective panel, and UL short circuit rating.

3.4 FIELD QUALITY CONTROL

A. Measure steady state load currents at each panelboard feeder; rearrange circuits in the panelboard to balance the phase loads to within 20 percent of each other. Maintain proper phasing for multi-wire branch circuits.

B. Visual and Mechanical Inspection: Inspect for physical damage, proper alignment, anchorage, and grounding. Check proper installation and tightness of connections for circuit breakers, fusible switches, and fuses.

C. All circuits shall be operated to establish a good working order and checked for shorts.

D. All panel directory circuit numbers shall be checked to verify accuracy of the number.

E. Tests:

1. Test Panelboards and panelboard feeders per requirements of Section 26 00 90 Tests and Performance Verification.
2. Feeder conductors shall be checked by approved means to establish the absence of shorts to ground; insulation value, etc. and the result recorded and submitted to the Designer.
3. Submit Conductor Insulation Resistance Test per requirements of Section 26 00 90.
4. Submit Tabulation Data Voltage and Amperage Readings per requirements of Section 26 00 90.

F. Equipment Checkout:

1. Where and when requested by Designer/RPR provide (during construction):

a) Inspection of equipment by authorized equipment manufacturer technician complete with submittal of statement of findings by technician, and providing any adjustments deemed necessary for a complete and operating system.
b) Submit Equipment Checkout Memo per Section 26 00 90.

3.5 ADJUSTMENT AND CLEANING

A. Adjust operating mechanisms for free mechanical movement.

B. Tighten bus connections and mechanical fasteners.

C. Touch up scratched and marred surfaces to match original finish.

END OF SECTION SP-109S-26 24 16

SECTION SP-109S-26 24 16.13 - DISTRIBUTION PANELBOARDS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Contractual Conditions and Specifications sections apply to this section.

1.2 SUMMARY

A. This section includes the requirements for provision and installation of distribution panelboards.

1.3 DESCRIPTION

A. Factory-assembled, metal-enclosed panelboard for distribution and control of power from incoming line terminals to outgoing feeder terminals, installed and tested in place.

B. Distribution panelboard shall include all protective devices and equipment as specified, with necessary interconnections, accessories and control wiring.

1.4 SUBMITTALS

A. Product data shall be submitted on each basic Distribution Panelboard construction type, showing manufacturer’s standard construction data, including:

1. Cabinet construction/dimensions.
2. Bus construction.
3. UL labeling.
4. Each overcurrent device.
5. Provide electrical characteristics including voltage, frame size and trip ratings, fault current withstand ratings, and time-current curves of all equipment and components.
6. Provide data on trip units and breaker interface module.

B. Shop drawing shall be submitted for all distribution panelboard for this project clearly indicating the following:

1. Label.
2. Each circuit breaker amperage rating, circuit number and position/location in distribution panelboard.
3. Electrical characteristics of distribution panelboard.
4. Mains rating.
5. Main device rating.
6. Mounting.
7. Dimension, width, depth, height..

8. Bus material.
9. Interrupting capacity of minimum rated breaker.
10. Distribution panelboard type.
11. Engraved nameplate for each overcurrent device.
12. Front and side views of enclosures with overall dimensions shown.
13. Conduit entrance locations and requirements.
14. Frame sizes and Interrupting Capacity of each breaker, and total assembly.
15. Horsepower ratings at rated voltage of fused switches and/or breakers.
16. Labels and labeling.
17. Nameplate on main panelboard only giving name of project; Architect, Engineer and Contractor.
18. Bus bar size, arrangement and spacing.
19. Breaker interface module.
20. Surge protection Device (SPD)Equipment
21. Metering/Monitoring Equipment

C. Submit Manufacturer's Instructions indicating application conditions and limitations of use stipulated by product testing agency specified under regulatory requirements. Include instructions for storage, handling, protection, examination, preparation, installation, and starting of product.

D. Submit Maintenance Data: Include spare parts data listing; source and current prices of replacement parts and supplies; and recommended maintenance procedures and intervals.

E. Submit Spare Parts Certification Memo signifying that the spare parts required by the drawings and/or specifications have been turned over to the Owner.

1.5 PROJECT AS-BUILT DOCUMENTS

A. Record actual locations of distribution panelboards on red lined as-built documents indicating actual circuit arrangement.

1.6 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum 10 years experience.

1.7 REFERENCES AND REGULATORY REQUIREMENTS

A. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

B. Conform to the requirements of the following:

1. ANSI/NFPA 70 - National Electrical Code.
2. NEMA AB 1 - Molded Case Circuit Breakers and Molded Case Switches.
3. NEMA KS 1 - Enclosed Switches.

4. NEMA PB 1 - Panelboards.
5. NEMA PB 1.1 - Instructions for safe Installation, Operation and Maintenance of Panelboards Rated 600 Volts or Less.
6. UL 67 - Panelboards
7. UL 50 - Cabinets and Boxes
8. Fed. Spec. W-P-115C

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver in 35 inch maximum width or depth (or dimension required to fit section through doors), individually wrapped for protection and mounted on shipping skids.

B. Accept distribution panelboards on site. Inspect for damage.

C. Store in a clean, dry space designated by RPR. Maintain factory wrapping or provide an additional heavy canvas or heavy plastic cover to protect units from dirt, water, construction debris, and traffic.

D. Handle in accordance with NEMA PB 1 and manufacturer's written instructions. Lift only with lugs provided for the purpose. Handle carefully to avoid damage to distribution panelboard internal components, enclosure, and finish.

1.9 ENVIRONMENTAL REQUIREMENTS

A. Conform to NEMA PB 1 service conditions during and after installation of distribution panelboards.

1.10 FIELD MEASUREMENTS

A. Verify that field measurements are as indicated and comply with instructions by manufacturer.

1.11 MAINTENANCE MATERIALS

A. Provide two of each key (where applicable).

B. Provide two fuse pullers (where applicable).

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Eaton (Basis of Design), SQ-D or approved substitutions.

2.2 GENERAL

A. Distribution Panelboards shall have circuit breaker branch protective devices complying with NEMA PB1 as a minimum requirement. Panelboards shall be NEMA I and shall meet Underwriter's Laboratories enclosure requirements for service conditions.

B. Distribution panelboards shall have UL label affixed, unless special construction prohibits and no labeling or listing is available.

C. Short-Circuit Rating:

1. Minimum integrated short circuit rating: 22,000 amperes rms symmetrical for 240 volt. Bus shall be braced for minimum capacity equal to or greater than the lowest breaker symmetrical interrupting capacity. Minimum short circuit rating shall be increased to meet the following requirements:

   a) Individual C.B. AIC Rating shown on panel schedules indicate lowest AIC rating allowed for individual circuit breaker in panel.
   b) Circuit breakers shall be based on a fully rated system.
   c) Circuit breaker types are not shown or called for. The contractor must provide breakers in panel or feeder breakers in upstream breakers to comply with the required AIC specified.
   d) Distribution panelboards to be freestanding type construction unless specifically specified otherwise.

2. Short-Circuit Rating Label:

   a) Panelboards shall be labeled with a UL short-circuit rating.
   b) Series ratings shall not be used to achieve short circuit ratings.

D. Enclosure:

1. Enclosures shall be at least 20 inches wide made from galvanized steel. Provide minimum gutter space in accordance with the National Electrical Code. Where feeder cables supplying the mains of a panel are carried through its box to supply other electrical equipment, the box shall be sized to include the additional required wiring space. At least four interior mounting studs with adjustable nuts shall be provided.
2. Enclosures shall be provided with blank ends.
3. Where indicated on the drawings, branch circuit panelboards shall be column width type.
4. Regulatory Requirements:

   a) NEMA PB 1, Type 1, Interior dry locations.
   b) NEMA BP 1 Type 3R, Interior damp locations
   c) NEMA PB 1, Type 4X stainless steel watertight, Exterior locations including those notes on drawings to be NEMA 3R
   d) NEMA PB 1, Type 4X stainless steel watertight, interior wet locations, and washdown areas, regardless of that noted on drawings.
   e) UL 50

2.3 DISTRIBUTION PANELBOARDS

A. Description: NEMA PB 1 with electrical ratings and configurations as indicated.

B. Overcurrent Devices: Panel mounted.

C. Bus Material: Copper standard size.

D. Bus Connections: Bolted, accessible from front for maintenance.

E. Ground Bus: Extend length of board.

F. Molded Case Circuit Breakers - 1200A and Below:

1. Protective devices shall be molded case circuit breakers with inverse time and instantaneous tripping characteristics.
2. Circuit breakers shall be operated by a toggle-type handle and shall have a quick-make, quick-break over-center switching mechanism that is mechanically trip-free. Automatic tripping of the breaker shall be clearly indicated by the handle position.
3. Circuit breakers shall have a minimum symmetrical interrupting capacity as indicated on the drawings and as specified herein.
4. Circuit breakers 225 ampere and below shall have thermal-magnetic trip units and inverse time-current characteristics.
5. Circuit breakers above 225 ampere shall have microprocessor based programmable RMS sensing trip units.
6. Ground fault protection shall be provided where indicated.
7. Where indicated circuit breakers shall be current limiting.
8. Where indicated provide UL listed circuit breakers for applications at 100% of their continuous ampere rating in their intended enclosure.

G. Programmable Trip Units: (Circuit Breakers Above 225 Ampere)

1. Each circuit breaker microprocessor-based tripping system shall consist of three (3) current sensors, a trip unit and a flux-transfer shunt trip. The trip unit shall use microprocessor-based technology to provide the adjustable time-current protection functions. True rms sensing circuit protection shall be achieved by analyzing the secondary current signals received from the circuit breaker current sensors and initiating trip signals to the circuit breaker trip actuators when predetermined trip levels and time-delay settings are reached Basis of Design is Eaton type OPTIM 1050.
2. Interchangeable rating plugs shall establish the continuous trip ratings of each circuit breaker. Rating plugs shall be fixed-type as indicated. Rating plugs shall be interlocked so they are not interchangeable between frames, and interlocked such that a breaker cannot be closed and latched with the rating plug removed.
3. System coordination shall be provided by the following microprocessor-based programmable time/current curve shaping adjustments:

a) Programmable long-time pickup settings in 1% increments, with +/- 5% band tolerance
b) Programmable long-time delay with selectable I2t or I4t curve shaping.

c) Programmable short-time settings (dependent on long-time setting) in 1% increments, with +/- 5% band tolerance.
d) Programmable short-time delay with selectable flat or I2t curve shaping.
e) Programmable instantaneous pickup settings in 1% increments.
f) Programmable ground fault pickup settings trip or alarm in 1% increments.
g) Programmable ground fault delay with selectable flat or I2t curve shaping.

4. The microprocessor-based trip unit shall have a powered/unpowered selectable thermal memory to provide protection against cumulative overheating should a number of overload conditions occur in quick succession.
5. When the instantaneous setting has been deselected, a selectable discriminator circuit shall be provided to prevent the breaker being closed and latched on to a faulted circuit.
6. Internal ground fault protection or alarm settings, if specified, shall not exceed 1200 amperes. Provide neutral ground fault sensor for four-wire loads.
7. The trip unit shall have an information system that utilizes battery backed up LEDs to indicate mode of trip following an automatic trip operation. The indication of the mode of trip shall be retained after an automatic trip. The LEDs shall be complemented by trip event information stored in non-volatile memory after a trip event. A trip reset button shall be provided to turn off the LED indication and reset the memory after an automatic trip. A test pushbutton shall energize an LED to indicate battery status.
8. A red LED shall be provided on the face of the trip unit and pre-set to flash on and off when an adjustable high-load level is exceeded. A time-delay shall be provided to avoid nuisance alarms. The microprocessor-based trip units shall be capable of monitoring the following data:

    a) Instantaneous value of phase, neutral and ground current.
    b) Minimum and maximum current values.
    c) Average demand current.
    d) System diagnostic information such as alarms and cause of trip.
    e) Approximate level of fault current that initiated an automatic trip operation.

9. The trip unit shall contain test capability. Testing shall be carried out by using a hand-held programmer, a breaker interface module or a remote computer to select the values of test current within a range of available settings. The basic protection functions shall not be affected during test operations. The breaker may be tested in either the "Trip" or "No Trip" test mode.
10. A hand-held programming unit shall be provided to set/change the network communication breaker address for each device, set the stem baud rate, distribution frequency, display breaker information, and display monitored values. In addition, provide password protection for programming time/current set points and to perform functional testing of phase and ground trip characteristics. The programmer shall be self-powered by an internal battery. Provide two (2) hand-held programming units. Contractor shall submit Spare Parts Certification Memo certifying two hand-held programming units have been turned over to the Owner.
11. The monitored data shall be displayed by a hand-held programmer, a breaker interface module and a remote computer.

12. Circuit breakers, 1200 ampere frame and below, shall be provided with a 24 volt DC power supply mounted within the assembly. In addition, provide a minimum of one (1) auxiliary switch and one (1) bell alarm, each with form C contacts in each breaker. Provide additional auxiliary switches, bell alarms, shunt trips, and undervoltage releases where indicated on the drawings.
13. The trip unit shall be capable of two-way communication via a network twisted pair for remote monitoring and control. The trip unit shall be provided with an address register for identification on the network. All monitored values shall be transmittable over the network.
14. The trip unit shall include zone interlocking capability for the short-time delay and ground fault delay trip functions for improved system coordination. The zone interlocking system shall restrain the tripping of an upstream circuit breaker, and allow the circuit breaker closest to the fault to trip with no intentional time delay. In the event that the downstream breaker does not trip, the upstream breaker shall trip after the pre-set time delay. Factory wire zone interlocking system for breakers within each assembly.
15. Molded case circuit breakers shall be provided with a potential transformer, suitable for operation up to 600 volts. The potential transformer shall be mounted externally to the circuit breakers and provided with a dielectric disconnect fuse.
16. For enhanced system analysis, the following additional parameter values shall be monitored:

    a) Peak demand (kW)
    b) Present demand (kW)
    c) Reverse energy (kWh)
    d) Forward energy (kWh)
    e) Total energy (kWh)
    f) Power factor
    g) Percentage harmonic content
    h) Total Harmonic Distortion (THD).

H. Ground Fault Sensor (where called for on drawings): Zero sequence of ground return type.

I. Future Provisions: Fully equip spaces for future devices with bussing and bus connections, suitably insulated and braced for short circuit currents. Provide continuous current rating as indicated.

J. Enclosure: Type 1 - General Purpose for interior locations. Type 2 - Rain tight for damp locations.

1. Align sections at front and rear.
2. Finish:

    a) Interior dry locations: Manufacturer's standard light gray enamel over external Interior surfaces. Coat internal surfaces with minimum one coat corrosion-resisting paint, or plate with cadmium or zinc.
    b) damp locations: Coat interior and exterior of enclosure with rust inhibiting primer and paint over with epoxy paint.
    c) Exterior, wash-down areas, and Interior wet locations: NEMA 4X stainless steel, watertight.

2.4 DISTRIBUTION ENTRANCE EQUIPMENT

A. Panelboards used as service entrance equipment shall be listed and labeled by UL for use as service equipment.

PART 3 - EXECUTION

3.1 PREPARATION, INSPECTION, EXAMINATION

A. Verify that surface is suitable for panelboard installation. Do not install NEMA 1 equipment until building has been “dried-in” stage.

B. Examine area to receive panelboard to assure adequate clearance.

C. Verify National Electrical Code clearances will be maintained after installation. Rework equipment locations as required to provide Electrical code clearances.

D. Start Work only after unsatisfactory conditions have been corrected.

E. Submit coordination drawings of all electrical rooms, showing all electrical (and mechanical) equipment. Comply with requirements of Section 26 05 01.

3.2 INSTALLATION

A. Install panelboards in accordance with NEMA PB 1.1. Install all panelboards and distribution panelboard enclosures in accordance with the manufacturer's written instructions, NECA's "Standard of Installation", the applicable requirements of the National Electrical Code, and recognized industry practices.

B. Install panelboards plumb. Install recessed distribution panelboards flush with wall finishes. Provide supports in accordance with Section 26 05 29.

C. Panelboards and terminal cabinets shall be provided with structural framing located within gypsum board partition. All enclosures shall be firmly anchored to walls and supporting structures (where used) using appropriate hardware. Provide supporting (unistrut type) channels on walls constructed of gypsum board or where otherwise necessary to provide a mechanically secure and permanent installation. Attach channels to framing provided within gypsum board partitions

D. Install enclosures so that the top is 6'-6" above finished floor. Where the size of the enclosure is such that the top cannot be installed at 6'-6", the top of the enclosure shall be kept as low as possible.

E. Provide filler plates for unused spaces in distribution panelboards.

F. Provide spare conduits out of each recessed distribution panelboard to an accessible location above ceiling. Minimum spare conduits: 4 empty 1 inch. Identify each as SPARE.

G. Install distribution panelboards so that proper working clearances shall be maintained at every distribution panelboard location.

H. Clean the interior of each distribution panelboard before installing conductors. At all times, keep the interior trim and exterior surfaces of the distribution panelboard free of rust and debris. Repaint finishes if necessary.

I. Coordinate all raceways and conductors with their respective distribution panelboards so that all connections and conductors routing present an orderly appearance. Conductors in the distribution panelboards shall be laced and arranged in orderly manner.

J. Provide a separate neutral conductor for each GFI breaker. These shall not be combined to serve more than 1 circuit, even where on different phases. Increase plan indications of conductors for neutral wires required, as necessary.

K. Provide and install separate 120 volt, 20 AMP circuit complete with circuit breaker, transformer, conduit, and wire as required to power any shunt-trip function specified.

L. Conduit or piping systems that contain water or liquid of any kind shall not be installed over the top of any electrical equipment, transformers, racks, cabinets, or enclosures without prior written approval from the Owner.

3.3 IDENTIFICATION

A. Refer to Section 26 05 53.

B. Provide engraved plastic nameplates under the provisions of 26 05 53.

3.4 FIELD QUALITY CONTROL

A. Measure steady state load currents at each distribution panelboard feeder; rearrange circuits in the distribution panelboard to balance the phase loads to within 20 percent of each other. Maintain proper phasing for multi-wire branch circuits.

B. Visual and Mechanical Inspection: Inspect for physical damage, proper alignment, anchorage, and grounding. Check proper installation and tightness of connections for circuit breakers, fusible switches, and fuses.

C. All circuits shall be operated to establish a good working order and checked for shorts.

D. All panel directory circuit numbers shall be checked to verify accuracy of the number.

E. Measure insulation resistance of each bus section phase to phase and phase to ground for one minute each, at test voltage of 1000 volts; minimum acceptable value for insulation resistance is 2 megohms.

F. Check tightness of accessible bolted bus joints using calibrated torque wrench.

G. Physically test key interlock systems to insure proper function.

H. Tests:

1. Test Distribution panelboards and distribution panelboard feeders per requirements of Section 26 08 10.
2. Feeder conductors shall be checked by approved means to establish the absence of shorts to ground; insulation value, etc. and the result recorded and submitted to the Designer.
3. Submit Conductor Insulation Resistance Test per requirements of Section 26 08 10.
4. Submit Tabulation Data Voltage and Amperage Readings per requirements of Section 26 08 10.

I. Equipment Checkout:

1. When requested by Designer provide (during construction):

a) Inspection of equipment by authorized equipment manufacturer technician complete with submittal of statement of findings by technician, and providing any adjustments deemed necessary for a complete and operating system.
b) Submit Equipment Checkout Memo per Section 26 08 10.

3.5 ADJUSTING

A. Adjust all operating mechanisms for free mechanical movement.

B. Tighten bolted bus connections in accordance with manufacturer’s instructions.

C. Adjust circuit breaker trip and time delay settings to values per manufacturer’s recommendation.

END OF SECTION SP-109S-26 24 16.13

SECTION SP-109S-26 27 16 – ELECTRICAL CABINETS AND ENCLOSURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Contractual Conditions and Division 1 Specification sections apply to this section.

1.2 SUMMARY

A. This section includes the requirements for provision and installation of cabinets and enclosures.

1.3 DESCRIPTION

A. Provide and install all equipment, labor, material, accessories, and mounting hardware for a complete and operating system for the following:

1. Hinged cover enclosures.
2. Cabinets.

B. Cabinets and enclosures are to include:

1. Terminal blocks,
2. Mounting panel,
3. Ground bus/bar, and
4. All accessories as required for a complete and operating system.

C. Provide cabinets and enclosures for all systems specified in Division 16.

1.4 REFERENCES AND REGULATORY REQUIREMENTS

A. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

B. Conform to the requirements of the following:

1. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum).
2. NEMA ICS 4 - Terminal Blocks for Industrial Control Equipment and Systems.
3. ANSI/NFPA 70 - National Electrical Code.

1.5 SUBMITTALS

A. Submit Product Data: Provide manufacturer's standard data for enclosures and cabinets.

B. Submit Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by product testing agency specified under regulatory requirements. Include instructions for storage, handling, protection, examination, preparation, installation, and starting of Product.

C. Submit shop drawings on all cabinets and enclosures showing:

1. Covers.
2. Dimensions - inside and out.
3. Gauge of metal.
4. Manufacturer.
5. Terminal mounting plate, construction, etc.
6. Ground bus/bar.

1.6 EXTRA MATERIALS

A. Provide two keys for each type of lock.

PART 2 - PRODUCTS

2.1 GENERAL

A. Unless specifically called for otherwise on contract drawings, provide "CABINETS" as specified herein for terminal cabinets mounted indoor. Similarly, provide "HINGED COVER ENCLOSURES" as specified herein for terminal cabinets mounted outdoors or in locations other then NEMA 1 locations. Also, provide "HINGED COVER ENCLOSURES" for locations where size required is not available in "CABINET" construction, or if specifically specified as "enclosure" on contract documents.

B. Size.

1. Dimensions of cabinets and enclosures shall meet the dimensions shown on drawings, dimensions required by NEC, or dimensions sized as required to facilitate all equipment/connections involved installation, whichever is largest.
2. Coordinate sizes required and assure that equipment cabinets or enclosures will house and facilitate proper installation and access to equipment.

C. Provide metal barriers to separate compartments containing control wiring operating at less than 50 volts from power wiring or where wiring from separate systems of Normal and Emergency Power are required to be in one enclosure.

D. Provide accessory feet or mounting brackets for free-standing equipment.

2.2 HINGED COVER ENCLOSURES

A. Construction:

1. Interior Dry Locations: NEMA Type 1 (unless otherwise noted), steel.
2. Exterior and Interior Wet Locations: NEMA Type 4X: Stainless steel.

B. Covers: Continuous hinge.

C. Enclosure Finish:

1. NEMA 1: manufacturer's standard metallic gray enamel over phosphatized surfaces.
2. NEMA 4X: Stainless steel.

D. Lock/handle.

1. Provide key lock handle on all enclosures mounted in areas that are not dedicated electrical or mechanical rooms. Enclosures installed in electrical rooms are not required to be lockable.

E. Interior mounting plate.

1. Each enclosure is to have interior mounting plate/panel for mounting terminal blocks and electrical components.
2. Plate/panel is to be metal.

F. Ground bus/bar.

1. Each enclosure housing surge suppression equipment or other equipment shall have "local" ground bar/bus installed. See Article "Local Ground Bus/Bar".

2.3 CABINETS

A. Construction: Specified gauge steel with removable enwalls.

B. Finish:

1. Boxes:

a) Surface mounted: Gray baked enamel.
b) Flush mounted: Galvanized steel.

2. Fronts: Gray baked enamel.

C. Fronts:

1. Electrical or mechanical room locations: screw cover with hinged door and flush handle or as noted below.
2. Other locations: mono-flat with concealed trim clamps, concealed hinges, flush lock lockable handle, and custom color finish in interior public areas to match mounting surface.
3. Flush or surface type as shown or called for on contract documents.

D. Interior mounting plate.

1. Each enclosure is to have interior mounting plate/panel for mounting terminal blocks and electrical components.
2. Panel/plate shall be metal.

E. Ground bus/bar.

1. Each cabinet housing surge suppression equipment or other equipment shall have "local" ground bar/bus installed. See specification for "Local Ground Bus/Bar" included within this section.

2.4 TERMINAL BLOCKS

A. Terminal Blocks: ANSI/NEMA ICS 4.

B. Power Terminals: Unit construction type with closed back and tubular pressure screw connectors, rated 600 volts.

C. Signal and Control Terminals: Modular construction type, suitable for channel mounting, with tubular pressure screw connectors, rated 300 volts.

D. Provide ground bus terminal block, with each connector bonded to enclosure.

2.5 LOCAL GROUND BUS/BAR

A. Size to handle #6 through #14 AWG copper ground wire.

B. Length as required for circuits.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that surfaces are ready to receive Work.

3.2 INSTALLATION

A. Install Products in accordance with manufacturer's instructions.

B. Install enclosures and cabinets plumb. Anchor securely to wall and structural supports at each corner.

C. Install cabinet fronts plumb.

D. Install per N.E.C. and as required for proper clearance. Coordinate with panels.

E. Provide and install terminal cabinets as shown on drawings or as required by the National Electrical Code (NEC).

F. Provide terminal cabinets wherever required for a complete and operating distribution system whether shown on drawings or not.

G. Install local ground bus/bar in each terminal cabinet/enclosure that houses surge suppression equipment or other equipment and bond to cabinet enclosure via mounting screws or #6 AWG copper ground wire.

H. Ground local ground bus to "SYSTEMS" ground bus/bar with minimum #6 AWG copper ground wire. Increase size if so required on drawings.

I. Install enclosures. Identification of cabinets is required. Phenolic labels with voltage, circuit, panel, fed from, location of source, location of load.

END OF SECTION SP-109S-26 27 16

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SECTION SP-109S-26 27 26 - WIRING DEVICES

PART 1- GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Contractual Conditions and Division 01 Specification sections apply to this section.

1.2 SUMMARY

A. This section includes the requirements for provision and installation of wiring devices.

1.3 DESCRIPTION

A. Provide and install all equipment, labor, material, accessories, and mounting hardware for a complete and operating system for the following:

1. Wall switches.
2. Wall dimmers.
3. Receptacles.
4. Device plates and decorative box covers.

1.4 SUBMITTALS

A. Submit Product Data: Provide manufacturer's catalog information showing dimensions, colors, and configurations including all types of wiring devices, plates and engraving.

B. Submit Manufacturer's Instructions:

1. Indicate application conditions and limitations of use stipulated by product testing agency specified under regulatory requirements.
2. Include instructions for storage, handling, protection, examination, preparation, operation and installation of product.

1.5 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum five years experience.

1.6 REFERENCES AND REGULATORY REQUIREMENTS

A. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

B. Conform to the requirements of the following:

1. ANSI/NFPA 70 - National Electrical Code
2. NEMA WD 1 - General Purpose Wiring Devices.
3. NEMA WD 5 - Wiring Devices, Special Purpose
4. NEMA WD 6 - Wiring Device Configurations.

1.7 EXTRA MATERIALS

A. Provide a minimum of two (2) screw drivers of each type of tamper proof screw used on project. Turn over to RPR. Include receipt in O&M manual.

PART 2 - PRODUCTS

2.1 GENERAL

A. All devices shall be Specification Grade as minimum.

B. General purpose wiring devices shall meet NEMA standard WD-1, wiring devices, general purpose. Special purpose devices shall conform to the requirements of NEMA standard WD-5, wiring devices, special purpose.

C. All wiring devices shall bear UL labels.

D. All devices of one type shall be by the same Manufacturer.

1. "Hazardous Location" and special purpose devices as may not be available from the same manufacturer shall constitute the only exception to this requirement of single source.

E. Corrosion resistant devices shall be as specified for normal usages, and fabricated of yellow color melamine plastic. Where "Weatherproof" type is indicated for exterior or wet locations, provide matching self-closing cover, with gasketed seals at plate/wall junctions and for cover.

1. Provide factory packaged wiring devices having high impact strength molded plastic bodies.

F. Except where specifically required, the use of interchangeable type or combination switch-receptacle-pilot devices are not acceptable.

2.2 WALL SWITCHES

A. General:

1. Snap switches for general use shall be maintained contact types, and shall be single-pole, double-pole, three-way, or four-way as required for the specific switching arrangements shown on the drawings. They shall be quiet tumbler

operation types, having silver alloy contacts, and meeting all NEMA performance standards. Color to match plates unless specifically noted otherwise.

2. Switches shall be toggle or key-operated types, as indicated on the drawings. All key-operated switches shall be keyed alike.
3. Where switches are denoted as having pilot lights, pilot lights shall glow when the switches are "ON". Provide pilot light switch with lamp and miniature step-down transformer. The pilot light shall have a red lens, and the lamp shall be long-life type.
4. Jewels for use with switches controlling motors shall be green, and jewels for other purposes shall be amber. All units shall be front relampable.
5. Snap switches installed in hazardous locations shall be UL listed for the type of location (class and division).
6. Switches connected to emergency power shall have red lighted handles which shall illuminate when the switches are "Off".
7. Voltage and ampere rating of switches shall be marked on switch, and shall conform to voltage of system to which applied.
8. Switches shall have back and side wired screw pressure terminals.

B. Description: NEMA WD 1, heavy-duty, AC only general-use snap switch.

C. Voltage Rating: 120-277 volts, AC.

D. Current Rating: 20 amperes minimum.

E. Ratings: Match branch circuit and load characteristics.

2.3 WALL DIMMERS

A. Description: NEMA WD 1, semiconductor dimmer for incandescent lamps, type as indicated on Drawings.

B. Device Body: Present, linear slide as called for on drawings.

C. Voltage: 120 volts or as required to match application.

D. Power Rating: Match load shown on Drawings; 600 Watts minimum.

E. Accessory Wall Switch:

1. Match dimmer appearance.
2. Same manufacturer and style as dimmer switch.

2.4 RECEPTACLES

A. General:

1. All receptacles shall be of standard NEMA configuration, as indicated on the drawings, and shall comply with the respective ANSI C73 series standard for the NEMA configuration. Color to match plates unless specifically noted otherwise.

2. Duplex receptacles shall have integral UL listed self-grounding clips. Similar, single receptacles shall be provided for plug-in connections of industrial fluorescent light fixtures on the same switching circuit. Receptacle face to be impact resistant nylon.
3. Weatherproof duplex receptacles shall be provided in all exterior locations, and shall be Ground Fault Circuit Interrupting (GFCI) types, with weatherproof stainless steel cover plates.
4. Special purpose receptacles for specific equipment shall be grounding types, having the number of poles, voltage and ampere ratings, and NEMA configurations required by the equipment. For each special purpose receptacle, provide an identical mating plug equipped with cord grip, secured to cord.
5. Duplex receptacles shall have back and side wired screw pressure terminals.
6. Receptacles to be installed in shower rooms, locker rooms, toilet rooms, janitors closets, exterior, elevator pit and machine rooms, escalator pits, within six (6) feet of a sink, and other areas as required by NEC, and OSHA Standards shall be ground fault circuit interrupting (GFCI) type, whether specified or not.
7. Receptacles installed for water coolers shall be GFCI type, or a single receptacle as permitted by NEC.

B. Description: NEMA WD 1; heavy-duty general use receptacle.

C. Configuration: NEMA WD 6; heavy-duty, general use type as specified and indicated.

D. Convenience Receptacle: Type 5-20.

E. GFCI Receptacle: Convenience receptacle with integral ground fault circuit interrupter, and automatic “self-testing feature” to meet regulatory requirements.

2.5 COVER PLATES

A. All wiring devices shall be provided with standard size one-piece cover plates of suitable configuration for the number and type of devices to be covered.

B. Metallic cover plates shall be used in interior spaces, except as noted below, and shall be fabricated of corrosion-resistant #302 stainless steel, having a nominal thickness of .04", and a brushed finish. Screws securing the plates shall have flush (when installed) heads with finish to match plates. Metallic cover plates shall meet all requirements of the National Electrical Code and Federal Specifications.

C. Cover plates for switches located in corrosive atmospheres (where vaporproof is not indicated) shall consist of a one piece neoprene boot with matching presswitch.

D. Cover plates for exterior receptacles shall be gasketed covers with hinge allowing plug and cord to be plugged in and activated with cover closed.

E. Cover plate engraving, where required, shall be accomplished by cover plate manufacturer in accordance with instructions given on the drawings. Metallic plates and nylon plates in ivory, beige, gray, and white shall be engraved with black fill. Red, brown, and black nylon plates shall be engraved with white fill.

F. Plates for devices connected to emergency power shall be as specified for devices connected to normal circuits, but shall be engraved reading "Emergency", see drawings for other engraving requirements.

G. Plates for devices connected to computer power panels shall be engraved reading “Computer”. Devices connected to emergency computer power panels shall be red in color.

H. Plates for devices connected to UPS power systems shall be as specified for devices connected to normal circuits, but shall be engraved reading "UPS POWER", see drawings for other engraving requirements.

I. Unless specifically noted otherwise in specs or on drawings all outlets for telephone and other communications and data systems shall be provided with standard size one-piece cover plates having a minimum 3/4 inch diameter, with bushing, in the center unless specifically noted otherwise. Where telephone conductors are installed, plates shall contain telephone type, polarized plug-in receptacles.

J. Device plates located in secure areas, as noted on drawings, shall have security wall plates (10 gauge) with 12 gauge galvanized steel backplate. All device plates shall have tamperproof screws.

2.6 COLOR

A. Wiring devices connected to normal power shall be gray unless specifically noted otherwise.

B. All devices and coverplates in paneled walls shall have finish to match paneling.

C. Devices connected to emergency power shall be red color. (Including devices connected to emergency computer power panels).

D. Devices connected to separate computer power panels shall be black in color.

E. Modify any given catalog numbers as required to procure devices and plates of the proper color.

F. Devices connected to UPS systems shall be orange (isolated ground).

2.7 FLUORESCENT DIMMERS

A. Dimmers shall be electronic type and include a remote control where required. Special dimming ballasts shall be included on fixtures to be dimmed. Ballasts shall be compatible with dimmer being provided.

2.8 LED DIMMERS

A. Dimmers shall be electronic and compatible with light fixtures provided.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify outlet boxes are installed at proper height.

B. Verify wall openings are neatly cut and will be completely covered by wall plates.

C. Verify floor boxes are adjusted properly.

D. Verify branch circuit wiring installation is completed, tested, and ready for connection to wiring devices.

3.2 PREPARATION

A. Provide extension rings to bring outlet boxes flush with finished surface.

B. Clean debris from outlet boxes.

3.3 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Install devices plumb and level.

C. Install switches with OFF position down.

D. In general. lighting control switches shall be located at the lock/strike plate side of door(s). If the drawings indicate otherwise, issue a request for clarification prior to rough-in.

E. Install wall dimmers to achieve full rating specified and indicated after derating for ganging as instructed by manufacturer.

F. Do not share neutral conductor on load side of dimmers.

G. Install receptacles with grounding pole on bottom.

H. Where 2 or more switches or receptacles are to be installed adjacent to one another, provide a multi-gang coverplate. Provide proper NEC barriers in boxes which serve devices for both the Normal and Emergency Systems or a combined system voltage of 480 volt.

I. Provide device coverplates for every device installed. Cover plates shall be installed so that they appear straight with no gaps between plate edges and the wall. Maintain vertical and horizontal to within 1/16 of an inch.

J. In finished areas, provide same type of plate for all surface mounted devices as for recessed mounted devices.

K. In any room, where new and existing construction is present, all receptacles, switches, and coverplates which are existing to remain shall be changed, to match new work.

L. Wiring devices shall not be installed in exposed masonry until cleaning of masonry with acids has been completed.

M. All receptacles and switches shall be grounded by means of a ground wire from device ground screw to outlet box screw and branch circuit ground conductor. Strap alone will not constitute an acceptable ground.

N. All wiring devices, relays, contactors, pushbuttons, selector switches, pilot lights, etc. shall be installed in approved enclosures rated for the appropriate NEMA classified environment.

O. All devices shall be installed so that only one wire is connected to each terminal.

P. Once construction is substantially completed, replace all damaged, burned, or scorched wiring devices.

Q. Receptacles shown to be floor mounted shall be installed in floor boxes (with coverplates) which are approved for this use.

R. Connect wiring devices by back wiring conductor into compression terminal.

S. Install protective rings and split nozzle on active flush cover service fittings.

3.4 NEUTRAL CONDUCTOR CONNECTIONS

A. At each receptacle "in" and "out" phase and neutral conductors shall have an additional conductor “pigtail” for connection to device. The practice of "looping" conductors through receptacle boxes shall not be acceptable.

3.5 INTERFACE WITH OTHER PRODUCTS

A. Coordinate locations of outlet boxes to obtain specified mounting heights.

3.6 FIELD QUALITY CONTROL

A. Inspect each wiring device for defects.

B. Operate each wall switch with circuit energized and verify proper operation.

C. Verify that each receptacle device is energized.

D. Test each receptacle device for proper polarity.

E. Test each GFCI receptacle device for proper operation.

3.7 ADJUSTING

A. Adjust devices and wall plates to be flush and level.

END OF SECTION SP-109S-26 27 26

SECTION SP-109S-26 28 16 - ENCLOSED SWITCHES AND CIRCUIT BREAKERS

PART 1- GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Contractual Conditions and Division 01 Specification sections apply to this section.

1.2 SUMMARY

A. This section includes the requirements for provision and installation of enclosed switches and circuit breakers.

1.3 DESCRIPTION

A. Provide all labor, materials, and equipment necessary to properly install switches as shown on the drawings and as required by codes.

B. Coordinate with Division 23 for disconnect switches for mechanical equipment. Provide all other disconnect switches required for a complete operating system.

1.4 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver switches in factory wrapped packaging. Handle switches carefully to prevent damage. Store in a clean, dry space protected from dirt, water, and physical damage. Reject damaged switches.

1.5 QUALIFICATIONS

A. Manufacturer: Same manufacturer as that for products specified in Section 26 24 13.

1.6 SUBMITTALS

A. Submit catalog cut sheet on each type of disconnect switch to be used on this project.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Eaton/Cutler Hammer, or approved substitutions.

2.2 CONSTRUCTION

A. Switches shall be heavy-duty type with visible, quick-make, quick-break blades.

B. Units for 2-speed motors shall be 6-pole in a single enclosure. Use of 2, 3-pole units will not be acceptable.

C. Provide ground bus and where required, a solid neutral bus.

D. Switches shall be fusible or non-fusible as noted on the drawings or as required by the equipment served from the switch. Fusible switches shall have rejection type fuse holders.

E. Terminal lugs shall be rated for 75 degrees Centigrade.

F. Enclosures, unless otherwise noted, shall be:

1. Interior dry locations shall be NEMA 1.
2. Wash-down areas, interior wet locations or similar shall be NEMA 4X stainless steel watertight, corrosion resistant.
3. Exterior locations shall be NEMA 4X stainless steel watertight, corrosion resistant, including those noted on drawings to be NEMA 3, minimum.

G. The enclosure shall be interlocked with the switch handle such that the enclosure door or cover cannot be opened with the switch in the "ON" position. The switch handle shall be capable of being padlocked in the "OFF" position but not in the "ON" position.

H. Finish for NEMA I units shall be standard baked gray enamel finish over a rust inhibiting phosphate primer.

2.3 RATING

A. The size, number of poles, and fusing for each switch shall be as noted on the drawings. As a minimum, no less than one pole for each ungrounded conductor shall be provided. Switches shall be rated 250 VAC or 600 VAC as required by the circuit to which it is connected.

B. Switches serving motors with more than one set of windings shall have the number of poles necessary to disconnect all conductors to all windings in a single switch.

C. Switches serving motor loads shall be horsepower rated to match motor and of sufficient size to handle the load regardless if rating noted on drawings is provided in ampere.

2.4 SERVICE ENTRANCE EQUIPMENT

A. Switches used as service entrance equipment shall be listed and labeled by UL for use as service equipment.

2.5 FUSES

A. General:

1. All fuses shall be of the same manufacture to retain selectability as designed. No fuse shall be installed until equipment is ready to be energized and after tightening of all electrical connections, inspection of all ground and grounding conductors and a megger test of adequate insulation to ground of all circuits.
2. All fuses shall be current limiting with 200,000 amperes interrupting capacity.
3. Fuses rated 601 amperes and larger shall be UL Class L and have a minimum time-delay of 45 seconds at 300% rating and have O-ring gas seals at the end bells.
4. Fuses rated 600 amperes or less, installed ahead of circuit breakers or circuit breaker panels, shall be UL Class K-1.
5. Fuses rated 600 amperes or less for all general power circuits shall be dual-element, UL Class RK-5 time-delay type. They shall be self protecting from extraneous heat.
6. Fuses installed in individual motor circuits shall be dual element time-delay type, UL Class RK-5. Provide fuse reducers when necessary.
7. Fuses called for to be rejection type are to have rejection fuse holders.
8. Fused disconnect switches for elevators and escalators shall have rejection fuse holders.

B. Fuse Requirements:

1. Dimensions and Performance: NEMA FU 1, Class as indicated.
2. Voltage: Rating suitable for circuit phase-to-phase voltage.
3. Power Load Feeder Switches Larger than 600 amperes: Class L (time delay).
4. Power Load Feeder Switches: Class RK1 (time delay) or RK5 (based on load).
5. Motor Load Feeder Switches: Class RK5.
6. Lighting Load Feeder Switches Larger than 600 amperes: Class L time delay.
7. Lighting Load Feeder Switches: Class RK1 (time delay).
8. Other Feeder Switches Larger than 600 amperes: Class L time delay.
9. Other Feeder Switches: Class RK1 (time delay) or RK5 (based on load).
10. Power Branch Circuits: Class RK1 (time delay) or RK5 (based on load).
11. Motor Branch Circuits: Class RK5.
12. Lighting Branch Circuits: Class G.

C. Identification Label:

1. Provide a fuse identification label inside each fused switch, showing type and size of each fuse specified or as recommended by the manufacture of the equipment served.
2. Labeling for rejection type fused switches shall read "Warning-Use Only Current Limiting Fuses Class ___, Type ___, MFR ___".

D. Spare Fuse Cabinet:

1. Ten percent (minimum of three) of each size and type of fuse and current limiter shall be placed in a spare fuse cabinet, wall mounted near the electric service.
2. Cabinet shall be aluminum sized as required to store all fuses neatly (minimum 30" x 24" x 12"). Cabinet shall contain shelves and/or slots as required to separate types of fuses. Cabinet door shall be hinged with latch.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install all switches in accordance with the manufacturer's written instructions, NECA's "Standard of Installation", the applicable requirements of the National Electrical Code, and recognized industry practice.

B. All switches shall be firmly anchored to walls and supporting structures (where used). Switches shall be installed with the turning axis of their handles approximately 5'-0" above finished floor unless otherwise indicated. Provide rigid steel (galvanized for exterior use) mounting stands, brackets, plates, hardware, and accessories for a complete installation.

C. Switches shall be mounted in accessible locations. Where a switch serves as the disconnecting means for a load, the switch shall be located as close as practical to the load with the switch handle within sight of the load.

D. Provide lugs on disconnect switch as required to accept conductors called for on drawings.

E. Disconnect switches shall not be mounted on equipment, unless specifically noted or required and meet all applicable codes. If switches are noted or required to be mounted on equipment they shall have vibrator clips on fuses and be connected to conduit system with liquid tight flexible conduit.

F. Coordinate all requirements for controls between variable speed drive units and its respective motor with drive specification, manufacturer, provider and installer. Provide auxiliary contacts, relays, etc. as required.

G. Install fuses in accordance with manufacturer’s instructions, the NEC, and NEMA Standards.

H. Install fuse with label oriented such that manufacturer, type, and size are easily read.

I. Label each fuse.

J. Conduit or piping systems that contain water or liquid of any kind shall not be installed over the top of any electrical equipment, transformers, racks, cabinets, or enclosures without prior written approval from the Owner.

END OF SECTION SP-109S-26 28 16

SECTION SP-109S-26 41 13 - LIGHTNING PROTECTION FOR STRUCTURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Contractual Conditions and Division 01 Specification sections apply to this section.

1.2 SUMMARY

A. This section includes the requirements for provision and installation of a complete lightning protection system.

1.3 DESCRIPTION

A. A Lightning Protection System shall be provided and installed on the structure even though not shown on drawings, by experienced LPI Certified Installers in compliance with provisions of Code for Lightning Protection Systems as adopted by the National Fire Protection Association and Underwriters' Laboratories. All equipment to that result shall be included whether or not specifically called for herein with the additional requirement that the system shall meet all the requirements of LPI.

B. Materials shall comply in weight, size and composition with the requirements of Underwriters' Laboratories and the National Fire Protection Code relating to this type of installation, and shall be UL Labeled.

C. All materials, where available by any one manufacturer, shall be cast.

D. System shall comply with the following:

1. LPI
2. ANSI/NFPA 780; Class I (Class II for buildings over 75 feet in height)
3. UL 96A; Master Label for:

    a. New installation

1.4 REFERENCES

A. ANSI/NFPA 780 - Lightning Protection Code.

B. ANSI/UL 96 - Lightning Protection Components.

C. LPI - Lightning Protection Institute.

D. UL 96A - Installation Requirements for Lightning Protection Systems.

1.5 SUBMITTALS

A. Submit shop drawings showing layout of air terminals, grounding electrodes, and bonding connections to structure and other metal objects. Include terminal, electrode, and conductor sizes, and connection and termination details. Drawings shall include full layout of cabling and points, and connections.

B. Submit product data showing dimensions and materials of each component, and include indication of listing in accordance with ANSI/UL 96.

C. Submit manufacturer's installation instructions.

D. Submittal shall include ground rods and ground wells as called for in Section 26 05 26 – Grounding and Bonding.

1.6 PROJECT AS-BUILT DOCUMENTS

A. Record actual locations of air terminals, grounding electrodes, bonding connections, and routing of system conductors on red lined as-built documents.

1.7 QUALIFICATIONS

A. Manufacturer: Company specialized in lightning protection equipment with minimum five (5) years documented experience and member of the Lightning Protection Institute.

B. Installer: Authorized installer of manufacturer with minimum five (5) years documented experience and member of the Lightning Protection Institute.

1.8 PRE-INSTALLATION CONFERENCE

A. Convene a pre-installation conference one (1) week prior to commencing lightning protection work.

1.9 SEQUENCING AND SCHEDULING

A. Coordinate the work of this Section with roofing and exterior and interior finish installations.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Thompson Lightning Protection, Inc.: Premium Line.

B. Independent Protection Company, Inc.: Premium Line.

C. Heary Bros. Lightning Protection: Premium Lines.

2.2 MATERIALS

A. Components: In accordance with ANSI/UL 96 and LPI.

B. Air Terminals:

1. Air Terminals shall be solid (aluminum) as required to match roof conductors, and shall have proper base support for surface on which they are attached, and shall be securely anchored to this surface.
2. Terminal length: Comply with NFPA 780.
3. Air Terminal for Chimneys: Lead-coated copper.

C. Conductors:

1. Roof conductors shall consist of aluminum complying with the weight and construction requirements of the Code. Roof conductor material shall match and be compatible with roof flashing material.
2. Down conductors shall be copper, and shall be provided where shown installed in PVC conduit and hidden within the structure.

D. Fastener: Conductor fasteners shall be of the same material as the conductor, having ample strength to support conductor.

E. Connectors and Splicers: Bronze or aluminum as required to be compatible with conductor being connected.

F. Ground Rods: Comply with all requirements of Sections 26 05 26.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that surfaces are ready to receive work.

B. Verify that field measurements are as shown on shop drawings.

C. Beginning of installation means installer accepts existing conditions.

3.2 PROTECTION OF SURROUNDING ELEMENTS

A. Protect elements surrounding work of this Section from damage or disfiguration.

3.3 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install in accordance with UL 96A, ANSI/NFPA 780, and LPI.

C. Install ground rods in accordance with Section 26 05 26. Where conflict exists between the requirements of Section 26 05 26 and this Section, the most stringent shall govern.

D. Installation shall be made in an inconspicuous manner with conductors routed to conceal as much as possible. Down conductors shall be concealed within structure, and shall be run in 1" PVC conduit. See Paragraph 'F' below and NFPA 780 4.15.1.

E. Where fasteners are to be mounted in masonry or structural work, they shall be furnished to the Masonry or Structural Contractor so they may be installed during construction of the project.

F. Conductors concealed in steel reinforced concrete shall be installed and bonded per NFPA 780 4.15.3. Specific attention is brought to the requirements of 4.9.13 requiring down conductors to be connected to reinforced steel at its upper and lower ends.

G. Lightning protection system shall be bonded to metal bodies as required by NFPA 780 4.21.

H. Provide proper connections of lightning protection system to all grounded media in and around the protected structure per NFPA 780 4.20 "Potential Equalization".

I. Provide proper grounding of all grounding media in, on and around structure to provide common ground potential per NFPA 780 4.14 including electric service, telephone and antenna system grounds as well as underground metallic piping systems, underground metal conduits, etc.

J. Ground Ring: Bond to ground ring system. See Section 26 05 26. Items required to be bonded/connected in 'H' and 'I" above shall be bonded/connected via ground ring system where available and applicable.

K. All exposed conductors located 6 ft. or less above finished floor or finished grade are to be suitably protected/shielded as well as other exposed locations where conductor is subject to mechanical damage.

L. Coordinate and receive approval of all penetrations of roofing system and mounting to roofing system with Designer and Roofing Contractor prior to submittal of shop drawings.

M. Coordinate and receive approval of all connections to structural steel, rebar, and other structural elements with Structural Engineer prior to submittal of shop drawings.

N. Ground Terminals:

1. Ground connections shall be made in accordance with requirements of all applicable codes and Section 26 05 26 (including but not limited to requirements for testing, ground rods, materials, wells, etc.).
2. Ground rods shall be placed outside, a minimum of two (2) feet from building foundations. Top of rod shall be at least one (1) foot deep into earth (i.e., with minimum earth cover of one (1) foot).
3. Each and every ground rod location shall consist of:

    a. Two or more 30 ft. ground rods (5/8" copper) at no less than 30 ft. spacing shall be driven vertically to a depth resulting in one (1) foot earth cover.
    b. Bond the two or more ground rods together with a cable size that meets the applicable requirements of NFPA 780 for Class I or II locations as applicable.
    c. Provide additional rod electrodes as required to achieve specified ground resistance.
    d. Complete installation shall exceed the minimum requirements of NFPA 780.
    e. Provide grounding well enclosure at each ground rod location in accordance with Section 260526.

3.4 FIELD QUALITY CONTROL

A. Test grounds per Section 26 05 26.

B. Obtain UL Master Label and attach to building at location directed by RPR. Submit copy of paperwork to RPR and submit in O & M Manual.

C. Submit test results on each ground location including final length of each ground rod and final distance between each installed ground rod at each ground rod location.

D. Test results per section 00 65 00.

END OF SECTION SP-109S-26 41 13

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SECTION 334 SUPERPAVE ASPHALT CONCRETE

334-1 Description.

334-1.1 General: Construct a Superpave Asphalt Concrete pavement with the type of mixture specified in the Contract Documents, or when offered as alternates, as selected. Superpave mixes are identified as Type SP-9.5, Type SP-12.5 or Type SP-19.0.

Obtain Superpave Asphalt Concrete from a plant that is currently on the Department's Production Facility Listing. Producers seeking inclusion on the list shall meet the requirements of Section 105. Producers must meet the requirements of Section 320 for plant and equipment and the general construction requirements of Section 330.

334-1.2 Traffic Levels: The requirements for Type SP Asphalt Concrete mixtures are based on the design traffic level of the project. The traffic levels for the project are as specified in the Contract Documents.

334-1.3 Gradation Classification: The Superpave mixes are classified as fine and are defined in 334-3.2.2.

The equivalent AASHTO nominal maximum aggregate size Superpave mixes are as follows:

Type SP-9.5..... 9.5 mm
Type SP-12.5..... 12.5 mm
Type SP-19.0..... 19.0 mm

334-1.4 Thickness: The total thickness of the Type SP asphalt layers will be the plan thickness as shown in the Contract Documents. Before paving, propose a thickness for each individual layer meeting the requirements of this specification, which when combined with other layers (as applicable) will equal the plan thickness. For construction purposes, the plan thickness and individual layer thickness will be converted to spread rate based on the maximum specific gravity of the asphalt mix being used, as well as the minimum density level, as shown in the following equation:

$$\text{Spread rate (lb/yd}^2\text{)} = t \times G_{mm} \times 43.3$$

Where: t = Thickness (in.) (plan thickness or individual layer thickness)

G_{mm} = Maximum specific gravity from the verified mix design

The weight of the mixture shall be determined as provided in 320-3.2. For target purposes only, spread rate calculations should be rounded to the nearest whole number.

Note: Plan quantities are based on a G_{mm} of 2.540, corresponding to a spread rate of 110 lb/yd^2-in. Pay quantities will be based on the actual maximum specific gravity of the mix being used.

334-1.4.1 Layer Thicknesses: The allowable layer thicknesses for Type SP Asphalt Concrete mixtures are as follows:

Type SP-9.5.....1 to 1-1/2 inches
Type SP-12.5.....1-1/2 to 3 inches
Type SP-19.0..... 2 to 4 inches

In addition to the minimum and maximum thickness requirements, the following restrictions are placed on mixes when used as a structural course:

Type SP-9.5 - Limited to the top two structural layers, two layers maximum.

Type SP-9.5 - Do not place less than 1-1/2 inches thick for Traffic Level E applications.

Type SP-19.0 - Do not use for the final (top) structural layer below FC-5 mixtures. Type SP-19.0 mixtures are permissible for the layer directly below FC-9.5 and FC-12.5 mixtures. Do not use for the final (top) layer of shoulders.

334-1.4.2 Additional Requirements: The following requirements also apply to Type SP Asphalt Concrete mixtures:

1. A minimum 1-1/2 inch initial lift is required over an Asphalt Membrane Interlayer (AMI).

2. When construction includes the paving of adjacent shoulders (less than or equal to 5 feet wide), the layer thickness for the upper pavement layer and shoulder must be the same and paved in a single pass, unless called for differently in the Contract Documents.

3. All overbuild layers must be Type SP Asphalt Concrete designed at the traffic level as stated in the Contract Documents. Use the minimum and maximum layer thicknesses as specified above unless called for differently in the Contract Documents. On variable thickness overbuild layers, the minimum and maximum allowable thicknesses will be as specified below, unless called for differently in the Contract Documents.

Type SP-9.5..... 3/8 to 2 inches
Type SP-12.5..... 1/2 to 3 inches
Type SP-19.0.....1-1/2 to 4 inches

4. Variable thickness overbuild layers constructed using a Type SP-9.5 or SP-12.5 mixtures may be tapered to zero thickness provided the contract documents require a minimum of 1-1/2 inches of dense-graded mix placed over the variable thickness overbuild layer.

334-2 Materials.

334-2.1 General Requirements: Meet the following requirements:

Superpave PG Asphalt Binder* .....Section 916
Coarse Aggregate.....Section 901
Fine Aggregate.....Section 902
*Use products on the Department's Approved Product List (APL).

334-2.2 Superpave Asphalt Binder: Unless specified otherwise in the Contract Documents, use an asphalt binder grade as determined from Table 334-2.

High polymer binder mixtures may be used in lieu of mixtures with other specified binders at no additional cost to the Department, provided they meet the traffic level and mixture type requirements of the project.

High polymer binder may be substituted in a mixture at no additional cost to the Department when the mix design contains a maximum of 20% RAP.

334-2.3 Reclaimed Asphalt Pavement (RAP) Material:

334-2.3.1 General requirements: RAP may be used as a component of the asphalt mixture subject to the following requirements:

1. When using a PG 76-22 asphalt binder in friction course mixtures, limit the amount of RAP material used in the mix to a maximum of 20% by weight of total aggregate. As an exception, amounts greater than 20% RAP by weight of total aggregate can be used if no

more than 20% by weight of the total asphalt binder comes from the RAP material. When using a PG 76-22 asphalt binder in structural course mixtures, refer to 334-2.3.6. RAP is not allowed in mixtures containing High Polymer asphalt binder. High Polymer asphalt is defined in Section 916.

2. Assume full responsibility for the design, production and construction of asphalt mixes which incorporate RAP as a component material.

3. Use RAP from a Department approved stockpile or millings from a Department project.

4. Provide stockpiled RAP material that is reasonably consistent in characteristics and contains no aggregate particles which are soft or conglomerates of fines.

5. Provide RAP material having a minimum average asphalt binder content of 4.0% by weight of RAP. As an exception, when using fractionated RAP, the minimum average asphalt binder content for the coarse portion of the RAP shall be 2.5% by weight of the coarse portion of the RAP. The coarse portion of the RAP shall be the portion of the RAP retained on the No. 4 sieve. The Engineer may sample the stockpiles to verify that this requirement is met.

334-2.3.2 Material Characterization for Mix Design: Assume responsibility for establishing the asphalt binder content, gradation, and bulk specific gravity (G_{sb}) of the RAP material based on a representative sampling of the material by roadway cores or stockpile samples. For roadway core samples, assume responsibility for the degradation that will occur during the milling operation.

334-2.3.3 RAP Stockpile Approval: Prior to the incorporation of RAP into the asphalt mixture, stockpile the RAP material and obtain approval for the stockpile by one of the following methods:

1. Continuous stockpile: When RAP is obtained from one or multiple sources and is either processed, blended, or fractionated, and stockpiled in a continuous manner, assure an adequate number of test results are obtained for stockpile approval. Test the RAP material for gradation and asphalt content at a minimum frequency of one sample per 1,000 tons with a minimum of six test results. Test the RAP material for G_{mm} (for G_{sb} determination) at a minimum frequency of one sample per 5,000 tons with a minimum of two test results. Based on visual inspection and a review of the test data, the Engineer will determine the suitability of the stockpiled material. In addition, address the details and specifics of the processing, sampling, testing and actions to be taken in the Producer Quality Control (QC) Plan.

When RAP is added to the continuous stockpile after original approval of the stockpile as described above, test the RAP material for gradation and asphalt content at a minimum frequency of one sample per 1,000 tons with a minimum of six test results. Test the RAP material for G_{mm} (for G_{sb} determination) at a minimum frequency of one sample per 5,000 tons with a minimum of two test results. Monitor test results during crushing operations for conformance to the requirements of Table 334-1. After the minimum frequency of tests have been performed, the Engineer will review the test data and visually inspect the stockpiled material. The average gradation and G_{mm} of the added material shall be within the allowable ranges shown in Table 334-1 from the originally approved stockpile values. If the added RAP material does not meet the conditions of Table 334-1, then the Contractor must create a new stockpile when resuming crushing operations and the stockpile will receive a new number designation from the Department. The previously crushed material, which was added to

the continuous stockpile and did not meet the conditions of Table 334-1, may remain and that stockpile used until depleted.

Table 334-1 Allowable Ranges for Continuous RAP Stockpile Properties	
Characteristic	Limit from Original Approved Stockpile Gradation
No. 8 sieve and coarser	± 6.0%
No. 16 sieve	± 5.0%
No. 30 sieve	± 5.0%
No. 50 sieve	± 4.0%
No. 100 sieve	± 4.0%
No. 200 sieve	± 2.0%
G_{mm}	± 0.040

2. Non-continuous single stockpile: When an individual stockpile is being constructed, obtain representative samples at random locations and test the RAP material for gradation and asphalt content at a minimum frequency of one sample per 1,000 tons with a minimum of six test results. Test the RAP material for G_{mm} (for G_{sb} determination) at a minimum frequency of one sample per 5,000 tons with a minimum of two test results. Based on visual inspection and a review of the test data, the Engineer will determine the suitability of the stockpiled material. If the properties of the new stockpile compare with the properties of an existing stockpile within the ranges provided in Table 334-1, the RAP in the new stockpile may be added to the existing stockpile. Once the RAP stockpile has been approved, do not add additional material without prior approval of the Engineer.

Determine the asphalt binder content and gradation of the RAP material in accordance with FM 5-563 and FM 1-T 030, respectively. Establish the G_{sb} of the RAP material by using one of the following methods:

a. Calculate the G_{sb} value based upon the effective specific gravity (G_{se}) of the RAP material, determined on the basis of the asphalt binder content and maximum specific gravity (G_{mm}) of the RAP material. The Engineer will approve the estimated asphalt binder absorption value used in the calculation.

b. Measure the G_{sb} of the RAP aggregate, in accordance with FM 1-T 084 and FM 1-T 085. Obtain the aggregate by using a solvent extraction method.

334-2.3.4 Pavement Coring Report: When the Contract includes milling of the existing asphalt pavement, the Pavement Coring Report may be available on the Department's website.

334-2.3.5 Asphalt Binder for Mixes with RAP: Select the appropriate asphalt binder grade based on Table 334-2. The Engineer reserves the right to change the asphalt binder grade at design based on the characteristics of the RAP asphalt binder and reserves the right to make changes during production.

Table 334-2 Asphalt Binder Grade for Mixes Containing RAP	
Percent RAP	Asphalt Binder Grade
0 - 15	PG 67-22
16 - 30	PG 58-22
>30	PG 52-28

334-2.3.6 Allowable RAP Percentages for Type SP Structural Mixtures with PG 76-22 Asphalt Binder: For Type SP structural mixtures using PG 76-22 asphalt binder, select the percentage of RAP material based on Table 334-3.

Table 334-3
Allowable RAP Percentages[1] in Type SP Structural Mixtures with PG 76-22 Asphalt Binder

		Coarse RAP	Intermediate RAP	Fine RAP
Gradation % Passing #16 Sieve[2]		≤ 40%	> 40% to ≤ 50%	> 50%
PG_{HT}[3] > 100.0° C	Allowable RAP Percentage	≤ 25%	≤ 20%	≤ 20%
PG_{HT}[3] ≤ 100.0° C		≤ 30%	≤ 25%	

Notes:
1. RAP aggregate by weight of total aggregate or RAP binder by weight of total binder.
2. RAP gradations based on ignition oven extraction of RAP material in accordance with FM 5-563.
3. PG_{HT}: asphalt binder high temperature continuous performance grade of RAP in accordance with Section 916.

334-2.4 Recycled Crushed Glass: Recycled crushed glass may be used as a component of the asphalt mixture subject to the following requirements:

1. Consider the recycled crushed glass a local material and meet all requirements specified in 902-6.
2. Limit the amount of recycled crushed glass to a maximum of 15% by weight of total aggregate.
3. Use an asphalt binder that contains an anti-stripping agent listed on the Approved Product List (APL). The anti-strip additive shall be introduced into the asphalt binder by the supplier during loading.
4. Do not use recycled crushed glass in friction course mixtures or in structural course mixtures which are to be used as the final wearing surface.

334-3 General Composition of Mixture.

334-3.1 General: Compose the asphalt mixture using a combination of aggregate (coarse, fine or mixtures thereof), mineral filler, if required, and asphalt binder material. Size, grade and combine the aggregate fractions to meet the grading and physical properties of the mix design. Aggregates from various sources may be combined.

334-3.2 Mix Design:

334-3.2.1 General: Design the asphalt mixture in accordance with AASHTO R 35, except as noted herein. Prior to the production of any asphalt mixture, submit the proposed mix design with supporting test data indicating compliance with all mix design criteria to the Engineer. For all mix designs, include representative samples of all component materials, including asphalt binder. Allow the Director of the Office of Materials a maximum of four weeks to either conditionally verify or reject the mix as designed.

At no additional cost to the Department, for a Type SP mix the following Traffic Level substitutions are allowed:

Traffic Level E can be substituted for Traffic Level C.
Traffic Level C can be substituted for Traffic Level B.

The same traffic level and binder type that is used for the mainline traffic lanes may be placed in the shoulder at no additional cost to the Department, even if the conditions stated above are not met for the shoulder.

Warm mix technologies (additives, foaming techniques, etc.) listed on the Department's website may be used in the production of the mix. The URL for obtaining this information, if available, is: https://www.fdot.gov/materials/laboratory/asphalt/index.shtm.

When warm mix technologies are used, for mixtures containing a PG 52-28, PG 58-22, or PG 67-22 binder, a mixture will be considered a warm mix asphalt design if the mixing temperature is 285°F or less. For mixtures containing a PG 76-22 or High Polymer binder, a mixture will be considered a warm mix asphalt design if the mixing temperature is 305°F or less.

The Engineer will consider any marked variations from original test data for a mix design or any evidence of inadequate field performance of a mix design as sufficient evidence that the properties of the mix design have changed, and the Engineer will no longer allow the use of the mix design.

334-3.2.2 Mixture Gradation Requirements: Combine the coarse and fine aggregate in proportions that will produce an asphalt mixture meeting all of the requirements defined in this specification and conform to the gradation requirements at design as defined in AASHTO M 323. Aggregates from various sources may be combined.

334-3.2.2.1 Mixture Gradation Classification: Plot the combined mixture gradation on an FHWA 0.45 Power Gradation Chart. Include the Control Points from AASHTO M 323, as well as the Primary Control Sieve (PCS) Control Point from AASHTO M 323. Fine mixes are defined as having a gradation that passes above the primary control sieve control point and above the maximum density line for all sieve sizes smaller than the primary control sieve and larger than the No. 30 sieve.

334-3.2.3 Aggregate Consensus Properties: For Traffic Level C and E mixtures, meet the following consensus properties at design for the aggregate blend.
Aggregate consensus properties do not apply to Traffic Level B mixtures.

334-3.2.3.1 Coarse Aggregate Angularity: When tested in accordance with ASTM D5821, meet the percentage of fractured faces requirements specified in AASHTO M 323.

334-3.2.3.2 Fine Aggregate Angularity: When tested in accordance with AASHTO T 304, Method A, meet the uncompacted void content of fine aggregate specified in AASHTO M 323. For Traffic Level C and E base and structural course mixtures, a fine aggregate angularity value less than 45.0 and greater than or equal to 42.0 is allowable provided testing parameters of AASHTO T 340-10 (2019) meet the following requirements:

1. Rutting tests are performed on two gyratory specimens compacted to N_{design} level of gyrations with a height of 115 ± 5 mm and a diameter of 150 mm.
2. The air void (V_a) content of each gyratory specimen after compacting to N_{design} shall be within the following range: $3.0 \leq V_a \leq 4.8$.
3. Rutting tests are performed at 64.0 C.
4. The average rut depth for two specimens shall not exceed 4.5 mm.

334-3.2.3.3 Flat and Elongated Particles: When tested in accordance with ASTM D4791, (with the exception that the material passing the 3/8-inch sieve and retained on the No. 4 sieve shall be included), meet the requirements specified in AASHTO M 323.

Measure the aggregate using the ratio of 5:1, comparing the length (longest dimension) to the thickness (shortest dimension) of the aggregate particles.

334-3.2.3.4 Sand Equivalent: When tested in accordance with AASHTO T 176, meet the sand equivalent requirements specified in AASHTO M 323.

334-3.2.4 Gyratory Compaction: Compact the design mixture in accordance with AASHTO T 312, with the following exception: use the number of gyrations at N_{design} as defined in Table 334-4. Measure the inside diameter of gyratory molds in accordance with AASHTO T 312.

Table 334-4
Gyratory Compaction Requirements

Traffic Level	N_{design} Number of Gyrations
B	65
C	75
E	100

334-3.2.5 Design Criteria: Meet the requirements for nominal maximum aggregate size as defined in AASHTO M 323, as well as for relative density, VMA, VFA, and dust-to-binder ratio as specified in AASHTO M 323. $N_{initial}$ and $N_{maximum}$ requirements are not applicable.

334-3.2.6 Moisture Susceptibility:

1. For all traffic levels, use a liquid anti-strip agent listed on the APL at the specified dosage rate. Hydrated lime may be used instead of the liquid anti-strip agent.

2. Provide a mixture having a retained tensile strength ratio of at least 0.80 and a minimum tensile strength (unconditioned) of 100 psi in accordance with FM 1-T 283.

334-3.2.7 Additional Information: In addition to the requirements listed above, provide the following information with each proposed mix design submitted for verification:

1. The design traffic level and the design number of gyrations (N_{design}).

2. The source and description of the materials to be used.

3. The Department source number and the Department product code of the aggregate components furnished from a Department approved source.

4. The gradation and proportions of the raw materials as intended to be combined in the paving mixture. The gradation of the component materials shall be representative of the material at the time of use. Compensate for any change in aggregate gradation caused by handling and processing as necessary.

5. A single percentage of the combined mineral aggregate passing each specified sieve. Degradation of the aggregate due to processing (particularly material passing the No. 200 sieve) should be accounted for and identified.

6. The bulk specific gravity (G_{sb}) value for each individual aggregate and RAP component, as identified in the Department's aggregate control program.

7. A single percentage of asphalt binder by weight of total mix intended to be incorporated in the completed mixture, shown to the nearest 0.1%.

8. A target temperature for the mixture at the plant (mixing temperature) and a target temperature for the mixture at the roadway (compaction temperature) in accordance with 320-6.3. Do not exceed a target temperature of 340°F for High Polymer asphalt binders, 330°F for PG 76-22 asphalt binders, and 315°F for unmodified asphalt binders.

9. Provide the physical properties at the optimum asphalt content, which must conform to all specified requirements.

10. The name of the Construction Training Qualification Program (CTQP) Qualified Mix Designer.

11. The ignition oven and maximum specific gravity (G_{mm}) calibration factors.

12. The warm mix technology, if used.

334-3.3 Mix Design Revisions: During production, the Contractor may request a target value revision to a mix design, subject to meeting the following requirements: the target change falls within the limits defined in Table 334-5, appropriate data exists demonstrating that the mix complies with production air voids specification criteria, and the mixture gradation meets the basic gradation requirements defined in 334-3.2.2.

Table 334-5
Limits for Potential Adjustments to Mix Design Target Values

Characteristic	Limit from Original Mix Design
Asphalt Binder Content [1]	±0.3%
Gradation and Aggregate Component [2]	
No. 8 sieve and Coarser	± 5.0%
No. 16 sieve	± 4.0%
No. 30 sieve	± 4.0%
No. 50 sieve	± 3.0%
No. 100 sieve	± 3.0%
No. 200 sieve	± 1.0%
Each Component of Aggregate Blend	± 5.0 %

[1] Reductions to the asphalt binder content will not be permitted if the VMA during production is lower than 1.0% below the design criteria.
[2] The Engineer may waive the limits for the individual sieves and component of the aggregate blend contingent upon the quality of the production data for the mixture. Revisions to FC-5 mixtures to be determined by the Engineer.

Submit all requests for revisions to mix designs, along with supporting documentation, to the Engineer. In order to expedite the revision process, the request for revision or discussions on the possibility of a revision may be made verbally, but must be followed up by a written request. The verified mix design will remain in effect until the Engineer authorizes a change. In no case will the effective date of the revision be established earlier than the date of the first communication between the Contractor and the Engineer regarding the revision.

A new design mix will be required if aggregate sources change, or for any substitution of an aggregate product with a different aggregate code, unless approved by the Engineer.

334-4 Producer Process Control (PC).

Assume full responsibility for controlling all operations and processes such that the requirements of these Specifications are met at all times. Perform any tests necessary at the plant and roadway for process control purposes. Enter all PC test data into the Department's database. The Engineer will not use these test results in the acceptance payment decision.

Address in the Producer QC Plan how PC failures will be handled. When a PC failure occurs, investigate, at a minimum, the production process, testing equipment and/or sampling

methods to determine the cause of the failure, and make any necessary changes to assure compliance with these Specifications. Obtain a follow up sample immediately after corrective actions are taken to assess the adequacy of the corrections. In the event the follow-up PC sample also fails to meet Specification requirements, cease production of the asphalt mixture until the problem is adequately resolved to the satisfaction of the QC Manager.

334-5 Acceptance of the Mixture.

334-5.1 General: The mixture will be accepted at the plant with respect to gradation (P_{-8} and P_{-200}), asphalt content (P_b), and volumetrics (volumetrics is defined as air voids at N_{design}). The mixture will be accepted on the roadway with respect to density of roadway cores. Acceptance will be on a LOT by LOT basis (for each mix design) based on tests of random samples obtained within each sublot taken at a frequency of one set of samples per sublot. A roadway LOT and a plant production LOT shall be the same. Acceptance of the mixture will be based on Contractor QC test results that have been verified by the Department.

334-5.1.1 Sampling and Testing Requirements: Obtain the samples in accordance with FM 1-T 168. Obtain samples at the plant of a sufficient quantity to be split into three smaller samples; one for QC, one for Verification testing and one for Resolution testing. Obtain each split sample of a sufficient quantity, approximately 40 pounds, for all required testing. The split samples for Verification testing and Resolution testing shall be reduced in size and stored in three boxes each. The approximate size of each box must be 12 inches x 8 inches x 4 inches. Provide, label, and safely store sample boxes in a manner agreed upon by the Engineer for future testing.

The asphalt content of the mixture will be determined in accordance with FM 5-563. The gradation of the recovered aggregate will be determined in accordance with FM 1-T 030. Volumetric testing will be in accordance with AASHTO T 312 and FM 1-T 209. Prior to testing volumetric samples, condition the test-sized sample for one hour, plus or minus five minutes, at the target roadway compaction temperature in a shallow, flat pan, such that the mixture temperature at the end of the one-hour conditioning period is within plus or minus 20°F of the roadway compaction temperature.

If one of the QC gyratory specimens is damaged, make an additional gyratory specimen.

For situations where two properly prepared gyratory specimens do not meet single-operator precision requirements for G_{mb} as provided in FM 1-T 166:

1. Retest both gyratory specimens in accordance FM 1-T 166.
2. Following the retest, if the newly measured G_{mb} values do not meet single-operator precision requirements, QC shall prepare a third gyratory specimen in accordance with AASHTO T 312 and test in accordance with FM 1-T 166. All three test results shall be input into MAC. The average G_{mb} will be determined by MAC after performing an outlier check in accordance with ASTM E178.

Test for roadway density in accordance with FM 1-T 166.

334-5.1.2 Acceptance Testing Exceptions: When the total combined quantity of hot mix asphalt for the project, as indicated in the Plans for Type B-12.5, Type SP and Type FC mixtures only, is less than 4,000 tons, the Engineer will accept the mix on the basis of visual inspection. The Engineer may require the Contractor to run process control tests for informational purposes, as defined in 334-4, or may run independent verification tests to determine the acceptability of the material.

Density testing for acceptance will not be performed on widening strips or shoulders with a width of 5 feet or less, open-graded friction courses, variable thickness overbuild courses, leveling courses, any SP-9.5 or SP-12.5 asphalt layer placed on subgrade with a layer thickness less than or equal to 3 inches, miscellaneous asphalt pavement, shared use paths, crossovers, gore areas, raised crosswalks, speed tables, or any course with a specified thickness less than 1 inch or a specified spread rate that converts to less than 1 inch as described in 334-1.4. Density testing for acceptance will not be performed on asphalt courses placed on bridge decks or approach slabs; compact these courses in static mode only per the requirements of 330-7.7. In addition, density testing for acceptance will not be performed on the following areas when they are less than 500 feet (continuous) in length: turning lanes, acceleration lanes, deceleration lanes, shoulders, parallel parking lanes, ramps, or unsignalized side streets with less than four travel lanes and speed limits less than 35 mph. Do not perform density testing for acceptance in situations where the areas requiring density testing is less than 50 tons within a sublot.

Density testing for acceptance will not be performed in intersections. The intersection limits will be from stop bar to stop bar for both the mainline and side streets For roundabouts, the intersection limits are within the outside perimeter of the circulatory roadway. A random core location that occurs within the intersection shall be moved forward or backward from the intersection at the direction of the Engineer.

Where density testing for acceptance is not required, compact these courses (with the exception of open-graded friction courses) in accordance with the rolling procedure (equipment and pattern) as approved by the Engineer or with Standard Rolling Procedure as specified in 330-7.2. In the event that the rolling procedure deviates from the procedure approved by the Engineer, or the Standard Rolling Procedure, placement of the mix shall be stopped.

The density pay factor (as defined in 334-8.2) for areas not requiring density testing for acceptance will be paid at the same density pay factor as for the areas requiring density testing within the same LOT. If the entire LOT does not require density testing for acceptance, the LOT will be paid at a density pay factor of 1.00.

334-5.2 Full LOTs: Each LOT will be defined (as selected by the Contractor prior to the start of the LOT) as either (1) 2,000 tons, with each LOT subdivided into four equal sublots of 500 tons each, or (2) 4,000 tons, with each LOT subdivided into four equal sublots of 1,000 tons each. As an exception to this, the initial LOT of all new mix designs shall be defined as 2,000 tons, subdivided into four equal sublots of 500 tons each. Before the beginning of a LOT, the Engineer will develop a random sampling plan for each sublot and direct the Contractor on sample points, based on tonnage, for each sublot during construction.

334-5.3 Partial LOTs: A partial LOT is defined as a LOT size that is less than a full LOT. A partial LOT may occur due to the following:

l. The completion of a given mix type or mix design on a project.

2. Closure of the LOT due to time. LOTs will be closed 30 calendar days after the start of the LOT. Time periods other than 30 calendar days may be used if agreed to by both the Engineer and the Contractor, but under no circumstances shall the LOT be left open longer than 90 days.

3. A LOT is terminated per 334-5.4.4.

All partial LOTs will be evaluated based on the number of tests available, and will not be redefined. If a LOT is closed before the first plant random sample is obtained, then the LOT will be visually accepted by the Engineer and the LOT pay factor will be 1.00.

334-5.4 QC Sampling and Testing: Obtain all samples randomly as directed by the Engineer.

Should the Engineer determine that the QC requirements are not being met or that unsatisfactory results are being obtained, or should any instances of falsification of test data occur, acceptance of the Producer's QC Plan will be suspended and production will be stopped.

334-5.4.1 Lost or Missing Verification/Resolution Samples: In the event that any of the Verification and/or Resolution asphalt mixture samples that are in the custody of the Contractor are lost, damaged, destroyed, or are otherwise unavailable for testing, the minimum possible pay factor for each quality characteristic as described in 334-8.2 will be applied to the entire LOT in question, unless called for otherwise by the Engineer. Specifically, if the LOT in question has more than two sublots, the pay factor for each quality characteristic will be 0.55. If the LOT has two or less sublots, the pay factor for each quality characteristic will be 0.80. If only the roadway cores are lost, damaged, destroyed, or are otherwise unavailable for testing, then the minimum possible pay factor for density will be applied to the entire LOT in question. In either event, the material in question will also be evaluated in accordance with 334-5.9.5.

If any of the Verification and/or Resolution samples that are in the custody of the Department are lost, damaged, destroyed or are otherwise unavailable for testing, the corresponding QC test result will be considered verified, and payment will be based upon the Contractor's data.

334-5.4.2 Plant Sampling and Testing Requirements: Obtain one random sample of mix per sublot in accordance with 334-5.1.1 as directed by the Engineer. Test the QC split sample for gradation, asphalt binder content and volumetrics in accordance with 334-5.1.1. Complete all QC testing within one working day from the time the samples were obtained.

334-5.4.3 Roadway Sampling and Testing Requirements: Obtain five 6 inch diameter roadway cores within 24 hours of placement at random locations as directed by the Engineer within each sublot. Test these QC samples for density (G_{mb}) in accordance with 334-5.1.1. Obtain a minimum of three cores per sublot at random locations as identified by the Engineer in situations where the sublot/LOT was closed or terminated before the random numbers were reached or where it is impractical to cut five cores per sublot. Do not obtain cores any closer than 12 inches from an unsupported edge. The Engineer may adjust randomly generated core locations for safety purposes or as the Engineer deems necessary. Do not perform density testing for acceptance in a sublot if the plant random sample for that sublot has not been obtained. Maintain traffic during the coring operation; core the roadway, patch the core holes (within three days of coring); and trim the cores to the proper thickness prior to density testing.

Density for the sublot shall be based on the average value for the cores cut from the sublot with the target density being a percentage of the maximum specific gravity (G_{mm}) of the sublot, as defined in the Contract. Once the average density of a sublot has been determined, do not retest the samples unless approved by the Engineer. Ensure proper handling and storage of all cores until the LOT in question has been accepted.

334-5.4.4 Individual Test Tolerances for QC Testing: Terminate the LOT if any of the following QC failures occur:

1. An individual test result of a sublot for air voids does not meet the requirements of Table 334-6,

2. The average sublot density does not meet the requirements of Table 334-6,

3. Two consecutive test results within the same LOT for gradation or asphalt binder content do not meet the requirements of Table 334-6,

When a LOT is terminated due to a QC failure, stop production of the mixture until the problem is resolved to the satisfaction of the QC Manager and/or Asphalt Plant Level II technician responsible for the decision to resume production after a QC failure, as identified in Section 105. In the event that it can be demonstrated that the problem can immediately be or already has been resolved, it will not be necessary to stop production. When a LOT is terminated, make all necessary changes to correct the problem. Do not resume production until appropriate corrections have been made. Prior to resuming production, inform the Engineer of the problem and corrections made to correct the problem. After resuming production, sample and test the material to verify that the changes have corrected the problem. Summarize this information and provide it to the Engineer prior to the end of the work shift when production resumes.

In the event that a QC failure is not addressed as defined above, the Engineer's approval will be required prior to resuming production after any future QC failures.

Address any material represented by a failing test result, as defined above in this subarticle, in accordance with 334-5.9.5. Any LOT terminated under this subarticle will be limited to a maximum Pay Factor of 1.00 (as defined in 334-8.2) for all quality characteristics and will include all material placed up to the point when the LOT was terminated.

In the event that a G_{mm} test result differs by more than 0.040 from the mix design G_{mm}, investigate the causes of the discrepancy and report the findings and proposed actions to the Engineer.

Table 334-6
Master Production Range

Characteristic	Tolerance (1)
Asphalt Binder Content (%)	Target ±0.55
Passing No. 200 Sieve (%)	Target ±1.50
Air Voids (%)	2.30 – 6.00
Density (minimum % G_{mm})(2)	89.50

(1) Tolerances for sample size of n = 1 from the verified mix design
(2) Based on an average of three to five randomly located cores

334-5.5 Verification Testing: In order to determine the validity of the Contractor's QC test results prior to their use in the Acceptance decision, the Engineer will run verification tests.

334-5.5.1 Plant Testing: At the completion of each LOT, the Engineer will test a minimum of one Verification split sample randomly selected from the LOT. Results of the testing and analysis for the LOT will be made available to the Contractor within one working day from the time the LOT is completed. Verification samples shall be reheated at the target roadway compaction temperature for 1-1/2 hours, plus or minus 5 minutes, reduced to the appropriate testing size, and conditioned and tested as described in 334-5.1.1. In lieu of the 1-1/2 hours reheating procedure, the mixture may be reheated to within plus or minus 20°F of the roadway compaction temperature using a microwave oven. Stir the mixture as necessary during the reheating process to maintain temperature uniformity. Subsequently, condition and test the mixture as described in 334-5.1.1.

The Verification test results will be compared with the QC test results based on the between-laboratory precision values shown in Table 334-7.

Table 334-7 Between-Laboratory Precision Values	
Property	Maximum Difference
G_{mm}	0.016
G_{mb} (gyratory compacted samples)	0.022
G_{mb} (roadway cores)	0.014
P_b	0.44%
P_{-200}	FM 1-T 030 (Figure 2)
P_{-8}	FM 1-T 030 (Figure 2)

If all of the specified mix characteristics compare favorably, then the LOT will be accepted, with payment based on the Contractor's QC test data for the LOT.

If any of the results do not compare favorably, then the Resolution samples from the LOT will be sent to the Resolution laboratory for testing, as described in 334-5.6.

334-5.5.2 Roadway Testing: At the completion of each LOT, the Engineer will determine the density (G_{mb}) of each core (previously tested by QC) as described in 334-5.1.1 from the same sublot as the plant samples. For situations where roadway density is not required for the random sublot chosen, then another sublot shall be randomly chosen for roadway density cores only. Results of the testing and analysis for the LOT will be made available to the Contractor within one working day from the time the LOT is completed.

The individual Verification test results will be compared with individual QC test results by the Engineer based on the between-laboratory precision values given in Table 334-7.

