



**CITY OF DENISON  
CITY COUNCIL MEETING  
AGENDA**

**Monday, December 4, 2023**

After determining that a quorum is present, the City Council of the City of Denison, Texas will convene in a Regular Meeting on **Monday, December 4, 2023 at 6:00 PM** in the Council Chambers at City Hall, 300 W. Main Street, Denison, Texas at which the following items will be considered:

**1. INVOCATION, PLEDGE OF ALLEGIANCE AND TEXAS PLEDGE**

**2. PROCLAMATIONS AND PRESENTATION**

- A. Denison Development Alliance Outgoing Board Member Recognition.
- B. Employee of the Year Presentation.

**3. PUBLIC COMMENTS**

Citizens may speak on items listed on the Agenda. A “Request to Speak Card” should be completed and returned to the City Clerk upon arrival, prior to the Council reaching the Public Comment section of the agenda. Citizen comments are limited to three (3) minutes, unless otherwise required by law. Comments related to the Public Hearings listed below, will be heard when the specific hearing starts.

**4. CONSENT AGENDA**

- A. Receive a report, hold a discussion and take action on approving the Minutes from the Regular City Council Meeting held on November 20, 2023.
- B. Receive a report, hold a discussion, and take action on a Resolution requesting financial assistance from the Texas Water Development Board; authorizing the filing of an application for assistance; and making certain findings in connection therewith for Collections System Improvements.
- C. Receive a report, hold a discussion, and take action on a Resolution requesting financial assistance from the Texas Water Development Board; authorizing the filing of an application for assistance; and making certain findings in connection therewith for a Lead Service Line Inventory and Replacement Program.

## 5. PUBLIC HEARINGS

- A. Receive a report, hold a discussion, conduct a public hearing and take action on an ordinance adopting updated Standard Construction Details, amending Chapter 22, “Subdivision Regulations”, Article IV, “Requirements for Public Improvements and Design”, Division 1, “Adequate Public Facilities Policy”, Section 22-74 “Conformance to Plans and Incorporation of Manuals.”

## 6. ITEMS FOR INDIVIDUAL CONSIDERATION

- A. Receive a report, hold a discussion and take action on awarding the proposal for the design build project at 321 W. Main Street and entering into a contract with Piazza Construction for preconstruction services and design.
- B. Receive a report, hold a discussion, and take action on approval of entering into a contract with SYB Construction Company, Inc. for emergency potable water pipeline replacement services for \$1,791,742.55 and authorize the Interim City Manager to execute all related documents.
- C. Receive a report, hold a discussion and consider adoption of a resolution directing the publication of notice of intention to issue combination tax and revenue certificates of obligation for water and sewer system improvements and design for Loy Lay Dam upgrades.

## 7. EXECUTIVE SESSION

Pursuant to Chapter 551, *Texas Government Code*, the Council reserves the right to convene in Executive Session(s), from time to time as deemed necessary during this meeting to receive legal advice from its attorney on any posted agenda item as permitted by law or to discuss the following:

- A. Consult with attorney on a matter in which the attorney's duty to the governmental body under the Texas Disciplinary Rules of Professional Conduct conflicts with this chapter and/or consult with attorney about pending or contemplated litigation or contemplated settlement of the same. Section 551.071.**
  - 1. Confer with City attorney regarding First Amendment to the Preston Harbor Development Agreement between the City of Denison and Waterfall Development Partners, L.P., Preston Harbor, L.P., and Preston Harbor Homeplace, L.P.
  - 2. Confer with City Attorney regarding Senate Bill 2038.
  - 3. Confer with City Attorney regarding McKeon's ETJ Release Petition.
- B. Discuss the possible purchase, exchange, lease or sale value of real property (public discussion of such would not be in the best interests of the City's bargaining position). Section 551.072.**

- C. Discuss negotiated gifts or donations to the City (public discussion at this stage would have a detrimental effect on the City's bargaining position). Section 551.073.
- D. Discuss the appointment, employment, evaluation, reassignment of duties, discipline, or dismissal of or to hear a complaint against a public officer or employee. Section 551.074.
- E. Discuss the commercial or financial information received from an existing business or business prospect with which the City is negotiating for the location or retention of a facility, or for incentives the City is willing to extend, or financial information submitted by the same. Section 551.087.
- F. Discuss the deployment or specific occasions for implementation of security personnel or devices. Section 551.076.
- G. Deliberations regarding economic development negotiations pursuant to Section 551.087.

Following the closed Executive Session, the Council will reconvene in open and public session and take any such action as may be desirable or necessary as a result of the closed deliberations.

#### CERTIFICATION

I do hereby certify that a copy of this Notice of Meeting was posted on the front window of City Hall readily accessible to the general public at all times, and posted on the City of Denison website on the 1<sup>st</sup> day of December, 2023, before 6:00 p.m.

\_\_\_\_\_  
Christine Wallentine, City Clerk

In compliance with the Americans With Disabilities Act, the City of Denison will provide for reasonable accommodations for persons attending City Council meeting. To better serve you, requests should be received 48 hours prior to the meetings. Please contact the City Clerk's Office at 903-465-2720, Ext: 2437.



**CITY OF DENISON  
CITY COUNCIL MEETING  
MINUTES**

**Monday, November 20, 2023**

Announce the presence of a quorum.

Mayor Janet Gott called the meeting to order at 6:00 p.m. Council Members present were Mayor Pro Tem Robert Crawley, Brian Hander, James Thorne, Joshua Massey and Aaron Thomas. Council Member Michael Courtright was absent. Staff present were Interim City Manager, Bobby Atteberry, Assistant City Manager, Renee Waggoner, Assistant City Attorney, Regina Edwards, City Clerk, Christine Wallentine and Deputy City Clerk, Karen Avery. Department Directors were also present.

1. INVOCATION, PLEDGE OF ALLEGIANCE AND TEXAS PLEDGE

Larry Goodman, Pastor of New Hope Christian Fellowship Church of Denison, gave the invocation which was followed by the Pledge of Allegiance and Texas Pledge led by Chris Sanders, United States Army Veteran and current Vice Commander of The American Legion Post 62.

2. PROCLAMATIONS AND PRESENTATION

A. Veteran Quilt Presentation.

Mayor Gott presented Sergeant Kristijan Jakovac of the Denison Police Department with a quilt of honor. Vicky McComak, The District II Director of Texas and Past Regent of the Preston Trail NSDAR also joined in the presentation. It's worth noting that the Preston Trail Daughters of the American Revolution is the coordinator of this meaningful activity. Just recently, we came together to commemorate our nation's veterans, especially those who made the ultimate sacrifice for our country. Today, we have the special privilege of honoring one of our own veterans through a symbolic act — presenting a quilt of honor that represents our gratitude. Quilts are most remembered for the veterans they honor. The mission behind providing these quilts is to bestow a universal symbol and token of thanks, solace, and remembrance to those who serve in harm's way, protecting and defending our lives and freedoms. Wrapped in their very own quilt of honor, veterans across the nation have received tangible gifts of love and appreciation from quilters since this nationwide grassroots program started in 2003. These wonderful quilts, representing the prayers, healing thoughts, and gratefulness of their makers, have been presented to veterans who fought for our nation. The purpose of providing these quilts is to cover service members

and veterans touched by war with comforting and healing quilts of honor. We extend special thanks to Karen Riley, the owner of The Quilt Asylum in Downtown Denison, for generously donating the fabric for these quilts. Additionally, our gratitude goes to Judy Keisly for her talent in piecing the quilt and to Laura Johnson for her exceptional quilting work. We also express our thanks to the DAR for their contributions towards this project.

Mayor Gott then invited Sergeant Jakovac to join her at the podium.

Today, we have the privilege of honoring one of our own through this appropriate tradition. Kristijan Jakovac is a Sergeant with the Denison Police Department and an honored veteran of our military. Sergeant Jakovac served actively in the United States Marine Corps and then in the reserves from 2006 to 2023. He completed combat tours in Iraq and Afghanistan, stationed at multiple bases in Japan, North Carolina, Korea, and Virginia. Upon retirement from the Marine Corps, he held the rank of Staff Sergeant. Sergeant Jakovac has been employed with the Denison Police Department since June of 2015 and was promoted to Sergeant in June of 2023. Mayor Gott then presented the quilt of honor to Sergeant Jakovac and expressed how much we appreciate his sacrifice and service.

### 3. PUBLIC COMMENTS

Mayor Gott called for any public comments at this time and reminded those wanting to comment of the guidelines established by the City Council. Christine Wallentine, City Clerk, confirmed there were no Request to Speak Cards received by this point in the meeting. Therefore, no public comments were heard.

### 3. CONSENT AGENDA

- A. Receive a report, hold a discussion and take action on approving the Minutes from the Regular City Council Meeting held on November 6, 2023.
- B. Receive a report, hold a discussion, and take action on a Wholesale Water Contract with Thompson Heights Development Company, and authorize the Interim City Manager to execute the same.
- C. Receive a report, hold a discussion and take action on a Resolution casting votes to elect Obie Greenleaf to serve as a member of the Grayson Central Appraisal District Board of Directors.
- D. Receive a report, hold a discussion, and take action on authorizing for submittal by the Denison Police Department the Equitable Sharing Agreement and Certification as required by the Department of Justice and the Department of Treasury, and the FY2023 Chapter 59 Asset Forfeiture Report by Law Enforcement Agency as required by the Office of the Texas Attorney General.
- E. Receive a report, hold a discussion, and take action on the purchase of a new Front Load sanitation truck in the amount of \$360,387.00 from Vanguard Truck Centers and authorize the Interim City Manager to execute any associated documents.

- F. Receive a report, hold a discussion and take action on an ordinance amending the City of Denison’s FY2024 Comprehensive Fee Schedule by amending the Building Inspections Fee Schedule for certain “Mechanical, Electrical, and Plumbing permit fees and “Residential Accessory Structures” permit fees, and amending the Planning and Zoning Fee Schedule for “Site Plan Review,” and adding a new Planning and Zoning fee for “Inspection of Clear-Cut Properties Prior to Issuance of Tree Removal Permit”.
- G. Receive a report, hold a discussion, and take action on entering into a contract with H&H Electrical Contractors, Inc. for electrical installation services at various utility and public safety locations for \$232,039.00 and authorize the Interim City Manager to execute all related documents.
- H. Receive a report, hold a discussion, and take action on the approval of lease purchase agreements for two new sewer vacuum trucks, one 15-yard and one 5-yard, with a combined total annual lease payment amount of \$188,632.00 from Kinloch Equipment and Supply, Inc. and authorize the Interim City Manager to execute any associated documents.

Council Action

On motion by Mayor Pro Tem Crawley, seconded by Council Member Hander, the City Council unanimously approved, **Ordinance No. 5324**, “AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF DENISON, TEXAS, AMENDNG THE FY2024 COMPREHENSIVE FEE SCHEDULE REGARDING BUILDING INSPECTIONS FEES AND PLANNING AND ZONING FEES; PROVIDING A SEVERABILITY CLAUSE; PROVIDING A SAVINGS/REPEALING CLAUSE; AND PROVIDING AN EFFECTIVE DATE”; **Resolution No. 4147**, “A RESOLUTION OF THE CITY OF DENISON, TEXAS, CASTING VOTES TO ELECT CANDIDATES TO SERVE AS MEMBERS OF THE GRAYSON CENTRAL APPRAISAL DISTRICT BOARD OF DIRECTORS”; and the rest of the Consent Agenda as presented.

5. PUBLIC HEARINGS

- A. Receive a report, hold a discussion, conduct a public hearing and take action on an Ordinance to rezone a tract or parcel of land situated in the Ben J. Goode Survey, Abstract No. 464, City of Denison, Grayson County, Texas, being commonly known as 7301 Driggs Drive, GCAD Property ID No. 115326, from the Light Industrial (LI) Zoning District, Commercial (C ) Zoning District, and Local Retail (LR) Zoning District within the Highway Oriented and Corridor District Overlay (HO) to the Light Industrial (LI) within the Highway Oriented and Corridor District Overlay (HO), to allow for light industrial allowed uses. (Case No. 2023-099Z)

Council Action

May Tate, Director of Development Services, presented this agenda item. Ms. Tate provides an aerial map and zoning map of the subject property. The subject property is located on the northeast corner of FM1417 and FM691 behind an abandoned gas station. The applicant is requesting a rezone to Light Industrial within the Highway Oriented and Corridor Overlay District. The property is currently split zoned between the Light Industrial, Commercial and Local Retail Zoning Districts. The applicant intends to re-

develop the existing structure and will meet all parking and landscape requirements. Any new development must meet all requirements of the base zoning and overlay district as well as other development standards called out in the zoning ordinance. The Planning and Zoning Commission recommended approval at their November 14, 2023 meeting and staff also recommends approval.

Mayor Gott then asked if there was anyone present who wished to speak on this agenda item, to which there were none. With that, the Mayor closed the public hearing.

There was no discussion or questions from Council.

On motion by Mayor Pro Tem Crawley, seconded by Council Member Thorne, the City Council unanimously approved Ordinance No. 5325, “AN ORDINANCE OF THE CITY OF DENISON, TEXAS, AMENDING CHAPTER 28 OF THE CODE OF ORDINANCES OF THE CITY, THE SAME BEING THE COMPREHENSIVE ZONING ORDINANCE OF THE CITY, AND AMENDING THE OFFICIAL ZONING MAP OF THE CITY, BY CHANGING THE ZONING CLASSIFICATION ON A CERTAIN TRACT OF LAND LEGALLY DESCRIBED AS A CERTAIN 2.505-ACRE TRACT OR PARCEL OF LAND SITUATED IN THE BEN J. GOODE SURVEY, ABSTRACT NO. 464, CITY OF DENISON, GRAYSON COUNTY, TEXAS, AND BEING ALL OF THE REMAINING PORTION OF A CALLED 1.0 ACRE TRACT OF LAND DESCRIBED IN THE DEED TO MYRON LOUIE NOLES RECORDED IN VOLUME 2869, PAGE 725, OFFICIAL RECORDS OF GRAYSON COUNTY, TEXAS, AND ALL REMAINING PORTION OF A CALLED 0.873 ACRE TRACT OF LAND DESCRIBED AS TRACT ONE IN THE DEED TO MYRON LOUIE NOLES RECORDED IN VOLUME 2813, PAGE 768, OFFICIAL RECORDS OF GRAYSON COUNTY, TEXAS, AND ALL THE REMAINING PORTION OF A CALLED 0.796 ACRE TRACT OF LAND DESCRIBED AS TRACT TWO IN VOLUME 2813, PAGE 768, OFFICIAL RECORDS OF GRAYSON COUNTY, TEXAS; BEING COMMONLY KNOWN AS 7301 DRIGGS DRIVE, GCAD PROPERTY ID NO. 115326, AND MORE PARTICULARLY DESCRIBED AND DEPICTED IN EXHIBIT “A”, FROM ITS ZONING CLASSIFICATION OF FROM THE LIGHT INDUSTRIAL (LI) ZONING DISTRICT, COMMERCIAL (C) ZONING DISTRICT AND LOCAL RETAIL (LR) ZONING DISTRICT WITHIN THE HIGHWAY ORIENTED AND CORRIDOR DISTRICT OVERLAY (HO) TO THE LIGHT INDUSTRIAL (LI) ZONING DISTRICT WITHIN THE HIGHWAY ORIENTED AND CORRIDOR DISTRICT OVERLAY (HO); PROVIDING THAT SUCH TRACT OF LAND SHALL BE USED IN ACCORDANCE WITH THE REQUIREMENTS OF THE COMPREHENSIVE ZONING ORDINANCE AND ALL OTHER APPLICABLE ORDINANCES OF THE CITY; PROVIDING THAT THE ZONING MAP SHALL REFLECT THE LIGHT INDUSTRIAL (LI) ZONING DISTRICT WITHIN THE HIGHWAY ORIENTED AND CORRIDOR DISTRICT OVERLAY (HO) FOR THE PROPERTY; PROVIDING A PENALTY; PROVIDING REPEALING, SEVERABILITY, AND SAVINGS CLAUSES; PROVIDING FOR PUBLICATION AND AN EFFECTIVE DATE.”

There being no further business to come before the Council, the meeting was adjourned at 6:11 p.m.

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JANET GOTT, Mayor

ATTEST:

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Christine Wallentine, City Clerk



# City Council Meeting Staff Report



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## Agenda Item

Receive a report, hold a discussion, and take action on a Resolution requesting financial assistance from the Texas Water Development Board; authorizing the filing of an application for assistance; and making certain findings in connection therewith for Collections System Improvements.

## Staff Contact

Fanchon Stearns, CIP/Engineering Manager

[fstearns@cityofdenison.com](mailto:fstearns@cityofdenison.com)

903-647-3335

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## Summary

- The City has been working with RJN Group on funds available from the Texas Water Development Board for water and wastewater infrastructure.
- Three Project Information Forms, or PIFs were submitted earlier this year and the City has been invited to turn one PIF, for Collections System Improvements, into a full application for funding.
- Terms will be determined by the TWDB and are expected to include up to \$10 million in grant funds and a \$18 million low-interest loan to fund engineering and construction of the \$28.2 million project.

## Staff Recommendation

Staff recommends approval of the item.

## Recommended Motion

“I move to approve the Resolution requesting financial assistance from the Texas Water Development Board; authorizing the filing of an application for assistance; and making certain findings in connection therewith for Collections System Improvements.”

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## Background Information and Analysis

The City has been working with RJN Group to secure grant funds available from the Clean Water State Revolving Fund (CWSTF) of the Texas Water Development Board (TWDB). The City submitted three Project Information Forms (PIF) to the TWDB: NTRA Wastewater Treatment Plant Improvements, Distribution System Improvements, and Collections System Improvements. The TWDB has invited the City to prepare a full application for the Collections System Improvements project submitted. The project will include engineering and construction of improvements at the Paw Paw Wastewater Treatment Plant and wastewater system in and around Denison’s central area, focused on older, obsolete, and undersized lines and appurtenances. The full application is due at the end of January, with several months of comments and revisions anticipated. Once the application has been submitted, funds are anticipated to be available within 8-10 months. The Council must take action on this resolution as part of the application process.

## Financial Considerations

The Collections System Improvements PIF total is \$28.2 million. The TWDB will finalize terms during the application process, with up to \$10 million of grant funding and a TWDB financed low-interest loan

for the remainder. The City's Financial Advisor and Bond Counsel are supporting and involved in the application process.

**Prior Board or Council Action**

None.

**Alternatives**

Council may deny or table the item.

## Application Filing and Authorized Representative Resolution

A RESOLUTION by the City Council of the City of Denison, Texas requesting financial assistance from the Texas Water Development Board; authorizing the filing of an application for assistance; and making certain findings in connection therewith.

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF DENISON, TEXAS:

SECTION 1: That an application is hereby approved and authorized to be filed with the Texas Water Development Board seeking financial assistance in an amount not to exceed \$28,200,000.00 to provide for the costs of Wastewater Collection System Improvements.

SECTION 2: That Ronnie Bates be and is hereby designated the authorized representative of the City of Denison for purposes of furnishing such information and executing such documents as may be required in connection with the preparation and filing of such application for financial assistance and the rules of the Texas Water Development Board.

SECTION 3: That the following firms and individuals are hereby authorized and directed to aid and assist in the preparation and submission of such application and appear on behalf of and represent the City of Denison before any hearing held by the Texas Water Development Board on such application, to wit:

Financial Advisor: Hilltop Securities Inc.  
Marti Shew

Engineer: RJN Group  
William Moriarty P.E.

Bond Counsel: McCall Parkhurst & Horton LLP  
Greg Schaecher

PASSED AND APPROVED, this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

ATTEST: \_\_\_\_\_

By: \_\_\_\_\_

(Seal)

# Texas Water

## Development Board

OLA ID 1706555

PIF No. Not Assigned Yet

Entity Name: Denison

Project Name: Denison Wastewater Treatment  
Plant Improvements Project

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Refinancing.

Readiness to Proceed to Construction

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Additional Attachments

Document - Additional\_Attachments

Document - Additional\_Attachments

Document - Additional\_Attachments

Submittal

# General Information

## Project Information

Funding Type CWSRF

Project Category POTW

CWSRF Entity Type SUBDIVISION

# Contact Information

County Greyson County

Entity Contact Information	Engineering Firm Contact Information
Name of Entity Denison	Name of New Entity
Prefix Mr.	Prefix Mr.
First Name Ronnie	First Name William
Last Name Bates	Last Name Moriarty
Addr 1 300 W Main St	Addr 1 1004 Jousting Pl
Addr 2	Addr 2
City Denison	City Austin
State TX	State TX
Zip 75020-0000	Zip 78746-5132
Phone (903) 465-2720	Phone (512) 422-3731
Fax (903) 465-2720	Fax (512) 422-3731
Suffix	Suffix
OrgName	OrgName
DeptName Public Works	DeptName
Title Director	Title Applicant Engineer
Email rbates@cityofdenison.com	Email william.moriarty@rjnmail.com
	Firm Name RJN GROUP
Make Changes Y	Make Changes Y
No Entity TxWISE Id	No Engineering TxWISE Id

# Service Area

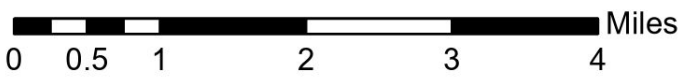
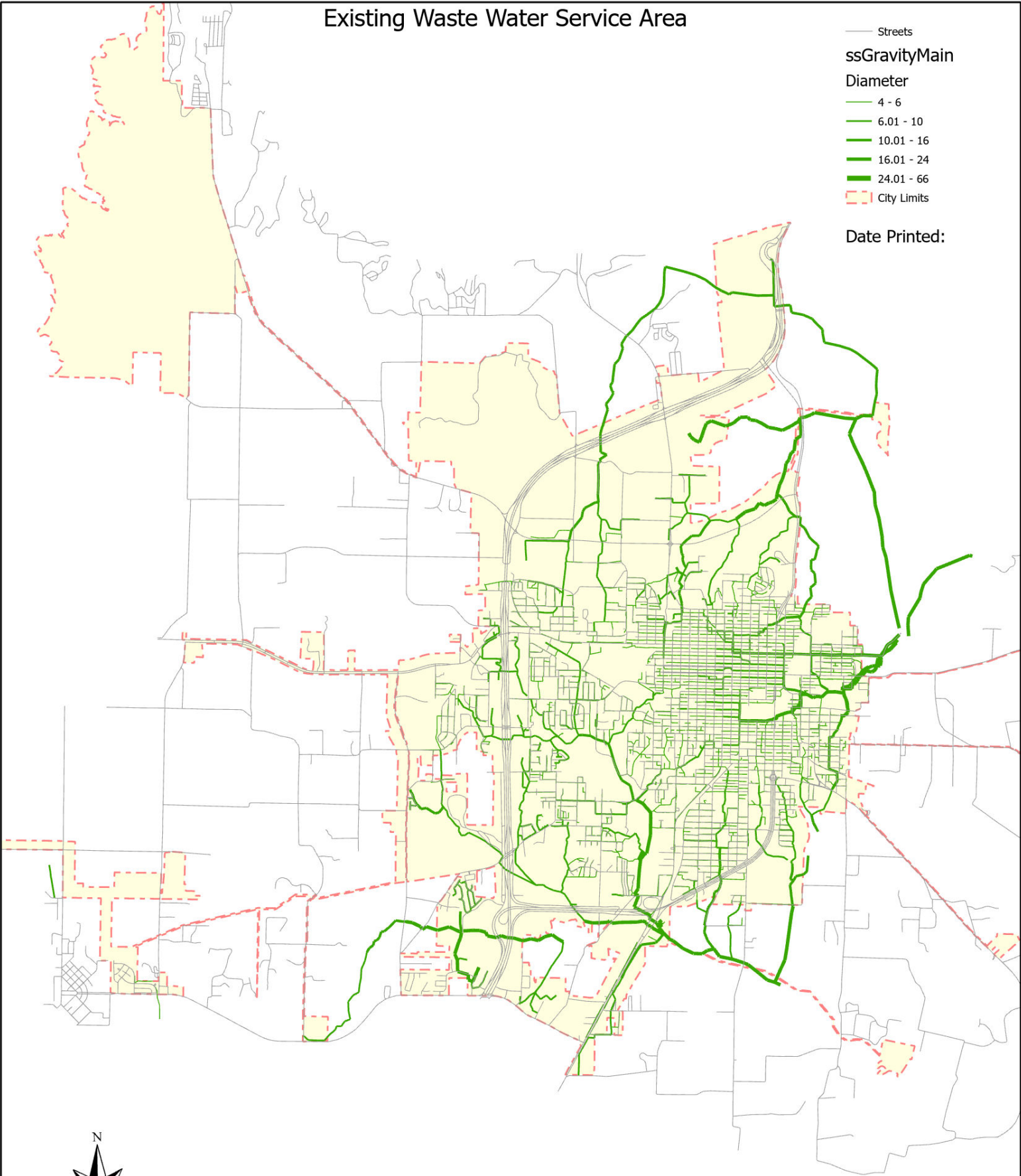
Population Served 24,324

Total Household Connections 12,261

# Existing Waste Water Service Area

- Streets
- ssGravityMain
- Diameter
  - 4 - 6
  - 6.01 - 10
  - 10.01 - 16
  - 16.01 - 24
  - 24.01 - 66
- City Limits

Date Printed:



# Previous PIF

Previous PIF N

## Project Description

Project Name Denison Wastewater Treatment Plant Improvements Project

**Project Short Desc** The City of Denison operates the Paw Paw Wastewater Treatment Plant (PPWWTP), which provides wastewater services for most of the City's service area. This project will involve improvements to the plant headworks and the aeration basins.

**Project Long Desc** The City of Denison operates the Paw Paw Wastewater Treatment Plant (PPWWTP), which provides wastewater services for most of the City's service area. This project will involve improvements to the plant headworks and the aeration basins.

### HEADWORKS / SCREENING / GRIT

The influent is conveyed to the headworks structure where the raw wastewater flow is measured, screened, and dewatered. The combined influent flows into one of two screening channels with large, 60-inch-wide slide gates upstream and downstream of each. In addition air sparge blowers located on the Duck Creek Surge Control Box provide air to perforated pipe diffusers in the combined channel upstream of the screens, the screening channels, and the combined channel downstream of the screens. Screened raw wastewater flows into one of two Grit Removal Basins (GRBs) constructed in 1988.

The proposed Headworks project includes the following improvements and additions to the PPWWTP:

- Headworks

- o Replace manual bar screen with mechanical screen and washer compactor.
- o Replace or rebuild existing mechanical screen and washer compactor.
- o Install RPZ and interconnect between potable water and plant water system.
- o Replace grit vortex unit.
- o Modify grit pump system (not including the pumps themselves as plant staff have already ordered replacement pumps).
- o Replace static grit screen.

- PSBs

- o Repair crack in PSB-1.

- Select Site Improvements and Yard Piping

- o Extend existing retaining wall at Headworks to the existing road.
- o Replace influent pipe from Paw Paw/Iron Ore Junction Box to the Headworks and provide proper backfill.

## AERATION BASINS AND AERATION BASIN BLOWER STATION

The plant has four diffused air aeration basins (ABs) that were constructed in 1988. Air is supplied to the aeration basins from the Aeration Basin Blower Station (ABBS).

### Aeration Basins

A single, circular steel tank divided into four compartments with equal volumes serves as the plant's four ABs. A splitter box attached to the outside of the tank, equipped with weirs and stop gates, splits flow between the four aeration basins; however, the basins are interconnected with 9-foot by 9-foot slide gates which plant staff report keeping open. The tank is 167 feet, 8 inches in diameter, and each basin has a 15-foot 6-inch average SWD and volume of 0.623 MG. Some corrosion has been observed on the interior walls and inside face of the exterior wall, but the extent of the corrosion is unknown. The diffusers were replaced with new membrane diffusers as part of the 2012 WWTP Improvements project. Plant staff noted that the diffusers have not been inspected since they were installed in 2012. The Aeration Blower Station consists of a slab, metal shelter, and low pressure, high speed turbo blowers constructed in the 2012 WWTP Improvements project. The turbo blowers are Aerzen Model TB075-0.6S and are driven by variable frequency drives (VFDs). The turbo blower PLC originally controlled the speed based on inputs from the dissolved oxygen (DO) probes located in the ABs. However, plant staff noted that the blowers, which also supply air to the RAS air lift pumps at the secondary clarifiers, were turning down too much to supply sufficient air to the air lift pumps. The turbo blowers are no longer run off of DO inputs and plant staff noted that the control logic in the PLC is not functional. In addition, one turbo blower is out of service.

A new above grade air header was installed from the blower station to around the ABs. Plant staff noted that the ABs that are fed air near the end of the discharge header receive noticeably less air than the other ABs since the header does not form a complete loop.

The proposed project includes the following improvements and additions to the PPWWTP:

- PSBs and RPS
  - o Demolish PSB-1.
  - o Modify PSB Splitter Box.
- ABs and ABBS
  - o Construct new ABs (Typ. 3).
  - o Replace existing aeration blowers (Typ. 4)
  - o Demolish ABBS canopy and construct new building adjacent to new ABs.
- Electrical and Instrumentation
  - o Additional electrical and instrumentation improvements.

The project will include Asset Management.



What is the need for the proposed project? Please describe any current Health and Compliance Factor and/or MCL Violations and physical deficiencies. The project is needed to ensure acceptable wastewater treatment for the City of Denison.

Is this proposed project Emergency Relief? N

## Rating Criteria POTW

### A. Enforcement Action

Is the work required by a schedule that is imposed by court order, EPA administrative order, TCEQ Notice of Enforcement or Agreed Order, or participation in the TCEQ's SSO Initiative? Y

### B. Unserved Area

1. Does the project involve extending service (centralized or alternative system) to populated areas of an existing developed community that are not served by a centralized collection system?

N

2. Has a public health official found that a nuisance dangerous to public health and safety exists resulting from water supply and sanitation problems in the area to be served by the proposed project?

Only the most recent letters (last ten (10) years) will be accepted. To determine your local designated public health official, you can search a list of public health officials.

If "Yes," attach a letter from a Designated Agent licensed by the TCEQ or a registered sanitarian from the Texas Department of State Health Services that documents the nuisance. N

3. If the proposed project is providing service to areas currently using on-site sewage facilities (OSSF), please provide the number of on-site systems to be removed from service.

### C. Watershed Protection Plan

Is a water body impacted by the proposed project listed in a Watershed Protection Plan that is under development or has been accepted by the TCEQ or TSSWCB?

If "Yes," attach the cover page, table of contents, and highlighted page(s) from the plan that clearly identify(ies) the water body and how the project will implement an element of the plan.

Please visit the Texas State Soil and Water Conservation Board site for a detailed list of Watershed Protection Plans. N

### D. Innovative and Alternative

1. Will the project include innovative or alternative collection or treatment technology, as defined below?

- Alternative Technology Proven wastewater management techniques that provide for the reclaiming and reuse of water, productively recycle wastewater constituents, or recover energy. Specifically, alternative technology includes land application of effluent and sludge, aquifer recharge, aquaculture, direct reuse, horticulture, revegetation of disturbed land, containment ponds, sludge composting and drying prior to land application, self-sustaining incineration, methane recovery, individual and onsite systems, and small diameter pressure and vacuum sewers and small diameter gravity sewers carrying partially or fully treated wastewater.

- Innovative Technology Nonconventional methods of treatment, such as rock reed, root zone, ponding, irrigation, or other technologies, which represent a significant advance in the state of the art. N

2. For stormwater projects required under an NPDES permit, will the proposed project treat or minimize urban stormwater pollution discharges using any of the following innovative approaches: decentralized or distributed stormwater controls; low impact development technologies and nonstructural approaches; stream buffers; wetland restoration and enhancement; actions to minimize the quantity of and direct connections to impervious surfaces; or soil, vegetation, or other permeable materials?

Note: Stormwater projects that are not specifically part of a NPDES permit may be considered NPS projects. For additional information, contact Financial Assistance, (512) 463-0991, [financial\\_assistance@twdb.texas.gov](mailto:financial_assistance@twdb.texas.gov). N

#### E. More Stringent Effluent Limits

Does the project involve more stringent permit limitations? This can include conversion to a no-discharge or partial reuse facility to avoid a higher level of treatment.

If "Yes," attach a copy of the new discharge permit or a letter from the TCEQ stating the new limits. N

#### F. Regional Projects

1. Does the project result in removing one or more existing WWTPs from service, thereby reducing the number of plant outfalls? N

2. Is the project a trunk sewer that will convey wastewater from a plant that will be removed from service to an existing treatment plant? N

3. Is the project a trunk sewer to an existing or developing area that will convey wastewater to an existing WWTP, thereby avoiding the construction of a separate treatment facility? N

4. Will the project expand an existing regional facility to receive flow from another community rather than create or continue use of a separate wastewater treatment facility? N

G. Will a majority of the funds being requested from the SRF for the project be used to implement measures to reduce the demand for publically owned treatment works capacity through water

conservation, efficiency, or reuse? N

H. For a qualified nonprofit entity only, (an entity having Federal tax-exempt status), will a majority of the funds being requested from the SRF for the project be used to implement assistance to owners and operators of small and medium publicly owned treatment works to either (a) plan, develop, and obtain financing for eligible CWSRF projects, including planning, design, and associated preconstruction activities; or (B) assist such treatment works in achieving compliance with the Federal Water Pollution Control Act (FWPCA)? N

I. Wastewater Treatment Plant Parameters

1. Does the project result in abandoning or relieving a WWTP and diverting flow to another facility?

N

WWTP Name Paw Paw WWTP

TCEQ Permit # WQ0010079003

NPDES # WQ0010079003

No-Discharge Facility? N

If "No," identify the Discharge Segment Paw Paw Creek at its confluence with the Red River.

	Current Permit Limits	Proposed Permit Limits
Average Daily Flow (million gallons/day - MGD)	6.00	6.00
Peak 2-Hour Flow (gallons/min - gpm)	9028.00	9028.00
CBOD/BOD (mg/l)	20.00	20.00
TSS (mg/l)	20.00	20.00
Chlorination (mg/l)	0.00	0.00
Nitrogen (mg/l)	0.00	0.00
Phosphorus (mg/l)	0.00	0.00
DO (mg/l)	2.00	2.00
Dechlorination (mg/l)	0.00	0.00
Status of Permit Application	Active	Active

# Texas Commission on Environmental Quality

## AGREEMENT

CITY OF DENISON  
RN102992567  
Enforcement Case No. 35462  
Grayson County, Texas

The Texas Commission on Environmental Quality ("Commission" or "TCEQ") is the state agency charged with enforcing TEX. WATER CODE ch. 26 (the "Code") and the regulations promulgated pursuant to the Code.

The City of Denison ("the City") owns and operates a wastewater collection system located in Grayson County, Texas (the "System").

The City has reported 20 unauthorized discharges totaling 45,850 gallons during the period between January 9, 2005 and March 29, 2007. The majority of these discharges were due to grease blockages, root intrusion, and structural failure. The City will be required to rehabilitate the System to insure a reduction of risk to the public health and the environment and to comply with Commission requirements.

## PROVISIONS

In response to these deficiencies and in an effort to eliminate the potential threat to public health, the City and the Commission have entered into an Agreement. This Agreement formalizes the commitments made by the City in its letter to the TCEQ dated December 18, 2007 (see Attachment A). The provisions of this Agreement are as follows:

1. The Executive Director recognizes that the City has:
  - a. Replaced 1,000 linear feet of 8-inch sewer located at State Highway 91 and Woodcreek during 2007;
  - b. Replaced 2,300 linear feet of 8-inch sewer line located at Woodlawn Boulevard during 2006; and
  - c. Replaced 800 linear feet of 12-inch sewer line located at State Highway 91 and Lakeview during 2005.
2. The City shall replace the deteriorated collection lines in the System. See Attachment A for collection main locations, approximate footage being replaced, and completion schedule. Should the City deem it necessary to modify the schedule in Attachment A, Table 2, the City shall notify the Commission in writing at least 30 days prior to making any changes.
3. Beginning upon the effective date of the Agreement, the City shall inspect the outlying System along creek beds at least every 90 days. The City shall report its findings and make necessary rehabilitation to the System in accordance with Provision 6 below.

4. The City shall continue to implement its plan to evaluate effectiveness of the improvements. The plan includes, but is not limited to, continued televising of lines, preventative maintenance, monitoring, and reporting. Staff will report annually to the City Council of the progress and rehabilitation of the sewer system under the 10-year plan.
5. Within 90 days of the effective date of this Agreement, and on an annual basis thereafter, the City shall submit a progress report to the Commission. These reports shall include information regarding actions taken by the City towards completion of the Provisions in this Agreement.
6. By December 31, 2018, the City shall submit a written Final Report that contains the following:
  - a. A summary of all corrective actions that have been completed in accordance with the Provisions in this Agreement;
  - b. A summary of all Provisions in this Agreement that were not completed, including reasons why specific corrective actions were delayed; and
  - c. A description of the overall improvement the corrective actions had on the System.
7. The Executive Director may grant an extension to any provisions of this Agreement upon a written and substantiated showing of good cause. All requests for extensions by the City shall be made in writing to the TCEQ. Extensions are not effective until the City receives written approval from the TCEQ. The determination of what constitutes good cause rests solely with the TCEQ.
8. The City shall submit copies of all correspondence, reports, and documentation required by Provision Nos. 2 through 6 to:

Order Compliance Team  
Enforcement Division, MC 149A  
Texas Commission on Environmental Quality  
P.O. Box 13087  
Austin, Texas 78711-3087

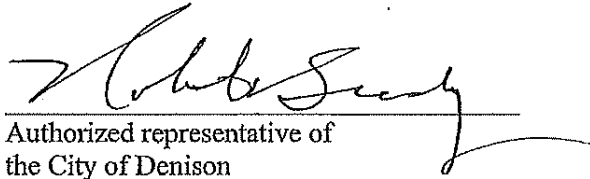
with a copy to:

Manager, Water Section  
Dallas/Fort Worth Regional Office  
Texas Commission on Environmental Quality  
2309 Gravel Drive  
Fort Worth, Texas 76118-6951

City of Denison  
Agreement  
Page 3

In return for the City's agreement and adherence to these terms, the Commission will withhold further enforcement actions related to the noted deficiencies. Should unforeseen circumstances indicate a need to alter the above mentioned schedule, the City must immediately notify the Commission so that an amendment can be discussed.

The effective date of this Agreement is the signature date of the City's authorized representative. Acceptance of the terms of this Agreement is indicated by the signature below.

  
Authorized representative of  
the City of Denison

4/8/2008  
Date

Robert Brady  
Printed name of authorized representative  
for the City of Denison

Mayor  
Title

Susan Johnson, Manager  
Water, Enforcement Division

Date

**Instructions:** Send this signed, original Agreement to Andrew Hunt, Enforcement Division, MC 169, Texas Commission on Environmental Quality, P.O. Box 13087, Austin, Texas 78711-3087

# Additional Rating Criteria

A. Will a majority of the funds being requested from the SRF for the project be used to implement innovative approaches to manage, reduce, treat, or recapture stormwater or subsurface drainage water? N

B. Will a majority of the funds being requested from the SRF for the project be used to implement reuse or recycling wastewater, stormwater, or subsurface drainage water? N

## Rating Criteria for All Projects - Effective Management

### A. Asset Management

1 a. In the past 5 years, has an asset management plan been adopted by the entity's governing body that incorporates an inventory of all assets, an assessment of the criticality and condition of the assets, a prioritization of capital projects needed, and a budget? Note: A Capital Improvement Plan (CIP) alone does not constitute an asset management plan. N

b. If "No," is the entity planning to prepare an asset management plan as part of the proposed project? If so, include language in the Project Description that states this. Y

2. Has asset management training been administered to the entity's governing body and employees? N

### B. Water Conservation

Does the proposed project address specific targets, goals, or measures in a water conservation or drought contingency plan that has been adopted by the entity's governing body within the past five years? N

### C. Energy Efficiency

Does the proposed project address specific goals in a system-wide or plant-wide energy assessment, audit, or optimization study that has been conducted within the past three years? N

### D. Implementation of Water Plans

Does the proposed project implement elements contained in a state or regional water plan, integrated water resource management plan, regional facility plan, regionalization or consolidation

plan, finalized Economically Distressed Areas Program (EDAP) facility plan, or a total maximum daily loads (TMDL) implementation plan? N

## Green Project Information

A. Does the proposed project contain, either partially or completely, green elements as defined by the Green Project Information Worksheets? N

## Refinancing.

Will CWSRF funds be used to refinance existing debt related to this project and received from a source other than the TWDB? N

## Readiness to Proceed to Construction

### A. Permitting

Have permits necessary for construction been acquired; in particular, TCEQ wastewater discharge permit for wastewater treatment plant construction or wastewater reuse authorization (if applicable)? N

\* If "No," identify in the space below each federal, state, or local permit, license, or other authorizations needed for the project to proceed to construction and the status of each. 1. Will need City permits for construction.

2. TCEQ will need to approve design.

### B. Land Acquisition

Have all land acquisitions and easements necessary to complete the project been obtained? Y

1. Have you completed the design process including full development of plans and specifications? (If "No," proceed to Question 2. If "Yes," proceed to Question 4.) N

2. Has design work progressed beyond preliminary design? N

### C. Design

3. Will design work be initiated after the TWDB releases design funds for this project? Y

### D. Environmental Review

1. Have you received a Finding of No Significant Impact (FNSI), Categorical Exclusion (CE), a Record of Decision (ROD), or an environmental determination prepared by another entity in



compliance with the National Environmental Policy Act (NEPA) for this project? For projects that may qualify for a FNSI, please review 31 TAC §375.63; or that require a CE, review 31 TAC §375.52 (state) or 31 TAC §375.62 (federal); or that require a ROD, review 31 TAC §375.66; or that have a determination by another entity, review 31 TAC §375.56 (state) or 31 TAC §375.70 (federal). N

2. If an environmental finding has not been issued, does your project meet the criteria to receive Categorical Exclusion as defined at 31 TAC §375.52 (state) or 31 TAC §375.62 (federal)? Y

3. Can you submit an environmental report with the completed loan application that documents coordination with agencies has proceeded sufficiently to determine that no major issues remain? N

4. Will the environmental review be initiated after the TWDB releases planning funds for this project? N

#### E. Construction Phase

Start Date (mm/dd/yyyy) 06-14-2024

Completion Date (mm/dd/yyyy) 01-29-2027

#### F. Project Bidding and Contracts

Will the proposed project be ready to advertise for construction bids immediately following a funding commitment for construction costs? N

If you are seeking reimbursement for eligible planning and/or design costs, was the work performed in compliance with applicable state law and federal crosscutters, including procurement following Disadvantaged Business Enterprise (DBE) requirements? Please visit the TWDB's DBE web page for more information.

How many months will it take to close the loan after receiving a funding commitment? Projects deemed ready to proceed to construction must be able to expend funds quickly after receiving a funding commitment. 4

# Estimated Costs

Seeking planning funding N

Seeking acquisition funding N

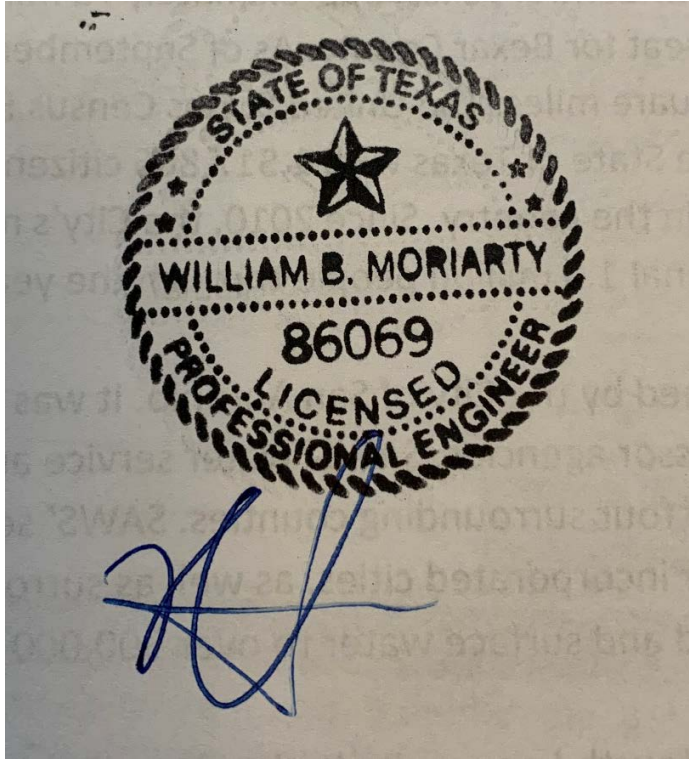
Seeking design funding Y

Seeking construction funding Y

Cost Category	(a) Planning	(b) Acquisition	(c) Design	(d) Construction	(e) Total (a)+(b)+(c)+(d)
POTW Project: Treatment Project	\$0	\$0	\$0	\$22,200,000	\$22,200,000
POTW Project: Collection Project	\$0	\$0	\$0	\$0	\$0
NPS Project	\$0	\$0	\$0	\$0	\$0
Estuary Management Project	\$0	\$0	\$0	\$0	\$0
Engineering	\$0	\$0	\$3,900,000	\$0	\$3,900,000
General, Legal, Financial	\$0	\$0	\$100,000	\$400,000	\$500,000
Contingency	\$0	\$0	\$400,000	\$1,000,000	\$1,400,000
Other (Describe Cost)	\$0	\$0	\$0	\$0	\$0
Subtotal (Add all rows above)	\$0	\$0	\$4,400,000	\$23,600,000	\$28,000,000
Financing from Local Funds	\$0	\$0	\$0	\$0	\$0
Financing from Other Funds	\$0	\$0	\$0	\$0	\$0
Subtotal, SRF-Funded Amount	\$0	\$0	\$4,400,000	\$23,600,000	\$28,000,000

Green component costs as a percentage of "Subtotal, SRF-Funded Amount" 0%

Anticipated Commitment(s) ONETIME



# Disadvantaged Community

1. Will the community pursue disadvantaged eligibility? Y
2. Is the Entity pursuing disadvantaged status for either the entire service area or a portion of the service area? PORTION
3. Identify the sources for the socioeconomic data to be used for disadvantaged status CENSUS
4. Standard Census Boundary or Incongruous Census? INCONGRUOUS

## Boundary Designations

Boundary	AMHI	Average Household Size	Current Population	2010 Population	Unemployment Rate	Total Household Connections
Block Group 1, Census Tract 2, Grayson County, Texas	\$40,208	2.7	134,205	126,146	0.0000%	12,261

5. AMHI \$40,208
6. Average household size 2.7
7. Current population 134,205
8. Previous population 126,146
9. Unemployment rate 0.00%
12. Average Monthly Gallons per user 2,325
13. Average Household Size 2.7
14. Average monthly water flow per household 6,277.5
15. Monthly Water Rate Schedule

From (gallons)	To (gallons)	Rate	Type	Per
0	1,000	\$29.16	Fixed	
1,000	5,000	\$3.44	Fixed	
5,000	10,000	\$4.3	Fixed	
10,000	25,000	\$5.38	Fixed	

16. Total of all other monthly water charges \$0
17. Average annual water bill \$442.8
18. Average Monthly Gallons per user 1,279
19. Average Household Size 2.7
20. Average monthly sewer flow per household 3,453.3
21. Monthly Sewer Rate Schedule

From (gallons)	To (gallons)	Rate	Type	Per
0	1,000	\$28.75	Fixed	
1,000	25,000	\$3.03	Fixed	

22. Total of all other monthly sewer charges \$0

23. Average annual sewer bill \$381.36

Note: This section must be submitted to be considered for Disadvantaged Community funding. Information that is not submitted as requested will not be considered. Eligibility will be determined based on information provided, and subject to final review by TWDB staff.

The Estimated Eligible Principal Forgiveness % is not a final determination; disadvantaged information is subject to TWDB staff review. Actual principal forgiveness amounts will depend upon a project's Disadvantaged determination, ranking, and the availability of funding.

Annual Loan Cost Per Customer \$167.59

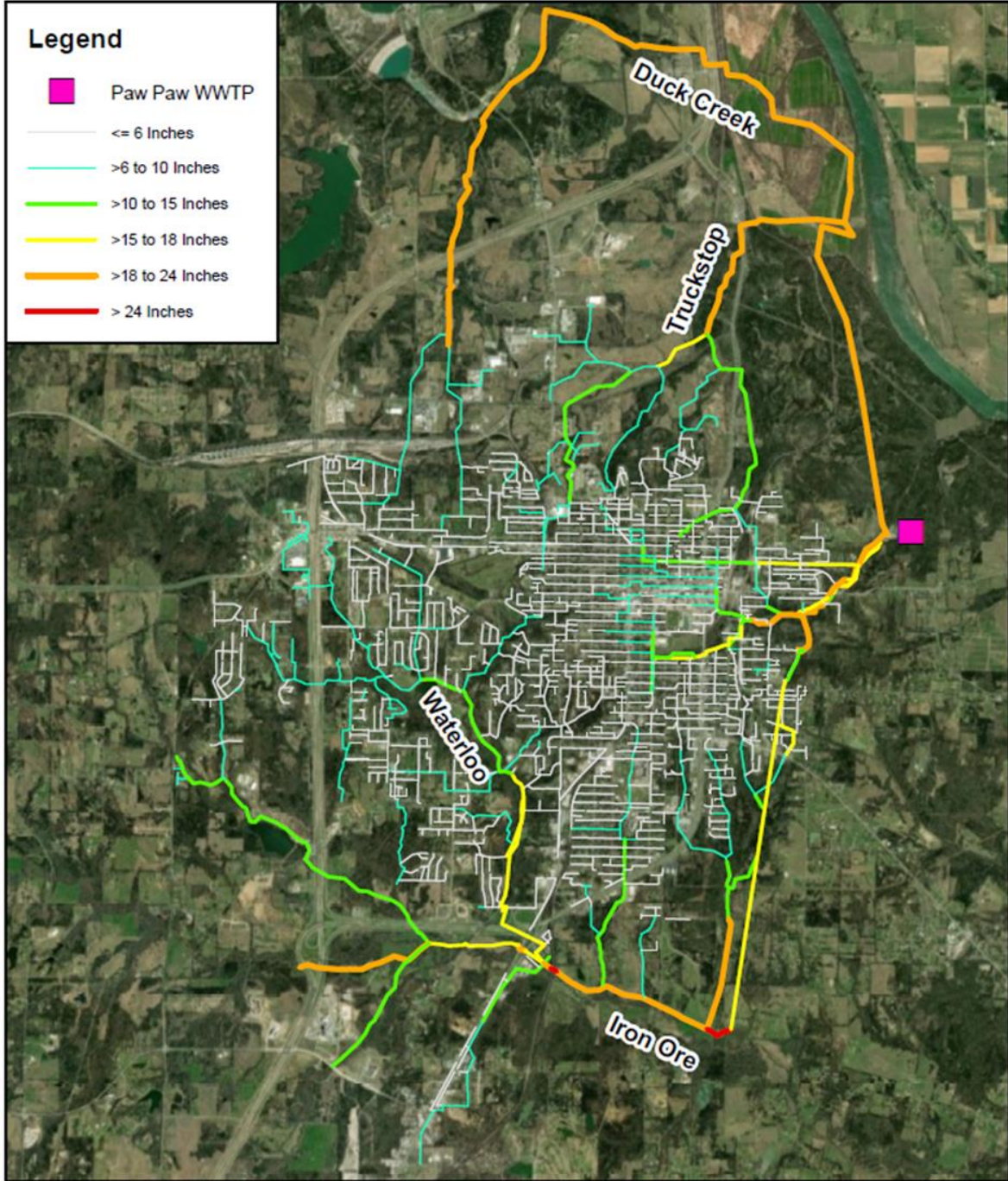
Unemployment Adjustment 0.00%

Population Adjustment 0.00%

Household Cost Factor 2%

Household Cost Factor Difference 0.47%

Estimated Principal Forgiveness 30%



City of Denison: Wastewater Master Plan  
**Figure 2-3: Paw Paw WWTP  
 Collection System Map**



# Additional Attachments

The following documents are attached after this page:

DenisonNEW PIF PPWWTP[13823].pdf

DenisonWWCost24.pdf

DenisonWastewater\_AMHI\_Overview[14789].pdf

## **CITY OF DENISON PAW PAW WASTEWATER TREATMENT (PPWWTP) PLANT SUMMARY**

The City of Denison operates the Paw Paw Wastewater Treatment Plant (PPWWTP), which provides wastewater services for most of the City's service area. The PPWWTP was converted from a trickling filter to a conventional activated sludge treatment plant in 1988 and has subsequently been upgraded on several occasions to rehabilitate aging equipment. As the plant continues to age and grow, a look to the future of the plant prepares the City for what to expect with regard to the timing and cost of improvements. The opinions of probable construction costs (OPCCs) provided for the following projects include the improvements themselves, contractor mobilization, overhead and profit, and contingency. The opinions of probable project costs (OPPCs) include the OPCCs plus typical percentages of the OPCC for engineering, surveying, and materials testing. All costs are presented in 2022 and 2023 dollars.

### **TPDES PERMIT**

The PPWWTP is authorized to treat and dispose of wastes in accordance with the requirements specified in Texas Pollution Discharge Elimination System (TPDES) Permit No. WQ0010079003. The existing permit was issued on July 22, 2021 and will expire July 22, 2026. The existing permit authorizes the discharge of an annual average daily flow (AADF) of 6.0 million gallons per day (MGD) and a peak two-hour flow (P2HF) of 9,028 gallons per minute (gpm) (13.0 MGD).

While permit limits are typically retained during renewals, the Texas Commission on Environmental Quality (TCEQ) conducts a more thorough assessment of permit limits during major amendments, including expansions, to ensure the limits are protective of the downstream receiving waters. Based on the assessment of the existing water quality regulations and any anticipated changes to these regulations, it is unlikely that immediate changes will be made to the effluent limits in the PPWWTP TPDES permit. However, future changes to the Texas Surface Water Quality Standards (TSWQS) and other water quality regulations, water quality implementation procedures, and TCEQ policy are important challenges that grow in scope and complexity.

### **LIQUID TREATMENT TRAIN PLANNING EVALUATION**

The population within the City's service area has slowly grown, but indications are that the growth will continue at a faster rate. The PPWWTP has been in service for over 30 years, and over that time, expansions and rehabilitation projects have taken place, but as the growth rate continues to escalate, balancing the need for equipment replacement and expansion is critical. An evaluation of current treatment unit capacities with regard to TCEQ regulations was conducted, as well as an evaluation of future treatment unit needs to accommodate future flows and loads.

### **HEADWORKS / SCREENING / GRIT**

The combined influent from Paw Paw and Iron Ore and the influent from Duck Creek are conveyed to the headworks structure where the raw wastewater flow is measured, screened, and dewatered. The combined influent flows into one of two screening channels with large, 60-inch-wide slide gates upstream and downstream of each. In addition, as noted in Section 6.2.1 above, air sparge blowers located on the Duck Creek Surge Control Box provide air to perforated pipe diffusers in the combined channel upstream of the screens, the screening channels, and the combined channel downstream of the screens. Screened raw wastewater flows into one of two Grit Removal Basins (GRBs) constructed in 1988.



**Duck Creek (Left) and Combined Paw Paw and Iron Ore (Right) Parshall Flumes**



**Mechanical Screen and Inlet Gate**



**Paw Paw WWTP Headworks and Grit Removal Condition Assessment**

Structure/ Equipment	Construction/ Installation Date	Maintenance Requirement	Condition Notes	Condition Grade <sup>1</sup>	Recommendations
Duck Creek Surge Control Box	1988	Increased Maintenance Requirement	<ul style="list-style-type: none"> <li>▪ The downstream chamber needs structural repairs, which will be completed as part of the Headworks and Miscellaneous Clarifier Improvements project.</li> <li>▪ The plug valve has not been operated in years.</li> <li>▪ The condition of the slide gate is unknown. It has not been operated in years.</li> </ul>	3	<ul style="list-style-type: none"> <li>▪ Drain, clean, and inspect upstream chamber.</li> <li>▪ Repair downstream chamber walls.</li> <li>▪ Remove plug valve and replace with blind flange.</li> <li>▪ Attempt to operate slide gate to drain and clean upstream chamber. Replace slide gate if its inoperable.</li> </ul>
Paw Paw-Iron Ore Parshall Flume	1988	Routine Maintenance	<ul style="list-style-type: none"> <li>▪ Some flume discoloration.</li> <li>▪ No known issues with ultrasonic level instrument.</li> <li>▪ Wave action in downstream channel may impact flow measurements.</li> </ul>	2	<ul style="list-style-type: none"> <li>▪ Continued use with routine maintenance.</li> <li>▪ Evaluate channel modifications to mitigate wave action.</li> </ul>
Duck Creek Parshall Flume	1988	Routine Maintenance	<ul style="list-style-type: none"> <li>▪ Some flume discoloration.</li> <li>▪ No known issues with ultrasonic level instrument.</li> <li>▪ Wave action in downstream channel may impact flow measurements.</li> </ul>	2	<ul style="list-style-type: none"> <li>▪ Continued use with routine maintenance.</li> <li>▪ Evaluate channel modifications to mitigate wave action.</li> </ul>
Screen Channel Inlet/Outlet Gates	1988	Routine Maintenance	<ul style="list-style-type: none"> <li>▪ City wants to add electric motor operators.</li> </ul>	2	<ul style="list-style-type: none"> <li>▪ Install electric motor operators.</li> </ul>
Mechanical Screen and Washer Conveyor/ Compactor	2012	Increased Maintenance Requirement	<ul style="list-style-type: none"> <li>▪ Lumber and ratchet straps used to temporarily support motor.</li> </ul>	3	<ul style="list-style-type: none"> <li>▪ Rebuild motor support or replace screen and washer conveyor/compactor.</li> </ul>

**Paw Paw WWTP Headworks and Grit Removal Condition Assessment (Continued)**

Structure/ Equipment	Construction/ Installation Date	Maintenance Requirement	Condition Notes	Condition Grade <sup>1</sup>	Recommendations
Diversion Bar Screen	1988	Routine Maintenance	<ul style="list-style-type: none"> <li>▪ Bar screen is still functional.</li> </ul>	1	<ul style="list-style-type: none"> <li>▪ Continued use with routine maintenance.</li> </ul>
Air Sparge Blowers	Unknown	Routine Maintenance	<ul style="list-style-type: none"> <li>▪ Blowers are still functional.</li> </ul>	1	<ul style="list-style-type: none"> <li>▪ Continued use with routine maintenance.</li> </ul>
Grit Vortex Units	Unknown	Increased Maintenance Requirement	<ul style="list-style-type: none"> <li>▪ Grit Vortex Unit 1 has nearly reached the end of its useful service life and needs to be replaced.</li> <li>▪ Grit Vortex Unit 2 is out of service.</li> </ul>	3	<ul style="list-style-type: none"> <li>▪ Replace one Smith &amp; Loveless grit vortex unit as part of the Headworks and Miscellaneous Clarifier Improvements project.</li> <li>▪ Replace the other Smith &amp; Loveless grit vortex unit as soon as practicable.</li> </ul>
Grit Pumps	Unknown	Routine Maintenance	<ul style="list-style-type: none"> <li>▪ No documented issues with the grit pumps at the time of the condition assessment, but both pumps have since failed.</li> </ul>	3	<ul style="list-style-type: none"> <li>▪ Replace grit pumps as soon as practicable.</li> <li>▪ Modify grit discharge piping to prevent accumulation of grit affecting swing check valve.</li> </ul>
Static Grit Screen	1988	Routine Maintenance	<ul style="list-style-type: none"> <li>▪ Static grit screen has not given plant staff problems over the years.</li> </ul>	2	<ul style="list-style-type: none"> <li>▪ Continued use with routine maintenance.</li> </ul>
Headworks Effluent and Peak Shaving Weir System	1988	Routine Maintenance	<ul style="list-style-type: none"> <li>▪ No documented issues with the weirs.</li> <li>▪ Stop gates for PC isolation are cumbersome to maneuver.</li> </ul>	1	<ul style="list-style-type: none"> <li>▪ Continued use with routine maintenance.</li> <li>▪ Clean out sediment and plant growth from peak shaving finger weirs.</li> <li>▪ Remove stop gates from peak shaving weirs once PC-2 reverts back into PC operation (following the replacement of SC-1 and SC-2).</li> </ul>

## City of Denison, Paw Paw WWTP, Headworks Improvement Project

Headworks project includes the following improvements and additions to the PPWWTP:

- Headworks
  - Replace manual bar screen with mechanical screen and washer compactor.
  - Replace or rebuild existing mechanical screen and washer compactor.
  - Install RPZ and interconnect between potable water and plant water system.
  - Replace grit vortex unit.
  - Modify grit pump system (not including the pumps themselves as plant staff have already ordered replacement pumps).
  - Replace static grit screen.
- PSBs
  - Repair crack in PSB-1.
- Select Site Improvements and Yard Piping
  - Extend existing retaining wall at Headworks to the existing road.
  - Replace influent pipe from Paw Paw/Iron Ore Junction Box to the Headworks and provide proper backfill.

**Table 1-9: Implementation OPPC – Project 4 (2022 Dollars)**

Project No.	Description	Total Cost <sup>1</sup>
<b>1.0</b>	<b>Headworks</b>	
	Replace Manual Bar Screen with New Mechanical Screen and Washer Compactor	\$710,000
	Replace Mechanical Screen and Washer Compactor	\$700,000
	Install RPZ and Interconnect between Potable and Plant Water Systems for Washwater System	\$50,000
	Replace Grit Vortex Unit (Typ. 1) <sup>2</sup>	\$160,000
	Modify Grit Pump System	\$60,000
	Replace Static Grit Screen	\$240,000
	Electrical and Instrumentation <sup>3</sup>	\$550,000
	<b>Subtotal</b>	<b>\$2,470,000</b>
<b>2.0</b>	<b>Peak Shaving Basins</b>	
	Repair Crack in PSB-1	\$20,000
	<b>Subtotal</b>	<b>\$20,000</b>
<b>3.0</b>	<b>Select Site Improvements and Yard Piping</b>	
	Replace Paw Paw/Iron Ore Influent Pipe Incl. Temporary Diversion Pumping, Additional Backfill, and Road Repair	\$250,000
	Extend Retaining Wall	\$120,000
	<b>Subtotal</b>	<b>\$380,000</b>
<b>Total OPPC</b>		<b>\$2,870,000</b>
<b>Total OPPC (2023 Dollars)<sup>4</sup></b>		<b>\$2,980,000 - \$3,270,000</b>

## **AERATION BASINS AND AERATION BASIN BLOWER STATION**

The plant has four diffused air aeration basins (ABs) that were constructed in 1988. Air is supplied to the aeration basins from the Aeration Basin Blower Station (ABBS).

### **Aeration Basins**

A single, circular steel tank divided into four compartments with equal volumes serves as the plant's four ABs. A splitter box attached to the outside of the tank, equipped with weirs and stop gates, splits flow between the four aeration basins; however, the basins are interconnected with 9-foot by 9-foot slide gates which plant staff report keeping open. The tank is 167 feet, 8 inches in diameter, and each basin has a 15-foot 6-inch average SWD and volume of 0.623 MG. Some corrosion has been observed on the interior walls and inside face of the exterior wall, but the extent of the corrosion is unknown. The diffusers were replaced with new membrane diffusers as part of the 2012 WWTP Improvements project. Plant staff noted that the diffusers have not been inspected since they were installed in 2012. The Aeration Blower Station consists of a slab, metal shelter, and low pressure, high speed turbo blowers constructed in the 2012 WWTP Improvements project. The turbo blowers are Aerzen Model TB075-0.6S and are driven by variable frequency drives (VFDs). The turbo blower PLC originally controlled the speed based on inputs from the dissolved oxygen (DO) probes located in the ABs. However, plant staff noted that the blowers, which also supply air to the RAS air lift pumps at the secondary clarifiers, were turning down too much to supply sufficient air to the air lift pumps. The turbo blowers are no longer run off of DO inputs and plant staff noted that the control logic in the PLC is not functional. In addition, one turbo blower is out of service.

A new above grade air header was installed from the blower station to around the ABs. Plant staff noted that the ABs that are fed air near the end of the discharge header receive noticeably less air than the other ABs since the header does not form a complete loop.

### **Aeration Basins**



**Aeration Basin Splitter Box**



**Aeration Blowers**



**Paw Paw WWTP Aeration Basin and Blower Condition Assessment**

Structure/ Equipment	Construction/ Installation Date	Maintenance Requirements	Condition Notes	Condition Grade <sup>1</sup>	Recommendations
ABs 1-4	1988/Diffusers replaced in 2012	Routine Maintenance Requirements	<ul style="list-style-type: none"> <li>▪ Some corrosion observed on the interior walls and inside face of the exterior wall, but the extent of the corrosion is unknown.</li> <li>▪ Diffusers not inspected since they were installed in 2012.</li> </ul>	2	<ul style="list-style-type: none"> <li>▪ Continued use with routine maintenance until the ABs can be replaced.</li> <li>▪ Drain one aeration basin at a time and inspect membrane diffusers. Replace w/AB's when possible.</li> </ul>
ABBS	1988/2012	Increased Maintenance Requirements	<ul style="list-style-type: none"> <li>▪ No longer controlled on DO probes in ABs due to air supply issues to RAS air lift pumps.</li> <li>▪ One blower is out of service.</li> <li>▪ PLC is no longer functional.</li> </ul>	2	<ul style="list-style-type: none"> <li>▪ Repair or replace blower that is out service.</li> <li>▪ Evaluate new PLC and control logic.</li> </ul>

**Paw Paw WWTP Aeration Basin and Blower Improvement Project**

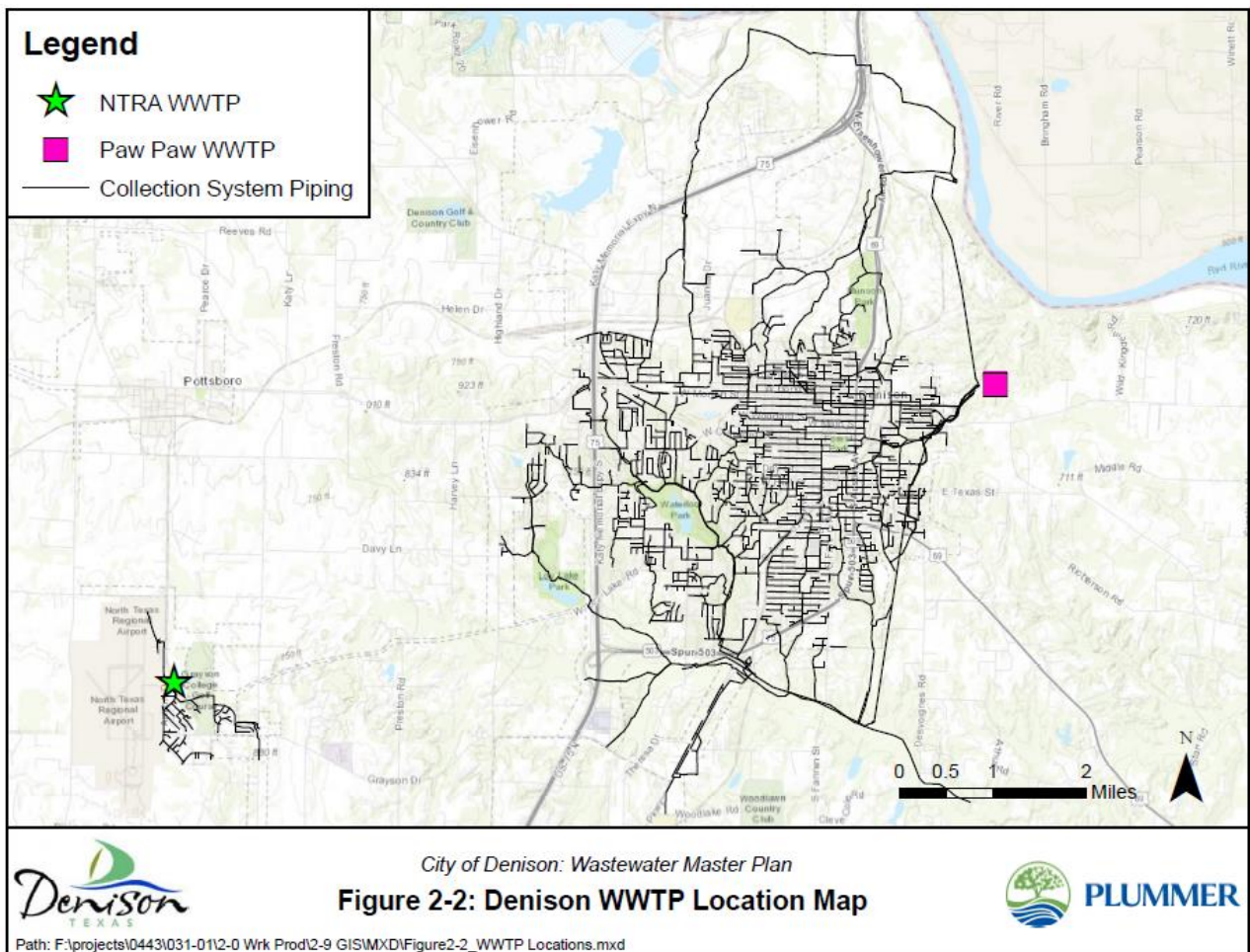
Project includes the following improvements and additions to the PPWWTP:

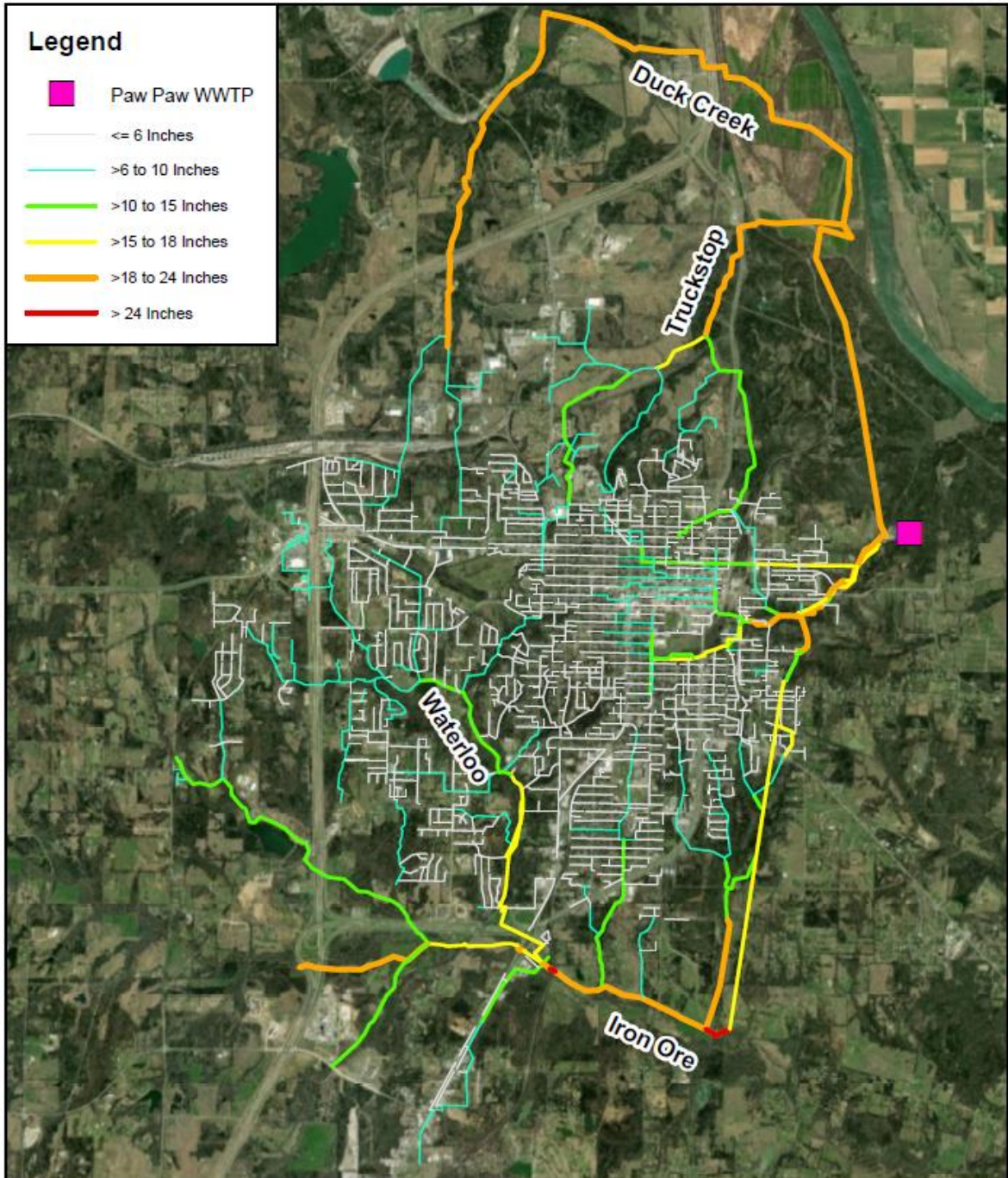
- PSBs and RPS
  - Demolish PSB-1.
  - Modify PSB Splitter Box.
- ABs and ABBS
  - Construct new ABs (Typ. 3).
  - Replace existing aeration blowers (Typ. 4)
  - Demolish ABBS canopy and construct new building adjacent to new ABs.
- Electrical and Instrumentation
  - Refer to Section 10.3.1.3 for additional electrical and instrumentation improvements associated with this project.

**AB / Blower Improvement Implementation OPPC – (2022 Dollars)**

Project No.	Description	Total Cost <sup>1</sup>
<b>1.0</b>	<b>Peak Shaving Basins</b>	
	Demolish PSB-1	\$210,000
	Modify PSB Splitter Box	\$80,000
	Electrical and Instrumentation <sup>3</sup>	\$90,000
	<b>Subtotal</b>	<b>\$380,000</b>
<b>2.0</b>	<b>Aeration Basins and Aeration Basin Blower Station</b>	
	Construct New ABs (Typ. 3)	\$10,590,000
	Demolish ABBS Canopy	\$50,000
	Construct New Blower Building	\$390,000
	Replace Aeration Blowers (Typ. 4)	\$1,260,000
	Aeration Blower Building HVAC and Lighting	\$60,000
	Yard Piping <sup>2</sup>	\$2,790,000
	Electrical and Instrumentation <sup>3</sup>	\$4,520,000
	<b>Subtotal</b>	<b>\$19,660,000</b>
<b>Total OPPC</b>		<b>\$20,040,000</b>
<b>Total OPPC (2023 Dollars)</b>		<b>\$20,840,000 - \$22,850,000</b>







City of Denison: Wastewater Master Plan  
**Figure 2-3: Paw Paw WWTP  
 Collection System Map**



Path: F:\projects\0443\031-0112-0 Wk Prod2-9 GIS\MXD\Figure2-3\_PawPawCollectionSystem.mxd



City of Denison: Wastewater Master Plan

**Figure 2-5: Paw Paw Wastewater Treatment Plant Site Plan**

Path: F:\projects\0443\031-0\12-0 Wrk Prod\2-9 GIS\MXD\Figure2-5\_PawPawSitePlan.mxd



# PIF Estimated Costs - #1706555

Entity Name: Denison

New Entity Name: null

Project Name: Denison Wastewater Treatment Plant Improvements Project

Report generated by: TWDB4WVPRODOLA3\$, Sat Feb 11 13:35:03 CST 2023

Please review the estimated costs below, then sign and upload.

Signature \_\_\_\_\_

Seeking planning funding N

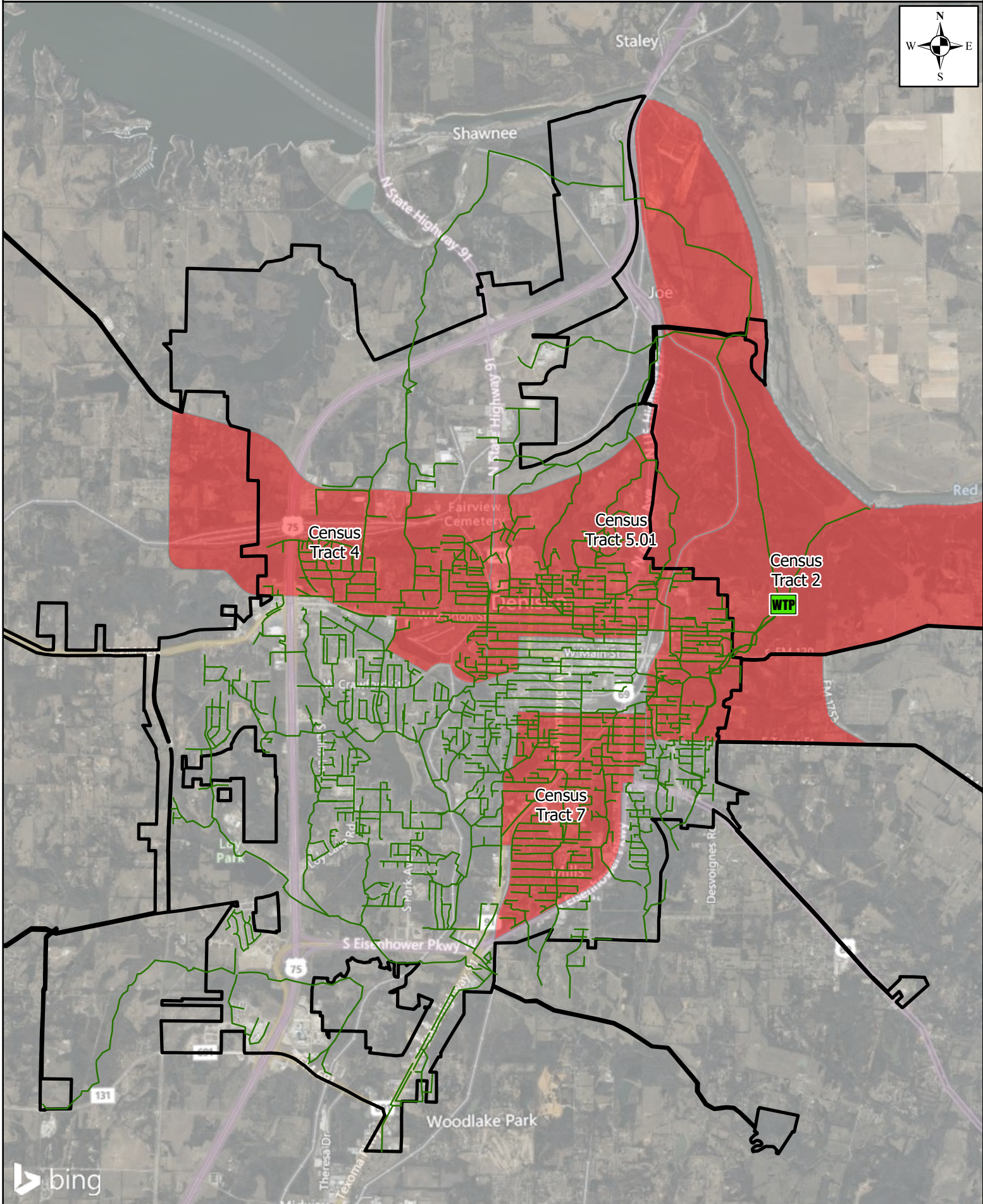
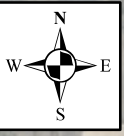
Seeking acquisition funding N

Seeking design funding Y

Seeking construction funding Y

Cost Category	(a) Planning	(b) Acquisition	(c) Design	(d) Construction	(e) Total (a)+(b)+(c)+(d)
POTW Project: Treatment Project	\$0	\$0	\$0	\$22,200,000	\$22,200,000
POTW Project: Collection Project	\$0	\$0	\$0	\$0	\$0
NPS Project	\$0	\$0	\$0	\$0	\$0
Estuary Management Project	\$0	\$0	\$0	\$0	\$0
Engineering	\$0	\$0	\$3,900,000	\$0	\$3,900,000
General, Legal, Financial	\$0	\$0	\$100,000	\$400,000	\$500,000
Contingency	\$0	\$0	\$400,000	\$1,000,000	\$1,400,000
Other (Describe Cost)	\$0	\$0	\$0	\$0	\$0
Subtotal (Add all rows above)	\$0	\$0	\$4,400,000	\$23,600,000	\$28,000,000
Financing from Local Funds	\$0	\$0	\$0	\$0	\$0
Financing from Other Funds	\$0	\$0	\$0	\$0	\$0
Subtotal, SRF-Funded Amount	\$0	\$0	\$4,400,000	\$23,600,000	\$28,000,000

# Wastewater System Overview with Census Tract AMHI



# Submittal

I, William Moriarty, as the designated authorized representative of the Denison, hereby approve and authorize the submission of this project information form to the Texas Water Development Board. I certify that all information contained herein is true and correct to the best of my knowledge. I understand the failure to submit a complete project information form by the stated deadlines may result in the withdrawal of the form without review.

Submitted by William Moriarty

Telephone Number (512) 422-3731

Submitted date 2023-02-22 13:24:13.943

# City Council Meeting Staff Report



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## Agenda Item

Receive a report, hold a discussion, and take action on a Resolution requesting financial assistance from the Texas Water Development Board; authorizing the filing of an application for assistance; and making certain findings in connection therewith for a Lead Service Line Inventory and Replacement Program.

## Staff Contact

Fanchon Stearns, CIP/Engineering Manager

[fstearns@cityofdenison.com](mailto:fstearns@cityofdenison.com)

903-647-3335

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## Summary

- Earlier this year the City, supported by RJN Group, submitted a Project Information Form (PIF) to the Texas Water Development Board (TWDB) to secure funding the City's lead service line inventory and replacement program.
- The application is for \$10 million, all of which is grant eligible and this resolution is required as part of the full project application to the TWDB.

## Staff Recommendation

Staff recommends approval of the time.

## Recommended Motion

"I move to approve the Resolution requesting financial assistance from the Texas Water Development Board; authorizing the filing of an application for assistance; and making certain findings in connection therewith for a Lead Service Line Inventory and Replacement Program."

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## Background Information and Analysis

Earlier this year the City, supported by RJN Group, submitted a Project Information Form (PIF) to the Texas Water Development Board (TWDB) in an effort to secure funding to inventory and replace lead water service lines. The City has since been invited to submit a full application and is eligible for up to \$10 million in grant funds. Additional funds would be a low-interest loan offered by the TWDB. Terms will be determined during the application process by the TWDB and the City's Bond Counsel and Financial Advisor will support the City through application and administration. The City's application for funding is due at the end of December. Comments and revisions will be made to the application, with dispersal anticipated within 8-10 months. This resolution is required as part of the full application to the TWDB.

## Financial Considerations

The application is for \$10 million, which may be wholly grant eligible. Funding may also include a low-interest loan through the TWDB. Final terms will be set by the TWDB during the application process. The City's Bond Counsel and Financial Advisor are helping with the grant application and administration process.

## Prior Board or Council Action

None.

**Alternatives**

The Council may deny or table the item.



## Application Filing and Authorized Representative Resolution

A RESOLUTION by the City Council of the City of Denison, Texas requesting financial assistance from the Texas Water Development Board; authorizing the filing of an application for assistance; and making certain findings in connection therewith.

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF DENISON, TEXAS:

SECTION 1: That an application is hereby approved and authorized to be filed with the Texas Water Development Board seeking financial assistance in an amount not to exceed \$10,000,000.00 to provide for the costs of Lead Service Line Inventory & Replacement Program.

