Planning & Zoning Board Meeting

June 27, 2024 at 6:00 PM
Howey-in the-Hills Town Hall
101 N. Palm Ave.,
Howey-in-the-Hills, FL 34737

Join Zoom Meeting: https://us06web.zoom.us/j/87495333660?pwd=TAIKbhzb6EXg1UMd2I73BkdkFWYtXJ.1
Meeting ID: 874 9533 3660 | **Passcode:** 166968

AGENDA

CALL TO ORDER
ROLL CALL

CONSENT AGENDA
Routine items are placed on the Consent Agenda to expedite the meeting. If a Planning & Zoning Board Member wishes to discuss any item, the procedure is as follows: (1) Pull the item(s) from the Consent Agenda; (2) Vote on the remaining item(s); and (3) Discuss each pulled item and vote.

1. Consideration and Approval of the May 23, 2024, Planning and Zoning Board Meeting minutes.

PUBLIC HEARING

OLD BUSINESS

NEW BUSINESS

2. Consideration and Approval: **602 Napoli Way - Shed Placement**
3. Consideration and Recommendation: **Whispering Heights Final Subdivision Plan**
4. Discussion: **Review of Chapter 10 - Comprehensive Plan (Concurrency)**
5. Discussion: **Review of - Comprehensive Plan (Intergovernmental Coordination)**

PUBLIC COMMENTS
Any person wishing to address the Planning and Zoning Board and who is not on the agenda is asked to speak their name and address. Three (3) minutes is allocated per speaker.

BOARD COMMENTS

ADJOURNMENT

To Comply with Title II of the Americans with Disabilities Act (ADA):

Qualified individuals may get assistance through the Florida Relay Service by dialing 7-1-1. Florida Relay is a service provided to residents in the State of Florida who are Deaf, Hard of Hearing, Deaf/Blind, or Speech Disabled that connects them to standard (voice) telephone users. They utilize a wide array of technologies, such as Text Telephone (TTYs) and ASCII, Voice Carry-Over (VCO), Speech to Speech (STS), Relay Conference Captioning (RCC), CapTel, Voice, Hearing Carry-Over (HCO), Video Assisted Speech to Speech (VA-STS) and Enhanced Speech to Speech.

NOTICE: ONE OR MORE COUNCILORS MAY BE PRESENT TO HEAR OR PARTICIPATE IN DISCUSSION REGARDING MATTERS WHICH MAY COME BEFORE TOWN COUNCIL FOR ACTION.

Howey Town Hall is inviting you to a scheduled Zoom meeting.
Topic: **Planning & Zoning Board Meeting**
Time: **Jun 27, 2024 06:00 PM Eastern Time** (US and Canada)
Join Zoom Meeting
https://us06web.zoom.us/j/87495333660?pwd=TAIKbhzb6EXg1UMd2I73BkdkFWYtXJ.1
Meeting ID: 874 9533 3660
Passcode: 166968

Dial by your location
+1 646 558 8656 US (New York)
+1 720 707 2699 US (Denver)
+1 346 248 7799 US (Houston)
Meeting ID: 874 9533 3660
Passcode: 166968
Find your local number: https://us06web.zoom.us/u/kq5VSq07J

Please Note: In accordance with F.S. 286.0105: Any person who desires to appeal any decision or recommendation at this meeting will need a record of the proceedings, and that for such purposes may need to ensure that a verbatim record of the proceedings is made, which includes the testimony and evidence upon which the appeal is based. The Town of Howey-in-the-Hills does not prepare or provide this verbatim record. Note: In accordance with the F.S. 286.26: Persons with disabilities needing assistance to participate in any of these proceedings should contact Town Hall, 101 N. Palm Avenue, Howey-in-the-Hills, FL 34737, (352) 324-2290 at least 48 business hours in advance of the meeting.

TMH CONSULTING, INC.
Community Planning Services

TMHConsulting@cfl.rr.com
97 N. Saint Andrews Dr.
Ormond Beach, FL 32174
PH: 386.316.8426

MEMORANDUM

TO: Howey-in-the-Hills Planning Board
CC: J. Brock, Town Clerk
FROM: Thomas Harowski, AICP, Planning Consultant
SUBJECT: 602 Napoli Way Shed Variance
DATE: June 4, 2024

The applicant at 602 Napoli Way is requesting relief from the Town's location requirements for sheds. Section 5.01.09 K of the land development code allows the Planning Board to grant relief if conditions warrant. The code language is as follows:

> K. The Planning Board may approve the placement of a shed in another location on the subject property based upon a finding that a location complying with Subsections B and C above is not practical due to specific site conditions such as steep slopes, tree preservation, site access limitations or other conditions that the Planning Board finds relevant. In no case shall the Planning Board approve a shed location in any front yard. This section is not intended to prohibit a property owner from seeking variance to the code using the procedures set forth in Chapter 4.

This application is the second waiver request from the property owner at this location. In July 2022, the applicant requested a waiver for a 120 square foot shed to be located to the side of the house as shown in the survey submitted with that application. According to the Lake County Property Appraiser records the shed actually located on the property is 130 square feet. The application for the waiver for the first shed was to preserve trees planted behind the house. The Planning Board at that time granted the waiver.

The application before the Board is to approve a second shed located in the far southwestern corner of the property as shown on the survey document submitted with the application. The requested shed size is 12 x 16 or 192 square feet. At this size, the shed is required to be painted to match the primary house color. The survey submitted with the application does not show the initial shed, but a review of the aerial photos for the property clearly show the shed as the only accessory structure. Single-family residences are permitted to have a maximum of two accessory structures, so the second shed would be allowed. In the application, the property owner does not state any reason for requesting the waiver, but presumably the grounds for the waiver would be to avoid removal of the trees behind the residence. Tree preservation is one of the conditions

listed as a qualifying consideration. The trees are relatively new additions having been planted to meet the Town's landscape requirements.

The property is fully enclosed with a 6-foot-high fence which is also shown on the survey submittal. The fence will mitigate most of the visual impact of the shed to residences in the cul-de-sac. The subject property borders Revels Road on the south with the planned Watermark subdivision located opposite the property. There is a small, landscaped buffer along the south fence line, and the Watermark subdivision would provide a landscaped buffer as well. The proposed location as shown on the survey places the proposed shed outside the recorded drainage and utility easements. This placement should allow adequate room to maintain the shed, fence, and grounds.

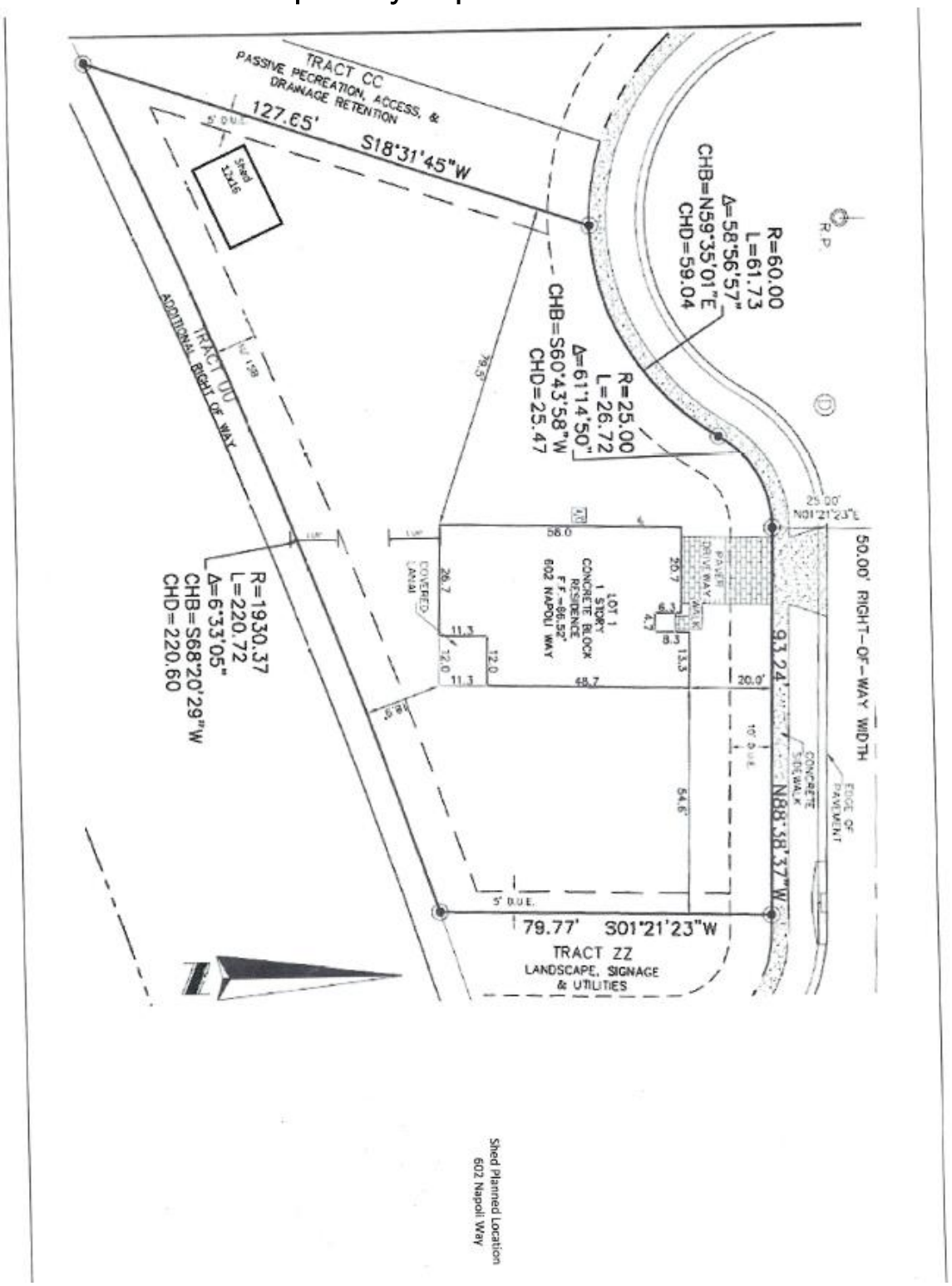
Factors to Consider

- In 2022 the Planning Board found sufficient evidence to grant the waiver, and the lot conditions remain the same today.
- The proposed shed placement will preserve the platted easements and allow adequate area for maintenance of structures and grounds.
- The proposed shed size in excess of 144 square feet requires the shed to be painted the same color as the primary house color.
- The proposed site for the shed is reasonably screened from adjacent properties and nearby homes.
- The second shed will max out the opportunity for additional accessory structures on the parcel.
- While not enforced by the Town, the applicant should be aware that approval for the shed may also be required by the Venezia Property Owners Association.
- The applicant's calculation of impervious area in the application appears to be too small. The application claims lot coverage at 11.5% with the second shed. Our calculation based on the available data is 15.4% but still below the maximum lot coverage threshold.
- The property owner should review the Property Appraiser's records and verify they are correct for the site. Information in the records appears to be different than what is on the ground according to the aerial photos.

602 Napoli Way Location Map

602 Napoli Way Aerial View

602 Napoli Way Proposed Shed Location



Shed Planned Location
602 Napoli Way

TOWN OF HOWEY-IN-THE-HILLS, FLORIDA

GENERAL LAND DEVELOPMENT APPLICATION

101 N. Palm Avenue, Howey-in-the-Hills, Florida 34737
Phone: (352) 324-2290 • Fax: (352) 324-2126

Date Received: Application ID: Received By:

REQUESTED ACTION

- ☐ Comp Plan Amendment
- ☐ PUD
- ☐ Conditional Use
- ☐ Land Development Code Text
- ☐ Variance
- ☐ Rezoning
- ☐ Subdivision Minor
- ☒ Other — Shed Placement
- ☐ Site Plan (check one below)
  - ☐ Preliminary
  - ☐ Final
- ☐ Subdivision (check one below)
  - ☐ Preliminary Subdivision
  - ☐ Final Subdivision
  - ☐ Final Plat

Describe Request: Shed Assembly (kit)

APPLICANT INFORMATION:

Name: James Mazzaro
E-Mail: Jmazzaro32712@gmail.com
Address: 602 Napoli Way
Phone: _____ Fax: 407-625-6233

☑ Owner ☐ Agent for Owner ☐ Attorney for Owner

OWNER INFORMATION:

Name: Same
E-Mail: _____
Address: _____
Phone: _____
_____
Fax: _____

PROPERTY INFORMATION:

Address: 602 Kapoli Way

General Location: _____

Current Zoning: _____ Current Land Use: _____

Parcel Size: Tax Parcel #:

Legal Description Attached ☐ Yes ☐ No Survey Attached ☐ Yes ☐ No

Pre-Application Meeting Date: _____
(Attach Pre-Application Form)

Application Fee: $_____

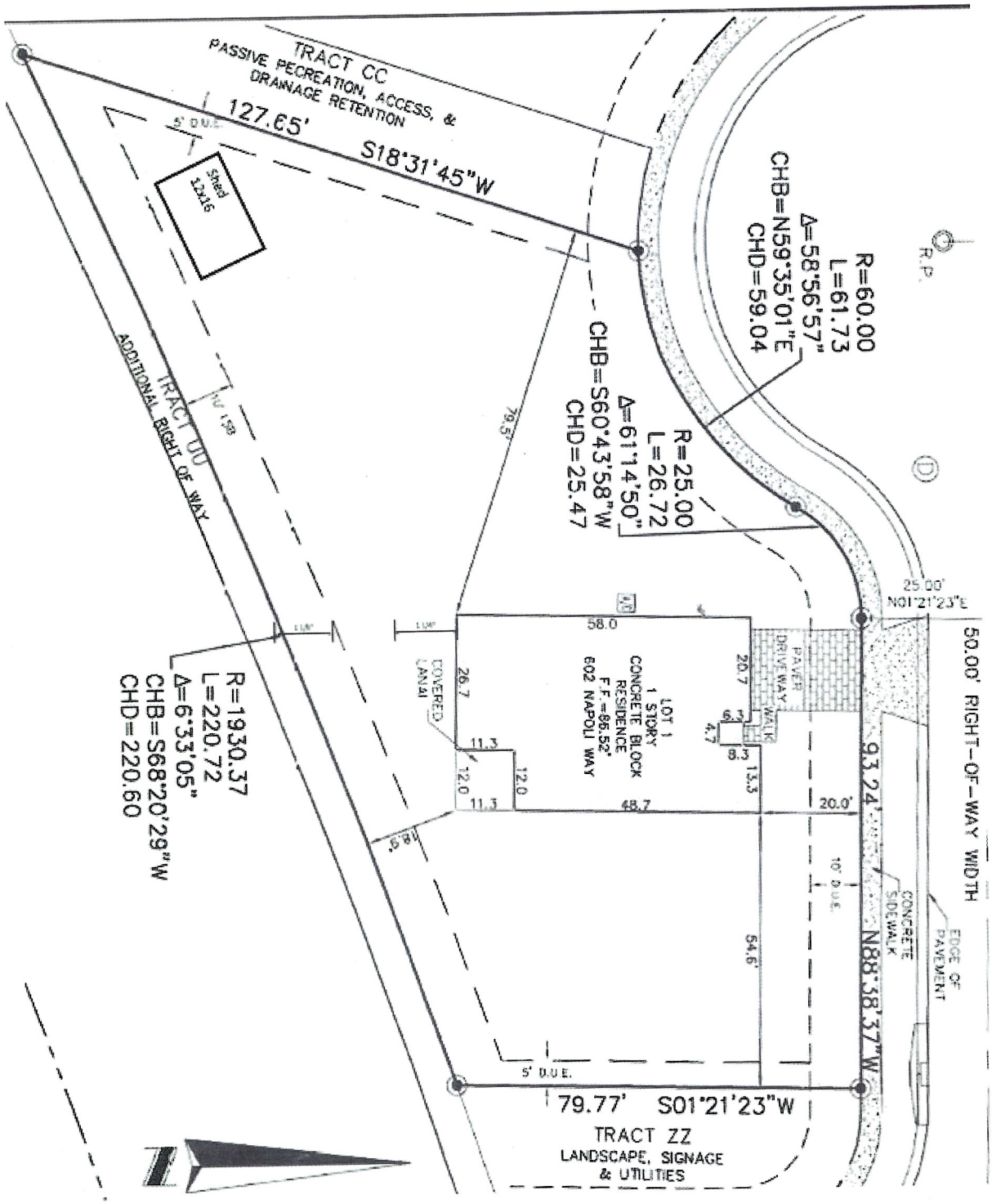
Applicant's Signature: _____ 5/17/24
(Signature) *(Date)*

Jane Mazzeo
(Print)

Owner's Signature: _____ _____
(Provide letter of Authorization) *(Signature)* *(Date)*

_____
(Print)

Applications must be complete to initiate the review process.



Shed Planned Location
602 Napoli Way

IMPERVIOUS SURFACE RATIO WORKSHEET

IMPERVIOUS SURFACE means a surface that has been compacted or covered with a layer of material so that it is highly resistant to or prevents infiltration by stormwater. It includes surfaces such as compacted limerock, or clay, as well as most conventionally surfaced streets, roofs, sidewalks, parking lots and other similar surfaces.

IMPERVIOUS SURFACE RATIO (ISR) means a measure of the intensity of hard surfaced development on a site. An impervious surface ratio is the relationship between the total impervious surface area on a site and the gross land area. The ISR is calculated by dividing the square footage of the area of all impervious surfaces on the site by the square footage of the gross land area.

LOT AREA: The area included within the lot lines of the lot. No public right-of-way shall be included in the calculation of the lot area.

OWNER NAME(S): James Mazzaro

CONTRACTOR NAME: N/A

JOB SITE ADDRESS: 602 Napoli Way
Howey in the Hills, FL 34737

EXISTING IMPERVIOUS SURFACES:

Building footprint:	1,600	SQ. FT.
Parking & Drive areas:	200	SQ. FT.
Pool & Patio areas:	400	SQ. FT.
Walkways:	10	SQ. FT.
Other:	120	SQ. FT.
TOTAL EXISTING IMPERVIOUS SURFACE:	2,330	SQ. FT.

2,330 ÷ 21,780 = 11 %

Total Existing Impervious Surface ÷ **Lot Area** = **Existing Impervious Surface %**

PROPOSED IMPERVIOUS SURFACES:

Building footprint:	1,600	SQ. FT.
Parking & Drive areas:	200	SQ. FT.
Pool & Patio areas:	400	SQ. FT.
Walkways:	10	SQ. FT.
Other:	312	SQ. FT.
TOTAL PROPOSED IMPERVIOUS SURFACE:	2,522	SQ. FT.

2,522 ÷ 21,780 = 11.5 %

Total Proposed Impervious Surface ÷ **Lot Area** = **Proposed Impervious Surface %**

I, James Mazzaro, certify that the calculations submitted above for the Impervious Surface Ratio are accurate and complete.

Applicant Name: JAMES Mazzaro

Signature: [signature] Date: 1/18/24

To Schedule An Inspection Email:
inspectiorequest@alpha-inspections.net

HOWEY-IN-THE-HILLS PERMIT APPLICATION

Permit Number:

Alternate Key Number	Parcel Number	Project Address	602 Napoli Way
		Project Description	Shed Install

...r's Name	Mailing Address	City, State, Zip	Telephone
Jans Mazzeo	602 Napoli Way	Howey in the 34737	407-625-6235

Email Address: JMAZZ0032712@gmail.com

Fee Simple Titleholder's Name	Mailing Address	City, State, Zip	Telephone
602 Napoli Way	Howey in the Hills, FL 34737		

General Contractor	Mailing Address	City, State, Zip	Telephone
NONE			

Email Address: State License Number:

Construction Contractor	Mailing Address	City, State, Zip	Telephone

Email Address: State License Number:

Electrical Contractor	Mailing Address	City, State, Zip	Telephone

Email Address: State License Number:

Plumbing Contractor	Mailing Address	City, State, Zip	Telephone

...l Address: State License Number:

...C Contractor	Mailing Address	City, State, Zip	Telephone

Email Address: State License Number:

Roofing Contractor	Mailing Address	City, State, Zip	Telephone

Email Address: State License Number:

Gas Contractor	Mailing Address	City, State, Zip	Telephone

Email Address: State License Number:

Legal Description	
Bonding Company	
Bonding Company Address	
Architect's Name	
Architect's Address	

Job Name:

Project Information		Subdivision Name	Lot No.	Phase	
		Venezia South	1		
Zone	Lot Area	Setbacks (ft)	Front	Rear	Side	Corner

Project (check one)		Area		Electrical	Hvac		Water (check one)	
...w		Living		Service Size	Type		Municipal	
...ration		Garage					Well	
Addition		Porch(s)			Efficiency		Plumbing (check one)	
Repair		Other			Airhandler		Sewer	
Other		Total			Condenser		Septic	

END OF PAGE 1 OF 2

Attached / Detached	X	Job Value	4,600	7th Edition Florida Building Code

Signature of Applicant _____ Date 1/18/24

WARNING TO OWNER: Your failure to record a Notice of Commencement may result in your paying twice for improvements to your property. If you intend to obtain financing, consult with your lender or an attorney before recording your Notice of Commencement. The issuance of a building permit does not assure the building setbacks have been met or that the structure does not encroach on an easement. The owner and/or contractor have the sole responsibility of determining compliance with setbacks and non-encroachment of easements. If the Town of Howey In The Hills determines the structure does not meet applicable setbacks or improperly encroaches on an easement, the owner is responsible for moving the structure, restoring the easement to its original condition, or otherwise making the structure comply with Town setbacks and other land use requirements. Permits expire 6 months after issuance.

The foregoing instrument was acknowledged before me this 19th day of January, 20 24, by James Michael Mazzaro who is personally known to me or has produced FLDL as identification and who did ✓ or did not ____ take an oath.

(Seal) Notary Public _____

Notary Public State of Florida
Chiragkumar Patel
My Commission HH 297066
Expires 8/3/2026

TMH CONSULTING, INC.
Community Planning Services

TMHConsulting@cfl.rr.com
97 N. Saint Andrews Dr.
Ormond Beach, FL 32174
PH: 386.316.8426

MEMORANDUM

TO: Howey-in-the-Hills Planning Board
CC: J. Brock, Town Clerk
FROM: Thomas Harowski, AICP, Planning Consultant
SUBJECT: Whispering Heights Final Subdivision Plan
DATE: June 14, 2024

The applicant is seeking approval of the final subdivision plan for the Whispering Heights single-family subdivision. For many years the project went under the name of Whispering Hills. The subdivision is located on Buckhill Road at the bend east of Lakeshore Drive and consists of 156 lots supported by other subdivision improvements. The project does have frontage on Little Lake Harris. The project has received preliminary subdivision approval which essentially fixes the plan for roads, lots, retention areas and similar subdivision improvements to meet the standards of the MDR-2 zoning classification. The final subdivision approval will allow the applicant to initiate construction of subdivision improvements.

Project Summary

The project is designated Medium Density Residential on the future land use map and zoned MDR-2. Unlike some of the recent projects considered by the board, this project does not have development agreement governing the development. The project is guided by the standards for MDR-2 zoning and the requirements of the land development code. As noted above the basic street and lot layout was fixed with the preliminary subdivision plan, but some of the project highlights are provided here.

- All of the homes will be single-family dwellings
- The predominant lot size is 75 feet by 120 feet but the lots fronting on the lake are larger with lot widths at 100 feet.
- The project will be served by Town water and sewer, with both services brought to the site from Lakeshore Drive area.
- Ladnscape irrigation will be drawn from the wet retention pond with the option to draw water from Little Lake Harris if necessary. This approach has been cleared through the water management district.

- The project does include some park areas including one park area at the lake front.

- The project will extend sidewalk along the frontge with Buckhill Road and along Buckhill Road to connect to Lakeshore Drive.

- The project will be a gated development with private roads including two access points with Buckhill Road.

- The project will include a screening wall and landscaped buffer along Buckhill Road.

Final Subdivision Design

The final subdivision design is a technical review of the engineering to ensure the project meets the Town code and good design standards. The final subdivision design is compared with the preliminary subdivision plan to verify the final plan is consistent with the preliminary design. The plans were reviewed several times with the Development Review Committee followed by a series of exchanges between the Town's engineer and the applicant's design engineer to work through design details. The review was complicated by the need to include off-site construction to connect the proejct to the Town's water and sewer system as well as design considerations generated by the relatively steep slope extending from Buckhill Road to Little Lake Harris. The Town engineer has certified that the plan set meets the Town requirements, but approval needs to be conditioned on a couple of actions.

1. The plan for sewer is to use a force main to connect the project to the lift station on the school board property. The Town and the School district have worked out the terms of an easement to allow the connection, but the easement still needs to be finalized and recorded.

2. The Central Florida Community Development district has provided the applicant with a letter stating their willingness and ability to serve the project. The applicant still needs to pay the necessary fees to reserve the actual treatment capacity.

3. The applicant will need to provide current permits for stormwater treatment facilities, utility construction, and connection to Buckhill Road.

TMH CONSULTING, INC.
Community Planning Services

Tom@TMHConsultingInc.com
97 N. Saint Andrews Dr.
Ormond Beach, FL 32174
PH: 386.316.8426

MEMORANDUM

TO: Howey-in-the-Hills Planning Board
CC: J. Brock, Town Clerk
FROM: Thomas Harowski, AICP, Planning Consultant
SUBJECT: Whispering Heights Final Subdivision Plan Supplemental
DATE: June 20, 2024

This report is a supplemental report to the report dated June 17, 2024. Additional analysis of the subdivision status has identified that the concurrency assessment for schools is not current. The School District has responded to my inquiry that the concurrency assessment is current and valid for 107 units. When the project size was increased to 156 units, the added units were not vetted for school concurrency. Staff recommends the Planning Board add the update to school concurrency as a condition of approval. The applicant will need to make an application for concurrency review to the School District for the additional units. The application should be filed prior to consideration of the application by Town Council.

FINAL CONSTRUCTION PLANS FOR WHISPERING HEIGHTS

Howey-in-the-Hills, Florida

PROJECT DESCRIPTION (PROPOSED IMPROVEMENTS)

- CONSTRUCTION OF A NEW 156 LOT RESIDENTIAL SUBDIVISION WITH CONNECTION TO PUBLIC SEWER AND WATER

FLOOD CERTIFICATE:

- ZONE "X" & "AE" PER FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NO. 12069C0485E, dated:12/18/2012

BEARING BASIS

- THE COORDINATE AND BEARING STRUCTURE FOR THIS SURVEY IS BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83), 1990 ADJUSTMENT. HORIZONTAL CONTROL STATION UTILIZED WAS NATIONAL GEODETIC SURVEY (NGS) FIRST (1ST) ORDER CONTROL STATION "LC 06".

General Notes:
1. Stormwater Retention Areas to be Owned & Maintained by HOA.
2. All Streets are Private. Private Streets are in Tract "D"
3. All signage shall comply with City Codes
4. Electrical Power will be provided by underground service.
5. All Recreation and Landscape Tracts shall be maintained by HOA.
6. All sidewalks not fronting single family lots and all sidewalk ramps shall be installed during road construction.
7. All extra recreational area improvements are shown for reference. Actual implementation is contingent upon results of a market study.
8. Based upon the results of market research to be done, the developer may elect to replace traditional telephone, cable, and internet services with a multi-purpose fiber optic service.
9. Construction Operating Hours 7:00 AM - 6:00 PM

Utility Contacts

Drinking Water
Howey-in-the-Hills
101 N Palm Ave
Howey-in-the-Hills, Fl 34737
Ph (352) 324-2264

Sewage Disposal
Howey-in-the-Hills
101 N Palm Ave
Howey-in-the-Hills, Fl 34737
Ph (352) 324-2264

Garbage Disposal
Howey-in-the-Hills
101 N Palm Ave
Howey-in-the-Hills, Fl 34737
Ph (352) 324-2264

Fire Protection
Lake County Fire Rescue
315 W Main Street
Tavares, Florida 32778
Ph (352) 343-9458

Electric
Sumter Electric
330 S US Highway 301
Sumterville, Florida 33585
Ph (352) 357-5600

Gas
TECO Peoples Gas
600 W Robinson St
Orlando, FL 32801
Ph (407) 425-4662

Communications Options
Phone
Sprint
PO Box 770339
Winter Garden, Florida 34777
Ph (407) 814-5246
Fx (407) 814-5320

Cable
Spectrum
1670 E Highway 50 Suite D
Clermont, Florida 34711
Ph (352) 394-5541

Fiber Optic
Centurylink
33 N Main Street
Winter Garden, Florida
Ph (407) 814-5271

Description: Project Limits
A portion of Government Lots 5 and 6, in Section 36, Township 20 South, Range 25 East, Lake County, Florida,

more particularly described as follows:

Commence at the Southwest corner of the Southeast ¼ of Section 36, Township 20 South, Range 25 East, Lake County, Florida; thence coincident with the South Boundary of said Southeast ¼, S 89°50'08" E a distance of 32.76 feet to a point on the East Right-of-way Boundary of Buckhill Road per OSPREY HEIGHTS-PHASE 1A, as recorded in Plat Book 33, Page 66 of the public records of Lake County, Florida, said point being the POINT OF BEGINNING; thence departing said South Boundary, coincident with said East Right-of-way Boundary and the Northerly extension thereof, N 00°36'32" E a distance of 2184.33 feet; thence N 47°09'43" E a distance of 28.30 feet; thence N 31°02'11" E a distance of 24.81 feet; thence N 86°55'48" E a distance of 40.31 feet; thence N 55°05'08" E a distance of 38.19 feet; thence S 71°01'20" E a distance of 52.29 feet; thence N 64°09'46" E a distance of 61.62 feet; thence S 79°41'54" E a distance of 70.94 feet; thence N 60°39'33" E a distance of 110.96 feet; thence N 36°52'01" E a distance of 91.94 feet; thence N 13°52'52" W a distance of 29.71 feet; thence N 14°17'52" W a distance of 61.64 feet; thence N 06°23'22" E a distance of 30.93 feet; thence N 16°45'59" E a distance of 28.88 feet; thence S 86°22'27" E a distance of 91.79 feet; thence N 45°57'51" E a distance of 66.74 feet; thence S 55°54'12" E a distance of 29.18 feet; thence S 70°43'29" E a distance of 52.36 feet; thence N 89°10'11" E a distance of 183.00 feet; thence N 82°49'33" E a distance of 87.24 feet; thence N 69°29'41" E a distance of 52.88 feet; thence S 00°53'22" W a distance of 108.93 feet to a point coincident with a non-tangent curve concave to the Southwest, said curve having a radius of 46.00 feet, a delta angle of 38°39'48" and being subtended by a chord bearing S 56°23'48" E for a distance of 30.46 feet; thence coincident with the arc of said curve a distance of 31.04 feet; thence S 70°02'13" E a distance of 36.99 feet; thence N 66°26'02" E a distance of 104.12 feet; thence N 16°19'52 E a distance of 108.8 feet, more or less, to the waters edge of Little Lake Harris; thence Southerly coincident with the waters edge of Little Lake Harris to the Northeast corner of the lands described in Official Records Book 1775, Page 275 of the Public Records of Lake County, Florida; thence departing said waters edge, coincident with the North Boundary of said lands for the following five (5) courses: 1.) N 84°17'12" W a distance of 269.90 feet; 2.) thence N 88°21'36" W a distance of 293.43 feet; 3.) thence S 89°30'46" W a distance of 224.96 feet; 4.) thence S 84°47'04" W a distance of 179.68 feet; 5.) thence N 89°13'45" W a distance of 421.93 feet to a point on the West Boundary of said lands; thence departing said North Boundary, coincident with said West Boundary, S 09°31'29" W a distance of 636.42 feet to a point on the aforementioned South Boundary of the Southeast ¼ of said Section 36; thence coincident with said South Boundary, N 89°51'03" W a distance of 112.96 feet to the POINT OF BEGINNING.

Containing an area of 2651920.89 square feet, 60.880 acres more or less.

Location Plan

STR – 36/20/25	Scale: N.T.S
Alt Key: 3564219	

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C5	Subdivision Layout Plan - South	5/3/2023
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SL2	Site Lighting Photometrics - South	9/19/2022
SL3	Site Lighting Details	9/19/2022
W1	Perimeter Wall Plan	9/19/2022
L100-L301	Landscape Plans	9/19/2022
L300-L318	Irrigation Plans	9/19/2022
---	Boundary Survey	9/19/2022
---	Project Limits Survey	9/19/2022
---	Topographic Survey	9/19/2022
---	Off-Site Route Survey 1	9/5/2023
---	Off-Site Route Survey 2	9/5/2023

Development Information

Gross Acreage	60.88 ac (2,651,933 sf)
Wetlands Area	1.25 ac (54,355 sf)
Net Acreage	59.63 Ac (2,597,578 sf)
Current Zoning	MDR-2
Future Land Use	Medium Density Residential
Maximum Density	4.0 DU/net acreage
Proposed Lakefront	20 Lots
Proposed Pond Front	8 Lots
Proposed Standard	128 Lots
Total Number of lots	156 Lots
Proposed Density	2.62 DU/Net Acre
Minimum Lot Area	9,000 sf
Minimum Lot Width	75' minimum
Code Min. Living Area	1,200 sf (Under Heat & Air) Plus 400 sf Min Garage
Developer intention	2,500 sf (average)
Maximum Height	35' feet (2.5 stories)
Max ISR	0.50
Minimum Setbacks	
Front:	25'
Rear:	25'
Side:	12.5'
Side Street:	12.5'
Phasing	Multi-Phase Project
Open Space	25% Required open space
Project Traffic	1,474 Avg daily trips
Projected School Age Population	156 units x 0.404 = 63 students
Stormwater Management	Provide Retention system per City & SJRWMD Regulations
100 yr Flood	Flood zone X & AE Per 12069C0485E, dated:12/18/2012
Projected Fire Flow	Final fire flow provided to site to be determined by final design of off-site water distribution system
Utilities	
Sewer:	Howey-in-the-Hills
Water:	Howey-in-the-Hills

Open Space Calculation
Required 25% of Gross land Area - 15.22 Ac

Provided Open Space

Category	Area
Recreation Tracts	1.58 Ac
Stormwater Tract	9.18 Ac
Wetlands area	1.25 Ac
Open Space in ROW	2.55 Ac
Landscape Buffers	1.17 Ac
Common Open Space	15.73 Ac (25.8%)
Lot Open Space	18.92 Ac
Total Open Space	34.65 Ac (56.9%)

Impervious Areas

Lots 37.84 Ac @ 50%	18.92 Ac
Roads (9,592 lf)	5.28 Ac
Entry Tract	0.27 Ac
Walks (5' Wide)	1.76 Ac
Total Impervious	26.23 Ac (43.1%)
Open Space	34.65 Ac (56.9%)
Total	60.88 Ac (100.0%)

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DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

Darcy Unroe PE 60929

COV

G - General

G1. These notes shall apply to all work in this set of drawings.
G2. It will be the responsibility of the contractor(s) to insure that all required permits are obtained and are in hand at the job site prior to the commencement of construction. Contractors shall abide by all conditions contained therein. It is the contractors sole responsibility to ensure that all construction is in accordance with local agencies codes, regulations and requirements.
G3. Prior to commencement, the contractor shall provide a construction schedule for various site work elements so that site visits may be coordinated.
G4. Contractor shall furnish the owner with accurate certified record drawings showing all as-constructed work at the of completion of construction. The surface water system shall include elevations and dimensions of control structures, weirs, inverts, manholes and volumes in storage ponds. Water and sewer system shall include location of all piped utilities, appurtenances and devices, elevations of manhole inverts, tops and pipe crossings. Drawings shall be certified by a Florida-registered land surveyor.
G5. Structure elevations controlling water levels shall be built to 1/8"± (0.01 ft); inverts and water control elevations shall be built to 1/4"± (0.02 ft). Assigned volumes are absolute minimums. All other tolerances shall be built to local jurisdiction or industry standards.
G6. The locations of all existing utilities and storm drainage shown on plans have been field verified to the best extent possible. However, it is the contractor's responsibility to verify the field locations of all underground utilities and to determine any possible conflicts prior to the start of any construction. Any delay or inconvenience to the contractor by the relocation of the various utilities shall be incidental to the contract and no extra compensation is allowed.
G7. The contractor shall immediately notify the engineer of any discrepancies found between the drawings and the field conditions prior to construction in the area impacted by the conflict.
G8. In accordance with Florida Law (553.851) the contractor must notify the gas or other utility a minimum of 48 hours and a maximum of five days prior to excavation. (Excluding weekends).
G9. All requirements and recommendations of inspection personnel other than the owner's shall be reported to the engineer/owner prior to implementation. Compensation will not be allowed for work which is not authorized by the engineer/owner in writing.
G10. All work shall be open to and subject to inspection by authorized personnel of the utility companies, project engineer and regulatory agencies.
G11. Contractor shall notify all appropriate utility companies and water management agencies of proposed start up.
G12. Contractor shall stake all improvements using the centerline, building dimensions and pond dimensions. Contractor shall confirm the building dimensions with the drawings prior to stakeout. It is the contractors sole responsibility to completely stake and check all improvements to ensure adequate positioning, both horizontal and vertical, including minimum building setbacks prior to the installation of any improvement. Any conflicts shall be brought to the attention of the EOR prior to construction
13. All work on public right-of-way shall comply with FDOT applicable indexes and all local jurisdiction regulations. Disturbed areas shall be compacted to design density and sodded. Signs and barricades per FDOT and Manual of Uniform Traffic Control Devices.
G14. All sidewalks and curb cuts shall be installed to meet the requirements of the ADA and Florida Accessibility Code. Specifically, no running slopes greater than 5.0% and not cross slopes greater than 2.0%. All curb ramps shall be constructed per standard FDOT indexes unless specifically noted otherwise.
G15. Compact all utility trenches within the top 2' of the roadway to 98% of the modified proctor density (AASHTO T-180). All other fill shall be compacted to 95% of maximum density.
G16. Recommendations of the Geotechnical Report are made part of the specifications and notations and shall be followed carefully. A copy of the report may be obtained from the Owner or Engineer.
G17 The concrete compressive strength for curb, gutter and flatwork shall be 3000 psi at 28 days (FDOT Class I). Provide concrete test cylinders and documentation.
G18. The contractor shall reference and restore property corners and land markers disturbed during construction (under the direction of a Florida registered land surveyor).
G19. All property affected by this work shall be restored to a condition equal to or better than existed unless specifically exempted by the plans. The cost for such restoration shall be incidental to other construction and no extra compensation will be allowed.
G20. Roadway markings and striping to be installed in accordance with FDOT index #17345 and local jurisdiction standards. Striping shall be coordinated with local jurisdiction standards.
G21. If seal coat is required on new pavement, temporary striping will be required until seal coat is applied (90 day curing time is required.)
G22. Prior to implementation, the contractor shall prepare a maintenance of traffic plan. The MOT plan shall conform to FDOT and local jurisdiction standards.

EXISTING UTILITIES
THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN THE CONVENIENCE OF THE CONTRACTOR THE ENGINEER ASSUMES NO RESPONSIBILT Y FOR THEIR ACCURACY. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, IT SHALL BE THE CONTRACTOR' S RESPONSIBILITY TO NOTIFY THE VARIOUS UTILITIES AND TO MAKE THE NECESSARY ARRANGEMENTS FOR ANY RELOCATIONS TO THESE UTILITIES WITH THE OWNER OF THE UTILITY. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN CROSSING AN UNDERGROUND UTILITY, WHETHER SHOWN ON THE PLAN OR LOCATED BY THE UTILITY COMPANY. ALL UTILITIES THAT INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE RELOCATED BY THE RESPECTIVE UTILITY COMPANY AND THE CONTRACTOR SHALL COOPERATE WITH THEM DURING RELOCATION OPERATIONS. ANY DELAY OR INCONVENIENCE CAUSED TO THE CONTRACTOR BY THE RELOCATION OF VARIOUS UTILITIES SHALL BE INCIDENTAL TO THE CONTRACT, AND NO EXTRA COMPENSATION WILL BE ALLOWED.

DRAINAGE SYSTEMS
THE CONTRACTOR SHALL PERFORM ALL WORK PERTAINING TO DRAINAGE INCLUDING EXCAVATION OF STORMWATER POND PRIOR TO THE COMMENCEMEN TOF OTHER WORK INCLUDED IN THESE PLANS. THE DRAINAGE FACILITIES SHALL BE MAINTAINED BY THE CONTRACTOR DURING THE COURSE OF THIS CONTRACT. THE CONTRACTOR SHALL INCLUDE FUNDS IN THE DRAINAGE COSTS OF THE CONTRACT TO OPERATE AND MAINTAIN THE DRAINAGE SYSTEMS DURING THE WORK PROCESS. ANY REQUIRED DE-SILTING OF THE STORMWATER MANAGEMENT SYSTEM SHALL BE COMPLETED PRIOR TO FINAL APPROVAL BY EOR

PERMITS AND PERMIT REQUIREMENTS
THE CONTRACTO RSHALL OBTAIN FROM THE OWNER COPIES OF ALL REGULATOR YAND LOCAL AGENCY PERMITS. THE CONTRACTOR SHALL BE EXPECTED TO REVIEW AND ABIDE BY ALL THE REQUIREMENT S AND LIMITATIONS SET FORTH IN THE PERMITS. A COPY OF THE PERMIT SHALL BE KEPT ON THE JOB AT ALL TIMES.

LAYOUT AND CONTROL
UNLESS OTHERWISE NOTED ON THE PLANS, THE CONTRACTOR SHALL PROVIDE FOR THE LAYOUT OF ALL THE WORK TO BE CONSTRUCTED. BENCHMARK INFORMATION SHALL BE PROVIDED TO THE CONTRACTOR BY THE OWNER OR OWNER'S SURVEYOR. ANY DISCREPANCIES BETWEEN FIELD MEASUREMENTS AND CONSTRUCTION PLAN INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.

QUALITY CONTROL TESTING REQUIREMENTS
ALL TESTING RESULTS SHALL BE PROVIDED TO THE OWNER/OPERATOR AND THE ENGINEER. TESTING REQUIREMENT SARE TO BE IN ACCORDANC EWITH THE OWNER/OPERATOR 'SSPECIFICATION SAND REQUIREMENTS A LL TEST RESULTS SHALL BE PROVIDED (PASSING AND FAILING) ON A REGULAR AND IMMEDIATE BASIS. CONTRACTOR SHALL PROVIDE TESTING SERVICES THROUGH A FLORIDA LICENSED GEOTECHNICA LENGINEERING FIRM ACCEPTABL ETO THE OWNER AND THE ENGINEER. CONTRACTOR TO SUBMIT TESTING FIRM TO OWNER FOR APPROVAL PRIOR TO COMMENCING TESTING.

SHOP DRAWINGS
SHOP DRAWINGS AND CERTIFICATION SFOR ALL STORM DRAINAGE, WATER SYSTEM, SEWER SYSTEM AND PAVING SYSTEM MATERIALS AND STRUCTURES ARE REQUIRED. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING THE MATERIALS REQUIRED FOR CONSTRUCTION.

EARTHWORK
EARTHWORK QUANTITIES
THE CONTRACTO RSHALL PERFORM HIS OWN INVESTIGATION SAND CALCULATION SAS NECESSARY TO ASSURE HIMSELF OF EARTHWORK QUANTITIES. THERE IS NO IMPLICATION THAT EARTHWORK BALANCES, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY IMPORT FILL NEEDED, OR FOR REMOVAL AND DISPOSAL OF EXCESS MATERIALS.

EROSION CONTROL
EROSION AND SILTRATION CONTROL MEASURES ARE TO BE PROVIDED AND INSTALLED PRIOR TO COMMENCEMENT OF CONSTRUCTION. IT IS THE SITE CONTACTORS RESPONSIBILITY TO OBTAIN FDEP NPDES NOI PRIOR TO ANY EARTHMOVING ACTIVITIES. THESE MEASURES ARE TO BE INSPECTED BY THE CONTRACTOR ON A REGULAR BASIS AND ARE TO BE MAINTAINED OR REPAIRED ON AN IMMEDIATE BASIS AS REQUIRED. REFER TO WATER MANAGEMEN TDISTRICT PERMIT FOR ADDITIONAL REQUIREMENTS FOR EROSION CONTROL AND SURFACE DRAINAGE. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE STABILIZED WITH SOD WITHIN 7 DAYS OF COMPLETION OF CONSTRUCTION. SOD SHALL BE THE SAME VARIETY OF EXISTING SOD LIMITS OF DISTURBANCE.

LIMITS OF DISTURBANCE
AT NO TIME SHALL THE CONTRACTOR DISTURB SURROUNDING PROPERTIES OR TRAVEL ON SURROUNDING PROPERTIES WITHOUT WRITTEN CONSENT FROM THE PROPERTY OWNER. REPAIR OR RECONSTRUCTIO NOF DAMAGED AREAS ON SURROUNDIN GPROPERTIES SHALL BE PERFORMED BY THE CONTRACTOR ON AN IMMEDIATE BASIS. ALL COSTS FOR REPAIRS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NO EXTRA COMPENSATIONS HALL BE PROVIDED. GRADING AND/OR CLEARING ON PROPERTIE SOTHER THAN SHOWN ON THE APPROVED PLANS IS PROHIBITED.

TREE REMOVAL
THE CONTRACTO RSHALL NOTIFY THE OWNER AND THE ENGINEER WHEN ALL WORK IS LAID OUT (SURVEY STAKED), SO THAT A DETERMINATION MAY BE MADE OF SPECIFIC TREES TO BE REMOVED. NO TREES ON THE CONSTRUCTIO NPLANS AS BEING SAVED SHALL BE REMOVED WITHOUT PERMISSION FROM THE OWNER AND ENGINEER.