If each of the core test results compare favorably, then the LOT will be accepted with respect to density, with payment based on the Contractor's QC test data for the LOT.

If any of the results do not compare favorably, then the core samples from the LOT will be sent to the Resolution laboratory for testing as specified in 334-5.6.

334-5.6 Resolution System:

334-5.6.1 Plant Samples: In the event of an unfavorable comparison between the Contractor's QC test results and the Engineer's Verification test results on any of the properties identified in Table 334-7, the Resolution laboratory will test all of the split samples from the LOT for only the property (or properties) in question. Resolution samples shall be reheated at the target roadway compaction temperature for 1-1/2 hours, plus or minus 5 minutes, reduced to the appropriate testing size, and conditioned and tested as described in 334-5.1.1. In lieu of the 1-1/2 hours reheating procedure, the mixture may be reheated to within plus or minus 20°F of the roadway compaction temperature using a microwave oven. Stir the mixture as necessary during the reheating process to maintain temperature uniformity. Subsequently, condition and test the mixture as described in 334-5.1.1.

334-5.6.2 Roadway Samples: In the event of an unfavorable comparison between the Contractor's QC test data and the Engineer's Verification test data on the density results, the

Resolution laboratory will test all of the cores from the LOT. Testing will be as described in 334-5.1.1.

334-5.6.3 Resolution Determination: The Resolution test results (for the property or properties in question) will be compared with the QC test results based on the between-laboratory precision values shown in Table 334-7.

If the Resolution test results compare favorably with all of the QC results, then acceptance and payment for the LOT will be based on the QC results, and the Department will bear the costs associated with Resolution testing. No additional compensation, either monetary or time, will be made for the impacts of any such testing.

If the Resolution test results do not compare favorably with all of the QC results, then acceptance and payment for the LOT will be based on the Resolution test data for the LOT, and the costs of the Resolution testing will be deducted from monthly estimates. No additional time will be granted for the impacts of any such testing.

In addition, the material failure requirements of 334-5.4.4 apply to the Resolution test data. Address any material represented by the failing test results in accordance with 334-5.9.5. For this situation, the LOT will be limited to a maximum Pay Factor of 1.00 (as defined in 334-8.2) for all quality characteristics.

In the event of an unfavorable comparison between the Resolution test results and QC test results, make the necessary adjustments to assure that future comparisons are favorable.

334-5.7 Independent Verification (IV) Testing:

334-5.7.1 Plant: The Contractor shall provide sample boxes and take samples as directed by the Engineer for IV testing. Obtain enough material for three complete sets of tests (two samples for IV testing by the Engineer and one sample for testing by the Contractor). If agreed upon by both the Engineer and the Contractor, only one sample for IV testing by the Engineer may be obtained. IV samples will be reheated at the target roadway compaction temperature for 1-1/2 hours, plus or minus 5 minutes, reduced to the appropriate testing size, and conditioned and tested as described in 334-5.1.1. The Contractor’s split sample, if tested immediately after sampling, shall be reduced to the appropriate testing size, and conditioned and tested as described in 334-5.1.1. If the Contractor’s sample is not tested immediately after sampling, then the sample shall be reheated at the target roadway compaction temperature for 1-1/2 hours, plus or minus 5 minutes, reduced to the appropriate testing size, and conditioned and tested as described in 334-5.1.1. For the IV and Contractor's samples, in lieu of the 1-1/2 hours reheating procedure, the mixture may be reheated to within plus or minus 20°F of the roadway compaction temperature using a microwave oven. Stir the mixture as necessary during the reheating process to maintain temperature uniformity. Subsequently, condition and test the mixture as described in 334-5.1.1. The Contractor’s test results shall be provided to the Engineer within one working day from the time the sample was obtained.

If any of the IV test results do not meet the requirements of Table 334-6, then a comparison of the IV test results and the Contractor’s test results, if available, will be made. If a comparison of the IV test results and the Contractor’s test results meets the precision values of Table 334-7 for the material properties in question, or if the Contractor’s test results are not available, then the IV test results are considered verified and the Contractor shall cease production of the asphalt mixture until the problem is adequately resolved (to the satisfaction of the Engineer), unless it can be demonstrated to the satisfaction of the Engineer that the problem

can immediately be (or already has been) resolved. Address any material represented by the failing test results in accordance with 334-5.9.5.

If a comparison of the IV test results and the Contractor's test results does not meet the precision values of Table 334-7 for the material properties in question, then the second IV sample shall be tested by the Engineer for the material properties in question. If a comparison between the first and second IV test results does not meet the precision values of Table 334-7 for the material properties in question, then the first IV test results are considered unverified for the material properties in question and no action shall be taken, with the following exception: if the first and second IV test results do not meet the precision values of Table 334-7 and the first IV test result and Contractor's test result do not meet the precision values of Table 334-7, yet all three test results do not meet the requirements of Table 334-6, then address any material represented by the failing test results in accordance with 334-5.9.5.

If a comparison between the first and second IV test results meets the precision values of Table 334-7 for the material properties in question, then the first IV sample is considered verified and the Contractor shall cease production of the asphalt mixture until the problem is adequately resolved (to the satisfaction of the Engineer), unless it can be demonstrated to the satisfaction of the Engineer that the problem can immediately be (or already has been) resolved. Address any material represented by the failing test results in accordance with 334-5.9.5.

The Engineer has the option to use the IV sample for comparison testing as specified in 334-6.

334-5.7.1.1 Asphalt Binder and Mixture Sampling for Determination

of Asphalt Binder Quality: At the Department's request, obtain an asphalt binder sample, in accordance with AASHTO R 66, from the asphalt plant storage tank and a corresponding asphalt mixture sample using binder from the same storage tank. Samples of asphalt binder and mixture shall be sampled the same day. The asphalt binder from the storage tank and the asphalt binder recovered from the asphalt mixture will be tested by the Department for compliance with Contract Documents. Should the test results of the asphalt binder from the storage tank and/or the asphalt binder recovered from the asphalt mixture not meet the requirements of the Contract Documents, address any material represented by the failing test results in accordance with 334-5.9.5.

334-5.7.2 Roadway: Obtain five 6-inch diameter roadway cores within 24 hours of placement, as directed by the Engineer, for IV testing. In situations where it is impractical to cut five cores per sublot, obtain a minimum of three cores per sublot at random locations, as identified by the Engineer. These independent cores will be obtained from the same LOTs and sublots as the Independent Verification Plant samples, or as directed by the Engineer. The density of these cores will be obtained as described in 334-5.1.1. If the average of the results for the sublot does not meet the requirements of Table 334-6 for density, then a comparison of the IV G_{mm} test results and the Contractor's G_{mm} test results, if available, will be made in accordance with the procedure provided in 334-5.7.1. Address any material represented by the failing test results in accordance with 334-5.9.5.

334-5.8 Surface Tolerance: The asphalt mixture will be accepted on the roadway with respect to surface tolerance in accordance with the applicable requirements of 330-9.

334-5.9 Minimum Acceptable Quality Levels:

334-5.9.1 PFs Below 0.90: In the event that an individual pay factor for any quality characteristic of a LOT falls below 0.90, take steps to correct the situation and report the

actions to the Engineer. In the event that the pay factor for the same quality characteristic for two consecutive LOTs is below 0.90, cease production of the asphalt mixture until the problem is adequately resolved (to the satisfaction of the Engineer), unless it can be demonstrated to the satisfaction of the Engineer that the problem can immediately be (or already has been) resolved. Actions taken must be approved by the Engineer before production resumes.

334-5.9.2 CPFs Less Than 0.90 and Greater Than or Equal to 0.80: If the composite pay factor for the LOT is less than 0.90 and greater than or equal to 0.80, cease production of the asphalt mixture until the problem is adequately resolved (to the satisfaction of the Engineer), unless it can be demonstrated to the satisfaction of the Engineer that the problem can immediately be (or already has been) resolved. Actions taken must be approved by the Engineer before production resumes.

334-5.9.3 CPFs Less Than 0.80 and Greater Than or Equal to 0.75: If the CPF for the LOT is less than 0.80 and greater than or equal to 0.75, address the defective material in accordance with 334-5.9.5.

334-5.9.4 CPFs Less Than 0.75: If the CPF for the LOT is less than 0.75, remove and replace the defective LOT at no cost to the Department, or as approved by the Engineer.

334-5.9.5 Defective Material: Assume responsibility for removing and replacing all defective material placed on the project, at no cost to the Department.

As an exception to the above and upon approval of the Engineer, obtain an engineering analysis in accordance with Section 6 by an independent laboratory (as approved by the Engineer) to determine the disposition of the material. The engineering analysis must be signed and sealed by a Professional Engineer licensed in the State of Florida.

The Engineer may determine that an engineering analysis is not necessary or may perform an engineering analysis to determine the disposition of the material.

Any material that remains in place will be accepted with a CPF as determined by 334-8, or as determined by the Engineer.

If the defective material is due to a failure of high air voids, gradation, asphalt binder content, roadway density, or asphalt binder grade, upon the approval of the Engineer the Contractor may perform delineation tests on roadway cores in lieu of an engineering analysis to determine the limits of the defective material that may require removal and replacement. Prior to any delineation testing, all sampling locations shall be approved by the Engineer. All delineation sampling and testing shall be monitored and verified by the Engineer. For materials that are defective due to low air voids, an engineering analysis is required.

When evaluating defective material by engineering analysis or delineation testing, at a minimum, evaluate all material located between passing QC, PC or IV test results. Any additional PC samples obtained in the same work shift after an IV sample has been obtained shall include enough material for three complete sets of tests (PC, IV and IV check samples) in the event the Contractor requests using the PC test results for engineering analysis or delineation. These additional PC samples must compare with verified IV test results as determined by the comparison process of 334-5.7.1 in order to be used for engineering analysis or delineation. Exceptions to this requirement shall be approved by the Engineer.

334-6 Comparison Testing.

At the start of the project (unless waived by the Engineer) and at other times as determined necessary by the Engineer, provide split samples for comparison testing with the Engineer. The purpose of these tests is to verify that the testing equipment is functioning

properly and that the testing procedures are being performed correctly. In the event that the Engineer determines that there is a problem with the Contractor's testing equipment and/or testing procedures, immediately correct the problem to the Engineer's satisfaction. In the event that the problem is not immediately corrected, cease production of the asphalt mixture until the problem is adequately resolved to the satisfaction of the Engineer.

If agreed to by both the Contractor and the Engineer, the split sample used for comparison testing may also be used for the QC sample. The split sample used for comparison testing must also meet the requirements for IV testing described in 334-5.7.

334-7 Method of Measurement.

For the work specified under this Section (including the pertinent provisions of Sections 320 and 330), the quantity to be paid for will be the weight of the mixture, in tons. For each pay item, excluding overbuild, the pay quantity will be based on the quantity placed on the project, limited to 110% of the adjusted plan quantity for the pay item. The adjusted plan quantity will be determined by dividing the pay item's original plan quantity (including any Engineer approved quantity revisions) by the design G_{mm} stated in 334-1.4, then multiplying it by the tonnage-weighted average G_{mm} of the mixes used for the pay item.

The bid price for the asphalt mix will include the cost of the liquid asphalt and the tack coat application as directed in 300-8. There will be no separate payment or unit price adjustment for the asphalt binder material in the asphalt mix. For the calculation of unit price adjustments of bituminous material, the average asphalt content will be based on the percentage specified in 9-2.1.2. The weight will be determined as provided in 320-3.2 (including the provisions for the automatic recordation system).

Prepare and submit a Certification of Quantities to the Engineer in accordance with 9-2.1.2.

334-8 Basis of Payment.

334-8.1 General: Price and payment will be full compensation for all the work specified under this Section (including the applicable requirements of Sections 320 and 330).

For materials accepted in accordance with 334-5, based upon the quality of the material, a pay adjustment will be applied to the bid price of the material as determined on a LOT by LOT basis. The pay adjustment will be assessed by calculating a Pay Factor for the following individual quality characteristics: pavement density, air voids, asphalt binder content, and the percentage passing the No. 200 and No. 8 sieves. The pay adjustment will be computed by multiplying a Composite Pay Factor (CPF) for the LOT by the bid price per ton.

334-8.2 Pay Factors:

334-8.2.1 Partial LOTs: For Partial LOTs where no random sample is obtained due to insufficient tonnage, a CPF of 1.00 shall be applied.

334-8.2.2 Two or Less Sublot Test Results: In the event that two or less sublot test results are available for a LOT, Pay Factors will be determined based on Table 334-8, using the average of the accumulated deviations from the target value. (Except for density, deviations are absolute values with no plus or minus signs.) Use the 1-Test column when there is only one sublot test result and use the 2-Tests column when there are two sublots.

Table 334-8 Small Quantity Pay Table		
Pay Factor	1 Sublot Test Deviation	2 Sublot Test Average Deviation
Asphalt Binder Content		
1.05	0.00-0.23	0.00-0.16
1.00	0.24-0.45	0.17-0.32
0.90	0.46-0.55	0.33-0.39
0.80	>0.55	>0.39
No. 8 Sieve		
1.05	0.00-2.25	0.00-1.59
1.00	2.26-4.50	1.60-3.18
0.90	4.51-5.50	3.19-3.89
0.80	>5.50	>3.89
No. 200 Sieve		
1.05	0.00-0.55	0.00-0.39
1.00	0.56-1.10	0.40-0.78
0.90	1.11-1.50	0.79-1.06
0.80	>1.50	>1.06
Air Voids		
1.05	0.00-0.50	0.00-0.35
1.00	0.51-1.00	0.36-0.71
0.90	1.01-1.70	0.72-1.20
0.80	1.71-2.00	1.21-1.41
0.70	2.01-2.50	1.42-1.77
0.55	>2.50	>1.77
Density (1) Target = 93.00 percent of G_{mm}		
1.05	+ (0.00-3.50), - (0.00-0.50)	+ (0.00-3.25), - (0.00-0.35)
1.00	+ (3.51-4.50), - (0.51-1.00)	+ (3.26-4.25), - (0.36-0.71)
0.95	+ (4.51-5.00), - (1.01-2.00)	+ (4.26-4.75), - (0.72-1.41)
0.90	+ (5.01-5.50), - (2.01-3.00)	+ (4.76-5.25) – (1.42-2.12)
0.80	+ (>5.50), - (>3.00)	+ (>5.25), - (>2.12)
Density (1) Target = 92.00 percent of G_{mm}		
1.05	+ (0.00-4.50), - (0.00-0.50)	+ (0.00-4.25), - (0.00-0.35)
1.00	+ (4.51-5.50), - (0.51-1.00)	+ (4.26-5.25), - (0.36-0.71)
0.95	+ (5.51-6.00), - (1.01-1.50)	+ (5.26-5.75), - (0.72-1.41)
0.90	+ (6.01-6.50), - (1.51-2.00)	+ (5.76-6.25) – (1.42-2.12)
0.80	+ (>6.50), - (>2.00)	+ (>6.25), - (>2.12)

(1). Each density test result is the average of three to five randomly located cores. The target density is 93.00 percent of G_{mm} (92.00 percent when compaction is limited to the static mode or for layers specified to be one inch thick). When compaction is limited to the static mode, no vibratory mode in the vertical direction will be allowed. Other vibratory modes will be allowed, if approved by the Engineer. In this case, the target density is 92.00 percent of G_{mm}.

334-8.2.3 Three or More Sublot Test Results: When three or more sublot test results are available for a LOT, the variability-unknown, standard deviation method will be used to determine the estimated percentage of the LOT that is within the specification limits. The

number of significant figures used in the calculations will be in accordance with requirements of AASHTO R 11/ASTM E29, Absolute Method.

334-8.2.3.1 Percent Within Limits: The percent within limits (PWL) and Pay Factors for the LOT will be calculated as described below. Variables used in the calculations are as follows:

x = individual test value (sublot)
n = number of tests (sublots)
s = sample standard deviation
$\Sigma(x^2)$ = summation of squares of individual test values
$(\Sigma x)^2$ = summation of individual test values squared
Q_U = upper quality index
USL = upper specification limit (target value plus upper specification limit from Table 334-9)
Q_L = lower quality index
LSL = lower specification limit (target value minus lower specification limit from Table 334-9)
P_U = estimated percentage below the USL
P_L = estimated percentage above the LSL

1. Calculate the arithmetic mean $(\overline{X})$ of the test values:

$$\overline{X} = \frac{\sum x}{n}$$

2. Calculate the sample standard deviation (s):

$$s = \sqrt{\frac{n\sum(x^2) - (\sum x)^2}{n(n-1)}}$$

3. Calculate the upper quality index (Q_U):

$$Q_U = \frac{\text{USL} - \overline{\text{X}}}{\text{s}}$$

4. Calculate the lower quality index (Q_L):

$$Q_L = \frac{\overline{X} - LSL}{s}$$

5. From Table 334-10, determine the percentage of work below the USL (P_U).

6. From Table 334-10, determine percentage of work above the LSL (P_L) Note: If USL or LSL is not specified; percentages within (USL or LSL) will be 100.

7. If Q_U or Q_L is a negative number, then calculate the percent within limits for Q_U or Q_L as follows: enter Table 334-10 with the positive value of Q_U or Q_L and obtain the corresponding percent within limits for the proper sample size. Subtract this number from 100.00. The resulting number is the value to be used in the next step (Step 8) for the calculation of quality level.

8. Calculate the percent within limits (PWL) = (P_U + P_L) – 100

9. Calculate the Pay Factor (PF) for each quality characteristic using the equation given in 334-8.2.3.2.

Table 334-9
Specification Limits

Quality Characteristic	Specification Limits
Passing No. 8 sieve (percent)	Target ± 3.1
Passing No. 200 sieve (percent)	Target ± 1.0
Asphalt Content (percent)	Target ± 0.40
Air Voids (percent)	4.00 ± 1.20
Density, vibratory mode (percent of G_{mm}):	93.00 + 4.00, - 1.20
Density, static mode (percent of G_{mm}):	92.00 + 5.00, - 1.50 (1)

(1): No vibratory mode in the vertical direction will be allowed. Other vibratory modes will be allowed, if approved by the Engineer.

Table 334-10
Percent Within Limits

Quality Index	Percent within Limits for Selected Sample Size	
	n = 3	n = 4
0.00	50.00	50.00
0.05	51.38	51.67
0.10	52.76	53.33
0.15	54.15	55.00
0.20	55.54	56.67
0.25	56.95	58.33
0.30	58.37	60.00
0.35	59.80	61.67
0.40	61.26	63.33
0.45	62.74	65.00
0.50	64.25	66.67
0.55	65.80	68.33
0.60	67.39	70.00
0.65	69.03	71.67
0.70	70.73	73.33

Table 334-10 Percent Within Limits		
Quality Index	Percent within Limits for Selected Sample Size	
	n = 3	n = 4
0.75	72.50	75.00
0.80	74.36	76.67
0.85	76.33	78.33
0.90	78.45	80.00
0.95	80.75	81.67
1.00	83.33	83.33
1.05	86.34	85.00
1.10	90.16	86.67
1.15	97.13	88.33
1.20	100.00	90.00
1.25	100.00	91.67
1.30	100.00	93.33
1.35	100.00	95.00
1.40	100.00	96.67
1.45	100.00	98.33
1.50	100.00	100.00
1.55	100.00	100.00
1.60	100.00	100.00
1.65	100.00	100.00
1.70	100.00	100.00
1.75	100.00	100.00
1.80	100.00	100.00
1.85	100.00	100.00
1.90	100.00	100.00
1.95	100.00	100.00
2.00	100.00	100.00
2.05	100.00	100.00
2.10	100.00	100.00
2.15	100.00	100.00
2.20	100.00	100.00
2.25	100.00	100.00
2.30	100.00	100.00
2.35	100.00	100.00
2.40	100.00	100.00
2.45	100.00	100.00

Table 334-10 Percent Within Limits		
Quality Index	Percent within Limits for Selected Sample Size n = 3	n = 4
2.50	100.00	100.00
2.55	100.00	100.00
2.60	100.00	100.00
2.65	100.00	100.00

334-8.2.3.2 Pay Factors (PF): Pay Factors will be calculated by using the following equation:

Pay Factor = (55 + 0.5 x PWL) / 100

The PWL is determined from Step (8) of 334-8.2.3.1.

334-8.3 Composite Pay Factor (CPF): A CPF for the LOT will be calculated based on the individual PFs with the following weighting applied: 40% Density (D), 25% Air Voids (V_a), 20% asphalt binder content (P_b), 10% Passing No. 200 (P_{-200}) and 5% Passing No. 8 (P_{-8}). Calculate the CPF by using the following formula:

CPF = [(0.400 x PF D) + (0.250 x PF V_a) + (0.200 x PF P_b) + (0.100 x PF P_{-200}) + (0.050 x PF P_{-8})]

Where the PF for each quality characteristic is determined in either 334-8.2.2 or 334-8.2.3, depending on the number of sublot tests. Note that the number after each multiplication will be rounded to the nearest 0.01.

The pay adjustment shall be computed by multiplying the CPF for the LOT by the bid price per ton.

334-8.4 Payment: Payment will be made under:

Item No. 334- 1- Superpave Asphaltic Concrete - per ton.

TIERRA

November 15, 2023

Avcon, Inc.
5555 E. Michigan Street, Suite 200
Orlando, Florida 32822

Attn: Mr. Russell Holliday, P.E.

RE: Report of Geotechnical Engineering Services
Design/Build 10 Unit T-Hangar
Wauchula Municipal Airport
Hardee County, Florida
Tierra Project No. 6511-23-254

Mr. Holliday:

Tierra, Inc. has completed geotechnical engineering services for the above referenced project. The results of our field exploration program and subsequent geotechnical recommendations are presented in this report.

Should there be any questions regarding the report, please do not hesitate to contact our office at (813) 989-1354. Tierra would be pleased to continue providing geotechnical services throughout the implementation of the project. We look forward to working with you on this and future projects.

Respectfully Submitted,

TIERRA, INC.

Sarah E. Strackbein, E.I.
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PROJECT DESCRIPTION

Project Information

Based on information provided, the project consists of a new 10-unit T-Hangar at Wauchula Municipal Airport. It is our understanding that the foundation for the new T-Hangar will be slab-on-grade with a reinforced concrete strip footing around the perimeter of the building. This report has been developed to provide geotechnical engineering services to support the design of the proposed T-Hangar and associated paved areas.

Structural and grading information was not available at the time of this report. The maximum column loads are anticipated to be less than 40 kips, maximum wall loads are anticipated to be less than 4 kips per linear foot and floor loads are anticipated to be 200 pounds per square foot or less. If final loading information differs from what is presented in this report, then Tierra should be given the opportunity to review the final loading information and amend the recommendations herein if necessary.

Scope of Services

The objective of our study was to obtain information concerning subsurface conditions at the project site in order to base geotechnical engineering estimates and recommendations. To meet the preceding objectives, we provided the following services:

1. Reviewed readily available published soils and topographic information. This published information was obtained from the “Fort Green, Florida” Quadrangle Map published by the United States Geological Survey (USGS) and the Soil Survey of Hardee County, Florida, published by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS).

2. Mobilized personnel and equipment to the site. Coordinated utility clearances through Sunshine One Call and the airport.

3. Executed a program of subsurface exploration consisting of borings, subsurface sampling, and field testing, as follows:

    a. Performed five (5) SPT borings within the project area to depths ranging from 25 feet to 40 feet below existing grade.

    b. Performed six (6) auger borings throughout the project area to evaluate shallow soil suitability and estimate the Seasonal High Groundwater Table (SHGWT).

2. Measured and recorded groundwater levels immediately following completion of each boring.

3. Visually examined recovered soil samples in the laboratory to classify the soils according to the Unified Soil Classification System (USCS).

4. Conducted laboratory testing on select soil samples to confirm the visual classification and estimate engineering properties. Laboratory testing included natural moisture content tests, single sieve grain size analysis, and Atterberg Limit tests.

5. Collected two (2) bulk samples of the existing near-surface subgrade soils and performed two (2) Limerock Bearing Ratio (LBR) tests. The results of the LBR tests are shown in **Appendix B**.

6. Prepared this geotechnical report that summarizes the course of study pursued, the field data generated, laboratory test results, subsurface conditions encountered and our engineering recommendations in accordance with the scope of services.

The scope of our services did not include an environmental assessment for determining the presence or absence of wetlands or hazardous or toxic materials in the soil, bedrock, groundwater, or air, on or below or around this site. The scope of our services did not include determination of the potential for sinkhole activity. Any statements in this report or on the boring logs regarding odors, colors, unusual or suspicious items or conditions are strictly for the information of our client.

SUBSURFACE CONDITIONS

General Site Information

Based on a review of the “Fort Green, Florida” United States Geological Survey (USGS) Quadrangle Map, the existing ground elevation at the project site ranges from approximately +95 to +100 feet, National Geodetic Vertical Datum of 1929 (NGVD 29).

Hardee County Soil Survey

Soil data published by the USDA Soil Survey of Hardee County, Florida was reviewed as part of the subsurface investigation. This information indicates that there is one primary mapping unit within the footprint of the proposed improvements. The following paragraph and table provide a brief description of these soil units as presented in the Soil Survey.

Smyrna Sand, 0 to 2 percent slopes (Map Unit 17) - The Smyrna component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flatwoods on marine terraces on coastal plains. The parent material consists of sandy marine deposits. The depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low.

This soil is not flooded, nor is it ponded. The seasonal zone of water saturation is at 12 inches during June, July, August, September, October, and November. Organic matter content in the surface horizon is about 3 percent.

Summary of USDA Soil Survey Hardee County, Florida							
USDA Map Symbol and Soil Name	**Soil Classification**				**pH**	**Seasonal High Water Table**	
	Depth (in)	**USCS**	**AASHTO**	**Permeability (in/hr)**		**Depth (feet)**	**Months**
(17) Smyrna Sand	0-5	SP-SM, SM	A-2-4, A-3	6.0 - 20.0	4.0-6.0	0.5-1.5	June-Dec
	5-15	SP-SM, SM	A-2-4, A-3	6.0 - 20.0	4.0-6.0		
	15-18	SP-SM, SM	A-2-4, A-3	0.6 - 6.0	4.0-6.0		
	18-22	SP-SM, SM	A-2-4, A-3	0.6 - 6.0	4.0-6.0		
	22-35	SP-SM, SM	A-2-4, A-3	6.0 - 20.0	4.0-6.0		
	35-45	SP-SM, SM	A-2-4, A-3	6.0 - 20.0	4.0-6.0		
	45-56	SP-SM, SM	A-2-4, A-3	6.0 - 20.0	4.0-6.0		
	56-80	SP-SM, SP	A-2-4, A-3	6.0 - 20.0	4.0-6.0		

It should be noted that information contained in the USDA/NRCS Soil Survey may not be reflective of current subsurface conditions, particularly if recent development in the project vicinity has modified existing soils or surface/subsurface drainage.

SUBSURFACE EXPLORATION

General

To evaluate the subsurface conditions for the proposed improvements, Tierra performed a total of five (5) Standard Penetration Test (SPT) borings and six (6) auger borings.

The boring locations were located in the field by a representative of Tierra using hand-held Garmin eTrex 20™ Global Positioning System (GPS) equipment with a reported accuracy of ±10 feet. Tierra coordinated access with airport staff and coordinated utility clearances with Sunshine One Call. The approximate boring locations are presented on the **Boring Location Plan** sheet in **Appendix A**. If a more accurate determination of the boring locations and elevations is required, then Tierra recommends the boring locations be survey located by the project surveyor.

The SPT borings were performed with the use of a drill rig using Bentonite Mud drilling procedures. The soil sampling was performed in general accordance with American Society for Testing and Materials (ASTM) Test Designation D-1586 titled “Penetration Test and Split-Barrel Sampling of Soils.” The initial 4 to 6 feet of the SPT borings were manually augered to verify utility clearance. Resistance N-values were then taken at 2-foot intervals to a depth of 10 feet and then on intervals of 5 feet thereafter. The soil samples were classified in the field and transported to our laboratory for review and confirmation of the field classification.

The auger borings were performed by manually twisting a bucket auger into the ground typically in 6-inch increments. As each soil type was encountered, samples were collected and visually classified in the field with representative soil samples collected and returned to Tierra's laboratory for classification and testing.

The soil strata encountered in the borings performed at the project site are summarized in the following table:

Stratum Number	Soil Description	USCS Symbol
1	Brown Sand to Sand with Silt	SP/SP-SM
2	Light Gray Silty Sand	SM
3	Brown Cemented Sand to Sand with Silt to Silty Sand (Hard-Pan)	SP/SP-SM/SM
4	Gray to Brown Clayey Sand	SC
5	Blue to Gray Silt to Clay	ML/CL

The subsurface soil stratification is of a generalized nature to highlight the major subsurface stratification features and material characteristics. The soil profiles included in **Appendix A** should be reviewed for specific information at individual boring locations. These profiles include soil descriptions, stratifications and resistance values, when applicable. The stratifications shown on the boring profiles represent the conditions only at the actual boring location. Variations did occur and should be expected between boring locations. The stratifications represent the approximate boundary between subsurface materials and the actual transition may be gradual.

Groundwater Information

The groundwater table was measured at depths ranging from approximately 1½ to 3 feet below the existing ground surface within the borings performed. The measured groundwater levels are presented on the **Soil Profiles** sheet in **Appendix A**.

It should be noted that groundwater levels tend to fluctuate during periods of prolonged drought and extended rainfall and may be affected by man-made influences. A seasonal effect can also occur in which higher groundwater levels are normally recorded in rainy seasons.
Based on the subsurface conditions encountered in the borings performed, Tierra estimates the SHGWT to range from approximately ½ to 1 foot below the existing ground surface at the location of the auger borings. The estimated SHGWT at the evaluated locations is presented adjacent to those soil profiles in **Appendix A**.

Limerock Bearing Ratio Test

Bulk samples were collected for Limerock Bearing Ratio (LBR) testing at two (2) locations within the project site. The soils were collected from depths within two feet of the ground surface. The tests were performed in accordance with ASTM D-1883. The locations of the bulk sampling are presented on the **Boring Location Plan** sheet in **Appendix A**. The results from the laboratory tests are provided in **Appendix B**.

EVALUATION AND RECOMMENDATIONS

General

The removal and utilization of plastic soils, organic soils, top-soils and other surficial organic soils should be accomplished in accordance with governing guidelines. Site preparation should consist of normal clearing and grubbing followed by compaction of subgrade soils. Clearing and grubbing and compaction should be accomplished in accordance with governing guidelines.

In general, the existing subsurface soils encountered in the borings performed along the project alignment are suitable for supporting the proposed improvements after proper subgrade preparation. All earthwork activities including the site preparation, clearing and grubbing, removal and utilization/placement of soils, compaction of subgrade soils and selection of backfill materials should be accomplished in accordance with governing guidelines.

On-Site Suitability

The suitability of soil for reuse in the project should be evaluated against the project engineering fill requirements. Variations in the subsurface stratification should be expected between borings. All fill should be placed in accordance with the recommendations provided in this report and applicable projects specifications/requirements.

In general, the soils of Stratum 1 (SP/SP-SM) and Stratum 2 (SM) may be moved and used for grading purposes, site leveling, general engineering fill, structural fill and backfill in other areas, provided the fill is free of organic materials, clay, debris or any other material deemed unsuitable for construction and evaluated against engineering fill requirements. Stratum 2 should only be used above the water table level existing at the time of construction. Stratum 2 soils may also become difficult to dry and compact due to high fines content.

Stratum 3 consists of cemented sandy hard-pan soils. The soils of Stratum 3 are rock-like and will be difficult to excavate. The contractor should anticipate that special tools and construction methods will be required to excavate into and/or through Stratum 3 soils. The subsurface soil conditions encountered are presented on the **Soil Profiles** sheet in **Appendix A**.

Proposed T-Hangar

The SPT borings performed throughout the project site were relatively consistent and generally encountered loose to medium dense sandy soils underlain by very loose to loose silty sand.

Based on anticipated loading conditions for the proposed hangar structure and that finished site grades are anticipated to be within 2 feet of existing grades, the foundations and floor slabs may bear on soils encountered in the borings when improved according to our recommendations. The results of the borings generally indicate that the native sandy soils (Stratum 1) will provide adequate support for conventional shallow foundation systems after proper subgrade preparation. Once final loading conditions become available, Tierra should be given the opportunity to review the final loads and amend the recommendations herein, if necessary.

Site Preparation

Prior to construction, the location of any existing underground utilities within the construction area should be established. Provisions should then be made to relocate any interfering utility lines within the construction area to appropriate locations and backfilling the resulting excavations with compacted structural fill. In this regard, it should be noted that if abandoned underground pipes are not properly removed or plugged, they might serve as conduits for subsurface erosion, which subsequently may result in excessive settlement.

As a minimum, it is recommended that the clearing operations extend to the depth needed to remove material considered deleterious at least 5 feet beyond the proposed development area. Deleterious materials to be removed include pavement, roots, organics, tree stumps or other buried or surface debris. Material suitable for re-use may be stockpiled; however, any material stockpiled for re-use shall be tested for conformance to material specifications as indicated in the following sections of this report.

Foundation Recommendations

Based on our evaluation and analyses, the encountered soils should be capable of supporting the anticipated structural loads on shallow foundations after proper subgrade preparation, including surface compaction. Field results indicate shallow foundations may be designed for a net maximum allowable bearing pressure of **2,000 pounds per square foot (psf), following proper subgrade preparation.** The foundations and floor slabs should bear on properly placed and compacted cohesionless (sand) structural fill. The existing near surface sandy soils should be improved by compaction after clearing operations and the recommended grouting program have been completed to improve foundation support and reduce total and differential settlement. Compaction criteria are presented under the Construction Considerations Section of this report.

All footings should be embedded so that the bottoms of the foundations are a minimum of 18 inches below adjacent compacted grades on all sides. Strip or wall footings should be a minimum of 18 inches wide and pad or column footings should be a minimum of 30 inches square. The minimum footing sizes should be used regardless of whether or not the foundation loads and allowable bearing pressures dictate a smaller size. These minimum footing sizes tend to provide adequate bearing area to develop bearing capacity and account for minor variations in the bearing materials. Minimum footing sizes and embedment depths may be modified once final loads, including uplift, become available.

All footings should be constructed in a dry fashion. All footing excavations should be covered during rain events. Uncovered excavations may become oversaturated and difficult to compact during rain events. Surface run-off water should be drained away from the excavations and not allowed to pond. It is important that the structural elements be centered on the footings such that the load is transferred evenly unless the footings are proportioned for eccentric loads.

Settlement

The settlement of shallow foundations supported on compacted sand fill and/or natural sandy soils should occur rapidly after loading. Thus, the expected settlement should occur during construction as dead loads are imposed. Provided the recommended site preparation operations are properly performed and the recommendations are utilized, the total settlement of pad or column footings should not exceed approximately ¾ inch. *Differential settlement is estimated to be on the order of 1/480 (3/4 inch per 30 feet)*. The tolerance of the proposed structures to the predicted total and differential settlement should be confirmed by the structural engineer. If final loading conditions differ from the loads assumed above, Tierra should be given the opportunity to review and amend (if necessary) our recommendations.

Pavement Considerations

Actual pavement section thickness should be provided by the design civil engineer based on traffic loads, volume, and the owners design life requirements. The following sections represent minimum thicknesses representative of typical load and construction practices and as such periodic maintenance should be anticipated. All pavement materials and construction procedures should conform to the appropriate project requirements.

In general, following the completion of the recommended clearing and grading operations and fill placement, the compacted fill and natural shallow sandy soils should be acceptable for construction and support of a flexible (limerock, crushed concrete, or shell base) type pavement section, or rigid (concrete) pavement section.

Following initial clearing and grading, the exposed subgrade shall be compacted to a minimum depth of 12 inches to a minimum density of 95% of the Modified Proctor maximum dry density. Any fill utilized to elevate the cleared pavement areas to subgrade

elevation should consist of reasonably clean (maximum 12% passing the #200 sieve sizes) sands uniformly compacted to a minimum depth of 12 inches to a minimum density of 95% of the Modified Proctor maximum dry density. In flexible pavement areas we recommend 12 inches of Type B stabilized subgrade (LBR = 40%) below the base course. Compacted to a minimum density of 98% of the Modified Proctor maximum dry density. Traffic should not be allowed on the subgrade as the base is placed to avoid rutting. The subgrade should be checked for soundness and be true to line and grade prior to the placement of the base course.

The choice of pavement base type will depend on final pavement grades in relation to the seasonal high groundwater levels presented in this report. If a minimum separation of 18 inches between the bottom of the base and the seasonal high groundwater level is obtained, then a limerock, shell, or crushed concrete base can be utilized. A crushed concrete base should be utilized if the separation between final grade and the seasonal high groundwater is a minimum of 12 inches and less than 18 inches. Base material elevations should not be designed for saturated conditions. If the designer wishes to have base material closer than 12 inches to the SHGWT, then an underdrain system should be utilized that will maintain the 12 inches of separation. The SHGWT should be re-established relative to a known elevation prior to setting final grades. Limerock, shell and crushed concrete base material should meet Florida Department of Transportation (FDOT) requirements including compaction to a minimum density of 98% of the modified Proctor maximum dry density. Limerock and shell base materials should have a minimum Limerock Bearing Ratio (LBR) of 100%. Crushed concrete should be have a minimum LBR of 150% and should be graded in accordance with FDOT Standard Specification Section 901-5. As a guideline for pavement design, we recommend that the base course be a minimum of 6 inches thick in parking areas and 8 inches thick in heavily traveled drives. Before paving, the base should be checked for soundness.

The asphaltic concrete structural course should consist of at least one and one-half (1½) inches of Type SP asphaltic concrete material. The asphaltic concrete should meet standard FDOT material requirements and placement procedures as outlined in the current FDOT Standard Specifications.

As an alternative to the above referenced flexible pavement design, a rigid (concrete) pavement design could be used. The concrete should have a minimum compressive strength of 4,000 psi at 28 days when tested in accordance with ASTM C-39. Based on our experience, a minimum thickness of five (5) inches should be utilized for standard duty applications and a minimum thickness of six (6) inches should be utilized for heavy-duty applications. The steel reinforcement within the concrete pavement should be designed by the project civil engineer. The subgrade soils should be compacted to a minimum density of 95% of the modified Proctor maximum dry density.

CONSTRUCTION CONSIDERATIONS

General

It is recommended that a qualified and certified materials engineering firm be retained to provide observation and testing of construction activities involved in the foundation earthwork, and related activities of this project. Tierra cannot accept any responsibility for any conditions which deviate from those described in this report, if not engaged to provide construction observation and testing for this project.

Fill Placement and Subgrade Preparation

The following are our recommendations for overall site preparation and mechanical densification work for the construction of the proposed hangar based on the anticipated construction and our test boring results. These recommendations should be used as a guideline for the project general specifications prepared by the design engineer.

1. The site should be cleared; this primarily includes removing any deleterious materials currently on the site. It is recommended that all undesirable material be removed to the satisfaction of Tierra prior to beginning construction at the site. Resulting excavations should be backfilled with compacted structural fill. As a minimum, it is recommended that the clearing operations extend at least five (5) feet beyond the development perimeters.

2. Following the clearing operations, the site should be proofrolled. The proofrolling may consist of compaction with a large diameter, heavy vibratory drum roller (if not within 50 feet of existing structures). The vibratory drum roller should have a static drum weight on the order of 8 to 10 tons and should be capable of exerting a minimum impact force of 36,000 pounds (DYNAPAC CA-250 or equivalent is expected to provide acceptable results). **Vibratory rollers should not be used within 50 feet of any existing structures. Areas within 50 feet of existing structures should be compacted using a fully loaded 2 cubic yard capacity front-end loader or equivalent (i.e. through non-vibratory means).** The proofrolling equipment should make a minimum of eight (8) overlapping passes over the structure and pavement areas with the successive passes aligned perpendicular.

3. Careful observations should be made during subgrade evaluation to help identify any areas of soft yielding soils that may require over excavation and replacement. It is recommended that within the structure and pavement locations, the natural ground, to a minimum depth of one (1) foot below stripped grade, be compacted to a dry density of at least 95% of the Modified Proctor maximum dry density.

4. Following satisfactory completion of the initial compaction, the structure areas may be brought up to finished subgrade levels, if needed, using structural fill. Imported fill should consist of fine to medium sand with less than 12% passing the No. 200

sieve, free of rubble, organics, clay, debris and other unsuitable material. Fill should be tested and approved prior to acquisition. Approved sand fill should be placed in loose lifts not exceeding 12 inches in thickness and should be compacted to a minimum density of 95% of the modified Proctor maximum dry density. Density tests to confirm compaction should be performed in each fill lift before the next lift is placed.

5. Prior to beginning compaction, soil moisture contents may need to be controlled in order to facilitate proper compaction. If additional moisture is necessary to achieve compaction objectives, then water should be applied in such a way that it will not cause erosion or removal of the subgrade soils. Moisture content within the percentage range needed to achieve compaction is recommended prior to compaction of the natural ground and fill.

6. After compaction and proofrolling, the foundation excavations can begin. Foundation excavations should be observed by the geotechnical engineer or a representative to explore the extent of any loose, soft, or otherwise unsuitable materials. If the foundation excavations appear suitable as load bearing materials, the bottom of the foundation excavations should be compacted to a minimum density of 95% of the Modified Proctor maximum dry density for a minimum depth of one (1) foot below the bottom of the footing depth, as determined by field density tests.

7. Backfill soils placed adjacent to footings or walls should be carefully compacted with a static roller or vibratory plate compactor to avoid damaging the footings or walls. Approved sand fills to provide foundation embedment constraint should be placed in loose lifts not exceeding 6 inches and should be compacted to a minimum density of 95% of the modified Proctor maximum dry density.

8. If soft pockets are encountered in the footing excavations, the unsuitable materials should be removed, and the proposed footing elevation may be re-established by backfilling. This backfilling may be done with a very lean concrete or with a well-compacted, suitable fill such as clean sand, gravel, or crushed FDOT No. 57 or FDOT No. 67 stone. Sand backfill should be compacted to a minimum density of 95% of the modified Proctor maximum dry density.

9. Immediately prior to reinforcing steel placement, it is suggested that the bearing surfaces of all footing and floor slab areas be compacted using hand operated mechanical tampers. In this manner, any localized areas, which have been loosened by excavation operations, should be adequately re-compacted.

A representative from our firm should be retained to provide on-site observation of earthwork and ground modification activities. Density tests should be performed in the top one (1) foot of compacted existing ground, each fill lift, and the bottom of foundation excavations. It is important that Tierra be retained to observe that the subsurface conditions are as we have discussed herein, and that foundation construction ground modification and fill placement is in accordance with our recommendations.

Drainage and Groundwater Concerns

The groundwater levels presented in this report are the levels that were measured at the time of our field activities. Fluctuation should be anticipated. We recommend that the Contractor determine the actual groundwater levels at the time of the construction to determine groundwater impact on the construction procedure.

Water should not be allowed to collect in the foundation excavations, on the floor slab areas, or on prepared subgrades of the construction either during or after construction. Undercut or excavated areas should be sloped toward one corner to facilitate removal of any collected rainwater, groundwater, or surface runoff. Positive site drainage should be provided to reduce infiltration of surface water around the perimeter of the building and beneath the floor slab. The grades should be sloped away from the building and surface drainage should be collected and discharged such that water is not permitted to infiltrate the backfill and floor slab areas of the building.

Structural Fill

All materials used for structural fill or backfill should be evaluated and, if necessary, tested by Tierra prior to placement to determine if they are suitable for the intended use. Suitable fill materials should consist of fine to medium sand with less than 12% passing the No. 200 sieve, free of rubble, organics, clay, debris and other unsuitable material.

In general, the soils of Stratum 1 (SP/SP-SM) and Stratum 2 (SM) may be moved and used for grading purposes, site leveling, general engineering fill, structural fill and backfill in other areas, provided the fill is free of organic materials, clay, debris or any other material deemed unsuitable for construction and evaluated against engineering fill requirements. Stratum 2 should only be used above the water table level existing at the time of construction. Stratum 2 soils may also become difficult to dry and compact due to its fines content.

Stratum 3 consists of cemented sandy hard-pan soils. The soils of Stratum 3 are rock-like and will be difficult to excavate. The contractor should anticipate that special tools and construction methods will be required to excavate into and/or through Stratum 3 soils.

Excavations

Temporary side slopes and excavations should comply with the Occupational Safety and Health Administration's (OSHA) trench safety standards, 29 C.F.R., s. 1926.650, Subpart P, all subsequent revisions or updates of OSHA's referenced standard adopted by the Department of Labor and Employment Security and Florida's Trench Safety Act, Section 553.62, Florida Statutes. Excavated materials should not be stockpiled at the top of the slope within a horizontal distance equal to the excavation depth.

We are providing this information solely as a service to our client. Tierra does not assume responsibility for construction site safety or the contractor's or other party's compliance with current local, state, and federal safety or other regulations.

REPORT LIMITATIONS

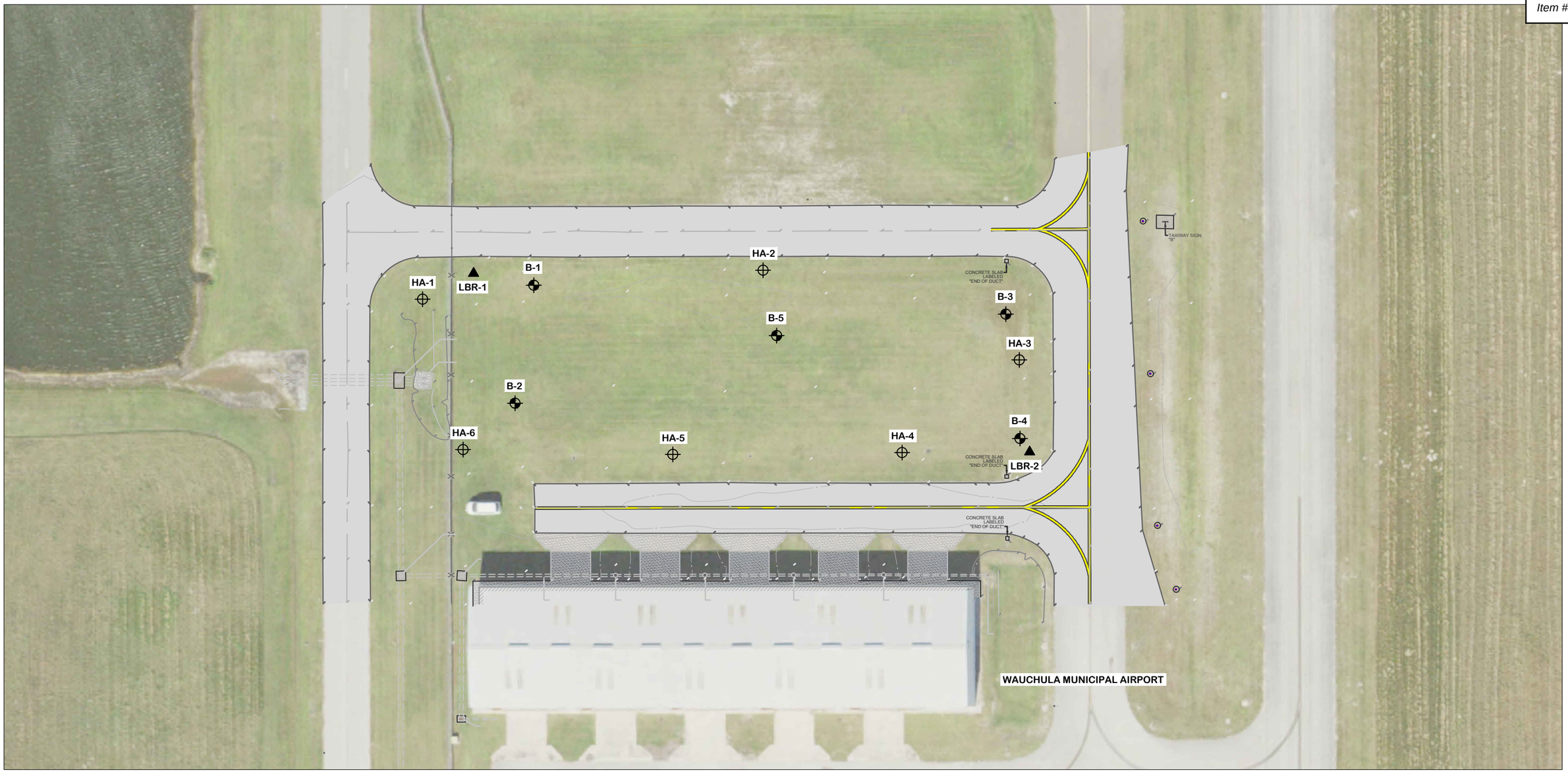
The analyses, conclusions and recommendations contained in this report are opinions based on the site conditions and project layout described herein and further assume that the conditions observed in the exploratory borings are representative of the subsurface conditions throughout the site, i.e., the subsurface conditions elsewhere on the site are the same as those disclosed by the borings. If, during construction, subsurface conditions different from those encountered in the exploratory borings are observed or appear to be present beneath excavations, we should be advised at once so that we can review these conditions and reconsider our recommendations where necessary.

This report was prepared for the exclusive use of Avcon, Inc. and their client for evaluating the design of the project as it relates to the geotechnical aspects discussed herein. It should be made available to prospective contractors for information on factual data only and not as a warranty of subsurface conditions included in this report. Unanticipated soil conditions may require that additional expense be made to attain a properly constructed project. Therefore, some contingency fund is recommended to accommodate such potential extra costs.

APPENDIX A

Boring Location Plan

Soil Profiles



NOTE: BASE MAP PROVIDED BY AVCON, INC.

BORING LOCATION PLAN

0 50'

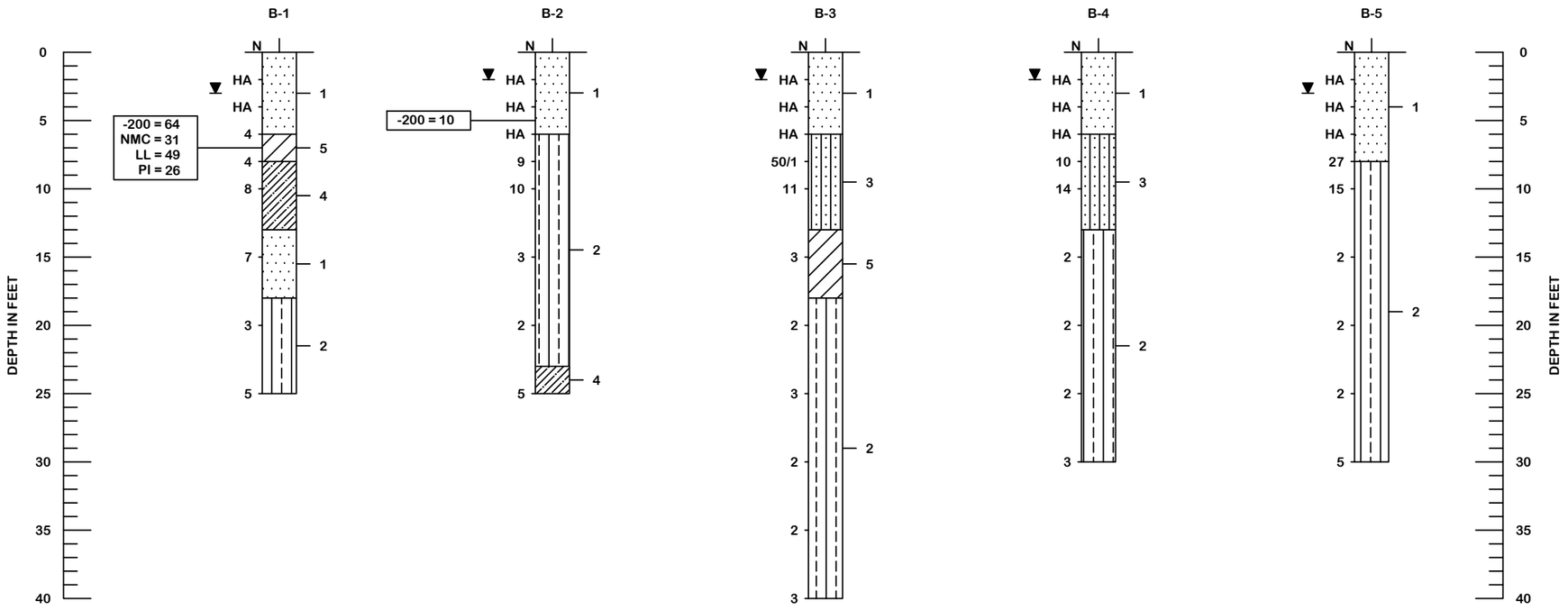
PLAN SCALE

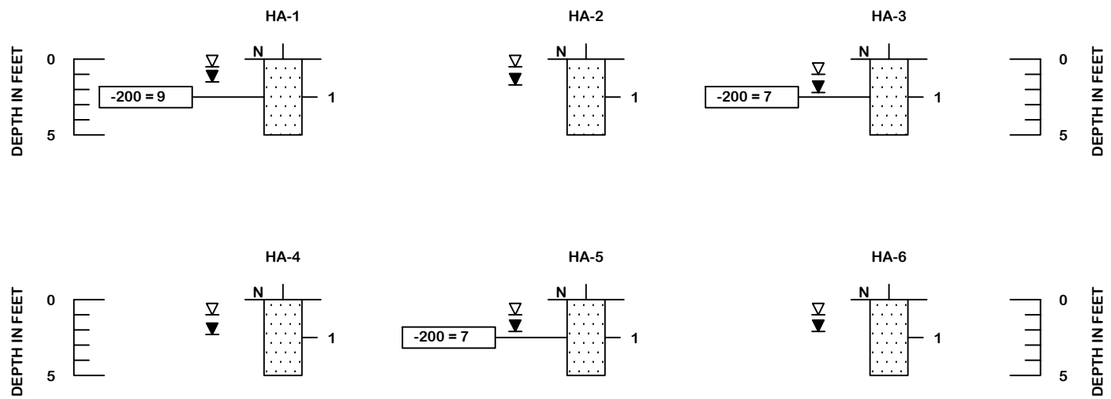
LEGEND

- APPROXIMATE LOCATION OF AUGER BORING
- APPROXIMATE LOCATION OF SPT BORING
- APPROXIMATE LOCATION OF LBR TEST

DRAWN BY: SW CHECKED BY: SS	APPROVED BY: DRR DATE: NOV 2023	ENGINEER OF RECORD: DANIEL R. RUEL, P.E. FLORIDA LICENSE NO.: 82404	TIERRA 7351 Temple Terrace Highway Tampa, Florida 33637 Phone: 813-989-1354 Fax: 813-989-1355	SCALE: NOTED	PROJECT NUMBER: 6511-23-254	GEOTECHNICAL ENGINEERING SERVICES DESIGN/BUILD 10 UNITS T-HANGAR HARDEE COUNTY, FLORIDA	SHEET 1

SOIL PROFILES





LEGEND

1 BROWN SAND TO SAND WITH SILT (SP/SP-SM)

2 LIGHT GRAY SILTY SAND (SM)

3 BROWN CEMENTED SAND TO SAND WITH SILT TO SILTY SAND (HARD-PAN) (SP/SP-SM/SM)

4 GRAY TO BROWN CLAYEY SAND (SC)

5 BLUE TO GRAY SILT TO CLAY (ML/CL)

▼ GROUNDWATER LEVEL ENCOUNTERED DURING INVESTIGATION

▽ ESTIMATED SEASONAL HIGH GROUNDWATER TABLE

N SPT N-VALUE IN BLOWS/FOOT FOR 12 INCHES OF PENETRATION (UNLESS OTHERWISE NOTED)

SP UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2488) GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW AND LABORATORY TESTING ON SELECTED SAMPLES FOR CONFIRMATION OF VISUAL REVIEW

50/4 NUMBER OF BLOWS FOR 4 INCHES OF PENETRATION

HA HAND AUGERED TO VERIFY UTILITY CLEARANCES

-200 PERCENT PASSING #200 SIEVE

NMC NATURAL MOISTURE CONTENT (%)

LL LIQUID LIMIT (%)

PI PLASTICITY INDEX (%)

AUTOMATIC HAMMER	
GRANULAR MATERIALS-RELATIVE DENSITY	SPT (BLOWS/FT.)
VERY LOOSE	LESS THAN 3
LOOSE	3 TO 8
MEDIUM	8 TO 24
DENSE	24 TO 40
VERY DENSE	GREATER THAN 40
SILTS AND CLAYS CONSISTENCY	SPT (BLOWS/FT.)
VERY SOFT	LESS THAN 1
SOFT	1 TO 3
FIRM	3 TO 6
STIFF	6 TO 12
VERY STIFF	12 TO 24
HARD	GREATER THAN 24

DRAWN BY: SW
CHECKED BY: SS
APPROVED BY: DRR
DATE: NOV 2023
ENGINEER OF RECORD: DANIEL R. RUEL, P.E.
FLORIDA LICENSE NO.: 82404

TIERRA
7351 Temple Terrace Highway
Tampa, Florida 33637
Phone: 813-989-1354 Fax: 813-989-1355

SCALE: NOTED
PROJECT NUMBER: 6511-23-254

GEOTECHNICAL ENGINEERING SERVICES
DESIGN/BUILD 10 UNITS T-HANGAR
HARDEE COUNTY, FLORIDA

SHEET 2

APPENDIX B

Results of LBR Tests

Design LBR Calculation

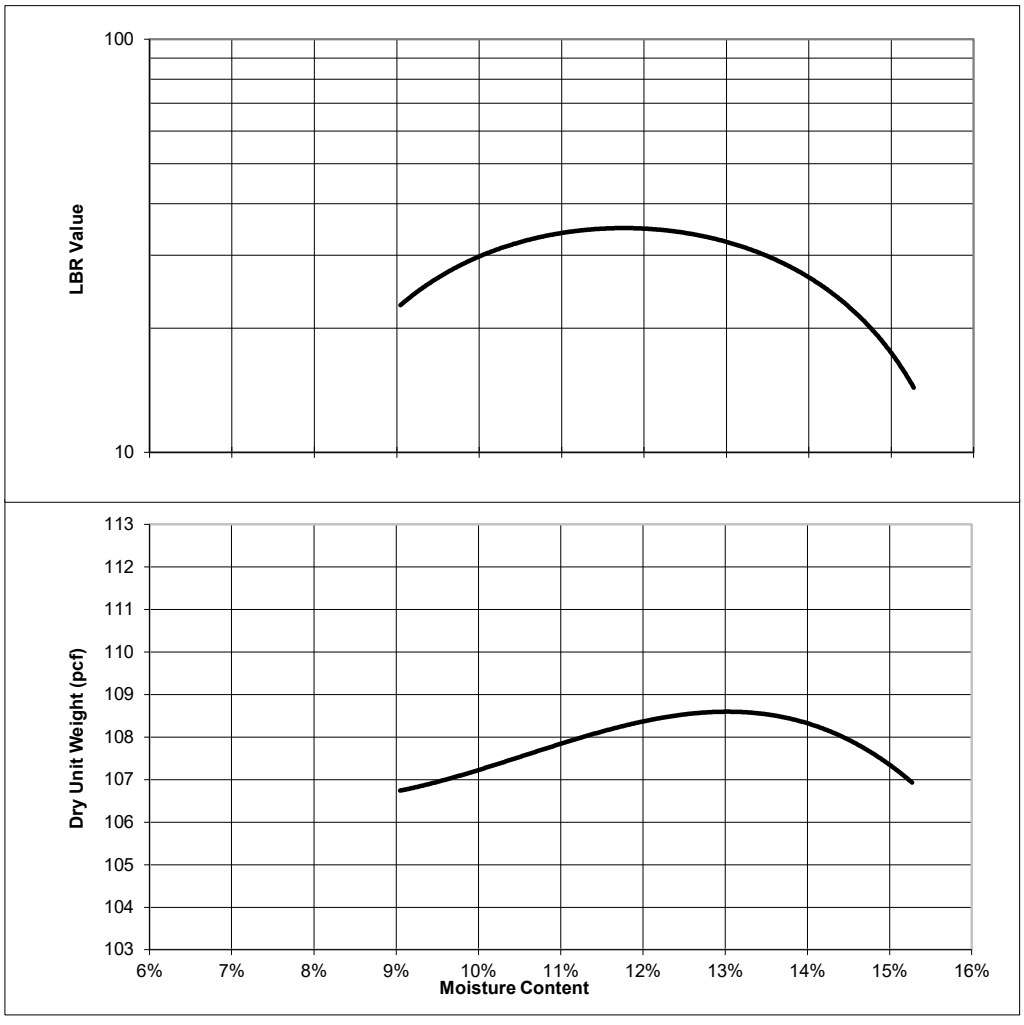
TIERRA

RESULTS OF LIMEROCK BEARING RATIO TEST

Tested For: Avcon, Inc.
Project: CHN T- Hanger

Project No. 6511-23-254
Date: November 2023
Report No. LBR-1

LBR & MOISTURE-DENSITY RELATIONSHIP



LBR Value	35
Maximum Density	108.6 pcf
Optimum Moisture	13.1 %
Test Method:	FSTM FM 5-515
Tested By:	J. Shuey

Description: Brown Sand to Sand with Silt (SP/SP-SM)

Sample Depth: 0' - 2'

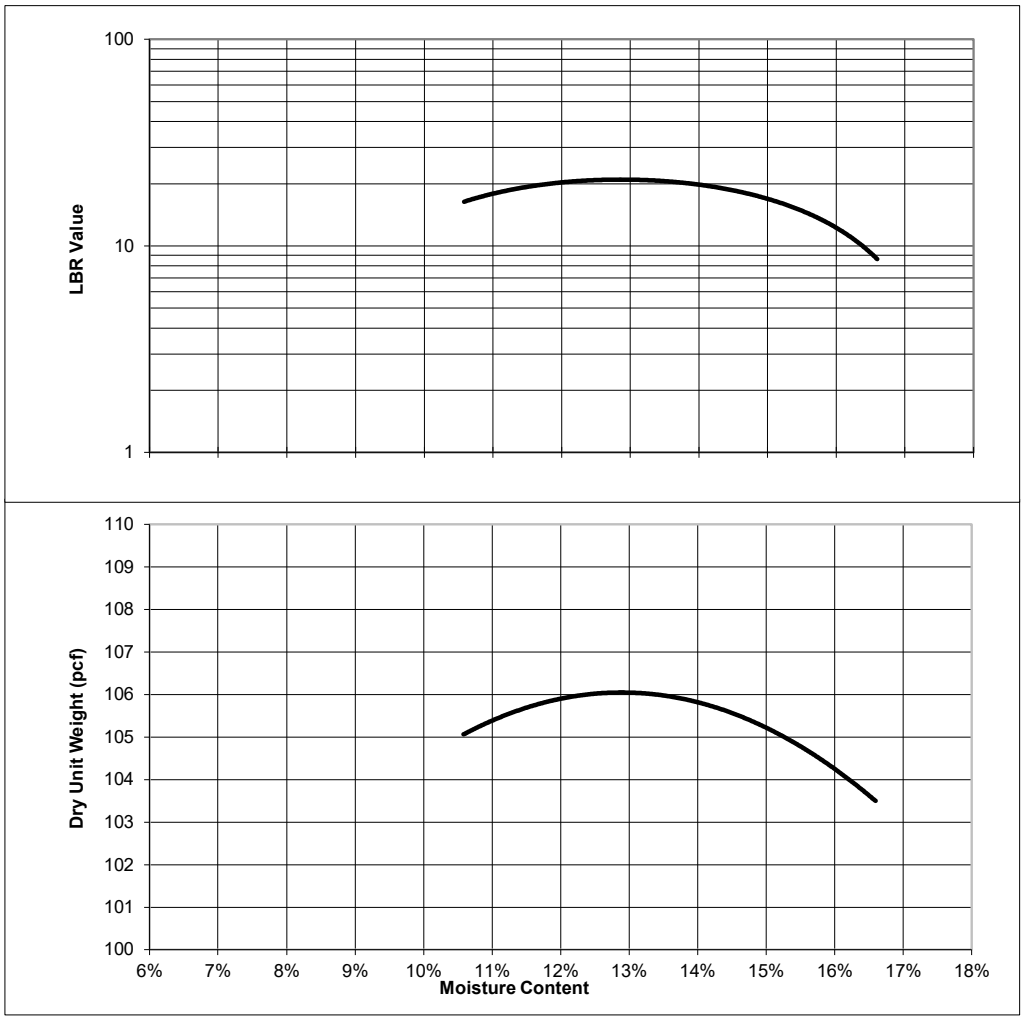
Respectfully Submitted,
TIERRA INC.

TIERRA

RESULTS OF LIMEROCK BEARING RATIO TEST

Tested For: Avcon, Inc.
Project: CHN T- Hanger
Project No. 6511-23-254
Date: November 2023
Report No. LBR-2

LBR & MOISTURE-DENSITY RELATIONSHIP



LBR Value	21		
Maximum Density	106.1 pcf	Description:	Brown Sand to Sand with Silt (SP/SP-SM)
Optimum Moisture	13 %		
Test Method:	FSTM FM 5-515		
Tested By:	J. Shuey	Sample Depth:	0' - 2'

Respectfully Submitted,
TIERRA INC.

Design LBR Calculation
Wauchula Municipal Airport T-Hangar
Hardee County, Florida
Tierra Project No.: 6511-23-254
2% of Optimum Method

Test No.	Bulk Sample Boring Location	Maximum LBR	LBR at Moisture Contents (of Optimum LBR):	
			- 2%	+ 2%
1	LBR-1	35	27	29
2	LBR-2	21	17	16
Mean LBR Value		28	22	23

Design LBR = 22

Design M_R (Resilent Modulus) [1] = 8,000 psi

[1] Based on FDOT Flexible Pavement Manual for conversion of LBR to M_R.

WATER TOWER LEASE AGREEMENT

THIS WATER TOWER LEASE AGREEMENT (this "**Agreement**" or "**Lease**") is made and entered into as of the ___ day of _____, 2026, by and between **HARDEE COUNTY**, a political subdivision of the State of Florida ("**Lessor**" or "**County**"), and the **CITY OF WAUCHULA**, a municipal corporation organized and existing under the laws of the State of Florida ("**Lessee**" or "**City**"), collectively referred to as the "Parties."

RECITALS:

WHEREAS, Lessor is the owner of certain real property located at the Hardee County Civic Center, 770 Rec Complex Drive, Wauchula, Florida 33873 (the "County's Property");

WHEREAS, Lessee has entered into a Standard Grant Agreement with the State of Florida Department of Environmental Protection for the project titled, Wauchula Southwest Area Elevated Water Tower with Transmission Lines, for the purpose of constructing drinking water infrastructure in the southwest quadrant of Wauchula (the "Project");

WHEREAS, Lessor desires to lease to Lessee, and Lessee desires to lease from Lessor, a portion of the County's Property as more particularly described in Exhibit "A" attached hereto (the "**Leased Premises**"), for the Project for the purpose of constructing, installing, operating, and maintaining an elevated water tower and associated transmission lines to supply potable water to residents, visitors, and future development within the City and County;

WHEREAS, Lessee's proposed use of Leased Premises will not interfere with public rights or the use of surrounding property; and

WHEREAS, the Parties deem it to be in the best interest of the health, safety, and welfare of City and County residents to enter into this long-term Lease for the construction, installation, operation, and maintenance of the water tower and associated infrastructure.

NOW, THEREFORE, in consideration of the forgoing recitals, the covenants and conditions set forth below, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereto agree as follows:

1. **Recitals**. The foregoing recitals are true and correct and are incorporated herein by reference.

2. **Leased Premises**. Lessor hereby leases to Lessee, and Lessee hereby leases from Lessor, the Leased Premises described in Exhibit "A" attached hereto and incorporated herein by reference, subject to the terms and conditions contained in this Lease. The Lessee's leasehold interest includes the non-exclusive use of any and all easement rights for access and drainage that are appurtenant to and run with Lessor's fee interest in the Leased Premises.

3. **Term.** The initial term of this Lease (the "**Initial Term**") shall be twenty-five (25) years and shall commence on _____, 2026 (the "**Commencement**

Date"), and shall expire on 2051, unless sooner terminated as provided herein. Lessee shall have the irrevocable and exclusive right and option to extend the Initial Term of this Lease for two (2) additional twenty-five (25) year extension terms (each, an "**Extended Term**") on the same terms, conditions, and covenants set forth in this Lease unless otherwise provided herein. Any Extended Term shall be exercised only by written notice delivered to the Lessor at least sixty (60) days prior to the expiration of the Initial Term or the prior Extended Term, if applicable. All terms and conditions of this Lease shall remain in effect during any extension period unless modified in writing by mutual agreement of the Parties. For purposes of this Lease, the Initial Term and any Extended Term, if applicable, shall collectively be referred to as the "Term" in this Lease.

4. **Rent**. As consideration for this Lease and for the rights and privileges granted herein, Lessee shall pay to County the sum of Ten Dollars ($10.00) per year, payable on or before the anniversary of the Lease Commencement Date each year during the Initial Term and any Extended Term. The Parties acknowledge that the nominal rent set forth herein constitutes good and sufficient consideration under Florida law and further acknowledge that Lessee's construction and operation of the Water Tower Facilities provides substantial public benefit to Lessor and its residents. Lessee shall bear all other costs and expenses related to its use of the Leased Premises, including the cost of construction, operation, maintenance, and utilities.

5. **Taxes and Assessments**. To the extent permitted by law, Lessee shall be responsible for any taxes or special assessments levied or assessed directly against Lessee's property, improvements, or activities on the Leased Premises. Lessor shall not be responsible for any taxes or assessments resulting from Lessee's use.

6. **Use of Premises**. The Leased Premises shall be used solely for the purpose of constructing, operating, maintaining, repairing, and replacing a municipal water tower and related utility infrastructure, together with any appurtenant equipment, access drives, utility connections, fencing, and landscaping reasonably necessary to support such use (collectively, the "**Water Tower Facilities**"), in compliance with the requirements of the Lessee's Standard Grant Agreement with the Florida Department of Environmental Protection. Lessee shall not use or permit the use of the Leased Premises for any purpose inconsistent with this Lease or prohibited by law, ordinance, or regulation. Lessee shall, at its sole cost, obtain and maintain all permits, approvals, and authorizations required by applicable governmental authorities in connection with its use of the Leased Premises and operation of the Water Tower Facilities. Lessee's use of the Leased Premises shall be in a manner consistent with all applicable environmental, safety, and building codes and shall not unreasonably interfere with Lessor's use of adjacent property.

7. **Improvements and Ownership**. All structures, fixtures, and improvements constructed or placed on the Leased Premises by Lessee shall remain the property of Lessee unless otherwise agreed in writing.

8. **Assignment and Subletting**. Lessee shall not assign, sublease, transfer, or encumber this Lease or any interest therein without the prior written consent of Lessor, which consent shall not be unreasonably withheld if the assignee is another public entity or a utility authority providing similar public service. Any attempted assignment or sublease without such consent shall be void and shall constitute a material breach of this Lease.

9. **Maintenance and Repair**. Lessee shall, at its sole cost, maintain the Leased Premises and all improvements thereon in a clean, safe, and orderly condition and shall promptly repair any damage caused by its operations. Lessee shall keep the area free from trash, debris, and hazards. Lessee shall provide prompt written notice to Lessor of any significant damage, accident, or condition affecting the Leased Premises or the Water Tower Facilities.

10. **Inspection Rights**. Lessor, through its authorized representatives, may enter upon the Leased Premises at reasonable times to inspect for compliance with this Lease and to perform any lawful governmental function, provided such entry does not materially interfere with Lessee's operations.

11. **Liability; Indemnification; Sovereign Immunity**. Lessee shall, to the extent permitted by law, indemnify, defend, and hold Lessor harmless from any and all claims, damages, or liabilities arising out of Lessee's use or occupancy of the Leased Premises, except to the extent caused by Lessor's sole negligence. Nothing herein shall be construed as a waiver of either Party's sovereign immunity or the monetary limitations of liability contained in section 768.28, Florida Statutes, as amended. The obligations of this Section shall survive the termination or expiration of this Lease.

12. **Insurance**. Lessee, as a governmental entity subject to section 768.28, Florida Statutes, shall maintain liability protection in accordance with Florida law and shall provide written verification of such protection to Lessor prior to commencement of construction and upon request thereafter.

13. **Warranties**. Each Party represents and warrants that it has full authority to enter into this Lease and to perform its obligations hereunder. Lessor warrants that it has the right to grant the leasehold interests in the Leased Premises and that, to the best of its knowledge, no liens or encumbrances materially interfere with Lessee's use and enjoyment of the Water Tower Facilities. Lessee warrants that it will use, operate, and maintain the Leased Premises and Water Tower Facilities in compliance with all applicable laws, regulations, and permits and that its use will not create any hazard, nuisance, or undue risk.

14. **Default and Remedies, Termination**. An "Event of Default" by either Party shall occur if the other Party (i) fails to pay Rent or other amounts due under this Lease within thirty (30) days after written notice, (ii) fails to perform any other material obligation under this Lease within thirty (30) days after written notice, (iii) abandons the Leased Premises or ceases operations of the Water Tower Facilities for ninety (90) consecutive days without the other Party's prior

written consent, or (iv) assigns, subleases, or transfers this Lease or any interest therein without the other Party's prior written consent.

Upon the occurrence of an Event of Default, the non-breaching Party may, in addition to any other remedy available at law or in equity: terminate this Lease upon thirty (30) days' written notice, enter the Leased Premises to perform any obligation required of the defaulting Party (with the defaulting Party responsible for all costs incurred), or seek specific performance, injunctive relief, or any other remedies available under Florida law. The failure of either Party to enforce any provision of this Lease shall not constitute a waiver of any default or limit future enforcement. Lessee's rights under this section specifically protect the City's ability to operate, maintain, and access the Water Tower Facilities without interference from County, while County's rights ensure protection of its property and compliance with lease obligations.

15. During the Initial Term of 25 years and the first extension, this Lease may be terminated only upon an Event of Default. After the expiration of the Initial Term and first extension, this Lease may be terminated by either Party, without cause, upon two (2) years' prior written notice to the other Party, delivered in accordance with the Notices section of this Lease. Upon termination of this Lease for any reason, Lessee shall, at its sole cost and expense, restore the Leased Premises to its original condition, reasonable wear and tear excepted, unless the parties agree in writing, to leave the Water Tower Facilities and improvements in place.

16. **Force Majeure**. The period of time during which either Party is prevented or unavoidably delayed in the performance or the making of any improvement or repairs, or fulfilling any obligation required under this Lease, other than the payment of rent or additional rent, due to fire, catastrophe, strikes or labor troubles, civil commotion, Acts of God, or similar circumstances beyond such Party's reasonable control, shall be added to such Party's time for performance thereof, and such Party shall have no liability by reason thereof; provided, however, that if such performance could have been effectuated by, or any default thereof cured by, the payment of money with respect to any such obligation, then in no event shall the inability of that Party to make available sufficient funds be deemed to be a force majeure.

17. **Quiet Enjoyment**. Lessor covenants and agrees that Lessee, on performing the covenants contained herein, shall and may peaceably and quietly hold and enjoy the Leased Premises during the Term.

18. **Compliance with Laws**. Lessee shall at all times comply with all applicable laws, ordinances, codes, rules, and regulations governing the construction, operation, and maintenance of the Water Tower Facilities.

19. **Records and Public Access**. This Lease and all records generated pursuant to it are subject to public disclosure in accordance with Chapter 119, Florida Statutes (Public Records Law). The Parties shall maintain records in a manner consistent with Florida's public records retention requirements.

20. **Notices**. Any and all notices, demands, consents, approvals or other communication which is required or may be given under this Lease shall be in writing and shall be deemed to have been duly given if transmitted by hand-delivery with receipt thereof, by a nationally recognized overnight delivery service, or by certified mail posted prior to the expiration date for such notice, return receipt requested and first class postage prepaid, to the following addresses:

If to Lessee:	City of Wauchula Attn: City Manager 126 South 7th Avenue Wauchula, Florida 33873
With a copy to:	GrayRobinson, P.A. Attn: Kristie Hatcher-Bolin, City Attorney One Lake Morton Drive Lakeland, Florida 33801
If to Lessor:	Hardee County Board of County Commissioners Attn: County Manager 412 West Orange Street Wauchula, Florida 33873
With a copy to:	County Attorney Hardee County 412 West Orange Street Wauchula, Florida 33873

or to such other contact person or address as a Party may have specified in writing to the other Party using the procedures contained in this Section. Notices sent (i) via hand delivery shall be deemed delivered when received; (ii) via overnight delivery by a nationally recognized overnight delivery service shall be deemed delivered on the next business day after deposit with such service; and (iii) via certified mail shall be deemed delivered on the date of receipt.

21. **Severability**. If any one or more of the provisions of this Lease should be held contrary to law or public policy, or should for any reason whatsoever be held invalid or unenforceable by a court of competent jurisdiction, then such provision shall be null and void and shall be deemed separate from the remaining provisions of this Lease, which remaining provisions shall continue in full force and effect, provided that the rights and obligations of the Parties contained herein are not materially prejudiced and the intentions of the Parties continue to be effective.

22. **Amendments**. This Lease may not be amended unless such amendment is in writing and duly executed by the Parties hereto.

23. **Entire Agreement**. This Lease contains the final and entire agreement between the Parties hereto with respect to the matters set forth herein and contains all of the terms and

conditions agreed upon with respect thereto, and no other agreements, oral or otherwise, regarding the subject matter of this Lease shall be deemed to exist or to bind the Parties hereto; it being the intent of the Parties that neither shall be bound by any term, condition, or representation not herein written.

24. **Headings**. Headings of the Sections in this Lease have been included for convenience and reference only, and the words contained therein shall in no way be held to explain, amplify, or aid in the interpretation, construction or meaning of the provisions of this Lease.

25. **Governing Law**. This Lease shall be governed by the laws of the State of Florida. Venue of any disputes relating to this Lease shall be solely in Hardee County, Florida.

26. **Multiple Counterparts**. This Lease may be executed in more than one counterpart, all of which taken together shall constitute one and the same original, and the execution of separate counterparts by the Parties shall bind the Parties as if they had each executed the same counterpart.

[**SIGNATURE PAGES FOLLOW**]

IN WITNESS WHEREOF, the Parties have executed this Water Tower Lease Agreement as of the day and year first above written.

BOARD OF COUNTY COMMISSIONERS HARDEE COUNTY, FLORIDA, a political subdivision of the State of Florida

(SEAL)

By:_____
Chair / Vice Chair

Date:_____

ATTEST:

_____
Clerk / Deputy Clerk of the Board

As authorized by the Board of County Commissioners at its meeting on:

_____

STATE OF FLORIDA
COUNTY OF HARDEE

The foregoing instrument was acknowledged before this by [ ] physical presence or [ ] online notarization this _____ day of _____, 2026, by _____, as _____ of Hardee County, Florida, a political subdivision of the State of Florida, on behalf thereof. He/She [ ] is personally known to me or [ ] has produced _____ as identification.

_____
Signatures of Notary Public

[NOTARY SEAL]

_____
Notary Name Typed, Printed or Stamped
My Commission No.:_____
My Commission Expires:_____

[REMAINING SIGNATURES ON FOLLOWING PAGE]

IN WITNESS WHEREOF, the Parties have executed this Water Tower Lease Agreement as of the day and year first above written.

CITY OF WAUCHULA, FLORIDA
a Florida municipal corporation

By:_____
Richard K. Nadaskay, Jr. Mayor

Date: _____

ATTEST:

APPROVED AS TO FORM AND LEGALITY FOR THE USE AND RELIANCE OF THE CITY OF WAUCHULA, FLORIDA, ONLY

_____
Stephanie Camacho, City Clerk

_____
Kristie Hatcher-Bolin, City Attorney

STATE OF FLORIDA
COUNTY OF HARDEE

The foregoing instrument was acknowledged before this by [ ] physical presence or [ ] online notarization this _____ day of _____, 2025, by _____, as _____ of the City of Wauchula, Florida, a political subdivision of the State of Florida, on behalf thereof. He/She [ ] is personally known to me or [ ] has produced _____ as identification.

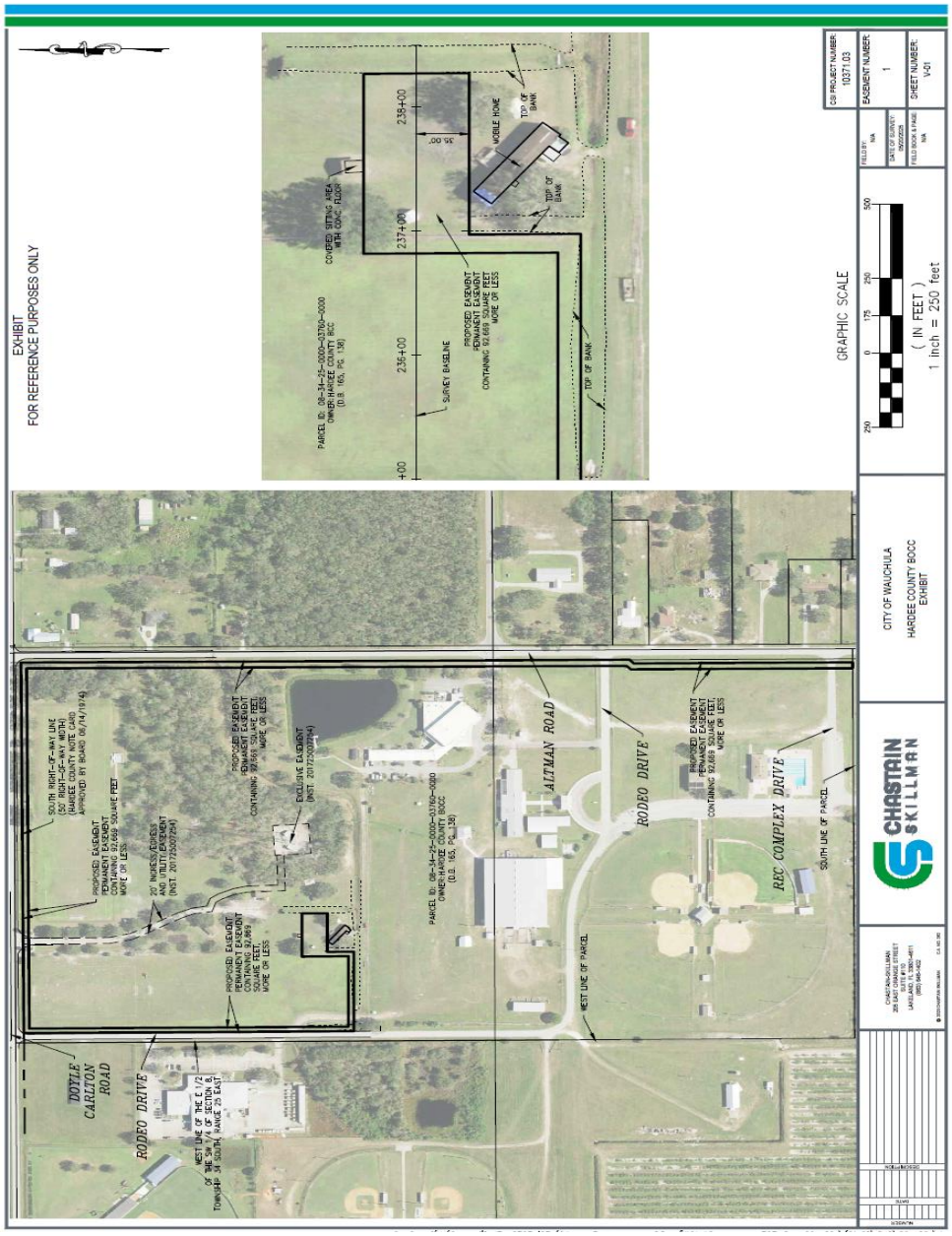
_____
Signatures of Notary Public

[NOTARY SEAL]

_____
Notary Name Typed, Printed or Stamped
My Commission No.:_____
My Commission Expires:_____

Exhibit "A"

Leased Premises



DESCRIPTION

A parcel of land being a portion of the East 1/2 of the Southwest 1/4 of Section 8, Township 34 South, Range 25 East, Hardee County, Florida, being more particularly described as follows:

COMMENCE at the Northeast corner of the Southwest 1/4 of said Section 8; thence South 89°44'25" West along the North line of the East 1/2 of the Southwest 1/4 of said Section 8, a distance of 1310.87 feet to the Northwest corner of said East 1/2 of the Southwest 1/4; thence South 00°22'55" East along the West line of said East 1/2 of the Southwest 1/4, a distance of 933.94 feet; thence North 90°00'00" East, 33.00 feet to a line 33.00 feet East of and parallel to said West line of the East 1/2 of the Southwest 1/4 for the POINT OF BEGINNING; thence North 00°22'55" West along said parallel line, 911.28 feet to the intersection with the South right-of-way line of Doyle Carlton Road, being a 50.00 foot right-of-way per Hardee County Public Works Division's note card and approved June 14, 1974, defined as being 25.00 on either side of the centerline of Doyle Carlton Road; thence North 89°37'16" East along said South right-of-way line, 1245.13 feet to the intersection with the West right-of-way line of Altman Road, being a 50.00 foot right-of-way per Hardee County Public Works Division's note card approved June 14, 1974, defined as being 25.00 feet on either side of the centerline of Altman Road; thence South 00°17'21" East along said West right-of-way line, 641.90 feet; thence South 00°18'46" East, along said West right-of-way line, 1038.90 feet; thence departing said West right-of-way line, South 44°41'14" West, 16.97 feet to the intersection with a line being 12.00 feet West of and parallel to the West right-of-way line of said Altman Road; thence South 00°18'46" East, along said parallel line, 604.18 feet to the intersection with the South line of the North 3/4 of the Southeast 1/4 of the Southwest 1/4 of said Section 8; thence South 89°44'21" West, along said South line, 20.00 feet to the intersection with a line being 32.00 feet West of and parallel to said West right-of-way line of Altman Road; thence North 00°18'46" West, along said parallel line, 612.44 feet; thence North 44°41'14" East, 16.97 feet to the intersection with a line being 20.00 feet West of and parallel to said West right-of-way line of Altman Road; thence North 00°18'46" West, along said parallel line, 1030.62 feet; thence North 00°17'21" West, along said parallel line, 626.86 feet to the intersection with a line lying and being 15.00 feet South of and parallel to said South right-of-way line of Doyle Carlton Road; thence South 89°37'16" West, along said parallel line, 1210.11 feet to the intersection with a line being 48.00 feet East of and parallel with said West line of the East 1/2 of the Southwest 1/4; thence South 00°22'55" East, along said parallel line, 881.38 feet; thence North 90°00'00" East, 236.74 feet; thence North 00°22'55" West, 128.83 feet; thence North 90°00'00" East, 145.00 feet; thence South 00°22'55" East, 70.00 feet, thence North 90°00'00" West, 130.00 feet; thence South 00°22'55" East, 73.83 feet; thence North 90°00'00" West, 266.74 feet to the POINT OF BEGINNING.