SECTION 2: That Ronnie Bates be and is hereby designated the authorized representative of the City of Denison for purposes of furnishing such information and executing such documents as may be required in connection with the preparation and filing of such application for financial assistance and the rules of the Texas Water Development Board.

SECTION 3: That the following firms and individuals are hereby authorized and directed to aid and assist in the preparation and submission of such application and appear on behalf of and represent the City of Denison before any hearing held by the Texas Water Development Board on such application, to wit:

Financial Advisor: Hilltop Securities Inc.  
Marti Shew

Engineer: RJN Group  
William Moriarty P.E.

Bond Counsel: McCall Parkhurst & Horton LLP  
Greg Schaecher

PASSED AND APPROVED, this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

ATTEST: \_\_\_\_\_

By: \_\_\_\_\_

(Seal)

# City Council Meeting Staff Report



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## Agenda Item

Receive a report, hold a discussion, conduct a public hearing and take action on an ordinance adopting updated Standard Construction Details, amending Chapter 22, "Subdivision Regulations", Article IV, "Requirements for Public Improvements and Design", Division 1, "Adequate Public Facilities Policy", Section 22-74 "Conformance to Plans and Incorporation of Manuals."

## Staff Contact

Fanchon Stearns, CIP/Engineer Manager Public Works  
fstearns@cityofdenison.com  
(903) 647-3335

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## Summary

- The previous version of the Standard Details was amended on March 20, 2023, and this update includes additional notes and details consistent with the City of Denison Design Guide and items frequently requested by development engineers.
- Updated details are a welcome resource for engineers, builders, and developers to design projects that meet City requirements.

## Staff Recommendation

Staff recommends adopting the updated Standard Construction Details.

## Recommended Motion

"I move to approve the Ordinance updating the City's Standard Construction Details as presented."

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## Background Information and Analysis

Standard Details are minimum design standards used by public entities to ensure that infrastructure is designed/built in a consistent and appropriate manner. The details consist of engineered drawings of project elements, including roads, retaining walls, utility pipe and connections, manhole lids, and more. The designs are made to withstand anticipated conditions and use for appropriate lifespan. Starting with these details, The City's most recent Standard Details were adopted in October 2022 and with additional drawings added in March 2023. This update includes:

- Updated Sheet Index
- General Notes were updated to reference TCEQ
- Water Service Table and notes updated
- THE PRV and Flushing Point Details have been added
- Stone Retaining Wall Detail Note about guardrails added
- Gate hanger assembly updated
- Some Dumpster Details were removed and replaced
- Readability was improved on solid waste vehicle operation detail
- Side Load solid waste vehicle and enclosure details were added
- The I.T. Set up for cantilever gates were added

Standard Details are a resource for all new infrastructure, including City project and private development. Maintenance and Operations divisions stock parts and receive training on facilities based on what is included in the document. Reliably and continuously improved details are a welcome resource for engineers, developers, and staff.

**Financial Considerations**

None.

**Prior Board or Council Action**

The most recent Standard Details were adopted on April 7, 2023.

**Alternatives**

The Council may modify, deny, or table the item.

ORDINANCE NO. \_\_\_\_

**AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF DENISON, TEXAS, ADOPTING UPDATED STANDARD CONSTRUCTION DETAILS; AMENDING CHAPTER 22 “SUBDIVISION REGULATIONS”, ARTICLE IV “REQUIREMENTS FOR PUBLIC IMPROVEMENTS AND DESIGN”, DIVISION 1 “ADEQUATE PUBLIC FACILITIES POLICY”, SECTION 22-74 “CONFORMANCE TO PLANS AND INCORPORATION OF MANUALS” BY PROVIDING FOR THE INCORPORATION FO THE CITY’S STANDARD CONSTRUCTION DETAILS AND PUBLIC WORKS DESIGN MANUAL; PROVIDING FOR A PENALTY; PROVIDING FOR SAVINGS, REPEALING, AND SEVERABILITY CLAUSES; PROVIDING THAT THE MEETING AT WHICH THIS ORDINANCE WAS PASSED WAS AN OPEN MEETING IN COMPLIANCE WITH THE TEXAS OPEN MEETINGS ACT; AND PROVIDING FOR PUBLICATION AND AN EFFECTIVE DATE.**

**WHEREAS**, the City of Denison, Texas (the "**City**") is a Home Rule Municipality acting under its Charter adopted by the electorate pursuant to Article XI, Section 5 of the Texas Constitution and Chapter 9 of the Texas Local Government Code; and

**WHEREAS**, the City Council of the City (the "**City Council**") has previously adopted standard construction details for public works projects, including a version adopted on March 10, 2023 by Ordinance No. 5281; and

**WHEREAS**, since the passage of Ordinance No. 5281, the City's public works department has updated the standard construction details, and recommends adoption of the updated version attached hereto as **Exhibit A**, and incorporated herein for all purposes; and

**WHEREAS**, the City desires to incorporate the standard construction details updated herein, and the Public Works Design Manual adopted by Ordinance 5280 on March 20, 2023 into the City’s codified Subdivision Ordinance; and

**WHEREAS**, the City is authorized by Chapter 212 of the Texas Local Government Code to, after a public hearing on the matter, adopt rules governing subdivisions of land within the municipality's jurisdiction to promote the health, safety, morals, or general welfare of the municipality, and the safe, orderly, and healthful development of the municipality; and

**WHEREAS**, after holding a public hearing on December 4, 2023, the City Council finds it desirable and in the best interest of the health, safety, and general welfare of the citizens to update the City's standard construction details.

**NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF DENISON, TEXAS:**

**Section 1. Incorporation of Premises.** The above and foregoing premises are true and correct and are incorporated herein and made a part hereof for all purposes.

**Section 2. Standard Construction Details Adopted.** The City Council does hereby adopt the updated Standard Construction Details attached hereto as **Exhibit A** and repeal the earlier adopted versions.

**Section 3. Amendment to Section 22-74.** Chapter 22 “Subdivision Regulations”, Article IV “Requirements for Public Improvements and Design”, Division 1 “Adequate Public Facilities Policy”, Section 22-74 “Conformance to plans and incorporation of manuals”, subsection (b) is hereby amended to read as follows:

“(b) *Manuals incorporated.* The following construction and design manuals are incorporated herein by reference as if fully set forth: 1) Latest version of North Central Texas Council of Governments Standard Specifications for Public Works Construction (NCTCOG Standards); 2) Latest version of American Water Works Association Standards (AWWA); 3) Latest version of City’s Standard Construction Details; and 4) Latest version of City’s Public Works Design Manual.”

**Section 4. Penalty.** Any person, firm, corporation, or entity violating this Ordinance shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined pursuant to Section 1-12 of the City's Code of Ordinances. Each occurrence in violation of this Ordinance shall constitute a separate and distinct offense. Each day a violation of this Ordinance occurs constitutes a separate offense. The penal provisions imposed under this Ordinance shall not preclude the City from filing suit to enjoin the violation. The City retains all legal rights and remedies available to it pursuant to local, state, and federal law.

**Section 5. Savings Clause.** If any ordinance shall have any provisions in conflict with this Ordinance, or the provisions of the manuals adopted and incorporated herein, the stricter provisions shall apply. Any remaining portions of said ordinances shall remain in full force and effect.

**Section 6. Severability.** Should any section, subsection, sentence, clause, or phrase of this Ordinance be declared unconstitutional or invalid by a court of competent jurisdiction, it is expressly provided that any and all remaining portions of this Ordinance shall remain in full force and effect. The City hereby declares that it would have passed this Ordinance, and each section, subsection, sentence, clause, or phrase thereof irrespective of the fact that any one or more sections, subsections, sentences clauses and phrases be declared unconstitutional or invalid.

**Section 7. Open Meeting.** It is hereby officially found and determined that the meeting at which this Ordinance was passed was open to the public as required by law, and that public notice of the time, place, and purpose of said meeting was given, all as required by Section

551.042, Texas Government Code.

**Section 8. Effective Date.** This Ordinance shall become effective upon its passage and publication as may be required by law.

**DULY PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF DENISON, TEXAS,** on this the 4<sup>th</sup> day of December 2023.

APPROVED:

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JANET GOTT, Mayor

ATTEST:

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Christine Wallentine, City Clerk

**Exhibit A**

**Updated Standard Details**

# CITY OF DENISON, TEXAS

## STANDARD CONSTRUCTION DETAILS



**DECEMBER 04, 2023**

SHEET NUM	SHEET TITLE	SHEET NUM	SHEET TITLE
0	COVER SHEET	24	SANITARY SEWER – AERIAL CROSSING
1	GENERAL NOTES	25	SANITARY SEWER – MANHOLES
2	PAVING – SECTIONS – MAJOR & MINOR ARTERIAL STREETS	26	SANITARY SEWER SERVICES
3	PAVING – SECTIONS – LOCAL STREETS	27	TYPICAL EMBEDMENT
4	PAVING – SECTIONS – LOCAL & COLLECTOR STREETS	28	THIN BRICK SCREENING WALL
5	PAVING DETAILS	29	BRICK SCREENING WALL – RETAINING WALL
6	PAVING DETAILS	30	CHAIN LINK FENCING
7	PAVING DETAILS	31	CHAIN LINK FENCING
8	PAVING – ALLEY – DRIVEWAYS	32	FARM FENCE – STEEL GATE
9	PAVING – ALLEY – DRIVEWAYS	33	WROUGHT IRON FENCING
10	PAVING – GEOMETRICS	34	WROUGHT IRON FENCING
11	CONCRETE FLUME – EROSION CONTROL	35	DUMPSTER DETAILS
12	PAVING – SIDEWALKS	36	DUMPSTER DETAILS
13	STORM SEWER – INLET	37	PIPE BOLLARD & I.T. DETAIL FOR GATE
14	STORM SEWER – INLET	38	TREE PROTECTION PLAN
15	STORM SEWER – INLET – DETAILS	39	JUNCTION BOX
16	CHANNELS – CONCRETE	40	GROUND MOUNTED STREET NAME BLADE & PROJECT SIGN DETAILS
17	CHANNELS – CONCRETE	41	TYPICAL HARD SURFACE INSTALLATION SIGN BASE DETAILS
18	WATER SERVICES – FIRE HYDRANT	42	GROUND MOUNTED STREET NAME BLADE (D3-1) DETAILS
19	WATER – VALVES	43	OVERHEAD STREET NAME BLADE (D3-1) DETAILS
20	METER VAULT	44	TYPICAL STREET NAME SIGN PLACEMENTS
21	METER VAULT	45	TRAFFIC SIGN BLANK DIMENSIONS
22	PRV VAULT AND AUTOMATIC FLUSH POINT	46	TYPICAL SCHOOL ZONE FLASHER ASSEMBLY
23	WATER – VALVES	47	FOUNDATION & FLASHER ASSEMBLY STANDARDS
		48	STREET LIGHT DETAILS



## GENERAL NOTES

1. ALL MATERIALS MUST BE DOMESTICALLY SOURCED AND PRODUCED UNLESS OTHERWISE APPROVED BY THE PUBLIC WORKS DIRECTOR.

## PAVING NOTES

1. CONCRETE FOR ALL STREETS, ALLEYS, & DRIVEWAYS SHALL BE IN ACCORDANCE WITH NCTCOG CLASS "C" CONCRETE (3,600 P.S.I. COMPRESSIVE STRENGTH @ 28 DAYS), DRIVEWAYS SHALL BE HAND POURED. CONCRETE FOR ALL SIDEWALKS SHALL BE IN ACCORDANCE WITH NCTCOG CLASS "A" CONCRETE (3,000 COMPRESSIVE STRENGTH @ 28 DAYS).
2. REINFORCING STEEL SHALL BE DEFORMED BARS NO. 3 ON 18 INCH CENTERS OR NO. 4 BARS ON 24 INCH CENTERS UNLESS OTHERWISE NOTED IN THE DETAILS. REINFORCING SHALL BE IN BOTH DIRECTIONS ON CENTER. REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM 615, 616 AND 617.
3. ALL REINFORCING STEEL SHALL BE TIED (100%). REINFORCING STEEL SHALL BE SET ON PLASTIC CHAIRS. BAR LAPS BE MINIMUM 30 DIAMETERS.
4. EXPANSION JOINTS SHALL BE SPACED EVERY 200 FEET AND AT ALL INTERSECTIONS. ALLEYS SHALL HAVE A MINIMUM OF TWO EXPANSION JOINTS.
5. SAWED TRANSVERSE DUMMY JOINTS SHALL BE SPACED EVERY 20 FEET ON PAVING 8 INCHES OR THICKER AND EVERY 15 FEET FOR PAVING THICKNESS LESS THAN 8 INCHES SAWING SHALL OCCUR WITHIN 5 TO 12 HOURS AFTER THE POUR INCLUDING SEALING. OTHERWISE THE SECTION SHALL BE REMOVED AND LONGITUDINAL BUTT JOINT CONSTRUCTED.
6. SUBGRADE UNDER PAVEMENTS SHALL BE A MINIMUM OF 8 INCHES OF EITHER HYDRATED LIME OR CEMENT TREATED SUBGRADE, WITH OPTIMUM CONTENT AND COMPACTION REQUIREMENTS AS RECOMMENDED BY THE GEOTECHNICAL DESIGN, AS WELL AS APPROVED BY THE PUBLIC WORKS DIRECTOR. CONTENT AND COMPACTION TESTS SHALL BE TAKEN ALONG THE EXCAVATION AT ALL CHANGES IN SOIL AND A MINIMUM OF 300 FEET DISTANCES. ALL TESTS SHALL BE COMPLETED BY AN INDEPENDENT LABORATORY APPROVED BY THE CITY AND PAID FOR BY THE CONTRACTOR.
7. LIME TREATED SUBGRADE SHALL BE COMPACTED TO A DENSITY OF NOT LESS THAN 95 PERCENT OF THE MAXIMUM DENSITY AS DETERMINED BY ASTM D 698. MOSTURE CONTENT SHALL BE WITHIN -2 TO +4 OF OPTIMUM. DENSITY TEST RESULTS SHALL BE COMPLETED BY AN INDEPENDENT LABORATORY APPROVED BY THE CITY. ALL RESULTS SHALL BE PROVIDED TO THE CITY.
8. LIME TRIMMINGS ARE NOT ACCEPTABLE FOR ANY USE.
9. ALL FILL SHALL BE COMPACTED BY MECHANICAL METHODS. MAXIMUM LOOSE LIFT FOR COMPACTION SHALL BE 8 INCHES. ALL LIFTS SHALL BE TESTED FOR DENSITY BY AN INDEPENDENT LABORATORY APPROVED BY THE CITY. DENSITY REQUIREMENT SHALL BE AS SHOWN ON THE PLANS FOR THE TYPE OF MATERIAL CALLED FOR IN THE PLANS.
10. ALL DISTURBED AREAS OF ROADWAY WORK SHALL HAVE GRASS ESTABLISHED IMMEDIATELY. GRASS SHALL MEET THE REQUIREMENTS OF ITEM 3.8, 3.9, 3.10 & 3.11 OF NCTCOG.
11. ALL AREAS TO BE EXCAVATED OR FILLED SHALL HAVE EROSION CONTROL PLACED PRIOR TO COMMENCING EARTHWORK. EROSION CONTROL DEVICES SHALL BE MAINTAINED THROUGHOUT THE PROJECT IN ACCORDANCE WITH NCTCOG ITEM 3.12.
12. ALL SIDEWALKS SHALL INCLUDE BARRIER FREE RAMPS AT INTERSECTING STREETS, ALLEYS, DRIVEWAYS, ETC. BARRIER FREE RAMPS SHALL MEET CURRENT ADA REQUIREMENTS AND BE APPROVED BY THE TEXAS LICENSING BOARD.
13. SIDEWALKS SHALL BE DOWELED INTO PAVEMENT WHERE IT ABUTS DRIVEWAYS. REDWOOD EXPANSION JOINT MATERIAL SHALL BE USED AT THESE LOCATIONS.
14. NO VEHICLES SHALL BE PERMITTED ON CONCRETE PAVEMENT WITHOUT APPROVAL FROM THE CITY. THE CITY WILL MAKE DETERMINATION BASED ON CONCRETE BREAK REPORT.
15. SIDEWALKS REQUIRE 2-INCH SAND CUSHION ON SUBGRADE COMPACTED WITHIN 95% STANDARD PROCTOR DENSITY.
16. POURS SHALL REQUIRE A PRE-POUR INSPECTION FOR FORMWORK, REINFORCEMENT AND GEOPMETRY. VISUAL INSPECTIONS MAY BE MADE AFTER THE POUR TO ADDRESS TOOLED JOINTS, FINISH, SUBGRADE INTEGRITY, ETC.
17. ENSURE THAT FLATWORK DOES NOT OBSCURE ABOVE-GROUND APPURTENANCES (I.E. VALVES, MH LIDS).
18. EXPOSED AGGREGATE CONCRETE IS NOT ACCEPTABLE FOR SIDEWALK WITHIN PUBLIC RIGHT-OF-WAY.
19. SIDEWALKS SHALL BE 5' WIDE MINIMUM WIDTH.

## LINED CHANNELS

1. CONSTRUCTION JOINT SHOWN IN DETAILS FOR CONVENIENCE ONLY, MONOLITHIC CONSTRUCTION MAY BE USED.
2. ALL VISIBLE SURFACES SHALL BE A TROWEL FINISH.
3. ALL REINFORCING STEEL SHALL BE 3/8" DIAMETER AND SPACED 12" CENTER TO CENTER BOTH WAYS UNLESS OTHERWISE SPECIFIED.
4. IF WOOD FORMS ARE USED WITH CONSTRUCTION JOINT, THEY SHALL BE TWO, 2"x4", AND SHALL NOT BE REMOVED UNTIL CONCRETE ON SLOPES IS READY TO BE PLACE.
5. ALL CONCRETE IN LINED CHANNEL SHALL BE NCTCOG CLASS "A" (MINIMUM 3,000 P.S.I.) CONCRETE.
6. FLAT BOTTOM TO BE CONSTRUCTED WHEN CHANNEL WIDTH IS LESS THAN 12 FOOT.
7. 3/4" CHAMFER ON ALL CONCRETE CORNERS.

## STORM SEWER

1. THE FLOOR OF THE EXCAVATION FOR INLET BOX MUST PROVIDE A FIRM, LEVEL BED FOR THE BASE SECTION TO REST UPON.
2. A MINIMUM OF 6 INCHES OF 1" DIAMETER (MAXIMUM) ROCK OR GRAVEL SHALL BE USED TO PREPARE THE BEDDING TO FINAL GRADE OR IN LIEU OF THIS, AT LEAST 6 INCHES OF 2- SACK CEMENT STABILIZED SAND SHALL BE USED TO PREPARE THE BEDDING TO GRADE CEMENT STABILIZED-SAND SHALL BE ALLOWED TO SET BY KEEPING HOLE PUMPED DRY.
3. AFTER PIPE HAS BEEN LAID ON PROPER BEDDING, BACKFILLING TO COMMENCE WITH 8' MAXIMUM LOOSE LIFTS MECHANICALLY COMPACTED TO 95% STANDARD PROCTOR UNDER ROADWAY OR 12" MAXIMUM LOOSE LIFT BEHIND CURB. MAXIMUM SIZE ROCK IN BACKFILL SHALL NOT EXCEED 4 INCHES IN DIAMETER.
4. PRECAST INLETS MUST BE APPROVED BY THE CITY.
5. CONCRETE TO BE MINIMUM 4,200 P.S.I.
6. LOCKING DEVICE IS REQUIRED ON ALL STORM SEWER LIDS.
7. "NO DUMPING" WARNING PLAQUE TO BE INSTALLED ON ALL STANDARD AND RECESSED INLETS.
8. CONCRETE CAST-IN-PLACE INLETS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,200 PSI @ 28 DAYS.
9. STORM DRAIN TILE SHALL BE PLACED IN THE CENTER OF THE INLET, 2 INCHES FROM THE EDGE OF OPENING AS SHOWN IN THE DRAWING USE PL-200 CONSTRUCTION ADHESIVE FOR APPLICATION. TILES CAN BE ORDERED FROM: CENTERLINE SUPPLY, INC., 425 JESSE STREET, GRAND PRAIRIE, TEXAS 75061-1141. 1-800-321-1731, METRO: 214-647-8300, FAX: 214-641-1221.
10. EXISTING STORM SEWER PIPE AND/ OR LATERALS SHALL BE LOCATED PRIOR TO SETTING OF CONSTRUCTING INLET BOXES. IF ADJUSTMENT IN GRADE OF LATERAL IS REQUIRED, A REVISED DESIGN BY THE ENGINEER OF RECORD SHALL BE SUBMITTED TO THE CITY FOR APPROVAL.
11. REINFORCED CONCRETE PIPE CLASS III MINIMUM.

## SANITARY SEWER

1. ALL SEWER LINES CROSSING POTABLE WATERLINES SHALL BE AS SHOWN IN THE PLANS AND MEET TCEQ REQUIREMENTS
2. ALL SANITARY SEWER MAINS SHALL BE A MINIMUM OF 6" INSIDE DIAMETER. ALL SERVICE LINES SHALL BE A MINIMUM OF 4" INSIDE DIAMETER. PIPES 6 INCHES THROUGH 24 INCHES SHALL BE IN ACCORDANCE WITH ASTM D3034 WITH A MINIMUM SDR OF 26.
3. PIPES LARGER THAN 24 INCHES SHALL BE CCFRPM, CENTRIFUGALLY CAST FIBER REINFORCED POLYMER MORTAR PIPE(HOBAS OR APPROVED EQUIVALENT) OR AS DIRECTED BY THE PUBLIC WORKS DIRECTOR. SHALL BE IN ACCORDANCE WITH ASTM STANDARDS D3262, D4161, D2412, D3681, D638.
4. MANHOLES SHALL BE CAST IN PLACE OR PRECAST. ALL MANHOLES SHALL BE WATER TIGHT. ALL RING AND COVERS SHALL INCLUDE AN INTERNAL CHIMNEY SEAL.
5. ALL PIPE OPENINGS IN MANHOLES SHALL INCLUDE COUPLINGS WITH "O" RING RUBBER GASKETS.
6. STUBOUTS OUT OF MANHOLES SHALL BE FITTED WITH A STOPPER AND CAP. STUBOUTS SHALL BE A MINIMUM OF 5 FEET FROM MANHOLE AND BE SUPPORTED BY A CONCRETE CRADLE.
7. ALL DROP MANHOLES SHALL BE OF THE EXTERNAL TYPE.
8. MANHOLES SHALL BE VENTED IN ACCORDANCE WITH TCEQ REQUIREMENTS.
9. ALL SANITARY SEWER PIPE SHALL BE TESTED (NCTCOG ITEM 6.7.2) AFTER CONSTRUCTION. TESTING SHALL INCLUDE PRESSURE TESTING, MANDREL TEST (TCEQ REQUIRED) AND COLOR TV INSPECTION. COLOR TV INSPECTION SHALL BE COMPLETED IN PRESENCE OF CITY REPRESENTATIVE AND THE ORIGINAL VHS FORMATTED TAPE SHALL BE GIVEN TO THE CITY AT THE COMPLETION OF THE INSPECTION.
10. MANHOLES SHALL BE VACUUM TESTED IN THE PRESENCE OF THE CITY REPRESENTATIVE.

## WATER

1. ALL WATER LINE CROSSINGS OF SANITARY SEWER LINES SHALL BE AS SHOWN IN THE PLANS AND MEET TCEQ REQUIREMENTS.
2. PIPES 12 INCHES IN DIAMETER AND SMALLER SHALL BE POLYVINYL CHLORIDE (P.V.C.) MEETING THE REQUIREMENTS OF AWWA C900 DR 18 OR DUCTILE IRON PIPE (D.I.P.) MEETING THE REQUIREMENTS OF AWWAC 151 CLASS 50 PIPE. ALL D.I.P. SHALL BE WRAPPED WITH A POLYETHYLENE LINER.
3. FOR PIPES LARGER THAN 12 INCHES IN DIAMETER, THE PIPE SHALL BE DUCTILE IRON PIPE (AWWA C151 CLASS 50) OR POLYVINYL CHLORIDE PIPE UP TO 18 INCHES MEETING THE REQUIREMENTS OF AWWA C905 - 235 P.S.I. RATED PIPE.
4. ALL VALVES ON PIPES 12 INCHES AND SMALLER SHALL BE RESILIENT SEALED WEDGE VALVES (AWWA C509).
5. ALL VALVES ON PIPES LARGER THAN 12 INCHES BUT SMALLER THAN 30 INCHES SHALL BE BUTTERFLY VALVES (AWWA C504) OR WEDGE VALVES (AWWA C509).
6. ALL VALVES ON PIPES 30 INCHES AND LARGER SHALL BE BUTTERFLY VALVES (AWWA C504).
7. EMBEDMENT SHALL BE AS SHOWN IN THE PLANS. BACKFILL WITHIN THE LIMITS OF EXISTING AND PROPOSED PAVEMENT SHALL BE COMPACTED TO 95% STANDARD PROCTOR. OUTSIDE PAVEMENT (EXISTING OR PROPOSED) SHALL BE COMPACTED TO MINIMUM OF 95% STANDARD PROCTOR ALL COMPACTION SHALL BE BY MECHANICAL METHODS.
8. WATER LINES SHALL BE PRESSURE TESTEDCOG ITEM 6.7.3..
9. ALL HORIZONTAL AND VERTICAL BENDS SHALL BE BLOCKED USING 3,000 PSI COMMERCIAL CONCRETE. NO HAND MIXING OF SAID CONCRETE SHALL BE PERFORMED ON SITE.
10. ALL SADDLES SHALL BE MUELLER/HYMAX BR2B 4"-16" SADDLES, FORD METER 202B DOUBLE STRAP BRASS SADDLE, OR APPROVED EQUIVALENT.

## SCREENING WALLS

1. CONCRETE - MINIMUM COMPRESSIVE STRENGTH OF 3,000 P.S.I. @28 DAYS.
2. REINFORCEMENT - ASTM A-36.
3. MASONRY - COMPRESSIVE STRENGTH SHALL BE PRESCRIBED IN ITEM 2.3.6 SPECIAL PROVISIONS.
4. WIND LOAD FOR DESIGN - 20 P.S.F.
5. PIER BEARING STRESSES - SEE BRICK SCREENING WALL NOTES.
6. MORTAR - TYPE "S".
7. PROVIDE CONTROL JOINTS AT 50 FEET.
8. PROVIDE EXPANSION JOINTS AT 200 FEET CENTER MAXIMUM.
9. PROVIDE PIER WITH MINIMUM 9 FOOT W/ 24 INCH DIAMETER BELL IN CLAY OR OTHER MATERIAL EXCEPT BLUE SHALE, 6 FOOT MINIMUM WITH 3 FOOT MINIMUM INTO BLUE SHALE.
10. ALL EXPOSED CONCRETE SHALL BE CLASS 2 RUBBED FINISHED SURFACE.
11. SIDEWALKS ADJACENT TO WALLS MUST BE 5 FOOT MINIMUM WIDTH FROM ALL PORTIONS OF THE WALL (INCLUDING PILASTERS, COLUMNS, ETC.).
12. MAXIMUM PILASTER SPACING 40 FEET.
13. WALLS SHALL NOT BE PLACED IN THE VISIBILITY EASEMENT OR STREET RIGHT OF WAY.
14. THE WALL SHALL BE A MINIMUM OF EIGHT FEET IN HEIGHT AS MEASURED FROM THE NEAREST ALLEY EDGE OR SIDEWALK GRADE, WHICHEVER IS THE HIGHER. THE COLOR OF THE WALL SHALL BE LIMITED TO EARTH-TONE COLORS, EXCLUDING GRAY, GREEN AND WHITE. THE COLOR OF THE WALL SHALL BE UNIFORM ON EACH SIDE OF A THOROUGHFARE FOR THE ENTIRE LENGTH BETWEEN INTERSECTING THOROUGHFARES, UNLESS OTHERWISE APPROVED BY THE CITY'S PUBLIC WORKS DEPARTMENT. THE FINISH OF THE WALL SHALL BE CONSISTENT ON ALL SURFACES.
15. IF WROUGHT IRON FENCING IS TO BE UTILIZED ON REQUIRED SCREENING, ALL WROUGHT IRON MUST BE SOLID STOCK, NO TUBULAR STEEL WILL BE ALLOWED.
16. A 3"x8"x10' GALVANIZED ANGLE IRON PLATE SHALL BE INSTALLED BELOW THE BOTTOM ROW OF BRICKS & ANCHORED INTO THE COLUMNS FOR MASONRY SCREENING WALLS.

## TRAFFIC SIGNS AND LIGHTING

1. THE EXISTING SIGNS LOCATED ON PUBLIC CONSTRUCTION SITES ARE THE PROPERTY OF THE CITY OF DENISON. THROUGHOUT THE PERIOD OF THE CONTRACT, THE CONTRACTOR SHALL PROTECT THESE SIGNS SUCH THAT THEY ARE NOT DAMAGED IN THE COURSE OF CONSTRUCTION ACTIVITY.
2. PRIOR TO THE START OF CONSTRUCTION, ALL EXISTING SIGNS WITHIN THE AREA OF CONSTRUCTION WILL BE INVENTORIED AND DOCUMENTED JOINTLY BY THE CITY INSPECTOR AND THE CONTRACTOR. THIS DOCUMENT WILL BE JOINTLY SIGNED BY BOTH PARTIES REFLECTING THE SIGN TYPE, SIGN SIZE, SIGN CONDITION, SIGN LOCATION, REFLECTIVITY ADEQUACY, ETC.THE CONTRACTOR IS HELD ACCOUNTABLE FOR THESE SIGNS THROUGHOUT THE PROJECT AND AT THE COMPLETION OF THE PROJECT.
3. ALL GROUND MOUNTED AND OVERHEAD SIGNS SHALL USE ANSI STANDARD BQ1528 ALUMINUM BLANKS.
4. ALL BLANKS TO BE INSTALLED SHALL BE 5052-H38 ALUMINIUM (ASTM B -209).
5. THE THICKNESS FOR ALL SIGN BLANKS IS 0.080" EXCEPT OVERHEAD STREET NAME BLADES WHICH ARE 0.100".
6. ALL HOLES SHALL BE 3/8" DIAMETER DRILLED OR PUNCHED AS SHOWN ON EACH BLANK DETAIL AND SHALL BE FREE OF BURRS AND / OR ROUGH EDGES.
7. ALL SIGN FACE MATERIALS SHALL BE ASTM-4956 TYPE XI FULL CUBE PRISMATIC GRADE RETROREFLECTIVE SHEETING OR EQUIVALENT.
8. ALL STREETNAME SIGNS SHALL HAVE 1/4" DIAMETER HOLES DRILLED ON EACH END AND AFFIXED TOGETHER.
9. SIGN BLANK CORNERS TO BE ROUNDED AS SHOWN ON SHEET 5.
10. ALL SIGN BLANK ARE TO BE ETHCHED, DEGREASEODINE FINISH PRIOR TO APPLICATION OF LEGENDS.
11. ALL SIGNS SHALL BE MANUFACTURED AND INSTALLED IN CONFORMANCE TO THE LATEST CITY OF DENISON SIGN STANDARDS.
12. DETAILS ARE FOR ALL NEW AND REPLACEMENT SIGN INSTALLATIONS.
13. ALL ADVISORY SPEED SIGNS SHALL BE BASED ON A TRAFFIC STUDY, PLEASE FOLLOW TXDOT PROCEDURES FOR ESTABLISHING SPEED ZONES. THE PROCEDURES ARE AVAILABLE AT <http://onlinemanuals.txdot.gov/txdotmanuals/szn/szn.pdf>.
14. ALL SCHOOL ZONE WARNING SIGNS SHALL HAVE FLUORESCENT YELLOW GREEN BACKGROUNDS.
15. REFER TO [STANDARD HIGHWAY SIGN DESIGNS FOR TEXAS](https://www.txdot.gov/inside-txdot/forms-publications/publications/highway-signs.html) AVAILABLE AT <https://www.txdot.gov/inside-txdot/forms-publications/publications/highway-signs.html> OR CONTACT THE PUBLIC WORKS MAINTENANCE MANAGER FOR GUIDANCE.

## DETAILS

1. ALL DETAILS ARE NOT TO SCALE
2. SPECIAL DETAILS OR MODIFICATIONS TO THESE STANDARD DETAILS TO BE UTILIZED ON ANY GIVEN PROJECT SHALL BE SUBMITTED TO THE CITY FOR APPROVAL FOR USE.



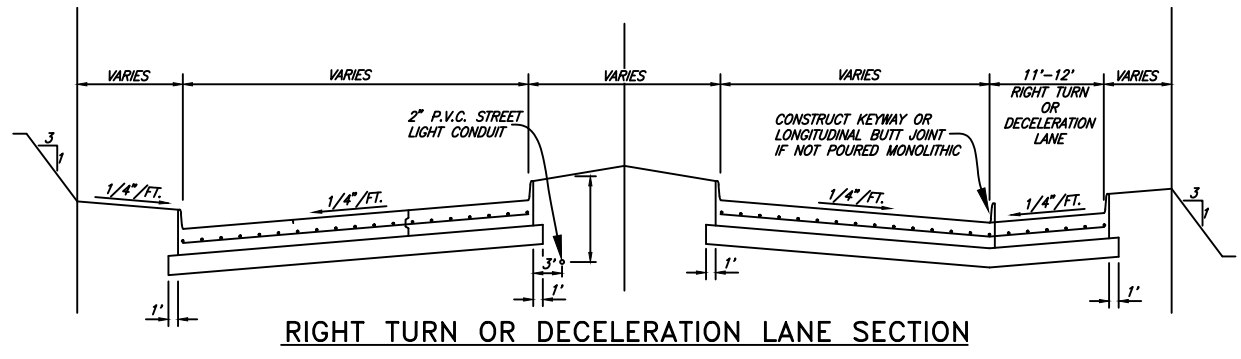
# CITY OF DENISON, TEXAS

STANDARD CONSTRUCTION DETAILS  
GENERAL NOTES

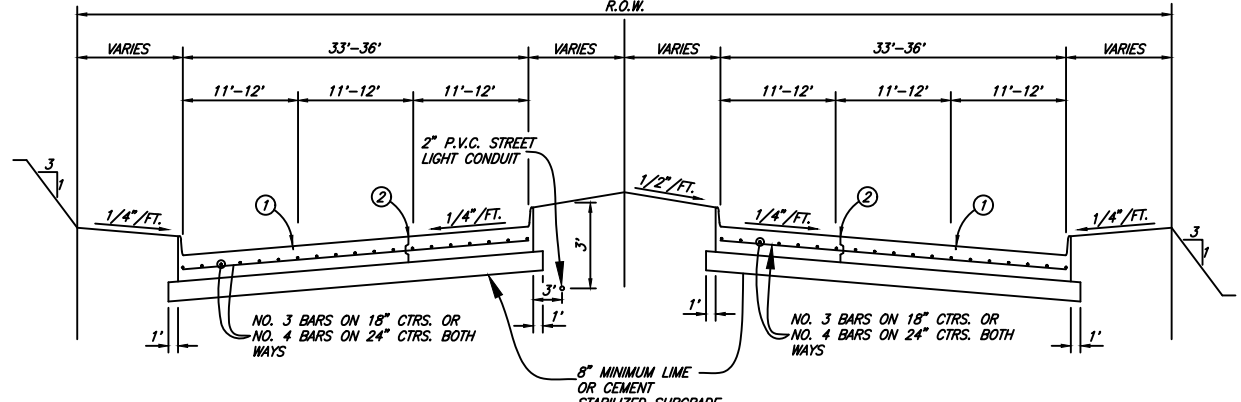
December, 2023

SHEET NO.

1

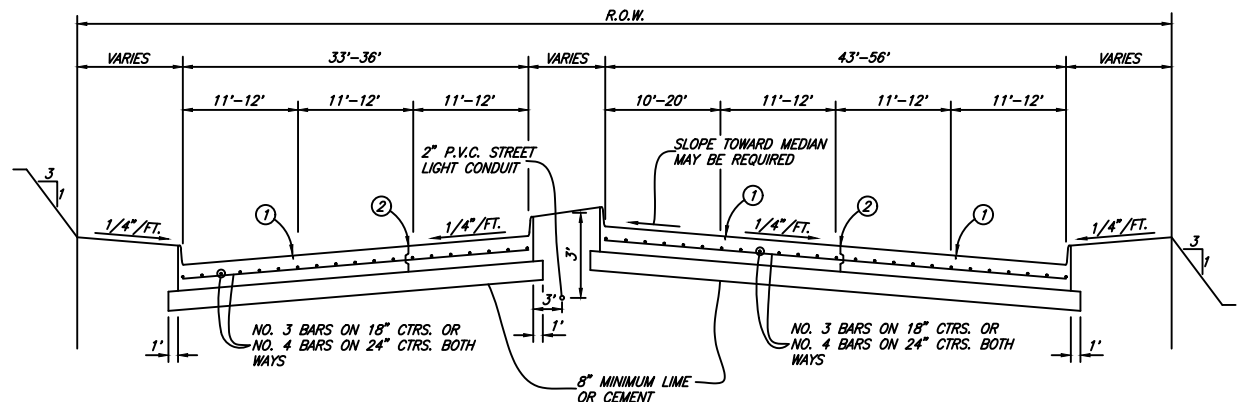


RIGHT TURN OR DECELERATION LANE SECTION

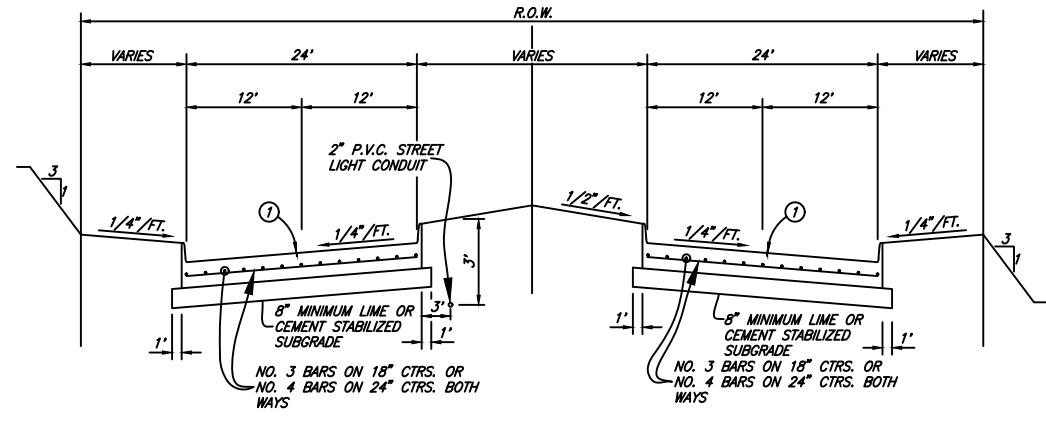


MAJOR ARTERIAL STREET REGULAR SECTION

M6D & P6D

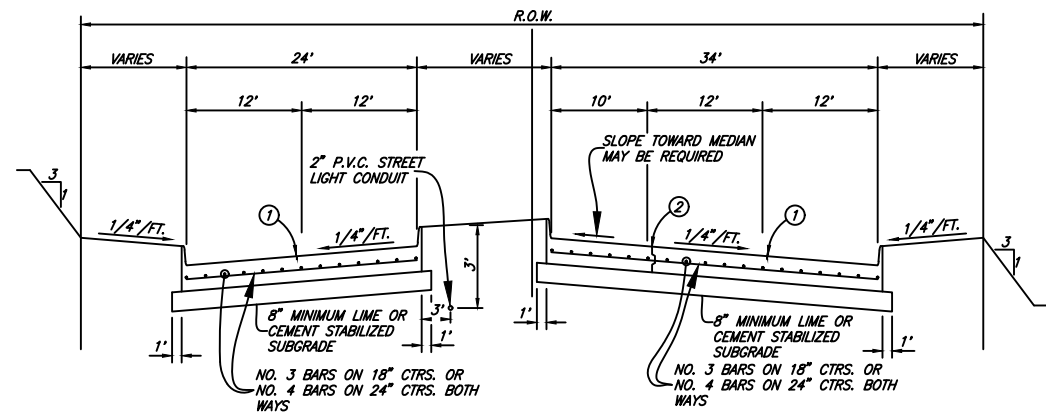


LEFT TURN SECTION



MINOR ARTERIAL STREET REGULAR SECTION

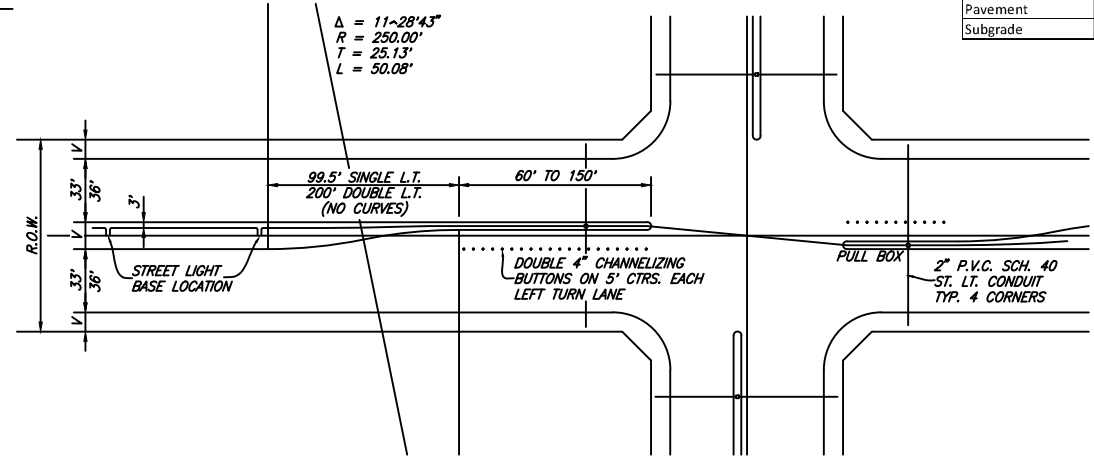
M4D



LEFT TURN SECTION

NOTE: FOR RETROFIT TURN LANES AND MEDIAN OPENINGS, TWO ADDITIONAL INCHES OF CONCRETE CAN BE PLACED IN LIEU OF LIME STABILIZATION.

Minimum Thickness	Arterial	Collector	Local	Truck Lane	Fire Lane	Industrial
Pavement	10"	10"	8"	12"	8"	12"
Subgrade	8"	8"	8"	8"	8"	8"



LEFT TURN PLAN

NOTE: LIME OR CEMENT SUBGRADE TO BE RECOMMENDED BY GEOTECHNICAL ENGINEER AND MUST BE APPROVED BY THE PUBLIC WORKS DIRECTOR.

LEGEND

- ① - SAWED LONGITUDINAL DUMMY JOINT
  - A. CONSTRUCTION JOINT (FULL WIDTH PVMT. IS ALLOWED WHERE APPROVED BY CITY).
  - ② - B. DELETE IT WHEN PAVING IS 25 FT. WIDTH TO BE WIDENED IN FUTURE.
  - C. INSTALL CURB IF PAVING IS LESS THAN FULL WIDTH OF 33'-36'.
- (LEGND\_PVMT)



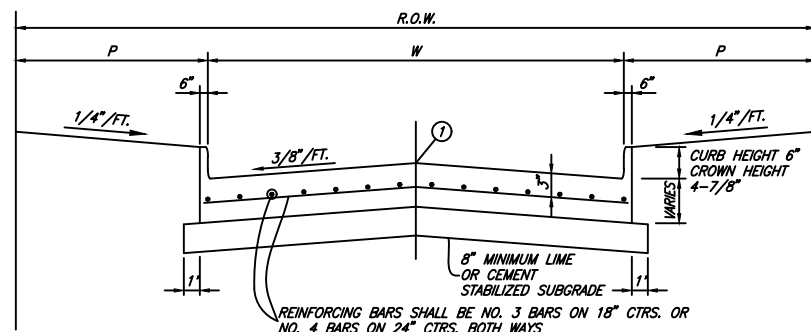
CITY OF DENISON, TEXAS

STANDARD CONSTRUCTION DETAILS  
PAVING / SECTIONS / MAJOR & MINOR ARTERIAL STREETS

December, 2023

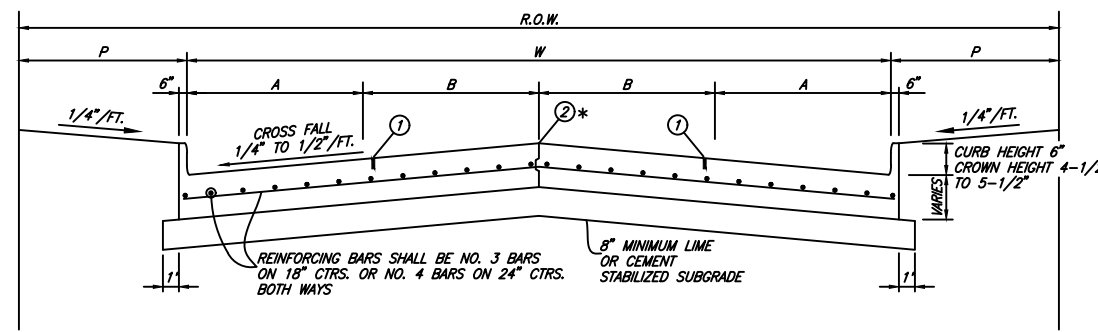
SHEET NO.

2



**CONCRETE LOCAL STREET REGULAR SECTION**

R2U  
C2U



**CONCRETE LOCAL STREET REGULAR SECTION**

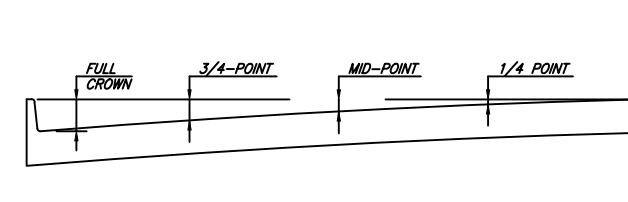
C4U  
M4U  
M5U

**LEGEND**

- ① - SAWED LONGITUDINAL DUMMY JOINT
- ② - CONSTRUCTION JOINT (FULL WIDTH PYMT. IS ALLOWED WHERE APPROVED BY CITY)

Minimum Thickness	Arterial	Collector	Local	Truck Lane	Fire Lane	Industrial
Pavement	10"	10"	8"	12"	8"	12"
Subgrade	8"	8"	8"	8"	8"	8"

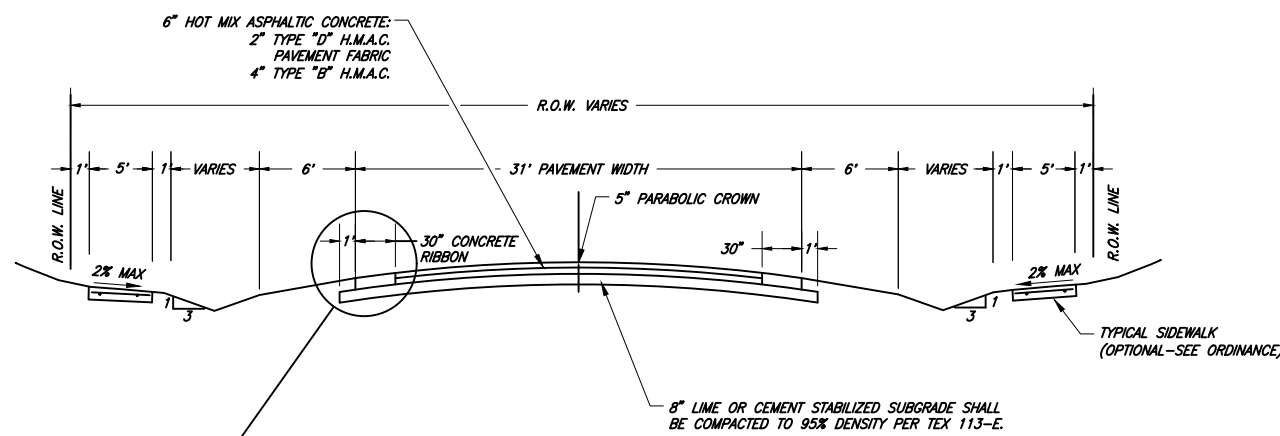
R2U, C2U, C4U, M4U & M5U PAVING SECTIONS SHALL HAVE A MINIMUM PAVEMENT THICKNESS OF 8 INCHES UNLESS THE GEOTECHNICAL ENGINEER RECOMMENDS GREATER.



ROADWAY WIDTH (W)	TOTAL CROWN HEIGHT	3/4 POINT	MID-POINT	1/4 POINT
26'	4"	2-1/4"	1"	1/4"
36'	6"	3-3/8"	1-1/2"	3/8"
44'	6"	3-3/8"	1-1/2"	3/8"

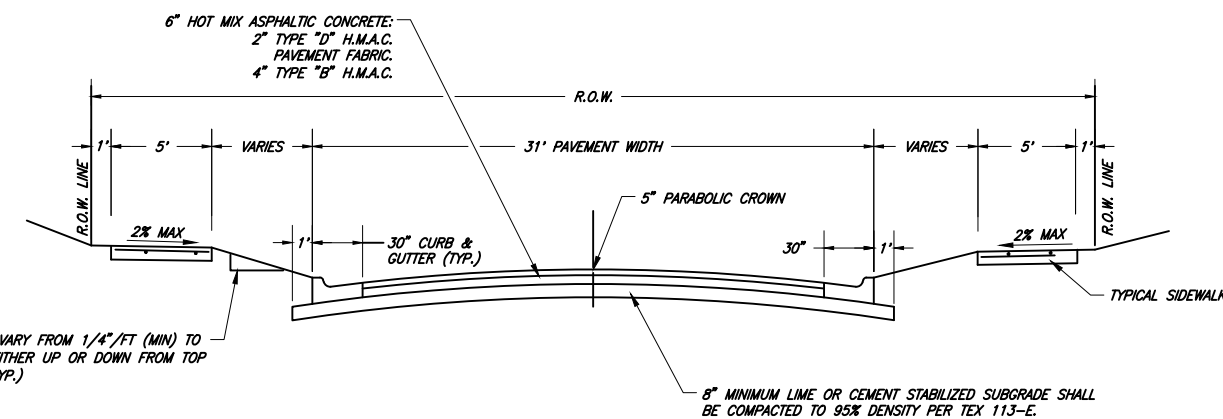
**TABLE OF CROWN HEIGHTS AND ORDINATES FOR VARIOUS PARABOLIC SECTIONS**

SLIP-FORM PAVEMENT MUST MEET CROWN GRADES AT GUTTERS, AT MID-POINTS & E  
PARABOLIC ROADS ONLY TO BE CONSTRUCTED WITH SLIP FORM PAVERS



**31' HMAC PAVEMENT SECTION ESTATE LOT TYPICAL CROSS SECTION**

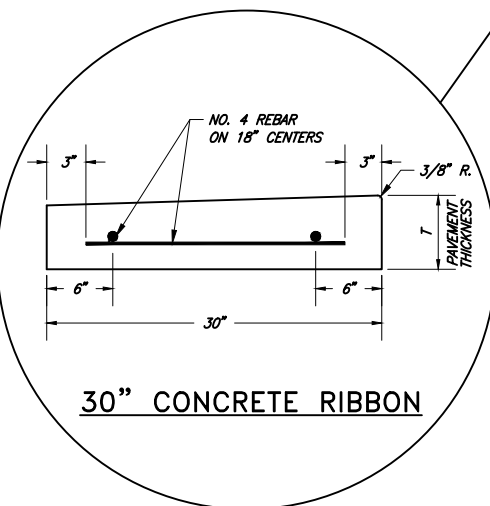
- NOTES:**
1. BAR DITCH SIDE SLOPE VARIES DEPENDING UPON DESIGN. NO GREATER THAN 3:1 WITHOUT ARMORING.
  2. CUL DE SAC SHALL HAVE A 7 INCH PARABOLIC CROWN.
  3. PAVING AND SUBGRADE ARE MINIMUMS AND SHALL BE VERIFIED BY GEOTECHNICAL RECOMMENDATION.
  4. HMAC SECTIONS SHALL ONLY BE USED FOR REPAIR OF EXISTING HMAC STREET. NO PROPOSED STREETS MAY BE HMAC.



**31' HMAC PAVEMENT SECTION LOCAL STREET TYPICAL CROSS SECTION**

- NOTES:**
1. FOR 30" GUTTER DETAIL, SEE "SEPARATE CURB & GUTTER" DETAIL.
  2. CUL DE SAC SHALL HAVE A 7 INCH PARABOLIC CROWN.
  3. PAVING AND SUBGRADE ARE MINIMUMS AND SHALL BE VERIFIED BY GEOTECHNICAL RECOMMENDATION.
  4. HMAC SECTIONS SHALL ONLY BE USED FOR REPAIR OF EXISTING HMAC STREET. NO PROPOSED STREETS MAY BE HMAC.

NOTE:  
LIME OR CEMENT SUBGRADE DESIGN TO BE RECOMMENDED BY GEOTECHNICAL ENGINEER AND MUST BE APPROVED BY THE PUBLIC WORKS DIRECTOR.



**30" CONCRETE RIBBON**



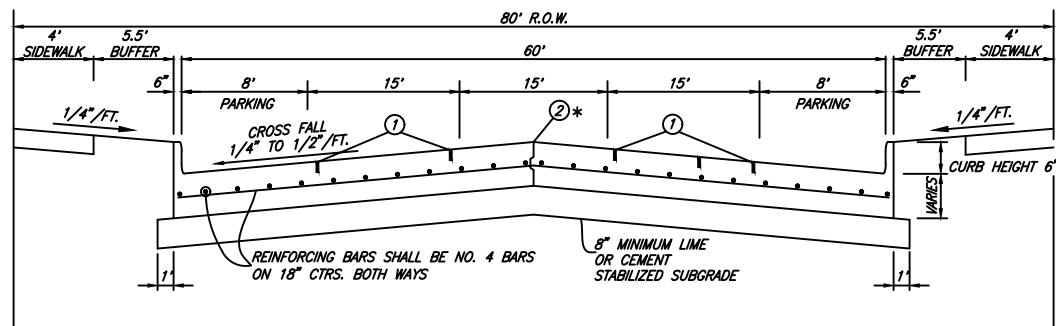
**CITY OF DENISON, TEXAS**

STANDARD CONSTRUCTION DETAILS  
PAVING / SECTIONS / LOCAL STREETS

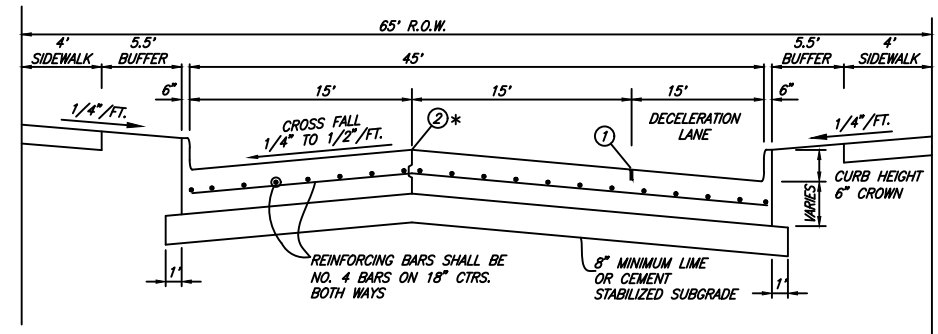
December, 2023

SHEET NO.

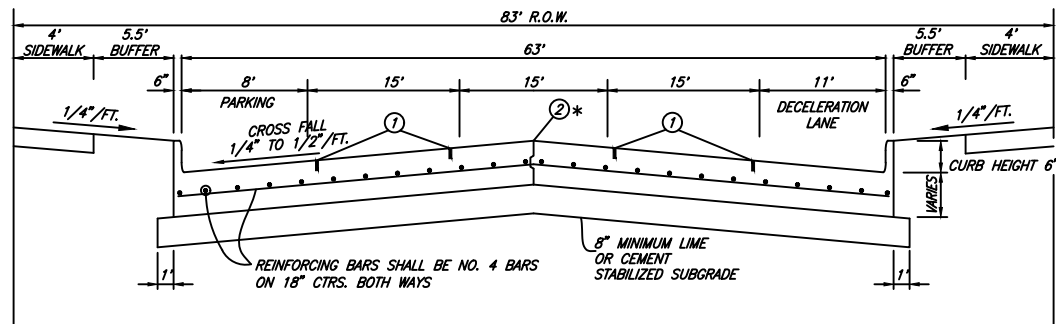
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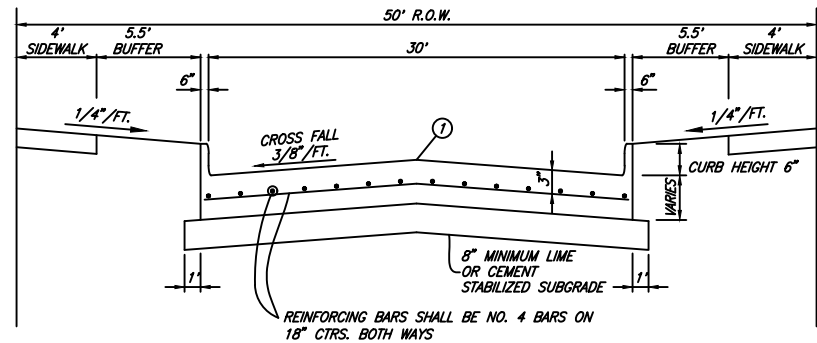
CONCRETE INDUSTRIAL STREET WITH PARKING SECTION



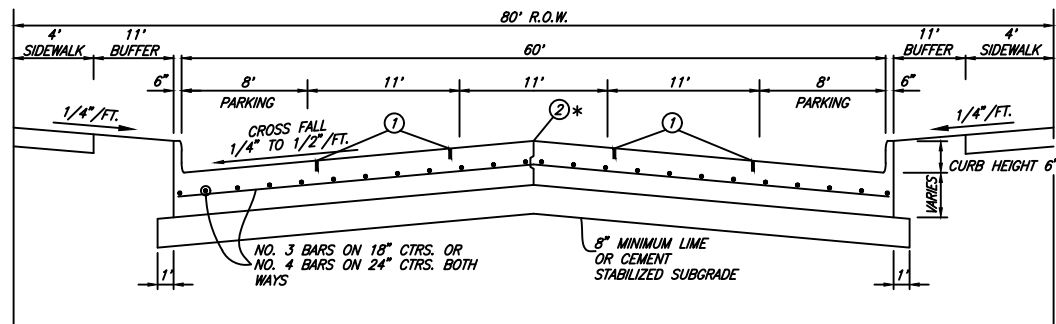
CONCRETE INDUSTRIAL LOCAL STREET WITH RIGHT TURN DECELERATION LANE SECTION



CONCRETE INDUSTRIAL STREET WITH DECELERATION LANE SECTION



CONCRETE INDUSTRIAL STREET REGULAR SECTION



MAJOR COLLECTOR WITH PARKING SECTION

LEGEND

- ① - SAWED LONGITUDINAL DUMMY JOINT
- ② - CONSTRUCTION JOINT (FULL WIDTH PVMT. IS ALLOWED WHERE APPROVED BY CITY)

Minimum Thickness	Arterial	Collector	Local	Truck Lane	Fire Lane	Industrial
Pavement	10"	10"	8"	12"	8"	12"
Subgrade	8"	8"	8"	8"	8"	8"

NOTE:  
LIME OR CEMENT SUBGRADE DESIGN TO BE RECOMMENDED BY GEOTECHNICAL ENGINEER AND MUST BE APPROVED BY THE PUBLIC WORKS DIRECTOR.



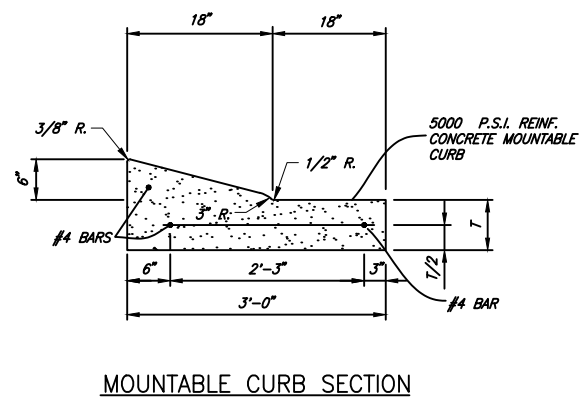
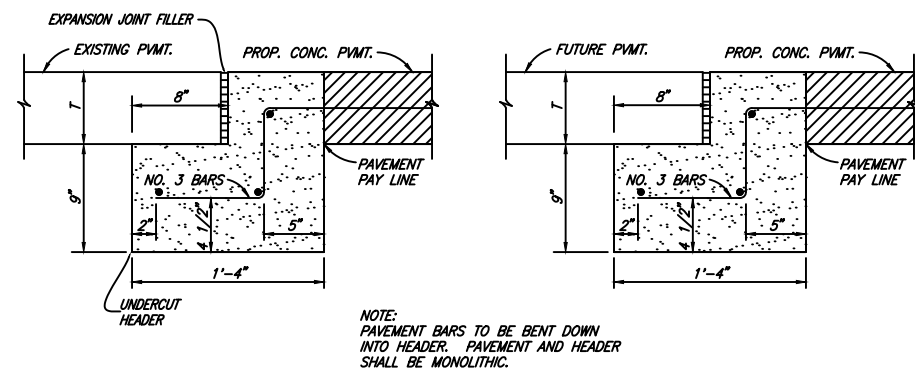
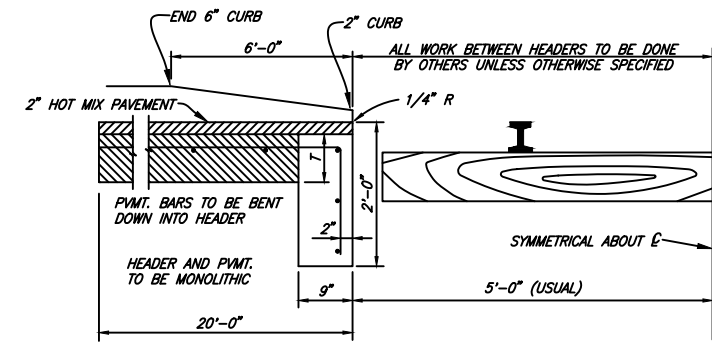
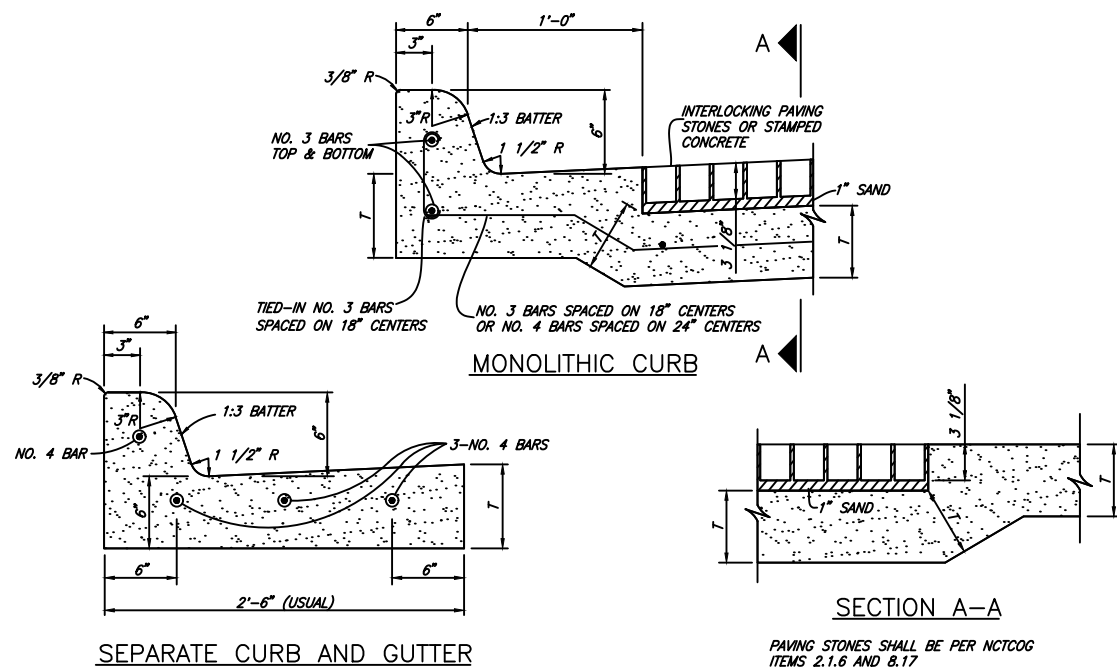
CITY OF DENISON, TEXAS

STANDARD CONSTRUCTION DETAILS  
PAVING / SECTIONS / LOCAL & COLLECTOR STREETS

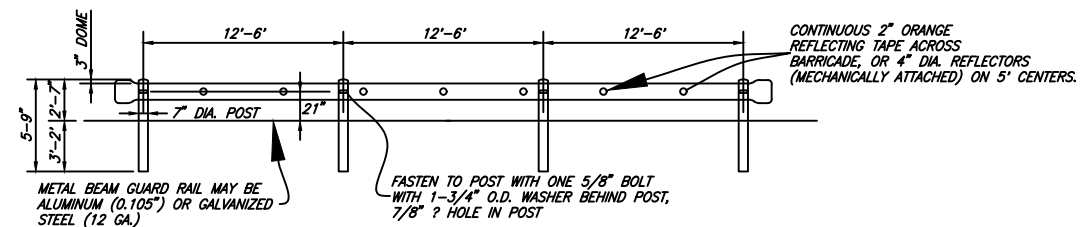
December, 2023

SHEET NO.

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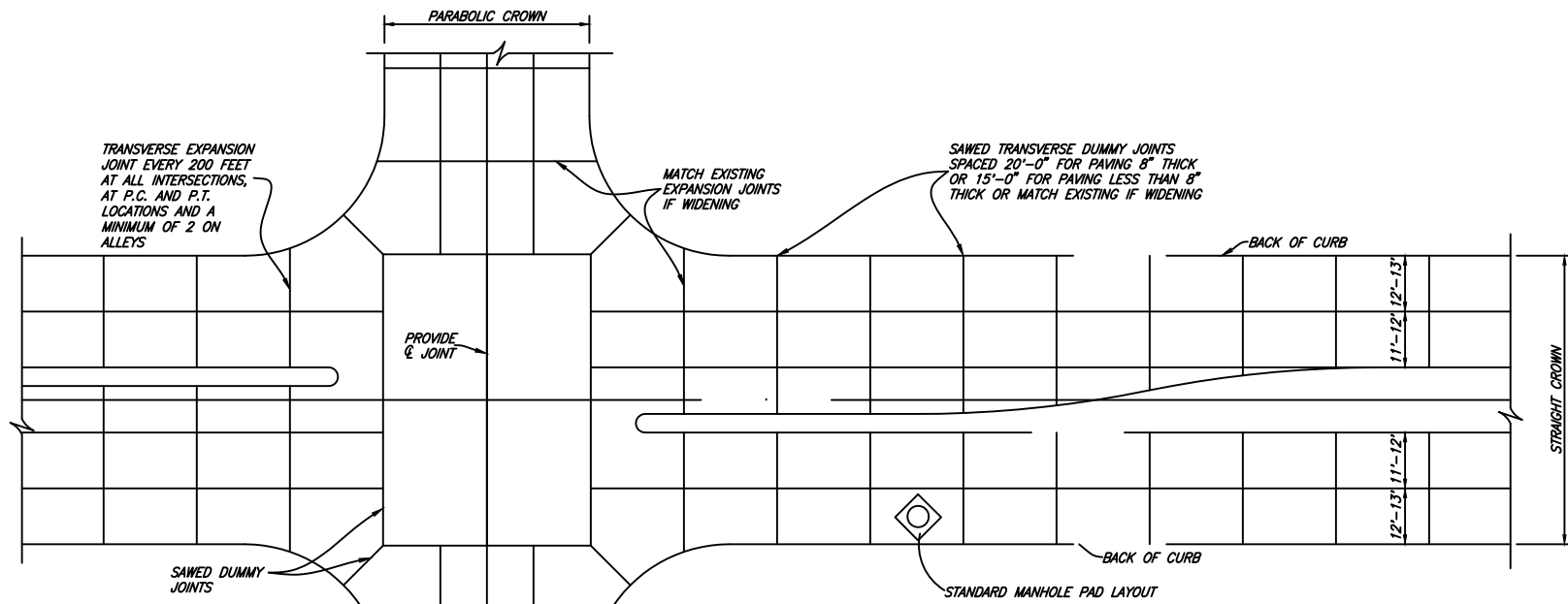


**CURB AND CURB AND GUTTER**  
(CURB-GUT)

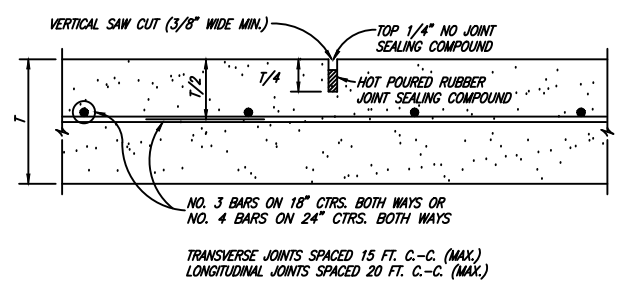


NON CONSTRUCTION BARRICADES (PERMANENT BARRICADES) SHALL CONSIST OF TxDOT GF(TD)-87 METAL BEAM GUARD FENCE WITH TERMINAL CONNECTOR SECTIONS AT EACH END. PERMANENT BARRICADES SHALL BE MANUFACTURED AND CONSTRUCTED IN ACCORDANCE WITH TxDOT DETAILS. BARRICADE SHALL EXTEND FROM OUTSIDE CURB TO OUTSIDE CURB.

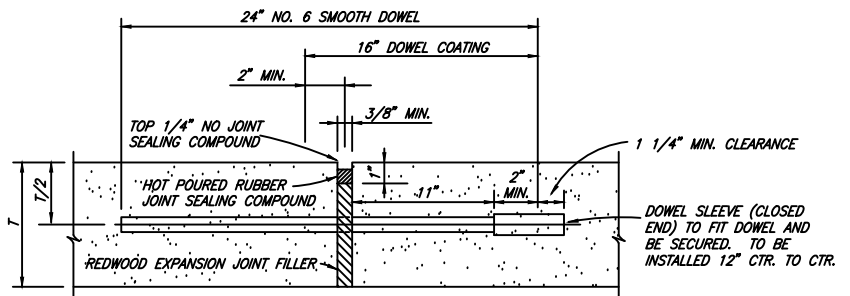




**SPACING DIAGRAM FOR TRANSVERSE JOINTS**  
(ROADWAYS AND ALLEYS)  
(JOINT-SPACING)

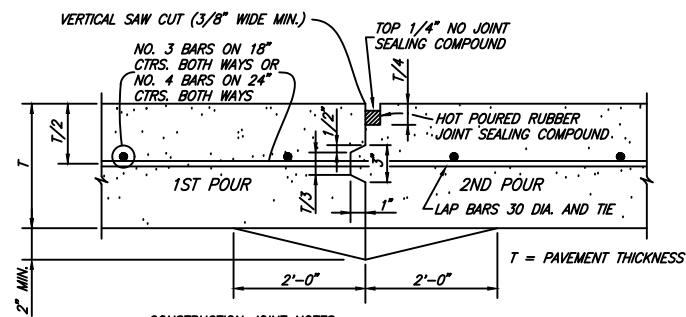


**SAWED DUMMY JOINT**  
(DUMMYJNT)



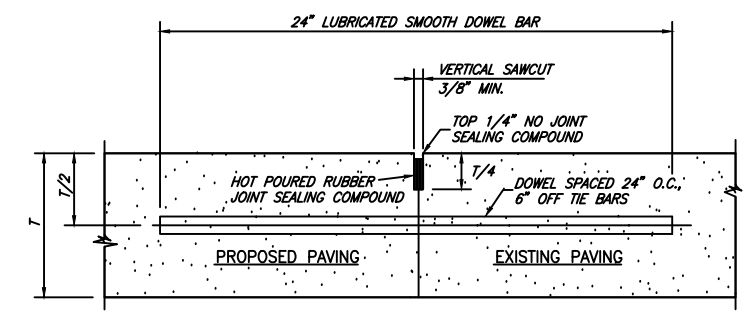
- TRANSVERSE EXPANSION JOINT NOTES:**
1. DOWELS AND REINFORCING BARS SHALL BE SUPPORTED BY AN APPROVED DEVICE.
  2. TRANSVERSE EXPANSION JOINTS SHALL BE SPACED AT 200 FT. MAXIMUM AND AT ALL INTERSECTIONS.

**TRANSVERSE EXPANSION JOINT**  
(EXPJNT)



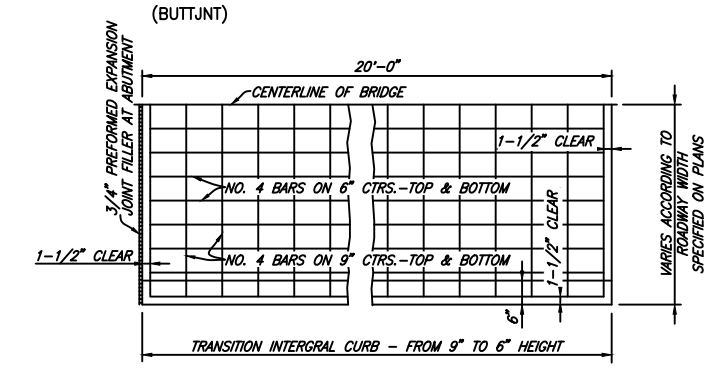
- CONSTRUCTION JOINT NOTES:**
1. CONTRACTOR SHALL PROTECT KEYWAY PRIOR TO SECOND POUR. IF LONGITUDINAL KEYWAY IS DAMAGED, CONTRACTOR SHALL REPAIR WITH THE USE OF LONGITUDINAL BUTT JOINT (DRILL DOWELS INTO FIRST POUR).
  2. THICKENED EDGES ARE REQUIRED FOR FUTURE WIDENING ONLY.

**CONSTRUCTION JOINT**  
(CONSTJNT)

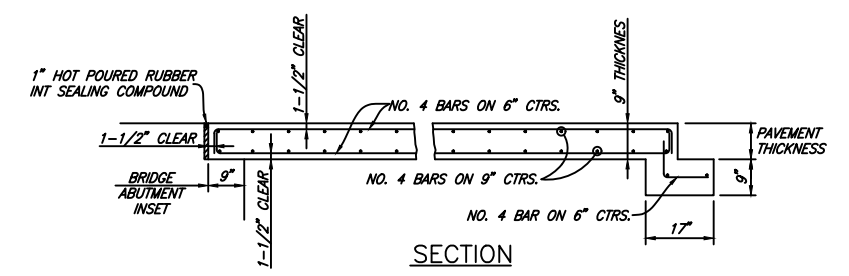


- NOTE:**
1. T-8" AND GREATER NO. 6 BAR, T-6" AND LESS NO. 5 BAR
  2. LONGITUDINAL BUTT CONSTRUCTION MAY BE UTILIZED IN PLACE OF LONGITUDINAL HINGED (KEYWAY) JOINT AT CONTRACTOR'S OPTION.
  3. DOWEL BARS SHALL BE DRILLED INTO PAVEMENT HORIZONTALLY BY USE OF A MECHANICAL RIG. HAND DRILLING NOT ACCEPTABLE. DAMAGE TO EXISTING PAVEMENT SHALL BE REMOVED BY CONTRACTOR AND JOINT CONSTRUCTED AT CONTRACTOR'S EXPENSE.
  4. DOWEL BAR SHOWN IS IN ADDITION TO TIE BARS (12" O.C.-6" OFF DOWELS).
  5. TIE BARS SHALL BE NO. 5 BAR DEFORMED. TIE BAR SHALL HAVE A LENGTH OF 24 INCHES.

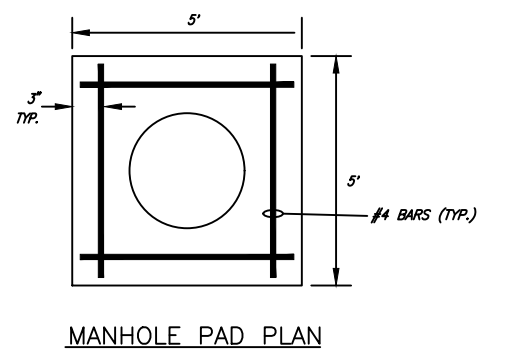
**LONGITUDINAL BUTT JOINT**  
(BUTTJNT)



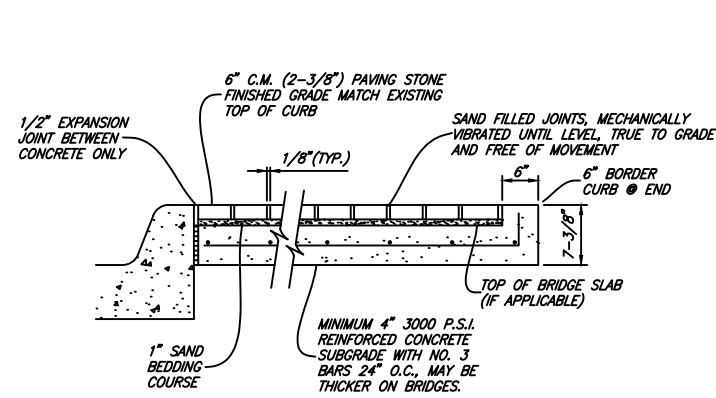
**PLAN**



**BRIDGE APPROACH SLAB**  
(APPROACHSLAB)



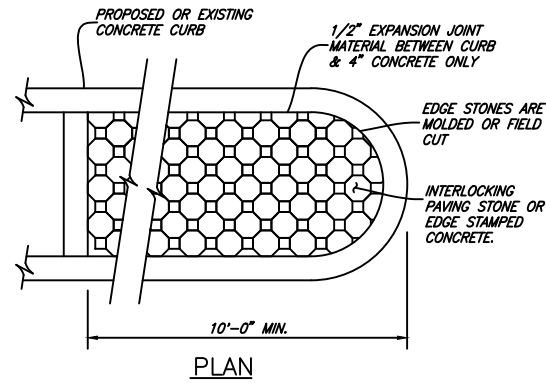
**MANHOLE PAD PLAN**



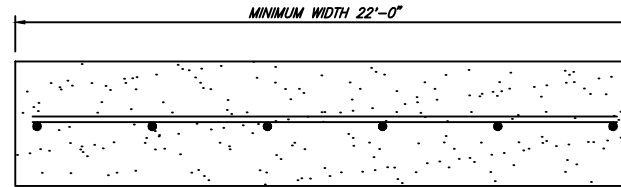
TYPICAL CROSS SECTION

STAMPED CONCRETE OR INTERLOCKING PAVING STONE

COLOR AND STYLE TO BE SELECTED BY CITY  
(MEDIAN\_STONE)



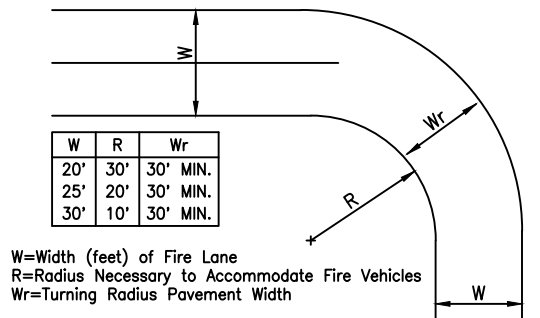
MEDIAN PAVING SHALL EXTEND TO A POINT WHERE MEDIAN IS 6' WIDE. IF MEDIAN IS 6' WIDE, SHALL EXTEND 15' FROM NOSE. FOR MEDIANS WIDER THAN 6', PAVING SHALL EXTEND 10' FROM NOSE. ALL DISTANCES ARE MINIMUM.



1. ALL FIRE LANES SHALL BE PAVED WITH A MINIMUM OF 8 INCHES OF 3600 P.S.I. CONCRETE REINFORCED WITH #3 REBAR PLACED ON 18 INCH CENTERS EACH WAY ON A 8 INCH LIME STABILIZED SUBGRADE. THE SUBGRADE SHALL BE STABILIZED IN SUFFICIENT AMOUNT PER APPROVED GEOTECHNICAL DESIGN TO REDUCE THE PLASTICITY INDEX BELOW FIFTEEN (15). SURFACE AREA TREATED TO A MINIMUM 8 INCH THICKNESS.

2. ALL FIRE LANES MAY BE PAVED WITH 8 INCHES OF 3600 P.S.I. CONCRETE (28 DAYS COMPRESSIVE STRENGTH) REINFORCED WITH #3 REBAR PLACED ON 18 INCH CENTERS EACH WAY ON A SUBGRADE SCARIFIED AND COMPACTED TO AT LEAST 95% STANDARD PROCTOR DENSITY. CONTRACTION JOINTS SHALL BE SPACED AT A MAXIMUM OF 15.5 FEET ON CENTERS EACH WAY. CONTRACTION JOINTS MAY BE DUMMY OR SAWED JOINTS TO A DEPTH OF AT LEAST ONE (1) INCH DEEP. TO ENSURE PROPER RUNOFF IN ORDER TO PREVENT PONDING, THE PAVEMENT SURFACE SHOULD HAVE A MINIMUM SLOPE OF 1/2% (1/2" PER 100 FEET).

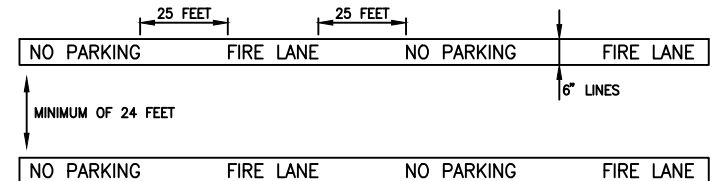
3. ALTERNATE PAVING DESIGN: IN LIEU OF ITEMS LISTED ABOVE, THE DEVELOPER MAY SUBMIT AN ENGINEERED DESIGN THAT WILL BE EQUIVALENT IN PERFORMANCE OF THE SPECIFICATIONS ABOVE. THE EQUIVALENT DESIGN MUST TAKE INTO ACCOUNT THE SOIL CONDITIONS OF THE SITE TO BE DEVELOPED. SUCH DESIGN SHALL REQUIRE APPROVAL BY PUBLIC WORKS DIRECTOR.



W	R	Wr
20'	30'	30' MIN.
25'	20'	30' MIN.
30'	10'	30' MIN.