CLEARING AND GRUBBING
THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEARING AND GRUBBING FOR SITE CONSTRUCTION INCLUDING CLEARING FOR PAVING, UTILITIES, DRAINAGE FACILITIES AND BUILDING CONSTRUCTION. ALL AREAS TO BE CLEARED SHALL BE FIELD STAKED AND REVIEWED BY THE OWNER AND/OR ENGINEER PRIOR TO ANY CONSTRUCTION.

MATERIAL STORAGE/DEBRIS REMOVAL
1. NO COMBUSTIBLE BUILDING MATERIALS MAY BE ACCUMULATED ON THE SITE AND NO CONSTRUCTION WORK INVOLVING COMBUSTIBLE MATERIALS MAY BEGIN UNTIL INSTALLATION OF ALL REQUIRED WATER MAINS AND FIRE HYDRANTS HAVE BEEN COMPLETED, DEP APPROVAL RECEIVED FOR THE WATER MAINS, AND THE HYDRANTS ARE IN OPERATION. CONSTRUCTION WORK INVOLVING NON-COMBUSTIBLE MATERIALS, SUCH AS CONCRETE, MASONRY AND STEEL MAY BEGIN PRIOR TO THE FIRE HYDRANTS BEING OPERATIONAL.
2. ALL MATERIA LS EXCAVATED SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL BE STOCKPILED AT ON-SITE LOCATIONS AS SPECIFIED BY THE OWNER ,MATERIALS SHALL BE STOCKPILED SEPARATEL YAS TO USABLE (NON-ORGANIC) FILL STOCKPILES AND ORGANIC (MUCK) STOCKPILES IF MUCK IS ENCOUNTERED C. ONTRACTO RSHALL BE RESPONSIBL EFOR THE REMOVAL OF ALL UNSUITABLE FILL MATERIALS FROM THE SITE. ALL CLAY ENCOUNTERED SHALL BE EXCAVATED OUT AND REPLACED WITH CLEAN GRANULAR FILL MATERIALS.

FILL MATERIAL
ALL MATERIALS SHALL CONTAIN NO MUCK, STUMPS, ROOTS ,BRUSH ,VEGETATIVE MATTER ,RUBBISH OR OTHER MATERIAL THAT WILL NOT COMPACT INTO A SUITABLE AND ENDURING BACKFILL .FILL SHALL BE CLEAN ,NON-ORGANIC G, RANULAR MATERIAL WITH NOT MORE THAN 10% PASSING THE NO. 200 SIEVE.

COMPACTION
FILL MATERIALS PLACED UNDER ROADWAYS SHALL BE COMPACTED TO AT LEAST 98% OF THE MAXIMUM DENSITY AS SPECIFIED IN AASHTO T-180. ALL OTHER FILL AREAS ARE TO BE COMPACTED TO AT LEAST 95% MAXIMUM DENSITY AS SPECIFIED IN AASHTO T-180. FILL MATERIALS SHALL BE PLACED AND COMPACTED IN A MAXIMUM OF 12" LIFTS. THE CONTRACTOR SHALL PROVIDE THE ENGINEER AND OWNER WITH ALL (PASSING AND FAILING) TESTING RESULTS. RESULTS SHALL BE PROVIDED ON A TIMELY AND REGULAR BASIS PRIOR TO CONTRACTOR'S PAY REQUEST SUBMITTAL FOR THE AFFECTED WORK.

PAVEMENT AND/OR ROAD AND RIGHT-OF-WAY WORK
GENERAL DESIGN INTENT
ALL PAVING SURFACES IN INTERSECTION SAND ADJACENT SECTIONS SHALL BE GRADED TO DRAIN POSITIVELY IN THE DIRECTION SHOWN BY THE FLOW ARROWS ON THE PLANS AND TO PROVIDE A SMOOTHLY TRANSITIONED DRIVING SURFACE FOR VEHICLES WITH NO SHARP BREAKS IN GRADE, AND NO UNUSUALLY STEEP OR REVERSE CROSS SLOPES. APPROACHES TO INTERSECTION SAND ENTRANCE AND EXIT GRADES TO INTERSECTION SWILL HAVE TO BE STAKED IN THE FIELD AT DIFFERENT GRADES THAN THE CENTERLINE GRADES TO ACCOMPLISH THE PURPOSES OUTLINED. IN ADDITION, THE STANDARD CROWN WILL HAVE TO BE CHANGED IN ORDER TO DRAIN POSITIVELY IN THE AREA OF INTERSECTIONS. IT IS THE CONTRACTOR' SRESPONSIBILIT YTO ACCOMPLISH THE ABOVE AND THE ENGINEER SHALL BE CONSULTED SO THAT HE MAY MAKE ANY AND ALL REQUIRED INTERPRETATION OSF THE PLANS OR GIVE SUPPLEMENTAR YINSTRUCTION TO ACCOMPLISH THE INTENT OF THE PLANS.

MATERIALS/CONSTRUCTION SPECIFICATIONS
MATERIALS AND CONSTRUCTION METHODS FOR THE ROADWAY CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION LATEST EDITION.

PAVEMENT SECTION REQUIREMENTS
CONSTRUCTION OF ROADWAY, SUBGRADE PREPARATION, AND PAVEMENT INSTALLATION SHALL CONFORM TO FDOT STANDARDS AND SOILS REPORT RECOMMENDATIONS UNLESS OTHERWISE NOTED IN THE CONSTRUCTION DOCUMENTS.

SIDEWALKS
SIDEWALKS ARE TO BE CONSTRUCTED IN THE AREA AS SHOWN ON THE CONSTRUCTION PLANS. SIDEWALK SHALL BE CONSTRUCTED OF 4 INCHES OF CONCRETE WITH A 28 DAY COMPRESSION STRENGTH OF 2500 PSI. JOINTS SHALL BE EITHER TOOLED OR SAWCUT AT A DISTANCE OF 5' LENGTHS, HANDICAPPED RAMPS SHALL BE PROVIDED AT ALL INTERSECTION SAND BE IN ACCORDANCE WITH STATE REGULATIONS FOR HANDICAP ACCESSIBILITY. ALL CROSS SLOPES SHALL BE LESS THAN 2.0% AND RUNNING SLOPES SHALL BE LESS THAN 5.0%

PAVEMENT MARKINGS/SIGNAGE
PAVEMENT MARKINGS AND SIGNAGE SHALL BE PROVIDED AS SHOWN ON THE CONSTRUCTION PLANS AND SHALL MEET THE REQUIREMENTS OF THE OWNER/OPERATOR. SIGNAGE SHALL BE IN CONFORMANC EWITH MUTCD (LATEST EDITION). A 48-HOUR PAVEMENT CURING TIME WILL BE PROVIDED PRIOR TO APPLICATION OF THE PAVEMENT MARKINGS. REFLECTIVE PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH FDOT INDEX NO. 17352.

TRAFFIC CONTROL
WHERE APPLICABLE A MOT PLAN SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO COMMENCEMEN OTF WORK. A MINIMUM OF 2-WAY, ONE LANE TRAFFIC SHALL BE MAINTAINED IN THE WORK SITE AREA. ALL CONSTRUCTION WARNING SIGNAGE SHALL BE IN PLACE PRIOR TO COMMENCEMEN TOF CONSTRUCTION AND BE MAINTAINED THROUGHOU TCONSTRUCTION. ACCESS SHALL BE CONTINUOUSLY MAINTAINED FOR ALL PROPERTY OWNERS SURROUNDIN GTHE WORK SITE AREA. LIGHTED WARNING DEVICES ARE TO BE OPERATIONAL PRIOR TO DUSK EACH NIGHT DURING CONSTRUCTION.

CURBING
CURBING SHALL BE CONSTRUCTED WHERE NOTED ON THE CONSTRUCTION PLANS. CONCRETE FOR CURBS SHALL BE DEPARTMENT OF TRANSPORTATION CLASS "1" CONCRETE WITH A 28 DAY COMPRESSION STRENGTH OF 2500 PSI. ALL CURBS SHALL HAVE SAW CUT CONTRACTION JOINTS AND SHALL BE CONSTRUCTED AT INTERVALS NOT TO EXCEED 10'-0" ON CENTER. CONSTRUCTION OF CURBS SHALL BE IN CONFORMANCE WITH FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SECTION 520 AND DETAILS PROVIDED ON THE CONSTRUCTION PLANS.

ROW RESTORATION
ALL AREAS WITHIN THE RIGHT-OF-WAY SHALL BE FINISH GRADED WITH A SMOOTH TRANSITION INTO EXISTING GROUND. ALL SWALES SHALL BE STABILIZED IMMEDIATEL YAFTER FINAL GRADING. ALL DISTURBED AREAS SHALL BE RAKED CLEAN OF ALL LIMEROCK AND ROCKS AND SODDED AFTER FINAL GRADING IN ACCORDANCE WITH THE CONSTRUCTION PLANS PRIOR TO FINAL INSPECTION. ALL GRASSING (SOD) SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL FINAL ACCEPTANCE BY THE OWNER/OPERATOR.

SITE ACCESS
ALL ACCESS TO THE JOB SITE FOR CONSTRUCTION AND RELATED ACTIVITIES SHALL BE BY EXISTING STREETS AND ROADS.

LANDSCAPING
PROVIDE MINIMUM 5' SEPARATION FROM UTILITIES AND TREES WITH INVASIVE ROOT SYSTEMS.

WATER PIPE MATERIALS
WATER SYSTEM SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER AND SHALL MEET THE LOCAL JURISDICTION MINIMUM REQUIREMENTS.

POLYVINYL CHLORIDE PLASTIC PIPE (PVC) 4" THROUGH 12" SHALL BE MANUFACTURED IN ACCORDANCE WITH ANSI/AWWA C900 (LATEST EDITION) AND SHALL HAVE A MINIMUM WORKING PRESSURE OF 150 PSI AND A DR (DIMENSION RATIO) OF 18. ALL PVC PIPE SHALL BEAR THE NSF LOGO FOR POTABLE WATER. JOINTS SHALL BE OF THE PUSH-ON TYPE AND COUPLINGS CONFORMING TO ASTM D3139, DR18 PIPE.

DUCTILE IRON PIPE (DIP) SHALL BE STANDARD PRESSURE CLASS 350 IN SIZES 4" THROUGH 12" AND CONFORM TO ANSI/AWWA C150/A21.50 (LATEST EDITION). ALL DUCTILE IRON PIPE SHALL HAVE A STANDARD THICKNESS OF CEMENT MORTAR LINING AS SPECIFIED IN ANSI/AWWA C104/A21.4 (LATEST EDITION). PIPE JOINTS SHALL BE OF THE PUSH-ON RUBBER GASKET TYPE CONFORMING TO ANSI/AWWA C111/A21.11 (LATEST EDITION).

PIPE DETECTOR WITH LOCATOR WIRE SHALL BE INSTALLED ON ALL WATER MAINS PER DETAIL. PIPE SIZES GREATER THAN 12" SHALL BE SEPARATELY SPECIFIED ON THE PLANS; WITH THICKNESS CLASSES TO BE SHOWN BASED ON WORKING PRESSURES, PIPE DEPTH AND TRENCH CONDITIONS F. ITTINGS FOR DUCTILE IRON PIPE AND PVC C-900 PIPE SHALL BE DUCTILE IRON AND SHALL CONFORM TO ANSI/AWWA C153/A21.10 (LATEST EDITION) AND SHALL BE CEMENT LINED IN CONFORMANCE WITH ANSI/AWWA C104/A21.4 (LATEST EDITION).

POLYETHYLEN EWRAP USED FOR CORROSION PREVENTION ON DUCTILE IRON PIPE SHALL CONFORM TO THE REQUIREMENT SOF ANSI/ASTM D1248, THE MINIMUM NOMINAL THICKNESS SHALL BE 0.008 IN. (8 MILS). INSTALLATION OF POLY WRAP SHALL BE IN ACCORDANCE WITH AWWA C105. TRANSMISSION MAIN SHALL BE DIP RATED FOR 250 PSI.

VALVES
GATE VALVES SHALL BE RESILIENT SEAT AND SHALL CONFORM TO ANSI/AWWA C509.87 WITH WRENCH NUT, EXTENSION STEMS AND OTHER APPURTENANCE SAS REQUIRED. MANUFACTURER 'SCERTIFICATIO NOF THE VALVES COMPLIANC EWITH AWWA SPECIFICATIO NC509 AND TESTS LISTED THEREIN WILL BE REQUIRED. VALVES SHALL BE CLOW, DRESSER, KENNEDY, AMERICAN.

AIR RELEASE VALVES
AIR RELEASE VALVES SHALL BE PLACED AT HIGH POINTS OF THE TRANSMISSION MAIN TO PERMIT ESCAPE OF TRAPPED AIR. THE VALVE SIZE, LOCATION AND METHOD OF INSTALLATIO NSHALL BE INDICATED ON THE DRAWINGS, OR AS DIRECTED BY THE ENGINEER. AIR RELEASEVALVES SHALL BE CRISPN PRESSURE AIR VALVE TYPE.

WATER SERVICES
UNLESS OTHERWISE NOTED IN THE PLANS, THE UTILITY COMPANY SHALL PROVIDE AND INSTALL WATER METERS. CONTRACTOR SHALL CONSTRUCT WATER SERVICE THROUGH THE CURB STOP AND SET METER BOXES TO FINISHED GRADE AS SHOWN ON THE WATER SYSTEM DETAIL SHEET.

POLYETHYLENE (PE) PRESSURE PIPE FOR WATER SERVICES 1/2" THROUGH 3" SHALL CONFORM TO AWWA C901.88,MIN. 200 PSI. AND SHALL BE PHILLIPS DRISCO CTS 5100 (DR-9) ASTM D-2737 ,200 PSI. ALL SERVICES SHALL INCLUDE THE FOLLOWING: LOCKING CURB STOPS, WYE BRANCHES, UNIONS AS REQUIRED, PE SERVICE PIPE AND CORPORATION STOPS. THE SERVICE SHALL BE COMPLETE THROUGH THE CURB STOP AS SHOWN ON THE DETAIL SHEET AND SHALL BE OF THE TYPE REQUIRED FOR COMPATIBILITY WITH THE SERVICE LINES SPECIFIED AND FITTINGS SHALL BE MANUFACTURED BY FORD.

WHERE APPLICABLE - UNLESS OTHERWISE NOTED IN PLANS, UTILITY COMPANY SHALL PROVIDE AND INSTALL IRRIGATION METERS. WHERE RECLAIM SERVICE IS NOT PROVIDED, CONTRACTOR SHALL CONSTRUC TIRRIGATION SERVICE THROUGH THE CURB STOP AND SET NEW BOXES TO FINISHED GRADE AS SHOWN ON THE WATER SYSTEM DETAIL SHEET.

PIPE INSTALLATION
PIPE INSTALLATIO NOF PVC WATER MAIN SHALL BE IN CONFORMANC EWITH ASTM D2774 (LATEST EDITION) .INSTALLATION OF DUCTILE IRON PIPE WATER MAIN SHALL BE IN CONFORMANCE WITH AWWA C600.87.

COMPACTED BACKFILL SHALL BE TO 98% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180 UNDER ALL PAVEMENTS WITH 12" MAXIMUM LIFT THICKNESS .OTHER COMPACTION OF BACKFILL SHALL BE TO 95% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180 WITH 12" MAXIMUM LIFT THICKNESS. SEE PIPE TRENCHING DETAILS.

MINIMUM COVER OVER ALL PIPE SHALL BE 36" FROM TOP OF PIPE TO FINISHED GRADE. SEE PLAN AND PROFILE SHEETS FOR REQUIRED DEPTH.

NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY- OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY- OR VACUUM-TYPE SANITARY SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, AND PREFERABLY 12 INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE. AT THE UTILITY CROSSINGS DESCRIBED ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY- OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

ALL WATER MAINS SHALL BE INSTALLED WITH CONCRETE THRUST BLOCKS.
ALL PLUGS, CAPS, TEES, BENDS, FIRE HYDRANTS, VALVES, ETC. SHALL BE MECHANICAL JOINT FITTINGS.

Item 3.

#	Date	Description
		Revisions
#	Date	Description
		Revisions

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Business Authorization Number - EB 00006579 ph (407) 299-0650

Specifications & Notations

WHISPERING HEIGHTS Subdivision
Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
----	Scale
09-07-21	Date
WH2-SPC	File

Dwg. No.
SPC
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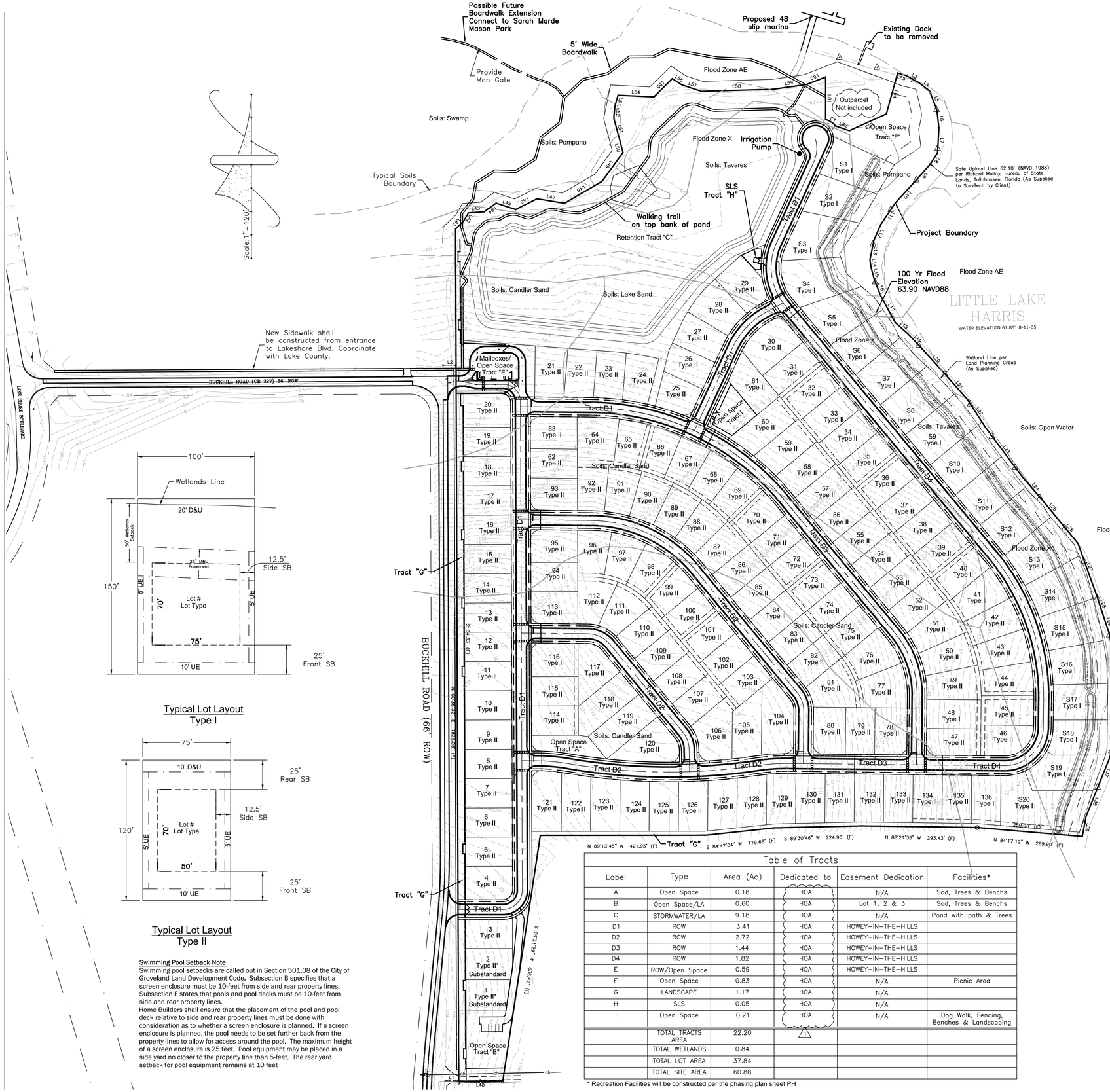
DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

Darcy Unroe PE 60929



Typical Lot Layout Type I

Typical Lot Layout Type II

Swimming Pool Setback Note

Swimming pool setbacks are called out in Section 501.08 of the City of Groveland Land Development Code. Subsection B specifies that a screen enclosure must be 10-feet from side and rear property lines. Subsection F states that pools and pool decks must be 10-feet from side and rear property lines.
Home Builders shall ensure that the placement of the pool and pool deck relative to side and rear property lines must be done with consideration as to whether a screen enclosure is planned. If a screen enclosure is planned, the pool needs to be set further back from the property lines to allow for access around the pool. The maximum height of a screen enclosure is 25 feet. Pool equipment may be placed in a side yard no closer to the property line than 5-feet. The rear yard setback for pool equipment remains at 10 feet

Legend

- Catch Basin
- Mitered End Section
- Manhole
- Cleanout
- Hydrant
- Ex. Elevation (× 100.00)
- New Pavement
- New Concrete
- Silt Fence
- Waterline
- Storm Sewer
- Sanitary Sewer
- New Elevation (• 100.00)

Project Boundary Line/Curve Table

Curve Information: Field

CURVE	RADIUS	ARC LENGTH	CHORD BEARING	CHORD LENGTH	DELTA ANGLE	TANGENT
C1	46.00'	31.04'	S 56°23'48" E	30.46'	38°39'48"	16.14'

Line Information: Field

LINE	BEARING	DISTANCE
L1	S 89°50'08" E	32.76'
L2	N 89°36'12" W	33.26'
L3	S 59°21'44" E	39.46'
L4	S 51°48'39" E	32.32'
L5	S 20°06'30" E	52.66'
L6	S 05°48'50" E	46.69'
L7	S 04°14'38" W	63.65'
L8	S 33°26'19" W	33.87'
L9	S 42°12'38" W	63.00'
L10	S 43°27'07" W	70.97'
L11	S 34°38'41" W	66.78'
L12	S 24°34'08" W	43.64'
L13	S 12°12'12" W	51.72'
L14	S 07°46'34" E	19.89'
L15	S 14°19'43" E	34.15'
L16	S 21°00'25" E	43.53'
L17	S 27°45'01" E	76.71'
L18	S 47°28'28" E	45.18'
L19	S 42°26'57" E	51.56'
L20	S 41°22'02" E	87.92'
L21	S 40°24'32" E	86.99'
L22	S 32°00'05" E	82.70'
L23	S 35°51'18" E	158.38'
L24	S 39°44'36" E	86.83'
L25	S 38°30'16" E	48.41'
L26	S 38°37'19" E	88.55'
L27	S 18°50'58" E	150.83'
L28	S 17°00'24" E	31.36'
L29	S 17°24'59" E	66.00'
L30	S 06°59'58" E	62.36'
L31	S 04°11'13" E	110.04'
L32	S 04°23'45" E	41.16'
L33	S 04°33'28" W	36.78'
L34	S 14°23'11" W	7.18'
L35	S 20°10'10" W	13.99'
L36	S 17°31'58" W	50.58'
L37	S 22°56'32" W	68.25'
L38	S 22°36'49" W	91.03'
L39	S 11°13'03" W	51.32'

Line Information: Field

LINE	BEARING	DISTANCE
L40	N 89°51'03" W	112.96'
L41	N 47°09'43" E	28.30'
L42	N 31°02'11" E	24.81'
L43	N 86°55'48" E	40.31'
L44	N 55°05'08" E	38.19'
L45	S 71°01'20" E	52.29'
L46	N 64°09'46" E	61.62'
L47	S 79°41'54" E	70.94'
L48	N 60°39'33" E	110.96'
L49	N 36°52'01" E	91.94'
L50	N 13°52'52" W	29.71'
L51	N 14°17'52" W	61.64'
L52	N 06°23'22" E	30.93'
L53	N 16°45'59" E	28.88'
L54	S 86°22'27" E	91.79'
L55	N 45°57'51" E	66.74'
L56	S 55°54'12" E	29.18'
L57	S 70°43'29" E	52.36'
L58	N 89°10'11" E	183.00'
L59	N 82°49'33" E	87.24'
L60	N 69°29'41" E	52.88'
L61	S 00°53'22" W	108.93'
L62	S 70°02'13" E	36.99'
L63	N 66°26'02" E	104.12'
L64	N 16°19'52" E	108.8'±
L65	S 72°51'43" E	22.57'

Line Information: Deed

LINE	BEARING	DISTANCE
L66	N 89°17'20" E	146.00'

Lot Characteristic Table

Lot	Frontage	Depth	Area (ac)	Building Envelope	Lot	Frontage	Depth	Area (ac)	Building Envelope	Lot	Frontage	Depth	Area (ac)	Building Envelope
1	80.9	102.4	0.2	60'x53'	60	75	148.4	0.27	50'x85'	119	75	163.5	0.28	50'x70'
2	80.4	114.9	0.22	60'x66'	61	75	115.2	0.23	50'x68'	120	114.7	164	0.28	65'x60
3	79.2	120.5	0.21	55'x70'	62	75	120	0.21	55'x70'	121	75	151.1	0.27	50'x70'
4	85	121.2	0.24	60'x70'	63	82.5	120	0.22	55'x70'	122	75	139.8	0.25	50'x70'
5	75	121.1	0.21	50'x70	64	108.2	120	0.28	50'x70'	123	75	132	0.23	50'x70'
6	75	121.1	0.21	50'x70'	65	82.9	113.2	0.21	45'x65'	124	75	127.6	0.22	50'x70'
7	75	121	0.21	55'x70	66	82.8	119	0.2	45'x65'	125	75	127	0.22	50'x70'
8	75	120.8	0.21	50'x70'	67	82.8	119	0.2	45'x65'	126	75	0.27	0.22	50'x70'
9	75	120.8	0.21	50'x70'	68	82.8	119.2	0.2	45'x65'	127	75.3	127.7	0.22	50'x70'
10	75	120.8	0.21	50'x70'	69	89	119.7	0.21	45'x65'	128	75.1	127.7	0.22	50'x70'
11	75	120.7	0.21	50'x70'	70	84.6	120	0.22	50'x70'	129	75	128.4	0.22	50'x70'
12	75	120.6	0.21	50'x70'	71	75	120	0.21	50'x70'	130	75	125.9	0.22	50'x70'
13	75	120.5	0.21	50'x70'	72	75	120	0.21	50'x70'	131	75	123.4	0.21	50'x70'
14	75	120.5	0.21	50'x70'	73	75	120	0.21	50'x70'	132	75	122.8	0.21	50'x70'
15	75	120.4	0.21	50'x70'	74	75	120	0.21	50'x70'	133	75	123.1	0.21	50'x70'
16	75	120.3	0.21	50'x70'	75	75	120	0.21	50'x70'	134	75	123.1	0.21	50'x70'
17	75	120.2	0.21	50'x70'	76	108.5	120.1	0.25	50'x70'	135	75	123.4	0.21	50'x70'
18	75	120.1	0.21	50'x70'	77	116.5	120.3	0.27	50'x70'	136	75	123.6	0.22	50'x70'
19	75	120.1	0.21	50'x70'	78	82.5	120	0.22	50'x75'	51	101.8	210.6	0.45	70'x68'
20	85.8	120.1	0.23	60'x70'	79	75	120	0.21	50'x70'	52	105.4	202.6	0.4	65'x68'
21	75.2	125.9	0.23	50'x70'	80	93.1	120	0.22	50'x75'	53	137.4	202.6	0.45	75'x35'
22	75.2	121.1	0.21	50'x70'	81	51.1	120	0.26	48'x68'	54	129	204.2	0.43	80'x55'
23	75	120.1	0.21	50'x70'	82	75	120	0.21	50'x70'	55	123.7	179.5	0.4	60'x55'
24	75	120.1	0.24	50'x65'	83	75	120	0.21	50'x70'	56	100	169.7	0.35	60'x48'
25	94.2	120	0.22	50'x70'	84	75	120	0.21	50'x70'	57	100	169.7	0.4	75'x50'
26	75	120	0.21	50'x70'	85	75	120	0.21	50'x70'	58	100	175.6	0.41	75'x50'
27	76.1	120.7	0.21	50'x70'	86	75	120	0.21	50'x70'	59	100	171.8	0.41	75'x50'
28	74.9	120	0.25	50'x70'	87	69.8	120	0.21	50'x70'	510	100	165.5	0.39	75'x50'
29	73.7	120	0.27	50'x70'	88	64.9	120	0.21	45'x65'	511	100	162	0.37	75'x45'
30	82.4	135	0.29	50'x85'	89	64.9	120	0.21	45'x65'	512	100	162	0.37	75'x45'
31	75	135	0.23	50'x85'	90	64.9	120	0.21	45'x65'	513	93.3	162.6	0.42	75'x55'
32	75	135	0.23	50'x85'	91	64.9	120	0.21	45'x65'	514	90	157.1	0.38	65'x50'
33	75	135	0.23	50'x85'	92	69.1	120	0.21	45'x65'	515	88.3	157.1	0.37	67'x50'
34	75	135	0.23	50'x85'	93	82.5	120	0.22	50'x75'	516	88.5	159.6	0.37	67'x45'
35	75	135	0.23	50'x85'	94	75	120	0.21	50'x70'	517	90	159.6	0.34	65'x50'
36	75	135	0.23	50'x85'	95	82.5	120	0.23	50'x75'	518	81.7	164.9	0.34	65'x35'
37	75	135	0.23	50'x85'	96	87.5	120	0.21	48'x68'	519	75	172.8	0.38	50'x55'
38	75	135	0.23	50'x85'	97	92.9	120	0.21	48'x68'	520	62.3	151.3	0.58	50'x30'
39	75	135	0.23	50'x85'	98	92.9	120	0.21	48'x68'	Subtotal	3,282	lf	11.85	ac
40	75	135	0.23	50'x85'	99	83.4	120	0.21	48'x68'					
41	93.5	135	0.25	50'x65'	100	75	120	0.21	50'x70'					
42	86.1	135	0.23	45'x70'	101	75	120	0.21	50'x70'	Total	12,277	lf	37.82	ac
43	86.1	135	0.23	45'x70'	102	75	120	0.21	50'x70'					
44	86.1	135	0.23	45'x70'	103	75	120	0.21	50'x70'					
45	77.9	135	0.24	50'x85'	104	93.2	174.6	0.32	50'x70'					
46	78.6	135	0.22	35'x41'	105	75.7	121.4	0.26	50'x65'					
47	68.5	139	0.23	45'x85'	106	95	121.4	0.28	50'x65'					
48	75	139	0.24	50'x85'	107	75	120	0.21	50'x70'					
49	60	139	0.24	45'x70'	108	75	120	0.21	50'x70'					
50	60	136.4	0.24	43'x70'	109	75	120	0.21	50'x70'					
51	60	135.5	0.25	45'x70'	110	75	120	0.21	50'x70'					
52	75	135	0.23	50'x85'	111	52.5	120	0.22	48'x68'					
53	75	135	0.23	50'x85'	112	52.5	120	0.22	48'x68'					
54	75	135	0.23	50'x85'	113	82.5	120	0.22	50'x70'					
55	75	135	0.23	50'x85'	114	75	120	0.21	50'x70'					
56	75	135	0.23	50'x85'	115	75	120	0.21	50'x70'					
57	75	135	0.23	50'x85'	116	85	120	0.23	55'x70'					
58	75	137.6	0.23	50'x85'	117	112.7	139.1	0.24	45'x50'					
59	75	137.6	0.23	50'x85'	118	75	139.1	0.28	50'x70'					
Subtotal	4,414	lf	13.13	ac	Subtotal	4,592	lf	12.84	ac					

Table of Tracts

Label	Type	Area (Ac)	Dedicated to	Easement Dedication	Facilities*
A	Open Space	0.18	HOA	N/A	Sod, Trees & Benchs
B	Open Space/LA	0.60	HOA	Lot 1, 2 & 3	Sod, Trees & Benchs
C	STORMWATER/LA	9.18	HOA	N/A	Pond with path & Trees
D1	ROW	3.41	HOA	HOWEY-IN-THE-HILLS	
D2	ROW	2.72	HOA	HOWEY-IN-THE-HILLS	
D3	ROW	1.44	HOA	HOWEY-IN-THE-HILLS	
D4	ROW	1.82	HOA	HOWEY-IN-THE-HILLS	
E	ROW/Open Space	0.59	HOA	HOWEY-IN-THE-HILLS	
F	Open Space	0.83	HOA	N/A	Picnic Area
G	LANDSCAPE	1.17	HOA	N/A	
H	SLS	0.05	HOA	N/A	
I	Open Space	0.21	HOA	N/A	Dog Walk, Fencing, Benches & Landscaping
	TOTAL TRACTS AREA	22.20	1		
	TOTAL WETLANDS	0.84			
	TOTAL LOT AREA	37.84			
	TOTAL SITE AREA	60.88			

* Recreation Facilities will be constructed per the phasing plan sheet PH

Item 3.

Revisions			
		9/19/22	Town Comm
1			

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 0000679 ph (407) 299-0650

Overall Subdivision Plan

WHISPERING HEIGHTS Subdivision
Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
1"=130'	Scale
09-07-21	Date
WH2-C1	File

Dwg. No.
C1
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DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

Darcy Unroe PE 60929

Phase Hatching

- Phase I
- Phase II
- Phase III
- Phase IV
- Phase V

Note:
Phasing refers to infrastructure construction and platting of lots/roads in individual phases.

Item 3.

#	Date	Description

Revisions

#	Date	Description
1	9/19/22	Town Comm

Revisions

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 00006579 ph (407) 299-0650

Construction Phasing Plan

WHISPERING HEIGHTS Subdivision
Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
1"=120'	Scale
09-07-21	Date
WH2-C2	File

Dwg. No.
C2

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DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

Darcy Unroe PE 60929

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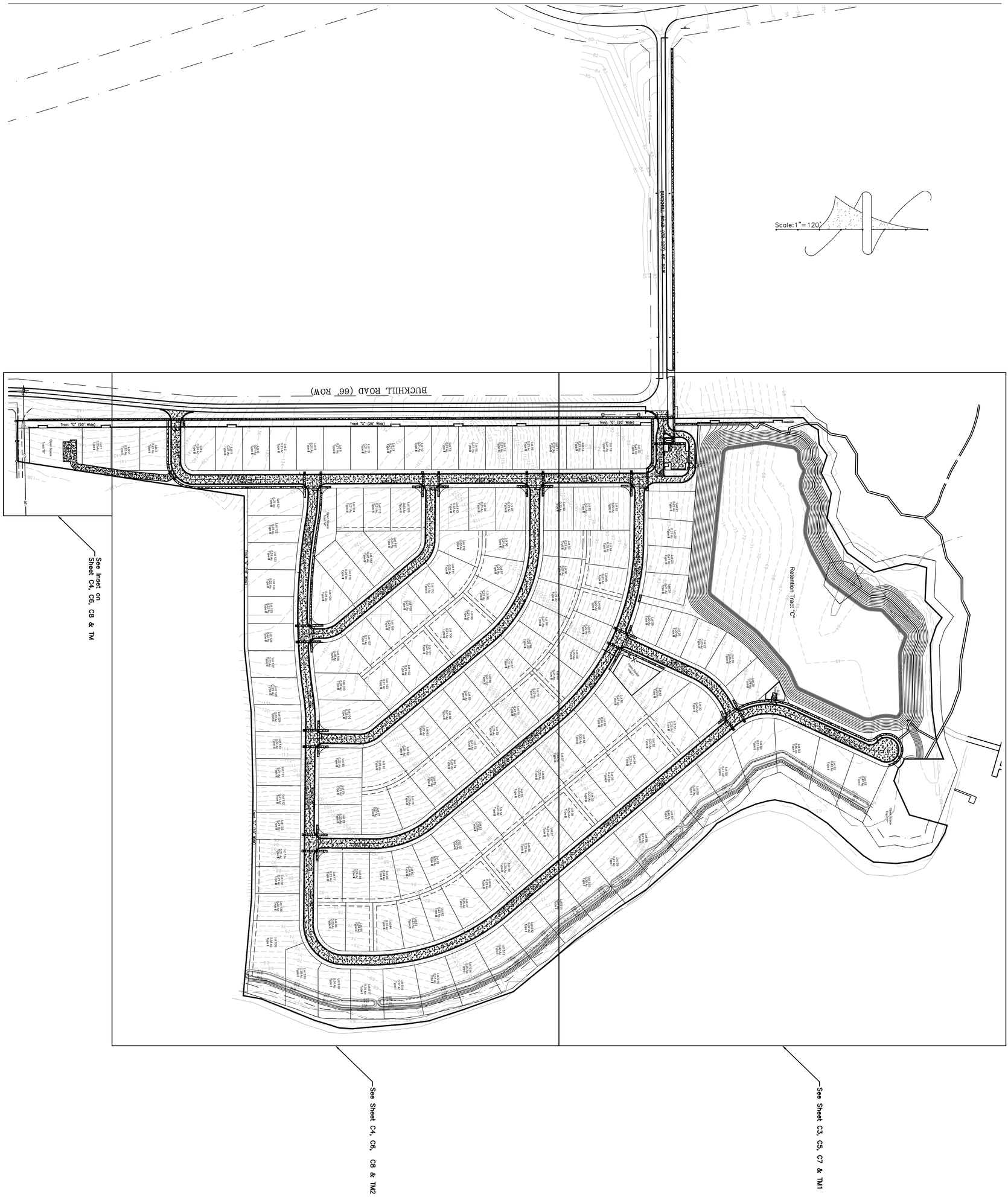

Darcy Unroe PE 60929

Subdivision Key Plan

WHISPERING HEIGHTS Subdivision

Buckhill Road, Howey-in-the-Hills, Florida

Unroe Engineering, Inc

Civil Engineering/Planning/Scientific Evaluation

PO Box 690942, Orlando, Fl 32869-0942

Business Authorization Number - EB 00006579 ph (407) 299-0650

Drawn	DP
Checked	DP
Scale	1"=130'
Date	09-07-21
File	WH2-C3
Dwg. No.	C3

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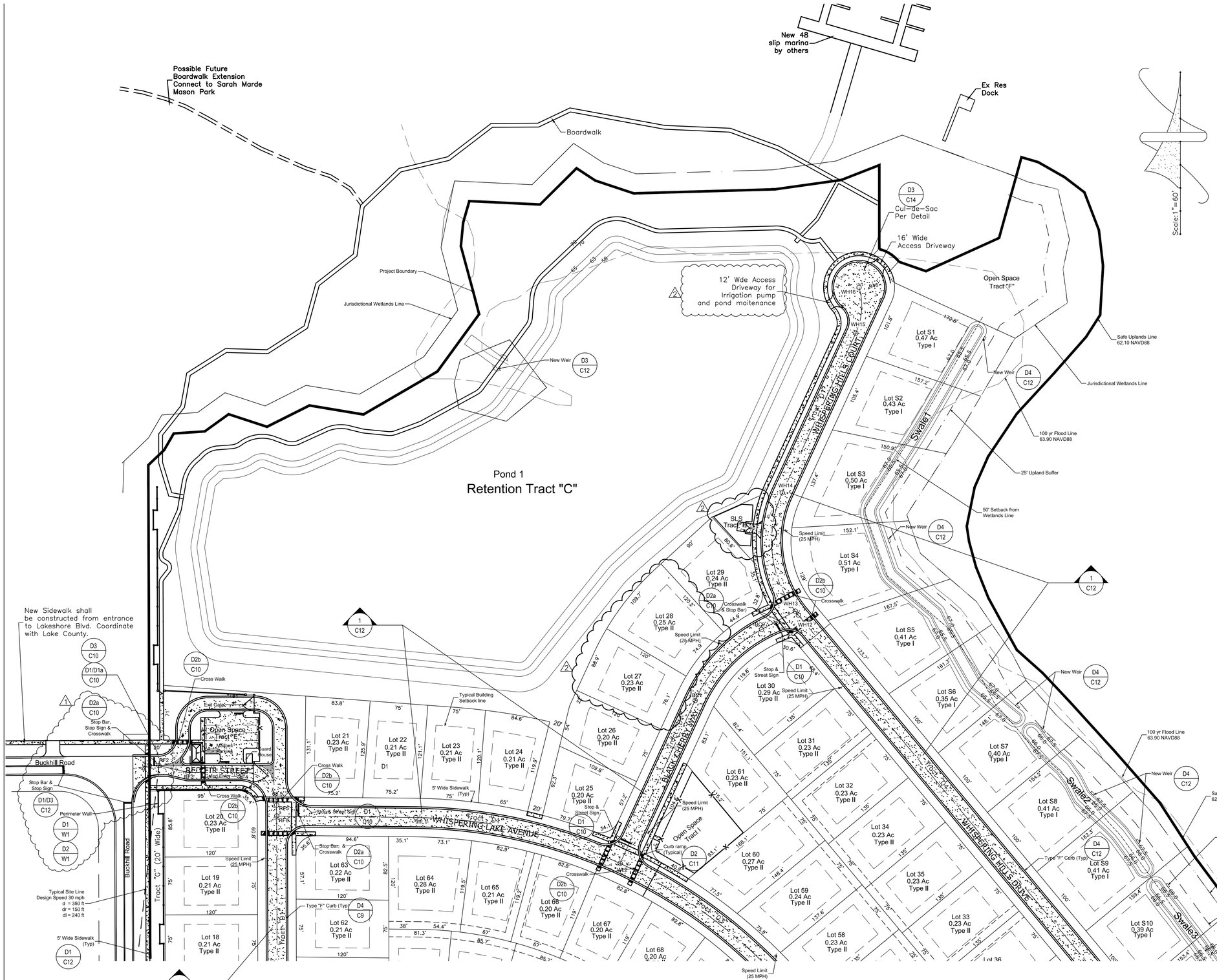
Revisions #	Date	Description

Revisions #	Date	Description

Item 2.

21



Centerline of Road Distances, Bearings & Radii

RED FIR STREET

From	To	Distance	Bearing	Radius
RF1	RF2	12.56	N 89d46'46" E	
RF2	RF3	38.57	N 76d43'37" W	
RF3	RF4	71.89	S 89d46'40" W	
RF4	RF5	60.81	S 45d13'20" E	43.00
RF5	RF6	14.12	S 0d13'20" E	
RF6	RF7	290.03	S 0d13'20" E	
RF7	RF8	209.03	S 0d13'20" E	
RF8	RF9	327.03	S 0d13'20" E	
RF9	RF10	331.12	S 0d13'20" E	
RF11	RF12	114.66	S 89d53'30" E	

WHISPERING LAKE AVENUE

From	To	Distance	Bearing	Radius
RF6	WL1	180.50	S 89d23'48" E	
WL1	WL2	271.53	S 77d20'29" E	650.00
WL2	WL3	287.62	S 52d30'14" E	650.00
WL3	WL4	445.31	N 39d43'13" W	
WL4	WL5	172.34	S 19d33'30" E	250.00
WL5	WH7	176.34	S 0d36'14" W	

BLACK CHERRY WAY

From	To	Distance	Bearing	Radius
WL2	BC1	232.67	N 24d42'58" E	
BC1	BC2	125.99	N 43d4'28" E	200.00
BC2	WH13	49.83	N 61d25'59" E	

PINES PASSAGE ROAD

From	To	Distance	Bearing	Radius
RF7	PP1	180.94	S 89d23'48" E	
PP1	PP2	294.04	S 64d33'31" E	350.00
PP2	PP3	407.72	S 39d43'13" E	
PP3	PP4	51.70	S 19d33'30" E	75.00
PP4	WH6	134.11	S 0d36'14" W	

OSPRY WING WAY

From	To	Distance	Bearing	Radius
RF8	OW1	169.82	S 89d23'48" E	
OW1	OW2	63.01	S 64d33'31" E	75.00
OW2	OW3	290.82	S 39d43'13" E	
OW3	OW4	49.70	S 20d22'17" E	75.00
OW4	WH3	56.46	S 1d1'21" E	

WHISPERING HILLS DRIVE

From	To	Distance	Bearing	Radius
RF9	WH1	39.42	N 89d23'46" W	
WH1	WH2	78.65	S 84d53'6" E	500.00
WH2	WH3	312.56	S 86d7'24" E	1550.00
WH3	WH4	175.00	N 84d45'6" E	1550.00
WH4	WH5	78.65	N 86d5'34" E	500.00
WH5	WH6	38.18	N 89d23'46" W	
WH6	WH7	290.00	N 89d23'46" W	
WH7	WH8	224.00	N 89d23'46" W	
WH8	WH9	141.42	N 45d36'14" E	100.00
WH9	WH10	69.79	S 0d36'14" W	
WH10	WH11	396.38	N 19d33'30" W	575.00
WH11	WH12	830.21	S 39d43'13" E	
WH12	WH13	6.50	N 38d28'44" W	150.00
WH13	WH14	154.41	N 6d15'39" W	150.00
WH14	WH15	228.09	S 24d42'58" W	
WH15	WH16	59.57	N 4d4'31" E	

Sidewalk Note:
All sidewalks & curb ramps depicted on this plan shall be constructed at the time of the subdivision construction.

Item 3.