Said parcel containing 92,669 square feet, more or less.

CERTIFICATION:

I hereby certify that this Description with Sketch was made under my direction and was made in accordance with Standards of Practice adopted by the State of Florida Department of Agriculture and Consumer Services, Board of Professional Surveyors and Mappers, Chapter 5J-17 of the Florida Administrative Code, pursuant to Section 472.027, Florida Statutes.

JEFFREY P. AMMERMANN License Number 7388 STATE OF FLORIDA Professional Surveyor and Mapper

Jeffrey P Ammermann

Digitally signed by Jeffrey P Ammermann
Date: 2025.05.20 14:52:56 -04'00'

JEFFREY P. AMMERMANN, P.S.M.
FLORIDA REGISTRATION PSM 7388
JAMMERMANN@CHASTAINSKILLMAN.COM
THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY THE ABOVE SURVEYOR ON THE DATE ADJACENT TO SEAL. ANY SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED VALID WITHOUT A RAISED SEAL.

SHEET 1 OF 3
SEE SHEET 2 AND 3 OF 3 FOR DESCRIPTION SKETCH, SURVEYOR'S NOTES, AND LEGEND.

PREPARED BY: CHASTAIN-SKILLMAN, INC. – 205 EAST ORANGE STREET SUITE #110 LAKELAND, FLORIDA 33801 – (863) 646-1402 – LB 262			10371.03
DRAWN BY: S. CHILDS	FIELD BOOK: N/A PAGE: N/A	DATE: 05/20/2025	SHEET NO. V-01

P:\10371\03\Civil\Survey\10371\03-LFS-2024-11-14-ESMT.dwg XrLE-PE-LESc May 20, 2025 2:51pm by jammermann

Docusign Envelope ID: EF4CAC99-5CD1-4F69-BF48-EB40E501A059

FLAIR #: D0333

COMMERCE AGREEMENT ROUTING REVIEW FORM

CG

1. Agreement Manager: Cristin Beshears Program Area (Division): Community Development RIF Phone No.: 850.717.8486

X Financial (If Financial, Complete All Sections) Non-Financial (If Non-Financial, Complete Sections 1-4, 8, and 22)

2. Agreement Type: X Original Agreement Renewal Number: Amendment Number:

If more than one funding source, show each source with amount of funds and Expansion Option (EO) and Version. If the contract will cross fiscal years, please indicate the amount that will be encumbered in the current fiscal year. If additional space is required, please attach a separate sheet.

3. Department Agreement #	4. Begin Date	End Date	Revised End Date	5. Grant #	Mod. #
D0333	DOE	24 months		FRCDP	

6. CFDA #	CSFA #	7. Contract/Grant Total	Increase	(Decrease)	Revised Contract/Grant Total
	40.042	$ 510,000.00	$	($)	$

8. Entity Name/Vendor ID #/Address/Phone #
City of Wauchula
126 South 7th Ave, Wauchula, Florida 33873
Phone: #863.773.9193 / FEIN: #59-6000446

9. Method of Payment
X Cost Reimbursement
Fixed Price or Fixed Rate
Other: (please specify)

10. Vendor Determination Form Received?
Yes
X No

11. FLAIR Fund Code	12. FLAIR Object Code(s)	13. Budget Entity	14. FLAIR Organization Code(s)	15. Appropriation Category
202648001	751000	40300200	40-30-30-00-000	143150-26

16. Expansion Option/Version	17. OCA	18. FCO Year	19. FLAIR Account Code (29-digits)
N3		26	40202648001403002000143150-26

20. Method of Procurement
Type: EX
Solicitation #:
Award Date/Notification 12/18/2025

21. Service Type
84101600

22. Agreement Type
Vendor Contract
X Recipient/Subrecipient
Other: (please specify)

23. State Funded Project?
X Yes
No

ADMINISTRATIVE REVIEW

PRE-EXECUTION PHASE (DocuSign)		EXECUTION PHASE
Agreement Manager: Cristin Beshears	2/10/2026	**Office of the General Counsel:**
CPGA Manager: Arnaud Kone	2/10/2026	**Chief Financial Officer:**
MRH **Revenue Management:** Kelly Barfoot MRH	2/11/2026	**Chief of Staff:**
Bureau Chief/Manager: Jennifer Thomas	2/12/2026	**Secretary:**
Director: Leo Garcia	2/12/2026	
Deputy Secretary: Justin R. Domer	2/12/2026	
Chief Financial Officer: Caroline Womack	2/14/2026	
Chief of Staff: Adam Callaway	2/15/2026	
Secretary: J. Alex Kelly	2/16/2026	

Docusign Envelope ID: EF4CAC99-5CD1-4F69-BF48-EB40E501A059

COMMENTS (If Applicable)

Agreement Manager

The begin date/effective date will be the date of execution and will expire 24 months after.

CPGA Manager

Budget Management

Revenue Management

Bureau Chief

Director

Deputy Secretary

Chief Financial Officer

Chief of Staff

Secretary

Docusign Envelope ID: EF4CAC99-5CD1-4F69-BF48-EB40E501A059

Executive Briefing Summary

Issue Title: D0333- City of Wauchula – Heard Bridge Road Water Main

Originating Office/Division:	**Preparer:**	**Date:**
Community Development/ Office of Rural Initiatives/ Rural Infrastructure Fund	Alissa Fan	2/3/2026

Action Requested: Review and approve request.

Issue Summary: City of Wauchula was awarded $510,000.00 for a Rural Infrastructure Total Project Participation Grant to survey, design and construct water main along Heard Bridge Road.

Florida Statute: 288.0655	**Lobbyist:** N/A
Issue Start Date: 1/14/2026	**Due Date:**
External Partners: N/A	**Cost: 510,000.00**

Inform: DWS:☐ DCD:☐ DED:☐ F&A:☐ IT:☐ CIO:☐ Comms:☐ Leg: ☐ EAT:☐ OGC:☐ OIG:☐ COS:☒ Sec:☐ OPB:☐ EOG: ☐

Background:

Section 288.0655, Florida Statutes ("F.S."), created the Rural Infrastructure Fund ("RIF") to facilitate the planning, preparing, and financing of infrastructure projects in rural communities which will encourage job creation, capital investment, and strengthening and diversification of rural economies by promoting tourism, trade, and economic development.

Relevant Data:

The City of Wauchula was awarded $510,000.00 for a Total Project Participation Grant to survey, design and construct new water main strengthening the critical infrastructure to the community's water distribution. This project will enhance the system's reliability, reduce service disruptions, and provide the capacity needed to support long-term residential, commercial and industrial development.

This Agreement is effective upon mutual execution of the FloridaCommerce grant agreement (the "Effective Date") and will expire 24 months following the effective date (the "Expiration Date").

BUDGET

Deliverables	Awarded
Survey	**$50,000.00**
Engineering Design and Permitting	**$50,000.00**
Construction	**$360,800.00**
CEIS	**$49,200.00**
TOTAL BUDGET:	**$510,000.00**

Three options: Approve, approve with edits, reject with edits.

Next steps: After the FloridaCommerce Secretary approves the grant agreement, it will be routed to the city for execution.

Secretary/Chief of Staff Notes:

Docusign Envelope ID: EF4CAC99-5CD1-4F69-BF48-EB40E501A059

GRANT AGREEMENT
BETWEEN THE
STATE OF FLORIDA
DEPARTMENT OF COMMERCE
AND
CITY OF WAUCHULA, FLORIDA

THIS GRANT AGREEMENT NUMBER D0333 ("Agreement") is made and entered into by and between the State of Florida, Department of Commerce ("Commerce"), and the **City of Wauchula, Florida**, a unit of general local government ("Grantee"). Commerce and Grantee are sometimes referred to herein individually as a "Party" and collectively as "the Parties".

WHEREAS, Commerce has the authority to enter into this Agreement and distribute State of Florida funds ("Award Funds") in the amount and manner set forth in this Agreement and in the following Attachments incorporated herein as an integral part of this Agreement:

- Attachment 1: Scope of Work
- Attachment 2 and Exhibit 1 to Attachment 2: Audit Requirements
- Attachment 3: Audit Compliance Certification

WHEREAS, the Agreement and its aforementioned Attachments are hereinafter collectively referred to as the "Agreement", and if any inconsistencies or conflict between the language of this Agreement and its Attachments arise, then the language of the Attachments shall control, but only to the extent of the conflict or inconsistency;

WHEREAS, Grantee hereby represents and warrants that Grantee's signatory to this Agreement has authority to bind Grantee to this Agreement as of the Effective Date and that Grantee, through its undersigned duly authorized representative in his or her official capacity, has the authority to request, accept, and expend Award Funds for Grantee's purposes in accordance with the terms and conditions of this Agreement;

NOW THEREFORE, for and in consideration of the covenants and obligations set forth herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties intending to be legally bound hereby agree to perform the duties described herein in this Agreement as follows:

A. AGREEMENT PERIOD

This Agreement is effective upon mutual execution of the FloridaCommerce grant agreement (the "Effective Date") and will expire 24 months following the effective date (the "Expiration Date") or (b) the date on which either Party terminates this Agreement (the "Termination Date"). The period of time between the Effective Date and the Expiration Date or Termination Date is the "Agreement Period."

B. FUNDING

This Agreement is a Cost Reimbursement Agreement. Commerce shall pay Grantee up to **Five Hundred Ten Thousand Dollars and Zero Cents ($510,000.00)** in consideration for Grantee's performance under this Agreement. Commerce shall not provide Grantee an advance of Award Funds under this Agreement. Travel expenses are not authorized under this Agreement. Commerce shall not pay Grantee's costs related to this Agreement incurred outside of the Agreement Period. In conformity with s. 287.0582, F.S., the State of Florida and Commerce's performance and obligation to pay any Award Funds under this Agreement is contingent

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upon an annual appropriation by the Legislature. Commerce shall have final unchallengeable authority as to both the availability of funds and what constitutes an "annual appropriation" of funds. Grantee shall not expend Award Funds for the purpose of lobbying the Legislature, the judicial branch, or a state agency. Grantee shall not expend Award Funds to pay any costs incurred in connection with any defense against any claim or appeal of the State of Florida or any agency or instrumentality thereof (including Commerce); or to pay any costs incurred in connection with the prosecution of any claim or appeal against the State of Florida or any agency or instrumentality thereof (including Commerce), which Grantee instituted or in which Grantee has joined as a claimant. Grantee shall either (i) maintain Award Funds in a separate bank account, or (ii) expressly designate in Grantee's business records and accounting system that the Award Funds originated from this Agreement. Grantee shall not commingle Award Funds with any other funds. Commerce may refuse to reimburse Grantee for purchases made with commingled funds. Grantee's costs must be in compliance with all laws, rules, and regulations applicable to expenditures of State funds, including the Reference Guide for State Expenditures. (https://www.myfloridacfo.com/docs-sf/accounting-and-auditing-libraries/state-agencies/reference-guide-for-state-expenditures.pdf?sfvrsn=b4cc3337_2)

C. ELECTRONIC FUNDS TRANSFER

Within 30 calendar days of the date the last Party has signed this Agreement, Grantee shall enroll in Electronic Funds Transfer (EFT) from the State's Chief Financial Officer. A copy of the Authorization form can be found on the vendor instruction page at: https://www.myfloridacfo.com/Division/AA/Vendors/default.htm. Any questions should be directed to the Direct Deposit/EFT Section of the Division of Accounting and Auditing at (850) 413-5517. Once enrolled, invoice payments shall be made by EFT.

D. MODIFICATION

If, in Commerce's sole and absolute determination, changes to this Agreement are necessitated by law or otherwise, Commerce may at any time, with written notice of all such changes to Grantee, modify this Agreement within its original scope and purpose. Grantee shall be responsible for any due diligence necessary to determine the impact of the modification. Any modification of this Agreement requested by Grantee must be in writing and duly signed by all Parties in order to be enforceable.

E. AUDIT REQUIREMENTS AND COMPLIANCE

1. **Section 215.971, Florida Statutes ("F.S.")**. Grantee shall comply with all applicable provisions of s. 215.97, F.S., and Attachment 2 and Exhibit 1 to Attachment 2: Audit Requirements. Grantee shall perform the deliverables and tasks set forth in Attachment 1, Scope of Work. Grantee may only expend Award Funds for allowable costs resulting from obligations incurred during the Agreement Period. Grantee shall refund to Commerce any: (1) balance of unobligated Award Funds which have been advanced or paid to Grantee; or (2) Award Funds paid in excess of the amount to which Grantee is entitled under the terms and conditions of this Agreement and Attachments hereto, upon expiration or termination of this Agreement.

2. **Audit Compliance**. Grantee understands and shall comply with the requirements of s. 20.055(5), F.S. Grantee agrees to reimburse the State for the reasonable costs of investigation the Inspector General or other authorized State official incurs for investigations of Grantee's compliance with the terms of this or any other agreement between the Grantee and the State which results in the suspension or debarment of Grantee.

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Grantee shall not be responsible for any costs of investigations that do not result in Grantee's suspension or debarment.

F. RECORDS AND INFORMATION RELEASE

1. **Records Compliance**. Commerce is subject to the provisions of chapter 119, F.S., relating to public records. Any document Grantee submits to Commerce under this Agreement may constitute public records under the Florida Statutes. Grantee shall cooperate with Commerce regarding Commerce's efforts to comply with the requirements of chapter 119, F.S. Grantee shall respond to requests to inspect or copy such records in accordance with chapter 119, F.S., for records made or received by Grantee in connection with this Agreement. Grantee shall immediately notify Commerce of the receipt and content of any request by sending an e-mail to PRRequest@commerce.fl.gov within one business day after receipt of such request. Grantee shall indemnify, defend, and hold Commerce harmless from any violation of Florida's public records laws wherein Commerce's disclosure or nondisclosure of any public record was predicated upon any act or omission of Grantee. As applicable, Grantee shall comply with s. 501.171, F.S. Commerce may terminate this Agreement if Grantee fails to comply with Florida's public records laws. Grantee shall allow public access to all records made or received by Grantee in connection with this Agreement, unless the records are exempt from s. 24(a) of Article I of the State Constitution or s. 119.07(1), F.S.

2. **Identification of Records**. Grantee shall clearly and conspicuously mark all records submitted to Commerce if such records are confidential and exempt from public disclosure. Grantee's failure to clearly mark each record and identify the legal basis for each exemption from the requirements of chapter 119, F.S., prior to delivery of the record to Commerce serves as Grantee's waiver of a claim of exemption. Grantee shall ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for as long as those records are confidential and exempt pursuant to Florida law. If Commerce's claim of exemption asserted in response to Grantee's assertion of confidentiality is challenged in any court of law, Grantee shall defend, assume, and be responsible for all fees, costs, and expenses in connection with such challenge.

3. Keeping and Providing Records. Commerce and the State have an absolute right to view, inspect, or make or request copies of any records arising out of or related to this Agreement. Grantee has an absolute duty to keep and maintain all records arising out of or related to this Agreement. Commerce may request copies of any records made or received in connection with this Agreement, or arising out of Grantees use of Award Funds, and Grantee shall provide Commerce with copies of any records within 10 business days after Commerce's request at no cost to Commerce. Grantee shall maintain all books, records, and documents in accordance with generally accepted accounting procedures and practices which sufficiently and properly reflect all expenditures of Award Funds. For avoidance of doubt, Grantee's duties to keep and provide records to Commerce includes all records generated in connection with or as a result of this Agreement. Upon expiration or termination of this Agreement, Grantee shall transfer, at no cost, to Commerce all public records in possession of Grantee or keep and maintain public records required by Commerce to perform the service. If Grantee keeps and maintains public records upon completion of this Agreement, Grantee shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to Commerce, upon request from Commerce's custodian of records, in a format that is compatible with the information technology systems of Commerce.

4. Audit Rights. Representatives of the State of Florida, Commerce, the State Chief Financial Officer, the State Auditor General, the Florida Office of Program Policy Analysis and Government Accountability or representatives of the federal government and their duly authorized representatives shall have access to any of

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Grantee's books, documents, papers, and records, including electronic storage media, as they may relate to this Agreement, for the purposes of conducting audits or examinations or making excerpts or transcriptions.

5. **Single Audit Compliance Certification.** Annually, within 60 calendar days of the close of Grantee's fiscal year, Grantee shall electronically submit a completed Audit Compliance Certification (a version of this certification is attached hereto as Attachment 3) to audit@commerce.fl.gov. Grantee's timely submittal of one completed Audit Compliance Certification for each applicable fiscal year will fulfill this requirement for all agreements between Commerce and Grantee.

6. **Ensure Compliance**. Grantee shall ensure that any entity which is paid from, or for which Grantee's expenditures will be reimbursed by, Award Funds, is aware of and will comply with the aforementioned audit and record keeping requirements.

7. **Contact Custodian of Public Records for Questions. IF THE GRANTEE HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE GRANTEE'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS by telephone at (850) 245-7140, via e-mail at PRRequest@commerce.fl.gov, or by mail at Florida Department of Commerce, Public Records Coordinator, 107 East Madison Street, Caldwell Building, Tallahassee, Florida 32399-4128.**

G. TERMINATION AND FORCE MAJEURE

1. **Termination due to Lack of Funds:** In the event funds to finance this Agreement become unavailable or if federal or state funds upon which this Agreement is dependent are withdrawn or redirected, Commerce may terminate this Agreement upon no less than 24 hour written notice to Grantee. Commerce shall be the final authority as to the availability of funds and will not reallocate funds earmarked for this Agreement to another program thus causing "lack of funds." In the event of termination of this Agreement under this provision, Grantee will be paid for any work satisfactorily completed prior to notification of termination. The lack of funds shall not constitute Commerce's default under this Agreement.

2. **Termination for Cause:** Commerce may terminate the Agreement if Grantee fails to: (1) deliver the services within the time specified in the Agreement or any extension; (2) maintain adequate progress, thus endangering performance of the Agreement; (3) honor any term of the Agreement; or (4) abide by any statutory, regulatory, or licensing requirement. The rights and remedies of Commerce in this clause are in addition to any other rights and remedies provided by law or under the Agreement. Grantee shall not be entitled to recover any cancellation charges or lost profits.

3. **Termination for Convenience:** Commerce, by written notice to Grantee, may terminate this Agreement in whole or in part when Commerce determines in Commerce's sole and absolute discretion that it is in Commerce's interest to do so. Grantee shall not provide any deliverable pursuant to Attachment 1: Scope of Work after it receives the notice of termination, except as Commerce otherwise specifically instructs Grantee in writing. Grantee shall not be entitled to recover any cancellation charges or lost profits.

4. **Grantee's Responsibilities Upon Termination:** If Commerce issues a Notice of Termination to Grantee, except as Commerce otherwise specifies in that Notice, Grantee shall: (1) Stop work under this Agreement on the date and to the extent specified in the notice; (2) complete performance of such part of the work Commerce does not terminate; (3) take such action as may be necessary, or as Commerce may specify, to protect and preserve any property which is in the possession of Grantee and in which Commerce has or may

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acquire an interest; and (4) upon the effective date of termination, Grantee shall transfer, assign, and make available to Commerce all property and materials belonging to Commerce pursuant to the terms of this Agreement and all Attachments hereto. Grantee shall not receive additional compensation for Grantee's services in connection with such transfers or assignments.

5. Force Majeure and Notice of Delay from Force Majeure. Neither Party shall be liable to the other for any delay or failure to perform under this Agreement if such delay or failure is neither the fault nor the negligence of the Party or its employees or agents and the delay is due directly to acts of God, wars, acts of public enemies, strikes, fires, floods, or other similar cause wholly beyond the Party's control, or for any of the foregoing that affects subcontractors or suppliers if no alternate source of supply is available. However, in the event of delay from the foregoing causes, the Party shall take all reasonable measures to mitigate any and all resulting delay or disruption in the Party's performance obligation under this Agreement. If the delay is excusable under this FORCE MAJEURE AND NOTICE OF DELAY FROM FORCE MAJEURE section, the delay will not result in any additional charge or cost under the Agreement to either Party. In the case of any delay Grantee believes is excusable under this FORCE MAJEURE AND NOTICE OF DELAY FROM FORCE MAJEURE section, Grantee shall notify Commerce in writing of the delay or potential delay and describe the cause of the delay either: (1) within 10 calendar days after the cause that creates or will create the delay first arose, if Grantee could reasonably foresee that a delay could occur as a result; or (2) within five calendar days after the date Grantee first had reason to believe that a delay could result, if the delay is not reasonably foreseeable. THE FOREGOING SHALL CONSTITUTE GRANTEE'S SOLE REMEDY OR EXCUSE WITH RESPECT TO DELAY. Providing notice in strict accordance with this FORCE MAJEURE AND NOTICE OF DELAY FROM FORCE MAJEURE section is a condition precedent to such remedy. Commerce, in its sole discretion, will determine if the delay is excusable under this FORCE MAJEURE AND NOTICE OF DELAY FROM FORCE MAJEURE section and will notify Grantee of its decision in writing. No claim for damages, other than for an extension of time, shall be asserted against Commerce. Grantee shall not be entitled to an increase in the Agreement price or payment of any kind from Commerce for direct, indirect, consequential, impact, or other costs, expenses or damages, including but not limited to costs of acceleration or inefficiency arising because of delay, disruption, interference, or hindrance from any cause whatsoever. If performance is suspended or delayed, in whole or in part, due to any of the causes described in this FORCE MAJEURE AND NOTICE OF DELAY FROM FORCE MAJEURE section, after the causes have ceased to exist, Grantee shall perform at no increased cost, unless Commerce determines, in its sole discretion, that the delay will significantly impair the value of the Agreement to Commerce or the State, in which case, Commerce may terminate the Agreement in whole or in part.

H. BUSINESS WITH PUBLIC ENTITIES

Grantee is aware of and understands the provisions of s. 287.133(2)(a), F.S., and s. 287.134(2)(a), F.S. As required by s. 287.135(5), F.S., Grantee certifies that it is not: (1) listed on the Scrutinized Companies that Boycott Israel List, created pursuant to s. 215.4725, F.S.; (2) engaged in a boycott of Israel; (3) listed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to s. 215.473, F.S.; or (4) engaged in business operations in Cuba or Syria. Commerce may immediately terminate this Agreement if Grantee submits a false certification as to the above, or if Grantee is placed on the Scrutinized Companies that Boycott Israel List, engages in a boycott of Israel, is placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or has engaged in business operations in Cuba or Syria.

I. CONTINUING DISCLOSURE OF LEGAL PROCEEDINGS

Prior to execution of this Agreement, Grantee must disclose in a written statement to Commerce's Agreement Manager all prior or on-going civil or criminal litigation, investigations, arbitration or administrative proceedings (collectively "Proceedings") involving this Agreement. Thereafter, Grantee has a continuing duty to promptly disclose all Proceedings upon occurrence. This duty of disclosure applies to Grantee's or subcontractor's

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officers and directors when any Proceeding relates to the officer or director's business or financial activities. Details of settlements that are prevented from disclosure by the terms of the settlement may be annotated as such. Grantee shall promptly notify Commerce's Agreement Manager of any Proceeding relating to or affecting the Grantee's or subcontractor's business. If the existence of such Proceeding causes the State concern about Grantee's ability or willingness to perform the Agreement, then upon Commerce's request, Grantee shall provide to Commerce's Agreement Manager all reasonable assurances that: (i) Grantee will be able to perform the Agreement in accordance with its terms and conditions; and (ii) Grantee and/or its employees, agents, or subcontractor(s) have not and will not engage in conduct in performing services for Commerce which is similar in nature to the conduct alleged in such Proceeding.

J. ADVERTISING AND SPONSORSHIP DISCLOSURE

1. Limitations on Advertising of Agreement. Commerce does not endorse any Grantee, commodity, or service. Subject to chapter 119, F.S., Grantee shall not publicly disseminate any information concerning this Agreement without prior written approval from Commerce, including, but not limited to mentioning this Agreement in a press release or other promotional material, identifying Commerce or the State as a reference, or otherwise linking Grantee's name and either a description of the Agreement or the name of Commerce or the State in any material published, either in print or electronically, to any entity that is not a Party to this Agreement, except potential or actual authorized distributors, dealers, resellers, or service representatives.

2. Disclosure of Sponsorship. As required by s. 286.25, F.S., if Grantee is a nongovernmental organization which sponsors a program financed wholly or in part by state funds, including any funds obtained through this Agreement, it shall, in publicizing, advertising, or describing the sponsorship of the program, state: "Sponsored by (Grantee's name) and the State of Florida, Department of Commerce." If the sponsorship reference is in written material, the words "State of Florida, Department of Commerce" shall appear in the same size letters or type as the name of the organization.

K. RECOUPMENT OF FUNDS

1. Recoupment. Notwithstanding anything in this Agreement to the contrary, Commerce has an absolute right to recoup Award Funds. Commerce may refuse to reimburse Grantee for any cost if Commerce determines that such cost was not incurred in compliance with the terms of this Agreement. Commerce may demand a return of Award Funds if Commerce terminates this Agreement. The application of financial consequences as set forth in the Scope of Work is cumulative to any of Commerce's rights to recoup Award Funds. Notwithstanding anything in this Agreement to the contrary, in no event shall the application of any financial consequences or recoupment of Award Funds exceed the amount of Award Funds, plus interest.

2. Overpayments. If Grantee's (a) noncompliance with this Agreement or any applicable federal, state, or local law, rule, regulation or ordinance, or (b) performance or nonperformance of any term or condition of this Agreement results in (i) an unlawful use of Award Funds; (ii) a use of Award Funds that doesn't comply with the terms of this Agreement; or (iii) a use which constitutes a receipt of Award Funds to which Grantee is not entitled (each such event an "Overpayment"), then Grantee shall return such Overpayment of Award Funds to Commerce.

3. Discovery of Overpayments. Grantee shall refund any Overpayment of Award Funds to Commerce within 30 days of Grantee's discovery of an Overpayment or receipt of notification from Commerce that and Overpayment has occurred. Commerce is the final authority as to what may constitute an Overpayment of Award Funds. Refunds should be sent to Commerce's Agreement Manager and made payable to the "Department of Commerce." Should repayment not be made in a timely manner, Commerce may

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charge interest at the lawful rate of interest on the outstanding balance beginning 30 days after the date of notification or discovery.

4. Right of Set-Off. Commerce and the State shall have all of its common law, equitable, and statutory rights of set-off, including, without limitation, the State's option to withhold for the purposes of set-off any moneys due to Grantee under this Agreement up to any amounts due and owing to Commerce with respect to this Agreement, any other contract with any State department or agency, including any contract for a term commencing prior to the term of this Agreement, plus any amounts due and owing to the State for any other reason. The State shall exercise its set-off rights in accordance with normal State practices, including, in cases of set-off pursuant to an audit, the finalization of such audits by the State or its representatives.

L. INSURANCE

Unless Grantee is a state agency or subdivision as defined in s. 768.28(2), F.S., Grantee shall provide and maintain at all times during this Agreement adequate commercial general liability insurance coverage. A self-insurance program established and operating under the laws of the State of Florida may provide such coverage.

Grantee, at all times during the Agreement, at Grantee's sole expense, shall provide commercial insurance of such a type and with such terms and limits as may be reasonably associated with this Agreement, which, as a minimum, shall be: workers' compensation and employer's liability insurance in accordance with chapter 440, F.S., with minimum employer's liability limits of $100,000 per accident, $100,000 per person, and $500,000 policy aggregate. Such policy shall cover all employees engaged in any Agreement work.

Grantee shall maintain insurance coverage of such types and with such terms and limits as may be reasonably associated with this Agreement, as required by law, and as otherwise necessary and prudent for the Grantee's performance of its operations in the regular course of business. The limits of coverage under each policy maintained by Grantee shall not be interpreted as limiting Grantee's liability and obligations under this Agreement. All insurance policies shall be through insurers licensed and authorized to write policies in Florida, and such policies shall cover all employees engaged in any Agreement work. Grantee shall maintain any other insurance required in the Scope of Work. Upon request, Grantee shall produce evidence of insurance to Commerce.

Commerce shall not pay for any costs of any insurance or policy deductible, and payment of any insurance costs shall be Grantee's sole responsibility. Providing and maintaining adequate insurance coverage is a material obligation of Grantee, and failure to maintain such coverage may void the Agreement, at Commerce's sole and absolute discretion, after Commerce's review of Grantee's insurance coverage when Grantee is unable to comply with Commerce's requests concerning additional appropriate and necessary insurance coverage. Upon execution of this Agreement, Grantee shall provide Commerce written verification of the existence and amount for each type of applicable insurance coverage. Within 30 calendar days of the effective date of the Agreement, Grantee shall furnish Commerce proof of applicable insurance coverage by standard ACORD form certificates of insurance. In the event that an insurer cancels any applicable coverage for any reason, Grantee shall immediately notify Commerce of such cancellation and shall obtain adequate replacement coverage conforming to the requirements herein and provide proof of such replacement coverage within 15 business days after the

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cancellation of coverage. Copies of new insurance certificates must be provided to Commerce's Agreement Manager with each insurance renewal.

M. CONFIDENTIALITY AND SAFEGUARDING INFORMATION

Each Party may have access to confidential information made available by the other. The provisions of the Florida Public Records Act, Chapter 119, F.S., and other applicable state and federal laws will govern disclosure of any confidential information received by the State of Florida.

Grantee must implement procedures to ensure the appropriate protection and confidentiality of all data, files, and records involved with this Agreement.

Except as necessary to fulfill the terms of this Agreement and with the permission of Commerce, Grantee shall not divulge to third parties any confidential information obtained by Grantee or its agents, distributors, resellers, subcontractors, officers, or employees in the course of performing Agreement work, including, but not limited to, security procedures, business operations information, or commercial proprietary information in the possession of the State or Commerce.

Grantee shall not use or disclose any information concerning a recipient of services under this Agreement for any purpose in conformity with state and federal law or regulations, except upon written consent of the recipient or the responsible parent or guardian of the recipient when authorized by law.

When Grantee has access to Commerce's network and/or applications, in order to fulfill Grantee's obligations under this Agreement, Grantee shall abide by all applicable Commerce Information Technology Security procedures and policies. Grantee (including its employees, subcontractors, agents, or any other individuals to whom Grantee exposes confidential information obtained under this Agreement), shall not store, or allow to be stored, any confidential information on any portable storage media (*e.g.*, laptops, thumb drives, hard drives, *etc.*) or peripheral device with the capacity to hold information. Failure to strictly comply with this provision shall constitute a breach of Agreement.

Grantee shall immediately notify Commerce in writing when Grantee, its employees, agents, or representatives become aware of an inadvertent disclosure of Commerce's unsecured confidential information in violation of the terms of this Agreement. Grantee shall report to Commerce any Security Incidents of which it becomes aware, including incidents sub-contractors or agents reported to Grantee. For purposes of this Agreement, "Security Incident" means the attempted or successful unauthorized access, use, disclosure, modification, or destruction of Commerce information in Grantee's possession or electronic interference with Commerce operations; provided, however, that random attempts at access shall not be considered a security incident. Grantee shall make a report to Commerce not more than seven business days after Grantee learns of such use or disclosure. Grantee's report shall identify, to the extent known: (i) the nature of the unauthorized use or disclosure, (ii) the confidential information used or disclosed, (iii) who made the unauthorized use or received the unauthorized disclosure, (iv) what Grantee has done or shall do to mitigate any detrimental effect of the unauthorized use or disclosure, and (v) what corrective action Grantee has taken or shall take to prevent future similar unauthorized use or disclosure. Grantee shall provide such other information, including a written report, as Commerce's Information Security Manager requests.

In the event of a breach of security concerning confidential personal information involved with this Agreement, Grantee shall comply with s. 501.171, F.S., as applicable. When notification to affected persons is required by statute, Grantee shall provide that notification, but only after receipt of Commerce's written approval of the contents of the notice. Defined statutorily, and for purposes of this Agreement, "breach of security" or "breach" means the unauthorized access of data in electronic form containing personal data. Good faith acquisition of personal information by an employee or agent of Grantee is not a breach, provided the

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information is not used for a purpose unrelated to Grantee's obligations under this Agreement or is not subject to further unauthorized use.

N. PATENTS, COPYRIGHTS, AND ROYALTIES

1. All legal title and every right, interest, claim or demand of any kind, in and to any patent, trademark or copyright, or application for the same, or any other intellectual property right to, the work developed or produced under or in connection with this Agreement, is the exclusive property of Commerce to be granted to and vested in the Florida Department of State for the use and benefit of the state; and no person, firm or corporation shall be entitled to use the same without the written consent of the Florida Department of State. Any contribution by Grantee or its employees, agents or contractors to the creation of such works shall be considered works made for hire by Grantee for Commerce and, upon creation, shall be owned exclusively by Commerce. To the extent that any such works may not be considered works made for hire for Commerce under applicable law, Grantee agrees, upon creation of such works, to automatically assign to Commerce ownership, including copyright interests and any other intellectual property rights therein, without the necessity of any further consideration.

2. If any discovery or invention arises or is developed in the course or as a result of work or services performed with funds from this Agreement, Grantee shall refer the discovery or invention to Commerce who will refer it to the Department of State to determine whether patent protection will be sought in the name of the State of Florida.

3. Where activities supported by this Agreement produce original writings, sound recordings, pictorial reproductions, drawings, or other graphic representations and works of any similar nature Commerce has the right to use, duplicate, and disclose such materials in whole or in part, in any manner, for any purpose whatsoever and to allow others acting on behalf of Commerce to do so. Grantee shall give Commerce written notice when any books, manuals, films, websites, web elements, electronic information, or other copyrightable materials are produced.

4. Notwithstanding any other provisions herein, in accordance with s. 1004.23, F.S., a State University is authorized in its own name to perform all things necessary to secure letters of patent, copyrights, and trademarks on any works it produces. Within 30 calendar days of same, the president of a State University shall report to the Department of State any such university's action taken to secure or exploit such trademarks, copyrights, or patents in accordance with s. 1004.23(6), F.S.

O. INFORMATION TECHNOLOGY RESOURCE

Grantee shall obtain prior written approval from the appropriate Commerce authority before purchasing any Information Technology Resource (ITR) or conducting any activity that will impact Commerce's electronic information technology equipment or software in any way. ITR includes computer hardware, software, networks, devices, connections, applications, and data. Grantee shall contact the Commerce Agreement Manager listed herein in writing for the contact information of the appropriate Commerce authority for any such ITR purchase approval.

P. NONEXPENDABLE PROPERTY

1. For the requirements of this Nonexpendable Property section of the Agreement, "nonexpendable property" is the same as "property" as defined in s. 273.02, F.S., (equipment, fixtures, and other tangible personal property of a nonconsumable and nonexpendable nature).

2. All nonexpendable property, purchased under this Agreement, shall be listed on the property records of Grantee. Grantee shall inventory annually and maintain accounting records for all nonexpendable property

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purchased and submit an inventory report to Commerce with the final expenditure report. The records shall include, at a minimum, the following information: property tag identification number, description of the item(s), physical location, name, make or manufacturer, year, and/or model, manufacturer's serial number(s), date of acquisition, and the current condition of the item.

3. At no time shall Grantee dispose of nonexpendable property purchased under this Agreement without the written permission of and in accordance with instructions from Commerce.

4. Immediately upon discovery, Grantee shall notify Commerce, in writing, of any property loss with the date and reason(s) for the loss.

5. Grantee shall be responsible for the correct use of all nonexpendable property Grantee purchases or Commerce furnishes under this Agreement.

6. A formal Agreement amendment is required prior to the purchase of any item of nonexpendable property not specifically listed in Attachment 1: Scope of Work.

7. Upon the Expiration Date of this Agreement, Grantee is authorized to retain ownership of any nonexpendable property purchased under this Agreement; however, Grantee hereby grants to Commerce a right of first refusal in all such property prior to disposition of any such property during its depreciable life, in accordance with the depreciation schedule in use by Grantee. Grantee shall provide written notice of any such planned disposition and await Commerce's response prior to disposing of the property. "Disposition" as used herein, shall include, but is not limited to, Grantee no longer using the nonexpendable property for the uses authorized herein; the sale, exchange, transfer, trade-in, or disposal of any such nonexpendable property. Commerce, in its sole discretion, may require Grantee to refund to Commerce the fair market value of the nonexpendable property at the time of disposition rather than taking possession of the nonexpendable property.

Q. REQUIREMENTS APPLICABLE TO THE PURCHASE OF OR IMPROVEMENTS TO REAL PROPERTY

In accordance with s. 287.05805, F.S., if funding provided under this Agreement is used for the purchase of or improvements to real property, Grantee shall grant Commerce a security interest in the property in the amount of the funding provided by this Agreement for the purchase of or improvements to the real property for five years from the date of purchase or the completion of the improvements or as further required by law.

Upon the Expiration Date of the Agreement, Grantee shall be authorized to retain ownership of the improvements to real property set forth in this Agreement in accordance with the following: Grantee is authorized to retain ownership of the improvements to real property so long as: (1) Grantee is not sold, merged or acquired; (2) the real property subject to the improvements is owned by Grantee; and (3) the real property subject to the improvements is used for the purposes provided in this Agreement. If within five years of the termination of this Agreement, Grantee is unable to satisfy the requirements stated in the immediately preceding sentence, Grantee shall notify Commerce in writing of the circumstances that will result in the deficiency upon learning of it, but no later than 30 calendar days prior to the deficiency occurring. In such event, Commerce shall have the right, within its sole discretion, to demand reimbursement of part or all of the funding provided to Grantee under this Agreement.

R. CONSTRUCTION AND INTERPRETATION

The title, section, and paragraph headings in this Agreement are for convenience of reference only and shall not govern or affect the interpretation of any of the terms or provisions of this Agreement. The term "this Agreement" means this Agreement together with all attachments and exhibits hereto, as the same may from

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time to time be amended, modified, supplemented, or restated in accordance with the terms hereof. The use in this Agreement of the term "including" and other words of similar import mean "including, without limitation" and where specific language is used to clarify by example a general statement contained herein, such specific language shall not be deemed to modify, limit, or restrict in any manner the construction of the general statement to which it relates. The word "or" is not exclusive and the words "herein," "hereof," "hereunder," and other words of similar import refer to this Agreement, including any Exhibits and Attachments, and not to any particular section, subsection, paragraph, subparagraph, or clause contained in this Agreement. As appropriate, the use herein of terms importing the singular shall also include the plural, and vice versa. The reference to an agreement, instrument, or other document means such agreement, instrument, or other document as amended, supplemented, and modified from time to time to the extent permitted by the provisions thereof and the reference to a statute means such statute as amended from time to time and includes any successor legislation thereto and any regulations promulgated thereunder. All references to "$" shall mean United States dollars. The term "Grantee" includes any person or entity which has been duly authorized to and has the actual authority to act or perform on Grantee's behalf. The term "Commerce" includes the State of Florida and any successor office, department, or agency of Commerce, and any person or entity which has been duly authorized to and has the actual authority to act or perform on Commerce's behalf. The recitals of this Agreement are incorporated herein by reference and shall apply to the terms and provisions of this Agreement and the Parties. Time is of the essence with respect to the performance of all obligations under this Agreement. The Parties have participated jointly in the negotiation and drafting of this Agreement, and each Party has read and understands this Agreement. In the event an ambiguity or question of intent or interpretation arises, this Agreement shall be construed as if drafted jointly by the Parties, and no presumption or burden of proof shall arise favoring or disfavoring any Party by virtue of the authorship of any of the provisions of this Agreement.

S. CONFLICT OF INTEREST

This Agreement is subject to chapter 112, F.S. Grantee shall disclose the name of any officer, director, employee, or other agent who is also an employee of the State. Grantee shall also disclose the name of any State employee who owns, directly or indirectly, more than a 5% interest in Grantee or its affiliates.

T. GRANTEE AS INDEPENDENT CONTRACTOR

Grantee is at all times acting and performing as an independent contractor. Commerce has no ability to exercise any control or direction over the methods by which Grantee may perform its work and functions, except as provided herein. Nothing in this Agreement may be understood to constitute a partnership or joint venture between the Parties.

U. EMPLOYMENT ELIGIBILITY VERIFICATION – E-VERIFY

1. E-Verify is an Internet-based system that allows an employer, using information reported on an employee's Form I-9, Employment Eligibility Verification, to determine the eligibility of all new employees hired to work in the United States. There is no charge to employers to use E-Verify. The Department of Homeland Security's E-Verify system can be found at: https://www.e-verify.gov/.

2. Section 448.095, F.S., requires the following:

    a. Every public agency and its contractors and subcontractors shall register with and use the E-Verify system to verify the work authorization status of all newly hired employees. A public agency or a contractor or subcontractor thereof may not enter into a contract unless each party to the contract registers with and uses the E-Verify system.

    b. An employer shall verify each new employee's employment eligibility within three (3) business days after the first day that the new employee begins working for pay as required under 8

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C.F.R. 274a. Beginning July 1, 2023, a private employer with 25 or more employees shall use the E-Verify system to verify a new employee's employment eligibility.

3. If an entity does not use E-Verify, the entity shall enroll in the E-Verify system prior to hiring any new employee or retaining any contract employee after the effective date of this Agreement.

V. NOTIFICATION OF INSTANCES OF FRAUD

Upon discovery, Grantee shall report all known or suspected instances of Grantee, or Grantee's agents, contractors or employees, operational fraud or criminal activities to Commerce's Agreement Manager in writing within 24 chronological hours.

W. NON-DISCRIMINATION

Grantee shall not discriminate unlawfully against any individual employed in the performance of this Agreement because of race, religion, color, sex, physical handicap unrelated to such person's ability to engage in this work, national origin, ancestry, or age. Grantee shall provide a harassment-free workplace, with any allegation of harassment to be given priority attention and action.

X. ASSIGNMENTS

Grantee shall not assign, subcontract, or otherwise transfer its rights, duties, or obligations under this Agreement, by operation of law or otherwise, without the prior written consent of Commerce, which consent may be withheld in Commerce's sole and absolute discretion. Commerce is at all times entitled to assign or transfer its rights, duties, or obligations under this Agreement to another governmental entity in the State of Florida. Any attempted assignment of this Agreement or any of the rights hereunder by Grantee in violation of this provision shall be void *ab initio*.

Y. ENTIRE AGREEMENT; SEVERABILITY

This Agreement, and the attachments and exhibits hereto, embodies the entire agreement of the Parties with respect to the subject matter hereof. There are no provisions, terms, conditions, or obligations other than those contained in this Agreement; and this Agreement supersedes all previous communications, representations, or agreements, either verbal or written, between the Parties. If a court of competent jurisdiction voids or holds unenforceable any provision of this Agreement, then that provision shall be enforced only to the extent that it is not in violation of law or is not otherwise unenforceable, and all other provisions shall remain in full force and effect. This Agreement may be executed in counterparts, each of which shall be an original and all of which shall constitute one and the same instrument. If any inconsistencies or conflict between the language of this Agreement and its Attachments arise, then the language of the attachments shall control, but only to the extent of the conflict or inconsistency.

Z. WAIVER; GOVERNING LAW; ATTORNEYS' FEES, DISPUTE RESOLUTION

1. Waiver. No waiver by Commerce of any of provision herein shall be effective unless explicitly set forth in writing and signed by Commerce. No waiver by Commerce may be construed as a waiver of any failure, breach, or default not expressly identified by such written waiver, whether of a similar or different character, and whether occurring before or after that waiver. No failure by Commerce to exercise, or delay in exercising, any right, remedy, power or privilege under this Agreement may be construed as a waiver thereof; nor shall any single or partial exercise of any right, remedy, power or privilege hereunder preclude any other or further

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exercise thereof or the exercise of any other right, remedy, power or privilege. The rights and remedies set forth herein are cumulative and not exclusive.

2. Governing Law. The laws of the State of Florida shall govern the construction, enforcement, and interpretation of this Agreement, regardless of and without reference to whether any applicable conflicts of laws principles may point to the application of the laws of another jurisdiction. The Parties expressly consent to exclusive jurisdiction and venue in any state court located in Leon County, Florida, and waive any defense of forum non conveniens, lack of personal jurisdiction, or like defense. IN ANY LEGAL OR EQUITABLE ACTION BETWEEN THE PARTIES, THE PARTIES HEREBY EXPRESSLY WAIVE TRIAL BY JURY TO THE FULLEST EXTENT PERMITTED BY LAW.

3. Attorneys' Fees/Expenses. Except as set forth otherwise herein, each of the Parties shall pay its own attorneys' fees and costs in connection with the execution and delivery of this Agreement and the transactions contemplated herein.

4. Dispute Resolution. Commerce shall decide disputes concerning the performance of the Agreement, and Commerce shall serve written notice of same to Grantee. Commerce's decision shall be final and conclusive unless within 21 calendar days from the date of receipt, Grantee files with Commerce a petition for administrative hearing. Commerce's final order on the petition shall be final, subject to any right of Grantee to judicial review pursuant to chapter 120.68, F.S. Exhaustion of administrative remedies is an absolute condition precedent to Grantee's ability to pursue any other form of dispute resolution; provided however, that the Parties may employ the alternative dispute resolution procedures outlined in chapter 120, F.S.

AA. INDEMNIFICATION

If Grantee is a state agency or subdivision, as defined in s. 768.28(2), F.S., pursuant to s. 768.28(19), F.S., neither Party indemnifies nor insures or assumes any liability for the other Party for the other Party's negligence.

1. Grantee shall be fully liable for the actions of its agents, employees, partners, or subcontractors and shall fully indemnify, defend, and hold harmless the State and Commerce, and their officers, agents, and employees, from suits, actions, damages, and costs of every name and description, including attorneys' fees, arising from or relating to personal injury and damage to real or personal tangible property alleged to be caused in whole or in part by Grantee, its agents, employees, partners, or subcontractors; provided, however, that Grantee shall not indemnify, defend, and hold harmless the State and Commerce, and their officers, agents, and employees for that portion of any loss or damages the negligent act or omission of Commerce or the State proximately caused.

2. Further, Grantee shall fully indemnify, defend, and hold harmless the State and Commerce from any suits, actions, damages, and costs of every name and description, including attorneys' fees, arising from or relating to violation or infringement of a trademark, copyright, patent, trade secret or intellectual property right; provided, however, that the foregoing obligation shall not apply to Commerce's misuse or modification of Grantee's products or Commerce's operation or use of Grantee's products in a manner not contemplated by this Agreement. If any product is the subject of an infringement suit, or in Grantee's opinion is likely to become the subject of such a suit, Grantee may, at Grantee's sole expense, procure for Commerce the right to continue using the product or to modify it to become non-infringing. If Grantee is not reasonably able to modify or otherwise secure for Commerce the right to continue using the product, Grantee shall remove the product and refund Commerce the amounts paid in excess of a reasonable fee, as determined by Commerce in its sole and absolute discretion, for past use. Commerce shall not be liable for any royalties.

3. Grantee's obligations under the two immediately preceding paragraphs above, with respect to any legal action are contingent upon the State or Commerce giving Grantee (1) written notice of any action or threatened action, (2) the opportunity to take over and settle or defend any such action at Grantee's sole

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expense, and (3) assistance in defending the action at Grantee's sole expense. Grantee shall not be liable for any cost, expense, or compromise incurred or made by the State or Commerce in any legal action without Grantee's prior written consent, which shall not be unreasonably withheld.

4. The State and Commerce may, in addition to other remedies available to them at law or equity and upon notice to Grantee, retain such monies from amounts due Grantee as may be necessary to satisfy any claim for damages, penalties, costs and the like asserted by or against them. The State may set off any liability or other obligation of Grantee or its affiliates to the State against any payments due Grantee under any Agreement with the State.

BB. CONTACT INFORMATION FOR GRANTEE AND COMMERCE CONTACTS

Grantee's Payee:	**Grantee's Agreement Manager**:
City of Wauchula	Kyle Long
126 South 7th Avenue	126 South 7th Avenue
Wauchula, Florida 33873	Wauchula, Florida 33873
863-773-9193	863-773-9193
Sbraxton@cityofwauchula.com	Klong@cityofwauchula.com

Commerce's Agreement Manager:

Alissa Fan

107 East Madison Street, Caldwell Building

Tallahassee, FL 32399

Telephone: 850-717-8435

Email: Alissa.Fan@commerce.fl.gov

CC. NOTICES

The Parties' respective contact information is set forth in the immediately preceding paragraph and may be subject to change at the Parties' discretion. If the contact information changes, the Party making such change will notify the other Party in writing. Where the term "written notice" is used to specify a notice requirement herein, said notice shall be deemed to have been given (i) when personally delivered; (ii) when transmitted via email, if the sender on the same day sends a confirming copy of such notice by certified or registered mail; (iii) the next business day following the day on which the same has been delivered prepaid to a recognized overnight delivery service; or (iv) the third business day following the day on which the same is sent by certified or registered mail, postage prepaid, with return receipt.

DD. CONTRACTING WITH ENTITIES OF FOREIGN COUNTRIES OF CONCERN PROHIBITED

If applicable and in accordance with section 287.138, F.S., a contract between a governmental entity and an entity which would give access to an individual's personal identifying information which is executed, extended, or renewed on or after the dates provided in section 287.138(4), F.S., must include an attestation by the entity

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on Form PUR 1355, "Foreign Country of Concern Attestation Form," which is incorporated herein by reference.

If applicable, Grantee must provide Commerce with a signed Foreign Country of Concern Attestation Form pursuant to section 287.138(4), F.S., and rule 60A-1.020, F.A.C.

EE. FOREIGN INFLUENCE

In accordance with section 286.101, F.S., if this Agreement has a value of $100,000 or more, Grantee shall disclose to Commerce any current or prior interest of, any contract with, or any grant or gift received from a foreign country of concern if such interest, contract, or grant or gift has a value of $50,000 or more and such interest existed at any time or such contract or grant or gift was received or in force at any time during the previous five (5) years. The disclosure requirements are more fully defined within the statute. Grantee represents that it is, and for the duration of this Agreement will remain, in compliance with section 286.101, F.S.

FF. HUMAN TRAFFICKING

If applicable and in accordance with section 787.06, F.S., when a contract is executed, renewed, or extended between a nongovernmental entity and a governmental entity, the nongovernmental entity must provide the governmental entity with an affidavit signed by an officer or a representative of the nongovernmental entity under penalty of perjury attesting that the nongovernmental entity does not use coercion for labor or services as defined in that statute.

If applicable, Grantee must provide Commerce with an affidavit signed by an officer or a representative of Grantee under penalty of perjury attesting that Grantee does not use coercion for labor or services as defined in section 787.06, F.S.

[Rest of page left intentionally blank; Attachments to follow after signature page]

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IN WITNESS THEREOF, and in consideration of the mutual covenants set forth above and, in all attachments hereto, the Parties, through their duly-authorized representatives, sign this Agreement and represent and warrant that they understand and agree to the terms and conditions of the Agreement and attachments as of the Effective Date.

FLORIDA DEPARTMENT OF COMMERCE		**CITY OF WAUCHULA, FLORIDA**	
By	_____ Signature	**By**	_____ Signature
	J. Alex Kelly		**Keith Nadaskay, Jr.**
Title	**Secretary**	**Title**	**Mayor**
Date	_____	**Date**	_____

Approved as to form and legal sufficiency, subject only to full and proper execution by the Parties.

OFFICE OF GENERAL COUNSEL
FLORIDA DEPARTMENT OF COMMERCE

By: _____

Approved Date: _____

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ATTACHMENT 1
SCOPE OF WORK

1. PROJECT DESCRIPTION:

Under section 288.0655, Florida Statutes ("F.S."), the Rural Infrastructure Fund ("RIF") was created to facilitate the planning, preparing, and financing of infrastructure projects in rural communities in order to encourage job creation, capital investment, and strengthen and diversify rural economies by promoting tourism, trade, and economic development.

Section 288.0655(2)(b), F.S., provides that Commerce may award grants for up to 75 percent of the total infrastructure project cost, or up to 100 percent of the total infrastructure project cost for a project located in a rural community as defined in s. 288.0656(2), F.S., which is also located in a fiscally constrained county as defined in s. 218.67(1), F.S., or a rural area of opportunity as defined in s. 288.0656(2), F.S.

The City of Wauchula ("Grantee") will use funding to install a more efficiently sized water main to enhance the city's water distribution infrastructure. The project consists of surveying, design, and construction of a new water main along Heard Bridge Road, extending Townsend Street to northbound U.S. Highway 17.

2. GRANTEE'S RESPONSIBILITIES: Grantee shall, in addition to all other requirements set forth in the Agreement and this Scope of Work, complete the following tasks:

A. Survey
1. Prepare Topographic Survey with:
   (a) Location of all above ground improvements and/or utilities and evidence of underground utilities withing the project area.
   (b) Location Right-of-Way(ROW) lines
   (c) Acquisition of ROW, if necessary.

B. Engineering Design and Permitting
1. Design water main
2. Provide required permits from Florida Department of Environmental Protection(FDEP), Florida Department of Transpiration (FDOT), County and City building and planning departments, as necessary.
3. Provide Bid documents for Construction Procurement

C. Construction
1. Prepare the site and mobilization of necessary equipment
2. Install erosion control devices
3. Excavate Trench
4. Perform layout of the pipeline, approximately 7,100 linear feet.
5. Construct water main and installation of fire hydrants and associated appurtenances for enhancement of fire protection.
6. Perform pressure testing, disinfection, and final tie-ins of system to ensure compliance.

D. Construction Engineering Inspection Services
1. Provide oversight of project construction, on-site inspections during construction, certification construction was completed in conformance with design documents, a final inspection, and submission of close-out documents to applicable regulatory agencies.

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3. COMMERCE'S RESPONSIBILITIES:

A. Monitor the ongoing activities and progress of Grantee, as Commerce deems necessary, to verify that all activities are being performed in accordance with the Agreement.

B. Perform Agreement management responsibilities as stated herein.

C. Reply to reasonable inquiries pursuant to the Agreement.

D. Review Grantee's invoices for accuracy and thoroughness, and if accepted, process invoices on a timely basis; and

E. Maintain paper or electronic copies of all documents submitted pursuant to Sections 5 and 6 of this Scope of Work.

4. DELIVERABLES:

Grantee agrees to provide the following services as specified:

Deliverable No. 1 – Survey		
Tasks	**Minimum Level of Service**	**Financial Consequences**
Grantee shall complete Survey(s) in accordance with **Section 2.A.** of this Scope of Work.	Grantee may be allowed reimbursement upon 10% increments until 90% and 100% completion of identified tasks in accordance with Section 2.A of this Scope of Work, evidenced by submission to Florida Commerce's Agreement Manager of the following: 1) Copy of Boundary and Topographic Surveys 2) Invoice package as defined in Section 6 of this Scope of Work.	Failure to complete the Minimum Level of Service as specified shall result in non-payment. Commerce shall withhold 10% of the total deliverable amount until Grantee provides proof to Commerce, and Commerce accepts, that the deliverable is 100% complete.
		Deliverable No. 1 Not to Exceed: $50,000.00
Deliverable No. 2 – Engineering Design and Permitting		
Tasks	**Minimum Level of Service**	**Financial Consequences**
Grantee shall complete and provide copies of: Engineering Design and Permitting document(s) in accordance with **Section 2.B.** of this Scope of Work.	Grantee may be allowed reimbursement upon 10%, increments until 90% and 100% completion of identified tasks in accordance with Section	Failure to complete the Minimum Level of Service as specified shall result in non-payment.

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	2.B of this Scope of Work, evidenced by submission to Florida Commerce's Agreement Manager of the following: 1) Invoice package as defined in Section 6 of this Scope of Work. 2) Copy of required permits 3) Copy of bid documents and recommendation 4) Copy of completed site plan, control panel and sewer well design.	Commerce shall withhold 10% of the total deliverable amount until Grantee provides proof to Commerce, and Commerce accepts, that the deliverable is 100% complete.
		Deliverable No. 2 Not to Exceed: $50,000.00
Deliverable No. 3 – Construction		
Tasks	**Minimum Level of Service**	**Financial Consequences**
Grantee shall provide completed Construction deliverables in accordance with **Section 2.C.** of this Scope of Work.	Grantee may be allowed reimbursement upon 10%, increments until 90% and 100% completion of identified tasks in accordance with Section 2.C of this Scope of Work, evidenced by submission to Commerce's Agreement Manager of the following: 1) Invoice package as defined by section 6 of this scope of work. 2) Certification by a licensed engineer using AIA forms G702 and G703, or their substantive equivalents, certifying that the project, or a quantifiable portion of the project, is complete. 3) Copy of at least five (5) photos before, during and after construction.	Failure to complete the Minimum Level of Service as specified shall result in non-payment. Commerce shall withhold 10% of the total deliverable amount until Grantee provides proof to Commerce, and Commerce accepts, that the deliverable is 100% complete.
		Deliverable No. 3 Not to Exceed: $360,800.00

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Deliverable No. 4 – Construction Engineering Inspection Services		
Tasks	**Minimum Level of Service**	**Financial Consequences**
Grantee shall provide completed Construction Engineering Inspections Services deliverables in accordance with **Section 2.D.** of this Scope of Work.	Grantee may be allowed reimbursement upon 10%, increments until 90% and 100% completion of identified tasks in accordance with Section 2.D of this Scope of Work, evidenced by submission to Commerce's Agreement Manager of the following: 1)Invoice package as defined by section 6 of this scope of work 2) Certification by a licensed engineer using AIA forms G702 and G703, or their substantive equivalents, certifying that the project, or a quantifiable portion of the project, is complete.	Failure to complete the Minimum Level of Service as specified shall result in non-payment. Commerce shall withhold 10% of the total deliverable amount until Grantee provides proof to Commerce, and Commerce accepts, that the deliverable is 100% complete.
		Deliverable No. 4 Not to Exceed: $49,200.00
		TOTAL AWARD NOT TO EXCEED: $510,000.00

COST SHIFTING: The deliverable amounts specified within the Deliverables section 4 table above are established based on the Parties' estimation of sufficient delivery of services fulfilling grant purposes under the Agreement in order to designate payment points during the Agreement Period; however, this is not intended to restrict Commerce's ability to approve and reimburse allowable costs Grantee incurred providing the deliverables herein. Prior written approval from Commerce's Agreement Manager is required for changes to the above Deliverable amounts that do not exceed **10%** of each deliverable total funding amount. Changes that exceed **10%** of each deliverable total funding amount will require a formal written amendment request from Grantee, as described in **MODIFICATION** section of the Agreement. Regardless, in no event shall Commerce reimburse costs of more than the total amount of this Agreement.

5. REPORTING:

5.1 Quarterly: Grantee shall provide a quarterly report listing all progress relating to the Deliverables in Section 4. Quarterly reports are due to Commerce within 30 calendar days after the end of each quarter, until submission of the final invoice package. The ending dates for each quarter of the program year are September 30, December 31, March 31, and June 30. The quarterly report shall include a summary of project progress, indicating percentage of completion of each Deliverable, and all additional reports which are required pursuant to this Agreement, including but not limited to, reports documenting the positive return on investment to the State that results from Grantee's project and its use of Award Funds. The summary shall also include any issues or events occurring which affect the ability of the Grantee to meet the terms of this Agreement. **If all required reports and copies are not sent to Commerce or are not completed in a manner acceptable to**

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Commerce, payments may be withheld until the reports are properly completed or otherwise allowable by law.

5.2 Minority and Service-Disabled Veteran Business Enterprise Report: Grantee shall provide a Minority and Service-Disabled Veteran Business Enterprise Report with each invoice summarizing the participation of certified and non-certified minority and service-disabled veteran subcontractors and material suppliers for that period and the project to date. Grantee shall include the names, addresses, and dollar amount of each certified and non-certified Minority Business Enterprise and Service-Disabled Veteran Enterprise participant. Commerce's Minority Coordinator can be reached at (850) 245-7471 to answer concerns and questions.

5.3 Close-out Report: No later than 60 calendar days after the Agreement ends or is terminated, Grantee shall provide copies of all paid invoices to document completed work.

6. INVOICE SUBMITTAL AND PAYMENT SCHEDULE: Commerce shall pay Grantee in accordance with the following schedule in the amount identified per deliverable in Section 4 above. The deliverable amount specified does not establish the value of the deliverable. In accordance with the requirements of s. 215.971(1), F.S., and the **Audit Requirements and Compliance** section of this Agreement, Grantee and its subcontractors may only expend funding under this Agreement for allowable costs resulting from obligations incurred during the Agreement period.

6.1 Grantee shall submit invoices as set forth below to be eligible to receive and retain payment for the performance of duties and completion of deliverables set forth above. Grantee shall submit all documentation necessary to support Grantee's expenditures. Commerce may request any information from Grantee that Commerce deems necessary to verify that Grantee has performed the services for which payment is requested. Grantee's submission of each invoice package is Grantee's certification that it has performed the services and incurred the costs in compliance with all applicable laws and the terms of this Agreement. Grantee will provide invoices in accordance with the requirements of the Reference Guide for State Expenditures available at: (https://www.myfloridacfo.com/docs-sf/accounting-and-auditing-libraries/state-agencies/reference-guide-for-state-expenditures.pdf?sfvrsn=b4cc3337_2). Invoices must be legible and must clearly reflect the performance for which payment is sought. Payment does not become due under this Agreement until Commerce accepts and approves the invoiced deliverable(s) and any required report(s). At Commerce's option, Grantee may submit invoices electronically. Grantee shall submit its final invoice for payment to Commerce no later than 60 days after this Agreement ends and Commerce may, at Commerce's sole and absolute discretion, refuse to honor any requests for payment submitted after this deadline.

6.2 Invoices must contain Grantee's name, address, federal employer identification number or other applicable Grantee identification number, the Agreement number, the invoice number, and the invoice period. Grantee shall submit the following documents with the itemized invoice:

6.2.1 A cover letter signed by Grantee's Agreement Manager certifying that the costs being claimed in the invoice package: (1) are specifically for the project represented to Commerce in the budget appropriation; (2) are for one or more of the components as stated in Section 4, Deliverables, of this Scope of Work; (3) have been paid; and (4) were incurred during the Agreement period;

6.2.2 Grantee's invoices shall include the date, period in which work was performed, amount of reimbursement, and work completed to date;

6.2.3 When applicable, a certification by a licensed engineer using AIA forms G702 and G703, or their substantive equivalents, certifying that the project, or a quantifiable portion of the project, is complete;

6.2.4 A copy of all supporting documentation for vendor payments;

6.2.5 A copy of the cancelled check(s) specific to the project or a copy of the bank statement that includes the cancelled check.

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6.3 Commerce may require any other information from Grantee that Commerce deems necessary to verify that the services have been rendered under the Agreement.

6.4 All documentation necessary to support payment requests must be submitted with Grantee's invoice for Commerce's review.

6.5 Grantee's invoice and all documentation necessary to support payment requests must be submitted into Commerce's Subrecipient Enterprise Resource Application (SERA). Further instructions on SERA invoicing and reporting, along with a copy of the invoice template, will be provided upon execution of this Agreement.

6.6 If the Grantee is a county or municipality that is a rural community or rural area of opportunity as those terms are defined in section 288.0656(2), F.S., the payment of submitted invoices may be issued for verified and eligible performance that has been completed in accordance with the terms and conditions set forth in this Agreement to the extent that federal or state law, rule, or other regulation allows such payments. Upon meeting either of the criteria set forth below, the Grantee may elect in writing to exercise this provision.

6.6.1 A county or municipality that is a rural community or rural area of opportunity as those terms are defined in section 288.0656(2), F.S., that demonstrates financial hardship; or

6.6.2 A county or municipality that is a rural community or rural area of opportunity as those terms are defined in section 288.0656(2), F.S., and which is located in a fiscally constrained county, as defined in section 218.67(1), F.S. If the Grantee meets the criteria set forth in this paragraph, then the Grantee is deemed to have demonstrated a financial hardship.

7. FINANCIAL CONSEQUENCES FOR FAILURE TO TIMELY AND SATISFACTORILY PERFORM: Failure to complete all deliverables in accordance with the requirements of this Agreement, and most particularly the deliverables specified above in Section 4, Deliverables, will result in Commerce's assessment of the specified financial consequences. If appropriate, should the Parties agree to a corrective action plan, the plan shall specify additional financial consequences to be applied after the effective date of the corrective action plan. This provision for financial consequences shall in no manner affect Commerce's right to terminate the Agreement as provided elsewhere in the Agreement.

- End of Attachment 1 (Scope of Work) -

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Attachment 2
AUDIT REQUIREMENTS

The administration of resources awarded by Commerce to the recipient (herein otherwise referred to as "Grantee") may be subject to audits and/or monitoring by Commerce as described in this Attachment 2.

MONITORING. In addition to reviews of audits conducted in accordance with 2 CFR 200, Subpart F - Audit Requirements, and section 215.97, Florida Statutes (F.S.), as revised (see AUDITS below), monitoring procedures may include, but not be limited to, on-site visits by Commerce staff, limited scope audits as defined by 2 CFR §200.425, or other procedures. By entering into this agreement, the recipient agrees to comply and cooperate with any monitoring procedures or processes deemed appropriate by Commerce. In the event the Commerce determines that a limited scope audit of the recipient is appropriate, the recipient agrees to comply with any additional instructions provided by Commerce staff to the recipient regarding such audit. The recipient further agrees to comply and cooperate with any inspections, reviews, investigations, or audits deemed necessary by the Chief Financial Officer (CFO) or Auditor General.

AUDITS.

PART I: FEDERALLY FUNDED. This part is applicable if the recipient is a state or local government or a nonprofit organization as defined in 2 CFR §200.90, §200.64, and §200.70.

1. A recipient that expends $1,000,000 or more in federal awards in its fiscal year must have a single or program-specific audit conducted in accordance with the provisions of 2 CFR 200, Subpart F - Audit Requirements. EXHIBIT 1 to this form lists the federal resources awarded through Commerce by this agreement. In determining the federal awards expended in its fiscal year, the recipient shall consider all sources of federal awards, including federal resources received from Commerce. The determination of amounts of federal awards expended should be in accordance with the guidelines established in 2 CFR §§200.502-503. An audit of the recipient conducted by the Auditor General in accordance with the provisions of 2 CFR §200.514 will meet the requirements of this Part.

2. For the audit requirements addressed in Part I, paragraph 1, the recipient shall fulfill the requirements relative to auditee responsibilities as provided in 2 CFR §§200.508-512.

3. A recipient that expends less than $1,000,000 in federal awards in its fiscal year is not required to have an audit conducted in accordance with the provisions of 2 CFR 200, Subpart F - Audit Requirements. If the recipient expends less than $1,000,000 in federal awards in its fiscal year and elects to have an audit conducted in accordance with the provisions of 2 CFR 200, Subpart F - Audit Requirements, the cost of the audit must be paid from non-federal resources (i.e., the cost of such an audit must be paid from recipient resources obtained from other than federal entities).

PART II: STATE FUNDED. This part is applicable if the recipient is a nonstate entity as defined by Section 215.97(2), Florida Statutes.

1. In the event that the recipient expends a total amount of state financial assistance equal to or in excess of $750,000 in any fiscal year of such recipient (for fiscal years ending June 30, 2017, and thereafter), the recipient must have a state single or project-specific audit for such fiscal year in accordance with section 215.97, F.S.; Rule Chapter 69I-5, F.A.C., State Financial Assistance; and Chapters 10.550 (local governmental entities) and 10.650 (nonprofit and for-profit organizations), Rules of the Auditor General. EXHIBIT 1 to this form lists the state financial assistance awarded through Commerce by this agreement. In determining the state financial assistance expended in its fiscal year, the recipient shall consider all sources of state financial assistance, including state financial assistance

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received from Commerce, other state agencies, and other nonstate entities. State financial assistance does not include federal direct or pass-through awards and resources received by a nonstate entity for federal program matching requirements.

2. For the audit requirements addressed in Part II, paragraph 1, the recipient shall ensure that the audit complies with the requirements of section 215.97(8), F.S. This includes submission of a financial reporting package as defined by section 215.97(2), F.S., and Chapters 10.550 (local governmental entities) and 10.650 (nonprofit and for-profit organizations), Rules of the Auditor General.

3. If the recipient expends less than $750,000 in state financial assistance in its fiscal year (for fiscal years ending June 30, 2017, and thereafter), an audit conducted in accordance with the provisions of section 215.97, F.S., is not required. If the recipient expends less than $750,000 in state financial assistance in its fiscal year and elects to have an audit conducted in accordance with the provisions of section 215.97, F.S., the cost of the audit must be paid from the nonstate entity's resources (i.e., the cost of such an audit must be paid from the recipient's resources obtained from other than state entities).

PART III: OTHER AUDIT REQUIREMENTS.

(NOTE: This part would be used to specify any additional audit requirements imposed by the State awarding entity that are solely a matter of that State awarding entity's policy (i.e., the audit is not required by Federal or State laws and is not in conflict with other Federal or State audit requirements). Pursuant to Section 215.97(8), Florida Statutes, State agencies may conduct or arrange for audits of state financial assistance that are in addition to audits conducted in accordance with Section 215.97, Florida Statutes. In such an event, the State awarding agency must arrange for funding the full cost of such additional audits.)

N/A

PART IV: REPORT SUBMISSION.

1. Copies of reporting packages for audits conducted in accordance with 2 CFR 200, Subpart F - Audit Requirements, and required by Part I of this form shall be submitted, when required by 2 CFR §200.512, by or on behalf of the recipient directly to the Federal Audit Clearinghouse (FAC) as provided in 2 CFR §200.36 and §200.512.

   The FAC's website provides a data entry system and required forms for submitting the single audit reporting package. Updates to the location of the FAC and data entry system may be found at the OMB website.

2. Copies of financial reporting packages required by Part II of this form shall be submitted by or on behalf of the recipient directly to each of the following:

   a. Commerce at each of the following addresses:

   Electronic copies (preferred):
   Audit@commerce.fl.gov

   or

   Paper (hard copy):
   Florida Department of Commerce
   MSC # 75, Caldwell Building
   107 East Madison Street
   Tallahassee, FL 32399-4126

   b. The Auditor General's Office at the following address:

   Auditor General
   Local Government Audits/342
   Claude Pepper Building, Room

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401 111 West Madison Street
Tallahassee, Florida 32399-1450

The Auditor General's website (https://flauditor.gov/) provides instructions for filing an electronic copy of a financial reporting package.

3. Copies of reports or the management letter required by Part III of this form shall be submitted by or on behalf of the recipient directly to:

Electronic copies (preferred): Audit@commerce.fl.gov	or	Paper (hard copy): Florida Department of Commerce MSC # 75, Caldwell Building 107 East Madison Street Tallahassee, FL. 32399-4126

4. Any reports, management letters, or other information required to be submitted Commerce pursuant to this agreement shall be submitted timely in accordance with 2 CFR §200.512, section 215.97, F.S., and Chapters 10.550 (local governmental entities) and 10.650 (nonprofit and for-profit organizations), Rules of the Auditor General, as applicable.

5. Recipients, when submitting financial reporting packages to Commerce for audits done in accordance with 2 CFR 200, Subpart F - Audit Requirements, or Chapters 10.550 (local governmental entities) and 10.650 (nonprofit and for-profit organizations), Rules of the Auditor General, should indicate the date that the reporting package was delivered to the recipient in correspondence accompanying the reporting package.

PART V: RECORD RETENTION. The recipient shall retain sufficient records demonstrating its compliance with the terms of this Agreement for a period of five (5) years from the date the audit report is issued, or five (5) state fiscal years after all reporting requirements are satisfied and final payments have been received, whichever period is longer, and shall allow Commerce, or its designee, CFO, or Auditor General access to such records upon request. The recipient shall ensure that audit working papers are made available to Commerce, or its designee, CFO, or Auditor General upon request for a period of five (5) years from the date the audit report is issued, unless extended in writing by Commerce. In addition, if any litigation, claim, negotiation, audit, or other action involving the records has been started prior to the expiration of the controlling period as identified above, the records shall be retained until completion of the action and resolution of all issues which arise from it, or until the end of the controlling period as identified above, whichever is longer.

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EXHIBIT 1 to Attachment 2

STATE RESOURCES AWARDED TO THE RECIPIENT PURSUANT TO THIS AGREEMENT CONSIST OF THE FOLLOWING:

SUBJECT TO SECTION 215.97, FLORIDA STATUTES:

State Project: ***FLORIDA DEPARTMENT OF COMMERCE***
CSFA: 40.042
REGIONAL COMMUNITY DEVELOPMENT AND INFRASTUCTURE
$510,000.00

COMPLIANCE REQUIREMENTS APPLICABLE TO STATE RESOURCES AWARDED PURSUANT TO THIS AGREEMENT ARE AS FOLLOWS:

1. ***ALL REQUIREMENTS OF THIS AGREEMENT.***

2. ***PLEASE ALSO NOTE THAT THE TOTAL AMOUNT OF THE RURAL INFRASTRUCTURE FUND AWARD UNDER THIS AGREEMENT IS LIMITED TO $510,000.00***

NOTE: List applicable compliance requirements

NOTE: 2 CFR § 200.331, as revised, and s. 215.97(5), F.S., require that the information about Federal Programs and State Projects included in Exhibit 1 be provided to the recipient.

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Attachment 3

AUDIT COMPLIANCE CERTIFICATION

Grantee Name: _____
FEIN: _____
Grantee's Fiscal Year: _____
Contact Person Name and Phone Number: _____
Contact Person Email Address: _____

1. Did Grantee expend state financial assistance, during its fiscal year, that it received under any agreement (e.g., agreement, grant, memorandum of agreement, memorandum of understanding, economic incentive award agreement, etc.) between Grantee and the Florida Department of Commerce (Commerce)? ____Yes _____ No

   If the above answer is yes, also answer the following before proceeding to item 2:

   Did Grantee expend $750,000 or more of state financial assistance (from Commerce and all other sources of state financial assistance combined) during its fiscal year? _____ Yes _____ No

   If yes, Grantee certifies that it will timely comply with all applicable state single or project-specific audit requirements of s. 215.97, Florida Statutes, and the applicable rules of the Department of Financial Services and the Auditor General.

2. Did Grantee expend federal awards, during its fiscal year that it received under any agreement (e.g., agreement, grant, memorandum of agreement, memorandum of understanding, economic incentive award agreement, etc.) between Grantee and Commerce? ____Yes _____ No

   If the above answer is yes, also answer the following before proceeding to execution of this certification:

   Did Grantee expend $1,000,000 or more in federal awards (from Commerce and all other sources of federal awards combined) during its fiscal year? _____ Yes _____ No

   If yes, Grantee certifies that it will timely comply with all applicable single or program-specific audit requirements of 2 CFR Part 200, Subpart F, as revised.

By signing below, I certify, on behalf of Grantee, that the above representations for items 1 and 2 are true and correct.

_____	_____
Signature of Authorized Representative	Date
_____	_____
Printed Name of Authorized Representative	Title of Authorized Representative

RESOLUTION 2026-06

A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF WAUCHULA, FLORIDA, PROVIDING AUTHORIZATION TO ENTER INTO AN AGREEMENT WITH THE FLORIDA DEPARTMENT OF COMMERCE FOR FUNDING OF THE HEARD BRIDGE ROAD WATERLINE IMPROVEMENT PROJECT; AUTHORIZING THE CITY MANAGER TO EXECUTE SAID AGREEMENT ON BEHALF OF THE CITY OF WAUCHULA, FLORIDA; PROVIDING FOR SEVERABILITY, THE CORRECTION OF SCRIVENER'S ERRORS, AND AN EFFECTIVE DATE.

WHEREAS, the City of Wauchula applied for and was awarded Five Hundred Ten Thousand Dollars ($510,000.00) through the Rural Infrastructure Fund administered by the Florida Department of Commerce for the Heard Bridge Road Waterline Improvement project; and

WHEREAS, the City of Wauchula is the owner of the water utilities, specifically potable water along Heard Bridge Road and is committed to making improvements to better serve the public; and

WHEREAS, the City Commission of the City of Wauchula finds it in the best interest of the city to accept the grant agreement for the construction of a new waterline along Heard Bridge Road.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF WAUCHULA, FLORIDA, THAT:

1. The above recitals are incorporated herein and form the factual basis for the passage of this Resolution.

2. **APPROVAL OF AGREEMENT; AUTHORIZATION AND DELEGATION TO EXECUTE AGREEMENT.** The City of Wauchula City Commission authorizes the City Manager to execute and enter into the agreement with the Florida Department of Commerce for the Heard Bridge Road Waterline Improvement Project, together with any subsequent amendments and other documents specifically related to said agreement, attached hereto as Exhibit "A."

3. Any Resolution in conflict herewith is hereby repealed but only to the extent of the conflict and as required in order to give this Resolution full force and effect. In the event any provision of this Resolution shall, for any reason, be determined to be invalid, illegal, or unenforceable, such provision shall be considered severed and, to the greatest extent practicable, the remaining provisions shall remain in full force and effect.

4. **EFFECTIVE DATE.** This Resolution shall take effect immediately upon adoption.

DULY PASSED, AND ADOPTED by the City Commission of the City of Wauchula, Florida, this ___ day of _____, 2026, at a regular meeting of the City Commission of the City of Wauchula, Florida.

(SEAL)

ATTEST: **CITY OF WAUCHULA, FLORIDA**

_____ _____

Stephanie Camacho, City Clerk **Richard K. Nadaskay, Jr., Mayor**

APPROVED AS TO FORM & CORRECTNESS:

_____

Kristie Hatcher-Bolin,
City Attorney

CITY OF WAUCHULA
2026 EAR COMPREHENSIVE PLAN AMENDMENTS
OVERVIEW PRESENTATION

March 2, 2026

TO: City of Wauchula, City Commission

FROM: Central Florida Regional Planning Council

SUBJECT: Overview of 2026 EAR Comprehensive Plan Amendments

AGENDA & HEARING DATES:

March 2, 2026, 6:00 PM	**City Commission Update Presentation**
March 16, 2026, 5:30 PM	Planning and Zoning Board Update Presentation
April 20, 2026, 5:30 PM:	Planning and Zoning Board Hearing
May 11, 2026, 6:00 PM:	City Commission Meeting, Transmittal Hearing
TBD:	City Commission Meeting, Adoption Hearing (2nd reading)

BACKGROUND:

The City's Comprehensive Plan provides a framework for managing the growth and development of the city. At least once every 7 years, each local government must evaluate its comprehensive plan to determine if plan amendments are necessary to reflect changes in State Statutes and submit an Evaluation and Appraisal Report (EAR) letter and signed affidavit notifying Florida Commerce as to its determination.

The proposed amendments to the Comprehensive Plan (Plan) are based on a review of changes in Florida Statutes since the last time the Plan was updated and a review of the Comprehensive Plan against existing conditions, requirements of the Land Development Code, and input from the community.

Senate Bill 180

Adopted in 2025, Senate Bill 180 imposes mandates on state and local governments while limiting how they can regulate after storms. Cities and Counties May Not . . .

- propose or adopt more restrictive or burdensome amendments to its comprehensive p or land development regulations.

- propose or adopt more restrictive or burdensome procedures concerning review, approval, or issuance of a site plan, development permit, or development order, to the extent that those terms are defined by s. 163.3164, Florida Statutes, before October 1, 2027.

Reorganization

The Comprehensive Plan Elements were reorganized in the order as addressed in Florida Statutes.

Proposed Amendments

THROUGHOUT THE COMPREHENSIVE PLAN

- Include reference to 10-year short term and 20-year long term planning horizons.

- All references to FAC 9J-5 will be removed as the rule has been appealed.

- All references to the Department of Community Affairs (DCA) or Department of Economic Opportunity (DEO) will be updated to Florida Commerce consistent with the agency's current name.

- Scrivener's errors such as misspelled words will be corrected.

- All references to Florida Statutes, FAC, or other agency requirements will be verified and updated as necessary.

- All items related to requirements in the Land Development Regulations will be updated based on whether the requirements have been addressed in the Land Development Regulations. The provisions will be reviewed for potential amendments or flagged for follow-up to the Land Development Regulations.

Description of Elements from Florida Statutes

FUTURE LAND USE ELEMENT

The Future Land Use Element designates proposed future general distribution, location, and extent of the uses of land for residential uses, commercial uses, industry, agriculture, recreation, conservation, education, public facilities, and other categories of the public and private uses of land. The approximate acreage and the general range of density or intensity of use shall be provided for the gross land area included in each existing land use category. The element shall establish the long-term end toward which land use programs and activities are ultimately directed (Florida Statutes 163.3177(6)(a)).

TRANSPORTATION ELEMENT

A transportation element addressing mobility issues in relationship to the size and character of the local government. The purpose of the transportation element shall be to plan for a multimodal transportation system that places emphasis on public transportation systems, where feasible. The element shall provide for a safe, convenient multimodal transportation system, coordinated

with the future land use map or map series and designed to support all elements of t comprehensive plan (Florida Statute 163.3177(6)(b)).