W=Width (feet) of Fire Lane  
R=Radius Necessary to Accommodate Fire Vehicles  
Wr=Turning Radius Pavement Width

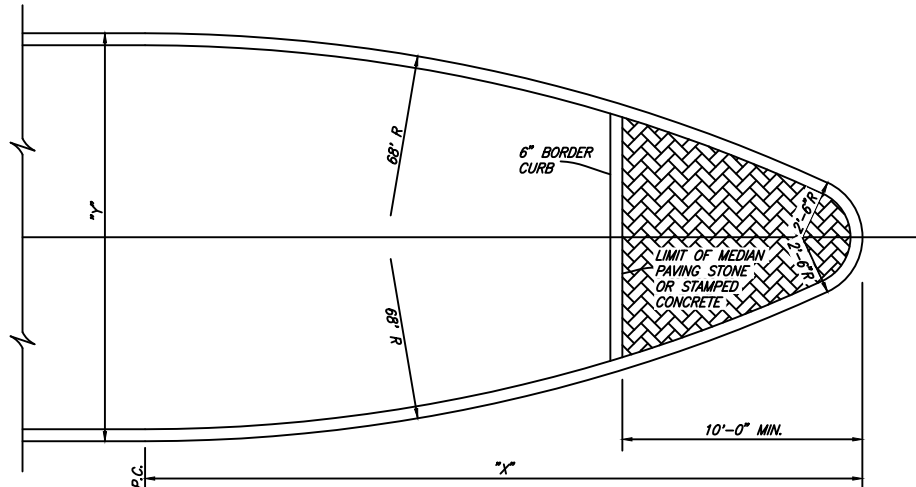
FIRE LANE DESIGN



1. THE FIRE CHIEF IS AUTHORIZED TO DESIGNATE FIRE LANES.
2. FIRE LANES SHALL BE MARKED BY SIX INCH (6") WIDE LINES USING RED TRAFFIC PAINT, WITH THE WORDING "NO PARKING" AND "FIRE LANE" PAINTED ON THE LINES AT INTERVALS OF TWENTY-FIVE (25'). THE LETTERING WILL BE FOUR INCHES (4") HIGH WITH A ONE INCH (1") WIDE STROKE PAINTED WITH WHITE TRAFFIC PAINT.
3. FIRE LANES SHALL BE A MINIMUM OF TWENTY-FOOT (24') IN WIDTH.
4. ANY DEAD-END FIRE LANE MORE THAN ONE HUNDRED FIFTY-FOOT (150') LONG SHALL PROVIDE A TURN AROUND OF ONE HUNDRED FEET (100') IN DIAMETER AT THE CLOSED END, IN ACCORDANCE WITH THE CITY OF LANCASTER CUL-DE-SAC PLAN DRAWING NO. 6F-7.

FIRE LANE MARKING

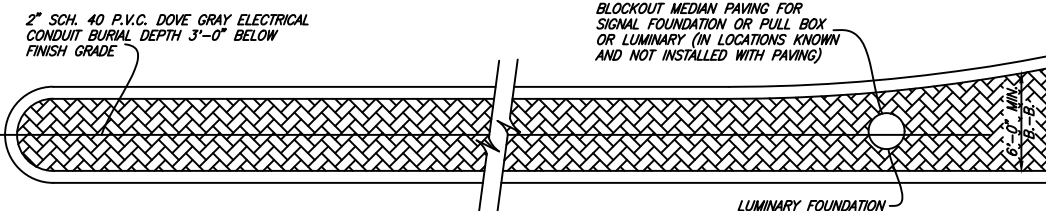
(FIRELANE)



DETAIL OF NOSE FOR MEDIAN ISLAND

DIMENSIONS OF MEDIAN NOSE

X = 13.90'	Y = 7.0'	X = 26.36'	Y = 14.0'
X = 16.44'	Y = 8.0'	X = 29.89'	Y = 17.0'
X = 18.06'	Y = 9.0'	X = 32.93'	Y = 20.0'
X = 20.42'	Y = 10.0'	X = 36.47'	Y = 24.0'

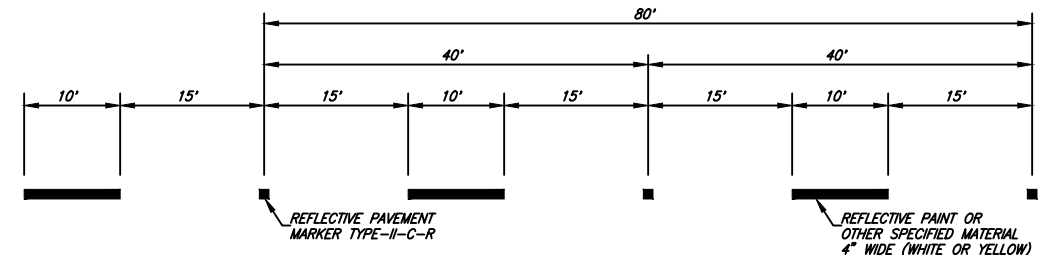


DETAIL OF MEDIAN PAVEMENT

(MEDIAN\_DTL)

FIRE LANE PAVING & JOINT DETAIL

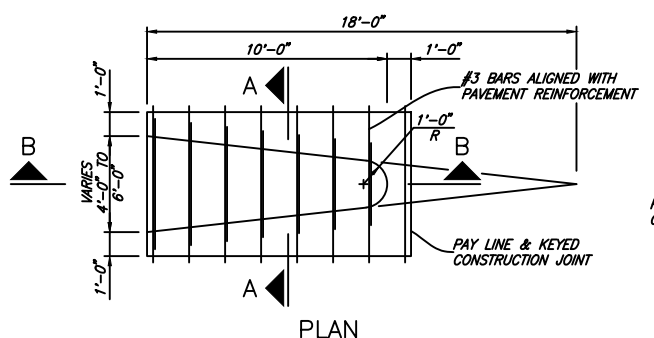
(FIRELANEJNT)



PAVEMENT MARKERS (REFLECTORIZED) TYPE II-C-R SHALL BE SPACED ON 40' CENTERS WITH THE CLEAR FACE TOWARD NORMAL TRAFFIC AND THE RED FACE TOWARD THE WRONG WAY TRAFFIC.

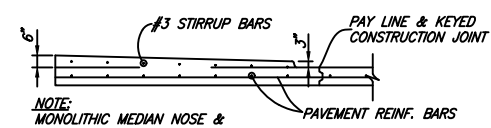
LANE LINE PAVEMENT MARKING

(MARKING)

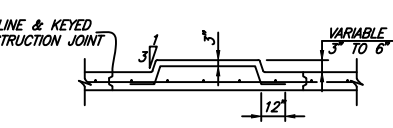


MONOLITHIC MEDIAN NOSE

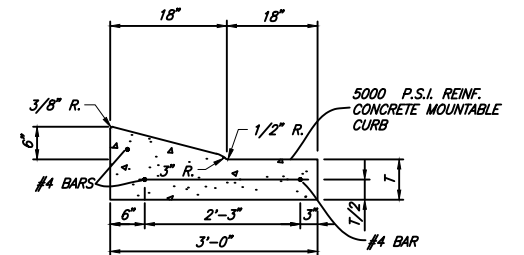
(MONO\_MEDIAN)



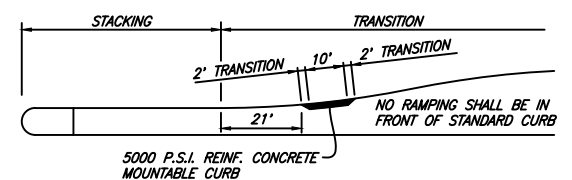
SECTION B-B



SECTION A-A



MOUNTABLE CURB SECTION



MOUNTABLE CURB DETAIL-PLAN VIEW

LANDSCAPE MAINTENANCE RAMP

(LANDSCAPE\_RAMP)



CITY OF DENISON, TEXAS

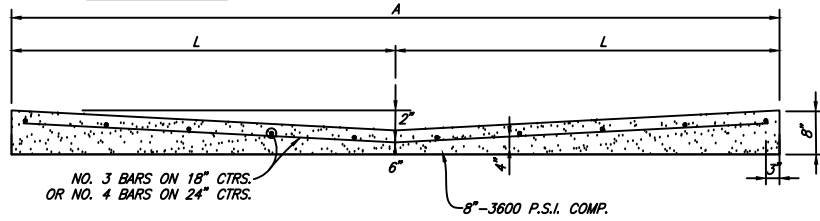
STANDARD CONSTRUCTION DETAILS  
PAVING / DETAILS

December, 2023

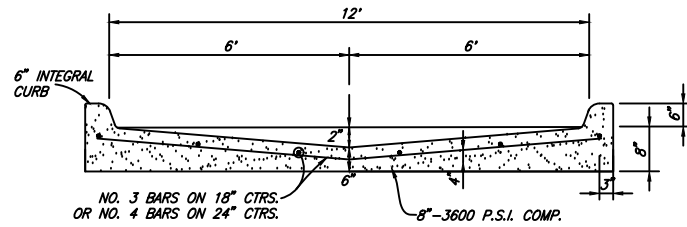
SHEET NO.

7

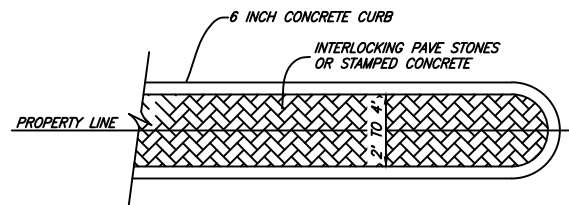
ALLEY WIDTH (A)	HALF WIDTH (L)
12'	6'
16'	8'
20'	10'



**STANDARD 12, 16' & 20' ALLEY SECTION**  
(STDALLEY2)

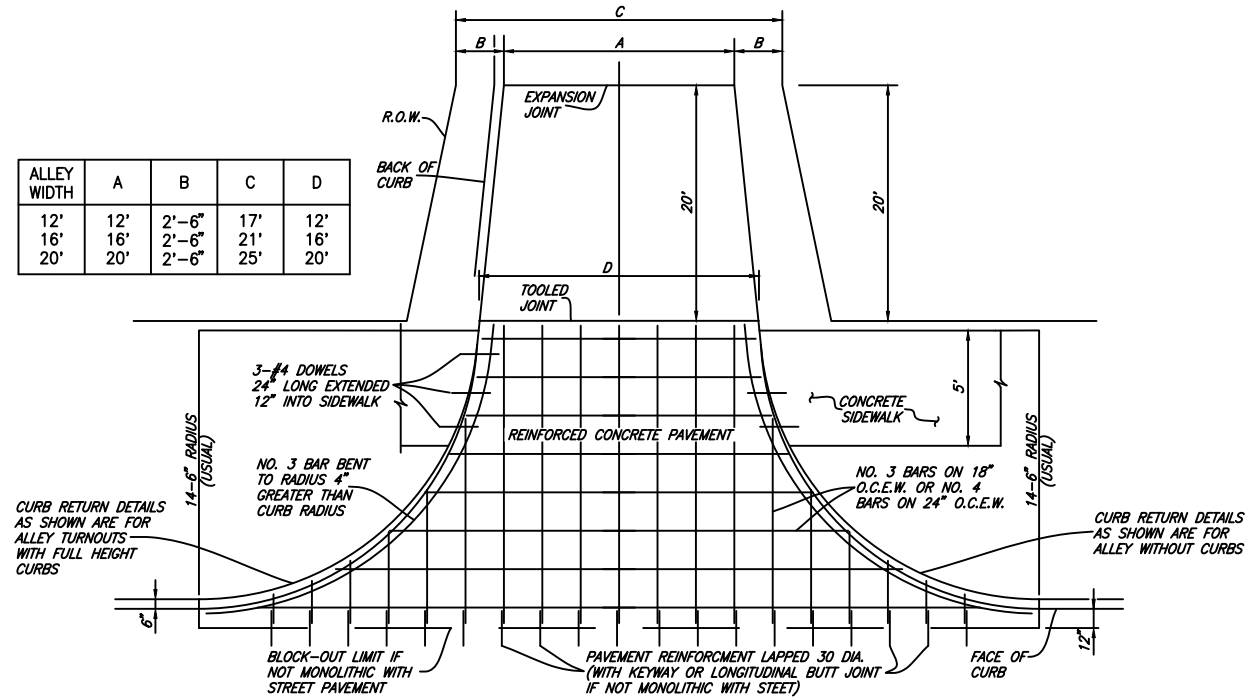


**ALLEY SECTION WITH CURBS**  
(STDALLEY)

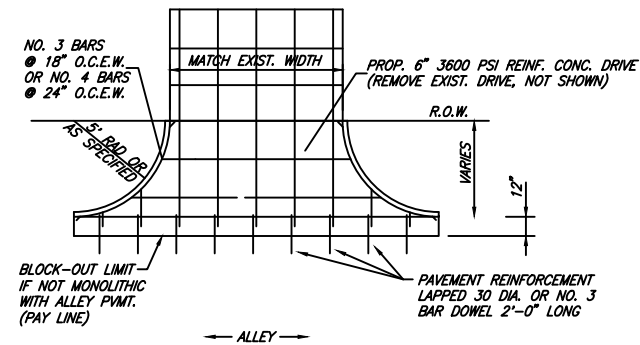


**MEDIAN AT DRIVEWAYS SPLIT BY PROPERTY LINE**  
(DRIVEDTL3)

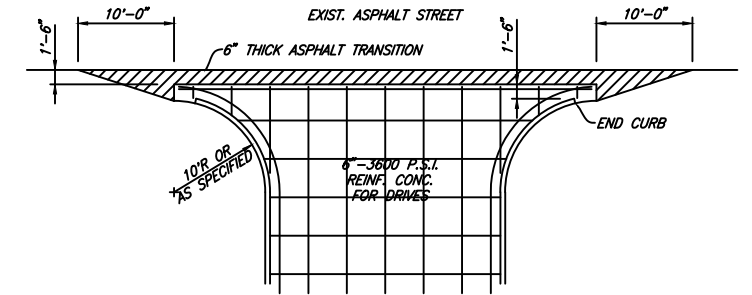
ALLEY WIDTH	A	B	C	D
12'	12'	2'-6"	17'	12'
16'	16'	2'-6"	21'	16'
20'	20'	2'-6"	25'	20'



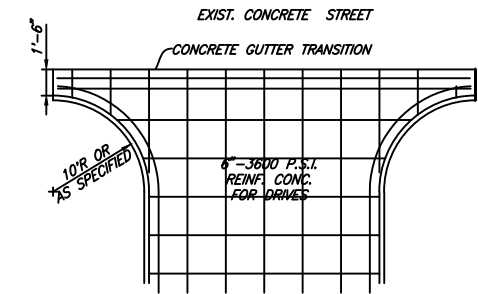
**ALLEY RETURN DETAILS**  
(ALLEY\_DTL)



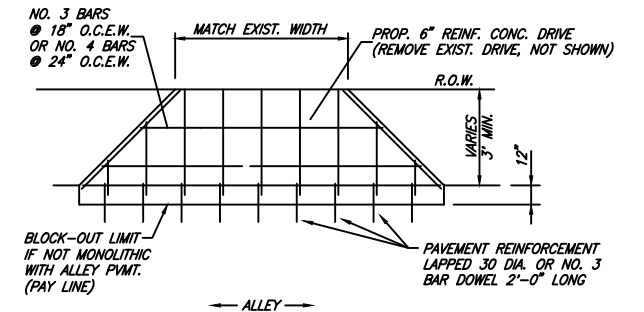
**DRIVEWAY RETURN TO ALLEY WITH CURBS**  
(DRIVEDTL2)



**TYPICAL DRIVE OR STREET CONNECTION TO EXISTING ASPHALT STREET**  
(DRIVE\_CON)



**TYPICAL DRIVE OR STREET CONNECTION TO EXISTING CONCRETE STREET**  
(DRIVE\_CON)



**STANDARD DRIVEWAY RETURN TO ALLEY**  
(DRIVEDTL2)



**CITY OF DENISON, TEXAS**

STANDARD CONSTRUCTION DETAILS  
PAVING / ALLEY / DRIVEWAYS

December, 2023

SHEET NO.

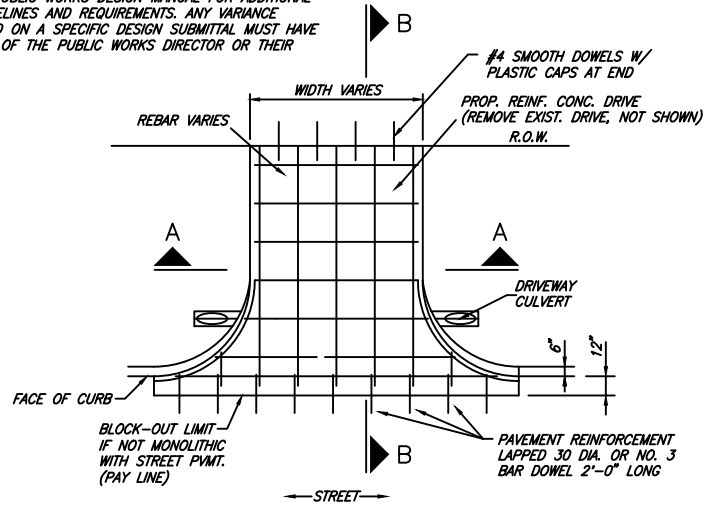
8



	RESIDENTIAL	COMMERCIAL	INDUSTRIAL
MIN. WIDTH	12' B-B	30' B-B	30' B-B
RADIUS	5'	30'	30'
MIN. THICKNESS	6"	8"	8"
REBAR	#3 BARS @ 18" O.C.	#4 BARS @ 18" O.C.	#4 BARS @ 12" O.C.

NOTE:

ALL DRIVEWAYS SHALL BE HAND POURED. ALSO SEE SECTION 1 OF THE DENISON PUBLIC WORKS DESIGN MANUAL FOR ADDITIONAL DRIVEWAY GUIDELINES AND REQUIREMENTS. ANY VARIANCE GRANTED BASED ON A SPECIFIC DESIGN SUBMITTAL MUST HAVE THE APPROVAL OF THE PUBLIC WORKS DIRECTOR OR THEIR DESIGNEE.

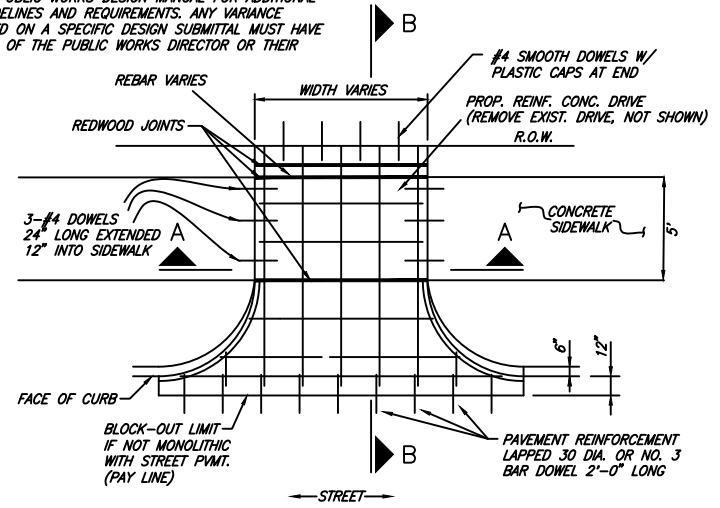


(CONCRETE) DRIVEWAY RETURN TO STREET WITH CULVERT

	RESIDENTIAL	COMMERCIAL	INDUSTRIAL
MIN. WIDTH	12' B-B	30' B-B	30' B-B
RADIUS	5'	30'	30'
MIN. THICKNESS	6"	8"	8"
REBAR	#3 BARS @ 18" O.C.	#4 BARS @ 18" O.C.	#4 BARS @ 12" O.C.

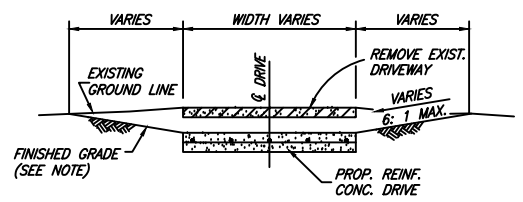
NOTE:

ALL DRIVEWAYS SHALL BE HAND POURED. ALSO SEE SECTION 1 OF THE DENISON PUBLIC WORKS DESIGN MANUAL FOR ADDITIONAL DRIVEWAY GUIDELINES AND REQUIREMENTS. ANY VARIANCE GRANTED BASED ON A SPECIFIC DESIGN SUBMITTAL MUST HAVE THE APPROVAL OF THE PUBLIC WORKS DIRECTOR OR THEIR DESIGNEE.



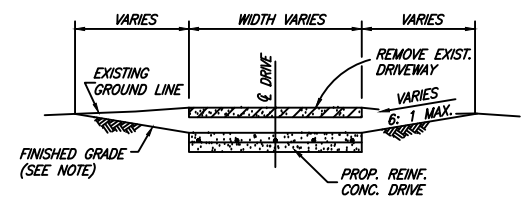
(CONCRETE) DRIVEWAY RETURN TO STREET

NOTE: FINISHED GRADING WITHIN THE R.O.W. SHALL BE BROADCAST SEEDED. WHERE PROPOSED DRIVEWAY CONSTRUCTION GOES BEYOND THE R.O.W. AND INTO PRIVATE PROPERTY, THE FINISHED GRADING SHALL BE BLOCK SODDED TO RESTORE THE LANDSCAPING TO ITS PRE-CONSTRUCTION APPEARANCE.

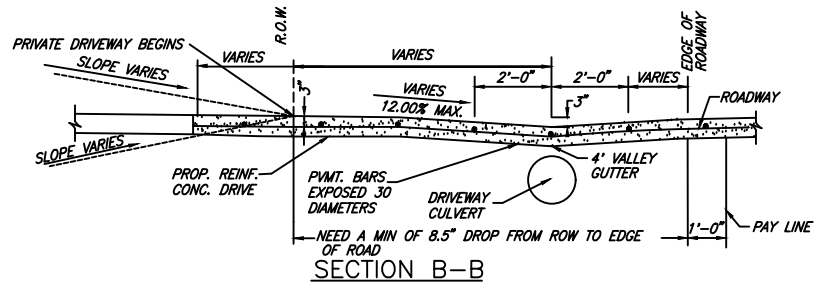


SECTION A-A

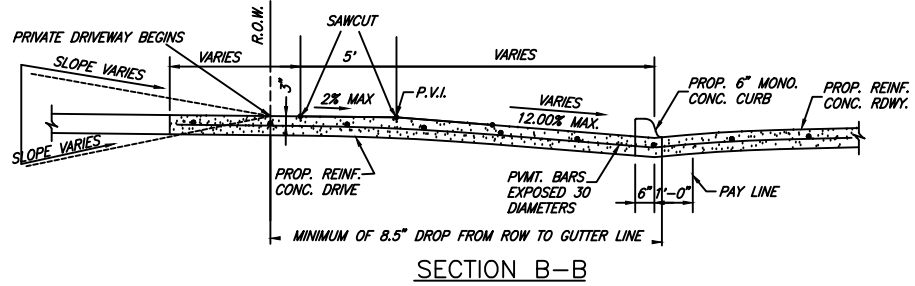
NOTE: FINISHED GRADING WITHIN THE R.O.W. SHALL BE BROADCAST SEEDED. WHERE PROPOSED DRIVEWAY CONSTRUCTION GOES BEYOND THE R.O.W. AND INTO PRIVATE PROPERTY, THE FINISHED GRADING SHALL BE BLOCK SODDED TO RESTORE THE LANDSCAPING TO ITS PRE-CONSTRUCTION APPEARANCE.



SECTION A-A



DRIVEWAY RETURN SECTIONS (DRIVEDTL)



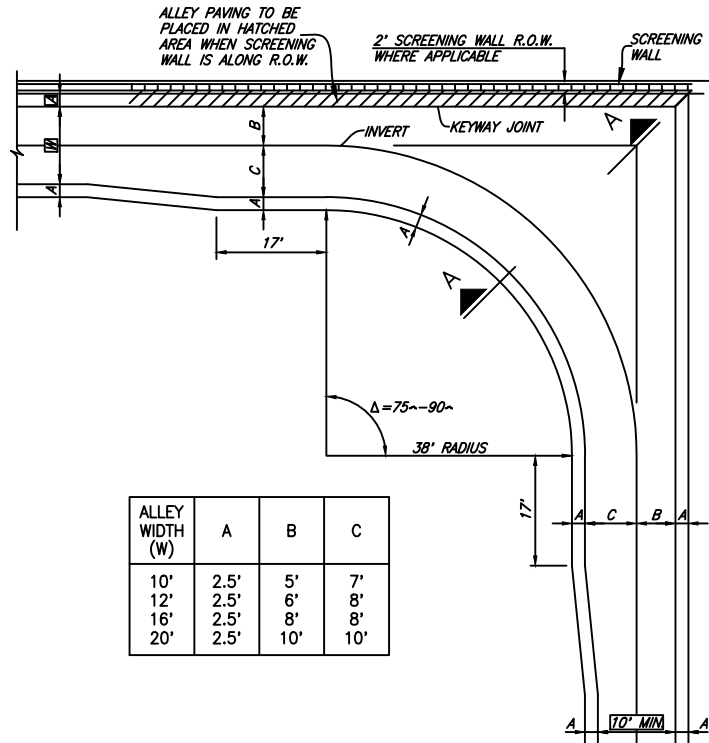
DRIVEWAY RETURN SECTIONS (DRIVEDTL)



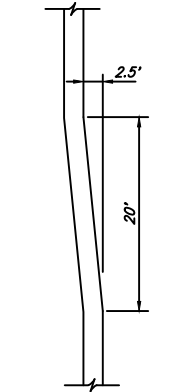
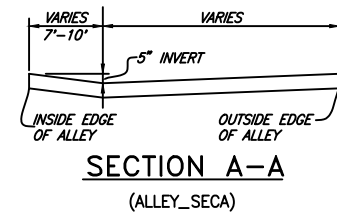
**CITY OF DENISON, TEXAS**  
STANDARD CONSTRUCTION DETAILS  
PAVING / ALLEY / DRIVEWAYS

December, 2023

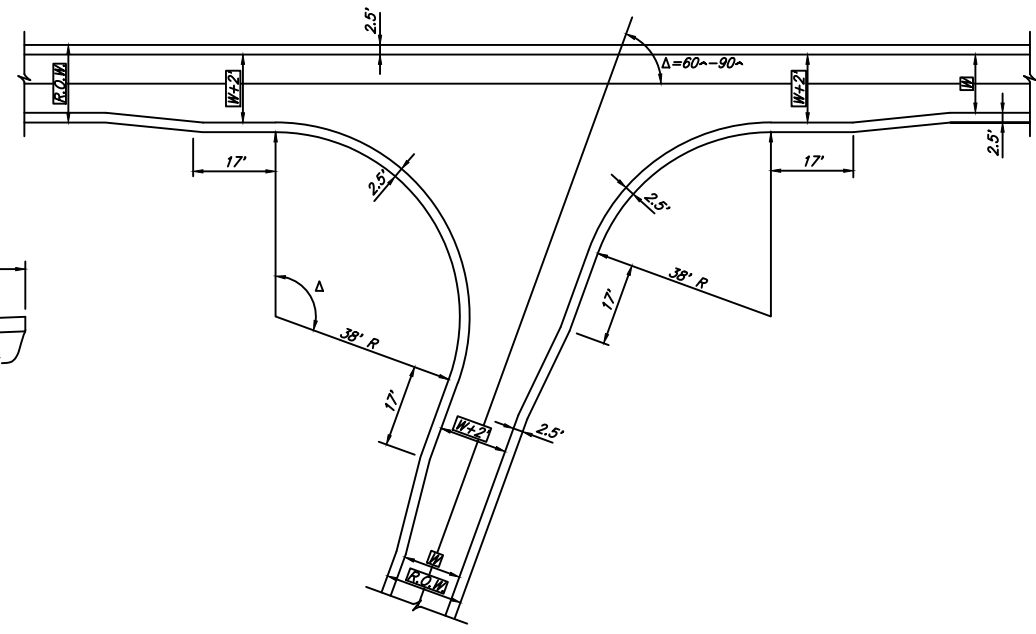
SHEET NO.  
**9**



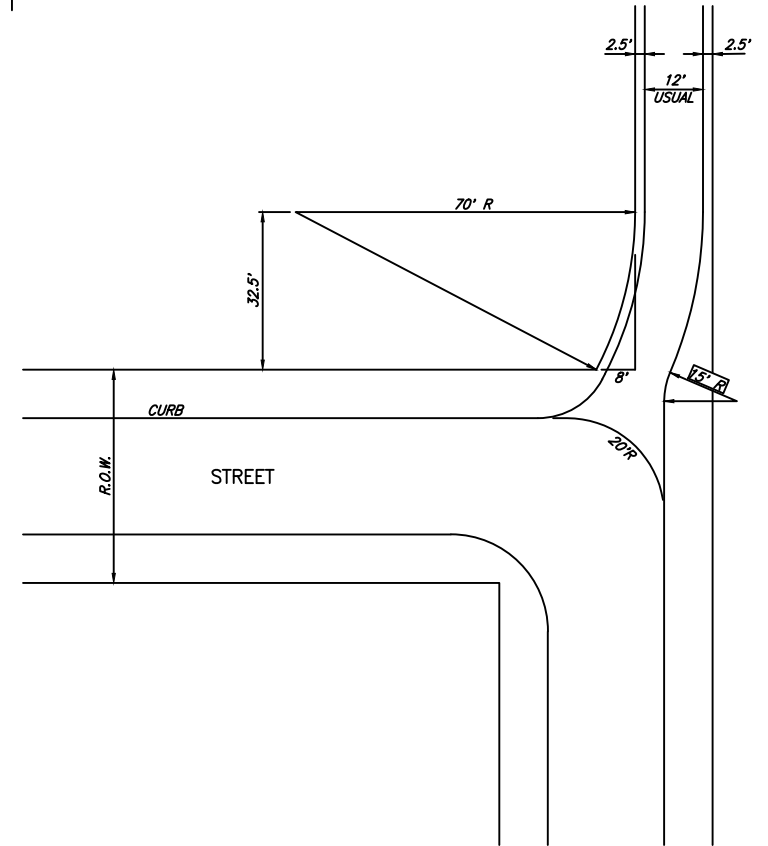
ALLEY TURN FOR  $\Delta = 75^\circ-90^\circ$   
(ALLEY\_TURN3)



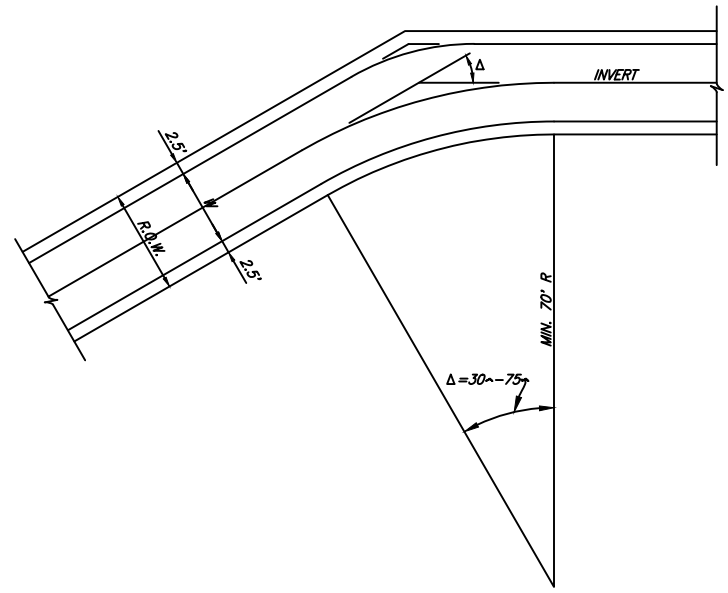
DETAIL "A"  
(ALLEY\_DTLA)



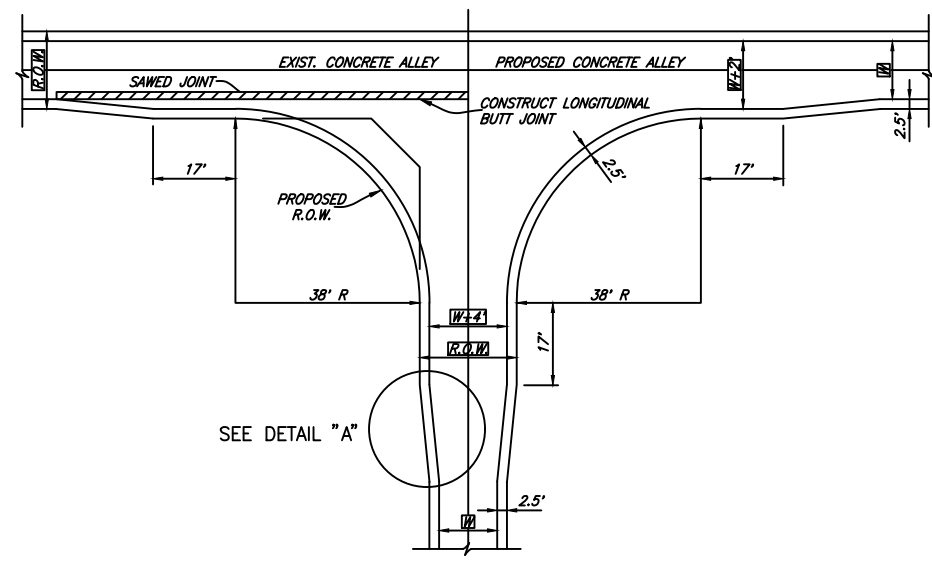
ALLEY TURN FOR  $\Delta > 90^\circ$   
(ALLEY\_TURN2)



ALLEY / STREET INTERSECTION  
(ALLEY\_ST)



ALLEY TURN FOR  $\Delta = 30^\circ-75^\circ$   
(ALLEY\_TURN)



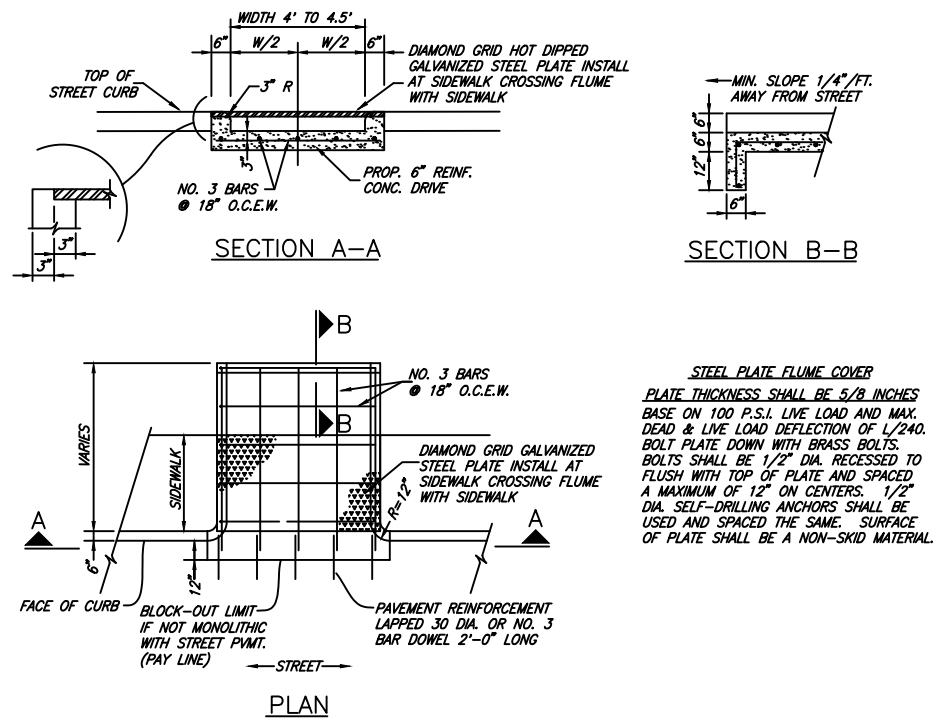
ALLEY INTERSECTING ALLEY  
(ALLEY\_ALLEY)



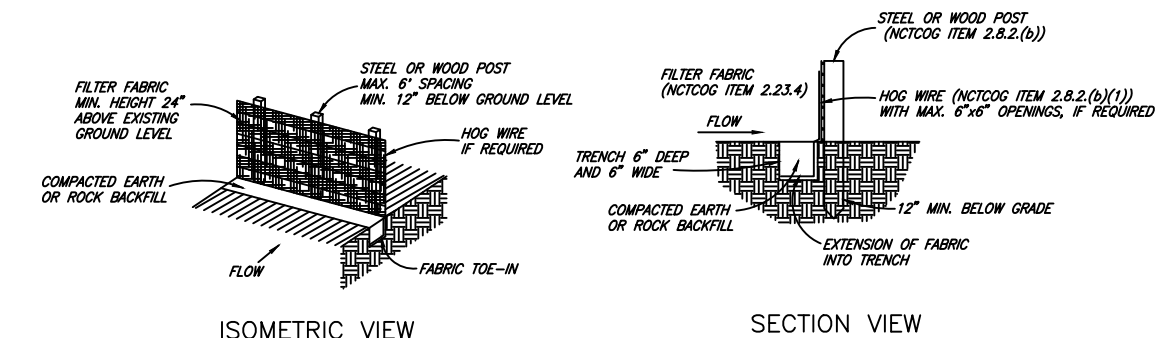
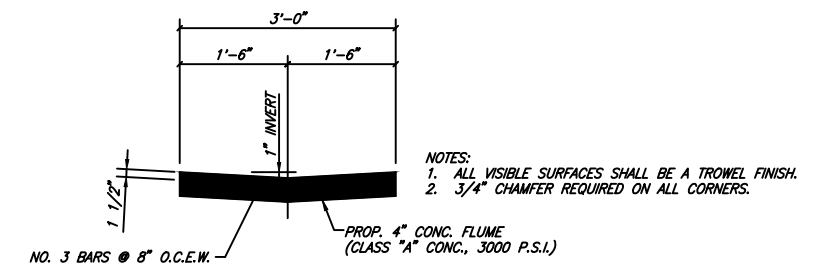
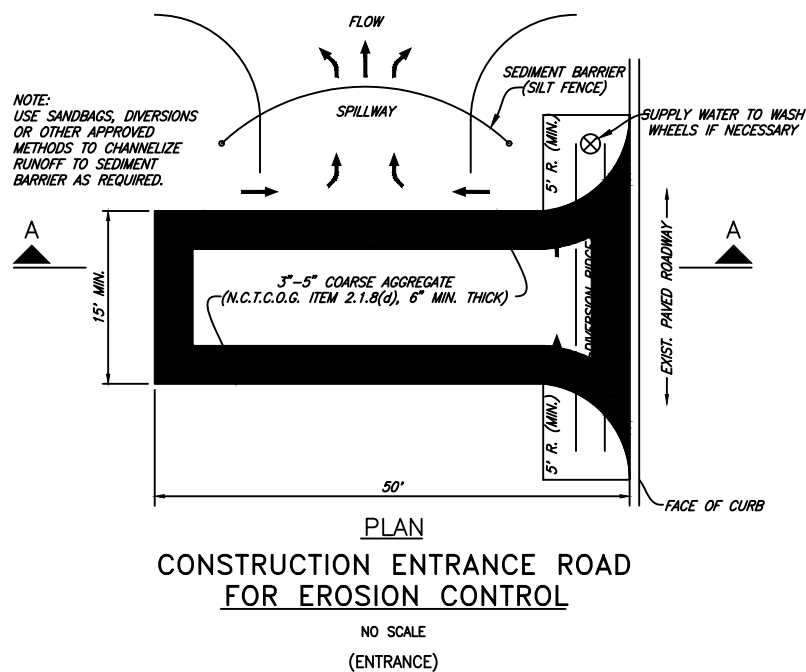
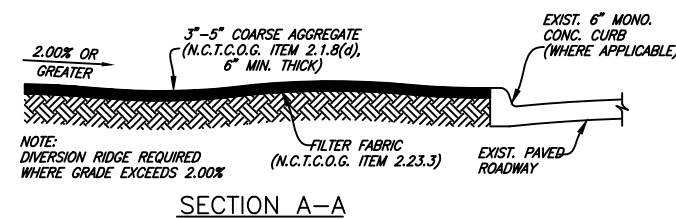
**CITY OF DENISON, TEXAS**  
STANDARD CONSTRUCTION DETAILS  
PAVING / GEOMETRICS

December, 2023

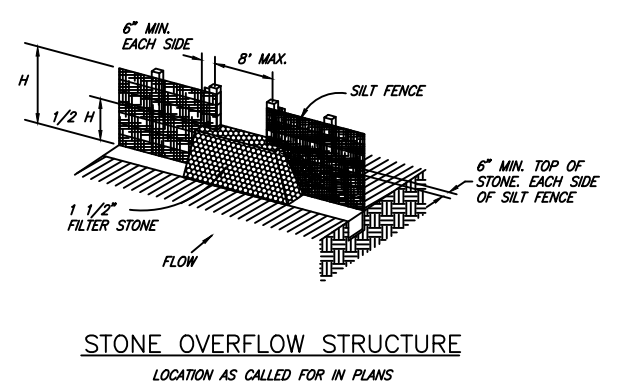
SHEET NO.  
**10**



**REINFORCED CONCRETE FLUME WITH CURBS**  
 (FLUME)

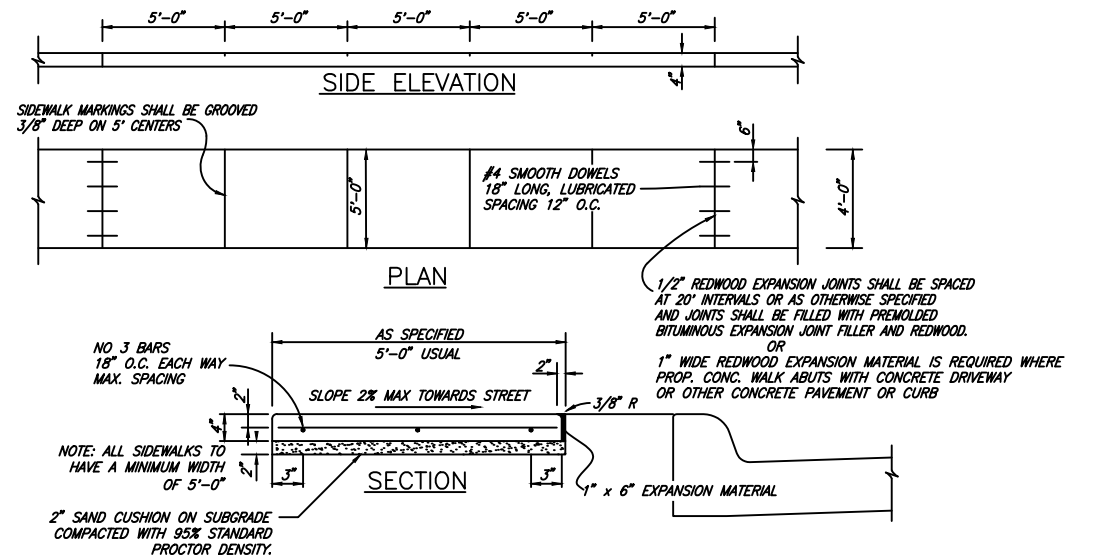
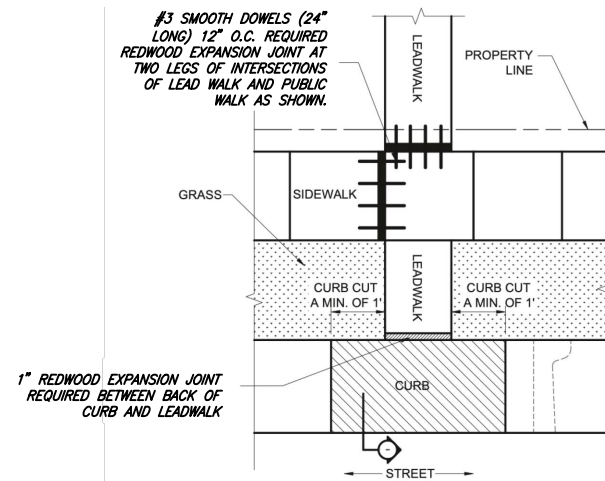
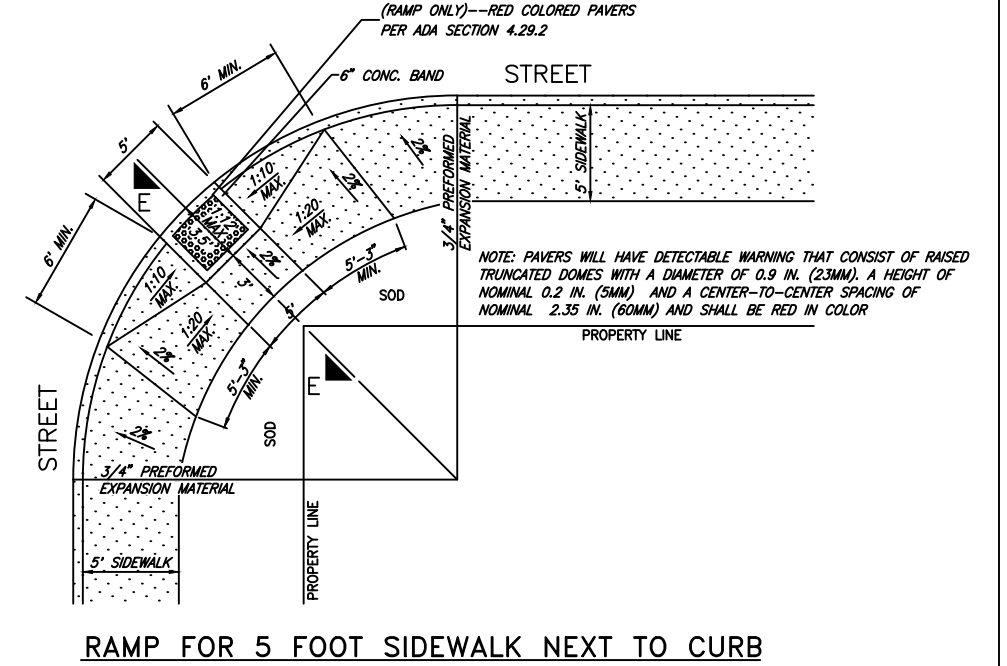
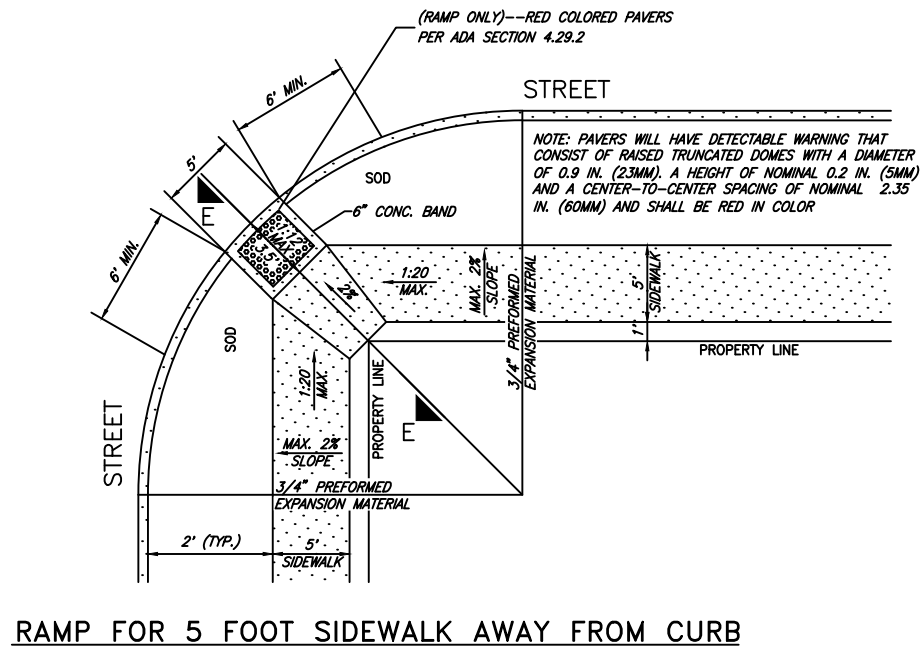
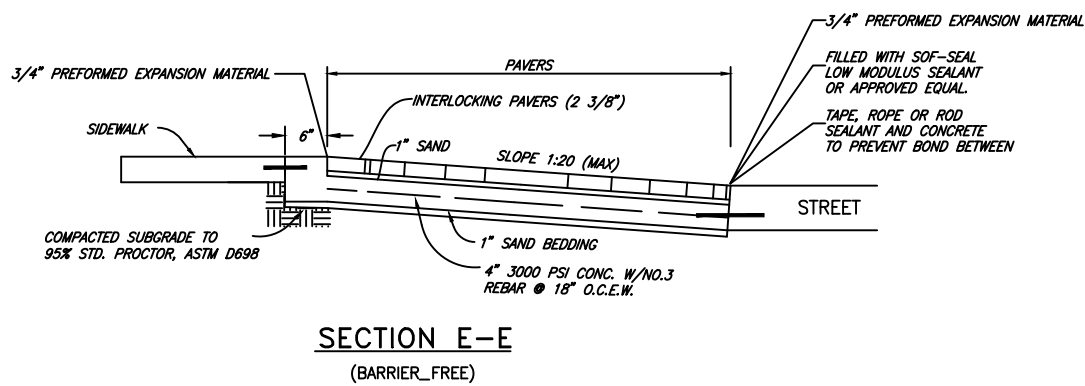
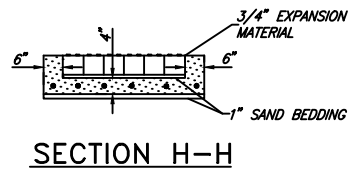
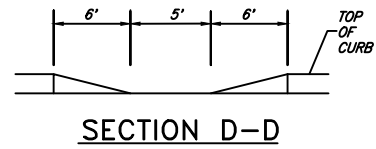
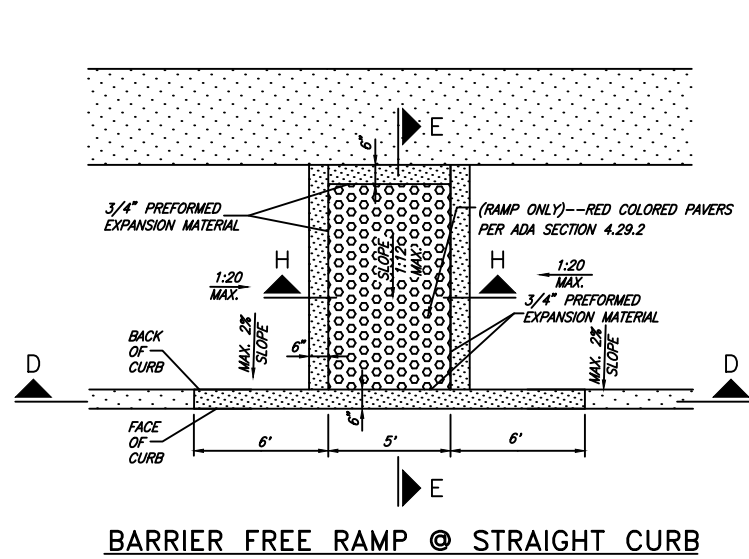


**SILT FENCE DETAIL**



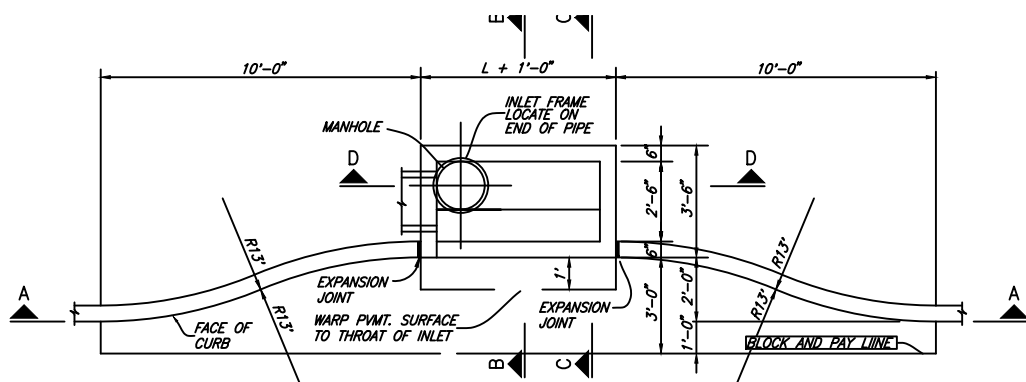
**EROSION CONTROL**  
 (SILT-DTL)

- NOTES:
- 1) THE CONTRACTOR SHALL INSPECT SILT FENCE WEEKLY AND AFTER MAJOR RAIN EVENTS TO ENSURE THAT THE DEVICE IS FUNCTIONING PROPERLY AND MAINTAIN IN ACCORDANCE WITH NCTCOG ITEM 3.12.
  - 2) THE CONTRACTOR SHALL REMOVE SEDIMENT FROM BEHIND FENCE WHEN THE DEPTH OF SEDIMENT HAS BUILT UP TO ONE-THIRD THE HEIGHT OF THE FENCE ABOVE GRADE.
  - 3) THE CONTRACTOR SHALL INSPECT THE BASE OF THE FENCE TO ENSURE THAT NO GAPS HAVE DEVELOPED AND RE-TRENCH AS NECESSARY.
  - 4) THE CONTRACTOR SHALL INSPECT FENCE POSTS TO ENSURE THAT THEY ARE PROPERLY SUPPORTING THE FENCE. IF NECESSARY, THE CONTRACTOR SHALL RESET AND ADD POSTS.
  - 5) IF FILTER FABRIC IS RIPPED, DAMAGED OR DETERIORATED, THE CONTRACTOR SHALL REPLACE IT IN ACCORDANCE WITH THE ORIGINAL SPECIFICATIONS AND DETAILS. (MAINTENANCE OF THE SILT FENCE SHALL BE AT THE CONTRACTORS OWN EXPENSE)

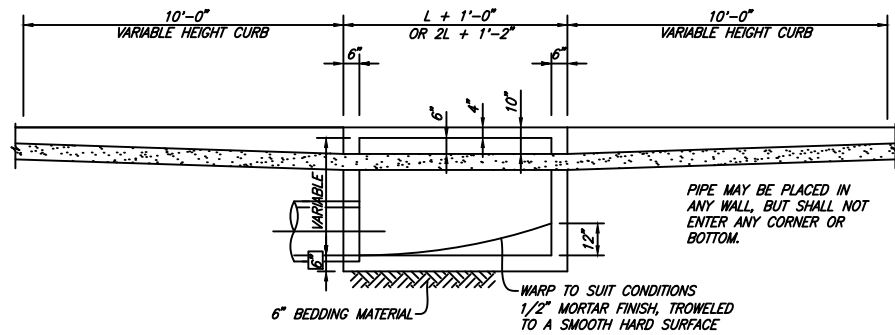


**REINFORCED CONCRETE SIDEWALK  
(SIDEWALK)**

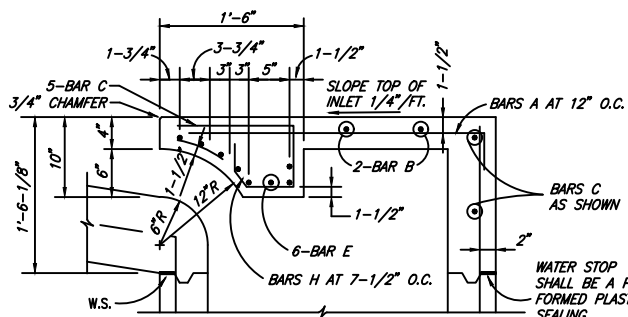




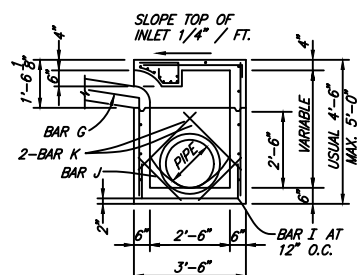
**PLAN - RECESSED INLET**  
(REC-INT1)



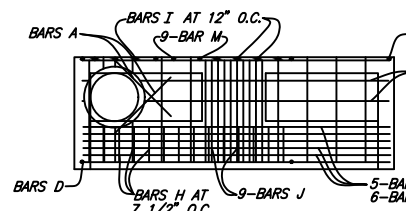
**SECTION A-A-RECESSED AND STANDARD INLETS**  
**10 FOOT INLETS**  
(PLAN-10)



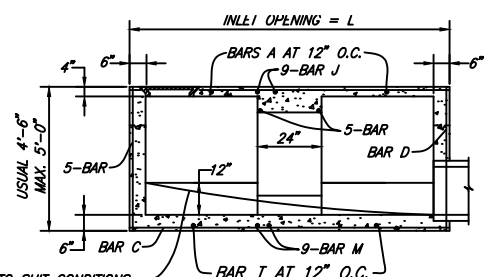
**SECTION C-C**  
(SECT\_C-C)



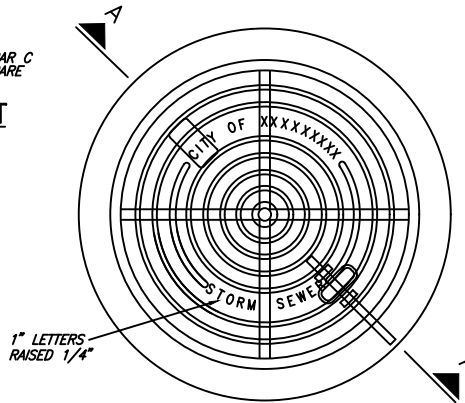
**SECTION B-B**  
(SECT\_B-B)



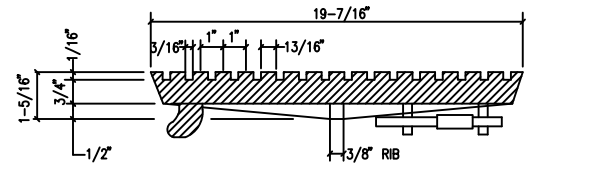
**PLAN - STANDARD INLET**  
(PLAN\_STDINL)



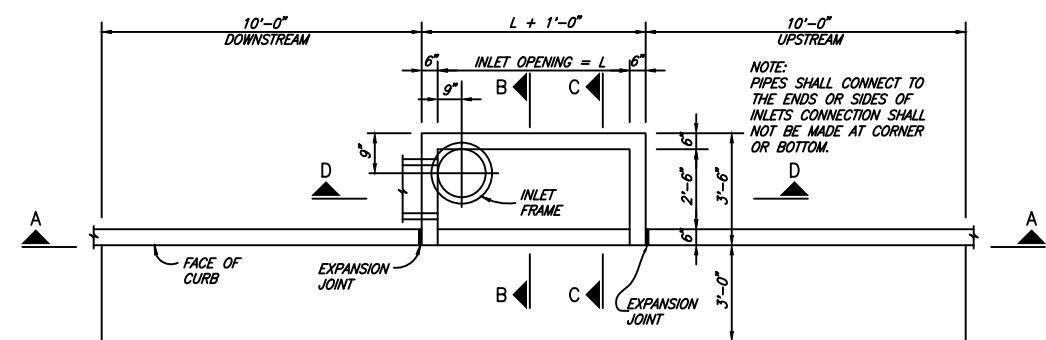
**SECTION D-D - STANDARD AND RECESSED INLETS**  
(SECT\_A-A1)



**PLAN OF COVER**



**SECTION OF FRAME AND COVER SECTION A-A**  
**INLET FRAME AND COVER**  
BASS & HAYS COVER 55#, FRAME 45# OR EQUAL  
(MH-COV4)



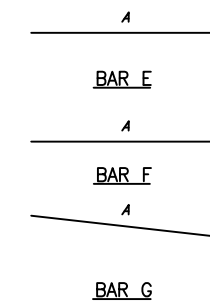
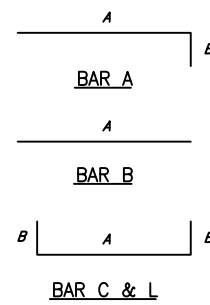
**PLAN - STANDARD INLET**  
**10 FOOT INLETS**  
(STDINLT1)

**REINFORCING STEEL SCHEDULE**

DIMENSIONS SHOWN ARE FOR MAXIMUM SIZE INLETS

INLET LENGTH	BAR TYPE	BAR DIA. (1/8 IN.)	NO. REQ'D	BAR DIMENSIONS		
				A	B	C
10	A	3	13	3'-2"	0'-3"	-
	B	3	2	8'-10"	-	-
	C	4	16	10'-8"	0'-6"	-
	D	4	4	4'-8"	-	-
	E	5	6	10'-8"	-	-
	G	3	5	2'-0"	1'-3"	-
	H	3	14	*	*	*
	I	4	8	4'-8"	3'-2"	3'-2"
	L	4	5	4'-3"	-	-

\* SEE DIAGRAM FOR DIMENSIONS.  
10' INLETS



**BAR DIAGRAMS** (BARDIAG)

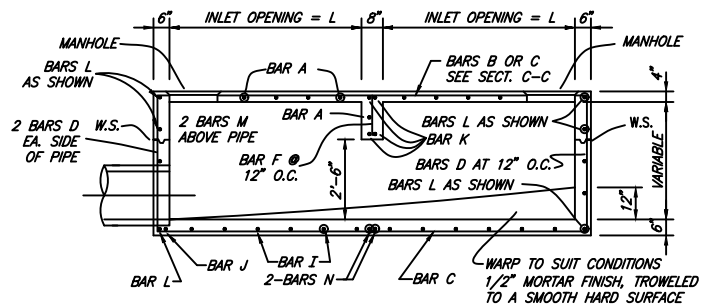
**NOTES:**

THE FLOOR OF THE EXCAVATION FOR INLET BOX MUST PROVIDE A FIRM, LEVEL BED FOR THE BASE SECTION TO REST UPON.

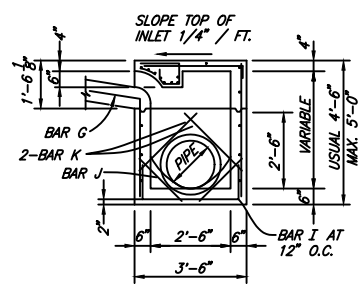
A MINIMUM OF 6 INCHES OF 1" DIAMETER (MAXIMUM) ROCK OR GRAVEL SHALL BE USED TO PREPARE THE BEDDING TO FINAL GRADE OR LIEU OF THIS, AT LEAST 6 INCHES OF 2-SACK CEMENT STABILIZED SAND SHALL BE USED TO PREPARE THE BEDDING TO GRADE. CEMENT STABILIZED-SAND SHALL BE ALLOWED TO SET BY KEEPING HOLE PUMPED DRY.

AFTER CASING HAS BEEN INSTALLED ON THE PROPER BEDDING, THE BACKFILL MATERIAL, WHICH IS FREE FLOWING AND CLEAR OF ROCKS, IN EXCESS OF 4" DIAMETER AND OTHER LUMPS WHICH WOULD PROHIBIT PROPER COMPACTION, SHALL BE COMMENCED IN LIFTS OF NO MORE THAN 18". THE MATERIAL USED FOR BACKFILL SHOULD BE A TYPE SUITABLE TO OBTAIN THE DENSITY REQUIREMENTS FOR THE SPECIFIC JOB.

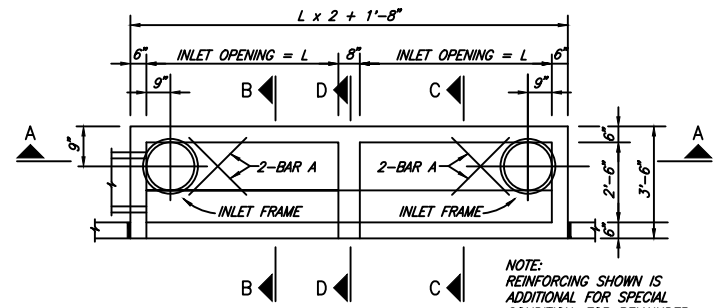




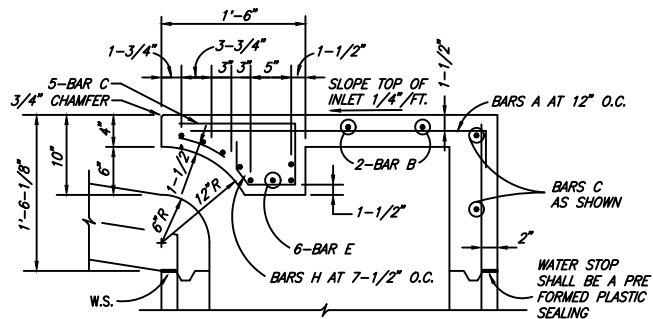
**SECTION A-A**  
**15 AND 20 FOOT INLETS**  
 (SECT\_A-A)



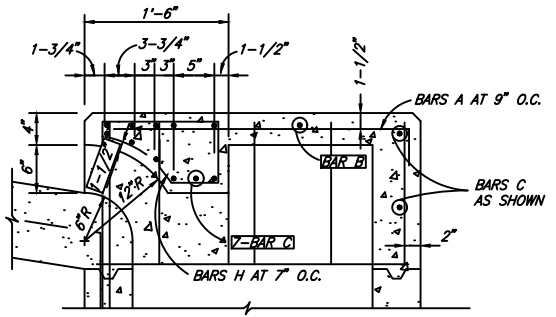
**SECTION B-B**  
 (SECT\_B-B)



**PLAN**  
**20 FOOT INLETS**  
 (PLAN\_20)



**SECTION C-C**  
 (SECT\_C-C)



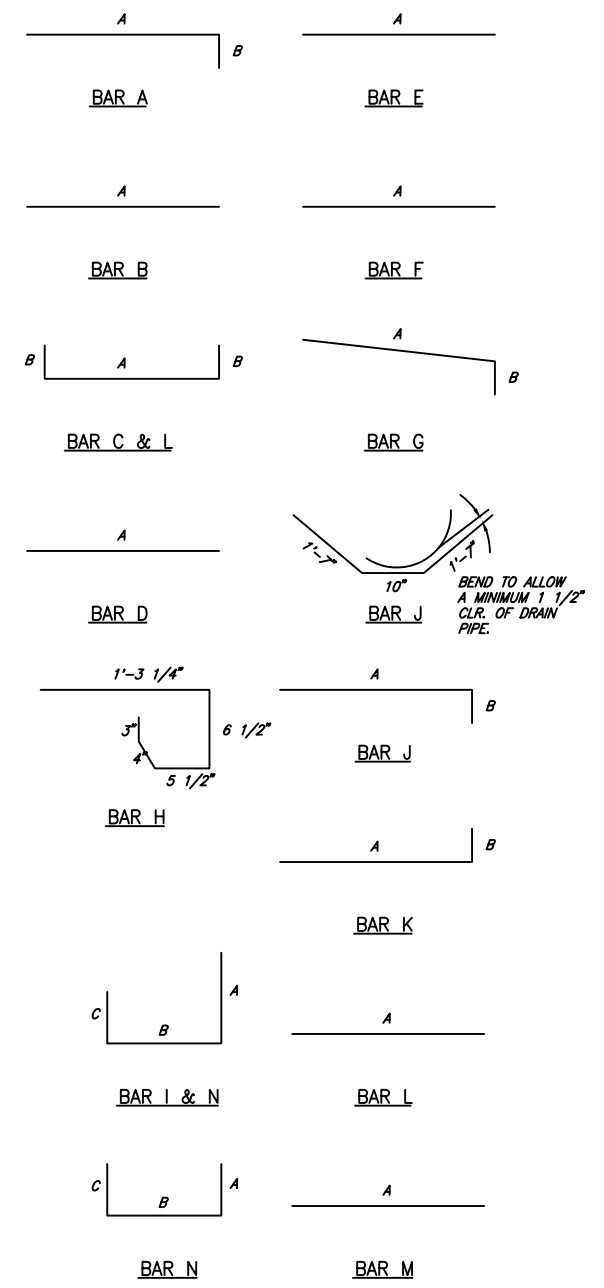
**SECTION D-D**  
 (SECT\_D-D)

**DOUBLE INLETS**  
 DIMENSIONS SHOWN ARE FOR MAXIMUM SIZE INLETS

INLET LENGTH	BAR TYPE	BAR DIA. (1/8 IN.)	NO. REQ'D	BAR DIMENSIONS		
				A	B	C
7.5 FT.	A	3	18	3'-2"	0'-6"	-
	B	3	2	14'-6"	-	-
	C	4	16	16'-4"	0'-6"	-
	D	4	9	4'-8"	-	-
	E	5	6	16'-4"	-	-
	F	4	5	1'-2"	-	-
	G	3	15	2'-0"	1'-3"	-
	H	3	26	*	*	*
	I	4	15	4'-8"	3'-2"	3'-2"
	J	5	1	*	*	*
	K	5	6	3'-2"	0'-6"	-
	L	4	11	3'-2"	0'-6"	-
	M	4	2	3'-0"	**	-
	N	4	2	4'-8"	3'-2"	4'-8"
10 FT.	A	3	23	3'-2"	0'-6"	-
	B	3	2	19'-6"	-	-
	C	4	16	21'-4"	0'-6"	-
	D	4	9	4'-8"	-	-
	E	5	6	21'-4"	-	-
	F	4	5	1'-2"	-	-
	G	3	15	2'-0"	1'-3"	-
	H	3	32	*	*	*
	I	4	20	4'-8"	3'-2"	3'-2"
	J	5	1	*	*	*
	K	5	6	3'-2"	0'-6"	-
	L	4	11	3'-2"	0'-6"	-
	M	4	2	3'-0"	**	-
	N	4	2	4'-8"	3'-2"	4'-8"

\* SEE DIAGRAM FOR DIMENSIONS.  
 \*\* FIELD CUT AS REQUIRED TO ACCOMMODATE DRAIN PIPE 16' AND 20' INLETS

**REINFORCING STEEL SCHEDULE**

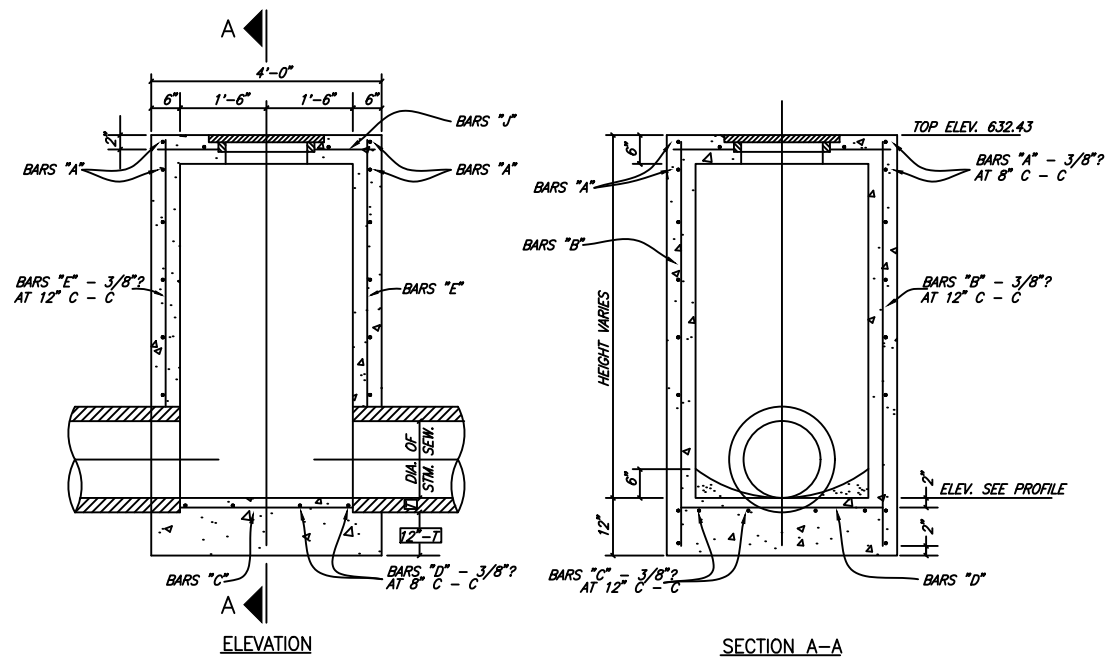


△ BEND TO ALLOW A MINIMUM 1 1/2" CIR. OF DRAIN PIPE  
 \* SEE DIAGRAMS FOR DIMENSIONS  
 \*\* FIELD CUT AS REQUIRED TO ACCOMMODATE DRAIN PIPE

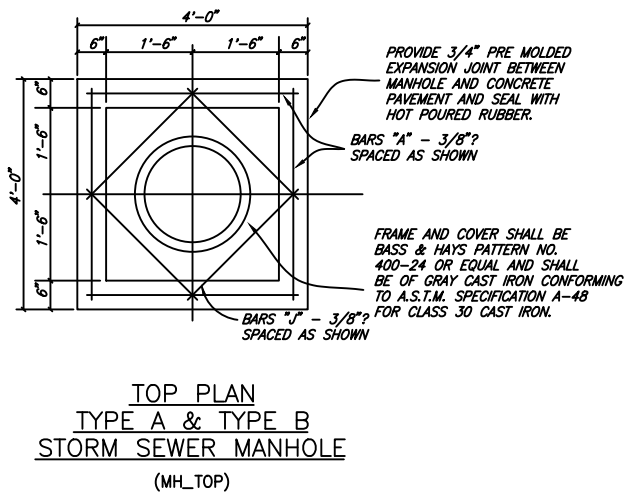
**BAR BENDING DIAGRAMS**

(BARLIST2)

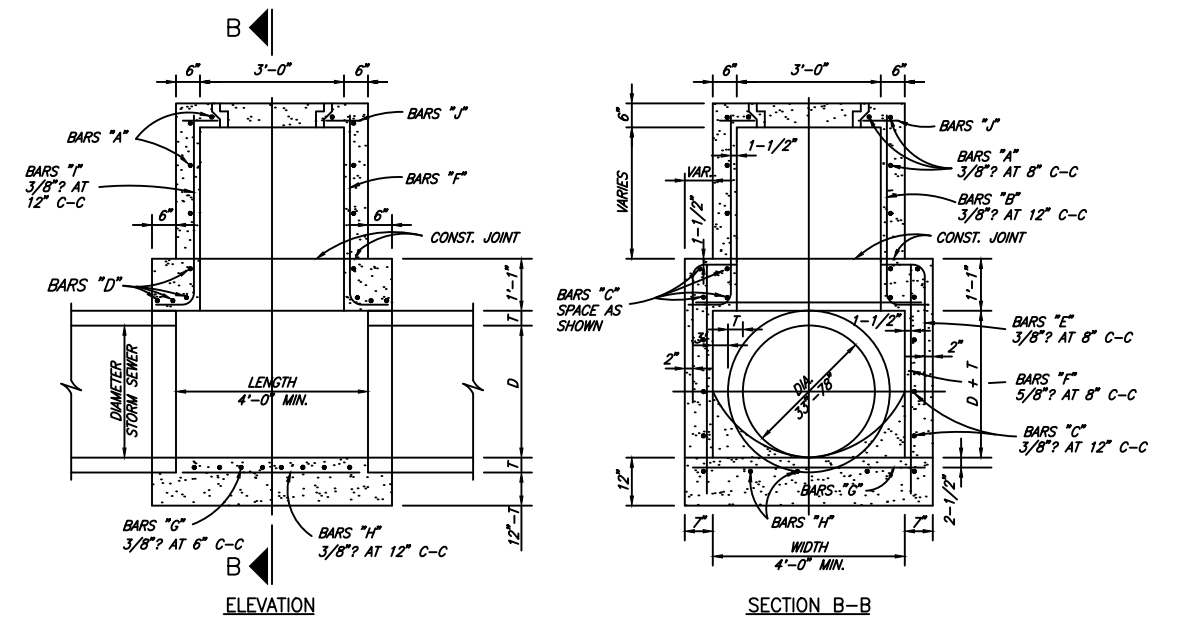




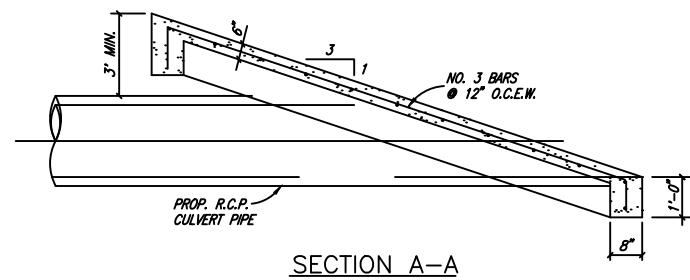
**STORM SEWER TYPE A MANHOLE**  
MAX. PIPE SIZE 30"  
(TYPEAMH)



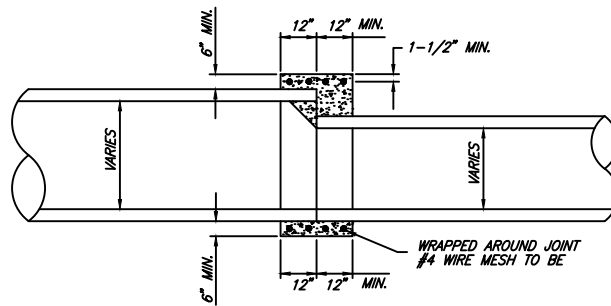
**TOP PLAN**  
**TYPE A & TYPE B**  
**STORM SEWER MANHOLE**  
(MH\_TOP)



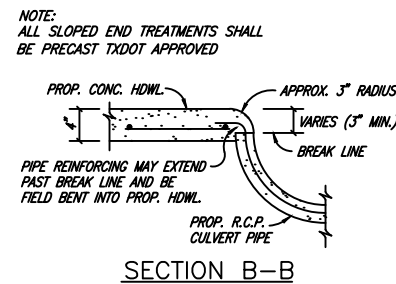
**TYPE B STORM SEWER MANHOLE**  
MAX. PIPE SIZE 78"  
(TYPEBMH)



SECTION A-A



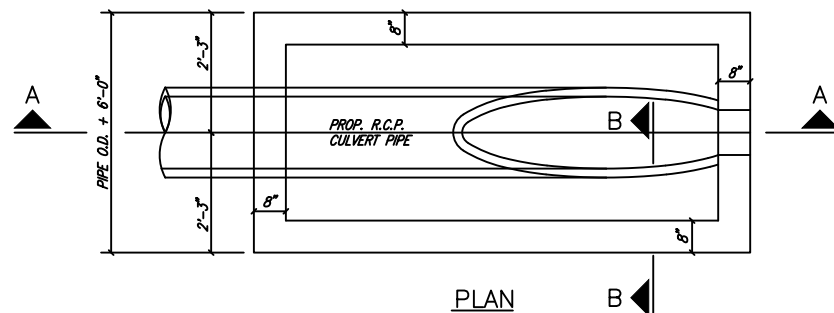
**DETAIL OF CONCRETE COLLAR**  
**FOR R.C.P. OR R.C.A.P. CONNECTIONS**  
INSIDE JOINT SHALL BE CONCRETE MORTAR  
(CONCCOL)



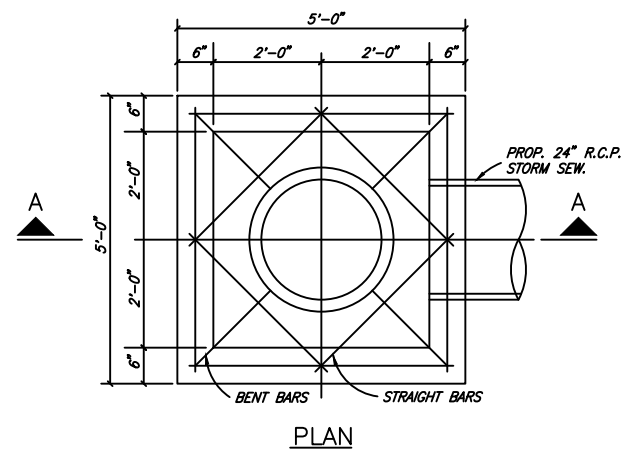
SECTION B-B

NOTE:  
ALL SLOPED END TREATMENTS SHALL  
BE PRECAST TxDOT APPROVED

PROP. CONC. HDWL.  
APPROX. 3" RADIUS  
VARIES (3" MIN.)  
BREAK LINE  
PIPE REINFORCING MAY EXTEND  
PAST BREAK LINE AND BE  
FIELD BENT INTO PROP. HDWL.  
PROP. R.C.P.  
CULVERT PIPE

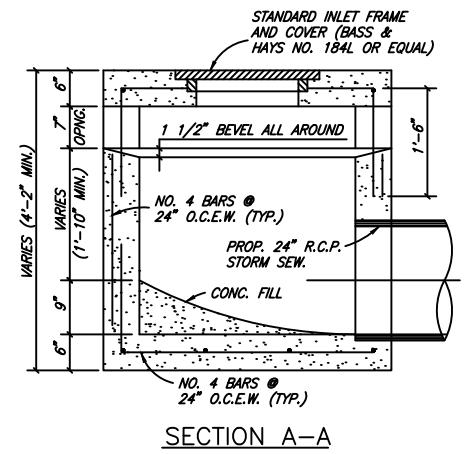


**SLOPED CONCRETE HEADWALL**  
(SLOPEHWL)



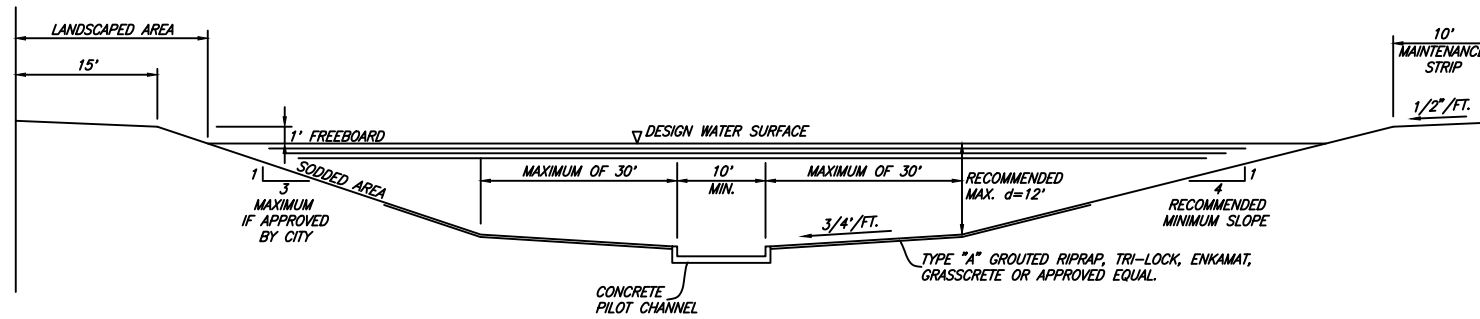
PLAN

**STANDARD DROP INLET**  
(DROPINLET)

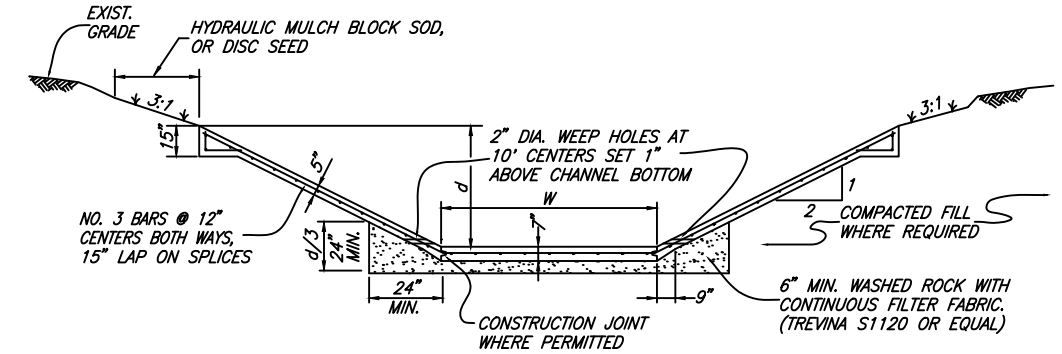


SECTION A-A

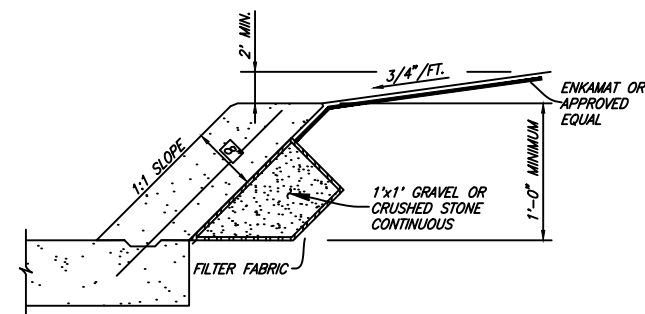




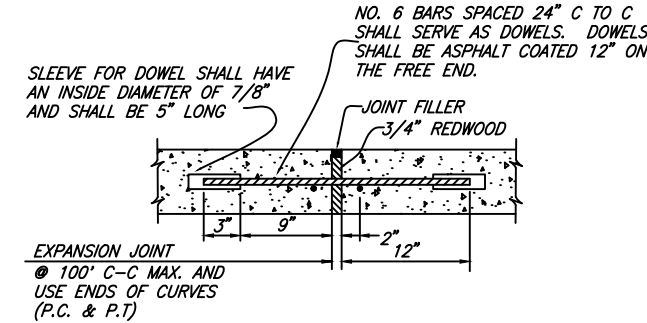
TYPICAL CHANNEL WITH REINFORCED CONCRETE LINED PILOT CHANNEL  
(CHANNEL\_SECT)