#	Date	Description
		Revisions
2	12/9/22	Town Comm
1	9/19/22	Town Comm
#	Date	Description
		Revisions

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 00006579 ph (407) 299-0650

Subdivision Layout Plan - North

WHISPERING HEIGHTS Subdivision
Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
1"=60'	Scale
09-07-21	Date
WH2-C4	File

Dwg. No.
C4
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DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER
Darcy Unroe PE 60929

BUCKHILL ROAD (66' ROW)

Buckhill Road (Improvements by County)

Tract "C" (20' Wide)

RED FIR STREET

PINES PASSAGE ROAD

WHISPERING LAKE AVENUE

WHISPERING HILLS DRIVE

OSPREY WING WAY

Tract "G" (10' Wide)

Tract "A" Open Space

Tract "B" Open Space

Tract "D1"

Tract "D2"

Tract "D3"

Tract "D4"

Swale3

Swale4

Scale:1" = 60'

Lot 1 0.20 Ac Type I

Lot 2 0.22 Ac Type I

Lot 3 0.21 Ac Type I

Lot 4 0.24 Ac Type II Secondary Entrance

Lot 5 0.21 Ac Type II

Lot 6 0.21 Ac Type II

Lot 7 0.21 Ac Type II

Lot 8 0.21 Ac Type II

Lot 9 0.21 Ac Type II

Lot 10 0.21 Ac Type II

Lot 11 0.21 Ac Type II

Lot 12 0.21 Ac Type II

Lot 13 0.21 Ac Type II

Lot 14 0.21 Ac Type II

Lot 15 0.21 Ac Type II

Lot 16 0.21 Ac Type II

Lot 17 0.21 Ac Type II

Lot 93 0.21 Ac Type II

Lot 92 0.22 Ac Type II

Lot 95 0.23 Ac Type II

Lot 96 0.21 Ac Type II

Lot 97 0.21 Ac Type II

Lot 98 0.21 Ac Type II

Lot 94 0.21 Ac Type II

Lot 112 0.22 Ac Type II

Lot 113 0.22 Ac Type II

Lot 111 0.22 Ac Type II

Lot 116 0.23 Ac Type II

Lot 117 0.24 Ac Type II

Lot 115 0.21 Ac Type II

Lot 114 0.21 Ac Type II

Lot 118 0.28 Ac Type II

Lot 119 0.28 Ac Type II

Lot 120 0.28 Ac Type II

Lot 121 0.27 Ac Type II

Lot 122 0.25 Ac Type II

Lot 123 0.23 Ac Type II

Lot 124 0.22 Ac Type II

Lot 125 0.22 Ac Type II

Lot 126 0.22 Ac Type II

Lot 127 0.22 Ac Type II

Lot 128 0.22 Ac Type II

Lot 129 0.22 Ac Type II

Lot 130 0.22 Ac Type II

Lot 131 0.21 Ac Type II

Lot 132 0.21 Ac Type II

Lot 133 0.21 Ac Type II

Lot 134 0.21 Ac Type II

Lot 135 0.21 Ac Type II

Lot 136 0.22 Ac Type II

Lot 68 0.20 Ac Type II

Lot 91 0.21 Ac Type II

Lot 90 0.21 Ac Type II

Lot 89 0.21 Ac Type II

Lot 88 0.21 Ac Type II

Lot 69 0.21 Ac Type II

Lot 70 0.22 Ac Type II

Lot 87 0.21 Ac Type II

Lot 71 0.21 Ac Type II

Lot 86 0.21 Ac Type II

Lot 72 0.21 Ac Type II

Lot 99 0.21 Ac Type II

Lot 85 0.21 Ac Type II

Lot 73 0.21 Ac Type II

Lot 100 0.21 Ac Type II

Lot 84 0.21 Ac Type II

Lot 74 0.21 Ac Type II

Lot 110 0.21 Ac Type II

Lot 109 0.21 Ac Type II

Lot 101 0.21 Ac Type II

Lot 83 0.21 Ac Type II

Lot 75 0.21 Ac Type II

Lot 108 0.21 Ac Type II

Lot 102 0.21 Ac Type II

Lot 82 0.21 Ac Type II

Lot 76 0.25 Ac Type II

Lot 107 0.21 Ac Type II

Lot 103 0.21 Ac Type II

Lot 81 0.26 Ac Type II

Lot 77 0.27 Ac Type II

Lot 105 0.26 Ac Type II

Lot 104 0.32 Ac Type II

Lot 106 0.28 Ac Type II

Lot 80 0.22 Ac Type II

Lot 79 0.21 Ac Type II

Lot 78 0.22 Ac Type II

Lot 57 0.23 Ac Type II

Lot 56 0.23 Ac Type II

Lot 55 0.23 Ac Type II

Lot 54 0.23 Ac Type II

Lot 53 0.23 Ac Type II

Lot 52 0.23 Ac Type II

Lot 51 0.25 Ac Type II

Lot 50 0.24 Ac Type II

Lot 49 0.24 Ac Type II

Lot 48 0.24 Ac Type II

Lot 47 0.23 Ac Type II

Lot 36 0.23 Ac Type II

Lot 37 0.23 Ac Type II

Lot 38 0.23 Ac Type II

Lot 39 0.23 Ac Type II

Lot 40 0.23 Ac Type II

Lot 41 0.25 Ac Type II

Lot 42 0.23 Ac Type II

Lot 43 0.23 Ac Type II

Lot 44 0.23 Ac Type II

Lot 45 0.24 Ac Type II

Lot 46 0.22 Ac Type II

Lot S11 0.37 Ac Type I

Lot S12 0.37 Ac Type I

Lot S13 0.42 Ac Type I

Lot S14 0.38 Ac Type I

Lot S15 0.37 Ac Type I

Lot S16 0.37 Ac Type I

Lot S17 0.34 Ac Type I

Lot S18 0.34 Ac Type I

Lot S19 0.38 Ac Type I

Lot S20 0.58 Ac Type I

Stop & Street Sign

Stop Bar & Crosswalk

Cross Walk

Curb ramp (Typical)

Speed Limit (25 MPH)

5' Wide Sidewalk (Typ)

Landscape Buffer

Perimeter Wall

Type "F" Curb (Typ)

Stop Bar, Crosswalk

Stop Bar & Crosswalk

Detectable warning Surface Typical

5' Wide Sidewalk to be constructed with lot (Typ)

Typical SW to be Constructed with subdivision

Typical Site Line Design Speed 30 mph d = 350 ft dr = 150 ft dl = 240 ft

Typical Building Setback line

New Weir

Safe Uplands Line 62.10 NAVD88

100 yr Flood Line 63.90 NAVD88

Project Boundary

Jurisdictional Wetlands Line

25' Upland Buffer

50' Setback from Wetlands Line

Sidewalk Note:
All sidewalks & curb ramps depicted on this plan shall be constructed at the time of the subdivision construction.

20' Access Easement

30' Acces Easement

Concrete Parking for Rec. Area

Open Space

Tract "B"

Split rail Fence

oh

Centerline of Road Distances, Bearings & Radii

RED FIR STREET

From	To	Distance	Bearing	Radius
RF1	RF2	12.56	N 89d46'46" E	
RF2	RF3	38.57	N 76d43'37" W	
RF3	RF4	71.89	S 89d46'40" W	
RF4	RF5	60.81	S 45d13'20" E	43.00
RF5	RF6	14.12	S 0d13'20" E	
RF6	RF7	290.03	S 0d13'20" E	
RF7	RF8	209.03	S 0d13'20" E	
RF8	RF9	327.03	S 0d13'20" E	
RF9	RF10	331.12	S 0d13'20" E	
RF11	RF12	114.66	S 89d53'30" E	

WHISPERING LAKE AVENUE

From	To	Distance	Bearing	Radius
RF6	WL1	180.50	S 89d23'48" E	
WL1	WL2	271.53	S 77d20'29" E	650.00
WL2	WL3	287.62	S 52d30'14" E	650.00
WL3	WL4	445.31	N 39d43'13" W	
WL4	WL5	172.34	S 19d33'30" E	250.00
WL5	WH7	176.34	S 0d36'14" W	

BLACK CHERRY WAY

From	To	Distance	Bearing	Radius
WL2	BC1	232.67	N 24d42'58" E	
BC1	BC2	125.99	N 43d4'28" E	200.00
BC2	WH13	49.83	N 61d25'59" E	

PINES PASSAGE ROAD

From	To	Distance	Bearing	Radius
RF7	PP1	180.94	S 89d23'48" E	
PP1	PP2	294.04	S 64d33'31" E	350.00
PP2	PP3	407.72	S 39d43'13" E	
PP3	PP4	51.70	S 19d33'30" E	75.00
PP4	WH6	134.11	S 0d36'14" W	

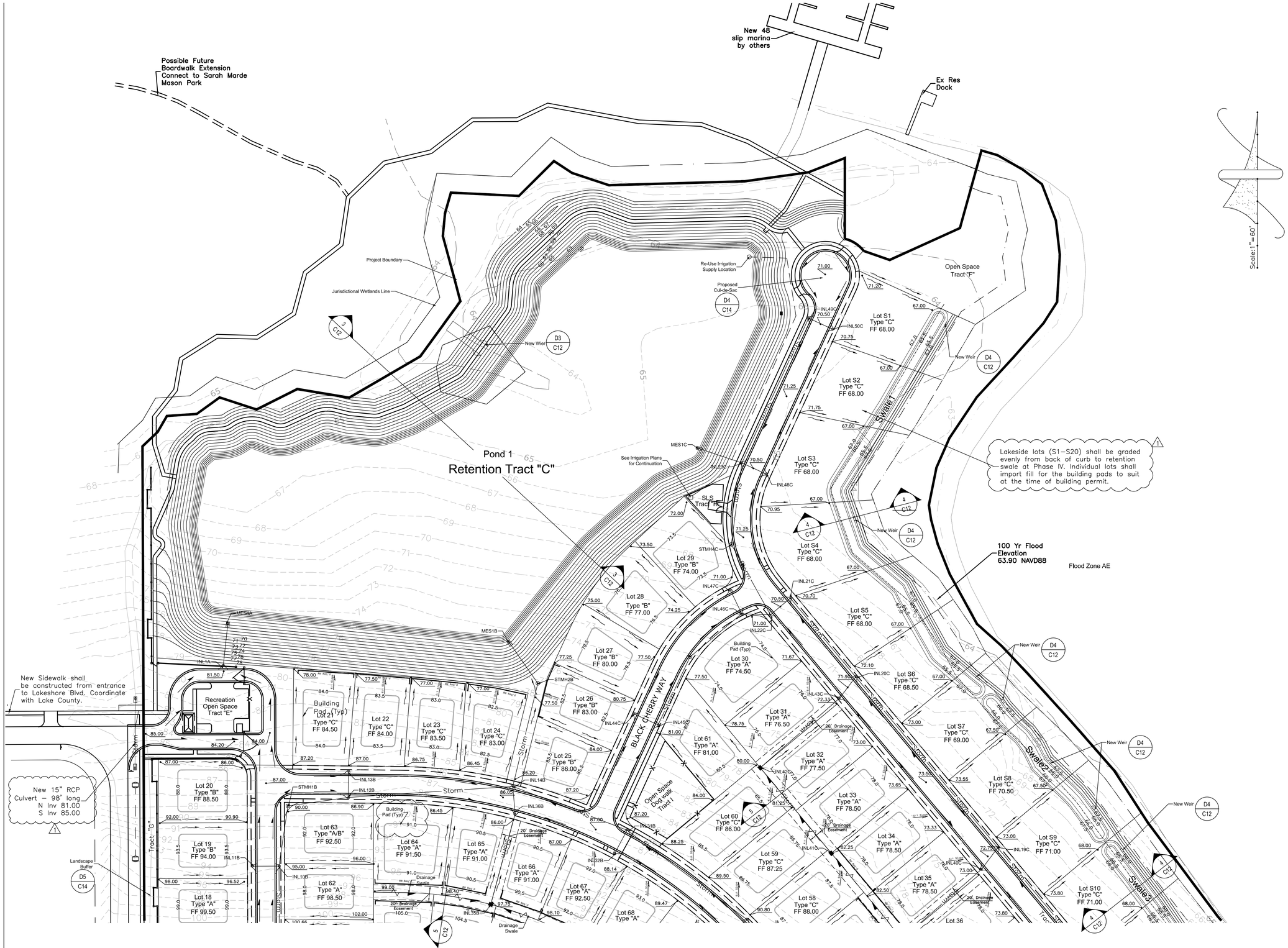
OSPRY WING WAY

From	To	Distance	Bearing	Radius
RF8	OW1	169.82	S 89d23'48" E	
OW1	OW2	63.01	S 64d33'31" E	75.00
OW2	OW3	290.82	S 39d43'13" E	
OW3	OW4	49.70	S 20d22'17" E	75.00
OW4	WH3	56.46	S 1d1'21" E	

WHISPERING HILLS DRIVE

From	To	Distance	Bearing	Radius
RF9	WH1	39.42	N 89d23'46" W	
WH1	WH2	78.65	S 84d53'6" E	500.00
WH2	WH3	312.56	S 86d7'24" E	1550.00
WH3	WH4	175.00	N 84d45'6" E	1550.00
WH4	WH5	78.65	N 86d5'34" E	500.00
WH5	WH6	38.18	N 89d23'46" W	
WH6	WH7	290.00	N 89d23'46" W	
WH7	WH8	224.00	N 89d23'46" W	
WH8	WH9	141.42	N 45d36'14" E	100.00
WH9	WH10	69.79	S 0d36'14" W	
WH10	WH11	396.38	N 19d33'30" W	575.00
WH11	WH12	830.21	S 39d43'13" E	
WH12	WH13	6.50	N 38d28'44" W	150.00
WH13	WH14	154.41	N 6d15'39" W	150.00
WH14	WH15	228.09	S 24d42'58" W	
WH15	WH16	59.57	N 4d4'31" E	

#	Revisions	Date	Description



Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 00006579 ph (407) 299-0650

#	Date	Description
1	9/19/22	Town Comm

Revisions

Subdivision Grading Plan - South

WHISPERING HEIGHTS Subdivision

Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
1"=60'	Scale
09-07-21	Date
WH2-C6	File

Dwg. No.

C6

8 of 83

DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

Darcy Unroe PE 60929

BUCKHILL ROAD (66' ROW)

Tract "G"

Tract "D1"

Landscape Buffer D5 C14

Open Space Tract "A"

Tract "G"

Lot 1 Type "A" FF-144.00
Lot 2 Type "A" FF-143.00
Lot 3 Type "A" FF-143.00
Lot 4 Type "A" FF-139.50
Lot 5 Type "A" FF-138.25
Lot 6 Type "A" FF-137.00
Lot 7 Type "A" FF-135.75
Lot 8 Type "A" FF 134.50
Lot 9 Type "A" FF 132.15
Lot 10 Type "A" FF 129.75
Lot 11 Type "A" FF 128.15
Lot 12 Type "A" FF 125.75
Lot 13 Type "A" FF 122.50
Lot 14 Type "A" FF 118.75
Lot 15 Type "A" FF 115.00
Lot 16 Type "A" FF 111.25
Lot 17 Type "A" FF 105.00
Lot 93 Type "C" FF 105.50
Lot 92 Type "A" FF 104.25
Lot 91 Type "C" FF 105.00
Lot 90 Type "C" FF 104.75
Lot 89 Type "C" FF 105.00
Lot 88 Type "C" FF 105.50
Lot 87 Type "C" FF 106.50
Lot 86 Type "C" FF 107.50
Lot 85 Type "C" FF 109.00
Lot 84 Type "C" FF 110.50
Lot 83 Type "C" FF 111.00
Lot 82 Type "C" FF 111.00
Lot 81 Type "C" FF 110.50
Lot 80 Type "A" FF 110.00
Lot 79 Type "A" FF 106.00
Lot 78 Type "A" FF 102.00
Lot 77 Type "A" FF 101.50
Lot 76 Type "A" FF 102.00
Lot 75 Type "A" FF 102.00
Lot 74 Type "A" FF 101.00
Lot 73 Type "A" FF 100.00
Lot 72 Type "A" FF 99.00
Lot 71 Type "A" FF 97.50
Lot 70 Type "A" FF 95.50
Lot 69 Type "A" FF 94.50
Lot 68 Type "A" FF 93.50
Lot 94 Type "A" FF 118.50
Lot 95 Type "A/B" FF 115.00
Lot 96 Type "A" FF 113.50
Lot 97 Type "A" FF 112.50
Lot 98 Type "A" FF 112.50
Lot 99 Type "A" FF 112.50
Lot 100 Type "A" FF 114.50
Lot 101 Type "A" FF 116.50
Lot 102 Type "A" FF 118.00
Lot 103 Type "A" FF 118.75
Lot 104 Type "B" FF 115.50
Lot 105 Type "B" FF 120.00
Lot 106 Type "C" FF 124.00
Lot 107 Type "C" FF 123.50
Lot 108 Type "C" FF 121.50
Lot 109 Type "C" FF 118.50
Lot 110 Type "C" FF 116.50
Lot 111 Type "C" FF 116.00
Lot 112 Type "C" FF 117.50
Lot 113 Type "A" FF 122.25
Lot 114 Type "B" FF 131.50
Lot 115 Type "B" FF 129.00
Lot 116 Type "B" FF 126.75
Lot 117 Type "A" FF 121.00
Lot 118 Type "A" FF 123.33
Lot 119 Type "A" FF 125.67
Lot 120 Type "A" FF 128.00
Lot 121 Type "A" FF 133.75
Lot 122 Type "A" FF 132.50
Lot 123 Type "A" FF 131.25
Lot 124 Type "A" FF 130.00
Lot 125 Type "A" FF 128.75
Lot 126 Type "A" FF 127.50
Lot 127 Type "A" FF 123.75
Lot 128 Type "A" FF 120.00
Lot 129 Type "A" FF 116.25
Lot 130 Type "A" FF 112.50
Lot 131 Type "A" FF 109.00
Lot 132 Type "A" FF 105.00
Lot 133 Type "A/B" FF 101.00
Lot 134 Type "B" FF 96.00
Lot 135 Type "B" FF 92.00
Lot 136 Type "B/C" FF 87.50
Lot S20 Type "C" FF 83.00
Lot 47 Type "C" FF 92.00
Lot 48 Type "C" FF 92.50
Lot 49 Type "C" FF 92.50
Lot 50 Type "C" FF 92.50
Lot 51 Type "C" FF 93.50
Lot 52 Type "C" FF 93.50
Lot 53 Type "C" FF 93.80
Lot 54 Type "C" FF 93.00
Lot 55 Type "C" FF 91.50
Lot 56 Type "C" FF 90.00
Lot 57 Type "C" FF 89.00
Lot 46 Type "A" FF 81.00
Lot 45 Type "A" FF 77.50
Lot 44 Type "A" FF 77.50
Lot 43 Type "A" FF 80.50
Lot 42 Type "A" FF 82.00
Lot 41 Type "A" FF 81.50
Lot 40 Type "A" FF 81.0
Lot 39 Type "A" FF 80.5
Lot 38 Type "A" FF 80.00
Lot 37 Type "A" FF 79.00
Lot 36 Type "A" FF 78.50
Lot S19 Type "C" FF 77.25
Lot S18 Type "C" FF 74.25
Lot S17 Type "C" FF 70.25
Lot S16 Type "C" FF 70.50
Lot S15 Type "C" FF 73.50
Lot S14 Type "C" FF 74.75
Lot S13 Type "C" FF 73.75
Lot S12 Type "C" FF 73.00
Lot S11 Type "C" FF 72.00
Lot 69 Type "A" FF 94.50
Lot 70 Type "A" FF 95.50
Lot 71 Type "A" FF 97.50
Lot 72 Type "A" FF 99.00
Lot 73 Type "A" FF 100.00
Lot 74 Type "A" FF 101.00
Lot 75 Type "A" FF 102.00
Lot 76 Type "A" FF 102.00
Lot 77 Type "A" FF 101.50
Lot 78 Type "A" FF 102.00
Lot 79 Type "A" FF 106.00
Lot 80 Type "A" FF 110.00
Lot 81 Type "C" FF 110.50
Lot 82 Type "C" FF 111.00
Lot 83 Type "C" FF 111.00
Lot 84 Type "C" FF 110.50
Lot 85 Type "C" FF 109.00
Lot 86 Type "C" FF 107.50
Lot 87 Type "C" FF 106.50
Lot 88 Type "C" FF 105.50
Lot 89 Type "C" FF 105.00
Lot 90 Type "C" FF 104.75
Lot 91 Type "C" FF 105.00
Lot 92 Type "A" FF 104.25
Lot 93 Type "C" FF 105.50
Lot 94 Type "A" FF 118.50
Lot 95 Type "A/B" FF 115.00
Lot 96 Type "A" FF 113.50
Lot 97 Type "A" FF 112.50
Lot 98 Type "A" FF 112.50
Lot 99 Type "A" FF 112.50
Lot 100 Type "A" FF 114.50
Lot 101 Type "A" FF 116.50
Lot 102 Type "A" FF 118.00
Lot 103 Type "A" FF 118.75
Lot 104 Type "B" FF 115.50
Lot 105 Type "B" FF 120.00
Lot 106 Type "C" FF 124.00
Lot 107 Type "C" FF 123.50
Lot 108 Type "C" FF 121.50
Lot 109 Type "C" FF 118.50
Lot 110 Type "C" FF 116.50
Lot 111 Type "C" FF 116.00
Lot 112 Type "C" FF 117.50
Lot 113 Type "A" FF 122.25
Lot 114 Type "B" FF 131.50
Lot 115 Type "B" FF 129.00
Lot 116 Type "B" FF 126.75
Lot 117 Type "A" FF 121.00
Lot 118 Type "A" FF 123.33
Lot 119 Type "A" FF 125.67
Lot 120 Type "A" FF 128.00
Lot 121 Type "A" FF 133.75
Lot 122 Type "A" FF 132.50
Lot 123 Type "A" FF 131.25
Lot 124 Type "A" FF 130.00
Lot 125 Type "A" FF 128.75
Lot 126 Type "A" FF 127.50
Lot 127 Type "A" FF 123.75
Lot 128 Type "A" FF 120.00
Lot 129 Type "A" FF 116.25
Lot 130 Type "A" FF 112.50
Lot 131 Type "A" FF 109.00
Lot 132 Type "A" FF 105.00
Lot 133 Type "A/B" FF 101.00
Lot 134 Type "B" FF 96.00
Lot 135 Type "B" FF 92.00
Lot 136 Type "B/C" FF 87.50
Lot S20 Type "C" FF 83.00
Lot 47 Type "C" FF 92.00
Lot 48 Type "C" FF 92.50
Lot 49 Type "C" FF 92.50
Lot 50 Type "C" FF 92.50
Lot 51 Type "C" FF 93.50
Lot 52 Type "C" FF 93.50
Lot 53 Type "C" FF 93.80
Lot 54 Type "C" FF 93.00
Lot 55 Type "C" FF 91.50
Lot 56 Type "C" FF 90.00
Lot 57 Type "C" FF 89.00
Lot 46 Type "A" FF 81.00
Lot 45 Type "A" FF 77.50
Lot 44 Type "A" FF 77.50
Lot 43 Type "A" FF 80.50
Lot 42 Type "A" FF 82.00
Lot 41 Type "A" FF 81.50
Lot 40 Type "A" FF 81.0
Lot 39 Type "A" FF 80.5
Lot 38 Type "A" FF 80.00
Lot 37 Type "A" FF 79.00
Lot 36 Type "A" FF 78.50
Lot S19 Type "C" FF 77.25
Lot S18 Type "C" FF 74.25
Lot S17 Type "C" FF 70.25
Lot S16 Type "C" FF 70.50
Lot S15 Type "C" FF 73.50
Lot S14 Type "C" FF 74.75
Lot S13 Type "C" FF 73.75
Lot S12 Type "C" FF 73.00
Lot S11 Type "C" FF 72.00

Storm
Swale63
Swale64
Drainage Swale
20' Drainage Easement
10' Drainage Easement
Building Pad (Typ)
New Weir D4 C12
Flood Zone AE
Flood Zone X
100 Yr Flood Elevation 63.90 NAVD88
Scale: 1" = 60'
STMH1C
STMH2C
STMH3C
STMH5C
INL1B
INL1C
INL2B
INL2C
INL3B
INL3C
INL4B
INL4C
INL5B
INL5C
INL6C
INL7B
INL7C
INL8B
INL8C
INL9B
INL9C
INL10C
INL11C
INL12C
INL13C
INL14C
INL15C
INL16C
INL17B
INL17C
INL18B
INL18C
INL19B
INL19C
INL20B
INL20C
INL21B
INL22B
INL23B
INL24B
INL24C
INL25B
INL25C
INL26B
INL26C
INL27B
INL27C
INL28B
INL28C
INL29C
INL30C
INL31C
INL32C
INL33B
INL33C
INL33C
INL34B
INL34C
INL35B
INL35C
INL36C
INL37C
INL38C
INL39C

Lakeside lots (S1–S20) shall be graded evenly from back of curb to retention swale at Phase IV. Individual lots shall import fill for the building pads to suit at the time of building permit.

Open Space Tract "B"

Higher Residence FF per plan
Lower Residence FF per plan
5:1 Max
6:1 Max
22.5' Max
Mass Grading for Subdivision (4:1 Max Slope)
Retaining Wall with house where required. Shall be designed by a registered engineer and included with building permit
Conveyance Swale per Detail on sheet C12

1 C7 Typical Lot Grading @ Conveyance Swales

#	Revisions	Date
1	Town Comm	9/19/22
2	Town Comm	12/9/22

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 00006579 ph (407) 299-0650

Subdivision Grading Plan - South

WHISPERING HEIGHTS Subdivision
Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
1"=60'	Scale
09-07-21	Date
WH2-C7	File

Dwg. No. C7

9 of 83

DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

Darcy Unroe PE 60929

Possible Future Boardwalk Extension Connect to Sarah Marde Mason Park

New 48 slip marina by others

Scale: 1"=60'

12' Wde Access Driveway for Irrigation pump and pond maitenance

406 – Irrigation Pump Station w/ 125 psi Pressure Tank

New 4" Irrigation well backup supply

Re-use Water Supply Inlet

405 – Irrigation Wet Well

Pond 1
Retention Tract "C"

Open Space Tract "F"

Open Space Tract "E"

Open Space Dog walk Trail 1

Tract "G"

New Hyd #14

Single Water Service

Lot S1

Lot S2

Lot S3

Lot S4

Lot S5

Lot S6

Lot S7

Lot S8

Lot S9

Lot S10

Swale1

Swale2

Swale3

SAMH16A

6" Water

INL50C

INL49C

6" Reclaimed Water

INL23C

INL48C

8x6" Reducer

New SLS

SAMH1A

New Hyd #13

SAMH2A

STMH4C

Lot 29

8" Tee W/ (3) GV

4x6 Reducer

4" Tee W/ (3) GV

INL21C

SAMH3A

INL47C

4" PVC FM

Lot 28

Double Reclaimed Service (Typ)

SAMH1B

INL46C

INL22C

MES1A

MES1B

INL1A

Lot 27

Lot 30

8" PVC Water

4" Reclaimed Water

STMH2B

Lot 26

INL44C

INL45C

Lot 31

Lot 61

Single Water Service

Lot 32

INL42C

Lot 33

Lot 60

Lot 34

Lot 59

INL41C

INL40C

MH4A

INL19C

Lot 35

Lot 58

Lot 68

Lot 67

Lot 66

Lot 65

Lot 64

Lot 63

Lot 62

Lot 18

Lot 19

Lot 20

Lot 21

Lot 22

Lot 23

Lot 24

Lot 25

Provide 4" Valve Cap & 2" Blowoff

Extend 4" FM To connection Point See Sheets OS1-OS5

New 10" WM

New 4" PVC FM

Extend Water mains to Connection Points See Sheets OS1-OS5

New Off-Site Hydrant #1

New Hyd #1

10" PVC Water Main

10"x8" Tee (2) 10" GV (1) 8" GV

Deflect WM around Storm Structures w/ (4) 45° bends

INL14B

INL13B

INL12B

STMH1B

4" Tee W/ (3) GV

Double Water Service (Typ)

INL11B

INL10B

SAMH4B

SAMH3B

INL36B

INL31B

INL32B

SAMH2B

MH8B

Single Water Service

4" PVC FM

10" PVC Water

4" Reclaimed Water

Water

Storm

Sanitary

Force Main

Swale

Curb Inlet

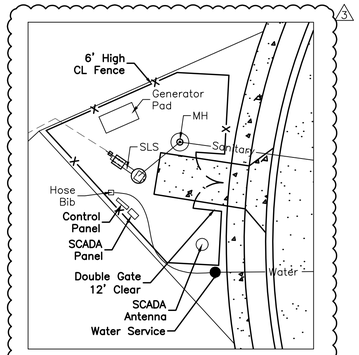
C1 C2 C3 C4 C5 C29 C30 C31 C32 C33 C34 C35 C36 C37 C38 C39 C40 C41

65' 70' 65' 58'

67.0 65.5 67.0

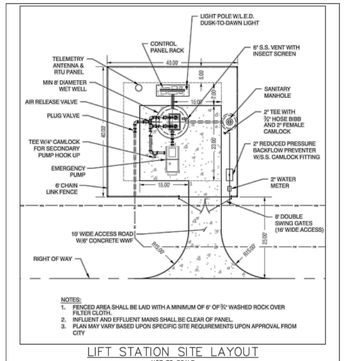
62.5 66.0 62.5

3



Lift Station Tract Layout
Scale: 1"=20'

5



NOTES:
1. FENCED AREA SHALL BE LAID WITH A MINIMUM OF 6" OF 57 WASHED ROCK OVER FILTER CLOTH
2. INFLUENT AND EFFLUENT MAINS SHALL BE CLEAR OF PANEL.
3. PLAN MAY VARY BASED UPON SPECIFIC SITE REQUIREMENTS UPON APPROVAL FROM CITY

LIFT STATION SITE LAYOUT
NOT TO SCALE

Howey-in-the-Hills Standard Details
DATE: DEC 2023
DETAIL WW-10

1

Utility Valve Note:
All water and reclaimed valves shall not be set within proposed curbs or curb ramps.

#	Description	Date
	Revisions	
1	Town Comm	02/01/24
2	Town Comm	5/3/23
3	Town Comm	12/8/22
4	Town Comm	9/19/22
5	Revisions	

Unroe Engineering, Inc
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Business Authorization Number - EB 00006579 ph (407) 299-0650

Subdivision Utility Plan - North

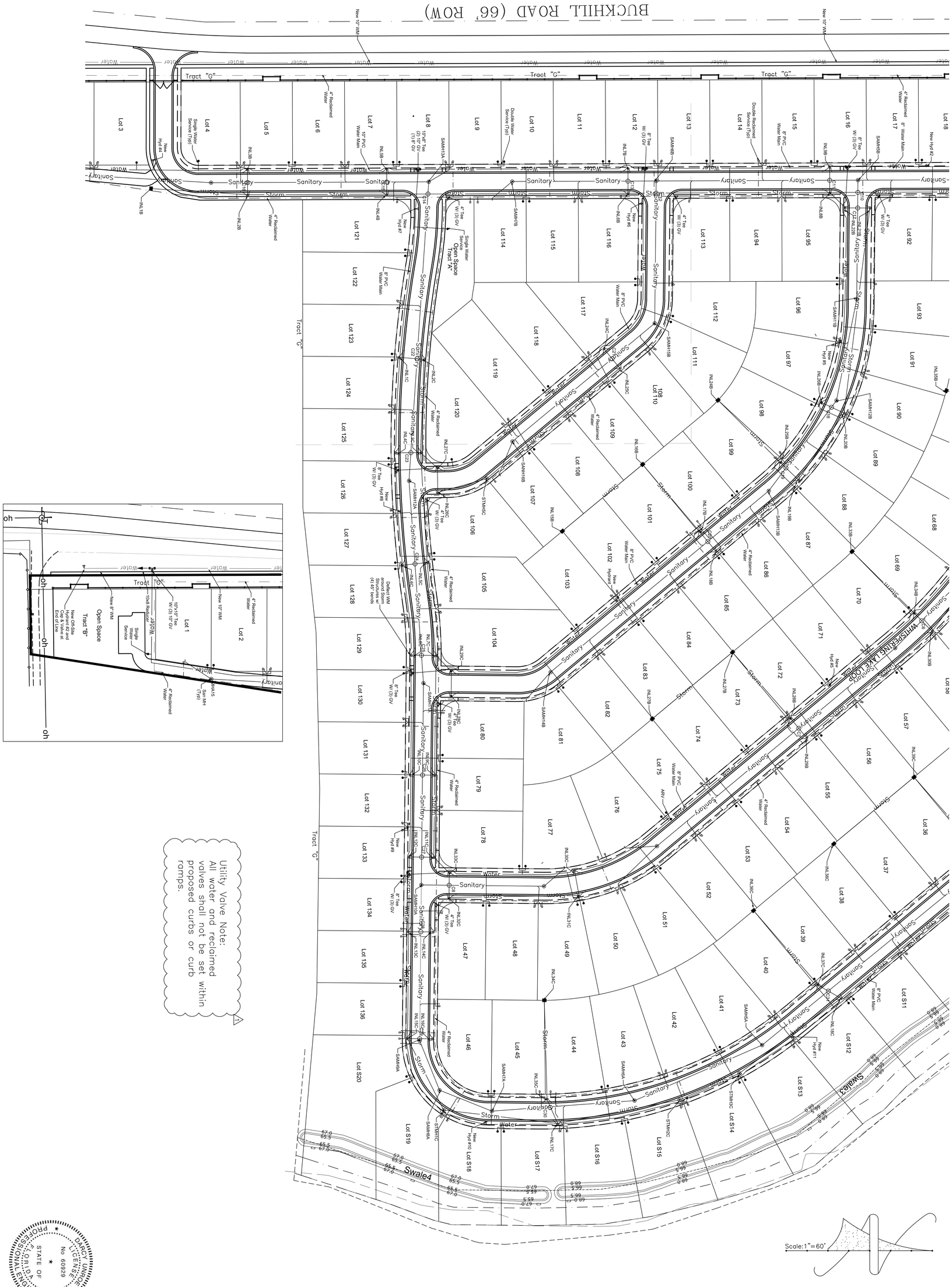
WHISPERING HEIGHTS Subdivision
Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
1"=60'	Scale
09-07-21	Date
WH2-C8	File

Dwg. No.
C8
10 of 83

DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

Darcy Unroe PE 60929



Darcy Unroe PE 60929

STATE OF FLORIDA PROFESSIONAL ENGINEER DARCY UNROE LICENSE No 60929

Subdivision Utility Plan - South

WHISPERING HEIGHTS Subdivision

Buckhill Road, Howey-in-the-Hills, Florida

Unroe Engineering, Inc

Civil Engineering/Planning/Scientific Evaluation

PO Box 690942, Orlando, Fl 32869-0942

Business Authorization Number - EB 00006579 ph (407) 299-0650

Revisions				Revisions			
#	Date	Description		#	Date	Description	
1	9/19/22	Town Comm					

Drawn	DP
Checked	DP
Scale	1"=60'
Date	09-07-21
File	WH2-C9

Dwg. No. C9

11 of 83

27

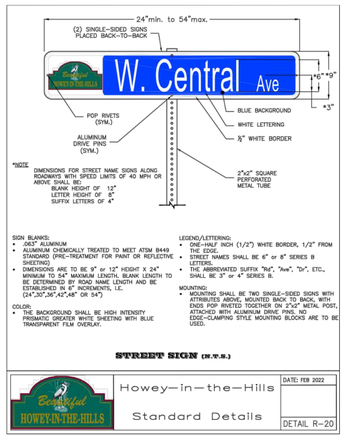
Item 2.

Storm Sewer Table #1

Structure Label	Top	Inv	Drop Inv	Description
Piping System A				
INL1A	81.50	73.44		FDOT Type 2
MES1A	---	70.00		Mitered End Section
Piping System B				
INL1B	138.00	132.19		FDOT Type C
INL2B	137.30	129.41		FDOT Type 1
INL3B	137.30	129.76		FDOT Type 1
INL4B	134.15	125.41		FDOT Type 1
INL5B	134.15	125.76		FDOT Type 1
INL6B	124.25	115.00		FDOT Type 1
INL7B	124.25	115.35		FDOT Type 1
INL8B	110.80	97.60		FDOT Type 1
INL9B	110.80	97.95		FDOT Type 1
INL10B	94.75	86.65		FDOT Type 1
INL11B	94.75	87.00		FDOT Type 1
INL12B	86.75	79.27		FDOT Type 1
INL13B	86.75	79.62		FDOT Type 1
INL14B	85.75	68.12		FDOT Type 2
INL15B	119.90	110.74		FDOT Type C
INL16B	116.15	107.74		FDOT Type C
INL17B	111.65	105.20		FDOT Type 1
INL18B	111.65	104.85		FDOT Type 1
INL19B	108.75	102.50		FDOT Type 2
INL20B	108.75	101.63		FDOT Type 2
INL21B	108.50	98.65		FDOT Type 2
INL22B	108.50	98.30		FDOT Type 2
INL23B	113.45	106.46		FDOT Type C
INL24B	108.75	102.62		FDOT Type 2
INL25B	108.75	101.98		FDOT Type 2
INL26B	105.95	99.88		FDOT Type C
INL27B	104.05	95.38		FDOT Type C
INL28B	94.69	82.58		FDOT Type 1
INL29B	94.69	81.88		FDOT Type 1
INL30B	90.55	77.14		FDOT Type 1
INL31B	87.37	73.10		FDOT Type 1
INL32B	87.40	73.45		FDOT Type 1
INL33B	100.10	87.65		FDOT Type C
INL34B	90.55	77.49		FDOT Type 1
INL35B	97.75	91.68		FDOT Type C
INL36B	85.80	68.82		FDOT Type 2
STMH1B	89.00	82.55		FDOT Type J Manhole
STMH2B	77.00	60.25		FDOT Type J Manhole
MES1B	---	56.00		Mitered End Section
Piping System C				
INL1C	128.00	120.62		FDOT Type 1
INL2C	128.00	118.87		FDOT Type 1
INL3C	126.45	112.17		FDOT Type 1
INL4C	126.45	112.52		FDOT Type 1
INL5C	119.80	104.27		FDOT Type 1
INL6C	119.80	104.62		FDOT Type 1
INL7C	112.75	96.23		FDOT Type 1
INL8C	112.75	96.58		FDOT Type 1
INL9C	103.97	89.35		FDOT Type 1
INL10C	103.97	89.70		FDOT Type 1
INL11C	97.83	85.81		FDOT Type 1
INL12C	97.80	84.06		FDOT Type 1
INL13C	92.50	78.71		FDOT Type 1
INL14C	92.50	79.06		FDOT Type 1
INL15C	84.75	71.01	73.00	FDOT Type 1
INL16C	84.75	73.35		FDOT Type 1
INL17C	73.95	64.26		FDOT Type 2
INL18C	75.30	62.67		FDOT Type 1
INL19C	72.50	61.63		FDOT Type 2
INL20C	71.75	60.58		FDOT Type 1
INL21C	70.25	59.20		FDOT Type 2
INL22C	70.25	58.85		FDOT Type 2
INL23C	70.25	56.65		FDOT Type 2
INL24C	118.70	113.65		FDOT Type 2
INL25C	118.70	113.53		FDOT Type 2
INL26C	126.00	112.40		FDOT Type 1
INL27C	126.00	112.28		FDOT Type 1
INL28C	111.25	96.90		FDOT Type 1
INL29C	111.25	96.55		FDOT Type 1
INL30C	96.90	89.26		FDOT Type 1
INL31C	96.90	89.14		FDOT Type 1
INL32C	95.90	88.49		FDOT Type 1
INL33C	95.90	88.37		FDOT Type 1
INL34C	84.52	76.08		FDOT Type C
INL35C	74.17	64.64		FDOT Type 2
INL36C	87.00	80.25		FDOT Type C
INL37C	75.50	64.52		FDOT Type 1
INL38C	85.20	79.37		FDOT Type 1
INL39C	83.08	74.87		FDOT Type C
INL40C	72.75	63.43		FDOT Type C
INL41C	82.25	75.46		FDOT Type C
INL42C	80.00	70.96		FDOT Type C
INL43C	72.08	62.38		FDOT Type 1
INL44C	79.90	72.20		FDOT Type 1
INL45C	79.90	70.45		FDOT Type 1
INL46C	71.20	60.80		FDOT Type 1
INL47C	71.20	61.15		FDOT Type 1
INL48C	70.25	57.00		FDOT Type 2
INL49C	70.25	62.03		FDOT Type 2
INL50C	70.25	62.38		FDOT Type 2
STMH1C	79.43	67.56		FDOT Type J Manhole
STMH2C	78.10	63.63		FDOT Type J Manhole
STMH3C	77.15	63.30		FDOT Type J Manhole
STMH4C	71.00	57.76		FDOT Type J Manhole
STMH5C	126.60	112.66		FDOT Type J Manhole
STMH6C	76.00	65.35		FDOT Type J Manhole
MES1C	---	56.00		Mitered End Section

Storm Sewer Table #2

Upstream	Downstream	Size (in)	Length (ft)	Slope (%)	Pipe
INL1A	MES1A	18	43	8.00%	RCP
MES1A	INL1B				
INL1B	INL2B	15	139	2.00%	RCP
INL2B	INL4B	18	200	2.00%	RCP
INL4B	INL6B	18	347	3.00%	RCP
INL6B	INL8B	24	290	6.00%	RCP
INL8B	INL10B	36	219	5.00%	RCP
INL10B	STMH1B	36	82	5.00%	RCP
STMH1B	INL12B	36	82	4.00%	RCP
INL12B	INL14B	36	223	5.00%	RCP
INL14B	STMH2B	48	143	5.50%	RCP
STMH2B	MES1B	48	85	5.00%	RCP
INL3B	INL2B	15	35	1.00%	RCP
INL5B	INL4B	15	35	1.00%	RCP
INL7B	INL6B	15	35	1.00%	RCP
INL9B	INL8B	15	35	1.00%	RCP
INL11B	INL10B	15	35	1.00%	RCP
INL13B	INL12B	15	35	1.00%	RCP
INL15B	INL16B	15	150	2.00%	RCP
INL16B	INL17B	15	127	2.00%	RCP
INL17B	INL18B	18	35	1.00%	RCP
INL18B	INL19B	18	157	1.50%	RCP
INL19B	INL20B	24	116	0.75%	RCP
INL20B	INL21B	24	298	1.00%	RCP
INL21B	INL22B	24	35	1.00%	RCP
INL22B	INL8B	24	35	2.00%	RCP
INL23B	INL24B	15	128	3.00%	RCP
INL24B	INL19B	18	35	0.35%	RCP
INL25B	INL20B	15	35	1.00%	RCP
INL26B	INL27B	15	150	3.00%	RCP
INL27B	INL28B	15	128	10.00%	RCP
INL28B	INL29B	18	35	2.00%	RCP
INL29B	INL30B	24	237	2.00%	RCP
INL30B	INL31B	24	202	2.00%	RCP
INL31B	INL14B	24	166	3.00%	RCP
INL32B	INL31B	15	35	1.00%	RCP
INL33B	INL34B	15	127	8.00%	RCP
INL34B	INL30B	15	35	1.00%	RCP
INL35B	INL36B	15	127	18.00%	RCP
INL36B	INL14B	15	35	2.00%	RCP
INL1C	INL2C	15	35	5.00%	RCP
INL2C	INL3C	15	134	5.00%	RCP
INL3C	INL5C	24	158	5.00%	RCP
INL5C	INL7C	24	134	6.00%	RCP
INL7C	INL9C	30	172	4.00%	RCP
INL9C	INL11C	30	118	3.00%	RCP
INL11C	INL12C	36	35	5.00%	RCP
INL12C	INL13C	36	107	5.00%	RCP
INL13C	INL15C	36	154	5.00%	RCP
INL15C	STMH1C	36	115	3.00%	RCP
STMH1C	INL17C	36	165	2.00%	RCP
INL17C	STMH2C	42	178	0.35%	RCP
STMH2C	STMH3C	42	94	0.35%	RCP
STMH3C	INL18C	42	182	0.35%	RCP
INL18C	INL19C	42	296	0.35%	RCP
INL19C	INL20C	48	300	0.35%	RCP
INL20C	INL21C	48	138	1.00%	RCP
INL21C	INL22C	48	35	1.00%	RCP
INL22C	STMH4C	54	109	1.00%	RCP
STMH4C	INL23C	54	111	1.00%	RCP
INL23C	MES1C	54	65	1.00%	RCP
INL4C	INL3C	15	35	1.00%	RCP
INL6C	INL5C	15	35	1.00%	RCP
INL8C	INL7C	15	35	1.00%	RCP
INL10C	INL9C	15	35	1.00%	RCP
INL14C	INL13C	15	35	1.00%	RCP
INL16C	INL15C	15	35	1.00%	RCP
INL34C	INL35C	15	143	8.00%	RCP
INL35C	INL17C	18	38	1.00%	RCP
INL24C	INL25C	15	35	0.35%	RCP
INL25C	STMH5C	15	249	0.35%	RCP
STMH5C	INL26C	15	73	0.35%	RCP
INL26C	INL27C	18	35	0.35%	RCP
INL27C	INL3C	18	33	0.35%	RCP
INL28C	INL29C	15	35	1.00%	RCP
INL29C	INL7C	15	32	1.00%	RCP
INL30C	INL31C	15	35	0.35%	RCP
INL31C	INL32C	15	187	0.35%	RCP
INL32C	INL33C	15	35	0.35%	RCP
INL33C	INL11C	18	32	8.00%	RCP
INL36C	INL37C	15	143	11.00%	RCP
INL37C	INL18C	15	37	5.00%	RCP
INL38C	INL39C	15	150	3.00%	RCP
INL39C	INL40C	15	143	8.00%	RCP
INL40C	INL19C	18	36	5.00%	RCP
INL41C	INL42C	15	150	3.00%	RCP
INL42C	INL43C	15	143	6.00%	RCP
INL43C	INL20C	15	36	5.00%	RCP
INL44C	INL45C	15	35	5.00%	RCP
INL45C	STMH6C	15	102	5.00%	RCP
STMH6C	INL46C	15	91	5.00%	RCP
INL46C	INL22C	15	39	5.00%	RCP
INL47C	INL46C	15	35	1.00%	RCP
INL48C	INL23C	15	35	1.00%	RCP
INL50C	INL49C	15	35	1.00%	RCP
INL49C	INL23C	15	215	2.50%	RCP



D1 / C10 Typical Howey Street Sign Detail

LAKE COUNTY SIGN SPECIFICATIONS FOR COUNTY MAINTAINED ROADS

For Builders/Contractors/Developers

Street Name Signs (D1's)

Sign Blanks
- .080" thick aluminum
- Aluminum chemically treated to meet ATSM B449 standard (pretreatment for paint or reflective sheeting)
- Dimensions are to be 9" height x 24" minimum,54" maximum length.