INFRASTRUCTURE ELEMENT

The general sanitary sewer, solid waste, drainage, potable water, and natural groundwater aquifer recharge element is correlated to principles and guidelines for future land use, indicating ways to provide for future potable water, drainage, sanitary sewer, solid waste, and aquifer recharge protection requirements for the area. The element may be a detailed engineering plan including a topographic map depicting areas of prime groundwater recharge (Florida Statute 163.3177(6)(c)).

CONSERVATION ELEMENT

A conservation element for the conservation, use, and protection of natural resources in the area, including air, water, water recharge areas, wetlands, waterwells, estuarine marshes, soils, beaches, shores, flood plains, rivers, bays, lakes, harbors, forests, fisheries and wildlife, marine habitat, minerals, and other natural and environmental resources, including factors that affect energy conservation. (Florida Statutes 163.3177(6)(d)).

RECREATION AND OPEN SPACE ELEMENT

A Recreation and Open Space Element indicates a comprehensive system of public and private sites for recreation, including, but not limited to, natural reservations, parks and playgrounds, parkways, beaches and public access to beaches, open spaces, waterways, and other recreational facilities (Florida Statutes 163.3177(6)(e)).

HOUSING ELEMENT

The Housing Element works to plan for housing for future residents, eliminate substandard housing, and the provision of adequate housing sites for workforce housing, mobile homes, low-income housing, etc (Florida Statutes 163.3177(f)).

INTERGOVERNMENTAL COORDINATION ELEMENT

The Intergovernmental Coordination Element shows relationships and states principles and guidelines to be used in coordinating the adopted comprehensive plan with the plans of school boards, regional water supply authorities, and other units of local government providing services but not having regulatory authority over the use of land, with the comprehensive plans of adjacent municipalities, the county, adjacent counties, or the region, with the state comprehensive plan and with the applicable regional water supply plan. This element demonstrates consideration of the particular effects of the local plan, when adopted, upon the development of adjacent municipalities, the county, adjacent counties, or the region, or upon the state comprehensive plan, as the case may require (Florida Statutes 163.3177(6)(h)).

PROPERTY RIGHTS ELEMENT

The Property Rights Element recognizes that governmental entities respect judicially acknowledged and constitutionally protected private property rights, (Florida Statutes 163.3177(6)(f)).

CAPITAL IMPROVEMENTS ELEMENT

The purpose of this element is to provide guidance for the allocation of funding of needed public services for the municipality's current and projected population, which includes: potable water, sanitary sewer, stormwater drainage, solid waste, parks and recreation, and transportation. It is

accompanied by the annual updated Five-Year Schedule of Capital Improvements, wh implements the goals, objectives and policies of the element and the Comprehensive Plan (Florida Statute 163.3177(3)(a)).

PUBLIC SCHOOLS FACILITIES ELEMENT

The Public Schools Facility Element is an element established to address issues related to Hardee County Public School System. This Element is not required by Florida Statutes 163.3177.

REVOCABLE LICENSE AGREEMENT

THIS LICENSE AGREEMENT (the "Agreement" or "License") is entered into this _____ day of _____, 2026, by and between **CITY OF WAUCHULA, FLORIDA**, a municipal corporation authorized to do business in the State of Florida ("City") and **PAMELA R SELLERS AND KASSIE L KNIGHT** ("Licensee"), (City and Licensee sometimes together referred to hereinafter as the "Parties").

RECITALS

1. City is the fee simple owner of the real property identified in the crosshatched area set forth in Exhibit "A", attached to and incorporated in this Agreement (the "Property").

2. Licensee has requested permission to maintain a wooden privacy fence and an interior chain link fence (the "Fencing"), as depicted in Exhibit B, within the Property that is part of the City's right-of-way.

3. Licensee's Fencing encroaches into the City's right-of-way, extending approximately eight (8) feet and one (1) inch beyond Licensee's residential property line along the north boundary of the Licensee's residential property line, and running approximately Eighty-Seven (87) feet parallel thereto.

4. The City is willing to grant a license to permit the Fencing to remain within the Property in the City's right-of-way provided Licensee first brings the wooden privacy fence into compliance with the City of Wauchula Land Development Code ("LDC") maximum height requirement of six (6) feet within ninety (90) days following written approval of the basic terms of this Agreement.

5. The parties covenant and agree that they have the power and authority to enter into this Agreement and bind themselves to the provisions of this Agreement.

6. This License is granted on the express condition that Licensee shall maintain the Fencing without causing unnecessary injury to any City property, sidewalk, or other improvements within the area, and shall restore the Property to the same or better condition prior to the start of any improvements.

ACCORDINGLY, in consideration of the mutual covenants set forth herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by the parties hereto, City and Licensee hereby agree as follows:

SECTION 1. RECITALS. The foregoing Recitals are true and correct and are incorporated herein by this reference.

SECTION 2. CONDITION PRECEDENT TO EFFECTIVENESS. The effectiveness of this Agreement and the license granted herein are expressly conditioned upon Licensee bringing the wooden privacy fence into compliance with the LDC maximum height requirement of six (6) feet within ninety (90) days following written approval of the basic terms of this Agreement. If Licensee fails to satisfy this condition precedent within such ninety (90) day period, this Agreement shall be of no force or effect, and Licensee shall remove the Fencing from the right-of-way upon written notice from City.

SECTION 3. GRANT OF LICENSE. Subject to the condition precedent in Section 2 above, City hereby grants to Licensee a temporary, revocable license to maintain the Fencing on the Property described in Exhibit "A" for residential purposes only, at Licensee's sole cost and expense, and in accordance with safe and customary practices. Licensee may permit use of the license by its successors, assigns, or other parties acting under Licensee's direction or control (collectively, "Licensee Parties"). Licensee shall remain responsible for all acts and omissions of Licensee Parties under this Agreement. Licensee shall not construct any additional structures on the Property, create unsafe conditions, or maintain any activity or condition that may constitute a nuisance. Licensee shall comply with all applicable laws, ordinances, regulations, and codes in connection with the Fencing and use of the Property, and shall at all times maintain the Property in a safe and sanitary condition. Licensee may assign this Agreement only with the prior written consent of City, which shall not be unreasonably withheld. Any approved assignee shall assume all obligations of Licensee under this Agreement.

SECTION 4. DURATION AND REVOCABILITY. The license granted by this Agreement shall commence on the Effective Date and shall continue for a period of twenty-five (25) years, unless earlier revoked by City pursuant to Section 8 (the "Term"). Upon expiration or revocation of the license, all rights granted herein shall terminate, and Licensee shall remove the Fencing from the Property and restore the Property in accordance with Section 8.

SECTION 5. COST AND EXPENSES. Licensee shall have no obligation to pay rent or similar fees to City. Licensee shall be solely responsible for all costs and fees associated with the license and Licensee's use of the Property.

SECTION 6. CONDITIONS TO LICENSE; RELEASE OF CITY.

(1) Licensee agrees that the Property shall be utilized solely for the purposes set forth in Section 3 and otherwise in accordance with this Agreement. Licensee accepts the Property in its "AS IS, WHERE IS" condition, without any representation or warranty of any kind, whether express or implied, from City or City Parties. Neither City nor any of its members, employees, agents, representatives, contractors, engineers, surveyors, consultants, analysts, assigns, guests, invitees, or any parties acting under City's direction or control (collectively,

"City Parties") has made or makes any warranty or representation regarding the Property, including its physical condition, suitability for any use, or compliance with applicable laws. Licensee acknowledges that it has had full access to the Property prior to the Effective Date, has had the opportunity to inspect the Property to the extent deemed necessary, and is satisfied with its condition. Licensee further agrees that its acceptance of the Property without warranties is a material inducement for City to enter into this Agreement. Licensee assumes all risks relating to the Property and its condition, including any latent or patent defects, known or unknown. Except as expressly provided herein, City shall have no obligation to maintain, repair, or improve the Property or to cause the Property to comply with any laws, ordinances, regulations, or codes.

(2) Except as otherwise stated herein, Licensee hereby assumes all risk of loss, damage, injury, or liability of any kind arising out of or related to Licensee's use, occupancy, or maintenance of the Property, including, without limitation, any injury to persons, damage to property, or claims by third parties. This includes, without limitation, property which may now or hereafter be placed in, on, or about the Property during the Term, whether or not such property is there with the consent of City, and City shall have no liability therefore. Except as otherwise stated herein, Licensee hereby waives, releases, and discharges any and all claims against City arising out of or in any way connected with the Property including any loss, liability, damage, costs or expenses whatsoever, suffered by Licensee or Licensee Parties.

SECTION 7. LICENSEE'S COVENANT AGAINST LIENS. Licensee shall promptly pay, or cause to be paid, all costs for work performed by Licensee or Licensee Parties on or about the Property described in Exhibit "A." Licensee shall keep the Property free and clear of all liens, charges, or encumbrances arising from work performed, materials supplied, or services provided to Licensee or Licensee Parties. Licensee shall have no power or authority to create any lien, charge, or encumbrance on the Property and shall notify all persons performing work or providing materials on Licensee's behalf of this restriction. No contractor, supplier, or materialman dealing with Licensee shall be entitled to a lien, charge, or encumbrance on the Property. Licensee shall indemnify, defend, and hold City harmless from any and all claims, suits, demands, liabilities, losses, damages, costs, or expenses, including attorneys' fees and court costs, arising from liens, claims, charges, or encumbrances related to work performed, materials supplied, or services provided to Licensee or Licensee Parties. Licensee shall immediately notify City in the event Licensee receives or learns of any such claim of lien, charge or encumbrance. In the event any such claim of lien, charge or encumbrance shall be filed against the Property and is not fully paid and satisfied or otherwise discharged of record within thirty (30) days after notice to Licensee, this Agreement shall automatically terminate, along with all rights and obligations contained herein, except those which by their terms survive any termination or expiration. Licensee shall, promptly upon request, furnish City satisfactory evidence of the payment of any such claims of lien, charges or encumbrances. The obligation of Licensee to

pay such claims of lien, charges or encumbrances, as provided herein, and the obligation of Licensee to indemnify and hold City harmless from claims of lien, charges or encumbrances provided herein shall survive the termination or expiration of this Agreement.

SECTION 8. MAINTENANCE; TERMINATION OR REVOCATION OF LICENSE.

(1) Licensee covenants and agrees to maintain the Property and the Fencing in a safe, sanitary, and orderly condition and shall comply with and abide by all laws, ordinances, regulations, and restrictions affecting said Property, or its use. Licensee shall allow no accumulation of trash or debris and shall not cause or permit waste, damage, or unsafe conditions on the Property. City shall have no responsibility or liability for maintenance of or repairs to the Property during the Term, nor shall City be responsible or liable for additions, replacements, or improvements to the Property or City's right-of-way of any nature whatsoever caused by Licensee.

(2) Upon expiration or termination of this License, Licensee shall remove the Fencing, equipment, and other materials installed or placed on the Property by Licensee or Licensee Parties and shall return the Property to a sanitary and safe condition, consistent with the terms of this Agreement. Licensee shall not leave any such items on the Property beyond the termination of this License.

(3) Licensee shall not make, allow, or permit any additions, alterations, or improvements to the Property without prior written consent of City. Licensee shall not place or maintain any articles or materials of a dangerous, flammable, explosive, or otherwise hazardous nature on the Property, and shall not perform any act that could increase the risk of fire, injury, or property damage.

(4) Licensee shall neither keep nor have on the Property any article or thing of a dangerous, inflammable or explosive character or do anything in or about the Property that might unreasonably increase the danger of fire on the Property or that might be considered hazardous by any responsible insurance company, or in any way tend to increase the casualty insurance rates on the Property. Licensee shall not create either through acts of commission or omission Hazardous Substance (as hereinafter defined) contamination on the Property. Licensee hereby expressly agrees to hold City harmless from and against any loss or damages resulting from failure to comply with this section. This indemnity shall expressly survive the expiration or termination of the Agreement. "Hazardous Substance" shall mean and include all hazardous and toxic substances, wastes or materials, any pollutants or contaminants (including, without limitation, asbestos and raw materials which include hazardous components), or other similar substances, or materials which are included under or regulated by any local, state or federal law, rule or regulation pertaining to environmental regulation, contamination or clean-up, including, without limitation, "CERCLA", "RCRA", or state super lien or environmental clean up statutes. Notwithstanding the foregoing,

"Hazardous Substance" shall not include any substances used for agricultural purposes and not in violation of applicable law at the time of use.

(5) In the event that Licensee fails to timely or properly discharge any of its obligations set forth in this Agreement, City may immediately terminate this Agreement, along with all rights and obligations contained herein, except those which by their terms survive any expiration or termination of this Agreement without any liability to City. The obligations of Licensee set forth in this Section 8 shall survive termination or expiration of this Agreement.

(6) This License shall be revocable by City, and Licensee shall remove the Fencing if any of the following occurs:

(a) Licensee breaches any term of this Agreement during the Term;

(b) City determines that the Property is needed for any public purpose; or

(c) More than 50% of the square footage of the Fencing is damaged to the extent that structural components require replacement. For purposes of this subsection only, the wooden fence and the chain link fence shall be treated separately. For example, if more than 50% of the wooden fence is damaged and requires structural replacement but the chain link fence is not similarly damaged, City may revoke the license solely for the wooden fence. In that case, Licensee shall remove the wooden fence, while the chain link fence may remain on the Property subject to the terms and conditions of this Agreement.

SECTION 9. OCCUPANCY AND USE OF THE PROPERTY.

(1) Licensee shall use the Property only for the purposes specified in Section 3 of this Agreement and for any reasonable accessory uses. Licensee shall comply with all applicable laws, ordinances, regulations, rules, directives, permits, and restrictions of federal, state, county, or municipal authorities, including any deed or use restrictions affecting the Property. Licensee shall not construct or install any structures on the Property other than the Fencing and shall not use, or permit use of, the Property for any illegal, immoral, or improper purpose. Licensee shall not create or allow any condition that may constitute a public or private nuisance, be deemed hazardous by the City or City's insurer, or otherwise disturb the peace, comfort, or safety of neighbors.

(2) During the Term, City and City's Parties may enter the Property as reasonably necessary to inspect, survey, or undertake actions the City deems necessary or desirable for planning or development purposes. This may include, without limitation, surveys, soil tests, borings, percolation tests, compaction tests, environmental tests, or other tests to evaluate surface,

subsurface, and topographic conditions. Nothing in this section shall alter the obligations or responsibilities set forth in Sections 6 through 8.

SECTION 10. INSPECTION BY CITY. The City and its agents shall have the right to enter upon the Property at any time in order to inspect the safety, sanitation, maintenance, and use of the Property, and to ensure that Licensee is in full compliance with its obligations under this Agreement. Nothing in this section shall limit or modify Licensee's obligations or responsibilities under this Agreement. Licensee shall provide City at least twenty-four (24) hours' written notice prior to any soil testing on the Property so that City may observe such testing.

SECTION 11. INDEMNITY. Licensee shall protect, indemnify, save harmless, and defend City and City's Parties from and against any and all claims, suits, demands, liabilities, obligations, penalties, causes of action, losses, costs, damages, and expenses (including, without limitation, reasonable attorneys' and paralegals' fees, whether or not suit is brought, and whether arising from mediation, arbitration, litigation, administrative proceeding, bankruptcy or, on appeal) arising out of: (i) the exercise by Licensee or Licensee Parties of Licensee's rights or obligations under this Agreement; (ii) the acts or omissions of anyone acting under Licensee's direction, control, or on Licensee's behalf; or (iii) the negligent acts, errors, or omissions of Licensee or Licensee Parties in connection with this Agreement. This indemnity shall not apply to the extent any claim, loss, or liability is caused by the negligence of City or City's Parties. Licensee retains the right to select counsel of its choice in the event this Section is triggered. The obligations of this Section shall survive the expiration or termination of this Agreement.

SECTION 12. INSURANCE & RISK OF LOSS. Licensee shall, at its sole cost, maintain throughout the Term of this Agreement insurance reasonably acceptable to City, with the following minimum coverage:

(A) **Comprehensive General Liability Insurance:** Licensee shall maintain insurance on an occurrence form with a combined single limit of $1,000,000 per occurrence and an annual aggregate limit of $1,000,000, which shall include coverage for broad form property damage and personal injury liability.

In the above policy, Licensee agrees to waive and will require its insurers to waive any rights of subrogation or recovery they may have against City.

Licensee shall provide proof of coverage acceptable to City annually on the anniversary of the Effective Date. Any non-renewal or cancellation of required policies shall be effective only after City receives thirty (30) days' written notice from the insurer.

City will not insure, nor be responsible or liable for, any loss or damage, regardless of cause, to property of any kind, including loss of use thereof, owned, leased, or borrowed by the Licensee Parties, or their employees, agents, or contractors.

SECTION 13. NON-EXCLUSIVE LICENSE. This Agreement and the rights granted hereunder are non-exclusive. City shall have the right to enter the Property during the Term for any purposes set forth herein, provided such entry does not conflict with the rights granted to Licensee under this Agreement. City shall be responsible for any damage caused by City or City's Parties during such entry.

SECTION 14. NOTICES. Any notices which may be permitted or required under this Agreement shall be in writing and shall be deemed duly given as of the date and time the same are personally delivered, transmitted electronically (including by fax or email), or within three (3) days after depositing with the United States Postal Service, postage prepaid, by registered or certified mail, return receipt requested, or within one (1) day after depositing with overnight delivery service from which a receipt may be obtained, and addressed as follows:

To City:	126 South 7th Street Wauchula, FL 33873 Attention: City Manager
With copies to:	Kristie Hatcher-Bolin, Esquire Gray-Robinson, P.A. One Lake Morton Drive Lakeland, FL 33801 Telephone: (863) 224-2200 kristie.hatcher-bolin@gray-robinson.com
To Licensee:	Pamela R Sellers Kassie L Knight 217 N 2nd Avenue Wauchula, FL 33873

Either party may designate a different address for notices by providing written notice to the other party in accordance with this Section.

SECTION 15. ENTIRE AGREEMENT. This Agreement contains the entire agreement and understanding between Licensee and City relating to Licensee's license for the Property described in Exhibit "A" and supersedes all prior agreements, understandings, or representations, whether written or oral. This Agreement may only be amended, waived, discharged, or modified by a written instrument executed by the party against whom enforcement of such amendment, waiver, discharge, or modification is sought.

SECTION 16. GOVERNING LAW. This Agreement shall be interpreted and enforced under the laws of the State of Florida. Venue for any proceeding

arising under this Agreement shall be in the state courts of the Tenth Judicial Circuit in and for Hardee County, Florida.

SECTION 17. **RELATIONSHIP OF PARTIES.** Nothing in this Agreement shall be construed as creating a partnership, joint venture, or an employer/employee relationship between the parties. Licensee shall at all times be deemed an independent contractor and shall not be an agent or representative of City.

SECTION 18. EFFECTIVE DATE. When used herein, the term "Effective Date" shall mean the last date that either City or Licensee executes this Agreement.

SECTION 19. NON-WAIVER. No failure of either party to exercise any right or power under this Agreement, or to insist upon strict compliance with any obligation specified herein, and no custom or practice at variance with the terms hereof, shall constitute a waiver of either party's right to demand exact compliance with the terms hereof.

SECTION 20. AMENDMENT ONLY BY WRITING. Any amendment to this Agreement shall not be binding upon any of the parties hereto unless such amendment is in writing and executed by both Licensee and City.

SECTION 21. RECORDING. The parties may record this Agreement in the Official Records of Hardee County, Florida.

SECTION 22. SUCCESSORS/ASSIGNS. This License is personal to Licensee and shall not be assigned, transferred, or conveyed except with the prior written consent of City. The provisions of this Agreement shall inure to the benefit of and be binding upon Licensee and, if applicable, any permitted assignee approved in writing by City. Nothing in this Agreement shall create any right in any successor, heir, or other person to continue the License, and this License does not run with the land. City retains the exclusive right to revoke this License in accordance with the terms of this Agreement.

SECTION 23. TIMING. Time is of the essence of this Agreement. If any time for performance falls on a Saturday, Sunday, or legal holiday, such time shall be extended to the next business day.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date and year first written above.

CITY

CITY OF WAUCHULA, a Florida municipal corporation

By:
_____
Richard Nadaskay, Mayor

Date:
_____

ATTEST:

_____
Stephanie Camacho, City Clerk

APPROVED AS TO FORM AND LEGALITY FOR THE USE AND RELIANCE OF THE CITY OF WAUCHULA, FLORIDA, ONLY.

_____
Kristie Hatcher-Bolin, City Attorney

Signed, sealed and delivered in the presence of:

LICENSEE

Name: _____

Title: _____

Date: _____

_____

Print Name:
_____

_____

Print Name:
_____

STATE OF FLORIDA
COUNTY OF HARDEE

The foregoing instrument was acknowledged before me this _____ day of _____, 2026, _____, who is [ ] personally known to me or [ ] has produced _____ as identification and [ ] (did)/ [ ] (did not) take an oath.

_____

Signature of Person Taking Acknowledgment

_____

Name of Acknowledger Typed, Printed or Stamped

_____

Title or Rank

_____

Serial Number, if any.

Exhibit "A"

Begin at the northwest corner of Lot 1, Block 11 of Original Survey of the City of Wauchula, as per Plat recorded in Plat Book 1, Page 1-29(b), public records of Hardee County, Florida for Point of Beginning. Thence run an east-northeasterly direction along northern property line a distance of eighty-seven (87) feet, thence run north-northwest into the City of Wauchula's Right-of Way of E Oak Street, a distance of eight (8) feet, thence run west-southwest a distance of eighty-seven (87) feet, thence run south-southeast a distance of eight (8) feet to Point of Beginning.

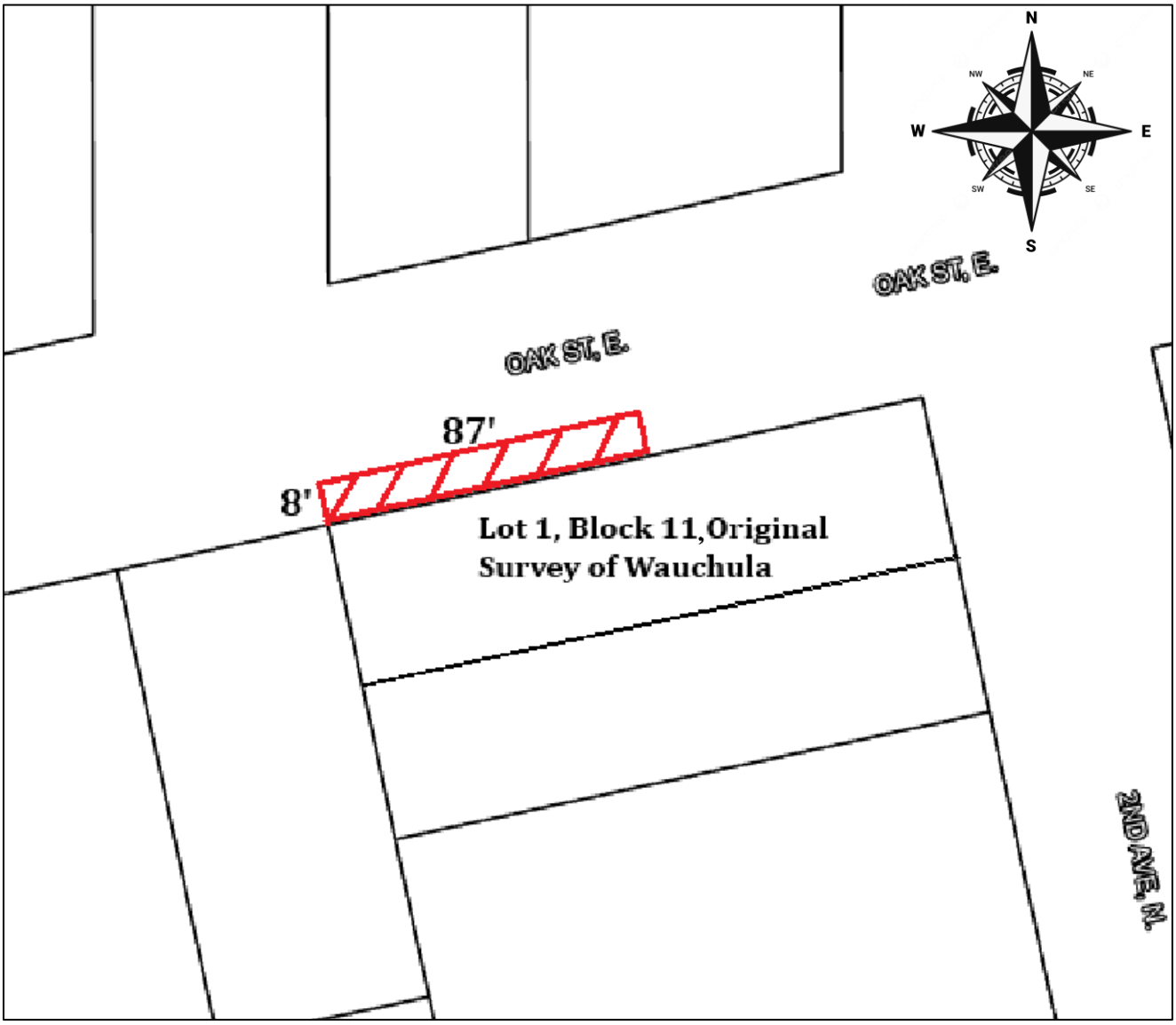
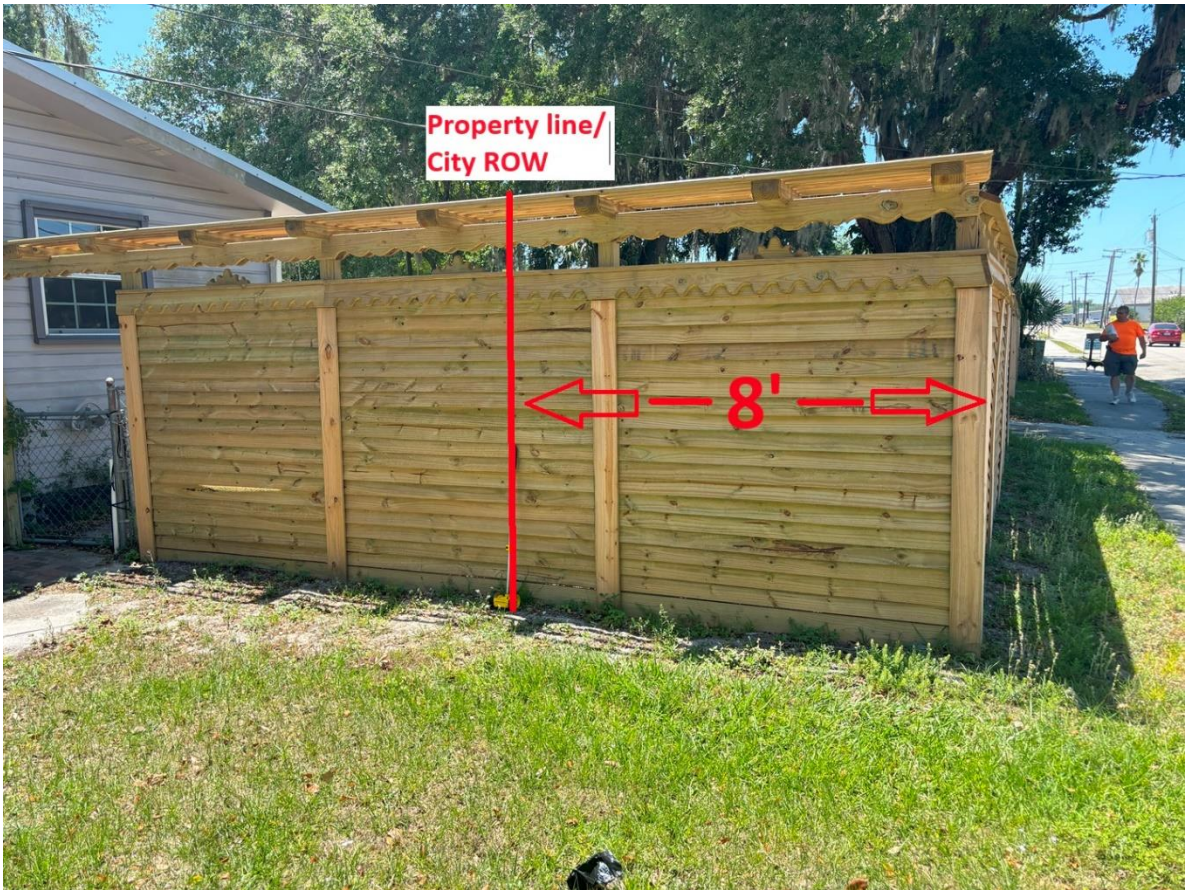


Exhibit “B”



ORDINANCE 2026-05

AN ORDINANCE OF THE CITY OF WAUCHULA, FLORIDA; ANNEXING APPROXIMATELY 2.245 ACRES LOCATED AT 119 OHIO AVENUE (PARCEL NUMBER 04-34-25-0000-02670-0000) AS FURTHER IDENTIFIED IN EXHIBIT "A" HEREOF, INTO THE INCORPORATED LIMITS OF THE CITY OF WAUCHULA, FLORIDA; PROVIDING FOR PUBLICATION OF NOTICE OF THE PROPOSED ANNEXATION, THE MAILING OF CERTIFIED NOTICE TO THE COUNTY, AND FILING OF A CERTIFIED COPY OF THIS ORDINANCE WITH THE CLERK OF CIRCUIT COURT IN AND FOR HARDEE COUNTY, THE CHIEF ADMINISTRATIVE OFFICER OF HARDEE COUNTY, AND WITH THE DEPARTMENT OF STATE; PROVIDING FOR SEVERABILITY; PROVIDING FOR CONFLICTS; PROVIDING AN EFFECTIVE DATE.

WHEREAS, Chapter 171 Florida Statutes, authorizes and empowers incorporated municipalities of the State of Florida to annex into the incorporated limits of said municipalities unincorporated areas of the county in which said municipalities are located, provided certain criteria are followed; and

WHEREAS, Ngozi Konan, owner of the hereinafter described land located within the unincorporated area of Hardee County, Florida (the "County") has requested, consented to, and petitioned the City of Wauchula ("City") to annex said land into the incorporated limits of the City, pursuant to the criteria of Section 171.044, Florida Statutes; and

WHEREAS, the City Commission hereby finds and determines that said land is contiguous, reasonably compact, and urban in character as defined in Section 171.031, Florida Statutes; and

WHEREAS, pursuant to, and in compliance with the law, notice has been given

by publication once a week for two consecutive weeks in a newspaper of general circulation notifying the public of this proposed ordinance and of public hearings to be held at City Hall in the City of Wauchula; and

WHEREAS, in the exercise of its authority, the City Commission of the City has determined it is in the best interest of the public health, safety and general welfare of the City and its residents to annex said land into the incorporated limits thereof.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COMMISSION OF THE CITY OF WAUCHULA, FLORIDA, THAT:

Section 1. Annexation of Property. The "Konan property", pursuant to Section 171.044, Florida Statutes shall be and is hereby annexed into the incorporated limits of the City of Wauchula, Florida, and the boundary lines of the municipality shall be redefined to include the property described in Exhibit "A" attached to and incorporated into this ordinance.

Section 2. Incorporation of Recitals. The recitals to this Ordinance are hereby incorporated herein by reference and are fully effective as part of this Ordinance.

Section 3. Notice of Proposed Annexation. Notice of the proposed annexation shall be published at least once each week for two consecutive weeks in a newspaper published in Hardee County, Florida, before final passage. A certified copy of this Ordinance shall, after adoption, be filed with the Clerk of the Circuit Court and the Chief Administrative Officer in and for Hardee County, Florida, and with the Department of State, of the State of Florida, within seven (7) days after the adoption of this Ordinance. Not fewer than 10 days prior to publishing or posting the ordinance notice required under state statute, the City Commission shall provide a copy of the notice, via certified mail, to the Board of the County Commissioners of Hardee County, Florida.

Section 4. Land Use and Zoning. The said property shall, upon annexation, remain subject to the County's land use plan and zoning or subdivision regulations until the City adopts a comprehensive plan amendment that includes the property annexed. The City is simultaneously processing plan amendment and rezoning requests from the owner.

Section 5. Severability. If any provision or portion of this Ordinance is declared by any court of competent jurisdiction to be void, unconstitutional, or unenforceable, then all remaining provisions and portions of this Ordinance shall remain in full effect.

Section 6. Repeal of Prior Inconsistent Ordinances and Resolutions. All other ordinances which conflict with this or any part of this Ordinance are hereby repealed.

Section 7. Effective Date. The ordinance shall take effective immediately upon adoption by the City Commission of the City of Wauchula, Florida.

INTRODUCED and PASSED on first reading in regular session of the City Commission of the City of Wauchula, Florida, this____ day of April, 2026.

ATTEST:	**CITY OF WAUCHULA, FLORIDA**
Stephanie Camacho, City Clerk	Richard Keith Nadaskay, Jr., Mayor

PASSED on second and final reading by the City Commission of the City of Wauchula, Florida, at regular session this_____ day of _____, 2026. This ordinance was moved for approval by Commissioner _____. The motion was seconded by Commissioner_____ _ , and upon being put to a vote, the vote was as follows:

Commissioner Anne Miller	_____ insert yes or no
Commissioner Sherri Albritton	_____ insert yes or no
Commissioner Richard Keith Nadaskay, Jr.	_____ insert yes or no
Commissioner Gary D. Smith	_____ insert yes or no
Commissioner Russell Graylin Smith	_____ insert yes or no

(SEAL)

ATTEST: **CITY OF WAUCHULA, FLORIDA**

Stephanie Camacho, City Clerk Richard Keith Nadaskay, Jr., Mayor

APPROVED AS TO FORM AND LEGALITY:

Kristie Hatcher-Bolin, City Attorney

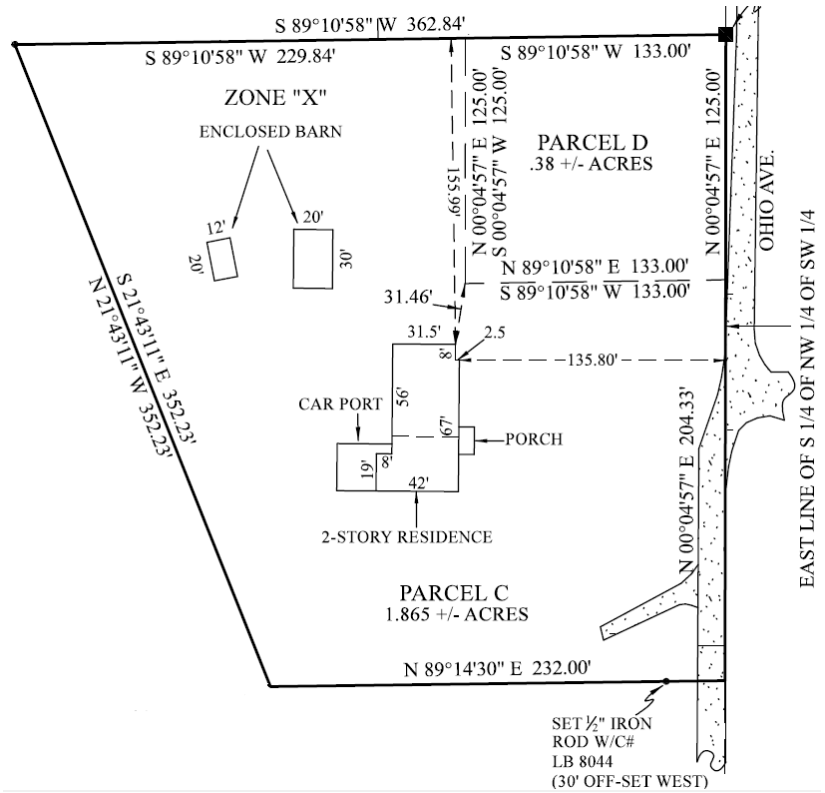
EXHIBIT "A": LEGAL DESCRIPTION AND MAP

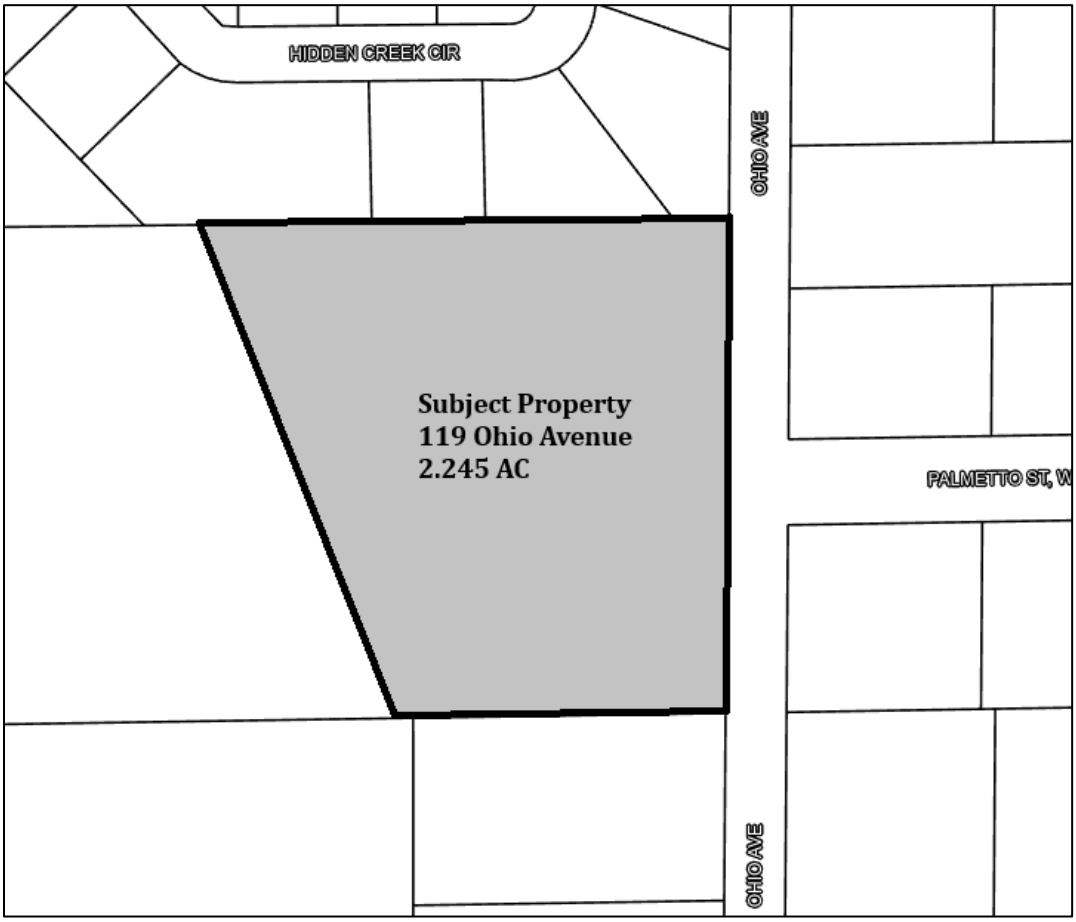
DESCRIPTION PARCEL C:

A portion of the South ¼ of the Northwest ¼ of the Southwest ¼ of Section 4, Township 34 South, Range 25 East, Hardee County, Florida being more particularly described as follows: Commence at the Northeast corner of said South ¼ of Northwest ¼ of Southwest ¼ also being the Southeast corner of Hidden Creek North as per plat or map thereof as recorded in Plat Bar B-56 Page 1, of the Public Records of Hardee County, Florida; thence S 89°10'58" W along the North line of said South ¼ of Northwest ¼ of Southwest ¼ also being the South line of said Hidden Creek North a distance of 133.00 feet for the POINT OF BEGINNING; thence continue the same line a distance of 229.84 feet to the Southwest corner of Lot 13 of said Hidden Creek North; thence S 21°43'11" E a distance of 352.23 feet to the South line of said South ¼ of Northwest ¼ of Southwest ¼; thence N 89°14'30" E along said South line a distance of 232.00 feet to the Southeast corner of said South ¼ of Northwest ¼ of Southwest ¼; thence N 00°04'57" E along said East line a distance of 204.33 feet; thence S 89°10'58" W and parallel with said North line a distance of 133.00 feet; thence N 00°04'57" E and parallel with said East line a distance of 125.00 feet to the POINT OF BEGINNING.

DESCRIPTION PARCEL D:

A portion of the South ¼ of the Northwest ¼ of the Southwest ¼ of Section 4, Township 34 South, Range 25 East, Hardee County, Florida being more particularly described as follows: Begin at the Northeast corner of said South ¼ of Northwest ¼ of Southwest ¼ also being the Southeast corner of Hidden Creek North as per plat or map thereof as recorded in Plat Bar B-56 Page 1, of the Public Records of Hardee County, Florida; thence S 89°10'58" W along the North line of said South ¼ of Northwest ¼ of Southwest ¼ also being the South line of said Hidden Creek North a distance of 133.00 feet; thence S 00°04'57" W and parallel with the East line of said South ¼ of Northwest ¼ of Southwest ¼ a distance of 125.00 feet; thence N 89°10'58" E and parallel with said North line a distance of 133.00 feet to said East line; thence N 00°04'57" E along said East line a distance of 125.00 feet to the POINT OF BEGINNING.




HIDDEN CREEK CIR
OHIO AVE
Subject Property
119 Ohio Avenue
2.245 AC
PALMETTO ST, W
OHIO AVE

CITY OF WAUCHULA
HARDEE PROPERTY ANNEXATION
STAFF REPORT & PROPOSED AMENDMENTS
March 2, 2026

TO: City of Wauchula City Commission

PREPARED BY: Kyle Long, City of Wauchula

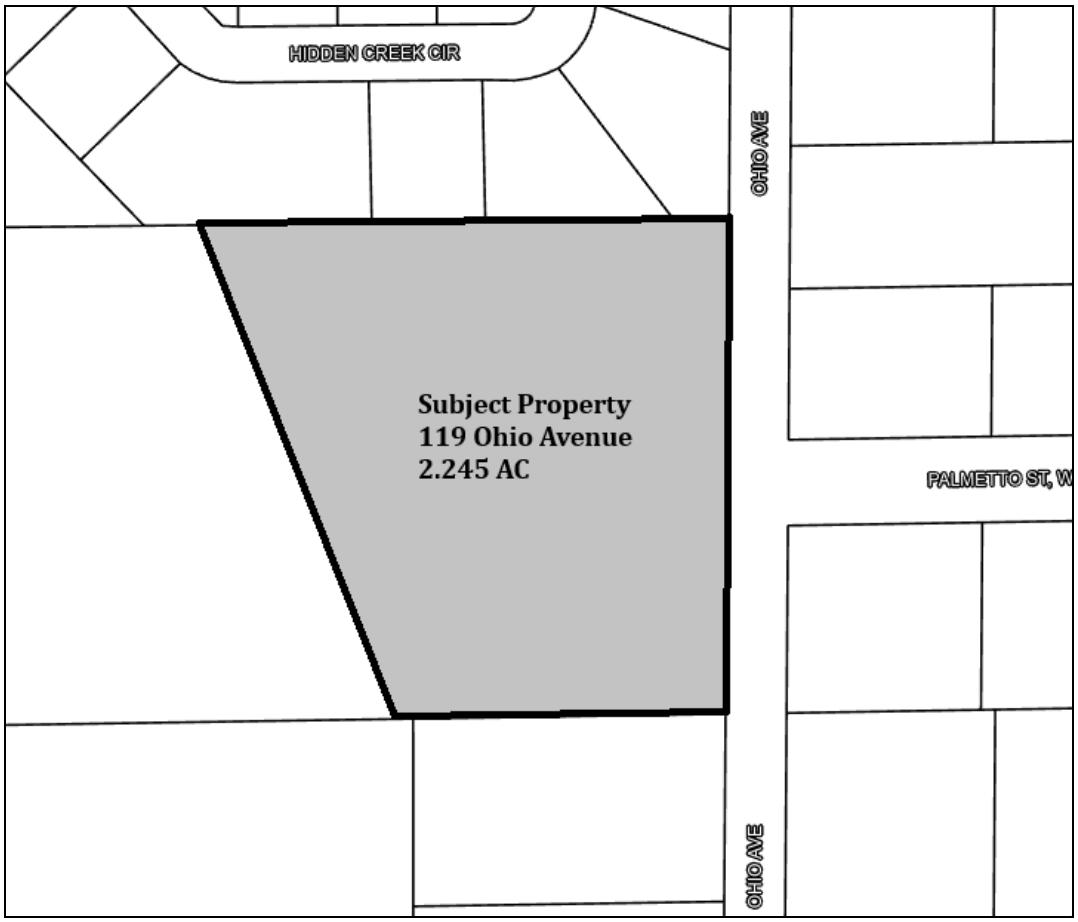
AGENDA DATE: March 2, 2026

REQUESTED ACTION: Items for Consideration:

1. **ORDINANCE 2026-05:** AN ORDINANCE OF THE CITY OF WAUCHULA, FLORIDA; ANNEXING APPROXIMATELY 2.245 ACRES LOCATED AT 119 OHIO AVENUE (PARCEL NUMBER 04-34-25-0000-02670-0000) AS FURTHER IDENTIFIED IN EXHIBIT "A" HEREOF, INTO THE INCORPORATED LIMITS OF THE CITY OF WAUCHULA, FLORIDA; PROVIDING FOR PUBLICATION OF NOTICE OF THE PROPOSED ANNEXATION, THE MAILING OF CERTIFIED NOTICE TO THE COUNTY, AND FILING OF A CERTIFIED COPY OF THIS ORDINANCE WITH THE CLERK OF CIRCUIT COURT IN AND FOR HARDEE COUNTY, THE CHIEF ADMINISTRATIVE OFFICER OF HARDEE COUNTY, AND WITH THE DEPARTMENT OF STATE; PROVIDING FOR SEVERABILITY; PROVIDING FOR CONFLICTS; PROVIDING AN EFFECTIVE DATE.

BACKGROUND:

Ngozi Konana (applicant) requests the annexation of approximately 2.245 acres of land, located at 119 Ohio Avenue, further described as parcel: 04-34-25-0000-02670-0000.



This agenda report includes an analysis of the annexation request. This request requires a public hearing, motion, and vote by the City Commission. This process is outlined in the Motion Options portion of this report.

PROPERTY INFORMATION

The property associated with the application is located on the west side of Ohio Avenue (Attached Aerial Map). There is currently an existing house that was built prior to the application and the property is currently serviced by City water utilities. The City is simultaneously processing plan amendment and rezoning requests from the owner. Ms. Konan is splitting the parcel and would like to annex the property to make it more attractive to sell.

PUBLIC FACILITIES AND SERVICES ANALYSIS:

The proposed project is not anticipated to degrade the Level-of-Service (LOS) standards of infrastructure and public service facilities within the surrounding area. Again, City water will be connected to the subject property.

ENVIRONMENTAL CONDITIONS AND IMPACTS

None. There is already an existing single-family home constructed on the property.

PUBLIC HEARING: Annexation

MOTION OPTIONS:

1. I move **approval of Ordinance 2026-05** annexing approximately 2.245 acres located at 119 Ohio Avenue (Parcel Number 04-34-25-0000-02670-0000), parcels of land identified in Exhibit "A" hereof; providing for severability; providing for conflicts; providing an effective date.

2. I move **approval with changes of Ordinance 2026-05** annexing approximately 2.245 acres located at 119 Ohio Avenue (Parcel Number 04-34-25-0000-02670-0000), parcels of land identified in Exhibit "A" hereof; providing for severability; providing for conflicts; providing an effective date.

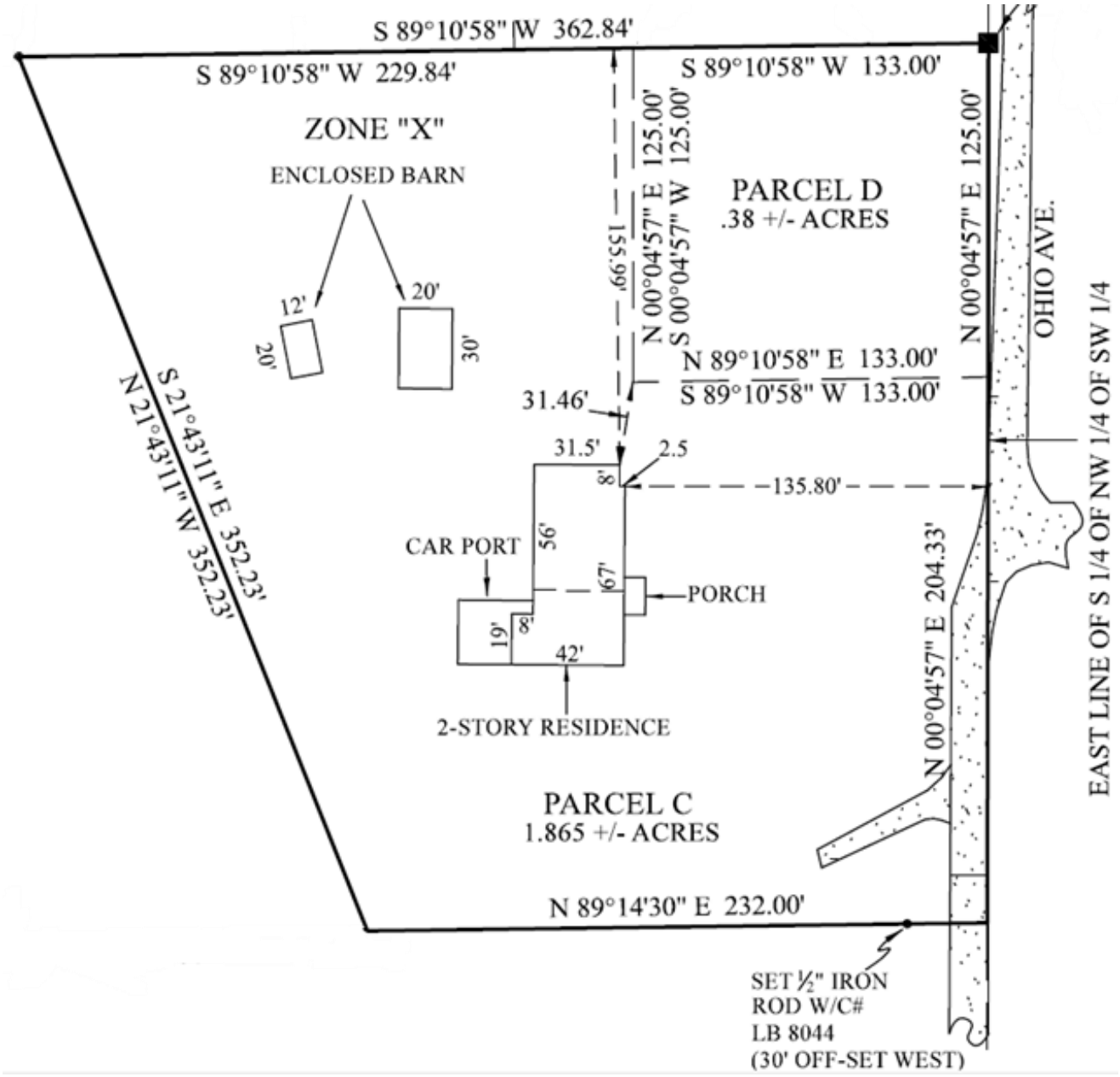
3. I move **denial of Ordinance 2026-05** annexing approximately 2.245 acres located at 119 Ohio Avenue (Parcel Number 04-34-25-0000-02670-0000), parcels of land identified in Exhibit "A" hereof; providing for severability; providing for conflicts; providing an effective date.

4. I move continuation of this item until a date certain.

Attachments:

Aerial Photo – Subject Property
Survey
City/County Boundary Aerial
Application

HARVEY ST
HARVEY ST
OHIO AVE
ILLINOIS AVE
PALMETTO ST, W.
OHIO AVE
ILLINOIS AVE
MAIN ST, W.


S 89°10'58" W 362.84'
S 89°10'58" W 229.84'
S 89°10'58" W 133.00'
ZONE "X"
ENCLOSED BARN
12'
20'
20'
30'
PARCEL D
.38 +/- ACRES
N 00°04'57" E 125.00'
S 00°04'57" W 125.00'
155.99'
N 89°10'58" E 133.00'
S 89°10'58" W 133.00'
N 00°04'57" E 125.00'
OHIO AVE.
31.46'
31.5'
2.5
8'
135.80'
S 21°43'11" E 352.23'
N 21°43'11" W 352.23'
CAR PORT
56'
67'
PORCH
19'
8'
42'
2-STORY RESIDENCE
N 00°04'57" E 204.33'
EAST LINE OF S 1/4 OF NW 1/4 OF SW 1/4
PARCEL C
1.865 +/- ACRES
N 89°14'30" E 232.00'
SET ½" IRON
ROD W/C#
LB 8044
(30' OFF-SET WEST)

HARVEY ST
HARVEY ST
OHIO AVE
ILLINOIS AVE
PALMETTO ST, W.
OHIO AVE
ILLINOIS AVE
MAIN ST, W.

Application:

FILL OUT COMPLETELY **Date Submitted** _____

CITY OF WAUCHULA

____ SPECIAL EXCEPTION ____ VARIANCE __X__ ANNEXATION
__X__ RE-ZONE __X__ FUTURE LAND USE AMENDMENT
____ SUBDIVISION PLAT (Including Plat Vacation, if Necessary) ____ ALLEY CLOSURE

A SITE PLAN, TO SCALE, IS NEEDED FOR ALL REQUESTS.
A METES AND BOUNDS SURVEY IS NEEDED FOR AN ANNEXATION.
IF YOU LIVE IN A DEED RESTRICTED COMMUNITY, YOU MUST PROVIDE A COPY OF THE DEED RESTRICTIONS.

Applicant: Nogzi M Konan

Address of request: 119 Ohio Ave Wauchula, FL 33873

Mailing address: 119 Ohio Ave Wauchula, FL 33873

Daytime Telephone: 863-781-4585 C/O Noey A Flores as Agent

Owner's Name & Address (as shown on property records):
__X__ Check, if same as above.

If different: Name: _____

Mailing Address: _____

Daytime Telephone: _____

NOTE: **IF THE APPLICANT IS NOT THE OWNER OF THE ABOVE PROPERTY, WRITTEN CONSENT BY THE OWNER MUST BE SUPPLIED BY THE APPLICANT AT THE TIME OF SUBMITTAL TO THE CITY'S PLANNING AND ZONING DEPARTMENT. ALL REQUESTS MAY ONLY BE INITIATED BY THE CURRENT PROPERTY OWNER.**

Legal description: See attached property card

Current Zoning FR Future Land Use Low Density Residential

Size of Parcel: 2.2 Acres

Current Improvements: (Buildings, etc. on property)

Primary Residence and 2 accessory buildings

Reason for request: Annex the property into the City of Wauchula

If Annexation and/or Re-Zone:

Current County Zoning Classification F-R

City Zoning Classification and Future Land Use classification sought: R-3, Medium Density Residential

What property usage is to the North: Residential, South: Residential,

East: Residential and West: Vacant of your property (example: residence)?

Number of residences on parcel(s) (Existing and/or proposed): 1/2

Population of parcel(s): 1

**********FOR SPECIAL EXCEPTION REQUESTS ONLY**********

Square footage to be used for the activity: _____

Proposed Hours: _____

Associated Noise: _____

Materials stored on premises: _____

_____

Traffic caused by activity: _____

_____

Number of off-street parking spaces: _____

****

Have you filed any previous applications? No

If yes, please describe request and give date of application: _____

The typical total cost is between $150.00 and $300.00.

Signature(s): _____ Date: 6/11/25

Print Name(s): Randy Mayer

Signature of applicant(s): _____ Date: 6/11/25

Print Name(s): Randy Mayer

FOR OFFICE USE ONLY

___Application _____

___Ad _____

___Copies _____ (.15 ea single sided)
(.20 ea double sided)

___Postage _____

Total Due _____

I have read and understand the requirements of the application and agree to pay all costs of the process. The typical total cost is between $150.00 and $300.00.

Signature(s): Signed by: EC79095396BC43F... Date: 02/04/2026

Print Name(s): Nogzi M Konan

Signature of applicant(s): _____ Date: _____

Print Name(s): _____

FOR OFFICE USE ONLY

___Application _____

___Ad _____

___Copies _____ (.15 ea single sided) (.20 ea double sided)

___Postage _____

Total Due _____

ORDINANCE 2026-04

AN ORDINANCE OF THE CITY OF WAUCHULA, FLORIDA AMENDING ARTICLE III, CHAPTER 22, AND SECTIONS 22-97, 22-99, AND 22-100 OF THE CODE OF ORDINANCES OF THE CITY OF WAUCHULA, FLORIDA ("CITY CODE"); AMENDING ARTICLE 3, UTILITIES, SECTION 3.04.01, OF THE UNIFIED LAND DEVELOPMENT CODE OF THE CITY OF WAUCHULA, FLORIDA ("ULDC"); PROVIDING FINDINGS; PROVIDING FOR SEVERABILITY; PROVIDING FOR CONFLICTS; PROVIDING FOR THE CORRECTION OF SCRIVENER'S ERRORS; PROVIDING FOR CODIFICATION AND INCORPORATION INTO THE CODE OF ORDINANCES; AND PROVIDING AN EFFECTIVE DATE.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COMMISSION OF THE CITY OF WAUCHULA, FLORIDA, AS FOLLOWS:

SECTION 1. COMMISSION FINDINGS. In adopting this Ordinance and modifying the City Code of Ordinances, the City Commission of Wauchula, Florida, hereby makes the following findings:

(1) The City of Wauchula (the "City") is a municipal corporation created under the laws of the State of Florida, and is authorized, pursuant to general and special law and its home rule powers contained in the Florida Statutes and the Florida Constitution, to own, operate, provide, and extend central water, wastewater, and reclaimed water services both within and without the City of Wauchula, Florida.

(2) The City has the exclusive authority over the management, operations, and control of the provision of water, wastewater (also known as "sewer"), and reclaimed water services in the service area both within and without the City limits.

(3) The City has the authority and duty to establish and modify water and wastewater rates for the City's water and wastewater systems.

(4) The City has determined that development at urban level densities should be served by a central potable water supply and central wastewater service.

(5) The City has also incurred bonded indebtedness to expand and maintain its central water system and central wastewater system.

(6) Demands for potable water and wastewater capacity led to the construction of new expanded central utilities plant and facilities and extensions of the City's utility system to areas where new customers may connect.

(7) Stringent state and federal water and wastewater treatment and operation standards have been promulgated, and with these increasing costs of constructing central water and wastewater facilities, the City's ability to provide central water and wastewater service within the City may be limited.

(8) The financing of central water and wastewater facilities is complex, requires extensive planning and engineering, and calls for advanced participation by the development community so that adequate public facilities can be provided to meet the impacts of that development.

(9) The use of water and sewer impact fees, also known as "connection fees," became widespread in Florida during the 1970's and 1980's when Florida was experiencing rapid growth. The cost of providing the facilities to serve the influx of new residents resulted in a dramatic increase in taxes and utility rates. Additionally, during this time, more stringent environmental regulations were also driving utility rates higher. Municipalities and other governmental entities imposed impact fees to recover the cost of the new facilities required to serve Florida's rapid growth.

(10) The Florida Supreme Court has mandated that, to be valid, using water and wastewater connection fees to raise capital for expansion is permissible where expansion is reasonably required, the use of the money collected is limited to meeting the costs of expansion, and such connection fees do not exceed a pro rata share of reasonably anticipated costs of expansion. *Contractors & Builders Ass'n of Pinellas County v. Utilities Comm'n of Dunedin*, 329 So. 2d 314 (Fla. 1976).

(11) In 1982, the City adopted its first set of water and sewer impact fees, providing that the rate of impact fees would be set by resolution.

(12) On May 8, 2006, the City adopted resolution No. 06-16, modified the water and sewer impact fees levied by the City.

(13) The City adopted the changes and modifications proposed in Ordinance 2014-06 on June 9, 2014 and suspended and waived the collection of water and wastewater impact fees until May 1, 2015.

(14) These impact fees, and the modification and suspension of same, were adopted prior to the implementation of section 163.31801, Fla. Stat., which codified certain requirements to establish valid impact fees in Florida.

(15) On June 28, 2019, the Florida Legislature exempted water and wastewater (sewer) connection fees from the requirements of section 163.31801, Fla. Stat., by virtue of the adoption of section 5, Chapter 2019-165, Laws of Florida.

(16) The City has not collected any impact fees for water and wastewater since the adoption of the original moratorium under Ordinance 2014-06. But the moratorium expired on January 31, 2026.

(17) The City previously commissioned studies to determine the appropriate level of rates, fees, charges, and related policies and rules for its water and wastewater systems in accordance with the standards set forth in section 180.13(2), Fla. Stat., pertaining to municipal public works, and section 184.09(1)(b), Fla. Stat., governing municipal water and sewer financing, requiring cities to fix rates that are just and reasonable for utility services. *See Cooksey v. Utilities Comm'n*, 261 So. 2d 129 (Fla. 1972).

(18) In adopting water and wastewater capital connection fees, the City is availing itself of the exemption from the procedural requirements of section 163.31801, Fla. Stat., as provided in section 163.31801(12), Fla. Stat.

(19) The City hereby finds, declares, ratifies, and confirms the validity of all past water and wastewater (sewer) impact, connection, and capacity fees and that all such funds collected have been appropriately earmarked and limited solely for meeting the costs of expansion.

(20) The City has received a report from GovRates that constitutes a capital connection fee study (the "Study"), and that recommends increases to the

City's capital charge structure that is consistent with state law and is in line with other neighboring communities.

(21) The City Commission previously considered and approved the Study, and it has been determined that (1) water and wastewater connection fees are necessary to offset the costs associated with meeting future demands for the City's water and wastewater facilities pursuant to the projections set forth in the Study; (2) that these fees bear a reasonable relationship to the burden imposed upon the City to provide water and wastewater facilities to new utility customers served by the City; (3) that the fee revenues will provide a direct benefit to such new City customers reasonably related to the fees assessed; (4) that an essential nexus exists between the projected new development and the need for additional water and wastewater facilities to be funded with these fees and the benefits that accrue to new development paying the fees; and (5) that the amount of the water and wastewater impact fees are roughly proportional to the pro rata share of the additional water and wastewater facilities needed to serve new development.

(22) For these and other reasons, and based on the data and analysis contained in the Study, it is necessary for the City to adopt the changes and modifications proposed within this Ordinance.

(23) The City has full and exclusive authority over the management, operation, and control of all of the City's utilities and the authority to prescribe rules and regulations governing the use of such facilities whenever such are provided by the City, and to make such changes from time to time in such rules and regulations as it deems necessary.

(24) The City Commission's decisions, as set forth herein, are reasonable and prudent steps pertaining to sound growth management which have been taken for the benefit of the citizens of the City, both present and future.

(25) The City is projected to increase in population and further economically develop in the future.

(26) This Ordinance contains an administrative framework to ensure that the benefit of water and wastewater facilities funded with water and sewer capital connection fees will accrue proportionately to new development paying the fees.

(27) Requiring future growth to contribute its fair share of the costs necessary to fund required capital improvements and additions is an integral and vital part of the regulatory plan of growth management in the City and is a practice consistent with sound and generally accepted growth management, fiscal and public administration practices, and principles.

(28) To generate funds for future alternative water needs, administration, operation, and long-range projects, it is necessary to increase water user rates to begin funding mandated alternative water supplies.

(29) The City has notified each customer of the utility system through the regular utility billing process of this Ordinance in accordance with Section 180.136, Florida Statutes.

(30) The City Commission finds that the regulations, charges, rates and fees adopted by this Ordinance are in the best interest of, and are necessary to ensure, the health, safety and welfare of the citizens of the City of Wauchula, and users of the City utility system.

(31) The City has scheduled, advertised, and held the appropriate hearings required by Chapters 166 and 180, Florida Statutes, and has received and considered all City staff, City consultant, and public written and oral comments and other competent, substantial evidence.

(32) These fees have been established by the City and the City desires to ratify and incorporate these fees into the Code of Ordinances for better transparency

SECTION 2. AMENDMENT OF ARTICLE III OF CHAPTER 22, CITY CODE. Article III Chapter 22 of the Code of Ordinances, City of Wauchula, Florida, in title "Water and Sewer Impact Fees", is hereby amended to read as follows:

ARTICLE III- WATER AND SEWER ~~IMPACT~~ CAPITAL CONNECTION FEES

SECTION 3. AMENDMENT OF SEC. 22-97, CITY CODE. Section 22-97 of the Code of Ordinances, City of Wauchula, Florida, is hereby amended to read as follows:

"Sec. 22-97. Water and Sewer ~~Impact~~ Capital Connection Fees Imposed; Calculation.

(1)(a) Each new user of the City's waterworks system shall pay a one-time water ~~impact~~ capital connection fee as provided herein. The revenue generated hereunder shall be deposited in the water system ~~impact~~ capital connection fees account specified in section 22-100 and shall be used only for the expansion of the waterworks system.

(b) The amount of the water capital connection ~~impact~~ fee is set forth below:

For all customers, the capital connection fee due shall be the greater of i) the amounts derived from the estimated flow approach described below; or ii) the amounts shown in the below meter equivalent approach schedule. The City Manager or their designee has the authority to determine the applicable capital connection fee based on the adopted fees, the intent of the fees, and the customer's specific configurations or circumstances.

i. Estimated Flow Approach:
Each Customer's estimated average daily flow requirements in gallons for water service shall be multiplied by $3.72 per gallon of capacity.

ii. Meter Equivalent Approach:

Meter Size	**Meter Capacity Equivalent Factor***	**Water Capital Connection Fee**
¾"	1.00	$1,140
1"	1.67	$1,905
1.5"	3.33	$3,800
2"	5.33	$6,080
3"	10.67	$12,165
4"	16.67	$19,005
6"	33.33	$38,000
8"	53.33	$60,800
10"	76.67	$87,405
12"	143.33	$163,400

*Reflects meter equivalent factors implied by the size of the meter serving the premises based on information published by the American Water Works Association (AWWA) regarding meter capacities

~~Table 7~~
~~Water Impact Fees~~

~~Connection Size~~	~~Annual Consumption Gallons~~	~~Plant Cost per Gallon~~	~~Annual Consumption per Customer~~	~~Proposed Impact Fees~~
~~¾" meter~~	~~131,684,078~~	~~$0.01168~~	~~58,190~~	~~$680~~
~~1" meter~~	~~6,439,445~~	~~$0.01168~~	~~107,324~~	~~$1,250~~
~~1 ½" meter~~	~~5,668,170~~	~~$0.01168~~	~~188,939~~	~~$2,200~~
~~2" meter~~	~~22,685,060~~	~~$0.01168~~	~~482,660~~	~~$5,640~~
~~3" & 4" meter~~	~~10,415,900~~	~~$0.01168~~	~~946,900~~	~~$11,059~~

Capital Connection ~~Impact~~ fees shall be reviewed from time to time as required by the City Commission and any subsequent revisions thereto shall be by ordinance.

(c) Where an applicant furnishes detailed water consumption records for an establishment not in conformance with any of the above, these records may be used in determining the value of the water capital connection ~~impact~~ fee at the sole option of the City. The City may also on its own initiative recalculate usage and projected usage to insure that the applicant or existing customer has paid for those ERCs it is using.

(d) If deemed necessary by the City, the estimated water demands and corresponding capital connection ~~impact~~ fees shall be redetermined based on actual usage when the development is at or very near full/maximum occupancy/use. If the redetermined use is larger than originally computed, the additional capital connection ~~impact~~ fee will be collected from the user/developer. The City shall have the right to redetermine the capital connection ~~impact~~ fees and require the customer to pay any additional charges.

(e) Where a commercial usage changes so as to increase the water demand (for example: from a shoe store to a coin laundry) the additional water demand and capital connection ~~impact~~ fee shall be computed by the City and paid by the user prior to the issuance of a building permit.

(f) Matters of interpretation and definition shall rest with the City.

(2)(a) Each new user of the City's wastewater system shall pay a one-time wastewater capital connection ~~impact~~ fee as provided herein. The revenue generated hereunder shall be deposited in the wastewater system capital connection ~~impact~~ fees account specified in section 22-100 and shall be used only for the expansion of the wastewater system.

b) The amount of the wastewater capital connection ~~impact~~ fee is set forth below:

For all customers, the connection fee due shall be the greater of i) the amounts derived from the estimated flow approach described below; or ii) the amounts shown in the below meter equivalent approach schedule. The City Manager or their designee has the authority to determine the applicable connection fee based on the adopted fees, the intent of the fees, and the customer's specific configurations or circumstances.

i. Estimated Flow Approach:
Each Customer's estimated average daily flow requirements in gallons for wastewater service shall be multiplied by $17.42 per gallon of capacity.

ii. Meter Equivalent Approach:

Meter Size	**Meter Capacity Equivalent Factor***	**Wastewater Capital Connection Fee**
¾”	1.00	$4,230
1”	1.67	$7,065
1.5”	3.33	$14,090
2”	5.33	$22,550
3”	10.67	$45,135
4”	16.67	$70,515
6”	33.33	$140,990
8”	53.33	$225,590
10”	76.67	$324,315
12”	143.33	$606,290

*Reflects meter equivalent factors implied by the size of the meter serving the premises based on information published by the American Water Works Association (AWWA) regarding meter capacities.

~~Table 8~~
~~Wastewater Impact Fees~~

~~Connection Size~~	**~~Annual Consumption Gallons~~**	**~~Plant Cost per Gallon~~**	**~~Annual Consumption per Customer~~**	**~~Proposed Impact Fees~~**
~~¾” meter~~	~~131,684,078~~	~~$0.03936~~	~~58,190~~	~~$2,290~~
~~1” meter~~	~~6,439,445~~	~~$0.03936~~	~~107,324~~	~~$4,200~~
~~1 ½” meter~~	~~5,668,170~~	~~$0.03936~~	~~188,939~~	~~$7,400~~
~~2” meter~~	~~22,685,060~~	~~$0.03936~~	~~482,660~~	~~$19,000~~
~~3” & 4” meter~~	~~10,415,900~~	~~$0.03936~~	~~946,900~~	~~$37,300~~

(c) Where an applicant furnishes detailed water consumption records for an establishment not in conformance with any of the above, these records may be used in determining the value of the wastewater capital connection fee at the sole option of the City. The City may also on its own initiative recalculate usage and projected usage to insure that the applicant or existing customer has paid for those ERCs it is using.

(d) If deemed necessary by the City, the estimated wastewater demands and corresponding capital connection ~~impact~~ fees shall be redetermined based on actual usage when the development is at or very near full/maximum occupancy/use. If the redetermined use is larger than originally computed, the additional capital connection ~~impact~~ fee will be collected from the user/developer. The City shall have the right to redetermine the capital connection ~~impact~~ fees and require the customer to pay any additional charges.

(e) Where a commercial usage changes so as to increase the wastewater demand (for example: from a shoe store to a coin laundry) the additional wastewater demand and capital connection ~~impact~~ fee shall be computed by the City and paid by the user prior to the issuance of a building permit.

(f) Matters of interpretation and definition shall rest with the City.

(3) It is the intent of this section to provide for the assessment and collection of capital connection fees on all new development occurring within the City of Wauchula so as to ensure that such new development pays its fair and proportionate share of the capital costs for water and sewer infrastructure and improvements required to accommodate such new development.

(4) Funds collected from the water capital connection fees shall be used for the purpose of providing capital land, facilities and equipment for the water utility within the City's Public Works Department. Such capital improvements are intended to accommodate the demand for new infrastructure and equipment generated by new growth and new development so that the level of service set forth in the Capital Improvements Element of the City of Wauchula's Comprehensive Plan can be maintained. No funds shall be used for salaries, periodic or routine maintenance or general operating expenditures.

(5) Funds collected from the wastewater capital connection fees shall be used for the purpose of providing capital land, facilities and equipment for the wastewater utility within the City's Public Works Department. Such capital improvements are intended to accommodate the demand for new infrastructure and equipment generated by new growth and new development so that the level of service set forth in the Capital Improvements Element of the City of Wauchula's Comprehensive Plan can be maintained. No funds shall be used for salaries, periodic or routine maintenance or general operating expenditures.

(6) The City shall submit with its annual financial report required under Section 218.32, Florida Statutes, or its financial audit report required under Section 218.39, Florida Statutes, a separate affidavit signed by its chief financial officer attesting, to the best of his or her knowledge, that all water and wastewater capital connection fees were collected and expended by the City in full compliance with the spending period provision in this Ordinance, and that funds expended from each connection fee account were used only to acquire, construct, or improve specific infrastructure needs.

(7) The revenue realized for water and wastewater capital connection fees imposed pursuant to this Chapter shall be identified in the City's budget as separate accounts as required by state law. The City shall maintain adequate records to justify all expenditures from any capital connection fund and any accounts established within such fund and shall provide for reporting of Capital Connection Fee rates, collections, expenditures, and Affordable Housing exemptions in accordance with state law.

SECTION 4. AMENDMENT OF SEC. 22-99, CITY CODE. Sec. 22-99. Payment prerequisite to service.

Each ~~impact~~ capital connection fee imposed by the City shall be paid to the City before regular service is provided.

SECTION 5. AMENDMENT OF SEC. 22-100, CITY CODE. Sec. 22-100. Deposit and use of proceeds.

(a) All funds derived from the water system ~~impact~~ capital connection fee shall be deposited in an account titled "Water System ~~Impact~~ Capital Connection Fees" and shall be used only for ~~emergency repairs,~~ expansion, modification, or new construction of the City's water treatment plant, pumping, storing, treating, or distribution facilities.

(b) All funds derived from the sewer system ~~impact~~ capital connection fee shall be deposited in an account titled "Sewer System ~~Impact~~ Capital Connection Fees," and shall be used only for ~~emergency repairs,~~ expansion, modification, or new construction of the City's sewer treatment plant, lift stations, or collection system.

(c) Such funds derived from ~~impact~~ capital connection fees shall be deposited or invested so as to maximize interest earnings and may be pledged for borrowing purposes.

SECTION 6. AMENDMENT OF ARTICLE 3.04.01(A)(4) UTILITIES, ULDC.

(4) The developer shall pay whatever potable water and wastewater ~~impact~~ capital connection fees in force at the time of final approval of the developer's facilities together with all other financial obligations of the developer to the City before the City will accept said facilities and render service.

SECTION 7. SEVERABILITY. If any section, subsection, sentence, clause, phrase, or portion of this Policy is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct, and independent provision and such holding shall not affect the validity of the remaining portions thereof.

SECTION 8. CONFLICTING ORDINANCES AND RESOLUTIONS. All other ordinances and resolutions, or portions thereof which conflict with this or any part of this Ordinance are hereby repealed.

SECTION 9. EFFECTIVE DATE. This Ordinance shall become effective immediately upon its passage.

INTRODUCED and PASSED on first reading in regular session of the City Commission of the City of Wauchula, Florida, this _____ day of _____, 2026.

ATTEST: **CITY OF WAUCHULA, FLORIDA**

Stephanie Camacho, City Clerk

Richard Keith Nadaskay, Jr., Mayor

PASSED on second and final reading by the City Commission of the City of Wauchula, Florida, at regular session this_____day of _____ 2026.

This ordinance was moved for approval by Commissioner_____.

The motion was seconded by Commissioner _____, and upon being put to a vote, the vote was as follows:

Commissioner Sherri Albritton	_____ insert yes or no
Commissioner Anne Miller	_____ insert yes or no
Commissioner Richard Keith Nadaskay, Jr.	_____ insert yes or no
Commissioner Gary D. Smith	_____ insert yes or no
Commissioner Russell Graylin Smith	_____ insert yes or no

(SEAL)

ATTEST: **CITY OF WAUCHULA, FLORIDA**

Stephanie Camacho, City Clerk Richard Keith Nadaskay, Jr., Mayor

APPROVED AS TO FORM AND LEGALITY:

_____
Kristie Hatcher-Bolin, City Attorney

Capital Connection Fee Comparison

(Formerly Impact Fees)

Meter Size	Last Amounts Charged 2006		Currently Adopted 2014 Rates		Proposed 2026 Rates	
	Water	Wastewater	Water	Wastewater	Water	Wastewater
3/4"	1,000	5,250	680	2,290	1,140	4,230
1"	1,250	5,250	1,250	4,200	1,904	7,064
1.5"	1,500	5,250	2,200	7,400	3,796	14,086
2"	2,000	5,250	5,640	19,000	6,076	22,546
3"	2,500	5,250	11,059	37,300	12,164	45,134
4"		5,250	11,059	37,300	19,004	70,514

SECTION 3:

IMPACT FEE ANALYSIS

3-1: Background on Water and Wastewater Impact Fees

While the City's Code of Ordinances contains a section on water and wastewater impact fees ("Impact Fees"), the City has not charged these fees for several years in an effort to encourage growth and development within the utility service area. This section of the report provides updated impact fee calculations in the event that the City would like to once again charge these fees in the future.

The purpose of impact fees is to assign the proportionate share of growth-related capital costs to new customers benefiting from such additional costs. This practice has been referred to as "growth paying its own way" without existing user cost burdens.

The initial precedent for Impact Fees in Florida was set in the Florida Supreme Court decision *Contractors and Builders Association of Pinellas Authority v. The Authority of Dunedin, Florida*. In this case, the Court's ruling found that an equitable cost recovery mechanism, such as Impact Fees, could be levied for a specific purpose by a Florida municipality as a capital charge for services. On June 14, 2006, new Impact Fee legislation became effective as Chapter 2006-218, Laws of Florida, and was later incorporated in Section 163.31801 of the Florida Statutes. These new Impact Fee laws, which were labeled as the "Florida Impact Fee Act," recognize that Impact Fees are an important source of revenue for a local government to use in funding the infrastructure necessitated by growth. The Florida Impact Fee Act has subsequently been amended in May 2009 with Florida House Bill 227, in July 2019 with Florida House Bill 207, and in June 2021 with Florida House Bill 337. The act, which is not applicable to water and wastewater impact fees as will be discussed later in this section, states that an Impact Fee adopted by ordinance of a county or municipality, or by resolution of a special district, must meet the following minimum requirements:

- The Impact Fee must be calculated based on the most recent and localized data.
- The local government must provide for accounting and reporting of Impact Fee collections and expenditures in a separate accounting fund.
- The local government must limit administrative charges for the collection of Impact Fees to actual costs.
- The local government must provide notice no less than 90 days before the effective date of an ordinance or resolution imposing a new or amended Impact Fee. However, a county or municipality is not required to wait 90 days to decrease, suspend, or eliminate an Impact Fee.
- The local government may not require payment of the Impact Fee before the date of issuance of the building permit.
- The Impact Fee must be reasonably connected to, or have a rational nexus with, the need for additional capital facilities and the increased impact generated by the construction.

- The Impact Fee must be reasonably connected to, or have a rational nexus with, the expenditures of the revenues generated and the benefits accruing to the new construction.
- The local government must specifically earmark revenues generated by the impact fees to acquire, construct, or improve capital facilities to benefit new users.
- The local government may not use revenues generated by the Impact Fees to pay existing debt or for previously approved projects unless the expenditures are reasonably connected to, or have a rational nexus with, the increased impact generated by the new construction.

The Florida Impact Fee Act also states:

"In any action challenging an impact fee, the government has the burden of proving by a preponderance of the evidence that the imposition or amount of the fee meets the requirements of state legal precedent or this section. The court may not use a deferential standard."

Florida House Bill 337 added the following Impact Fee increase limitations:

- An increase in the Impact Fee of not more than 25% must be implemented in two equal annual increments.
- An increase in the Impact Fee greater than 25% but not more than 50% must be implemented in four equal installments.
- An Impact Fee increase may not exceed 50% of the current fee.
- An Impact Fee may not be increased more than once every 4 years.

HOWEVER, a local government can increase impact fees beyond the phase-in limitations if:

- A demonstrated needs study has been completed within the past 12 months that expressly demonstrates extraordinary circumstances necessitating the need to exceed the phase-In limitations.
- The local government holds two publicly noticed workshops dedicated to the extraordinary circumstances.
- The Impact Fee increases is approved by at least a two-thirds vote of the governing body.

The Florida Impact Fee Act also states that "This section does not apply to water and sewer connection fees." Based on legal opinions that we have received, many provisions of the Florida Impact Fee Act – including the increase limitations – are not applicable to water and wastewater impact fees. According to the legal opinions:

Impact Fees have been defined as "scheduled charges applied to new development to generate revenue for the construction or expansion of capital facilities located outside the boundaries of the new development (off-site) that benefit the contributing development." Ronald H. Rosenberg, The Changing Culture Of American Land Use Regulation: Paying For Growth With Impact Fees, 59 S.M.U. L.Rev. 177, 206 (Winter 2006) (citing James C. Nicholas, Arthur C. Nelson & Julian C. Juergensmeyer, A Practitioner's Guide to Development Impact Fees 1–2 (1991)).

"Impact fees, which include connection fees, are the method by which a new user of a municipally-owned water or sewer system pays his or her fair share of the costs that the new use of the system involves." *See Contractors & Builders Ass'n v. City of Dunedin, 329 So.2d 314 (Fla.1976).*

"A connection fee is generally considered to be a type of impact fee charged by utility companies for initiating new service." See, e.g., *Save Our Septic Sys. Comm., Inc. v. Sarasota Cnty., 957 So.2d 671 (Fla. 2d DCA 2007); City of Zephyrhills v. Wood, 831 So.2d 223, 224 (Fla. 2d DCA 2002).*

The Florida Impact Fee Act legislation was apparently written based upon a particular jurisdiction which referred to their water and sewer impact fees as "water and sewer connection fees" but the intent was to exempt water and sewer impact fees regardless of what they are called.

Based on Florida statutory and case law, certain conditions are required to develop a valid Impact Fee:

1. **The Impact Fee must meet the "dual rational nexus" test.** First, Impact Fees are valid when a reasonable impact or rationale exists between the anticipated need for capital facilities and the growth in population. Second, Impact Fees are valid when a reasonable association, or rational nexus, exists between the expenditure of the Impact Fee proceeds and the benefits accruing to the development from use of those proceeds.

2. **The system of Impact Fees and related charges should be set up so that there is not an intentional windfall to existing users.**

3. **The Impact Fees should only cover the capital cost of construction and related costs (engineering, legal, financing, administrative, etc.) for capital expansions or other capital requirements to serve growth.** Expenses for rehabilitation or replacement of a facility benefiting the existing customers (e.g., replacement of a capital asset) or an increase in the level of service should be borne by all users of the facility (i.e., existing and future users to the extent that capacity is available in such facilities to serve growth). Similarly, increased expenses due to operation and maintenance of that facility should be borne by the existing users of the utility and are not a cost component of the derivation of the Impact Fees.

4. **An Impact Fee resolution or ordinance should be maintained that explicitly restricts the use of Impact Fees collected and requires Impact Fee revenue to be set aside in a separate account.** Separate accounting must be made for those funds to ensure that they are used only for the lawful purposes described above.

The courts, recent legislation, and industry practices have addressed three areas associated with the development of Impact Fees. These areas include i) the "fair share" concept relating to payment of the fee by the affected property owners; ii) the "rational nexus" concept, which focuses on the expenditure or purpose of the fee; and iii) the consideration of credits that recognize appropriate fee offsets (e.g., grant-funded infrastructure).

The fair share concept addresses the fact that the fee can only be used for capital expenditures attributable to growth. The fee cannot be used to finance level of service deficiencies or the replacement of existing facilities required to provide services to the existing system users. Typical industry practices also allow for establishing different fees for different classes of customers and the ability for the payment of a reduced impact fee if applicants can demonstrate that their development will have smaller impact (or capacity need resulting in a lower allocated capital requirement) than assumed in the fee determination. Additionally, the fair share concept recognizes that the cost of facilities used by both existing customers and new growth must be apportioned between the two user groups such that the user groups are treated equally, and that one group does not intentionally subsidize the other.