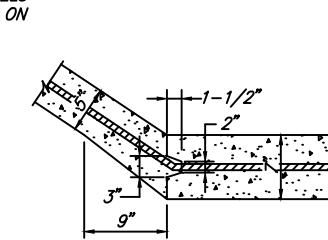
TYPICAL REINFORCED CONCRETE CHANNEL  
(CHANNEL\_CONC)



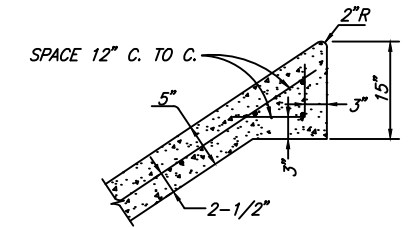
OPTIONAL (SLOPED WALL)



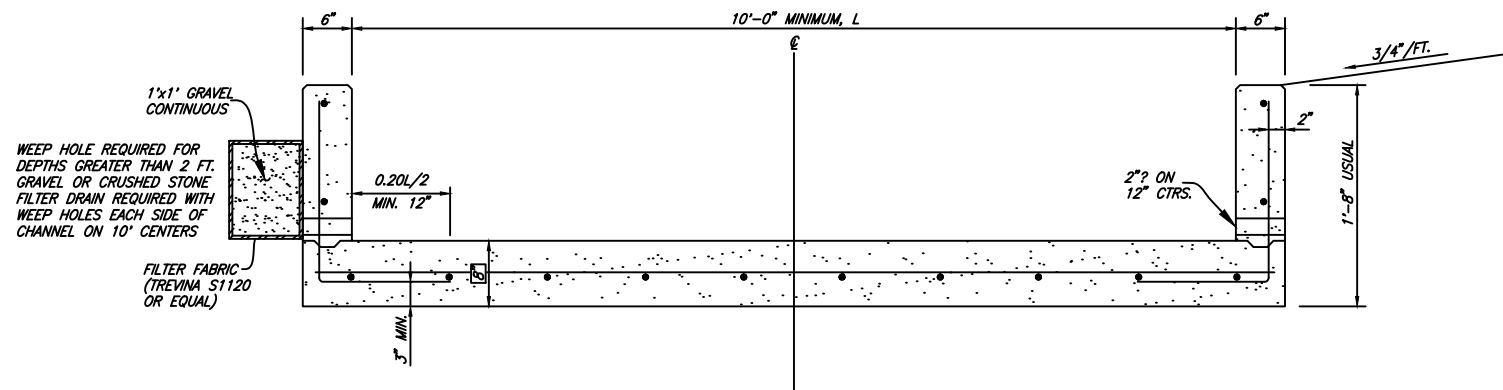
TRANSVERSE EXPANSION JOINT



CONSTRUCTION JOINT  
OPTIONAL  
CONCRETE CHANNEL  
(CHANNEL\_DTLS)



SLAB EDGE - DETAIL "A"



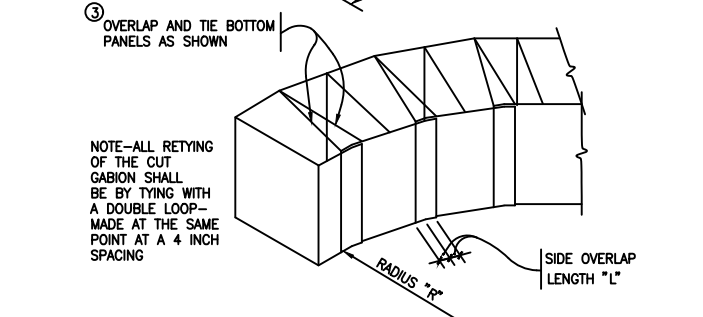
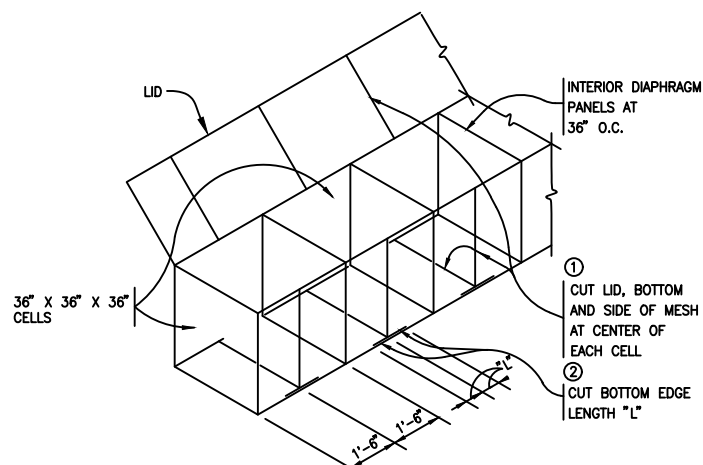
REINFORCED CONCRETE PILOT CHANNEL (VERTICAL WALL)  
(CHANNEL\_PILOT)

GENERAL NOTES FOR LINED CHANNELS

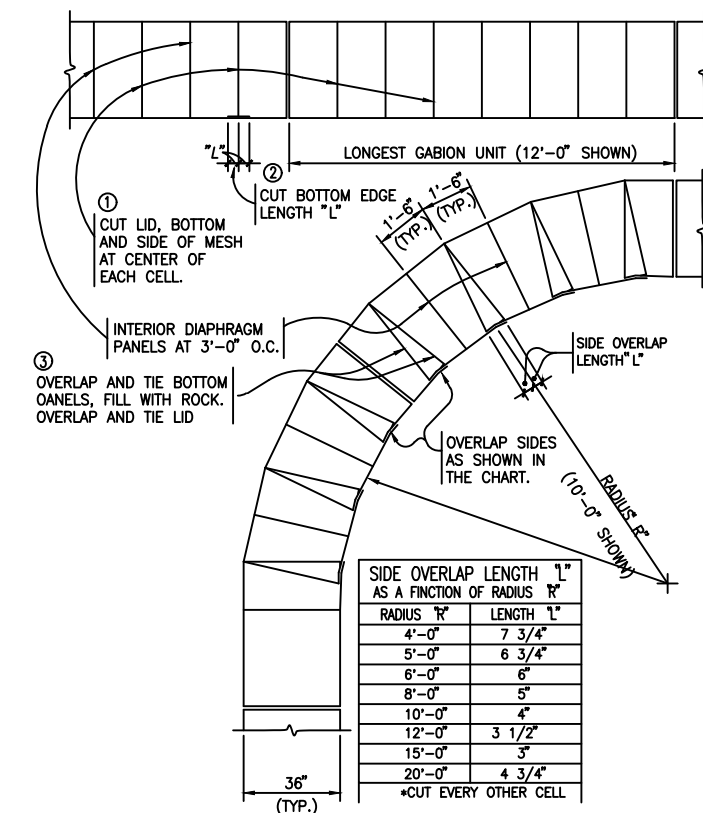
1. CONSTRUCTION JOINT SHOWN FOR CONVENIENCE ONLY, MONOLITHIC CONSTRUCTION MAY BE USED.
2. ALL VISIBLE SURFACES SHALL BE A TROWEL FINISH.
3. ALL REINFORCING STEEL SHALL BE 3/8" DIA. AND SPACED 12" CENTER TO CENTER BOTH WAYS UNLESS OTHERWISE SPECIFIED.
4. IF WOOD FORMS ARE USED WITH CONSTRUCTION JOINT, THEY SHALL BE TWO, 2"x4". AND SHALL NOT BE REMOVED UNTIL CONCRETE ON SLOPES IS READY TO BE PLACED.
5. ALL CONCRETE IN LINED CHANNEL SHALL BE NCTCOG CLASS "A" (MIN. 3000 P.S.I.) CONCRETE.
6. FLAT BOTTOM TO BE CONSTRUCTED WHEN CHANNEL WIDTH IS LESS THAN 12 FOOT.
7. 3/4" CHAMFER ON ALL CONCRETE CORNERS.  
(GEN\_CHANNELNOTE)



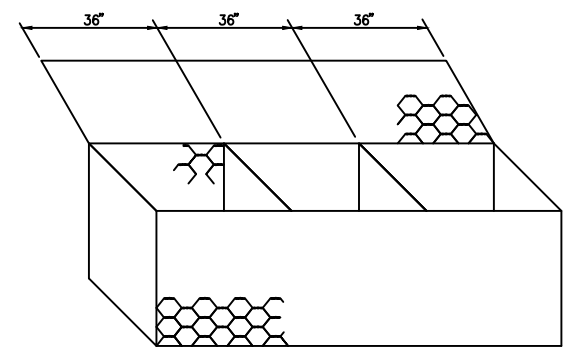




**GABION RADIUS PROCEDURE**  
(RADIUS1)

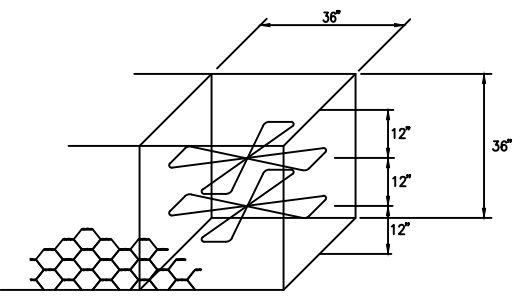


**GABION RADIUS PROCEDURE**

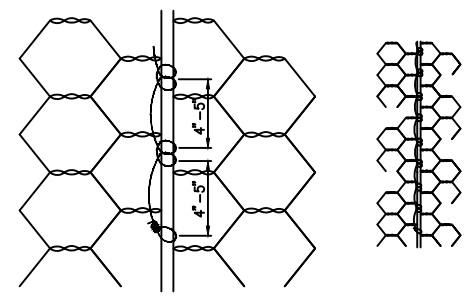


**GABION CONTAINER**  
N.T.S.

NOTE: GABION MAY BE CUT BUT SHALL BE RETIED IN A MANNER TO PRODUCE A CLOSED CELL AND ALL TIES SHALL BE IN CONFORMANCE WITH DETAILS



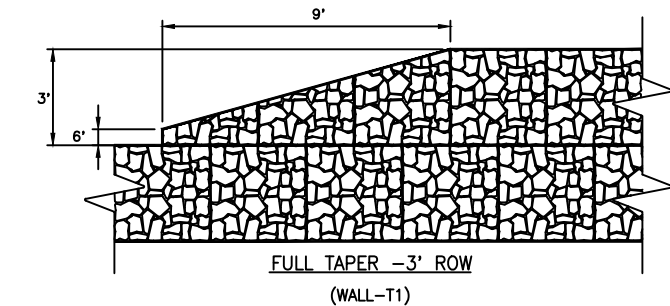
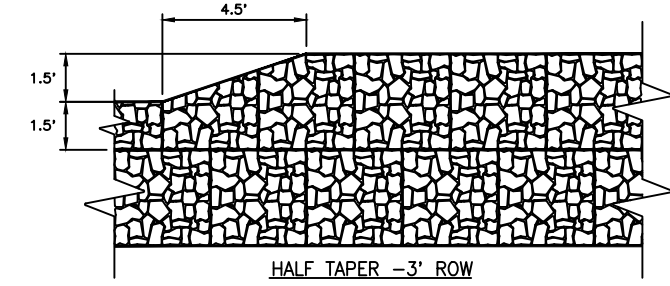
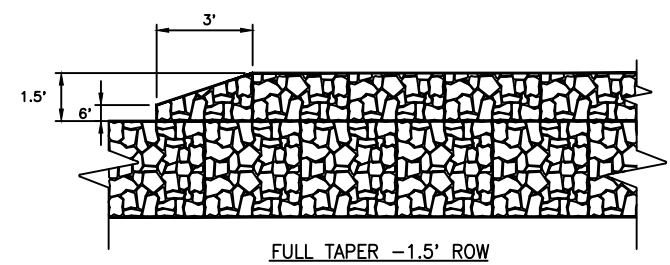
**INNER TIE WIRE**  
N.T.S.



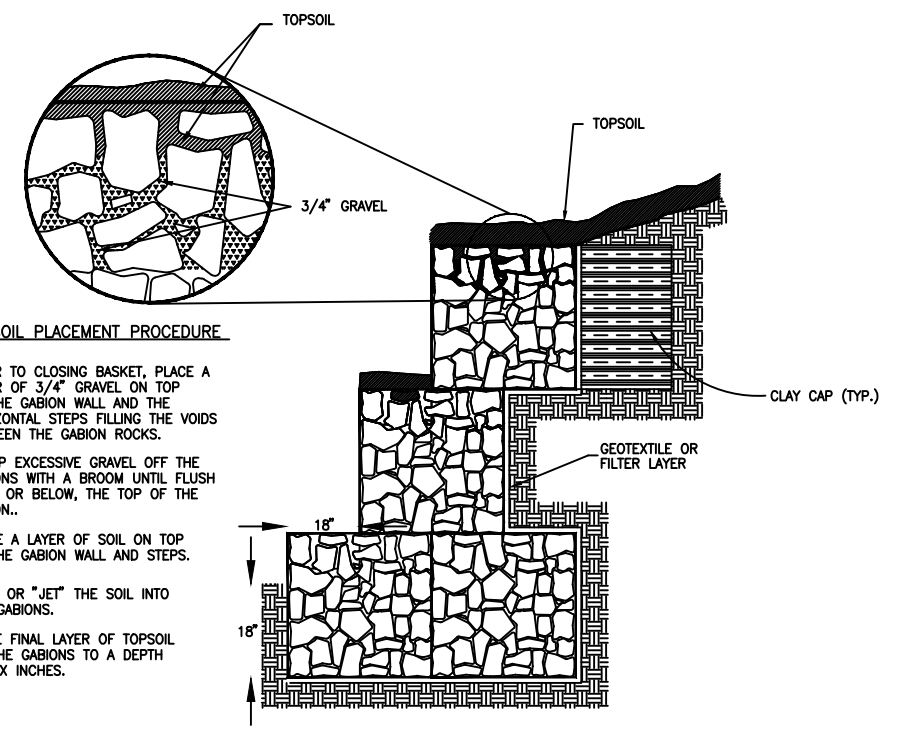
**GABION TIE**  
N.T.S.

NOTE: ALL TYING OF GABIONS SHALL BE AS SHOWN

(GABION)



**TAPERED WALL HEIGHT TRANSITION**



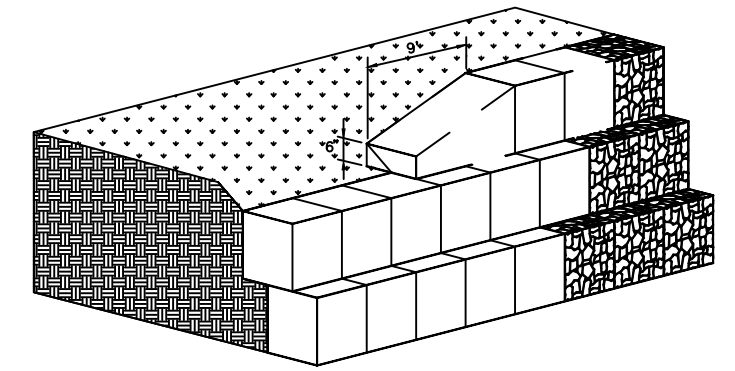
**TOPSOIL PLACEMENT PROCEDURE**

1. PRIOR TO CLOSING BASKET, PLACE A LAYER OF 3/4" GRAVEL ON TOP OF THE GABION WALL AND THE HORIZONTAL STEPS FILLING THE VOIDS BETWEEN THE GABION ROCKS.
2. SWEEP EXCESSIVE GRAVEL OFF THE GABIONS WITH A BROOM UNTIL FLUSH WITH, OR BELOW, THE TOP OF THE GABION.
3. PLACE A LAYER OF SOIL ON TOP OF THE GABION WALL AND STEPS.
4. WASH OR "JET" THE SOIL INTO THE GABIONS.
5. PLACE FINAL LAYER OF TOPSOIL ON THE GABIONS TO A DEPTH OF SIX INCHES.

**SECTION**

NOTE: DO NOT USE SHARP TOOLS WHEN SPREADING TOPSOIL ON GABIONS

**VEGETATED GABION WALL TOPSOIL PLACEMENT**  
(VEG-WALL)



**STANDARD TAPER FOR WALL HEIGHTS TRANSITIONS**  
(TAPER-1)



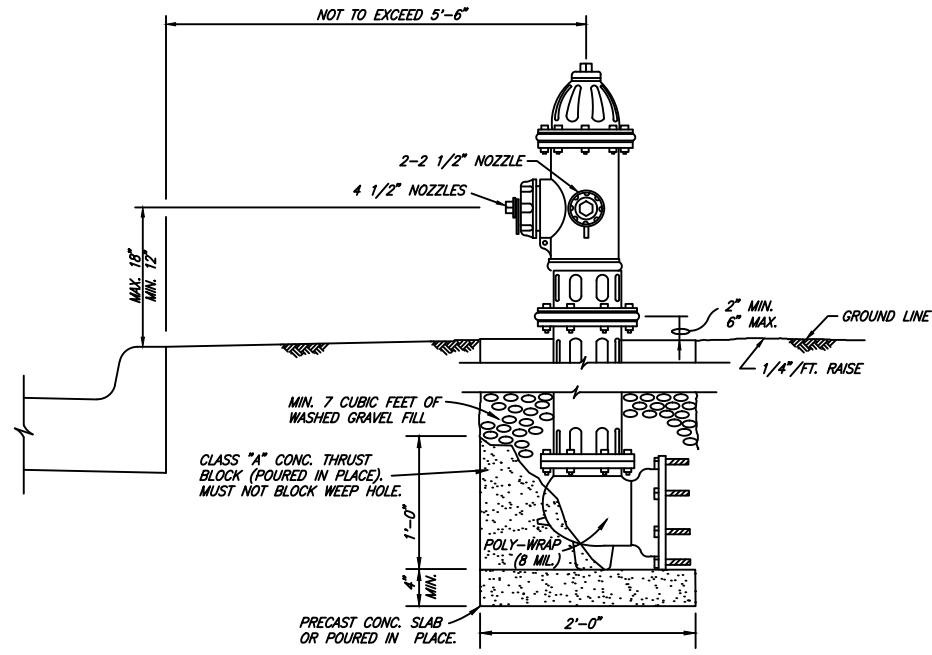
**CITY OF DENISON, TEXAS**

STANDARD CONSTRUCTION DETAILS  
CHANNELS / GABIONS

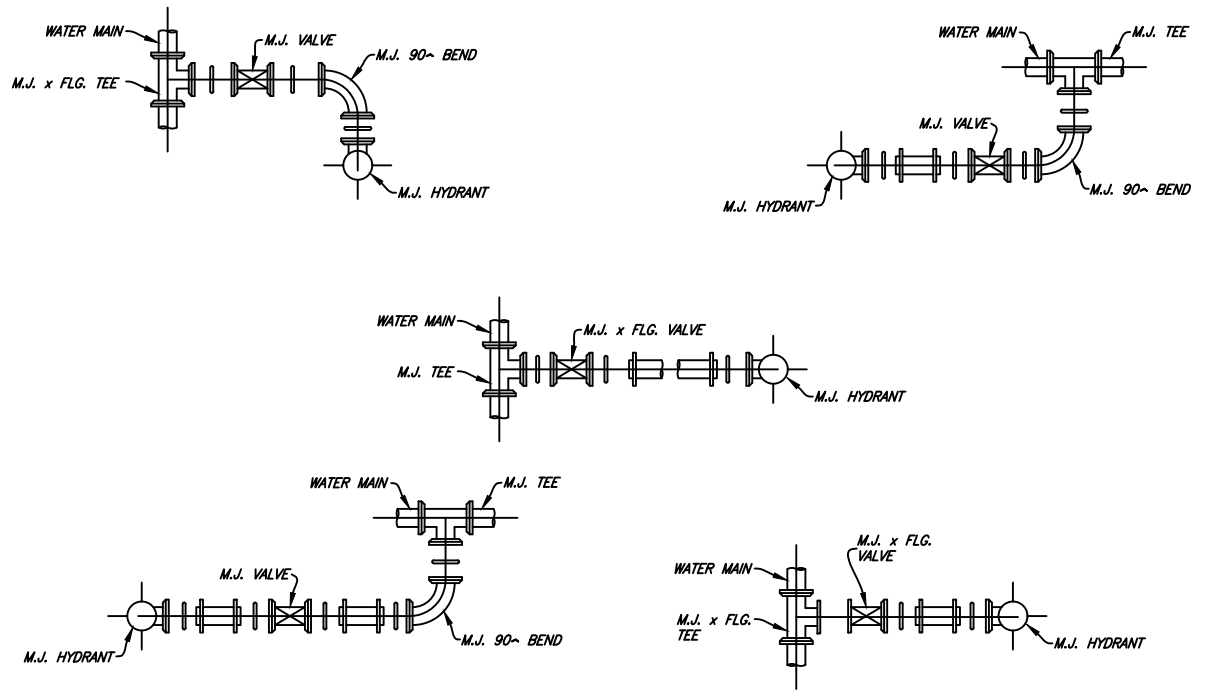
December, 2023

SHEET NO.

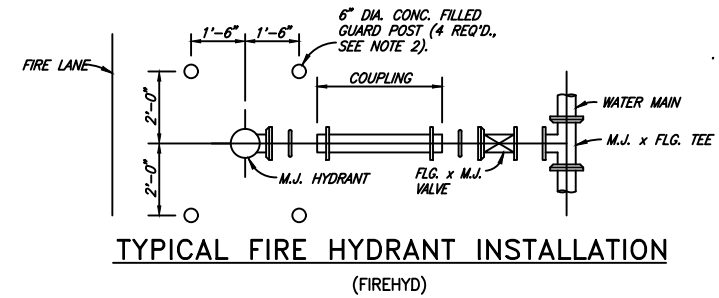
17



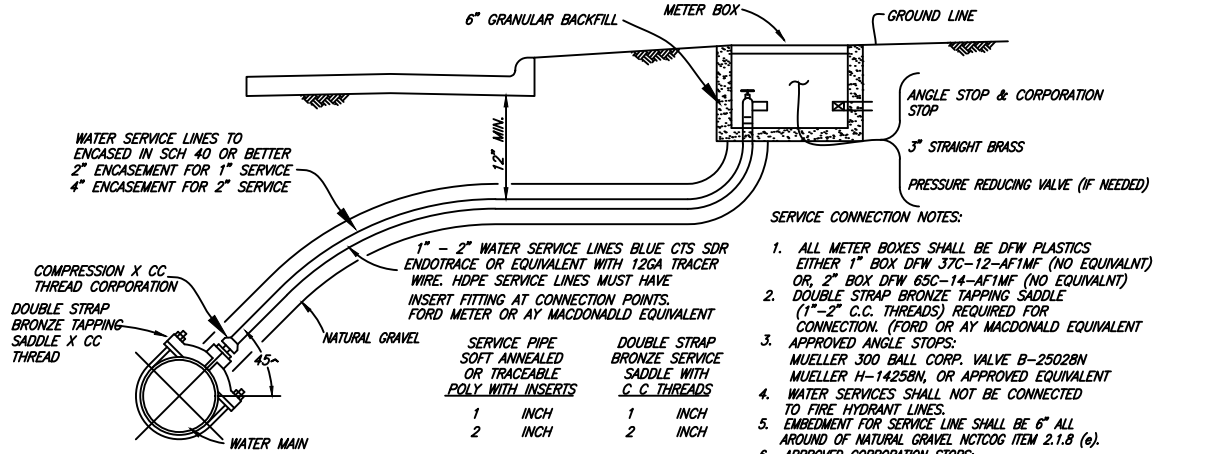
- FIRE HYDRANT NOTES:**
1. IN GENERAL ALL FIRE HYDRANTS SHALL CONFORM TO AWMA STANDARDS SPECIFICATIONS FOR FIRE HYDRANTS FOR ORDINARY WATER WORKS SERVICE FOR WATER AND SANITARY SEWER IMPROVEMENTS. FIRE HYDRANTS SHALL HAVE A 5-1/4" MINIMUM VALVE OPENING AND WITH A BARREL APPROXIMATELY 7" INSIDE DIAMETER. ALL HYDRANTS SHALL BE APPROVED BY THE CITY.
  2. GUARD POSTS SHALL BE 6 L.F. OF 6" DIA. STEEL PIPE (3" ABOVE & BELOW GROUND LEVEL). POST SHALL BE ENCASED IN 16" DIA. CONC. PIER TO A DEPTH OF 12" BELOW POST BOTTOM. REINF. CONC. PIER WITH 2 NO. 6 BARS (12" LONG) THRU POST INTO PIER. POST ABOVE GROUND LEVEL SHALL HAVE 2-2 INCH BANDS OF RED AND WHITE REFLECTIVE TAPE.
  3. 20% OF HYDRANTS WITHIN A DEVELOPMENT PROJECT SHOULD BE CLOW HYDRANTS. ALL HYDRANTS SHOULD BE ORDERED POWDER COATED SILVER IN COLOR. THEMEC SERIES 43-38H DIFFUSED ALUMINUM, SILVER OR EQUIVALENT BONNETS WILL BE PAINTED TO MATCH THE FLOW RATE.  
 CLASS AA - LIGHT BLUE (RATED CAPACITY OF 1500 GPM OR GREATER)  
 CLASS A - GREEN (RATED CAPACITY OF 1000 - 1499 GPM)  
 CLASS B - ORANGE (RATED CAPACITY OF 500 - 999 GPM)  
 CLASS C - RED (RATED CAPACITY OF LESS THAN 500 GPM)
  4. OPEN LEFT
  5. HEX OPERATING NUT
  6. FIRE HYDRANT SHOULD BE ONE OF THE FOLLOWING BRANDS/ MODELS (STEEL UPPER & LOWER STEMS ARE REQUIRED)  
 CLOW MEDALLION  
 MUELLER SUPER CENTURION  
 5-1/4" WATEROUS PACER HYDRANT



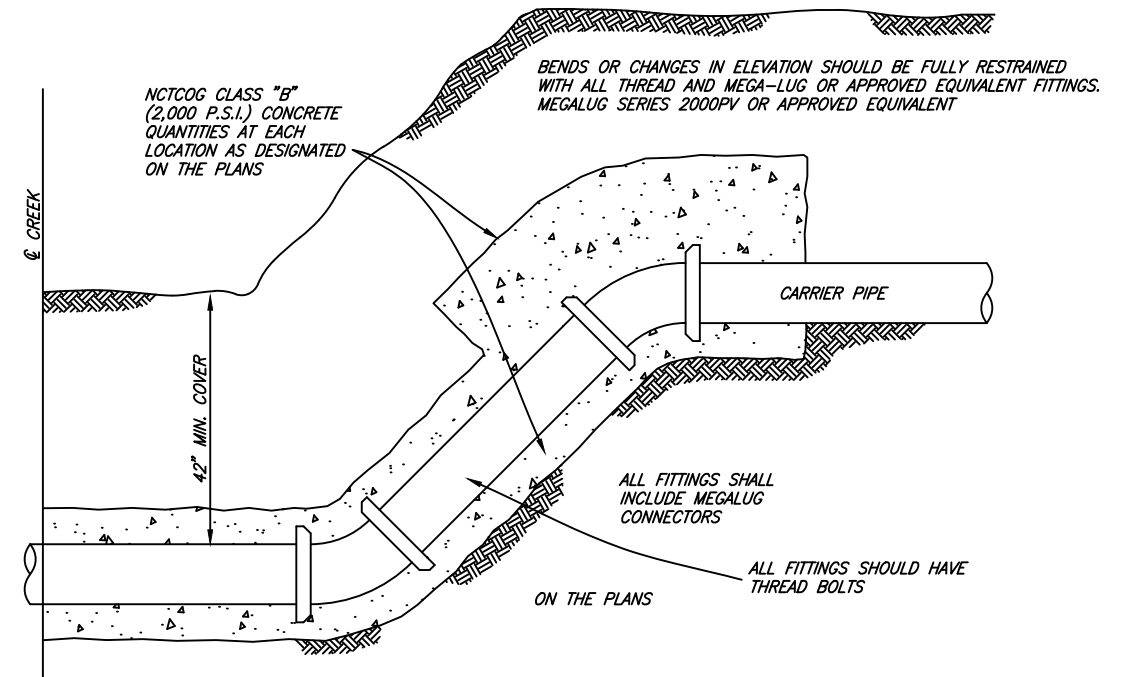
**TYPICAL FIRE HYDRANT INSTALLATION PLANS**  
(FH-PLANS)



**TYPICAL FIRE HYDRANT INSTALLATION**  
(FIREHYD)



**TYPICAL SERVICE CONNECTION WITH METER BOX**  
(WATERSVC)

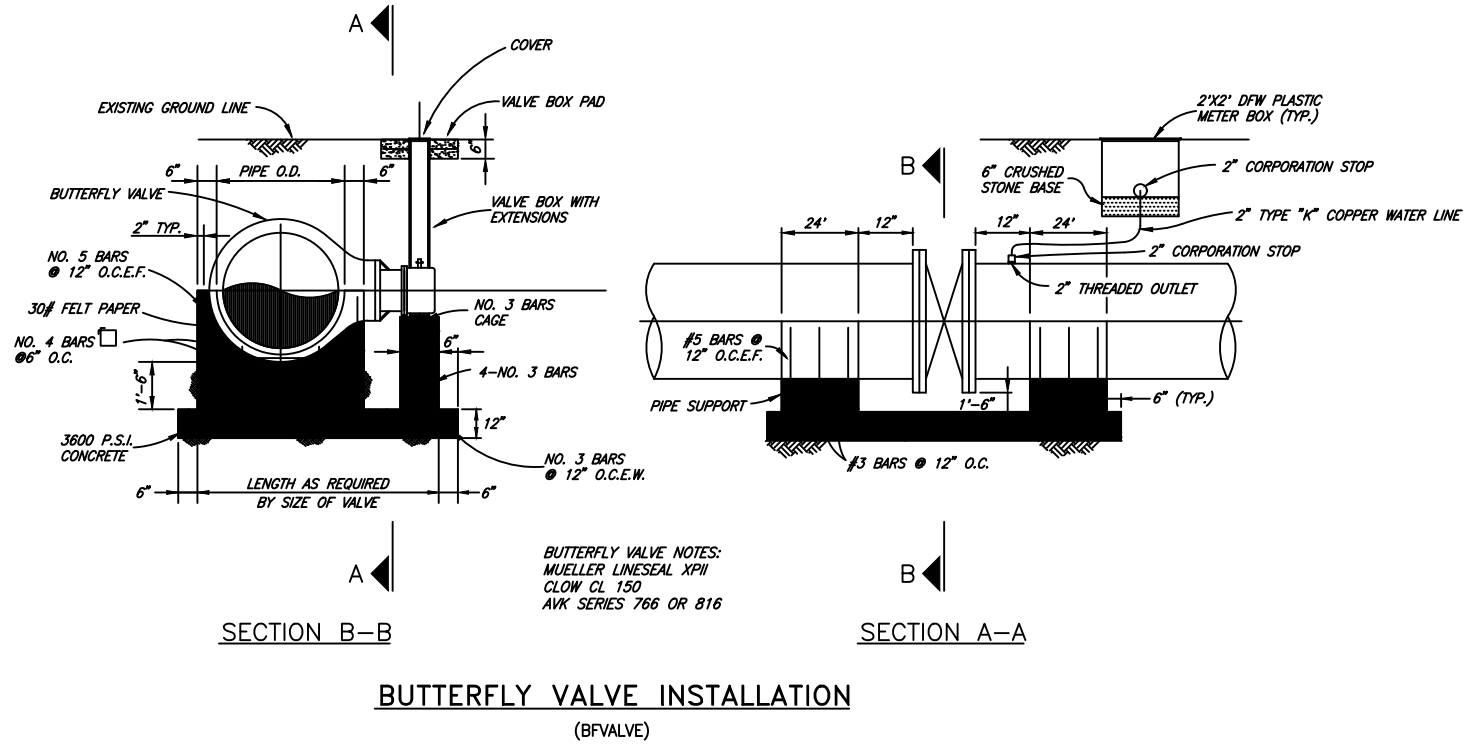


**HALF-SECTION TYPICAL CREEK CROSSING**  
(CREEK\_X)

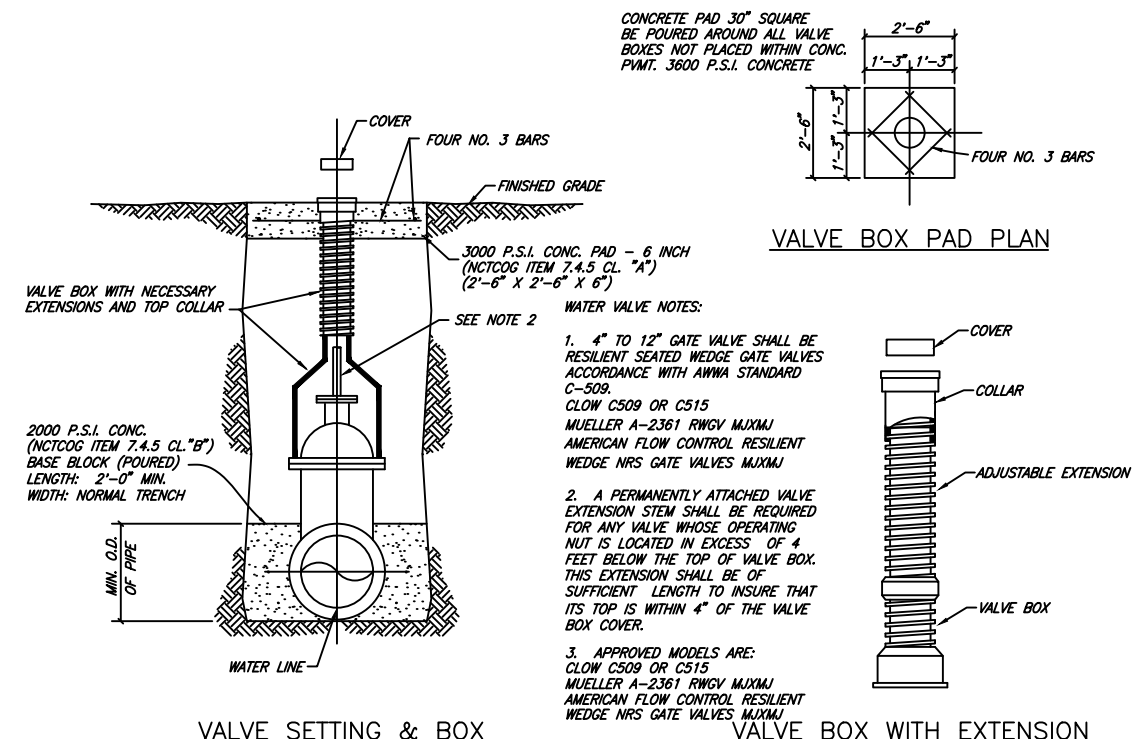


**CITY OF DENISON, TEXAS**  
STANDARD CONSTRUCTION DETAILS  
WATER SERVICES / FIRE HYDRANT

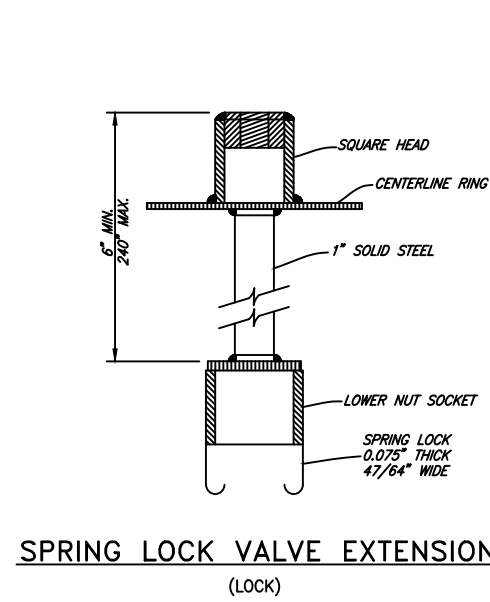
December, 2023  
SHEET NO. **18**



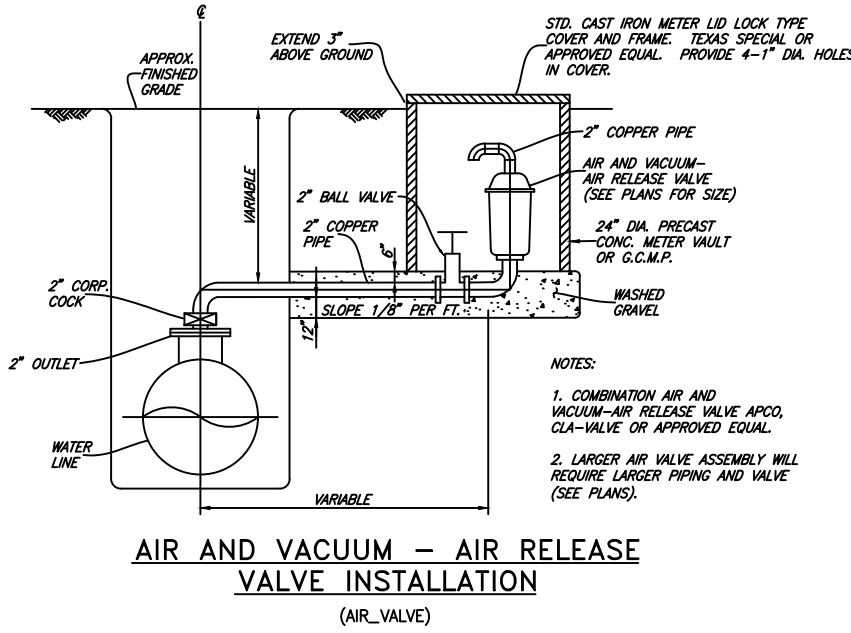
**BUTTERFLY VALVE INSTALLATION**  
(BFVALVE)



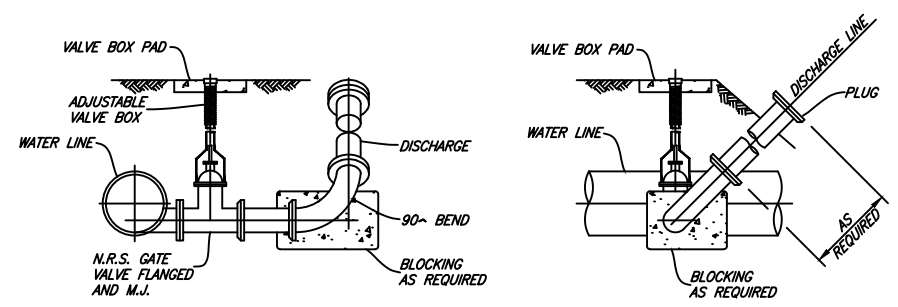
**GATE VALVE INSTALLATION**  
(YARDVLV)



**SPRING LOCK VALVE EXTENSION**  
(LOCK)



**AIR AND VACUUM - AIR RELEASE VALVE INSTALLATION**  
(AIR\_VALVE)



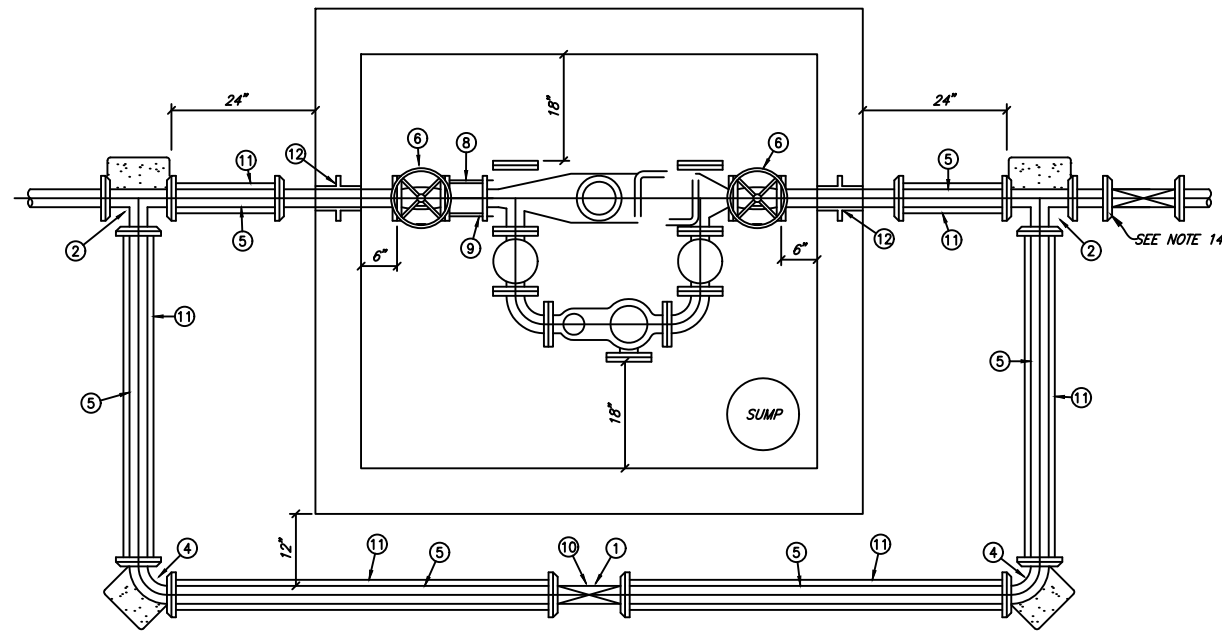
**BLOW OFF VALVE**  
(BLOWOFF\_VLV)



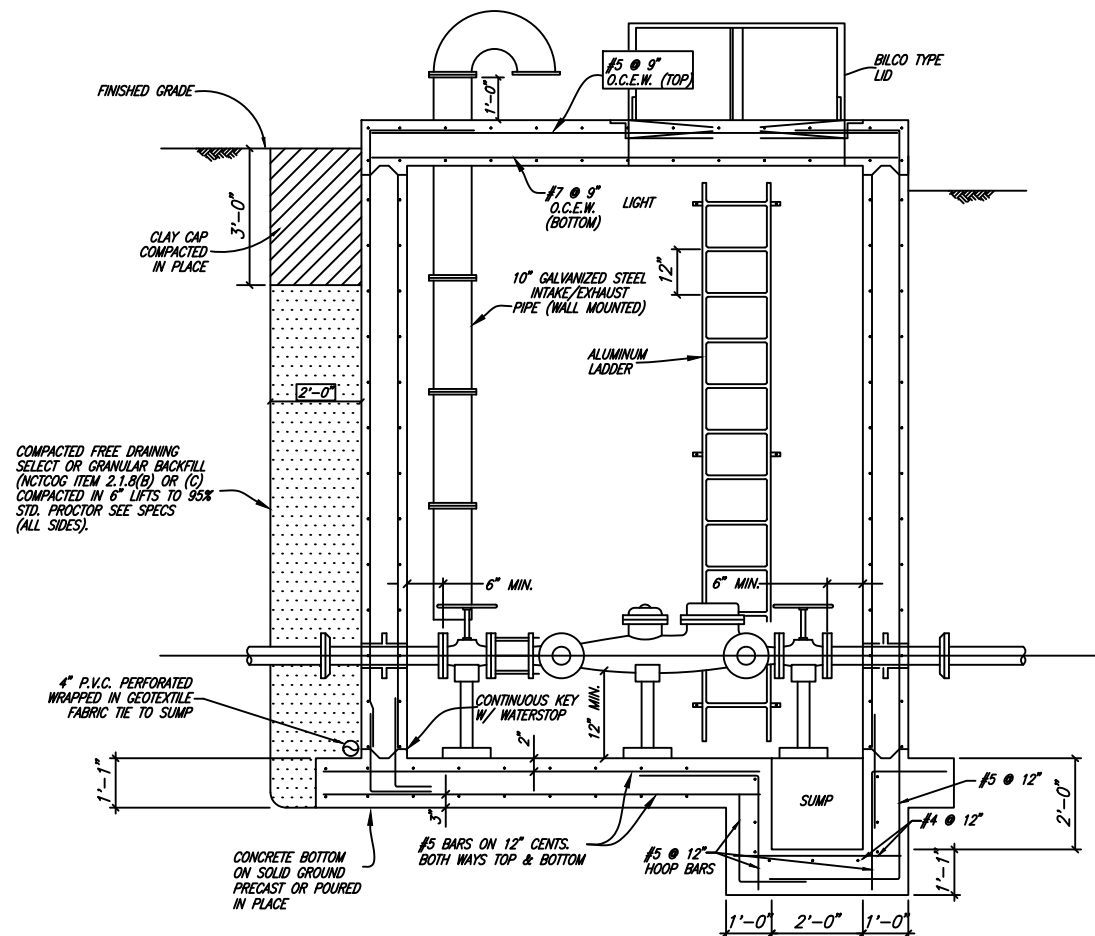
METER VAULT & BY-PASS SPECIFICATIONS

1. NOTIFY THE UTILITY OPERATIONS DEPARTMENT PRIOR TO CONSTRUCTION OF METER VAULT OR BY-PASS ASSEMBLY.
2. THE METER VAULT CAN BE EITHER POURED IN PLACE OR PRE-CAST. ALL WALLS, EITHER POURED IN PLACE OR PRE-CAST, SHALL BE MONOLITHIC POUR. NO SEAMS OR EXTENSIONS WILL BE ALLOWED. CONCRETE SHALL BE 6" THICK-3,000 P.S.I., REINFORCED WITH #5 STEEL BARS ON 12" CENTERS EACH WAY, ON POURED IN PLACE VAULTS. PRE-CAST VAULTS SHALL BE 4" THICK-4,500 P.S.I. CONCRETE, REINFORCED WITH #5 STEEL BARS ON 8" CENTERS BOTH WAYS. THESE ARE MINIMUM SPECIFICATIONS.
3. THE BOTTOM OF THE VAULT SHALL BE 6" THICK-3,000 P.S.I. CONCRETE, REINFORCED WITH #5 STEEL BARS ON 12" CENTERS BOTH WAYS. A 4" DEEP x 12" DIAMETER SUMP SHALL BE INSTALLED TO ONE SIDE AND IN EITHER CORNER OF THE BOTTOM OF THE SLAB. A 4" CUSHION OF SAND SHALL BE INSTALLED UNDER THE SLAB. IF A PRE-FABRICATED VAULT IS TO BE USED, A LAYER OF RAM-NEX SHALL BE INSTALLED BETWEEN THE WALLS AND BOTTOM SLAB.
4. THE VAULT SHALL NOT BE INSTALLED IN ANY DRIVE OR PARKING AREA AND MUST BE LOCATED IN A UTILITY EASEMENT DEDICATED TO THE CITY. ALL PIPING INSIDE THE VAULT AND THE VAULT ITSELF MUST BE INSPECTED AND APPROVED BY THE UTILITY OPERATIONS DEPARTMENT.
5. THE VAULT LID SHALL BE BILCO TYPE Q-4AL LEAF DESIGN LID. ANGLE FRAME IS 1/4" STEEL WITH STRAP ANCHORS BOLTED TO THE EXTERIOR. THE LEAF IS 1/4" STEEL DIAMOND PATTERN PLATE, PIVOTING ON TORSION BARS FOR EASY OPERATIONS. THE MINIMUM LIVE LOAD CAPACITY IS 150 LBS. PER SQUARE FOOT. THE LID SIZE SHALL BE 3'x3'. THE LID SHALL BE PAINTED WITH 43-38 TNEDEC DIFFUSED ALUMINUM PAINT OR APPROVED EQUAL.
6. ALL PIPING INSIDE THE VAULT SHALL BE DUCTILE IRON PIPE (AWWA C151) WITH FLANGED FITTINGS. THE OUTSIDE DIMENSION OF THE PIPING SHALL BE WITHIN THE FOLLOWING RANGES: 3" PIPE - 3.74" TO 3.86"; 4" PIPE - 4.74" TO 4.90"; 6" PIPE - 6.81" TO 6.96"; 8" PIPE - 8.98" TO 9.20"; 10" PIPE - 11.04" TO 11.61". VARIATION FROM THESE DIMENSIONS WILL RESULT IN THE VAULT BEING REJECTED.
7. THE STRAINER, METER AND FLANGED ADAPTER COUPLING INSTALLED BY THE CONTRACTOR AND APPROVED BY CITY.
8. THE STRAINER, METER AND FLANGED ADAPTER COUPLING WILL NOT BE INSTALLED UNTIL THE METER VAULT AND TAPS ARE ACCEPTED BY THE CITY UTILITY OPERATIONS DEPARTMENT. ALL UTILITIES MUST ALSO HAVE BEEN ACCEPTED AND RELEASED BY THE CITY ENGINEERING OFFICE PRIOR TO METER INSTALLATION.
9. THE MAIN LINE GATE VALVES SHALL BE RESILIENT WEDGE DESIGN, NON-RISING STEM VALVES, WHICH HAVE RECEIVED FORMAL APPROVAL FROM THE CITY. ALL VALVES SHALL BE FLANGED BOTH ENDS AND HAVE HAND WHEELS.
10. CONTRACTOR SHALL HAVE A CHOICE OF EITHER HAVING A LINK SEAL WALL SLEEVE MODEL WS-6-28-S-6 FOR 3" PIPE; MODEL WS-8-32-S-8 FOR 4" PIPE; MODEL WS-10-36-S-6 FOR 6" PIPE; MODEL WS-12-37-S-6 FOR 8" PIPE; MODEL WS-14-37-S-6 FOR 10" PIPE, CAST IN THE WALL VAULT. THE ABOVE MENTIONED WALL SLEEVES SHALL USE THE FOLLOWING LINK SEALS: FOR 3" PIPE - 5#LS325-C; FOR 4" PIPE - 5 - #LS400-C; FOR 6" PIPE 7 - #LS400-C; FOR 8" PIPE - 9 #LS-400C; FOR 10" PIPE - 12 - #LS325-C. THE CONTRACTOR MAY HAVE THE VAULT WALL CORED BEFORE INSTALLATION OF VAULT AND PIPING. IF THE WALL IS CORED THE FOLLOWING SPECIFICATIONS SHALL BE USED: FOR 3" PIPE CORE SIZE SHALL BE 6" AND USE 5 - #LS325-C LINK SEALS; FOR 4" PIPE CORE SIZE SHALL BE 8" AND USE 5 - #LS400-C LINK SEALS; FOR 6" PIPE CORE SIZE SHALL BE 10" AND USE 7 - #LS400-C LINK SEALS; FOR 8" PIPE CORE SIZE SHALL BE 12" AND USE 9 - #LS400-C LINK SEALS; FOR 10" PIPE CORE SIZE SHALL BE 14" AND USE 11 - LS425-C LINK SEALS. BREAKING OF THE WALL WITH A JACKHAMMER OR USING PRE-CAST KNOCKOUT PANELS IN NOT PERMITTED.
11. THERE WILL BE A SOLID REINFORCED CONCRETE SUPPORT BLOCK UNDER EACH GATE VALVE.
12. MINIMUM DEPTH OF ANY VAULT SHALL BE 4'-6".
13. IF ELEVATION ADJUSTMENTS ARE NEEDED ON THE ACCESS LID, CONTRACTOR SHALL CONTRACT UTILITY OPERATIONS DEPARTMENT FOR APPROVAL PRIOR TO IMPLEMENTATION OF ADJUSTMENTS.
14. SHUT OFF VALVE SHOULD BE PLACED OUTSIDE VAULT BOX ON THE CUSTOMER SIDE

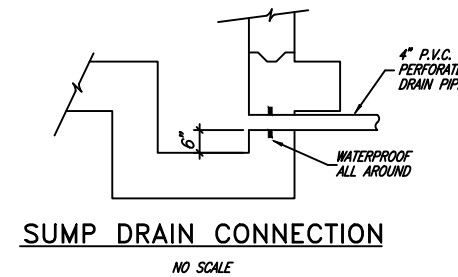
- LEGEND**
- ① GATE VALVE - M.J. & M.J.
  - ② D.I. TEE - M.J., M.J., M.J.
  - ④ D.I. 90° BEND - M.J. & M.J.
  - ⑤ D.I. PIPE - P.E. & P.E.
  - ⑥ O.S. & Y. VALVE - FLG. & FLG.
  - ⑧ FLANGED COUPLING ADAPTER
  - ⑨ D.I. PIPE - FLG. & P.E. NIPPLE
  - ⑩ VALVE COVERS & LIDS
  - ⑪ ANCHORING RODS
  - ⑫ WALL SLEEVE - FLG. & M.J.



PLAN



ELEVATION  
METER VAULT



SUMP DRAIN CONNECTION

**CITY OF DENISON, TEXAS**

STANDARD CONSTRUCTION DETAILS  
METER VAULT

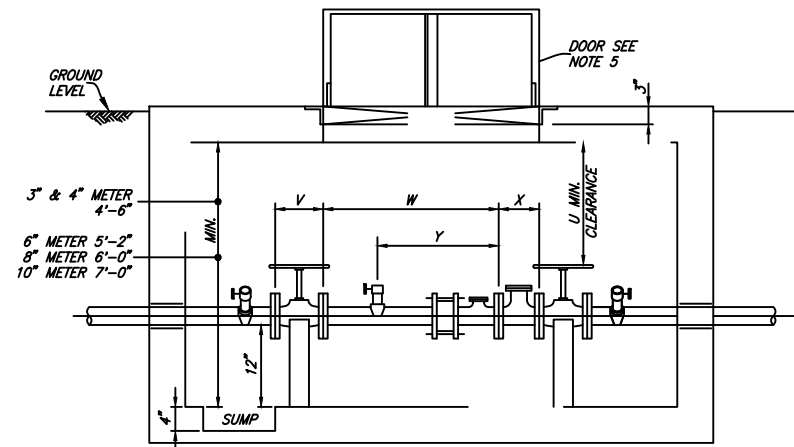
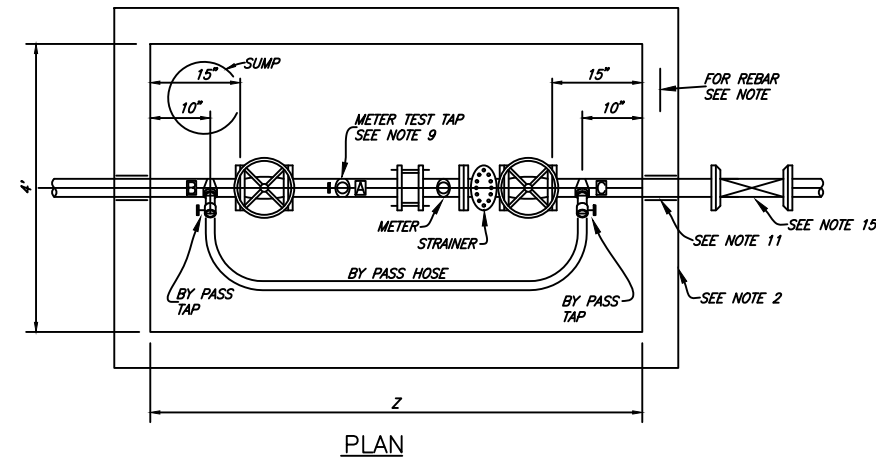
December, 2023

SHEET NO.

**20**



METER VAULT & BY-PASS SPECIFICATIONS



ELEVATION  
METER VAULT (METER\_VAULT2)

METER VAULT											
DOMESTIC						IRRIGATION					
METER SIZE	U	V	W	Y	Z	METER SIZE	U	V	W	Y	Z
3"	25"	8"	11-1/2"	-	6'-10"	3"	25"	8"	16-1/2"	9"	6'-10"
4"	22"	9"	13-1/2"	-	7'-7"	4"	22"	9"	19-1/2"	10"	7'-7"
6"	26"	10-1/2"	13-1/2"	-	8'-2"	6"	26"	10-1/2"	19-1/2"	13"	8'-2"
						8"	31"	11-1/2"	25-1/2"	17"	9'-1"
						10"	37"	13"	29-1/2"	21"	10'-7"

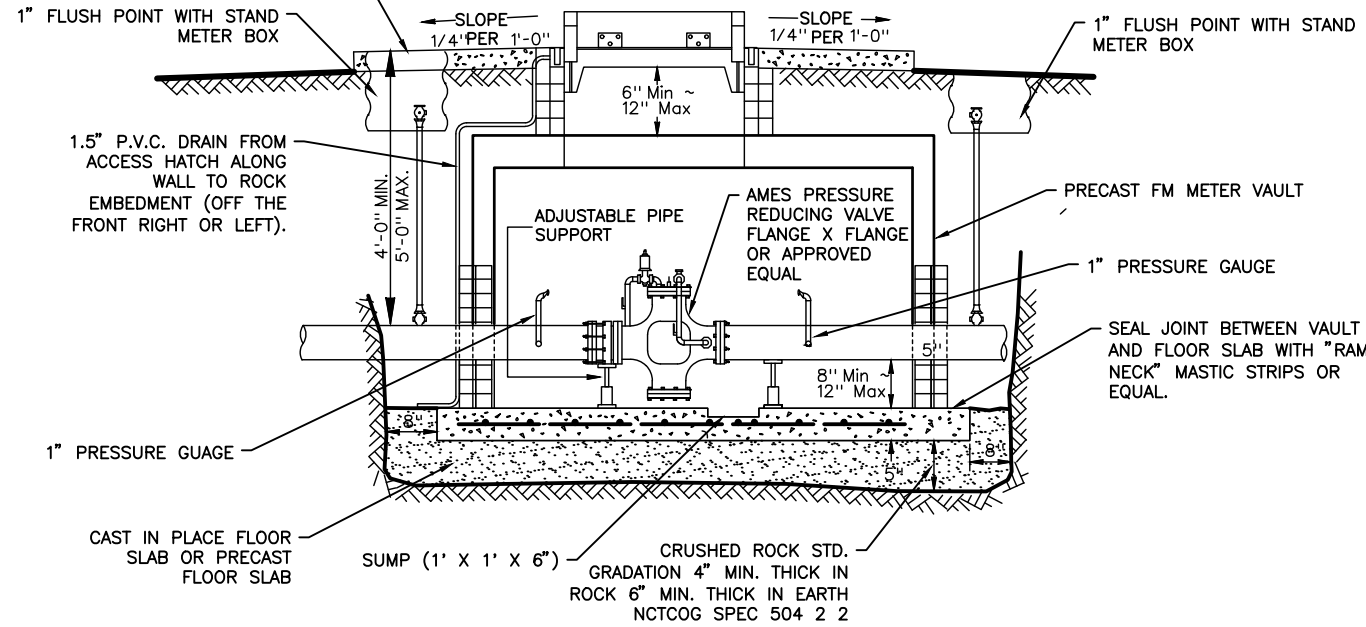
1. NOTIFY THE UTILITY OPERATIONS DEPARTMENT PRIOR TO CONSTRUCTION OF METER VAULT OR BY-PASS ASSEMBLY.
2. THE METER VAULT CAN BE EITHER POURED IN PLACE OR PRE-FABRICATED. ALL WALLS, EITHER POURED IN PLACE OR PRE-FABRICATED, SHALL BE MONOLITHIC POUR. NO SEAMS OR EXTENSIONS WILL BE ALLOWED. CONCRETE SHALL BE 6" THICK-3,000 P.S.I., REINFORCED WITH #4 STEEL BARS ON 12" CENTERS EACH WAY, ON POURED IN PLACE VAULTS. PRE-FABRICATED VAULTS SHALL BE 4" THICK-4,500 P.S.I. CONCRETE, REINFORCED WITH #4 STEEL BARS ON 8" CENTERS BOTH WAYS. THESE ARE MINIMUM SPECIFICATIONS.
3. THE BOTTOM OF THE VAULT SHALL BE 6" THICK-3,000 P.S.I. CONCRETE, REINFORCED WITH #4 STEEL BARS ON 12" CENTERS BOTH WAYS. A 4" DEEP x 12" DIAMETER SUMP SHALL BE INSTALLED TO ONE SIDE AND IN EITHER CORNER OF THE BOTTOM OF THE SLAB. A 4" CUSHION OF SAND SHALL BE INSTALLED UNDER THE SLAB. IF A PRE-FABRICATED VAULT IS TO BE USED, A LAYER OF RAM-NEX SHALL BE INSTALLED BETWEEN THE WALLS AND BOTTOM SLAB.
4. THE VAULT SHALL NOT BE INSTALLED IN ANY DRIVE OR PARKING AREA AND MUST BE LOCATED IN A UTILITY EASEMENT DEDICATED TO THE CITY. ALL PIPING INSIDE THE VAULT AND THE VAULT ITSELF MUST BE INSPECTED AND APPROVED BY THE UTILITY OPERATIONS DEPARTMENT.
5. THE VAULT LID SHALL BE BILCO TYPE Q-4 LEAF DESIGN LID. ANGLE FRAME IS 1/4" STEEL WITH STRAP ANCHORS BOLTED TO THE EXTERIOR. THE LEAF IS 1/4" STEEL DIAMOND PATTERN PLATE, PIVOTING ON TORSION BARS FOR EASY OPERATIONS. THE MINIMUM LIVE LOAD CAPACITY IS 150 LBS. PER SQUARE FOOT. THE LID SIZE SHALL BE 3'x3'. THE LID SHALL BE PAINTED WITH 43-38 TNEC DIFFUSED ALUMINUM PAINT OR APPROVED EQUAL.
6. ALL PIPING INSIDE THE VAULT SHALL BE DUCTILE IRON PIPE WITH FLANGED FITTINGS. THE OUTSIDE DIMENSION OF THE PIPING SHALL BE WITHIN THE FOLLOWING RANGES: 3" PIPE - 3.74" TO 3.86"; 4" PIPE - 4.74" TO 4.90"; 6" PIPE - 6.81" TO 6.96"; 8" PIPE - 8.98" TO 9.20"; 10" PIPE - 11.04" TO 11.61". VARIATION FROM THESE DIMENSIONS WILL RESULT IN THE VAULT BEING REJECTED.
7. THE STRAINER, METER AND FLANGED ADAPTER COUPLING WILL BE PROVIDED AND INSTALLED BY THE CITY AT THE CONTRACTORS EXPENSE.
8. THE STRAINER, METER AND FLANGED ADAPTER COUPLING WILL NOT BE INSTALLED UNTIL THE METER VAULT AND TAPS ARE ACCEPTED BY THE CITY UTILITY OPERATIONS DEPARTMENT. ALL UTILITIES MUST ALSO HAVE BEEN ACCEPTED AND RELEASED BY THE CITY ENGINEERING OFFICE PRIOR TO METER INSTALLATION.
9. THE CONTRACTOR SHALL MAKE THE BY-PASS AND METER TEST TAP INSIDE THE VAULT. IF THE SERVICE IS TO BE USED STRICTLY AS A DOMESTIC OR DOMESTIC / IRRIGATION COMBINATION, TAP A ON THIS DRAWING IS NOT NECESSARY. IF THE SERVICE IS USED STRICTLY FOR IRRIGATION TAP A IS REQUIRED. TAP A MUST BE AT LEAST TWO PIPE DIAMETERS DOWN-STREAM OF THE METER. TAPS B & C MUST BE MADE AT AN APPROXIMATE 45% ANGLE ON EACH END OF THE PIPE AND CENTERED 10 INCHES AWAY FROM THE WALL. ALL TAPS SHALL BE 2" AND THE CONTRACTOR SHALL INSTALL APPROVED SERVICE SADDLES WITH BRASS NIPPLES AND NO. 7550 OHIO BRASS OR APPROVED EQUAL GATE VALVES.
10. THE MAIN LINE GATE VALVES SHALL BE RESILIENT WEDGE DESIGN, NON-RISING STEM VALVES, WHICH HAVE RECEIVED FORMAL APPROVAL FROM THE CITY. ALL VALVES SHALL BE FLANGED BOTH ENDS AND HAVE HAND WHEELS.
11. CONTRACTOR SHALL HAVE A CHOICE OF EITHER HAVING A LINK SEAL WALL SLEEVE MODEL WS-6-28-S-6 FOR 3" PIPE; MODEL WS-8-32-S-8 FOR 4" PIPE; MODEL WS-10-36-S-6 FOR 6" PIPE; MODEL WS-12-37-S-6 FOR 8" PIPE; MODEL WS-14-37-S-6 FOR 10" PIPE, CAST IN THE WALL VAULT. THE ABOVE MENTIONED WALL SLEEVES SHALL USE THE FOLLOWING LINK SEALS: FOR 3" PIPE - 5#LS325-C; FOR 4" PIPE - 5 - #LS400-C; FOR 6" PIPE 7 - #LS400-C; FOR 8" PIPE - 9 #LS-400C; FOR 10" PIPE - 12 - #LS325-C. THE CONTRACTOR MAY HAVE THE VAULT WALL CORED BEFORE INSTALLATION OF VAULT AND PIPING. IF THE WALL IS CORED THE FOLLOWING SPECIFICATIONS SHALL BE USED: FOR 3" PIPE CORE SIZE SHALL BE 6" AND USE 5 - #LS325-C LINK SEALS; FOR 4" PIPE CORE SIZE SHALL BE 8" AND USE 5 - #LS400-C LINK SEALS; FOR 6" PIPE CORE SIZE SHALL BE 10" AND USE 7 - #LS400-C LINK SEALS; FOR 8" PIPE CORE SIZE SHALL BE 12" AND USE 9 - #LS400-C LINK SEALS; FOR 10" PIPE CORE SIZE SHALL BE 14" AND USE 11 - LS425-C LINK SEALS. BREAKING OF THE WALL WITH A JACKHAMMER OR USING PRE-CAST KNOCKOUT PANELS IS NOT PERMITTED.
12. THERE WILL BE A CONCRETE SUPPORT UNDER EACH GATE VALVE.
13. MINIMUM DEPTH OF ANY VAULT SHALL BE 4'-6".
14. IF ELEVATION ADJUSTMENTS ARE NEEDED ON THE ACCESS LID, CONTRACTOR SHALL CONTRACT UTILITY OPERATIONS DEPARTMENT FOR APPROVAL PRIOR TO IMPLEMENTATION OF ADJUSTMENTS.
15. SHUT OFF VALVE SHOULD BE PLACED OUTSIDE VAULT BOX ON THE CUSTOMER SIDE



WHEN OUTSIDE OF PAVEMENT A CONCRETE PAD SHALL BE CONSTRUCTED EXTENDING A MINIMUM OF 2 FT BEYOND THE PERIMETER OF THE HATCH AND BE A MINIMUM OF 6 IN THICK

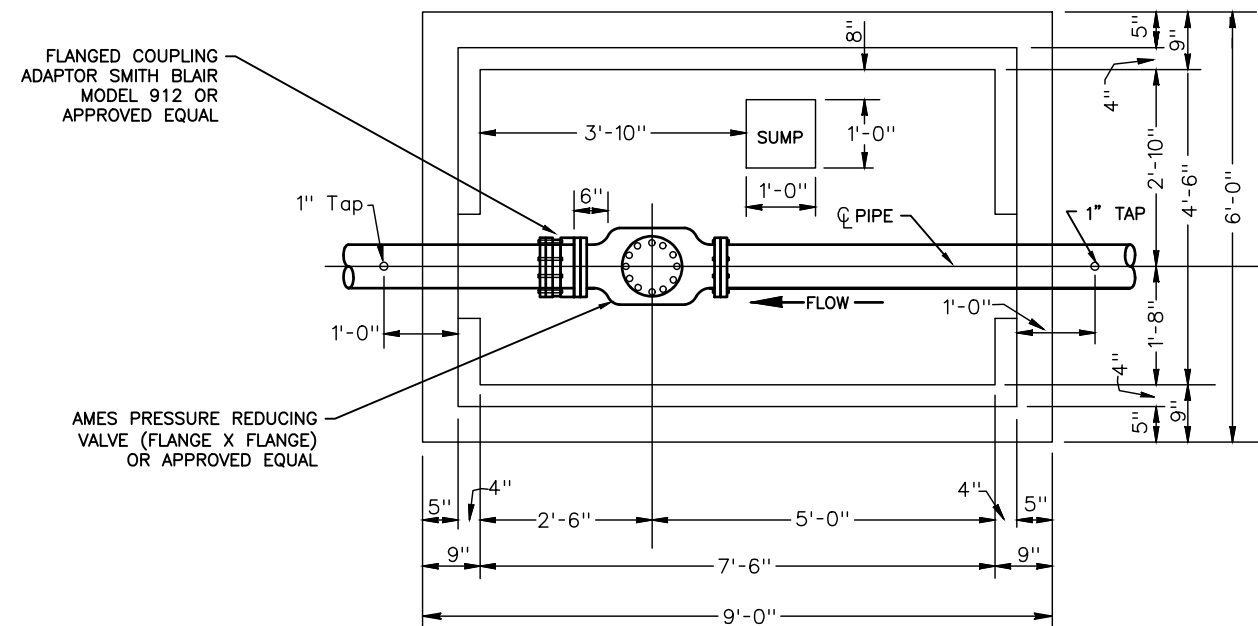
VAULT LID: BLICO HATCH OR APPROVED EQUAL WITH HASP & PAD LOCK  
SINGLE-LEAF HATCH - 3FT X 4FT  
DOUBLE-LEAF HATCH - 6FT X 4FT

ALL HARDWARE MUST BE STAINLESS STEEL. ZINC PLATED AND CHROMATE SEALED FINISHES ARE NOT ACCEPTABLE.

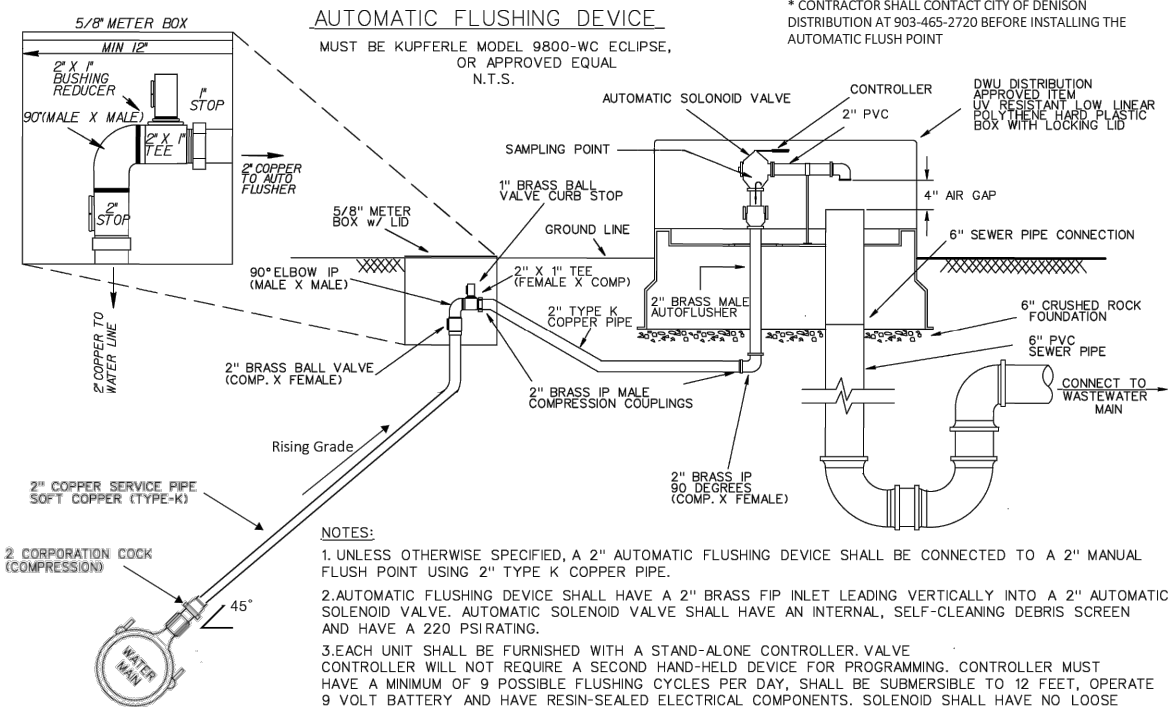


PRV VAULT (PROFILE)  
NOT TO SCALE

NOTE:  
PRV SHALL BE CENTERED UNDER THE HATCH. THE TOP OF THE VAULT SHALL BE AT LEAST 6IN ABOVE THE FINISHED GRADE.



PRV VAULT (PLAN VIEW)  
NOT TO SCALE

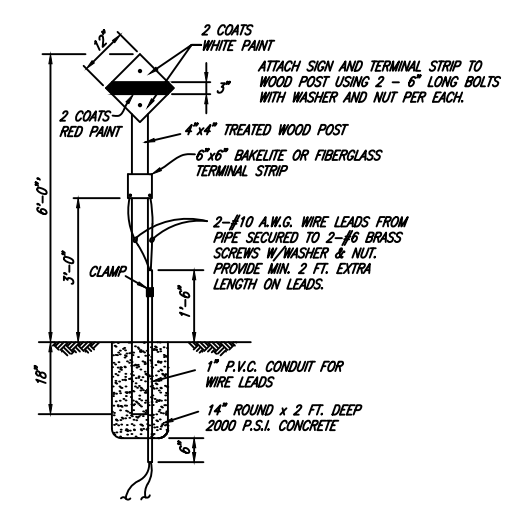


AUTOMATIC FLUSHING DEVICE  
MUST BE KUPFERLE MODEL 9800-WC ECLIPSE, OR APPROVED EQUAL N.T.S.

\* CONTRACTOR SHALL CONTACT CITY OF DENISON DISTRIBUTION AT 903-465-2720 BEFORE INSTALLING THE AUTOMATIC FLUSH POINT

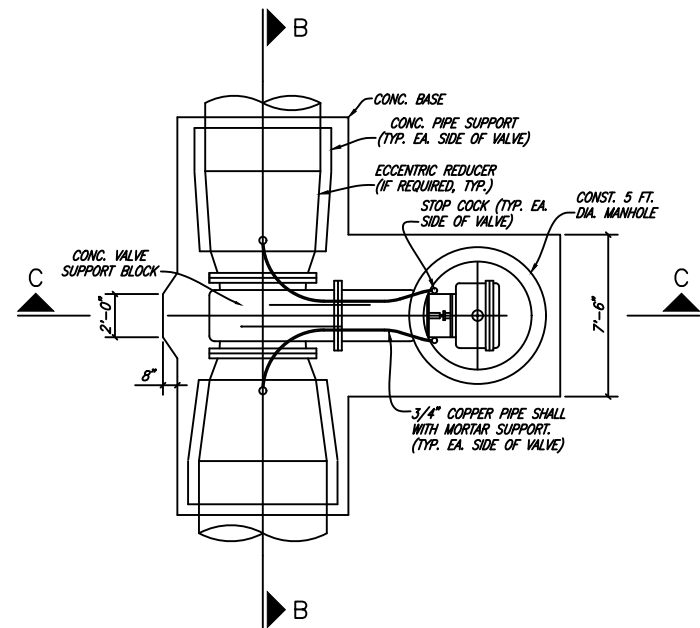
- NOTES:
- 1. UNLESS OTHERWISE SPECIFIED, A 2" AUTOMATIC FLUSHING DEVICE SHALL BE CONNECTED TO A 2" MANUAL FLUSH POINT USING 2" TYPE K COPPER PIPE.
- 2. AUTOMATIC FLUSHING DEVICE SHALL HAVE A 2" BRASS FIP INLET LEADING VERTICALLY INTO A 2" AUTOMATIC SOLENOID VALVE. AUTOMATIC SOLENOID VALVE SHALL HAVE AN INTERNAL, SELF-CLEANING DEBRIS SCREEN AND HAVE A 220 PSIRATING.
- 3. EACH UNIT SHALL BE FURNISHED WITH A STAND-ALONE CONTROLLER. VALVE CONTROLLER WILL NOT REQUIRE A SECOND HAND-HELD DEVICE FOR PROGRAMMING. CONTROLLER MUST HAVE A MINIMUM OF 9 POSSIBLE FLUSHING CYCLES PER DAY, SHALL BE SUBMERSIBLE TO 12 FEET, OPERATE 9 VOLT BATTERY AND HAVE RESIN-SEALED ELECTRICAL COMPONENTS. SOLENOID SHALL HAVE NO LOOSE PARTS WHEN REMOVED FROM VALVE. EACH UNIT SHALL HAVE A DOUBLE VALVE, ALL BRASS SAMPLING POINT. REMOVAL OF 2" SOLENOID VALVE SHALL BE POSSIBLE VIA A QUICK DISCONNECT BELOW THE VALVE.
- 4. ALL ABOVE-GROUND COMPONENTS SHALL BE CONTAINED WITHIN A UV-RESISTANT LOCKING COVER KUPFERLE FOUNDRY COMPANY, 2511 NORTH 9TH STREET ST. LOUIS, MO. 63102 1-800-231-3990.