Color
- The background shall be high intensity prismatic or greater white sheeting, with green transparent overlay film

Legend/Lettering
- One-half inch (1/2") white border, 1/2" from the edge.
- Street names shall be 6" series B letters
- The abbreviated suffix "Rd","St", "Dr", etc., shall be 4" series B
- District number in the upper right corner of sign shall be 11/2" series B

Mounting
- Mounting shall be two single-sided signs with attributes above, mounted back to back, with ends pop-rivited together, on a galv.aloxx 9" twist bracket. No-edge-clamping style mounting blocks are to be used.

Regulatory and Warning Signage

Material/Sign Blanks & Facings
- .080 Gauge
- With the exception of the Street Name Signs, all signs shall conform in color, size, legend and logo with specification in the Manual on Uniform Traffic Control Devices (MUTCD).
- Stop sign minimum 30" x 30", minimum high intensity prismatic sheeting or greater. Sheeting for all signs shall be high intensity prismatic or greater.

Placement Specifications
- Placement shall be in accordance with the MUTCD (Sections 2A-21 through 2A-27) with respect to offset from edge of road, height, etc.
- Poles should be buried to a minimum depth of 3 ½' (39"), allowing 7' to bottom of sign from the level of the traveled roadway.
- Poles are NOT to be concreted in place

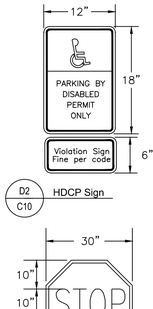
Poles
- Sign posts shall be galvanized steel 6-Channel poles, not less than 10' in length (14' or 18' for severe shoulder drop-offs), with minimum weight of 3 lbs. per foot, or square tube, minimum 1 ½" galvanized steel, minimum 14 gauge, drilled 12" holes on 1" centers full length.

Form Rev: 09/27/19

D1a / C10 Typical Lake Co Street Sign Detail

Signs for Non-County Maintained Road shall NOT have the Lake County Logo

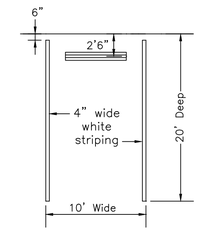
3



D2 / C10 HDCP Sign

D3 / C10 Stop Sign

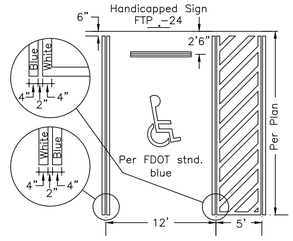
Sign Post



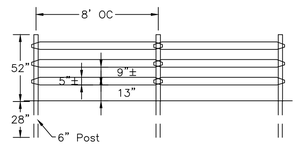
D4 / C10 Parking Striping

SPEED LIMIT 25

Speed Limit Sign



D5 / C10 HDCP Parking Striping



Posts and Rails to be Western Red Cedar

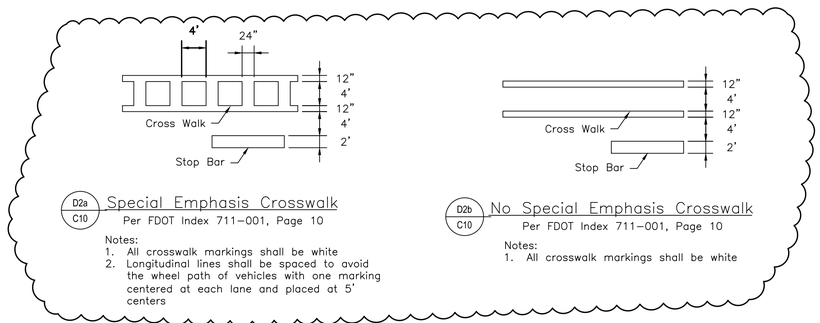
D6 / C10 4' High Split Rail Fence

Sanitary Sewer Table #1

Description	Top	Inv In	Inv Out
MH1A	75.35	52.11	52.01
MH2A	70.75	52.27	52.17
MH3A	70.60	52.73	52.63
MH4A	73.00	54.73	54.63
MH5A	76.69	58.73	58.63
MH6A	76.00	60.73	60.63
MH7A	76.29	62.80	62.70
MH8A	79.60	66.85	66.75
MH9A	84.58	70.40	70.30
MH10A	96.00	77.12	77.02
MH11A	111.00	91.62	91.52
MH12A	125.69	101.84	101.74
MH13A	133.50	110.44	110.34
MH14A	138.10	126.09	125.99
MH15A	138.90	---	133.51
MH16A	70.65	---	58.20
MH17A	96.80	---	78.83
MH1B	75.60	56.23	56.13
MH2B	87.11	69.28	69.18
MH3B	86.10	71.49	71.39
MH4B	87.00	74.55	74.45
MH5B	108.50	83.10	83.00
MH6B	123.00	106.30	106.20
MH7B	129.68	---	122.81
MH8B	88.87	71.53	71.43
MH9B	90.50	74.31	74.21
MH10B	97.61	---	83.16
MH11B	109.40	88.23	88.13
MH12B	108.90	92.70	92.60
MH13B	109.60	97.56	97.46
MH14B	113.20	---	86.25
MH15B	118.50	108.35	108.25
MH16B	124.40	---	110.96
SLS	72.00	52.00	---

Sanitary Sewer Table #2

Upstream	Downstrea	Size (in)	Length (ft)	Slope (%)	Pipe
MH15A	MH14A	8	249	3.00%	PVC
MH14A	MH13A	8	313	5.00%	PVC
MH13A	MH12A	8	430	2.00%	PVC
MH12A	MH11A	8	292	3.50%	PVC
MH11A	MH10A	8	290	5.00%	PVC
MH10A	MH9A	8	224	3.00%	PVC
MH9A	MH8A	8	71	5.00%	PVC
MH8A	MH7A	8	81	5.00%	PVC
MH7A	MH6A	8	207	1.00%	PVC
MH6A	MH5A	8	200	1.00%	PVC
MH5A	MH4A	8	400	1.00%	PVC
MH4A	MH3A	8	500	0.40%	PVC
MH3A	MH2A	8	116	0.40%	PVC
MH2A	MH1A	8	40	0.40%	PVC
MH1A	SLS	8	15	0.40%	PVC
MH16A	MH2A	8	299	2.00%	PVC
MH17A	MH10A	8	176	1.00%	PVC
MH7B	MH6B	8	207	8.00%	PVC
MH6B	MH5B	8	290	8.00%	PVC
MH5B	MH4B	8	285	3.00%	PVC
MH4B	MH3B	8	306	1.00%	PVC
MH3B	MH2B	8	147	1.50%	PVC
MH2B	MH1B	8	261	5.00%	PVC
MH1B	MH3A	8	140	2.50%	PVC
MH10B	MH9B	8	445	2.00%	PVC
MH9B	MH8B	8	139	2.00%	PVC
MH8B	MH2B	8	150	1.50%	PVC
MH14B	MH13B	8	408	2.00%	PVC
MH13B	MH12B	8	162	3.00%	PVC
MH12B	MH11B	8	149	3.00%	PVC
MH11B	MH5B	8	171	3.00%	PVC
MH16B	MH15B	8	266	1.00%	PVC
MH15B	MH6B	8	205	1.00%	PVC



D2a / C10 Special Emphasis Crosswalk
Per FDOT Index 711-001, Page 10

Notes:
1. All crosswalk markings shall be white
2. Longitudinal lines shall be spaced to avoid the wheel path of vehicles with one marking centered at each lane and placed at 5' centers

D2b / C10 No Special Emphasis Crosswalk
Per FDOT Index 711-001, Page 10

Notes:
1. All crosswalk markings shall be white

2

Item 3.

#	Description	Date
	Revisions	
3	Town Comm	5/3/23
2	Town Comm	12/9/22
1	Town Comm	9/19/22
#	Description	Date
	Revisions	

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 00006579 ph (407) 299-0650

Sewer & Storm Structure Tables

WHISPERING HEIGHTS Subdivision

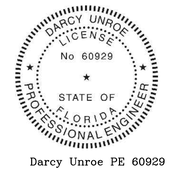
Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
----	Scale
09-07-21	Date
WH2-C10	File

Dwg. No.

C10

12 of 83



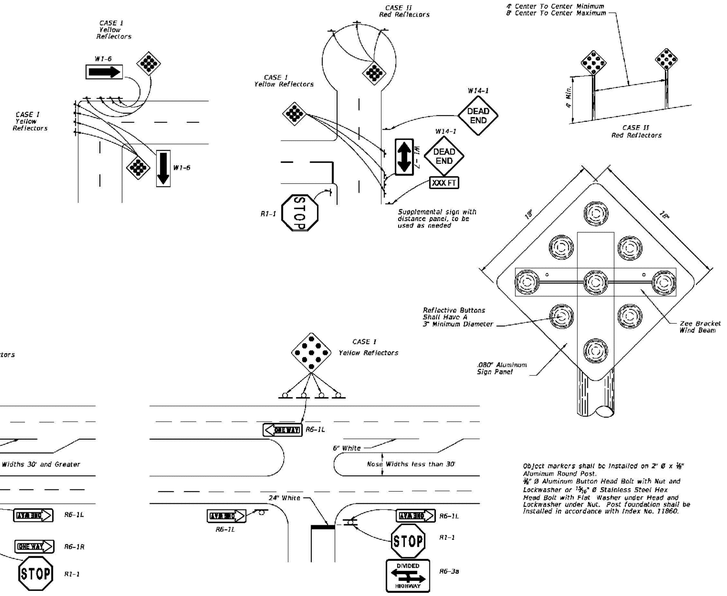
Darcy Unroe PE 60929

CASE I Type I Object Markers shall consist of nine yellow reflectors mounted on a yellow reflective background or consist of a retroreflective panel of the same size.

CASE II End of Road Markers shall consist of nine red reflectors mounted on a red reflective background or consist of a retroreflective panel of the same size.

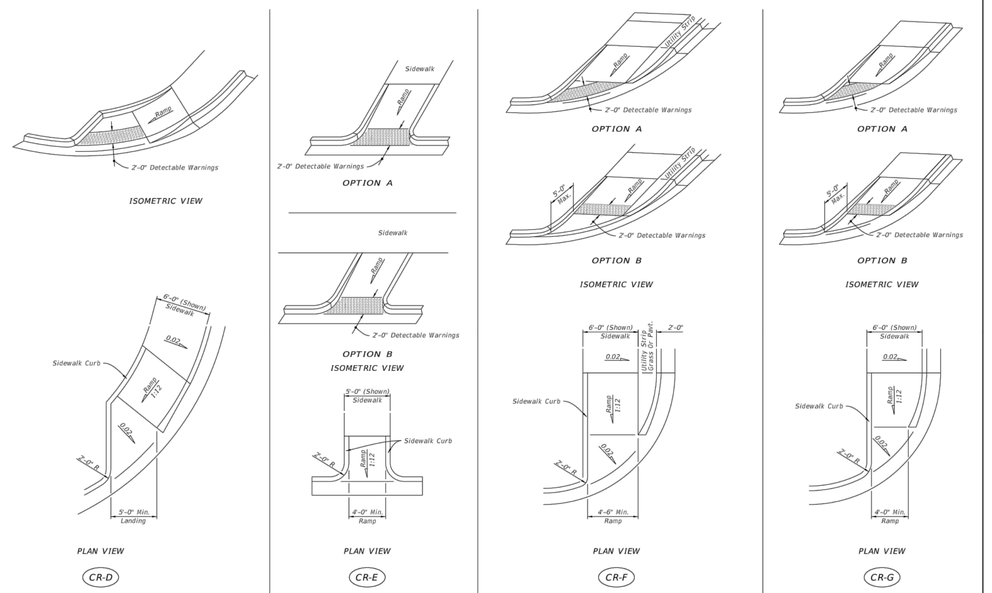
NOTES:

1. This index applicable to residential and minor streets only. Major streets to be evaluated on a case by case basis.
2. "T"-intersection-Two-way arrows and reflectors are optional. The need should be based on a review of each location.
3. For additional details on aluminum round post, sign panel material and bolts, nuts and washers see Index Nos. 11860.
4. Case I Installation - The arrow panels and object markers shall be located approximately 20', but not less than 12' from the edge of the travel lane.
5. Dead end sign shall be posted a sufficient advance distance to permit the vehicle operator to avoid the dead end by turning off, if possible, at the nearest intersecting street.
6. For pavement marking see Index No. 17346
7. No guardrail is required unless special field conditions require its use.



LAST REVISION 07/01/12	DESCRIPTION:	FDOT DESIGN STANDARDS 2013	TRAFFIC CONTROLS FOR STREET TERMINATIONS	INDEX NO. 17349	SHEET NO. 1

D1 C11 Street Termination



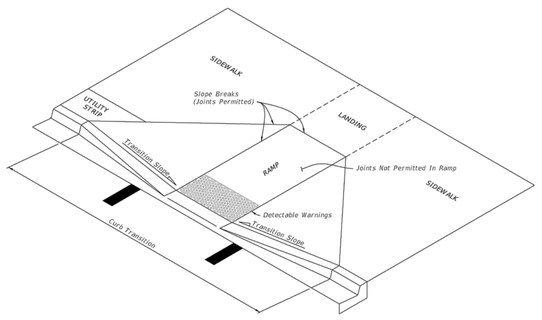
SIDEWALK CURB RAMPS CR-D, CR-E, CR-F & CR-G

LAST REVISION 11/01/18	DESCRIPTION:	FDOT FY 2021-22 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX 522-002	SHEET 4 of 7

D2 C11 Typical Curb Ramps

GENERAL NOTES:

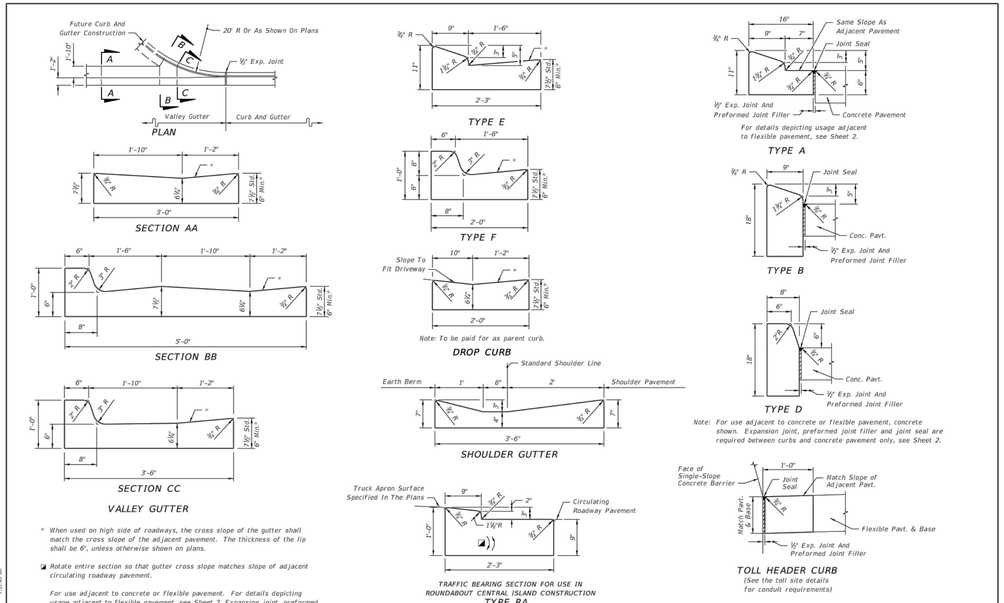
1. Cross Slopes and Grades:
   - A. Sidewalk, ramp, and landing slopes (i.e. 0.02, 0.05, and 1:12) shown in this Index are maximums. With approval of the Engineer, provide the minimum feasible slope where the requirements cannot be met.
   - B. Landings must have cross-slopes less than or equal to 0.02 in any direction.
   - C. Maintain a single longitudinal slope along each side of the curb ramp. Ramp slopes are not required to exceed 15 feet in length.
   - D. Joints permitted at the location of Slope Breaks. Otherwise locate joints in accordance with Index 522-001. No joints are permitted within the ramp portion of the Curb Ramp.
2. Curb, Curb and Gutter and/or Sidewalk:
   - A. Refer to Index 522-001 for concrete thickness and sidewalk details.
   - B. Remove any existing curb, curb and gutter, or sidewalk to the nearest joint beyond the curb transition or to the extent that no remaining section is less than 5 feet long.
3. Curb Ramp Alpha-Identification:
   - A. Sidewalk curb ramp alpha-identifications (e.g. CR-A) are provided for reference purposes in the Plans.
   - B. Alpha-identifications CR-I and CR-J are intentionally omitted.
4. Detectable Warnings:
   - A. Install detectable warnings in accordance with Specification 527.
   - B. Place detectable warnings across the full width of the ramp or landing, to a minimum depth of 2 feet measured perpendicular to the curb line and no greater than 5 feet from the back of the curb or edge of pavement.
   - C. If detectable warnings are shown in the Plans on slopes greater than 5%, align the truncated domes with the centerline of the ramp; otherwise, the truncated domes are not required to be aligned.
5. Detectable Warnings - Acceptance Criteria:
   - A. Color and texture shall be complete and uniform.
   - B. 90% of individual truncated domes shall be in accordance with the Americans with Disabilities Act Standards for Transportation Facilities, Section 705.
   - C. There shall be no more than 4 non-compliant domes in any one square foot.
   - D. Non-compliant domes shall not be adjacent to other non-compliant domes.
   - E. Surfaces shall not deviate more than 0.10" from a true plane.



CURB RAMP NOMENCLATURE

LAST REVISION 11/01/19	DESCRIPTION:	FDOT FY 2021-22 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX 522-002	SHEET 1 of 7

D3 C11 Detectable Warning Surface



* When used on high side of roadways, the cross slope of the gutter shall match the cross slope of the adjacent pavement. The thickness of the lip shall be 6", unless otherwise shown on plans.

◪ Rotate entire section so that gutter cross slope matches slope of adjacent circulating roadway pavement.

For use adjacent to concrete or flexible pavement. For details depicting usage adjacent to flexible pavement, see Sheet 2. Expansion joint, preformed joint filler and joint seal are required between curb & gutter and concrete pavement only, see Sheet 2.

Note: For use adjacent to concrete or flexible pavement, concrete shown. Expansion joint, preformed joint filler and joint seal are required between curbs and concrete pavement only, see Sheet 2.

CONCRETE CURB AND GUTTER

LAST REVISION 11/01/20	DESCRIPTION:	FDOT FY 2021-22 STANDARD PLANS	CURB AND GUTTER	INDEX 520-001	SHEET 1 of 2

D4 C11 Typical Curbs Detail

Description	Date	#

Revisions

Description	Date	#

Revisions

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 00006579 ph (407) 299-0650

General Details Sheet 1

WHISPERING HEIGHTS Subdivision
Buckhill Road, Howey-in-the-Hills, Florida

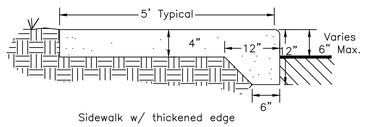
DP	Drawn
DP	Checked
----	Scale
09-07-21	Date
WH2-C11	File

Dwg. No. C11

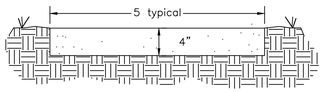
13 of 83

DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

Darcy Unroe PE 60929



Sidewalk w/ thickened edge



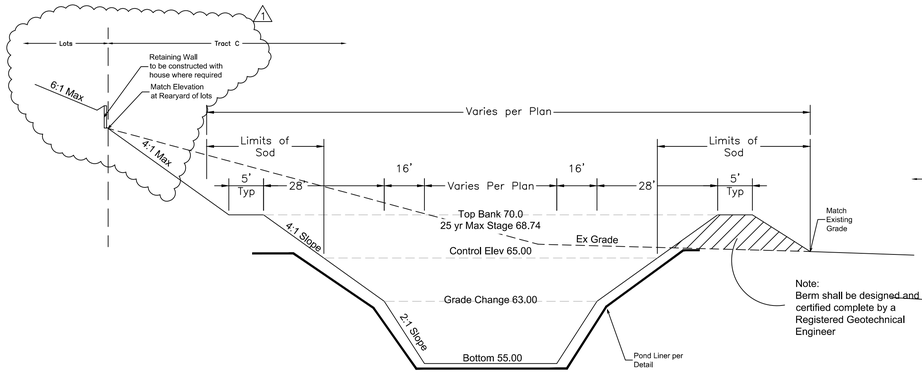
Standard sidewalk

Notes:
1. All concrete shall be 3,000 psi @ 28 days, fibermesh reinforced.
2. Soil below new walks shall be compacted to 95% max density.
3. Control joints shall be sawcut 1.5" deep in concrete at 5' on center.
4. Construction joints shall be provided at 50' OC max.
5. Sidewalks/crosswalks in Traffic areas shall be increased to 6" Thickness.

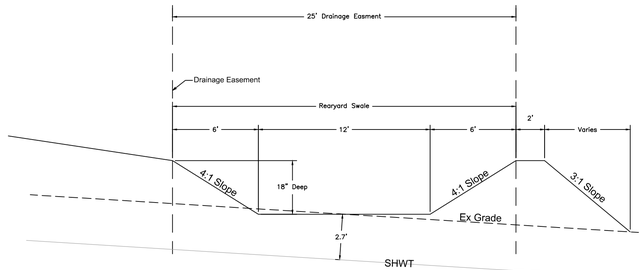
D1 / C12 Typical Sidewalk Details

Accessibility Notes

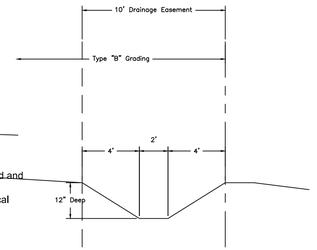
1. All handicapped parking spaces and access aisles adjacent to the handicap parking spaces shall have a maximum of 2% slope in all directions (this includes running slope and cross slope).
2. An accessible route from the public street or sidewalk to the building entrance must be provided. this accessible route shall be a minimum of 60" wide. The running slope of an accessible route shall not exceed 5% and the cross slope shall not exceed 2%.
3. Slopes exceeding 5% but less than 8% will require a ramp and must conform to the Florida Building Code requirements for ramp design (handrails, curbs, landings). No ramp shall exceed an 8% running slope or 2% cross slope.
4. Special attention shall be required during staking to make sure the 2% cross slope is met in the cross walk.
5. It will be the responsibility of the general contractor to ensure that the handicap parking spaces, accessible routes, and sidewalks/crosswalks are constructed to meet ADA requirements.
6. Any requirements listed above that can not be met shall be brought to the attention of the EOR prior to construction.



3 / C12 Wet Detention Pond Section

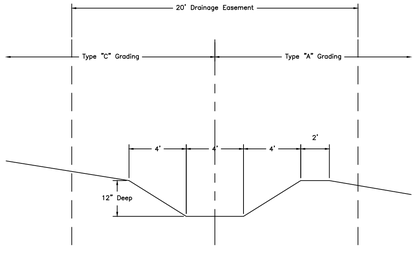


4 / C12 Rear Yard Swale Detail

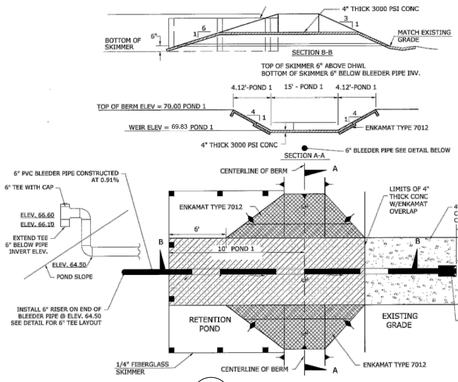


Note:
Berm shall be designed and certified complete by a Registered Geotechnical Engineer

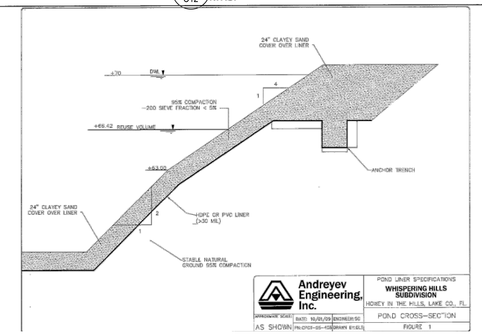
6 / C12 Conveyance Swale Detail

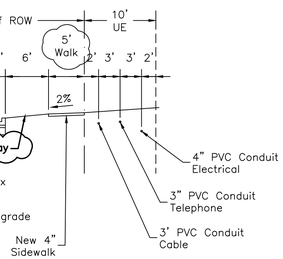


5 / C12 Conveyance Swale Detail



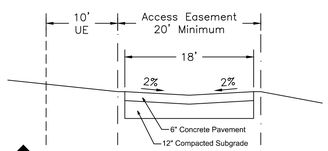
D3 / C12 BROAD CRESTED WEIR N.T.S.



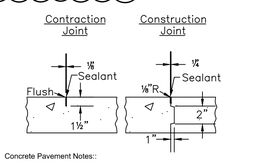


1 / C12 Typical 50' Wide ROW Pavement Section

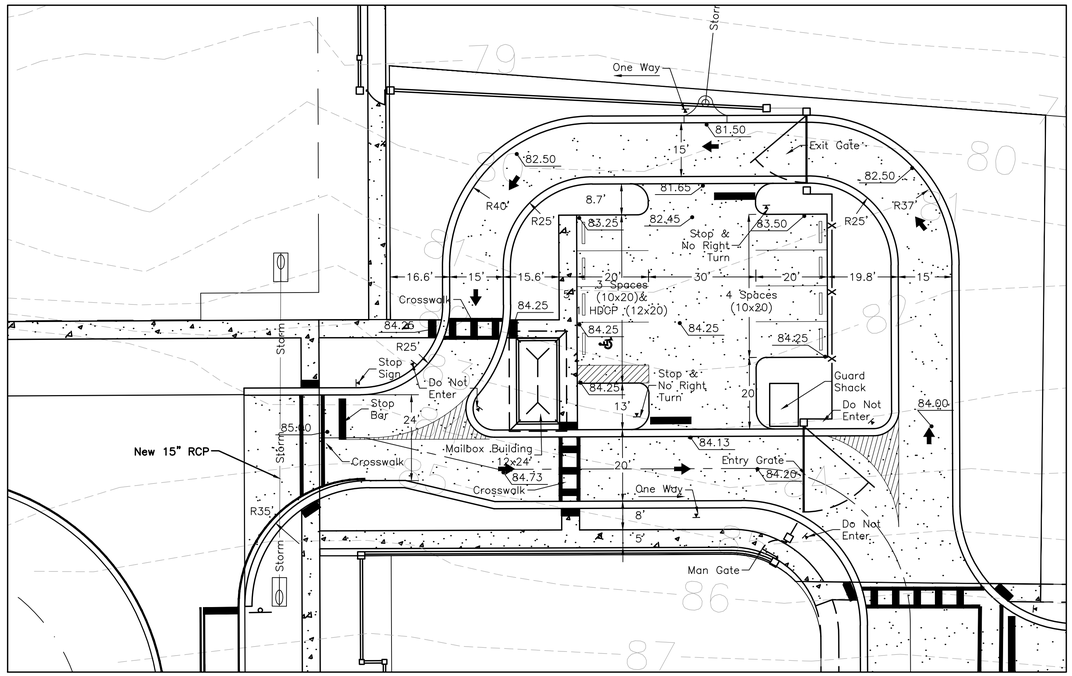
Notes:
1. Contractor to pave the first lift as ¾" and second ¾" lift will be installed at the time of substantial completion of homes for each phase.
2. Pavement section as shown is taken from Geotechnical Engineer's recommendations/
3. Site contractor to coordinate with developer to install sleeves for use by electrical, cable, telephone and etc.
4. After application of the first lift the contractor and homebuilders are jointly responsible for maintenance of pavement. The developer shall be notified when all repairs have been completed.
5. Where sidewalks are to be constructed, the entire area between the back of curb and sidewalk shall be sodded.



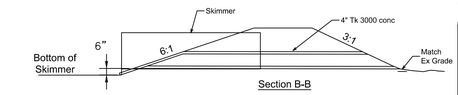
2 / C12 Typical Access Easement Section



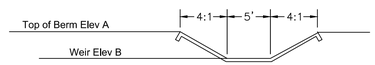
Concrete Pavement Notes::
1. 6" Thick on 12" Compacted Subgrade
2. All concrete 4,000 psi/28 day strength Portland Cement Type I
3. Contractor shall submitt jointing plan for approval prior to construction.
4. Expansion joints required at abutting structures, curbs, walks, etc.
5. Contraction joints shall be saw cut 1" deep, maximum spacing 20'.
6. Construction or cold joints shall be doweled or keyed on joint line only.
7. Site contractor to coordinate with developer to install sleeves for use by electrical, cable, telephone and etc.



Tract "E" Site Plan
Scale: 1"=20'



Section B-B



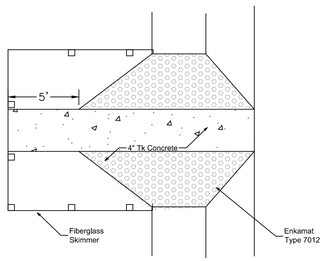
Section A-A

Swale #1
A - 67.00, B - 66.30

Swale #2
A - 67.50, B - 66.80

Swale #3
A - 68.0, B - 67.30

Swale #4
A - 67.0, B - 66.30



D4 / C12 Swale Weir

Item 3.

#	Description	Date
	Revisions	
	Town Comm	9/19/22
1	Revisions	

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 00006579 ph (407) 299-0650

General Details Sheet 2

WHISPERING HEIGHTS Subdivision

Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
----	Scale
09-07-21	Date
WH2-C12	File

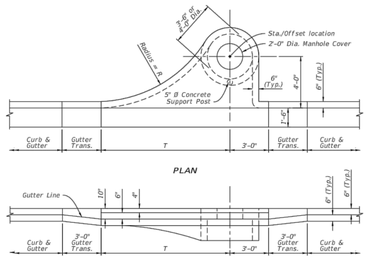
Dwg. No.

C12

14 of 83

DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

Darcy Unroe PE 60929

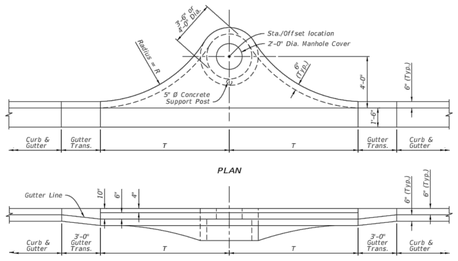


PLAN

ELEVATION

TYPE 1 AND 3

TABLE 1 INLET DIMENSIONS		
Inlet Type	R	T
1	10'-0"	10'-0"
2	10'-0"	10'-0"
3	6'-0"	6'-0"
4	6'-0"	6'-0"

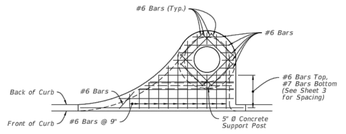


PLAN

ELEVATION

TYPE 2 AND 4

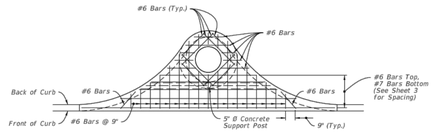
TOP DIMENSIONAL DETAILS



PLAN

TYPE 1 AND 3

NOTE:
For transverse section reinforcement, see Sheet 3.



PLAN

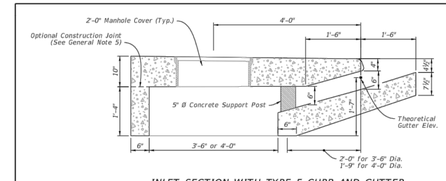
TYPE 2 AND 4

TOP REINFORCING DETAILS

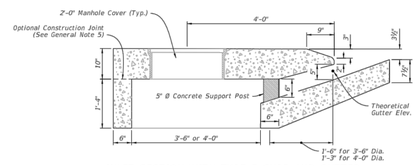
TOP DIMENSIONAL AND TOP REINFORCING DETAILS

LAST REVISION 11/01/20	REVISION	DESCRIPTION:	FDOT FY 2021-22 STANDARD PLANS	CURB INLET TOP TYPES 1, 2, 3, AND 4	INDEX 425-020	SHEET 2 of 3

D1 C13 Curb Inlet Details

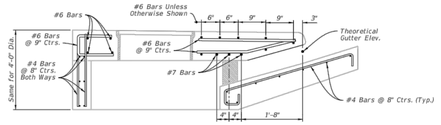


INLET SECTION WITH TYPE F CURB AND GUTTER

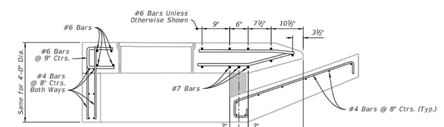


INLET SECTION WITH TYPE E CURB AND GUTTER

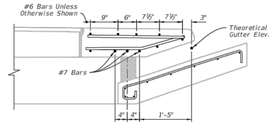
TRANSVERSE DIMENSIONAL DETAILS



3'-6" DIA. STRUCTURE BOTTOM

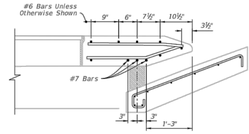


3'-6" DIA. STRUCTURE BOTTOM



4'-0" DIA. STRUCTURE BOTTOM

INLET SECTION WITH TYPE F CURB AND GUTTER



4'-0" DIA. STRUCTURE BOTTOM

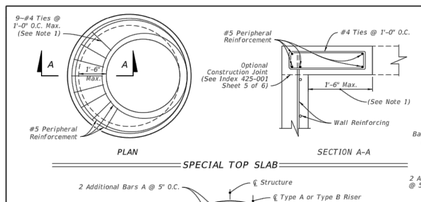
INLET SECTION WITH TYPE E CURB AND GUTTER

TRANSVERSE REINFORCING DETAILS

TRANSVERSE DIMENSIONAL AND REINFORCING DETAILS

LAST REVISION 11/01/20	REVISION	DESCRIPTION:	FDOT FY 2021-22 STANDARD PLANS	CURB INLET TOP TYPES 1, 2, 3, AND 4	INDEX 425-020	SHEET 3 of 3

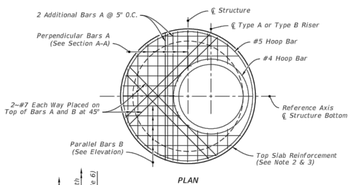
D2 C13 Curb Inlet Details



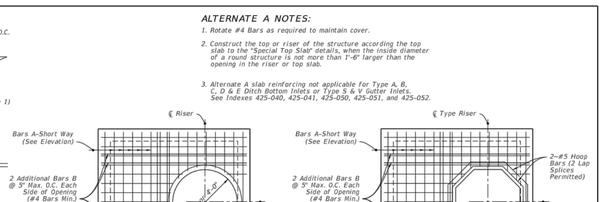
PLAN

SECTION A-A

SPECIAL TOP SLAB



PLAN

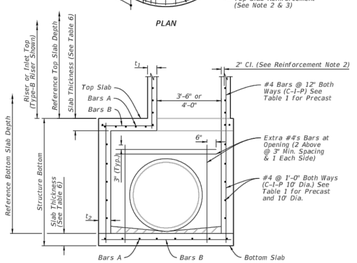


TYPE A - ROUND RISER OPENING

PLAN

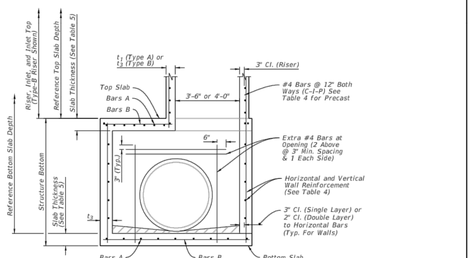
TYPE B - SQUARE RISER OPENING

PLAN



ELEVATION

TYPE J BOTTOM - ALTERNATE A



ELEVATION

TYPE J BOTTOM - ALTERNATE B

ALTERNATE A NOTES:

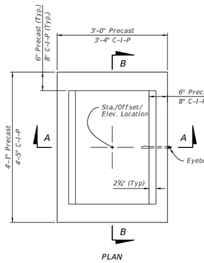
1. Rotate #4 Bars as required to maintain cover.
2. Construct the top or riser of the structure according the top slab to the "Special Top Slab" details, when the inside diameter of a round structure is not more than 1'-6" larger than the opening in the riser or top slab.
3. Alternate A slab reinforcing not applicable for Type A, B, C, D & E Ditch Bottom Inlets or Type S, & V Gutter Inlets. See Indexes 425-040, 425-041, 425-050, 425-051, and 425-052.

DIMENSIONAL AND REINFORCING DETAILS

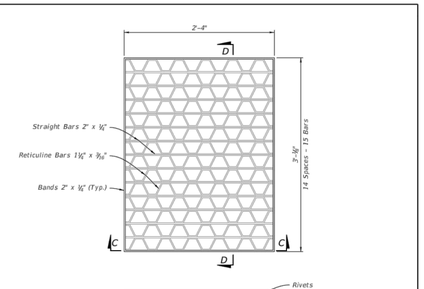
DIMENSIONAL AND REINFORCING DETAILS

LAST REVISION 11/01/20	REVISION	DESCRIPTION:	FDOT FY 2021-22 STANDARD PLANS	STRUCTURE BOTTOMS TYPE J AND P	INDEX 425-010	SHEET 2 of 4

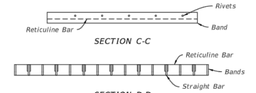
D3 C13 Storm Structure Bottom Details



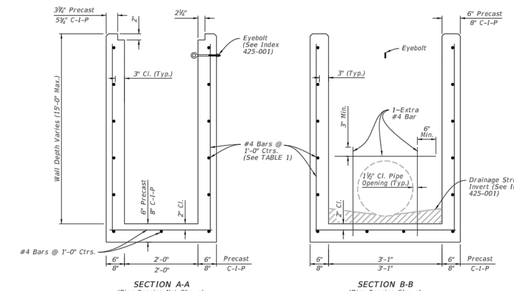
PLAN



SECTION C-C



SECTION D-D



SECTION A-A
(Pipe Opening Not Shown)

SECTION B-B
(Pipe Opening Shown)

STEEL GRATE DETAIL

(Approx. 104 Lbs. – See Sheet 7 For Cast Iron Grates)

TABLE 1 HORIZONTAL WALL REINFORCING SCHEDULE				
WALL DEPTH	SCHEDULE	AREA (in.²/ft.)	MAX. SPACING	
			BARS	WWF
0' - 15'	A12	0.20	12"	8"

NOTES:

1. Grate, Concrete Apron, and Sod not shown on structure detail.
2. See Sheet 8, 9, and 10 For Concrete Apron and Sodded Area details.

DITCH BOTTOM INLET TYPE C, D, E, AND H

TYPE C - DIMENSIONAL, REINFORCING, AND STEEL GRATE DET

LAST REVISION 11/01/20	REVISION	DESCRIPTION:	FDOT FY 2021-22 STANDARD PLANS	DITCH BOTTOM INLET TYPE C, D, E, AND H	INDEX 425-052	SHEET 2 of

D4 C13 Type "C" Ditch Bottom Inlet

DARCY UNROE LICENSE No 60929 ★ STATE OF FLORIDA PROFESSIONAL ENGINEER ★

Darcy Unroe PE 60929

Item 3.

#	Revisions	Date	Description

#	Revisions	Date	Description

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 00006579 ph (407) 299-0650

General Details Sheet 3

WHISPERING HEIGHTS Subdivision

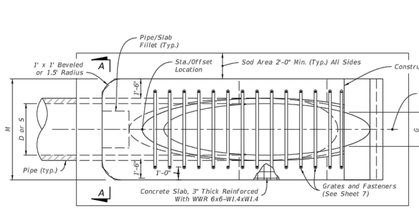
Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
----	Scale
09-07-21	Date
WH2-C13	File

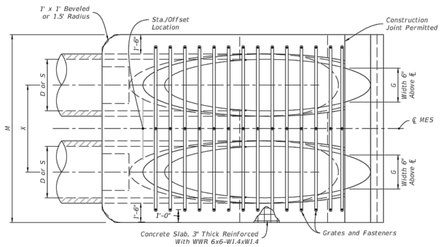
Dwg. No.

C13

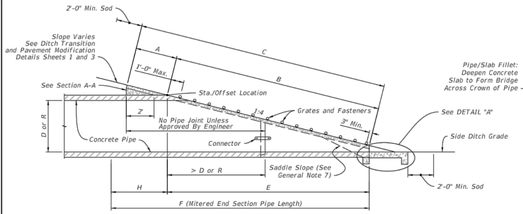
15 of 83



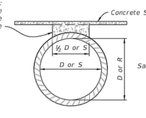
PLAN - SINGLE PIPE



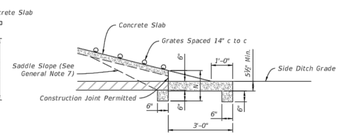
PLAN - MULTIPLE PIPE



ELEVATION



SECTION A-A
(Pipe/Slab Fillet)



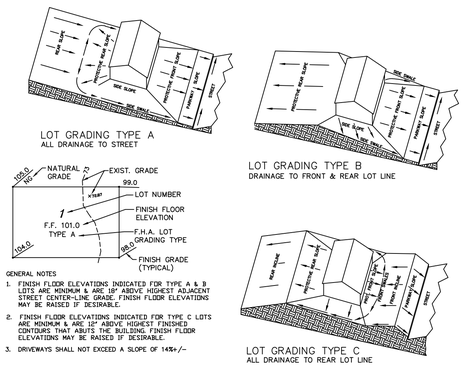
DETAIL "A"

ROUND CONCRETE PIPE
(Elliptical Pipe Similar)

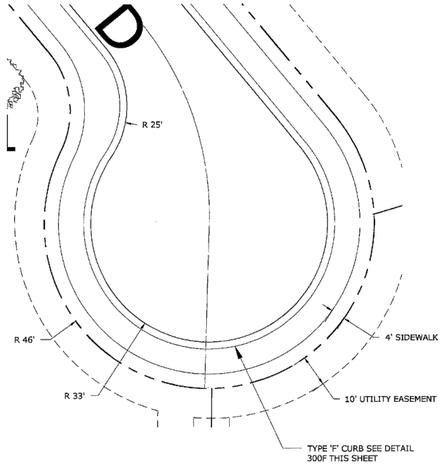
SINGLE AND MULTIPLE CONCRETE PIPE

LAST REVISION 11/01/18	DESCRIPTION:	FY 2020-21 STANDARD PLANS	SIDE DRAIN MITERED END SECTION	INDEX 430-022	SHEET 2 of 7

D1 C14 Mitered End Section



D3 C14 LOT GRADING DETAILS
NTS

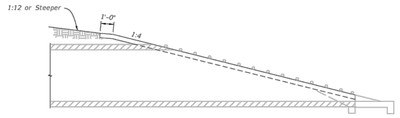


D4 C14 TYPICAL CUL-DE-SAC DETAIL
1"=20'

SINGLE AND MULTIPLE CONCRETE PIPE DIMENSIONS AND QUANTITIES

Pipe	Dia. D	Rise R	Span S	X	A	B	C	E	F	G	H	M Single Pipe	M Double Pipe	M Triple Pipe	M Quad. Pipe	N	GRATE SIZES STANDARD WEIGHT PIPE	GRATE SIZES EXTRA STRONG PIPE	3" CONC. SLAB (CY) Single Pipe	3" CONC. SLAB (CY) Double Pipe	3" CONC. SLAB (CY) Triple Pipe	3" CONC. SLAB (CY) Quad. Pipe	SODDING (SY) Single Pipe	SODDING (SY) Double Pipe	SODDING (SY) Triple Pipe	SODDING (SY) Quad. Pipe
Round Concrete	15"	—	—	2'-7"	2.27	4.09	6.36	4.03	9"	1.22'	4.0'	4.63	7.21	9.79	12.37	1.19			0.76	1.16	1.54	1.94	8	10	11	12
	18"	—	—	2'-10"	2.36	5.12	7.48	5.03	9"	1.41'	4.0'	4.92	7.75	10.58	13.42	1.21			0.85	1.28	1.71	2.17	9	10	12	13
	24"	—	—	3'-5"	2.53	7.18	9.71	7.03	11"	1.73'	4.0'	5.50	8.92	12.33	15.75	1.29			1.02	1.58	2.15	2.75	10	12	13	15
	30"	—	—	4'-3"	2.70	9.25	11.95	9.03	13"	2.00'	4.0'	6.08	10.33	14.58	18.83	1.29	2½"	3"	1.23	1.98	2.74	3.50	12	14	15	17
	36"	—	—	5'-1"	2.87	11.31	14.18	11.03	15"	2.24'	4.0'	6.67	11.75	16.83	21.92	1.33	2½"	3"	1.40	2.38	3.33	4.25	13	15	17	20
	42"	—	—	6'-0"	3.05	13.37	16.42	13.03	17"	2.45'	4.0'	7.25	13.25	19.25	25.25	1.38	2½"	3½"	1.60	2.83	4.04	5.26	14	17	19	22
	48"	—	—	6'-9"	3.22	15.43	18.65	15.03	19"	2.65'	4.0'	7.83	14.58	21.33	28.08	1.42	2½"	3½"	1.81	3.26	4.70	6.14	15	18	21	24
	54"	—	—	7'-8"	3.39	17.49	20.88	17.03	21"	2.83'	4.0'	8.42	16.08	23.75	31.42	1.46	3"	4"	2.03	3.78	5.54	7.28	17	20	23	27
	60"	—	—	8'-6"	3.56	19.55	23.11	19.03	23"	3.00'	4.0'	9.00	17.50	26.00	34.50	1.50	3"	4"	2.28	4.36	6.43	8.50	18	22	25	29
Elliptical Concrete	—	12"	18"	2'-10"	2.36	3.00	5.42	3.03	5"	1.50'	2.0'	4.92	7.75	10.58	13.42	1.21			0.68	1.04	1.41	1.77	8	9	11	12
	—	14"	23"	3'-4"	2.44	3.75	6.19	3.70	6"	1.90'	2.3'	5.38	8.71	12.04	15.38	1.23			0.76	1.19	1.63	2.05	9	10	12	13
	—	19"	30"	4'-0"	2.62	5.47	8.09	5.36	8"	2.37'	2.6'	6.04	10.04	14.04	18.04	1.27	2½"	3"	0.95	1.52	2.09	2.65	10	12	13	15
	—	24"	38"	5'-0"	2.79	7.18	9.97	7.03	10"	2.85'	3.0'	6.79	11.79	16.79	21.79	1.31	2½"	3"	1.18	1.95	2.74	3.53	11	13	15	18
	—	29"	45"	5'-11"	3.05	8.90	11.95	8.70	12"	3.19'	3.3'	7.50	13.42	19.33	25.25	1.38	2½"	3½"	1.41	2.42	3.44	4.45	12	15	18	20
	—	34"	53"	7'-0"	3.22	10.62	13.84	10.36	13"	3.57'	3.6'	8.25	15.25	22.25	29.25	1.42	3"	3½"	1.63	2.92	4.22	5.52	13	17	20	23
	—	38"	60"	7'-10"	3.39	11.99	15.38	11.70	15"	3.95'	3.7'	8.92	16.75	24.58	32.42	1.46	3"	4"	1.83	3.36	4.89	6.41	14	18	21	25
	—	43"	68"	8'-11"	3.56	13.71	17.27	13.36	17"	4.28'	3.6'	9.87	18.58	27.50	36.42	1.50	3"	4"	2.09	3.95	5.80	7.65	16	20	23	27
	—	48"	76"	9'-11"	3.73	15.43	19.18	15.03	19"	4.59'	4.0'	10.42	20.33	30.25	40.17	1.54	3"	HSS 5"x5"x¼"	2.37	4.54	6.73	8.92	17	21	26	30
	—	53"	83"	10'-8"	3.91	17.19	21.06	16.70	20"	4.77'	3.7'	11.08	21.79	32.42	43.08	1.58	3"	HSS 5"x9½"	2.61	5.09	7.56	10.03	18	23	27	32
	—	58"	91"	11'-8"	4.08	18.87	22.95	18.36	22"	5.01'	3.8'	11.83	23.50	35.17	46.83	1.63	3½"	HSS 5"x11"	2.91	5.77	8.64	11.50	19	24	29	35

△8.42 ◇8.23 Dimensions permitted to allow use of 8' standard pipe lengths.
◇10.40 ◇10.10 Dimensions permitted to allow use of 12' standard pipe lengths.