The rational nexus concept requires that there be a reasonable relationship between the need for capital facilities and the benefits to be received by new development for which the fee will be expended or applied. The City's existing infrastructure and the corresponding financing and management of such infrastructure is on a system-wide basis. And as such, the Impact Fees were calculated on a System-wide basis. The second nexus condition recognizes that the property must receive a benefit from the public services for which the fee is being applied. The water and wastewater facilities are used by and are constructed on behalf of all the property within the City's service area and benefit both residential and commercial customers. As such, all new growth requesting capacity from the utility system is subject to the application of the Impact Fees.

Credit or fee offsets recognize that credits should be applied to an Impact Fee if an agency has received property in the form of cost-free capital or if there is a specific revenue (e.g., taxes) that will be used for the growth-driven capital expenditures for which the impact fee was designed. Examples of cost-free capital include grants, property contributions by developers, infrastructure funded from external sources (assessments), and other sources that provide funds toward the capital expenditures for which the impact fee was designed to recover. These credits allow for the recovery of costs to serve new development through impact fees net of such cost-free capital. The calculated water and wastewater Impact Fees recognize the above-referenced issues.

3-2: Existing Impact Fees

Before being waived by the City Commission, the City's water and wastewater Impact Fees were imposed on a per-equivalent residential unit ("ERU") basis in accordance with the customer's estimated daily flow. These Impact Fees are summarized in the following Exhibit 3-1:

Exhibit 3-1: Former Water and Wastewater Impact Fees

Description	Inside-City
Water Impact Fee Per Equivalent Residential Unit	$ 1,000
Wastewater Impact Fee Per Equivalent Residential Unit	4,300
Total	$ 5,300

3-3: Level of Service Requirements

In the evaluation of the capital facility needs for providing water and wastewater utility services, it is critical that a level of service ("LOS") standard be developed. Per Section 163.3164(28) of the Florida Statutes, the "level of service" means "an indicator of the extent or degrees of service provided by, or proposed to be provided by a facility, based on and related to the operational characteristics of the facility." A level of service indicates the capacity per unit of demand for each public facility or service. Essentially, the level of service standards are established to ensure that adequate facility capacity will be provided for future development and for purposes of issuing development orders or permits pursuant to Section 163.3202(2)(g) of the Florida Statutes.

For water and wastewater service, the level of service that is commonly used in the industry is the amount of capacity (service) allocable to an ERU expressed as the amount of usage (gallons) allocated on an average daily basis. This allocation of capacity would generally represent the amount of capacity allocable to an ERU, whether or not such capacity is actually used (commonly referred to as "readiness to serve"). As previously mentioned, an ERU– sometimes known as an equivalent residential connection (ERC) or equivalent dwelling unit (EDU) – is representative of the average capacity allocated to provide service to a typical individually-metered single-family residential account. This class of users is usually the largest number of customers served by a public utility such as the City's, and such customers generally have the lowest level of usage requirements for a specifically-metered account.

Based on a review of assumptions in the City's 2019 Community Redevelopment Plan, GovRates has calculated water and wastewater impact fees assuming LOS standards of 307 gpd and 245 gpd per ERU, respectively. These LOS standards are similar to those utilized by other Florida utilities.

3-4: Existing Utility Assets in Service

In the determination of the Impact Fee associated with serving future customers, any excess capacity of the existing utility system available to serve such growth should be considered. Since this capacity is available to serve the near-term incremental growth of the utility system, it would be appropriate to evaluate the capacity availability of such facilities. In order to evaluate the availability of the existing utility assets to meet future capacity needs, the existing utility assets were reviewed and assigned to functional categories. The functionalization of the existing utility assets is necessary to identify those assets which should be included in the determination of the impact fees.

The functional cost categories are based on the purpose of the assets and the service that such assets provide. The following Exhibit 3-2 contains a summary of the functional cost categories for the utility assets considered in the impact fee analysis:

Exhibit 3-2: Utility Asset Categories

Water Service	Wastewater Service	Other Assets
Supply	Treatment	General Assets (equipment, vehicles, etc.)
Treatment, Transmission, and Storage	Effluent / Reclaimed Water	
Distribution	Transmission and Major Pumping Stations	
Fire Hydrants	Collection (includes local lift stations, manholes, and laterals)	
Meters and Services		

Generally, the costs of onsite facilities which serve a specific development or customer such as water distribution and wastewater collection lines, meters and services, and fire hydrants are usually i) donated by a developer as part of the City's utility extension program (a contribution of the plant); ii) recovered from the individual properties through an assessment program based on those properties which receive special benefit from such facilities or from the application of a main line extension fee to recover the specific cost of such facilities; or iii) funded from the customer directly (e.g., by a "front-foot" charge where the on-site lines were initially financed by the utility and then paid by the customer or an installation charge to recover the cost of a new service line and/or the meter).

The City provided GovRates with reported utility asset information that served as the basis of the functionalization of the existing utility assets. The original costs of the assets (gross book value) were adjusted based on historical changes in the ENR Construction Cost Index to derive the current value. Only assets not fully depreciated were recognized in the calculations. Table 3-1 at the end of this section provides a summary of the functionalization of the existing utility plant-in-service for the System. This information represents the most current information available relative to the assets-in-service that can serve the existing and near-term future customer base of each utility system.

3-5: Additional Capital Investment

The City's capital improvement program (CIP) through the Fiscal Year 2027, as prepared and estimated by the utility staff and its Consulting Engineers, outlines a number of capital improvements for the water and wastewater systems. These capital projects include i) expansions to accommodate new growth; ii) upgrades of existing assets to accommodate new and existing customers; and iii) replacements of existing assets or projects which generally benefit current users of the System.

Tables 3-2 and 3-3 at the end of this section show the capital costs included in the Impact Fee calculations. No amounts associated with departmental capital outlay were included. Departmental capital outlay is the ongoing replacement of vehicles, equipment, machinery, computers, furniture, and other assets that generally have relatively short average service lives (e.g., five years). These amounts are typically

considered or classified as general plant and are funded on a "pay-as-you-go" basis through the annual user rate revenues of the System.

Based on our understanding of the fair share apportionment rule identified by case law, only water production / wastewater treatment and major backbone transmission costs were recognized in the water and wastewater Impact Fee calculations. General transmission and distribution / collection project costs were not recognized because they i) generally are not system-wide costs (i.e., distribution / collection project costs tend to benefit specific customers); ii) in many instances, are funded by a specific charge applied to a customer (e.g., line extension charges, etc.); and iii) are usually contributed to the City as part of the development process (e.g., it would not be equitable for a developer who has contributed the distribution / collection assets to pay an Impact Fee which includes recovery of distribution/collection projects).

3-6: Water and Wastewater System Impact Fee Calculations

The calculated Impact Fees are shown in the following Exhibit 3-3:

Exhibit 3-3: Former and Calculated Water and Wastewater Impact Fees Per ERU

Description	Former	Calculated	Difference	Level of Service (gpd) [1]	Calculated Cost per Gallon [2]
Water	$1,000	$1,140	$140	307	$3.72
Wastewater	4,300	4,230	(70)	245	17.24
Combined	$5,300	$5,370	$70		

ERU = Equivalent Residential Unit
gpd = gallons per day
[1] Based on assumptions in City's Community Redevelopment Plan.
[2] Proposed fee divided by level of service assumption.

As shown in the preceding table, the calculated water impact fee is higher than the former water impact fee, while the calculated wastewater impact fee is slightly lower than the former wastewater impact fee. The City now has a higher cost per unit of capacity than what was previously calculated due to inflation, new treatment technology, increased government regulations, and changing capital needs. However, the calculations recognize historical and projected grants and legislative appropriations that are offsets in the Impact Fee calculations (cannot include infrastructure costs for which the City did not pay). The costs per gallon of capacity shown in the preceding Exhibit 3-3 are comparable to those of many other Florida utilities.

An overview of the impact fee calculations is shown in Table 3-4 at the end of this section.

3-7: Impact Fee Comparisons

In order to provide additional information to the City regarding the existing and calculated Impact Fees, a comparison of the existing and calculated fees for the City with those of other Florida jurisdictions was prepared. This comparison, summarized on Table 3-5 and Figure 3-1 at the end of this section, provides a comparison of the City's former and calculated Impact Fees charged to single-family residential connections (i.e., one ERU) with the fees or comparable charges currently imposed by other "neighboring" municipal/governmental water and wastewater systems. Figure 3-1 shows a graphical representation of the comparison. It is important to note that the methods used in the development of the water and wastewater Impact Fees imposed may vary. Moreover, no analysis has been performed to determine whether 100% of the proportionate cost of new facilities is recovered from system Impact Fees, or some percentage less than 100% with the balance recovered through the user charges. Additionally, the types of capital facilities currently in service or planned for the utility may have a material effect on the impact fee charged by a local government. For example, wastewater effluent disposal utilizing a deep injection well system generally has a higher capital cost per unit of capacity than use of a surface water discharge such as an outfall to a bay or river. The capital costs associated with constructing reverse osmosis water treatment facilities, which treat brackish water, are higher than those of lime softening facilities, which treat freshwater.

Some reasons why Impact Fees differ among utilities:

- Source and quality of raw water supply.
- Proximity to source of supply.
- Type and complexity of treatment process.
- Effluent disposal method.
- Density of service area.
- Availability of grant funding to finance capital assets / CIP.
- Age of system.
- Utility life cycle (e.g., growth-oriented vs. mature).
- Level of service standards.
- Administrative policies.

As shown on Table 3-3, the average water and wastewater system Impact Fees per ERU for the 13 surveyed neighboring utilities are $1,559 and $2,457 (combined = $4,016), respectively, for a single-family residences equaling one ERU. Of the surveyed utilities, Polk County has the highest combined water and wastewater fees at $7,039. The City of Palmetto with combined fees of $1,702 has the lowest in the group. The calculated water system Impact Fee of $1,140 and the calculated wastewater system Impact Fee of $4,230 (combined = $5,370) for the City are comparable with the fees charged by the surveyed utilities. The City of Lake Wales, DeSoto County, and Polk County are the utilities represented in the comparison that currently charge higher combined water and wastewater Impact Fees than those calculated for the City.

Request for Qualifications
For Professional Architectural Services
City Hall, Phase V – Life Safety Renovation
WCRA RFQ 26-01

Jessica Newman, Director
Wauchula Community Redevelopment Agency
863-767-0330
jnewman@cityofwauchula.com
P.O. Box 1162 or 107 E. Main Street, Wauchula, FL 33873

WAUCHULA COMMUNITY REDEVELOPMENT AGENCY

REQUEST FOR QUALIFICATIONS
For Professional Architectural Services
PHASE V – LIFE SAFETY RENOVATION - HISTORIC CITY HALL

The Wauchula Community Redevelopment Agency (the "WCRA") will accept sealed qualifications from architects or architectural firms **on or before 2:00 PM EST on Wednesday, April 1, 2026** to provide architectural services for the City of Wauchula's Historic City Hall, Phase V – Life Safety Renovation.

Sealed Statements of Qualifications must be marked "WCRA RFQ 26-01, Architectural Services Phase V – Life Safety Renovation – Historic City Hall" and received by the WCRA, by mail or hand-delivery, at 107 E. Main Street, Wauchula, Florida 33873 no later than 2:00 PM local time on Monday, April 1, 2026 ("Closing Time"), at which time the Statements of Qualifications will be opened and considered by the Evaluation Committee. A pre-opening meeting will not be held for this Request for Qualifications ("RFQ"). Statements of Qualifications received after the Closing Time will not be accepted.
Attached are important instructions and specifications regarding responses to this Request for Proposals. Failure to follow these instructions could result in disqualification.

QUESTIONS: Questions regarding this RFQ **must** be in writing and delivered to Jessica Newman, CRA Director, City of Wauchula, 107 East Main Street, Wauchula, FL 33873, or by email: jnewman@cityofwauchula.com. All questions must be received by 5:00 PM, Tuesday, March 24, 2026. Responses to questions will be issued in the form of an Addendum and posted to https://www.cityofwauchula.gov/wauchula-community-redevelopment-agency/pages/cra-rfps-rfqs.

Prospective proposers shall not contact, communicate with or discuss any matter relating in any way to the Request for Proposals with the WCRA Board or any employee of the City of Wauchula, other than the WCRA Director in writing as specified above. Unauthorized communications initiated by a proposer shall be grounds for disqualifying the offending proposer from consideration for award of the proposal and/or any future proposal.

Proposals may be mailed, express mailed, or hand delivered to:

Wauchula Community Redevelopment Agency
Jessica Newman, CRA Director
107 E. Main Street
Wauchula, Florida 33873

Request for Proposals
For Professional Architectural Services
Rehabilitation of Wauchula Historic City Hall

A. Introduction

The Wauchula CRA, a dependent special district of the City of Wauchula, a political subdivision of the State of Florida seeks a qualified architect or architectural firm to work in conjunction with a Construction Manager (CM) for the planning and design of Life Safety Renovations of the City of Wauchula Historic City Hall. The contract shall be awarded pursuant to the Consultants' Competitive Negotiations Act (CCNA), Florida Statutes Section 287.055, et seq. Project renovations, which are funded by a State of Florida Department of Commerce grant, include:

- Design/engineering and construction management services as related to the rigging system, HVAC upgrades, seating redesign, and sprinkler system.
- Replace original counterweight rigging system with current code compliant system
- Replace main and leg curtains with fire rated material
- Repair the damaged stucco and trim and repainting with modern, code-compliant materials
- Install sprinkler system in auditorium
- Upgrading to a modern HVAC system to ensure consistent heating and cooling, improved humidity control, and code-compliant ventilation, integrating advanced filtration to reduce airborne contaminants, contributing to healthier indoor conditions for all building occupants.
- Reconfigure seating to meet current life-safety requirements
- Front steps handrail
- ADA compliant front door
- Electrical upgrades
- ADA chair lift
- Roof repairs
- Stage and dressing room fire alarm system

B. Architectural Scope of Services

1. Provide preliminary schematic design, floor plans, and elevations necessary for successful bidding of CM services.
2. Work with CM to provide architectural documents suitable for bidding and permitting of Project elements requiring said documents.
3. Work with CM for Project Closeout

The selection process is in accordance with Section 287.055, Florida Statutes, the Consultants' Competitive Negotiation Act. The WCRA reserves the right to determine, at its sole discretion, whether the proposal satisfactorily meets the criteria established in this RFQ, and the right to seek clarification from any proposer(s). During the review process, and until the final selection has been made by the CRA Board, proposers are prohibited from meeting with or discussing a submittal with any member of the selection committee or the WCRA Board.

All interested parties must submit the requested information within the time frame provided herein. Proposals shall be prepared with the utmost attention to fair, ethical evaluation standards.

It is the intent of the WCRA to select and negotiate a contract for services with one (1) Vendor based upon the pricing for products and services, references of similar projects, location of vendor (and subs), time to complete the project.

The selected architect or architectural firm will be expected to enter into one or more contracts with the CRA for the purchase of services outlined in this RFQ. The CRA reserves the right to negotiate for a change in terms of the contract during the term of the contract and to make adjustments relative to the implementation of a change that reduces or modifies the services needed. If the parties are unable to agree on a revised contract, the CRA may seek new proposals and, upon a minimum of ten (10) calendar days written notice from the CRA, may terminate the unexpired portion of the contract. The CRA shall not be liable under this section for any cost beyond the contract price during the period in which the service was actually provided.

In the event that the CRA elects to expand or decrease the scope and nature of this project, it may do so at any time. The CRA reserves the right to pursue said expansion or decrease with the vendor deemed most qualified under this RFP or they may elect to issue a new RFQ altogether.

If the Selected architect or architectural firm fails to execute an agreement with the CRA within a reasonable amount of time from the award of this RFQ, the CRA may elect to cancel the award and award the contract to the next highest ranked vendor.

C. Background

Built in 1926, the Historic City Hall auditorium was the first significant fine arts venue in Hardee County, with a 20 musician orchestra pit and original seating capacity of 859. It was the site of every high school graduation from the 1930's until the 1980's, as well as home to community theater and recitals, traveling performances, political appearances, civic fundraisers, and much more. The facility truly was the hub of cultural activity in its prime. The auditorium has hosted nationally famous performers, including Roy Acuff and Mel Tillis. The architect, M. Leo Elliot of Tampa, has numerous buildings listed on the National Register. The architecture of the building is a classic example of the Mediterranean Revival style of the 1920's.

The facility was built as part of the city hall which housed city offices, commission chambers, and the city's fire department. The building is located within a National Register of Historic Places Historic District and is noted as being historically significant to the district.

D. Information Required for RFQ Submittal

Submittals shall not contain information in excess of that requested, must be concise, and must specifically address the requirements issues of this RFQ. Pages may can be either single or double sided. It is requested that the Responses shall be in the same order as listed below and shall include the following:

1. Name of firm and complete contact information and firm overview
2. Resumes of personnel who will be working on this project.
3. Copy of architect license/certification(s)
4. Proof of Insurance
5. A general statement of qualifications and three (3) examples of similar projects involving historic rehabilitation that have been completed by the firm or personnel who will be working on the project.
6. Fee Schedule
7. Response Form included in the RFQ.
8. Submission Deadline: April 1, 20226 @ 2:00 PM

E. Criteria for Evaluation

Criteria for Evaluation	Maximum Possible Points	SCORE
Firm Experience	25	
Personnel Experience	25	
Similar Projects	25	
Fee Schedule	25	
TOTAL	**100**	

Response

Interested parties or firms shall submit one (1) original proposal marked "ORIGINAL" and one (2) copies of the proposal marked "COPY", in a sealed envelope to the WCRA Director. The envelope should be labeled ""WCRA RFQ 26-01, Architectural Services Phase V – Life Safety Renovation – Historic City Hall"." Proposals may be mailed or delivered to:

Wauchula Community Redevelopment Agency
Jessica Newman, CRA Director
107 E. Main Street
Wauchula, Florida 33873

Submittals shall be received by the CRA only at the above address prior to 2:00 P.M. EST., Wednesday, April 1, 2026.

Delivery of the submittal on or before the above date and prior to the specified time specified above is solely the responsibility of the proposer.

The submittal may be withdrawn either by written notice to the WCRA Director or in person, if properly identified, at any time prior to the above submittal deadline.

F. General conditions

CONTACT

After the issuance of any Request for Proposals (RFQ), prospective proposers shall not contact, communicate with or discuss any matter relating in any way to the RFQ with the WCRA Board or any employee of the City of Wauchula, other than the WCRA Director as directed in this RFQ. This prohibition begins with the issuance of any RFQ and ends upon execution of the final contract. Such unauthorized communications initiated by a proposer **shall** be grounds for disqualifying the offending proposer from consideration for award of the proposal and/or any future proposal.

INSURANCE AND INDEMNIFICATION

Insurance Requirements. Before any work commences, the selected firm, if any, shall, without in any way altering their liability, obtain, pay for, and maintain insurance for the coverages and amounts of coverage not less than those set forth below, and shall provide to the WCRA Director original Certificates of Insurance satisfactory to the WCRA to evidence such coverage. As the WCRA is a dependent special district of the City of Wauchula, the City of Wauchula shall be an additional

named insured on all policies related to the project; excluding workers' compensation and professional liability. The Workers' Compensation policy shall contain a waiver of subrogation in favor of the City of Wauchula. All insurance coverage shall be written with a company having an A.M. Best Rating of at least the "A" category and size category of VIII. The firm's self-insured retention or deductible per line of coverage shall not exceed $25,000 without the permission of the WCRA. The WCRA requires thirty (30) days written notice of cancellation and ten (10) days written notice of non-payment. In the event of any failure by the firm to comply with the provisions; the WCRA may, at its option and on notice to the firm, suspend the project for cause until there is full compliance. Alternatively, the WCRA may purchase such insurance at the firm's expense, provided that the WWCRA shall have no obligation to do so and if the WCRA shall do so, the firm shall not be relieved of or excused from the obligation to obtain and maintain such insurance amounts and coverage.

Worker's Compensation and Employer's Liability Insurance providing statutory benefits, including those that may be required by any applicable federal statute:

Admitted in Florida	Yes
Employer's Liability	$100,000
All States Endorsement	Statutory
Voluntary Compensation	Statutory

Commercial General Liability Insurance. $1,000,000 combined single limit of liability for bodily injuries, death, and property damage, and personal injury resulting from any one occurrence, including the following coverage:

Premises and Operations and Products/Completed Operations;
Broad Form Commercial General Liability Endorsement to include blanket contractual liability (specifically covering, but not limited to, the contractual obligations assumed by the Firm); Personal Injury (with employment and contractual exclusions deleted) and Broad Form Property Damage coverage;

Independent Contractors; Delete Exclusion relative to Collapse, Explosion and Underground Property Damage Hazards; Policy must include Separation of Insureds Clause.

Comprehensive Automobile Liability Insurance. $1,000,000 combined single limit of liability for bodily injuries, death, and property damage, and personal injury resulting from any one occurrence, including all owned, hired and non-owned vehicles.

Professional Liability Insurance. $2,000,000 for design errors and omissions, exclusive of defense costs. Selected firm shall be required to provide continuing Professional Liability Insurance to cover the project for a period of two (2) years after the projects are completed.

Indemnification. In addition to any other obligation to indemnify the WWCRA and the City, and to the fullest extent permitted by law, the Consultant shall indemnify, protect, defend (by counsel reasonably acceptable to the WWCRA and the City), and hold harmless the WWCRA, the City, their agents, elected officials, and employees from and against any and all claims, actions, causes of action, liabilities, penalties, forfeitures, damages, losses, expenses, costs (including, without limitation, attorney's fees and cost during negotiation, through litigation, and all appeals therefrom), including but not limited to claims, actions, causes of action, liabilities, penalties, forfeitures, damages, losses, and expenses arising out of any actual or alleged bodily injury, sickness, disease or death, or injury to or destruction of tangible property, including the loss of use resulting therefrom, or any other damage or loss arising out of or resulting from or claims to have resulted in whole or in part from (i) the failure of CONSULTANT to comply with applicable non-conflicting laws, rules or regulations; (ii) any actual or alleged act or omission of the consultant, or breach by CONSULTANT of its obligations under this Agreement; (iii) any claim for trademark, patent or copyright infringement arising out of the scope of CONSULTANT's performance of this Agreement; (iv) the negligent act, errors or omissions, or intentional or willful misconduct, of

CONSULTANT, its sub-consultants, agents, employees and invitees; or (v) liens, claims or actions made by the consultant or any subcontractor or other party performing the work; provided, however, that CONSULTANT shall not be obligated to defend or indemnify the WWCRA or the CITY with respect to any such claims or damages arising out of the WWCRA's or the CITY's negligence.

PUBLIC ENTITY CRIMES STATEMENT, SECTION 287.133(3)(a), FLORIDA STATUTES.

The proposer certifies, by submission of a signed proposal or execution of a contract of contract renewal, that neither it nor an affiliate have been placed on the convicted vendor list following conviction for a public entity crime. A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid or proposal on a contract to provide any goods or services to a public entity, may not submit a bid or proposal on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a vendor, supplier, subvendor, or vendor under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list.

Discrimination, Section 287.134, Florida Statutes.

The proposer certifies, by submission of a signed proposal or execution of a contract or contract renewal, that neither it nor an affiliate have been placed on the discriminatory vendor list. An entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid, proposal, or reply on a contract to provide any goods or services to a public entity; may not submit a bid, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals, or replies on leases of real property to a public entity; may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity; and may not transact business with any public entity

EQUAL OPPORTUNITY

The WCRA, as a dependent special district of the City of Wauchula, is an equal opportunity employer. The WCRA is committed to equal opportunity employment effort, and expects firms that do business with the WCRA to have a vigorous affirmative action program.

WOMEN/MINORITY BUSINESS ENTERPRISE OUTREACH

The WCRA hereby notifies all Proposers that W/MBE's are to be afforded a full opportunity to participate in any request for proposal by the WCRA and will not be subject to discrimination on the basis of race, color, sex or national origin.

Scrutinized Companies, Section 287.135, Florida Statutes.

The respondent certifies, by submission of a signed proposal and execution of a contract or contract renewal, that it is not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List and that it does not have business operations in Cuba or Syria, and that the respondent is not participating in a boycott of Israel. Respondent shall immediately notify WCRA if its certification set forth in this paragraph changes at any point during the proposal process or term of any contract. WCRA may terminate any contract if respondent is found to have submitted a false certification or has been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or been engaged in business operations in Cuba or Syria or is found to have been placed on the Scrutinized Companies that Boycott Israel List or is engaged in a boycott of Israel.

DEVELOPMENT COSTS

Neither the WCRA nor its representative(s) shall be liable for any expenses incurred in connection with preparation of a response to the RFQ. Proposers should prepare their proposals simply and economically, providing a straightforward and concise description of the proposer's ability to meet the requirements of the RFQ.

APPLICABLE LAWS AND COURTS

This RFQ and any resulting agreements shall be governed in all respects by the laws of the State of Florida and any litigation with respect thereto shall be brought only in the courts of Hardee County, Florida or the United States District Court, Middle District of Florida, located in Hillsborough County, Florida. The proposer shall comply with all applicable federal, state and local laws and regulations.

PROPRIETARY INFORMATION

In accordance with Chapter 119 of the Florida Statutes (Public Records Law), and except as may be provided by other applicable State and Federal Law, all proposers should be aware that Request for Proposals, and the responses thereto, and any communications with the City or the WCRA related thereto are in the public domain and constitute public records. Proposers are requested, however, to identify any specifically any information contained in their submittals that they consider to be trade secrets as defined in section 812.081, Florida Statutes, and which they believe to be exempt from disclosure, citing specifically the applicable exempting law and including narrative explaining the applicable legal exemption as it relates specifically to the purported trade secret information ("Confidential Information"). All materials that the Proposer contends qualify for exemption under Chapter 119, Florida Statutes, or other applicable law must be submitted in a separate envelope, clearly identified "EXEMPT FROM PUBLIC DISCLOSURE UNDER CH. 119, FLA. STAT." with Proposer's name marked on the outside. The City and WCRA will NOT accept submissions labeled as exempt from public disclosure in their entirety. Proposers acknowledge that the designation of information as exempt under Ch. 119, Florida Statutes, may be challenged in court by any person or entity. By designation of material as exempt from public disclosure, the Proposer agrees to indemnify and defend the City and the WCRA (and its employees, agents, and elected and appointed officials) against all claims and actions (whether or not a lawsuit is actually filed in a court of law) related to the Proposer's designation of materials as exempt from disclosure, and further agrees to hold the City and the WCRA (and its employees, agents, and elected and appointed officials) harmless from any award to a plaintiff for damages, costs, and attorney's fees incurred by reason of any claim or action related to Proposer's designation of material as exempt from disclosure.

All proposals received from proposers in response to this Request for Proposals will become the property of the WCRA and will not be returned to the proposers. In the event of contract award, all documentation produced as part of the contract will become the exclusive property of the WCRA.

E-Verify

Effective January 1, 2021, public and private employers, contractors, and subcontractors must require registration with, and use of the E-Verify system in order to verify the work authorization status of all newly hired employees, as more specifically set forth in the Continuing Services Agreement included with this RFQ.

LIMITATIONS

This request does not commit the WCRA to award a contract. Proposers will assume all costs incurred in the preparation of their response to this RFQ. The WCRA reserves the right to: 1) accept or reject qualifications and/or proposals in part or in whole; 2) request additional qualification information; 3) limit and determine the actual contract services to be

included in a contract; 4) obtain information for use in evaluating submittals from any source; and 5) reject all submittals. No contract or agreement is binding until is reviewed and accepted by the WCRA Board and executed by all parties. Contractor purchase orders are not binding on the WCRA.

The conditions and terms set forth herein are not exhaustive; additional terms and conditions will be required and shall be specified in the contract negotiated with the firm selected.

REQUEST FOR QUALIFICATIONS #26-01

Architectural Services Phase V – Life Safety Renovation – Historic City Hall

RFQ RESPONSE FORM

By signing below, I certify, on behalf of myself and for the firm that I represent, that:

(A) I have read and understand the specifications, conditions, and instructions contained in this Request for Qualifications and the following addenda:

ADDENDA #:	ADDENDA DATE:
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

(B) I am in a position to authorize and carry out said conditions, specifications, and instructions and to bind my firm; and (C) the statements set forth in the RFQ as to debarment and suspension, public entity crimes, discrimination, and scrutinized companies are true and correct. I understand that only qualified respondents will be ranked, and that contracts will be negotiated only with the highest-ranking respondent(s) as more specifically set forth in the RFQ. Furthermore, if a contract is not successfully negotiated in a timely manner, then negotiations will terminate. In the event a contract for continuing services is successfully negotiated and executed, it DOES NOT GUARANTEE AWARD OF A SPECIFIC PROJECT NOR EXCLUSIVITY TO PERFORM SERVICES FOR ANY SPECIFIC PROJECT. By signing below, I warrant for myself and my firm that the CRA reserves the right to cancel the recommended award of any contract at any time before the execution of said contract by all parties without any liability against the CRA. The respondent, by submitting its Statement of Qualifications, expressly waives any claim to damages, of any kind whatsoever, in the event the CRA exercises its rights provided for in this paragraph.

COMPANY NAME: _____

ADDRESS: _____

CONTACT PERSON: _____

TELEPHONE NUMBER: _____

EMAIL ADDRESS: _____

AUTHORIZED SIGNATURE: _____

Print Name: _____

Title: _____

Date of Submittal: _____

Contract Bidding Documents

Bay Street and 1st Avenue South Utility and Sidewalk Improvements

City of Wauchula
126 South 7th Avenue
Wauchula, Florida 33873

Mandatory Pre-Bid Meeting:

Date: XXXXXXXXXX
Time: 10:00 AM Local Time
Location: City of Wauchula CRA Office
107 East Main Street
Wauchula, FL 33873

Sealed Bids Due:

Date: XXXXXXXXXX
Time: 2:00 PM Local Time
Location: Wauchula CRA Office
107 East Main Street
Wauchula, FL 33873

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DIVISION 1:
INSTRUCTIONS TO BIDDERS

INVITATION FOR BID

The Wauchula Community Redevelopment Agency (CRA) is seeking qualified construction companies to complete the following:

1) Construction of a proposed Sidewalk along the west side of 1st Avenue South
2) Replacement of a 6" cast iron watermain along Bay Street mor or less between East 4th Avenue and East 1st Avenue with a proposed 6" PVC water main and reconnect existing mains and services with incidental sidewalk removal and replacement
3) Construction of a sanitary sewer main extension with proposed manhole.

Sealed Bids will be received by the CRA, located at 107 East Main Street, Wauchula, Florida 33873, until 2:00 PM local time on XXXX XX, XXXX. Bids received after said time will be returned unopened. The Bidder shall be solely responsible for delivery of their Bid. Reliance upon mail or public carriers is at the Bidder's risk.

The Contract(s) awarded under this Solicitation will be funded, in part, with funding received from the Florida Department of Environmental Protection. Neither the State nor any of its departments, agencies, or employees are or will be a party to this Solicitation or any resulting contract.

Plans and specifications are on file for inspection at the office of Kimley-Horn and Associates, Inc. located at 109 S. Kentucky Avenue, Lakeland, Florida 33801 and at the City of Wauchula CRA Office located at 107 East Main Street, Wauchula, Florida 33873.

The Bidder is solely responsible for obtaining the Bid Documents. Bidders may secure a complete electronic set from Wauchula CRA by submitting a notice of interest form. The notice of interest form can be downloaded on the City of Wauchula website at the following web address: http://www.cityofwauchula.com/Pages/WauchulaFL_Finance/WauchulaFL_Bids/

Sealed Bids shall reference the following on the outer envelope:

SEALED BID: BIDDER'S NAME AND ADDRESS
WAUCHULA CRA – BAY STREET AND 1ST AVENUE IMPROVEMENTS

All Bids shall be publicly opened, read aloud, and recorded at 2:00 PM local time on XXXX XX, XXXX. in the City of Wauchula CRA Office, 107 East Main Street, Wauchula, Florida 33873.

MANDATORY PRE-BID MEETING: A mandatory Pre-Bid meeting will be held at 10:00 AM local time on XXXX XX, XXXX. at the City of Wauchula CRA Office, 107 East Main Street, Wauchula, Florida 33873

QUESTIONS: All questions regarding this Invitation for Bid shall be submitted in writing and delivered no later than 5:00 PM local time on XXXX XX, XXXX to Jessica Newman, CRA Director, City of Wauchula, 107 East Main Street, Wauchula, FL 33873, or via email: jnewman@cityofwauchula.com. Questions will be answered in the form of an Addenda. The Owner will distribute Addenda directly to Bidders who attended the mandatory pre-bid meeting.

Notice of Interest Form. A copy of the form may be obtained by submitting a written request to Jessica Newman at the address above or by downloading the form from the City of Wauchula website at: http://www.cityofwauchula.com/Pages/WauchulaFL_Finance/WauchulaFL_Bids/

SECTION 1.1: GENERAL INSTRUCTIONS TO BIDDERS

1.1.1 Defined Terms in the Instructions to Bidders

A. The words and terms defined in DIVISION 3: TERMS AND CONDITIONS are hereby incorporated by reference into this part.

1.1.2 Minimum Qualifications for Eligibility to Bid

A. Receipt of this Solicitation and other Bid and Contract related documents from the Owner or its designated representatives does not constitute the Owner's approval of the Bidder's qualifications.

B. Bidders shall have the following minimum qualifications to be considered eligible to bid in response to this Solicitation. It is the responsibility of the Bidder to ensure and certify that it meets the minimum qualifications. Bidders not meeting all of the following criteria will not have their Bids considered for Award.

1. Bidder shall be a licensed contractor in the State of Florida, in accordance with Florida Statutes, Chapter 489.

2. Bidder shall have been in the business of performing projects of the same scope for at least the past five (5) years.

3. Bidder shall demonstrate that it has successfully completed at least three (3) projects of similar scope and scale to the Work described herein, for at least two (2) different Florida government agencies within the past five (5) years. Bidder shall submit names and contact information for each referenced project. Factors the Owner may consider to make a determination of the Bidder's eligibility under this criterion include but are not limited to:

   a. The Bidder's ability to perform work in a satisfactory manner as evidenced by the Bidder's past performance on other projects performed for the Owner, and

   b. The Bidder's past performance of satisfactory work as evidenced by project descriptions submitted for three stated projects as part of the Bid and the Owner's verification of associated references; and

   c. The Bidder's past performance as evidenced by any other information the Owner gathers or obtains during the Bid review process, including but not limited to information included on the Bidder's Qualifications questionnaire.

C. The Bidder certifies, under penalty of perjury, that it holds all licenses, permits, certifications, insurances, bonds and other credentials required by law, Contract or practice to perform the Work. The Bidder also certifies that, upon the prospect of any change in the status of applicable licenses, permits, certifications, insurances, bonds or other credentials, the Bidder shall immediately notify the Owner of the change.

1.1.3 Bid Security

A. Each Bid is to be accompanied by a Bid Security made payable to the Owner in an amount at least equal to five (5) percent of the Bidder's maximum Bid Price and in the form of a Certified Check or Bid Bond. Failure to furnish the required Bid Security will disqualify the Bid.

1.1.4 Minority and Women's Business Enterprise Goals

A. Bidders are encouraged to utilize Minority Business Enterprises and Women's Business Enterprises in the Work.

1.1.5 Notice of Liquidated Damages

A. In the event a Contract is awarded as a result of this Solicitation, the Contract will be subject to liquidated damages as set forth in DIVISION 3: TERMS AND CONDITIONS.

1.1.6 Florida Trench Safety Act

A. The Bidder shall complete and submit with its Bid the Florida Trench Safety Act Acknowledgment form, in accordance with Florida Statutes, Section 553 when the Work includes trench excavations that exceed five (5) feet in depth and as written assurance that the Bidder shall comply with all applicable trench safety standards, laws, rules and regulations during performance of any Work awarded from this Solicitation.

1.1.7 Subcontractors

A. The Bidder shall supply with their Bid a list of all Subcontractors and Suppliers that it intends to use for the Work. The Successful Bidder shall not be permitted to use Subcontractors and Suppliers other than those shown in the Bid unless good cause is shown and prior written consent is obtained from the Owner.

B. If the Bidder plans to use a single Subcontractor or Supplier to perform over 50% of the Work, the Bidder shall obtain the Owner's approval prior to the opening of Bids. Failure to obtain the Owner's approval will disqualify the Bid.

C. The Bidder may not use as a Subcontractor or Supplier, any Bidders that were rejected in the Bid process due to incomplete status or unqualified Bids.

1.1.8 Payment and Performance Bonds

A. As stated in DIVISION 3: TERMS AND CONDITIONS of the Contract Documents, the successful Bidder shall be required to furnish a Payment Bond and a Performance Bond in accordance with Florida Statutes, Section 255.05, prior to the start of any Field Work.

1.1.9 Estimated Quantities Provided For Bidding Reference

A. The Bidder understands and agrees that the Owner's estimated Contract amounts shall not obligate the Owner in any way to issue Purchase Orders under the Contract of this amount, or any amount of Work under the Contract. The Owner may, at its sole discretion, issue Purchase Orders under the Contract totaling more or less than the estimated amounts, or may award the Contract, and is under no obligation to issue any Purchase Orders under the Contract. In the event that quantities change after Award, the changes to price and/or scope shall be made in accordance with the terms and conditions stated in the Contract Documents.

B. Any item not shown on the Bid Form, but that is shown in the Drawings or Technical Specifications section, that is required to perform the Work, or that is required as part of a complete and operable system, shall be included in the Bid Price.

1.1.10 Existing Site Conditions & Technical Data

A. Where the Bidder visits sites, no Work or other disturbance is to be performed while at the site without written permission by the Owner in advance of the site visit. The Bidder shall comply with all safety requirements described in the Bid Documents and the Owner may require the Bidder to show proof of a minimum of $1 million of general liability insurance.

B. No reports of Hazardous Materials at the Site are known to the Owner or the Engineer, unless disclosed in the specifications.

C. In the preparation of Drawings and Technical Specifications, the Engineer relied upon the following drawings of physical conditions in or relating to existing surface and subsurface structures (except Underground Facilities) which are at or contiguous to the Site:

1. AutoCad File of Topographic and Boundary Survey, entitled “400-Farr-Topo-Delivered” provided by the City of Wauchula in an email dated January 20, 2026;

D. Copies of the reports (and drawings) itemized above are included with the Bid Documents that are available for download from the City of Wauchula website. These reports (and drawings) are not part of the Contract Documents, but comprise additional “technical data” upon which the Bidder may rely as identified and established.

E. The Bidder is solely responsible for obtaining and verifying all technical data necessary to submit its Bid.

1.1.11 Pre-Bid Clarifications & Addenda

A. All questions regarding the Bid Documents must be submitted as stated in the Solicitation by 5:00 PM local time on XXXX XX, XXXX. The Bidder shall promptly give the Owner written notice of any errors, conflicts or ambiguities it discovers in the Bid Documents.

B. If the Bidder objects in any manner to the Terms and Conditions or Technical Specifications, the objection must be addressed in writing by 5:00 PM local time on XXXX XX, XXXX. The Owner will address the objection in an Addendum if the Owner believes that a clarification or change is necessary.

C. The Owner may issue Addenda prior to the opening of Bids to change or clarify the intent of the Bid Documents. The Owner will issue written responses to questions and requests for clarifications received by the stated deadline in the form of Addenda, and will distribute Addenda directly to Bidders who have submitted a **Notice of Interest Form**. A copy of the form may be obtained by submitting a written request to Jessica Newman at the address provided in the Invitation for Bid or by downloading the form from the City of Wauchula website at: http://www.cityofwauchula.com/Pages/WauchulaFL_Finance/WauchulaFL_Bids/ Completed Notice of Interest Forms must be submitted no later than ten (10) business days prior to the Bid Opening Date.

D. The Bidder shall be responsible for ensuring it has received all Addenda prior to submitting its Bid and shall acknowledge receipt of all Addenda by completing the Bidder's Representation section on the Bid Form in DIVISION 5: FORMS. All Addenda will become part of the Bid Documents and any resulting Contract Documents. Failure to acknowledge receipt of Addenda may be grounds for rejection of a Bid at the Owner's sole discretion.

1.1.12 Completing the Bid Form

A. Bidders shall complete and submit the enclosed Bid Form with responses typewritten or written in ink. When a blank is marked "optional", the Bidder shall insert the words "No Bid" in the space provided if the Bidder does not choose to submit a price for that item.

B. Failure to complete each blank with either a price or the words "No Bid" may disqualify the Bid. Failure to submit a Bid that addresses all parts of the Work may disqualify the Bid.

C. The Bidder, or its authorized agent or officer of the firm, shall sign the Bid Form. Failure to sign the Bid Form may disqualify the Bid.

D. Owner-approved erasures, interlineations or other corrections shall be authenticated by affixing in the margin, immediately opposite the correction, the handwritten signature of each person executing the Bid. Failure to authenticate changes may disqualify the Bid.

E. The Owner will review the Bids to determine that they meet the specifications set for the Work in the Bid Documents. The Owner may disqualify any Bids that deviate from the requirements of this Solicitation, and those that include unapproved exceptions, amendments, or erasures.

F. Failure to complete and submit all additional forms and documentation required in the Bid Documents to accompany the Bid Form may disqualify the Bid.

1.1.13 Modification or Withdrawal of Bids

A. The Bidder may modify or withdraw its Bid at any time prior to the advertised Bid Opening by giving written notice to the City of Wauchula CRA, 107 East Main Street, Wauchula, Florida 33873. The Owner shall not accept any modifications to Bids after the advertised Bid Opening. The Bidder shall not withdraw its Bid for a period of 120 calendar days following the advertised Bid Opening.

1.1.14 Submitting the Bid Documents

A. The Bidder shall submit its Sealed Bid in response to this Solicitation no later than the Bid Due Date and Time stated in the Invitation for Bid, or as may be subsequently amended via Addenda. The Bid shall be sealed and the envelope clearly marked with the title stated in the Invitation for Bid and the Bidder's name and address. The Sealed Bid may be enclosed in another mail or courier service package.

B. The Bidder shall submit one (1) original Bid and two (2) duplicates of the original Bid.

C. All Bids must be received at the location and by the date and time stated in the Invitation for Bid, or as may be subsequently amended via Addenda. The Bids from all Bidders will be publicly read at the date and time advertised for the Bid Opening. Bids arriving after the advertised Bid Opening date and time and/or at an incorrect location will be returned to the Bidder unopened. Reliance upon third-party courier or delivery service is at the Bidder's risk.

D. All information marked by the Owner or the Bidder as "Confidential Information" that is included in the Solicitation or that is submitted by the Bidder as part of its Bid shall be handled in accordance with the terms and conditions stated in DIVISION 3: TERMS AND CONDITIONS.

1.1.15 Opening of Bids

A. The Owner will open Bids at the date, time and location stated in the Invitation for Bid, or as may be subsequently amended via Addenda. At the Bid Opening, the Owner will publicly open and read each Bid that was received prior to the advertised deadline for bid submissions, except those that have been properly withdrawn.

B. The Owner has the right to waive any irregularities or informalities in the Bids.

C. Copies of all Bids will be available for public inspection ten (10) business days after the Bid Opening date. Bidders may review opened Bids by contacting the designated Owner Representative to arrange a mutually convenient time for such review at the Owner's offices.

1.1.16 Calculation of Bid Price

A. The Owner will use the Bidder's base bid when making price comparisons for Award purposes.

B. The Owner will consider alternate Bids only if the Bidder submits a base Bid in accordance with the Bid Documents. The Owner will review alternates on the Bid Form, and will reject or accept at the Owner's sole discretion.

1.1.17 Award

A. The Owner will Award the Contract to the lowest, responsive and responsible Bidder whose Bid meets or exceeds specifications, in accordance with the Contract Documents. The Owner reserves the right to reject any/all Bids, in whole or in part, as deemed to be in the Owner's best interest.

1.1.18 Notice of Award

A. The Owner intends to Award one Contract for as many items as possible to achieve maximum benefit from this Contract. The Owner may Award more than one Contract, based on certain groupings of items, which the Owner may revise or reorganize, or the Owner may exclude line items if in its best interest. In the event the Owner makes an award as a result of this Solicitation, the Owner will issue a Notice of Award, in writing and signed by an authorized Owner's Representative as notice to the Bidder that the Owner has deemed it the successful Bidder.

B. The Notice of Award will be accompanied by relevant Contract Documents for execution. Unless expressly waived by the Owner, the Successful Bidder shall execute a Contract for the Work in a form acceptable to the Owner within the timeframe stated on the Notice of Award. If the Bidder fails to execute the Contract Agreement form or associated documents, or to obtain the necessary bonds, licenses or insurances as required, or if it fails to act on an Owner-issued Purchase Order ("PO"), the Owner may cancel the Award with no further liability to the Bidder, retain the Bid Security, and Award to the next lowest responsive and responsible Bidder.

C. Upon receipt of the completed documents, the Owner will execute the Contract Documents and issue the Contractor one fully executed original copy. No other Owner action shall constitute acceptance of the Bid.

1.1.19 Notice to Proceed

A. Upon receipt of the executed Contract, the required Payment Bond, Performance Bond, and compliant Certificate of Insurance, the Owner will issue a Notice to Proceed in writing and signed by an authorized Owner's Representative as authorization for the Contractor to proceed with the Work, unless otherwise stated in the Contract.

B. In the event that the Owner intends to authorize the Successful Bidder to proceed with Administrative Work only, or with only a portion of the Work, then the Owner shall state the specific limitations of such authorization in a written notice, and the Owner will issue a separate Notice to Proceed to authorize the Contractor to begin Field Work, when applicable, or to perform the remainder of the Work, or any portion thereof. The Contractor shall ensure that it is prepared to begin Field Work upon receipt of the Notice to Proceed. Any Work performed outside of this partial authorization shall be at the Contractor's risk and the Owner shall have no obligation to pay for such Work.

1.1.20 Certification and Representations of the Bidder

A. By signing and submitting a Bid, the Bidder certifies and represents as follows:

1. That it has carefully examined all available records and conditions, including sites if applicable, and the requirements and specifications of these Bid Documents, including but not limited to all sample Contract Documents, Technical Specifications, Drawings, Exhibits and Attachments thereto, prior to submitting its Bid.

2. That every aspect of its submitted Bid, including the Bid Price and the detailed schedule for the execution of the Work, are based on its own knowledge and judgment of the conditions and hazards involved, and not upon any representation of the Owner. The Owner assumes no responsibility for any understanding or representation made by any of the Bidder's representatives during or prior to execution of the Contract unless such understandings or representations are expressly stated in the Contract and the Contract expressly provides that the Owner assumes the responsibility.

3. That the individual signing the bid is a duly authorized agent or officer of the submitting firm. Bids submitted by a corporation must be executed in the corporate name by the President or a Vice President. If an individual other than the President or a Vice President signs the bid, satisfactory evidence of authority to sign must be submitted with the bid. If the bid is submitted by a partnership, the bid must be signed by a partner whose title must appear under the signature. If an individual other than a partner signs the bid, satisfactory evidence of authority to sign must be submitted with the bid. The corporation or partnership must be in active status at the Florida Division of Corporations at the time of submission of the Bid.

4. That the submitting firm maintains in active status any and all licenses, permits, certifications, insurance, bonds and other credentials including not limited to contractor's license and business registration tax necessary to perform the Work.

The Bidder also certifies that, upon the prospect of any change in the status of applicable licenses, permits, certifications, insurances, bonds or other credentials, the Bidder shall immediately notify the Owner of any change.

5. That it has read, understands, and will comply with the Article 1.1.22 of this section entitled "Ethics."

1.1.21 Conflict of Interest

A. Any Bidder bidding the construction phase of a project cannot at the time of Bid submittal, be affiliated with or have any direct or indirect ownership interest in the architect/engineer ("Designer') of record. The Bidder will also be prohibited from bidding if the Designer has any direct or indirect ownership interest in the Bidder. Should the Owner erroneously award a contract in violation of this policy, the Owner may terminate the contract at any time with no liability to Contractor, and Contractor shall be liable to the Owner for all damages, including but not limited to the costs to rebid the Project. The purpose of this policy is to encourage open, fair and competitive bidding and to eliminate any actual or perceived advantage that one bidder may have over another. In addition to this policy, Design Build projects are governed by the provisions of Florida Statutes, Section 287.055(9)(b).

1.1.22 Ethics

A. By signing the Bid Form, the Bidder certifies this Bid is made without any previous understanding, agreement or connection with any other person, firm, or corporation submitting a Bid for the same Work other than as a Subcontractor or supplier, and that this Bid is made without outside control, collusion, fraud, or other illegal or unethical actions. The Bidder shall comply with all Owner ordinances, policies and procedures regarding business ethics.

B. The Bidder shall submit only one Bid in response to this Solicitation. If the Owner has reasonable cause to believe the Bidder has submitted more than one Bid for the same Work, other than as a Subcontractor or Supplier, the Owner may disqualify the Bid and may pursue debarment actions.

C. The Bidder shall disclose the name(s) of any public officials who have any financial position, directly or indirectly, with this Bid by submitting such information with its Bid. Failure to do so will disqualify the Bid. If the Owner has reason to believe that collusion exists among the Bidders, the Owner will reject any and all Bids from the suspected Bidders and may proceed to debar the Bidder(s) from future Work.

D. In accordance with Florida Statutes, Section 287.133, the Owner will reject Bids from any persons or affiliates convicted of a public entity crime as listed on the Convicted Vendors list maintained by the Florida Department of Management Services. The Owner shall not make an Award to any officer, director, executive, partner, shareholder, employee, member, or agent active in management of the Bidder listed on the

Convicted Vendor list for any transaction exceeding $10,000 for a period of thirty-six (36) months from the date of being placed on the Convicted Vendor list.

E. If the Bidder violates any requirement of this Section, the Bid may be rejected and the Owner may debar the offending companies and persons from future Work with the Owner.

1.1.23 Ex Parte Communication

A. Ex Parte Communication is strictly prohibited. Failure to adhere to this policy will disqualify the noncompliant Bidder's Bid. The Owner's policy on Ex Parte Communication will not prohibit the following:

1. Meetings called or requested by the Owner and attended by the Bidders for the purpose of discussing this Solicitation, evaluation, or selection process including, but not limited to, substantive aspects of the Solicitation. Such meetings may include, but are not limited to, Pre-Bid meetings, site visits to the Owner's or the Bidders' facilities, interviews/negotiation sessions as part of the selection process, and other presentations by the Bidders, all of which are requested by the Owner and will be limited to topics specified by the Owner.

2. The addressing of the Owner at public meetings advertised and conducted pursuant to Florida Statutes, Section 286.011.

3. The filing of a written protest to any proposed Award to be made pursuant to this Solicitation, evaluation and selection process, which filing and prosecution shall give notice to all Bidders. Protest proceedings shall be limited to open public meetings advertised and conducted pursuant to Florida Statutes, Section 286.011 with no Ex Parte Communication outside those meetings.

4. Communications between the Owner representatives and the Bidder for routine matters arising from procurements other than this Solicitation.

5. Written communication between potential Bidders and the Engineer provided copies of written communications are provided to all Bidders.

1.1.24 Prohibition Against Contingent Fees

A. The Bidder warrants that it has not employed or retained any company or person, other than a bona fide employee working for the Bidder, to solicit or secure a contract with the Owner, and that it has not paid or agreed to pay any person, company, corporation, individual or firm, other than a bona fide employee

B. working solely for the Bidder, any fee, commission, percentage, gift, or any other consideration, contingent upon or resulting from the Award or making of the Contract. For the breach or violation of these provisions, the Owner shall have the right to disqualify the Bid and pursue debarment or terminate the Contract without liability and at its discretion, to deduct from the

Contract Price, or otherwise recover, the full amount of such fee, commission, percentage, gift, or consideration.

1.1.25 Protest of Bid and Award Process

A. Bidders shall file any protests regarding this Solicitation in writing, and shall submit such to the Owner's Procurement Representative noted on the Solicitation no later than three (3) business days following the event giving rise to the protest. Failure to submit a written protest within the timeframe herein will constitute a waiver of the right to pursue a protest.

B. The written protest shall include at minimum the following information:

1. Project or bid number of the solicitation protested;

2. Title of solicitation protested;

3. Specific identification of issue(s) protested; and

4. Requested action for correction.

C. The Owner's Procurement Representative will review the submitted information to ensure completeness and submit the issue to a committee comprised of the Owner's designated Project Manager for the Work, the City Manager and the Owner's Legal Counsel ("Protest Committee").

D. The Protest Committee will review the protest and may request a presentation by the Bidder of the protested issue. The Protest Committee will issue a written decision within fourteen (14) calendar days of receipt of the written protest.

1.1.26 Owner's Reservations

A. The Bid Documents provide potential Bidders with information to enable the submission of written offers. The receipt of Bid Documents is not a contractual offer or commitment by the Owner to purchase products or services.

B. Bids and Bid Prices shall be warranted for a period of one-hundred twenty (120) days following the opening of Bids, and no Bid may be withdrawn during such time period.

C. The Owner reserves the right to reject any or all Bids, or any part thereof, and/or to waive irregularities or informalities if such action is in its best interest. The Owner may reject any Bids that it deems incomplete, obscure or irregular including, but not limited to, Bids that omit a price on any one or more items for which prices are required, Bids that omit Unit Prices if Unit Prices are required, Bids for which the Owner determines that the Bid is unbalanced, Bids that offer Equal Items when the option to do so has not been stated, Bids that fail to include a bid bond, where one is required, and Bids from

Bidders who have previously failed to satisfactorily complete Contracts of any nature for the Owner.

D. The Owner reserves the right to cancel, postpone, modify, reissue and amend this Solicitation at its discretion. The Owner reserves the right to cancel or change the date and time of the bid opening at any time prior to the advertised time.

E. The Owner may Award the Contract in whole or in part. In such cases whenever the Owner exercises any of these reservations, the Owner will make a reasonable effort to notify, in writing, all parties to whom Bid Documents were issued. The Owner may award multiple or split Contracts if it is deemed to be in the Owner's best interest.

1.1.27 Documents and Forms Included in the Bid Documents

A. The reference to and/or inclusion of the Contract Documents and other Contract related forms in the Bid Documents shall in no way be construed as an Award of the Work, or any portion thereof, or as an intention to award the Work. The Owner reserves the right to alter, amend or delete any portion of these forms, to exclude any form, or to require additional forms not listed herein prior to execution of the Contract Documents.

SECTION 1.2: REQUIRED FORMS TO SUBMIT WITH BID

1.2.1 Bid Forms

A. To submit a Bid in response to this Solicitation, all of the following forms must be completed and submitted as part of the Bid. Copies of the forms are contained in the Bid Documents. Additional copies may be requested by contacting the Owner.

1. Bid Form (form included in DIVISION 5: FORMS)
2. Bid Security (form included in DIVISION 5: FORMS)
3. Bidder’s Qualifications and supporting information (form included in DIVISION 5: FORMS)
4. Bidder’s Statement of Disputes, Litigation, Arbitration, and Surety Completion, Last Three (3) Years (form included in DIVISION 5: FORMS)
5. Drug-Free Workplace Certificate (form included in DIVISION 5: FORMS)
6. Florida Trench Safety Act Acknowledgement (form included in DIVISION 5: FORMS)
7. Non-Collusion Affidavit (form included in DIVISION 5: FORMS)
8. Public Entity Crimes Statement (form included in DIVISION 5: FORMS)
9. Tabulation of Subcontractors and Suppliers (form included in DIVISION 5: FORMS)

10. Evidence of authority to do business in the State of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;

[END OF SECTION]

DIVISION 2:
AGREEMENT

This Agreement is made and entered into on_____("Effective Date"), by and between THE WAUCHULA COMMUNITY REDEVELOPMENT AGENCY, a community redevelopment agency created pursuant to Part III, Chapter 163, Florida Statutes, the Community Redevelopment Act of 1969, located at 107 E. Main Street, Wauchula, Florida 33873 ("Owner") and_____, a [STATE OF INCORPORATION] corporation with principal offices at_____[ADDRESS OF CONTRACTOR] ("Contractor").

Whereas, the Owner issued an Invitation for Bid and all associated Bid Documents for the Work titled "Wauchula Community Redevelopment Agency – Bay Street and 1st Avenue South Utility and Sidewalk Improvements," and;

Whereas, the Contractor submitted a Bid in response to such Work, which was opened and accepted by Owner on_____, 2026, and;

Whereas, the Contractor represents that it is capable and prepared to provide the services necessary to complete the Work; and

Whereas, the Owner has determined that the Contractor's Bid is the lowest responsive and responsible Bid for the Work and has issued the Contractor a Notice of Award to such effect;

Therefore, the Owner and the Contractor, in consideration of the mutual covenants hereinafter set forth, agree as follows:

SECTION 2.1: WORK

2.1.1 Completion of Work

A. Contractor shall complete all Work as specified or indicated in the Contract Documents. The principal features of the Work are described as:

The principal features of the Work are:

4) Construction of a proposed Sidewalk
5) Replacement of a 6" cast iron watermain and services with a proposed 6" PVC water main and services with incidental sidewalk removal and replacement
6) Construction of a sanitary sewer main extension.

SECTION 2.2: CONTRACT PRICE

2.2.1 Contract Price

A. The Contractor shall perform the work for a not-to-exceed Contract Price of _____[CONTRACT PRICE], or as may be amended in accordance with the Contract Documents, subject to the availability of lawfully appropriated funds.

B. Payment will be made in accordance with the provisions of Section 3.4 of the Terms and Conditions set forth in the Bid Documents, which are incorporated by reference into this Agreement.

2.2.2 Quantities

A. The Contract Price includes the Contractor's Bid Price. For items of the Work that are Unit Price, the prices shown on the Bid Form shall be used in determining the final Contract Price. As stated in the Bid Documents, estimated quantities provided on the Bid Form by the Owner are not guaranteed quantities. Actual quantities used in the Work may vary.

B. Regularly during the Work, and upon the Owner's review of the Final Application for Payment, the Owner, or its designated representative, will determine actual quantities used in the Work, and the Owner may issue a Change Order if required to alter the Contract Price.

SECTION 2.3: CONTRACT TIME

2.3.1 Time is of the Essence

A. All time limits for Milestones, if any, Substantial Completion, and Final Completion and readiness for final payment as stated in the Contract Documents are of the essence.

2.3.2 Days to Achieve Substantial Completion and Final Payment

A. The Work will be required to have reached Substantial Completion within **180** calendar days after the issuance of the Notice to Proceed (issued within 60 days of the Notice of Award), and completed and ready for final payment in accordance with the Contract Documents within **240** calendar days after the date when the Contract Time commences to run. The Contract Time will be extended **30** calendar days for each Additive Alternative accepted by the Owner.

SECTION 2.4: CONTRACT ROLES AND RESPONSIBILITIES

The Owner and the Contractor may alter or amend the individuals named herein, or name additional representatives, by promptly providing written notice to the other party of any changes.

The following individuals shall have the responsibilities set forth in the Contract Documents for their respective roles:

2.4.1 Contract Administrator:

Name: Olivia Minshew, City Manager
Agency/Company: City of Wauchula
126 South 7th Avenue
Wauchula, FL 33873
(863) 773-3131

2.4.2 Project Manager:

Name: Jessica Newman, CRA Director
Agency/Company: Wauchula Community Redevelopment Agency
107 East Main Street
Wauchula, FL 33873
(863) 767-0330

2.4.3 Project Engineer:

Name: Mark S. Davies, PE
Agency/Company: Kimley-Horn and Associates, Inc.
109 South Kentucky Avenue
Lakeland, FL 33801
(863) 701-8702

2.4.4 Contractor's Representative:

Name: [TO BE COMPLETED BY OWNER PRIOR TO EXECUTION]
Agency/Company: [TO BE COMPLETED BY OWNER PRIOR TO EXECUTION]

2.4.5 Contractor's Supervisor:

Name: [TO BE COMPLETED BY OWNER PRIOR TO EXECUTION]
Agency/Company: [TO BE COMPLETED BY OWNER PRIOR TO EXECUTION]

SECTION 2.5: CONTRACT DOCUMENTS

2.5.1 Contents

A. The following shall comprise the Contract Documents. The Owner shall generally consider this order of precedence in resolving any conflicts, errors or discrepancies:

1. Executed Amendments, Change Orders and Work Change Directives
2. This executed Agreement
3. The Bid Documents, including but not limited to, the Terms and Conditions set forth in Division 3 of the Bid Documents, and any and all Addenda to the Bid Documents
4. Supplemental Conditions
5. Terms and Conditions, including the following Exhibits and Attachments thereto
6. Notice of Award
7. Notice to Proceed
8. Payment Bond and Performance Bond
9. Owner issued Purchase Orders
10. Owner's Technical Specifications, Drawings, Plans, Exhibits and Attachments
11. Contractor's Bid in response to the Invitation for Bid, including the Bid Form

B. The figure dimensions on drawings shall govern over scale dimensions. Contract and detailed drawings shall govern over general drawings. The Contractor shall perform any Work that may reasonably be inferred from the Contract as being required, whether or not it is specifically called for, at no additional cost to the Owner. Work, materials or equipment described in words that, so applied, have a well-known technical or trade meaning shall be taken as referring to such recognized standards.

C. By signing the Agreement, the Contractor represents that it has carefully examined the Contract Documents and agrees to perform the Work in accordance with the Contract Documents, as may be amended from time to time.

SECTION 2.6: NOTICES AND CORRESPONDENCE

2.6.1 Transmission Method

A. All notices required or permitted under this Contract shall be in writing and shall be deemed received if sent by one of the following means: upon receipt if delivered by hand; one day after being sent by an express courier with a reliable system for tracking delivery; three days after being sent by certified or registered first class mail, postage prepaid and return receipt requested; or upon confirmed facsimile transmission provided that a copy shall be sent by another of the foregoing means.

B. All notices shall be addressed by a party to the other party as indicated below. Either party may change its address from time to time upon prior written notice to the other specifying the effective date of the new address.

Owner

Attention:	Olivia Minshew, City Manager
Address:	City of Wauchula 126 South 7th Avenue Wauchula, FL 33873
Contractor	
Attention:	[TO BE COMPLETED BY OWNER PRIOR TO EXECUTION]
Address:	[TO BE COMPLETED BY OWNER PRIOR TO EXECUTION]

IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement in triplicate on the Effective Date first stated above.

OWNER	**CONTRACTOR**
By_____	By _____
Date_____	Date _____
(Corporate Seal)	(Corporate Seal)
_____	_____
Attest	Attest

[END OF SECTION]

DIVISION 3:
TERMS AND CONDITIONS

SECTION 3.1: DEFINED TERMS

3.1.1 Definitions

A. Words and terms defined in this section shall have the same meaning throughout all parts of the Contract Documents. Where intended to convey the meaning consistent with that set forth in its definition, a defined word or term is marked by initial capitalization. DIVISION 6: TECHNICAL SPECIFICATIONS may define additional words and terms where necessary to clarify the Work. Unless otherwise stated in the Contract Documents, definitions set forth in DIVISION 6: TECHNICAL SPECIFICATIONS shall apply only within DIVISION 6: TECHNICAL SPECIFICATIONS.

1. Addendum/Addenda: A change or changes to the Solicitation issued in writing by the Owner and incorporated into the Solicitation and Contract Documents.

2. Administrative Work: Actions primarily performed in an office environment and associated with preparing to perform or administer the Work including, but not limited to, preparing Work schedules, obtaining bonds, executing Contracts, securing resources and other actions specified in the Bid Documents, or otherwise prudent to ensure a timely, safe and otherwise compliant start and performance of Field Work. Administrative Work is not performed at the Work Location.

3. Application for Payment: A document seeking payment to Contractor from Owner for all or a portion of the Work, in accordance with the Contract Documents, and including at a minimum the following items: the Contractor name and address, a description of the product(s) or service(s) rendered, a valid Owner PO number, the amount payable, the payee name and address, any associated forms and any other supporting documentation required by the Contract Documents.

4. Approved Schedule: The approved progress schedule for performance of the Work approved by the Owner or the Owner's Representative, as most recently amended.

5. Bid Documents/Bidding Documents: The documents titled Instructions to Bidders, the Invitation for Bid, the Bid Form, all sample forms to be included in the Bidder's Bid, the sample Contract Documents, including Technical Specifications and forms included to provide the Bidder with a complete understanding of the Work requirements, excluding any technical data or test results that are provided as additional information regarding Work Location conditions.

6. Bid or Proposal: The document, including all forms and information, describing the Bidder's offer and submitted in response to this Invitation for Bids. Bid and Proposal shall be considered synonymous for the purpose of this Contract.

7. Bid Price: The total dollar amount of the Bidder's offer including, but not limited to, all labor, materials, overheads, profits, other expense, and any and all other cost items incurred by the Bidder in successfully performing the Work in accordance with the Contract Documents.

8. Bidder: The respondent to this Solicitation.

9. Bond: A financial mechanism to guarantee a contractual obligation.

10. Change Order: A written order issued by the Owner after execution of the Contract to the Contractor, as may be recommended by the Engineer, signed by the Owner and authorizing an addition, deletion, or revision of the Work, or an adjustment in the Contract Price or the Contract Time. An executed Change Order resolves all issues related to price and time for the work included in the Change Order.

11. Contract: The Agreement for the Work executed by the Owner and Contractor as included in these Contract Documents.

12. Contract Administrator: The individual assigned by Owner, who is an employee of the Owner, to have authority over the Contract, including the authority to negotiate all elements of the Contract with the Contractor, authorize Change Orders within the maximum amount awarded, terminate the Contract, seek remedies for nonperformance including termination, and otherwise act on behalf of the Owner in all matters regarding the Contract. The Contract Administrator may authorize an Engineer and/or other Owner's Representative in writing to make minor changes to Field Work with the intent of preventing Work disruption.

13. Contract Documents: Contract Documents means the documents set forth in the executed Agreement form.

14. Contract Price: The total amount payable to the Contractor under the Contract, as set forth in the Agreement form, as most recently amended.

15. Contract Time: The number of calendar days or the period of time from when the written Notice to Proceed is issued to the Contractor to the date Contractor has agreed to complete the Work, as stated in the Agreement form, as most recently amended.

16. Contractor: The legal person, firm, corporation or any other entity or business relationship with whom the Owner has executed the Contract. Where the word "Contractor" is used it shall also include permitted successors and assigns.

17. Contractor Representative: The individual responsible for representing the Contractor in all activities concerning the fulfillment and administration of the Contract.

18. Contractor Supervisor: The individual employed or contracted by the Contractor to manage the Work on a day-to-day basis and ensure the Work is performed according to the Contract. The Contractor Supervisor may be authorized by the Contractor Representative to act on Contract matters. Such authorization shall be in writing and delivered to the Engineer and shall clearly state the limitations of any such authorization. In the event that the Contractor Supervisor and the Contractor

Representative is the same person, the Contractor shall notify the Engineer of such situation.

19. Defect or Defective: When used to modify the "Work," whether in lowercase or uppercase, Work that fails to meet the requirements of any required test, inspection or approval, and any Work that meets the requirements of any test or approval, but nevertheless does not meet the requirements of the Contract Documents.

20. Engineer: The individual assigned by the Owner (either an employee or a third party), who is a licensed professional engineer in the State of Florida, to provide engineering, design review, and/or construction management including, but not limited to, overseeing and resolving engineering/design issues with the Engineer for the Work, and conveying the Owner's instructions to the Contractor.

    The Engineer's authority includes interpreting the technical portion of the Contract Documents, deciding on matters relating to the execution and progress of the Work and evaluating the Contractor's performance. The Engineer may stop the Work when deemed necessary by the Owner. The Engineer will receive and adjudicate any claim of ambiguity or error in the technical portion of the Contract Documents and shall reduce any determination to writing, and shall make a recommendation to the Owner. The Engineer is not a party to the Contract. The Engineer has no authority to approve changes to the Contract Price or Contract Time, or to commit the Owner to any expenditure of money except as expressly designated in writing by the Contract Administrator.

21. Environmental Requirements: All laws, ordinances, statutes, codes, rules, regulations, agreements, judgments, orders, and decrees, now or hereafter enacted, promulgated, or amended, of the United States, the states, the counties, the cities, or any other political subdivisions in which the Work Location is located, and any other political subdivision, agency or instrumentality exercising jurisdiction over the Owner, the Work Location, or the use of the Work Location, relating to pollution, the protection or regulation of human health, natural resources, or the environment, or the emission, discharge, release or threatened release of pollutants, contaminants, chemicals, or industrial, toxic or hazardous substances or waste or Hazardous Materials (as defined in this Contract) into the environment (including, without limitation, ambient air, surface water, ground water or land or soil).

22. Equal Item: Item a Bidder chooses to offer in place of offering the brand name or manufacturer's item specified on the Bid Document when the Bid Document clearly states that the Bidder may offer such an item.

23. Ex Parte Communication: Any communication pertaining to this Solicitation between a Bidder or protester (or their respective employees, agents, or representatives, or someone otherwise acting on behalf of Bidder) and the Owner (its members, employees, agents, and representatives other than the designated

Owner representatives in the Solicitation), during the Solicitation period through the Contract Award, and/or from the initiation of a protest through Contract Award or through protest resolution.

24. Field Order: An order given by the Owner's Representative, in writing or orally, to direct progress of the Work. A Field Order may authorize only minor variations to the Work as needed to ensure progress, and does not authorize the Contractor to incur additional costs, change the Contract Price or Contract Time.

25. Field Work: Actions associated with meeting the requirements of the Contract other than Administrative Work. Field Work is primarily performed at the Work Location.

26. Final Acceptance: The Owner's written notice to the Contractor that all Work as specified in the Contract has been completed to the Owner's satisfaction. Approval or recognition of the Contractor meeting a milestone or interim step does not constitute Final Acceptance of the Work. Final Acceptance is only applicable to the entirety of Work as specified in the Contract. Final Acceptance does not in any way limit the Owner's rights under the Contract or applicable laws, rules and regulations.

27. Final Completion: The point in time after which the Owner has accepted the Work, in accordance with DIVISION 3: TERMS AND CONDITIONS and the Contractor has fulfilled all requirements of the Contract Documents.

28. Hazardous Materials: Any substance which is or contains (i) any "hazardous substance" as now or hereafter defined in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (42 U.S.C. '9601 et seq.) ("CERCLA") or any regulations promulgated under or pursuant to CERCLA; (ii) any "hazardous waste" as now or hereafter defined in the Resource Conservation and Recovery Act (42 U.S.C. '6901 et. seq.) ("RCRA") or regulations promulgated under or pursuant to RCRA; (iii) any substance regulated by the Toxic Substances Control Act (15 U.S.C. '2601 et seq.); (iv) gasoline, diesel fuel, or other petroleum hydrocarbons; (v) asbestos and asbestos containing materials, in any form, whether friable or non-friable; (vi) polychlorinated biphenyls; (vii) radon gas; and (viii) any additional substances or materials which are now or hereafter classified or considered to be hazardous or toxic under Environmental Requirements (as hereinafter defined) or the common law, or any other applicable laws relating to the Licensed Property. Hazardous Materials shall include, without limitation, any substance, the presence of which on the Licensed Property, (A) requires reporting, investigation or remediation under Environmental Requirements; (B) causes or threatens to cause a nuisance on the Licensed Property or adjacent property or poses or threatens to pose a hazard to the health or safety of persons on the Licensed Property or adjacent property; or (C) which, if it emanated or migrated from the Licensed Property, could constitute a trespass.

29. Holidays: The following days: New Year's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, Day after Thanksgiving, Christmas Eve, and Christmas Day.

30. Instructions to Bidders: The division of the Bid Documents labeled Instructions to Bidders.

31. Inspector: The individual(s) or company(ies) designated by the Contract Administrator to inspect and test the Contractor's performance and Contract compliance including materials, workmanship, safety, environmental compliance, project controls, administration and accounting, and other aspects of Contract compliance. The Inspector has no authority to approve changes to the Work, the Contract Price or Contract Time, or to commit the Owner to any expenditure of money except as expressly designated in writing by the Contract Administrator. The Inspector may or may not be the same individual as the Engineer. The Contract Administrator may give the Engineer authority to appoint an Inspector.

32. Notice of Award: The issuance of a Notice of Award by the Owner to the successful Bidder notifying the Contractor that they have been authorized by the Owner to perform the work. A Notice of Award shall not be considered a Notice to Proceed.

33. Notice to Proceed: The written notice duly authorized and delivered by the Owner that authorizes the Contractor to begin Field Work. When indicated by the Owner, a PO may also serve as a Notice to Proceed. A Notice to Proceed will be issued after all necessary and required permits have been obtained and no more than 30 days after the Notice of Award has been issued.

34. Owner: The City of Wauchula Community Redevelopment Agency.

35. Owner's Representative: The Engineer, Inspector, and other persons designated by the Contract Administrator as the Owner's Representative acting in a capacity related to the Work or Contract under the authority of the Contract Administrator.

36. Overtime: Work approved in writing by the Contract Administrator that is required to be performed beyond an employee's scheduled workday or work week, including Work performed on Holidays.

37. Payment Bond: The statutory Performance Bond contemplated by Section 255.05, Florida Statutes.

38. Performance Bond: The statutory Payment Bond contemplated by Section 255.05, Florida Statutes.

39. Preconstruction Meeting: A meeting conducted after Award and prior to the start of any Field Work between the Owner and the Contractor. The purpose of the meeting may include, but is not limited to orientation, schedule, certification and permitting, and other preparatory or Work execution details.

40. Purchase Order (PO): A Work authorization document issued by the Owner with the words "Purchase Order" clearly marked across the top, a PO number used for reference shown on the front, a description of the Work or a listing of the applicable Contract Documents, an authorized Owner signature and stating the amount of

lawfully authorized funds.

41. Quality Assurance: Actions that the Owner takes to assess the Contractor's performance under the Contract.

42. Quality Control: Actions that the Contractor takes to ensure it successfully completes the Work in full accordance with the Contract Documents.

43. Shop Drawings: Drawings, electronic and hard copy, that detail the fabrication, erection, layout and setting drawings; manufacturer's standard drawings; schedules; descriptive literature, catalogs and brochures; performance and test data; wiring and control diagrams; all other drawings and descriptive data pertaining to materials, equipment, piping, duct and conduit systems, and method of construction as may be required to show the Engineer that the proposed materials, equipment or systems and the position thereof are in compliance with the requirements of the Contract Documents.

44. Site: The Work Location.

45. Solicitation: The Invitation for Bids (which may be electronic) issued by the Owner, or by a third-party on behalf of the Owner, to solicit Bids or Proposals from Bidders that includes the Bid Documents.

46. Specifications: The provisions contained in the Technical Specifications.

47. Subcontractor: A provider of services or materials performing Work under contract for the Contractor.

48. Substantial Completion: The time when the Owner determines that the Work (or a specified part thereof) is sufficiently complete to be utilized for the purposes for which it is intended or ready for the Owner or other contractors to perform subsequent portions of the Work as stated in the Contract Documents. Recognition of the Work as Substantially Complete, as evidenced by issuance of a Certificate of Substantial Completion, does not represent the Owner's Final Acceptance of the Work.

49. Term: The period of time during which the Contract is in force, from formal Notice of Award to Final Completion, or termination. In some cases, and as expressly stated, some of the Contract requirements may extend beyond the Term of the Contract.

50. Technical Specifications: The division of the Contract Documents collectively labeled as the Technical Specifications, including any exhibits and attachments thereto. Technical Specifications have been prepared by the Owner or a third-party.

51. Unit Prices: The Bidder's charges, rounded to the nearest cent, to the Owner for the performance of each respective unit of Work as defined on the Bid Form for all items required for successfully performing the Work through Final Acceptance.

52. Work: Work includes the scope set forth in the Contract Documents together with all other additional necessities that are not specifically recited in the Contract, but can be reasonably inferred as necessary to complete all obligations and fully satisfy the intent of the Contract.

53. Work Change Directive: Written authorization recommended by the Engineer and signed by the Owner and issued to the Contractor after the Contract Effective Date recommending an addition, deletion or revision in the Work. A Work Change Directive shall not change the Contract Price or Contract Time, but shall be evidence that the parties expect the change ordered or documented to be incorporated into a subsequent Change Order.

54. Work Location: The place or places where the Work is performed, excluding the properties of the Contractor and/or the Subcontractor(s).

SECTION 3.2: PRELIMINARY MATTERS

3.2.1 Payment Bond and Performance Bond

A. Within five (5) business days of receipt of Contract Documents, the Contractor shall furnish a Payment Bond and a Performance Bond in an amount equal to one-hundred percent (100%) of the amount of the Contract Price, made out to the Owner in forms and formats approved by the Owner, as security for the faithful performance of the Work of Contract, in accordance with Florida Statutes, Section 255.05. In no case shall the date on the bonds form be prior to that of the executed Contract. The surety must be authorized and licensed to transact business in Florida.

B. A fully executed Payment Bond and Performance Bond must be recorded with the Clerk of Hardee County Court and delivered to the Owner before Work may commence. If the Contractor fails or refuses to furnish or record the required bonds, the Owner will retain the Contractor's Bid Security as liquidated damages.

3.2.2 Liquidated Damages

A. If the Contractor fails to Substantially Complete the Work on or before the substantial completion date set forth in the Contract Documents, the Contractor shall pay the Owner the sum of $500.00 per day for each and every calendar day, including Sundays and Holidays, starting on the contracted substantial completion date and continuing until the date that the Work is Substantially Completed.

B. Following Substantial Completion, if the Contractor fails to complete any remaining Work within the Contract Time, the Contractor shall pay the Owner $500.00 per day for each and every calendar day, including Sundays and Holidays, starting on the contracted final completion date and continuing until the date that the Work is completed.

C. The Contractor understands and agrees that said daily sum is to be paid not as a penalty, but as compensation to the Owner as fixed and reasonable liquidated damages for losses

that the Owner will suffer because of such default, whether through increased administrative and engineering costs, interference with the Owner's normal operations, other tangible and intangible costs, or otherwise, which costs are otherwise impossible or impractical to measure or ascertain with any reasonable specificity.

D. Liquidated damages may, at the Owner's sole discretion, be deducted from any monies held by the Owner that are otherwise payable to Contractor.

E. The Contractor's responsibility for liquidated damages shall in no way relieve the Contractor of any other obligations under the Contract.

3.2.3 Preconstruction and Progress Meetings

A. Before starting field work, a preconstruction meeting will be held to: review the work; to review the work schedule; to establish procedures for submitting items including but not limited to applications for payment, the schedule of submittals, approving the applications for payment, and making payments; and, to establish a working relationship between the Owner and the Contractor.

B. The Preconstruction Meeting shall be attended by, but not limited to, the Owner, the Engineer, the Contractor Representative and the Contractor Supervisor. The Contract Administrator will notify the Contractor in writing of the meeting time and location at least two (2) days prior to the meeting date.

C. Construction progress meetings will be held at a frequency determined by the Owner, but shall not be more often than once per week. Such meeting(s) shall be attended by, but not limited to, the Owner, the Engineer, and the Contractor's Supervisor.

3.2.4 Contractor Review of Project Requirements

A. The Contractor shall review the Work requirements and specifications prior to commencing Work. The Contractor shall immediately notify the Engineer in writing of any conflict with applicable law, or any error, inconsistency or omission it may discover. The Owner will promptly review the alleged conflicts, errors, inconsistencies or omissions, and issue a Change Order or Purchase Order, as appropriate if the Owner is in agreement with the alleged conflict, and issue revised specifications. Any Work the Contractor performs prior to receipt of approved Change Order or Purchase Order will be at the Contractor's sole risk and will not be reimbursed.

3.2.5 Contractor's Documents at the Work Location

A. The Contractor shall maintain at the Work Location for the Owner one record copy of all Contract Documents in good order and marked currently to record all Addenda and changes made during the Contract Term. The Contractor shall include copies of all Change Orders, Work Change Directives, Field Orders, and other written clarifications or interpretations with these record documents. These shall be available to the Owner’s Representatives and shall be delivered to the Engineer upon completion of the Work or

at the request of the Engineer. The Owner and the Owner's Representatives may use such documents in reviewing the Contractor's final Application for Payment.

B. The Contractor shall also maintain detailed records of the Work for its own files. The Contractor shall make these records available to the Owner for inspection upon request. The Contractor shall maintain such records for five (5) years after the final completion date.

3.2.6 Contractor's Field Office

A. The Contractor shall provide its own office facilities at the Work Location, as required. Unless specifically listed herein, the Owner provides no Work Location facilities or Work Location area for the Contractor facilities of any kind such as field office and material storage. If the Contractor establishes a Work Location-based office, the Contractor shall provide and maintain adequate telephone facilities at this office during the full Term of the Contract. If the Contractor has a local business office, this office may serve as a Work Location office for this Contract, but the Contractor must maintain an operational cellular phone at the Work Location while performing Work.

3.2.7 Commercial Activities on the Work Location

A. The Contractor shall not establish any commercial activities, or issue concessions or permits of any kind to third parties to establish commercial activities on lands owned or controlled by the Owner, or within the boundaries of the Work Location. The Contractor shall not allow its employees to engage in any commercial activities on the Work Location.

3.2.8 Compliance with Referenced Specifications

A. All Work, materials, systems or operations specified by reference to standard trade specifications or to manufacturer's published specifications shall comply with the requirements of the referenced specifications, except as modified by the requirements of this Contract. The referenced specification used shall be the latest published edition that is in effect on the effective date of this Contract unless a particular edition is specified. In case of a conflict, the specifications that contain the more stringent requirements will govern.

3.2.9 Licenses

A. The Contractor shall comply with all licensing and/or certification requirements pursuant to applicable laws, rules, and regulations. The Contractor shall secure all licenses as required for the performance of the Work and shall pay all fees associated with securing them. The Contractor shall produce written evidence of licenses and other certifications immediately upon request from the Owner.

3.2.10 Limitation of Accuracy of Informational Materials

A. For all drawings, test results, inspections, and other informational materials included as part of the Contract Documents, the Contractor understands and agrees that any existing facilities shown, including underground, overhead, and surface structures, and other delineations, and any other informational items provided as part of the Contract Documents are for reference only and are not to be used by the Contractor as the only indication of Work conditions.

B. Unless otherwise stated, the data furnished by the Owner or the Engineer to the Contractor, or by the Contractor to the Owner or the Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

3.2.11 Permits

A. The Contractor shall secure, maintain, post as required, and pay for all building, plumbing, electrical, right-of-way, parking, roadway, railroad, shipping, freight, hazardous materials, and all other permits required for performance of the Work in full compliance with all applicable laws, rules and regulations. The Contractor shall perform all actions necessary to identify where permits are to be obtained and properly file for the permits. The contractor shall have 45 days from the Notice of Award to obtain necessary permits.

B. The Contractor shall comply with all conditions of permits issued for the Work, either directly or indirectly, issued by federal, state, or local governmental agencies, which are hereby incorporated as part of these Contract Documents. The Contractor shall be solely responsible for resolving any issues and bearing all expenses including any damages suffered by the Owner that result from a finding of noncompliance during performance of the Work by any of the respective regulatory agencies including, but not limited to, all costs for delays, litigation, fines, fees of any kind, and other costs.

3.2.12 Work Information

A. In the event the Contractor requires additional information regarding the scope, technical specifications, Work Locations, personnel requirements, or other information pertinent to the Work or Contract, the Contractor shall request such information or

clarifications from the Engineer in writing. Within the bounds of the Engineer's authority, the Engineer may provide the requested information to the Contractor.

3.2.13 Engineer's Status During Construction

A. The Engineer shall have the responsibilities set forth herein for this Contract.

B. Review the progress schedule, schedule of Shop Drawings, and Sample Submittals and Schedule of Values prepared by the Contractor and consult with the Engineer concerning acceptability.

C. Attend conferences and meetings with the Contractor, such as preconstruction conferences, progress meetings, job conferences and other project-related meetings, and prepare and circulate copies of minutes thereof.