AUTOMATIC FLUSH POINT  
NOT TO SCALE



CATHODIC TEST STATION  
NO SCALE  
(CATHTEST)

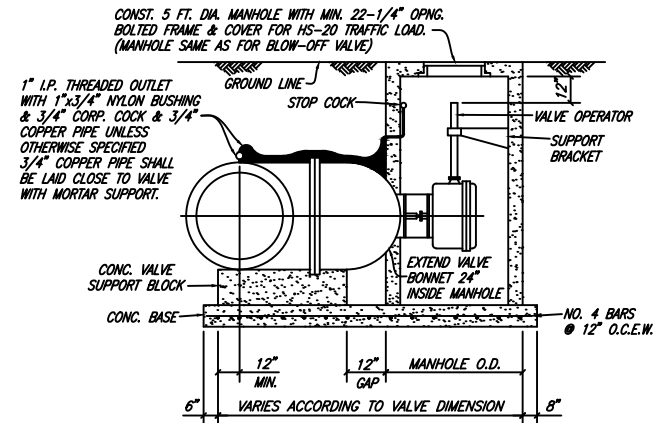




**HORIZONTAL VALVE PLAN**

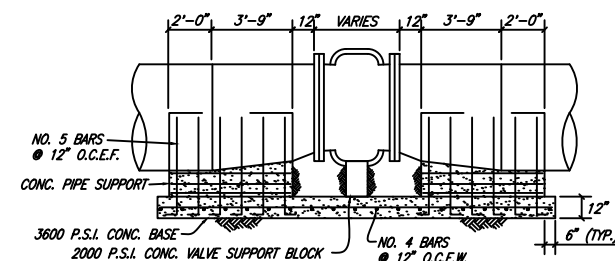
NO SCALE

(HORVALVE)



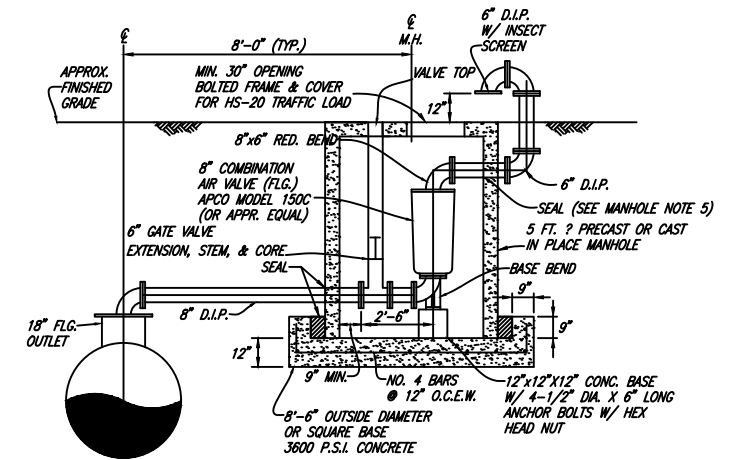
**HORIZONTAL VALVE SECTION C-C**

NO SCALE



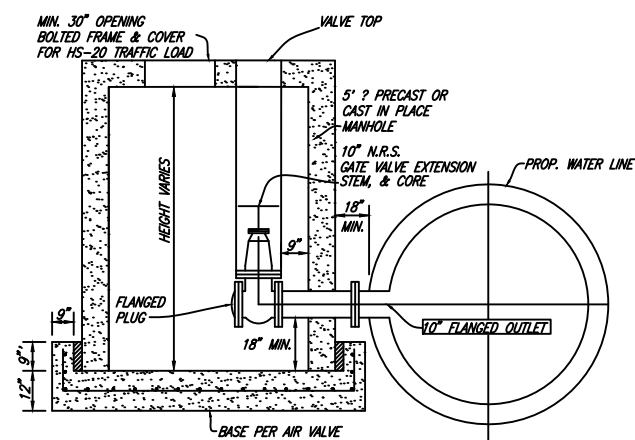
**HORIZONTAL VALVE SECTION B-B**

NO SCALE



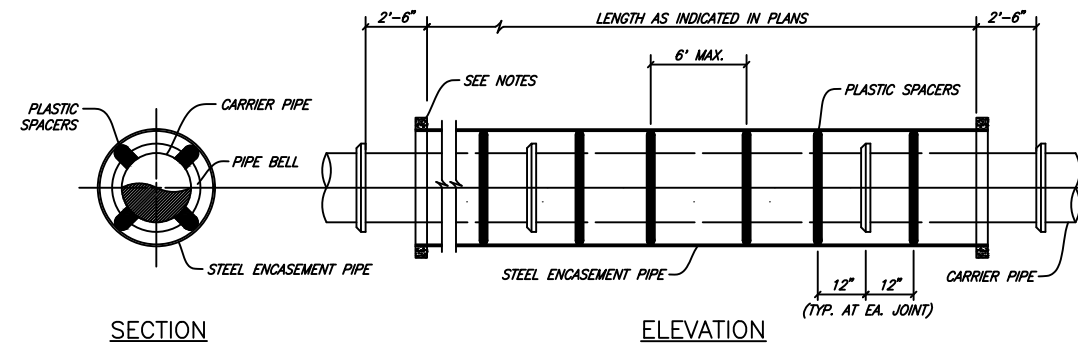
**AIR RELEASE VALVE W/MANHOLE**

NO SCALE  
(AIRVALVE)



**BLOW-OFF VALVE W/MANHOLE**

NO SCALE  
(BOVALVE)

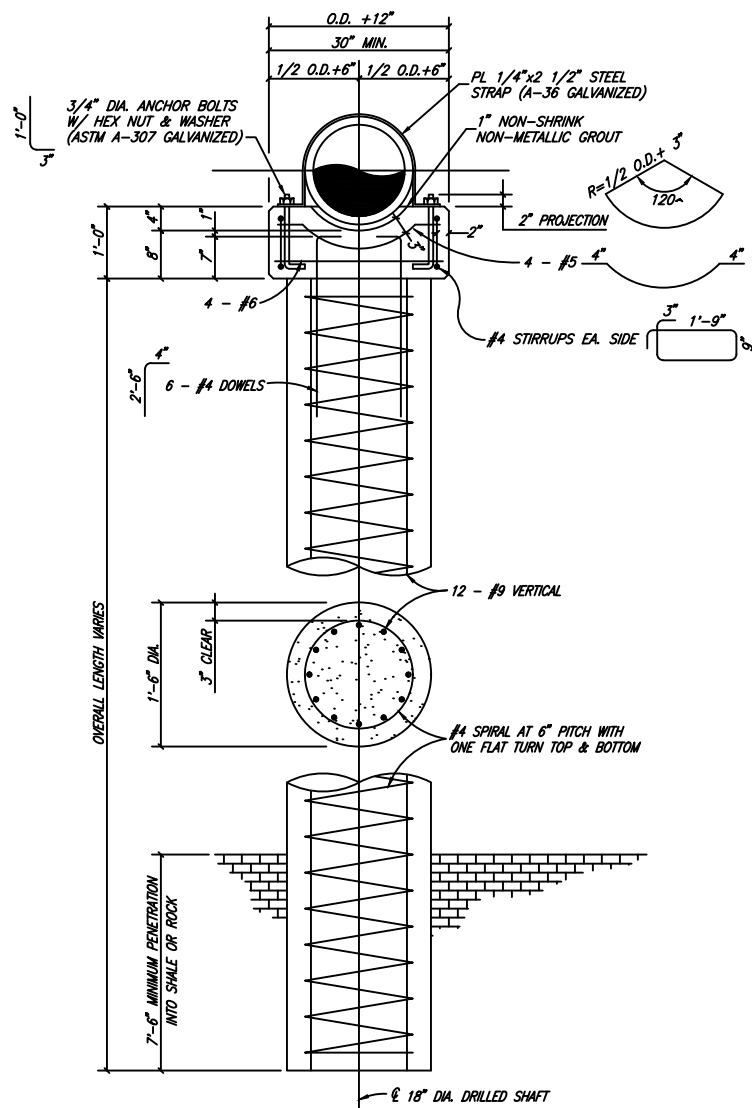


**ENCASED ROAD BORE**

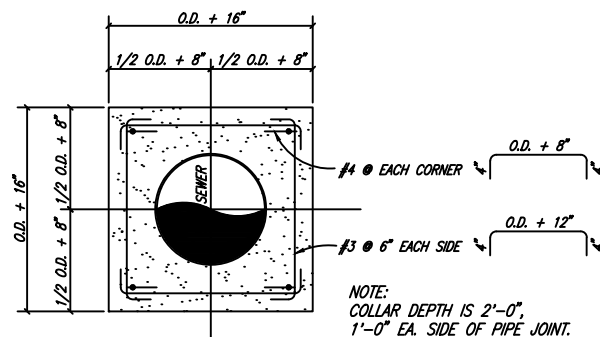
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NOTES:

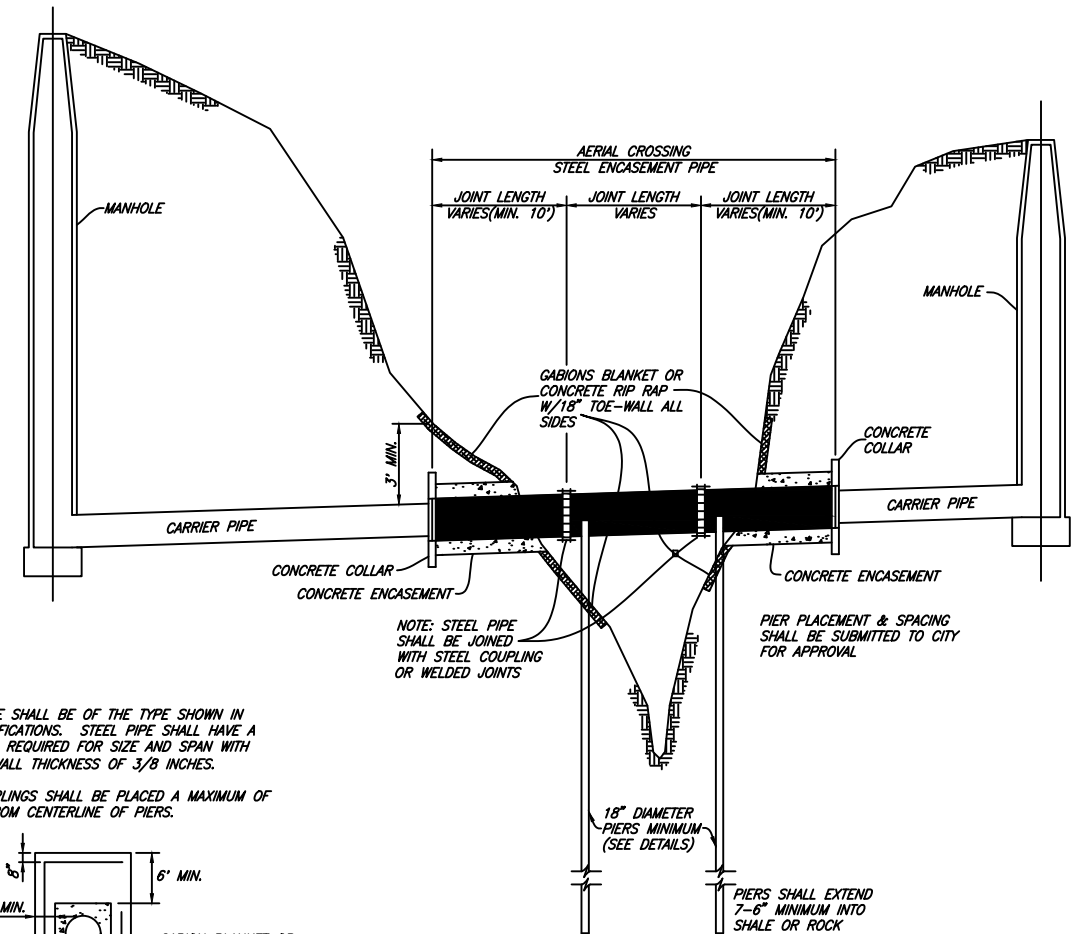
- 1) PREFABRICATED PLASTIC SPACERS MUST BE APPROVED BY THE OWNER.
- 2) CONTRACTOR SHALL PROVIDE SUPPORT UNDER CARRIER PIPE TO HAVE MIN. 1" CLEARANCE BETWEEN PIPE BELL AND ENCASEMENT PIPE.
- 3) ENDS OF NEOPRENE CASING PIPE SHALL BE SEALED WITH S.S. BANDS FOR ROADWAY CROSSINGS. PLUGS SHALL BE CONSTRUCTED WITH A WEEP HOLE.



**AERIAL CROSSING PIER & PIER CAP**  
(PIER)



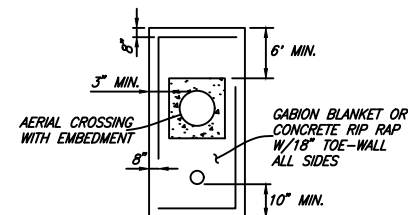
**AERIAL CROSSING CONCRETE COLLAR**  
(COLLAR)



**AERIAL CROSSING**  
(AERIAL-X)

STEEL PIPE SHALL BE OF THE TYPE SHOWN IN THE SPECIFICATIONS. STEEL PIPE SHALL HAVE A THICKNESS REQUIRED FOR SIZE AND SPAN WITH MINIMUM WALL THICKNESS OF 3/8 INCHES.

PIPE COUPLINGS SHALL BE PLACED A MAXIMUM OF 5 FEET FROM CENTERLINE OF PIERS.



**BANK PROTECTION (TYP.)**

NOTE:  
ENGINEERING DESIGN SHALL BE SUBMITTED TO CITY FOR APPROVAL FOR USE FOR EACH CROSSING. PIERS SHALL BE PLACED AT MAXIMUM SPAN DISTANCE AS DICTATED BY ENGINEER'S DESIGN. ENGINEER'S DESIGN SHALL BE BASED UPON GEOTECHNICAL REPORT RECOMMENDING PIER PLACEMENT.



**CITY OF DENISON, TEXAS**

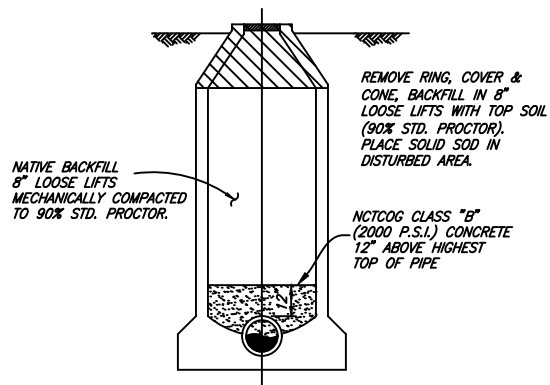
STANDARD CONSTRUCTION DETAILS  
SANITARY SEWER / AERIAL CROSSING

December, 2023

SHEET NO.

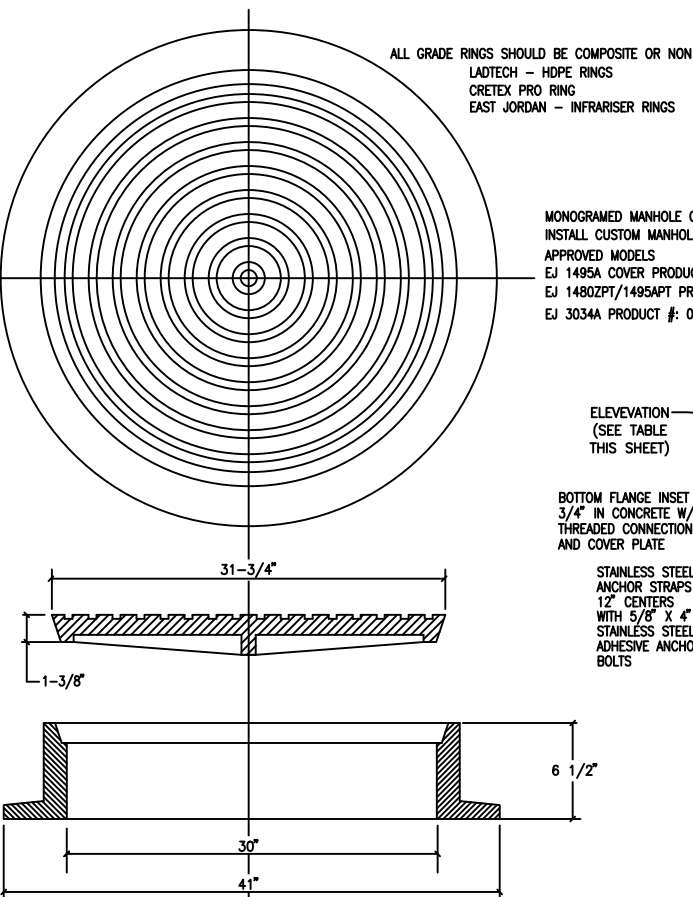
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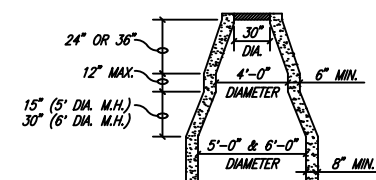


**MANHOLE ABANDONMENT**  
OUTSIDE PAVEMENT AREA  
(MHABAN)

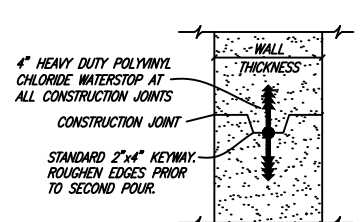
- NOTES:
- ALL COVERS SHOULD BE 30" DOMESTIC WITH THE CITY LOGO
  - RING AND COVERS SHOULD BE COMPOSITE OR CAST IRON
  - (+CAST IRON RING AND COVERS SHOULD HAVE 1&1/2" INSERT INSTALLED, SSI OR OTHER APPROVED BRAND)
  - COMPOSITE - CAP ONE - 30 OR EJ 3200 DURASTREET COMP. ASSEMBLY COM320155A01
  - IRON - EAST JORDAN IRON WORKS - 1495A COVER, 1480ZPT 149APT ASSEMBLY BASS AND HAYES - VRM-30 30", VRM -30 WATER TIGHT
  - ALL COVERS WITHIN A 100 YEAR FLOOD PLAIN OR IN CLOSE PROXIMITY TO A CREEK OR WATERWAY MUST BE PRESSURE RATED (BOLT DOWN) TCEQ RULE



**MANHOLE RING AND COVER**



**CONE TRANSITION**



**MANHOLE CONSTRUCTION JOINT**

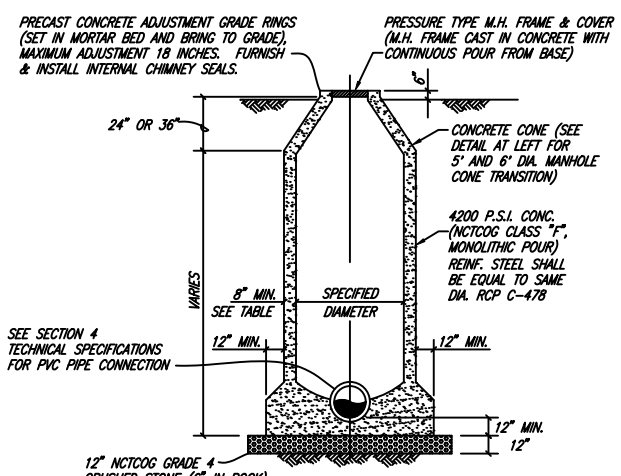
KEYWAY WITH WATERSTOP

MINIMUM WALL THICKNESS FOR CAST-IN-PLACE MANHOLES SHALL BE AS FOLLOWS

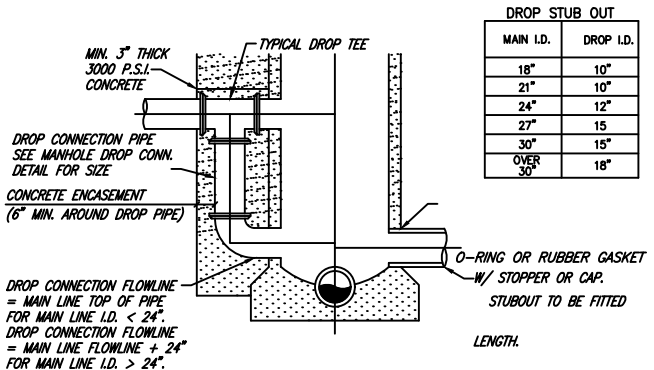
DIAMETER (FT.)	WALL (IN.)
4, 5 OR 6	8
7	9
8	10
9	11
10	12

**MANHOLE NOTES**

- NOTES FOR ALL NEW MANHOLES:
- 12" OR LARGER MAINS SHALL USE FIBERGLASS MANHOLES: HOBAS FIBERGLASS
  - MANHOLE STRUCTURES, LATH DOZ. CSI MANHOLES OR APPROVED EQUIVALENT
  - 10" OR SMALLER CAN BE CONCRETE (PREFAB OR POUR IN PLACE)
  - MANHOLE STRUCTURES SHOULD BE 48" IN DIAMETER FOR MAINS 10" AND SMALLER, DIAMETER SHOULD BE 60" FOR 12" AND LARGER.
  - MANHOLE SHALL BE PLUMB TO WITHIN 1" FOR EVERY 5 FT. OF VERTICAL DEPTH, PRECAST OR CAST IN PLACE.
  - MANHOLES OVER 12 FT. DEEP SHALL BE 5" IN DIAMETER AND HAVE NO. 4 BARS @ 18" O.C.E.W. AND IF NOT POURED MONOLITHIC COLD JOINTS SHALL HAVE A FORMED GROOVE OR REINFORCING DOWELS FOR SHEAR PROTECTION; CONSTRUCTION JOINTS SHALL HAVE HEAVY DUTY P.V.C. WATERSTOP 9-INCHES IN THE DIRECTION PERPENDICULAR TO THE JOINT AS MANUFACTURED BY B.F. GOODRICH OR APPROVED EQUAL.
  - USE PRESSURE TYPE MANHOLE FRAME & COVER.
  - ALL CONCRETE MANHOLES SHOULD BE LINED OR COATED WITH ONE OF THE FOLLOWING PRODUCTS:  
CHESTERTON ARC 791  
RAVEN 405  
WARREN EPOXY 301-14  
SPECTRA SHIELD
- NOTES FOR NEW PRECAST MANHOLES:
1. PRE-FAB MANHOLES SHOULD BE WRAPPED WITH CRETEX WRAP OR CONSEAL CS-212 AT EXTERIOR JOINTS TO FURTHER BLOCK POSSIBLE LEAK
  2. PRECAST MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C-478 AND PROJECT SPECIFICATIONS.
  3. SEE SPECIFICATIONS FOR CLASS OF PIPE FOR MANHOLE RISERS.
  4. FURNISH & INSTALL THREE JOINT RESTRAINER STRAPS FOR THE TOP JOINT AND CONE SECTIONS.
  5. EACH JOINT SHALL BE PROVIDED WITH AN O-RING DESIGN AND THE EXTERIOR OF EACH JOINT SHALL BE SEALED USING A PREFORMED JOINT SEALING COMPOUND.
  6. NEW MANHOLES SHALL BE LINED WITH WARREN ENVIRONMENTAL 301-14 EPOXY COATING IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS.



**STANDARD MANHOLE ELEVATION**



**DROP MANHOLE ELEVATION**

DROP STUB OUT

MAIN I.D.	DROP I.D.
18"	10"
21"	10"
24"	12"
27"	15"
30"	15"
OVER 30"	18"

8" x 30" MIN. DIA. PRECAST

REINFORCED CONCRETE GRADE RINGS (SET IN MORTAR BED AND BRING TO GRADE) RINGS 18" MAXIMUM FURNISH AND INSTALL INTERNAL CHIMNEY SEAL.

STUBOUTS SHALL BE A MIN. OF 5' LONG W/ CONCRETE CRADLE (FROM SAME POUR AS BASE) UNDER ENTIRE

USE O-RING RUBBER GASKETS AND PREFORMED JOINT SEALING COMPOUND TO FILL EXTERIOR JOINT SPACES

PRECAST MANHOLE RISER SHALL BE IN ACCORDANCE WITH A.S.T.M. C-478

BASE RISER WITH "BUTT END" SET IN RAM-NEK (OR APPROVED EQUAL) FLEXIBLE GASKET MATERIAL

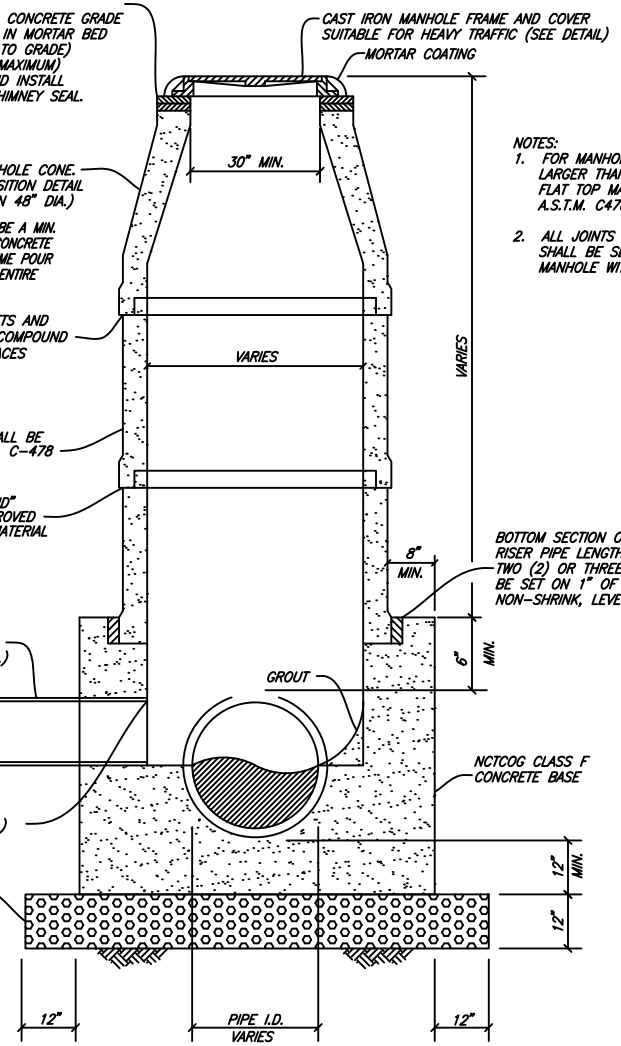
STUBOUT TO BE FITTED W/ STOPPER OR CAP. STUBOUTS SHALL BE A MIN. OF 5' LONG (TYP.) W/ CONCRETE CRADLE UNDER ENTIRE LENGTH.

COUPLING WITH O-RING RUBBER GASKET WITH P.V.C. PIPE (KOR-N-SEAL)

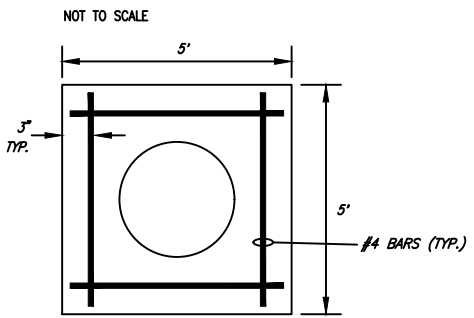
3/8" STAINLESS STEEL PLATE  
3 REQUIRED CONNECTING MANHOLE TOP TO FIRST JOINT. CONFORM TO SHAPE OF MANHOLE.

OR APPROVED EQUAL.

12" NCTCOG GRADE 4 CRUSHED STONE MAT TO BE LAID ON FIRM MATERIAL OR ROCK FOUNDATION

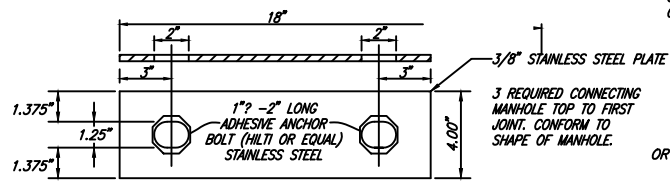


- NOTES:
1. FOR MANHOLES WITH DIAMETER LARGER THAN 48" I.D., A PRECAST FLAT TOP MANHOLE COVER AS PER A.S.T.M. C478 SHALL BE INSTALLED.
  2. ALL JOINTS IN PRECAST MANHOLE SHALL BE SEALED ON OUTSIDE OF MANHOLE WITH AQUAGARD SHRINK SEAL.



**MANHOLE PAD PLAN**

- NOTES:
- MANHOLE PAD TO BE INSTALLED AROUND ALL MANHOLE RINGS AND COVERS. PAD SHALL BE DIAGONAL TO ROADWAY DIRECTION.



**JOINT RESTRAINER STRAP FOR PRECAST MANHOLE**

SEE SPECIFICATIONS FOR PRECAST MANHOLE REQUIREMENTS  
NOT TO SCALE

- NOTES:
1. ALL VENTED MANHOLES SHALL BE PROVIDED WITH FLAT TOP SLAB.
  2. MANHOLE RING AND COVER SHALL BE EAST JORDAN IRON WORKS, INC. OR APPROVED EQUAL.
  3. CLEAR OPENING OF MANOLE RINGS AND COVER SHALL BE 30" MIN.

**CITY OF DENISON, TEXAS**

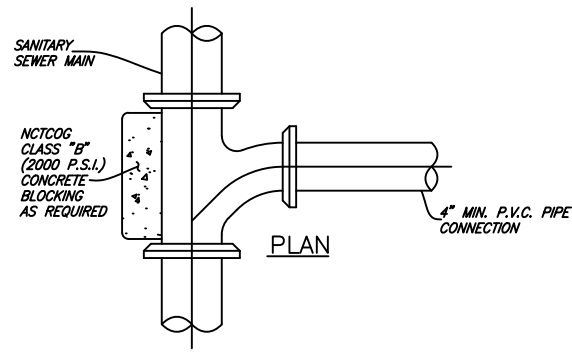
STANDARD CONSTRUCTION DETAILS  
SANITARY SEWER / MANHOLES

December, 2023

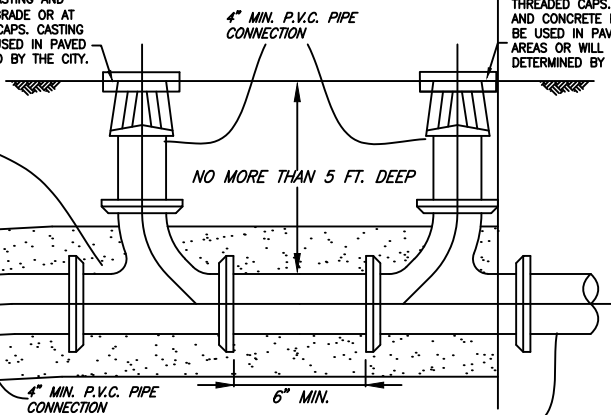
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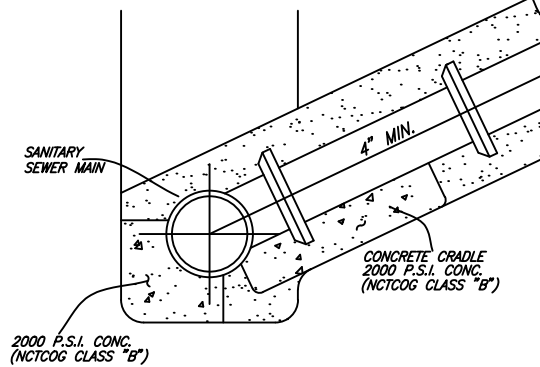


TO BE STANDARD CLEANOUT CASTING AND CONCRETE PAD AT 6" ABOVE GRADE OR AT GRADE WITH WHITE THREADED CAPS. CASTING AND CONCRETE PAD WILL BE USED IN PAVED AREAS OR WILL BE DETERMINED BY THE CITY.



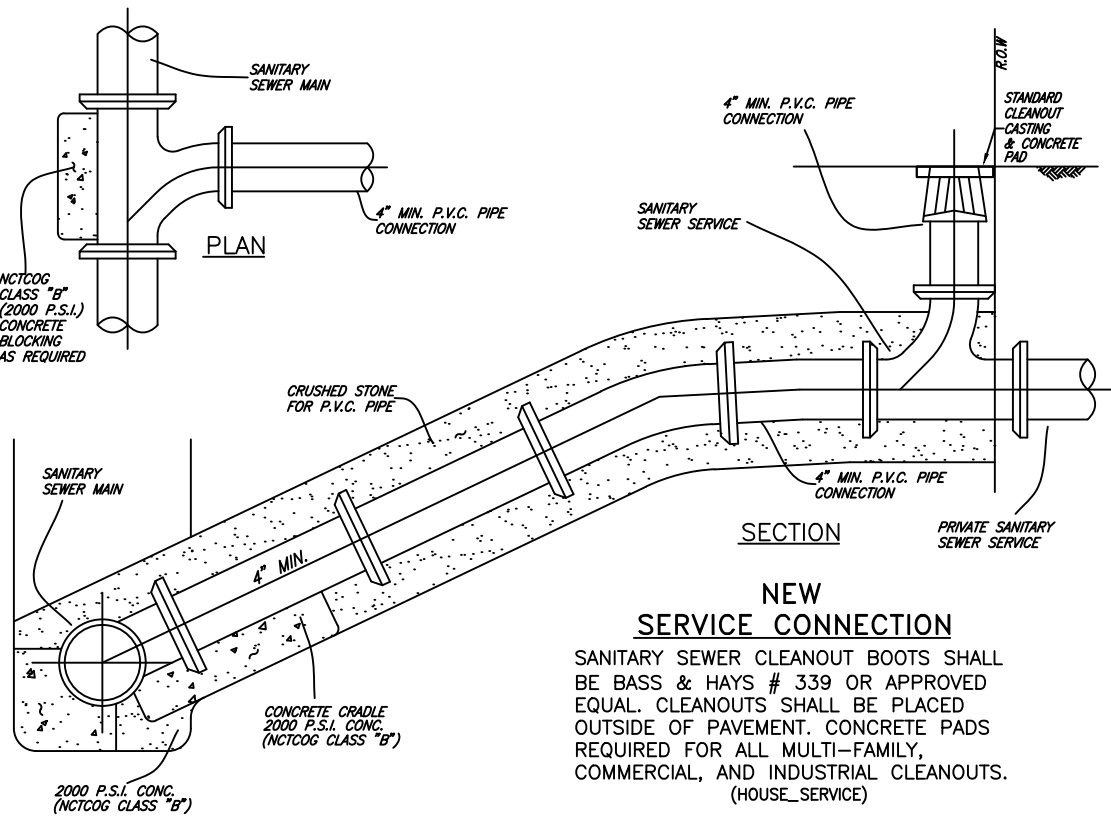
**SECTION  
REHAB  
SERVICE CONNECTION**

SANITARY SEWER CLEANOUT BOOTS SHALL BE BASS & HAYS # 339 OR APPROVED EQUAL. CLEANOUTS SHALL BE PLACED OUTSIDE OF PAVEMENT. CONCRETE PADS REQUIRED FOR ALL MULTI-FAMILY, COMMERCIAL, AND INDUSTRIAL CLEANOUTS. (HOUSE\_SERVICE)



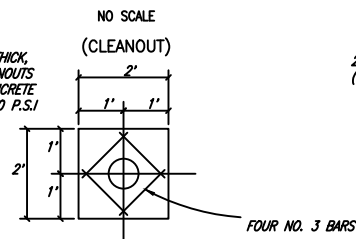
**NEW  
SERVICE CONNECTION**

SANITARY SEWER CLEANOUT BOOTS SHALL BE BASS & HAYS # 339 OR APPROVED EQUAL. CLEANOUTS SHALL BE PLACED OUTSIDE OF PAVEMENT. CONCRETE PADS REQUIRED FOR ALL MULTI-FAMILY, COMMERCIAL, AND INDUSTRIAL CLEANOUTS. (HOUSE\_SERVICE)



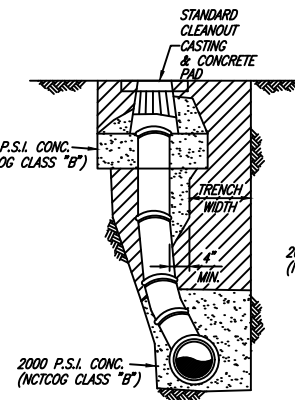
TO BE STANDARD CLEANOUT CASTING AND CONCRETE PAD AT 6" ABOVE GRADE OR AT GRADE WITH WHITE THREADED CAPS. CASTING AND CONCRETE PAD WILL BE USED IN PAVED AREAS OR WILL BE DETERMINED BY THE CITY.

CONCRETE PAD SHALL BE 4" THICK. BE POURED AROUND ALL CLEANOUTS WHEN NOT PLACED WITHIN CONCRETE PAVEMENT, PAD SHALL BE 3600 P.S.I CONCRETE

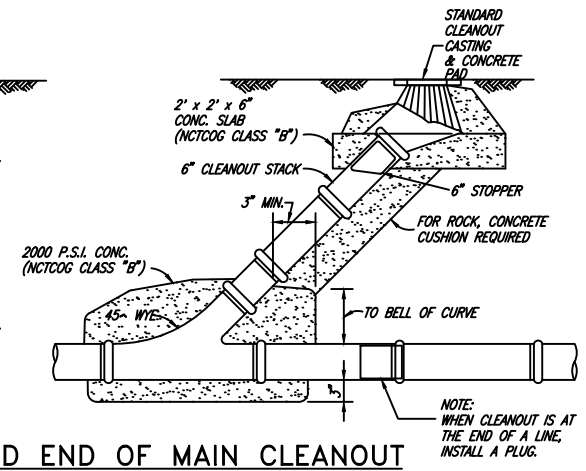


**CLEANOUT BOX PAD PLAN**

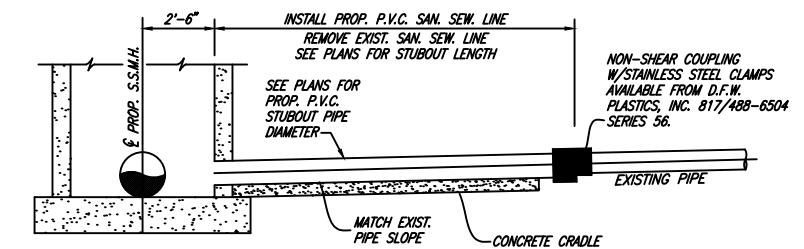
NOTE: TO BE USED IN PAVED AREAS OR AREAS DETERMINED BY THE CITY.



**STANDARD END OF MAIN CLEANOUT**

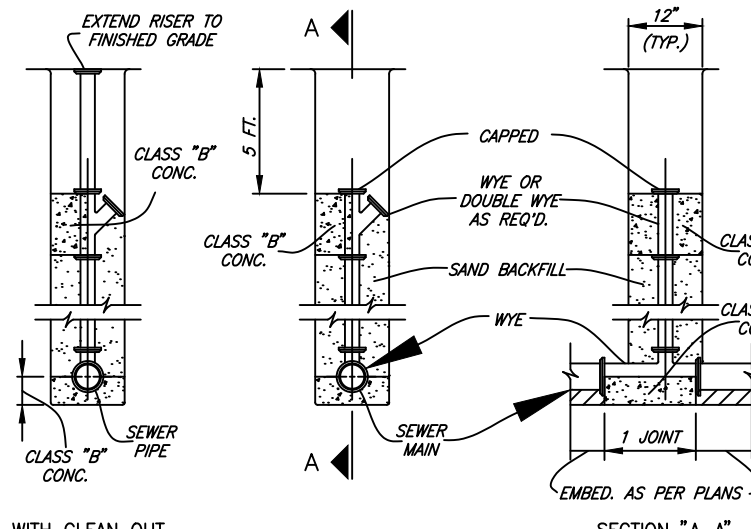


NOTE: WHEN CLEANOUT IS AT THE END OF A LINE, INSTALL A PLUG.



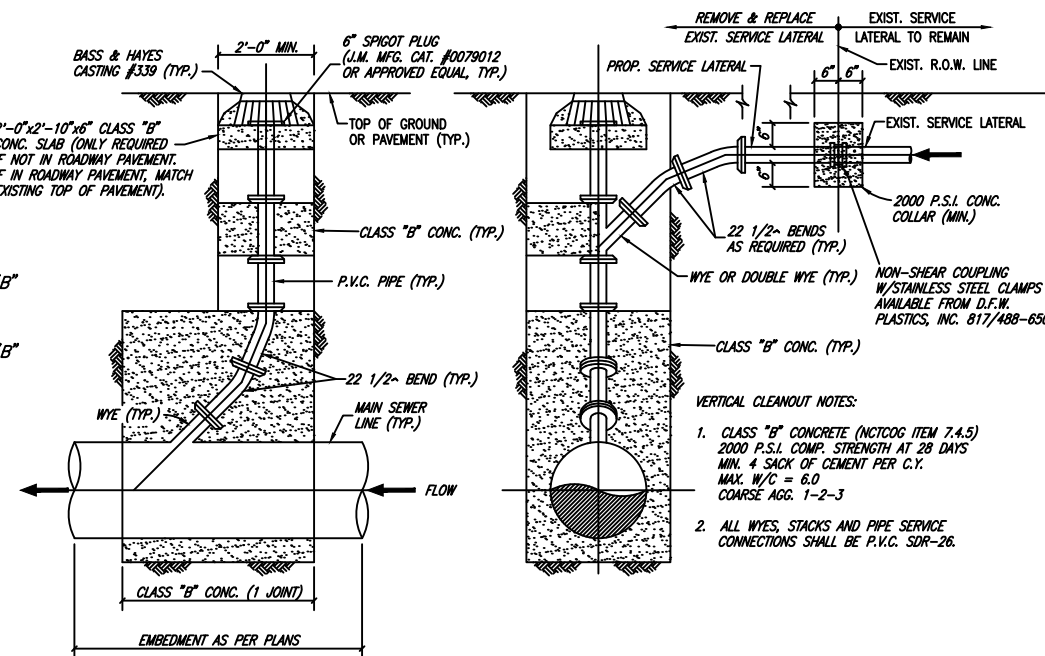
**TYPICAL STUBOUT CONNECTION**

NOTE: MATCH SOFFITS UPSTREAM OF MANHOLE  
MATCH FLOW LINES DOWNSTREAM OF MANHOLE (STUBOUT)



**DEEP CUT CLEANOUT**

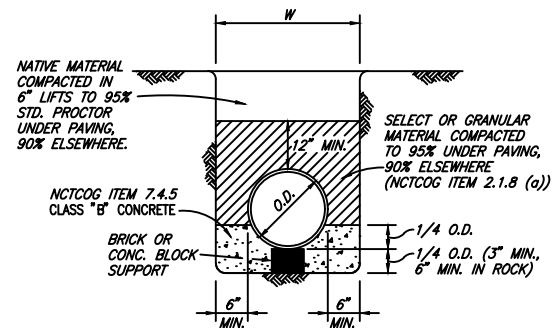
(DEEPCUT-CO)



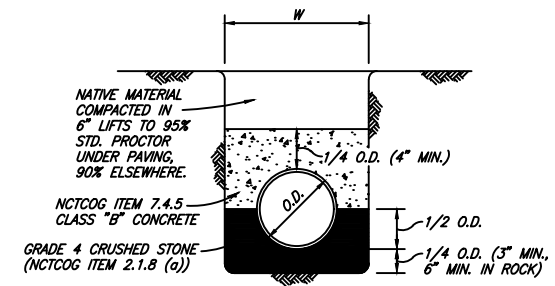
**VERTICAL CLEANOUT CONNECTION**

(CONNECTION, WYE, CONCRETE, BENDS, CASTING, ETC. ALL SUBSIDIARY TO CLEANOUT)  
(VERT-CO)

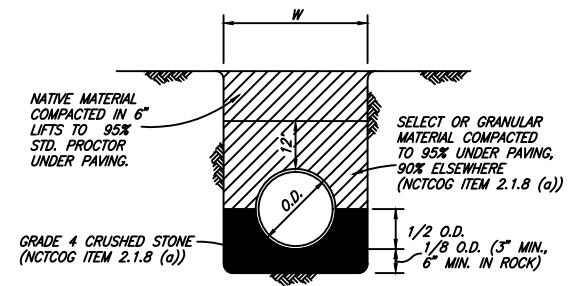
- VERTICAL CLEANOUT NOTES:**
- CLASS "B" CONCRETE (NCTCOG ITEM 7.4.5) 2000 P.S.I. COMP. STRENGTH AT 28 DAYS MIN. 4 SACK OF CEMENT PER C.Y. MAX. W/C = 6.0 COARSE AGG. 1-2-3
  - ALL WYES, STACKS AND PIPE SERVICE CONNECTIONS SHALL BE P.V.C. SDR-26.



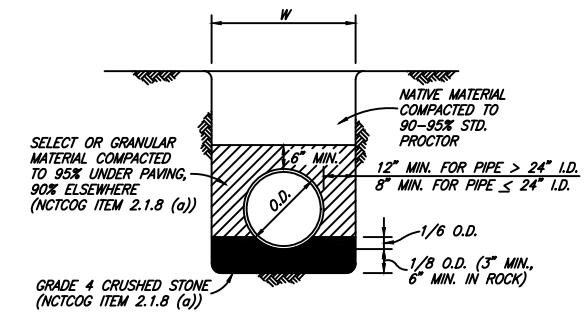
**CLASS A EMBEDMENT**  
CONCRETE CRADLE  
(CLASSA)



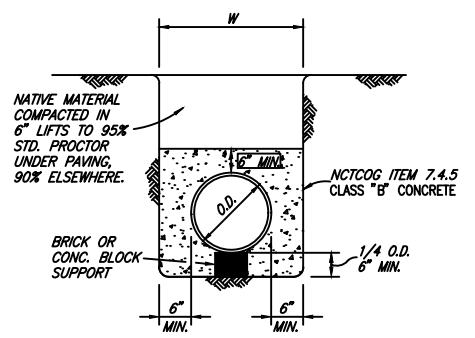
**CLASS A-1 EMBEDMENT**  
CONCRETE CAP  
(CLASSA1)



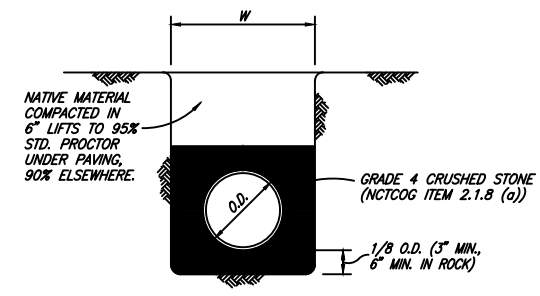
**CLASS B+ EMBEDMENT**  
STD PVC WATER  
(CLASSBP)



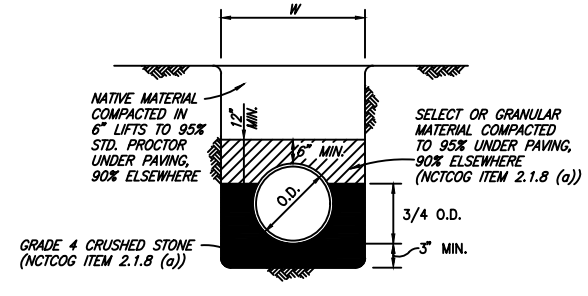
**CLASS C EMBEDMENT**  
STD. DUCTILE IRON WATER OR SEWER  
STD. R.C.C.P. WATER  
STD. STORM SEWER  
(CLASSC)



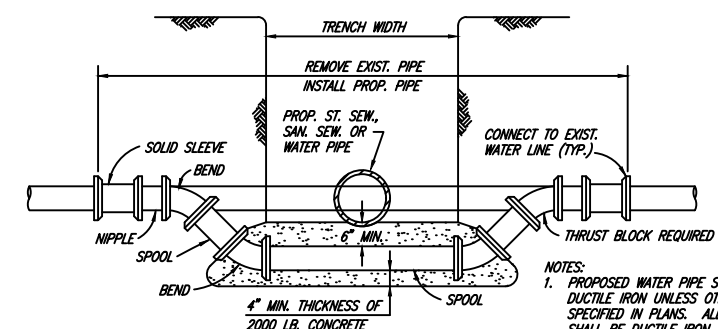
**CLASS G EMBEDMENT**  
CONCRETE ENCASEMENT  
(CLASSG)



**CLASS H EMBEDMENT**  
P.V.C. PIPE ONLY  
STD. P.V.C. SEWER  
(CLASSH)

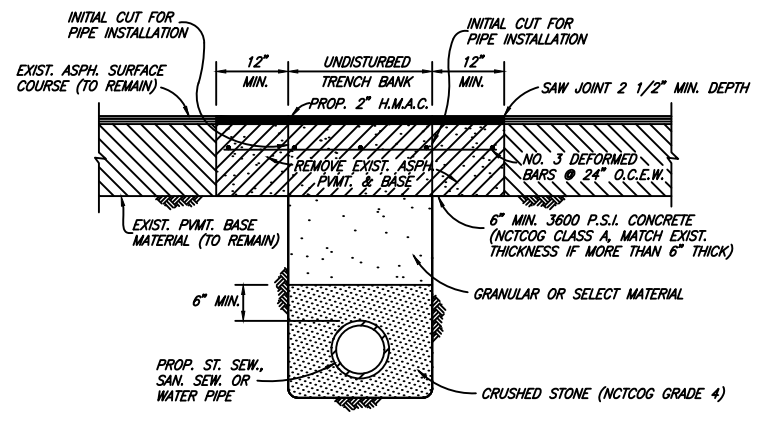


**CLASS B-1 EMBEDMENT**  
P.V.C. PIPE ONLY  
STD. P.V.C. WATER  
(CLASSB1)

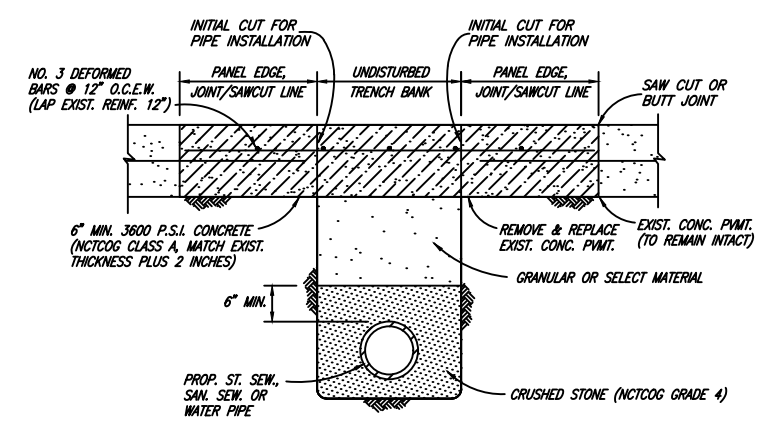


- NOTES:
1. PROPOSED WATER PIPE SHALL BE DUCTILE IRON UNLESS OTHERWISE SPECIFIED IN PLANS. ALL FITTINGS SHALL BE DUCTILE IRON (M.I.-P.E.) MEGALUG.
  2. PROPOSED PIPING & FITTINGS ARE SYMMETRIC ABOUT CENTER OF PROP. SAN. SEW. OR ST. SEW. PIPE AND SHALL RETAIN TEST PRESSURES.
  3. ALL THRUST BLOCKING SHALL BE SUBSIDIARY TO UNIT PRICE.
  4. CROSSING OF SANITARY SEWER SHALL BE IN ACCORDANCE WITH T.N.R.C.C. REQUIREMENTS.

**WATER MAIN LOWERING**  
(WMLow)



**ASPHALT STREET OR DRIVEWAY REPAIR**  
(ASPHPVMT)



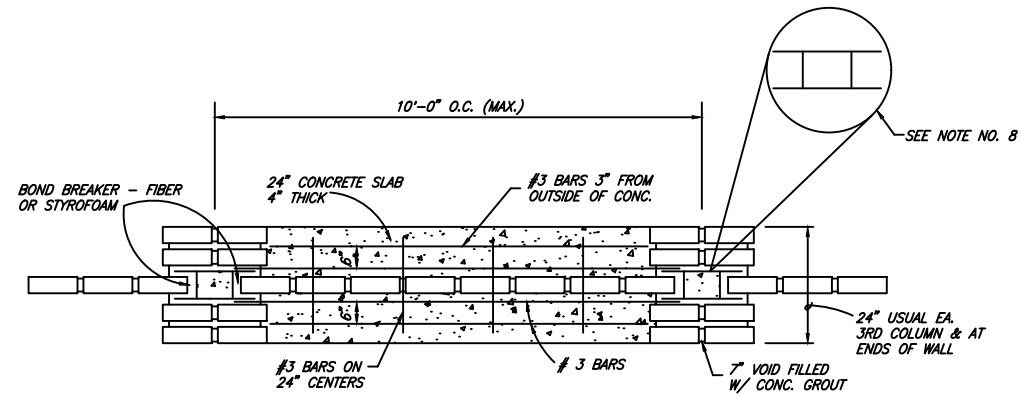
**CONCRETE STREET OR DRIVEWAY REPAIR**  
(CONCPVMT)

**GRADE 4 CRUSHED STONE GRADATION**

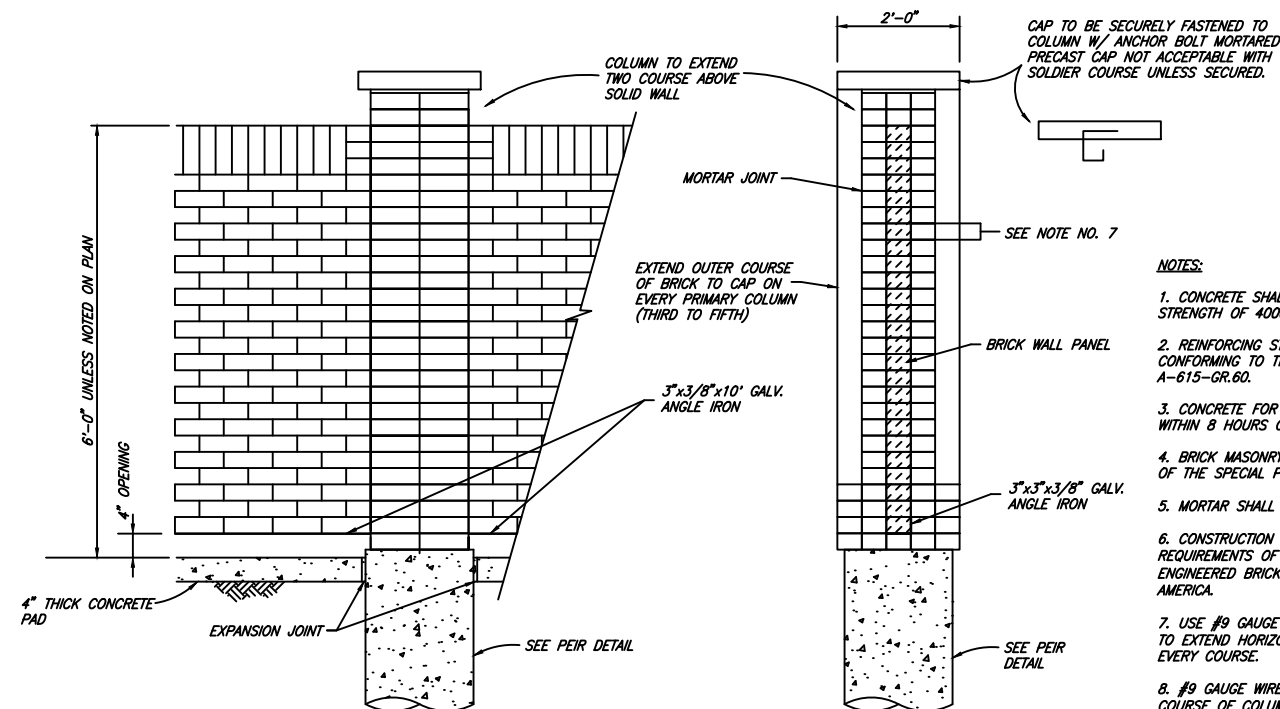
SIEVE SIZE	% RETAINED
1-1/2 INCH	0
1 INCH	0-5
1/2 INCH	40-75
NO. 4	90-100
NO. 8	95-100

(CRU-STN)





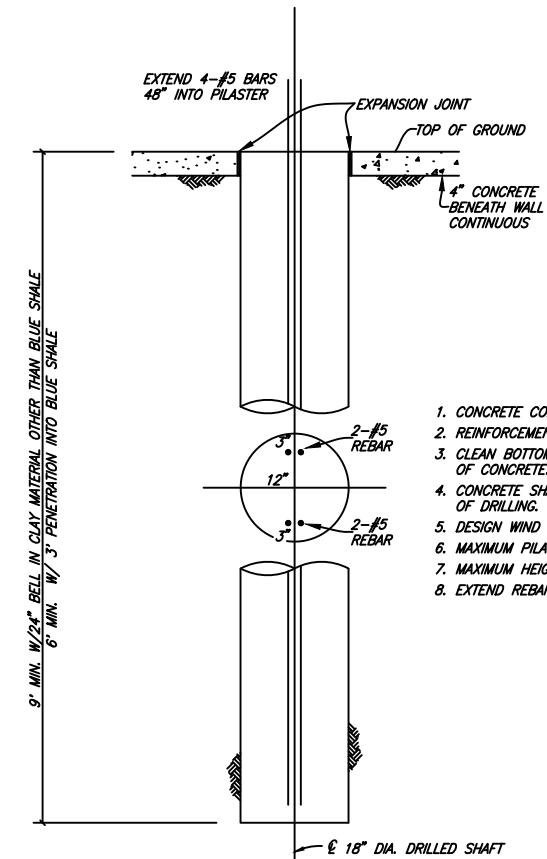
TYPICAL WALL & COLUMN LAYOUT PLAN



THIN WALL BRICK SCREENING WALL ELEVATION  
(BRKFENCE)

NOTES:

1. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 P.S.I. AT 28 DAYS.
2. REINFORCING STEEL SHALL BE NEW BILLET STEEL CONFORMING TO THE REQUIREMENTS OF ASTM A-615-GR.60.
3. CONCRETE FOR DRILLED PIERS SHALL BE PLACED WITHIN 8 HOURS OF DRILLING PIER HOLES.
4. BRICK MASONRY SHALL BE AS SPECIFIED IN ITEM 2.3.6 OF THE SPECIAL PREVISIONS.
5. MORTAR SHALL BE TYPE "S".
6. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE "RECOMMENDED PRACTICE FOR ENGINEERED BRICK MASONRY"-- BRICK INSTITUTE OF AMERICA.
7. USE #9 GAUGE 1-3/4" WIDE GALVANIZED LADDER WIRE TO EXTEND HORIZONTAL IN WALL PANEL DURAWALL CORP. EVERY COURSE.
8. #9 GAUGE WIRE FABRICATED AS SHOWN BETWEEN EACH COURSE OF COLUMN BRICK.
9. THE WALL SHALL BE A MINIMUM OF SIX FEET IN HEIGHT AS MEASURED FROM THE NEAREST ALLEY EDGE OR SIDEWALK GRADE, WHICHEVER IS HIGHER. THE COLOR OF THE WALL SHALL BE SELECTED BY THE CITY.
10. 3"x3/8" GALVANIZED ANGLE IRON PLATE SHALL BE INSTALLED BELOW THE BOTTOM ROW OF BRICKS & BE ANCHORED INTO THE COLUMNS.



PIER DETAIL  
(WALLPIER)

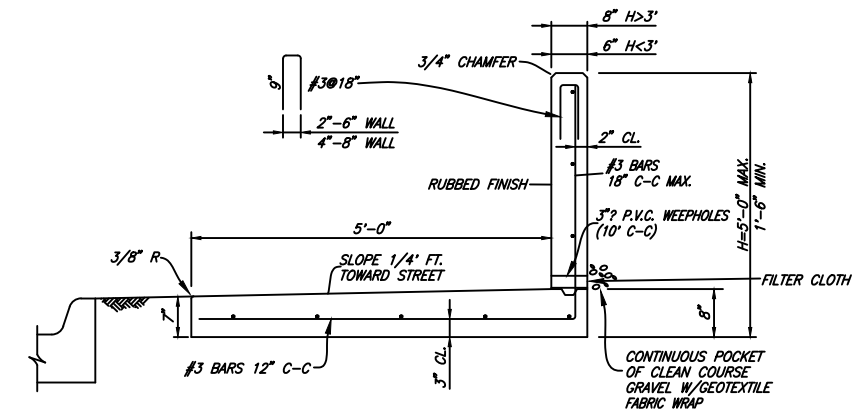
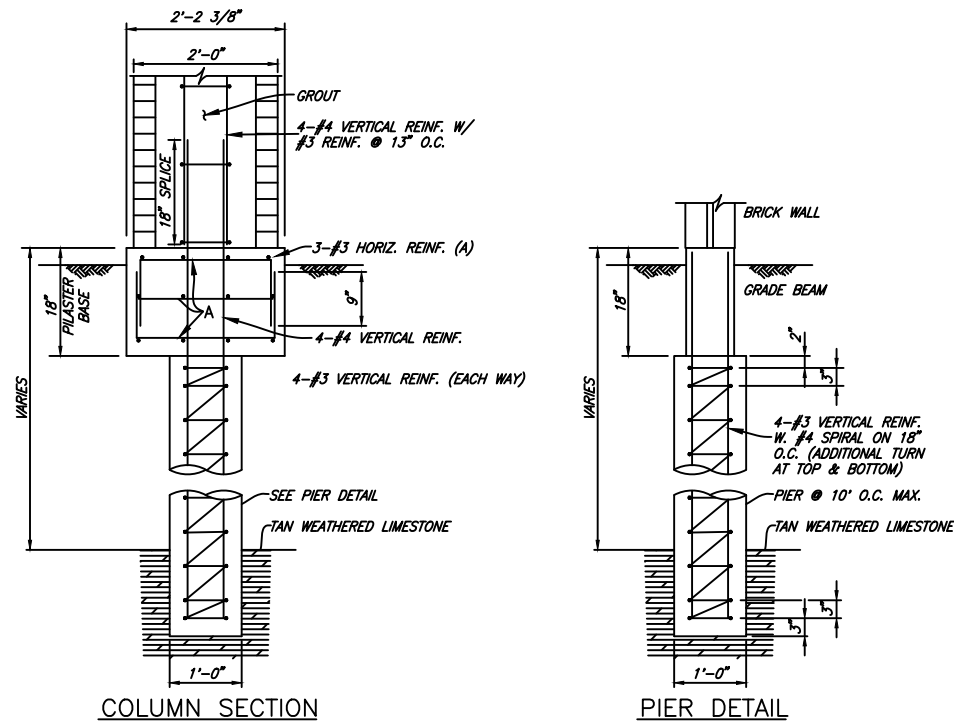
1. CONCRETE COMP. STRENGTH--4000 P.S.I.
2. REINFORCEMENT STEEL - ASTM A615 - GR 60.
3. CLEAN BOTTOM OF HOLE PRIOR TO PLACEMENT OF CONCRETE.
4. CONCRETE SHALL BE PLACED WITHIN 8 HOURS OF DRILLING.
5. DESIGN WIND PRESSURE - 20 PSF.
6. MAXIMUM PILASTER SPACING - 10'-0"
7. MAXIMUM HEIGHT OF WALL - 6'-0".
8. EXTEND REBAR 48" INTO PILASTER AND COLUMN.



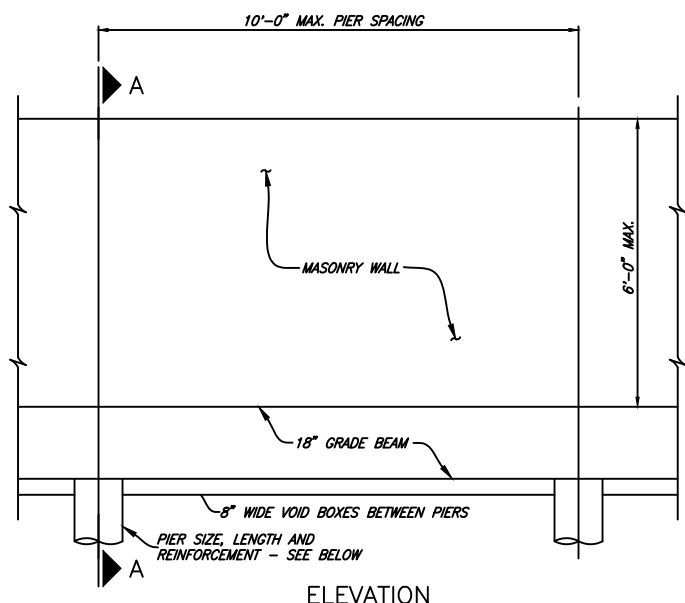
### SCREENING WALL

**GENERAL NOTES:**

1. CONCRETE - MINIMUM COMPRESSIVE STRENGTH OF 3000 P.S.I. AT 28 DAYS.
2. REINFORCEMENT - ASTM A 36
3. MASONRY - COMPRESSIVE STRENGTH SHALL BE AS PRESCRIBED IN ITEM 2.3.6 SPECIAL PROVISIONS.
4. WIND LOAD - 20 P.S.F.
5. PIER BEARING STRESSES - SEE BRICK SCREENING WALL NOTES.
6. MORTAR - TYPE "S"
7. PROVIDE CONTROL JOINTS AT 50 FT.
8. PROVIDE EXPANSION JOINTS AT 200 FT. CENTER MAXIMUM.
9. PROVIDE MIN. 9' FT. W/ 24" DIA. BELL IN CLAY OR OTHER MATERIAL EXCEPT BLUE SHALE. 6' MIN. WITH 3' MIN. INTO BLUE SHALE.
10. ALL EXPOSED CONCRETE SHALL BE RUBBED FINISHED SURFACE.
11. SIDEWALKS ADJACENT TO WALLS MUST BE 5'-0" MIN. WIDTH FROM ALL PORTIONS OF THE WALL (INCLUDING PILASTER, COLUMNS, ETC.).
12. MAX. PILASTER SPACING 40 FT.
13. WALLS SHALL NOT BE PLACED IN THE VISIBILITY EASEMENT OR STREET R.O.W.
14. THE WALL SHALL BE A MINIMUM OF SIX FEET IN HEIGHT AS MEASURED FROM THE NEAREST ALLEY EDGE OR SIDEWALK GRADE, WHICHEVER IS THE HIGHER. THE COLOR OF THE WALL SHALL BE LIMITED TO EARTH-TONE COLORS, EXCLUDING GRAY, GREEN AND WHITE. THE COLOR OF THE WALL SHALL BE UNIFORM ON EACH SIDE OF A THOROUGHFARE FOR THE ENTIRE LENGTH BETWEEN INTERSECTING THOROUGHFARES, UNLESS OTHERWISE APPROVED BY THE ENGINEERING DEPARTMENT. THE FINISH OF THE WALL SHALL BE CONSISTENT ON ALL SURFACES.
15. IF WROUGHT IRON FENCING IS TO BE UTILIZED ON REQUIRED SCREENING, ALL WROUGHT IRON MUST BE SOLID STOCK, NO TUBULAR STEEL WILL BE ALLOWED.



**TYPE 6 SIDEWALK RETAINING WALL**  
(RETAINING\_WALL)

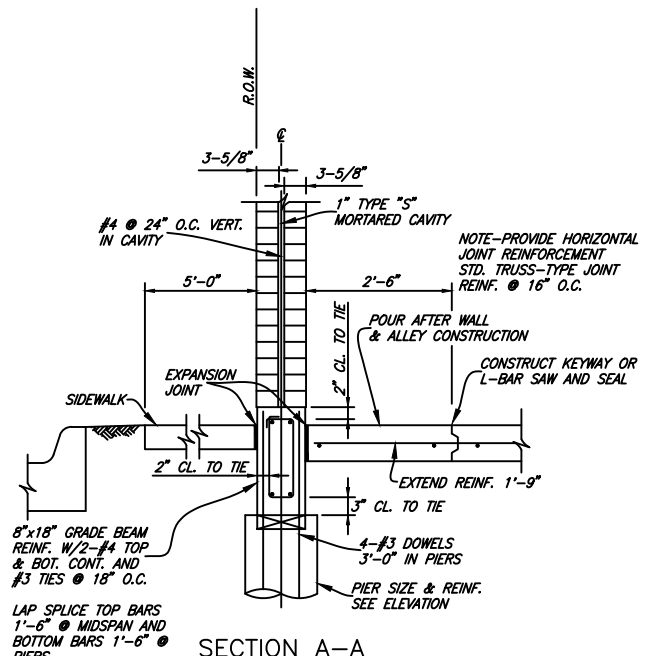


**ELEVATION**

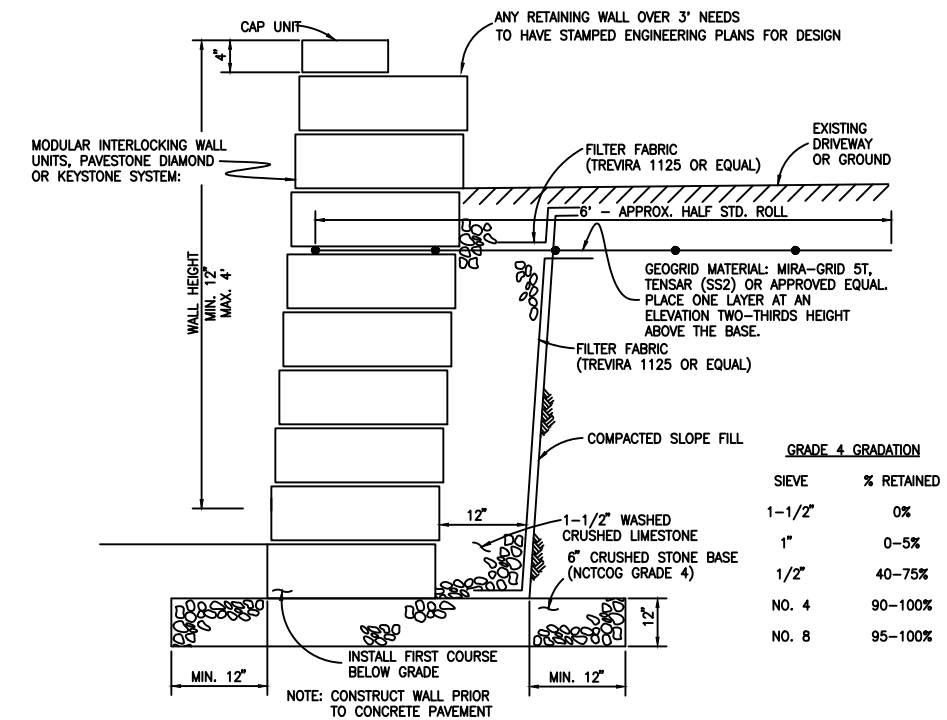
DRILLED PIERS 12" DIA. REINF. W/ 4-#5 VERT. & #4 REINF. @ 18" O.C. MINIMUM LENGTH OF PIER IS 6'-0". \*PIER BOTTOM MAY BE EITHER OF THE TWO ALTERNATES:

1. 12" DIA. SHAFT EMBEDDED MINIMUM 3'-0" INTO BLUE SHALE RESULTING BEARING STRESS IS 8.0 KIPS PER SQUARE FOOT.
  2. 12" DIA. SHAFT W/ 24" DIA. BELL IN CLAY. RESULTING BEARING STRESS IN 2.0 KIPS PER SQUARE FOOT.
- \* SEE GENERAL NO. 9

### BRICK SCREENING WALL



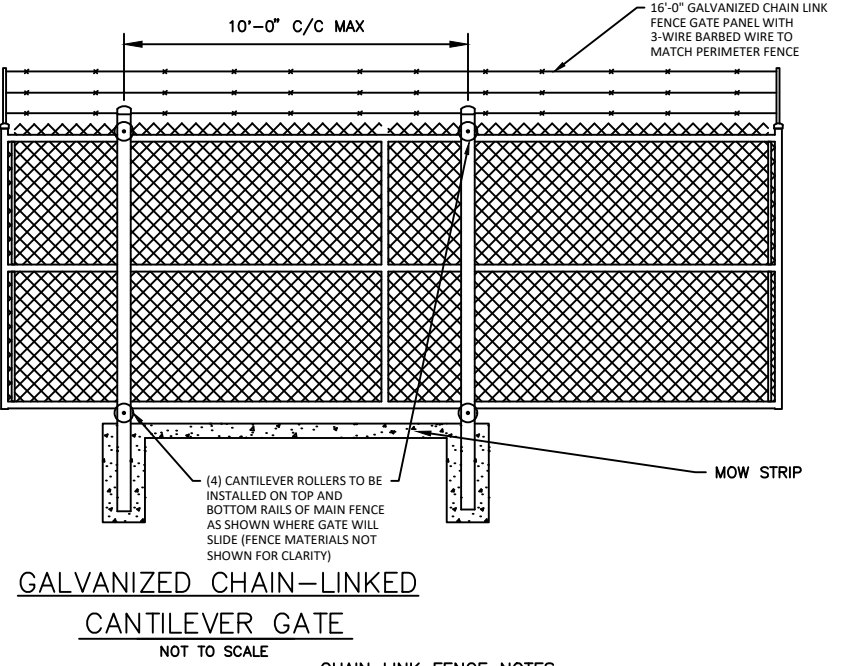
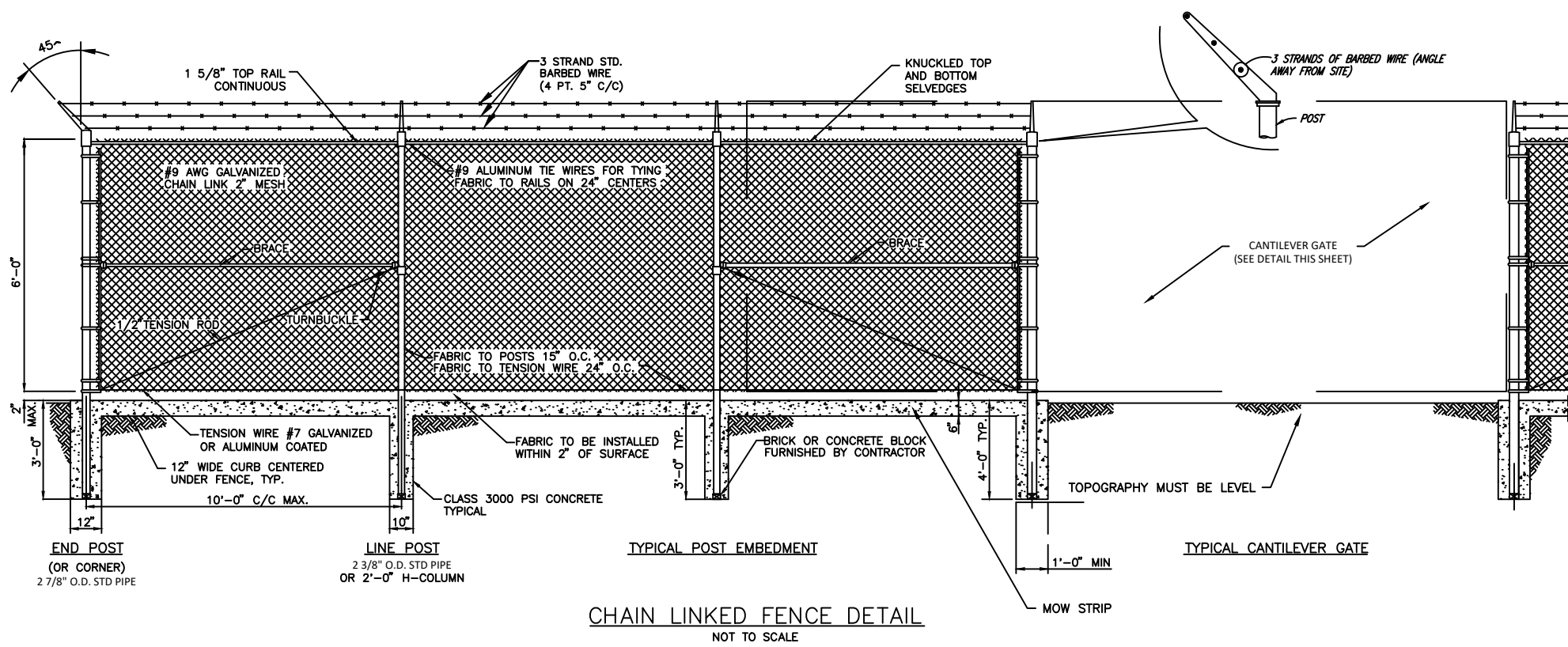
**SECTION A-A**



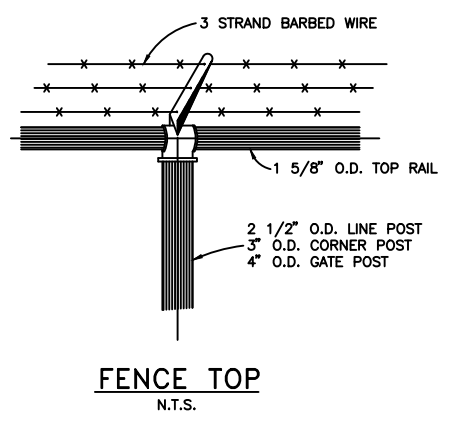
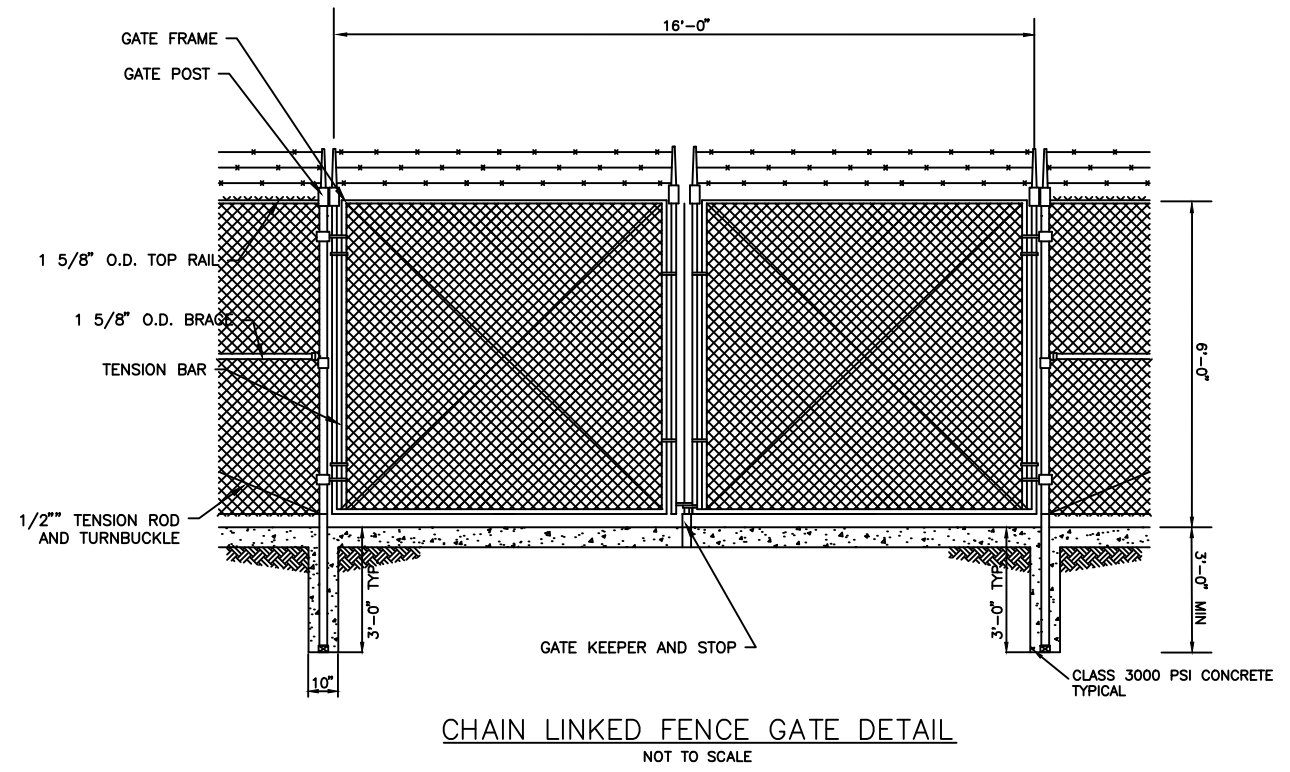
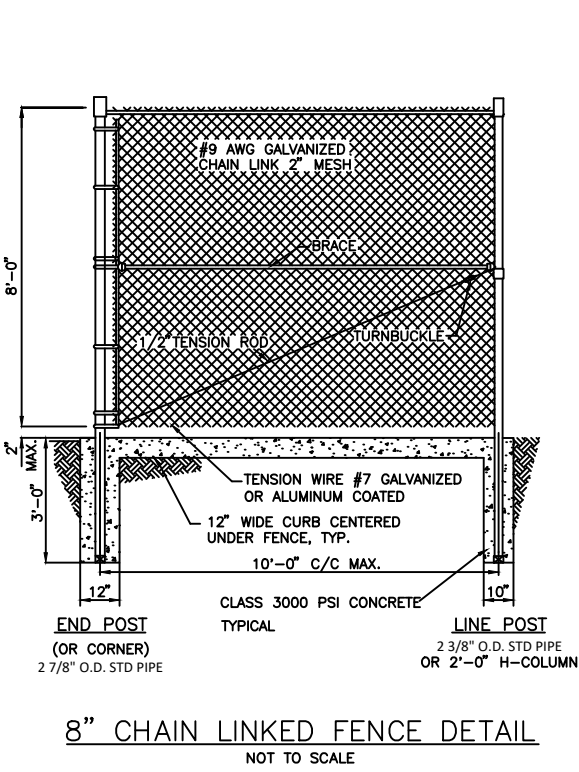
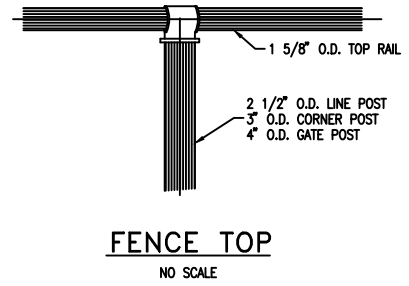
**STONE RETAINING WALL**  
NO SCALE  
(PAVESTONE)

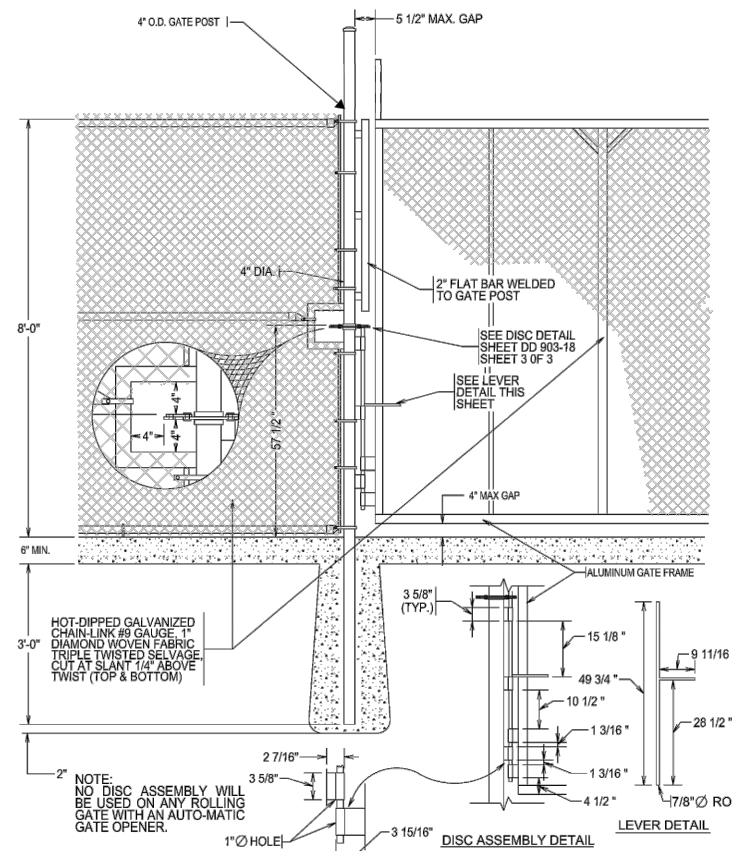
1. FOR RETAINING WALLS HIGHER THAN 30" A 42" HIGH RAILING OR GUARDRAIL IS REQUIRED WITH A BALUSTER SPACING OF NO MORE THAN 4'





- CHAIN LINK FENCE NOTES:**
1. ALL METAL PARTS SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
  2. FENCES AND GATES SHALL BE FURNISHED COMPLETE WITH ALL NECESSARY FITTINGS AND HARDWARE. AND ALL FENCE FABRIC SHALL HAVE A BLACK P.V.C. COATING.
  3. FOR GATES - SIZES OF PIPES, SAG RODS AND TURNBUCKLES SHALL BE MANUFACTURER'S STANDARD WHICH ALSO MEET THE REQUIREMENTS OF THIS DRAWING.
  4. CANTILEVER SLIDE GATE MUST BE APPROVED BY CITY OF DENISON PRIOR TO PURCHASE.
  5. CANTILEVER GATE MUST BE CONSTRUCTED ON LEVEL GROUND, PARALLEL WITH SLIDING MOTION OF THE GATE.
  6. CONTRACTOR SHALL FURNISH AND INSTALL AN AUTOMATIC GATE OPERATOR WHICH MUST BE APPROVED BY THE CITY. ALL EXTERIOR MOUNTING OF EQUIPMENT SHALL BE IN WEATHERPROOF ENCLOSURES.
  7. POSTS SHALL BE ROLLED OR EXTRUDED SECTIONS OR TUBING OF STEEL OR ALUMINUM CAPABLE OF WITHSTANDING A LATERAL FORCE OF 100 POUNDS APPLIED AT THE TOP. ALL HOLLOW POSTS SHALL BE CAPPED.
  8. STANDARD PIPE SIZES INDICATED ARE NOMINAL DIAMETER, SCHEDULE 40, PER AMERICAN STANDARDS ASSOCIATION (ASA) B 36.10.
  9. LATCH ASSEMBLY FOR SWING GATES, INCLUDING PLUNGE ROD, CATCH BLOCK AND LOCKING MECHANISM, SHALL BE PER MANUFACTURER'S STANDARD.
  10. PROVIDE HASP FOR PADLOCK.
  11. CHAIN LINK FENCE LESS THAN 8' IN HEIGHT MUST HAVE 3 STRANDS OF BARBED WIRE ON ANGLED POST PER THIS DETAIL.



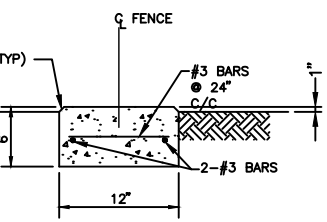
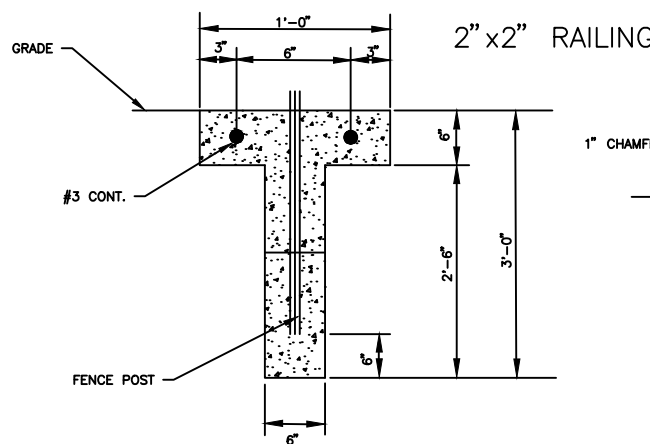


NOTE:  
NO DISC ASSEMBLY WILL  
BE USED ON ANY ROLLING  
GATE WITH AN AUTO-MATIC  
GATE OPENER.

NOTE:  
1. ALL SPARE CLIPS TO BE COMPLETELY WELDED ALL AROUND. TACK WELD WILL NOT BE ACCEPTED.