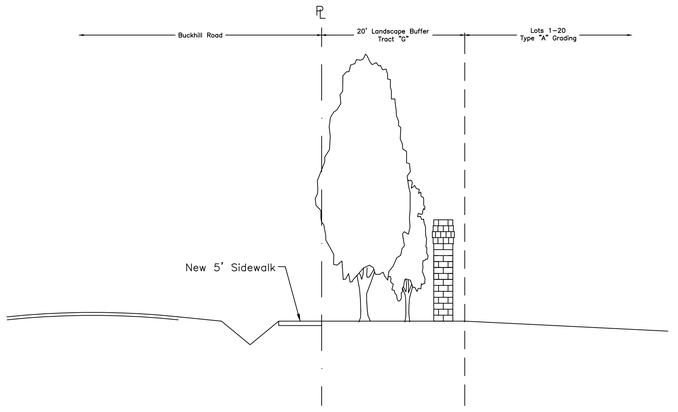


PERMISSIBLE PAVEMENT MODIFICATION

CONCRETE PIPE DIMENSIONS AND QUANTITIES AND PERMISSIBLE PAVEMENT MODIFICATION

LAST REVISION 11/01/19	DESCRIPTION:	FY 2020-21 STANDARD PLANS	SIDE DRAIN MITERED END SECTION	INDEX 430-022	SHEET 3 of 7

D2 C14 Mitered End Section



D5 C14 Buckhill Road Landscape Buffer

Item 3.

#	Revisions	Date	Description

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 00006579 ph (407) 299-0650

General Details Sheet 4

WHISPERING HEIGHTS Subdivision

Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
----	Scale
09-07-21	Date
WH2-C14	File

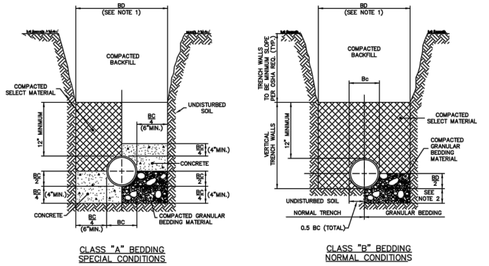
Dwg. No.

C14

16 of 83

DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

Darcy Unroe PE 60929



CLASS "A" BEDDING
SPECIAL CONDITIONS

CLASS "B" BEDDING
NORMAL CONDITIONS

NOTES: FOR BEDDING AND TRENCHING

1. DIMENSION BC = PIPE O.D.
   DIMENSION BD = TRENCH WIDTH AT TOP OF PIPE
   MAXIMUM BD = BC + 30"
   MINIMUM BD = MAXIMUM DIMENSION OF BELL + 8" (UNSHEETED TRENCH)
2. DEPTH FOR REMOVAL FOR UNSUITABLE MATERIAL SHALL BE AS REQUIRED TO REACH SUITABLE FOUNDATION. FOR ROCK OR OTHER NON-CUSHIONING MATERIAL, DEPTH SHALL BE 6" BELOW BOTTOM OF UTILITY.
3. ALL BACKFILL AND SELECT MATERIAL UNDER ALL ROADWAYS, DRIVES (INCLUDING DIRT DRIVES), AND PARKING AREAS SHALL BE COMPACTED TO 98% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY, (AASHTO T-180). BACKFILL AND SELECT MATERIAL UNDER ALL OTHER AREAS SHALL BE COMPACTED AS FOLLOWS: FROM BOTTOM OF TRENCH TO 12" ABOVE TOP OF PIPE – 95% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY (AASHTO T-180), FROM 12" ABOVE TOP OF PIPE TO TOP OF BACKFILL – 90% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY (AASHTO T-180)

TRENCHING AND BEDDING
NOT TO SCALE

Howey-in-the-Hills
Standard Details
DATE: FEB 2022
DETAIL PW-2

101 - Bedding & Trenching

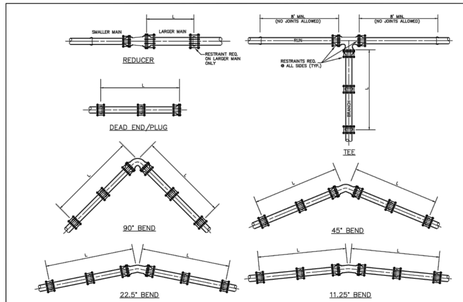


TABLE OF THRUST RESTRAINT LENGTHS

PIPE SIZE (Inches)	90° BEND		45° BEND		22.5/22° BEND		11.25/11° BEND		TEES		DEAD END & PLUG		REDUCER	
	P.V.C. D.I.	RESTR. L. (FEET)	P.V.C. D.I.	RESTR. L. (FEET)	P.V.C. D.I.	RESTR. L. (FEET)	P.V.C. D.I.	RESTR. L. (FEET)	P.V.C. D.I.	RESTR. L. (FEET)	P.V.C. D.I.	RESTR. L. (FEET)	PIPE SIZES	P.V.C. D.I.
4	20"	16'	8"	7'	4"	3'	2"	2'	15"	12'	40"	29'	6"x4"	33' 21'
6	28"	22'	12"	9'	6"	4'	3"	2'	33"	21'	63"	40'	8"x6"	34' 22'
8	36"	29'	15"	12'	7"	6"	4"	3'	52"	33'	85"	52'	10"x8"	33' 21'
10	43"	34'	18"	14'	9"	7'	4"	3'	68"	43'	98"	63'	12"x10"	34' 22'
12	50"	40'	21"	17'	10"	8'	5"	4'	84"	54'	116"	74'	16"x12"	83' 40'
16	63"	51'	26"	21'	13"	10'	6"	5'	116"	74'	148"	94'	18"x16"	33' 21'
18	70"	56'	29"	23'	14"	11'	7"	6'	131"	83'	163"	103'	20"x18"	33' 21'
20	75"	61'	31"	25'	15"	12'	7"	6'	145"	93'	178"	113'	20"x20"	83' 39'
24	86"	70'	36"	29'	17"	14'	9"	7'	173"	110'	203"	130'		

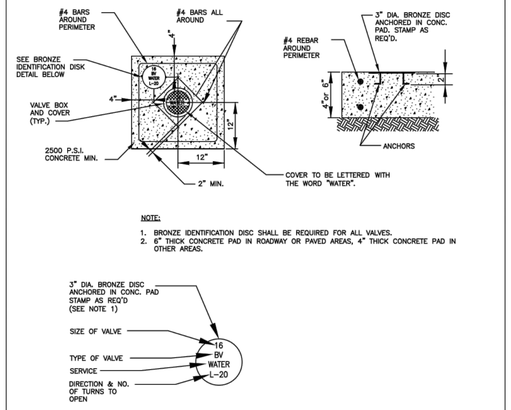
THRUST RESTRAINT DESIGN NOTES

1. RESTRAINT JOINTS, FITTINGS, & VALVE REQUIREMENTS CALCULATED BY THE THRUST RESTRAINT DESIGN PROGRAM PROVIDED BY EBBA IRON SALES, INC.
2. DATA BASED ON MAX. PRESSURE OF 150 p.s.i., THE UNIFIED SOILS CLASSIFICATION SYSTEM (SOIL TYPE SP), THE PIPE BEDDED IN NATIVE SOIL w/ A MINIMUM OF 2.5' COMPACTED FILL OVER THE PIPE, AND USING A SAFETY FACTOR OF 1.5 FOR THE DATA.
3. ALL FITTINGS & VALVES SHALL HAVE RESTRAINED WITH "MEGA-LUG" RESTRAINTS, & ALL BELL & SPIGOT JOINTS TO BE RESTRAINED WITH A RESTRAINING HARNESS WITHIN THE REQUIRED LENGTH OF RESTRAINED PIPE (L).

THRUST RESTRAINT
NOT TO SCALE

Howey-in-the-Hills
Standard Details
DATE: FEB 2022
DETAIL PW-7

102 - Restrained Joint Table

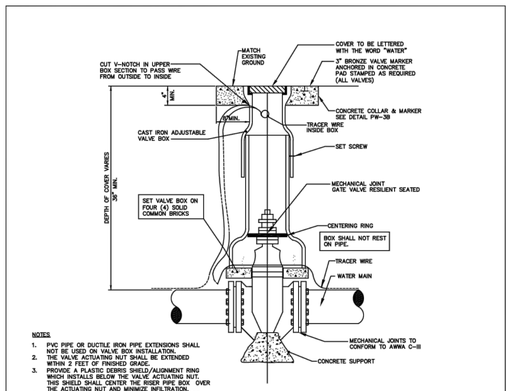


BRONZE IDENTIFICATION DISC DETAIL

VALVE COLLAR
NOT TO SCALE

Howey-in-the-Hills
Standard Details
DATE: FEB 2022
DETAIL PW-3B

103 - Valve Collar

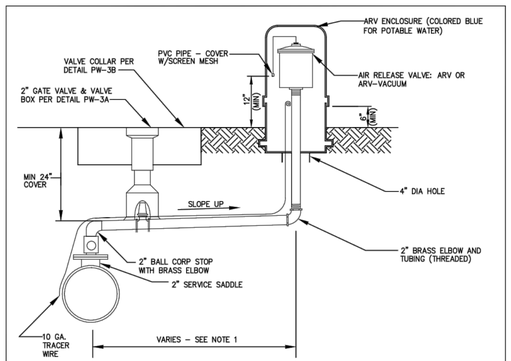


NOTES:
1. PVC PIPE OR DUCTILE IRON PIPE EXTENSIONS SHALL NOT BE USED ON VALVE BOX INSTALLATION.
2. THE VALVE ACTUATING NUT SHALL BE EXTENDED WITHIN 2 FEET OF FINISHED GRADE.
3. PROVIDE A PLASTIC DEBRIS SHIELD/ALIGNMENT RING WHICH INSTALLS BELOW THE VALVE ACTUATING NUT. THIS SHIELD SHALL CENTER THE RISER PIPE BOX OVER THE ACTUATING NUT AND MINIMIZE INFILTRATION.
4. FOR NEW CONSTRUCTION, THE VALVE BOX SHALL BE ADJUSTED TO MIDRANGE TO ALLOW FOR FUTURE BOX ADJUSTMENTS.
5. VALVE BOX SHALL BE A TWO PIECE SCREW TYPE.

GATE VALVE AND BOX
NOT TO SCALE

Howey-in-the-Hills
Standard Details
DATE: FEB 2022
DETAIL PW-3A

104 - Gate Valve and Box



NOTES:

1. OFFSET DISTANCE SHOWN ON DRAWINGS.
2. ADJUST HORIZONTAL LOCATION OF ARV ENCLOSURE, AS REQUIRED TO AVOID SIDEWALK. LOCATE ARV ENCLOSURE WITHIN 1' OF R/W OR AS OTHERWISE DETERMINED BY THE CITY.

OFFSET AIR RELEASE VALVE VAULT
NOT TO SCALE

Howey-in-the-Hills
Standard Details
DATE: FEB 2022
DETAIL PW-13

105 - Air Release Valve

GENERAL WATER NOTES

1. WATER SYSTEM COMPONENTS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND REGULATIONS, CLEANED, DISINFECTED AND BACTERIOLOGICALLY CLEARED FOR SERVICE IN ACCORDANCE WITH THE LATEST AWWA STANDARDS AND CHAPTER 62-555 FLORIDA ADMINISTRATIVE CODE.
2. ALL PIPING SHALL BEAR THE "NSF" SEAL FOR POTABLE WATER.
3. WATER MAINS SHALL BE PVC CONFORMING TO AWWA C-900, DR 18 FOR PIPE SIZES 4"-12". PIPES 14" OR LARGER SHALL BE AWWA C-905, OR 18. ALL COUPLINGS, CLEANING COMPOUNDS, SOLVENTS, LUBRICANTS, AND PIPE PREPARATION, FOR LAYING, SHALL BE IN ACCORDANCE WITH THE PIPE MANUFACTURER'S LATEST RECOMMENDATIONS.
4. DEPTH OF WATER LINES TO BE 36" MINIMUM COVER FROM FINISH GRADE.
5. WATER MAINS TO BE LOCATED 5' FROM BACK OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
6. ALL WATER MAINS UNDER PAVEMENT SHALL BE DUCTILE IRON.
7. ALL CASINGS UNDER PAVEMENT SHALL EXTEND 5' BEYOND THE BACK OF CURB.
8. DISINFECTING: FOLLOWING THE PRESSURE TESTING, THE CONTRACTOR SHALL DISINFECT ALL SECTIONS OF THE NEW WATER DISTRIBUTION SYSTEM. DISINFECTION SHALL BE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF AWWA STANDARD C651 "DISINFECTING WATER MAINS", AND ALL APPROPRIATE AGENCY APPROVAL.
9. ALL HYDROSTATIC TESTS SHALL BE IN ACCORDANCE WITH AWWA C600 FOR DUCTILE IRON PIPE AND C605/M23 FOR PVC PIPE.
10. ALL WATER MAINS SHALL BE INSTALLED, PRESSURE AND LEAK TESTED IN ACCORDANCE WITH AWWA C600, (62-555.320(21)(B)1 AND 62-555.330, F.A.C. ALL INSTALLATION, TESTING AND FIELD PROCEDURES MUST BE PROVIDED AND MUST CONFORM TO THE APPLICABLE AWWA STANDARDS.
11. ALL PIPING MATERIALS AND SPECIFICATIONS COVERING PIPES, JOINTS AND PACKING MATERIALS, INTERNAL COATING AND LININGS, FITTINGS, SPECIALS AND APPURTENANCES SHALL ALL BE IN ACCORDANCE WITH THE CORRESPONDING AWWA STANDARDS AND BE CONFORMING TO NSF REQUIREMENTS, AS MAY BE APPLICABLE, WITH EXCEPTIONS ALLOWED ONLY IF DOCUMENTATION AND ASSURANCES ARE PROVIDED IN COMPLIANCE WITH PARAGRAPHS 62-555.320(3) (D), 622-555.320 (3) (B), AND 62-555.320 (21) (C), F.A.C. THE LEAD USE PROHIBITION IN RULE 62-555.322, F.A.C. SHALL ALSO APPLY. POLYETHYLENE TUBING SHALL BE PER AWWA C901. UNDERGROUND SERVICE LINES AND VALVES SHALL BE PER AWWA C800.

COLOR CODING

ALL PIPE AND PIPE FITTINGS INSTALLED UNDER THIS PROJECT WILL BE COLOR CODED OR MARKED IN ACCORDANCE WITH SUBPARAGRAPH 62-555.320(21)(B)3, F.A.C., USING BLUE AS A PREDOMINANT COLOR. (UNDERGROUND PLASTIC PIPE WILL BE SOLID-WALL BLUE PIPE, WILL HAVE A CO-EXTRUDED BLUE EXTERNAL SKIN OR WILL BE WHITE OR BLACK PIPE WITH BLUE STRIPES INCORPORATED INTO, OR APPLIED TO, THE PIPE WALL; AND UNDERGROUND METAL OR CONCRETE PIPE WILL HAVE BLUE STRIPES APPLIED TO THE PIPE WALL. PIPE STRIPED DURING MANUFACTURING OF THE PIPE WILL HAVE CONTINUOUS STRIPES THAT RUN PARALLEL TO THE AXIS OF THE PIPE, THAT ARE LOCATED AT NO GREATER THAN 90-DEGREE INTERVALS AROUND THE PIPE, AND THAT WILL REMAIN INTACT DURING AND AFTER INSTALLATION OF THE PIPE. IF TAPE OR PAINT IS USED TO STRIPE PIPE DURING INSTALLATION OF THE PIPE, THE TAPE OR PAINT WILL BE APPLIED IN A CONTINUOUS LINE THAT RUNS PARALLEL TO THE AXIS OF THE PIPE AND THAT IS LOCATED ALONG THE TOP OF THE PIPE; FOR PIPE WITH AN INTERNAL DIAMETER OF 24 INCHES OR GREATER, TAPE OR PAINT WILL BE APPLIED IN CONTINUOUS LINES ALONG EACH SIDE OF THE PIPE AS WELL AS ALONG THE TOP OF THE PIPE. ABOVEGROUND PIPE WILL BE PAINTED BLUE OR WILL BE COLOR CODED OR MARKED LIKE UNDERGROUND PIPE.) [FAC 62CELL 555.320(21)(B)3]

UNLESS DESCRIBED IN THE CITY CSM ELSEWHERE, ALL WATER MAINS SHALL BE INSTALLED IN ACCORDANCE WITH **CHAPTER 62-555.314, F.A.C.,** AND ANY UPDATES TO THE F.A.C., AND IN CONFORMANCE WITH ALL SEPARATION REQUIREMENTS AS FOUND THEREIN.

62-555.314 LOCATION OF PUBLIC WATER SYSTEM MAINS.

FOR THE PURPOSE OF THIS SECTION, THE PHRASE "WATER MAINS" SHALL MEAN MAINS, INCLUDING TREATMENT PLANT PROCESS PIPING, CONVEYING EITHER RAW, PARTIALLY TREATED, OR FINISHED DRINKING WATER; FIRE HYDRANT LEADS; AND SERVICE LINES THAT ARE UNDER THE CONTROL OF A PUBLIC WATER SYSTEM AND THAT HAVE AN INSIDE DIAMETER OF THREE INCHES OR GREATER.

(1) HORIZONTAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS.

(A) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C

(B) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER.

(C) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY- OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.

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GENERAL WATER NOTES

(D) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST TEN FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND ALL PARTS OF ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065(2), F.S., AND RULE 64E-6.002, F.A.C.

(2) VERTICAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS AND RECLAIMED WATER PIPELINES.

(A) NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY- OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, AND PREFERABLY 12 INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

(3) SEPARATION BETWEEN WATER MAINS AND SANITARY OR STORM SEWER MANHOLES:

(A) NO WATER MAIN SHALL PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART OF A SANITARY SEWER MANHOLE.

(B) EFFECTIVE AUGUST 28, 2003, WATER MAINS SHALL NOT BE CONSTRUCTED OR ALTERED TO PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART OF A STORM SEWER MANHOLE OR INLET STRUCTURE. WHERE IT IS NOT TECHNICALLY FEASIBLE OR ECONOMICALLY SENSIBLE TO COMPLY WITH THIS REQUIREMENT (I.E., WHERE THERE IS A CONFLICT IN THE ROUTING OF A WATER MAIN AND A STORM SEWER AND WHERE ALTERNATIVE ROUTING OF THE WATER MAIN OR THE STORM SEWER IS NOT TECHNICALLY FEASIBLE OR IS NOT ECONOMICALLY SENSIBLE), THE DEPARTMENT SHALL ALLOW EXCEPTIONS TO THIS REQUIREMENT (I.E., THE DEPARTMENT SHALL ALLOW CONSTRUCTION OF CONFLICT MANHOLES), BUT SUPPLIERS OF WATER OR PERSONS PROPOSING TO CONSTRUCT CONFLICT MANHOLES MUST FIRST OBTAIN A SPECIFIC PERMIT FROM THE DEPARTMENT AND MUST PROVIDE IN THE PRELIMINARY DESIGN REPORT OR DRAWINGS, SPECIFICATIONS, AND DESIGN DATA ACCOMPANYING THEIR PERMIT APPLICATION THE FOLLOWING INFORMATION:

1. TECHNICAL OR ECONOMIC JUSTIFICATION FOR EACH CONFLICT MANHOLE.
2. A STATEMENT IDENTIFYING THE PARTY RESPONSIBLE FOR MAINTAINING EACH CONFLICT MANHOLE.
3. ASSURANCE OF COMPLIANCE WITH THE DESIGN AND CONSTRUCTION REQUIREMENTS IN SUB-PARAGRAPHS A. THROUGH D. BELOW. - 361
   A. EACH WATER MAIN PASSING THROUGH A CONFLICT MANHOLE SHALL HAVE A FLEXIBLE, WATERTIGHT JOINT ON EACH SIDE OF THE MANHOLE TO ACCOMMODATE DIFFERENTIAL SETTLING BETWEEN THE MAIN AND THE MANHOLE.
   B. WITHIN EACH CONFLICT MANHOLE, THE WATER MAIN PASSING THROUGH THE MANHOLE SHALL BE INSTALLED IN A WATERTIGHT CASING PIPE HAVING HIGH IMPACT STRENGTH (I.E., HAVING IMPACT STRENGTH AT LEAST EQUAL TO THAT OF 0.25-INCH-THICK DUCTILE IRON PIPE).
   C. EACH CONFLICT MANHOLE SHALL HAVE AN ACCESS OPENING, AND SHALL BE SIZED, TO ALLOW FOR EASY CLEANING OF THE MANHOLE.
   D. GRATINGS SHALL BE INSTALLED AT ALL STORM SEWER INLETS UPSTREAM OF EACH CONFLICT MANHOLE TO PREVENT LARGE OBJECTS FROM ENTERING THE MANHOLE.

(4) SEPARATION BETWEEN FIRE HYDRANT DRAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS.

(A) NEW OR RELOCATED FIRE HYDRANTS WITH UNDERGROUND DRAINS SHALL BE LOCATED SO THAT THE DRAINS ARE AT LEAST THREE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.; AT LEAST THREE FEET, AND PREFERABLY TEN FEET, FROM ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER; AT LEAST SIX FEET, AND PREFERABLY TEN FEET, FROM ANY EXISTING OR PROPOSED GRAVITY- OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.; AND AT LEAST TEN FEET FROM ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065(2), F.S., AND RULE 64E-6.002, F.A.C.

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GENERAL WATER NOTES

(5) EXCEPTIONS. WHERE IT IS NOT TECHNICALLY FEASIBLE OR ECONOMICALLY SENSIBLE TO COMPLY WITH THE REQUIREMENTS IN SUBSECTION (1) OR (2) ABOVE, THE DEPARTMENT SHALL ALLOW EXCEPTIONS TO THESE REQUIREMENTS IF SUPPLIERS OF WATER OR CONSTRUCTION PERMIT APPLICANTS PROVIDE TECHNICAL OR ECONOMIC JUSTIFICATION FOR EACH EXCEPTION AND PROVIDE ALTERNATIVE CONSTRUCTION FEATURES THAT AFFORD A SIMILAR LEVEL OF RELIABILITY AND PUBLIC HEALTH PROTECTION. ACCEPTABLE ALTERNATIVE CONSTRUCTION FEATURES INCLUDE THE FOLLOWING:

(A) WHERE AN UNDERGROUND WATER MAIN IS BEING LAID LESS THAN THE REQUIRED MINIMUM HORIZONTAL DISTANCE FROM ANOTHER PIPELINE AND WHERE AN UNDERGROUND WATER MAIN IS CROSSING ANOTHER PIPELINE AND JOINTS IN THE WATER MAIN ARE BEING LOCATED LESS THAN THE REQUIRED MINIMUM DISTANCE FROM JOINTS IN THE OTHER PIPELINE:
1. USE OF PRESSURE-RATED PIPE CONFORMING TO THE AMERICAN WATER WORKS ASSOCIATION STANDARDS INCORPORATED INTO RULE 62-555.330, F.A.C., FOR THE OTHER PIPELINE IF IT IS A GRAVITY- OR VACUUM-TYPE PIPELINE;
2. USE OF WELDED, FUSED, OR OTHERWISE RESTRAINED JOINTS FOR EITHER THE WATER MAIN OR THE OTHER PIPELINE; OR
3. USE OF WATERTIGHT CASING PIPE OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR EITHER THE WATER MAIN OR THE OTHER PIPELINE.

(B) WHERE AN UNDERGROUND WATER MAIN IS BEING LAID LESS THAN THREE FEET HORIZONTALLY FROM ANOTHER PIPELINE AND WHERE AN UNDERGROUND WATER MAIN IS CROSSING ANOTHER PIPELINE AND IS BEING LAID LESS THAN THE REQUIRED MINIMUM VERTICAL DISTANCE FROM THE OTHER PIPELINE:
1. USE OF PIPE, OR CASING PIPE, HAVING HIGH IMPACT STRENGTH (I.E., HAVING AN IMPACT STRENGTH AT LEAST EQUAL TO THAT OF 0.25-INCH-THICK DUCTILE IRON PIPE) OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR THE WATER MAIN; AND
2. USE OF PIPE, OR CASING PIPE, HAVING HIGH IMPACT STRENGTH (I.E., HAVING AN IMPACT STRENGTH AT LEAST EQUAL TO THAT OF 0.25-INCH-THICK DUCTILE IRON PIPE) OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR THE OTHER PIPELINE IF IT IS NEW AND IS CONVEYING WASTEWATER OR RECLAIMED WATER.

Howey-in-the-Hills
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DARCY UNROE
STATE OF FLORIDA
No 60929
PROFESSIONAL ENGINEER

Darcy Unroe PE 60929

Item 3.

#	Description	Date
	Revisions	
1	Town Comm	9/19/22
	Revisions	

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 00006579 ph (407) 299-0650

Howey-in-the-HillsDetails 1

WHISPERING HEIGHTS Subdivision
Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
----	Scale
09-07-21	Date
WH2-C15	File

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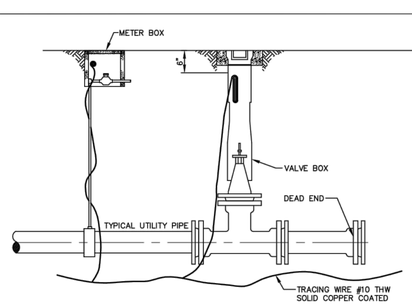


ALL PIPE INSTALLED VIA OPEN CUT SHALL BE INSTALLED WITH #10 THW SOLID COPPER COATED TRACING WIRE. ALL PIPE INSTALLED VIA HDD SHALL BE INSTALLED WITH TWO #10 COPPER CLAD STEEL WIRES.

THE TRACING WIRE MUST BE INSTALLED DIRECTLY BELOW THE PIPE AND BROUGHT TO THE SURFACE AT 500' MINIMUM INTERVALS. WIRE SHALL EXTEND A MINIMUM OF 12" ABOVE GRADE AT EACH INTERVAL AND BE COILED AND PLACED IN A VALVE BOX, METER BOX, MANHOLE, CLEANOUT, LOCATE WIRE BOX, OR OTHER APPLICABLE STRUCTURE.

COLOR CODING:

POTABLE WATER SYSTEM: BLUE
REUSE WATER SYSTEM: PANTONE PURPLE
SANITARY SEWER, FORCE MAINS AND LOW PRESSURE SEWER SYSTEMS: GREEN

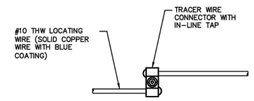
1. FOR LOW PRESSURE SEWER, POTABLE WATER AND REUSE WATER SYSTEMS: WIRE SHALL BE INSTALLED BELOW ALL MAINS AND SERVICE LINES AND ATTACHED TO VALVES, HYDRANTS AND FITTINGS. WIRE INSTALLED WITH SERVICE LINES SHALL CONNECT TO THE WIRE INSTALLED BELOW THE MAIN AND EXTEND TO THE CURB STOP.
2. FIRE SPRINKLER LINES: WIRE SHALL CONNECT TO THE WIRE INSTALLED BELOW THE MAIN AND EXTEND TO THE RISER CONNECTION.
3. SANITARY SEWER FORCE MAINS: WIRE SHALL BE INSTALLED BELOW THE FORCE MAIN AND ATTACHED TO ALL VALVES AND FITTINGS AND BROUGHT TO THE SURFACE AND PLACED IN A METAL, CITY OF TAVARES APPROVED, VALVE BOX.
4. DEAD END MAINS: WIRE SHALL BE PLACED IN A PROPERLY IDENTIFIED METAL VALVE BOX AT THE END OF THE RUN.
5. WIRE SHALL NOT BE FASTENED OR COILED TO VALVE OPERATING NUT.
6. UTILITY TRACING WIRE SHALL BE IN ACCORDANCE WITH CITY CSM AND PER CITY'S APPROVED MANUFACTURER LIST.

UTILITY PIPE LOCATION MATERIAL – WIRE

NOT TO SCALE

Howey-in-the-Hills Standard Details — DATE: FEB 2022 — DETAIL PW-8

201 – Utility Pipe Location Material



NOTES:

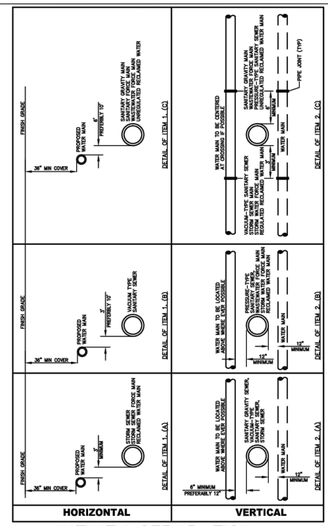
1. TRACER WIRE CONNECTOR SHALL BE DIRECT BURY, SELF-STRIPPING, LOCKING.
2. AFTER INSTALLATION OF THE LOCATING WIRE THE SYSTEM SHALL BE SUBJECTED TO TESTING, IN THE PRESENCE OF CITY UTILITY DIRECTOR OR HIS DESIGNEE PRIOR TO BACKFILL, IN ORDER TO CONFIRM THAT THE SYSTEM IS FUNCTIONAL.

LOCATING WIRE SPLICING

NOT TO SCALE

Howey-in-the-Hills Standard Details — DATE: FEB 2022 — DETAIL PW-5

201 – Locating Wire Splice

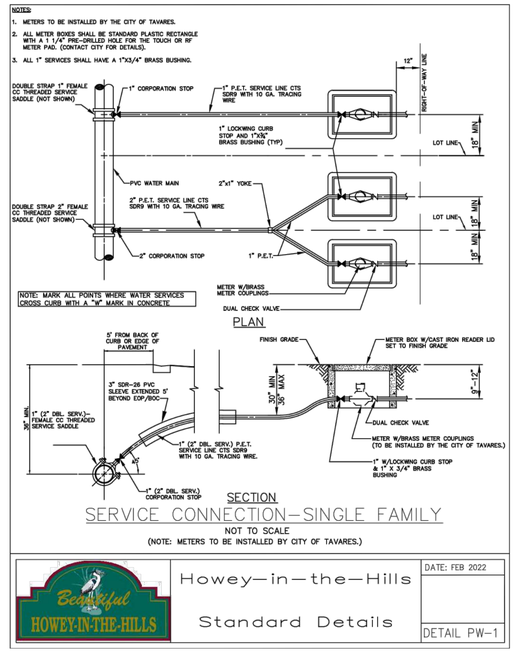


UTILITY SEPARATION

NOT TO SCALE

Howey-in-the-Hills Standard Details — DATE: FEB 2022 — DETAIL PW-11A

202 – Utility Separation



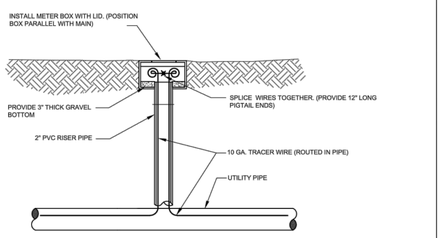
SERVICE CONNECTION–SINGLE FAMILY

NOT TO SCALE

(NOTE: METERS TO BE INSTALLED BY CITY OF TAVARES.)

Howey-in-the-Hills Standard Details — DATE: FEB 2022 — DETAIL PW-1

203 – Service Connections – Domestic



TRACER WIRE BOX UTILIZING METER BOX

NOTES:

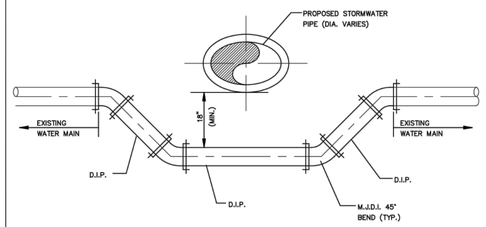
1. TRACER WIRE STATION BOX TO BE INSTALLED WHERE THE WIRE CANNOT BE BROUGHT TO GRADE IN A VALVE BOX WITHIN THE MANDATORY 500 FOOT INTERVAL OR WHERE A SPLICE MUST BE MADE ON THE TRACER WIRING. NO UNDERGROUND SPLICES.
2. BOXES SHALL NOT BE LOCATED IN ROADWAYS OR DRIVEWAYS.
3. BOX AND LID PER DETAIL PW-15
4. TRAFFIC RATED LID (STANDARD-NON BOLT DOWN)
5. LID COLOR SHALL BE PRE-MANUFACTURED OR PAINTED TO MATCH SERVICE (BLUE= POTABLE WATER, GREEN=WASTEWATER, PANTONE PURPLE=RECLAIMED WATER)

TRACER WIRE BOX

NOT TO SCALE

Howey-in-the-Hills Standard Details — DATE: FEB 2022 — DETAIL PW-9

201 – Tracer Wire Box



NOTES:

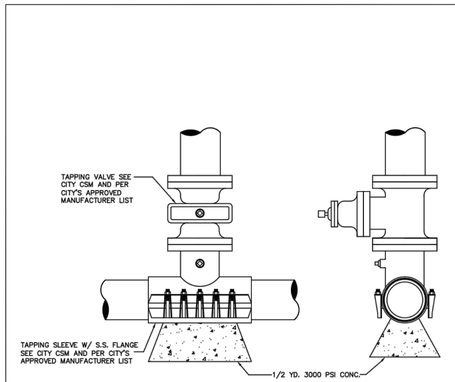
1. ALL PROPOSED JOINTS SHALL BE RESTRAINED.
2. ALL EXISTING JOINTS WITHIN SHALL BE RESTRAINED IN ACCORDANCE WITH GR-6.
3. ALL PIPING CLEARANCES SHALL BE IN ACCORDANCE WITH CHAPTER 62-555.314 F.A.C.

WATER LINE CROSSING

NOT TO SCALE

Howey-in-the-Hills Standard Details — DATE: FEB 2022 — DETAIL PW-11B

202 – Water Line Crossing

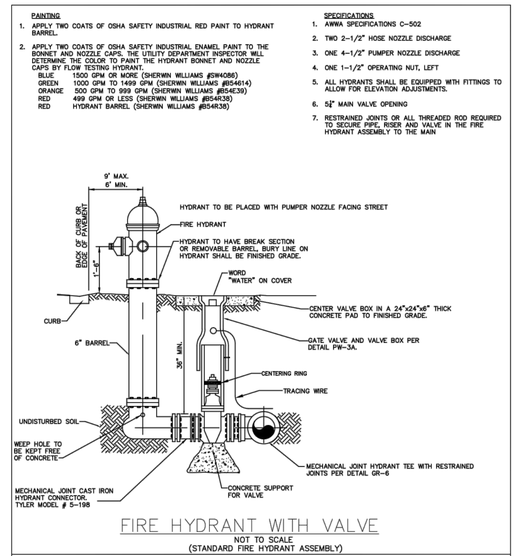


WET TAP SLEEVE AND TAPPING VALVE

NOT TO SCALE

Howey-in-the-Hills Standard Details — DATE: FEB 2022 — DETAIL PW-17

204 – Wet Tap Detail – Water



FIRE HYDRANT WITH VALVE

NOT TO SCALE

(STANDARD FIRE HYDRANT ASSEMBLY)

Howey-in-the-Hills Standard Details — DATE: FEB 2022 — DETAIL PW-1

205 – Fire Hydrant & Valve

DARCY UNROE STATE OF FLORIDA No 60929 PROFESSIONAL ENGINEER LICENSED

Darcy Unroe PE 60929

Item 3.

#	Description	Date
	Revisions	
1	Town Comm	9/19/22
	Revisions	

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 00006579 ph (407) 299-0650

Howey-in-the-HillsDetails 2

WHISPERING HEIGHTS Subdivision

Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
----	Scale
09-07-21	Date
WH2-C16	File

Dwg. No.

C16

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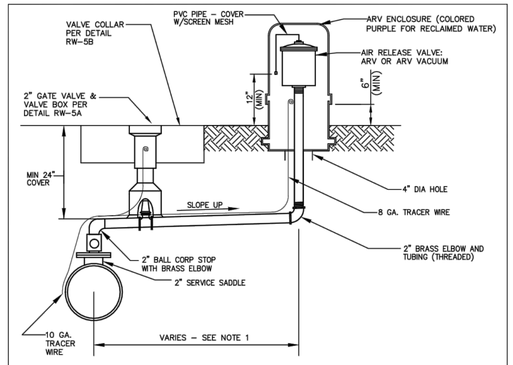
1. ALL RECLAIMED WATER PIPING TO BE OWNED AND MAINTAINED BY THE TOWN SHALL BE A SOLID PANTONE PURPLE COLOR.
2. RECLAIMED WATER MAINS SHALL BE PVC CONFORMING TO AWWA C-900, DR 18 FOR PIPE SIZES 4"-12". PIPES 14" & LARGER SHALL BE AWWA C-905, DR 25. PRESSURE CLASS 350 DIP IS AN ACCEPTABLE ALTERNATE. ALL COUPLINGS, CLEANING COMPOUNDS, SOLVENTS, LUBRICANTS, AND PIPE PREPARATION FOR LAYING SHALL BE IN ACCORDANCE WITH THE PIPE MANUFACTURERS LATEST RECOMMENDATIONS.
3. DEPTH OF RECLAIMED WATER LINES TO BE 36" MIN. BELOW FINISHED GRADE.
4. RECLAIMED WATER MAINS TO BE LOCATED 5' FROM BACK OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
5. ALL PIPING CLEARANCES SHALL BE IN ACCORDANCE WITH CHAPTER 62-555.314, F.A.C.
6. ALL RECLAIMED WATER MAINS UNDER PAVEMENT SHALL BE DUCTILE IRON PIPE AND SHALL EXTEND 5' BEYOND THE EDGE OF PAVEMENT OR BACK OF CURB, EXCEPT DIRECTIONAL BORES, WHICH SHALL BE SDR-11 HDPE.
7. ALL IRRIGATION SLEEVING UNDER PAVEMENT SHALL EXTEND 5' BEYOND THE EDGE OF PAVEMENT OR BACK OF CURB.
8. ALL OTHER REQUIREMENTS OF THE TOWN WATER SYSTEM SHALL APPLY TO THE RECLAIMED WATER SYSTEM.
9. PROPER SIGNAGE FOR PUBLIC ACCESS IRRIGATION AREAS TO BE SUPPLIED BY THE DEVELOPER / CONTRACTOR, IN ACCORDANCE WITH CHAPTER 62-610.418, F.A.C.

GENERAL RECLAIMED WATER NOTES

Howey-in-the-Hills Standard Details — DATE: FEB 2022 — DETAIL RW-1



NOTES:

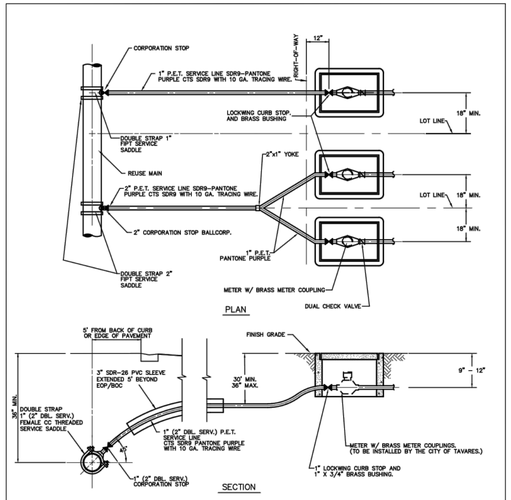
1. OFFSET DISTANCE SHOWN ON DRAWINGS.
2. ADJUST HORIZONTAL LOCATION OF ARV ENCLOSURE, AS REQUIRED TO AVOID SIDEWALK. LOCATE ARV ENCLOSURE WITHIN 1' OF R/W OR AS OTHERWISE DETERMINED BY THE CITY.

OFFSET AIR RELEASE VALVE VAULT

NOT TO SCALE

Howey-in-the-Hills Standard Details — DATE: FEB 2022 — DETAIL RW-2

401 - Air Release – Reclaimed



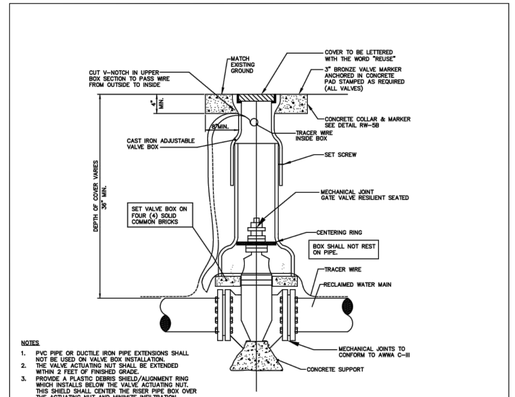
RECLAIMED WATER SERVICE CONNECTION

NOT TO SCALE

(NOTE: METERS TO BE INSTALLED BY CITY OF TAVARES.)

Howey-in-the-Hills Standard Details — DATE: FEB 2022 — DETAIL RW-3

402 - Service Connections – Reclaimed



NOTES

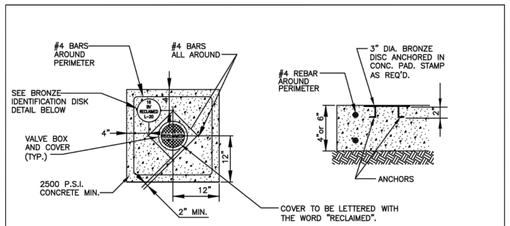
1. PVC PIPE OR DUCTILE IRON PIPE EXTENSIONS SHALL NOT BE USED ON VALVE BOX INSTALLATION.
2. THE VALVE ACTUATING NUT SHALL BE EXTENDED WITHIN 2 FEET OF FINISHED GRADE.
3. PROVIDE A PLASTIC DEBRIS SHIELD/ALIGNMENT RING WHICH INSTALLS BELOW THE VALVE ACTUATING NUT, AND ABOVE THE VALVE SEAT IN THE VALVE BOX OVER THE ACTUATING NUT AND MINIMIZE INFILTRATION. FOR NEW CONSTRUCTION, THE VALVE BOX SHALL BE ADJUSTED TO MIDRANGE TO ALLOW FOR FUTURE BOX ADJUSTMENTS.
4. VALVE BOX SHALL BE A TWO PIECE SCREW TYPE.

GATE VALVE AND BOX

NOT TO SCALE

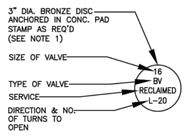
Howey-in-the-Hills Standard Details — DATE: FEB 2022 — DETAIL RW-5A

403 - Gate Valve & Box – Reclaimed



NOTE:

1. BRONZE IDENTIFICATION DISC SHALL BE REQUIRED FOR ALL VALVES.
2. 6" THICK CONCRETE PAD IN ROADWAY OR PAVED AREAS, 4" THICK CONCRETE PAD IN OTHER AREAS.