D. Serve as the Owner's liaison with the Contractor, working principally through the Contractor's authorized representative, assist in providing information regarding the intent of the Contract Documents. Serve as the Owner's liaison with the Contractor when the Contractor's operations affect the Owner's on-site operations. Assist in obtaining additional details or information from the Owner, when required for proper execution of the Work.

E. Transmit to the Contractor clarifications and interpretations.

F. Record the date of receipt of Samples and approved Shop Drawings. Receive Samples which are furnished at the Site by the Contractor. Notify the Owner if work is begun without reviewed shop drawings.

G. Consider and evaluate the Contractor's suggestions for modifications in the Drawings or Specifications. Transmit in writing to the Contractor decisions as issued by Engineer.

H. Review of Work and Defective Work:

1. Conduct on–site observations of the Contractor's work in progress to assist the Engineer in determining if the Work is, in general, proceeding in accordance with the Contract Documents.

2. Report to the Owner whenever Engineer believes that any part of the Contractor's work does not conform to the Contract Documents or will imperil the integrity of the Work as indicated in the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; notify the Contractor of that part of work in progress that Engineer believes should be

corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.

I. Inspections, Tests and System Startups:

1. Verify that tests, equipment and system start-ups and operating and maintenance training are conducted in the presence of appropriate the Owner's personnel and that the Contractor maintains adequate records thereof.

2. Observe and record appropriate details relative to the test procedures and system start-ups.

J. Record names and contact information for Contractors, Subcontractors and materials and equipment Suppliers. Maintain records for use in preparing Work documentation.

K. Reports:

1. Furnish as required of progress of the Work and of the Contractor's compliance with the Progress Schedule and Schedule of Shop Drawings and Sample Submittals.

2. Draft and recommend to the Owner proposed Change Orders, Work Change Directives, and Field Orders. Obtain backup material from the Contractor.

3. Immediately notify the Owner of the occurrence of any known site accidents, emergency, acts of God endangering the Work, damage to property, or discovery of Hazardous Materials.

L. Review Applications for Payment with the Contractor for compliance with the established procedure for their submission and forward with recommendations to the Owner, noting particularity the relationship of the payment requested to the Schedule of Values, Work completed and materials and equipment delivered at the Site but not incorporated in the Work.

M. During the course of the Work, verify that materials and equipment certificates, operation and maintenance manuals and other data required by the Specifications to be assembled and furnished by the Contactor are applicable to the items actually installed and in accordance with the Contract Documents, and have these documents delivered to the Owner prior to payment for that part of Work.

N. Completion:

1. Participate in a Substantial Completion inspection, assist in the determination of Substantial Completion and the preparation of list of items to be completed or corrected.

2. Participate in a final inspection in the company of the Owner and the Contractor and prepare a final list of items to be completed and deficiencies remedied.

3. Observe whether all items on final list have been completed or corrected and make recommendations to the Engineer concerning acceptance and issuance of the Notice of Acceptability of the Work.

O. Limitations of the Engineer's Authority: The Engineer shall not:

1. Exceed limitations of the Engineer's authority as set forth in the Contract Documents.

2. Undertake any of the responsibilities of the Contractor, the Subcontractors, the Suppliers or the Contractor's Superintendent.

3. Advise on, issue directions regarding, or assume control over safety practices precautions, and programs in connection with the activities or operations of the Owner or the Contractor.

4. Accept Shop Drawings or Sample submittals from anyone other than the Contractor.

5. Advise on issue directions, or assume control over means, methods, techniques, sequences, or procedures for the Contractor's Work.

3.2.14 Conflict of Interest

A. No member, officer or employee of the City during his/her tenure or for one (1) year after shall have any interest, direct or indirect, in this contract or proceeds thereof. The Contractor shall also include this statement in all subcontracts for this work.

SECTION 3.3: SUBSTANTIAL COMPLETION AND FINAL ACCEPTANCE

3.3.1 Acceptance of Work - After Receipt, Inspection, Usage and Testing

A. The Contract Administrator will make the determination when Work is completed and there is Final Acceptance by the Owner, with consideration to the Engineer's and the Inspector's recommendations.

B. Final Acceptance will be made by the Owner only in writing, and after adequate time to ensure the Work is performed in accordance with Contract Documents in accordance with Florida Statutes, Section 255.077. The Owner will reject any items delivered by the Contractor that are not in accordance with the Contract, and shall not be deemed to have accepted any items until the Owner has had reasonable time to inspect them following delivery or, if later, within a reasonable time after any latent defects in the work have become apparent.

C. The Owner may partially accept the Work. If the Owner elects to accept nonconforming items, it may in addition to other remedies, be entitled to deduct a reasonable amount from the price as compensation for the nonconformity. Any Final Acceptance by the Owner, even if nonconditional, shall not be deemed a waiver, or settlement or acceptance of any Defect.

3.3.2 Substantial Completion

A. The Contractor shall notify the Owner in writing when a portion of the Work is ready for Substantial Completion and can be utilized for the purposes for which it was intended. The Contractor shall identify any deficiencies in the Work. Owner will inspect the Work and will give the Contractor written notice of either acceptance of that portion of the Work or additional deficiencies. The Contractor shall correct all deficiencies prior to Substantial Completion of the Work.

B. Whenever any portion of the Work is substantially complete and can be utilized for the purpose for which it was intended, the Owner may use it. Such use shall not be held in any way as a Final Acceptance of the Work or as a waiver of any provisions of the Contract.

C. Upon determination that the Work meets the requirements for Substantial Completion, the Owner will issue a Certificate of Substantial Completion.

SECTION 3.4: PRICE & PAYMENTS

3.4.1 Application for Payment and Payment Terms

A. The Contractor shall submit to the Engineer all Applications for Payment using the prescribed forms included in the Contract Documents and in accordance with the payment method agreed upon in these Contract Documents. The Owner will pay the Contractor the amount requested less any authorized deductions or retainage set forth in the Contract Documents within thirty (30) days after receipt of an acceptable Application for Payment from the Contractor subject to the provisions stated below.

B. The Owner may reject any Application for Payment within twenty (20) calendar days after receipt. The Owner will return the Application for Payment to the Contractor stating the reasons for rejection. Upon receipt of an acceptable revised Application for payment, the Owner will pay the Contractor the revised amount within ten (10) calendar days or, if Commission approval is required, by the first business day after the next regularly scheduled Commission meeting after the corrected pay app was received.

C. The Owner may withhold payment if the Contractor is in violation of any conditions or terms of the Contract Documents, including but not limited to, the failure by the Contractor to provide all Releases of Lien as set forth in Section 3.4.5 below.

D. The Application for Payment may be subject to the review of the Owner's Representative for purposes of determining compliance with any supplemental conditions.

3.4.2 Retainage

A. As additional security for the proper performance of the Work, the Owner may deduct ten percent (10%) retainage, or such other amount allowable pursuant to State of Florida law, from the amount stipulated in the Invoice or Application for Payment and accepted by the Owner as eligible for payment. In accordance with Florida Statutes, after completion of fifty percent (50%) of the Work, the Contractor may request a reduction in retainage to five percent (5%). For the purposes of this section, “completion of fifty percent (50%) of the Work" shall be defined as the point at which fifty percent (50%) of the total cost of the Work, as defined, and inclusive of authorized Change Orders, has been expended by the Owner.

B. In the case of early termination of the Contract, all payments made by the Owner against the Contract Price prior to notice of termination shall be credited to the amount, if any, due the Contractor. If the parties determine that the sum of all previous payments and credits exceeds the sum due the Contractor, the Contractor shall refund the excess amount to the Owner within ten (10) calendar days of determination or written notice.

3.4.3 Payment Method - Progress Payments and Schedule of Values

A. For the purposes of this Contract, the Contractor shall refer to the DIVISION 6: TECHNICAL SPECIFICATIONS.

3.4.4 Final Application for Payment

A. After the Contractor has, in the opinion of the Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up as-built record documents and other documents, the Contractor shall complete and submit to the Owner the final Application for Payment with consent of surety for final payment as notice that the Work, including the correction of all deficiencies, is complete. By submitting the final Application for Payment, the Contractor certifies the following:

1. That the Work has been satisfactorily completed;
2. That no liens have attached against the property and improvements of the Owner;
3. That no notice of intention to claim liens are outstanding;
4. That no suits are pending by reason of the Work;
5. That all workers' compensation claims known to the Contractor have been reported to the Owner;
6. That the surety provides a Consent of Surety to Final Payment; and

7. That no public liability claims are pending.

B. Within ten (10) calendar days of receipt of the Contractor's final Application for Payment, the Engineer shall review the final Application for Payment and make a recommendation to the Owner. The Owner shall make final payment to the Contractor in accordance with the Application for Payment provisions of the Contract.

3.4.5 Prompt Payment to Subcontractors and Suppliers

A. When the Contractor receives payment from the Owner for labor, services or materials furnished by Subcontractors and Suppliers that are hired by the Contractor, the Contractor shall remit payment due (less proper retainage) to those Subcontractors and Suppliers within ten (10) calendar days after the Contractor's receipt of payment from the Owner and the Contractor shall obtain a Release of Lien for each payment made. Nothing herein shall prohibit the Contractor from disputing, pursuant to the terms hereof, all or any portion of a payment alleged to be due to its Subcontractors and Suppliers. In the event of such dispute, the Contractor may withhold the disputed portion of any such payment only after the Contractor has provided written notice to the Owner and to the Subcontractor and Supplier whose payment is in dispute, stating the amount in dispute and specifically describing the actions required to cure the dispute. The Contractor shall deliver such notice to the Owner and to the said Subcontractor or Supplier within ten (10) calendar days following the Contractor's receipt of payment from the Owner. The Contractor shall pay all undisputed amounts due within the time frames specified herein.

B. The Contractor shall submit a Release of Lien for the prior month's payment included in any Application for Payment as a condition to payment. Owner reserves the right to withhold payment in the event the Contractor fails to provide all Releases of Liens for the prior month's payment.

C. The prompt payment requirements herein shall, in no way, create any contractual relationship or obligation between the Owner and any Subcontractor, Supplier, or any third-party, nor create any Owner liability for the Contractor's failure to make timely payments as required. The Contractor's failure to comply with the prompt payment requirements, however, shall constitute a material breach of its contractual obligations to the Owner.

3.4.6 Taxes and Owner Direct Purchases

A. The Contractor shall include the cost of all applicable State and Local Sales Taxes in the submitted Bid Price. The Owner reserves the right to directly purchase any materials or equipment to reduce project costs due to State and Local Sales Taxes. A deductive Change Order will be drafted to remove any Owner Direct Purchases from the Contract.

B. The Contractor shall be responsible for the payment of any applicable State and Local taxes relating to the purchase of equipment and materials required for the completion of this project.

3.4.7 Allowances

A. When the Contract Documents indicate that the Owner has provided the Contractor with an allowance for specified portions of the Work, the Contractor shall provide such Work in a manner acceptable to the Owner.

B. Allowance items shall include all costs to the Contractor (less any applicable trade discounts), including all applicable taxes, costs for unloading and handling materials and equipment at the Site, labor, installation, overload, profit, and other expenses set forth in the Contract Documents as part of the allowances.

SECTION 3.5: INSURANCE & INDEMNITIES

3.5.1 Environmental Indemnity

A. The Contractor shall hold harmless, indemnify, and defend the Owner and the Engineer, including without limitation, its officers, directors, members, representatives, affiliates, agents and employees, successors and assigns (the "Indemnified Parties") and will reimburse the Indemnified Parties from and against any and all claims, suits, demands, judgments, losses, costs, fines, penalties, damages, liabilities and expenses (including all costs of cleanup, containment or other remediation, and all costs for investigation and defense thereof including, but not limited to, court costs, reasonable expert witness fees and attorney fees) arising from or in connection with (a) the Contractor's, including, but not limited to, its agents, affiliates or assigns ("Parties"), actions or activities that result in a violation of any environmental law, ordinance, rule, or regulation or that leads to an environmental claim or citation or to damages due to the Contractor's or other Parties' activities, (b) any environmental, health and safety liabilities arising out of or relating to the operation or other activities performed in connection with this contract by the Contractor or any Party at any time on or after the effective date of the contract, or (c) any bodily injury (including illness, disability and death, regardless of when any such bodily injury occurred, was incurred or manifested itself), personal injury, property damage (including trespass, nuisance, wrongful eviction and deprivation of the use of real property) or other damage of or to any person in any way arising from or allegedly arising from any hazardous activity conducted by the Contractor or any Party. The Owner will be entitled to control any remedial action or any proceeding relating to an environmental claim. This indemnification agreement is separate and apart from, and is in no way limited by, any insurance provided pursuant to this Contract or otherwise. This section relating to indemnification shall survive the Term of this Contract, and any holdover and/or Contract extensions thereto, whether such Term expires naturally by the passage of time or is terminated earlier pursuant to the provisions of this Contract.

3.5.2 Indemnification

A. The Contractor shall hold harmless, indemnify, and defend the Owner and the Engineer against any claim, action, loss, damage, injury, liability, cost and expense of whatsoever kind or nature (including, but not by way of limitation, reasonable attorney's fees and court costs) arising out of injury (whether mental or corporeal) to persons, including death, or damage to property, arising out of or incidental to the negligence, recklessness

or intentional wrongful misconduct of the Contractor and any person or entity used by Contractor in the performance of this Contract or Work performed there under. For purposes of this Indemnification, the term "Owner" shall mean the Owner as a body politic and corporate and shall include its governing board, officers, employees, agents, successors and assigns. This indemnification shall survive the term of a Contract entered into pursuant to this solicitation, for events that occurred during the Contract term. This indemnification shall be separate and apart from, and in addition to, any other indemnification provisions set forth elsewhere in this Contract.

3.5.3 Insurance Requirements

A. Before starting and for four (4) years beyond Final Acceptance of the Work, and without limiting its liability under the Contract, the Contractor shall procure and maintain at its sole expense, insurance of the types and in the minimum amounts stated below:

Schedule	Amount
Workers' Compensation	
Florida Statutory Coverage and Employer's Liability (including appropriate Federal Acts)	Statutory Limits (Workers' Compensation) As required by law (Employer's Liability)
Contractor's General Liability	
Completed Operations and Products Liability Property damage and bodily injury	$1,000,000/occurrence, $2,000,000 annual aggregate
Personal Injury Liability	
Property Damage Liability insurance will provide Explosion, Collapse and Underground Hazards (XCU Coverage)	$1,000,000/occurrence, $2,000,000 annual aggregate
Automobile Liability	
Bodily Injury	$200,000/person, $400,000/accident
Property Damage	$400,000/accident

Contractual Liability

Bodily Injury	$500,000/accident
Property Damage	$1,000,000 annual aggregate

Builder's Risk Insurance
Amount to be determined by Owner

B. The Contractor's General Liability policies shall be effective for four (4) years after the Work is complete. The above Indemnification provision is separate and is not limited by the type of insurance or insurance amounts stated above.

C. The Contractor shall specify the Owner and the Engineer as additional insureds for all coverage except Workers' Compensation and Employer's Liability. Such insurance shall be primary to any and all other insurance or self-insurance maintained by the Owner, must provide that such insurance coverage applies separately to each insured against whom claims are made or suit is brought; but the inclusion of more than one insured shall not operate to increase the insurer's limit of liability. Contractor shall provide the Owner with a Certificate of Insurance and an opportunity to inspect a certified copy of each policy applicable to this Agreement. The Certificate of Insurance must name as an additional insured the City of Wauchula and all of its Officers, Agents, Employees, and City Commissioners, excluding worker's compensation and professional liability. Contractor shall provide the Owner an annual Certificate of Insurance satisfactory to the Owner to evidence such coverage.

D. Such insurance shall be written by a company or companies licensed to do business in the State of Florida and satisfactory to the Owner. Prior to commencing any Work under this Contract, certificates evidencing the maintenance of the insurance shall be furnished to the Owner for approval.

E. The Contractor's and its Subcontractors' Certificates of Insurance shall be mailed to the Owner at City of Wauchula, 126 South 7th Avenue, Wauchula, Florida 33873.

F. The insurance certificates shall provide that no material alteration or cancellation, including expiration and non-renewal, shall be effective until thirty (30) days after receipt of written notice by the Owner.

G. Any subcontractors of the Contractor shall procure and maintain the insurance required of the Contractor hereunder during the life of the subcontract. Subcontractors' insurance may be either by separate coverage or by endorsement under insurance provided by the Contractor.

3.5.4 Title and Risk of Loss

A. Ownership, risks of damage to or loss of the Work shall pass to the Owner upon Final Acceptance of the work. The Contractor shall assume all risk of loss or damage to the Work while items are in transit and/or in the Contractor's custody until such time that the Owner issues written notice of Final Acceptance of the Work.

SECTION 3.6: GENERAL PERFORMANCE OF WORK

3.6.1 Care of Property Owners

A. The Contractor agrees to provide excellent customer service throughout the execution of the Work during both scheduled Work hours and Overtime in the manner, as a minimum, as set forth below:

1. The Contractor shall notify the affected property owners prior to any planned outages, line flushing, valve simulations and driveway construction. The notification will be produced by the Contractor and approved by the Owner's Representative.

2. Within one (1) business day of receiving a concern from a property owner regarding the Work, the Contractor shall notify the Engineer in writing of each customer concern reported directly to the Contractor's personnel. Such notification shall include, as a minimum: the Contractor's name, date and time the concern was communicated to the Contractor, the name, address and phone numbers for the affected party, the nature of their concern and any action that was taken or any action currently underway to resolve the concern.

3.6.2 Workmanship

A. The Contractor shall perform all Work in a safe, workmanlike and professional manner, and so as to render a neat and uniform appearance. The Contractor shall handle all material in such a way as to preserve its finish and protective coatings from damage. General arrangement shall be satisfactory to the Engineer.

3.6.3 Work Location Cleanliness

A. The Contractor shall, at all times, keep the Work Location free from an accumulation of waste materials or rubbish caused by its operations. At the completion of the Work, the Contractor shall remove all waste materials and any rubbish from and about the project, as well as any tools, construction equipment, machinery and surplus materials, in accordance with applicable laws, rules and regulations. If the Contractor fails to clean up at the completion of the Work, the Owner may do so and charge the cost thereof to the Contractor.

3.6.4 Surveying

A. Unless specifically stated in the Contract Documents as being provided by the Owner, the Contractor shall be responsible for all surveying necessary to commence and perform this Work. The Contractor shall employ a land surveyor registered in the State of Florida to reference and restore all property corners and/or monuments that may have been disturbed and to ensure accurate horizontal and vertical control during the construction of this project and for staking locations for new structures. Height and spacing of stakes are to be as specified elsewhere herein or as directed by the Engineer.

B. All Work shall be done to the lines, grades and elevations shown on the drawings. Any Work improperly located may be ordered removed and replaced at the Contractor's expense. The Contractor shall be responsible for making its own determination of water table variations and shall not assume that any water levels shown by the aforesaid boring data will necessarily be maintained at the level indicated. The Contractor shall investigate the conditions above or below the surface of the ground as it may deem necessary for the proper and timely performance of its Work including, but not limited to, the making of borings.

SECTION 3.7: SCHEDULES

3.7.1 Preliminary Schedules

A. Within ten (10) calendar days following the Effective Date of the Agreement, the Contractor shall submit to the Engineer the following items:

1. Preliminary Progress Schedule stating days or dates for starting and completing the various stages of the Work in an orderly manner within the Contract Times, indicating any milestones specified in the Contract.

2. Preliminary Schedule of Submittals, showing a reasonable schedule for reviewing and processing required submittals

3. Preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and reasonably subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Prices shall include all overhead and profit.

4. Preliminary Schedule of Progress Payments (Draw Schedule).

B. No later than ten (10) calendar days prior to the date for the submittal of the first Application for Payment, the Contractor and the Engineer shall meet to review the acceptability of the Progress Schedule, the Schedule of Submittals and the Schedule of Values. The Contractor shall have an additional ten (10) calendar days following such meeting to make any adjustments and to resubmit the schedules.

C. The Engineer's approval of the any of the Schedules shall not relieve the Contractor of its sole responsibility for the Progress Schedule, the sequence and scheduling of Work, and the progress of the Work.

D. No progress payments shall be made to the Contractor until the Engineer has approved the Schedules.

3.7.2 Work Days

A. The work schedule is established on the basis of working five (5) days per week, eight (8) hours per day. The Owner may require the Contractor to base its schedule on an accelerated Work Schedule or multiple shifts. The Contractor shall not schedule work on Holidays without obtaining prior written approval from the Owner.

B. The Contractor shall, at no additional cost to the Owner, increase or supplement its working force and equipment and perform the Work on an Overtime or multiple shift basis when directed by the Owner and upon notification that the Contractor is behind schedule. The Contractor shall submit a revised schedule in writing demonstrating the Contractor's schedule recovery plans.

C. The Contractor understands and agrees that the rate of progress set forth in the Approved Schedule already allows for ordinary delays incident to the Work. No extension of the Contract Time will be made for ordinary delays, inclement weather (except as set forth in Section 19, "Force Majeure"), or accidents, and the occurrence of such events will not relieve the Contractor from the requirement of meeting the Approved Schedule.

3.7.3 Changes to the Progress Schedule

A. The Contractor may submit proposed revisions to the Progress Schedule to the Engineer for review provided that they do not change the Contract Time, and the Engineer may adjust the Progress Schedule from time to time.

B. Proposed changes to the Progress Schedule that change the Contract Time will only be made in accordance with Section 3.14.2, "Changes to Work." Adjustments to the Contract Time shall only be made via Change Order.

C. The Contractor shall refer to the DIVISION 6: TECHNICAL SPECIFICATIONS for additional information regarding Progress Schedules.

SECTION 3.8: MATERIALS, TOOLS & EQUIPMENT

3.8.1 Temporary Utilities

A. The Contractor shall furnish and install all temporary water, electricity and other utilities required to accomplish the Work. The Contractor shall obtain the water required for carrying out the Work from fire hydrants, existing water main connections, or new connections approved by the Owner. The Contractor shall install a back flow preventer and water meter assembly if construction water is necessary. Upon Substantial Completion of Work, the Contractor shall remove all evidence of temporary connections and lines.

B. Prior to initiating any construction Work, the Contractor shall coordinate and schedule the provision of temporary utility service required during construction and arrange for the permanent installation and connection of utilities for the completed Work.

3.8.2 Material Delivery Locations

A. The Contractor shall notify, in writing, the Engineer of all planned material delivery/receiving locations. Such notification shall be prior to initiation of shipment. The Engineer will provide the Contractor with specific written approval for each delivery/receipt location, which will not be unreasonably withheld.

3.8.3 Storage of Equipment

A. The Contractor shall be responsible for all storage of materials, equipment, vehicles, tools, and all other items associated with the Work. Such storage shall comply with

applicable regulations appropriate for the items being stored to ensure suitable care for items and protection from theft, vandalism, or inappropriate use. The Contractor is solely responsible for the costs for such storage, unless otherwise indicated in the Contract Documents, and any costs associated with noncompliant storage including, but not limited to, loss and damage to items. In the event that the Owner directs the Contractor to stop the Work, costs associated with storing equipment or materials will be compensated in accordance with the provisions stated herein in Section 3.14.2, "Changes in Work and Change Orders." The Contractor shall ensure that the Engineer has access to Work-related storage on an as needed basis during regular Work Hours and Overtime.

3.8.4 Contractor Laydown Area

A. In the event the Contractor decides to utilize public or private property as a laydown area, the Contractor shall enter into a written agreement with the entity who owns the property. The Owner shall have access to all laydown areas. Upon submission of the Contractor's first Invoice or application for payment to the Owner, the Contractor shall provide the Owner with a copy of such signed written agreement. At the time of Contractor’s Final Application for Payment, the Contractor shall obtain and submit to the Owner a release from the property owner waiving all claims against Owner arising out of the use of such public or private property in connection with the Project.

3.8.5 Substitutions

A. Whenever materials or equipment are specified or described in the Contract by using the name of a proprietary item or the name of a particular supplier, the naming of the item is intended to establish the type, function and quality required.

B. Materials or equipment of other suppliers may be accepted by the Engineer if sufficient information is submitted by the Contractor to allow the Engineer to determine that the material or equipment proposed is equivalent or equal to that named.

C. The Contractor shall make written application to the Engineer for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified and be suited to the same use as that specified.

D. The application shall state that the evaluation and acceptance of the proposed substitute will not prejudice the Contractor's completion of the Work within the Contract Time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other Contract directly with the Owner for Work on the Contract) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fees, royalties, permits or any other costs.

E. All variations of the proposed substitute from that specified shall be identified in the application and available maintenance, repair and replacement service shall be indicated.

F. The application shall also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other Companies affected by the resulting change, all of which shall be considered by the Engineer in evaluating the proposed substitute.

G. Requests for review of substitute items of material and equipment will not be accepted by the Engineer from anyone other than the Contractor.

H. The Engineer may require the Contractor to furnish, at the Contractor's expense, additional data about the proposed substitute.

I. If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract, the Contractor may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to the Engineer, if the Contractor submits sufficient information to allow the Engineer to determine that the substitute proposed is equivalent to that indicated or required by the Contract.

J. The Engineer will be allowed a reasonable time within which to evaluate each proposed substitute; such time shall not be deemed justification for an extension of the Contractor's time for completion of the Contract.

K. The Engineer will be the sole judge of acceptability, and no substitute shall be ordered, installed or utilized without the Engineer's prior written notice, which shall be evidenced by a Change Order.

L. The Owner may require reimbursement for the cost associated with the Engineer’s evaluation of substitutions.

M. The Owner may require the Contractor to furnish, at the Contractor's expense, special performance guarantee bonds or other surety with respect to any substitution.

3.8.6 Disposition of Salvage Material

A. All material to be removed from the Work Location, relocated or salvaged, shall be inspected by the Engineer immediately prior to removal, and the Engineer's decision as to the salvageability shall be final. Such material that can be salvaged, in the opinion of the Engineer, shall be stored at the Work Location on-site by the Contractor, as and where directed by the Engineer, or delivered to a location as directed. Under no circumstances may existing structures, plant or facilities be removed or demolished without obtaining prior written approval from the Contract Administrator.

3.8.7 Tools and Equipment

A. All tools and equipment used in the performance of the Work shall be used as intended by the manufacturer and in accordance with manufacturer operating manuals and industry practices, whichever is more stringent. The Contractor shall ensure that all

tools and equipment used in the performance of the Work shall be of the size and quality suitable for safe and efficient performance of the Work. If the Contractor- provided tools and equipment do not meet these requirements, or if in the sole opinion of the Owner formed after considering relevant factors, the tools or equipment are inappropriate for performance of the Work, the Contractor agrees to remove the unacceptable tools and equipment and obtain tools and equipment the Owner considers suitable. Such replacement shall be entirely at the Contractor's expense, and no change to Contract Time will be allowed.

B. The Contractor is responsible for furnishing the security of any and all tools and equipment required to perform the Work.

SECTION 3.9: SAFETY & SECURITY

3.9.1 Safety and Protection Precautions

A. The Contractor shall comply with all applicable federal, state and local laws, ordinances, all Owner procedures and policies, and orders of any public body having jurisdiction for the safety of persons or protection of property. The Contractor understands and agrees that violation of any provision of this clause is grounds for immediate termination of the Contract and the Contractor is responsible for all Owner damages associated with such termination.

B. The Contractor shall ensure that Subcontractors and their personnel have all the necessary personal protective equipment and training needed to perform the Work safely.

C. The Contractor understands and agrees that it is responsible for paying all costs associated with providing a safe work environment including, but not limited to, any costs associated with any Owner directed safety improvements. The Contractor further understands and agrees that it is solely responsible for the safety of personnel and property associated with the Work, and that any actions taken by the Owner or the Owner’s Representatives to prevent harm to persons or damage to equipment does not, in any way, relieve the Contractor of this responsibility.

D. The Contractor’s Representative, or alternatively, the Contractor’s Supervisor, shall be designated as the Contractor's individual responsible for the prevention of accidents.

E. The Contractor shall notify the police and fire departments as to its Work Location in order to ensure prompt response in an emergency.

3.9.2 Emergency Events

A. In the event that a system-wide emergency arises during the Term of this Contract for which the Owner requires assistance from the Contractor including, but not limited to, severe storms, large-scale fires, floods, and terrorist attacks, the Contractor acknowledges the importance of Owner infrastructure and agrees to support, with all its

resources, skills and capabilities, and the maximum extent possible, all restoration efforts of the Owner. The Owner shall notify the Contractor when an emergency event occurs and the Contractor agrees to mobilize its full resources immediately. In the event conditions are such that an emergency event is likely in progress, but the Contractor has not been notified by the Owner, the Contractor shall make all efforts to contact the Owner to determine if and how it should respond. The Owner agrees to reimburse the Contractor for its actual costs incurred, plus overhead and profit not to exceed twelve percent (12%), and any one-time expended cost incurred as a result of supporting the Owner during the emergency event.

3.9.3 Emergency Procedures

A. In emergencies affecting the safety of persons, the Work or property at the Work Location or any other area adjacent thereto, the Contractor, without special instructions or authorization from the Owner, is obligated to act to its best ability, to prevent threatened damage, injury or loss to the Work, any persons, or property. The Contractor shall give the Owner prompt written notice describing the emergency, its cause, actions taken, injuries and casualties, property damage, other damages, and impact on continued performance under this Contract.

3.9.4 Storm Preparedness

A. In the event of a Hurricane Warning, Tropical Storm Warning, or other large storm affecting the Work Location, the Contractor shall secure, or shall remove and store all equipment and materials at the Work Location including, but not limited to, cones, barricades, lights and signs. The Contractor shall begin taking such precautions as necessary to secure the Work Location upon official issuance of mandatory evacuation of the area of the Work Location and no later than twenty-four (24) hours prior to predicted arrival of tropical storm or hurricane force winds, or when notified by the Owner to do so. These activities are considered a regular part of the Work, regardless of the frequency they are required.

3.9.5 Weather Protection

A. The Contractor shall provide proper facilities, take all necessary precautions and assume the entire cost for protecting the Work against weather conditions and for handling all storm, flood and ground water, sewage, or other seepage, that may be encountered during the performance of the Contract. The Contractor shall provide for such contingencies and for carrying on the Work in freezing weather by methods that meet with the approval of the Engineer. If the Contractor fails to provide such protection, or in the event of an emergency, the Owner may provide such protection at the Contractor's expense.

3.9.6 Project Security

A. The Contractor shall provide, at its expense, on-site security personnel at any time the facility's perimeter is unsecured, including but not limited to, alarms disabled, fences or

gates down, traffic flows that require gates to be opened repeatedly and/or for more than one hour of the work day. The Contractor shall schedule security personnel. Where existing lighting is disabled or otherwise impacted by the Work, the Contractor shall provide temporary lighting equal to or exceeding that which exists.

3.9.7 Protection of the Environment

A. The Contractor shall immediately notify the Owner of any Hazardous Materials encountered during the Work and shall immediately cease work in the affected area until further direction is received from the Owner.

B. The Contractor and its Subcontractors and Suppliers shall comply with all applicable laws, rules and regulations including, but not limited to, all Environmental Requirements.

C. Asbestos, Lead, or Toxic Mold may be present at the Work Location. The Contractor shall notify the Engineer immediately upon discovery of asbestos, lead, toxic mold. The Contractor shall not disturb or remove known or discovered asbestos, lead, or toxic mold unless directed by the Engineer.

D. Hazardous Materials:

1. The Contractor shall bear full responsibility including, but not limited to, payment and liability for the transportation, use and disposal of any Hazardous Materials under the Contractor's control during the performance of the Work. Disposal of Hazardous Materials should only be disposed of at Owner approved facilities. The Contractor shall provide the Owner with appropriate documentation showing proper disposal of its Hazardous Materials.

E. Toxic Substances Introduced by the Contractor:

1. The Contractor shall notify the Engineer in writing of the type, quantity and disposal method of any toxic substance used during the performance of the Work. The Contractor shall be solely responsible for the use and disposal of any such toxic substances. The Contractor shall submit cleanup procedures to the Owner for review and written approval prior to the use of the toxic substance. In the event that a toxic substance escapes into the environment, the Contractor shall immediately notify the Engineer in writing of the occurrence and the actions taken. In the event that the Contractor encounters toxic substances in the course of construction, the Contractor shall immediately notify the Engineer verbally, with a written notification to follow. The Engineer shall arrange for disposal by the Owner.

2. The Contractor will be solely responsible for all waste material including paints, lubricants, fuels, solvents, and other chemicals used in connection with the Work. The Contractor will provide proper containers for waste materials and comply with all applicable laws, rules and regulations in their disposal. The Contractor will dispose of all empty containers off-site as soon as possible. The Contractor will designate one area for transferring paints and solvents from large containers (55- gallon drums) into smaller containers for daily use.

F. The Contractor understands and agrees that the Work Location may include wetlands or other environmentally sensitive areas. The Contractor shall not enter these areas during the performance of its Work, unless specifically authorized by the Engineer and appropriate state and federal permits have been obtained.

G. The Contractor and/or Subcontractor's employees shall not endanger wildlife species or domestic animals of any kind.

H. The Contractor shall immediately cease any activity that causes or results in a violation of the Owner's or the Contractor's environmental permits or federal, state and local laws and regulations. Such violation shall immediately be reported to the Engineer verbally, with written notification to follow. All additional costs due to the Contractor's noncompliance with the applicable environmental permits or Environmental Requirements shall be paid by the Contractor.

SECTION 3.10: OTHER WORK AND OTHER PROPERTY

3.10.1 Encroachments on Rights or Property

A. The Contractor shall be solely responsible for any encroachments on public property or on the rights or property of adjoining property owners to the Work Location, and shall hold the Owner harmless because of any encroachments that may result because of the Contractor's improper layout. In this regard, the Contractor shall, without extra cost to the Owner, remove any Work or portion of any Work that encroaches on the property other than that of the Work Location, or that is built beyond legal building or setback limits. The Contractor shall rebuild the affected Work or portion of Work at the proper location and in full compliance with the Contract Documents.

3.10.2 Interference With Existing Utilities

A. The Contractor acknowledges and agrees that there is a possibility that the existing Owner or other utility facilities may cross and/or lie parallel to excavations in the area where Work will occur. Although the Owner may indicate recorded obstacles on the drawings, it does not warrant that other subsurface obstacles do not exist. The Contractor shall be responsible for verifying the data furnished by the Owner and for fully investigating and locating additional obstructions including every type below, on or above the ground. The Contractor should regard these impediments as normal to construction. All costs for performing such work shall not be paid for separately, but shall be included in the Contractor's costs on the Bid Form.

B. The Contractor shall comply with all requirements of the Underground Facility Damage Prevention and Safety Act, Florida Statutes, Chapter 556.

C. In the event the Contractor encounters an unidentified utility during performance of the Work, the Contractor shall promptly cease Work in the affected area and shall immediately notify the Owner's Representative in writing. The Owner will investigate the area and propose remedial actions in accordance with the provisions stated herein in the Section 3.14.2, "Changes to Work and Change Orders."

D. The Contractor shall work in cooperation with the Owner and representatives of existing utilities to plan and coordinate putting new Work into service so as not to interfere with the operation of the existing utilities. Such plans shall be adhered to unless deviations therefrom are expressly permitted in writing by the Contract Administrator.

E. The Contractor shall at all times conduct the Work in a manner that interferes as little as possible with the existing utilities. Any cables exposed during construction, whether energized or not, must be handled and protected as if they are energized. The Contractor shall so conduct its operations and maintain the Work in such condition that adequate drainage shall be in effect at all times. The Contractor shall not obstruct existing gutters, ditches and other runoff facilities. When working in the vicinity of overhead lines, the Contractor shall request line rubber protection and pole holding services from the Owner of the overhead lines at least ten (10) calendar days in advance of performing the work.

F. The Contractor shall be solely responsible for any damages, interferences, and interruptions of service caused to any utility's assets and services including water, sewer, electric, telephone, gas, cable, and other utility services, that result from the Contractor's failure to fulfill the above stated requirements.

G. In the event the Contractor damages an existing utility, the Contractor shall immediately notify the property owner, the owner of the damaged utility and the Engineer. Should the damage cause an interruption of service, the Contractor shall be responsible for restoring service as soon as possible; however, the Contractor shall not make repairs, other than any required to restore safe conditions, without the approval of the property owner, or the owner of the damaged utility. The Contractor shall be responsible for coordinating any repair effort, and any associated costs should the utility owner or a licensed repair contractor be required to make the repair. The Owner reserves the right to deduct any unsettled claim amount from Contractor's invoices until such time as the claim is satisfactorily resolved.

3.10.3 Interference With Other Owner Work or Other Companies

A. The Contractor shall perform the Work in a manner that minimizes the interference with other Owner work, or with work performed by other companies. The Contractor shall coordinate the Work with other persons and companies employed by the Owner. If a difference of opinion regarding scheduling or coordination of the work arises between the Contractor and another Owner contractor(s) performing work at the Work Location,

the Owner may involve itself the matter. In such cases where the Owner makes a decision regarding the scheduling or coordination of the work, the Contractor agrees to fully abide by the Owner's decision. Unless otherwise agreed in writing by the Owner, the Owner will not be responsible for additional costs.

B. Any claims arising against the Contractor from damages to other companies' work, equipment, machinery, tools or other property shall be settled directly between the Contractor and the other companies involved. The Owner will not, in any way, be a party to arbitrating or mediating any such disputes, nor shall the Owner be responsible for any costs associated with such disputes.

3.10.4 Interference with Railroads

A. The Contractor shall not build across, into, over or under, either temporarily or permanently, any portion of a railway or railway right-of-way without first obtaining all required permits. If the Contractor's operations render any railroad unsafe, the Contractor shall immediately notify the Engineer, and the railroad owner and take appropriate actions and such temporary safeguards as required to protect life, limb, and property, and to maintain orderly traffic.

B. The Contractor shall procure all railroad permits required for the Work beyond those procured by the Owner and the costs for such permits shall be included in the Bid Documents. All costs associated with railroad fees for railroad flagmen, watchouts, inspectors, supervisors, any additional training of Contractor's employees that is required by applicable laws, rules and regulations when performing Work in association with railways, any certifications required for successful completion of the Work and all other associated costs shall be included in the Contractor's costs on the Bid Form.

3.10.5 Interruption of Service

A. The Contractor shall not operate any valves, nor otherwise interrupt water and/or sewer service, without first obtaining permission from the Owner. The Owner shall be present during any interruption of service.

B. If the Contractor must shut down a main or portion of a main, thereby causing an interruption of water service, the Contractor shall provide the Owner with the following information, in writing, a minimum of five (5) business days in advance of any anticipated interruption of service:

1. Date and time of outage.

2. Purpose of the outage.

3. Map of the area to be affected by the outage.

4. Letter stating all offices, businesses, and residents have been or will be notified by the Contractor at least four (4) business days in advance of the outage (unless the Owner chooses to issue such notification).

C. The Contractor is not authorized to proceed with the requested Work without prior written notice from the Owner that such actions are approved.

D. In the event of a major emergency that endangers life or property, the Contractor may take immediate action before notifying the Owner. In all cases, however, the Owner shall be notified in writing at the earliest opportunity after addressing the emergency.

3.10.6 Protection of Existing Facilities and Grounds

A. The Contractor shall be responsible for protecting all the existing facilities including, but not limited to, buildings, lawns, landscaping, sprinkler systems, and pavements, both public and private, that are encountered during the performance of the Work. At all times, the Contractor shall cooperate with the owners of such facilities by arranging and performing the Work in and around such facilities in a manner that facilitates their preservation, relocation, and/or reconstruction. The Contractor shall be responsible for the full restoration or replacement if the Contractor damages such facilities during or resulting from performance of the Work.

B. The Contractor shall verify the existing dimensions and clearances before laying out the Work. When the Work involves the laying of utility lines across landscaped areas and grassed areas, which may include, but is not limited to, irrigation systems, streets, sidewalks, and other paved areas, the Contractor shall protect and preserve all trees, shrubs, palms, landscaping, etc., and restore such areas and all paved areas to their original sound conditions using construction techniques and materials that are the same as existing including replacing plants and trees with those of similar size and age. In the case of planted areas, the Contractor shall maintain the restoration Work until positive growth has been acknowledged in writing by the Engineer.

C. All costs for such restoration and replacement work shall be included in the associated lines on the Bid Form, and shall not be paid for separately.

D. The Contractor shall not (except upon written consent from the property owner and Contract Administrator) enter or occupy with workers, tools, equipment or vehicles any land outside the easements, right-of-ways, or the Owner's property.

3.10.7 Temporary Closure of Roadways

A. The Contractor shall not close or obstruct any portion of a street, road, or private way without first obtaining permits. If any street or private way is rendered unsafe by the Contractor's operations, the Contractor shall make such repairs or provide such temporary ways and guards necessary for the protection and safety of persons on the Work and the public and for the orderly maintenance of traffic. All costs associated with temporary closure of roadways shall be included in the Bid price.

B. The Contractor shall notify the police and fire departments in writing if it will be necessary to close a street. The Contractor shall copy the Owner on all correspondence relating to street closure. The Contractor shall notify the police and fire departments prior to closure of the street. The Contractor shall be responsible for maintaining proper coordination with the proper authorities.

C. Temporary closure of business entrances must be approved in writing by and coordinated with the Owner.

D. For the purposes of this Contract, the Contractor shall refer to the DIVISION 6: TECHNICAL SPECIFICATIONS.

SECTION 3.11: DRAWINGS

3.11.1 Shop Drawings

A. The Contractor shall submit all Shop Drawings according to the Schedule of Submittals approved by the Engineer and the DIVISION 6: TECHNICAL SPECIFICATIONS.

B. Shop drawings shall establish the actual quantities, dimensions, materials and specified performance and design details of all manufactured or fabricated items, services and equipment that Contractor proposes to provide for the Work; indicate proper relation to adjoining Work; amplify design details of mechanical and electrical equipment in proper relation to physical spaces in the structure; and incorporate minor changes of design or construction to suit actual conditions.

C. Shop drawings shall be complete in every detail, properly identified with the Contract name, Contract and subsection number for identification of each item, and state the qualifications, departures or deviations from the Contract, if any. Shop drawings for each section of the Work shall be numbered consecutively and the numbering system shall be retained throughout all revisions. Each drawing shall have a clear space above the title block in the lower right-hand corner for the approval stamps of the Contractor and the Engineer.

D. In checking the Shop Drawings, the Contractor shall:

1. Verify all dimensions and field conditions, and shall check and coordinate the Shop Drawings of any section or trade with the requirements of all other sections or trades whose Work is related thereto, as required for proper and complete installation of the Work.

2. Verify all rough-in and connections for utilities shall conform to approved equipment Shop Drawings

3. Review and coordinate each Shop Drawing with other Shop Drawings and the Contract Documents

4. Determine and verify all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety programs.

E. The Engineer will review the Shop Drawings and will return them to the Contractor stamped to indicate the action taken. For planning purposes, the Contractor shall allow a minimum of two (2) weeks for review of each Shop Drawing. The stamp will indicate that the Shop Drawing is "No Exception Taken", "Make Corrections Noted", "Revise and Resubmit" or "Rejected". Only those Shop Drawings stamped "Revise and Resubmit" or "Rejected" shall be resubmitted for subsequent review. Resubmittals shall be in the same form and number of copies as original submittals, with notation indicating a revised submittal. The Shop Drawings stamped "No Exception Taken" or "Make Corrections Noted" will be returned to the Contractor, who will be responsible for obtaining prints thereof and distributing them to the field and Subcontractors.

F. At the same time the Engineer returns a reviewed submittal to the Contractor it will forward two copies of each item stamped "No Exception Taken" or "Make Corrections Noted" together with any conditions of approval, to for field and office use. The Engineer may revoke approval of Shop Drawings, should field conditions so dictate.

SECTION 3.12: INSPECTIONS, QUALITY & REPORTING

3.12.1 Contractor's Daily Reports

A. The Contractor shall complete and submit daily reports for each calendar day of the Work, starting with the date of the Notice to Proceed, and said reports shall be submitted with each pay application. The Contractor's failure to submit the daily reports as specified herein will be grounds for withholding payments.

3.12.2 Reporting

A. The Contractor shall provide the reports as defined in the Contract Documents. The Contractor shall refer to DIVISION 6: TECHNICAL SPECIFICATIONS.

B. Where the reporting frequency is daily, reports shall be submitted by noon of the following workday. Where the reporting frequency is weekly, reports are due by Monday at noon, covering the prior workweek. Where Monday is a Holiday, the reports are due at noon on the next workday. Where reports are due monthly, reports are due by noon on the first business day of each month. Sample forms for reports may be included in the Contract Documents. Where they are included they are to be used. Where they are not included, the Contractor shall provide a sample of its proposed report format for each report to the Engineer at least one (1) week prior to its initial due

date. The Engineer will review and either approve or reject the use of the report. Where the proposed report is rejected, the Contractor shall resubmit revised report formats, until the Engineer approves format. The Reporting Cycle shall begin on the Notice to Proceed date or the date of the purchase order, if used.

C. Where the Contract calls for reports to be submitted by the Contractor, such reports shall be in both paper and electronic format, with the electronic version submitted electronically via email to the Engineer.

3.12.3 Quality Control and Quality Assurance

A. The Contractor shall provide Quality Control to ensure the Work is performed in accordance with the Contract. Quality Control shall be appropriate for the nature of the Work, and shall be conducted in a manner consistent with sound quality management and industrial engineering principles. The Contractor shall have only personnel trained in Quality Control techniques and experienced with the nature of the Work perform the Quality Control function.

B. The Owner may perform Quality Assurance activities. Such activities, whether performed or not, do not in any way limit or reduce the Contractor's requirements. The Owner may become aware of quality related problems during its performance of Quality Assurance, but has no obligation to notify the Contractor of its findings. The Contractor shall provide access to all areas of Work, including the Contractor's facilities, for the Owner's Quality Assurance personnel and the Owner's Representatives. The Owner will conduct Quality Assurance activities so as not to excessively interfere with the Work, however, where the Owner Quality Assurance personnel request specific actions of the Contractor, the Contractor shall comply with the request and agrees that such compliance is included as part of its Contract Price.

C. The Contractor shall refer to DIVISION 6: TECHNICAL SPECIFICATIONS.

3.12.4 Inspections and Testing

A. The Owner, or its designated representatives, will perform inspections at the Contractor facilities during normal business hours and in a manner that minimizes disruption to the normal day-to-day work activities of the Contractor. Contractor shall provide safe and proper facilities for inspection access and observation of the Work and also for any inspection or testing by others.

B. If the Contractor has covered or concealed any Work from inspection in any way that the Engineer has not specifically requested prior to the Owner's Representative's inspection, or if the Engineer considers it necessary or advisable that covered Work be inspected or tested by others, the Contractor, at the Engineer's request, shall uncover, expose or otherwise make available the portion of the Work in question for observation, inspection or testing as the Engineer may require. The Contractor shall furnish all necessary labor, material and equipment to make such Work available.

C. The Contractor shall bear all expenses of uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, including, but not limited to, compensation for additional professional services required by the Owner, and no change in Contract Time will be considered as a result of the foregoing.

D. The Owner may, at its sole discretion, grant the Contractor an extension of the Contract Time directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction.

E. All materials and equipment used in the construction of the Contract shall be subject to adequate inspection and testing in accordance with accepted standards. The Contractor shall select the laboratory or inspection agency for making all tests required by the specifications, and shall pay for this laboratory service direct, as a part of this Contract.

G. The Contractor shall pay for all required testing of materials and equipment. Two (2) copies of each test showing certification of each test shall be furnished to the Engineer immediately after such test has been made and with the exception of concrete, prior to delivery of the materials or equipment tested to the Work Location. The Owner will not accept the materials or equipment until tests have been approved.

H. Materials of construction, particularly those upon which the strength and durability of the structure may depend, shall be subject to inspection and testing to establish conformance with specifications and suitability for uses intended. Test requirements for all materials are set out in the detailed specifications for that particular material. All materials and equipment prior to being incorporated in the Work, and required by the Engineer to be tested, shall be tested for conformance with contractual requirements. Standard items of a uniform nature may be accepted on the manufacturer's certification. Where specific performance and/or quality is referred to, it is the Contractor's responsibility to have the necessary tests performed by qualified persons to show that the contractual requirements are being met except those tests named in the Contact Documents to be performed by the Owner. Certified test results shall be submitted promptly in quadruplicate to the Engineer for review. All tests shall be performed in accordance with referenced standards. Where no reference is made, tests shall be performed in accordance with the methods prescribed by the American Society for Testing and Materials or such other organization as would be applicable.

I. The Contractor shall pay for any retests resulting from its failure to provide Work that passes required tests.

J. The Engineer, or the Owner appointed Inspectors may inspect any and all materials and Work. Such inspection may extend to any or all parts of the Work and to the preparation and manufacture of the materials to be used. The Inspectors shall not be authorized to alter, revoke, enlarge or relax the provisions of the Contract, nor will they be authorized to approve or accept any portion of the completed Work, nor to issue instructions contrary to the Contract. The Inspector shall inform the Engineer of the progress of the Work and the manner in which it is being done, and notify the Contractor of any infringement upon the Contract Documents. The Inspectors will have the authority to

reject defective materials or to suspend any Work that is being improperly done subject to the final decision of the Engineer.

3.12.5 Performance Evaluation

A. The Owner may, upon completion of the Work or at any time during the Work, issue to the Contractor a written performance evaluation of the Contractor's performance of Work under this Contract. The evaluation will be based upon the Owner's and the Engineer's reports, inspections, and first-hand experience in dealing with the Contractor and the Contractor's representatives. The performance evaluation will indicate whether the Contractor's performance has been deemed "Satisfactory," "Unsatisfactory" or "Top Performance" with regard to the following criteria:

1. Timeliness;
2. Customer Service to Owner;
3. Care of Owner's Customers;
4. Financial Performance;
5. Quality of Workmanship;
6. Quality of Materials & Equipment;
7. Safety;
8. Environmental;
9. Compliance with DBE/WBE Requirements; and
10. Project Administration.

SECTION 3.13: OWNER FURNISHED ITEMS

3.13.1 Conditions of Provisioning

A. The Contractor understands and agrees that it shall be solely responsible for providing everything necessary to perform the Work and to be in full compliance with the Contract Documents, except for those items specifically listed herein as being provided by the Owner.

B. Any use of Owner furnished items on non-Owner work is a breach of the Contract and a violation of the law. All Owner furnished items are the property of the Owner when issued, stored by Contractor, and used in performance of the Work. The Contractor agrees that it shall use all Owner furnished items in a manner consistent with industry practice, codes, laws, considering the condition of the Owner furnished item, the skills

of the individuals using the Owner furnished item, and all environmental conditions. The Contractor understands and agrees that where the Owner and the Contractor shall share Owner furnished items, Owner usage shall always have priority over Contractor usage, and the Contract Administrator shall have sole authority to resolve any usage dispute and such resolution shall not result in any claim by Contractor.

C. The Contractor agrees to return to the Owner, and to the location as established by the Engineer, any unused or salvageable items prior to final payment. The Contractor agrees that the Owner has the right to audit and investigate at any time how the Contractor is using Owner furnished items. The Owner will bill the Contractor for unaccountable Owner furnished material at the current Owner cost.

3.13.2 Access to Work Locations

A. The Owner will provide, as indicated in the Contract Documents, and no later than the date when needed by the Contractor, access to the Work Location, including rights-of-way or access thereto, and such other lands that are designated for the Contractor's use. The Owner will secure easements for permanent structures or permanent changes in existing facilities, unless otherwise specified in the Contract Documents.

3.13.3 Contract Documents

A. After Contract Award, the Owner will furnish a maximum of one (1) complete set of the Contract Documents, or portions requested thereof, upon request by the Contractor. Additional copies will be supplied at cost to the Contractor.

3.13.4 Site Conditions

A. The Owner will provide to Contractor test data results from field tests. Such data has been determined by the Owner to be sufficient to describe the conditions to be expected during the performance of the Work. The Contractor shall not be entitled to any claim for additional costs associated with any ground related Work, unless the actual conditions found substantially differ from those described by the test data.

B. The Contractor is responsible for verifying Site conditions and obtaining additional data as the Contractor deems necessary. The Contractor will be responsible for all costs associated with the gathering of additional Site data.

SECTION 3.14: CHANGES TO WORK

3.14.1 Unforeseen Conditions

A. The Contractor understands and agrees that it is its responsibility to conduct due diligence prior to the start of Work. Such due diligence includes, but is not limited to, verifying all Work conditions, measurements, dimensions and latent and patent obstructions, the accuracy of drawings, test results, inspections and other informational materials provided in the Contract Documents, and any other causes for existing or

potential changes to the Work prior to initiating the Work. In the event that the Work must be changed due to the Contractor's failure to fulfill the above requirements, the Contractor understands and agrees that it will be responsible for all costs associated with the changed condition.

B. In the event, however, that the Contractor exercises the requisite due diligence and a change to the Work becomes necessary resulting from conditions that are clearly unforeseen and that could not have been discovered, the costs for adjusting the Work in response to such unforeseen conditions shall be addressed as stated herein in Article 3.14.2 below titled "Changes in the Work and Change Orders."

3.14.2 Changes in the Work and Change Orders

A. The Engineer may issue to the Contractor a written Field Order to authorize minor changes to the Work having no impact on Contract Price or Contract Time. If the Contractor anticipates that the Field Order work will impact the Contract Price or Contract Time the Contractor should immediately notify the Engineer.

B. In the event of an emergency endangering life or property where it is appropriate for the Contractor to take action, the Contractor shall undertake such actions to preserve life and property. The Owner and the Contractor will determine after emergency is concluded, the extent of out-of-scope work performed by the Contractor, and the Owner will issue a Change Order or amend the Contract for such work, if any and as necessary.

C. Anything to the contrary notwithstanding, in the event that the Owner determines that a change must proceed immediately or if the Owner rejects all or a portion of the Contractor's estimated effect of a change, then the Owner may direct, and the Contractor shall commence immediately and perform until completion, the necessary services to implement the change. The Owner will issue such direction in the form of a written Work Change Directive. The Contractor shall be compensated for such change in the work, notwithstanding any objections of the Contractor, which objections shall be preserved and not waived by the Contractor's commencement or performance of the Work as directed by the Owner.

D. To request or claim any change in the Work including, but not limited to change in scope, quantities, pricing, or schedules, the Contractor shall submit a letter to the Engineer stating such request or claim. The Engineer shall review and submit a written recommendation to the Owner. The Owner shall have the right to approve or disapprove any request or claim for change as it deems necessary and in its best interests consistent with the other Contract requirements. Whether requested by the Contractor, claimed by the Contractor, or contemplated by the Owner, no change shall be authorized unless made on an Owner Change Order signed by the Contract Administrator or through a formal written amendment to this Contract.

E. All requests for changes filed by the Contractor shall be in writing delivered to the Owner’s Representative within ten (10) business days of when the event that prompted

the claim was discovered or should have been discovered. The Contractor's failure to timely submit a written claim will constitute a waiver of the right to pursue a claim. Upon receipt of the Contractor's claim notification, Owner's Representative will provide written direction as to the procedures that will be used to address the request. The Contractor's request shall be sufficiently detailed including itemized costs, condition and work descriptions and other information necessary to evaluate the merits of the claim. A cost breakdown showing all labor, material and equipment shall be provided. The Owner's Representative may reject requests providing insufficient supporting information. Any change in the Contract resulting from the request will be incorporated into the Contract via a Change Order or Purchase Order. Where the Engineer and the Contractor are unable to reach a mutually acceptable resolution of request, the Owner's determination will be final.

F. Where necessary, the Owner will determine the value of work covered by a change order using one of the following methods:

1. Where the work is covered by established unit prices contained in the contract, the unit price, if the Owner agrees that this is a fair and reasonable price; otherwise, a negotiated price will be applied to the quantity of work at the discretion of the Owner,

2. By mutual acceptance of lump sum price,

3. By actual cost and a mutually acceptable fixed amount for overhead and profit, or

4. Where Bid Price was based on estimated quantities, prior to making final payment, the Owner will determine actual quantities using sampling, surveying and other industry recognized means and prepare a Change Order adjusting the price to reflect actual volumes.

G. The Contractor shall immediately notify the Owner's Representative in writing of any unauthorized change in the scope of the Work or significant change in the quantities of the Work that may increase the Contract Price, require an extension of Work schedule, or negatively impact permitting or other regulatory requirements.

H. The Contractor shall submit requests or claims for a Work schedule adjustment in writing and delivered to the Engineer within five (5) business days following the discovery of the event that prompted the claim or when the event should have been discovered. Where accepted by the Owner, changes to Work schedule will only adjust for critical path impacts. Failure to include the necessary critical path analysis with request shall be grounds for rejecting the claim. The path of critical events mentioned herein means the series of interdependent Work events that must be sequentially performed and that require a longer total time to perform than any other such series. Upon receipt of the Contractor's request for a change in the Work schedule, the Owner's Representative will provide any additional directions in writing detailing the procedures that will be used to resolve the request, including provision of time impact or manpower and equipment loading schedules. Where the Owner and the Contractor

are unable to reach a mutually acceptable resolution of request, the Owner will make a commercially reasonable determination, made in accordance with the Owner's established policies and procedures, which shall be final.

I. All Work defined on Field Orders, Work Change Directives and Change Orders shall be subject to the conditions of the Contract, unless specifically noted on the Field Order Form, Work Change Directive Form, or Change Order.

3.14.3 No Damage for Delay

A. Damage, loss, expense or delay incurred or experienced by the Contractor in the prosecution of the Work by reason of unforeseen circumstances, unanticipated difficulties and obstructions, bad weather, or other mischances that are generally considered to be a part of the usual hazards associated with Work, shall be borne entirely by the Contractor and shall not be the subject of any claim for additional compensation or change in Approved Schedule.

B. The Contractor agrees that its sole remedy for any claims, damages or losses related to any delay, disruption or hindrance alleged to be caused by the Owner or any of the Owner's agents or other contractors, shall be an extension of the Contract completion date. As such, the Contractor shall not recover any cost associated with extended home/field office overhead, idle labor/equipment/materials, subcontractors' claims or any other miscellaneous costs.

C. Any demand for equitable time adjustment must be served in writing to the Owner within five (5) calendar days of the event giving rise to any delay, disruption or hindrance. Any request for an equitable time adjustment shall be accompanied by a logical time impact analysis, demonstrating the nature and magnitude of the event to the critical path. Any request that is not clearly shown to be an impact to the project's critical path will be denied.

D. Failure to strictly comply with these requirements shall be deemed a waiver of any right to seek equitable adjustment.

3.14.4 Notification of Surety

A. The Contractor shall notify its surety of any changes affecting the general scope of the Work or altering the Contract Price.

3.14.5 Contingency Work

A. The Owner will issue a written Change Order to incorporate cost or schedule changes into the Contract. Issuance of a Change Order is solely at the discretion of the Owner. The Change Order shall be used for increases or decreases in the Contract Price, within the contingency amount set forth in the Contract Price, or to make changes in schedule for performance of the Work.

B. The Contractor should not expect that any Change Orders for contingency work will be issued. Owner shall have no obligation to pay for contingency work unless the same is performed pursuant to a written Change Order form signed before the contingency work is commenced.

C. The Contractor and the Engineer shall mutually agree to the pricing of a Change Order for contingency work. Any negotiated increase or decrease in the Contract Price shall be based on the Contractor's costs for labor, materials and supplies directly applicable to the increase or decrease plus ten percent (10%) thereof for Contractor's supervision, overhead, bonds and profit. For any negotiated increase or decrease, the Contractor will provide a complete detailed breakdown for all labor, material, and equipment, etc. associated with the change. A lump sum figure submitted with no breakdown will be returned to the Contractor without review.

D. Cost Reimbursable (Time and Materials) Method:

1. The Owner may, at its sole discretion, implement cost reimbursable procedures in order to limit the costs for performance of contingency work. Also, whenever the Contractor and the Owner are unable to agree on costs for an increase in the Work, the Owner or Engineer shall order the Contractor to proceed with the Work on a cost reimbursable (time and material) basis. The Owner will pay the Contractor for the contingency work in the manner hereinafter described, and the compensation thus provided shall constitute full payment for said work. The Owner shall issue the Change Order for the Contractor to perform the specific contingency work with payment determined as follows:

    a. For materials purchased by the Contractor and used in the work, the Contractor shall be paid the actual cost of such materials, including sales taxes if required, and freight and delivery charges as shown by original receipted bills. A mark-up amount equal to ten percent (10%) of the sum thereof shall be added to this cost. The Owner reserves the right to select and approve, or to reject the materials to be used and the sources of supply of any materials furnished by the Contractor.

    b. The Contractor will be paid the cost of wages for all labor that is engaged in the Work, plus the actual cost chargeable to the Work for workers' compensation insurance, social security taxes, unemployment compensation insurance and such additional amounts as are paid by the Contractor. A total mark-up shall be added equal to ten percent (10%) of wages and other cost listed above. In evidence of the costs of labor the Contractor shall provide a certified statement of wages actually paid, together with copies of supporting payrolls. Wage rates used in determining the amount of the payment will be the actual wage rates paid by the Contractor for Work under this Contract, except that no rate used shall exceed the rate of comparable labor currently employed on the project.

    c. Payment for the services of foremen in direct charge of the specific operation will be made. Payment for the service of superintendents, timekeepers or other

overhead personnel will not be made nor will payment for the services of watchmen be made unless required specifically by the contingency Work. The actual function performed by an employee rather than its payroll title will be the criterion used in determining the eligibility of an employee's services for payment under this provision.

d. The types and amounts of equipment and machinery used by the Contractor in carrying out its work under the contingency shall be made in keeping with normal practice for work of similar nature. Owner may, at its discretion, limit by specific instruction the types and amounts of equipment and machinery to be used. For all equipment and machinery used in the contingency work, the Owner will pay eighty percent (80%) of the rental value as set forth in the Blue Book value or actual cost, whichever is less, to which no mark-up percentages will be added.

e. In computing the hourly rental of such equipment, less than thirty (30) minutes shall be considered 1/2 hour except when the minimum rental time to be paid is one hour. Rental time will not be allowed while equipment is inoperative due to breakdowns. The rental time of equipment to be paid for shall be the time the equipment is in operation on the contingency work being performed. The Contractor shall be reimbursed for the time required to move the equipment to the Work, and return it to its original location, only if the Contractor is charged this cost by the renting agency. Excess rental time of equipment due to inefficient work practices will not be reimbursed.

f. No payment will be allowed for the use of small tools and minor items of equipment, which, as used herein, are defined as individual tools or pieces of equipment having a replacement value of $500.00 or less.

g. The Contractor and the Engineer shall compare records of the Work performed on a Cost Reimbursable basis at the end of each day. These records shall be prepared by the Contractor and shall be signed by both the Owner and the Contractor’s Representative. A copy of these records shall be submitted to the Owner with the invoice for the work.

h. Payment for cost reimbursable contingency work will be included in monthly progress payments.

i. The Contractor's Subcontractors will be allowed a ten percent (10%) mark-up on Work performed by their own forces. The Contractor will be allowed a five percent (5%) mark-up on the Subcontractor's costs (i.e. labor, materials and equipment) only, no mark-up on the Subcontractor's profit.

3.14.6 Suspension of Work

A. The Owner may suspend the performance of the Work rendered by providing the Contractor with five (5) business days written notice of such suspension. Schedules and

compensation for performance of the Work shall be amended by mutual agreement to reflect such suspension. In the event of suspension of Work, the Contractor shall resume the full performance of the Work when the Owner gives written direction to do so. Suspension of Work caused by the Contractor's sole negligence or failure to perform shall not increase the Contractor's compensation as outlined in the Contract Documents.

3.14.7 Unauthorized Work

A. The Owner will consider any Work done without lines and grades given, Work done beyond the lines and grades shown on the Contract or as given, or any extra Work done without written authority, as unauthorized Work and will not pay the Contractor for such Work. If so ordered by the Contract Administrator, the Contractor shall remove such Work and properly replace it at the Contractor's own expense.

3.14.8 Payment of Overtime

A. Any Overtime required for the Contractor to complete the Work within the Contract Time shall be at the sole cost and expense of the Contractor.

B. If the Owner requires the Contractor to perform Overtime Work in order to complete the Work prior to the Contract Time, the Contractor shall bill the Owner for the Overtime only the actual costs incurred by the Contractor relating to the payment of Overtime premiums, in accordance with its labor policies and applicable laws. Such actual costs include Overtime wage premium, and additional taxes and insurance directly associated with the Overtime wage premium. The Contractor agrees that it will not charge for personnel paid a salary, or other form of compensation when the Contractor incurs no direct costs as a result of the Overtime. The Contractor shall total the direct Overtime charges, and add the agreed upon overhead rate, but in no case, shall such overhead rate exceed ten percent (10%) of the total overtime costs.

C. Overtime may only be charged to the Owner if the Contractor was directed in writing by the Contract Administrator to incur the Overtime. Such authorization for Overtime shall be accompanied by a Change Order.

3.14.9 Scheduling of Overtime (Contractor Initiated Overtime)

A. Whenever the Contractor schedules Work beyond ten (10) hours per day, beyond fifty (50) hours per week, or on Saturdays, Sundays, or Owner Holidays, then the Contractor shall arrange, in advance, for the Engineer to inspect the Work performed during Overtime. The Contractor shall not perform Overtime Work or after-hours Work without an Owner's Representative at the Work Location or available to perform the inspections, as directed by the Contract Administrator. Except where the Owner has requested the Contractor schedule Overtime to perform additional Work, the Contractor shall reimburse the Owner for any additional costs associated with the Owner's Representatives' Overtime pay.

SECTION 3.15: LABOR

3.15.1 DBE, MBE and/or WBE Requirements

A. Contractor represents that it will comply with all applicable provisions regarding DBE, MBE and/or WBE enterprises requirements.

3.15.2 Contractor's Labor Relations

A. The Contractor shall negotiate and resolve any disputes between the Contractor and its employees, or anyone representing its employees. The Contractor shall immediately notify the Owner of any actual or potential labor dispute that may affect the Work and shall inform the Owner of all actions it is taking to resolve the dispute.

3.15.3 Minimum Qualifications of Contractor Personnel

A. All Contractor personnel shall be at a minimum qualified for the tasks they are assigned. All Contractor personnel shall act in a professional manner, with due sensitivity to other persons at the Work Location. If the Owner, at its sole discretion, determines that a Contractor's person is unqualified, unfit, or otherwise unsuitable for the tasks assigned, the Contractor shall immediately stop the person from performing the tasks, and replace the person with a qualified individual. The Contractor shall pay all costs associated with replacing the unqualified person including, but not limited to, termination, recruiting, training, and certification costs.

B. The Contractor personnel assigned supervisory roles, and those with increased authority shall be held to strict scrutiny of their qualifications and suitability for their positions. In addition to the other provisions of this clause, the Contractor shall provide written documentation as to experience, education, licenses, certifications, professional affiliations, and other qualifications of the individual, within one (1) day of request from the Engineer. Any changes to such personnel after approval shall require the written permission of the Engineer.

3.15.4 Nondiscrimination

A. Contractor represents that it will comply with all applicable provisions regarding equal employment requirements.

B. The Contractor represents that it has adopted and will maintain a policy of nondiscrimination against employees or applicants for employment on account of race, religion, sex, color, national origin, age or handicap, in all areas of employee relations, throughout the Term of this Contract. The Contractor agrees that on written request, it will allow the Owner reasonable access to the Contractor's records of employment, employment advertisement, application forms and other pertinent data and records for the purpose of investigation to ascertain compliance with the nondiscrimination provisions of this Contract for a period of five (5) years from the completion of the project.

C. The Contractor shall comply with the following executive orders, acts, and all rules and regulations implementing said orders or acts, which are by this reference incorporated herein as if set out in their entirety:

1. The provisions of Presidential Order 11246, as amended, and the portions of Executive Orders 11701 and 11758 as applicable to Equal Employment Opportunity;

2. The provisions of section 503 of the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act (ADA); and

3. The provisions of the Employment and Training of Veterans Act, 38 U.S.C. 4212 (formerly 2012).

D. The Contractor agrees that if any of the Work of this Contract will be performed by a Subcontractor, then the provisions of this subsection shall be incorporated into and become a part of the subcontract.

E. Discriminatory Vendor List. Contractor hereby acknowledges its continuous duty to disclose to the City if Contractor or any of its affiliates, as defined by Section 287.134(1)(a), Florida Statutes, has been placed on the Discriminatory Vendor List. Pursuant to Section 287.134(2)(a), Florida Statutes: "An entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid, proposal, or reply on a contract to provide any goods or services to a public entity; may not submit a bid, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals, or replies on leases of real property to a public entity; may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity; and may not transact business with any public entity."

3.15.5 Show-Up Pay

A. In the event that inclement weather prevents the Contractor from performing Work, the Contractor may be obligated to pay its crew a show-up pay. The Contractor shall be solely responsible for providing this pay.

SECTION 3.16: RIGHTS & REMEDIES

3.16.1 Intellectual Property

A. The Contractor grants to the Owner an irrevocable, perpetual, royalty free and fully paid-up right to use (and such right includes, without limitation, a right to copy, modify and create derivative works from the subject matter of the grant of the right to sublicense all, or any portion of, the foregoing rights to an affiliate or a third party service provider) the Contractor's intellectual property (including, without limitation, all trade secrets, patents, copyright and know-how) that is contained or embedded in, required for the use of, that was used in the production of or is required for the reproduction, modification,

maintenance, servicing, improvement or continued operation of any applicable unit of Work.

B. If the Work contains, has embedded in, requires for the use of any third party intellectual property, or if the third party intellectual property is required for the reproduction, modification, maintenance, servicing, improvement or continued operation of the Work, the Contractor shall secure for the Owner an irrevocable, perpetual, royalty free and fully paid-up right to use all third party intellectual property. The Contractor shall secure such right at its expense and prior to incorporating any third party intellectual property (including, without limitation, all trade secrets, patents,

copyright and know-how) into any Work, including, without limitation, all drawings or data provided under the Contract, and such right must include, without limitation, a right to copy, modify and create derivative works from the subject matter of the grant of the right and a right to sublicense all or any portion of the foregoing rights to an affiliate or a third party service provider.

C. Should the Owner, or any third party obtaining such work product through the Owner, use the Work or any part thereof for any purpose other than that which is specified herein, it shall be at the Owner's sole risk.

D. The Contractor will, at its expense, defend all claims, actions or proceedings against the Owner based on any allegation that the Work, or any part of the Work, constitutes an infringement of any patent or any other intellectual property right, and will pay to the Owner all costs, damages, charges, and expenses occasioned to the Owner by reason thereof. The Owner will give the Contractor written notice of any such claim, action or proceeding and, at the request and expense of the Contractor, the Owner will provide the Contractor with available information, assistance and authority for the defense.

E. If, in any action or proceeding, the Work, or any part thereof, is held to constitute an infringement, the Contractor will forthwith either secure for Owner the right to continue using the Work or will, at the Contractor's expense, replace the infringing items with noninfringing Work or make modifications as necessary so that the Work no longer infringes.

F. The Contractor will obtain and pay for all patent and other intellectual property royalties and license fees required in respect of the Work.

3.16.2 Offsets

A. If the Contractor is in violation of any requirement of the Contract, the Owner may withhold payments that may be due the Contractor, and may offset existing balances with any Owner incurred costs against funds due the Contractor under this and any other Contractor Contract with the Owner, as a result of the violation, or other damages as allowed by the Contract Documents and applicable law.

3.16.3 Proprietary Information

A. The Contractor shall not copy, reproduce, or disclose to third parties, except in connection with the Work, any information that the Owner furnishes to the Contractor. The Contractor shall insert in any subcontract a restriction on the use of all information furnished by the Owner. The Contractor shall not use this information on another project. All information furnished by the Owner will be returned to the Owner upon completion of the Work. The Contractor may retain a copy of such information solely for its own project records.

3.16.4 Removal of Work

A. The Contractor shall not sell, assign, mortgage, hypothecate or remove Work that has been delivered to or installed at the Work Location without the Owner's approval.

3.16.5 Right to Audit and Financial Reporting

A. Upon the Owner's requests, the Contractor agrees to allow the Owner to audit its financial and operating records for the purpose of determining invoice accuracy, or otherwise assessing compliance with the Contract Documents. The Contractor agrees to allow Owner personnel, their qualified representative, and/or representatives as stated in DIVISION 4: SUPPLEMENTAL CONDITIONS access the records at Contractor's office, with three (3) business days written notice, for a reasonable period, not less than five (5) business days, in a workspace suitable for the audit provided by the Contractor. All audit work will be done on the Contractor's premises, and no Contractor documentation will be removed from the Contractor's offices. The Contractor agrees to have knowledgeable personnel available to answer questions for the auditors during the time they are at the Contractor's offices and for a period of two (2) weeks thereafter. The Contractor shall provide to the Owner audited financial statements for the most recent fiscal year upon the Owner's request, not later than five (5) business days after receipt of written request.

3.16.6 Title to Materials Found

A. The Owner shall retain the title to water, mineral matter, timber and any other materials that the Contractor, or its Subcontractors, encounter during the excavation or other operations of the Work. The Contractor shall use or dispose of this material in accordance with the Contract or written instructions from the Engineer. Any materials found in the excavation, or other operations of the Contractor, that are of archaeological or historical value shall be left in place. The Contractor shall immediately notify the Owner of the find and shall take no further action until directed by the Owner.

SECTION 3.17: REPRESENTATIONS & WARRANTIES

3.17.1 Contractor's Knowledge of the Work

A. The Contractor represents that the Contract Price and the detailed schedule for the execution of the Work are based on its own knowledge and judgment of the conditions and hazards involved, and not upon any representation of the Owner. The Owner assumes no responsibility for any understanding or representation made by any of its representatives during or prior to execution of the Contract unless such understandings or representations expressly stated in the Contract and the Contract expressly provides that the Owner assumes the responsibility.

3.17.2 Contractor's Plans and Specifications

A. All plans and specifications that the Contractor provides for any building, structure, system or equipment where required by federal, state, local laws and regulation as part of the Work shall bear the seal of a Professional Engineer duly registered in the State of Florida at no cost to the Owner.

3.17.3 Contractor's Warranties

A. The Contractor unconditionally warrants to the Owner for a period of not less than two (2) years (unless otherwise stated in DIVISION 6: TECHNICAL SPECIFICATIONS) from the earlier of Final Acceptance or Substantial Completion and beginning of normal use by the Owner, that all Work furnished under the Contract including, but not limited to, materials, equipment, workmanship, and intellectual property, including derivative works will be:

1. Performed in a safe, professional and workman like manner;

2. Free from Defects in design, material, and workmanship;

3. Fit for the use and purpose specified or referred to in the Contract;

4. Suitable for any other use or purpose as represented in writing by the Contractor;

5. In conformance with the Contract Documents; and

6. Merchantable, new and of first-class quality.

B. The Contractor warrants that the Work shall conform to all applicable standards and regulations promulgated by federal, state, local laws and regulations, standards boards, organizations of the Department of State, and adopted industry association standards. If the Work fails to conform to such laws, rules, standards and regulations, the Owner may return the Work for correction or replacement at the Contractor's expense, or return the Work at the Contractor's expense and cancel the Contract. If the Contractor performs services that fail to conform to such standards and regulations the Contractor shall make the necessary corrections at Contractor's expense. The Owner may correct services to comply with standards and regulations at the Contractor's expense if the Contractor fails to make the appropriate corrections within a reasonable time.

C. If the Work includes items covered under a manufacturer's or Subcontractor's warranty that exceeds the requirements stated herein, the Contractor shall transfer such warranty to the Owner. Such warranties, do not in any way limit the warranty provided by the Contractor to the Owner.

D. If, within the warranty period, the Owner determines that any of the workmanship or supplies are defective or exhibit signs of deterioration, in the opinion of the Owner, the Contractor, at its own expense, shall repair, adjust, or replace the defective Work to the

complete satisfaction of the Owner. The Contractor shall pay all costs of removal, transportation, reinstallation, repair, and all other associated costs incurred in connection with correcting such Defects in the Work. The Contractor shall correct any Defects only at times designated by the Owner. The Contractor shall extend the warranty period an additional twelve (12) months (thirty-six (36) months total) for any portion of the Work that has undergone warranty repair or replacement.

E. When operational conditions warrant, the Owner may repair or replace any defective equipment at the Contractor's expense. The Owner may repair or replace any defective Work at the Contractor's expense when the Contractor fails to correct the Defect within a reasonable time of receiving written notification of the Defect by the Owner, when the Contractor is unable to respond in an emergency situation, or when necessary to prevent the Owner from substantial financial loss. Where the Owner makes repairs or replaces defective Work, the Owner will issue the Contractor a written accounting and invoice of all such work to correct Defects.

F. The Contractor's warranty excludes remedy for damage or Defect caused by abuse, improper or insufficient maintenance, improper operation, or wear and tear under normal usage.

3.17.4 Competent Performance of the Work

A. The Contractor represents that it will conduct the Work in a manner and with sufficient labor, materials and equipment necessary to affect a diligent pursuance of the Work through Final Completion. If, in the sole opinion of the Owner, the Contractor fails to perform the Work as represented, the Owner may, at its sole discretion, take charge of the Work and furnish and provide the labor, materials, and equipment necessary to complete the Work as planned within the required time if the Owner deems the organization of the Contractor or its management, or the manner in which Contractor is performing the Work, to be manifestly incompetent or inadequate to complete the Work as specified. The Contractor shall pay the Owner for the cost of all such Work completed by the Owner.

3.17.5 Encroachment on Outside Property

A. The Contractor warrants that it shall not encroach on any rights or property of the public or adjoining property owners and shall hold the Owner harmless because of any encroachments that may result from the Contractor's lack of proper layout. If such an encroachment occurs, the Contractor agrees to remove any Work or portion thereof, that encroaches on the property of others, or that is built beyond legal building or setback limits, and shall rebuild the affected Work, or portion thereof, at the proper location, all without extra cost to the Owner.

3.17.6 Free and Clear Title

A. The Contractor warrants that it has title to all equipment and materials furnished under the Contract where title will pass to the Owner, and that the equipment and materials passed to the Owner are free and clear of all liens, claims, security interests and encumbrances.

3.17.7 Performance of the Work

A. The Contractor represents and warrants that it has the full corporate right, power and authority to enter into the Contract and to perform the acts required of it hereunder, and that the performance of its obligations and duties hereunder does not and will not violate any Contract to which the Contractor is a party or by which it is otherwise bound. The Contractor warrants that all items provided under the Contract shall be free from Defect and services shall be performed in a professional manner and with professional diligence and skill, consistent with the prevailing standards of the industry. The Contractor warrants that the Work will meet the functional and performance requirements defined in the Contract.

3.17.8 Safety Representation

A. The Contractor represents and warrants to the Owner that it has the capacity to train and supervise its employees, Subcontractors and Suppliers to ensure the Work complies with all safety requirements of the Contract Documents. The Contractor shall be responsible for executing the necessary safety training and supervision of its employees and Subcontractors, and acknowledges that the Owner is not responsible for training or supervising the Contractor's employees.

SECTION 3.18: TERM & TERMINATION

3.18.1 Term of Contract (Through Work Completion)

A. The Contract shall be in force through completion of all Work, Final Acceptance and final payment, including resolution of all disputes, claims, or suits, if any. Certain provisions of this Contract may extend past termination including Warranty provisions.

3.18.2 Termination for Convenience

A. The Owner shall have the absolute right to terminate in whole or part the Contract, with or without cause, at any time after Award upon written notification of such termination.

B. In the event of termination for convenience, the Owner will pay the Contractor for all disbursements and expenses that the Contractor has incurred, or those for which it becomes obligated prior to receiving the Owner's notice of termination. Owner will also pay the Contractor costs incurred less the reasonable resale value, of materials or

equipment that the Contractor has already ordered, obtained or fabricated in connection with the Contract.

C. Upon receipt of such notice of termination, the Contractor shall stop the performance of the Work hereunder except as may be necessary to carry out such termination and take any other action toward termination of the Work that the Owner may reasonably request, including all reasonable efforts to provide for a prompt and efficient transition as directed by the Owner.

D. The Owner will have no liability to the Contractor for any cause whatsoever arising out of, or in connection with, termination (whether for convenience or default) including, but not limited to, lost profits, lost opportunities, or resulting change in business condition, except as expressly stated within these Contract Documents.

3.18.3 Termination for Default

A. Owner may give the Contractor written notice to discontinue all Work under the Contract in the event that:

1. The Contractor assigns or subcontracts the Work without prior written permission;

2. Any petition is filed or any proceeding is commenced by or against the Contractor for relief under any bankruptcy or insolvency laws;

3. A receiver is appointed for the Contractor's properties or the Contractor commits any act of insolvency (however evidenced);

4. The Contractor makes an assignment for the benefit of creditors;

5. The Contractor suspends the operation of a substantial portion of its business;

6. The Contractor suspends the whole or any part of the Work to the extent that it impacts the Contractor's ability to meet the Work schedule, or the Contractor abandons the whole or any part of the Work;

7. The Contractor, at any time, violates any of the conditions or provisions of the Contract Documents, or the Contractor fails to perform as specified in the Contract Documents, or the Contractor is not complying with the Contract Documents;

8. The Contractor attempts to willfully impose upon the Owner items or workmanship that are, in the Owner's sole opinion, defective or of unacceptable quality;

9. The Contractor breaches any of the representations or warranties;

10. The Contractor is determined, in the Owner's sole opinion, to have misrepresented the utilization of funds or misappropriated property belonging to the Owner; or

11. There is any material change in the financial or business condition of the Contractor.

B. If, within twenty-four (24) hours after service of such notice upon the Contractor, an arrangement satisfactory to the Owner has not been made by the Contractor for continuance of the Work, the Owner may terminate the Contract.

C. Once a Contractor is declared in default, the surety shall assume the Contractor's place in all respects and shall be paid by the Owner all monies, if any, due the Contractor at the time of such notice to discontinue, or any monies thereafter that may become due the Contractor in accordance with the terms of the Contract.

D. If the Contractor fails to make arrangements satisfactory to the Owner within ten (10) days after service to the Contractor of a notice to discontinue Work, and in the case where a Payment Bond and a Performance Bond are in effect, the surety has not exercised its option, then without further notice to the Contractor or the surety, the Owner may terminate the Contract and shall have the power to complete the Work herein described as it may determine. In such a case, the Owner shall have the right to take possession of and use any of the materials, plant, tools, equipment, supplies and property of any kind provided by the Contractor for the purpose of this Work.

E. The Owner will charge the expense of completing the Work to the Contractor and will deduct such expenses from monies due, or which at any time thereafter may become due, to the Contractor. If such expenses are more than the sum that would otherwise have been payable under the Contract, then the Contractor shall pay the amount of such excess to the Owner upon notice of the expenses from the Owner. The Owner shall not be required to obtain the lowest price for completing the Work under the Contract, but may make such expenditures that, in its sole judgment, shall best accomplish such completion. The Owner will, however, make reasonable efforts to mitigate the excess costs of completing the Work.

F. The Contract Documents shall in no way limit the Owner's right to all remedies for nonperformance provided under law or in equity, except as specifically set forth herein. In the event of termination for nonperformance, the Contractor shall immediately surrender all Work records to the Owner. In such a case, the Owner may offset any money owed to the Contractor against any liabilities resulting from the Contractor's nonperformance.

G. The Owner has no responsibility whatsoever to issue notices of any kind, including but not limited to deficient performance letters and scorecards, to the Contractor regarding its performance prior to default by Contractor for performance related issues.

H. The Owner shall have no liability to the Contractor for termination costs arising out of the Contract, or any of the Contractor's subcontracts, as a result of termination for default.

SECTION 3.19: MISCELLANEOUS TERMS & CONDITIONS

3.19.1 Ambiguous Contract Provisions

A. The parties agree that this Contract has been the subject of meaningful analysis and/or discussions of the specifications, terms and conditions contained in this Contract. Therefore, doubtful or ambiguous provisions, if any, contained in this Contract will not be construed against the party who physically prepared this Contract. The rule commonly known as "Fortius Contra Proferentum" will not be applied to this Contract or any interpretation thereof.