NOTE: ALL CONCRETE FOR MOW STRIP AND POST FOUNDATIONS SHALL BE 3,000 PSI

**HEAVY DUTY CANTILEVER SLIDE GATE  
DETAIL**  
NOT TO SCALE

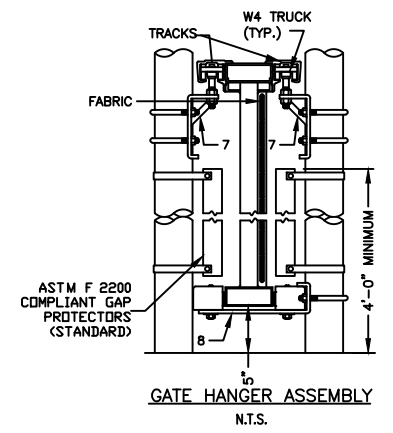
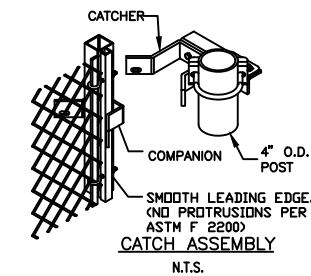
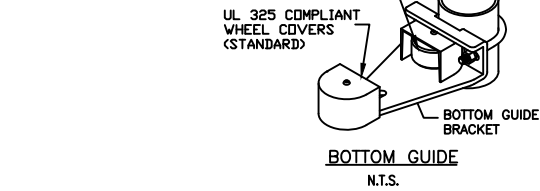
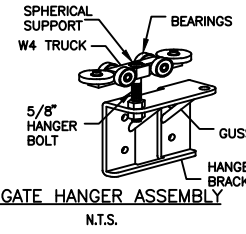
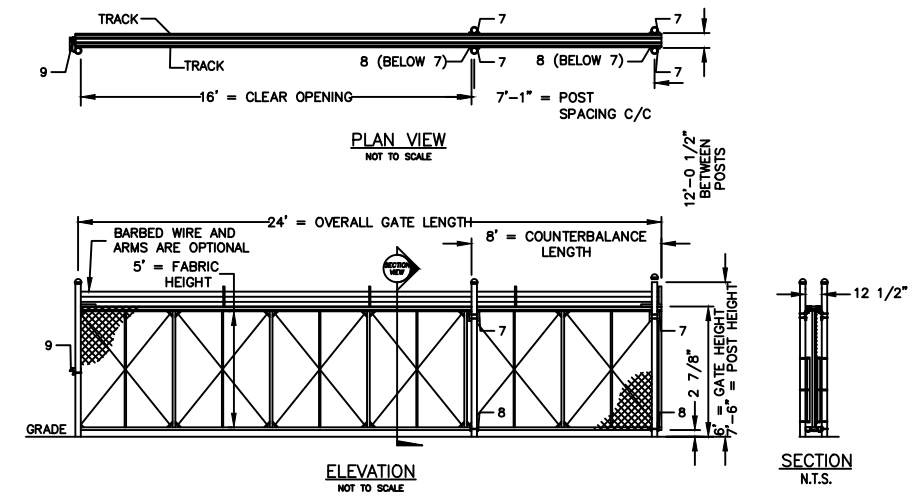


**FENCE MOW STRIP DETAIL**  
NOT TO SCALE

**TYPICAL FENCE MOW STRIP SECTION**

NOTES:

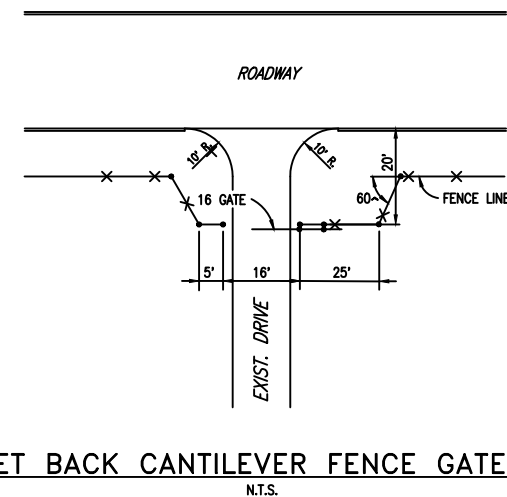
1. PROVIDE EXPANSION JOINTS AT MAXIMUM 117' O.C. AND AT INTERSECTIONS. PROVIDE SIDEWALK GROOVES AT EQUAL SPACING NOT TO EXCEED 5'-6" O.C. BROOM FINISH. PROVIDE EXPANSION JOINT MATERIAL AGAINST ALL CURBS AND STRUCTURE.
2. INSTALL TYPICAL MOW STRIP ALL AROUND UNPAVED PERIMETERS OF ALL NEW STRUCTURES INCLUDING METER VAULTS, FENCES, AND MANHOLES.



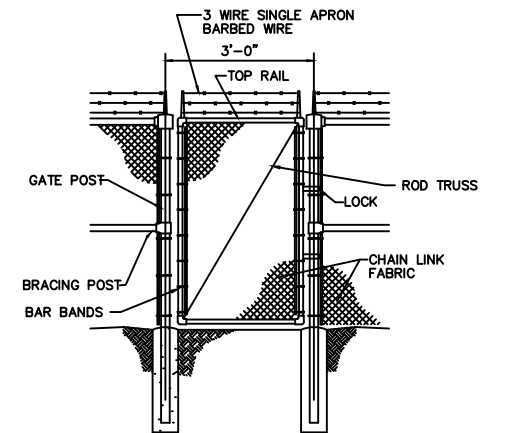
**GATE HANGER ASSEMBLY**  
NOT TO SCALE

NOTES:

1. ALL FITTINGS STANDARDLY PROVIDED FOR 4" O.D. POSTS. OTHER SIZES AVAILABLE UPON REQUEST.
2. BARB ARMS (FOR BARBED WIRE) INCLUDED FOR 6' FENCE HEIGHT
3. 8' FENCE HEIGHT DOES NOT INCLUDE BARB ARMS OR BARB WIRE

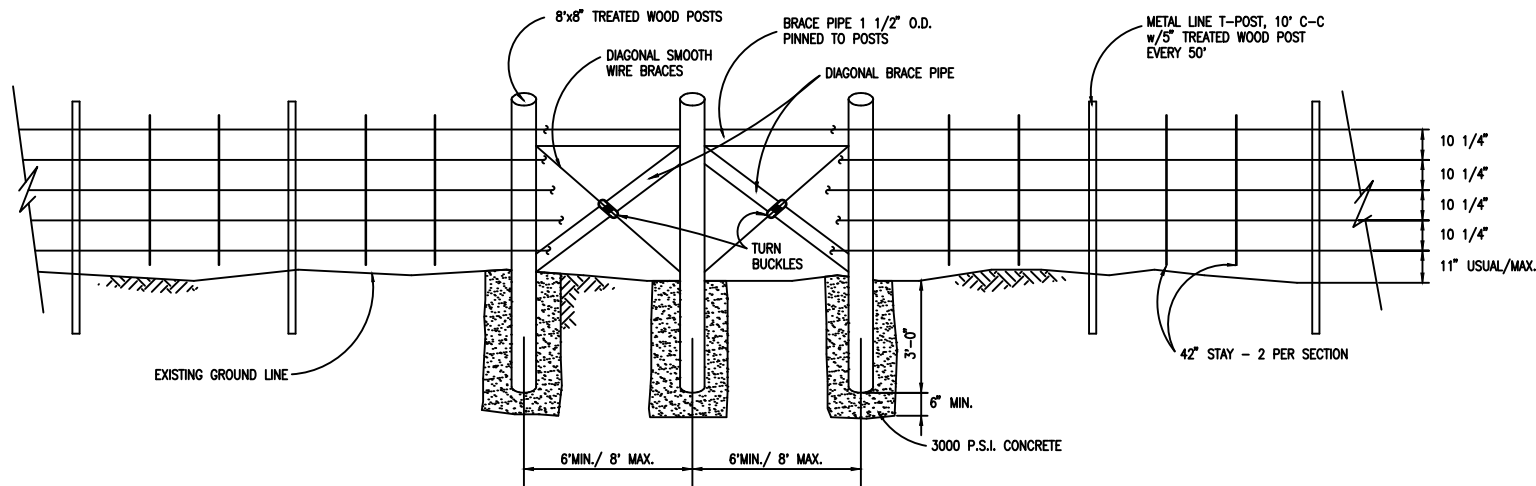


**20' SET BACK CANTILEVER FENCE GATE DETAIL**  
N.T.S.

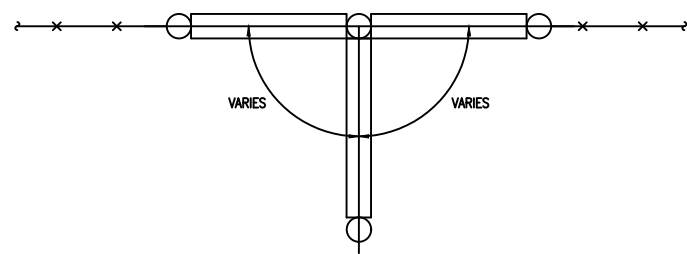


**CHAIN-LINKED PEDESTRIAN  
GATE DETAIL**  
NOT TO SCALE

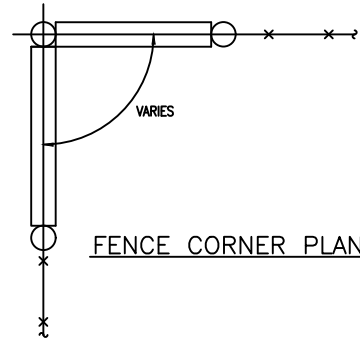




**TYPE "B" FARM FENCE WITH PULL POST UNIT**  
N.T.S.

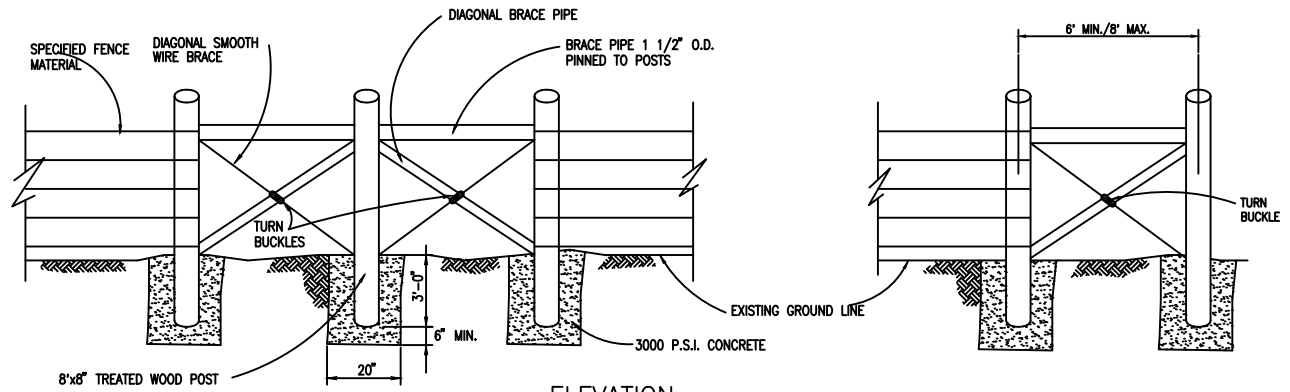


**FENCE JUNCTION PLAN**

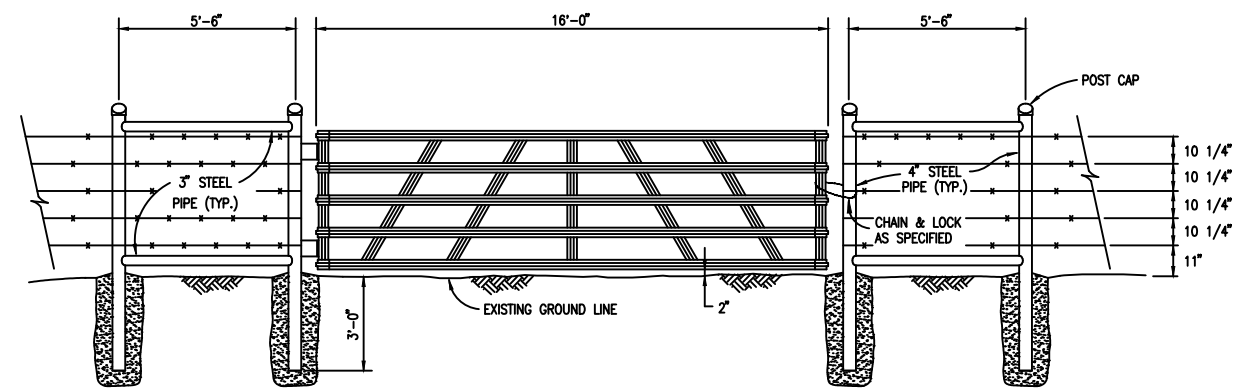


**FENCE CORNER PLAN**

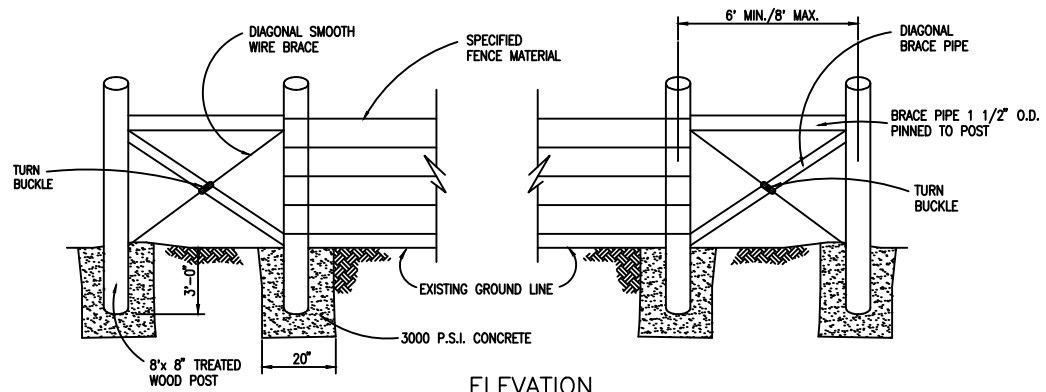
- GENERAL NOTES:**
1. BARBED WIRE SHALL BE TWO STRAND TWISTED NO. 12-1/2 AWS GAUGE GALVANIZED STEEL WIRE WITH TWO-POINT BARBS OF NO. 14 AWS GAUGE STEEL WIRE AND CONFORMING TO ZINC-COATED(GALVANIZED)STEEL BARBED WIRE, ASTM DESIGNATION A 121, CLASS 1.
  2. WOVEN WIRE FENCE FABRIC(HOG WIRE)SHALL BE OF A GOOD COMMERCIAL QUALITY OF STEEL MEETING THE REQUIREMENTS OF ZINC-COATED(GALVANIZED) STEEL WOVEN WIRE FENCE FABRIC, ASTM DESIGNATION A 116. THE TOP AND BOTTOM WIRES SHALL BE A MINIMUM NO. 10 AWS GAUGE AND THE INTERMEDIATE WIRES AND VERTICAL STAYS SHALL BE NO. 12-1/2 AWS GAUGE.
  3. METAL POSTS, RAILS, GATES, BRACES AND FITTINGS MAY BE ROLLED, FORMED OR TUBULAR IN CROSS SECTION AND SHALL BE IN ACCORDANCE WITH STRENGTH REQUIREMENTS OF METAL POSTS AND RAILS FOR INDUSTRIAL CHAIN LINK FENCE, ASTM DESIGNATION F669. ALL POSTS, RAILS, GATES AND BRACES NOT GALVANIZED SHALL BE PAINTED WITH AN APPROVED ANTI-CORROSIIVE PAINT. POST CAPS SHALL BE INSTALLED ON THE OPEN END OF PIPE POSTS TO PREVENT CORROSION. FITTINGS SHALL BE IN ACCORDANCE WITH FENCE FITTINGS, ASTM DESIGNATION F626.
  4. WOOD POSTS SHALL BE SOUND AND STRAIGHT AND FREE OF EXCESSIVE KNOTS. UNTREATED POSTS MAY BR CEDAR, REDWOOD, CYPRESS OR LIVE OAK. TREATED POSTS MAY BE PINE, SPRUCE OR FIR AND SHALL HAVE A CREOSOTE OIL OR PENTACHLOROPHENOL TREATMENT OF NOT LESS THAN SIX POUNDS PER CUBIC FOOT(128 Kg. per cubic meter).
  5. PULL POST UNITS FOR FARM FENCE SHALL BE LOCATED AT 300 FEET CENTER TO CENTER MAXIMUM. METAL T-POSTS SHALL BE SPACED AT 10 FEET C-C. AT CONNECTIONS TO EXISTING FENCE, A PULL POST UNIT, CORNER UNIT OR JUNCTION UNIT SHALL BE CONSTRUCTED.
  6. GATE MANUFACTURER SHALL FURNISH HINGES, BOLTS AND A SLIDING LATCH FOR EACH GATE.
  7. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 p.s.i. IN 28 DAYS.
  8. LINE BRACE ASSEMBLY SHALL BE PLACED ON APEX OF ALL CURVES.
  9. METAL T-POSTS(6-1/2" MIN.) TO BE GREEN WITH REFLECTIVE TOPS.
  10. FENCE REPLACEMENT SHALL BE "IN KIND".



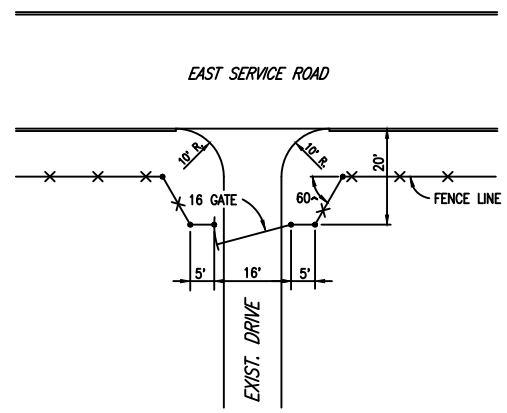
**ELEVATION FENCE JUNCTION DETAIL**  
N.T.S.



**16' STEEL GATE DETAIL**  
N.T.S.



**ELEVATION FENCE CORNER DETAIL**  
N.T.S.



**20' SET BACK FENCE DETAIL**  
N.T.S.

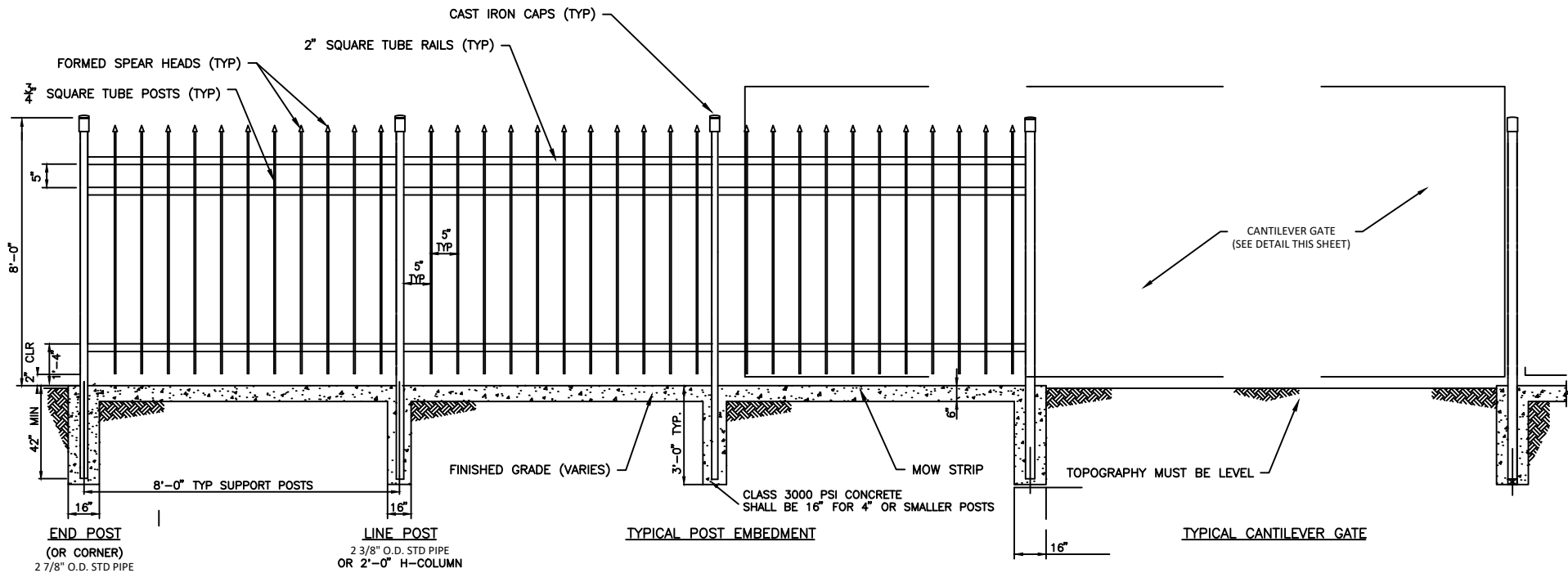


**CITY OF DENISON, TEXAS**  
STANDARD CONSTRUCTION DETAILS  
FARM FENCE / STEEL GATE

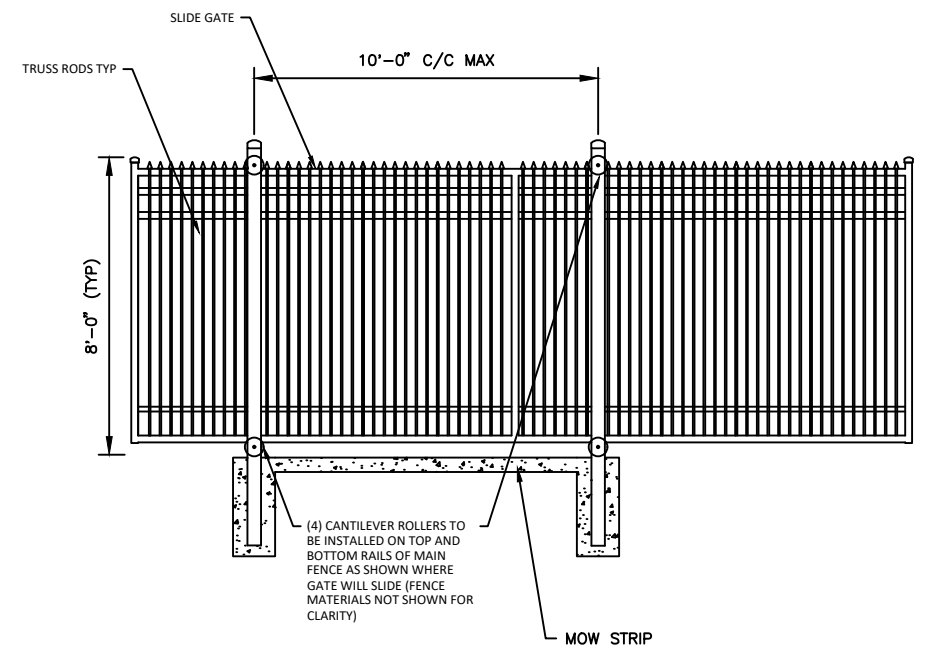
December, 2023

SHEET NO.  
**32**



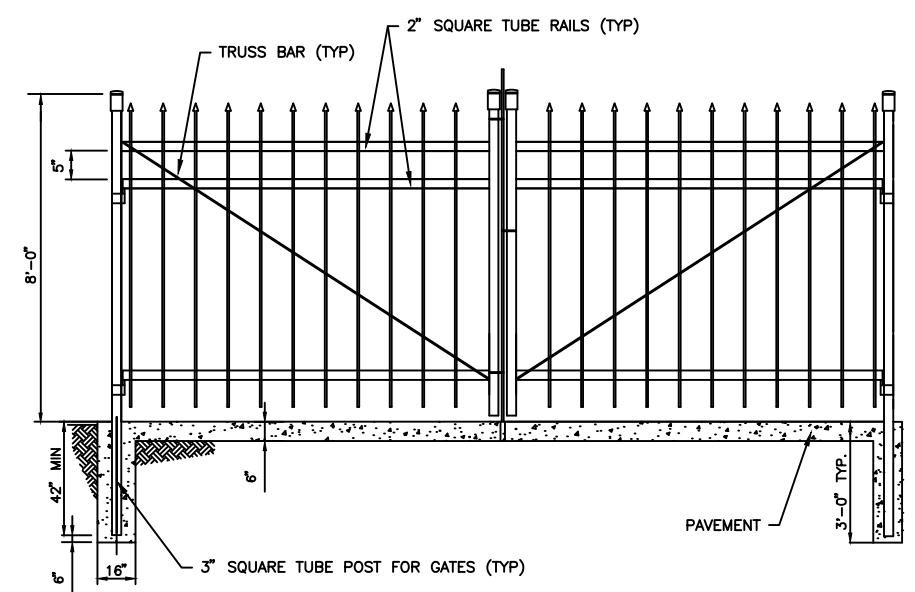


**WROUGHT IRON FENCE DETAIL**  
NOT TO SCALE

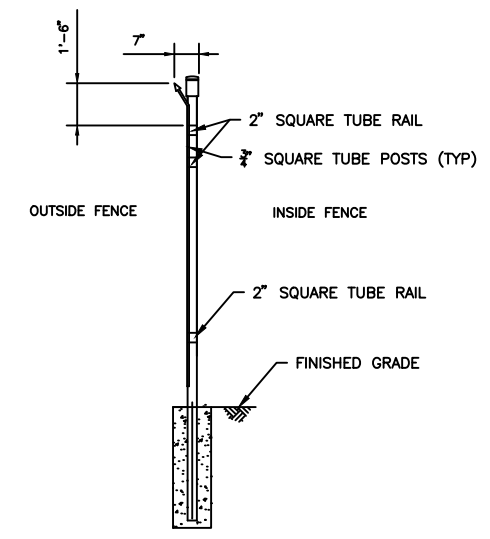


**WROUGHT IRON CANTILEVER GATE**  
NOT TO SCALE

- NOTES:
- STEP DOWN FENCE IS REQUIRED TO FOLLOW GRADE WHILE MAINTAINING CONSTANT TOP OF FENCE ELEVATION, REFER TO C-001 "GRADING AND PAVING PLAN" FOR ADDITIONAL REQUIREMENTS AND GRADING DETAILS.



**PRIVATE WROUGHT IRON SWING GATE DETAIL**  
NOT TO SCALE



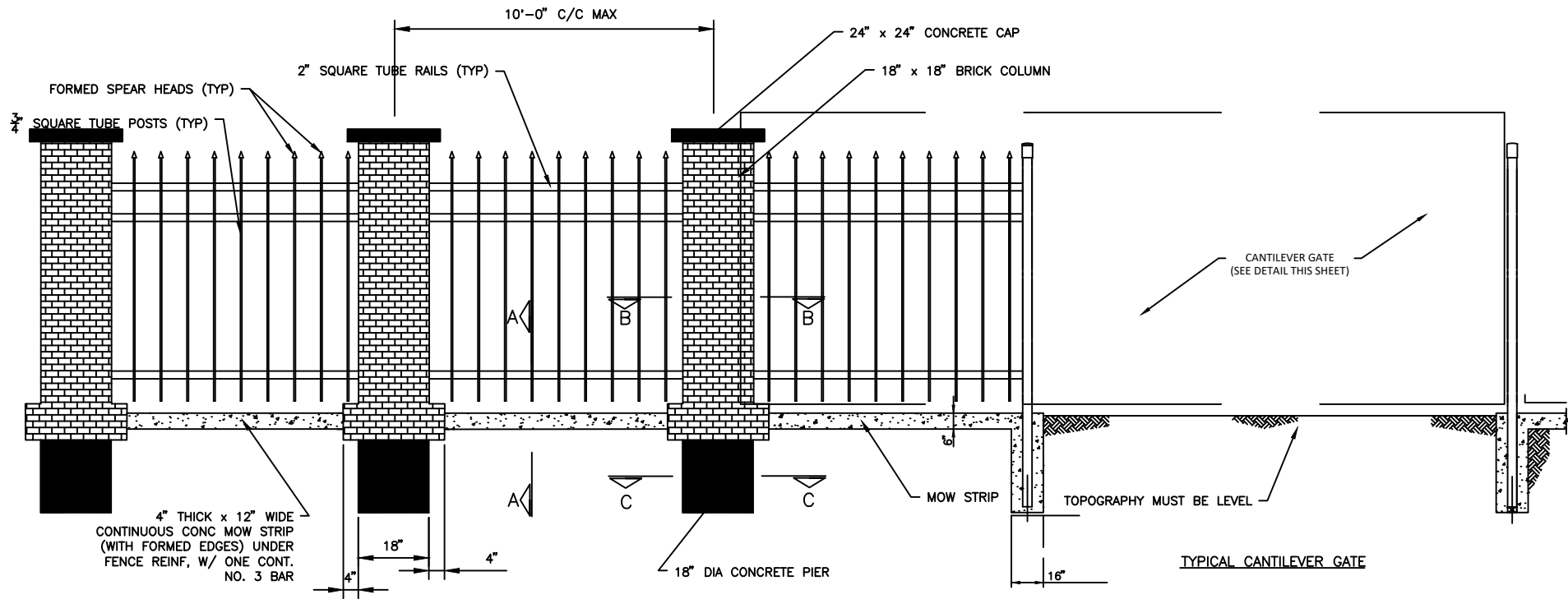
**SIDE VIEW OF WROUGHT IRON FENCE**  
NOT TO SCALE



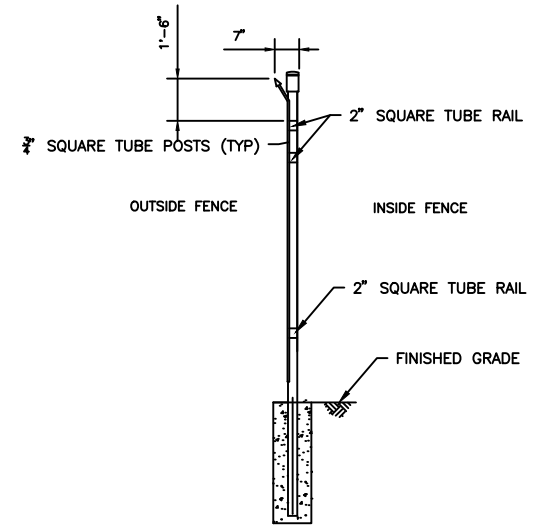
**CITY OF DENISON, TEXAS**  
STANDARD CONSTRUCTION DETAILS  
WROUGHT IRON FENCING

December, 2023

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**33**

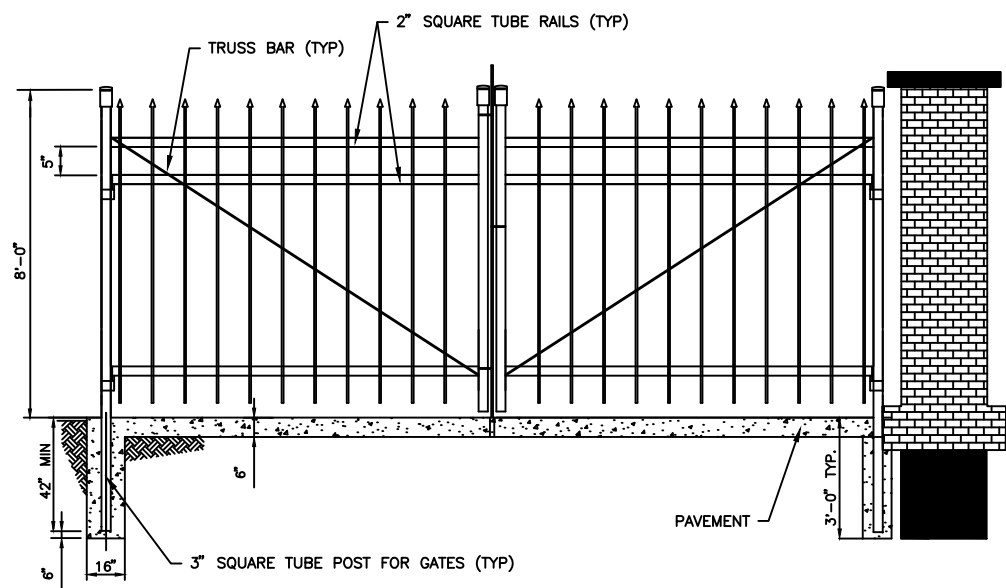


**WROUGHT IRON FENCE WITH BRICK POSTS DETAIL**  
NOT TO SCALE

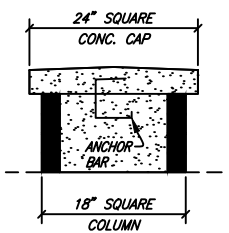


**SIDE VIEW OF WROUGHT IRON FENCE**  
NOT TO SCALE

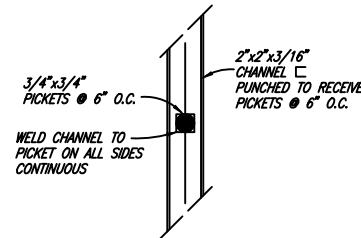
NOTES:  
1. STEP DOWN FENCE IS REQUIRED TO FOLLOW GRADE WHILE MAINTAINING CONSTANT TOP OF FENCE ELEVATION, REFER TO C-001 "GRADING AND PAVING PLAN" FOR ADDITIONAL REQUIREMENTS AND GRADING DETAILS.



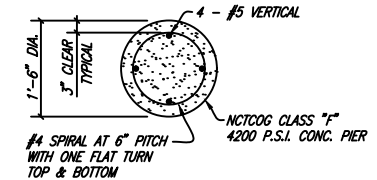
**WROUGHT IRON SWING GATE WITH BRICK POSTS DETAIL**  
NOT TO SCALE



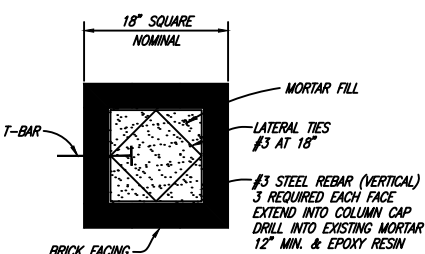
**FENCE CONCRETE CAP**  
NO SCALE (CONCCAP)



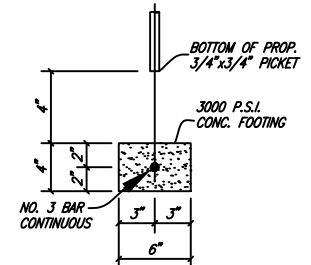
**PLAN - FENCE RAIL AT PICKET**  
NO SCALE (FENCEPKT)



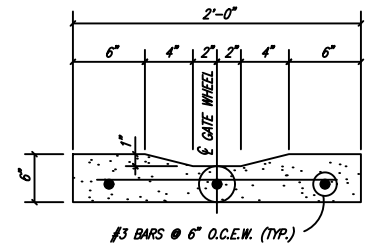
**FENCE SECTION C-C**  
NO SCALE (PIER)



**FENCE SECTION B-B**  
NO SCALE (FENCECB)



**FENCE SECTION A-A**  
NO SCALE (FOOTING)



**CONCRETE GATE WHEEL RUNWAY**  
NO SCALE (RUNWAY)



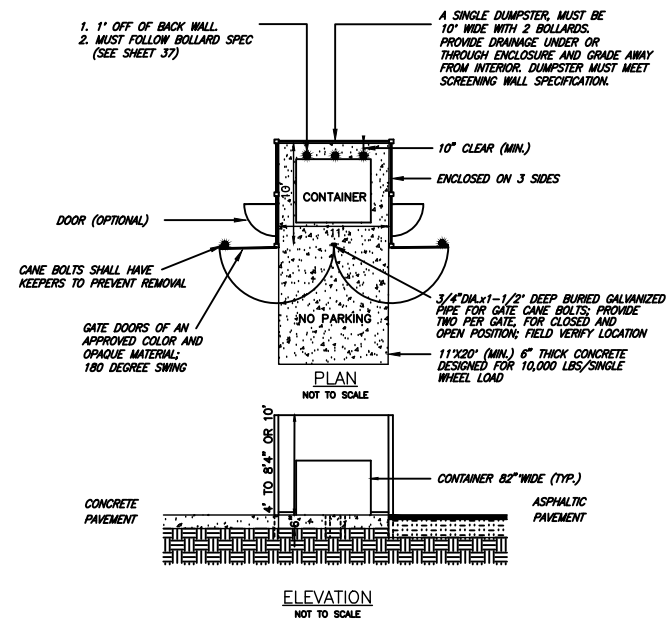
**CITY OF DENISON, TEXAS**  
STANDARD CONSTRUCTION DETAILS  
WROUGHT IRON FENCING

December, 2023

SHEET NO.  
**34**

**DUMPSTER ENCLOSURES**

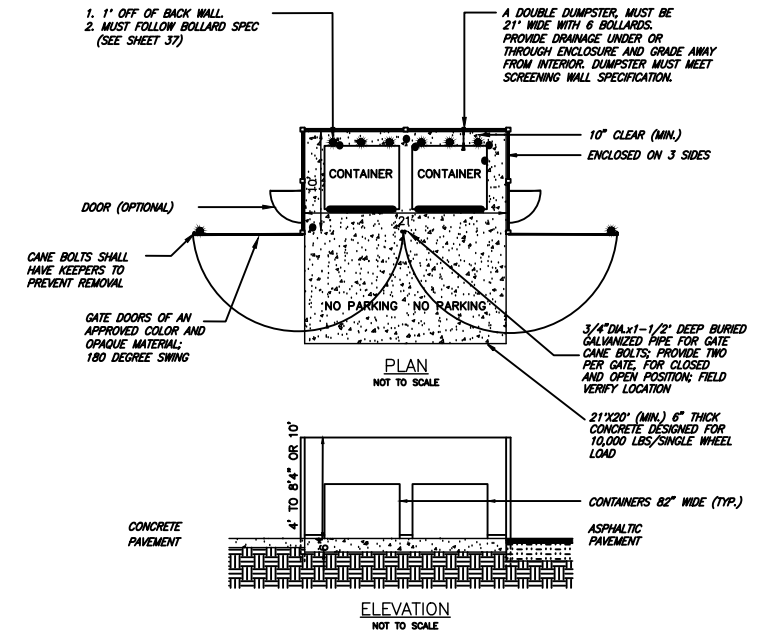
- GARBAGE CONTAINERS ARE REQUIRED TO BE SCREENED ON ALL SIDES, AND CONSTRUCTED SO AS TO BE ACCESSIBLE TO GARBAGE TRUCKS. APPLICANTS SUBMITTING SITE PLANS WHICH INCLUDE THE SITING OF A GARBAGE DUMPSTER AND CONSTRUCTION OF THE REQUIRED ENCLOSURE SHOULD BE FAMILIAR WITH THE REQUIREMENTS OF THE ZONING ORDINANCE AND THE MINIMUM STANDARDS ADOPTED BY THE CITY.
- THE MINIMUM HEIGHT OF THE SCREENING DEVICE FOR GARBAGE, TRASH OR REFUSE CONTAINERS IS 4 FEET AND THE MAXIMUM HEIGHT IS 8-4", EXCEPT FOR "ML", "MH" AND INDUSTRIAL "PD" DISTRICTS WHERE THE MAXIMUM HEIGHT OF A SCREENING DEVICE IS 10 FEET.
- WHEN SITING A DUMPSTER ENCLOSURE ON A PROPERTY, APPLICANTS SHOULD CONSIDER HOW EASILY A 32 FOOT LONG TRUCK CAN ENTER THE SITE, MANEUVER TO THE DUMPSTER, ACCESS IT (INCLUDING AT LEAST 50 FEET STRAIGHT FROM THE SCREENING GATES FOR BACKING FOR FRONT LOADING AND A 20' APPROACH AND DEPARTURE CLEARANCE FOR SIDE LOADING), AND EITHER EXIT THE SITE OR MANEUVER TO THE NEXT DUMPSTER. FIRELANES PROVIDE ADEQUATE MANEUVERING LANES, BUT NOTE THAT ENCLOSURES CAN NOT BE LOCATED WITHIN FIRELANES. LOCATIONS THAT REQUIRE A TRUCK TO PERFORM EXCESSIVE BACKING (> 80 FEET) ARE DISCOURAGED.
- SCREENING GATES ARE REQUIRED TO BE SOLID METAL AND SCREEN THE DUMPSTER FROM VIEW WHEN CLOSED. GATES SHOULD SWING OUT TO AN ANGLE GREATER THAN 180- AND CREATE AN OPENING AT LEAST 11 FEET WIDE FOR THE TRUCK TO ENTER THE ENCLOSURE. PINS SHOULD HOLD THE GATES OPEN WHILE THE DUMPSTER IS BEING ACCESSED. GATES SHOULD ALSO SWING CLEAR OF ALL FIRELANES.
- BUFFERING (LANDSCAPING) IS REQUIRED AROUND SCREENING WALLS WHEREVER THEY ABUT A NON-PAVED SURFACE OR A REQUIRED LANDSCAPE AREA. ACCEPTABLE BUFFERING INCLUDES A ROW OF HOLLIES (NELLIE R. STEVENS, BURFORD, ETC.) ALONG THE SCREENING WALLS.
- FOR MORE INFORMATION ABOUT THE MINIMUM STANDARDS FOR DUMPSTER ENCLOSURES, CONTACT THE ENGINEERING DEPARTMENT.
- PROPERTY OWNER MUST CONTACT THE ENGINEERING SERVICES TO DISCUSS PROPER SIZE AND QUANTITY OF DUMPSTERS/COMPACTORS NEEDED TO ENSURE ADEQUATE STORAGE AND MEET COLLECTION AND SERVICE NEEDS.



**NOTES:**

- PROVIDE 50' STRAIGHT STATIC APPROACH (MIN.) AND 50' APPROACH AND DEPARTURE RADIUS (MIN.) FOR FRONT LOADING AND 20' APPROACH AND DEPARTURE CLEARANCE (MIN.) FOR SIDE LOADING.
- AREA TO BE FREE OF OVERHEAD LINES AND WIRES.
- APPLICANT TO PROVIDE A SIDE ELEVATION TO DEMONSTRATE COLOR, MATERIAL, AND DESIGN CONSISTENCY WITH THE PRINCIPAL BUILDING.
- ENCLOSURE SHALL BE DESIGNED FOR WIND SPEED LISTED IN FBC (LATEST EDITION).


**SINGLE CONTAINER DUMPSTER ENCLOSURE**  
NOT TO SCALE



**NOTES:**

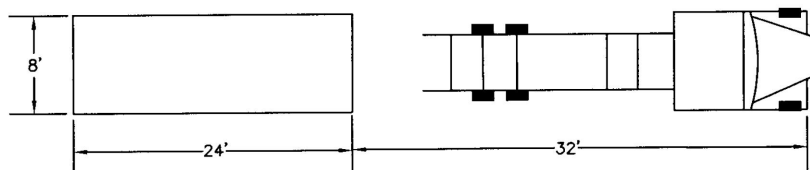
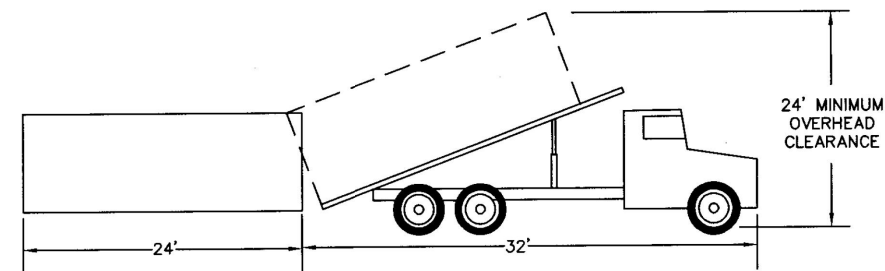
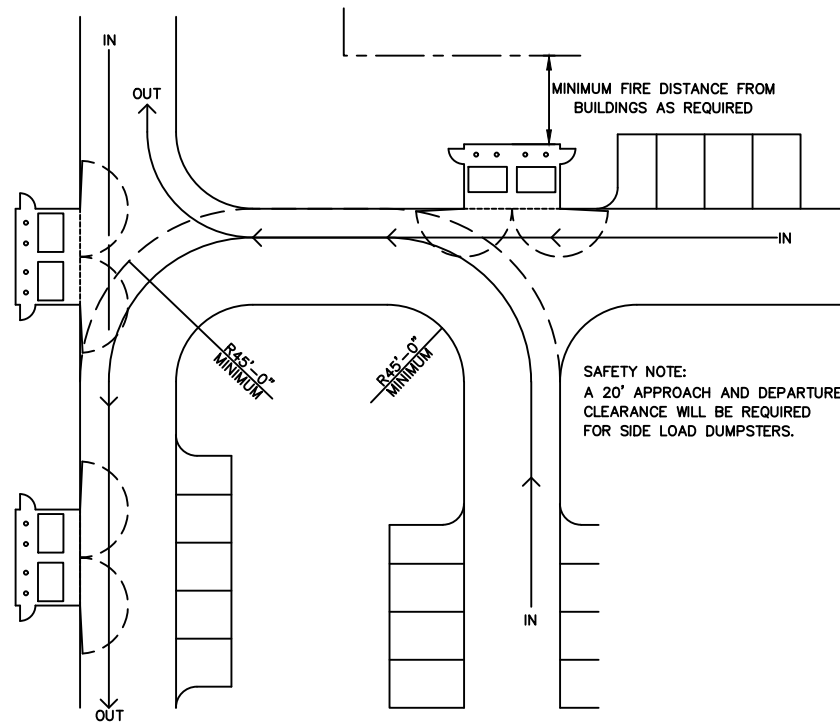
- PROVIDE 50' STRAIGHT STATIC APPROACH (MIN.) AND 50' APPROACH AND DEPARTURE RADIUS (MIN.) FOR FRONT LOADING AND 20' APPROACH AND DEPARTURE CLEARANCE (MIN.) FOR SIDE LOADING.
- AREA TO BE FREE OF OVERHEAD LINES AND WIRES.
- APPLICANT TO PROVIDE A SIDE ELEVATION TO DEMONSTRATE COLOR, MATERIAL, AND DESIGN CONSISTENCY WITH THE PRINCIPAL BUILDING.
- ENCLOSURE SHALL BE DESIGNED FOR WIND SPEED LISTED IN FBC (LATEST EDITION).

**DOUBLE CONTAINER DUMPSTER ENCLOSURE**  
NOT TO SCALE

CHANGE ORDER NO. X	
FIELD CHANGE	
ADDENDUM	

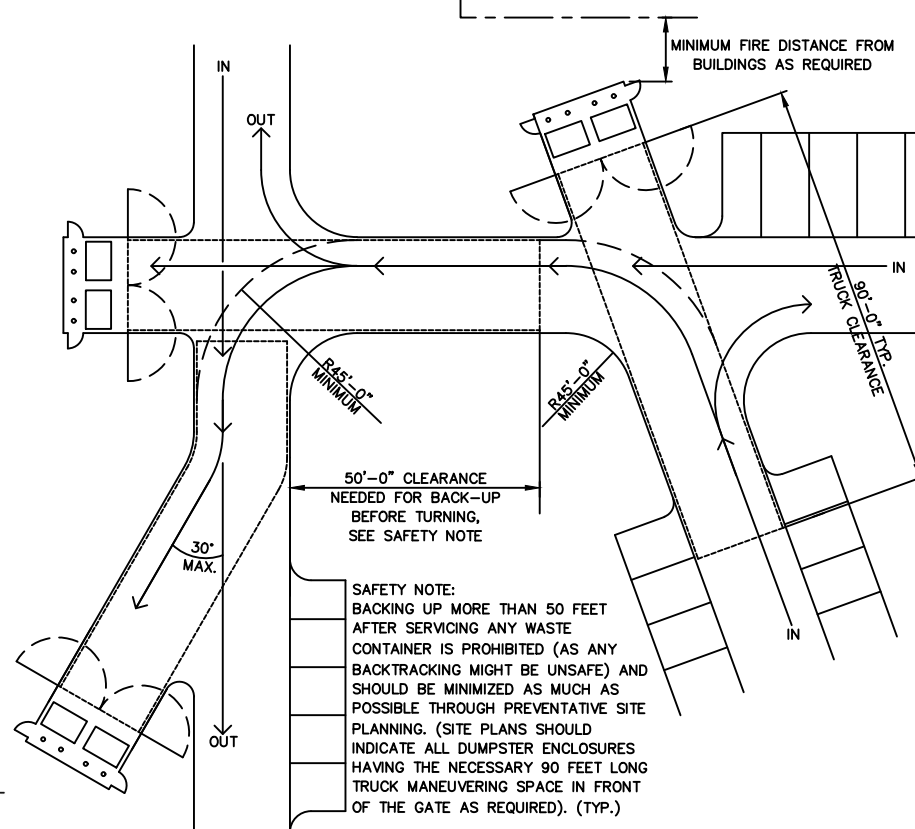
<p><b>CITY OF DENISON, TEXAS</b></p> <p>STANDARD CONSTRUCTION DETAILS DUMPSTER DETAILS</p>	December, 2023	SHEET NO.
		<b>35</b>

SOLID WASTE VEHICLE OPERATION SCHEMATIC  
TYPICAL ROUTE CONDITIONS AND TRUCK  
MANEUVERING SPACE CLEARANCES  
REQUIREMENTS (SIDE LOADING)  
SCHEMATIC SITE PLAN



NOTE:  
NEED MINIMUM CLEARANCE  
12'W X 60'L X 24'H

SOLID WASTE VEHICLE OPERATION SCHEMATIC  
TYPICAL ROUTE CONDITIONS AND TRUCK  
MANEUVERING SPACE CLEARANCES  
REQUIREMENTS (FRONT LOADING)  
SCHEMATIC SITE PLAN

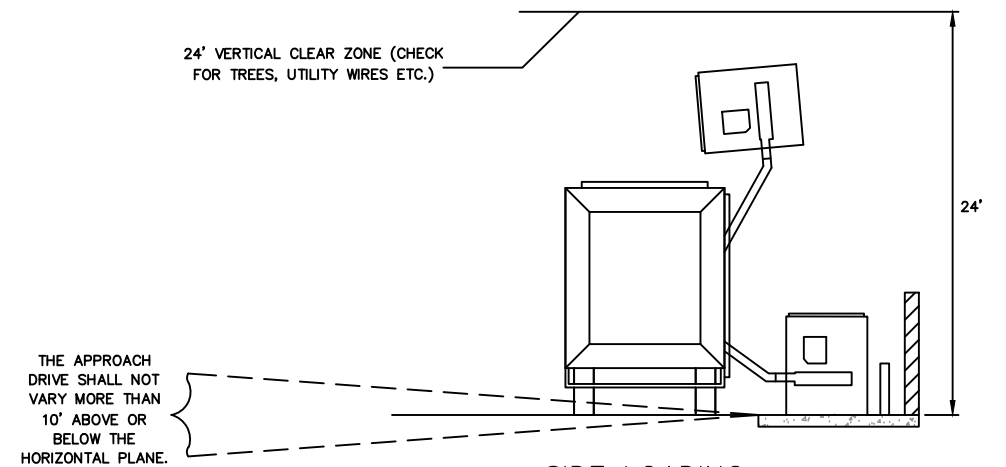


SOLID WASTE VEHICLE OPERATION SCHEMATIC TYPICAL ROUTE CONDITIONS AND TRUCK MANEUVERING SPACE CLEARANCES REQUIREMENTS

GENERAL NOTES:

- ALL CURBS ARE TO BE ALIGNED ON THE OUTSIDE OF ENCLOSURE WALLS. THE CURBS SHALL NOT INTERFERE WITH THE ROUTE OF THE SOLID WASTE COLLECTION VEHICLE.
- ALL SOLID WASTE COLLECTION ROUTES SHALL MEET ENGINEERING DESIGN CRITERIA (WIDTHS, TURNING RADII, ETC.). SITE SHALL BE DESIGNED TO PROVIDE SOLID WASTE COLLECTION VEHICLES WITH SAFE APPROACH TO DUMPSTER ENCLOSURES AND LIFT EACH CONTAINER WITHOUT GROUND LEVEL OR AERIAL OBSTRUCTIONS AS REQUIRED.
- ALL DUMPSTER DOORS MUST BE ALLOWED TO OPEN 180 DEGREES WITHOUT ANY OBSTRUCTIONS FROM BOLLARDS, CURBS, ETC.
- FOR THE SAFETY OF OTHERS, ROUTE LAYOUT AND OPERATION CLEARANCES SHALL BE SUCH THAT SOLID WASTE VEHICLES WILL NOT NEED TO BACK UP MORE THAN 50 FEET TO EXIT THE SITE AFTER SERVICING A DUMPSTER FOR FRONT LOADING. FOR SIDE LOADING, A 20' APPROACH AND DEPARTURE CLEARANCE WILL BE REQUIRED.
- NO AWNING OR BUILDING PROJECTIONS ARE TO ENCOACH THE SOLID WASTE COLLECTION VEHICLE'S OPERATION AREA AND/OR SPACE. MINIMUM OVERHEAD CLEARANCE OF 14 FEET IS REQUIRED IN DRIVE AND 24 FEET OVER AND ABOUT THE DUMPSTER ENCLOSURE FROM STEEL SAFETY BOLLARDS BACK 50 FEET FOR FRONT LOADING.
- ROUTES SHALL BE CLEAR OF ALL OBSTRUCTIONS CURBS, WALLS, OVERHEAD WIRES, AWNINGS, ROOF PROJECTIONS, ETC.) TO PREVENT DAMAGE FROM THE COLLECTION VEHICLE.
- IDEALLY, THE MOST DESIRED SITE PLANNING SHALL BE WHENEVER IS POSSIBLE TO SELECT A ROUTE FOR THE COLLECTION VEHICLE TO TRAVEL THE SITE WITHOUT BACKTRACKING. MULTIPLE FACILITIES SHOULD BE LOCATED IN SEQUENCE TO ALLOW CONSECUTIVE SERVICING ON ONE-WAY TRUCK ROUTE AS MUCH AS POSSIBLE (TYPICAL, UNLESS OTHERWISE APPROVED BY ENGINEERING SERVICES.)
- ALL DUMPSTER ENCLOSURES FOR FRONT LOADING MUST BE ORIENTED TO FACE 90 FEET LONG OF OPEN SPACE. THE ONLY EXCEPTION IS FOR DUMPSTER ENCLOSURES PLACED ALONG A STRAIGHT COLLECTION VEHICLE ROUTE WHERE THE ENCLOSURES NEED TO BE ANGLED WITH NOT MORE THAN 30 DEGREES DEVIATION FROM THE ROUTE DIRECTION LINE AND PLACED DEEP ENOUGH TO ALLOW THE TYPICAL 20 FEET BACK UP FOR THE VEHICLE TO RESUME IT'S ROUTE.
- DUMPSTER ENCLOSURES SHALL BE LOCATED AWAY FROM ENTRANCES AND EXITS SO SOLID WASTE COLLECTION VEHICLES DO NOT CREATE A SAFETY HAZARD BY BLOCKING IN-COMING OR OUT-GOING TRAFFIC.
- FOR GENERAL INFORMATION AND TYPICAL REQUIREMENTS ON DUMPSTER ENCLOSURE DESIGN LAYOUT SEE AVAILABLE CITY STANDARD CRITERIA DETAILS.

REAR VIEW

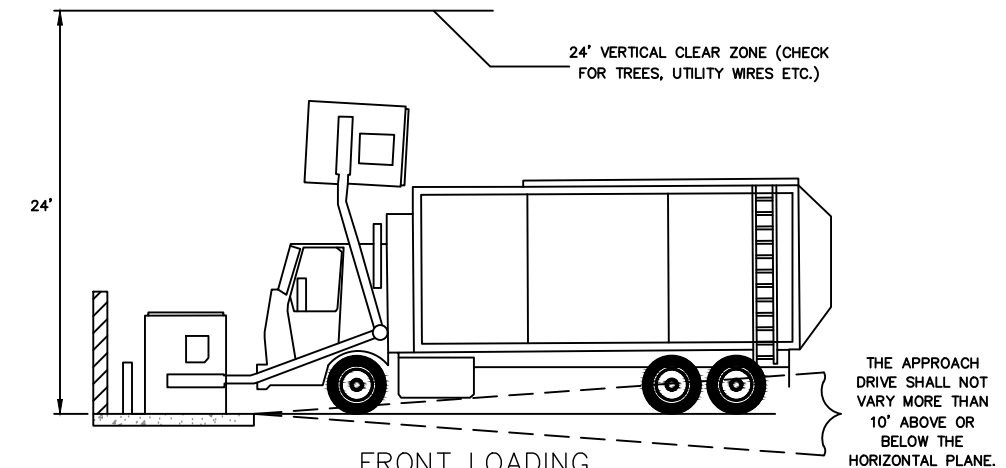


SIDE LOADING

NOT TO SCALE  
NOTE:  
IT SHALL BE THE RESPONSIBILITY OF THE OWNER TO OPEN GATES USED TO ENCLOSED CONTAINERS PRIOR TO COLLECTION.

PROPERTY OWNER/TENANT IS RESPONSIBLE FOR MAINTAINING DUMPSTER ENCLOSURES AND ADEQUATE ACCESS/ EGRESS. DUMPSTER PADS MAY NOT BE LOCATED IN RIGHT OF WAY OR FIRE LANES.

PLAN VIEW



FRONT LOADING

NOT TO SCALE  
NOTE:  
IT SHALL BE THE RESPONSIBILITY OF THE OWNER TO OPEN GATES USED TO ENCLOSED CONTAINERS PRIOR TO COLLECTION.

PROPERTY OWNER/TENANT IS RESPONSIBLE FOR MAINTAINING DUMPSTER ENCLOSURES AND ADEQUATE ACCESS/ EGRESS. DUMPSTER PADS MAY NOT BE LOCATED IN RIGHT OF WAY OR FIRE LANES.



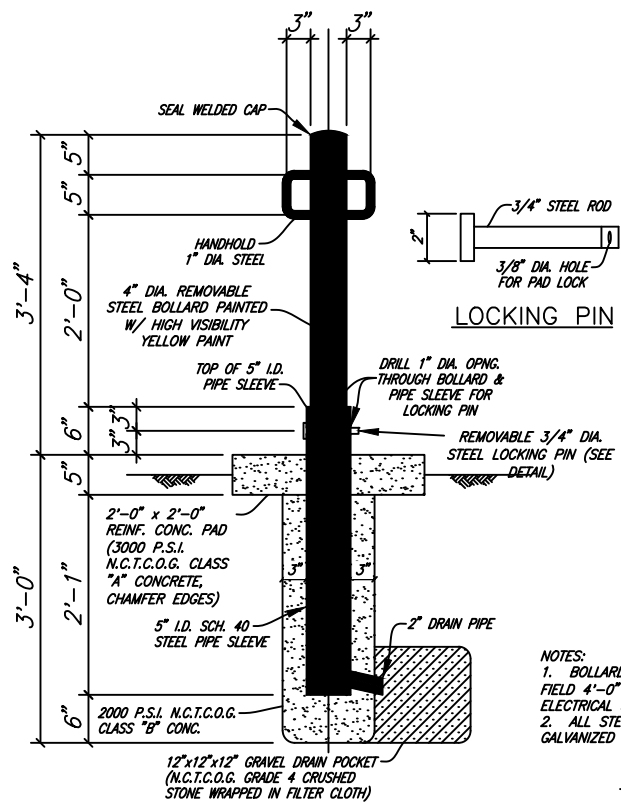
CITY OF DENISON, TEXAS

STANDARD CONSTRUCTION DETAILS  
DUMPSTER DETAILS

December, 2023

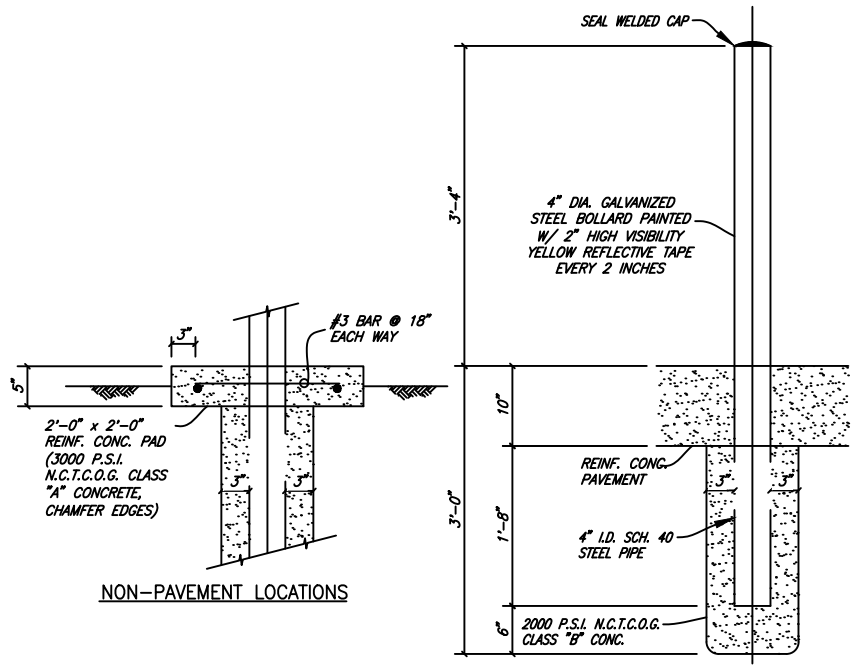
SHEET NO.

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**REMOVABLE PIPE BOLLARD**  
NO SCALE  
(BOLLARD)

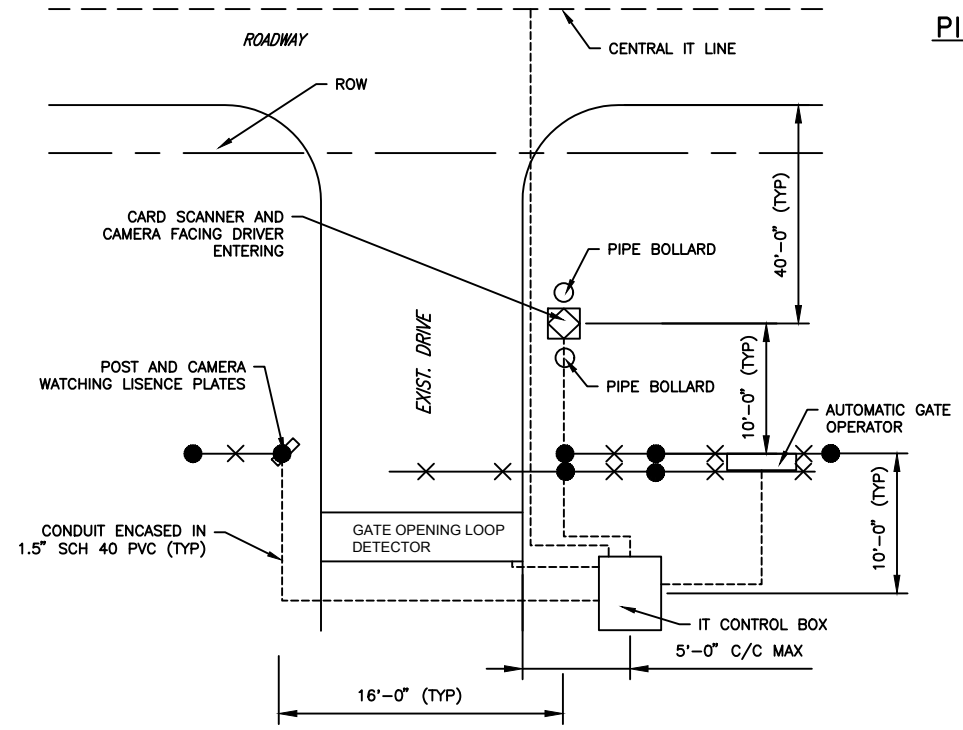
NOTES:  
1. BOLLARDS SHALL BE LOCATED IN THE FIELD 4'-0" O.C. AS SHOWN IN THE ELECTRICAL SITE PLAN.  
2. ALL STEEL SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.



**NON-PAVEMENT LOCATIONS**

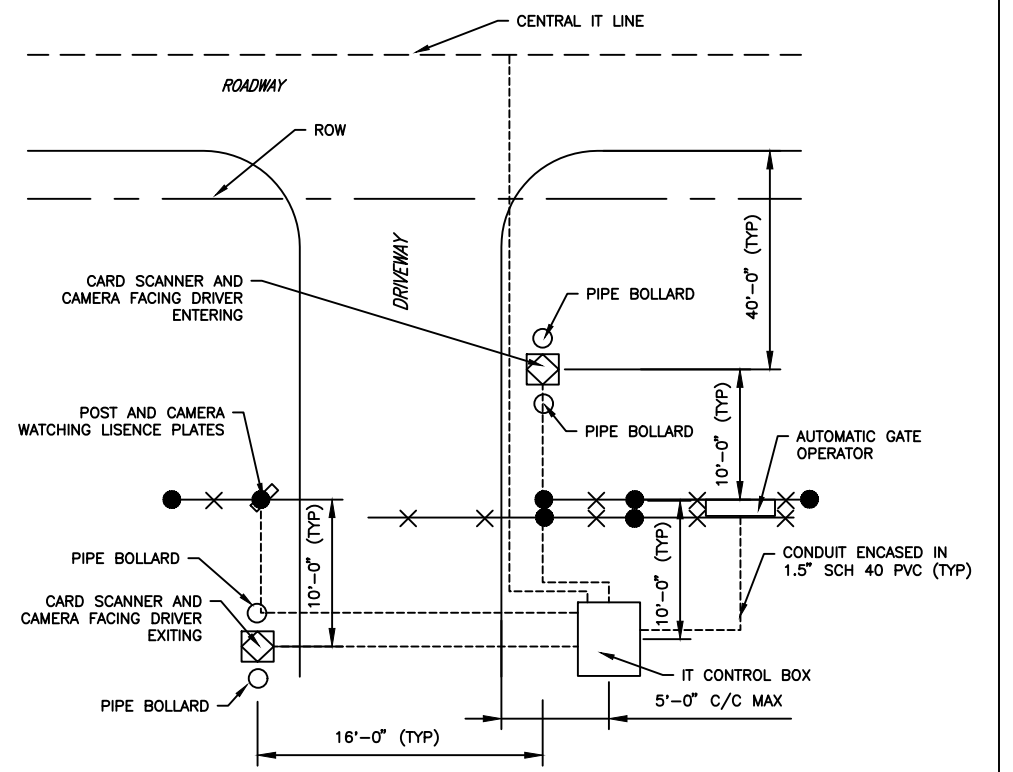
NOTE:  
ALL STEEL SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.

**PIPE BOLLARD**  
NO SCALE  
(BOLLARDS)



NOTE:  
A. CITY OF DENISON I.T. DEPARTMENT TO PROVIDE CAMERAS, CARDCANNERS & I.T. CONTROL BOX

**I.T. SET UP FOR CANTILEVER FENCE GATE DETAIL (PUBLIC)**  
NOT TO SCALE

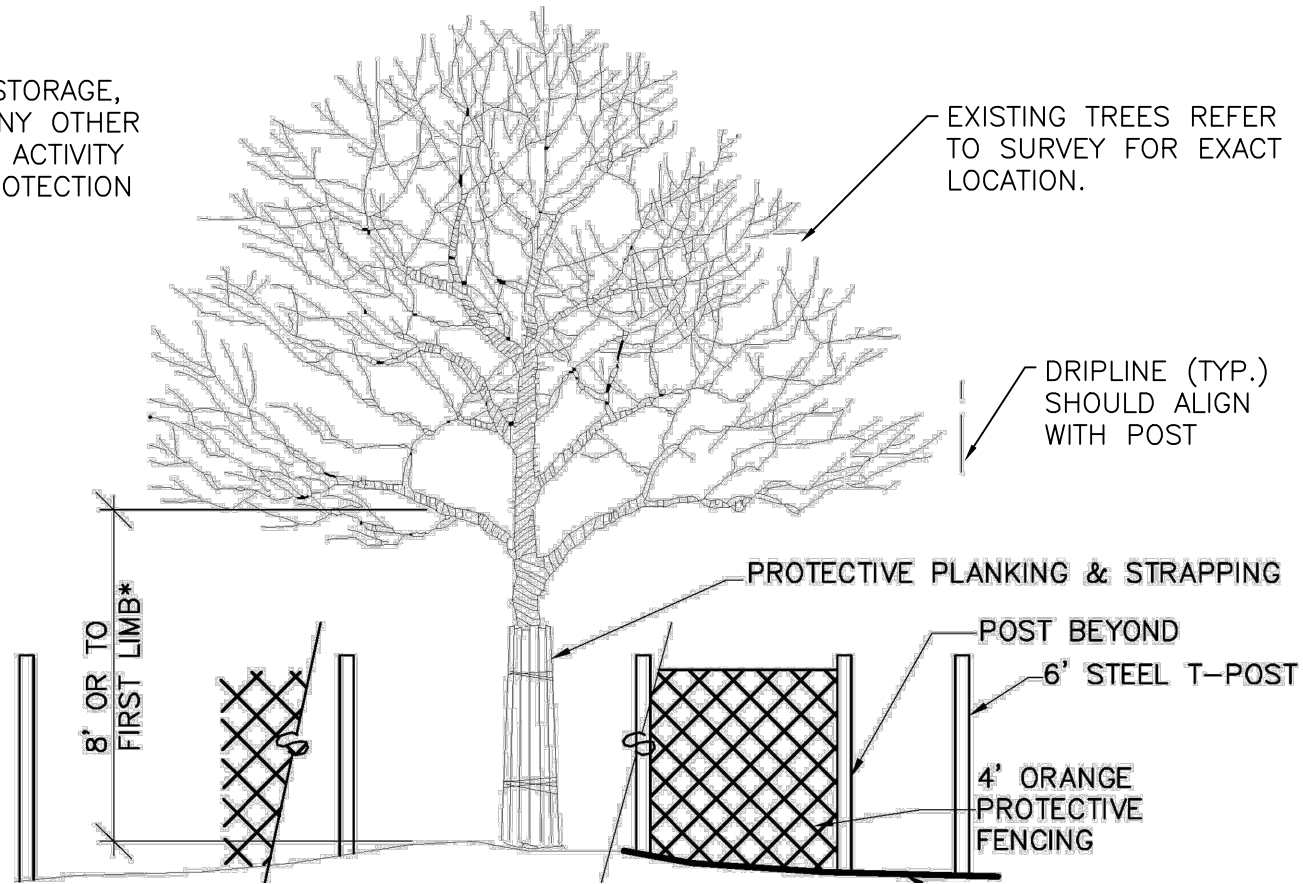


NOTE:  
A. CITY OF DENISON I.T. DEPARTMENT TO PROVIDE CAMERAS, CARDCANNERS & I.T. CONTROL BOX

**I.T. SET UP FOR CANTILEVER FENCE GATE DETAIL (PRIVATE)**  
NOT TO SCALE



NO GRADING, STORAGE,  
PARKING OR ANY OTHER  
CONSTRUCTION ACTIVITY  
WITHIN THE PROTECTION  
FENCE



TREE PROTECTION DETAIL  
NOT TO SCALE

NOTE:

- A. ANY TREE PRUNING MUST HAVE PRIOR APPROVAL BY LANDSCAPE ARCHITECT. REFER TO PLANTING PLAN FOR PLANT DEMO.
- B. PRIOR TO GRADING, BRUSH REMOVAL, OR CONSTRUCTION, THE DEVELOPER SHALL CLEARLY TAG OR MARK ALL TREES TO BE PRESERVED.
- C. THE DEVELOPER SHALL ERECT PROTECTIVE FENCING AROUND EACH TREE OR GROUP OF TREES TO PREVENT THE PLACEMENT OF DEBRIS OR FILL WITHIN THE ROOT PROTECTION ZONE. THE FENCE SHALL BE INSTALLED PRIOR TO THE RELEASE OF ANY PERMIT. IF THE PROTECTION FENCE IS FOUND REMOVED, DOWN, OR ALTERED AT ANY TIME DURING CONSTRUCTION PRIOR TO FINAL INSPECTION OR LANDSCAPE INSTALLATION, A STOP WORK ORDER MAY BE ISSUED.
- D. DURING THE CONSTRUCTION PHASE OF DEVELOPMENT, THE DEVELOPER SHALL ESTABLISH A CONSTRUCTION ENTRANCE THAT AVOIDS PROTECTED TREES AND PROHIBIT CLEANING, PARKING, OR STORAGE OF EQUIPMENT OR MATERIALS UNDER THE CANOPY OF ANY TREE OR GROUP OF TREES BEING PRESERVED. THE DEVELOPER SHALL NOT ALLOW THE DISPOSAL OF ANY WASTE MATERIAL SUCH AS, BUT NOT LIMITED TO, PAINT, OIL SOLVENTS, ASPHALT, CONCRETE, MORTAR, ETC. IN THE CANOPY AREA.
- E. NO ATTACHMENTS OR WIRES OF ANY KIND, OTHER THAN THOSE OF A PROTECTIVE NATURE SHALL BE ATTACHED TO ANY TREE.
- F. NO FILL OR EXCAVATION MAY OCCUR WITHIN THE DRIP LINE OF A TREE TO BE PRESERVED UNLESS THERE IS A SPECIFIC APPROVED PLAN FOR USE OF TREE WELLS OR RETAINING WALLS. MAJOR CHANGES OF GRADE, SIX (6) INCHES OR GREATER, WILL REQUIRE ADDITIONAL MEASURES TO MAINTAIN PROPER OXYGEN AND WATER EXCHANGE WITH THE ROOTS.



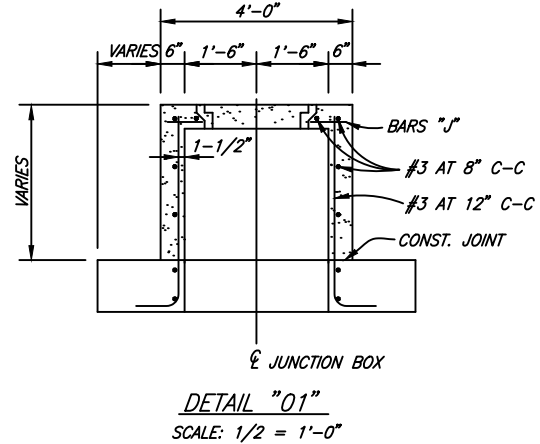
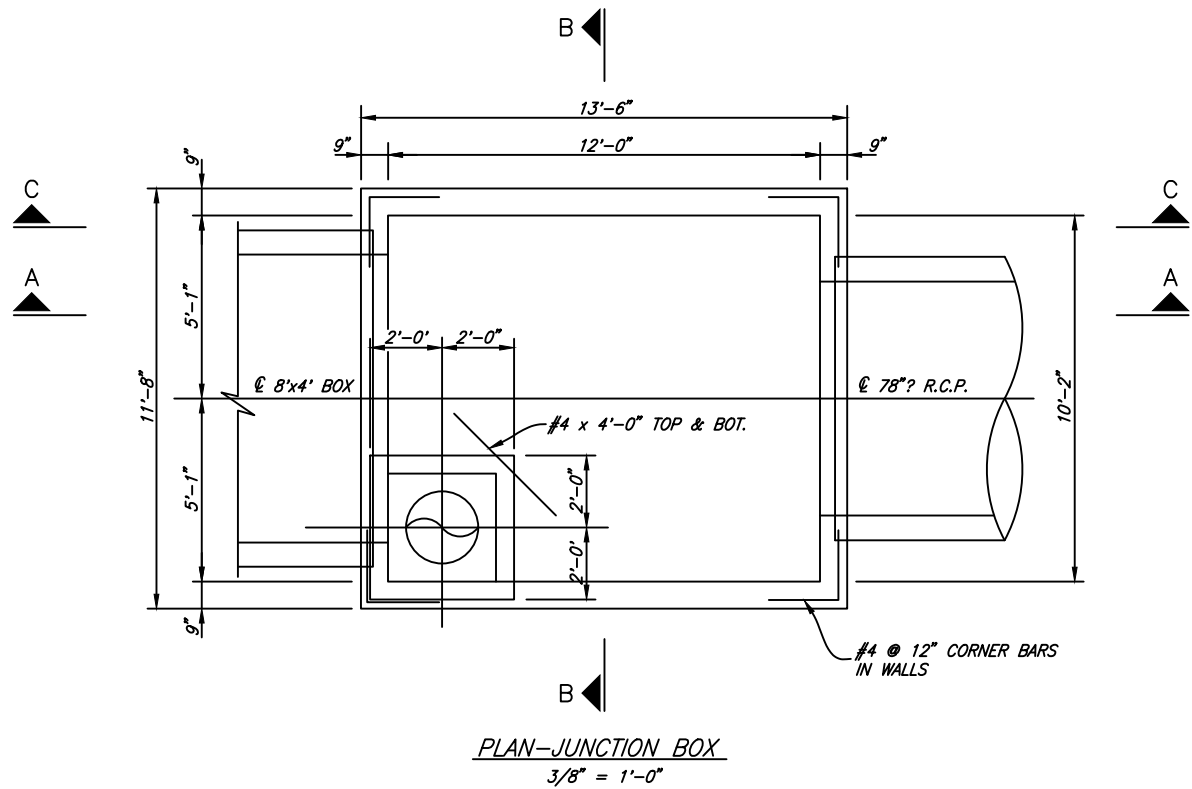
**CITY OF DENISON, TEXAS**

STANDARD CONSTRUCTION DETAILS  
TREE PROTECTION PLAN

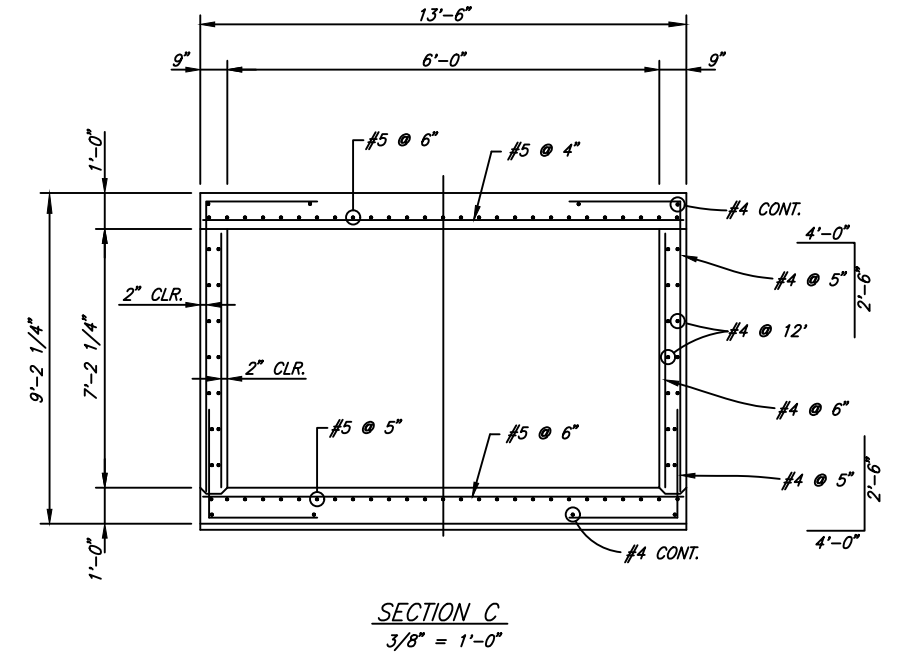
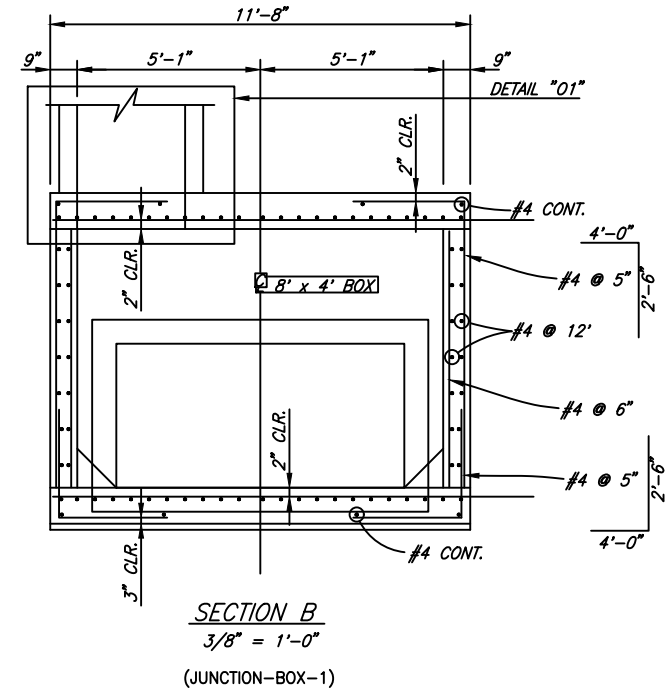
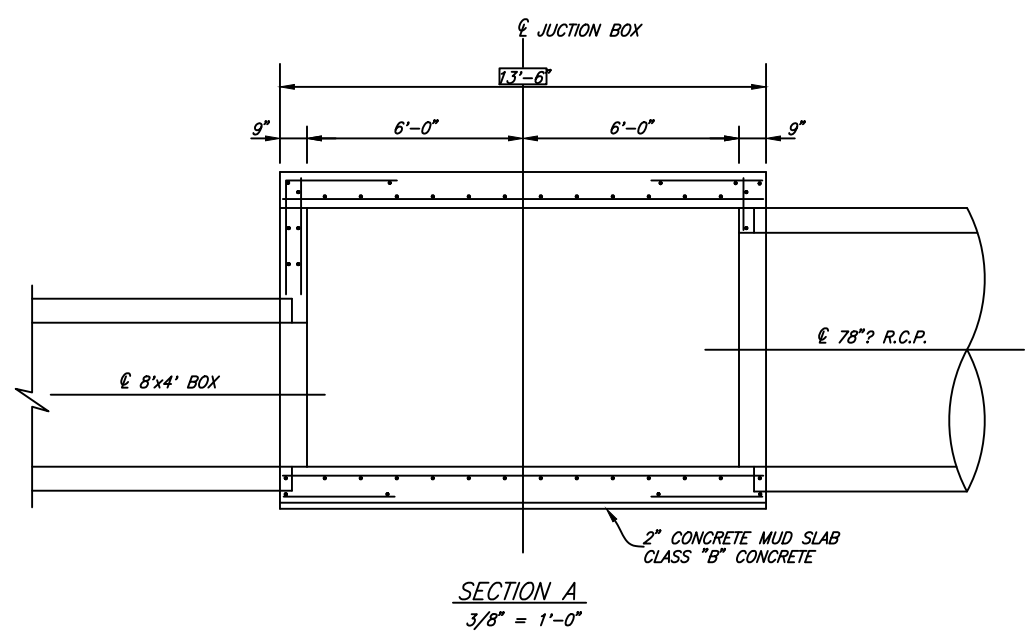
December, 2023

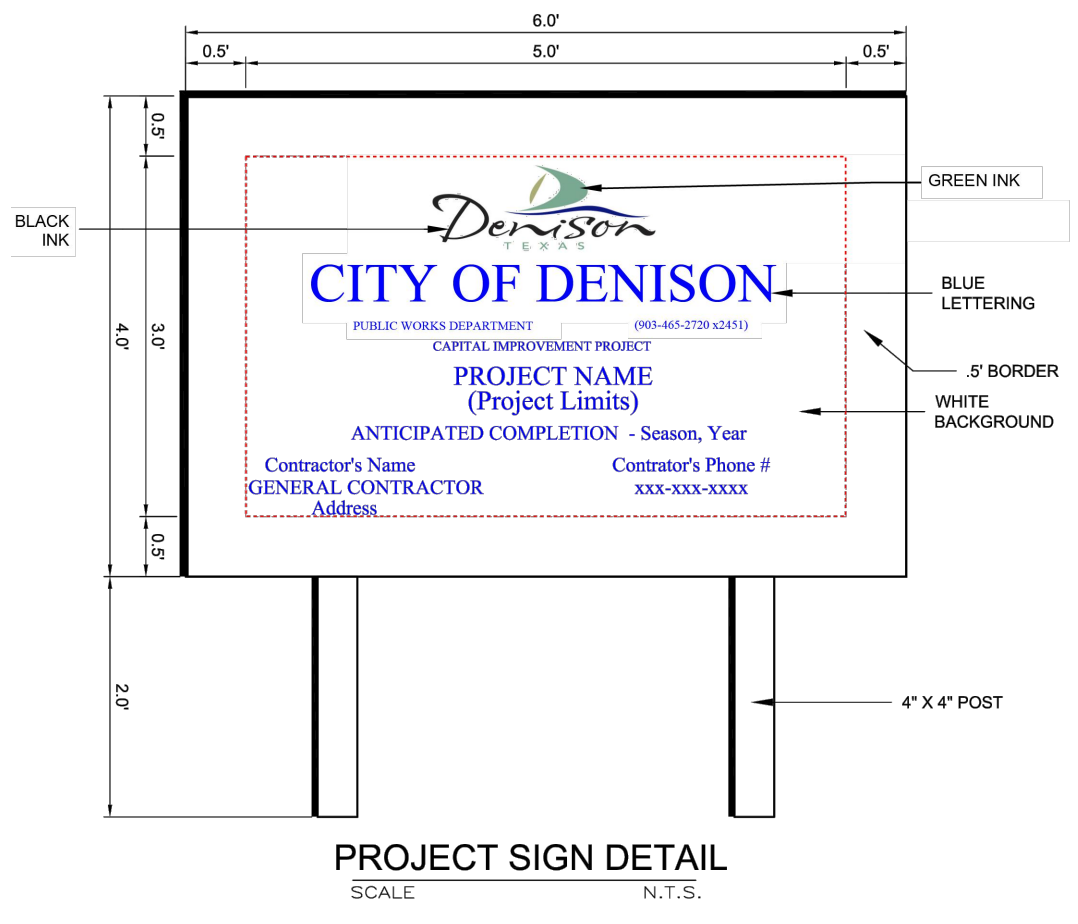
SHEET NO.