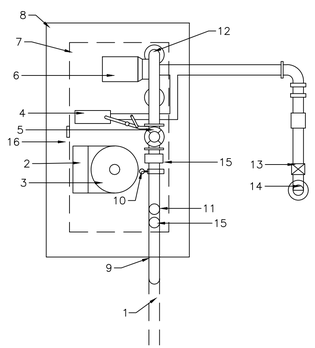
BRONZE IDENTIFICATION DISC DETAIL

VALVE COLLAR

NOT TO SCALE

Howey-in-the-Hills Standard Details — DATE: FEB 2022 — DETAIL RW-5B

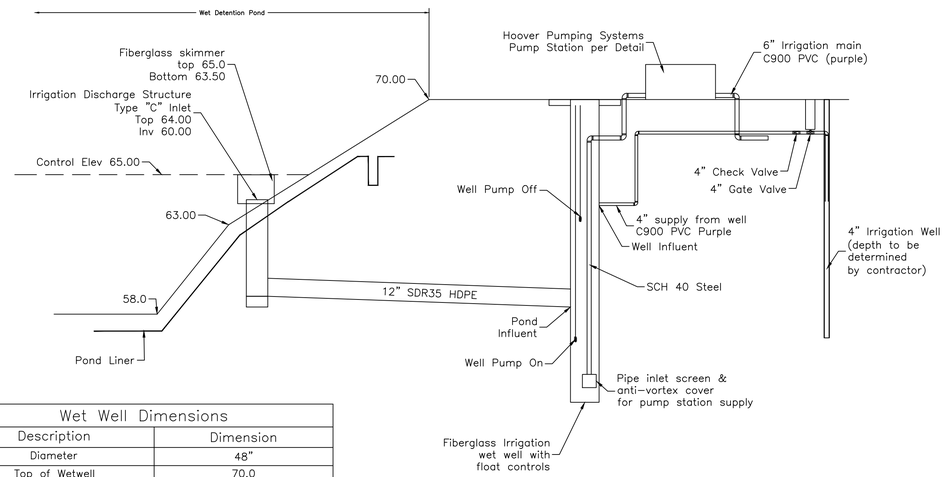
404 - Valve Collar – Reclaimed



Work Notes

1. Irrigation main from source
2. Control Panel with UL listed assembly
3. Pressure tank, ASME, 15 gal, 125 psi
4. 5 HP Jockey Pump
5. Pressure Transducer
6. 30 HP irrigation Pump (427 gpm @ 230 ft)
7. 4x8 fiberglass reinforced shed with forest green gelcoat finish
8. 10x10x6" TK fiber reinforced pad
9. Main Discharge Valve (6")
10. Hose bib and ball valve
11. Magnetic flow meter
12. Check valves at each pump discharge
13. Swing check valve
14. 316 SS screen on crop pipe
15. Control/Shutoff valve with normally open Solendid connected to Hoover Flowguard
16. HASP Lock & Handle
17. Galvanized Steel skid and discharge header
18. 4"x6" Reducer
19. Drop pipe to Irrigation Main

405 - Irrigation Pump Station



Wet Well Dimensions	
Description	Dimension
Diameter	48"
Top of Wetwell	70.0
Well Influent Inv	60.00
Pond Influent Inv	59.45
Well Pump off	63.75
Well Pump on	54.25
Floor	50.00

406 - Irrigation/Pond Pipe Connection Detail

Item 3.

#	Description	Date

Revisions

#	Description	Date
1	Town Comm	9/19/22

Revisions

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 00006579 ph (407) 299-0650

Howey-in-the-HillsDetails 3

WHISPERING HEIGHTS Subdivision

Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
----	Scale
09-07-21	Date
WH2-C16	File

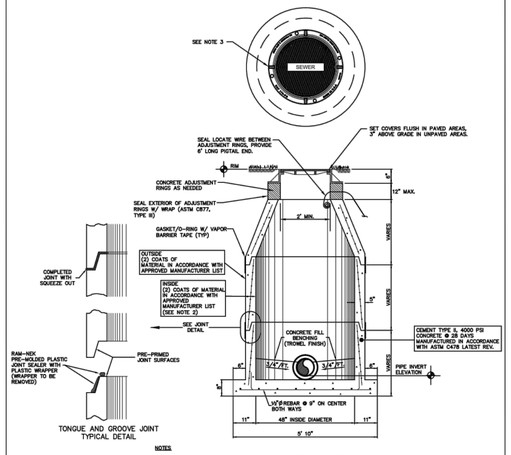
Dwg. No.

C17

17 of 83

DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

Darcy Unroe PE 60929



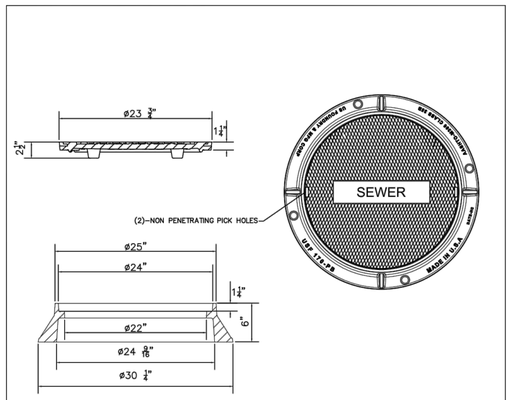
NOTES
1. ALTERNATE-PRECAST MANHOLE TOPS MUST BE APPROVED IN ADVANCE.
2. LINER (100 MILS DFT) SHALL BE USED WHERE SHOWN ON DRAWINGS AND/OR REQUIRED BY THE CITY.
3. MANHOLE LID TO BE CENTERED OVER EFFLUENT PIPE.
4. INSTALL ONE CONTINUOUS PIECE OF RAM-NEK AROUND ENTIRE MATING SURFACE BETWEEN ADJUSTMENT RINGS AND MANHOLE FRAME.

SANITARY PRECAST MANHOLE

NOT TO SCALE

Howey-in-the-Hills Standard Details — DATE: FEB 2022 — DETAIL WW-1

501 - Sanitary Manhole



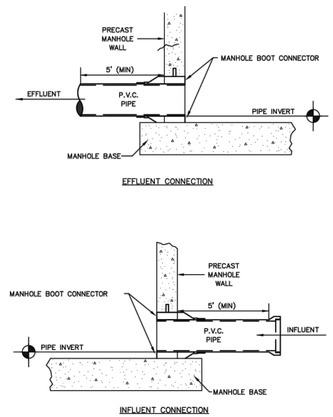
*MODEL USF 170-PB RING AND CE-PB COVER
RING NO. 8021468
COVER NO. 8017774
MATERIAL AASHTO M306 GRAY CAST IRON CLASS 35B

SANITARY MANHOLE COVER

NOT TO SCALE

Howey-in-the-Hills Standard Details — DATE: FEB 2022 — DETAIL WW-2

501 - Sanitary Manhole Cover

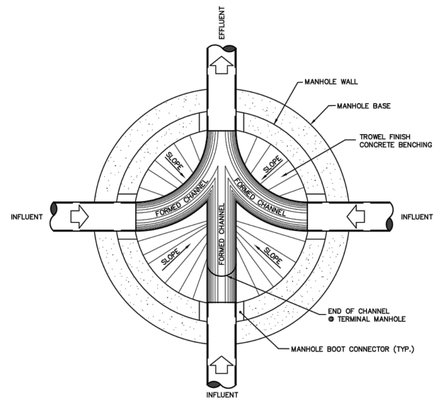


PIPE CONNECTION TO PRECAST SANITARY MANHOLE

NOT TO SCALE

Howey-in-the-Hills Standard Details — DATE: FEB 2022 — DETAIL WW-3

501 - Pipe to MH Connection



FLOW PATTERNS FOR INVERT CHANNELS

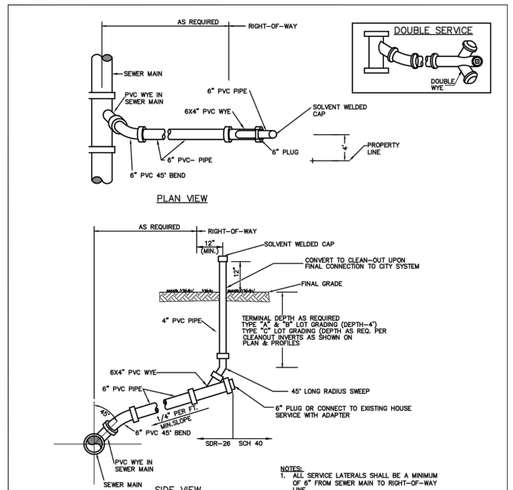
NOTES:
1. INVERT CHANNELS TO BE CONSTRUCTED FOR SMOOTH FLOW WITH NO OBSTRUCTIONS, HALF PIPE INVERT CHANNELS.
2. SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS PROVIDING FOR SMOOTH FLOWS.
3. CHANNELS FOR FUTURE CONNECTIONS (STUBS) SHALL BE CONSTRUCTED, FILLED WITH SAND AND COVERED WITH 1" OF MORTAR.

TYPICAL MANHOLE PLAN

NOT TO SCALE

Howey-in-the-Hills Standard Details — DATE: FEB 2022 — DETAIL WW-4

501 - Manhole Plan



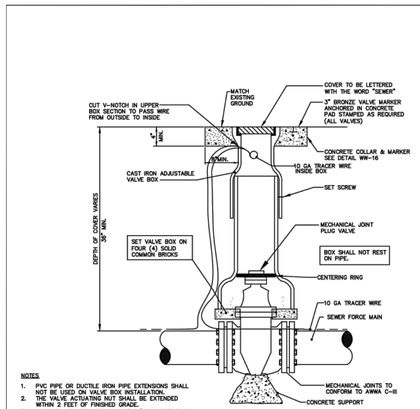
NOTES:
1. ALL SERVICE LATERALS SHALL BE A MINIMUM OF 6" FROM SEWER MAIN TO RIGHT-OF-WAY LINE.
2. NO BENDS IN SERVICE LINE BETWEEN THE PROPERTY LINE AND THE WYE CONNECTOR.

SANITARY SEWER SERVICE

PVC SEWER SERVICE – NOT TO SCALE

Howey-in-the-Hills Standard Details — DATE: FEB 2022 — DETAIL WW-6

502 - Sanitary Sewer Service



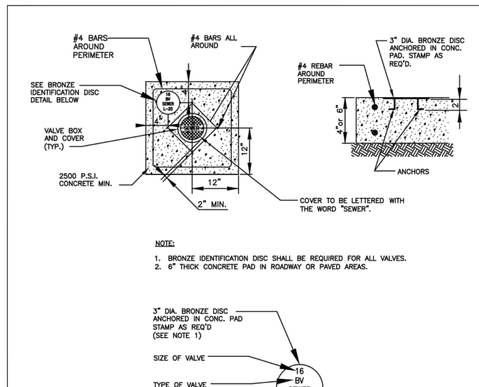
NOTES
1. PVC PIPE OR DUCTILE IRON PIPE EXTENSIONS SHALL NOT BE USED ON VALVE BOX INSTALLATION.
2. THE VALVE ACTUATING NUT SHALL BE EXTENDED WITHIN 2 FEET OF FINISHED GRADE.
3. PROVIDE A PLASTIC DEBRIS SHIELD/ALIGNMENT RING WHICH INSTALLS BELOW THE VALVE ACTUATING NUT. THIS SHIELD SHALL CENTER THE RISER PIPE BOX OVER THE VALVE NUT AND PREVENT DIRT FROM FALLING IN.
4. FOR NEW CONSTRUCTION, THE VALVE BOX SHALL BE ADJUSTED TO MIDRANGE TO ALLOW FOR FUTURE BOX ADJUSTMENTS.
5. VALVE BOX SHALL BE A TWO PIECE SCREW TYPE.

PLUG VALVE AND BOX

NOT TO SCALE

Howey-in-the-Hills Standard Details — DATE: FEB 2022 — DETAIL WW-13

503 - Plug Valve & Box – FM



NOTE:
1. BRONZE IDENTIFICATION DISC SHALL BE REQUIRED FOR ALL VALVES.
2. 6" THICK CONCRETE PAD IN ROADWAY OR PAVED AREAS.

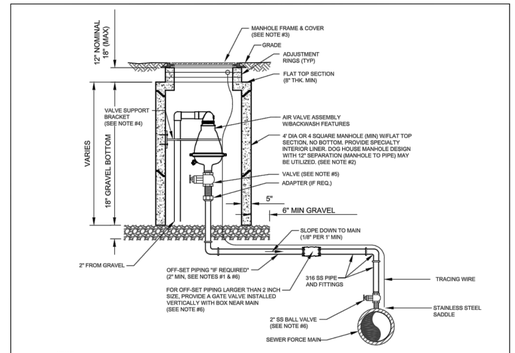
BRONZE IDENTIFICATION DISC DETAIL

VALVE COLLAR

NOT TO SCALE

Howey-in-the-Hills Standard Details — DATE: FEB 2022 — DETAIL WW-15

201 - Valve Collar – FM



NOTES:
1. THE AIR ASSEMBLY MANHOLE SHALL BE LOCATED OUTSIDE OF THE ROADWAY PAVEMENT AREA. IF OFF-SET PIPING IS REQUIRED, THE PIPING SHALL BE 2 INCH MINIMUM, (SAME SIZE AS AIR VALVE INLET). FOR PIPE SIZES 3 INCH AND SMALLER, PIPING SHALL BE 316 STAINLESS STEEL SCH 40, STD GRADE, THREADED. FOR PIPE SIZES 4 INCH AND LARGER, PIPING SHALL BE 316 STAINLESS STEEL SCH. 10 (MIN), WELDED.
2. THE CONCRETE MANHOLE SHALL INCLUDE A LINER TO BE INSTALLED ON THE INTERIOR SURFACES INCLUDING THE RISER SECTION TOP AND THE ADJUSTMENT RINGS. A BITUMINOUS WATERPROOFING MATERIAL SHALL BE PROVIDED ON THE OUTSIDE SURFACES OF THE MANHOLE.
3. FRAME AND COVER SHALL BE CITY STANDARD. THE COVER SHALL HAVE NO GASKET TO ALLOW AIR TO EXIT VAULT (REMOVE GASKET IF NECESSARY FROM THE UNDERSIDE OF STANDARD COVER). THE COVER (WHEN FLIPPED OPEN) MUST CLEAR THE AIR VALVE ASSEMBLY AT ALL TIMES OR A SQUARE TOP WITH ALUMINUM DOOR SHALL BE PROVIDED (NON TRAFFIC LOCATIONS ONLY).
4. A VALVE SUPPORT BRACKET IS ONLY REQUIRED FOR ASSEMBLIES WHICH INCLUDE OFF-SET PIPING. THE BRACKET SHALL BE WELDED AND FABRICATED FROM ALL 316 STAINLESS STEEL MATERIALS AND INCLUDE 6" x 6" x 3/" THICK END PLATES (CONTOURED TO MATCH ATTACHING SURFACES). 3" ANGLE IRON FOR SUPPORT ARM AND TWO U-BOLTS 3/" DIA TO ATTACH AROUND AIR VALVE. SECURE TO CONCRETE MANHOLE WITH FOUR 3/" DIA X 2" LONG SS8 ANCHOR (MIN). MODIFY THE ABOVE AS REQUIRED TO FIT SPECIFIC AIR VALVE AND TO ASSURE A SOLID SUPPORT BRACKET.
5. FOR PIPE SIZES 3 INCH AND SMALLER, PROVIDE A STAINLESS STEEL BALL VALVE (2" MIN). FOR PIPE SIZES 4 INCH AND LARGER, PROVIDE A FLANGED PLUG VALVE. (LEVER ARM OPERATOR) SEE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
6. FOR A 2" AIR VALVE, PROVIDE 2" STAINLESS STEEL BALL VALVE AT THE MAIN. FOR AIR VALVES LARGER THAN 2" SIZE, PROVIDE A TAPPING SLEEVE OR DUCTILE IRON TEE FITTING. ALSO, FOR OFF-SET PIPING LARGER THAN 2 INCH SIZE, PROVIDE A GATE VALVE (INSTALLED VERTICALLY NEAR MAIN WITH A GEAR ACTUATOR). SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

AIR VALVE ASSEMBLY INSIDE MANHOLE

NOT TO SCALE

Howey-in-the-Hills Standard Details — DATE: FEB 2022 — DETAIL WW-14

203 - Air Release Valve – FM

DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

Darcy Unroe PE 60929

#	Description	Date
	Revisions	
	Town Comm	9/19/22
	Revisions	

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 00006579 ph (407) 299-0650

Howey-in-the-HillsDetails 4

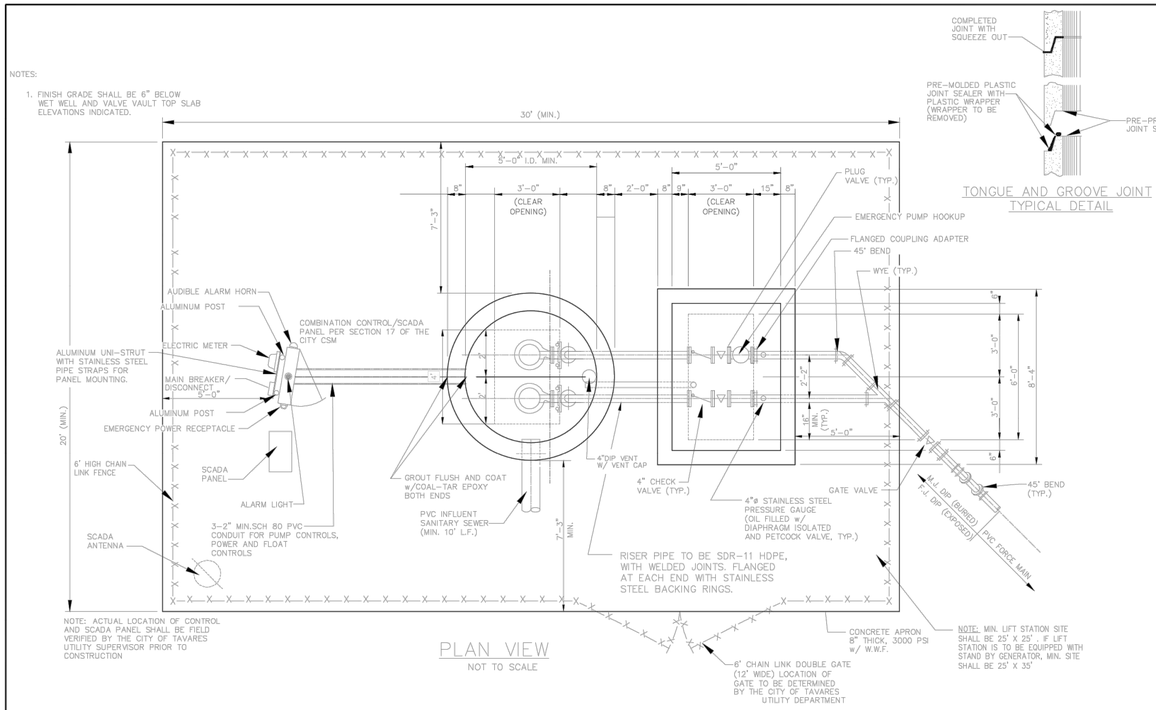
WHISPERING HEIGHTS Subdivision

Buckhill Road, Howey-in-the-Hills, Florida

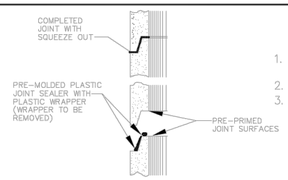
DP	Drawn
DP	Checked
----	Scale
09-07-21	Date
WH2-C17	File

Dwg. No. C17

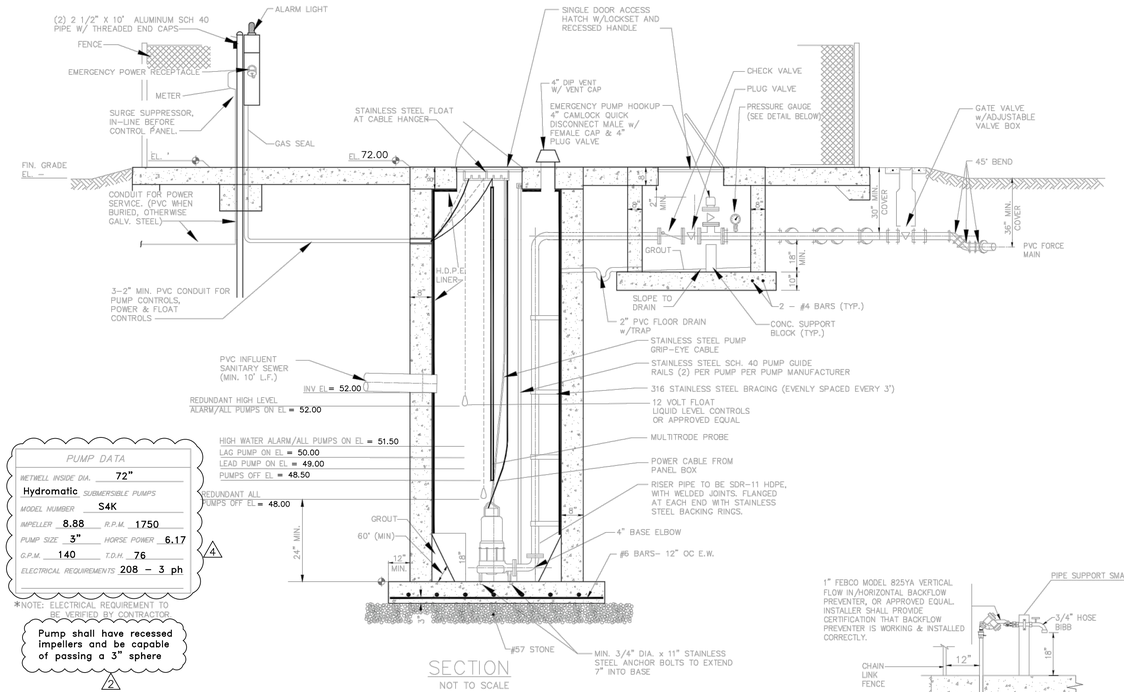
20 of 83



PLAN VIEW
NOT TO SCALE



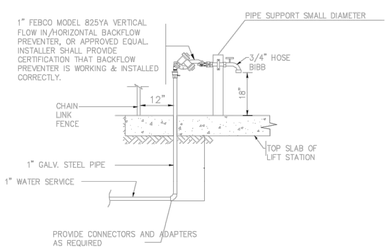
TONGUE AND GROOVE JOINT
TYPICAL DETAIL



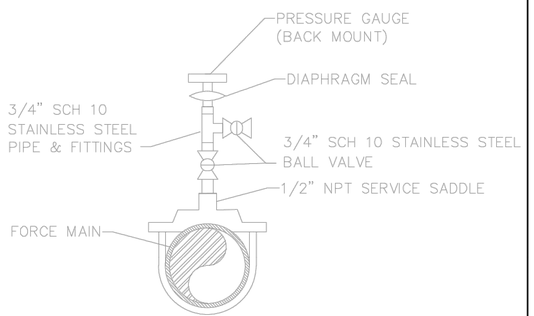
SECTION
NOT TO SCALE

DUPLEX LIFT STATION

NOT TO SCALE



HOSE BIBB DETAIL
NOT TO SCALE



PRESSURE GAUGE DETAIL
NOT TO SCALE

NOTES:

1. PUMPS: SHALL HAVE (2) 2" STAINLESS STEEL GUIDE RAILS PER PUMP AND A BPI FRONT DUPLEX SYSTEM.
2. LEVEL CONTROLS: SHALL BE IN ACCORDANCE WITH SECTION 17 OF THE CITY UTILITY MANUAL.
3. WET WELL ACCESS COVER: SHALL HAVE CLEAR OPENING OF 36"x48". ACCESS FRAME AND COVER SHALL HAVE A 1/4" THICK ONE-PIECE, MILL FINISH, EXTRUDED ALUMINUM FRAME, INCORPORATING A CONTINUOUS CONCRETE ANCHOR. DOOR PANEL(S) SHALL BE 1/4" ALUMINUM DIAMOND PLATE, REINFORCED TO WITHSTAND A LIVE LOAD OF 300 PSF. DOOR(S) SHALL OPEN TO 90° AND AUTOMATICALLY LOCK WITH STAINLESS STEEL HOLD OPEN ARMS WITH ALUMINUM RELEASE HANDLES. DOOR(S) SHALL CLOSE FLUSH WITH THE FRAME. UNIT SHALL LOCK WITH A NONCORROSIVE LOCKING BAR. FRAME SHALL SUPPORT GUIDE RAILS AND CABLE HOLDER FOR ELECTRICAL WIRING. ALL ACCESS FRAME, COVER, AND HARDWARE SHALL BE CONSTRUCTED OF STAINLESS STEEL. ALL SURFACES IN CONTACT WITH CONCRETE SHALL HAVE A SHOP COAT OF ZINC CHROMATIC PRIMER APPROVED ALKALI RESISTANT PAINT OR APPROVED PROTECTIVE COATING. DOUBLE DOOR ACCESS COVERS SHALL HAVE REMOVABLE CENTER BAR SUPPORT. COVER MUST BE COMPATIBLE WITH PUMP.
4. VALVE VAULT ACCESS COVER: SHALL HAVE CLEAR OPENING OF 36"x72" ACCESS AS MANUFACTURED IN ACCORDANCE WITH APPENDIX A, APPROVED MANUFACTURER LIST OF THE CITY CSM. ACCESS FRAME AND COVER SHALL HAVE A 1/4" THICK ONE-PIECE, MILL FINISH, EXTRUDED ALUMINUM FRAME, INCORPORATING A CONTINUOUS CONCRETE ANCHOR. DOOR PANEL(S) SHALL BE 1/4" ALUMINUM DIAMOND PLATE, REINFORCED TO WITHSTAND A LIVE LOAD OF 300 PSF. DOOR(S) SHALL OPEN TO 90° AND AUTOMATICALLY LOCK WITH STAINLESS STEEL HOLD OPEN ARMS WITH ALUMINUM RELEASE HANDLES. DOOR(S) SHALL CLOSE FLUSH WITH THE FRAME. UNIT SHALL LOCK WITH A NONCORROSIVE LOCKING BAR. ALL ACCESS FRAME, COVER, HARDWARE, AND FASTENERS SHALL BE CONSTRUCTED OF 316 STAINLESS STEEL. ALL SURFACES IN CONTACT WITH CONCRETE SHALL HAVE A SHOP COAT OF ZINC CHROMATIC PRIMER, APPROVED ALKALI RESISTANT PAINT OR APPROVED PROTECTIVE COATING. DOUBLE DOOR ACCESS COVERS SHALL HAVE REMOVABLE CENTER BAR SUPPORT. COVER MUST BE COMPATIBLE WITH PUMP.
5. ELECTRICAL SERVICE ENTRANCE: PROVIDE METER SOCKET AND MAIN DISCONNECT MEETING APPLICABLE ELECTRIC CODES AND REQUIREMENTS OF POWER COMPANY. LIGHTNING AND VOLTAGE SURGE PROTECTION TO BE PROVIDED.COST FOR THE ELECTRICAL SERVICE AND COORDINATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
6. CONTROL PANEL: SHALL BE IN ACCORDANCE WITH SECTION 17 OF THE CITY CSM. PANEL SHALL BE EQUIPPED WITH THREE, 2" X 6" ALUMINUM NIPPLES TO THE SEALOFFS, WITH SCH 80 PVC TO WET WELL.
7. PAINT: INSIDE AND OUTSIDE OF VALVE VAULT SHALL BE PAINTED WITH TWO COATS OF MATERIAL IN ACCORDANCE WITH APPENDIX A, APPROVED MANUFACTURER LIST OF THE CITY CSM APPLIED AS PER MANUFACTURER'S RECOMMENDATIONS.
8. VALVE VAULT : PRECAST CONCRETE 60"x 84" (MINIMUM) INSIDE DIMENSIONS.
9. STEEL PLACED IN BOTTOM SLAB IS TO BE IDENTICAL TO THE TOP SLAB EXCEPT THAT DIAGONAL BARS AND OPENINGS ARE ELIMINATED. STEEL IS CONTINUOUS AND SLAB IS SOLID.
10. CONTRACTOR TO CONFIRM SERVICE ARRANGEMENTS WITH POWER COMPANY BEFORE COMMENCING WORK. CONTRACTOR TO RUN UNDERGROUND WIRING TO NEAREST TRANSFORMER OR HAND HOLE.
11. ALL FASTENERS ON FLANGES AND ETC. INSIDE WET WELL WILL BE STAINLESS STEEL.
12. DIMENSIONS BETWEEN CENTERLINE OF PIPES ARE STANDARD FOR PIPE SIZES SPECIFIED.
13. SHOP DRAWINGS OF ENTIRE INSTALLATION MUST BE APPROVED BY CITY PRIOR TO PLACEMENT OF ORDER.
14. PLUG VALVES SHALL BE CONSTRUCTED WITH RESILIENT FACED PLUGS. ON BY-PASS LINES, VALVES SHALL BE BURIED WITH ACCESS THROUGH CAST IRON VALVE BOXES. VALVES SHALL HAVE A 2" OPERATION NUT. ONE(1) 5' LONG VALVE WRENCH SHALL BE PROVIDED TO THE CITY OF TAVARES PER LIFT STATION. ALL PLUG VALVES 8" AND SMALLER SHALL BE 1/4 TURN TYPE.
15. ALL EXPOSED AND EMBEDDED CONDUITS TO BE SCHEDULE 80 PVC.
16. ALL EXPOSED METAL SHALL BE PAINTED WITH TWO (2) COATS OF EXTERIOR BLACK ENAMEL PAINT.
17. ALL EXTERNAL PIPING SHALL BE DUCTILE IRON CLASS 50 (FLANGED JOINT FOR EXPOSED PIPE & MECHANICAL JOINT FOR BURIED PIPE). ALL INTERNAL WET WELL PIPING FROM THE PUMP DISCHARGE ELBOW TO THE VALVE BOX SHALL BE MINIMUM SDR-11 HDPE.
18. ALL DIMENSIONS AND LOCATIONS OF UTILITIES TO BE FIELD VERIFIED BY CONTRACTOR.
19. PRESSURE GAUGES SHALL BE STAINLESS STEEL WITH STAINLESS STEEL DIAPHRAGM, LIQUID FILLED, 4" DIAMETER DIAL WITH 0-100 PSI RANGE. CHECK VALVES SHALL OUTSIDE LEVER AND WEIGHT.
20. PADLOCKS FOR ACCESS COVERS AND CONTROL PANEL SHALL BE KEYED ALIKE, FURNISH TWO (2) KEYS PER LOCK. BOLTS IN LOCKING DEVICE SHALL BE STAINLESS STEEL.
21. WET WELL TO BE H.D.P.E. LINED WITH A MINIMUM THICKNESS OF 2 MM, MECHANICALLY ANCHORED TO THE CONCRETE. ALL JOINTS SHALL BE EXTRUSION WELDED BY CERTIFIED WELDERS.
22. SOD ALL AREAS DISTURBED BY CONSTRUCTION.
23. ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE WILL REQUIRE SHOP COATING OF SUITABLE PROTECTIVE COATING TO RESIST CORROSION.
24. BYPASS PUMPING: CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BYPASS PUMPING. A BYPASS PUMPING PLAN SHALL BE SUBMITTED AT THE TIME OR PERMIT APPLICATION TO THE ENVIRONMENTAL SERVICES DIRECTOR. CITIZEN CONSIDERATION WILL BE REVIEWED WHEN BYPASS PUMPING EQUIPMENT IS REQUIRED. SOUND ATTENUATING ENCLOSURES MAY BE REQUIRED, AT THE DISCRETION OF THE ENVIRONMENTAL SERVICES DIRECTOR.
25. FIELD TESTING: THE CONTRACTOR SHALL FURNISH THE SERVICES OF THE SYSTEM SUPPLIER'S SERVICEMAN, ALL SPECIAL TOOLS, CALIBRATION EQUIPMENT, AND LABOR TO PERFORM THE TESTS. CERTIFIED COPIES OF THE TESTS SHALL BE FURNISHED IN DUPLICATE TO THE CITY ENGINEER PRIOR TO FINAL APPROVAL.
26. DRIVEWAY SHALL HAVE A MINIMUM WIDTH OF 12 FEET.

DATE: FEB 2022

DETAIL WW-11

Howey-in-the-Hills Standard Details

Item 3.

#	Date	Description
4	11/27/23	Town Comm
3	12/9/22	Town Comm
2	9/19/22	Town Comm
1	Date	Description

Revisions

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 00006579 ph (407) 299-0650

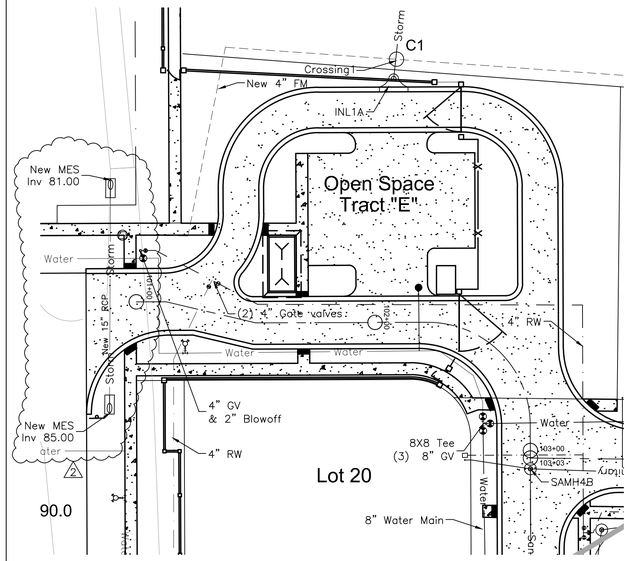
SANITARY SEWER LIFT STATION
WHISPERING HEIGHTS Subdivision
Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
----	Scale
09-07-21	Date
WH2-C19	File

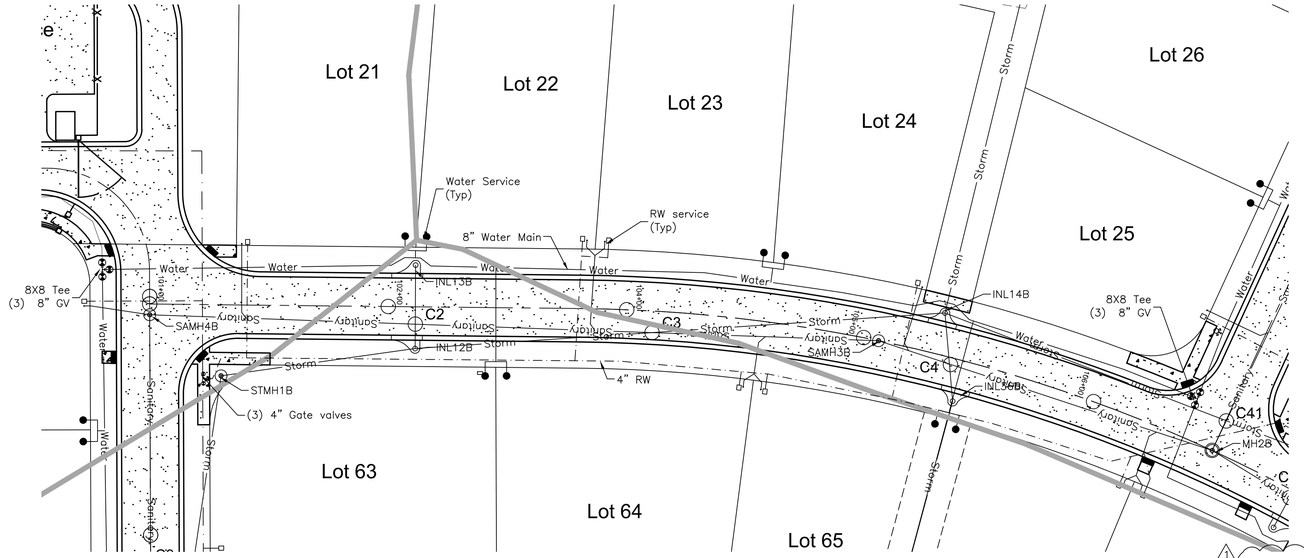
Dwg. No.
C19
21 of 83

DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

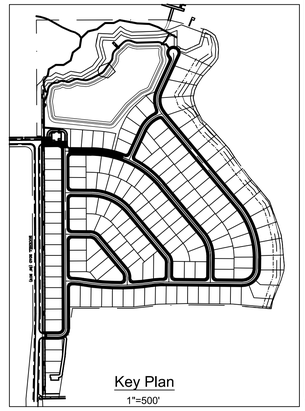
Darcy Unroe PE 60929



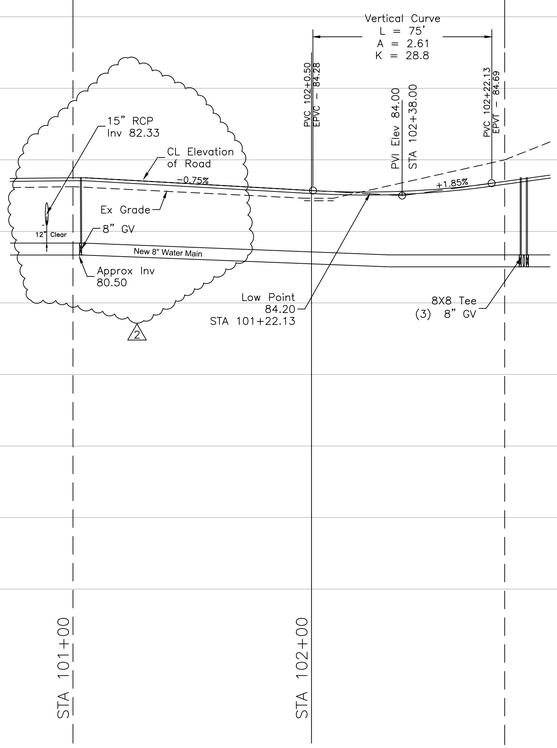
Plan View
Scale: 1"=30"



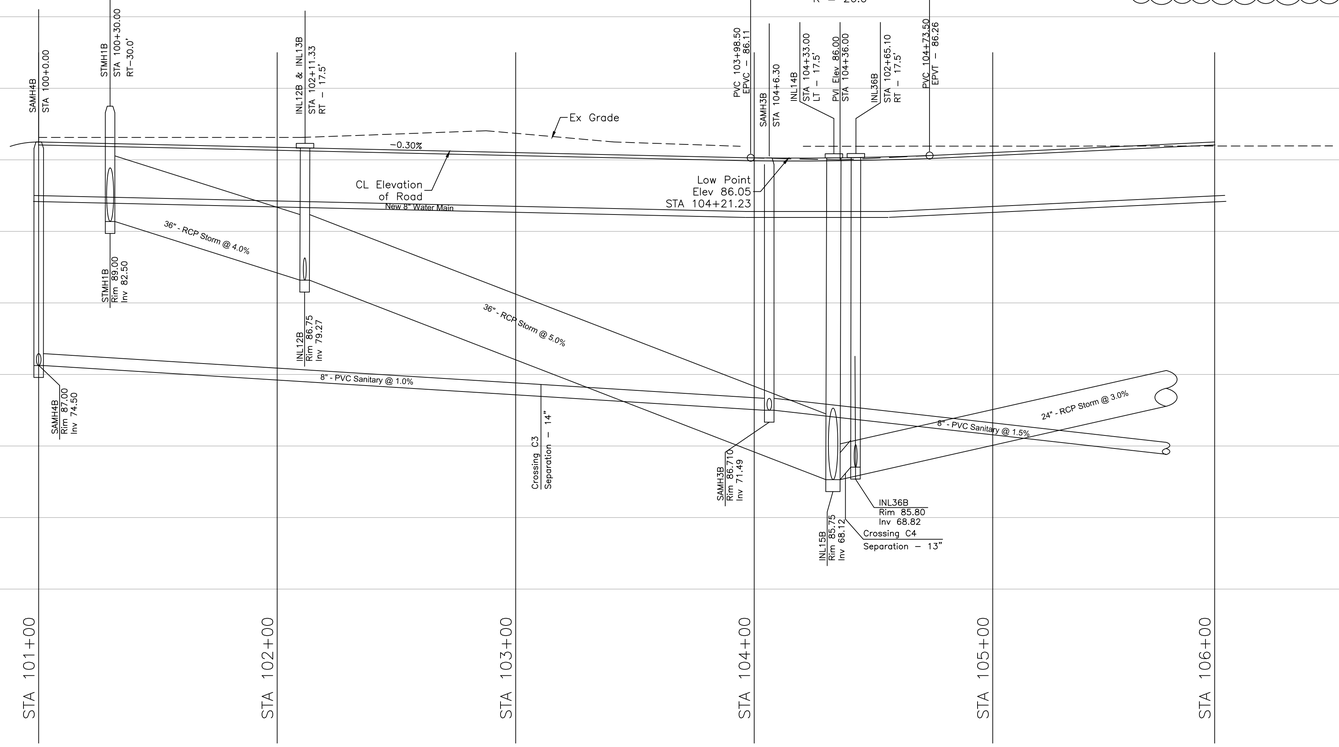
Plan View
Scale: 1"=30"



Note:
Reclaimed lines shall be set at the same vertical elevation as the proposed water main, on the other side of the street. The lines have been omitted from the profile for clarity.



Profile View
Scale: 1/4"=1'



Profile View
Scale: 1/4"=1'

DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

Darcy Unroe PE 60929

#	Description	Date
Revisions		
1	Town Comm	12/9/22
2	Town Comm	9/19/22
Revisions		

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 00006579 ph (407) 299-0650

Plan - Profile Sheet 1

WHISPERING HEIGHTS Subdivision

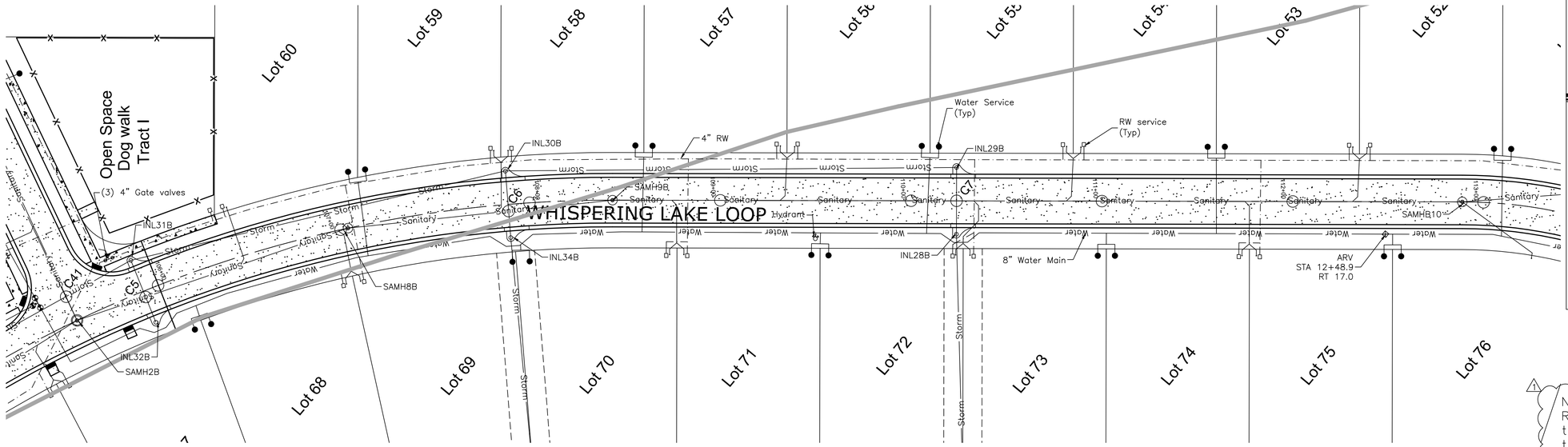
Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
1"=30'	Scale
09-07-21	Date
WH2-PP1	File

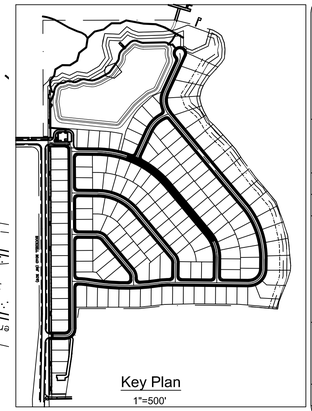
Dwg. No.