3.19.2 Amendments

A. This Contract may not be altered or amended except in writing, signed by the Owner and the Contractor, or each of their duly authorized representatives.

3.19.3 Choice of Law

A. This Contract, and the rights and duties of the parties arising from or relating to this Contract or its subject matter, shall be construed in accordance with the laws of the State of Florida and the ordinances of the City of Wauchula without regard to its conflicts of law provisions. Each of the parties irrevocably submits to the exclusive jurisdiction of the courts of Florida, and further agree that the venue for any legal action brought by or filed against the Owner relating to any matter arising under this Contract shall be exclusively in that state or federal court, sitting in Hardee County, Florida that has jurisdiction over such legal actions.

3.19.4 Public Records.

A. The parties acknowledge and agree that the City is a public agency subject to Chapter 119, Florida Statutes. To the extent Contractor is a company acting on behalf of the City pursuant to Section 119.0701, Florida Statutes, Contractor must comply with all public records laws in accordance with Chapter 119, Florida Statutes. In accordance with Chapter 119, Florida Statutes, Contractor agrees to:

(1) Keep and maintain all records that ordinarily and necessarily would be required by the City to perform the services under this Agreement.

(2) Upon request from the City, provide the City with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the costs provided in Chapter 119, Florida Statutes, or as otherwise provided by law.

(3) Ensure that public records that are exempt, or confidential and exempt, from public records disclosures are not disclosed as except as authorized by law for the duration of the Agreement term and following completion of the Agreement if the Contractor does not transfer the records to the City.

(4) Upon completion of the services under this Agreement, at no cost, either transfer to the

City all public records in the Contractor's possession or keep and maintain public records required by the City to perform the services. If the Contractor transfers all public records to the City upon completion of the services, the Contractor must destroy any duplicate public records that are exempt, or confidential and exempt, from public records disclosure requirements. If the Contractor keeps and maintains public records upon completion of the services under this Agreement, the Contractor must meet all applicable requirements for retaining public records. All records stored electronically must be provided to the City, upon request from the City, in a format that is compatible with the information technology systems of the City.

(5) IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE COMPANY'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE CITY'S CUSTODIAN OF PUBLIC RECORDS AT: 863-773-3131.

If the Contractor does not comply with the provisions of this section, the City will enforce the Agreement provisions in accordance herewith and may unilaterally cancel this Agreement in accordance with Florida law.

3.19.5 Trade Secrets and Proprietary Confidential Business Information.

Documents submitted by Contractor which Contractor contends constitute trade secrets as defined in Sections 812.081 and 688.002, Florida Statutes, or confidential and propriety business information when held by the City as a utility owner, consistent with Section 119.0713(5), Florida Statutes, and which are clearly marked or stamped as confidential by the Contractor at the time of submission to the City, will not be subject to public access. However, should a requestor of public records challenge Contractor's claim of trade secret or confidential and proprietary business information, within five (5) calendar days of such challenge, Contractor must provide a separate written affidavit that includes an indemnification and release guarantee, as approved by the City Attorney or designee, to the City to support its claim that the alleged trade secrets or proprietary and confidential business information actually constitutes same as defined by law. Contractor must demonstrate the need for confidentiality of the documentation by showing a business advantage or opportunity to obtain an advantage would be gained if the documentation were released. Otherwise, Contractor is required to timely seek a protective order in the Circuit Court of Hardee County to prevent the City's release of the requested records.

3.19.6 Drug Free Workplace.

Contractor shall comply with the applicable provisions of the Drug-Free Work Place Act of 1988 (Public Law 100-690, Title V, Subtitle D; 41 USC § 701 et seq.) and maintain a drug-free work environment; and the final rule, government-wide requirements for drug-free work place issued by the Office of Management and Budget to implement the provisions of the Drug-Free Work Place Act of 1988 is incorporated by reference and the Contractor shall comply with the relevant provisions thereof, including any amendments, which are made part of this Agreement.

3.19.7 PUBLIC ENTITY CRIMES, SCRUTINZED COMPANIES, AND ANTI-TRUST VENDOR VIOLATOR, PURSUANT TO SECTIONS 287.135, SECTION 215.473, AND SECTION 287.137, FLORIDA STATUTES.

(A) Pursuant to Section 287.133(2)(a), Florida Statutes, Contractor hereby certifies that neither it nor its affiliate(s) have been placed on the convicted vendor list following a conviction for a public entity crime. If placed on that list, Contractor must notify the City immediately and may not submit a bid, proposal, or reply on a contract to provide any goods or services to a public entity; may not submit a bid, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals, or replies on leases of real property to a public entity; may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity; and may not transact business with any public entity in excess of the threshold amount provided in s. 287.017 for CATEGORY TWO for a period of 36 months following the date of being placed on the convicted vendor list.

(B) Contractor hereby certifies that it: (a) has not been placed on the Scrutinized Companies that Boycott Israel List, nor is engaged in a boycott of Israel; (b) has not been placed on the Scrutinized Companies with Activities in Sudan List nor the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List; and (c) has not been engaged in business operations in Cuba or Syria. If City determines that Contractor has falsely certified facts under this Paragraph or if Contractor is found to have been placed on the Scrutinized Companies Lists or is engaged in a boycott of Israel after the execution of this Agreement, City will have all rights and remedies to terminate this Agreement consistent with Section 287.135, Florida Statutes.

(C) Contractor has a continuous duty, throughout the entire Term of this Agreement, and any renewal, to disclose to the City if the Contractor or any of its affiliates, as defined by section 287.137(1), Fla. Stat., are placed on the Antitrust Violator Vendor List. Pursuant to section 287.137, Fla. Stat., "A person or an affiliate who has been placed on the antitrust violator vendor list following a conviction or being held civilly liable for an antitrust violation may not submit a bid, proposal, or reply for any new contract to provide any goods or services to a public entity; may not submit a bid, proposal, or reply for a new contract with a public entity for the construction or repair of a public building or public work; may not submit a bid, proposal, or reply on new leases of real property to a public entity; may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a new contract with a public entity; and may not transact new business with a public entity."

3.19.8 WAIVER OF JURY TRIAL. BY ENTERING INTO THIS AGREEMENT, THE CONTRACTOR AND THE CITY HEREBY EXPRESSLY WAIVE ANY RIGHTS THEY MAY HAVE TO A TRIAL BY JURY IN ANY LITIGATION ARISING OUT OF OR RELATED TO THIS AGREEMENT.

3.19.9 SECTION 274A(e) OF THE IMMIGRATION AND NATIONALITY ACT AND E-VERIFY REQUIREMENTS

Owner shall consider the employment by any contractor of unauthorized aliens a violation of Section 274A(e) of the Immigration and Nationality Act. If the Contractor knowingly employs unauthorized aliens, such violation will be cause for unilateral cancellation of this Agreement.

Effective January 1, 2021, public and private employers, contractors, and subcontractors must require registration with, and use of the E-Verify system in order to verify the work authorization status of all newly hired employees. Contractor shall:

(1) Utilize the U.S. Department of Homeland Security's E-Verify System to verify the employment eligibility of all new employees hired by Contractor during the term of the Agreement; and

(2) Expressly require all persons (including subcontractors/subvendors/ subconsultants) assigned by Contractor to perform work or provide services pursuant to the Agreement with the City to utilize the U.S. Department of Homeland Security's E-Verify System to verify the employment eligibility of all new employees hired by the subcontractors/subvendors/subconsultants during the term of the Agreement. Contractor acknowledges and agrees that the use of the U.S. Department of Homeland Security's E-Verify System during the term of this Agreement is a condition of the Agreement with the City.

By entering this Agreement with the City, Contractor becomes obligated to comply with the provisions of Section 448.095, Florida Statutes, "Employment Eligibility." This includes, but is not limited to, use of the E-Verify System to verify the work authorization status of all newly hired employees, and requiring all subcontractors to provide an affidavit to Contractor attesting that the subcontractor does not employ, contract with, or subcontract with, an unauthorized alien. Contractor agrees to maintain a copy of such affidavit for the duration of this Agreement. Failure to comply with this section will result in the termination of this Agreement as provided in Section 448.095, Florida Statutes, and Contractor may not be awarded a public contract for at least one (1) year after the date on which the Agreement was terminated. Contractor will also be liable for any additional costs to City incurred as a result of the termination of this Agreement in accordance with this section.

3.19.10 ACKNOWLEDGEMENT OF COMPLIANCE WITH SECTION 255.0993, FLORIDA STATUTES

A. The Contractor acknowledges to and for the benefit of the Owner that it understands that the products to be installed as a part of this contract must be in compliance with 255.0993, Florida Statutes, Public works projects; United States-produced iron and steel products.

(1) DEFINITIONS.— As used in this section, the term:

(a) "Governmental entity" means the state, or any office, board, bureau, commission, department, branch, division, or institution thereof, or a separate agency or unit of local government created or established by law or ordinance and the officers thereof. The term includes, but is not limited to, a county; a city, a town, or other municipality; or a department, a commission, an authority, a school district, a taxing district, a water management district, a board, a public corporation, an institution of higher education, or other public agency or body thereof authorized to expend public funds for the construction, maintenance, repair, renovation, remodeling, or improvement of public works.

(b) "Iron or steel product" means any product made primarily of iron or steel, including, but not limited to, lined or unlined pipes and fittings; bars and rods; wire, wire ropes, and link chains; forgings; grating and drainage products; access covers, hatches, manhole covers, and other castings; hydrants; electric transmission and distribution poles; tanks; flanges; pipe clamps and restraints; valves; structural steel and other steel mill products; materials made primarily of iron and steel

within precast concrete; and other construction materials made primarily of iron or steel.

(c) “Manufacturing process” means the application of a process to alter the form or function of materials or elements of a product in a manner that adds value and transforms the materials or elements into a new finished product functionally different from a finished product produced merely from assembling materials or elements into a product without applying such a process.

(d) “Produced in the United States” means that, with respect to iron and steel, all manufacturing processes, from initial melting through application of coatings, occur in the United States, other than metallurgical processes to refine steel additives.

(e) “Public works project” means an activity paid for with any state-appropriated funds or state funds administered by a governmental entity which consists of the construction, maintenance, repair, renovation, remodeling, or improvement of a building, road, street, sewer, storm drain, water system, site development, irrigation system, reclamation project, gas or electrical distribution system, gas or electrical substation, or other facility, project, or portion thereof owned in whole or in part by any governmental entity.

(2) UNITED STATES-PRODUCED IRON AND STEEL REQUIREMENT.

(a) Notwithstanding any other law, a governmental entity entering into a contract for a public works project or for the purchase of materials for a public works project must include in the contract a requirement that any iron or steel product permanently incorporated in the project be produced in the United States.

(b) Paragraph (a) does not apply if the governmental entity administering the funds for a public works project or the purchase of materials for a public works project solely determines that any of the following applies:

1. Iron or steel products produced in the United States are not produced in sufficient quantities, reasonably available, or of satisfactory quality.

2. The use of iron or steel products produced in the United States will increase the total cost of the project by more than 20 percent.

3. Complying with paragraph (a) is inconsistent with the public interest.

(c) When steel and iron materials are used in a public works project, paragraph (a) does not prevent a minimal use of foreign steel and iron materials if:

1. Such materials are incidental or ancillary to the primary product and are not separately identified in the project specifications; and

2. The cost of such materials does not exceed one-tenth of 1 percent of the total contract cost or

$2,500, whichever is greater. For purposes of this subparagraph, the cost of such materials is that shown to be the value of the iron or steel products as they are delivered to the project.

(d) Electrical components, equipment, systems, and appurtenances, including supports, covers, shielding, and other appurtenances related to an electrical system, necessary for operation or concealment, except transmission and distribution poles, are not considered iron or steel products and are exempt from the requirements of paragraph (a).

(3) INTERNATIONAL AGREEMENTS.—This section shall be applied in a manner consistent with, and may not be construed to impair, the state's obligations under any international agreement.

(4) RULEMAKING.—The Department of Management Services shall develop guidelines and procedures by rule to implement this section.

(5) APPLICABILITY.—This section does not apply to contracts procured by the Department of Transportation subject to the Buy America requirements of 23 C.F.R. s. 635.410.

its own proprietary and confidential materials, but in no event with less than a reasonable standard of care. A Recipient may disclose Confidential Information to the extent required by law, but that disclosure does not relieve Recipient of its confidentiality obligations with respect to any other party. Except as to the confidentiality of trade secrets, these confidentiality restrictions and obligations will terminate five (5) years after the expiration or termination of the Contract under which the Confidential Information was disclosed, unless the law requires a longer period.

A. The parties acknowledge that the Owner is a body politic and corporate that is subject to Chapter 119, Florida Statutes, and related statutes known as the "Public Records Laws". If a request is made to view such Confidential Information, the Owner will notify the Contractor of such request and the date that such records will be released to the requester unless the Contractor obtains a court order enjoining such disclosure. If the Contractor fails to obtain that court order enjoining disclosure, the Owner will release the requested information on the date specified. Such release shall be deemed to be made with the Contractor's consent and will not be deemed to be a violation of law, including but not limited to laws concerning trade secrets, copyright or other intellectual property. In the event the Contractor breaches this Contract, then the Contractor hereby grants the Owner a limited license to use the Confidential Information in any reasonable way in order to mitigate the Owner's damages.

3.19.7 Cumulative Remedies

A. Except as otherwise expressly provided in this Contract, all remedies provided for in this Contract shall be cumulative and in addition to and not in lieu of any other remedies available to either party at law, in equity or otherwise.

3.19.8 Entire Agreement

A. This Contract contains all of the understandings and agreements of the parties hereto in respect of the subject matter hereof as of the Effective Date of the Contract. Any and all prior understandings and agreements, expressed or implied, between the parties hereto in respect of the subject matter hereof shall be superseded hereby. Parol or extrinsic evidence will not be used to vary or contradict the express terms of this Contract.

B. The Contract Documents are complementary; what is called for by one is binding as if called for by all. The Contractor shall, upon discovery, inform the Owner in writing of any conflict, error or discrepancy in the Contract Documents. Should the Contractor proceed with the Work prior to written resolution of the error or conflict by the Owner, all Work done is at the sole risk of the Contractor.

3.19.9 Expanded Definitions

A. Unless otherwise specified, words importing the singular include the plural and vice versa and words importing gender include all genders. The term "including" means "including without limitation", and the terms "include", "includes" and "included" have similar meanings. Any reference in this Contract to any other agreement is deemed to

3.19.11 Force Majeure

(A) No party shall be liable for any default or delay in the performance of its obligations under this Contract due to an act of God or other event to the extent that: (a) the non- performing party is without fault in causing such default or delay; (b) such default or delay could not have been prevented by reasonable precautions; and (c) such default or delay could not have been reasonably circumvented by the non-performing party through the use of alternate sources, work-around plans or other means. Such causes include, but are not limited to: act of civil or military authority (including but not limited to courts or administrative agencies); acts of God; war; terrorist attacks; riot; insurrection; inability of the Owner to secure approval, validation or sale of bonds; inability of the Owner or the Contractor to obtain any required permits, licenses or zoning; blockades; embargoes; sabotage; epidemics; fires; hurricanes, tornados, floods; or strikes.

(B) In the event of any delay resulting from such causes, the time for performance of each of the parties hereunder (including the payment of monies if such event actually prevents payment) shall be extended for a period of time reasonably necessary to overcome the effect of such delay, except as provided for elsewhere in the Contract Documents.

(C) In the event of any delay or nonperformance resulting from such causes, the party affected shall promptly notify the other in writing of the nature, cause, date of commencement and the anticipated impact of such delay or nonperformance. Such written notice, including Change Orders, shall indicate the extent, if any, to which it is anticipated that any delivery or completion dates will be thereby affected.

3.19.12 Headings

3.19.12.1 The division of this Contract into sections, the insertion of headings and/or index numbers and the provision of a table of contents are for convenience of reference only and are not to affect the construction or interpretation of this Agreement.

3.19.13 Language and Measurements

3.19.13.1 All communication between the Contractor and the Owner, including all documents, notes on drawings, and submissions required under the Contract, will be in the English language. Unless otherwise specified in the Contract, the US System of Measurements shall be used for quantity measurement. All instrumentation and equipment will be calibrated in US System of Measures.

3.19.14 Nonwaiver

3.19.14.1 Failure by either party to insist upon strict performance of any of the provisions of the Contract will not release either party from any of its obligations under the Contract.

3.19.15 Publicity and Advertising

3.19.15.1 The Contractor shall not take any photographs for the purpose of making any announcements or release any information concerning the Contract or the Work to any member of the public, press or official body unless prior written consent is obtained from the Owner. The Owner is governed by the Florida Public Records Laws therefore all Contract Documents are available for public inspection. In addition, the Owner is governed by Florida Sunshine Laws and as such, certain meetings are required to be open to the public.

3.19.16 References

A Unless otherwise specified, each reference to a statute, ordinance, law, policy, procedure, process, document, drawing, or other informational material is deemed to be a reference to that item, as amended or supplemented from time to time. All referenced items shall have the enforcement ability as if they are fully incorporated herein.

3.19.17 Relationship of the Parties

3.19.17.1 The Contractor agrees that it shall perform the Work as an independent contractor and that it does not (a) have the power or authority to bind the Owner or to assume or create any obligation or responsibility, express or implied, on the Owner's part or in the Owner's name, except as may be authorized by the Owner under a separate written document, or (b) represent to any person or entity that it has such power or authority except as may be authorized by the Owner under a separate written document.

3.19.18 Severability

3.19.18.1 In the event that any provision of this Contract is found to be unenforceable under applicable law, the parties agree to replace such provision with a substitute provision that most nearly reflects the original intentions of the parties and is enforceable under applicable law, and the remainder of this Contract shall continue in full force and effect.

3.19.19 Subcontracting or Assigning of Contract

3.19.19.1 Each party agrees that it shall not subcontract, assign, delegate, or otherwise dispose of the Contract, the duties to be performed under the Contract, or the monies to become due under the Contract without the other party's prior written consent.

3.19.19.2 The assignment of the Contract will not relieve either of the parties of any of its obligations until such obligations have been assumed in writing by the assignee. If the

Contract is assigned by either of the parties, it will be binding upon and will inure to the benefit of the permitted assignee. The Contractor shall be liable for all acts and omissions of its assignee or its Subcontractor.

3.19.20 Survival

3.19.20.1 The obligations of the Owner and the Contractor under this Contract that are not, by the express terms of this Contract, fully to be performed during the Term, shall survive the termination of this Contract for any reason.

3.19.21 Third Party Agreements

3.19.21.1 Unless otherwise agreed in writing by the Owner, the Owner shall have no obligation to enter into any third party agreements under this Contract. Such third party agreements shall include, but not be limited to: joint check agreements, and revocable or irrevocable letters of direction with sureties. In the event the Owner agrees to execute any such agreement(s), then such agreement(s) shall incorporate additional language as required by the Owner.

3.19.22 Time and Date

3.19.22.1 Unless otherwise specified, references to time of day or date mean the local time or date in Wauchula, Florida. If under this Contract any payment or calculation is to be made, or any other action is to be taken, on or as of a day that is not a regular business day for the Owner, that payment or calculation is to be made, and that other action is to be taken, as applicable, on or as of the next day that is a regular business day. Where reference is made to day or days, it means calendar days. Where reference is made to workday, workdays, business day, or business days, it means regular working days for the Owner.

3.19.23 Waiver of Claims

3.19.23.1 A delay or omission by the Owner hereto to exercise any right or power under this Contract shall not be construed to be a waiver thereof. A waiver by the Owner under this Contract shall not be effective unless it is in writing and signed by the party granting the waiver. A waiver by a party of a right under, or breach of, this Contract shall not be construed to operate as a waiver of any other or successive rights under, or breaches of, this Contract.

3.19.23.2 The Contractor's obligations to perform and complete the Work in accordance with the Contract shall be absolute. None of the following will constitute a waiver of any of the Owner's rights under the Contract: approval or payment of any progress payments or any other payments, including final payment; issuance of the Certificate of Substantial Completion or Certificate of Contract Completion; any use or occupancy of the Work by the Owner; nor any correction of faulty or defective work by the Owner.

[END OF SECTION]

DIVISION 4:
SUPPLEMENTAL CONDITIONS

There are no Supplemental Conditions included in the Bid Documents for this Project.

DIVISION 5:
FORMS

SECTION 5.1: FORMS TO SUBMIT WITH BID

The following forms must be completed and included in the Bidder's response to this Solicitation. This list represents the forms only and does not include all information and items necessary to be responsive to the Bid Solicitation.

5.1.1 Bid Form

5.1.2 Bid Security

5.1.3 Bidder's Qualifications

5.1.4 Bidder's Statement of Disputes, Litigation, Arbitration, and Surety Completion

5.1.5 Drug-Free Workplace Certificate

5.1.6 Florida Trench Safety Act Acknowledgement

5.1.7 Non-Collusion Affidavit

5.1.8 Public Entity Crimes Statement

5.1.9 Tabulation of Subcontractors and Suppliers

SECTION 5.2: FORMS FOR CONVENIENCE

The following forms are included for convenience in the Bid Documents. The Owner may require additional forms during the performance of the Work:

5.2.1 Certificate of Final Completion Form

5.2.2 Certification of Substantial Completion Form

5.2.3 Change Order Form

5.2.4 Contractor's Application for Payment Form

5.2.5 Field Order Form

5.2.6 Notice of Award Form

5.2.7 Notice to Proceed Form

5.2.8 Payment Bond Form

5.2.9 Performance Bond Form

5.2.10 Work Change Directive Form

5.1.1 Bid Form

BIDDER'S COMPANY NAME: _____

PROJECT: City of Wauchula CRA – Bay Street and 1st Avenue South Utility and Sidewalk Improvements

A. Bid Recipient

1. This Bid is submitted to:

   City of Wauchula CRA
   Attn: Jessica Newman, CRA Director
   107 East Main Street
   Wauchula, FL 33873

2. The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with the Owner in the form included in the Bid Documents to perform all Work as specified or indicated in the Bid Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bid Documents.

B. Bidder's Acknowledgements

1. The Bidder accepts all of the terms and conditions of DIVISION 1: INSTRUCTIONS TO BIDDERS, including without limitation those dealing with the disposition of the Bid Security. The Bid will remain subject to acceptance for 120 days after the Bid Opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

C. Bidder's Representations

1. In submitting this Bid, the Bidder represents that:

   a. The Bidder has received from the Issuing Office a complete set of Bid Documents and other related data identified in the Bid Documents, and the following Addenda, receipt of which is hereby acknowledged:

Addendum No.	Addendum Date
_____	_____
_____	_____
_____	_____

   b. The Bidder has examined and carefully studied the Bid Documents, Addenda, and the other related data identified in the Bidding Documents, and provided the information to Subcontractors and Suppliers who have provided quotations to the Bidder for the Work.

c. The Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

d. The Bidder is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

e. The Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) that have been identified in DIVISION 1: INSTRUCTIONS TO BIDDERS, and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in DIVISION 1: INSTRUCTIONS TO BIDDERS.

f. The Bidder has obtained and carefully studied (or accepts the consequences for not doing so) all additional or supplemental examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by the Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bid Documents to be employee by the Bidder, and safety precautions and programs incident thereto.

g. The Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bid Documents

h. The Bidder is aware of the general nature of the Work to be performed by the Owner and others at the Site that relates to the Work as indicated in the Bid Documents.

i. The Bidder has correlated the information known to the Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bid Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bid Documents.

j. The Bidder has given the Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that the Bidder has discovered in the Bid Documents, and the written resolution thereof by the Engineer is acceptable to the Bidder.

k. The Bid Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

l. Bidder certifies Bidder's authority and qualification to do business in the state where the Project is located, that the Bidder is a state-certified Contractor in good standing and holds current registration with the Florida Construction Industry Licensing Board of the Florida Department of Professional Regulation, that the type of license is in a class that authorizes the Bidder to perform the general nature of the construction to be performed on this project, and that the Bidder's State Contractor's license number for the state of the project is shown on the Bid Form.

D. Bidder's Certification

1. Bidder certifies that:

a. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;

b. The Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

c. The Bidder has not solicited or induced any individual or entity to refrain from bidding; and

d. The Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph:

i. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;

ii. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of the Owner, (b) to establish Bid Prices at artificial non-competitive levels, or (c) to deprive the Owner of the benefits of free and open competition;

iii. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of the Owner, a purpose of which is to establish Bid Prices at artificial, non-competitive levels; and

iv. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

E. Basis of Bid

1. The Bidder has reviewed DIVISION 6: TECHNICAL SPECIFICATIONS; and will complete the Work in accordance with the Contract Documents for the following price(s):

a. BASE BID

EA = Each, LF = Linear Foot, SF = Square Foot,
TN = Ton, SY = Square Yards, CY = Cubic Yards, AC = Acres, LS = Lump Sum

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY		BID UNIT PRICE	BID PRICE
1. GENERAL REQUIREMENTS					
	Mobilization	1	LS		
	Maintenace of Traffic	1	LS		
	Silt Fence	2,000	LF		
	Concrete Pavement Removal	665	SY		
	Asphalt Removal and Restoration (5" of SP-12.5 asphalt base and 2" type SP-9.5 on compacted subgrade)	91	SY		
	FDOT Type F curb (including transitions and drop sections)	60	LF		
	6" Thick 4,000 PSI Sidewalk Including Underlying Stabilization and Proof Compaction and any connections to existing concrete pavement	53	SY		
	4" Thick 4,000 PSI sidewalk Including Underlying stabilization and Proof Compaction (does not include curb cut ramp area)	1,082	SY		
	Alpha-Numeric Curb Cut Ramp per FDOT Index 522-002, includes all site prep as per sidewalk	1	EA		
	Detectable Warning, Cast Integrally with Curb Cut Ramp	8	SF		
	cut-in valve and proposed 6" water main connection to existing cast iron main	1	EA		
	6"x6" tapping sleeve and valve	1	EA		
	6" SDR18 C-900 PVC water main, open cut and cover	1,250	LF		
	AWWA 6" MJ inline gate valve	2	EA		
	AWWA fire hydrant assembly and connecting tee	4	EA		
	AWWA 2" water service and meter (south side of Bay Street)	1	EA		
	AWWA 3/4" water service and meter (South side of Bay Street)	2	EA		
	AWWA 3/4" water service and meter (North side of Bay Street)	7	EA		
	AWWA 6"x6" MJ tee, 6" MJ gate valve, and 6" cap	2	EA		
	AWWA 6"xX" water main reconnection connection at 2nd Avenue	1	EA		
	AWWA 6"xX" water main reconnection connection at 3rd Avenue	1	EA		
	AWWA 6"xX" water main reconnection connection at 4th Avenue	1	EA		
	core drill existing sanitary manhole	1	EA		
	8" SDR26 green PVC gravity sanitary sewer	40	LF		
	4' diameter sanitary sewer manhole, 15 feet deep	1	EA		
	performance turf sod restoration	915	SY		
SUMMARY					
				TOTAL	$ -

TOTAL BASE BID:

_____ ($_____)
(words) (numerals)

The Bidder acknowledges that estimated quantities are not guaranteed and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

F. Time of Completion

1. The Bidder agrees that the Work will be substantially complete within **180** calendar days after the issuance of the Notice to Proceed, and will be finally complete and ready for final payment in accordance with the Contract Documents within **240** calendar days after the date when the Contract Time commences to run. The Contract Time will be extended **15** calendar days for each Additive Alternative accepted by the Owner.

2. The Bidder accepts the provisions of the Agreement as to liquidated damages.

G. Attachments to This Bid

1. The following documents are submitted with and made a part of this Bid:

   a. DIVISION 5: FORMS – Bid Form

   d. DIVISION 5: FORMS – Bid Security

   c. DIVISION 5: FORMS – Bidder's Qualifications

   d. DIVISION 5: FORMS – Bidder's Statement of Disputes, Litigation, Arbitration, and Surety Completion, Last Three (3) Years

   e. DIVISION 5: FORMS – Drug-Free Workplace Certificate

   f. DIVISION 5: FORMS – Florida Trench Safety Act Acknowledgement

   g. DIVISION 5: FORMS – Non-Collusion Affidavit

   h. DIVISION 5: FORMS – Public Entity Crimes Statement

   i. DIVISION 5: FORMS – Tabulation of Subcontractors and Suppliers
   j. Evidence of authority to do business in the State of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;

      Contractor's License No.:_____.

H. Defined Terms

1. The terms used in this Bid with initial capital letters have the meanings stated in DIVISION 1: INSTRUCTIONS TO BIDDERS.

I. Bid Submittal

1. This Bid is submitted by:

If Bidder is:

An Individual

Name (typed or printed): _____

By: _____(SEAL)

(Individual's signature)

Doing business as: _____

A Partnership

Partnership Name: _____

By: _____(SEAL)

(Signature of general partner – attach evidence of authority to sign)

Name (typed or printed): _____

State Contract License No. _____

A Corporation

Corporation Name: _____

_____ (SEAL)

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability): _____

By: _____

(Signature – attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

(Corporate Seal)

Attest _____

(Signature of Corporate Secretary)

Date of Qualification to do business in Florida is _____/_____/_____.

State Contractor License No. _____.

A Joint Venture

Name of Joint Venture: _____

First Joint Venturer Name: _____(SEAL)

By: _____

(Signature of first joint venture partner – attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Second Joint Venturer Name: _____ (SEAL)

By: _____

(Signature of first joint venture partner – attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

Bidder's Business Address _____

_____

Phone No. _____ Fax No. _____

E-mail _____

SUBMITTED on _____, 20_____.

State Contractor License No. _____.

5.1.2 Bid Security Form

Any singular reference to Bidder, Surety, Owner, or other party shall be considered plural where applicable.

BIDDER (Name and Address):

SURETY (Name and Address of Principal Place of Business):

OWNER (Name and Address):

BID

Bid Due Date:

Project (Brief Description Including Location):

BOND

Bond Number:

Date (Not later than Bid due date):

Penal sum _____ _____
(Words) (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Bid Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

BIDDER	**SURETY**
_____ (Seal)	_____(Seal)
Bidder's Name and Corporate Seal	Surety's Name and Corporate Seal
By:_____	By: _____
Signature and Title	Signature and Title (Attach Power of Attorney)
Attest:_____	Attest: _____
Signature and Title	Signature and Title

Note: Above addresses are to be used for giving required notice.

A. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to pay to the Owner upon default of the Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Surety's liability.

B. Default of Bidder shall occur upon the failure of the Bidder to deliver within the time required by the Bid Documents (or any extension thereof agreed to in writing by the Owner) the executed Agreement required by the Bid Documents and any performance and payment bonds required by the Bid Documents.

C. This obligation shall be null and void if:

   i. The Owner accepts the Bidder's Bid and the Bidder delivers within the time required by the Bid Documents (or any extension thereof agreed to in writing by the Owner) the executed Agreement required by the Bid Documents and any performance and payment bonds required by the Bid Documents, or

   ii. All Bids are rejected by the Owner, or

   iii. The Owner fails to issue a Notice of Award to the Bidder within the time specified in the Bid Documents (or any extension thereof agreed to in writing by the Bidder and, if applicable, consented to by Surety when required by Paragraph E hereof).

D. Payment under this Bond will be due and payable upon default by the Bidder and within 30 calendar days after receipt by the Bidder and the Surety of written notice of default from the Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.

E. The Surety waives notice of any and all defenses based on or arising out of any time extension to issue the Notice of Award agreed to in writing by the Owner and the Bidder, provided that the total time for issuing the Notice of Award including extensions shall not in the aggregate exceed 120 days from the Bid Due Date without the Surety's written consent.

F. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph D above is received by the Bidder and the Surety and in no case later than one year after the Bid Due Date.

G. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.

H. Notices required hereunder shall be in writing and sent to the Bidder and the Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.

I. The Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.

J. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

K. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

5.1.3 Bidder's Qualifications

The Bidder warrants the truth and accuracy of all statements and answers herein contained.
(Include additional sheets if necessary.)

THIS QUESTIONNAIRE MUST BE COMPLETED AND SUBMITTED WITH YOUR BID.

A. LICENSE # and COMPANY'S NAME:_____

B. CO. PHYSICAL ADDRESS:_____

C. TELEPHONE NUMBER: (_____)_____D. FAX: (_____)_____

E. Bidding as an; individual:_____; a partnership:___; a corporation:___; a joint venture:___.

F. If a partnership: list names and addresses of partners; if a corporation: list names of officers, directors, shareholders, and state of incorporation; if joint venture: list names and addresses of venturers and the same if any venturer is a corporation for each such corporation, partnership, or joint venture:

_____

_____

G. Your organization has been in business (under this firm's name) as a _____

_____for how many years? _____

H. Describe and give the date and owner of the last three government projects you've completed which are similar in cost, type, size, and nature as the one proposed (for a public entity). Include contact name and phone number:

_____

_____

I. Have you ever been awarded additional time to complete work awarded to you during the past five (5) years? If so, state when, where (contact name, address, and phone number) and why.

_____

_____

J. Have you ever been assessed liquidated damages under a contract during the past five (5) years? If so, state when, where (contact name, address, and phone number) and why.

_____

_____

K. Have you ever failed to complete work awarded to you? If so, state when, where (contact name, address, phone number) and why?

L. Have you ever been debarred or prohibited from bidding on a governmental entity's construction project? If yes, name the entity and describe the circumstances:

M. Name three individuals, governmental entities, or corporations for which you have performed similar work and to which you refer. Include contact name and phone number:

N. What specific steps have you taken to examine the physical conditions at or contiguous to the site, including but not limited to, the location of existing underground facilities?

O. What specific physical conditions, including but not limited to, the location of existing underground facilities have you found which will, in any manner, affect cost, progress, performance, or finishing of the work?

P. Will you subcontract any part of this Work? If so, describe which major portion(s):

Q. If any, list (with contract amount) MBE/WBE's to be utilized:

R. What equipment do you own to accomplish this Work?

S. What equipment will you purchase/rent for the Work? (specify which)

_____

_____

T. List the following in connection with the Surety which is providing the Bond(s):

Surety's Name: _____

Surety's Address: _____

Name, address and phone number of Surety's resident agent for service of process in Florida:

_____

_____

_____

Phone: (___) _____

5.1.4 Bidder's Statement of Disputes, Litigation, Arbitration, and Surety Completion – Last Three (3) Years

Project	Name and Address of Owner or Engineer	Name and Phone Number of Owner or Engineer Representative	Date of Contract	Amount	Status

5.1.5 Drug-Free Workplace Certificate

I, the undersigned, in accordance with Florida Statutes 287.087, hereby certify that

_____

(Print or Type Name of Firm)

☐ Publishes a written statement notifying that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace named above and specifying actions that will be taken against violations of such prohibition.

☐ Informs employees about the dangers of drug abuse in the workplace; the firm's policy of maintaining a drug-free working environment and available drug counseling, rehabilitation, and employee assistance programs; and the penalties that may be imposed upon employees for drug-use violations.

☐ Gives each employee engaged in providing commodities or contractual services that are under bid or proposal a copy of the statement specified above.

☐ Notifies the employees that as a condition of working on the commodities or contractual services under bid or proposal, the employees will abide by the terms of the statement and will notify the employer of any conviction of or plea of guilty or nolo contendere to any violation of Chamber 1893 or any controlled substance law of the State of Florida or the United States for a violation occurring in the workplace, no later than 5 days after such conviction, and requires employees to sign copies of such written statement to acknowledge their receipt.

☐ Imposes a sanction on or requires the satisfactory participation in a drug-abuse assistance or rehabilitation program, if such is available in the employee's community, by any employee who is so convicted.

☐ Makes a good faith effort to continue to maintain a drug-free workplace through the implementation of the drug-free workplace program.

"As a person authorized to sign this statement, I certify that the business, firm, or corporation named above complies fully with the requirements set forth herein."

_____ _____

Authorized Signature Date Signed

State of: _____

County of: _____

Sworn to and subscribed before me this_____day of_____, 20_____.

Personally known_____or Produced Identification _____

Specify Type of Identification

_____

Signature of Notary

My Commission Expires: _____

5.1.6 Certificate of Compliance with the Florida Trench Safety Act

The Bidder acknowledges sole responsibility for complying with the Florida Trench Safety Act (Act) and Occupational Safety and Health Administration's excavation safety standard 29 CFR 1926.650 (Subpart P as amended). The Bidder further acknowledges that included in the various items of the Proposal and in the Total Base Bid Price are costs for complying with the Florida Trench Safety Act (90-96, Laws of Florida) effective October 1, 1990. The Bidder further identifies the costs to be summarized below:

	Trench Safety Method (Description)	Units of Measure (LF, SY)	Unit (Quantity)	Extended Cost	Unit Extended Cost
A.					
B.					
C.					
D.					
				Total:	

Failure to complete the above may result in the Bid being declared non-responsive. The costs indicated above are provided to comply with the Act and shall not constitute grounds for any additional compensation to that listed for the separate line items of the Proposal Form.

By:_____

Bidder:_____

Date:_____

Authorized Signature: _____

State of: _____

County of: _____

Sworn to and subscribed before me this_____day of_____, 20_____.

Personally known_____or Produced Identification _____

Specify Type of Identification

_____

Signature of Notary

My Commission Expires: _____

5.1.7 Non-Collusion Affidavit of Prime Bidder

State of _____

County of _____

_____, being first duly sworn, deposes and says that:
Name

1. He/She is_____of_____, the
   Title Company
   Bidder that has submitted the attached bid;

2. He/She is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;

3. Such Bid is genuine and is not a collusive or sham Bid;

4. Neither the said Bidder not any of his/her officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or has refrained from bidding in connection with such Contract; nor in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices in the attached Bid or if any other Bidder; not has fixed any overhead, profit or cost element of the Bid Price, or the Bid Price of any other Bidder; not has secured through any collusion, conspiracy, connivance or unlawful agreement, any advantage against the City of Wauchula, Florida or any person interested in the proposed Contract; and

5. The price or prices quoted in the attached bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

(Signed) _____
Name

_____
Title

Subscribed and sworn to before me this_____day of_____, 20_____

_____
Signature

_____
Title

My commission expires _____

5.1.8 Sworn Statement Pursuant to Section 287.133(3)(A), Florida Statues, on Public Entity Crimes

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

1. This sworn statement is submitted to the City of Wauchula, Florida by

   _____
   (print individual's name and title)

   for _____
   (print name of entity submitting sworn statement)

   whose business address is _____

   _____

   And (if applicable) its Federal Employer Identification Number (FEIN) is_____.
   (If the entity has no FEIN, include the Social Security of the individual signing this sworn statement: _
   _____.)

2. I understand that a "public entity crime" as defined in Paragraph 287.133 (1)(g), Florida Statues means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or of the United States, including, but not limited to, any bid or contract for goods or services to be provided to any public entity or such an agency or political subdivision of any other state or of the United States and involving anti-trust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

3. I understand that "convicted" or "conviction" as defined in Paragraph 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or stated trial court of record relating to charges brought by indictment or information after July 1. 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

4. I understand that "affiliate" as defined in Paragraph 287.133(1)(a), Florida Statutes, means:

   1. A predecessor or successor of a person convicted of a public entity crime: or

   2. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters in to a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

5. I understand that a "person" as defined in Paragraph 287.133 (1)(e), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.

6. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. (indicate which statement applies).

___ Neither the entity submitting this sworn statement, nor any of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

___ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

___ The entity submitting this sworn statement, or one or more of the officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list. (attach a copy of the final order)

I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 (ONE) ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND, THAT THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND THAT I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.017, FLORIDA STATUES, FOR CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.

_____
(Signature)

Sworn to and subscribed before me this_____day of_____, 20_____.

Personally known _____

OR Produced Indentification_____

_____
(Type of Indentification)

Notary Public-State of _____

My commission expires_____

_____
(Printed, Typed or Stamped
Commissioned Name of Notary Public)

5.1.9 Tabulation of Subcontractors and Suppliers

The Undersigned states that the following is a full and complete list of the proposed Subcontractors and Suppliers on this Project and the class of work to be performed by each and that such list will not be added to nor altered without written consent to the Owner through the Engineer.

	SUBCONTRACTOR OR SUPPLIER AND ADDRESS	MBE/WBE STATUS	CLASS OF WORK OR MATERIAL
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			

BIDDER: _____

By: _____

Name: _____

Title: _____

Date: _____

5.2.1 Certificate of Final Completion

Project:	Owner: City of Wauchula	Owner's Contract No.:
Contract:		Date of Contract:
Contractor:		Engineer's Project No.:

This Certificate of Final Completion applies to:

☐ All Work under the Contract Documents: ☐ The following specified portions:

_____

_____

_____

_____
Date of Final Completion

The Work to which this Certificate applies has been inspected by authorized representatives of the Owner, the Contractor and the Engineer, and found to be complete and final. The Date of Final Completion of the Project or portion thereof designated above is hereby declared.

_____ _____
Executed by Engineer Date

_____ _____
Accepted by Contractor Date

_____ _____
Accepted by Owner Date

5.2.2 Certificate of Substantial Completion

Project:	Owner: City of Wauchula	Owner's Contract No.:
Contract:		Date of Contract:
Contractor:		Engineer's Project No.:

This [tentative] [definitive] Certificate of Substantial Completion applies to:
☐ All Work under the Contract Documents: ☐ The following specified portions:

_____

_____

_____
Date of Substantial Completion

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Project or portion thereof designated above is hereby declared and is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below.

A [tentative] [revised tentative] [definitive] list of items to be completed or corrected, is attached hereto. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

The responsibilities between OWNER and CONTRACTOR for security, operation, safety, maintenance, heat, utilities, insurance and warranties shall be as provided in the Contract Documents except as amended as follows:

☐ Amended Responsibilities ☐ Not Amended

Owner's Amended Responsibilities:

_____

_____

Contractor's Amended Responsibilities:

_____

_____

The following documents are attached to and made part of this Certificate:

_____

_____

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract Documents.

_____ _____
Executed by Engineer Date

_____ _____
Accepted by Contractor Date

_____ _____
Accepted by Owner Date

5.2.3 Change Order Form

No. _____

Date of Issuance: _____ Effective Date: _____

Project:	**Owner:** City of Wauchula	**Owner's Contract No.:**
Contract:		**Date of Contract:**
Contractor:		**Engineer's Project No.:**

The Contract Documents are modified as follows upon execution of this Change Order:
Description:

_____

_____

Attachments: (List documents supporting change):

_____

_____

CHANGE IN CONTRACT PRICE:

Original Contract Price:

$_____

[Increase] [Decrease] from previously approved Change Orders No._____ to No._____

$_____

Contract Price prior to this Change Order:

$_____

[Increase] [Decrease] of this Change Order:

$_____

Contract Price incorporating this Change Order:

$_____

CHANGE IN CONTRACT TIMES:

Original Contract Times: ☐ Working days ☐ Calendar days
Substantial completion (days or date): _____
Ready for final payment (days or date): _____

[Increase] [Decrease] from previously approved Change Orders No._____ to No. _____
Substantial completion (days): _____
Ready for final payment (days): _____

Contract Times prior to this Change Order:
Substantial completion (days or date): _____
Ready for final payment (days or date): _____

Increase] [Decrease] of this Change Order:
Substantial completion (days or date): _____
Ready for final payment (days or date): _____

Contract Times with all approved Change Orders:
Substantial completion (days or date): _____
Ready for final payment (days or date): _____

RECOMMENDED:	**ACCEPTED:**	**ACCEPTED:**
By: _____	By: _____	By: _____
Engineer (Authorized Signature)	Owner (Authorized Signature)	Contractor (Authorized Signature)
Date: _____	Date: _____	Date: _____

Approved by Funding Agency (if applicable): _____ Date: _____

5.2.4 Contractor's Application for Payment

Application for Payment No:._____

	Application Period:	Application Date:
To (Owner): City of Wauchula	From (Contractor):	Via (Engineer):
Project:	Contract:	
Owner's Contract No.:	Contractor's Project No.:	Engineer's Project No.:

APPLICATION FOR PAYMENT

Change Order Summary

Approved Change Orders		
Number	Additions	Deductions
TOTALS		
NET CHANGE BY CHANGE ORDERS		

1. ORIGINAL CONTRACT PRICE .....$_____
2. Net change by Change Orders .....$_____
3. CURRENT CONTRACT PRICE (Line 1 ± 2) .....$_____
4. TOTAL COMPLETED AND STORED TO DATE
   (Column F on Progress Estimate) .....$_____
5. RETAINAGE:
   a._____% x $_____Work Completed.....$_____
   b._____% x $_____Stored Material .....$_____
   c. Total Retainage (Line 5a + Line 5b) .....$_____
6. AMOUNT ELIGIBLE TO DATE (Line 4 - Line 5c) .....$_____
7. LESS PREVIOUS PAYMENTS (Line 6 from prior Application) .....$_____
8. AMOUNT DUE THIS APPLICATION..... $_____
9. BALANCE TO FINISH, PLUS RETAINAGE
   (Column G on Progress Estimate + Line 5 above) .....$_____

CONTRACTOR'S CERTIFICATION

The undersigned Contractor certifies that: (1) all previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with Work covered by prior Applications for Payment; (2) title of all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to Owner at time of payment free and clear of all Liens, security interests and encumbrances (except such as are covered by a Bond acceptable to Owner indemnifying Owner against any such Liens, security interest or encumbrances); and (3) all Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

By:	Date:

Payment of: $_____
(Line 8 or other - attach explanation of other amount)

is recommended by: _____ _____
(Engineer) (Date)

Payment of: $_____
(Line 8 or other - attach explanation of other amount)

is approved by: _____ _____
(Owner) (Date)

Approved by: _____ _____
Funding Agency (if applicable) (Date)

Progress Estimate **Contractor's Application**

For (contract):	Application Number:
Application Period:	Application Date:

A		B	Work Completed		E	F		G
Item Specification Section No.	Description	Scheduled Value	C From Previous Application (C + D)	D This Period	Materials Presently Stored (not in C or D)	Total Completed and Stored to Date (C + D + E)	% (F) B	Balance to Finish (B - F)
	Totals							

Progress Estimate **Contractor's Application**

For (contract):					Application Number:		
Application Period:					Application Date:		
A		B	Work Completed		E	F	G
Item Specification Section No.	Description	Scheduled Value	C From Previous Application (C + D)	D This Period	Materials Presently Stored (not in C or D)	Total Completed and Stored to Date (C + D + E)	% (F) B	Balance to Finish (B - F)
	Totals							

Progress Estimate **Contractor's Application**

For (contract):					Application Number:		
Application Period:					Application Date:		
A		B	Work Completed		E	F	G
Item Specification Section No.	Description	Scheduled Value	C From Previous Application (C + D)	D This Period	Materials Presently Stored (not in C or D)	Total Completed and Stored to Date (C + D + E)	% (F) B	Balance to Finish (B - F)
	Totals							

5.2.5 Field Order Form

No. _____

Date of Issuance: Effective Date:

Project:	**Owner:** City of Wauchula	**Owner's Contract No.:**
Contract:		**Date of Contract:**
Contractor:		**Engineer's Project No.:**

Attention:
You are hereby directed to promptly execute this Field Order for minor changes in the Work without changes in Contract Price or Contract Times. If you consider that a change in Contract Price or Contract Times is required, please notify the Engineer immediately and before proceeding with this Work.

Reference: _____ _____
(Specification Section(s)) (Drawing(s) / Detail(s))

Description:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Attachments:

_____
_____
_____
_____

Engineer:	Date:
Receipt Acknowledged by (Contractor):	Date:

Copy to Owner

5.2.6 Notice of Award

Dated _____

Project:	**Owner:** City of Wauchula	**Owner's Contract No.:**
Contract:		**Date of Contract:**
Contractor:		**Engineer's Project No.:**

Bidder:

Bidder's Address: (send Certified Mail, Return Receipt Requested)

You are notified that your Bid dated_____for the above Contract has been considered. You are the Successful Bidder and are awarded a Contract for _____

(Indicate total Work, alternates or sections or Work awarded.)

The Contract Price of your Contract is_____Dollars ($_____)

_____ copies of each of the proposed Contract Documents (except Drawings) accompany this Notice of Award.

_____ sets of the Drawings will be delivered separately or otherwise made available to you immediately.

You must comply with the following conditions precedent within five (5) days of the date you receive this Notice of Award.

1. Deliver to the Owner fully executed counterparts of the Contract Documents.
2. Deliver with the executed Contract Documents the Contract Security [Bonds].
3. Deliver to the Owner the required Certificates of Insurance.
4. Other conditions precedent:

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award and declare your Bid security forfeited.

Within ten days after you comply with the above conditions, Owner will return to you one fully executed counterpart of the Contract Documents.

City of Wauchula
Owner

By: _____
Authorized Signature

_____
Title

Copy to Engineer

5.2.7 Notice to Proceed

Dated _____

Project:	**Owner:** City of Wauchula	**Owner's Contract No.:**
Contract:		**Date of Contract:**
Contractor:		**Engineer's Project No.:**

Contractor:

Contractor's Address: (send Certified Mail, Return Receipt Requested)

You are notified that the Contract Times under the above contract will commence to run on_____.- On or before that date, you are to start performing your obligations under the Contract Documents. The date of Substantial completion is_____and the date of Final Completion is _____ _____ [(or) the number of days to achieve Substantial Completion is _____ and the number of days to achieve readiness for final payment is_____].

Before you may start any Work at the Site, you and Owner must each deliver to the other (with copies to Engineer and other identified additional insureds) certificates of insurance which each is required to purchase and maintain in accordance with the Contract Documents.

Also, before you may start any Work at the Site, you must [add other requirements]:

_____

_____

_____

_____ _____

Contractor Owner

Received by:_____ Given By: _____

Authorized Signature

_____ _____

Title Title

_____ _____

Date Date

Copy to Engineer

5.2.8 Payment Bond

Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):

SURETY (Name and Address of Principal Place of Business):

OWNER (Name and Address):

CONTRACT
Date:
Amount:
Description (Name and Location):

BOND
Bond Number:
Date (Not earlier than Contract Date):
Amount:
Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Payment Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL
Company:

Signature:_____(Seal)
Name and Title:

SURETY

_____(Seal)
Surety's Name and Corporate Seal

By: _____
Signature and Title
(Attach Power of Attorney)

(Space is provided below for signatures of additional parties, if required.)

Attest: _____
Signature and Title

CONTRACTOR AS PRINCIPAL SURETY
Company:
Signature:_____(Seal)
Name and Title:

_____(Seal)
Surety's Name and Corporate Seal

By: _____
Signature and Title
(Attach Power of Attorney)

Attest: _____
Signature and Title:

Originally prepared through the joint efforts of the Surety Association of America, Engineers Joint Contract Documents Committee, the Associated General Contractors of America, the American Institute of Architects, the American Subcontractors Association, and the Associated Specialty Contractors.

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner to pay for labor, materials, and equipment furnished by Claimants for use in the performance of the Contract, which is incorporated herein by reference.

2. With respect to Owner, this obligation shall be null and void if Contractor:
   2.1. Promptly makes payment, directly or indirectly, for all sums due Claimants, and

   2.2. Defends, indemnifies, and holds harmless Owner from all claims, demands, liens, or suits alleging non-payment by Contractor by any person or entity who furnished labor, materials, or equipment for use in the performance of the Contract, provided Owner has promptly notified Contractor and Surety (at the addresses described in Paragraph 12) of any claims, demands, liens, or suits and tendered defense of such claims, demands, liens, or suits to Contractor and Surety, and provided there is no Owner Default.

3. With respect to Claimants, this obligation shall be null and void if Contractor promptly makes payment, directly or indirectly, for all sums due.

4. Surety shall have no obligation to Claimants under this Bond until:

   4.1. Claimants who are employed by or have a direct contract with Contractor have given notice to Surety (at the addresses described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.

   4.2. Claimants who do not have a direct contract with Contractor:

      1. Have furnished written notice to Contractor and sent a copy, or notice thereof, to Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials or equipment were furnished or supplied, or for whom the labor was done or performed; and

      2. Have either received a rejection in whole or in part from Contractor, or not received within 30 days of furnishing the above notice any communication from Contractor by which Contractor had indicated the claim will be paid directly or indirectly; and

      3. Not having been paid within the above 30 days, have sent a written notice to Surety and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to Contractor.

5. If a notice by a Claimant required by Paragraph 4 is provided by Owner to Contractor or to Surety, that is sufficient compliance.

6. When a Claimant has satisfied the conditions of Paragraph 4, the Surety shall promptly and at Surety's expense take the following actions:

   6.1. Send an answer to that Claimant, with a copy to Owner, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.

   6.2. Pay or arrange for payment of any undisputed amounts.

7. Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by Surety.

8. Amounts owed by Owner to Contractor under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any performance bond. By Contractor furnishing and Owner accepting this Bond, they agree that all funds earned by Contractor in the performance of the Contract are dedicated to satisfy obligations of Contractor and Surety under this Bond, subject to Owner's priority to use the funds for the completion of the Work.

9. Surety shall not be liable to Owner, Claimants, or others for obligations of Contractor that are unrelated to the Contract. Owner shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

10. Surety hereby waives notice of any change, including changes of time, to the Contract or to related Subcontracts, purchase orders and other obligations.

11. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the Work or part of the Work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by Paragraph 4.1 or Paragraph 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, Owner, or Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

13. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory Bond and not as a common law bond.

14. Upon request of any person or entity appearing to be a potential beneficiary of this Bond, Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15. DEFINITIONS

   15.1. Claimant: An individual or entity having a direct contract with Contractor, or with a first-tier subcontractor of Contractor, to furnish labor, materials, or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Contract, architectural and engineering services required for performance of the Work of Contractor and Contractor's Subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

   15.2. Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.

   15.3. Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract or to perform and complete or comply with the other terms thereof.

FOR INFORMATION ONLY (*Name, Address and Telephone)*
Surety Agency or Broker:
Owner's Representative (*Engineer or Other Party*):

Originally prepared through the joint efforts of the Surety Association of America, Engineers Joint Contract Documents Committee, the Associated General Contractors of America, the American Institute of Architects, the American Subcontractors Association, and the Associated Specialty Contractors.

5.2.9 Performance Bond

Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

CONTRACTOR (*Name and Address*):

SURETY (*Name, and Address of Principal Place of Business*):

OWNER (*Name and Address*):

CONTRACT

Effective Date of Agreement:
Amount:
Description (*Name and Location*):

BOND

Bond Number:
Date (*Not earlier than Effective Date of Agreement*):
Amount:
Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL	SURETY
_____(Seal)	_____(Seal) Contractor's Name and Corporate Seal Surety's Name and Corporate Seal
By: _____ Signature	By: _____ Signature (Attach Power of Attorney)
_____ Print Name	_____ Print Name
_____ Title	_____ Title
Attest: _____ Signature	Attest: _____ Signature
_____ Title	_____ Title

Note: Provide execution by additional parties, such as joint venturers, if necessary.

Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner for the performance of the Contract, which is incorporated herein by reference.

1. If Contractor performs the Contract, Surety and Contractor have no obligation under this Bond, except to participate in conferences as provided in Paragraph 2.1.

2. If there is no Owner Default, Surety's obligation under this Bond shall arise after:
   2.1 Owner has notified Contractor and Surety, at the addresses described in Paragraph 9 below, that Owner is considering declaring a Contractor Default and has requested and attempted to arrange a conference with Contractor and Surety to be held not later than 15 days after receipt of such notice to discuss methods of performing the Contract. If Owner, Contractor, and Surety agree, Contractor shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive Owner's right, if any, subsequently to declare a Contractor Default;
   2.2 Owner has declared a Contractor Default and formally terminated Contractor's right to complete the Contract.; and
   2.3 Owner has agreed to pay the Balance of the Contract Price to:
      1. Surety in accordance with the terms of the Contract; or
      2. Another contractor selected pursuant to Paragraph 3.3 to perform the Contract.

3. When Owner has satisfied the conditions of Paragraph 2, Surety shall promptly, and at Surety's expense, take one of the following actions:
   3.1 Arrange for Contractor, with consent of Owner, to perform and complete the Contract; or
   3.2 Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or
   3.3 Obtain bids or negotiated proposals from qualified contractors acceptable to Owner for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by Owner and contractor selected with Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Contract, and pay to Owner the amount of damages as described in Paragraph 5 in excess of the Balance of the Contract Price incurred by Owner resulting from Contractor Default; or
   3.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:
      1. After investigation, determine the amount for which it may be liable to Owner and, as soon as practicable after the amount is determined, tender payment therefor to Owner; or
      2. Deny liability in whole or in part and notify Owner citing reasons therefor.

4. If Surety does not proceed as provided in Paragraph 3 with reasonable promptness, Surety shall be deemed to be in default on this Bond 15 days after receipt of an additional written notice from Owner to Surety demanding that Surety perform its obligations under this Bond, and Owner shall be entitled to enforce any remedy available to Owner. If Surety proceeds as provided in Paragraph 3.4, and Owner refuses the payment tendered or Surety has denied liability, in whole or in part, without further notice Owner shall be entitled to enforce any remedy available to Owner.

5. After Owner has terminated Contractor's right to complete the Contract, and if Surety elects to act under Paragraph 3.1, 3.2, or 3.3 above, then the responsibilities of Surety to Owner shall not be greater than those of Contractor under the Contract, and the responsibilities of Owner to Surety shall not be greater than those of Owner under the Contract. To the limit of the amount of this Bond, but subject to commitment by Owner of the Balance of the Contract Price to mitigation of costs and damages on the Contract, Surety is obligated without duplication for:

5.1 The responsibilities of Contractor for correction of defective Work and completion of the Contract;
5.2 Additional legal, design professional, and delay costs resulting from Contractor's Default, and resulting from the actions of or failure to act of Surety under Paragraph 3; and
5.3 Liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance of Contractor.

6. Surety shall not be liable to Owner or others for obligations of Contractor that are unrelated to the Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than Owner or its heirs, executors, administrators, or successors.

7. Surety hereby waives notice of any change, including changes of time, to Contract or to related subcontracts, purchase orders, and other obligations.

8. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the Work or part of the Work is located, and shall be instituted within two years after Contractor Default or within two years after Contractor ceased working or within two years after Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

9. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the address shown on the signature page.

10. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted here from and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

11. Definitions.
11.1 Balance of the Contract Price: The total amount payable by Owner to Contractor under the Contract after all proper adjustments have been made, including allowance to Contractor of any amounts received or to be received by Owner in settlement of insurance or other Claims for damages to which Contractor is entitled, reduced by all valid and proper payments made to or on behalf of Contractor under the Contract.
11.2 Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.
11.3 Contractor Default: Failure of Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Contract.
11.4 Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract or to perform and complete or otherwise comply with the other terms thereof.

FOR INFORMATION ONLY (*Name, Address and Telephone)* Surety Agency or Broker: Owner's Representative (*Engineer or Other Party*):

5.2.10 Work Change Directive Form

No._____

Date of Issuance:_____ Effective Date: _____

Project:	**Owner:** City of Wauchula	**Owner's Contract No.:**
Contract:		**Date of Contract:**
Contractor:		**Engineer's Project No.:**

You are directed to proceed promptly with the following change(s):

Item No.	Description

Attachments (list documents supporting change):

_____

_____

Purpose for Work Change Directive:

- □ Authorization for Work described herein to proceed on the basis of Cost of the Work due to:
  - □ Nonagreement on pricing of proposed change.
  - □ Necessity to expedite Work described herein prior to agreeing to changes on Contract Price and Contract Time

Estimated change in Contract Price and Contract Times:

Contract Price $_____(increase/decrease) Contract Time_____(increase/decrease)
days

If the change involves an increase, the estimated amounts are not to be exceeded without further authorization.

Recommended for Approval by Engineer:	Date:
Authorized for Owner by:	Date:
Approved by Contractor (*Contractor signature indicates agreement with the proposed adjustments in Contract Sum and Contract Time set forth in this CCD):*	Date:
Approved by Funding Agency (if applicable):	Date:

DIVISION 6:
TECHNICAL SPECIFICATIONS

UTILITY PLANS FOR

FOR

EAST BAY STREET AND 1 ST AVEUE UTILITY EXPANSION

300 - 599 EAST BAY STREET
AND 301 - 341 1 ST AVENUE
HAREE COUNTY, FLORIDA
JANUARY 2026
FOLIO ID: XXXXXXXXXXXX

GENERAL NOTES

CONSTRUCTION SCHEDULE:
T.B.D.

EASEMENTS:
ALL EXISTING EASEMENTS ARE DESIGNATED ON THE PLANS.

FEMA DESIGNATION:
.
.
.

DRAINAGE:
THE EXISTING STORMWATER DRAINAGE SYSTEM SHALL REMAIN FUNCTIONAL AND BE MAINTAINED BY THE CONTRACTOR DURING CONSTRUCTION.

UTILITY CONTACT LISTING

ELECTRIC
CITY OF WAUCHULA
CHARLIE VANTRIES
PHONE: 863-773-3115
175 GRIFFIN ROAD
WAUCHULA, FL 33873

TELEPHONE
CENTURYLINK
BILL MCCLOUD
PHONE: 863-452-3132
924 MEMORIAL DRIVE
AVON PARK, FL 33825

GAS
SEBRING GAS SYSTEM, INC.
CAMERON MENZIE
PHONE: 863-385-0194
3515 US HWY 27 S
SEBRING, FL 33870

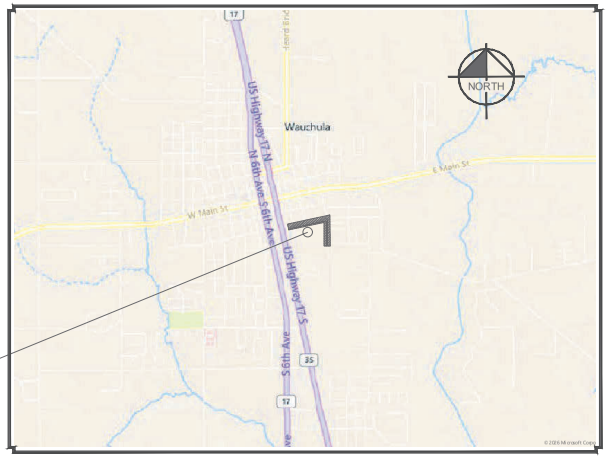
WATER & SEWER
CITY OF WAUCHULA
CHARLIE VANTRIES
PHONE: 863-773-3115
175 GRIFFIN ROAD
WAUCHULA, FL 33873

CABLE TV, TELEPHONE, INTERNET
COMCAST CABLEVISION
PHONE: 941-356-1564
CHAD EVENER
3010 HERRING AVENUE
SEBRING, FL 33870

PROJECT OWNER AND CONSULTANTS

OWNER/APPLICANT:
CITY OF WAUCHULA
175 GRIFFIN ROAD
WAUCHULA, FL 33873
(863) 773-3115

CIVIL ENGINEERING CONSULTANT:
KIMLEY-HORN AND ASSOCIATES, INC.
109 SOUTH KENTUCKY AVENUE
LAKELAND, FL 33801
(813) 620-1460



VICINITY MAP
N.T.S.

SECTION: 03
TOWNSHIP: 34 S
RANGE: 25 E

SHEET INDEX

C-000 COVER SHEET
C-010 GENERAL NOTES
C-100 KEY MAP
C-210 BAY STREET E STA. 10+00 TO 15+00
C-211 BAY STREET E STA. 15+00 TO 19+50
C-212 BAY STREET E STA. 19+50 TO 23+00
C-213 1 ST AVE S STA. 20+00 TO 24+75
C-214 1 ST AVE S STA. 24+75 TO 29+00
C-300 TRECH DETAILS
C-301 WATER DETAILS
C-302 GENERAL DETAILS

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
109 SOUTH KENTUCKY AVENUE, LAKELAND FL, 33801
PHONE: 863-648-1734 FAX: 863-648-1743
WWW.KIMLEY-HORN.COM REG NO.: 35106

LICENSED PROFESSIONAL
MARK S. DAVIES, P.E.
FLORIDA LICENSE NUMBER
55535
DATE: FEB 05 2026

KHA PROJECT
046292038
DATE
FEB. 2026
SCALE AS SHOWN
DESIGNED BY MSD
DRAWN BY KM
CHECKED BY MSD

COVER SHEET

BAY STREET
UTILITY EXPANSION
PREPARED FOR
CITY OF WAUCHULA
HARDEE COUNTY FLORIDA

Plotted By:Maddonado, Ken Sheet Set:Kha Layout:C-000 COVER SHEET February 05, 2026 11:38:50am K:\Vol-civil\046292038 - bay street utility expansion\CAD\PlanSheets\C-000-COVR.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. and be without liability to Kimley-Horn and Associates, Inc.

GENERAL NOTES

1. ALL STATIONS AND OFFSETS ARE REFERENCED TO BASELINE OF CONSTRUCTION AS NOTED.
2. THE FINISHED ROADWAY SECTION SHALL BE SMOOTH AND SET TO DRAIN.
3. EXISTING SECTION CORNERS AND 1/4 SECTION CORNERS, AND OTHER LAND MARKERS OR MONUMENTS LOCATED WITHIN PROPOSED CONSTRUCTION ARE TO BE REFERENCED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND RESET AFTER CONSTRUCTION USING A REGISTERED LAND SURVEYOR LICENSED IN THE STATE OF FLORIDA.
4. ANY MAILBOX AFFECTED BY CONSTRUCTION IS TO BE TAKEN DOWN AND RESET IN ACCORDANCE WITH POSTAL REQUIREMENTS BY THE CONTRACTOR ON THE SAME DAY.
5. NORTH, THE GRID, AND THE COORDINATE SYSTEM SHOWN HEREON ARE REFERENCED TO THE WEST ZONE OF THE FLORIDA STATE PLANE COORDINATE SYSTEM, NAD 83, 1990 ADJUSTMENT.
6. ELEVATIONS ARE TO NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 1929).
7. THE EXACT LOCATIONS OF PROPOSED SWALES, BACK SLOPE LINES AND LIMITS OF CONSTRUCTION WILL BE IN ACCORDANCE WITH THE PLANS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
8. CONTRACTOR SHALL ADJUST ALL UTILITY LIDS AND COVERS TO FINISHED GRADE AS REQUIRED.
9. ALL DISTURBED AREAS SHALL BE SODDED, UNLESS OTHERWISE NOTED.
10. THE CONTRACTOR WILL RESTORE ALL AREAS DISTURBED BY THIS CONSTRUCTION TO A CONDITION EQUAL TO, OR BETTER THAN THAT NOW EXISTING AS DETERMINED BY THE ENGINEER.
11. ITEMS IN CONFLICT WITH DESIGN SUCH AS EXISTING CURBS AND GUTTERS, SIDEWALKS, DRAINAGE STRUCTURES, PAVEMENT AND BASE AND EXCESS EXCAVATIONS ARE TO BE REMOVED BY CONTRACTOR AND DISPOSED OF IN A LEGAL AND PROPER MANNER AWAY FROM THE JOB SITE AT THE CONTRACTOR'S EXPENSE UNLESS THE ITEMS ARE TO BE REUSED ON THE PROJECT.
12. THE MAINTENANCE OF TRAFFIC FOR THIS PROJECT SHALL BE IN ACCORDANCE WITH THE APPLICABLE FDOT INDEX NUMBERS (600 SERIES) AND THESE DOCUMENTS; THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (U.S. DEPARTMENT OF TRANSPORTATION, FHWA), SHALL BE FOLLOWED IN THE DESIGN, APPLICATION, INSTALLATION, MAINTENANCE AND REMOVAL OF ALL TRAFFIC CONTROL DEVICES, WARNING DEVICES AND BARRIERS NECESSARY TO PROTECT THE PUBLIC AND WORKMEN FROM HAZARDS WITHIN THE PROJECT LIMITS. PEDESTRIAN AND VEHICULAR TRAFFIC SHALL BE MAINTAINED AND PROTECTED AT ALL TIMES. ALL LANES CLOSURES MUST BE COORDINATED WITH THE CITY OF WAUCHULA STAFF.
13. THE LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY; THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION. RELOCATION OF UTILITIES SHALL BE COORDINATED WITH UTILITY COMPANIES AFTER IDENTIFICATION OF CONFLICT BY CONTRACTOR. CONTRACTOR SHALL NOTIFY ENGINEER IN ADVANCE BEFORE ANY RELOCATION.
14. THE UTILITY COMPANIES SHALL BE NOTIFIED BY THE CONTRACTOR TWO BUSINESS DAYS IN ADVANCE OF ANY EXCAVATION INVOLVING THEIR UTILITIES SO THAT A COMPANY REPRESENTATIVE CAN BE PRESENT.

    KNOWN UTILITIES: (SEE COVER SHEET)

19. THE CONTRACTOR IS TO USE CAUTION WHEN WORKING IN OR AROUND AREAS OF OVERHEAD TRANSMISSION LINES OR UNDERGROUND UTILITIES.
20. PRIOR TO COMMENCEMENT OF ANY EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH FLORIDA STATUTE 553.851 FOR THE PROTECTION OF UNDERGROUND GAS PIPELINES.
21. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES TO REMAIN IN PLACE.
22. THE CONTRACTOR SHALL CALL SUNSHINE (811) FOR FIELD LOCATIONS TWO BUSINESS DAYS BEFORE DIGGING NEAR UNDERGROUND UTILITIES.
23. DRIVEWAYS THAT ARE DISTURBED ARE TO BE RECONSTRUCTED TO THEIR ORIGINAL OR BETTER CONDITIONS, AS DETERMINED BY THE ENGINEER, UNLESS OTHERWISE STATED ON PLANS.
24. STAGING AND MATERIAL STORAGE SHALL NOT BE CONDUCTED ON ABUTTING PRIVATE PROPERTY WITHOUT APPROVAL FROM THE OWNER.
25. TURNOUTS (DRIVEWAYS) TO BE CONSTRUCTED AS PER FDOT INDEX 515.
25. NO EXISTING BASE MATERIAL REMOVED IN EXCAVATION SHALL BE REUSED AS PROPOSED BASE MATERIAL OR ROADWAY EMBANKMENT.
26. AN FDOT APPROVED PRIMER SHALL BE APPLIED TO THE BASE MATERIAL. ALSO, A TACK COAT SHALL BE APPLIED WHERE APPLICABLE WITH THE CONSTRUCTION OF THE ASPHALTIC CONCRETE.
27. ALL SIGNING AND STRIPING WITHIN THE FDOT RIGHT-OF-WAY IS TO BE IN ACCORDANCE WITH FDOT STANDARD INDEX 17346. ALL RPM PLACEMENT WITHIN THE FDOT RIGHT-OF-WAY IS TO BE IN ACCORDANCE WITH FDOT STANDARD INDEX 17352.
28. ALL SIGN POSTS WHICH ARE EMBEDDED IN ASPHALT OR CONCRETE (MEDIANS/ISLANDS) SHALL BE INSTALLED IN AN FDOT APPROVED PIPE SLEEVE.
29. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF ALL SIGNS THAT ARE TO BE PERMANENTLY REMOVED FROM THIS PROJECT.
30. THE PERMANENT REMOVAL OF SIGNS WITHIN THE LIMITS OF THIS PROJECT IS NOT REQUIRED IF THEY ARE NOT SHOWN IN THESE PLANS. UNLESS AGENCY MAINTAINING THOSE SIGNS WANTS THEM.
31. IN AREAS THAT STRIPING IS BEING REFURBISHED, EXISTING REFLECTIVE PAVEMENT MARKERS SHALL BE REMOVED AND NEW PAVEMENT MARKERS INSTALLED. COSTS FOR REMOVAL OF EXISTING PAVEMENT MARKERS SHALL BE INCLUDED IN THE COST OF INSTALLING NEW PAVEMENT MARKERS, PAVEMENT ITEM 706-3.
32. ALL EXISTING LANDSCAPING AND IRRIGATION WITHIN THE CONSTRUCTION AREAS ARE TO BE REMOVED AND RELOCATED BY THE CONTRACTOR, AS DIRECTED BY THE ENGINEER.
33. PRIOR TO COMMENCING CONSTRUCTION, A PRE-CONSTRUCTION MEETING SHALL BE SCHEDULED BY THE ENGINEER. THE FOLLOWING SHALL BE INCLUDED IN THE CONFERENCE: CITY OF WAUCHULA, THE CONTRACTOR, THE ENGINEER, AND UTILITY COMPANIES.
34. CONTRACTOR MUST COORDINATE WITH LOCAL BUSINESS OWNERS TO ENSURE NORMAL BUSINESS OPERATIONS CONTINUE THROUGH SHUTDOWN OF EXISTING DRIVEWAY.
35. CONTRACTOR MUST OBTAIN A HARDEE COUNTY RIGHT-OF-WAY PERMIT FOR CONSTRUCTION WITHIN THE RIGHT-OF-WAY OF S. FLORIDA AVENUE AND MAIN STREET.
36. CONTRACTOR TO COORDINATE WITH ELECTRICAL COMPANY FOR CONSTRUCTION OF WATER MAIN NEAR POWER POLES. POWER POLES SHALL BE SUPPORTED AND LEFT IN PLACE DURING CONSTRUCTION AS REQUIRED BY ELECTRICAL COMPANY.
37. NOT ALL EXISTING UTILITIES MAY BE SHOWN. CONTRACTOR TO REACH OUT TO UTILITIES AT START OF CONSTRUCTION FOR LOCATION OF UTILITIES AND PROVIDE CAUTION WHEN CONSTRUCTING NEAR EXISTING UTILITIES.
38. CONTRACTOR TO SUBMIT AND OBTAIN APPROVAL PRIOR TO COMMENTING CONSTRUCTION:
    - 38.1. WORK PLAN AND SCHEDULE FOR ORDER OF PIPELINE INSTALLATIONS AND RESTORATION.
    - 38.2. SEQUENCE OF TESTING AND ACTIVATION OF NEW PIPELINES TO MINIMIZE SERVICE OUTAGES.
    - 38.3. METHOD OF INFORMING PUBLIC OF PROJECT IMPACTS.

WATERMAIN NOTES

1. THE LOCATION OF THE PROPOSED FACILITIES SHOWN ON THE PLANS IS APPROXIMATE. LOCATION ADJUSTMENT SHALL BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION BASED UPON FIELD CONDITIONS.
2. DENSITY TESTS SHALL BE TAKEN AT THE DIRECTION OF THE ENGINEER. THE ENGINEER SHALL BE RESPONSIBLE FOR OBSERVATION OF CONSTRUCTION AND UPON COMPLETION OF THE PROJECT A LETTER OF CERTIFICATION FROM THE ENGINEER INDICATING THAT CONSTRUCTION WAS CARRIED OUT IN CONFORMANCE TO THE APPROVED PLANS, SHALL BE SUBMITTED TO THE CITY OF WAUCHULA. AS APPLICABLE.
3. EVERY CERTIFICATION SUBMITTAL TO THE CITY SHALL INCLUDE ONE (1) SET OF "AS BUILT/RECORD PLANS, ALONG WITH COPIES OF PERTINENT BACTERIOLOGICAL MAIN CLEARANCE AND HYDROSTATIC TEST REPORTS. UNDER NO CIRCUMSTANCES SHALL WATER MAINS PERMITTED HEREIN BE PLACED INTO OPERATION PRIOR TO THE ISSUANCE OF A LETTER OF CLEARANCE BY THE F.D.E.P., AS APPLICABLE.
4. NO PHYSICAL CONNECTION OF NEW WATER MAINS TO ACTIVE WATER MAINS SHALL BE MADE UNTIL SUCH TIME THAT NEW MAINS ARE CONFIRMED TO BE BACTERIOLOGICALLY SAFE.
5. ALL WATER MAINS SHALL BE DESIGNED FOR A MINIMUM WORKING PRESSURE OF 150 PSI.
6. THE WATER SYSTEM SHALL BE HYDROSTATICALLY PRESSURE TESTED FOR A PERIOD OF 2 HOURS AT NOT LESS THAN 150 PSI IN ACCORDANCE WITH ANSI/AWWA STANDARDS C600 OR C605 LATEST REVISIONS WITH AN ALLOWABLE LEAKAGE NOT GREATER THAN DETERMINED BY THE FOLLOWING:

    DIP: $L = \frac{SD\sqrt{P}}{133200}$
    D= SIZE OF LINE TESTED DIAMETER IN INCHES
    S= LENGTH OF LINE IN FEET
    P= AVERAGE TEST PRESSURE (P.S.I.)
    L= ALLOWABLE LEAKAGE IN GALS/HOUR

    PVC: $L = \frac{ND\sqrt{P}}{7400}$
    N= No. OF JOINTS IN LENGTH OF PIPE TESTED
    D=NOMINAL DIAZ. OF PIPE TESTED
    P= AVERAGE TEST PRESSURE (P.S.I.)
    L= ALLOWABLE LEAKAGE IN GALS/HOUR

7. HIGH DENSITY POLYETHYLENE (HDPE) PRESSURE TESTING SHALL BE CONDUCTED IN PHASES AS REQUIRED BY ASTM F2164. WHEN THE TEST SECTION IS COMPLETELY FILLED AND PURGED OF AIR, THE PRESSURE SHALL BE GRADUALLY INCREASED TO THE REQUIRED TEST PRESSURE. MAKE-UP WATER SHALL BE ADDED AS NECESSARY TO MAINTAIN MAXIMUM TEST PRESSURE FOR UP TO FOUR (4) HOURS.
8. NO LEAKAGE WILL BE ACCEPTED FOR THE HDPE PIPE SYSTEM DURING THE ONE (1) HOUR TEST PHASE FOLLOWING THE (4) HOUR PRESSURIZATION. THE ONE (1) HOUR TEST SHALL BE CONDUCTED AFTER REDUCING THE INITIAL PRESSURE BY 10 PSI.
9. WATER MAIN PIPE SHALL MEET THE REQUIREMENTS OF AWWA C-900a LATEST REVISION "POLYVINYL CHLORIDE (PVC) PRESSURE PIPE". PRESSURE CLASS 150 PIPE SHALL CONFORM TO REQUIREMENT OF DR 18. PRESSURE CLASS 200 PIPE SHALL CONFORM TO REQUIREMENTS OF DR-14. PVC PIPE SHALL BE BLUE COLOR.DEFLECTION OF PVC PIPE SHALL NOT EXCEED 80% OF MANUFACTURERS MAXIMUM DEFLECTION RECOMMENDATION.
10. PVC MAINS SHALL BE LAID WITH A MINIMUM OF 36" CLEAR COVER. FITTINGS SHALL BE DUCTILE IRON CLASS 350 THROUGH 12" AND CLASS 250 IN SIZES 16" AND LARGER (SHORT BODY TYPE). ALL FITTINGS SHALL BE CEMENT LINED AND SEALED THE SAME AS DUCTILE IRON PIPE (WHERE SPECIFIED)IN ACCORDANCE WITH AWWA/ANSI C110 LATEST REVISION.
11. DUCTILE IRON PIPE SHALL BE CLASS 350 AND SHALL BE CEMENT LINED AND SEACOAST IN ACCORDANCE WITH AWWA/ANSI STANDARD C151 LATEST REVISION U.N.P. MAINS SHALL BE LAID WITH A MINIMUM 30" CLEAR COVER. DUCTILE IRON FITTINGS SHALL BE CLASS 350 (SHORT BODY TYPE)THROUGH 12" AND CLASS 250 IN SIZES 16" AND LARGER. ALL FITTINGS SHALL BE CEMENT LINED AND SEACOAST THE SAME AS DUCTILE IRON PIPE IN ACCORDANCE WITH C104 LATEST REVISION & C153 LATEST REVISION.
12. ALL BURIED DUCTILE IRON PIPE AND FITTINGS SHALL BE PROVIDED WITH A 4-MIL THICK CROSS LAMINATED HIGH DENSITY POLYETHYLENE ENCASEMENT OR AN 8-MIL THICK POLYETHYLENE ENCASEMENT PER ANSI/AWWA C105/A21.5. COLOR OF ENCASEMENT SHALL BE IN ACCORDANCE WITH PAINTING SPECIFICATIONS BASED ON THE SERVICE TYPE OF THE PIPE.
13. INSTALL DETECTOR TAPE AND LOCATING WIRE AS SHOWN IN DETAILS PAGE IN POTABLE WATER AND WASTEWATER FORCE MAIN SYSTEMS. A CONTINUITY TEST SHALL BE PERFORMED BY THE CONTRACTOR.
14. ALL DRIVEWAYS TO BE REPLACED IN KIND IF CROSSED BY OPEN-CUT. COMPACTED TO 98% OF ITS MAXIMUM LABORATORY MODIFIED DRY DENSITY, ASTM D1557.
15. RE-SOD ALL DISTURBED AREAS. (PRESERVE EXISTING SURFACE DRAINAGE).
16. ALL NEW AND RELOCATED WATER MAINS SHALL BE LOCATED AT LEAST SIX FEET (PREFERABLY 10 FEET) HORIZONTALLY FROM ALL GRAVITY OR PRESSURE TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS OR RECLAIM WATER MAINS. IF THE BOTTOM OF A POTABLE WATER MAIN IS LOCATED 6 INCHES MINIMUM ABOVE THE TOP OF A GRAVITY TYPE SEWER MAIN, THE HORIZONTAL DISTANCE CAN BE REDUCED TO 3 FEET MINIMUM. ALSO, ALL NEW AND RELOCATED WATER MAINS SHALL BE LOCATED AT LEAST THREE FEET HORIZONTALLY FROM ALL STORM SEWERS, STORMWATER FORCE MAINS, RECLAIMED WATER LINES CARRYING RECLAIMED WATER FOR NURSERIES AND VACUUM-TYPE SANITARY SEWERS, IN ACCORDANCE WITH F.A.C. RULE 62-555.314.
17. ALL WATER METERS AND SERVICES ASSOCIATED WITH PROPOSED WATERMAIN MUST BE REPLACED WITH NEW SERVICE CONNECTIONS TO THE PROPOSED WATERMAIN. SEE DETAILS 6 AND 7 ON SHEET C010 - CIVIL DETAILS FOR INFORMATION ON REPLACEMENT.
17. ANY NEW OR RELOCATED WATER MAINS THAT CROSS ANY GRAVITY OR VACUUM-TYPE SANITARY SEWER, STORM SEWER, OR RECLAIMED WATER MAIN SHALL CROSS ABOVE (PREFERRED) OR BELOW SUCH PIPELINES WITH A MINIMUM VERTICAL DISTANCE OF 12 INCHES BETWEEN THE OUTSIDE OF THE WATER MAINS AND THE OUTSIDE OF SUCH PIPELINES. SUCH CROSSINGS SHALL BE ARRANGED SO THAT ALL PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING WITH NO LESS THAN TEN FEET BETWEEN ANY TWO JOINTS (OR ALTERNATIVELY, THE MAINS AT SUCH CROSSINGS SHALL BE PLACED IN SLEEVES TO OBTAIN THE EQUIVALENT OF THE TEN-FOOT SEPARATION BETWEEN JOINTS), IN ACCORDANCE WITH F.A.C. RULE 62-555.314.
18. BACTERIOLOGICAL SAMPLING-DISINFECTION OF ALL NEW AND RELOCATED WATER MAINS SHALL BE IN ACCORDANCE WITH ANSI/AWWA SPECIFICATION C651 LATEST REVISION. CITY REPRESENTATIVE MUST BE PRESENT AT THE TIME OF CHLORINATION AND FLUSHING.
19. ALL WATER MAINS TAKEN OUT OF SERVICE BY THE PROJECT SHALL BE GROUTED AND ABANDONED IN PLACE.
20. AFTER CLEARANCE OF WATERMAIN FROM THE F.D.E.P., ALL WATER SERVICES MUST BE TRANSFERRED TO THE PROPOSED WATERMAIN.
21. ALL FIRE HYDRANTS TAKEN OUT OF SERVICE SHALL BE REMOVED TO THE MAIN VALVE

TRAFFIC CONTROL NOTES

1. TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH F.D.O.T. DESIGN STANDARDS SERIES 600 DEPENDING ON THE OPERATION BEING PERFORMED. THE CONTRACTOR MAY SUBSTITUTE ANOTHER INDEX WITH APPROVAL BY THE ADMINISTRATOR.
2. TO AVOID DISRUPTION DUE TO INCLEMENT WEATHER, THE CONTRACTOR SHOULD KEEP THE MILLING AND PAVING OPERATIONS AS CLOSE TOGETHER AS POSSIBLE.
3. ALL EXISTING PAVEMENT MARKINGS OUTSIDE THE CONSTRUCTION LIMITS THAT HAVE BEEN ALTERED BECAUSE OF CONSTRUCTION OPERATIONS SHALL BE REPLACED UPON THE COMPLETION OF THE PROJECT.
4. THE EXISTING POSTED SPEED LIMIT SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION, ANY CHANGE SHALL REQUIRE APPROVAL FROM THE ENGINEER.
5. IF A LANE CLOSURE CAUSES EXTENDED CONGESTION OR DELAY, THE CONTRACTOR SHALL BE DIRECTED TO REOPEN THE CLOSED LANE UNTIL SUCH TIME THAT TRAFFIC FLOW HAS RETURNED TO AN ACCEPTABLE LEVEL. THE CONTRACTOR SHALL SCHEDULE WORK OPERATIONS SO THAT ALL LANES CAN BE OPENED TO TRAFFIC WITHIN A PERIOD OF 24 HOURS IN CASE OF AN EMERGENCY.
6. PEDESTRIANS, BICYCLES, AND WHEELCHAIRS:
   AT THE END OF EACH WORKDAY OR WHENEVER THE WORK ZONE BECOMES INACTIVE, ANY DROP-OFF ADJACENT TO A SIDEWALK SHALL BE BACKFILLED AT A SLOPE NOT TO EXCEED 1:4, OR SHALL BE PROTECTED IN ACCORDANCE WITH STANDARD INDEX 600.
7. PEDESTRIAN AND WHEELCHAIR TRAFFIC SHALL BE ACCOMMODATED UTILIZING STANDARD INDEX 660.
8. ONE PORTABLE VARIABLE MESSAGE SIGN SHALL BE USED IN ADVANCE OF EACH LANE CLOSURE. THE FOLLOWING ARE SUGGESTED MESSAGES TO USE IN THE APPROPRIATE SITUATIONS:

   MESSAGE 1

"RIGHT" OR "CENTER" OR		"LEFT"
"LANE"	"LANE"	"LANE"
"CLOSED"	"CLOSED"	"CLOSED"

   MESSAGE 2

"MERGE" OR "MERGE" OR		"MERGE"
"RIGHT"	"LEFT"	"LEFT OR"
		"RIGHT"

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMMEDIATE REMOVAL OF STORMWATER FROM ROADWAYS UTILIZED FOR TRAFFIC CONTROL IN A MANNER APPROVED BY THE ENGINEER.
10. AT THE END OF EACH WORKING DAY'S ACTIVITY, TEMPORARY PAVEMENT MARKINGS AND TEMPORARY RPM'S SHALL BE INSTALLED PRIOR TO OPENING THE LANES UP FOR TRAFFIC.
11. ALL PAVEMENT MARKINGS, SIGNS, MARKERS, CHANNELIZATION THAT CAN NOT BE APPLIED WITHIN THE WORK ZONE FOR THE NEXT PHASE ALONG WITH TRAFFIC SHIFTS, SHALL UTILIZE INDICES OF PLACEMENT.
12. THE CONTRACTOR SHALL RESTRICT THE OPERATIONS SO THAT THE FIRST LIFT OF ASPHALT IS PLACED ON THE SAME DAY THAT THE LANES ARE MILLED, BEFORE OPENING THE LANES TO TRAFFIC. INSTALL TEMPORARY PAVEMENT MARKINGS AFTER THE FIRST LIFT AND PRIOR TO OPENING.
13. ALL SIGNALS SHALL REMAIN IN THE ACTUATED OPERATION THROUGHOUT THE DURATION OF THE PROJECT. THE CONTRACTOR MAY UTILIZE STANDARD LOOPS, PERFORMED LOOPS, OR AN ALTERNATIVE METHOD. ANY ALTERNATIVE DEVICE MUST BE ON THE APPROVED PRODUCTS LIST AND APPROVED BY THE PROJECT ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER PLACEMENT AND ANY NECESSARY RELOCATION, ADJUSTMENT OR REPLACEMENT OF THOSE DETECTORS AS NECESSARY TO MAINTAIN ACTUATED OPERATION FOR ALL OF THE MAIN STREET, SIDE STREET AND RAMP MOVEMENTS FOR THE DURATION OF THE PROJECT. ALL COSTS OF TEMPORARY VEHICLE DETECTION, INCLUDING DETECTORS, INSTALLATION, RELOCATION, ADJUSTMENT, OR REPLACEMENT SHALL BE INCLUDED IN THE COST OF AND PAID FOR UNDER THE MAINTENANCE OF TRAFFIC PAY ITEM. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH UTILITY COMPANIES AND VERIFY THAT TEMPORARY POLES WILL NOT CONFLICT WITH ANY EXISTING UTILITIES.