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- NOTE:**
1. CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF NCTCOG'S STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
  2. CONCRETE SHALL BE CLASS "C" -3,600 P.S.I.
  3. REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A615, GRADE 60.
  4. FIELD CUT REINFORCING STEEL TO CLEAR PRECAST BOX AND R.C.P. BY 2".

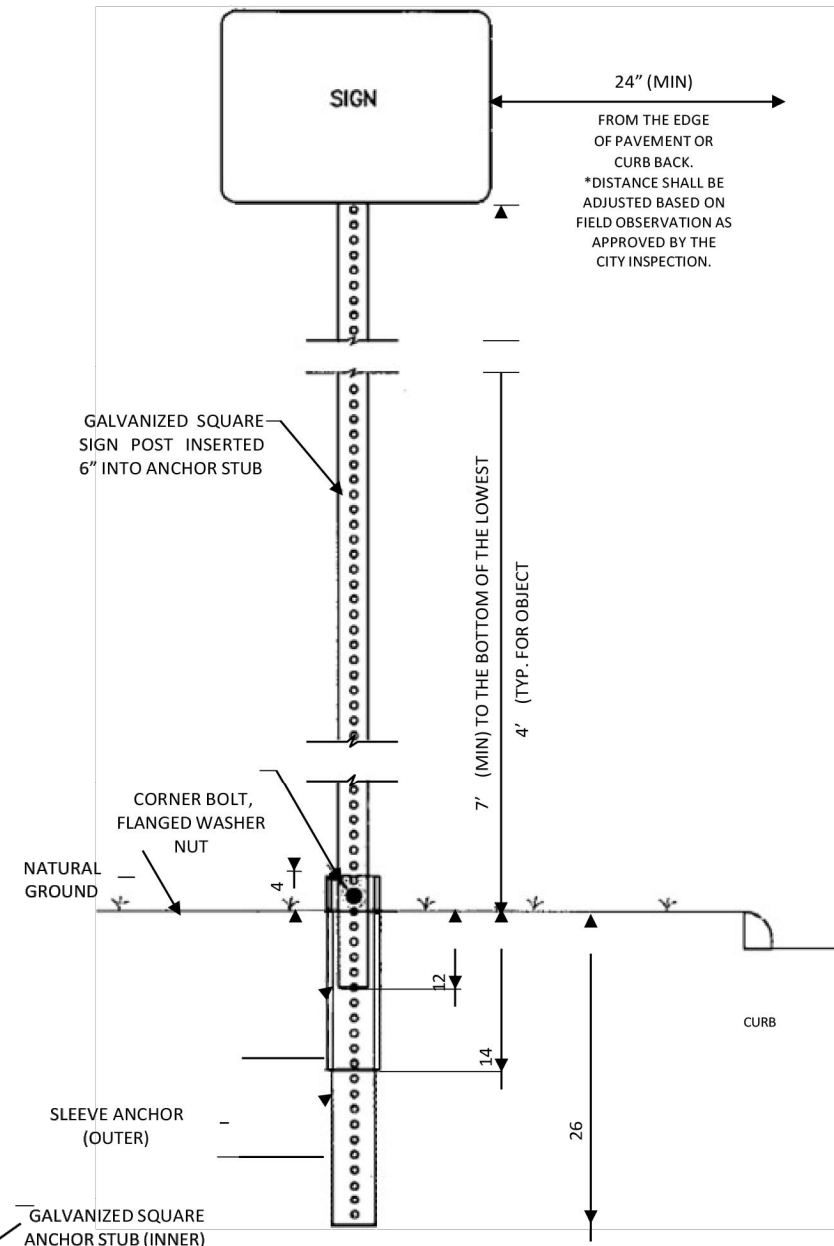




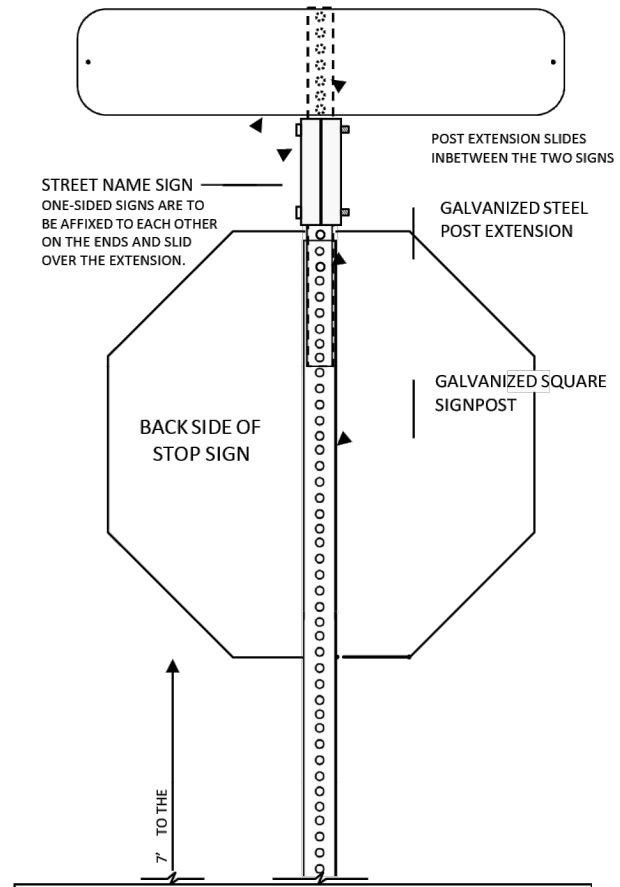
**Color Palette**

	PMS 662 C/100 M/88 Y/0 K/20 R/0 G/29 B/119		PMS 643 C/21 M/3 Y/1 K/2 R/195 G/211 B/223		PMS 556 C/51 M/5 Y/37 K/15 R/112 G/164 B/137
	PMS 5767 C/30 M/12 Y/66 K/36 R/137 G/143 B/75		PMS 5777 C/22 M/7 Y/51 K/22 R/163 G/168 B/107		PMS Black C/0 M/0 Y/0 K/100 R/30 G/30 B/30

**TYPICAL GROUND SIGN INSTALLATION PERFORATED SQUARE METAL TUBING**

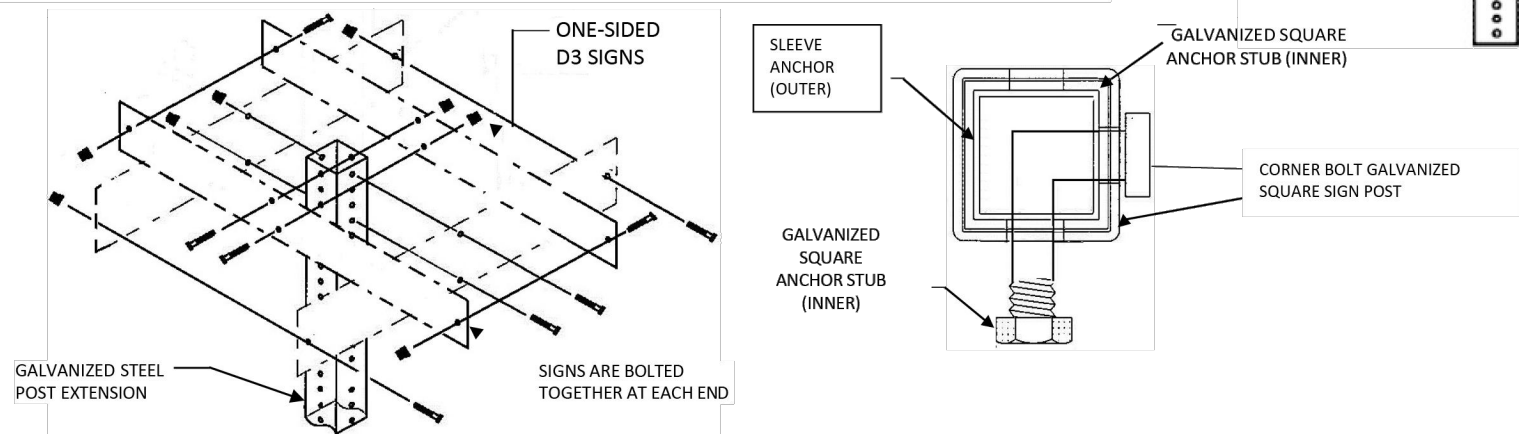


**TYPICAL STOP SIGN AND STREET NAME SIGN INSTALLATION**



**SLEEVE DETAILS**

GALVANIZED SQUARE SIGN POST EXTENSION (PERFORATED)	1-1/2" x 1-1/2" (14 GAUGE)
GALVANIZED SQUARE SIGN POST (PERFORATED)	1-3/4" x 1-3/4" (14 GAUGE)
GALVANIZED SQUARE SIGN POST (PERFORATED) (INNER)	2" x 2" x 30" (14 GAUGE)
GALVANIZED SQUARE SIGN POST (PERFORATED) (OUTER)	2 1/4" x 2 1/4" x 18" (14 GAUGE)



**CITY OF DENISON, TEXAS**

STANDARD CONSTRUCTION DETAILS  
GROUND MOUNTED STREET NAME BLADE & PROJECT SIGN DETAILS

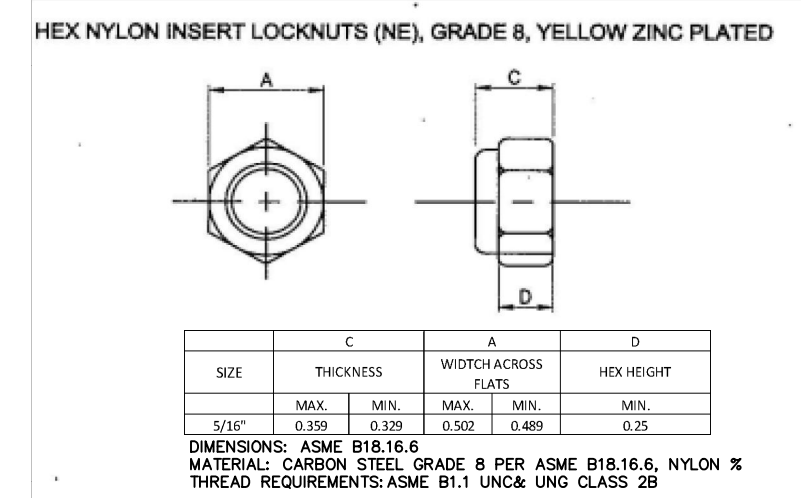
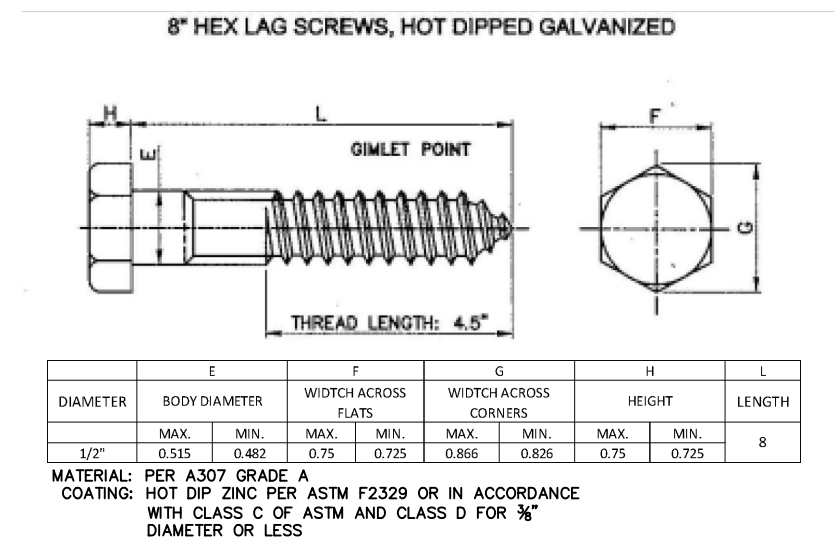
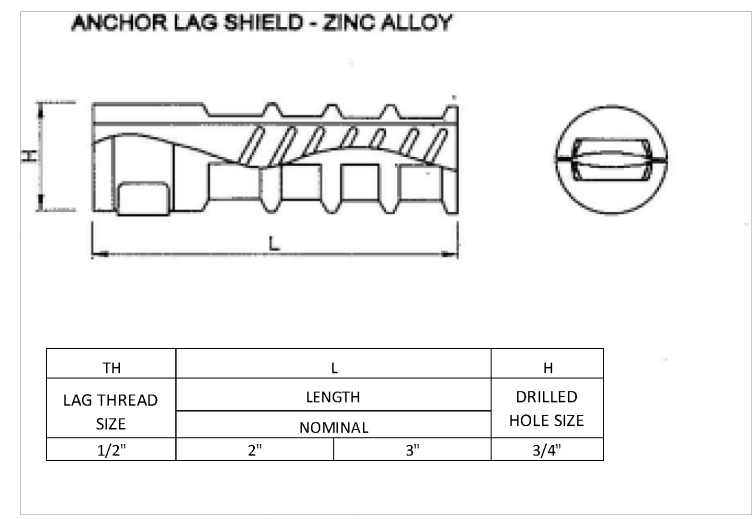
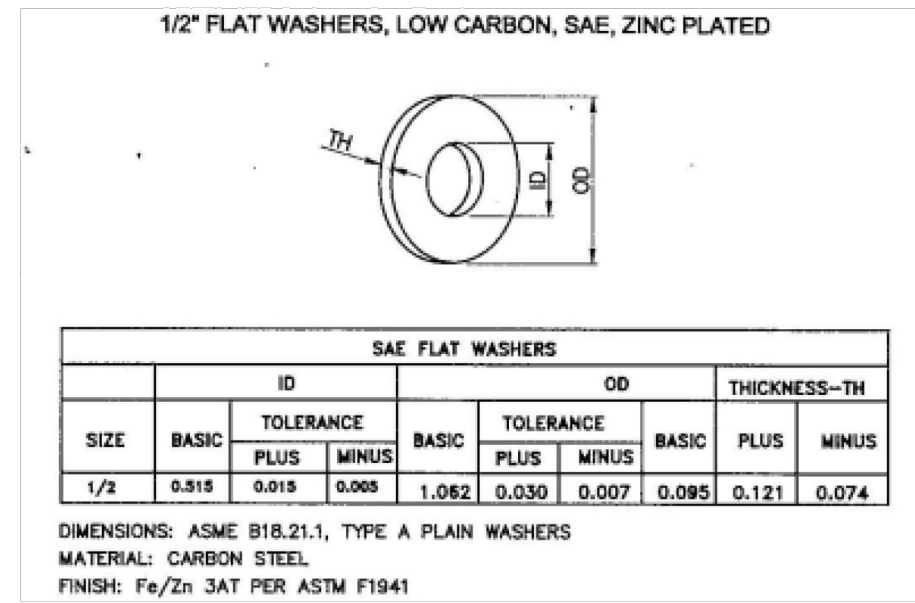
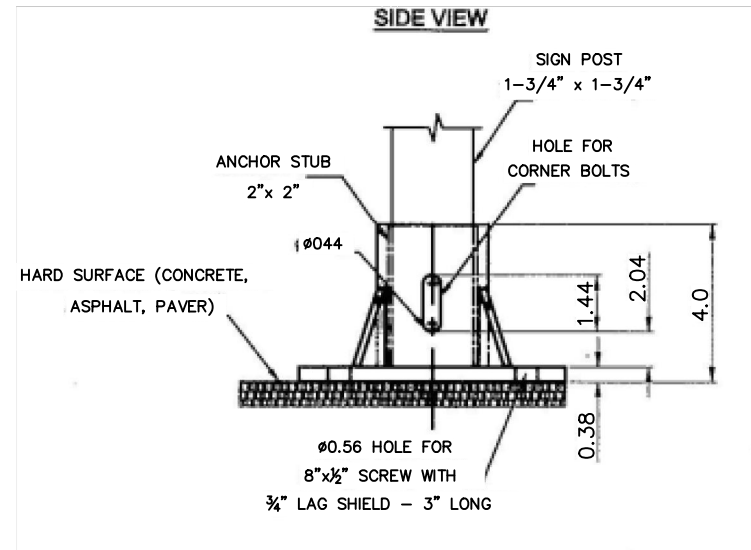
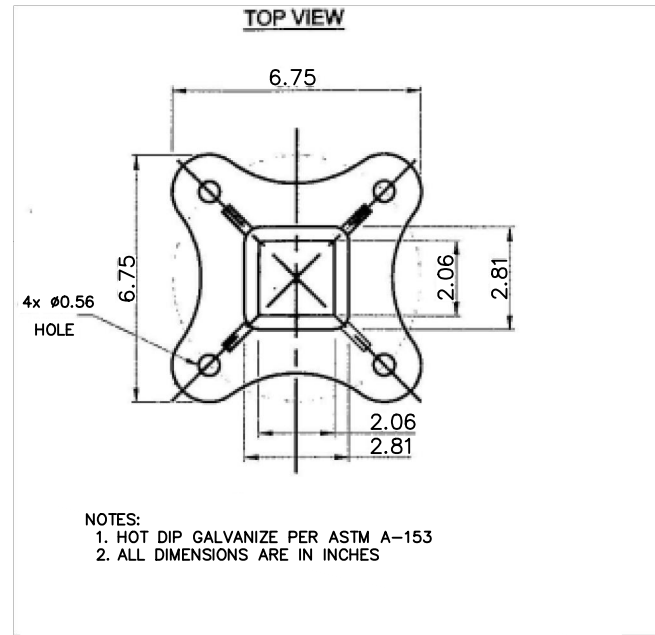
December, 2023

SHEET NO.

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**TYPICAL HARD SURFACE INSTALLATION GALVANIZED SIGN BASE**  
 (USED ONLY WHEN UNDERGROUND CONDITIONS PROHIBIT USE OF STANDARD ANCHOR SLEEVE  
 – APPROVAL FROM PUBLIC WORKS DIRECTOR OR DESIGNEE NEEDED PRIOR TO USE)



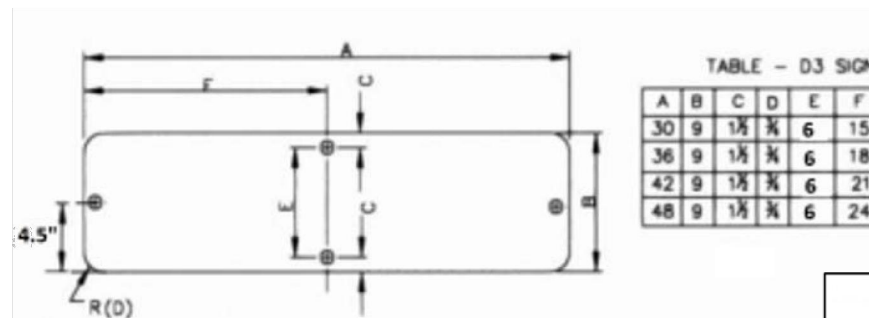
D3-1 STREET NAME SIGN EXAMPLES  
(DIMENSIONS SHOWN ARE TYPICAL)

D3-1 STREET NAME SIGN

HEIGHT	9" SIGN BLANK (9.30" DESIGNED WITH FULL BLEED)
LENGTH	30", 36" 42" OR 48"
THICKNESS	0.080"
SUBSTRATE	ALUMINUM ALLOY, 5052-H38 (ASTM B-209)
SIGN FACE MATERIAL	GREEN FILM OVER ASTM-4956 TYPE XI FULL CUBE PRISMATIC GRADE RETROREFLECTIVE SHEETING OR EQUIVALENT
SIGN FONT	CLEARVIEW HWY 3W
COLOR	LETTERS - WHITE REFLECTIVE BACKGROUND - GREEN FILM



D3-1 STREET NAME SIGN DIMENSIONS



NOTES:

1. TEXT SHALL START 2" FROM THE EDGE OF THE LOGO
2. STREETNAME SHALL BE CENTERED AND 6" FONT SIZE
3. 1" MIN. SPACE BETWEEN STREET NAME LETTERS
4. SUFFIX AND BLOCK NUMBER MUST BE LOCATED 2" FROM STREET NAME AND 2" FROM THE RIGHT EDGE, SUFFIX AT TOP AND BLOCK NUMBER AT BOTTOM, 3" SPACE BETWEEN THEM.
5. LETTERS AND/OR NUMBERS SPACES IN THE SUFFIX AND BLOCK NUMBER MUST BE 1.5" MIN
6. BLOCK NUMBER MUST HAVE 1" SPACE FROM THE BLADE EDGE
7. ALL DIMENSIONS ARE IN INCHES.
8. SIGN LENGTH WILL BE DICTATED BY THE NUMBER OF LETTERS IN THE NAME
9. ALL STREETNAME SIGNS SHALL HAVE 1/4" DIAMETER HOLES DRILLED ON EACH END AND AFFIXED TOGETHER.



CITY OF DENISON, TEXAS

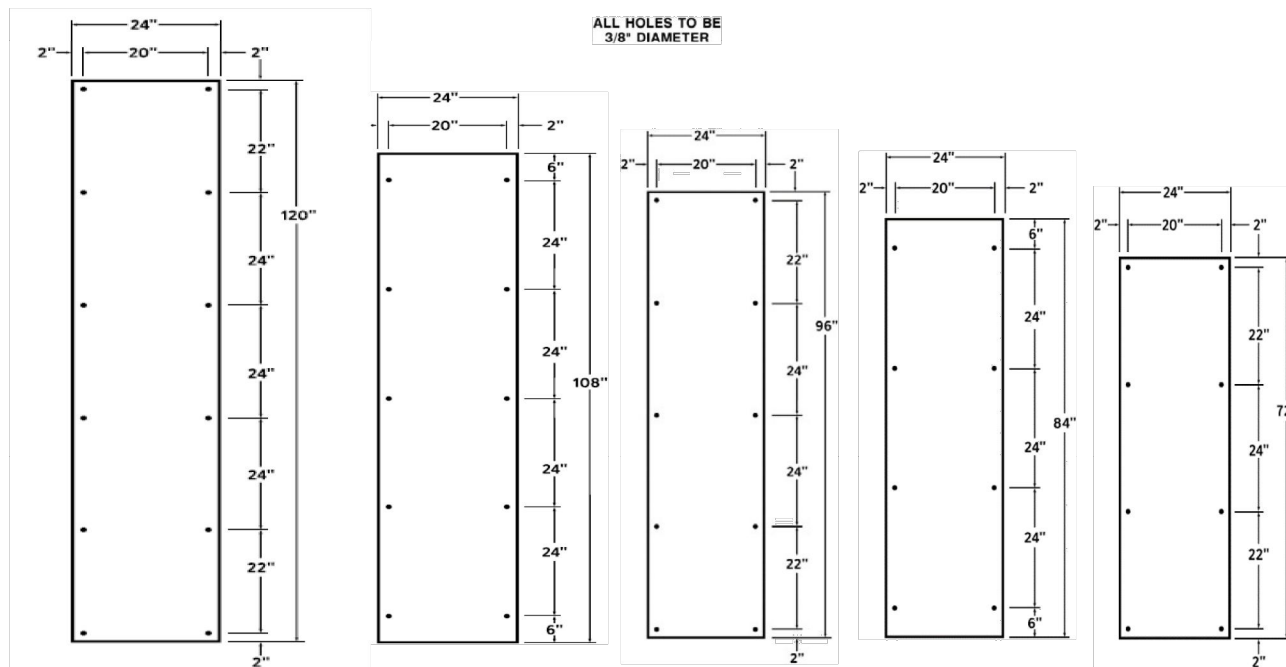
STANDARD CONSTRUCTION DETAILS  
GROUND MOUNTED STREET NAME BLADE (D3-1) DETAILS

December, 2023

SHEET NO.

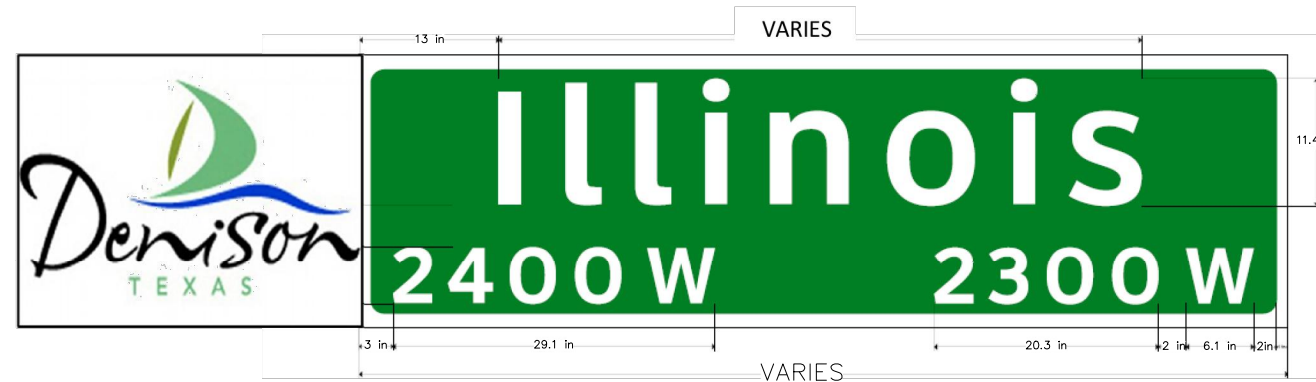
42

D3-1 OVERHEAD SIGN PANEL DIMENSIONS

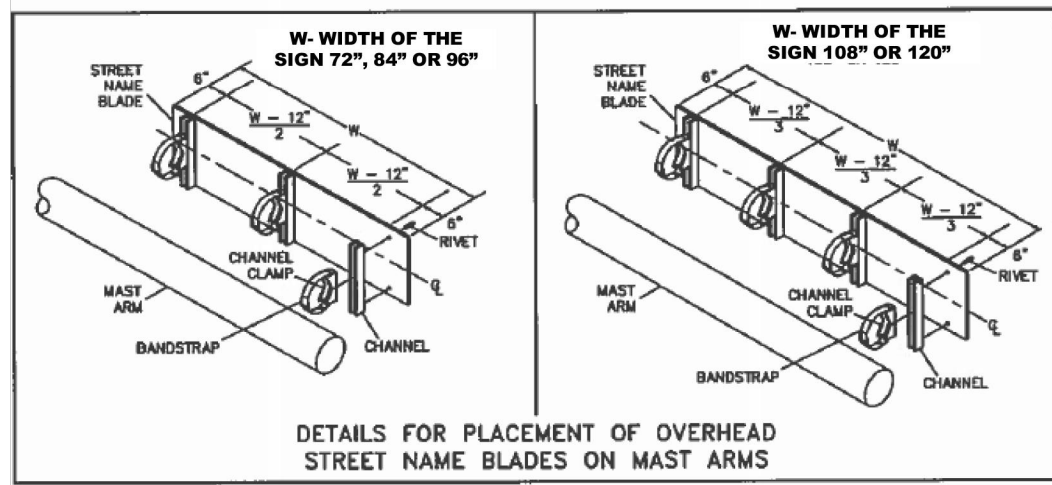


HEIGHT	24"
LENGTH	72", 84", 96", 108", or 120"
THICKNESS	0.100"
SUBSTRATE	ALUMINUM ALLOY, 5052-H38 (ASTM B-209)
SIGN FACE MATERIAL	GREEN FILM OVER ASTM-4956 TYPE XI FULL CUBE PRISMATIC GRADE RETROREFLECTIVE SHEETING OR EQUIVALENT
SIGN FONT	CLEARVIEW HWY 5W
COLOR	LETTERS - WHITE REFLECTIVE BACKGROUND - GREEN FILM

D3-1 OVERHEAD STREET NAME SIGN  
EXAMPLES  
(DIMENSIONS SHOWN ARE TYPICAL)



DETAILS FOR MOUNTING TRAFFIC SIGNS  
ON SIGNAL MAST ARMS AND POLES



NOTE: SIGN LENGTH WILL BE DICTATED BY THE NUMBER OF LETTERS IN THE NAME.  
THE HEIGHT SHALL BE 24"



CITY OF DENISON, TEXAS

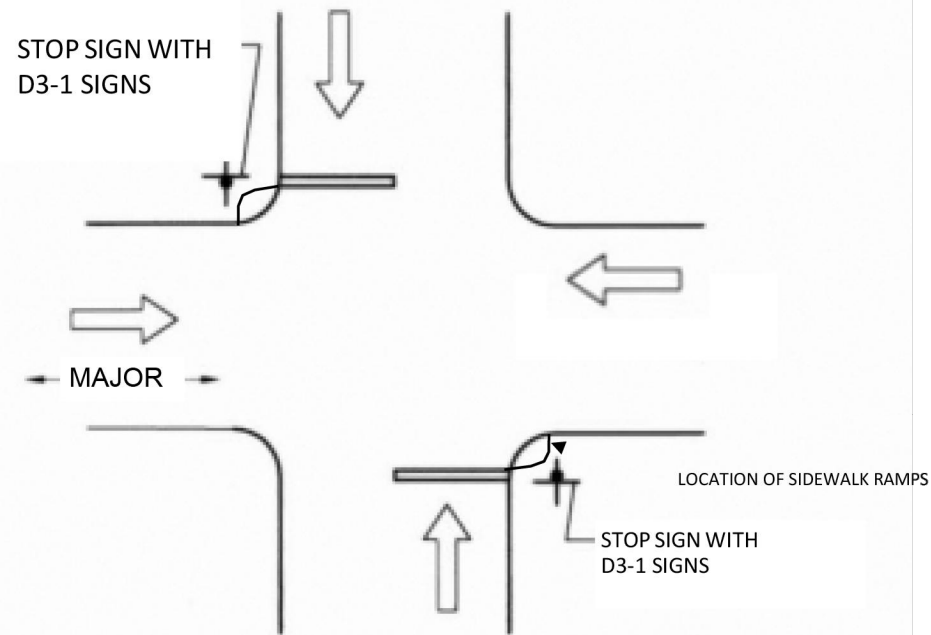
STANDARD CONSTRUCTION DETAILS  
OVERHEAD STREET NAME BLADE (D3-1) DETAILS

December, 2023

SHEET NO.

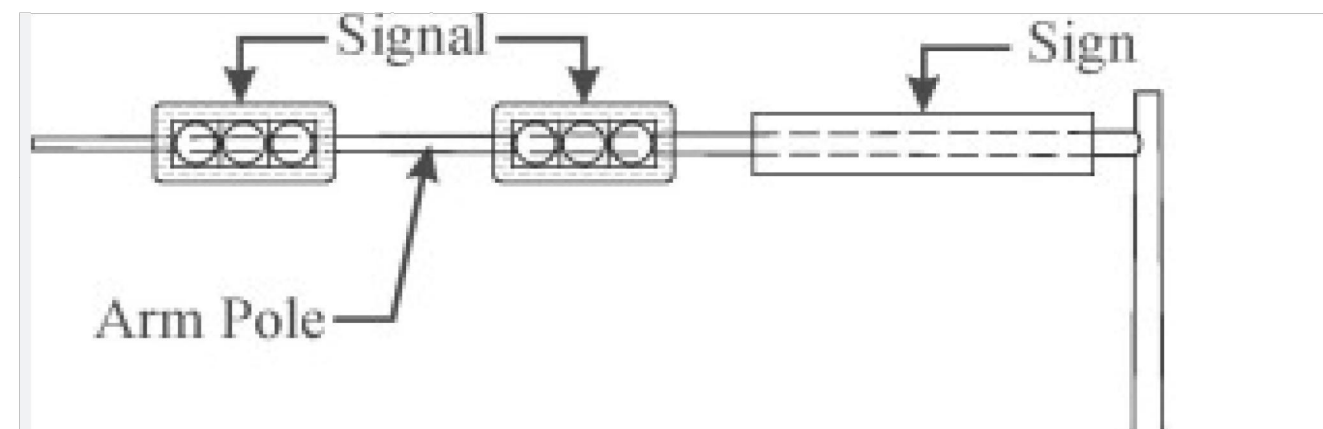
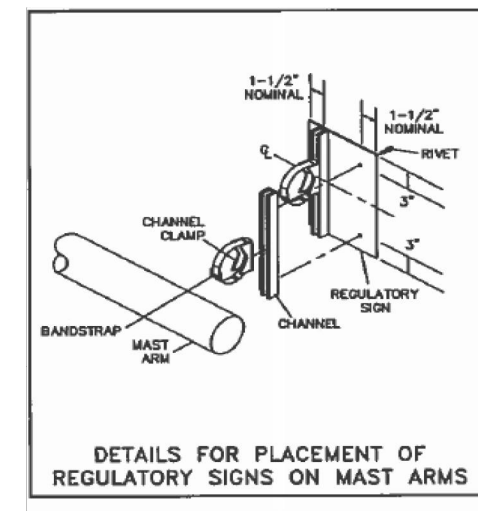
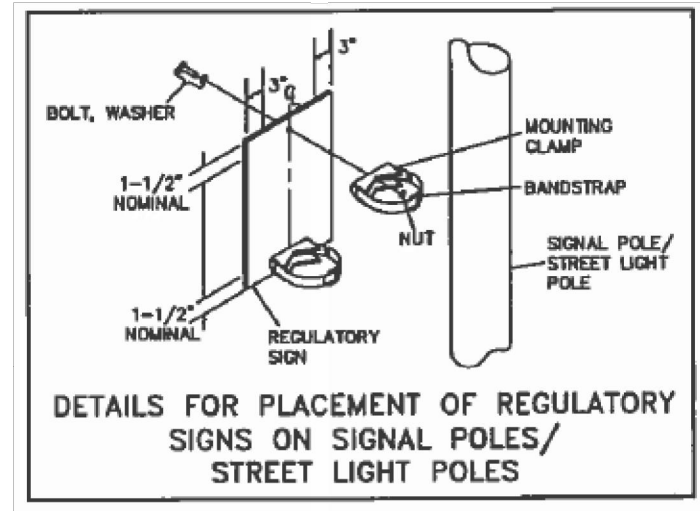
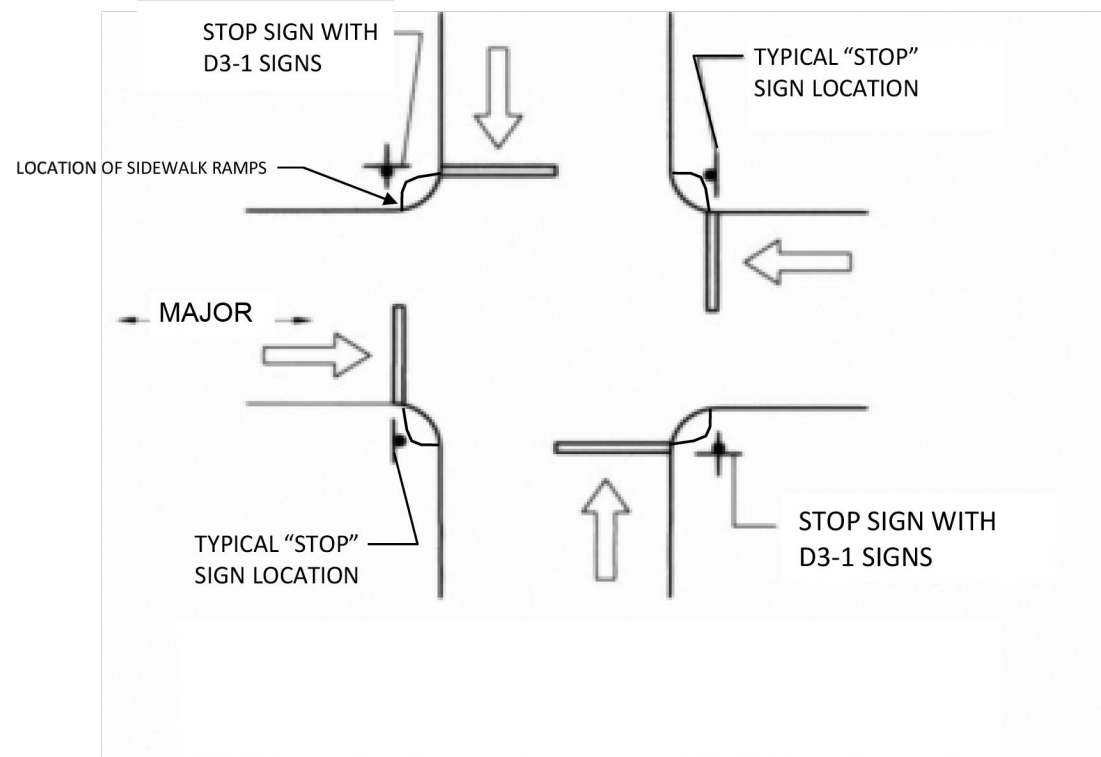
43

**TWO-WAY STOP CONTROL INTERSECTION**



\*\*STOP SIGNS ARE TO BE INSTALLED IN ADVANCE OF CROSSWALK AND RAMP

**ALL-WAY STOP CONTROL INTERSECTION**



**TYPICAL SIGN PLACEMENTS ON SIGNAL MAST ARMS**



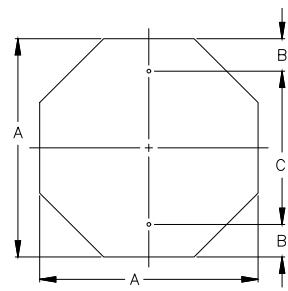
**CITY OF DENISON, TEXAS**

STANDARD CONSTRUCTION DETAILS  
TYPICAL STREET NAME SIGN PLACEMENTS

December, 2023

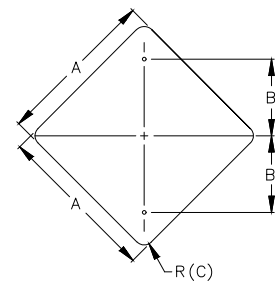
SHEET NO.

**44**



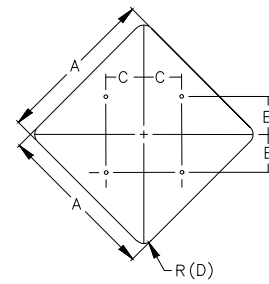
OCTAGONAL

A	B	C	T
24	3	18	0.080
30	3	24	0.080
36	3	30	0.100



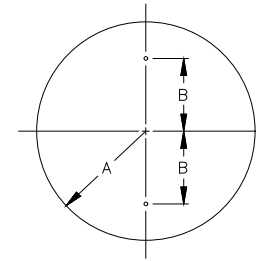
DIAMOND (A)

A	B	C	T
18	9	1	0.080
24	12	1	0.080
30	15	1	0.080
36	18	1	0.100



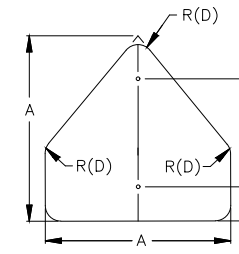
DIAMOND (B)

A	B	C	D	T
48	15	15	3	0.100



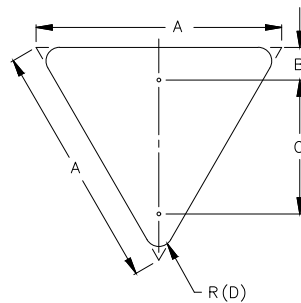
CIRCLE

A	B	T
18	15	0.100



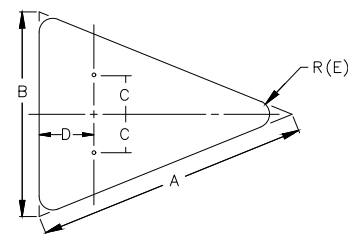
PENTAGON (SCHOOL)

A	B	C	D	T
36	24	32	1	0.100



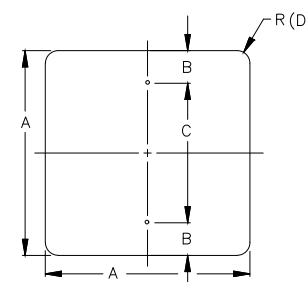
EQUILATERAL TRIANGLE

A	B	C	D	T
36	2	24	2	0.100



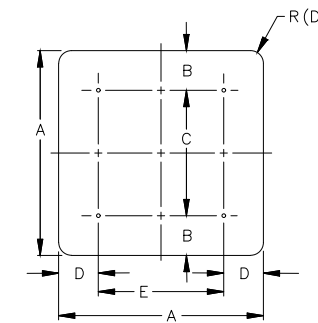
ISOSCELES TRIANGLE

A	B	C	D	E	T
40	30	1	2	7	0.100
48	36	9	15	1	0.100



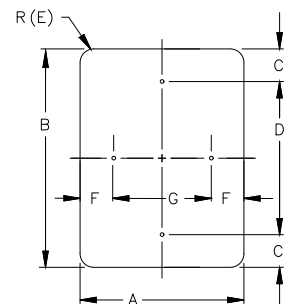
SQUARE (A)

A	B	C	D	T
18	1	15	1	0.080
24	3	18	1	0.080
30	3	24	1	0.080



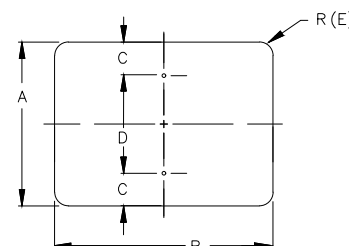
SQUARE (B)

A	B	C	D	E	F	T
48	6	36	9	30	3	0.100



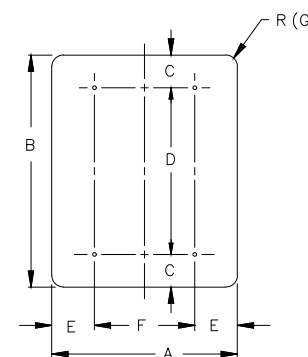
VERTICAL / HORIZONTAL RECTANGLE

A	B	C	D	E	F	G	T
12	18	1	25	1	2	2	0.080
12	36	3	30	1	2	2	0.080
18	24	1	21	1	2	25	0.080
24	30	3	24	1	23	18	0.080
24	36	3	30	1	23	18	0.080
24	48	6	36	7	83	18	0.080
30	36	3	30	7	83	24	0.080



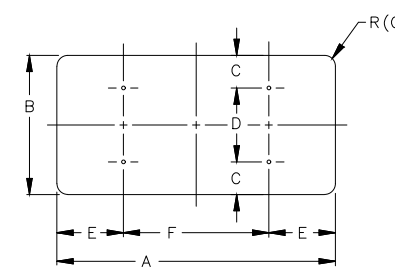
HORIZONTAL RECTANGLE

A	B	C	D	E	T
6	12	1	4	1	0.080
6	18	1	4	1	0.080
20	36	1	17	1	0.080



VERTICAL RECTANGLE

A	B	C	D	E	F	G	T
57	3	14	62	3	14	24	0.100
48	60	6	48	9	30	3	0.100



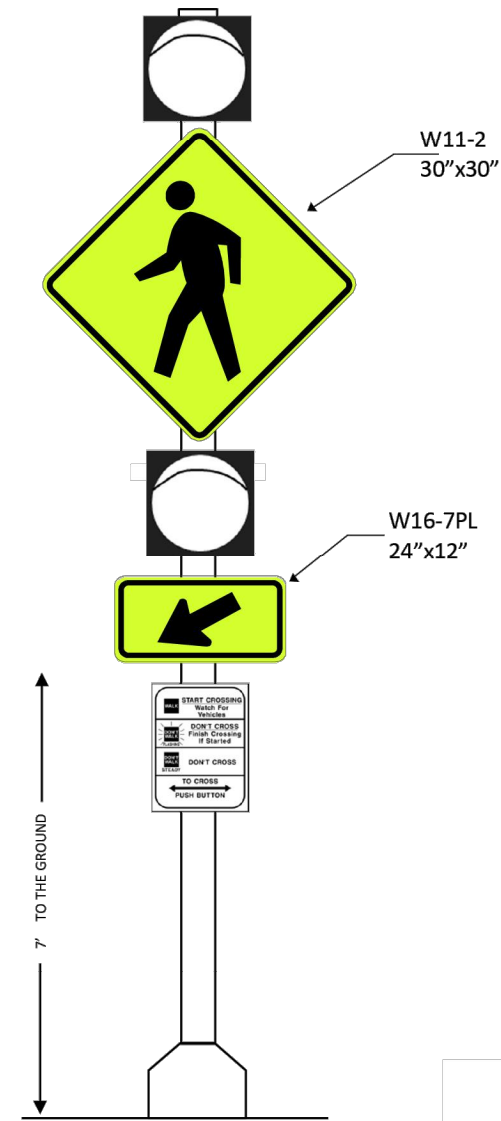
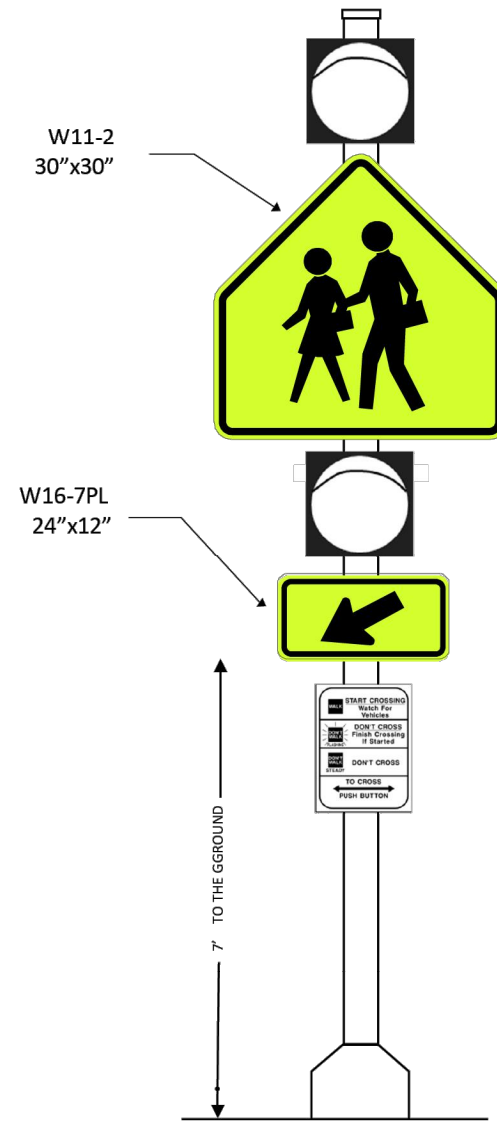
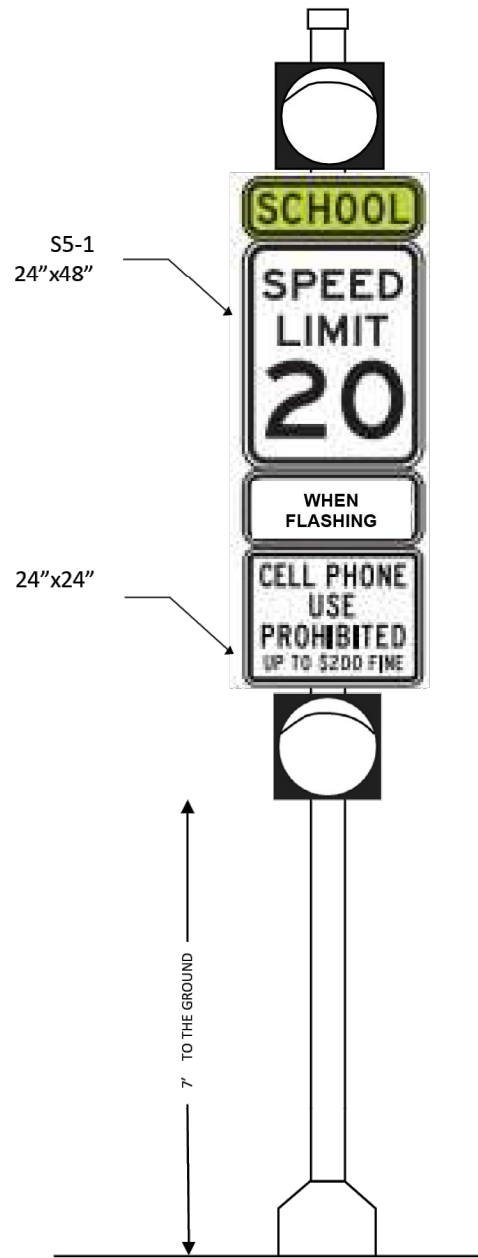
HORIZONTAL RECTANGLE

A	B	C	D	E	F	G	T
48	24	2	20	2	44	7	0.100
48	36	3	30	3	42	1	0.100
60	24	2	20	2	56	1	0.100
60	36	3	30	3	54	1	0.100
48	30	3	24	3	42	7	0.100
60	30	3	24	3	54	7	0.100



# SCHOOL FLASHERS - FLASHING BEACONS

Poles are 4-1/2" O.D. with a spun pole aluminum finish. Threaded on one end to insert into the square aluminum base. 18" anchor bolts in 24" diameter pier 3-foot minimum depth.



\*INSTALL A 12" WHITE TRANSVERSE LINE ACROSS THE FULL PAVEMENT WIDTH TO MARK EACH END OF ESTABLISHED REDUCED SCHOOL SPEED LIMIT WITHIN THE SCHOOL ZONE IN ACCORDANCE WITH TMUTCD SECTION 7C.03



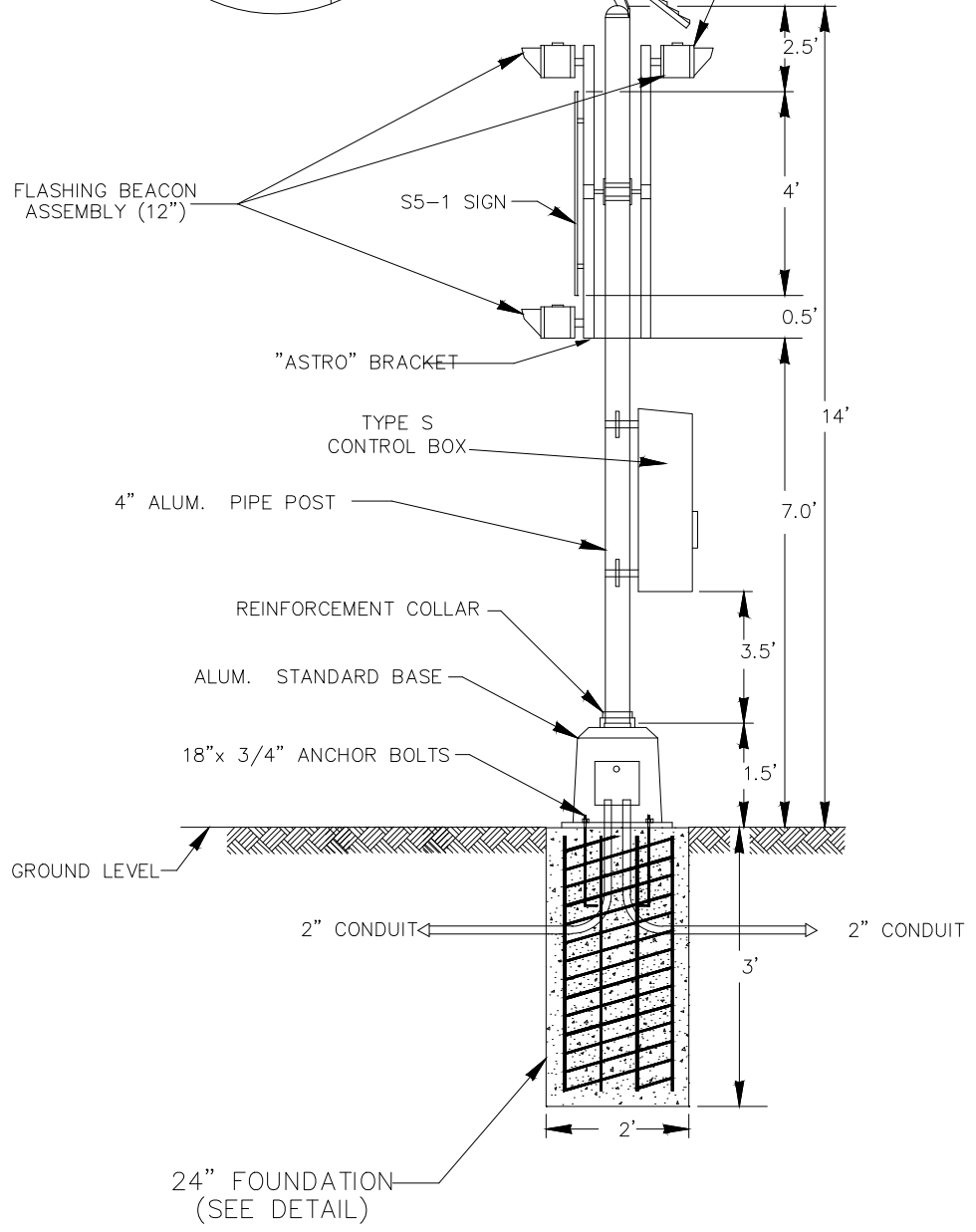
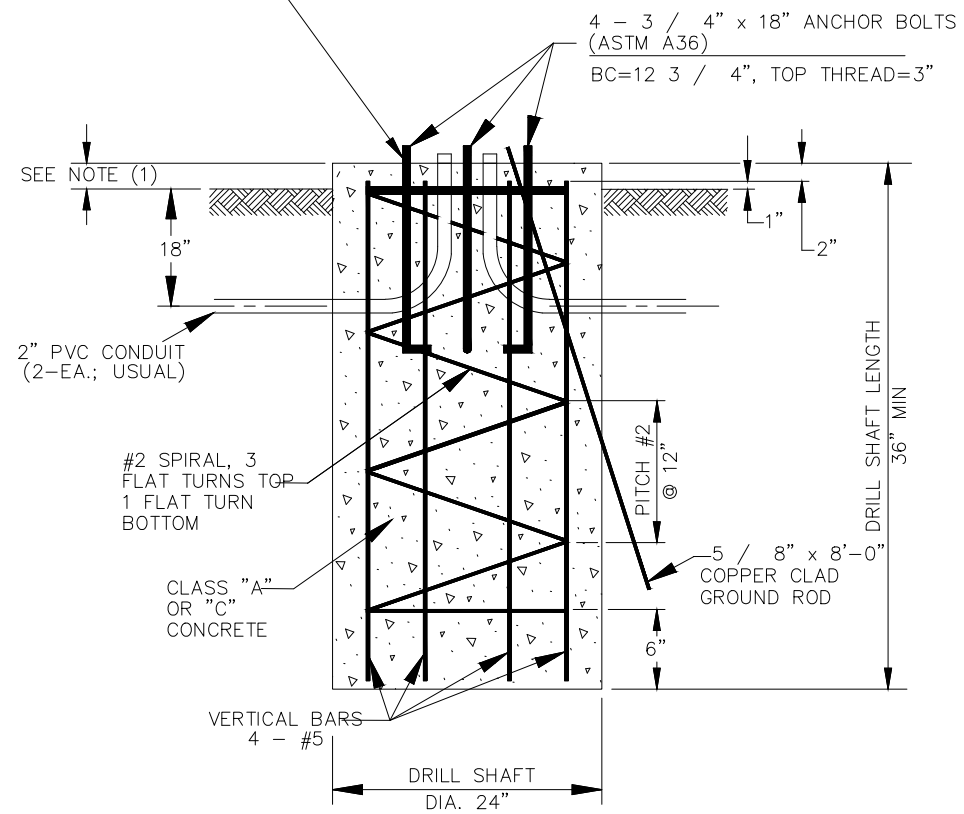
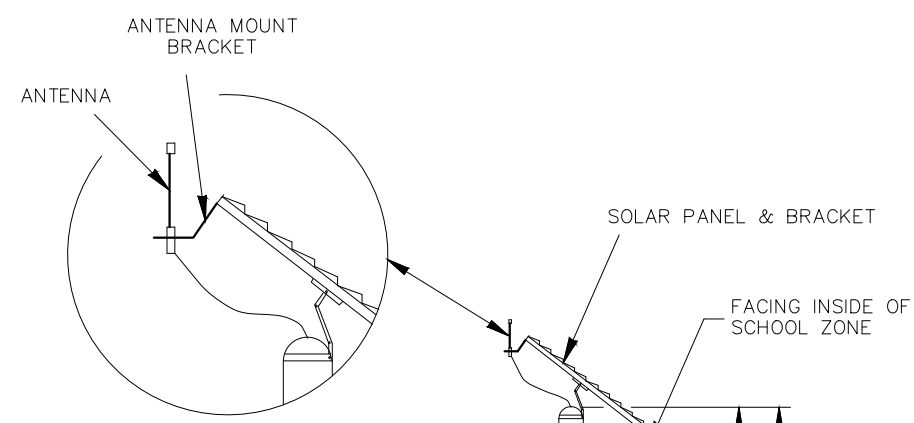
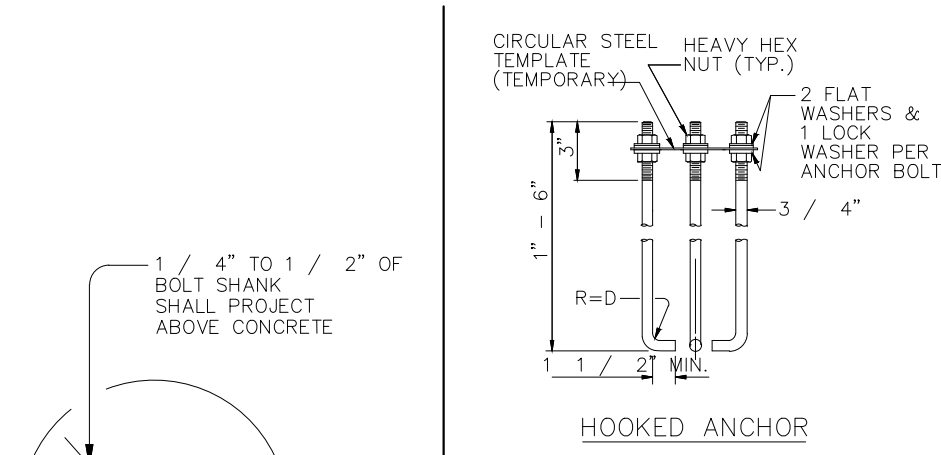
**CITY OF DENISON, TEXAS**

STANDARD CONSTRUCTION DETAILS  
TYPICAL SCHOOL ZONE FLASHER ASSEMBLY

December, 2023

SHEET NO.

**46**



	← S5-2A (COSA) 24" x 9"
	R2-1 24" x 30"
	S1-1 36" x 36" (DIAMOND GRADE FLOURESCENT YELLOW GREEN)
	(DIAMOND GRADE FLOURESCENT YELLOW GREEN) S5-1 24" x 48" (HIGH INTENSITY WHITE)
	W16-17 30" x 18" (DIAMOND GRADE FLOURESCENT YELLOW GREEN)
	W16-9P 36" x 20" (DIAMOND GRADE FLOURESCENT YELLOW GREEN)
ALL SIGNS SHALL COMPLY WITH STANDARD HIGHWAY SIGNS MANUAL, LATEST EDITION	

NOTE (1): 3" UNLESS OTHERWISE DIRECTED BY THE ENGINEER



**CITY OF DENISON, TEXAS**  
STANDARD CONSTRUCTION DETAILS  
FOUNDATION AND FLASHER ASSEMBLY STANDARDS

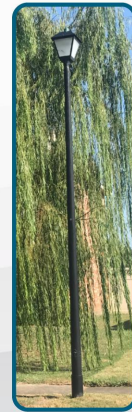
December, 2023

SHEET NO.  
**47**

### Street Light Options Post Top

Town And Country	
20' Round Fiberglass Pole	
Embedded Base	
LED	0-55W
HPS	100W

Washington	
15' Fluted Fiberglass Pole	
Embedded w/ Town Lake Base	
LED	0-55W
HPS	100W



Town and Country



Washington

### Street Light Options Historical Specifications

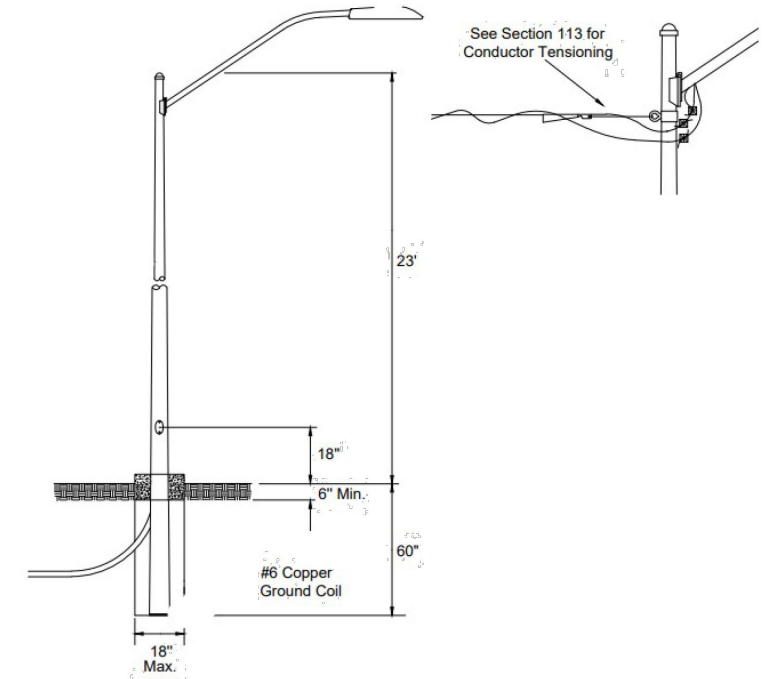
Pole	Mounting Height	Color Available	Material	Base
American	11' or 14'	Black	Cast Aluminium	24" Diameter w/ 15" Bolt Circle
Central Park	12'	Black	Cast Iron	24" Diameter w/ 15" Bolt Circle
European	12' or 14'	Black	Cast Iron	24" Diameter w/ 15" Bolt Circle
Texan	11' or 14'	Black	Cast Iron	24" Diameter w/ 15" Bolt Circle
Philadelphia*	16'	Black	Cast Aluminium	18" Diameter w/ 10.5" Bolt Circle

Luminaire	Light Source Options	Luminaire Size
Acorn	LED 0-55W, HPS 100W	41" Tall x 16" Wide
Lantern	LED 0-55W, HPS 100W	43.25" Tall x 16.125" Wide
Decorative	LED 0-55W	38" Tall x 16" Wide
Pendant*	LED 0-55W, HPS 100W	16" Tall x 16" Wide

\*The Pendant Luminaire and bracket arm can only be used with the Philadelphia style pole.



### Cobra Head Luminaire Embedded Base



### Street Light Options Historical Luminaire

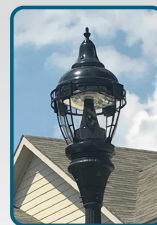
Historical luminaires are the high-end street light options offered by Oncor. These luminaires are available in three different styles that can be mounted on any of the four available styles of Historical Poles.



Lantern



Acorn



Decorative

### Street Light Options Historical Pole



American

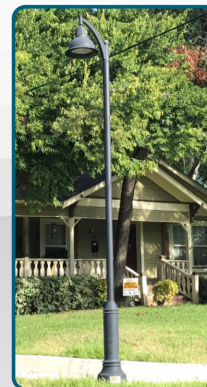
Central Park

European

Texan

All Historical Poles are installed on Oncor approved precast foundations.

### Street Light Options Historical Pendant



Philadelphia with Single Pendant



Philadelphia with Double Pendant

The Historical Pendant luminaire will be mounted 2 feet from the center of the pole and 17.5 inches above the height of the pole stated in the "Historical Specifications" table.



**CITY OF DENISON, TEXAS**

STANDARD CONSTRUCTION DETAILS  
STREET LIGHT DETAILS

December, 2023

SHEET NO.

**48**



# City Council Meeting Staff Report



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## Agenda Item

Receive a report, hold a discussion and take action on awarding the proposal for the design build project at 321 W. Main Street and entering into a contract with Piazza Construction for preconstruction services and design.

## Staff Contact

Bobby Atteberry, Interim City Manager  
batteberry@cityofdenison.com  
(903) 464-4440

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## Summary

- The City of Denison acquired the property located at 321 W. Main Street through the eminent domain process in order to build a visitor's center and public restrooms.
- The City issued an RFQ/RFP on August 27, 2023, with submittals due by 2:00 p.m. on September 12, 2023.
- During Phase 1 of the selection process, one of the proposers was eliminated by the committee, leaving two finalists – C1S, Inc. and Piazza Construction.
- The committee then conducted a site visit with the two finalists on October 3<sup>rd</sup> and provided the finalists with a design criteria package and conceptual drawings, and the finalists were given 1 week to provide any questions about the project.
- Staff provided answers to the questions received through an addendum and gave the finalists two weeks to provide their proposals, to be received by close of business on Monday, October 30, 2023.
- Piazza Construction ended up with a higher average score than C1S and came in lower in overall price than C1S.
- The City is now ready to move forward with awarding the design build job to Piazza Construction and enter into a contract for preconstruction services and design.

## Staff Recommendation

Staff recommends awarding the proposal to Piazza Construction for preconstruction and design services for the design build project at 321 W. Main Street.

## Recommended Motion

"I move to award the proposal for the design build project at 321 W. Main Street and entering into a contract with Piazza Construction for preconstruction services and design."

---

## Background Information and Analysis

The City of Denison acquired the property located at 321 W. Main Street through the eminent domain process in order to build a visitor's center and public restrooms. City staff received direction to prepare a request for qualifications/request for proposals for a design-build project for the proposed site. The City issued an RFQ/RFP on August 27, 2023, with submittals due by 2:00 p.m. on September 12, 2023. The City received 3 submittals for this project. A selection committee was comprised and reviewed the submittals. During Phase 1 of the selection process, one of the proposers was eliminated by the

committee, leaving two finalists – C1S, Inc. and Piazza Construction. The committee then conducted a site visit with the two finalists on October 3<sup>rd</sup> and provided the finalists with a design criteria package and conceptual drawings and the finalists were given 1 week to provide any questions about the project. Staff provided answers to the questions received through an addendum and gave the finalists two weeks to provide their proposals, to be received by close of business on Monday, October 30, 2023. After receiving the proposals, and as Phase 2 of the selection process, the committee interviewed each proposer and scored the proposers based on their proposals submitted. Piazza Construction ended up with a higher average score than C1S and came in lower in overall price than C1S. Because of this, and because Piazza Construction is local, more weight was given to Piazza Construction as required under procurement laws. The City is now ready to move forward with awarding the design build job to Piazza Construction and enter into a contract for preconstruction services and design. Once the design is complete, Piazza Construction will come back with a Guaranteed Maximum Price (“GMP”) addendum to the contract. The GMP will be the final price of the project.

**Financial Considerations**

The cost for preconstruction services is budgeted to come out of the Hotel Occupancy Tax (HOT) Fund.

**Prior Board or Council Action**

None.

**Alternatives**

Council may table, deny or modify the agenda item.

 **AIA<sup>®</sup> Document A141<sup>®</sup> – 2014****Standard Form of Agreement Between Owner and Design-Builder**

AGREEMENT made as of the 27th day of November in the year 2023  
(In words, indicate day, month and year.)

**BETWEEN** the Owner:  
(Name, legal status, address and other information)

City of Denison, Texas  
300 West Main Street  
Denison, Texas 75020

and the Design-Builder:  
(Name, legal status, address and other information)

Piazza Construction LLC.  
2811 S. Woodlawn Ave.  
Denison, Texas 75020

for the following Project:  
(Name, location and detailed description)

Denison Visitors Center, Public Restrooms and Offices  
321 West Main Street  
Denison, Texas 75020

The Owner and Design-Builder agree as follows.

**ADDITIONS AND DELETIONS:**

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Consultation with an attorney is also encouraged with respect to professional licensing requirements in the jurisdiction where the Project is located.

Init.

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User Notes:

(1733964119)

## TABLE OF ARTICLES

1	GENERAL PROVISIONS
2	COMPENSATION AND PROGRESS PAYMENTS
3	GENERAL REQUIREMENTS OF THE WORK OF THE DESIGN-BUILD CONTRACT
4	WORK PRIOR TO EXECUTION OF THE DESIGN-BUILD AMENDMENT
5	WORK FOLLOWING EXECUTION OF THE DESIGN-BUILD AMENDMENT
6	CHANGES IN THE WORK
7	OWNER'S RESPONSIBILITIES
8	TIME
9	PAYMENT APPLICATIONS AND PROJECT COMPLETION
10	PROTECTION OF PERSONS AND PROPERTY
11	UNCOVERING AND CORRECTION OF WORK
12	COPYRIGHTS AND LICENSES
13	TERMINATION OR SUSPENSION
14	CLAIMS AND DISPUTE RESOLUTION
15	MISCELLANEOUS PROVISIONS
16	SCOPE OF THE AGREEMENT

## TABLE OF EXHIBITS

A	DESIGN-BUILD AMENDMENT
B	INSURANCE AND BONDS
C	SUSTAINABLE PROJECTS

### ARTICLE 1 GENERAL PROVISIONS

#### § 1.1 Owner's Criteria

This Agreement is based on the Owner's Criteria set forth in this Section 1.1.

*(Note the disposition for the following items by inserting the requested information or a statement such as "not applicable" or "unknown at time of execution." If the Owner intends to provide a set of design documents, and the requested information is contained in the design documents, identify the design documents and insert "see Owner's design documents" where appropriate.)*

#### § 1.1.1 The Owner's program for the Project:

*(Set forth the program, identify documentation in which the program is set forth, or state the manner in which the program will be developed.)*

See 'EXHIBIT C'

#### § 1.1.2 The Owner's design requirements for the Project and related documentation:

Init.

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User Notes:

(1733964119)

*(Identify below, or in an attached exhibit, the documentation that contains the Owner's design requirements, including any performance specifications for the Project.)*

See "EXHIBIT C"

§ 1.1.3 The Project's physical characteristics:

*(Identify or describe, if appropriate, size, location, dimensions, or other pertinent information, such as geotechnical reports; site, boundary and topographic surveys; traffic and utility studies; availability of public and private utilities and services; legal description of the site; etc.)*

See "EXHIBIT C"

§ 1.1.4 The Owner's anticipated Sustainable Objective for the Project, if any:

*(Identify the Owner's Sustainable Objective for the Project such as Sustainability Certification, benefit to the environment, enhancement to the health and well-being of building occupants, or improvement of energy efficiency. If the Owner identifies a Sustainable Objective, incorporate AIA Document A141™-2014, Exhibit C, Sustainable Projects, into this Agreement to define the terms, conditions and Work related to the Owner's Sustainable Objective.)*

NA

§ 1.1.5 Incentive programs the Owner intends to pursue for the Project, including those related to the Sustainable Objective, and any deadlines for receiving the incentives that are dependent on, or related to, the Design-Builder's services, are as follows:

*(Identify incentive programs the Owner intends to pursue for the Project and deadlines for submitting or applying for the incentive programs.)*

NA

§ 1.1.6 The Owner's budget for the Work to be provided by the Design-Builder is set forth below:

*(Provide total for Owner's budget, and if known, a line item breakdown of costs.)*

See "EXHIBIT D" for Breakdown

§ 1.1.7 The Owner's design and construction milestone dates:

*(Paragraphs deleted)*

See "EXHIBIT E"

§ 1.1.8 The Owner requires the Design-Builder to retain the following Architect, Consultants and Contractors at the Design-Builder's cost:

*(List name, legal status, address and other information.)*

.1 Architect

BACA Architects & Planners  
100 N. Travis Street, Suite 500  
Sherman, Texas 75090

.2 Consultants

TBD

.3 Contractors

TBD

init.

§ 1.1.9 Additional Owner's Criteria upon which the Agreement is based:  
*(Identify special characteristics or needs of the Project not identified elsewhere, such as historic preservation requirements.)*

NA

§ 1.1.10 The Design-Builder shall confirm that the information included in the Owner's Criteria complies with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities.

§ 1.1.10.1 If the Owner's Criteria conflicts with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Design-Builder shall notify the Owner of the conflict.

§ 1.1.11 If there is a change in the Owner's Criteria, the Owner and the Design-Builder shall execute a Modification in accordance with Article 6.

§ 1.1.12 If the Owner and Design-Builder intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions. Unless otherwise agreed, the parties will use AIA Document E203™-2013 to establish the protocols for the development, use, transmission, and exchange of digital data and building information modeling.

## § 1.2 Project Team

§ 1.2.1 The Owner identifies the following representative in accordance with Section 7.1.1:  
*(List name, address and other information.)*

TBD

§ 1.2.2 The persons or entities, in addition to the Owner's representative, who are required to review the Design-Builder's Submittals are as follows:  
*(List name, address and other information.)*

NA.

§ 1.2.3 The Owner will retain the following consultants and separate contractors:  
*(List discipline, scope of work, and, if known, identify by name and address.)*

§ 1.2.4 The Design-Builder identifies the following representative in accordance with Section 3.1.2:  
*(List name, address and other information.)*

Rod White  
2811 South Woodlawn  
Denison, Texas 75020

§ 1.2.5 Neither the Owner's nor the Design-Builder's representative shall be changed without ten days' written notice to the other party.

## § 1.3 Binding Dispute Resolution

For any Claim subject to, but not resolved by, mediation pursuant to Section 14.3, the method of binding dispute resolution shall be the following:

*(Check the appropriate box. If the Owner and Design-Builder do not select a method of binding dispute resolution below, or do not subsequently agree in writing to a binding dispute resolution other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.)*

Arbitration pursuant to Section 14.4

[ ] Litigation in a court of competent jurisdiction

[ ] Other: *(Specify)*

#### § 1.4 Definitions

§ 1.4.1 **Design-Build Documents.** The Design-Build Documents consist of this Agreement between Owner and Design-Builder and its attached Exhibits (hereinafter, the "Agreement"); other documents listed in this Agreement; and Modifications issued after execution of this Agreement. A Modification is (1) a written amendment to the Contract signed by both parties, including the Design-Build Amendment, (2) a Change Order, or (3) a Change Directive.

§ 1.4.2 **The Contract.** The Design-Build Documents form the Contract. The Contract represents the entire and integrated agreement between the parties and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Design-Build Documents shall not be construed to create a contractual relationship of any kind between any persons or entities other than the Owner and the Design-Builder.

§ 1.4.3 **The Work.** The term "Work" means the design, construction and related services required to fulfill the Design-Builder's obligations under the Design-Build Documents, whether completed or partially completed, and includes all labor, materials, equipment and services provided or to be provided by the Design-Builder. The Work may constitute the whole or a part of the Project.

§ 1.4.4 **The Project.** The Project is the total design and construction of which the Work performed under the Design-Build Documents may be the whole or a part, and may include design and construction by the Owner and by separate contractors.

§ 1.4.5 **Instruments of Service.** Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Design-Builder, Contractor(s), Architect, and Consultant(s) under their respective agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, digital models and other similar materials.

§ 1.4.6 **Submittal.** A Submittal is any submission to the Owner for review and approval demonstrating how the Design-Builder proposes to conform to the Design-Build Documents for those portions of the Work for which the Design-Build Documents require Submittals. Submittals include, but are not limited to, shop drawings, product data, and samples. Submittals are not Design-Build Documents unless incorporated into a Modification.

§ 1.4.7 **Owner.** The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Design-Build Documents as if singular in number. The term "Owner" means the Owner or the Owner's authorized representative.

§ 1.4.8 **Design-Builder.** The Design-Builder is the person or entity identified as such in the Agreement and is referred to throughout the Design-Build Documents as if singular in number. The term "Design-Builder" means the Design-Builder or the Design-Builder's authorized representative.

§ 1.4.9 **Consultant.** A Consultant is a person or entity providing professional services for the Design-Builder for all or a portion of the Work, and is referred to throughout the Design-Build Documents as if singular in number. To the extent required by the relevant jurisdiction, the Consultant shall be lawfully licensed to provide the required professional services.

§ 1.4.10 **Architect.** The Architect is a person or entity providing design services for the Design-Builder for all or a portion of the Work, and is lawfully licensed to practice architecture in the applicable jurisdiction. The Architect is referred to throughout the Design-Build Documents as if singular in number.

§ 1.4.11 **Contractor.** A Contractor is a person or entity performing all or a portion of the construction, required in connection with the Work, for the Design-Builder. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor is referred to throughout the Design-Build Documents as if singular in number and means a Contractor or an authorized representative of the Contractor.

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§ 1.4.12 Confidential Information. Confidential Information is information containing confidential or business proprietary information that is clearly marked as "confidential."

§ 1.4.13 Contract Time. Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, as set forth in the Design-Build Amendment for Substantial Completion of the Work.

§ 1.4.14 Day. The term "day" as used in the Design-Build Documents shall mean calendar day unless otherwise specifically defined.

§ 1.4.15 Contract Sum. The Contract Sum is the amount to be paid to the Design-Builder for performance of the Work after execution of the Design-Build Amendment, as identified in Article A.1 of the Design-Build Amendment.

## ARTICLE 2 COMPENSATION AND PROGRESS PAYMENTS

### § 2.1 Compensation for Work Performed Prior To Execution of Design-Build Amendment

§ 2.1.1 Unless otherwise agreed, payments for Work performed prior to Execution of the Design-Build Amendment shall be made monthly. For the Design-Builder's performance of Work prior to the execution of the Design-Build Amendment, the Owner shall compensate the Design-Builder as follows:

*(Insert amount of, or basis for, compensation, including compensation for any Sustainability Services, or indicate the exhibit in which the information is provided. If there will be a limit on the total amount of compensation for Work performed prior to the execution of the Design-Build Amendment, state the amount of the limit.)*

See "EXHIBIT F"

§ 2.1.2 The hourly billing rates for services of the Design-Builder and the Design-Builder's Architect, Consultants and Contractors, if any, are set forth below.

*(If applicable, attach an exhibit of hourly billing rates or insert them below.)*

Individual or Position

Rate

### § 2.1.3 Compensation for Reimbursable Expenses Prior To Execution of Design-Build Amendment

§ 2.1.3.1 Reimbursable Expenses are in addition to compensation set forth in Section 2.1.1 and 2.1.2 and include expenses, directly related to the Project, incurred by the Design-Builder and the Design-Builder's Architect, Consultants, and Contractors, as follows:

- .1 Transportation and authorized out-of-town travel and subsistence;
- .2 Dedicated data and communication services, teleconferences, Project web sites, and extranets;
- .3 Fees paid for securing approval of authorities having jurisdiction over the Project;
- .4 Printing, reproductions, plots, standard form documents;
- .5 Postage, handling and delivery;
- .6 Expense of overtime work requiring higher than regular rates, if authorized in advance by the Owner;
- .7 Renderings, physical models, mock-ups, professional photography, and presentation materials requested by the Owner;
- .8 All taxes levied on professional services and on reimbursable expenses; and
- .9 Other Project-related expenditures, if authorized in advance by the Owner.

§ 2.1.3.2 For Reimbursable Expenses, the compensation shall be the expenses the Design-Builder and the Design-Builder's Architect, Consultants and Contractors incurred, plus an administrative fee of \_\_\_\_\_ percent ( 10 %) of the expenses incurred.

### § 2.1.4 Payments to the Design-Builder Prior To Execution of Design-Build Amendment

§ 2.1.4.1 Payments are due and payable upon presentation of the Design-Builder's invoice. Amounts unpaid ( 30 ) days after the invoice date shall bear interest at the rate entered below, or in the absence thereof at the legal rate prevailing from time to time at the principal place of business of the Design-Builder.

*(Insert rate of monthly or annual interest agreed upon.)*

Init.



8.00 %

§ 2.1.4.2 Records of Reimbursable Expenses and services performed on the basis of hourly rates shall be available to the Owner at mutually convenient times for a period of two years following execution of the Design-Build Amendment or termination of this Agreement, whichever occurs first.

**§ 2.2 Contract Sum and Payment for Work Performed After Execution of Design-Build Amendment**

For the Design-Builder's performance of the Work after execution of the Design-Build Amendment, the Owner shall pay to the Design-Builder the Contract Sum in current funds as agreed in the Design-Build Amendment.

**ARTICLE 3 GENERAL REQUIREMENTS OF THE WORK OF THE DESIGN-BUILD CONTRACT**

**§ 3.1 General**

§ 3.1.1 The Design-Builder shall comply with any applicable licensing requirements in the jurisdiction where the Project is located.

§ 3.1.2 The Design-Builder shall designate in writing a representative who is authorized to act on the Design-Builder's behalf with respect to the Project.

§ 3.1.3 The Design-Builder shall perform the Work in accordance with the Design-Build Documents. The Design-Builder shall not be relieved of the obligation to perform the Work in accordance with the Design-Build Documents by the activities, tests, inspections or approvals of the Owner.

§ 3.1.3.1 The Design-Builder shall perform the Work in compliance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities. If the Design-Builder performs Work contrary to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, the Design-Builder shall assume responsibility for such Work and shall bear the costs attributable to correction.

§ 3.1.3.2 Neither the Design-Builder nor any Contractor, Consultant, or Architect shall be obligated to perform any act which they believe will violate any applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities. If the Design-Builder determines that implementation of any instruction received from the Owner, including those in the Owner's Criteria, would cause a violation of any applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Design-Builder shall notify the Owner in writing. Upon verification by the Owner that a change to the Owner's Criteria is required to remedy the violation, the Owner and the Design-Builder shall execute a Modification in accordance with Article 6.

§ 3.1.4 The Design-Builder shall be responsible to the Owner for acts and omissions of the Design-Builder's employees, Architect, Consultants, Contractors, and their agents and employees, and other persons or entities performing portions of the Work.

§ 3.1.5 **General Consultation.** The Design-Builder shall schedule and conduct periodic meetings with the Owner to review matters such as procedures, progress, coordination, and scheduling of the Work.

§ 3.1.6 When applicable law requires that services be performed by licensed professionals, the Design-Builder shall provide those services through qualified, licensed professionals. The Owner understands and agrees that the services of the Design-Builder's Architect and the Design-Builder's other Consultants are performed in the sole interest of, and for the exclusive benefit of, the Design-Builder.