PP1

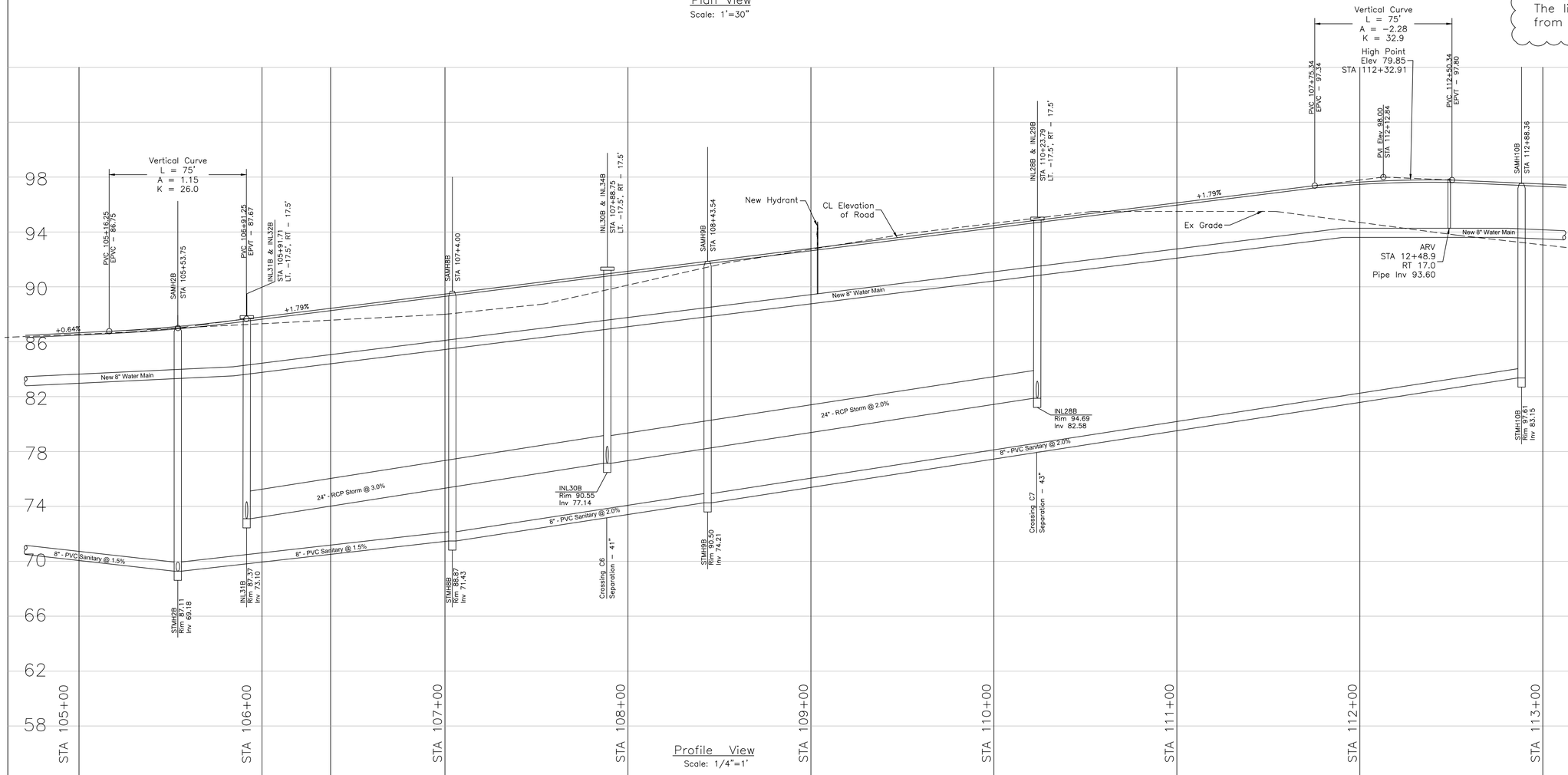
22 of 83



Plan View
Scale: 1"=30"



Note:
Reclaimed lines shall be set at the same vertical elevation as the proposed water main, on the other side of the street. The lines have been omitted from the profile for clarity.



Profile View
Scale: 1/4"=1"

Item 3.

#	Description	Date

Revisions

#	Description	Date
1	Town Comm	9/19/22

Revisions

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 0000657 9 ph (407) 299-0650

Plan - Profile Sheet 2

WHISPERING HEIGHTS Subdivision

Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
1"=30'	Scale
09-07-21	Date
WH2-PP2	File

Dwg. No.

PP2

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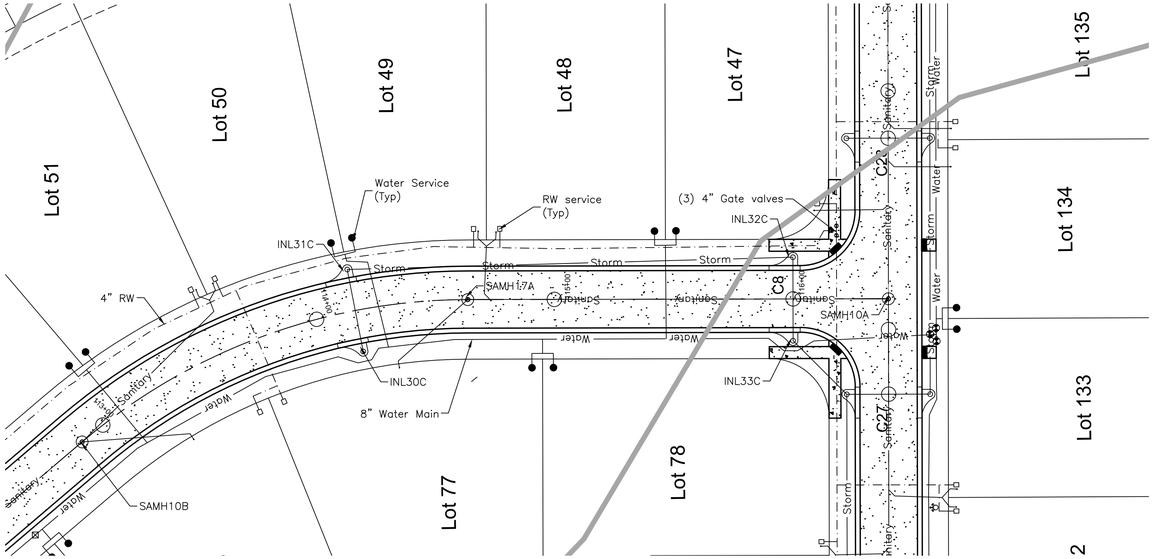
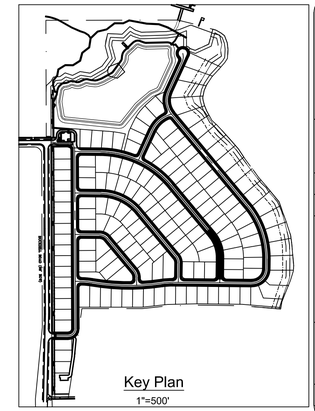
DARCY UNROE LICENSE No 60929 ★ STATE OF FLORIDA PROFESSIONAL ENGINEER

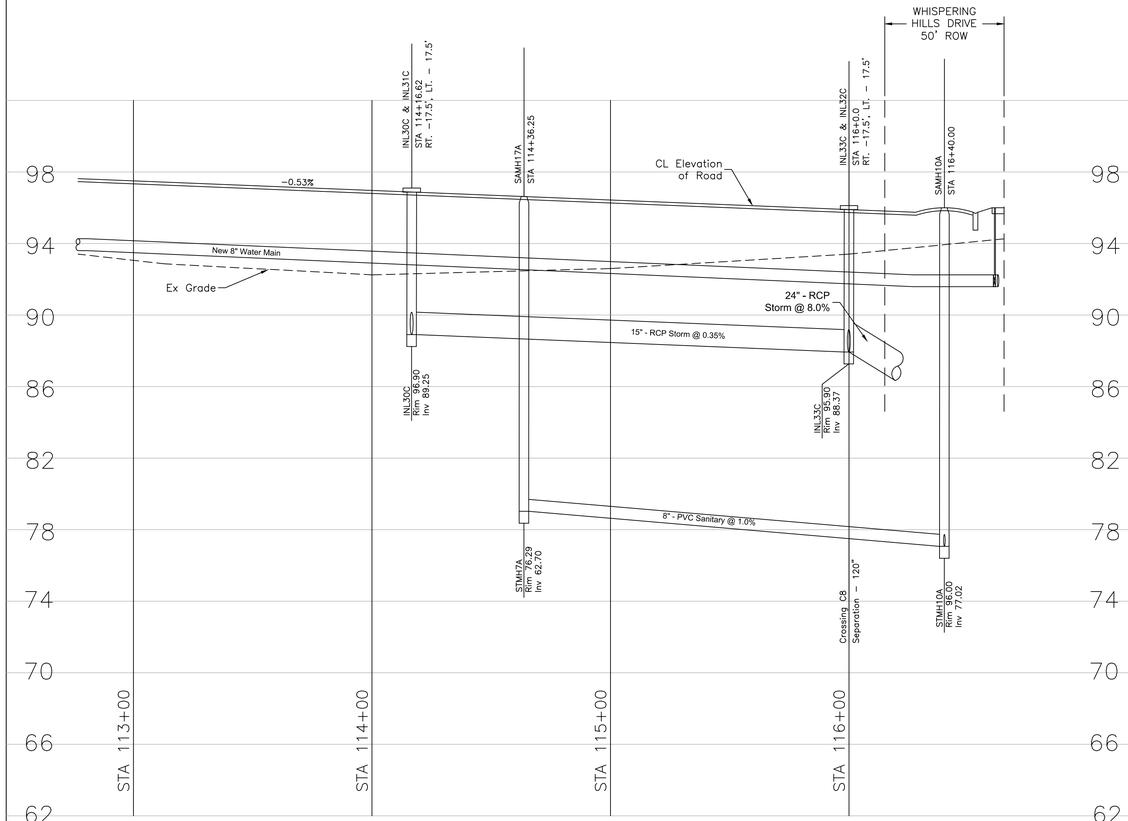
Darcy Unroe PE 60929



Plan View
Scale: 1'=30"


Key Plan
1"=500'

Note:
Reclaimed lines shall be set at the same vertical elevation as the proposed water main, on the other side of the street. The lines have been omitted from the profile for clarity.



Profile View
Scale: 1/4"=1'

Item 3.

#	Date	Description

Revisions

#	Date	Description
1	9/19/22	Town Comm

Revisions

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 00006579 ph (407) 299-0650

Plan - Profile Sheet 1

Whispering Hills Subdivision
Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
1"=30'	Scale
09-07-21	Date
WH2-PP3	File

Dwg. No.
PP3

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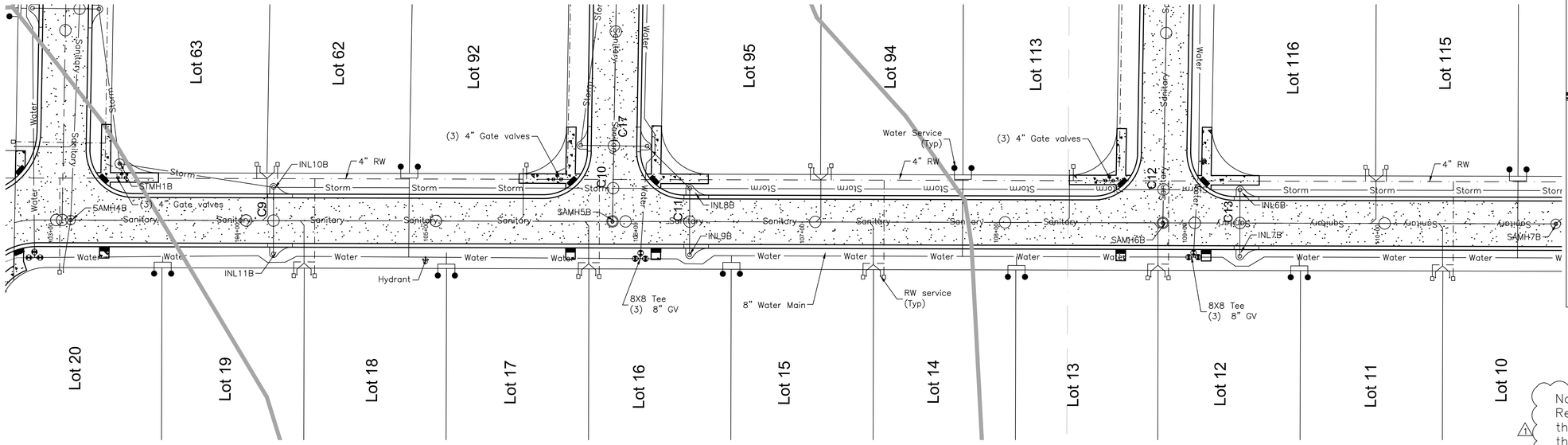
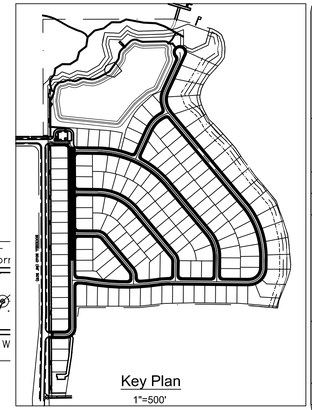
DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

Darcy Unroe PE 60929

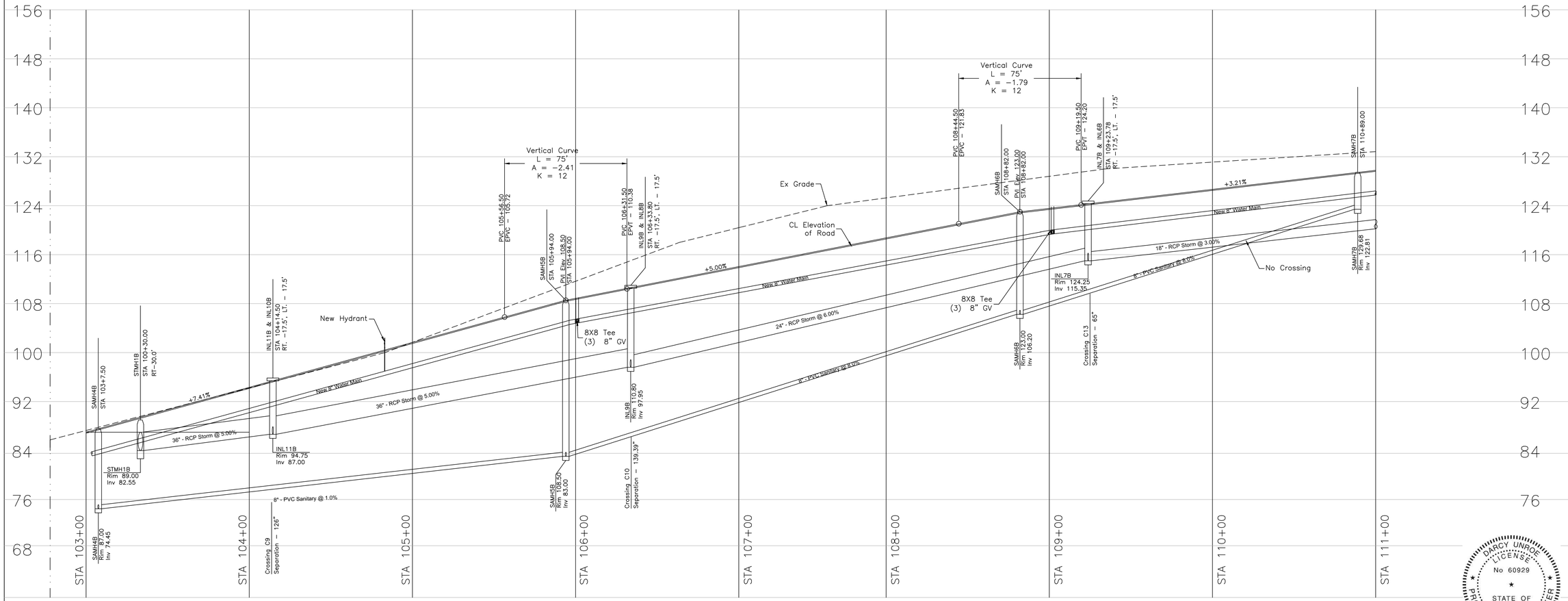
40



Plan View
Scale: 1"=30"



Note:
Reclaimed lines shall be set at the same vertical elevation as the proposed water main, on the other side of the street. The lines have been omitted from the profile for clarity.



Profile View
Scale: 1/8"=1'

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 00006579 ph (407) 299-0650

#	Revisions	Date

#	Revisions	Date	Description
1	Town Comm	9/19/22	

Plan - Profile Sheet 4

WHISPERING HEIGHTS Subdivision

Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
1"=30'	Scale
09-07-21	Date
WH2-PP4	File

Dwg. No.

PP4

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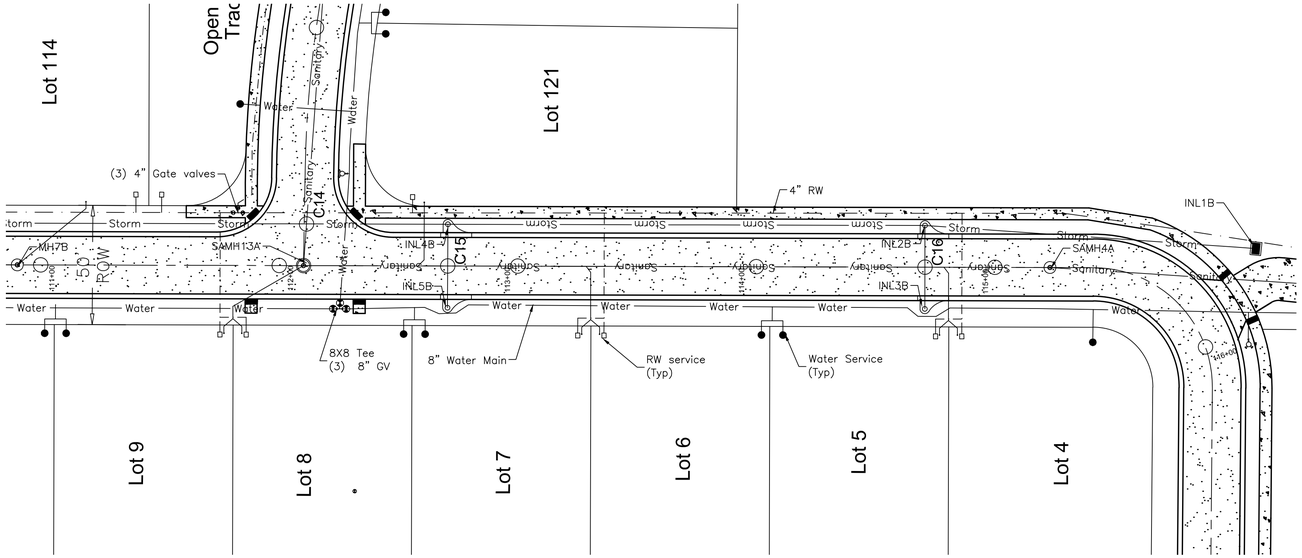
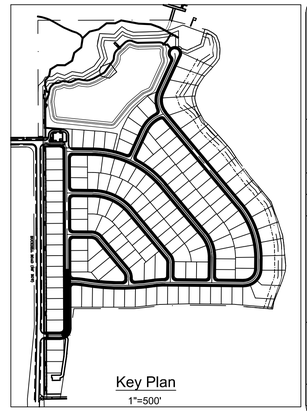
DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

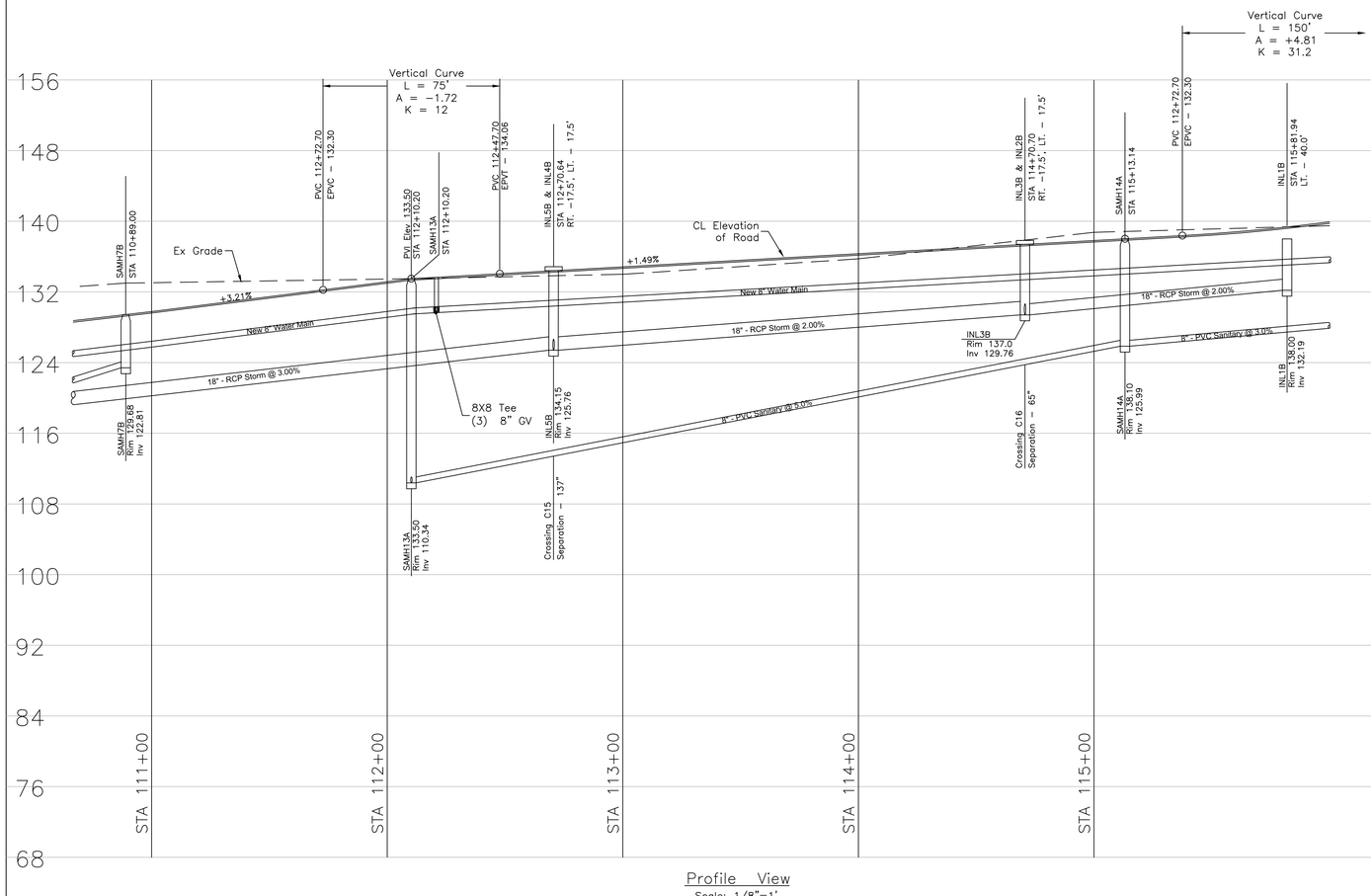
Darcy Unroe PE 60929



Plan View
Scale: 1"=30"



Note:
Reclaimed lines shall be set at the same vertical elevation as the proposed water main, on the other side of the street. The lines have been omitted from the profile for clarity.



Profile View
Scale: 1/8"=1'

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 00006579 ph (407) 299-0650

Plan - Profile Sheet 5

Whispering Hills Subdivision

Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
1"=30'	Scale
09-07-21	Date
WH2-PP5	File

Dwg. No.

PP5

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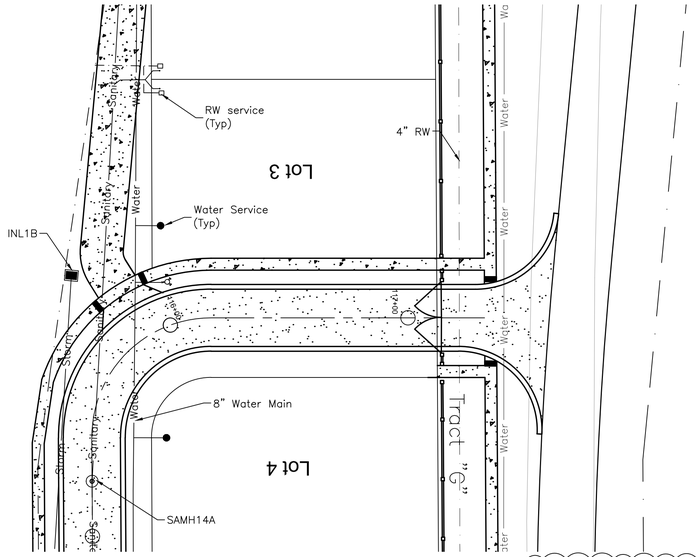
DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

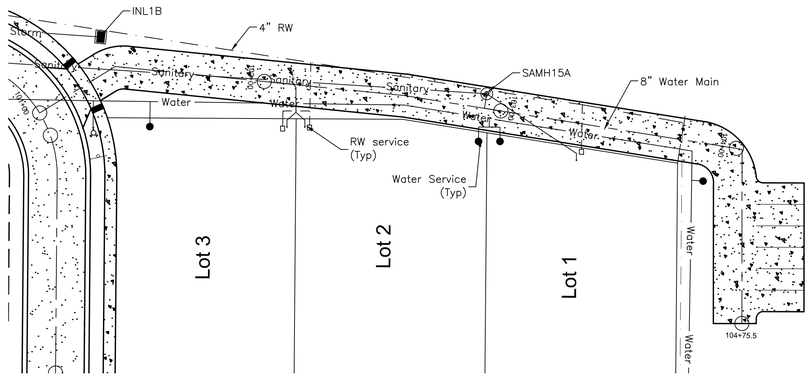
Darcy Unroe PE 60929

#	Description	Date
Revisions		
1	Town Comm	9/19/22
Revisions		

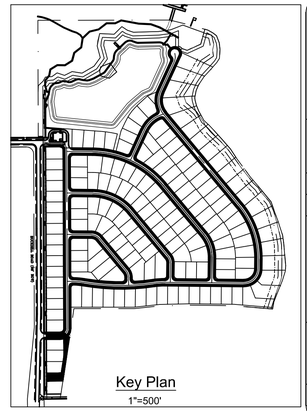


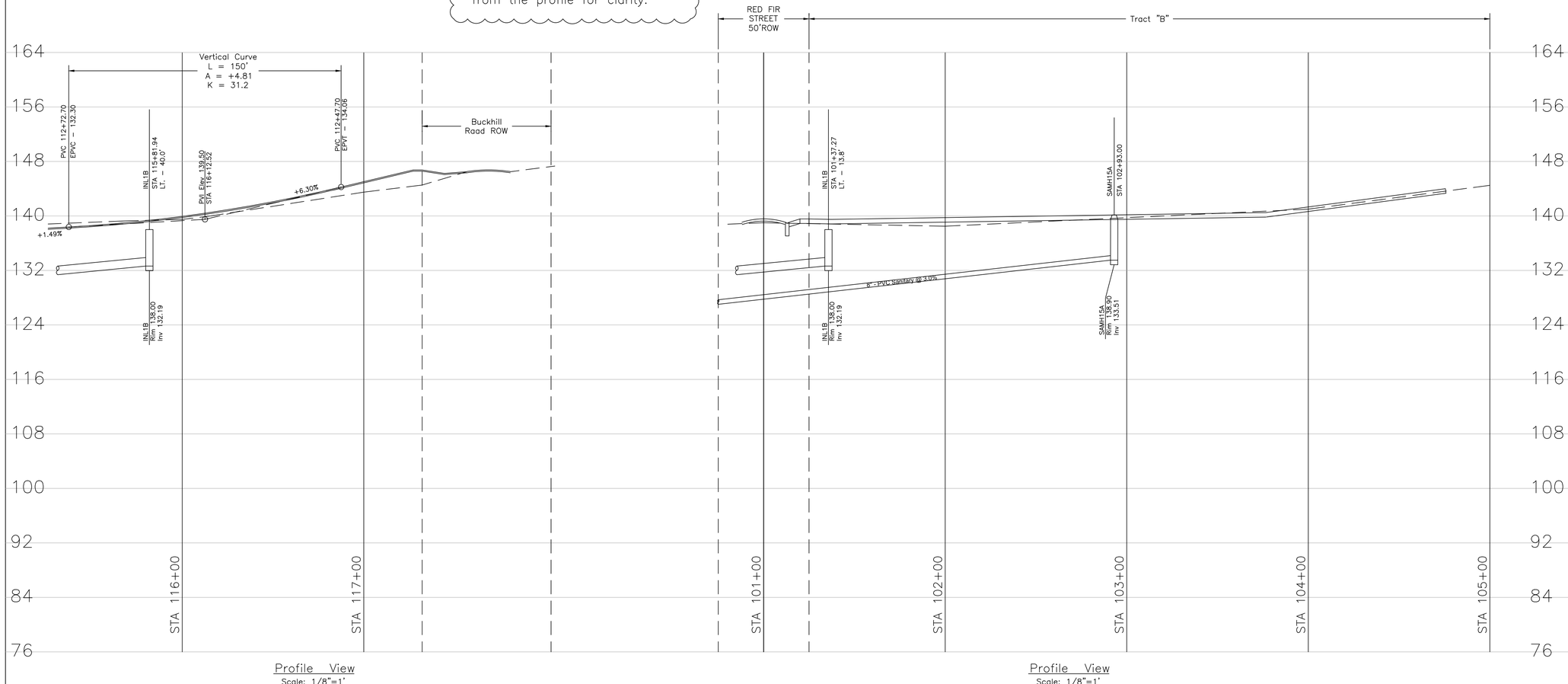
Plan View
Scale: 1"=30"

Note:
Reclaimed lines shall be set at the same vertical elevation as the proposed water main, on the other side of the street. The lines have been omitted from the profile for clarity.



Plan View
Scale: 1"=30"





Profile View
Scale: 1/8"=1'

Profile View
Scale: 1/8"=1'

Item 3.

#	Date	Description
		Revisions
1	9/19/22	Town Comm
		Revisions

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 00006579 ph (407) 299-0650

Plan - Profile Sheet 6

Whispering Hills Subdivision

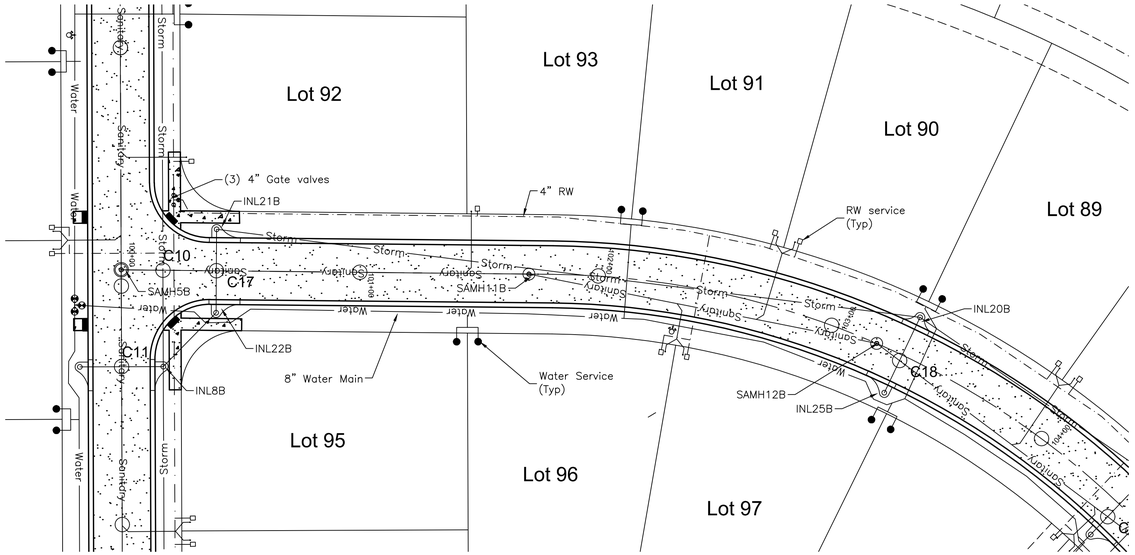
Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
1"=30'	Scale
09-07-21	Date
WH2-PP6	File

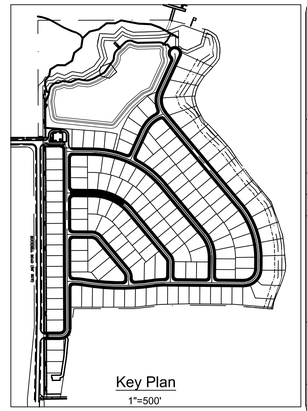
Dwg. No.
PP6
27 of 83

DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

Darcy Unroe PE 60929

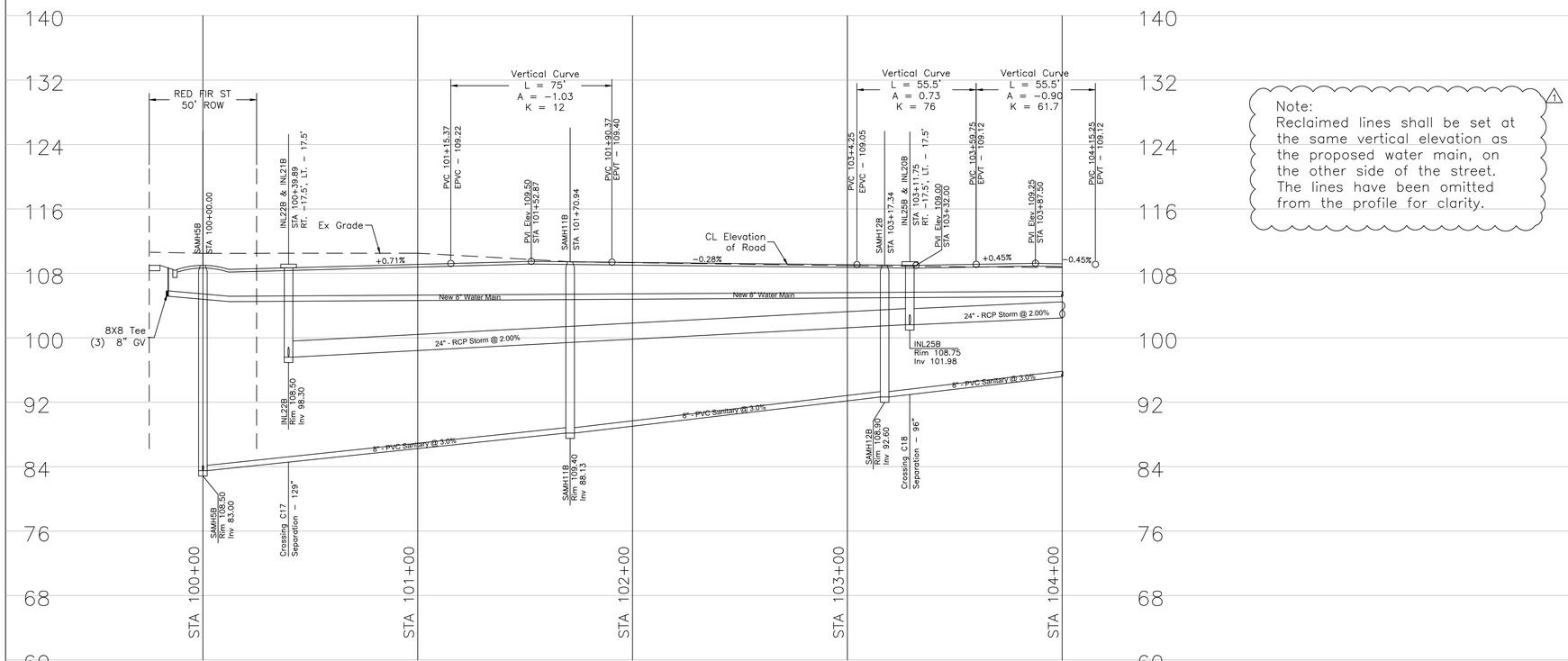


Plan View
Scale: 1"=30'



#	Revisions	Date
1	Town Comm Description	8/19/22

Note:
Reclaimed lines shall be set at the same vertical elevation as the proposed water main, on the other side of the street. The lines have been omitted from the profile for clarity.



Profile View
Scale: 1/4"=1'

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 00006579 ph (407) 299-0650

Plan - Profile Sheet 7

Whispering Hills Subdivision

Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
1"=30'	Scale
09-07-21	Date
WH2-PP7	File

Dwg. No.

PP7

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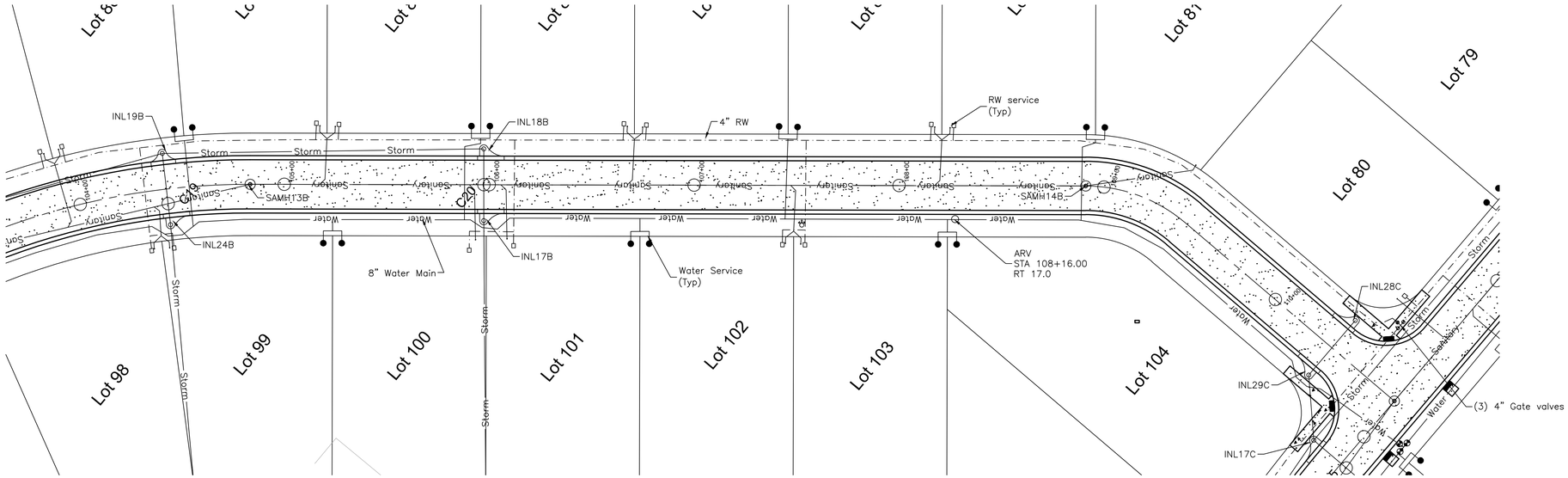
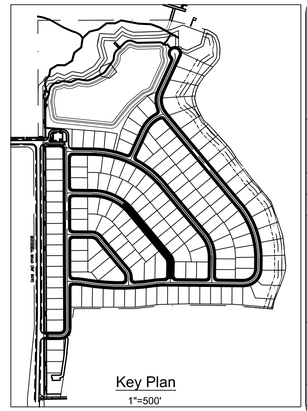
DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

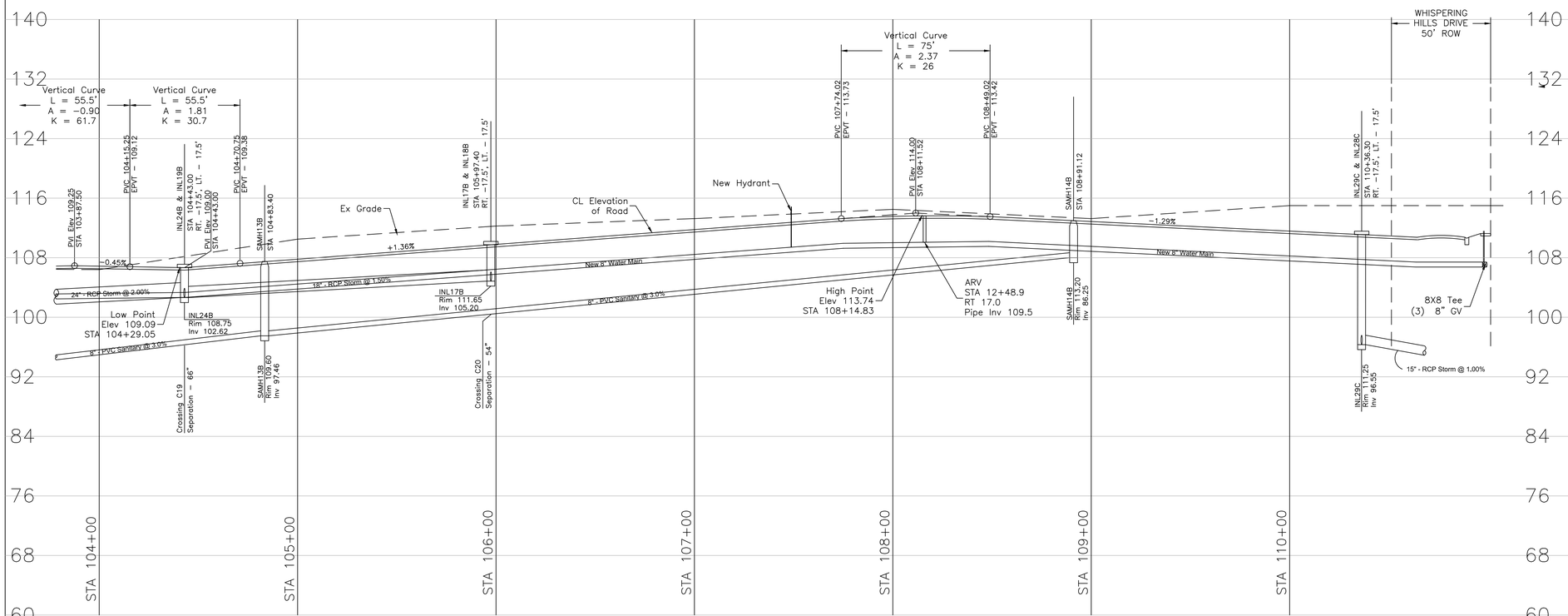
Darcy Unroe PE 60929



Plan View
Scale: 1'=30"



Note:
Reclaimed lines shall be set at the same vertical elevation as the proposed water main, on the other side of the street. The lines have been omitted from the profile for clarity.



Profile View
Scale: 1/8"=1'

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 00006579 ph (407) 299-0650

#	Description	Date
Revisions		
1	Town Comm Description	9/19/22 Date
Revisions		

Plan - Profile Sheet 8

WHISPERING HEIGHTS Subdivision

Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
1"=30'	Scale
09-07-21	Date
WH2-PP8	File

Dwg. No.