PLAN/PROFILE LEGEND

PROPERTY LINE
EASEMENT LINE
EXISTING WATERMAIN
EXISTING FIBER OPTIC
EXISTING BURIED TELEPHONE
EXISTING SANITARY SEWER
EXISTING DEPRESSION CONTOUR
EXISTING OBSCURE CONTOUR
EXISTING TREE LINE
EXISTING SHRUB LINE
EXISTING FENCE
EXISTING WALL
EXISTING STRUCTURE
EXISTING SANITARY MANHOLE
EXISTING STORM MANHOLE
EXISTING TELEPHONE BOX
REPLACE EXISTING WATER METER AND SERVICE LINE (SEE DETAILS 6 AND 7 ON SHEET 012 - CIVIL DETAILS)
EXISTING LIGHT POLE
EXISTING POWER POLE
EXISTING SIGN
EXISTING PALM TREE
EXISTING MAILBOX
EXISTING CATCH BASIN
EXISTING SANITARY VALVE
EXISTING CLEAN OUT
EXISTING FIRE HYDRANT
EXISTING WATER VALVE
PROPOSED WATERMAIN
PROPOSED WATER VALVE
PROPOSED FIRE HYDRANT
REMOVE AND REPLACE PAVEMENT (SEE DETAILS 2&3 ON SHEET 012)
PROPOSED SERVICE LINE
APPROXIMATE LOCATION OF EXISTING TREE
UNKNOWN METER LOCATION. CONTRACTOR TO LOCATE AND REPLACE EXISTING WATER METER AND SERVICE LINE (SEE DETAILS 6 AND 7 ON SHEET 012 - CIVIL DETAILS)

No.	REVISIONS	DATE	BY

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LICENSED PROFESSIONAL
MARK S. DAVIES, P.E.
FLORIDA LICENSE NUMBER 55535
DATE: FEB 05 2026

KHA PROJECT 046292038
DATE FEB. 2026
SCALE AS SHOWN
DESIGNED BY MSD
DRAWN BY KM
CHECKED BY MSD

BAY STREET UTILITY EXPANSION
PREPARED FOR CITY OF WAUCHULA
HARDEE COUNTY FLORIDA

GENERAL NOTES

Plotted By:Maddonado, Ken Sheet Set:Kha Layout:C-010_GENERAL NOTES February 05, 2026 11:38:58am K:\Vak_civil\046292038 - bay street utility expansion\CAD\PlanSheets\C-010-NOTE.dwg
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BAY STREET UTILITY EXPANSION
PREPARED FOR
CITY OF WAUCHULA
HARDEE COUNTY FLORIDA

KEY MAP

KHA PROJECT	046292038
DATE	FEB. 2026
SCALE	AS SHOWN
DESIGNED BY	MSD
DRAWN BY	KM
CHECKED BY	MSD

DATE: FEB 05 2026

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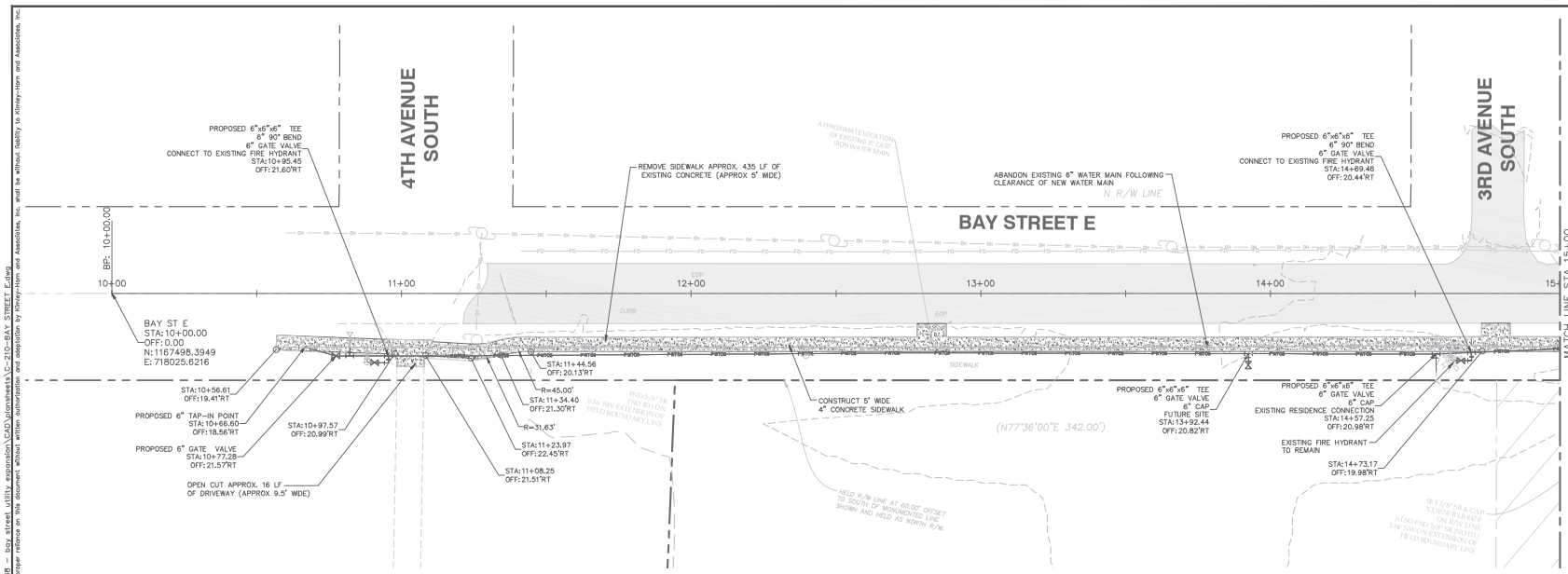
Plotted By:Maldonado, Ken Sheet Set:Kha Layout:C-100 KEY MAP Plan February 05, 2026 11:33:05am K:\Jax_civil\046292038 - bay street utility expansion\CAD\plansheets\C-100-KeyMap.dwg



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SCALE AS SHOWN

DESIGNED BY MSD

DRAWN BY KM

CHECKED BY MSD

BAY STREET UTILITY EXPANSION

PREPARED FOR CITY OF WAUCHULA

HARDEE COUNTY FLORIDA

BAY STREET E STA. 10+00 TO 15+00

Plotted By:Maddonado, Ken Sheet Set:Kha Layout:C-210 – BAY STREET E STA. 10+00 TO 15+00 February 05, 2026 11:39:25am K:\Vak-shot\046292038 – bay street utility expansion\CAD\plansheets\C-210–BAY STREET E.dwg
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BAY STREET UTILITY EXPANSION
PREPARED FOR
CITY OF WAUCHULA
HARDEE COUNTY FLORIDA

BAY STREET E STA. 15+00 TO 19+50

KHA PROJECT	046292038
DATE	FEB. 2026
SCALE	AS SHOWN
DESIGNED BY	MSD
DRAWN BY	KM
CHECKED BY	MSD
DATE	FEB 05 2026

LICENSED PROFESSIONAL
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HORIZONTAL: 1" = 20'
VERTICAL: 1" = 2'

MATCH LINE STA 19+50

2ND AVENUE SOUTH

PROPOSED 6"x6"x6" TEE
EXISTING 6" LINE CONNECTION
STA:18+31.16
OFF:18.47'RT

PROPOSED 6" GATE VALVE
STA:18+77.25
OFF:21.41'RT

EXISTING FIRE HYDRANT TO REMAIN

PROPOSED 6"x6"x6" TEE
6" GATE VALVE
6" CAP
FUTURE CONNECTION POINT
STA:18+07.15
OFF:17.84'RT

PROPOSED 6"x6"x6" TEE
6" GATE VALVE
6" 90° BEND
CONNECT TO EXISTING FIRE HYDRANT
STA:18+54.22
OFF:18.03'RT

CONSTRUCT 5' WIDE 4" CONCRETE SIDEWALK

CONSTRUCT 6" CONCRETE DRIVEWAY APRON

OPEN CUT APPROX. 40 LF OF DRIVEWAY (APPROX 8' WIDE)

STA:15+70.11
OFF:19.94'RT

STA:15+53.66
OFF:19.93'RT

MATCH LINE STA 15+00

HORIZONTAL: 1" = 20'
VERTICAL: 1" = 2'

EXISTING GROUND AT CENTER OF ALIGNMENT

ABANDON EXISTING 6" WATER MAIN FOLLOWING CLEARANCE OF NEW WATER MAIN

PROPOSED 6"x6"x6" TEE

PROPOSED 6"x6"x6" TEE

PROPOSED 6"x6"x6" TEE

PROPOSED 6" C-900 DR 18 PVC PIPE WATERMAIN

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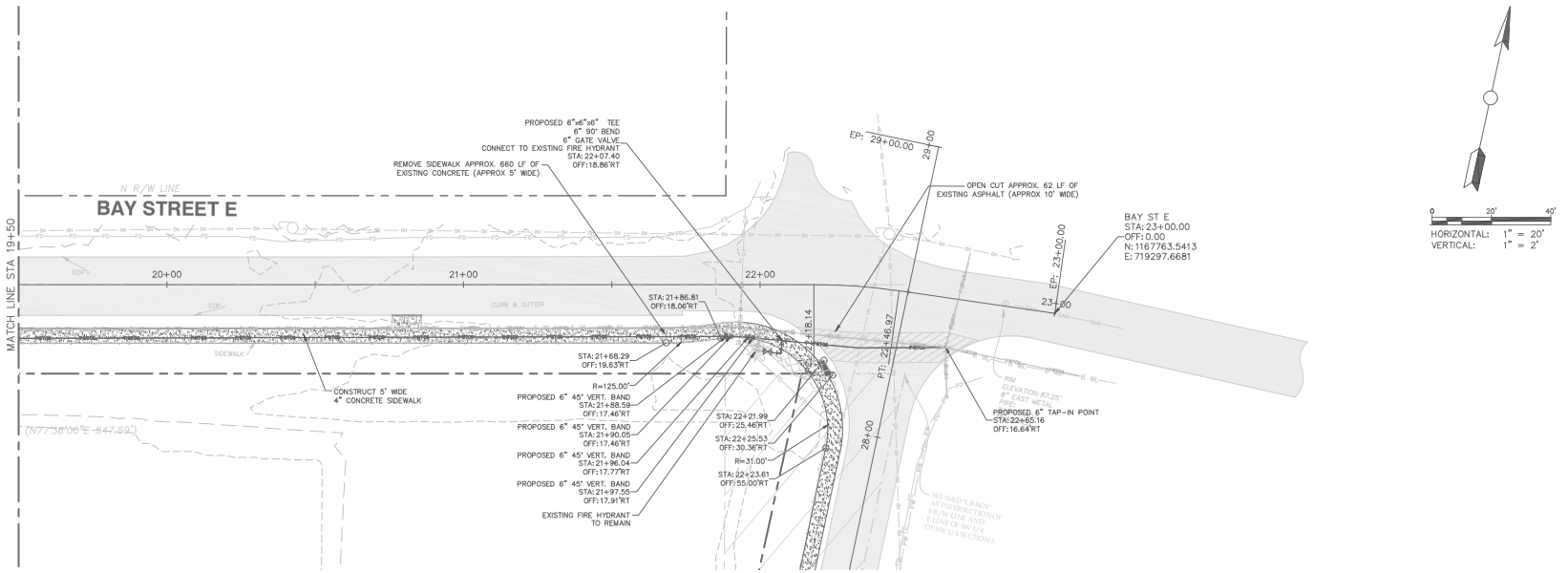

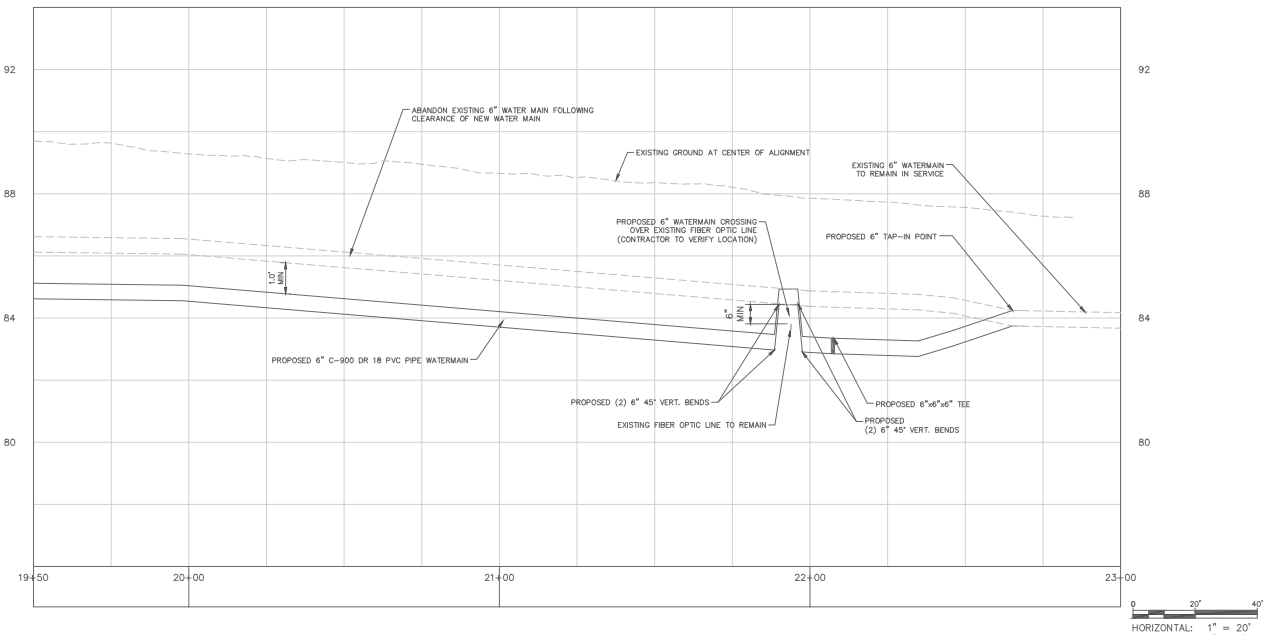

Plotted By:Maldonado, Ken Sheet Set:Kha Layout:C-212 – BAY STREET E STA. 10+00 TO 15+00 February 05, 2026 11:39:27am K:\Vok-civil\046292038 – bay street utility expansion\CAD\plansheets\C-210-BAY STREET E.dwg
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KHA PROJECT 046292038
DATE FEB. 2026
SCALE AS SHOWN
DESIGNED BY MSD
DRAWN BY KM
CHECKED BY MSD

BAY STREET UTILITY EXPANSION

PREPARED FOR CITY OF WAUCHULA

HARDEE COUNTY FLORIDA

BAY STREET E STA. 19+50 TO 23+00

BAY STREET UTILITY EXPANSION
PREPARED FOR
CITY OF WAUCHULA
HARDEE COUNTY FLORIDA

1 ST AVE S STA. 20+00 TO 24+75

KHA PROJECT	046292038
DATE	FEB. 2026
SCALE AS SHOWN	
DESIGNED BY	MSD
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HORIZONTAL: 1" = 20'
VERTICAL: 1" = 2'

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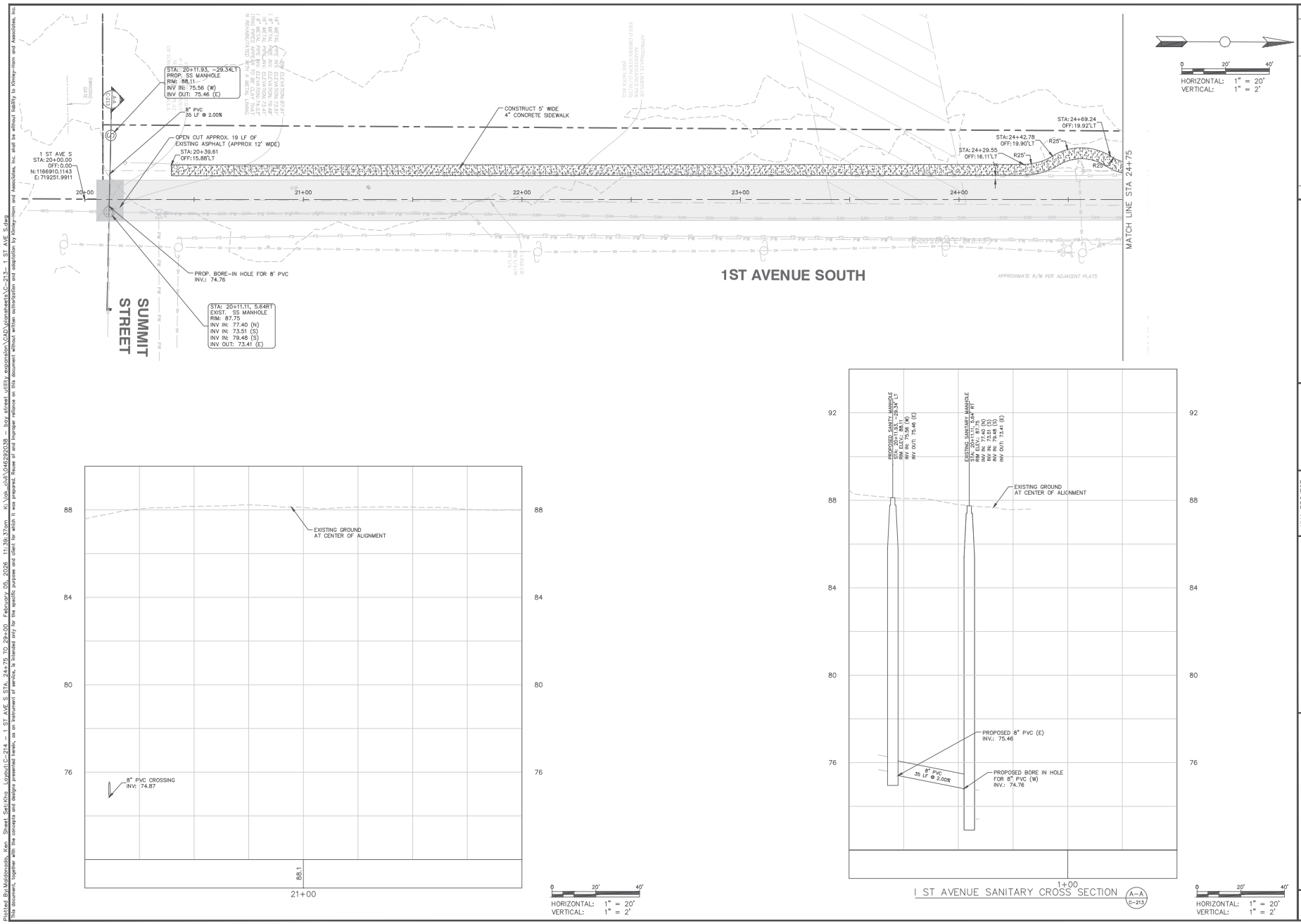
Plotted By:Maldonado, Ken Sheet Setting Layout:C-213 – 1 ST AVE S STA. 20+00 TO 24+75 February 05, 2026 11:39:37am K:\Wa_civil\046292038 – bay street utility expansion\CAD\plansheets\C-213– 1 ST AVE S.dwg



Plotted By:Maddonado, Ken Sheet Set:Kha Layout:C-214 – 1 ST AVE S STA. 24+75 TO 29+00 February 05, 2026 11:39:37am K:\Vok-civil\046292038 – bay street utility expansion\CAD\plansheets\C-213– 1 ST AVE S.dwg

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KHA PROJECT
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DATE
FEB. 2026
SCALE AS SHOWN
DESIGNED BY MSD
DRAWN BY KM
CHECKED BY MSD

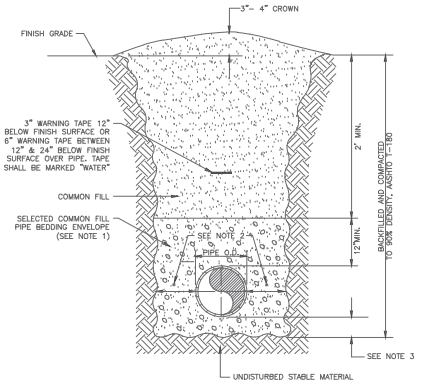
1 ST AVE S STA. 24+75 TO 29+00

BAY STREET UTILITY EXPANSION

PREPARED FOR
CITY OF WAUCHULA
HARDEE COUNTY FLORIDA

NOTES:

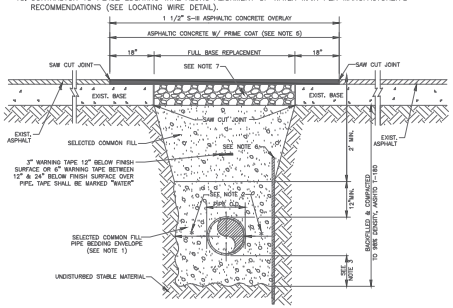
1. USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
3. TYPICALLY 4" TO 6".
4. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
5. CONTRACTOR TO PLACE LOCATING WIRE ALONG ALIGNMENT OF WATER MAIN PER MANUFACTURER'S RECOMMENDATIONS (SEE LOCATING WIRE DETAIL).



TRENCH WITH UNIMPROVED SURFACE TYPE A-1 PIPE BEDDING (1 / C-300)
N.T.S.

NOTES:

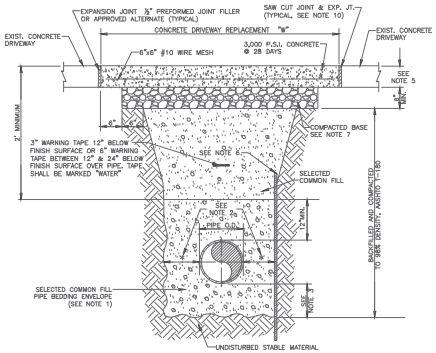
1. USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
3. TYPICALLY 4" TO 6".
4. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
5. ASPHALTIC CONCRETE STRUCTURE COURSE WITH PRIME COAT SHALL BE THE SAME DEPTH AND TYPE AS EXISTING OR A MINIMUM OF 1 1/4 INCH, WHICHEVER IS GREATER. ONLY HOT PATCH ASPHALT REPAIR METHODS WILL BE ACCEPTABLE.
6. SHEETING ORDERED LEFT IN PLACE TO BE CUT OFF 24" BELOW FINISHED GRADE OR 12" BELOW SUBGRADE.
7. BASE SHALL BE 10" MINIMUM THICKNESS CRUSHED CONCRETE.
8. TEMPORARY PATCHES WILL BE INSTALLED TO PROVIDE A SMOOTH ALL WEATHER SURFACE AT ALL TIMES. PERMANENT REPLACEMENT TO BE MADE AS SOON AS POSSIBLE.
9. RESTORE SIGNAGE & MARKING WITH THERMOPLASTIC PER FDOT STANDARDS, LATEST EDITION.
10. CONTRACTOR TO PLACE LOCATING WIRE ALONG ALIGNMENT OF WATER MAIN PER MANUFACTURER'S RECOMMENDATIONS (SEE LOCATING WIRE DETAIL).



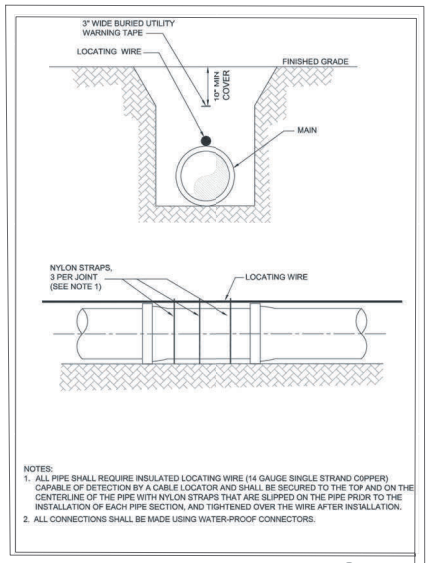
TRENCH WITH ASPHALT PAVEMENT SURFACE TYPE A-1 PIPE BEDDING (2 / C-300)
N.T.S.

NOTES:

1. USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
3. TYPICALLY 4" TO 6".
4. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
5. THICKNESS TO MATCH EXISTING OR BE 6" MINIMUM, WHICHEVER IS GREATER.
6. SHEETING ORDERED LEFT IN PLACE TO BE CUT OFF 24" BELOW FINISH GRADE OR 12" BELOW SUBGRADE.
7. BASE SHALL BE COMPACTED 6" MINIMUM THICKNESS OF APPROVED MATERIAL.
8. IF THE DRIVEWAY IS 12' OR WIDER, SAWCUT AN EXPANSION JOINT ALONG THE CENTER OF THE DRIVEWAY (3/8" WIDE AND 1½" DEEP) AFTER THE CONCRETE HAS SET.
9. IF THERE IS AN EXISTING EXPANSION JOINT WITHIN 3' OF THE PROPOSED JOINT, EXTEND DRIVEWAY REPLACEMENT TO THE EXISTING JOINT.
10. CONTRACTOR TO PLACE LOCATING WIRE ALONG ALIGNMENT OF WATER MAIN PER MANUFACTURER'S RECOMMENDATIONS (SEE LOCATING WIRE DETAIL).



TRENCH WITH CONCRETE DRIVEWAY SURFACE TYPE A-1 PIPE BEDDING (3 / C-300)
N.T.S.



LOCATING WIRE DETAIL (4 / C-300)
N.T.S.

No.	REVISIONS	DATE	BY

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FLORIDA LICENSE NUMBER
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DATE: FEB 05 2026

KHA PROJECT 046292038
DATE FEB. 2026
SCALE AS SHOWN
DESIGNED BY MSD
DRAWN BY KM
CHECKED BY MSD

TRECH DETAILS

BAY STREET
UTILITY EXPANSION
PREPARED FOR
CITY OF WAUCHULA
HARDEE COUNTY FLORIDA

Item # 12.

1248

Plotted By:Maddonado, Ken Sheet Set:Kha Layout:C-300 - DETAILS February 05, 2026 11:39:44am K:\Vde_dat\046292038 - bay street utility expansion\CAD\PlanSheets\C-400-DETL.dwg
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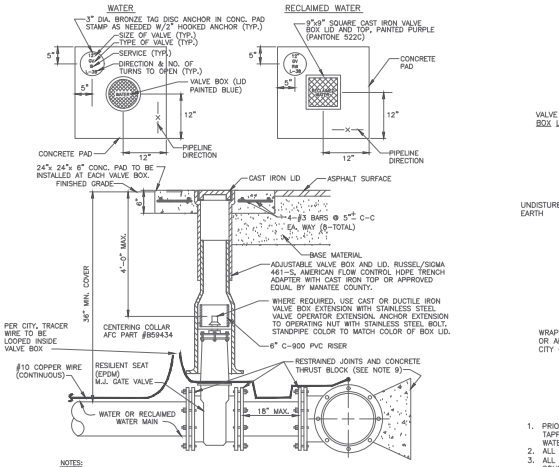
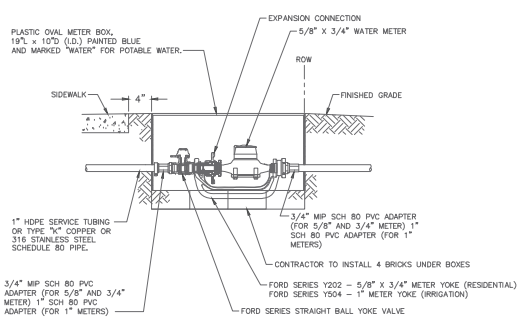


NOTES:

1. "WV" TO BE IMPRESSED INTO THE NEWLY-POURED CONCRETE CURB, ALONG WITH DISTANCE IN FEET TO THE VALVE. IF NO CURB, INSTALL A BLUE DISC WITH "WV" AND A 1/8"x1" GALVANIZED STEEL SCREW IN THE EDGE OF PAVEMENT WITH THE FOOTAGE FROM THE DISC TO THE VALVE.
2. ALL EXISTING AND PROPOSED VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRADES AS DETERMINED IN THE FIELD.
3. WATER VALVES SHALL NOT BE PLACED IN HANDICAPPED RAMPS.
4. PRECAST CONCRETE PADS & THRUST BLOCKS SHALL NOT BE USED.
5. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1/2".
6. FOR VALVES 16" AND LARGER, USE BUTTERFLY VALVES.
7. PIPELINE DIRECTION TO BE IMPRESSED INTO NEWLY POURED CONCRETE PAD.
8. WHERE THRUST BLOCK NOT USED, RESTRAINED JOINTS MUST THEN EXTEND FROM TEE FULL LENGTH SPECIFIED FOR "TEES."
9. BINGHAM & TAYLOR P2ODWFG FOR NORMAL YARD SERVICE. WHERE VALVE WILL BE IN STREET OR PARKING UNDER VEHICLE TRAFFIC, USE P525RD CENTERED IN SEPARATE CONCRETE PAD SIMILAR TO STANDARD VALVE BOX PAD.

GATE VALVE, BOX, LID AND TAG

N.T.S. — 1 / C-301

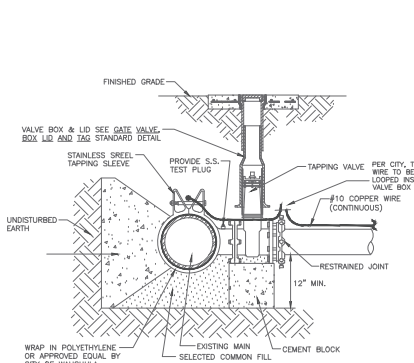


NOTES:

1. FOR COMPLETE SERVICE CONNECTION ASSEMBLY, SEE DETAIL TYPICAL SERVICE CONNECTION.
2. 3' MINIMUM CLEARANCE FROM LANDSCAPING PLANTS TO EDGE OF METER, CLEAR ACCESS OPENING TO STREET.
3. WATER METER MUST BE KAMSTRUP 5/8" X 3/4" FLOWIQ 2100 METER (KAMSTRUP ITEM# 02U-23-C03-BEX) WITH A 5' ITRON CABLE FACTORY MOUNTED (KAMSTRUP ITEM# 50004902)
4. ERT ENCODER MUST BE ITRON 1300-402 100W+ SERIES WATER ENDPOINT ERT, ENCODER WITH INTEGRAL CONNECTOR & ANTENNA CONNECTOR, INTERNALLY POTTED.
5. ONLY INSTALL ADAPTERS AS REQUIRED.

METER BOX ASSEMBLY FOR 5/8" METERS

N.T.S. — 6 / C-301

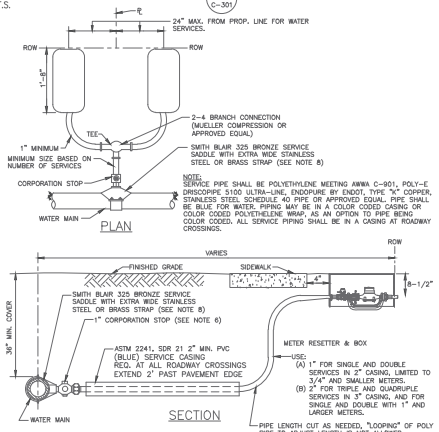


ELEVATION

1. PRIOR TO TAPPING, CONTRACTOR TO DEMONSTRATE 60 MINUTE HYDROSTATIC TEST OF THE TAPPING SLEEVE AND VALVE WITH NO LOSS OF 180 PSI PRESSURE FOR WATER AND RECLAIMED WATER OR 150 PSI FOR FORCE MAIN.
2. ALL FITTINGS TO BE WRAPPED WITH 20 MIL VISQUEEN AT THRUST BLOCK.
3. ALL TAPS ON CONCRETE WATER MAINS AND LARGER THAN 12" ARE TO BE MADE BY A MANATEE COUNTY APPROVED TAPPING COMPANY. ALL MATERIALS TO BE SUPPLIED BY THE CONTRACTOR.
4. ALL TAPS MUST BE OF A SMALLER SIZE THAN THE MAIN BEING TAPPED & PLACED NO CLOSER THAN 30" OR A DISTANCE EQUAL TO (1) MAIN PIPE DIAMETER PLUS (2) TAP PIPE DIAMETERS (WHICHEVER IS GREATER) FROM A JOINT OR FITTING.
5. CONTRACTOR TO SUPPLY A DRY HOLE FOR TAPPING CREW TO WORK IN AND A BACK-HOE TO LOWER TAPPING MACHINE INTO THE HOLE.
6. WHERE THRUST BLOCK NOT USED, RESTRAINED JOINTS MUST THEN EXTEND FROM TEE FULL LENGTH SPECIFIED FOR "TEES."
7. TRACER WIRE TEST STATION BOX IS REQUIRED AT CONNECTIONS TO EXISTING MAINS.

TAPPING SLEEVE AND VALVE

N.T.S. — 2 / C-301

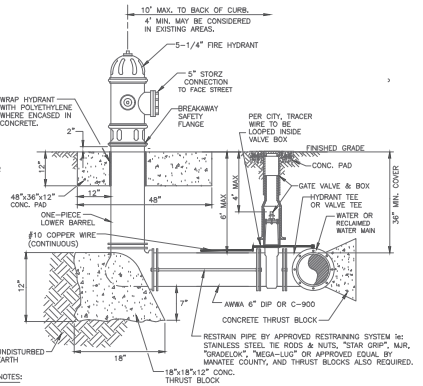


NOTES:

1. ALL SERVICE TAPS TO BE LOCATED IN THE FIELD. TAPS SHALL BE NO CLOSER THAN 2'-0" STAGGERED INTERVALS OR WITHIN 2'-0" FROM BELL OR SPIGOT ENDS.
2. METER BOXES & RESETTERS ARE TO BE INSTALLED BY THE INFRASTRUCTURE CONTRACTOR AND SHALL NOT BE SET IN DRAINAGE SWALES, SIDEWALKS OR DRIVEWAYS.
3. "WM" TO BE IMPRESSED INTO THE NEWLY POURED CONCRETE CURB ALONG WITH DISTANCE IN FEET TO THE METER. IF NO CURB, INSTALL A BLUE DISC WITH "WM" OR A PURPLE DISC WITH "RWM" AND A 1/8"x 1" GALVANIZED STEEL SCREW IN THE EDGE OF PAVEMENT WITH THE DISTANCE (IN FEET) FROM THE DISC TO THE METER.
4. WATER AND WATER SERVICE LINES TO BE 5' MINIMUM FROM SEWER SERVICE PIPES.
5. FOR HDPE MAINS, USE ROMAC 306H SS OR CENTRAL PLASTICS ELECTRO FUSION CORP SADDLE.
6. ALL SERVICE LINES UNDER EXISTING ASPHALT SHALL BE INSTALLED BY DIRECTIONAL DRILL.

TYPICAL SERVICE CONNECTION

N.T.S. — 7 / C-301

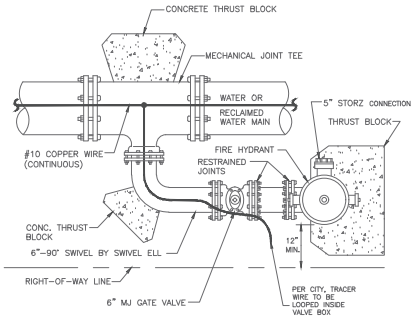


NOTES:

1. WEEPHOLES SHALL BE EXCLUDED FROM THE FIRE HYDRANT.
2. FIRE HYDRANTS SHALL BE A MINIMUM OF 6' OFF EDGE OF PAVEMENT AND 10' MAX. FROM BACK OF CURB. WHERE POSSIBLE AND WHERE SIDEWALK IS TO BE INSTALLED, FIRE HYDRANT SHALL BE LOCATED BETWEEN SIDEWALK AND RIGHT-OF-WAY LINE.
3. HYDRANTS SHALL BE FUSION BONDED EPOXY COATED SAFETY YELLOW FOR WATER. HYDRANT SHALL BE DUCTILE IRON CONSTRUCTION.
4. FIRE HYDRANTS SHALL BE PLACED SO THAT STORM WATER FLOWS AWAY FROM THE HYDRANT.
5. FIRE HYDRANTS SHALL BE CONSTRUCTED WITH "GROUND LINE" SET TO FINISHED GRADES AS ESTABLISHED IN THE FIELD. NORMAL BURY IS 3 FEET OF COVER FOR ALL WATER LINES.
6. FIRE HYDRANTS MAY BE CONSTRUCTED WITH "GRADELOK" OFFSET FITTING.
7. RAISED REFLECTIVE PAVEMENT MARKER (BLUE) FOR POTABLE WATER SHALL BE INSTALLED AT CENTERLINE OF PAVEMENT ADJACENT TO EACH HYDRANT.
8. PRECAST CONCRETE THRUST BLOCKS & PADS SHALL NOT BE USED.
9. ALL EXPOSED EDGES OF CONCRETE SHALL HAVE 1/2" CHAMFER.
10. FIRE HYDRANT VALVE SHALL BE FASTENED DIRECTLY TO TEE.
11. IN-LINE VALVES SHOULD BE LOCATED AT HYDRANT TEES.
12. HYDRANTS SHALL BE LOCATED ON SAME SIDE OF ROAD AS WATER MAIN UNLESS OTHERWISE APPROVED.
13. THERE MUST BE A CLEARANCE OF 7 1/2 FEET FROM FRONT AND BOTH SIDES, AND FOUR FEET TO THE REAR OF THE HYDRANT, TO ABOVE GRADE OBSTRUCTIONS INCLUDING POSTS, FENCES, TREES, ETC, PER THE FLORIDA FIRE PREVENTION CODE.
14. SEE STANDARD DETAIL GATE VALVE, BOX, LID AND TAG.
15. SHOULD THE FIRE HYDRANT'S CONCRETE PAD OVERLAP THE SIDEWALK, THE TRACER WIRE TEST STATION BOX SHALL NOT BE LOCATED WITHIN THE SIDEWALK.

FIRE HYDRANT ASSEMBLY

N.T.S. — 3 / C-301



PLAN

NOTE:

1. THIS DETAIL FOR USE ONLY WHEN THE WATER MAIN IS LOCATED TOO CLOSE TO THE RIGHT-OF-WAY LINE TO USE THE FIRE HYDRANT ASSEMBLY DETAIL.
2. SEE STANDARD DETAIL GATE VALVE, BOX, LID AND TAG.

FIRE HYDRANT WITH LOCKED 90° BEND

N.T.S. — 4 / C-301

NO.	REVISIONS	DATE	BY

Kimley»Horn

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DATE: FEB 05 2026

KHA PROJECT 046292038
DATE FEB. 2026
SCALE AS SHOWN
DESIGNED BY MSD
DRAWN BY KM
CHECKED BY MSD

BAY STREET UTILITY EXPANSION

PREPARED FOR CITY OF WAUCHULA

HARDEE COUNTY FLORIDA

WATER DETAILS

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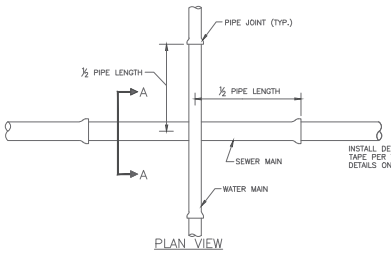
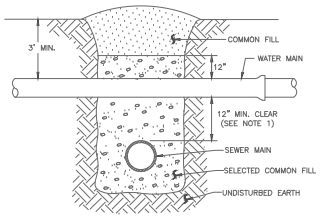


PLAN VIEW



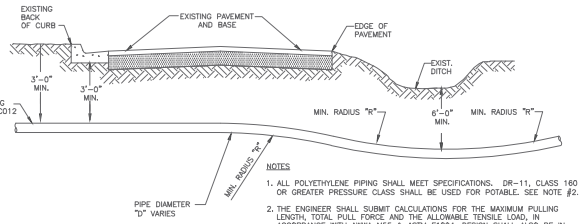
SECTION A–A

NOTES:

1. CLEARANCE MAY BE REDUCED TO 6" FOR GRAVITY SEWER WHERE WATER MAIN IS DUCTILE IRON OR 3" FOR FORCE MAIN WHERE FORCE MAIN IS ENCASED A MINIMUM OF 10' EACH SIDE OF CROSSING.
2. WHERE NO ENCASEMENT IS REQUIRED, PIPE SECTIONS SHALL BE FULL-LENGTH AND SHALL BE ADJUSTED HORIZONTALLY SO THAT THE CROSSING IS AT EACH PIPE SECTION'S MIDPOINT REGARDLESS OF THE VERTICAL CLEARANCE.

TYPICAL NEW WATER & SEWER LINE CROSSING

N.T.S. (1 C-302)

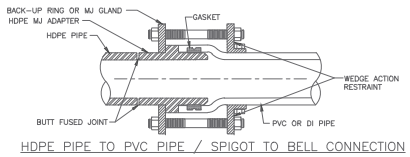


NOTES

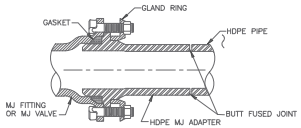
1. ALL POLYETHYLENE PIPING SHALL MEET SPECIFICATIONS. DR-11, CLASS 160 OR GREATER PRESSURE CLASS SHALL BE USED FOR POTABLE. SEE NOTE #2.
2. THE ENGINEER SHALL SUBMIT CALCULATIONS FOR THE MAXIMUM PULLING LENGTH, TOTAL PULL FORCE AND THE ALLOWABLE TENSILE LOAD, IN ACCORDANCE WITH AWWA M55 & ASTM F1804. DESIGN SHALL ALSO BE IN ACCORDANCE WITH ASTM F1962.
3. THE PIPE STRING SHALL BE ATTACHED TO THE BACKREAMER THROUGH A "WEAK-LINK" DEVICE TO ENSURE THAT THE PULLING FORCE DOES NOT EXCEED THE PIPE'S ALLOWABLE TENSILE LOAD RATING.
4. ONE # 10 GAUGE EXTRA HIGH STRENGTH COPPER CLAD STEEL TRACER WIRE SHALL BE PULLED AND SECURED TO THE PIPE FOR PIPELINES THAT ARE INSTALLED BY TRENCHLESS HORIZONTAL DIRECTIONAL DRILLING METHOD. IN TRENCHLESS/NON-DIRECTIONAL BORE APPLICATIONS, A # 10 GAUGE SOLID INSULATED COPPER WIRE SHALL BE ATTACHED TO THE PIPE. TRACER WIRES SHALL HAVE A MINIMUM 30-MILS OF POLYETHYLENE INSULATION.
5. COLOR CODED BLUE FOR POTABLE WATER MAINS.
6. PIPE DEPTHS MAY NEED TO BE DEEPER TO AVOID FRACKOUTS. PIPEALIGNMENT SHALL BE AS SHOWN ON THE CONSTRUCTION DRAWINGS.
7. FDOT CRITERIA SHALL BE MET FOR PIPES UNDER STATE ROADS.

DIRECTIONAL BORE ROADWAY CROSSING

N.T.S. (2 C-302)

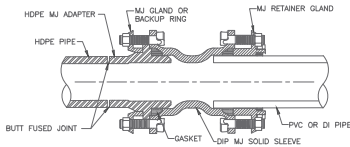


HDPE PIPE TO PVC PIPE / SPIGOT TO BELL CONNECTION



NOTE: SCHEMATIC SHOWN FOR STANDARD MJ FITTINGS AND GATE VALVES.

HDPE PIPE TO MJ FITTING TRANSITION



HDPE PIPE TO PVC PIPE SPIGOT TO SPIGOT CONNECTION

N.T.S. (3 C-302)

REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR DR-18 PVC PIPE

MAIN PIPE SIZE	HORIZ. BENDS			TEES						REDUCERS				PLUGS & VALVES
	90°	45°	22.5°	SIZE	LENGTH					SIZE	LENGTH			
24	90	38	18	X24 / 24	X20 / 169	X18 / 130	X12 / 90	X10 / 58	X8 / 35	X20 / 64	X18 / 117	X12 / 158		214
20	78	32	16	X20 / 144	X18 / 101	X12 / 53	X10 / 34	X8 / 1		X18 / 65	X12 / 118	X10 / 148		184
16	66	27	13	X16 / 111	X12 / 67	X10 / 41	X8 / 12			X12 / 64	X10 / 107	X8 / 111		151
12	52	22	10	X12 / 80	X10 / 56	X8 / 31	X6 / 1			X10 / 58	X8 / 62	X6 / 86		118
10	44	18	9	X10 / 63	X8 / 40	X6 / 7				X8 / 33	X6 / 61	X4 / 81		100
8	37	15	7	X8 / 49	X6 / 18	X4 / 1				X6 / 30	X4 / 60			83
6	29	12	6	X6 / 29	X4 / 1					X4 / 33				63
4	21	8	4	X4 / 12										45

NOTES:

1. RESTRAIN 11.25° BENDS 50% OF LENGTH FOR 22.5° BENDS.
2. ALL VALVES AND FITTINGS SHALL BE RESTRAINED TO THE CONNECTINGSECTIONS OF PIPE.
3. ALL ISOLATIONVALVES MUST BE PROPERLY ANCHORED OR RESTRAINED TO RESIST A 180 PSI TEST PRESSURE IN EITHER DIRECTION.
4. PIPE SIZES ARE GIVEN IN INCHES.
5. RESTRAINED PIPE LENGTHS ARE GIVEN IN FEET.
6. LENGTHS SHOWN ARE FOR A TEST PRESURE OF 180 PSI.
7. THE RESTRAINED LENGTHS SHOWN IN THESE TABLES ARE BASED ON SOIL CLASSIFICATION SP WITH AWWA TYPE 3 TRENCH CONDITIONS, 180 PSI TEST PRESSURE, 3 FEET OF COVER AND 1.5 FACTOR OF SAFTEY. ACTUAL BURY CONDITIONS MUST BE DETERMINED BY THE ENGINEER OF RECORD AND THE RESTRAINED LENGTHS MODIFIED ACCORDINGLY.
8. RESTRAINED LENGTHS TO BE APPLIED TO PIPELINES PER DETAIL RESTRAINED LENGTHS FOR PIPE.

RESTRAINED LENGTHS FOR PVC PIPE

N.T.S. (5 C-302)

REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR DIP (POLY-WRAPPED)

MAIN PIPE SIZE	HORIZ. BENDS			TEES						REDUCERS				PLUGS & VALVES
	90°	45°	22.5°	SIZE	LENGTH					SIZE	LENGTH			
36	142	59	28	X36 / 384	X30 / 318	X24 / 232	X20 / 165	X16 / 84	X12 / 1	X30 / 137	X24 / 247	X20 / 308	X18 / 359	453
30	124	51	25	X30 / 333	X24 / 252	X20 / 189	X16 / 115	X12 / 23	X10 / 1	X24 / 137	X20 / 213	X16 / 276		391
24	106	44	21	X24 / 270	X20 / 211	X16 / 143	X12 / 61	X10 / 10	X8 / 1	X20 / 98	X16 / 178	X12 / 241		327
20	92	38	18	X20 / 225	X16 / 167	X12 / 85	X10 / 39	X8 / 1		X16 / 98	X12 / 176	X10 / 227		280
16	77	32	15	X16 / 170	X12 / 107	X10 / 65	X8 / 19	X6 / 1		X12 / 98	X10 / 163	X8 / 169		231
12	61	25	12	X12 / 121	X10 / 89	X8 / 50	X6 / 1			X10 / 98	X8 / 96	X6 / 131		181
10	52	22	10	X10 / 101	X8 / 64	X6 / 11				X8 / 51	X6 / 94	X4 / 125		153
8	44	18	9	X8 / 78	X6 / 30	X4 / 1				X6 / 54	X4 / 92			128
6	34	14	7	X6 / 46	X4 / 1					X4 / 30				98
4	24	10	5	X4 / 19										69

REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR DIP (NON-WRAPPED)

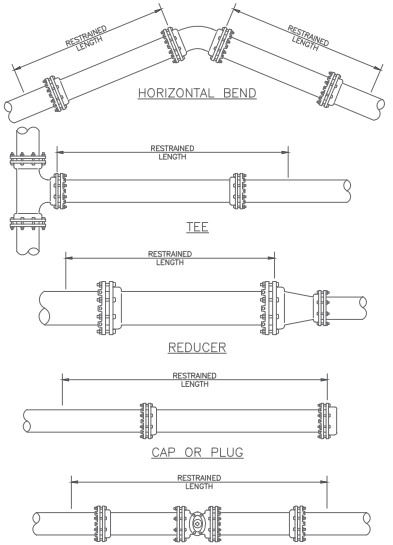
MAIN PIPE SIZE	HORIZ. BENDS			TEES						REDUCERS				PLUGS & VALVES
	90°	45°	22.5°	SIZE	LENGTH					SIZE	LENGTH			
36	100	42	20	X36 / 163	X30 / 132	X24 / 96	X20 / 65	X16 / 35	X12 / 1	X30 / 57	X24 / 103	X20 / 128	X18 / 149	188
30	88	37	18	X30 / 138	X24 / 104	X20 / 78	X16 / 48	X12 / 10	X10 / 1	X24 / 57	X20 / 88	X16 / 114		162
24	75	31	15	X24 / 112	X20 / 87	X16 / 59	X12 / 25	X10 / 4	X8 / 1	X20 / 40	X16 / 74	X12 / 100		135
20	65	27	13	X20 / 93	X16 / 67	X12 / 35	X10 / 16	X8 / 1		X16 / 41	X12 / 73	X10 / 94		116
16	54	22	11	X16 / 73	X12 / 44	X10 / 27	X8 / 8	X6 / 1		X12 / 41	X10 / 68	X8 / 70		96
12	43	18	8	X12 / 53	X10 / 37	X8 / 21	X6 / 1			X10 / 37	X8 / 40	X6 / 54		75
10	37	15	7	X10 / 42	X8 / 26	X6 / 5				X8 / 21	X6 / 39	X4 / 52		63
8	30	13	6	X8 / 32	X6 / 12	X4 / 1				X6 / 22	X4 / 38			53
6	24	10	5	X6 / 19	X4 / 1					X4 / 21				41
4	17	7	3	X4 / 8										29

NOTE:

SEE RESTRAINED LENGTHS FOR PVC PIPE DETAIL FOR NOTES 1 THROUGH 8 THAT ARE ALSO APPLICABLE TO RESTRAINED LENGTHS FOR DIP.

RESTRAINED LENGTHS FOR DIP

N.T.S. (6 C-302)



RESTRAINED LENGTHS FOR PIPE

N.T.S. (7 C-302)

NO.	REVISIONS	DATE	BY

Kimley»Horn
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
109 SOUTH KENTUCKY AVENUE, LAKELAND FL, 33801
PHONE: 863-648-1595 FAX: 863-648-1593
WWW.KIMLEY-HORN.COM REG NO.: 35106

LICENSED PROFESSIONAL
MARK S. DAVIES, P.E.
FLORIDA LICENSE NUMBER
55535
DATE: FEB 05 2026

KHA PROJECT 046292038
DATE: FEB. 2026
SCALE: AS SHOWN
DESIGNED BY: MSD
DRAWN BY: KM
CHECKED BY: MSD

GENERAL DETAILS

BAY STREET
UTILITY EXPANSION
PREPARED FOR
CITY OF WAUCHULA
HARDEE COUNTY FLORIDA

Plotted By:Maddonado, Ken Sheet Set:Kha Layout:C-4302 – GENERAL DETAILS February 05, 2026 11:39:49am K:\Kha_civil\046292038 – bay street utility expansion\CAD\plansheets\C-400-DETL.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

EXHIBIT 4
CONTRACT FOR SERVICES

THIS AGREEMENT entered into this 11 day of March, 2024, between The Wauchula Community Redevelopment Agency, a dependent special district of the CITY OF WAUCHULA, a municipal corporation, organized and existing under the laws of the State of Florida, by and through its CRA Board, situated at 107 E. Main Street, Wauchula, Florida 33873, hereinafter referred to as the CRA, and Krause Grove Service, Inc. dba Krause Services a Floride S- corporation, headquartered at 2807 Ralph Johns Road, Wauchula, FL 33873 hereinafter referred to as VENDOR, and whose Federal Employer Identification Number is 65-0481334 :

WHEREAS, CRA requires certain professional services in connection with the lawn care and landscaping within the described Project area; and

WHEREAS, CRA has solicited these services in RFP CRA #24-01, included by reference as to the scope of services contained herein; and

WHEREAS, VENDOR represents it is capable and prepared to provide such Services; and

WHEREAS, pursuant to section 287.05701, Florida Statutes, the CRA is prohibited from, and has not requested documentation of or considered, any vendor's social, political, or ideological interests when determining whether the vendor is a responsible vendor. Moreover, the CRA has not given preference to any vendor based on the vendor's social, political, or ideological interests; and

NOW, THEREFORE, in consideration of the promises contained herein, the parties hereto agree as follows:

1.0 Term

1.1 This Agreement shall take effect on the date of its execution by the CRA Director and City Manager.

1.2 The term of this Agreement shall be for one (1) year, commencing upon the effective date, unless otherwise terminated as provided herein.

1.3 The CRA shall have the option of extending the Agreement as deemed reasonable and necessary for up to three (3) terms of one (1) year each.

1.4 The CRA Board will approve and execute each extension or terminate the agreement at the end of any given term.

2.0 Compensation

2.1 General

2.1.1 Vendors shall submit detailed monthly invoices along with the Lawn Care & Maintenance Work Schedule Form included as Appendix 2

2.1.2 Each individual invoice shall be due and payable forty-five (45) days after receipt by the CRA of correct, fully documented, invoice, in form and substance satisfactory to the CRA with all appropriate cost substantiations attached. All invoices shall be delivered to:

Community Redevelopment Agency
107 E. Main Street
Wauchula, FL 33873

2.1.4 In order for both parties herein to close their books and records, the VENDOR will clearly state "Final Invoice" on the final/last billing to the CRA. This certifies that all services have been properly performed and all charges and costs have been invoiced to the CRA. Since this account will thereupon be closed, any and other further charges if not properly included on this final invoice are waived by the Vendor.

2.1.5 Neither the final payment nor any part of the retained percentage shall become due until the VENDOR, if required, delivers to the owner a complete release of all liens arising out of this contract.

2.1.5 Payment of the final invoice shall not constitute evidence of the CRA's acceptance of the work.

2.1.6 Invoices shall be accompanied by the work schedule form shown as APPENDIX 1. Additional documents may be requested by the CRA and, if so requested, shall be furnished by VENDOR and subject to the Finance Director's satisfaction.

3.0 Insurance

3.1 General Provisions

3.1.1 Before any work commences, VENDOR shall, without in any way altering their liability, obtain, pay for, and maintain insurance for the coverages and amounts of coverage not less than those set forth below in Sections 3.2 through and including 3.5, and shall provide the CITY with a Certificate of Insurance and an opportunity to inspect a certified copy of each policy applicable to this Agreement. The Certificate of Insurance must name as an additional insured the City of Wauchula and all of its Officers, Agents, Employees, and City Commissioners, excluding worker's compensation and professional liability; must provide that such insurance is primary to any other insurance available to the additional insureds with respect to claims covered under the policy; and must provide that such insurance coverage applies separately to each insured against whom claims are made or suit is brought; but the inclusion of more than one insured shall not operate to increase the insurer's limit of liability. CONSULTANT shall thereafter provide the CITY an annual Certificate of Insurance satisfactory to the CITY to

evidence such coverage. Such Certificates of Insurance will provide that there shall be no termination, non-renewal, modification or expiration of such coverage without thirty (30) days prior written notice to the CITY. CONSULTANT shall maintain, at all times, the minimum levels of insurance set forth below.

3.1.2 As the CRA is a dependent special district of the City of Wauchula, the City of Wauchula shall be named as an additional insured on all VENDOR policies related to the project, excluding professional liability and worker's compensation. All policies required under this section must be an "Occurrence" form. The policies shall contain a waiver of subrogation in favor of the City of Wauchula. All insurance coverage shall be written with an insurer having an A.M. Best Rating of a least the "A" category and size category of VIII.

3.1.3 The VENDOR's self-insured retention or deductible per line of coverage shall not exceed $25,000.00 without the permission of the CRA.

3.1.4 If there is any failure by the VENDOR to comply with the provisions of this section, the CRA may, at its option, on notice to the VENDOR, suspend the work for cause until there is full compliance.

3.1.5 The CRA may, at its sole discretion, purchase such insurance at VENDOR's expense provided that the CRA shall have no obligation to do so, and if the CRA shall do so, it shall not relieve VENDOR of its obligation to obtain insurance.

3.1.6 The VENDOR shall not be relieved of or excused from the obligation to obtain and maintain such insurance amount and coverages.

3.1.7 VENDOR shall ensure that all VENDOR's sub-vendors and sub-contractors comply with the requirements of this Section relating to insurance, and maintain coverage throughout the term of the Service Agreement. All VENDOR's sub-vendors and sub-contractors shall be required to include the City of Wauchula and VENDOR as additional insured on their General Liability Insurance policies.

3.1.8 In the event that SUBVENDORS or SUBCONTRACTORS used by the VENDOR do not have insurance, or do not meet the insurance limits, VENDOR shall indemnify and hold harmless the CRA and the City of Wauchula for any claim in excess of the SUBVENDORS' insurance coverage.

3.1.9 The VENDOR shall not commence work under this Agreement until all insurance required as stated herein has been obtained and such insurance has been approved by the CRA.

3.2 Comprehensive Automobile Liability Insurance. $1,000,000.00 combined single limit of liability for bodily injuries, death and property damage resulting from any one occurrence, including all owned, hired, and non-owned vehicles.

3.3 Commercial General Liability. $1,000,000.00 combined single limit of liability for bodily injuries, death and property damage, and personal injury resulting from any one occurrence, including the following coverages:

3.3.1 Premises and Operations: Broad Form Commercial General Liability Endorsement to include Blanket Contractual liability (specifically covering, but not limited to, the contractual obligations assumed by the Firm); Personal Injury (with employment and contractual exclusions deleted); and Broad Form Property Damage coverage.

3.3.2 Independent Contractors: Delete Exclusion relative to collapse, explosion and underground; Property Damage Hazards; Cross Liability Endorsement; and Contractual liability (specifically covering, but not limited to, the contractual obligations assumed by the Firm)

3.4 Worker's Compensation. The VENDOR shall provide, pay for, and maintain worker's compensation insurance on all employees, its agents or subcontractors as required by Florida Statutes.

3.5 Umbrella (Excess) Liability Insurance. Umbrella Liability with limits of not less than $1,000,000.00, exclusive of defense costs, to be in excess of all other coverages. Such coverage shall be at least as broad as the primary coverages above, with any excess umbrella layers written on a strict following form basis over the primary coverage. All such policies shall be endorsed to provide defense coverage obligations.

4.0 Standard of Care

4.1 VENDOR has represented to the CRA that it has the personnel and experience necessary to perform the work in a professional and workmanlike manner.

4.2 VENDOR shall exercise the same degree of care, skill, and diligence in the performance of the Services as is provided by a professional of like experience, knowledge and resources, under similar circumstances.

4.3 VENDOR shall, at no additional cost to CRA, re-perform services which fail to satisfy the foregoing standard of care or otherwise fail to meet the requirement of this Agreement.

4.4 The VENDOR warrants that all services shall be performed by skilled and competent personnel to the professional standards in the field.

5.0 Indemnification

5.1 General. Having considered the risks and potential liabilities that may exist during the performance of the Services and in consideration of the promises included herein, the CRA and VENDOR agree to allocate such liabilities in accordance with this Section.

5.2 Indemnification. The parties agree that 1% of the total compensation paid to VENDOR for the services provided under this Agreement constitutes specific consideration to VENDOR for the indemnification to be provided as set forth in this paragraph.

6.5 The VENDOR shall not pledge the CRA's credit or make it a guarantor of payment or surety for any contract, debt, obligation, judgment, lien or any form of indebtedness and shall have no right to speak for or bind the CRA in any manner.

6.6 VENDOR further warrants and represents that it has no obligation or indebtedness that would impair its ability to fulfill the terms of this Agreement.

7.0 Authority to Practice

7.1 The VENDOR hereby represents and warrants that it has and will continue to maintain all licenses and approvals required to conduct its business, and that it will at all times conduct its business activities in a reputable manner.

8.0 Compliance with Laws, Public Records, and Trade Secrets

8.1 In performance of the Services, VENDOR will comply with applicable regulatory requirements including federal, state, special district, and local laws, rules, regulations, orders, codes, criteria and standards.

8.2 Public Records. The parties acknowledge and agree that the CRA is a public agency subject to Chapter 119, Florida Statutes. To the extent VENDOR is a company acting on behalf of the CRA pursuant to Section 119.0701, Florida Statutes, VENDOR must comply with all public records laws in accordance with Chapter 119, Florida Statutes. In accordance with Chapter 119, Florida Statutes, VENDOR agrees to:

(1) Keep and maintain all records that ordinarily and necessarily would be required by the CRA to perform the services under this Agreement.

(2) Upon request from the CRA, provide the CRA with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the costs provided in Chapter 119, Florida Statutes, or as otherwise provided by law.

(3) Ensure that public records that are exempt, or confidential and exempt, from public records disclosures are not disclosed as except as authorized by law for the duration of the Agreement term and following completion of the Agreement if the VENDOR does not transfer the records to the CRA.

(4) Upon completion of the services under this Agreement, at no cost, either transfer to the CRA all public records in the VENDOR's possession or keep and maintain public records required by the City to perform the services. If the VENDOR transfers all public records to the CRA upon completion of the services, the VENDOR must destroy any duplicate public records that are exempt, or confidential and exempt, from public records disclosure requirements. If the VENDOR keeps and maintains public records upon completion of the services under this Agreement, the VENDOR must meet all applicable requirements for retaining public records. All records stored electronically must be provided to the CRA, upon request from the CRA, in a format that is compatible with the information technology systems of the CRA.

(5) IF THE VENDOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE COMPANY'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE CITY'S CUSTODIAN OF PUBLIC RECORDS, STEPHANIE CAMACHO, (863) 773-3535 OR SCAMACHO@CITYOFWAUCHULA.COM

If the VENDOR does not comply with the provisions of this section, the CRA will enforce the Agreement provisions in accordance herewith and may unilaterally cancel this Agreement in accordance with Florida law.

8.3 Trade Secrets and Proprietary Confidential Business Information. Documents submitted by VENDOR which VENDOR contends constitute trade secrets as defined in Sections 812.081 and 688.002, Florida Statutes, or confidential and propriety business information when held by the City as a utility owner, consistent with Section 119.0713(5), Florida Statutes, and which are clearly marked or stamped as confidential by the VENDOR at the time of submission to the CRA, will not be subject to public access. However, should a requestor of public records challenge VENDOR's claim of trade secret or confidential and proprietary business information, within five (5) calendar days of such challenge, VENDOR must provide a separate written affidavit that includes an indemnification and release guarantee, as approved by the City Attorney or designee, to the CRA to support its claim that the alleged trade secrets or proprietary and confidential business information actually constitutes same as defined by law. VENDOR must demonstrate the need for confidentiality of the documentation by showing a business advantage or opportunity to obtain an advantage would be gained if the documentation were released. Otherwise, VENDOR is required to timely seek a protective order in the Circuit Court of Hardee County to prevent the CRA's release of the requested records.

9.0 Subcontracting

9.1 The CRA reserves the right to accept the use of a subcontractor or to reject the selection of a particular subcontractor and to inspect all facilities of any subcontractor.

9.2 If a subcontractor fails to perform or make progress, as required by this Agreement, and it is necessary to replace the subcontractor to complete the work in a timely fashion, the VENDOR shall promptly do so, subject to acceptance of the new subcontractor by the CRA. Failure of a subvendor to timely or properly perform its obligations shall not relieve VENDOR of its obligations hereunder.

10.0 Federal and State Taxes

10.1 The CRA, as a dependent special district of the City of Wauchula, is exempt from Federal Tax and State Sales and Use Taxes. Upon request, the CRA will provide an exemption certificate to VENDOR. The VENDOR shall not be exempted from paying sales tax to its suppliers for materials to fulfill contractual obligations with the CRA, nor shall the VENDOR be authorized to use the CRA's Tax Exemption Number in securing such materials.

11.0 Public Entity Crimes, Scrutinized Companies pursuant to Section 287.135 and Section 215.473, Florida Statutes.

11.1 Pursuant to Section 287.133(2)(a), Florida Statutes, VENDOR hereby certifies that neither it nor its affiliate(s) have been placed on the convicted vendor list following a conviction for a public entity crime. If placed on that list, VENDOR must notify the CRA immediately and may not submit a bid, proposal, or reply on a contract to provide any goods or services to a public entity; may not submit a bid, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals, or replies on leases of real property to a public entity; may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity; and may not transact business with any public entity in excess of the threshold amount provided in s. 287.017 for CATEGORY TWO for a period of 36 months following the date of being placed on the convicted vendor list.

11.2 VENDOR hereby certifies that it: (a) has not been placed on the Scrutinized Companies that Boycott Israel List, nor is engaged in a boycott of Israel; (b) has not been placed on the Scrutinized Companies with Activities in Sudan List nor the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List; and (c) has not been engaged in business operations in Cuba or Syria. If CRA determines that VENDOR has falsely certified facts under this Paragraph or if VENDOR is found to have been placed on the Scrutinized Companies Lists or is engaged in a boycott of Israel after the execution of this Agreement, CRA will have all rights and remedies to terminate this Agreement consistent with Section 287.135, Florida Statutes.

12.0 CRA's Responsibilities

12.1 The CRA shall be responsible for providing access to all CRA project sites, and providing information in the CRA's possession that may reasonably be required by VENDOR, including; existing reports, studies, financial information, and other required data that are available in the files of the CRA.

13.0 Termination of Agreement

13.1 This Agreement may be terminated by the VENDOR upon thirty (30) days prior written notice to the CRA in the event of substantial failure by the CRA to perform in accordance with the terms of the Agreement through no fault of the VENDOR.

13.2 This Agreement may be terminated by the CRA with or without cause immediately upon written notice to the VENDOR.

13.3 Unless the VENDOR is in breach of this Agreement, the VENDOR shall be paid for services rendered to the CRA's satisfaction through the date of termination.

13.4 After receipt of a Termination Notice and except as otherwise directed by the CRA, the VENDOR shall:

13.4.1 Stop work on the date and to the extent specified.

13.4.2 Terminate and settle all orders and subcontracts relating to the performance of the terminated work.

13.4.3 Transfer all work in process, completed work, and other material related to the terminated work to the CRA.

13.4.4 Continue and complete all parts of the work that have not been terminated.

13.5 The VENDOR shall be paid for services actually rendered to the date of termination.

14.0 Uncontrollable Forces (Force Majeure)

14.1 Neither the CRA nor VENDOR shall be considered to be in default of this Agreement if delays in or failure of performance shall be due to Uncontrollable Forces, the effect of which, by the exercise of reasonable diligence, the non-performing party could not avoid. The term "Uncontrollable Forces" shall mean any event which results in the prevention or delay of performance by a party of its obligations under this Agreement and which is beyond the reasonable control of the nonperforming party. It includes, but is not limited to fire, flood, earthquakes, storms, lightning, epidemic, war, riot, civil disturbance, sabotage, and governmental actions.

14.2 Neither party shall, however, be excused from performance if nonperformance is due to forces which are preventable, removable, or remediable and which the nonperforming party could have, with the exercise of reasonable diligence, prevented, removed or remedied with reasonable dispatch.

14.3 The nonperforming party shall, within a reasonable time of being prevented or delayed from performance by an Uncontrollable Force, give written notice to the other party describing the circumstances and Uncontrollable Forces preventing continued performance of the obligations of this Agreement.

15.0 Governing Law, Venue, and Waiver of Jury Trial

15.1 This Agreement shall be governed in all respects by the laws of the State of Florida and any litigation with respect thereto shall be brought exclusively in the courts of Hardee County, Florida or the United States District Court, Middle District of Florida located in Hillsborough County, Florida.

WAIVER OF JURY TRIAL. BY ENTERING INTO THIS AGREEMENT, THE VENDOR AND THE CRA HEREBY EXPRESSLY WAIVE ANY RIGHTS THEY MAY HAVE TO A TRIAL BY JURY IN ANY LITIGATION ARISING OUT OF OR RELATED TO THIS AGREEMENT.

16.0 Non-Discrimination

16.1 The VENDOR covenants and agrees that no employee or applicant for employment will be discriminated against during the course of employment or in the application process with respect to hiring, tenure, terms, conditions, or privileges of employment, because of race, color, religion, sex, gender, age, disability, national origin, marital status, political affiliation, familial status, pregnancy, gender or sexual orientation, or veteran or service member status. warrants and represents that all of its employees are treated equally during employment without regard to race, color, religion, gender, age or national origin.

16.2 Discriminatory Vendor List. VENDOR hereby acknowledges its continuous duty to disclose to the CRA if VENDOR or any of its affiliates, as defined by Section 287.134(1)(a), Florida Statutes, has been placed on the Discriminatory Vendor List. Pursuant to Section 287.134(2)(a), Florida Statutes: "An entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid, proposal, or reply on a contract to provide any goods or services to a public entity; may not submit a bid, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals, or replies on leases of real property to a public entity; may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity; and may not transact business with any public entity."

17.0 Waiver

17.1 A waiver by either the CRA or VENDOR of any breach of this Agreement shall not be binding upon the waiving party unless such waiver is in writing. In the event of a written waiver, such a waiver shall not affect the waiving party ' s rights with respect to any other or further breach. The making or acceptance of a payment by either party with knowledge of the existence of a default or breach shall not operate or be construed to operate as a waiver of any subsequent default or breach.

18.0 Severability

18.1 The invalidity, illegality, or unenforceability of any provision of this Agreement, or the occurrence of any event rendering any portion or provision of this Agreement void, shall in no way affect the validity or enforceability of any other portion or provision of the Agreement.

18.2 Any void provision shall be deemed severed from the Agreement and the balance of the Agreement shall be construed and enforced as if the Agreement did not contain the particular portion or provision held to be void.

18.3 The parties further agree to reform the Agreement to replace any stricken provision with a valid provision that comes as close as possible to the intent of the stricken provision.

18.4 The provisions of this section shall not prevent the entire Agreement from being void should a provision which is of the essence of the Agreement be determined to be void.

19.0 Entirety of Agreement

19.1 The CRA and the VENDOR agree that this Agreement sets forth the entire Agreement between the parties, and that there are no promises or understandings other than those stated herein.

19.2 This Agreement supersedes all prior agreements, contracts, proposals, representations, negotiations, letters or other communications between the CRA and VENDOR pertaining to the Services, whether written or oral.

19.3 None of the provisions, terms and conditions contained in this Agreement may be added to, modified, superseded or otherwise altered except by written instrument executed by the parties hereto.

20.0 Modification

20.1 The Agreement may not be modified unless such modifications are evidenced in writing signed by both the CRA and VENDOR. Such modifications shall be in the form of a written Amendment executed by both parties.

21.0 Successors and Assigns

21.1 The CRA and VENDOR each binds itself and its partners, successors, assigns and legal representatives to the other party to this Agreement and to the partners, successors, executors, administrators, assigns, and legal representatives.

21.2 VENDOR shall not assign this Agreement without the express written approval of the CRA by executed amendment.

21.3 In the event of a merger, the surviving corporation shall be substituted for the contracting party to this agreement and such substitution shall be affirmed by the CRA Board of Directors by executed amendment.

22.0 Contingent Fees

22.1 The VENDOR warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for the VENDOR to solicit or secure this Agreement and that it has not paid or agreed to pay any person, company, corporation, individual or firm, other than bona fide employee working solely for the VENDOR, any fee, commission, percentage, gift or any other consideration contingent upon or resulting from the award or making of this Agreement.

23.0 Truth-In-Negotiation Certificate

23.1 Execution of this Agreement by the VENDOR shall act as the execution of a Truth-in-Negotiation certificate certifying that the wage rates and costs used to determine the compensation provided for in this Agreement are accurate, complete, and current as of the date of the Agreement.

23.2 The said rates and costs shall be adjusted to exclude any significant sums should the CRA determine that the rates and costs were increased due to inaccurate, incomplete or noncurrent wage rates or due to inaccurate representations of fees paid to outside VENDORS. The CRA shall exercise its rights under this "Certificate" within one (1) year following payment.

24.0 Ownership of Documents

24.1 VENDOR shall be required to cooperate with other VENDORS relative to providing information requested in a timely manner and in the specified form. Any and all documents, records, disks, original drawings, or other information shall become the property of the CRA for its use and/or distribution as may be deemed appropriate by the CRA. VENDOR is not liable for any damages, injury or costs associated with the CRA use or distribution of these documents for purposes other than those originally intended by VENDOR.

25.0 Access and Audits

25.1 VENDOR shall maintain adequate records to justify all charges and costs incurred in performing the work for at least three (3) years after completion of this Agreement. The CRA shall have access to such books, records, and documents as required in this section for the purpose of inspection or audit during normal business hours at the VENDOR'S place of business.

25.2 Misrepresentations of billable time or reimbursable expenses as determined by the Auditor to the City of Wauchula shall result in the recovery of any resulting overpayments. The CRA's cost of recovery shall be the sole expense of the VENDOR, including accounting and legal fees, court costs and administrative expenses.

25.3 Intentional misrepresentations of billable hours and reimbursable expenses will be criminally prosecuted to the fullest extent of the law.

25.4 All invoices submitted are subject to audit and demand for refund of overpayment up to three (3) years following completion of all services related to this Agreement.

26.0 Notice

26.1 Any notice, demand, communication, or request required or permitted hereunder shall be in writing and delivered in person or sent by Federal-Express or by Certified Mail, postage prepaid as follows:

As to CRA: Community Redevelopment Agency
107 E. Main Street
Wauchula, FL 33873
Attention: CRA Coordinator

As to VENDOR:

26.2 Notices shall be effective when received at the addresses as specified above. Changes in the respective addresses to which such notice is to be directed may be made from time to time by either party by written notice to the other party. Facsimile transmission is acceptable notice effective when received, however, facsimile transmissions received (i.e.; printed) after 5:00 p.m., or on weekends or holidays, will be deemed received on the next business day. The original of the notice must additionally be mailed as required herein.

26.3 Nothing contained in this Article shall be construed to restrict the transmission of routine communications between representatives of VENDOR and the CRA.

27.0 Service of Process

As to CRA: Thomas A. Cloud, Esquire
G R A Y | R O B I N S O N
301 East Pine Street, Suite 1400
Orlando, Florida 32801

As to VENDOR:

28.0 Contract Administration

28.1 Services of VENDOR shall be under the general direction of the CRA Director or their successor, who shall act as the CRA's representative during the term of the Agreement.

29.0 Key Personnel

29.1 VENDOR shall notify the CRA in the event of key personnel changes, which might affect this Agreement. To the extent possible, notification shall be made within ten (10) days prior to changes. VENDOR at the CRA's request shall remove without consequence to the CRA any Subcontractor or employee of the VENDOR and replace him/her with another employee having the required skill and experience. The CRA has the right to reject proposed changes in key personnel.

30.0. Annual Appropriations

30.1 VENDOR acknowledges that the CRA, during any fiscal year, shall not expend money, incur any liability, or enter into any agreement which, by its terms, involves the expenditure of money in excess of the amounts budgeted as available for expenditure during such fiscal year. Any agreement, verbal or written, made in violation of this subsection is null and void, and no money may be paid on such agreement. Nothing herein contained shall prevent the making of agreements for a period exceeding one year, but any agreement so made shall be executory only for the value of the services to be rendered or agreed to be paid for in succeeding fiscal years.

This Agreement will remain in full force and effect only as long as the expenditures provided for in the Agreement have been appropriated by the CRA Board in the annual budget for each fiscal year of this Agreement, and is subject to termination without any penalty due to lack of funding. Accordingly, the CRA's performance and obligation to pay under this agreement is contingent upon annual appropriation.

31.0 Liquidated Damages

31.1 The parties hereto agree that liquidated damages will be assessed against the VENDOR for VENDOR's failure to meet the final deliverable date in the Performance Schedule in the Scope of Work, but only to the extent and in proportion to VENDOR's fault in causing the delay as compared to other causes, and to the extent the VENDOR is not delayed by reasons beyond VENDOR'S reasonable control.

32.0 E-Verify Requirements.

Effective January 1, 2021, public and private employers, contractors, and subcontractors must require registration with, and use of the E-Verify system in order to verify the work authorization status of all newly hired employees. Company acknowledges and agrees to utilize the U.S. Department of Homeland Security's E-Verify System to verify the employment eligibility of:

(1) All persons employed by Company to perform employment duties within the State of Florida during the term of the Agreement; and

(2) All persons (including subcontractors/subvendors/subconsultants) assigned by Company to perform work pursuant to the Agreement with the CRA. The Company acknowledges and agrees that the use of the U.S. Department of Homeland Security's E-Verify System during the term of this Agreement is a condition of the Agreement with the CRA.

By entering this Agreement with the CRA, the Company becomes obligated to comply with the provisions of Section 448.095, Florida Statutes, "Employment Eligibility." This includes, but is not limited to, use of the E-Verify System to verify the work authorization status of all newly hired employees, and requiring all subcontractors to provide an affidavit to Company attesting that the subcontractor does not employ, contract with, or subcontract with, an unauthorized alien. Company agrees to maintain a copy of such affidavit for the duration of this Agreement. Failure to comply with this section will result in the termination of this Agreement as provided in Section 448.095, Florida Statutes, and Company may not be awarded a public contract for at least one (1) year after the date on which the Agreement was terminated. Company will also be liable for any additional costs to CRA incurred as a result of the termination of this Agreement in accordance with this section.

33.0 Limitation of Liability.

33.1 In no event, shall the CRA be liable to the VENDOR for indirect, incidental, consequential, special, exemplary, or punitive damages of any kind or nature, including loss of profit, whether foreseeable or not, arising out of or resulting from the nonperformance or breach of this contract by the CRA whether based in contract, common law, warranty, tort, strict liability, contribution, indemnity or otherwise.

34.0 Codes and Standards

34.1 The VENDOR agrees to perform all work in compliance with State and Federal Department of Agriculture regulations for pest control and use of commercial fertilizers.

(THE REMAINDER OF THE PAGE LEFT INTENTIONALLY BLANK)

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the date and year first above written.

Attest:
Stephanie Camacho
City Clerk

The WCRA, as a dependent special district of the CITY OF WAUCHULA, a municipal corporation, organized & existing under the laws of the State of Florida

By: Stephanie Camacho
Stephanie Camacho, City Clerk

By:
Jessica Newman, CRA Director

By: Olivia Minshew
Olivia Minshew, City Manager

Date Approved by Commission: 3/11/24

Review as to form and legal sufficiency

K. Hatcher-Bolin **Date** 4/29/24
Kristie Hatcher-Bolin, CRA Attorney

Attest: Krause Grove Services, Inc.

(COMPANY NAME)
a Florida **Corporation**

By:
Corporate Secretary

Efran Schraeder
[Print Name]

DATE: 4/16/2024

SEAL

By:

Efran Schraeder
[Print Name]

President / CEO
[Title]

DATE: 4/16/2024

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