§ 3.1.7 The Design-Builder, with the assistance of the Owner, shall prepare and file documents required to obtain necessary approvals of governmental authorities having jurisdiction over the Project.

**§ 3.1.8 Progress Reports**

§ 3.1.8.1 The Design-Builder shall keep the Owner informed of the progress and quality of the Work. On a monthly basis, or otherwise as agreed to by the Owner and Design-Builder, the Design-Builder shall submit written progress reports to the Owner, showing estimated percentages of completion and other information identified below:

- .1 Work completed for the period;
- .2 Project schedule status;
- .3 Submittal schedule and status report, including a summary of outstanding Submittals;

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User Notes:

(1733964119)

- .4 Responses to requests for information to be provided by the Owner;
- .5 Approved Change Orders and Change Directives;
- .6 Pending Change Order and Change Directive status reports;
- .7 Tests and inspection reports;
- .8 Status report of Work rejected by the Owner;
- .9 Status of Claims previously submitted in accordance with Article 14;
- .10 Cumulative total of the Cost of the Work to date including the Design-Builder's compensation and Reimbursable Expenses, if any;
- .11 Current Project cash-flow and forecast reports; and
- .12 Additional information as agreed to by the Owner and Design-Builder.

§ 3.1.8.2 In addition, where the Contract Sum is the Cost of the Work with or without a Guaranteed Maximum Price, the Design-Builder shall include the following additional information in its progress reports:

- .1 Design-Builder's work force report;
- .2 Equipment utilization report; and
- .3 Cost summary, comparing actual costs to updated cost estimates.

### § 3.1.9 Design-Builder's Schedules

§ 3.1.9.1 The Design-Builder, promptly after execution of this Agreement, shall prepare and submit for the Owner's information a schedule for the Work. The schedule, including the time required for design and construction, shall not exceed time limits current under the Design-Build Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Design-Build Documents, shall provide for expeditious and practicable execution of the Work, and shall include allowances for periods of time required for the Owner's review and for approval of submissions by authorities having jurisdiction over the Project.

§ 3.1.9.2 The Design-Builder shall perform the Work in general accordance with the most recent schedules submitted to the Owner.

§ 3.1.10 **Certifications.** Upon the Owner's written request, the Design-Builder shall obtain from the Architect, Consultants, and Contractors, and furnish to the Owner, certifications with respect to the documents and services provided by the Architect, Consultants, and Contractors (a) that, to the best of their knowledge, information and belief, the documents or services to which the certifications relate (i) are consistent with the Design-Build Documents, except to the extent specifically identified in the certificate, and (ii) comply with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities governing the design of the Project; and (b) that the Owner and its consultants shall be entitled to rely upon the accuracy of the representations and statements contained in the certifications. The Design-Builder's Architect, Consultants, and Contractors shall not be required to execute certificates or consents that would require knowledge, services or responsibilities beyond the scope of their services.

### § 3.1.11 Design-Builder's Submittals

§ 3.1.11.1 Prior to submission of any Submittals, the Design-Builder shall prepare a Submittal schedule, and shall submit the schedule for the Owner's approval. The Owner's approval shall not unreasonably be delayed or withheld. The Submittal schedule shall (1) be coordinated with the Design-Builder's schedule provided in Section 3.1.9.1, (2) allow the Owner reasonable time to review Submittals, and (3) be periodically updated to reflect the progress of the Work. If the Design-Builder fails to submit a Submittal schedule, the Design-Builder shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of Submittals.

§ 3.1.11.2 By providing Submittals the Design-Builder represents to the Owner that it has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such Submittals with the requirements of the Work and of the Design-Build Documents.

§ 3.1.11.3 The Design-Builder shall perform no portion of the Work for which the Design-Build Documents require Submittals until the Owner has approved the respective Submittal.

§ 3.1.11.4 The Work shall be in accordance with approved Submittals except that the Design-Builder shall not be relieved of its responsibility to perform the Work consistent with the requirements of the Design-Build Documents.

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The Work may deviate from the Design-Build Documents only if the Design-Builder has notified the Owner in writing of a deviation from the Design-Build Documents at the time of the Submittal and a Modification is executed authorizing the identified deviation. The Design-Builder shall not be relieved of responsibility for errors or omissions in Submittals by the Owner's approval of the Submittals.

§ 3.1.11.5 All professional design services or certifications to be provided by the Design-Builder, including all drawings, calculations, specifications, certifications, shop drawings and other Submittals, shall contain the signature and seal of the licensed design professional preparing them. Submittals related to the Work designed or certified by the licensed design professionals, if prepared by others, shall bear the licensed design professional's written approval. The Owner and its consultants shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals.

§ 3.1.12 **Warranty.** The Design-Builder warrants to the Owner that materials and equipment furnished under the Contract will be of good quality and new unless the Design-Build Documents require or permit otherwise. The Design-Builder further warrants that the Work will conform to the requirements of the Design-Build Documents and will be free from defects, except for those inherent in the quality of the Work or otherwise expressly permitted by the Design-Build Documents. Work, materials, or equipment not conforming to these requirements may be considered defective. The Design-Builder's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Design-Builder, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Owner, the Design-Builder shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.1.13 **Royalties, Patents and Copyrights**

§ 3.1.13.1 The Design-Builder shall pay all royalties and license fees.

§ 3.1.13.2 The Design-Builder shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and its separate contractors and consultants harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Owner, or where the copyright violations are required in the Owner's Criteria. However, if the Design-Builder has reason to believe that the design, process or product required in the Owner's Criteria is an infringement of a copyright or a patent, the Design-Builder shall be responsible for such loss unless such information is promptly furnished to the Owner. If the Owner receives notice from a patent or copyright owner of an alleged violation of a patent or copyright, attributable to the Design-Builder, the Owner shall give prompt written notice to the Design-Builder.

§ 3.1.14 **Indemnification**

§ 3.1.14.1 To the fullest extent permitted by law, the Design-Builder shall indemnify and hold harmless the Owner, including the Owner's agents and employees, from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, but only to the extent caused by the negligent acts or omissions of the Design-Builder, Architect, a Consultant, a Contractor, or anyone directly or indirectly employed by them or anyone for whose acts they may be liable. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.1.14.

§ 3.1.14.2 The indemnification obligation under this Section 3.1.14 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for Design-Builder, Architect, a Consultant, a Contractor, or anyone directly or indirectly employed by them, under workers' compensation acts, disability benefit acts or other employee benefit acts.

§ 3.1.15 **Contingent Assignment of Agreements**

§ 3.1.15.1 Each agreement for a portion of the Work is assigned by the Design-Builder to the Owner, provided that

- .1 assignment is effective only after termination of the Contract by the Owner for cause, pursuant to Sections 13.1.4 or 13.2.2, and only for those agreements that the Owner accepts by written notification to the Design-Builder and the Architect, Consultants, and Contractors whose agreements are accepted for assignment; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of an agreement, the Owner assumes the Design-Builder's rights and obligations under the agreement.

§ 3.1.15.2 Upon such assignment, if the Work has been suspended for more than 30 days, the compensation under the assigned agreement shall be equitably adjusted for increases in cost resulting from the suspension.

§ 3.1.15.3 Upon such assignment to the Owner under this Section 3.1.15, the Owner may further assign the agreement to a successor design-builder or other entity. If the Owner assigns the agreement to a successor design-builder or other entity, the Owner shall nevertheless remain legally responsible for all of the successor design-builder's or other entity's obligations under the agreement.

§ 3.1.16 **Design-Builder's Insurance and Bonds.** The Design-Builder shall purchase and maintain insurance and provide bonds as set forth in Exhibit B.

#### ARTICLE 4 WORK PRIOR TO EXECUTION OF THE DESIGN-BUILD AMENDMENT

##### § 4.1 General

§ 4.1.1 Any information submitted by the Design-Builder, and any interim decisions made by the Owner, shall be for the purpose of facilitating the design process and shall not modify the Owner's Criteria unless the Owner and Design-Builder execute a Modification.

§ 4.1.2 The Design-Builder shall advise the Owner on proposed site use and improvements, selection of materials, and building systems and equipment. The Design-Builder shall also provide the Owner with recommendations, consistent with the Owner's Criteria, on constructability; availability of materials and labor; time requirements for procurement, installation and construction; and factors related to construction cost including, but not limited to, costs of alternative designs or materials, preliminary budgets, life-cycle data, and possible cost reductions.

##### § 4.2 Evaluation of the Owner's Criteria

§ 4.2.1 The Design-Builder shall schedule and conduct meetings with the Owner and any other necessary individuals or entities to discuss and review the Owner's Criteria as set forth in Section 1.1. The Design-Builder shall thereafter again meet with the Owner to discuss a preliminary evaluation of the Owner's Criteria. The preliminary evaluation shall address possible alternative approaches to design and construction of the Project and include the Design-Builder's recommendations, if any, with regard to accelerated or fast-track scheduling, procurement, or phased construction. The preliminary evaluation shall consider cost information, constructability, and procurement and construction scheduling issues.

§ 4.2.2 After the Design-Builder meets with the Owner and presents the preliminary evaluation, the Design-Builder shall provide a written report to the Owner, summarizing the Design-Builder's evaluation of the Owner's Criteria. The report shall also include

- .1 allocations of program functions, detailing each function and their square foot areas;
- .2 a preliminary estimate of the Cost of the Work, and, if necessary, recommendations to adjust the Owner's Criteria to conform to the Owner's budget;
- .3 a preliminary schedule, which shall include proposed design milestones; dates for receiving additional information from, or for work to be completed by, the Owner; anticipated date for the Design-Builder's Proposal; and dates of periodic design review sessions with the Owner; and
- .4 the following:  
*(List additional information, if any, to be included in the Design-Builder's written report.)*

§ 4.2.3 The Owner shall review the Design-Builder's written report and, if acceptable, provide the Design-Builder with written consent to proceed to the development of the Preliminary Design as described in Section 4.3. The consent to proceed shall not be understood to modify the Owner's Criteria unless the Owner and Design-Builder execute a Modification.

##### § 4.3 Preliminary Design

§ 4.3.1 Upon the Owner's issuance of a written consent to proceed under Section 4.2.3, the Design-Builder shall prepare and submit a Preliminary Design to the Owner. The Preliminary Design shall include a report identifying any deviations from the Owner's Criteria, and shall include the following:

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- .1 Confirmation of the allocations of program functions;
- .2 Site plan;
- .3 Building plans, sections and elevations;
- .4 Structural system;
- .5 Selections of major building systems, including but not limited to mechanical, electrical and plumbing systems; and
- .6 Outline specifications or sufficient drawing notes describing construction materials.

The Preliminary Design may include some combination of physical study models, perspective sketches, or digital modeling.

§ 4.3.2 The Owner shall review the Preliminary Design and, if acceptable, provide the Design-Builder with written consent to proceed to development of the Design-Builder's Proposal. The Preliminary Design shall not modify the Owner's Criteria unless the Owner and Design-Builder execute a Modification.

#### § 4.4 Design-Builder's Proposal

§ 4.4.1 Upon the Owner's issuance of a written consent to proceed under Section 4.3.2, the Design-Builder shall prepare and submit the Design-Builder's Proposal to the Owner. The Design-Builder's Proposal shall include the following:

- .1 A list of the Preliminary Design documents and other information, including the Design-Builder's clarifications, assumptions and deviations from the Owner's Criteria, upon which the Design-Builder's Proposal is based;
- .2 The proposed Contract Sum, including the compensation method and, if based upon the Cost of the Work plus a fee, a written statement of estimated cost organized by trade categories, allowances, contingencies, Design-Builder's Fee, and other items that comprise the Contract Sum;
- .3 The proposed date the Design-Builder shall achieve Substantial Completion;
- .4 An enumeration of any qualifications and exclusions, if applicable;
- .5 A list of the Design-Builder's key personnel, Contractors and suppliers; and
- .6 The date on which the Design-Builder's Proposal expires.

§ 4.4.2 Submission of the Design-Builder's Proposal shall constitute a representation by the Design-Builder that it has visited the site and become familiar with local conditions under which the Work is to be completed.

§ 4.4.3 If the Owner and Design-Builder agree on a proposal, the Owner and Design-Builder shall execute the Design-Build Amendment setting forth the terms of their agreement.

### ARTICLE 5 WORK FOLLOWING EXECUTION OF THE DESIGN-BUILD AMENDMENT

#### § 5.1 Construction Documents

§ 5.1.1 Upon the execution of the Design-Build Amendment, the Design-Builder shall prepare Construction Documents. The Construction Documents shall establish the quality levels of materials and systems required. The Construction Documents shall be consistent with the Design-Build Documents.

§ 5.1.2 The Design-Builder shall provide the Construction Documents to the Owner for the Owner's information. If the Owner discovers any deviations between the Construction Documents and the Design-Build Documents, the Owner shall promptly notify the Design-Builder of such deviations in writing. The Construction Documents shall not modify the Design-Build Documents unless the Owner and Design-Builder execute a Modification. The failure of the Owner to discover any such deviations shall not relieve the Design-Builder of the obligation to perform the Work in accordance with the Design-Build Documents.

#### § 5.2 Construction

§ 5.2.1 **Commencement.** Except as permitted in Section 5.2.2, construction shall not commence prior to execution of the Design-Build Amendment.

§ 5.2.2 If the Owner and Design-Builder agree in writing, construction may proceed prior to the execution of the Design-Build Amendment. However, such authorization shall not waive the Owner's right to reject the Design-Builder's Proposal.

§ 5.2.3 The Design-Builder shall supervise and direct the Work, using the Design-Builder's best skill and attention. The Design-Builder shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures, and for coordinating all portions of the Work under the Contract, unless the Design-Build Documents give other specific instructions concerning these matters.

§ 5.2.4 The Design-Builder shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

### § 5.3 Labor and Materials

§ 5.3.1 Unless otherwise provided in the Design-Build Documents, the Design-Builder shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services, necessary for proper execution and completion of the Work, whether temporary or permanent, and whether or not incorporated or to be incorporated in the Work.

§ 5.3.2 When a material or system is specified in the Design-Build Documents, the Design-Builder may make substitutions only in accordance with Article 6.

§ 5.3.3 The Design-Builder shall enforce strict discipline and good order among the Design-Builder's employees and other persons carrying out the Work. The Design-Builder shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

### § 5.4 Taxes

The Design-Builder shall pay sales, consumer, use and similar taxes, for the Work provided by the Design-Builder, that are legally enacted when the Design-Build Amendment is executed, whether or not yet effective or merely scheduled to go into effect.

### § 5.5 Permits, Fees, Notices and Compliance with Laws

§ 5.5.1 Unless otherwise provided in the Design-Build Documents, the Design-Builder shall secure and pay for the building permit as well as any other permits, fees, licenses, and inspections by government agencies, necessary for proper execution of the Work and Substantial Completion of the Project.

§ 5.5.2 The Design-Builder shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, applicable to performance of the Work.

§ 5.5.3 **Concealed or Unknown Conditions.** If the Design-Builder encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Design-Build Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Design-Build Documents, the Design-Builder shall promptly provide notice to the Owner before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Owner shall promptly investigate such conditions and, if the Owner determines that they differ materially and cause an increase or decrease in the Design-Builder's cost of, or time required for, performance of any part of the Work, shall recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Owner determines that the conditions at the site are not materially different from those indicated in the Design-Build Documents and that no change in the terms of the Contract is justified, the Owner shall promptly notify the Design-Builder in writing, stating the reasons. If the Design-Builder disputes the Owner's determination or recommendation, the Design-Builder may proceed as provided in Article 14.

§ 5.5.4 If, in the course of the Work, the Design-Builder encounters human remains, or recognizes the existence of burial markers, archaeological sites, or wetlands, not indicated in the Design-Build Documents, the Design-Builder shall immediately suspend any operations that would affect them and shall notify the Owner. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Design-Builder shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 14.

## § 5.6 Allowances

§ 5.6.1 The Design-Builder shall include in the Contract Sum all allowances stated in the Design-Build Documents. Items covered by allowances shall be supplied for such amounts, and by such persons or entities as the Owner may direct, but the Design-Builder shall not be required to employ persons or entities to whom the Design-Builder has reasonable objection.

§ 5.6.2 Unless otherwise provided in the Design-Build Documents,

- .1 allowances shall cover the cost to the Design-Builder of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 the Design-Builder's costs for unloading and handling at the site, labor, installation costs, overhead, profit, and other expenses contemplated for stated allowance amounts, shall be included in the Contract Sum but not in the allowances; and
- .3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 5.6.2.1 and (2) changes in Design-Builder's costs under Section 5.6.2.2.

§ 5.6.3 The Owner shall make selections of materials and equipment with reasonable promptness for allowances requiring Owner selection.

## § 5.7 Key Personnel, Contractors and Suppliers

§ 5.7.1 The Design-Builder shall not employ personnel, or contract with Contractors or suppliers to whom the Owner has made reasonable and timely objection. The Design-Builder shall not be required to contract with anyone to whom the Design-Builder has made reasonable and timely objection.

§ 5.7.2 If the Design-Builder changes any of the personnel, Contractors or suppliers identified in the Design-Build Amendment, the Design-Builder shall notify the Owner and provide the name and qualifications of the new personnel, Contractor or supplier. The Owner may reply within 14 days to the Design-Builder in writing, stating (1) whether the Owner has reasonable objection to the proposed personnel, Contractor or supplier or (2) that the Owner requires additional time to review. Failure of the Owner to reply within the 14-day period shall constitute notice of no reasonable objection.

§ 5.7.3 Except for those persons or entities already identified or required in the Design-Build Amendment, the Design-Builder, as soon as practicable after execution of the Design-Build Amendment, shall furnish in writing to the Owner the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Owner may reply within 14 days to the Design-Builder in writing stating (1) whether the Owner has reasonable objection to any such proposed person or entity or (2) that the Owner requires additional time for review. Failure of the Owner to reply within the 14-day period shall constitute notice of no reasonable objection.

§ 5.7.3.1 If the Owner has reasonable objection to a person or entity proposed by the Design-Builder, the Design-Builder shall propose another to whom the Owner has no reasonable objection. If the rejected person or entity was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute person or entity's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Design-Builder has acted promptly and responsively in submitting names as required.

## § 5.8 Documents and Submittals at the Site

The Design-Builder shall maintain at the site for the Owner one copy of the Design-Build Documents and a current set of the Construction Documents, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Submittals. The Design-Builder shall deliver these items to the Owner in accordance with Section 9.10.2 as a record of the Work as constructed.

### **§ 5.9 Use of Site**

The Design-Builder shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Design-Build Documents, and shall not unreasonably encumber the site with materials or equipment.

### **§ 5.10 Cutting and Patching**

The Design-Builder shall not cut, patch or otherwise alter fully or partially completed construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Design-Builder shall not unreasonably withhold from the Owner or a separate contractor the Design-Builder's consent to cutting or otherwise altering the Work.

### **§ 5.11 Cleaning Up**

**§ 5.11.1** The Design-Builder shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Design-Builder shall remove waste materials, rubbish, the Design-Builder's tools, construction equipment, machinery and surplus materials from and about the Project.

**§ 5.11.2** If the Design-Builder fails to clean up as provided in the Design-Build Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Design-Builder.

### **§ 5.12 Access to Work**

The Design-Builder shall provide the Owner and its separate contractors and consultants access to the Work in preparation and progress wherever located. The Design-Builder shall notify the Owner regarding Project safety criteria and programs, which the Owner, and its contractors and consultants, shall comply with while at the site.

### **§ 5.13 Construction by Owner or by Separate Contractors**

#### **§ 5.13.1 Owner's Right to Perform Construction and to Award Separate Contracts**

**§ 5.13.1.1** The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces; and to award separate contracts in connection with other portions of the Project, or other construction or operations on the site, under terms and conditions identical or substantially similar to this Contract, including those terms and conditions related to insurance and waiver of subrogation. The Owner shall notify the Design-Builder promptly after execution of any separate contract. If the Design-Builder claims that delay or additional cost is involved because of such action by the Owner, the Design-Builder shall make a Claim as provided in Article 14.

**§ 5.13.1.2** When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Design-Builder" in the Design-Build Documents in each case shall mean the individual or entity that executes each separate agreement with the Owner.

**§ 5.13.1.3** The Owner shall provide for coordination of the activities of the Owner's own forces, and of each separate contractor, with the Work of the Design-Builder, who shall cooperate with them. The Design-Builder shall participate with other separate contractors and the Owner in reviewing their construction schedules. The Design-Builder shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Design-Builder, separate contractors and the Owner until subsequently revised.

**§ 5.13.1.4** Unless otherwise provided in the Design-Build Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces or separate contractors, the Owner shall be deemed to be subject to the same obligations, and to have the same rights, that apply to the Design-Builder under the Contract.

### **§ 5.14 Mutual Responsibility**

**§ 5.14.1** The Design-Builder shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Design-Builder's construction and operations with theirs as required by the Design-Build Documents.

**§ 5.14.2** If part of the Design-Builder's Work depends upon construction or operations by the Owner or a separate contractor, the Design-Builder shall, prior to proceeding with that portion of the Work, prepare a written report to the Owner, identifying apparent discrepancies or defects in the construction or operations by the Owner or separate



contractor that would render it unsuitable for proper execution and results of the Design-Builder's Work. Failure of the Design-Builder to report shall constitute an acknowledgment that the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Design-Builder's Work, except as to defects not then reasonably discoverable.

§ 5.14.3 The Design-Builder shall reimburse the Owner for costs the Owner incurs that are payable to a separate contractor because of the Design-Builder's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Design-Builder for costs the Design-Builder incurs because of a separate contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 5.14.4 The Design-Builder shall promptly remedy damage the Design-Builder wrongfully causes to completed or partially completed construction or to property of the Owner or separate contractors as provided in Section 10.2.5.

§ 5.14.5 The Owner and each separate contractor shall have the same responsibilities for cutting and patching the Work as the Design-Builder has with respect to the construction of the Owner or separate contractors in Section 5.10.

#### § 5.15 Owner's Right to Clean Up

If a dispute arises among the Design-Builder, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and will allocate the cost among those responsible.

### ARTICLE 6 CHANGES IN THE WORK

#### § 6.1 General

§ 6.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order or Change Directive, subject to the limitations stated in this Article 6 and elsewhere in the Design-Build Documents.

§ 6.1.2 A Change Order shall be based upon agreement between the Owner and Design-Builder. The Owner may issue a Change Directive without agreement by the Design-Builder.

§ 6.1.3 Changes in the Work shall be performed under applicable provisions of the Design-Build Documents, and the Design-Builder shall proceed promptly, unless otherwise provided in the Change Order or Change Directive.

#### § 6.2 Change Orders

A Change Order is a written instrument signed by the Owner and Design-Builder stating their agreement upon all of the following:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum or, if prior to execution of the Design-Build Amendment, the adjustment in the Design-Builder's compensation; and
- .3 The extent of the adjustment, if any, in the Contract Time.

#### § 6.3 Change Directives

§ 6.3.1 A Change Directive is a written order signed by the Owner directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or, if prior to execution of the Design-Build Amendment, the adjustment in the Design-Builder's compensation, or Contract Time. The Owner may by Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum or, if prior to execution of the Design-Build Amendment, the adjustment in the Design-Builder's compensation, and Contract Time being adjusted accordingly.

§ 6.3.2 A Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 6.3.3 If the Change Directive provides for an adjustment to the Contract Sum or, if prior to execution of the Design-Build Amendment, an adjustment in the Design-Builder's compensation, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Design-Build Documents or subsequently agreed upon;

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- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 6.3.7.

§ 6.3.4 If unit prices are stated in the Design-Build Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Design-Builder, the applicable unit prices shall be equitably adjusted.

§ 6.3.5 Upon receipt of a Change Directive, the Design-Builder shall promptly proceed with the change in the Work involved and advise the Owner of the Design-Builder's agreement or disagreement with the method, if any, provided in the Change Directive for determining the proposed adjustment in the Contract Sum or, if prior to execution of the Design-Build Amendment, the adjustment in the Design-Builder's compensation, or Contract Time.

§ 6.3.6 A Change Directive signed by the Design-Builder indicates the Design-Builder's agreement therewith, including adjustment in Contract Sum or, if prior to execution of the Design-Build Amendment, the adjustment in the Design-Builder's compensation, and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 6.3.7 If the Design-Builder does not respond promptly or disagrees with the method for adjustment in the Contract Sum or, if prior to execution of the Design-Build Amendment, the method for adjustment in the Design-Builder's compensation, the Owner shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 6.3.3.3, the Design-Builder shall keep and present, in such form as the Owner may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Design-Build Documents, costs for the purposes of this Section 6.3.7 shall be limited to the following:

- .1 Additional costs of professional services;
- .2 Costs of labor, including social security, unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
- .3 Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;
- .4 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Design-Builder or others;
- .5 Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work; and
- .6 Additional costs of supervision and field office personnel directly attributable to the change.

§ 6.3.8 The amount of credit to be allowed by the Design-Builder to the Owner for a deletion or change that results in a net decrease in the Contract Sum or, if prior to execution of the Design-Build Amendment, in the Design-Builder's compensation, shall be actual net cost. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 6.3.9 Pending final determination of the total cost of a Change Directive to the Owner, the Design-Builder may request payment for Work completed under the Change Directive in Applications for Payment. The Owner will make an interim determination for purposes of certification for payment for those costs deemed to be reasonably justified. The Owner's interim determination of cost shall adjust the Contract Sum or, if prior to execution of the Design-Build Amendment, the Design-Builder's compensation, on the same basis as a Change Order, subject to the right of Design-Builder to disagree and assert a Claim in accordance with Article 14.

§ 6.3.10 When the Owner and Design-Builder agree with a determination concerning the adjustments in the Contract Sum or, if prior to execution of the Design-Build Amendment, the adjustment in the Design-Builder's compensation and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Owner and Design-Builder shall execute a Change Order. Change Orders may be issued for all or any part of a Change Directive.

## ARTICLE 7 OWNER'S RESPONSIBILITIES

### § 7.1 General

§ 7.1.1 The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all Project matters requiring the Owner's approval or authorization.

§ 7.1.2 The Owner shall render decisions in a timely manner and in accordance with the Design-Builder's schedule agreed to by the Owner. The Owner shall furnish to the Design-Builder, within 15 days after receipt of a written request, information necessary and relevant for the Design-Builder to evaluate, give notice of or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

### § 7.2 Information and Services Required of the Owner

§ 7.2.1 The Owner shall furnish information or services required of the Owner by the Design-Build Documents with reasonable promptness.

§ 7.2.2 The Owner shall provide, to the extent under the Owner's control and if not required by the Design-Build Documents to be provided by the Design-Builder, the results and reports of prior tests, inspections or investigations conducted for the Project involving structural or mechanical systems; chemical, air and water pollution; hazardous materials; or environmental and subsurface conditions and information regarding the presence of pollutants at the Project site. Upon receipt of a written request from the Design-Builder, the Owner shall also provide surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site under the Owner's control.

§ 7.2.3 The Owner shall promptly obtain easements, zoning variances, and legal authorizations or entitlements regarding site utilization where essential to the execution of the Project.

§ 7.2.4 The Owner shall cooperate with the Design-Builder in securing building and other permits, licenses and inspections.

§ 7.2.5 The services, information, surveys and reports required to be provided by the Owner under this Agreement, shall be furnished at the Owner's expense, and except as otherwise specifically provided in this Agreement or elsewhere in the Design-Build Documents or to the extent the Owner advises the Design-Builder to the contrary in writing, the Design-Builder shall be entitled to rely upon the accuracy and completeness thereof. In no event shall the Design-Builder be relieved of its responsibility to exercise proper precautions relating to the safe performance of the Work.

§ 7.2.6 If the Owner observes or otherwise becomes aware of a fault or defect in the Work or non-conformity with the Design-Build Documents, the Owner shall give prompt written notice thereof to the Design-Builder.

§ 7.2.7 Prior to the execution of the Design-Build Amendment, the Design-Builder may request in writing that the Owner provide reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Design-Build Documents and the Design-Builder's Proposal. Thereafter, the Design-Builder may only request such evidence if (1) the Owner fails to make payments to the Design-Builder as the Design-Build Documents require; (2) a change in the Work materially changes the Contract Sum; or (3) the Design-Builder identifies in writing a reasonable concern regarding the Owner's ability to make payment when due. The Owner shall furnish such evidence as a condition precedent to commencement or continuation of the Work or the portion of the Work affected by a material change. After the Owner furnishes the evidence, the Owner shall not materially vary such financial arrangements without prior notice to the Design-Builder.

§ 7.2.8 Except as otherwise provided in the Design-Build Documents or when direct communications have been specially authorized, the Owner shall communicate through the Design-Builder with persons or entities employed or retained by the Design-Builder.

§ 7.2.9 Unless required by the Design-Build Documents to be provided by the Design-Builder, the Owner shall, upon request from the Design-Builder, furnish the services of geotechnical engineers or other consultants for investigation of subsurface, air and water conditions when such services are reasonably necessary to properly carry out the design services furnished by the Design-Builder. In such event, the Design-Builder shall specify the services required. Such

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services may include, but are not limited to, test borings, test pits, determinations of soil bearing values, percolation tests, evaluations of hazardous materials, ground corrosion and resistivity tests, and necessary operations for anticipating subsoil conditions. The services of geotechnical engineer(s) or other consultants shall include preparation and submission of all appropriate reports and professional recommendations.

§ 7.2.10 The Owner shall purchase and maintain insurance as set forth in Exhibit B.

### § 7.3 Submittals

§ 7.3.1 The Owner shall review and approve or take other appropriate action on Submittals. Review of Submittals is not conducted for the purpose of determining the accuracy and completeness of other details, such as dimensions and quantities; or for substantiating instructions for installation or performance of equipment or systems; or for determining that the Submittals are in conformance with the Design-Build Documents, all of which remain the responsibility of the Design-Builder as required by the Design-Build Documents. The Owner's action will be taken in accordance with the submittal schedule approved by the Owner or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Owner's judgment to permit adequate review. The Owner's review of Submittals shall not relieve the Design-Builder of the obligations under Sections 3.1.11, 3.1.12, and 5.2.3. The Owner's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Owner, of any construction means, methods, techniques, sequences or procedures. The Owner's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 7.3.2 Upon review of the Submittals required by the Design-Build Documents, the Owner shall notify the Design-Builder of any non-conformance with the Design-Build Documents the Owner discovers.

§ 7.4 Visits to the site by the Owner shall not be construed to create an obligation on the part of the Owner to make on-site inspections to check the quality or quantity of the Work. The Owner shall neither have control over or charge of, nor be responsible for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, because these are solely the Design-Builder's rights and responsibilities under the Design-Build Documents.

§ 7.5 The Owner shall not be responsible for the Design-Builder's failure to perform the Work in accordance with the requirements of the Design-Build Documents. The Owner shall not have control over or charge of, and will not be responsible for acts or omissions of the Design-Builder, Architect, Consultants, Contractors, or their agents or employees, or any other persons or entities performing portions of the Work for the Design-Builder.

§ 7.6 The Owner has the authority to reject Work that does not conform to the Design-Build Documents. The Owner shall have authority to require inspection or testing of the Work in accordance with Section 15.5.2, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Owner nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Owner to the Design-Builder, the Architect, Consultants, Contractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 7.7 The Owner shall determine the date or dates of Substantial Completion in accordance with Section 9.8 and the date of final completion in accordance with Section 9.10.

### § 7.8 Owner's Right to Stop Work

If the Design-Builder fails to correct Work which is not in accordance with the requirements of the Design-Build Documents as required by Section 11.2 or persistently fails to carry out Work in accordance with the Design-Build Documents, the Owner may issue a written order to the Design-Builder to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Design-Builder or any other person or entity, except to the extent required by Section 5.13.1.3.

### § 7.9 Owner's Right to Carry Out the Work

If the Design-Builder defaults or neglects to carry out the Work in accordance with the Design-Build Documents and fails within a ten-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case, an appropriate Change Order shall be issued deducting from

payments then or thereafter due the Design-Builder the reasonable cost of correcting such deficiencies. If payments then or thereafter due the Design-Builder are not sufficient to cover such amounts, the Design-Builder shall pay the difference to the Owner.

## **ARTICLE 8 TIME**

### **§ 8.1 Progress and Completion**

**§ 8.1.1** Time limits stated in the Design-Build Documents are of the essence of the Contract. By executing the Design-Build Amendment the Design-Builder confirms that the Contract Time is a reasonable period for performing the Work.

**§ 8.1.2** The Design-Builder shall not, except by agreement of the Owner in writing, commence the Work prior to the effective date of insurance, other than property insurance, required by this Contract. The Contract Time shall not be adjusted as a result of the Design-Builder's failure to obtain insurance required under this Contract.

**§ 8.1.3** The Design-Builder shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

### **§ 8.2 Delays and Extensions of Time**

**§ 8.2.1** If the Design-Builder is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or of a consultant or separate contractor employed by the Owner; or by changes ordered in the Work by the Owner; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Design-Builder's control; or by delay authorized by the Owner pending mediation and binding dispute resolution or by other causes that the Owner determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Owner may determine.

**§ 8.2.2** Claims relating to time shall be made in accordance with applicable provisions of Article 14.

**§ 8.2.3** This Section 8.2 does not preclude recovery of damages for delay by either party under other provisions of the Design-Build Documents.

## **ARTICLE 9 PAYMENT APPLICATIONS AND PROJECT COMPLETION**

### **§ 9.1 Contract Sum**

The Contract Sum is stated in the Design-Build Amendment.

### **§ 9.2 Schedule of Values**

Where the Contract Sum is based on a stipulated sum or Guaranteed Maximum Price, the Design-Builder, prior to the first Application for Payment after execution of the Design-Build Amendment shall submit to the Owner a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Owner may require. This schedule, unless objected to by the Owner, shall be used as a basis for reviewing the Design-Builder's Applications for Payment.

### **§ 9.3 Applications for Payment**

**§ 9.3.1** At least ten days before the date established for each progress payment, the Design-Builder shall submit to the Owner an itemized Application for Payment for completed portions of the Work. The application shall be notarized, if required, and supported by data substantiating the Design-Builder's right to payment as the Owner may require, such as copies of requisitions from the Architect, Consultants, Contractors, and material suppliers, and shall reflect retainage if provided for in the Design-Build Documents.

**§ 9.3.1.1** As provided in Section 6.3.9, Applications for Payment may include requests for payment on account of changes in the Work that have been properly authorized by Change Directives, or by interim determinations of the Owner, but not yet included in Change Orders.

**§ 9.3.1.2** Applications for Payment shall not include requests for payment for portions of the Work for which the Design-Builder does not intend to pay the Architect, Consultant, Contractor, material supplier, or other persons or entities providing services or work for the Design-Builder, unless such Work has been performed by others whom the Design-Builder intends to pay.

§ 9.3.2 Unless otherwise provided in the Design-Build Documents, payments shall be made for services provided as well as materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Design-Builder with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

§ 9.3.3 The Design-Builder warrants that title to all Work, other than Instruments of Service, covered by an Application for Payment will pass to the Owner no later than the time of payment. The Design-Builder further warrants that, upon submittal of an Application for Payment, all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Design-Builder's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Design-Builder, Architect, Consultants, Contractors, material suppliers, or other persons or entities entitled to make a claim by reason of having provided labor, materials and equipment relating to the Work.

#### § 9.4 Certificates for Payment

The Owner shall, within seven days after receipt of the Design-Builder's Application for Payment, issue to the Design-Builder a Certificate for Payment indicating the amount the Owner determines is properly due, and notify the Design-Builder in writing of the Owner's reasons for withholding certification in whole or in part as provided in Section 9.5.1.

#### § 9.5 Decisions to Withhold Certification

§ 9.5.1 The Owner may withhold a Certificate for Payment in whole or in part to the extent reasonably necessary to protect the Owner due to the Owner's determination that the Work has not progressed to the point indicated in the Design-Builder's Application for Payment, or the quality of the Work is not in accordance with the Design-Build Documents. If the Owner is unable to certify payment in the amount of the Application, the Owner will notify the Design-Builder as provided in Section 9.4. If the Design-Builder and Owner cannot agree on a revised amount, the Owner will promptly issue a Certificate for Payment for the amount that the Owner deems to be due and owing. The Owner may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued to such extent as may be necessary to protect the Owner from loss for which the Design-Builder is responsible because of

- .1 defective Work, including design and construction, not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Design-Builder;
- .3 failure of the Design-Builder to make payments properly to the Architect, Consultants, Contractors or others, for services, labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a separate contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Design-Build Documents.

§ 9.5.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.3 If the Owner withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Design-Builder and to the Architect or any Consultants, Contractor, material or equipment suppliers, or other persons or entities providing services or work for the Design-Builder to whom the Design-Builder failed to make payment for Work properly performed or material or equipment suitably delivered.

#### § 9.6 Progress Payments

§ 9.6.1 After the Owner has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Design-Build Documents.

§ 9.6.2 The Design-Builder shall pay each Architect, Consultant, Contractor, and other person or entity providing services or work for the Design-Builder no later than the time period required by applicable law, but in no event more

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than seven days after receipt of payment from the Owner the amount to which the Architect, Consultant, Contractor, and other person or entity providing services or work for the Design-Builder is entitled, reflecting percentages actually retained from payments to the Design-Builder on account of the portion of the Work performed by the Architect, Consultant, Contractor, or other person or entity. The Design-Builder shall, by appropriate agreement with each Architect, Consultant, Contractor, and other person or entity providing services or work for the Design-Builder, require each Architect, Consultant, Contractor, and other person or entity providing services or work for the Design-Builder to make payments to subconsultants and subcontractors in a similar manner.

§ 9.6.3 The Owner will, on request and if practicable, furnish to the Architect, a Consultant, Contractor, or other person or entity providing services or work for the Design-Builder, information regarding percentages of completion or amounts applied for by the Design-Builder and action taken thereon by the Owner on account of portions of the Work done by such Architect, Consultant, Contractor or other person or entity providing services or work for the Design-Builder.

§ 9.6.4 The Owner has the right to request written evidence from the Design-Builder that the Design-Builder has properly paid the Architect, Consultants, Contractors, or other person or entity providing services or work for the Design-Builder, amounts paid by the Owner to the Design-Builder for the Work. If the Design-Builder fails to furnish such evidence within seven days, the Owner shall have the right to contact the Architect, Consultants, and Contractors to ascertain whether they have been properly paid. The Owner shall have no obligation to pay or to see to the payment of money to a Consultant or Contractor, except as may otherwise be required by law.

§ 9.6.5 Design-Builder payments to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Design-Build Documents.

§ 9.6.7 Unless the Design-Builder provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Design-Builder for Work properly performed by the Architect, Consultants, Contractors and other person or entity providing services or work for the Design-Builder, shall be held by the Design-Builder for the Architect and those Consultants, Contractors, or other person or entity providing services or work for the Design-Builder, for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Design-Builder, shall create any fiduciary liability or tort liability on the part of the Design-Builder for breach of trust or shall entitle any person or entity to an award of punitive damages against the Design-Builder for breach of the requirements of this provision.

### § 9.7 Failure of Payment

If the Owner does not issue a Certificate for Payment, through no fault of the Design-Builder, within the time required by the Design-Build Documents, then the Design-Builder may, upon seven additional days' written notice to the Owner, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Design-Builder's reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Design-Build Documents.

### § 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Design-Build Documents so that the Owner can occupy or utilize the Work for its intended use. The date of Substantial Completion is the date certified by the Owner in accordance with this Section 9.8.

§ 9.8.2 When the Design-Builder considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Design-Builder shall prepare and submit to the Owner a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Design-Builder to complete all Work in accordance with the Design-Build Documents.

§ 9.8.3 Upon receipt of the Design-Builder's list, the Owner shall make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Owner's inspection discloses any item, whether or not included on the Design-Builder's list, which is not sufficiently complete in accordance with the Design-Build

Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Design-Builder shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Owner. In such case, the Design-Builder shall then submit a request for another inspection by the Owner to determine Substantial Completion.

§ 9.8.4 Prior to issuance of the Certificate of Substantial Completion under Section 9.8.5, the Owner and Design-Builder shall discuss and then determine the parties' obligations to obtain and maintain property insurance following issuance of the Certificate of Substantial Completion.

§ 9.8.5 When the Work or designated portion thereof is substantially complete, the Design-Builder will prepare for the Owner's signature a Certificate of Substantial Completion that shall, upon the Owner's signature, establish the date of Substantial Completion; establish responsibilities of the Owner and Design-Builder for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Design-Builder shall finish all items on the list accompanying the Certificate. Warranties required by the Design-Build Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.6 The Certificate of Substantial Completion shall be submitted by the Design-Builder to the Owner for written acceptance of responsibilities assigned to it in the Certificate. Upon the Owner's acceptance, and consent of surety, if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Design-Build Documents.

#### § 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Design-Builder, provided such occupancy or use is consented to, by endorsement or otherwise, by the insurer providing property insurance and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Design-Builder have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Design-Build Documents. When the Design-Builder considers a portion substantially complete, the Design-Builder shall prepare and submit a list to the Owner as provided under Section 9.8.2. Consent of the Design-Builder to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Design-Builder.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner and Design-Builder shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Design-Build Documents.

#### § 9.10 Final Completion and Final Payment

§ 9.10.1 Upon receipt of the Design-Builder's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Owner will promptly make such inspection. When the Owner finds the Work acceptable under the Design-Build Documents and the Contract fully performed, the Owner will, subject to Section 9.10.2, promptly issue a final Certificate for Payment.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Design-Builder submits to the Owner (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work, for which the Owner or the Owner's property might be responsible or encumbered, (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Design-Build Documents to remain in force after final payment is currently in effect, (3) a written statement that the Design-Builder knows of no substantial reason that the insurance will not be renewable to cover the period required by the Design-Build Documents, (4) consent of surety, if any, to final payment, (5) as-constructed record copy of the Construction Documents marked to indicate field changes and selections made during construction, (6) manufacturer's warranties, product data, and maintenance and operations manuals, and (7) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, or releases and waivers of liens, claims,



security interests, or encumbrances, arising out of the Contract, to the extent and in such form as may be designated by the Owner. If an Architect, a Consultant, or a Contractor, or other person or entity providing services or work for the Design-Builder, refuses to furnish a release or waiver required by the Owner, the Design-Builder may furnish a bond satisfactory to the Owner to indemnify the Owner against such liens, claims, security interests, or encumbrances. If such liens, claims, security interests, or encumbrances remains unsatisfied after payments are made, the Design-Builder shall refund to the Owner all money that the Owner may be compelled to pay in discharging such liens, claims, security interests, or encumbrances, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Design-Builder or by issuance of Change Orders affecting final completion, the Owner shall, upon application by the Design-Builder, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Design-Build Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Design-Builder to the Owner prior to issuance of payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- .1 liens, Claims, security interests or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Design-Build Documents; or
- .3 terms of special warranties required by the Design-Build Documents.

§ 9.10.5 Acceptance of final payment by the Design-Builder shall constitute a waiver of claims by the Design-Builder except those previously made in writing and identified by the Design-Builder as unsettled at the time of final Application for Payment.

## ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

### § 10.1 Safety Precautions and Programs

The Design-Builder shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

### § 10.2 Safety of Persons and Property

§ 10.2.1 The Design-Builder shall be responsible for precautions for the safety of, and reasonable protection to prevent damage, injury or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Design-Builder or the Architect, Consultants, or Contractors, or other person or entity providing services or work for the Design-Builder; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, or structures and utilities not designated for removal, relocation or replacement in the course of construction.

§ 10.2.2 The Design-Builder shall comply with, and give notices required by, applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property, or their protection from damage, injury or loss.

§ 10.2.3 The Design-Builder shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations, and notify owners and users of adjacent sites and utilities of the safeguards and protections.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment, or unusual methods, are necessary for execution of the Work, the Design-Builder shall exercise utmost care, and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Design-Builder shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Design-Build Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3,

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caused in whole or in part by the Design-Builder, the Architect, a Consultant, a Contractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Design-Builder is responsible under Sections 10.2.1.2 and 10.2.1.3; except damage or loss attributable to acts or omissions of the Owner, or anyone directly or indirectly employed by the Owner, or by anyone for whose acts the Owner may be liable, and not attributable to the fault or negligence of the Design-Builder. The foregoing obligations of the Design-Builder are in addition to the Design-Builder's obligations under Section 3.1.14.

§ 10.2.6 The Design-Builder shall designate a responsible member of the Design-Builder's organization, at the site, whose duty shall be the prevention of accidents. This person shall be the Design-Builder's superintendent unless otherwise designated by the Design-Builder in writing to the Owner.

§ 10.2.7 The Design-Builder shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 **Injury or Damage to Person or Property.** If the Owner or Design-Builder suffers injury or damage to person or property because of an act or omission of the other, or of others for whose acts such party is legally responsible, written notice of the injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

### § 10.3 Hazardous Materials

§ 10.3.1 The Design-Builder is responsible for compliance with any requirements included in the Design-Build Documents regarding hazardous materials. If the Design-Builder encounters a hazardous material or substance not addressed in the Design-Build Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Design-Builder, the Design-Builder shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner in writing.

§ 10.3.2 Upon receipt of the Design-Builder's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Design-Builder and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Design-Build Documents, the Owner shall furnish in writing to the Design-Builder the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Design-Builder will promptly reply to the Owner in writing stating whether or not the Design-Builder has reasonable objection to the persons or entities proposed by the Owner. If the Design-Builder has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Design-Builder has no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Design-Builder. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Design-Builder's reasonable additional costs of shut-down, delay and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Design-Builder, the Architect, Consultants, and Contractors, and employees of any of them, from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area, if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to, or destruction of, tangible property (other than the Work itself), except to the extent that such damage, loss or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for materials or substances the Design-Builder brings to the site unless such materials or substances are required by the Owner's Criteria. The Owner shall be responsible for materials or substances required by the Owner's Criteria, except to the extent of the Design-Builder's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Design-Builder shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Design-Builder brings to the site and negligently handles, or (2) where the Design-Builder fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Design-Builder, the Design-Builder is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Design-Build Documents, the Owner shall indemnify the Design-Builder for all cost and expense thereby incurred.

#### § 10.4 Emergencies

In an emergency affecting safety of persons or property, the Design-Builder shall act, at the Design-Builder's discretion, to prevent threatened damage, injury or loss.

### ARTICLE 11 UNCOVERING AND CORRECTION OF WORK

#### § 11.1 Uncovering of Work

The Owner may request to examine a portion of the Work that the Design-Builder has covered to determine if the Work has been performed in accordance with the Design-Build Documents. If such Work is in accordance with the Design-Build Documents, the Owner and Design-Builder shall execute a Change Order to adjust the Contract Time and Contract Sum, as appropriate. If such Work is not in accordance with the Design-Build Documents, the costs of uncovering and correcting the Work shall be at the Design-Builder's expense and the Design-Builder shall not be entitled to a change in the Contract Time unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs and the Contract Time will be adjusted as appropriate.

#### § 11.2 Correction of Work

§ 11.2.1 **Before or After Substantial Completion.** The Design-Builder shall promptly correct Work rejected by the Owner or failing to conform to the requirements of the Design-Build Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for any design consultant employed by the Owner whose expenses and compensation were made necessary thereby, shall be at the Design-Builder's expense.

#### § 11.2.2 After Substantial Completion

§ 11.2.2.1 In addition to the Design-Builder's obligations under Section 3.1.12, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Design-Build Documents, any of the Work is found not to be in accordance with the requirements of the Design-Build Documents, the Design-Builder shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Design-Builder a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of the Work, if the Owner fails to notify the Design-Builder and give the Design-Builder an opportunity to make the correction, the Owner waives the rights to require correction by the Design-Builder and to make a claim for breach of warranty. If the Design-Builder fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner, the Owner may correct it in accordance with Section 7.9.

§ 11.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 11.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Design-Builder pursuant to this Section 11.2.

§ 11.2.3 The Design-Builder shall remove from the site portions of the Work that are not in accordance with the requirements of the Design-Build Documents and are neither corrected by the Design-Builder nor accepted by the Owner.

§ 11.2.4 The Design-Builder shall bear the cost of correcting destroyed or damaged construction of the Owner or separate contractors, whether completed or partially completed, caused by the Design-Builder's correction or removal of Work that is not in accordance with the requirements of the Design-Build Documents.

§ 11.2.5 Nothing contained in this Section 11.2 shall be construed to establish a period of limitation with respect to other obligations the Design-Builder has under the Design-Build Documents. Establishment of the one-year period for correction of Work as described in Section 11.2.2 relates only to the specific obligation of the Design-Builder to correct the Work, and has no relationship to the time within which the obligation to comply with the Design-Build Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Design-Builder's liability with respect to the Design-Builder's obligations other than specifically to correct the Work.

### § 11.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Design-Build Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

## ARTICLE 12 COPYRIGHTS AND LICENSES

§ 12.1 Drawings, specifications, and other documents furnished by the Design-Builder, including those in electronic form, are Instruments of Service. The Design-Builder, and the Architect, Consultants, Contractors, and any other person or entity providing services or work for any of them, shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and shall retain all common law, statutory and other reserved rights, including copyrights. Submission or distribution of Instruments of Service to meet official regulatory requirements, or for similar purposes in connection with the Project, is not to be construed as publication in derogation of the reserved rights of the Design-Builder and the Architect, Consultants, and Contractors, and any other person or entity providing services or work for any of them.

§ 12.2 The Design-Builder and the Owner warrant that in transmitting Instruments of Service, or any other information, the transmitting party is the copyright owner of such information or has permission from the copyright owner to transmit such information for its use on the Project.

§ 12.3 Upon execution of the Agreement, the Design-Builder grants to the Owner a limited, irrevocable and non-exclusive license to use the Instruments of Service solely and exclusively for purposes of constructing, using, maintaining, altering and adding to the Project, provided that the Owner substantially performs its obligations, including prompt payment of all sums when due, under the Design-Build Documents. The license granted under this section permits the Owner to authorize its consultants and separate contractors to reproduce applicable portions of the Instruments of Service solely and exclusively for use in performing services or construction for the Project. If the Design-Builder rightfully terminates this Agreement for cause as provided in Section 13.1.4 or 13.2.1 the license granted in this Section 12.3 shall terminate.

§ 12.3.1 The Design-Builder shall obtain non-exclusive licenses from the Architect, Consultants, and Contractors, that will allow the Design-Builder to satisfy its obligations to the Owner under this Article 12. The Design-Builder's licenses from the Architect and its Consultants and Contractors shall also allow the Owner, in the event this Agreement is terminated for any reason other than the default of the Owner or in the event the Design-Builder's Architect, Consultants, or Contractors terminate their agreements with the Design-Builder for cause, to obtain a limited, irrevocable and non-exclusive license solely and exclusively for purposes of constructing, using, maintaining, altering and adding to the Project, provided that the Owner (1) agrees to pay to the Architect, Consultant or Contractor all amounts due, and (2) provide the Architect, Consultant or Contractor with the Owner's written agreement to indemnify and hold harmless the Architect, Consultant or Contractor from all costs and expenses, including the cost of defense, related to claims and causes of action asserted by any third person or entity to the extent such costs and expenses arise from the Owner's alteration or use of the Instruments of Service.

§ 12.3.2 In the event the Owner alters the Instruments of Service without the author's written authorization or uses the Instruments of Service without retaining the authors of the Instruments of Service, the Owner releases the Design-Builder, Architect, Consultants, Contractors and any other person or entity providing services or work for any of them, from all claims and causes of action arising from or related to such uses. The Owner, to the extent permitted by law, further agrees to indemnify and hold harmless the Design-Builder, Architect, Consultants, Contractors and any

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other person or entity providing services or work for any of them, from all costs and expenses, including the cost of defense, related to claims and causes of action asserted by any third person or entity to the extent such costs and expenses arise from the Owner's alteration or use of the Instruments of Service under this Section 12.3.2. The terms of this Section 12.3.2 shall not apply if the Owner rightfully terminates this Agreement for cause under Sections 13.1.4 or 13.2.2.

## **ARTICLE 13 TERMINATION OR SUSPENSION**

### **§ 13.1 Termination or Suspension Prior to Execution of the Design-Build Amendment**

§ 13.1.1 If the Owner fails to make payments to the Design-Builder for Work prior to execution of the Design-Build Amendment in accordance with this Agreement, such failure shall be considered substantial nonperformance and cause for termination or, at the Design-Builder's option, cause for suspension of performance of services under this Agreement. If the Design-Builder elects to suspend the Work, the Design-Builder shall give seven days' written notice to the Owner before suspending the Work. In the event of a suspension of the Work, the Design-Builder shall have no liability to the Owner for delay or damage caused by the suspension of the Work. Before resuming the Work, the Design-Builder shall be paid all sums due prior to suspension and any expenses incurred in the interruption and resumption of the Design-Builder's Work. The Design-Builder's compensation for, and time to complete, the remaining Work shall be equitably adjusted.

§ 13.1.2 If the Owner suspends the Project, the Design-Builder shall be compensated for the Work performed prior to notice of such suspension. When the Project is resumed, the Design-Builder shall be compensated for expenses incurred in the interruption and resumption of the Design-Builder's Work. The Design-Builder's compensation for, and time to complete, the remaining Work shall be equitably adjusted.

§ 13.1.3 If the Owner suspends the Project for more than 90 cumulative days for reasons other than the fault of the Design-Builder, the Design-Builder may terminate this Agreement by giving not less than seven days' written notice.

§ 13.1.4 Either party may terminate this Agreement upon not less than seven days' written notice should the other party fail substantially to perform in accordance with the terms of this Agreement through no fault of the party initiating the termination.

§ 13.1.5 The Owner may terminate this Agreement upon not less than seven days' written notice to the Design-Builder for the Owner's convenience and without cause.

§ 13.1.6 In the event of termination not the fault of the Design-Builder, the Design-Builder shall be compensated for Work performed prior to termination, together with Reimbursable Expenses then due and any other expenses directly attributable to termination for which the Design-Builder is not otherwise compensated. In no event shall the Design-Builder's compensation under this Section 13.1.6 be greater than the compensation set forth in Section 2.1.

### **§ 13.2 Termination or Suspension Following Execution of the Design-Build Amendment**

#### **§ 13.2.1 Termination by the Design-Builder**

§ 13.2.1.1 The Design-Builder may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Design-Builder, the Architect, a Consultant, or a Contractor, or their agents or employees, or any other persons or entities performing portions of the Work under direct or indirect contract with the Design-Builder, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency that requires all Work to be stopped;
- .3 Because the Owner has not issued a Certificate for Payment and has not notified the Design-Builder of the reason for withholding certification as provided in Section 9.5.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Design-Build Documents; or
- .4 The Owner has failed to furnish to the Design-Builder promptly, upon the Design-Builder's request, reasonable evidence as required by Section 7.2.7.

§ 13.2.1.2 The Design-Builder may terminate the Contract if, through no act or fault of the Design-Builder, the Architect, a Consultant, a Contractor, or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Design-Builder, repeated suspensions, delays or interruptions of

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the entire Work by the Owner as described in Section 13.2.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 13.2.1.3 If one of the reasons described in Section 13.2.1.1 or 13.2.1.2 exists, the Design-Builder may, upon seven days' written notice to the Owner, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

§ 13.2.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Design-Builder or any other persons or entities performing portions of the Work under contract with the Design-Builder because the Owner has repeatedly failed to fulfill the Owner's obligations under the Design-Build Documents with respect to matters important to the progress of the Work, the Design-Builder may, upon seven additional days' written notice to the Owner, terminate the Contract and recover from the Owner as provided in Section 13.2.1.3.

### § 13.2.2 Termination by the Owner For Cause

§ 13.2.2.1 The Owner may terminate the Contract if the Design-Builder

- .1 fails to submit the Proposal by the date required by this Agreement, or if no date is indicated, within a reasonable time consistent with the date of Substantial Completion;
- .2 repeatedly refuses or fails to supply an Architect, or enough properly skilled Consultants, Contractors, or workers or proper materials;
- .3 fails to make payment to the Architect, Consultants, or Contractors for services, materials or labor in accordance with their respective agreements with the Design-Builder;
- .4 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .5 is otherwise guilty of substantial breach of a provision of the Design-Build Documents.

§ 13.2.2.2 When any of the above reasons exist, the Owner may without prejudice to any other rights or remedies of the Owner and after giving the Design-Builder and the Design-Builder's surety, if any, seven days' written notice, terminate employment of the Design-Builder and may, subject to any prior rights of the surety:

- .1 Exclude the Design-Builder from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Design-Builder;
- .2 Accept assignment of the Architect, Consultant and Contractor agreements pursuant to Section 3.1.15; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Design-Builder, the Owner shall furnish to the Design-Builder a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 13.2.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 13.2.2.1, the Design-Builder shall not be entitled to receive further payment until the Work is finished.

§ 13.2.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Design-Builder. If such costs and damages exceed the unpaid balance, the Design-Builder shall pay the difference to the Owner. The obligation for such payments shall survive termination of the Contract.

### § 13.2.3 Suspension by the Owner for Convenience

§ 13.2.3.1 The Owner may, without cause, order the Design-Builder in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

§ 13.2.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in Section 13.2.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- .1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Design-Builder is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

### § 13.2.4 Termination by the Owner for Convenience

§ 13.2.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

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§ 13.2.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Design-Builder shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and,
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing Project agreements, including agreements with the Architect, Consultants, Contractors, and purchase orders, and enter into no further Project agreements and purchase orders.

§ 13.2.4.3 In case of such termination for the Owner's convenience, the Design-Builder shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

## ARTICLE 14 CLAIMS AND DISPUTE RESOLUTION

### § 14.1 Claims

§ 14.1.1 **Definition.** A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Design-Builder arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 14.1.2 **Time Limits on Claims.** The Owner and Design-Builder shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other, arising out of or related to the Contract in accordance with the requirements of the binding dispute resolution method selected in Section 1.3, within the time period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Design-Builder waive all claims and causes of action not commenced in accordance with this Section 14.1.2.

### § 14.1.3 Notice of Claims

§ 14.1.3.1 **Prior To Final Payment.** Prior to Final Payment, Claims by either the Owner or Design-Builder must be initiated by written notice to the other party within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 14.1.3.2 **Claims Arising After Final Payment.** After Final Payment, Claims by either the Owner or Design-Builder that have not otherwise been waived pursuant to Sections 9.10.4 or 9.10.5, must be initiated by prompt written notice to the other party. The notice requirement in Section 14.1.3.1 and the Initial Decision requirement as a condition precedent to mediation in Section 14.2.1 shall not apply.

§ 14.1.4 **Continuing Contract Performance.** Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 13, the Design-Builder shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Design-Build Documents.

§ 14.1.5 **Claims for Additional Cost.** If the Design-Builder intends to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the portion of the Work that relates to the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

### § 14.1.6 Claims for Additional Time

§ 14.1.6.1 If the Design-Builder intends to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Design-Builder's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 14.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on the scheduled construction.

### § 14.1.7 Claims for Consequential Damages

The Design-Builder and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Design-Builder for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 13. Nothing contained in this Section 14.1.7 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Design-Build Documents.

### § 14.2 Initial Decision

§ 14.2.1 An initial decision shall be required as a condition precedent to mediation of all Claims between the Owner and Design-Builder initiated prior to the date final payment is due, excluding those arising under Sections 10.3 and 10.4 of the Agreement and Sections B.3.2.9 and B.3.2.10 of Exhibit B to this Agreement, unless 30 days have passed after the Claim has been initiated with no decision having been rendered. Unless otherwise mutually agreed in writing, the Owner shall render the initial decision on Claims.

#### § 14.2.2 Procedure

§ 14.2.2.1 **Claims Initiated by the Owner.** If the Owner initiates a Claim, the Design-Builder shall provide a written response to Owner within ten days after receipt of the notice required under Section 14.1.3.1. Thereafter, the Owner shall render an initial decision within ten days of receiving the Design-Builder's response: (1) withdrawing the Claim in whole or in part, (2) approving the Claim in whole or in part, or (3) suggesting a compromise.

§ 14.2.2.2 **Claims Initiated by the Design-Builder.** If the Design-Builder initiates a Claim, the Owner will take one or more of the following actions within ten days after receipt of the notice required under Section 14.1.3.1: (1) request additional supporting data, (2) render an initial decision rejecting the Claim in whole or in part, (3) render an initial decision approving the Claim, (4) suggest a compromise or (5) indicate that it is unable to render an initial decision because the Owner lacks sufficient information to evaluate the merits of the Claim.

§ 14.2.3 In evaluating Claims, the Owner may, but shall not be obligated to, consult with or seek information from persons with special knowledge or expertise who may assist the Owner in rendering a decision. The retention of such persons shall be at the Owner's expense.

§ 14.2.4 If the Owner requests the Design-Builder to provide a response to a Claim or to furnish additional supporting data, the Design-Builder shall respond, within ten days after receipt of such request, and shall either (1) provide a response on the requested supporting data, (2) advise the Owner when the response or supporting data will be furnished or (3) advise the Owner that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Owner will either reject or approve the Claim in whole or in part.

§ 14.2.5 The Owner's initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) identify any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 14.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 14.2.6.1.

§ 14.2.6.1 Either party may, within 30 days from the date of an initial decision, demand in writing that the other party file for mediation within 60 days of the initial decision. If such a demand is made and the party receiving the demand fails to file for mediation within the time required, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

§ 14.2.7 In the event of a Claim against the Design-Builder, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Design-Builder's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

Init.



§ 14.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

### § 14.3 Mediation

§ 14.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract, except those waived as provided for in Sections 9.10.4, 9.10.5, and 14.1.7, shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 14.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration proceeding is stayed pursuant to this Section 14.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 14.3.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction.

### § 14.4 Arbitration

§ 14.4.1 If the parties have selected arbitration as the method for binding dispute resolution in Section 1.3, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 14.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations or statute of repose. For statute of limitations or statute of repose purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 14.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction.

§ 14.4.3 The foregoing agreement to arbitrate, and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

### § 14.4.4 Consolidation or Joinder

§ 14.4.4.1 Either party, at its sole discretion, may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 14.4.4.2 Either party, at its sole discretion, may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 14.4.4.3 The Owner and Design-Builder grant to any person or entity made a party to an arbitration conducted under this Section 14.4, whether by joinder or consolidation, the same rights of joinder and consolidation as the Owner and Design-Builder under this Agreement.

## ARTICLE 15 MISCELLANEOUS PROVISIONS

### § 15.1 Governing Law

The Contract shall be governed by the law of the place where the Project is located except that, if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 14.4.

### § 15.2 Successors and Assigns

§ 15.2.1 The Owner and Design-Builder, respectively, bind themselves, their partners, successors, assigns and legal representatives to the covenants, agreements and obligations contained in the Design-Build Documents. Except as provided in Section 15.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 15.2.2 The Owner may, without consent of the Design-Builder, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Design-Build Documents. The Design-Builder shall execute all consents reasonably required to facilitate such assignment.

§ 15.2.3 If the Owner requests the Design-Builder, Architect, Consultants, or Contractors to execute certificates, other than those required by Section 3.1.10, the Owner shall submit the proposed language of such certificates for review at least 14 days prior to the requested dates of execution. If the Owner requests the Design-Builder, Architect, Consultants, or Contractors to execute consents reasonably required to facilitate assignment to a lender, the Design-Builder, Architect, Consultants, or Contractors shall execute all such consents that are consistent with this Agreement, provided the proposed consent is submitted to them for review at least 14 days prior to execution. The Design-Builder, Architect, Consultants, and Contractors shall not be required to execute certificates or consents that would require knowledge, services or responsibilities beyond the scope of their services.

### § 15.3 Written Notice

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice.

### § 15.4 Rights and Remedies

§ 15.4.1 Duties and obligations imposed by the Design-Build Documents, and rights and remedies available thereunder, shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

§ 15.4.2 No action or failure to act by the Owner or Design-Builder shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed in writing.

### § 15.5 Tests and Inspections

§ 15.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Design-Build Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Design-Builder shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Design-Builder shall give the Owner timely notice of when and where tests and inspections are to be made so that the Owner may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Design-Builder.

§ 15.5.2 If the Owner determines that portions of the Work require additional testing, inspection or approval not included under Section 15.5.1, the Owner will instruct the Design-Builder to make arrangements for such additional

testing, inspection or approval by an entity acceptable to the Owner, and the Design-Builder shall give timely notice to the Owner of when and where tests and inspections are to be made so that the Owner may be present for such procedures. Such costs, except as provided in Section 15.5.3, shall be at the Owner's expense.

§ 15.5.3 If such procedures for testing, inspection or approval under Sections 15.5.1 and 15.5.2 reveal failure of the portions of the Work to comply with requirements established by the Design-Build Documents, all costs made necessary by such failure shall be at the Design-Builder's expense.

§ 15.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Design-Build Documents, be secured by the Design-Builder and promptly delivered to the Owner.

§ 15.5.5 If the Owner is to observe tests, inspections or approvals required by the Design-Build Documents, the Owner will do so promptly and, where practicable, at the normal place of testing.

§ 15.5.6 Tests or inspections conducted pursuant to the Design-Build Documents shall be made promptly to avoid unreasonable delay in the Work.

#### § 15.6 Confidential Information

If the Owner or Design-Builder transmits Confidential Information, the transmission of such Confidential Information constitutes a warranty to the party receiving such Confidential Information that the transmitting party is authorized to transmit the Confidential Information. If a party receives Confidential Information, the receiving party shall keep the Confidential Information strictly confidential and shall not disclose it to any other person or entity except as set forth in Section 15.6.1.

§ 15.6.1 A party receiving Confidential Information may disclose the Confidential Information as required by law or court order, including a subpoena or other form of compulsory legal process issued by a court or governmental entity. A party receiving Confidential Information may also disclose the Confidential Information to its employees, consultants or contractors in order to perform services or work solely and exclusively for the Project, provided those employees, consultants and contractors are subject to the restrictions on the disclosure and use of Confidential Information as set forth in this Contract.

#### § 15.7 Capitalization

Terms capitalized in the Contract include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Architects.

#### § 15.8 Interpretation

§ 15.8.1 In the interest of brevity the Design-Build Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 15.8.2 Unless otherwise stated in the Design-Build Documents, words which have well-known technical or construction industry meanings are used in the Design-Build Documents in accordance with such recognized meanings.

### ARTICLE 16 SCOPE OF THE AGREEMENT

§ 16.1 This Agreement is comprised of the following documents listed below:

- .1 AIA Document A141™-2014, Standard Form of Agreement Between Owner and Design-Builder
- .2 AIA Document A141™-2014, Exhibit A, Design-Build Amendment, if executed
- .3 AIA Document A141™-2014, Exhibit B, Insurance and Bonds
- .4

*(Paragraphs deleted)*

Other: EXHIBITS: C,D,E & F

This Agreement entered into as of the day and year first written above.

\_\_\_\_\_  
OWNER (Signature)

\_\_\_\_\_  
(Printed name and title)

  
\_\_\_\_\_  
DESIGN-BUILDER (Signature)

Joe Piazza President

\_\_\_\_\_  
(Printed name and title)

Init.



## EXHIBIT C

### OWNERS CRITERIA, PROGRAM FOR PROJECT, DESIGN REQUIREMENTS & PHYSICAL CHARACTERISTICS

Owner requires Design/Build Contractor to Design and Construct a New Building Structure (approximately 9,000 SF) with 1<sup>st</sup> Floor Public Restrooms, Visitors Center and Office Space including an Elevator. The 2<sup>nd</sup> and 3<sup>rd</sup> Floors are Core and Shell Space for Future Finish-Out.

The Facility is to be Designed using “Economical” Means & Methods in order to Achieve the Owner Budget Restraints, while at the same time meeting all State and Local Building Codes.

More Specific Requirements of New Facility are as follows:

Basis of Design: Exterior Rendering and Floor Plans provided by the City of Denison.

General Exclusions to this Contract:

1. Geotechnical Report
2. Materials Testing
3. Tap/Impact Fees
4. All Permit Fees
5. Franchise Utility Provider Fees
6. Temporary Construction Water
7. Dumpster Service



EXHIBIT D

ORIGINAL ESTIMATED BUDGET AND FEES



EXHIBIT E

ESTIMATED DESIGN AND CONSTRUCTION MILESTONE DATES:

- 12-11-23: Execute Design Build Contract AIA Document A141-2014
- 12-11-23 to 3-8-24: Design/Budget Phase
- 3-11-24 to 4-2-24: Subcontractor/Vendor Bidding Phase
- 4-3-24 to 4-17-24: Subcontractor/Vendor Contracting Phase
- 4-29-24 to 11-29-24: Construction Phase

EXHIBIT F

COMPENSATION FOR WORK PERFORMED PRIOR TO THE EXECUTION OF DESIGN-BUILD AMENDMENT (EXHIBIT A)

Design Fee includes: Architectural, Structural, Mechanical and Electrical Engineering.

**ESTIMATED PRE-CONSTRUCTION FEE TOTALS** (Based on \$1,500,000.00 Estimated Construction Cost):

Pre-Construction Fee:	\$5,000.00
Architectural /Engineering Fee 5.6% of Estimated Construction Cost	<u>\$84,000.00</u>
<b>*ESTIMATED FEE TOTAL</b>	<b>\$89,000.00</b>

\*The **estimated fee total** will be reconciled once true construction costs are established.

**ESTIMATED BILLING SCHEDULE (Payment to be 20 days after Delivery):**

Pre-Construction Fee:	\$5,000.00
Schematic Design 5% :	\$5,250.00
Design Development 40%:	\$42,000.00
Construction Documents 35%:	<u>\$36,750.00</u>
<b>TOTAL</b>	<b>\$89,000.00</b>

**Other Costs** (will be billed as reimbursable at a rate of cost +10% if owner wishes us to provide. Such items are:

Geotechnical Services (If additional services are required)  
Civil Drawings  
TDLR/Texas Architect Standard Review  
Site Surveying or Staking  
Materials Testing



# City Council Meeting Staff Report



December 4, 2023  
Regular Council Meeting

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## Agenda Item

Receive a report, hold a discussion, and take action on approval of entering into a contract with SYB Construction Company, Inc. for emergency potable water pipeline replacement services for \$1,791,742.55 and authorize the Interim City Manager to execute all related documents.

## Staff Contact

Ervin Pariera, Assistant Director of Public Works  
epariera@cityofdenison.com  
903-465-2720 x 2442

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## Summary

- The proposed contract with SYB Construction Company, Inc. will provide emergency potable water pipeline replacement services within the right-of-way of S Chandler Ave.
- The existing 14” potable water pipeline along S Chandler Ave. is failing and has exceeded its rated and useful lifespan.
- The not to exceed total price to complete the replacement of the failing potable water line is \$1,791,742.55.

## Staff Recommendation

Staff recommend approval of the proposed contract with SYB Construction Company, Inc.

## Recommended Motion

“I move to approve entering into a contract with SYB Construction Company, Inc. for emergency potable water pipeline replacement services for \$1,791,742.55 and authorize the Interim City Manager to execute all related documents.”

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## Background Information and Analysis

The potable water distribution system is pressurized via multiple main pipelines that leave the Dean Rylant Water Treatment Plant in a generally southern direction into the City. One of the main pipelines is a 14” cast iron pipe that feeds homes and businesses along S Chandler Ave from Martin Luther King St. to W Main St. and then on to TX-91 where the pipeline continues until it eventually terminates at an elevated storage tank. The portion of pipeline from Morton St. to TX-91 is in very poor condition and has suffered repeated failures over the last two years. Due to the condition of the pipeline, and its importance within the distribution system, this portion was identified as a short-term replacement project in the 2019 Potable Water Master Plan conducted by engineering firm Teague Nall and Perkins, Inc. Given the recent repeated failures to the pipeline, and the imminent danger to the distribution system should the pipeline suffer a catastrophic failure, staff is recommending proceeding with an emergency replacement of the pipeline. The proposed contract with SYB Construction will replace 2,600 linear feet of the 14” cast iron pipeline between Morton St. and TX-91 with 24” PVC pipeline as proposed in the 2019 master plan. The proposal also includes the addition of a paralleled 8” PVC pipeline that will serve

as a lateral service line and be tapped to provide new services to homes and businesses along S Chandler Ave. This 8” paralleled lateral service line will provide staff with flexibility on how water can be routed through this area and will allow for higher pressures within the 24” pipeline without negatively impacting homes and businesses. Within the proposal, all required valves and fire hydrants along the pipeline will be replaced with new and all required rehabilitation of the impacted streets is also included. Estimated completion of all construction activities is April of 2024. The proposed contract is being presented as an emergency expenditure under the public health purchasing requirement exceptions. These exceptions exempt this contract from the normally required public entity competitive bidding process. The exceptions apply because the failure of the potable water pipeline poses a significant risk to public health.

**Financial Considerations**

The proposed contract amount is \$1,791,742.55 and will be paid from Utility CIP funds.

**Prior Board or Council Action**

None.

**Alternatives**

Council may deny or table the item.

# SYB CONSTRUCTION CO., INC.

Dallas/Fort Worth

421 Compton  
Irving, TX 75061  
Office Metro (972) 399-1066  
FAX (972) 399-1586

DATE: November 14, 2023

RE: MAIN STREET EMERGENCY - CITY OF DENISON

DATE OF PLANS: N/A

WE ARE PLEASED TO QUOTE YOUR INQUIRY AS FOLLOWS:

ITEM NO.	QUANTITY	UNIT OF MEAS	DESCRIPTION OF ITEM	UNIT PRICE	AMOUNT
1	2,600	LF	24 INCH WATER		
2	2,900	LF	8 INCH WATER		
3	3	EA	24 INCH BUTTERFLY VALVE		
4	14	EA	8 IN GATE VALVE		
5	5	EA	FIRE HYDRANT		
6	1	EA	I HYDRANT		
7	2	EA	24 INCH X 14 INCH TIE IN		
8	8	EA	TIE INS AT SIDE STREETS		
9	24	EA	1 INCH WATER SERVICE		
10	1	EA	2 INCH WATER SERVICE		
11	1,556	SY	DITCH PATCH ON MAIN ST (14' WIDE)		
12	6,416	SY	FULL STREET REHAB ON CHANDLER (40 LBS CEMENT/ 2 INCH HOTMIX)		
<b>TOTAL</b>					<b>\$ 1,558,037.00</b>
1A	1	LS	CONTINGENCY (15%)		\$ 233,705.55
<b>TOTAL</b>					<b>\$ 1,791,742.55</b>

**THIS PROPOSAL AND SCOPE OF WORK MUST BECOME PART OF ANY WORK ORDER OR CONTRACT ISSUED RELATING TO THIS PROPOSAL**

We appreciate the opportunity to quote this project. Also, for future reference, please keep us in mind for any other projects that involve concrete paving or utility work. If we can be of any further assistance, please do not hesitate to call.

Sincerely,

**Randy Bennett**

Randy Bennett  
SYB Construction Co., Inc.

**Accepted (Signature):** \_\_\_\_\_

**Printed Name & Title:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Locally Owned and Operated in the State of Texas since 1985**

**Contractor of The Year 2001 by the North Central Branch – Texas Public Works Association**

**2015 Project of the Year - Environmental (\$2 - \$5 million) for the Whis-Lynge/Rolling Hills/Sewer Rehabilitation - Texas Chapter American Public Works Association**

# City Council Meeting Staff Report



December 4, 2023

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## Agenda Item

Receive a report, hold a discussion and consider adoption of a resolution directing the publication of notice of intention to issue combination tax and revenue certificates of obligation for water and sewer system improvements and design for Loy Lay Dam upgrades.

## Staff Contact

Laurie Alsabbagh, Finance Director  
lalsabbagh@cityofdenison.com  
903-465-2720 EXT 2492

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## Summary

- Capital Improvement Projects were discussed with Council during the FY2024 budget process
- Request for Council to approve Resolution for Publication of Notice of Intention to fund these Capital Improvement Projects – December 4, 2023
- Notice to be published in newspaper on 2 separate occasions and to be posted on website
- Request for Council to pass ordinance authorizing issuance of Certificates – February 19, 2024

## Staff Recommendation

Staff recommends adopting the resolution.

## Recommended Motion

“I move to adopt the resolution directing publication of notice of intention to issue combination tax and revenue certifications of obligation for water and sewer system improvements and design for Loy Lay Dam upgrades.”

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## Background Information and Analysis

Each year during the budget process, staff brings before Council the multi-year capital improvement projects plan. Based on the FY2024 plan, utility projects to be covered under this bond issuance include North West Development, Rylant Treatment Plant, Lake Texoma Pump Station, Waterloo Lake Sewer Line, Radio Trunking System, as well as other system improvements including design for Loy Lake Dam upgrades. If approved, staff will publish the required notices in the Herald Democrat and on the City’s website. On February 19, 2024 staff will bring before Council, a proposed ordinance authorizing the issuance of the Certificates.

## Financial Considerations

Principal amount of Bonds to be issued will not exceed \$57,500,000.

## Prior Board or Council Action

N/A

## Alternatives

Council may choose not to approve the publication of Notice of Intent for the Certificates of Obligation, and the City will not move forward with funding for these projects.

RESOLUTION NO. \_\_\_\_\_

RESOLUTION DIRECTING THE PUBLICATION OF NOTICE OF INTENTION TO ISSUE  
COMBINATION TAX AND REVENUE CERTIFICATES OF OBLIGATION

THE STATE OF TEXAS §  
COUNTY OF GRAYSON §  
CITY OF DENISON §

WHEREAS, the City of Denison (the “City”) deems it advisable to give notice of intention to issue certificates of obligation of the City of Denison, Texas, as hereinafter provided; and

WHEREAS, it is hereby officially found and determined that the meeting at which this Resolution was considered was open to the public, and public notice of the time, place and purpose of said meeting was given, all as required by Chapter 551, Texas Government Code;

THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF DENISON:

Section 1. Attached hereto and marked as Exhibit A is a form of “Notice of Intention to Issue Combination Tax and Revenue Certificates of Obligation” (the “Notice”) the form and substance of which are hereby adopted and approved, and made a part of this Resolution for all purposes.

Section 2. The City Clerk shall cause the Notice to be published, in substantially the form attached hereto, in a newspaper of general circulation in the City of Denison, once a week for two consecutive weeks, the date of the first publication to be at least 46 days prior to the date tentatively set for the adoption of the ordinance authorizing the issuance of the Certificates of Obligation as shown in the Notice.

Section 3. The City Clerk shall cause the Notice, in substantially the form attached hereto, to be posted continuously on the City’s Internet website for at least 45 days before the date tentatively set for the adoption of the ordinance authorizing the issuance of the Certificates of Obligation as shown in the Notice.

Section 4. For purposes of Texas Local Government Code, Subchapter C of Chapter 271, as amended, the City has currently designated \$109,492,950 in principal amount of the following \$137,735,000 of outstanding debt obligations as self-supporting debt, provided that such designated amount may be changed from time to time:

- Combination Tax and Revenue Certificates of Obligation, Series 2012
- Combination Tax and Limited Surplus Revenue Certificates of Obligation, Series 2013
- General Obligation Refunding Bonds, Series 2013
- Combination Tax and Surplus Revenue Certificates of Obligation, Series 2015
- Combination Tax and Surplus Revenue Certificates of Obligation, Series 2016A
- Combination Tax and Limited Surplus Revenue Certificates of Obligation, Series 2016B

- Combination Tax and Surplus Revenue Certificates of Obligation, Series 2017A
- Combination Tax and Limited Surplus Revenue Certificates of Obligation, Series 2017B
- Combination Tax and Surplus Revenue Certificates of Obligation, Series 2018
- Combination Tax and Limited Surplus Revenue Certificates of Obligation, Series 2018A
- Combination Tax and Surplus Revenue Certificates of Obligation, Series 2019
- General Obligation Refunding Bonds, Series 2019
- Combination Tax and Limited Surplus Revenue Certificates of Obligation, Series 2020A
- Combination Tax and Limited Surplus Revenue Certificates of Obligation, Series 2020B
- General Obligation Refunding Bonds, Series 2020
- Combination Tax and Limited Surplus Revenue Certificates of Obligation, Series 2021A
- Combination Tax and Limited Surplus Revenue Certificates of Obligation, Series 2021B
- Combination Tax and Limited Surplus Revenue Certificates of Obligation, Series 2022A
- Combination Tax and Limited Surplus Revenue Certificates of Obligation, Taxable Series 2022B
- Combination Tax and Limited Surplus Revenue Certificates of Obligation, Series 2022C
- Combination Tax and Limited Surplus Revenue Certificates of Obligation, Series 2023

Section 5. This Resolution is intended to satisfy the official intent requirements set forth in section 1.150-2 of the rules and regulations of the United States Department of the Treasury.

Section 6. This Resolution shall become effective immediately upon its adoption.

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ADOPTED, APPROVED AND EFFECTIVE this December 4, 2023.

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Mayor, City of Denison, Texas

ATTEST:

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City Clerk, City of Denison, Texas

[CITY SEAL]

Exhibit A

CITY OF DENISON, TEXAS  
NOTICE OF INTENTION TO ISSUE  
COMBINATION TAX AND REVENUE CERTIFICATES OF OBLIGATION

NOTICE IS HEREBY GIVEN that the City Council of the City of Denison, Texas, at its meeting to commence at 6:00 p.m. on February 19, 2024, at its regular meeting place at City Hall, 300 W. Main, Denison, Texas, tentatively proposes to authorize the issuance of interest bearing certificates of obligation of the City, in one or more series, in an aggregate principal amount not to exceed \$57,500,000, for the purpose of paying all or a portion of the City's contractual obligations incurred in connection with (i) constructing, installing, acquiring and equipping additions, extensions and improvements to the City's waterworks and sewer system, and the acquisition of land and interests in land for such projects; (ii) acquiring, constructing, renovating, installing and equipping municipal parks; and (iii) legal, fiscal, design and engineering fees in connection with such projects. The City proposes to provide for the payment of said series (one or more) of such certificates of obligation from a pledge of ad valorem taxes levied and collected in the City as provided by law, and from a limited pledge of surplus revenues of the City's waterworks and sewer system, remaining after payment of all operation and maintenance expenses thereof, and all debt service, reserve, and other requirements in connection with all of the City's revenue bonds or other obligations (now or hereafter outstanding), which are payable from all or any part of the net revenues of the City's waterworks and sewer system.

The maximum interest rate for the certificates will not exceed the maximum legal interest rate, the maximum maturity date for the certificates is February 15, 2054, and the estimated combined principal and interest required to pay the certificates to be authorized on time and in full is \$108,842,384.

The City currently has outstanding debt obligations secured by and payable from ad valorem taxes (not including \$109,492,950 principal amount of outstanding debt obligations the City has designated as self-supporting debt) equal to \$28,242,050 in principal amount and \$31,245,780 in combined principal and interest required to pay such outstanding debt obligations on time and in full. The City reasonably expects to pay self-supporting debt obligations from revenue sources other than ad valorem taxes, provided, however, that in the event such self-supporting revenue sources are insufficient to pay debt service, the City is obligated to levy ad valorem taxes to pay such debt obligations. The Resolution designating certain outstanding debt obligations of the City as self-supporting for purposes of Texas Local Government Code, Subchapter C of Chapter 271 ("Chapter 271") is available upon request to the City at the address noted above.

The certificates of obligation are to be issued, and this notice is given, under and pursuant to the provisions of Chapter 271.

In the event that the City Council will be unable to meet at the City Hall on February 19, 2024, the City will post on its website, **[www.cityofdenison.com](http://www.cityofdenison.com)**, information for persons to attend the meeting by telephone, teleconference or other electronic means.

CITY OF DENISON, TEXAS