PP8

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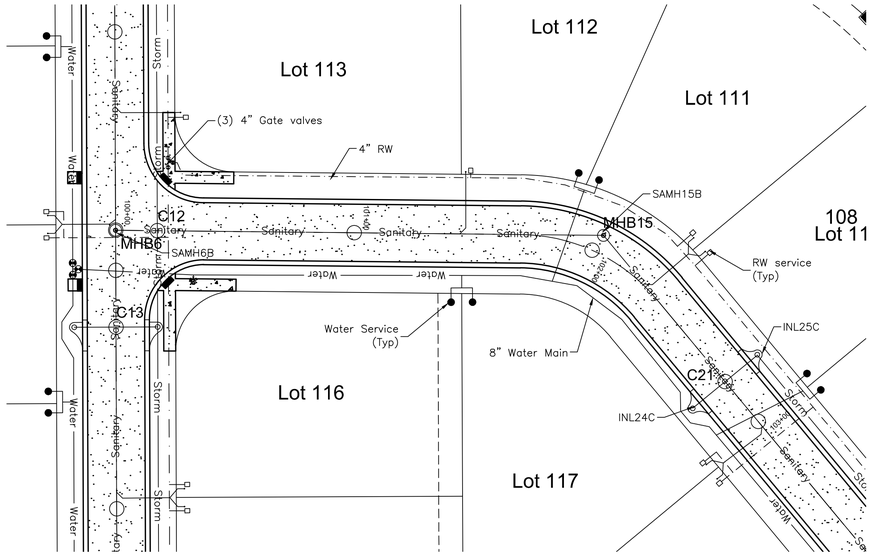
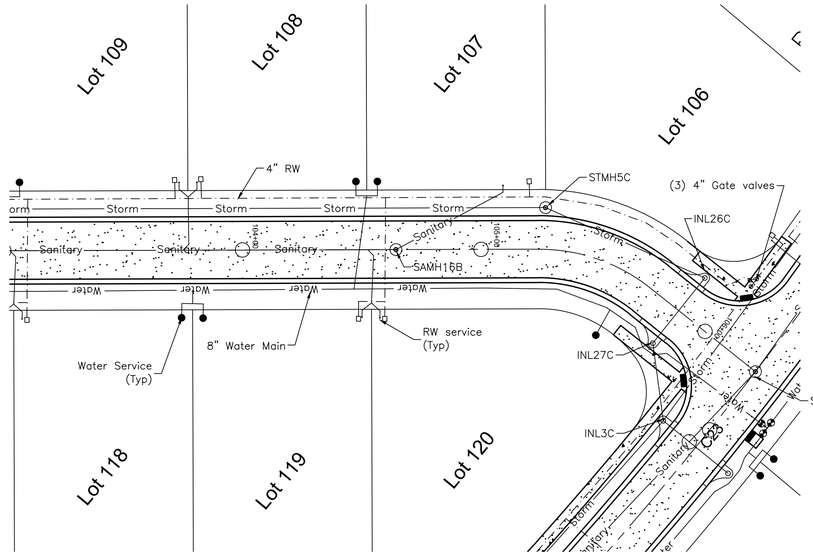
DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

Darcy Unroe PE 60929

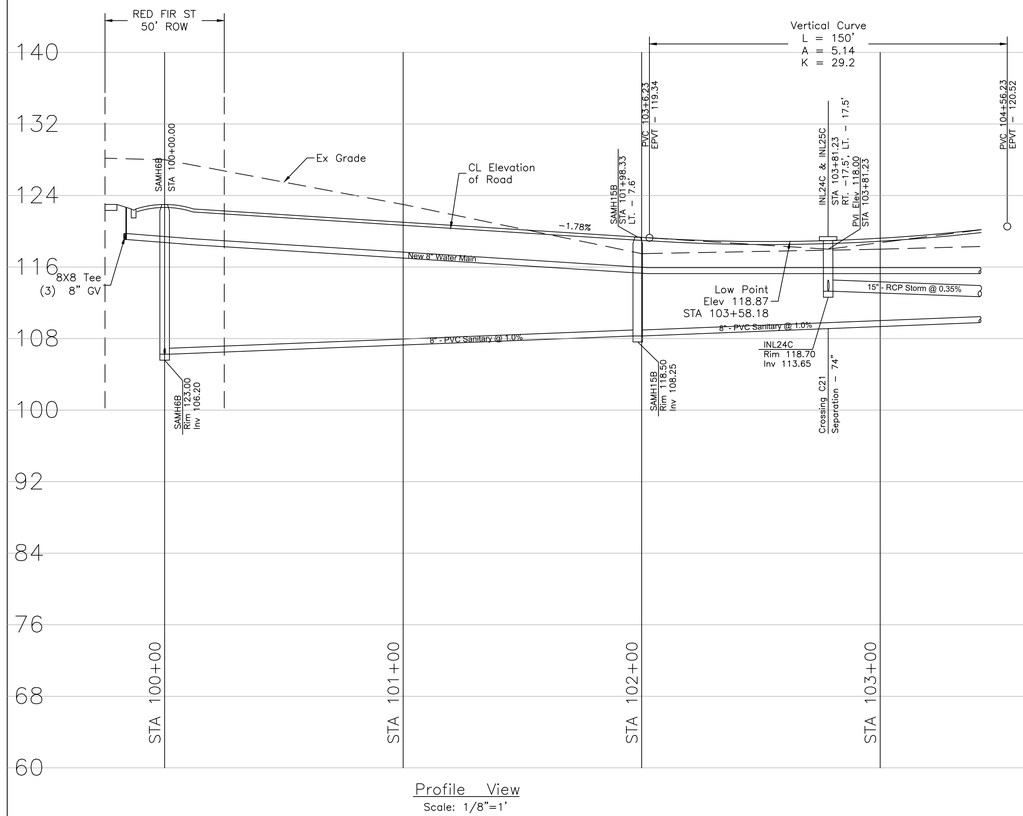


Plan View
Scale: 1"=30"

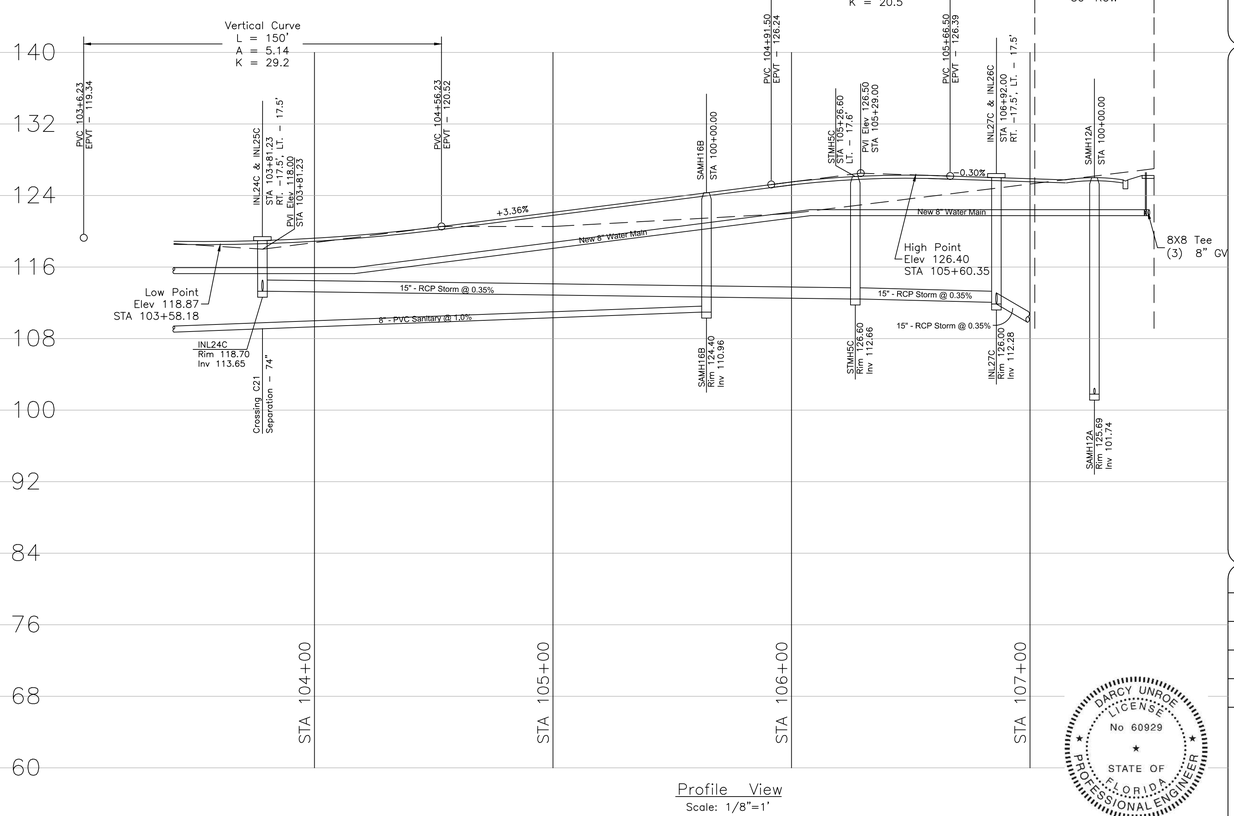


Plan View
Scale: 1"=30"

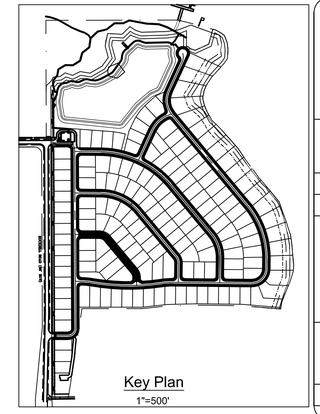
Note:
Reclaimed lines shall be set at the same vertical elevation as the proposed water main, on the other side of the street. The lines have been omitted from the profile for clarity.



Profile View
Scale: 1/8"=1'



Profile View
Scale: 1/8"=1'



#	Description	Date
Revisions		
1	Town Comm Description	9/19/22 Date
Revisions		

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 00006579 ph (407) 299-0650

Plan - Profile Sheet 9

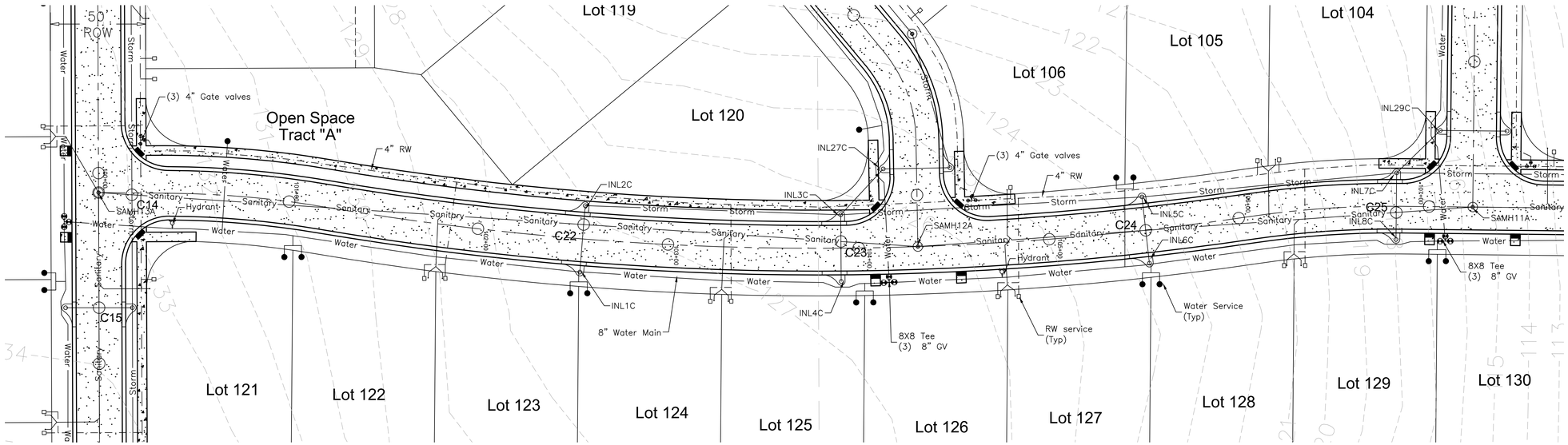
Whispering Hills Subdivision
Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
1"=30'	Scale
09-07-21	Date
WH2-PP9	File

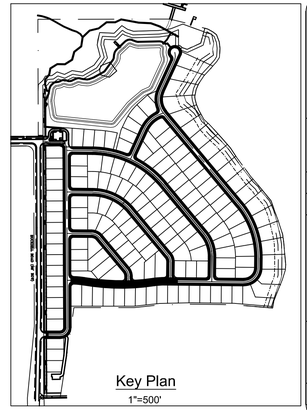
Dwg. No.
PP9
30 of 83

DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

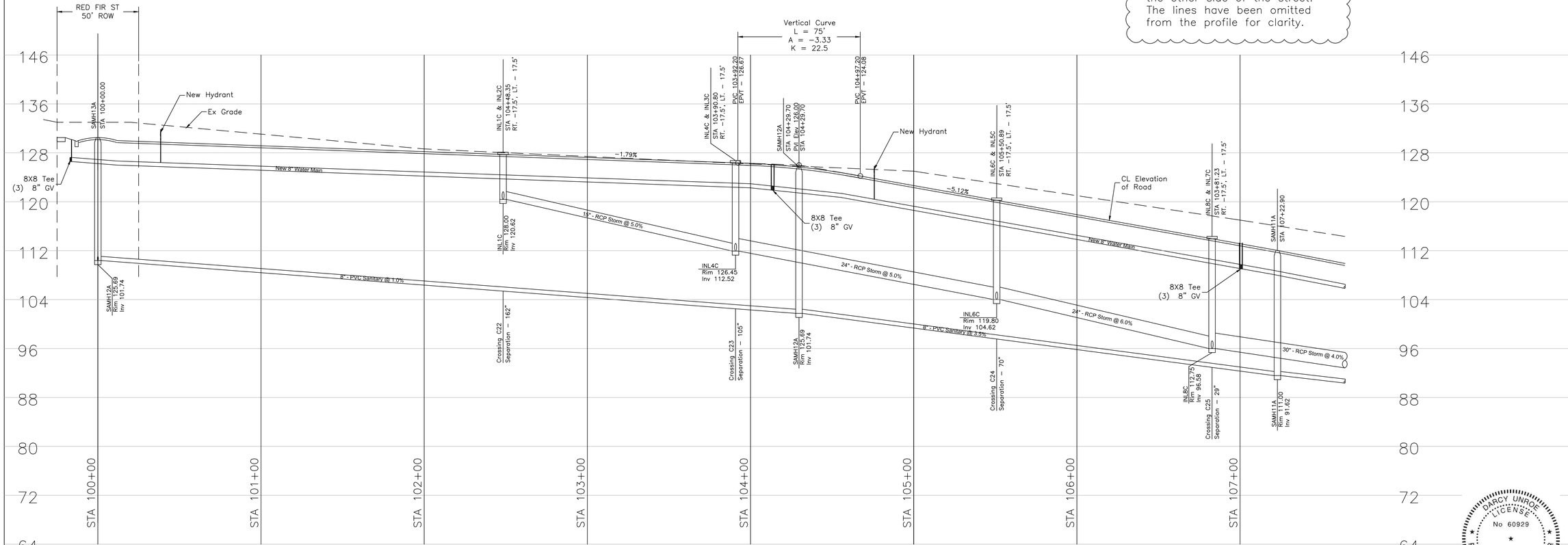
Darcy Unroe PE 60929



Plan View
Scale: 1"=30"



Note:
Reclaimed lines shall be set at the same vertical elevation as the proposed water main, on the other side of the street. The lines have been omitted from the profile for clarity.



Profile View
Scale: 1/8"=1'

#	Revisions	Date	Description
1	Town Comm	9/19/22	

Item 3.

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 0000657 9 ph (407) 299-0650

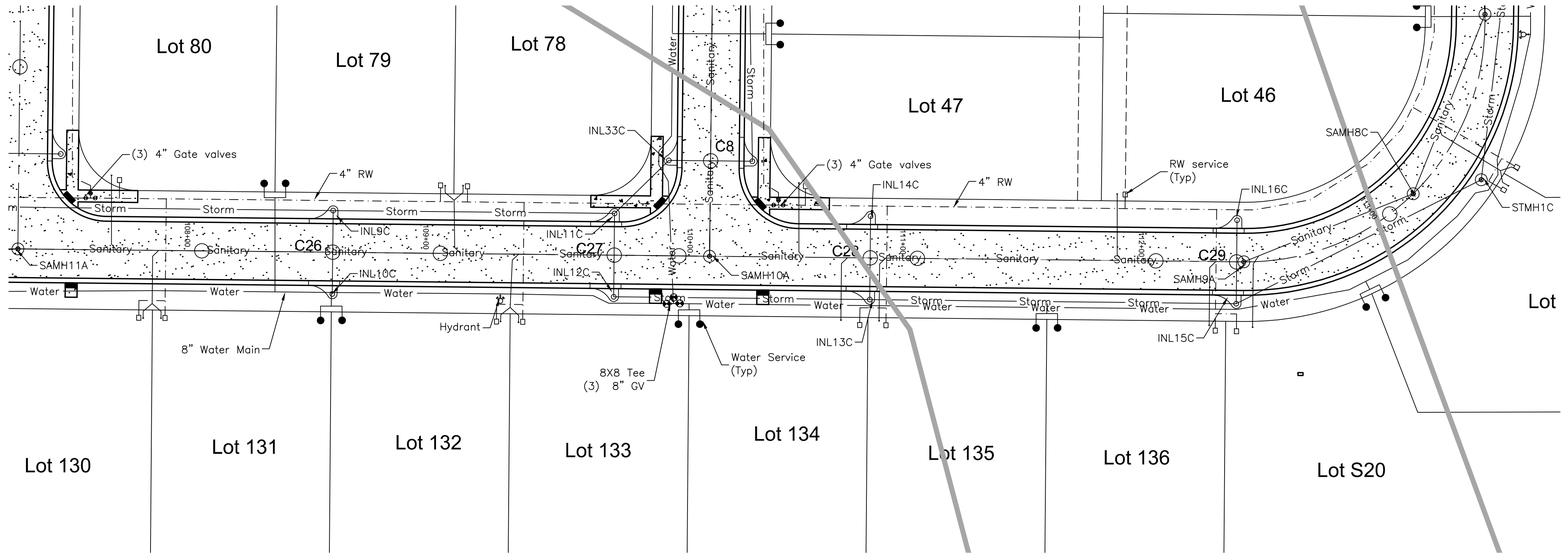
Plan - Profile Sheet 10

WHISPERING HEIGHTS Subdivision
Buckhill Road, Howey-in-the-Hills, Florida

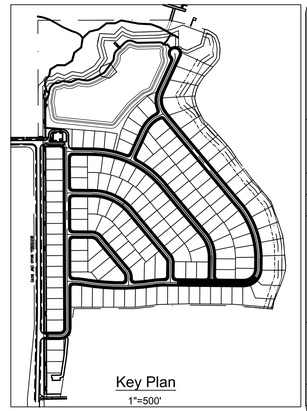
DP	Drawn
DP	Checked
1"=30'	Scale
09-07-21	Date
WH2-PP10	File

Dwg. No.
PP10
31 of 83

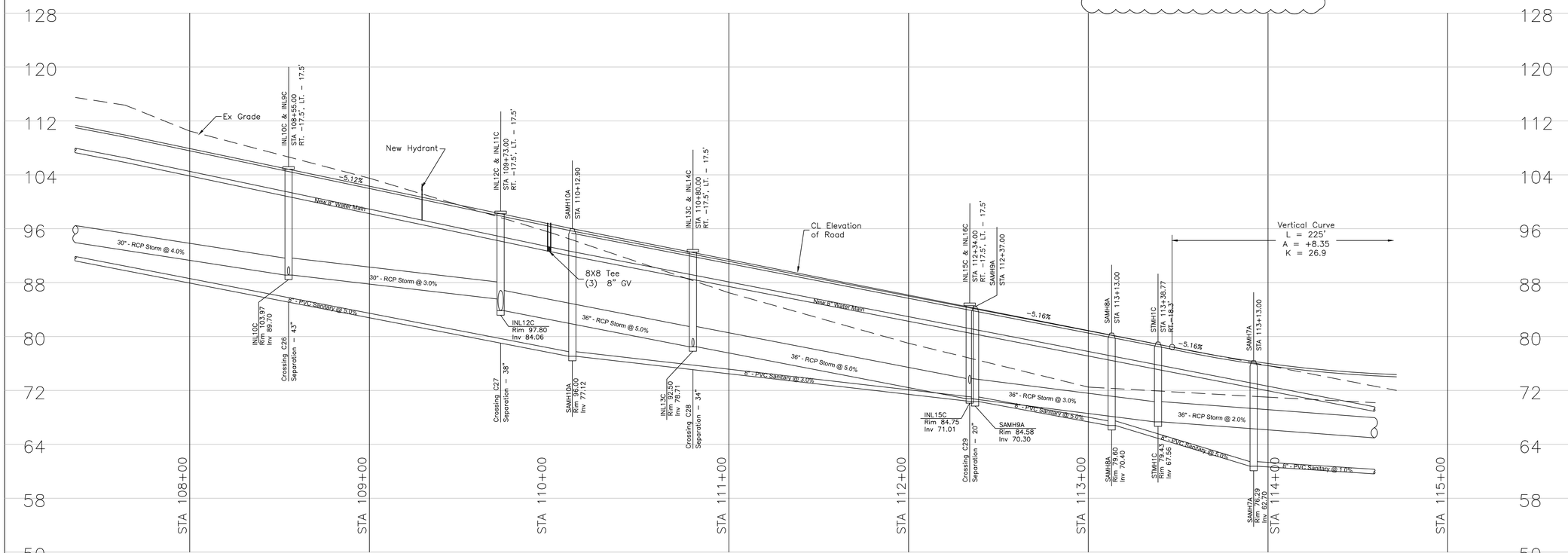
DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER
Darcy Unroe PE 60929



Plan View
Scale: 1"=30"



Note:
Reclaimed lines shall be set at the same vertical elevation as the proposed water main, on the other side of the street. The lines have been omitted from the profile for clarity.



Profile View
Scale: 1/8"=1'

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 00006579 ph (407) 299-0650

#	Revisions	Date
1	Town Comm Description	9/19/22

Item 3.

Plan - Profile Sheet 11

Whispering Hills Subdivision

Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
1"=30'	Scale
09-07-21	Date
WH2-PP11	File

Dwg. No.

PP11

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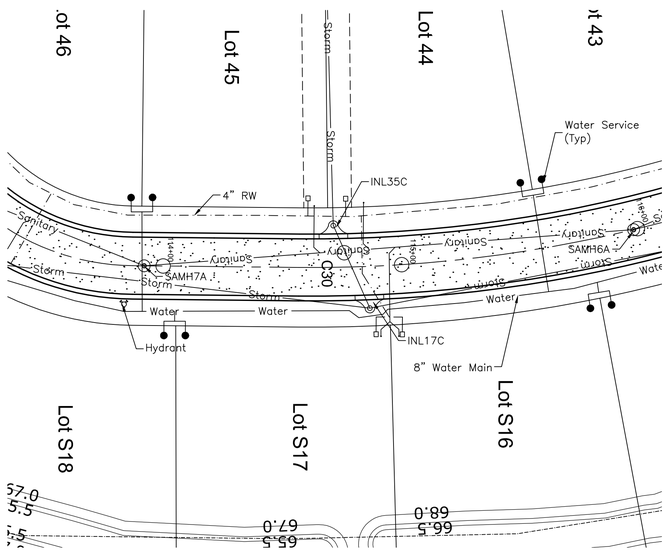
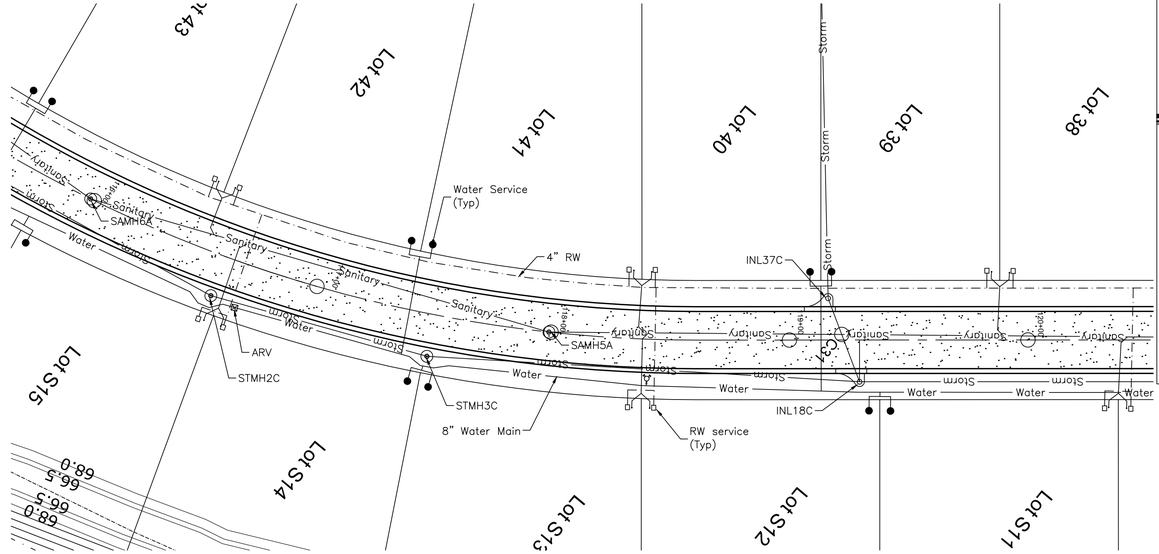
DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

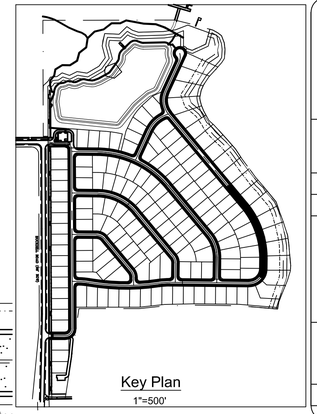
Darcy Unroe PE 60929



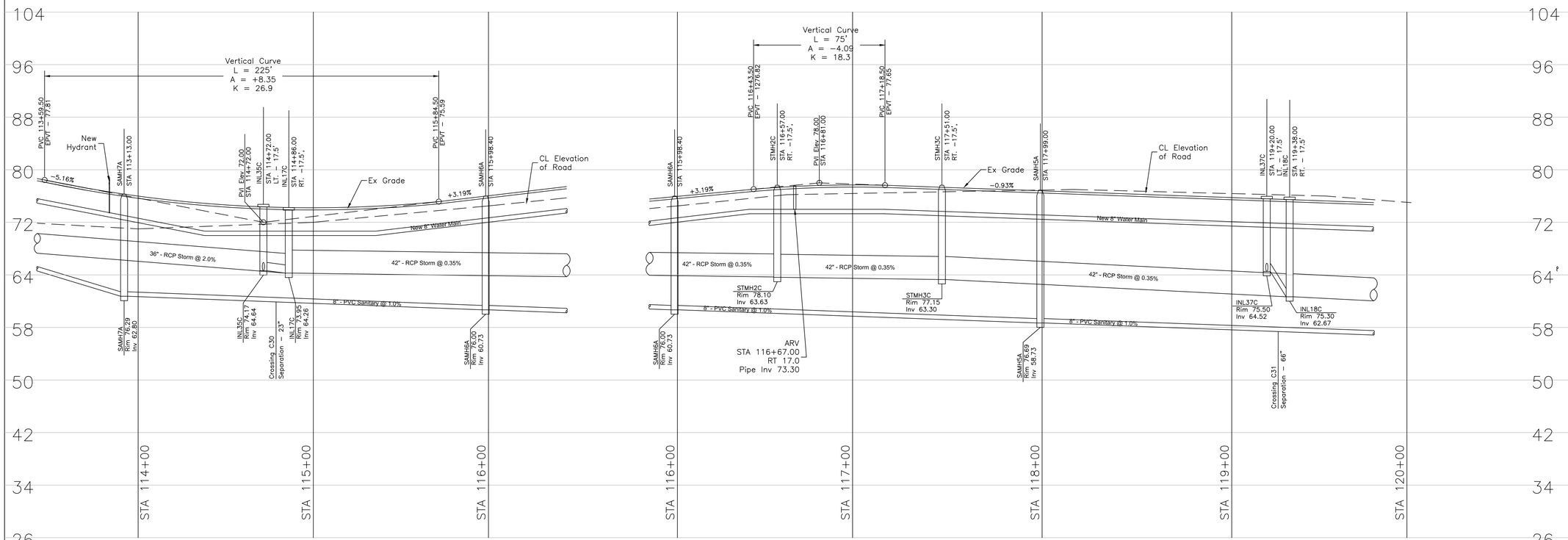
Plan View
Scale: 1'=30"



Plan View
Scale: 1'=30"



Note:
Reclaimed lines shall be set at the same vertical elevation as the proposed water main, on the other side of the street. The lines have been omitted from the profile for clarity.



Profile View
Scale: 1/8"=1'

Profile View
Scale: 1/8"=1'

Item 3.

#	Date	Description
1	9/19/22	Town Comm

Revisions

Revisions

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
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Business Authorization Number - EB 00006579 ph (407) 299-0650

Plan - Profile Sheet 12

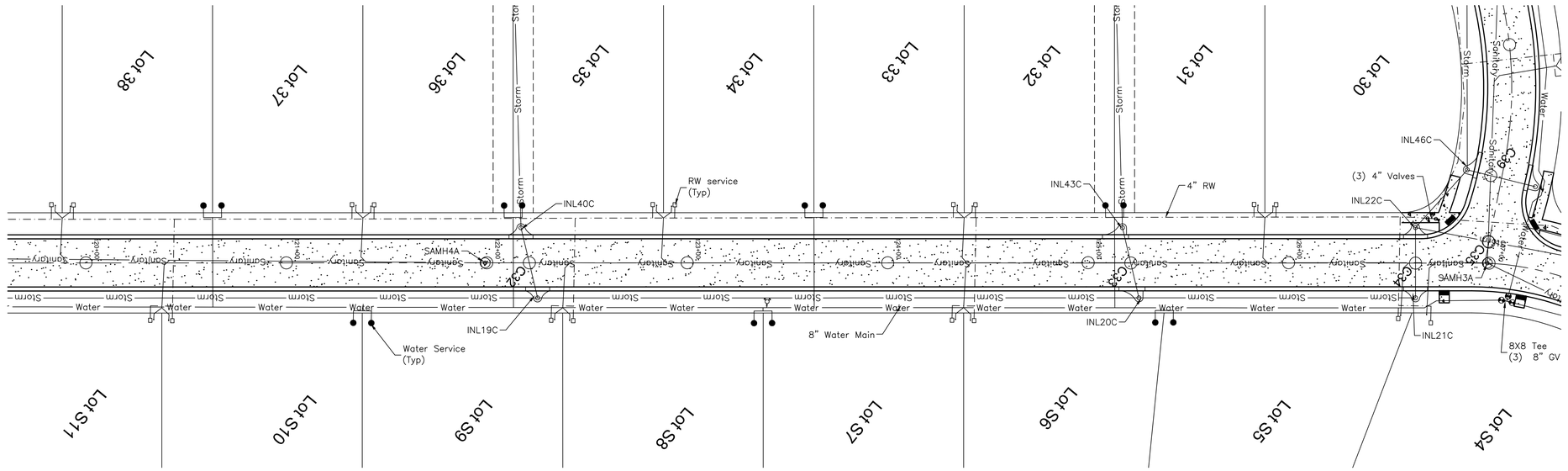
Whispering Hills Subdivision
Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
1"=30'	Scale
09-07-21	Date
WH2-PP12	File

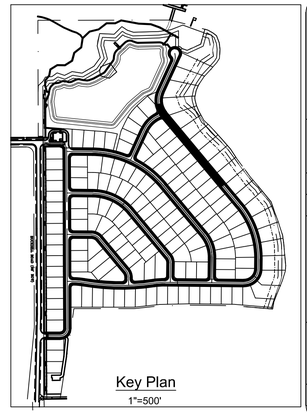
Dwg. No.
PP12

DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

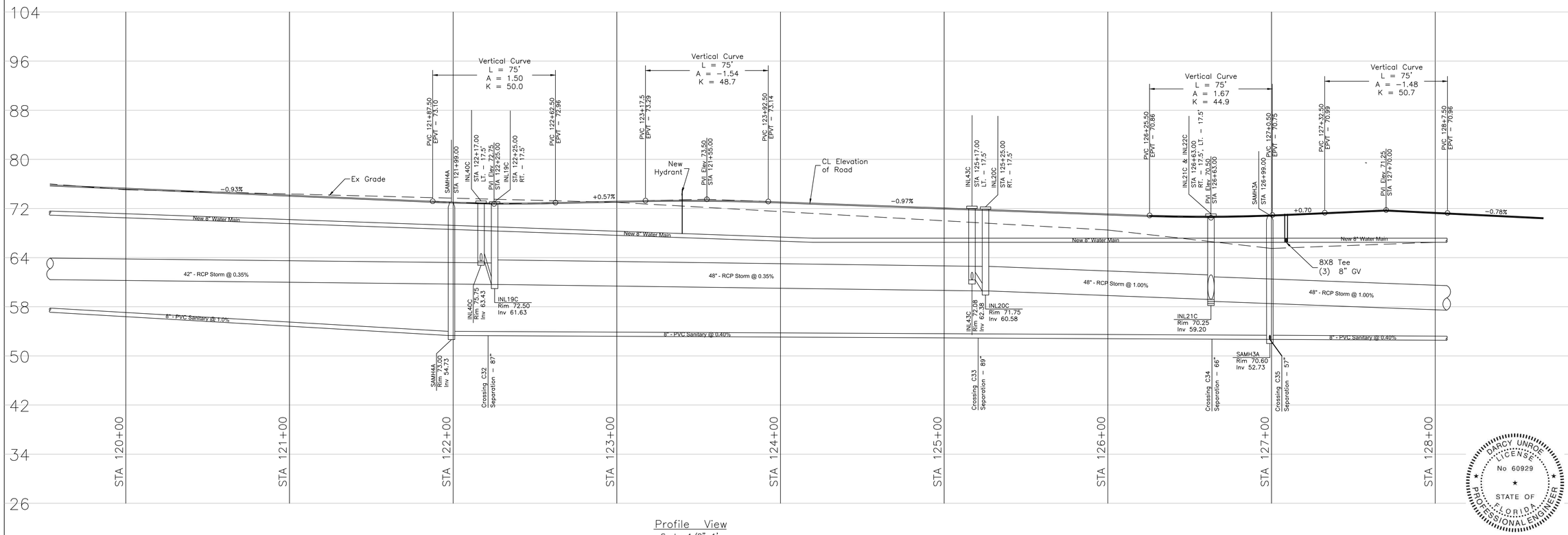
Darcy Unroe PE 60929



Plan View
Scale: 1"=30"



Note:
Reclaimed lines shall be set at the same vertical elevation as the proposed water main, on the other side of the street. The lines have been omitted from the profile for clarity.



Profile View
Scale: 1/8"=1'

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 00006579 ph (407) 299-0650

#	Description	Date
	Revisions	
	Town Comm	9/19/22
1	Revisions	

Plan - Profile Sheet 13

WHISPERING HEIGHTS Subdivision

Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
1"=30'	Scale
09-07-21	Date
WH2-PP13	File

Dwg. No.

PP13

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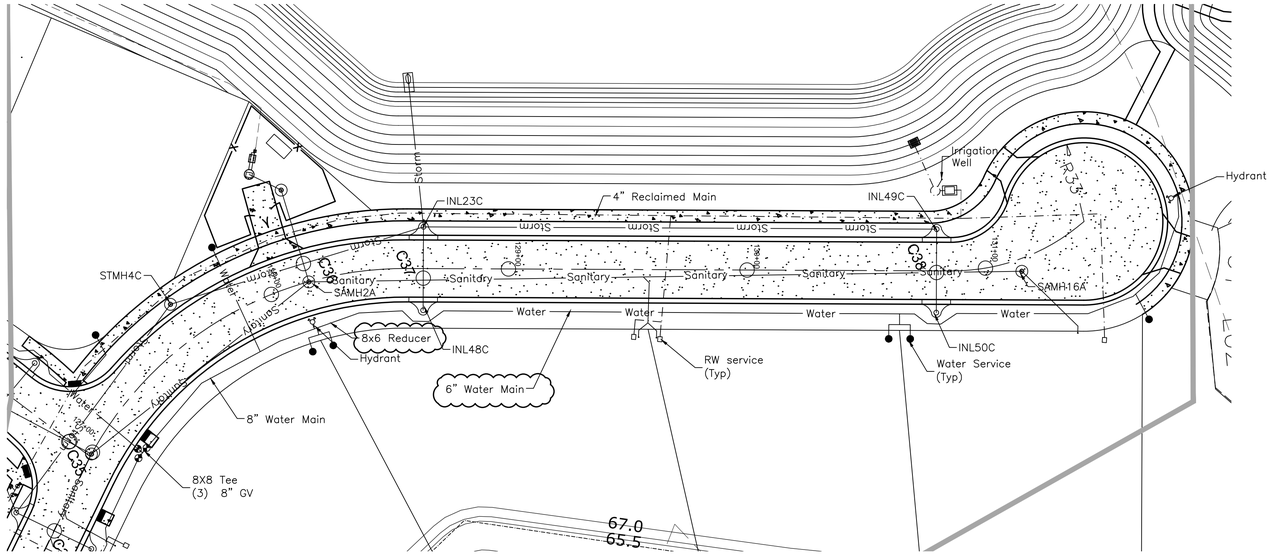
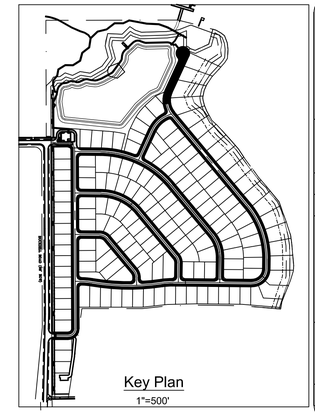
DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

Darcy Unroe PE 60929



Plan View
Scale: 1"=30"



#	Description	Date
	Revisions	
1	Town Comm Description	9/19/22 Date
	Revisions	

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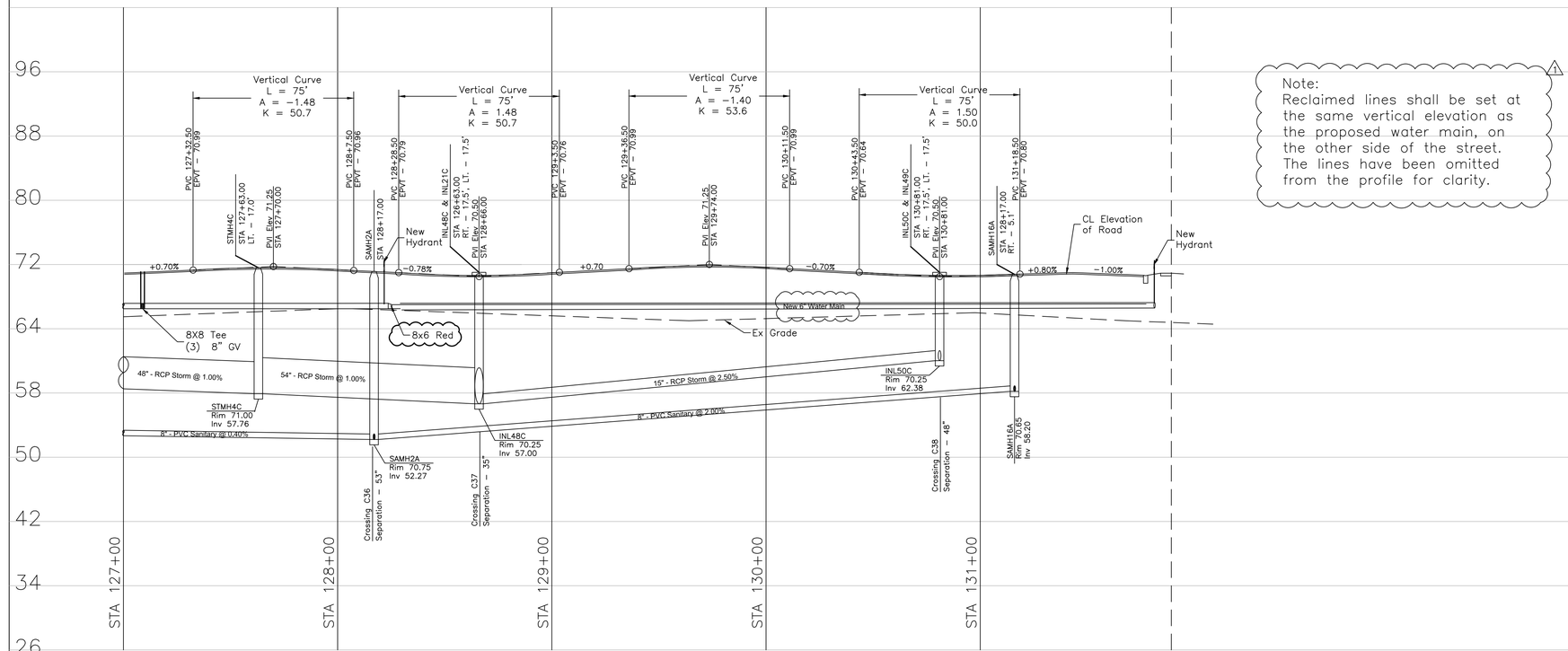
Plan - Profile Sheet 14

Whispering Hills Subdivision

Buckhill Road, Howey-in-the-Hills, Florida



Profile View
Scale: 1/8"=1'

Note:
Reclaimed lines shall be set at the same vertical elevation as the proposed water main, on the other side of the street. The lines have been omitted from the profile for clarity.

DP	Drawn
DP	Checked
1"=30'	Scale
09-07-21	Date
WH2-PP14	File

Dwg. No.

PP14

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DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

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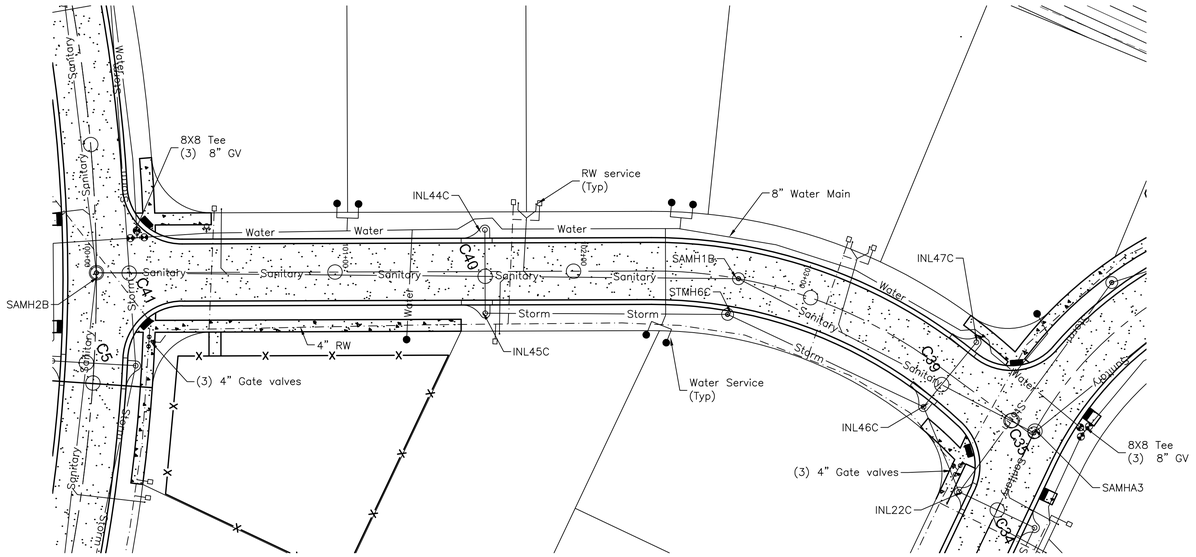
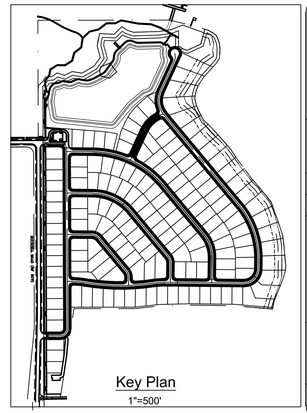


Plan View
Scale: 1"=30"



#	Description

Revisions

#	Date	Description
1	9/19/22	Town Comm

Revisions

Unroe Engineering, Inc
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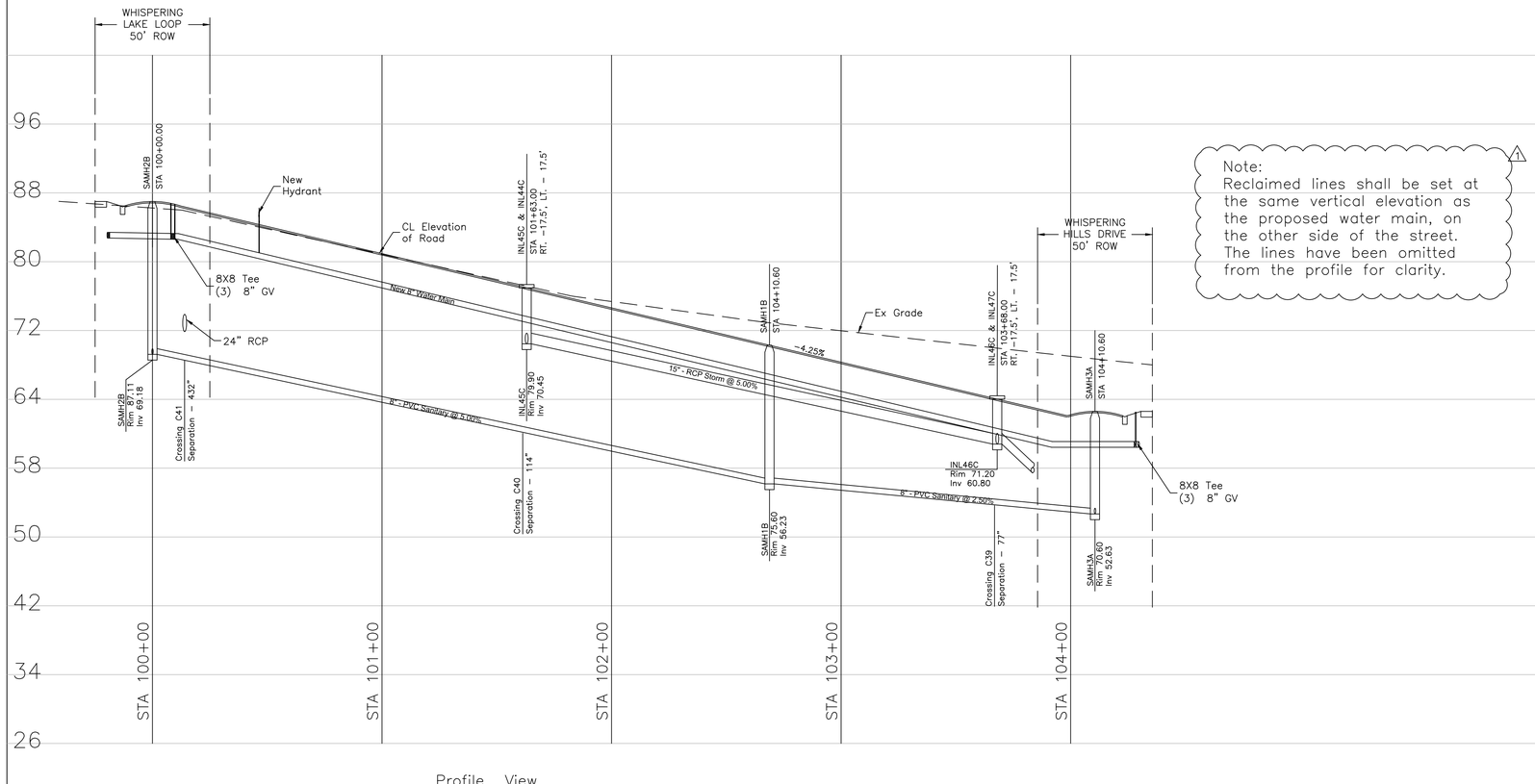
Plan - Profile Sheet 15

WHISPERING HEIGHTS Subdivision

Buckhill Road, Howey-in-the-Hills, Florida



Profile View
Scale: 1/8"=1'

Note:
Reclaimed lines shall be set at the same vertical elevation as the proposed water main, on the other side of the street. The lines have been omitted from the profile for clarity.

DP	Drawn
DP	Checked
1"=30'	Scale
09-07-21	Date
WH2-PP15	File

Dwg. No.

PP15

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DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

Darcy Unroe PE 60929

Scale: 1" = 200'

Sewer Connection Point
Connect to Ex San MH

See Sheet OS5

Existing Off-site
Fire Hydrant #2

New 4" FM

Ex 6" Water
Main

Lakeshore Dr

See Sheet OS4

New 4" FM

Water

Connect to existing
6" Water Main w/
6x10 Tapping Saddle & Valve

New Off-site
Hydrant #3

Whispering Hills
Point of Sewer
Connection

New 10" Water

New 4" FM

Whispering Hills
Point of Water
Connection #2

New 10" Water

New Off-site
Hydrant #1

See Sheet OS3

BUCKHILL ROAD (68' ROW)

New 10" Water

Whispering Hills Subdivision

Ex 8" Water
Main

Existing Off-site
Fire Hydrant #1

Ex 6" Water
Main

See Sheet OS6

East Revels Road

New 10" Water

New Off-site
Hydrant #4

Connect to existing
8" Water Main w/
8x10 Tapping Saddle & Valve

See Sheet OS2

New 10x10
Tee

New Off-site
Hydrant #2

Whispering Hills
Point of Water
Connection #2

8" IRRIGATION PIPE

IRRIGATION MAIN OFF

#	Description	Date

Revisions

#	Description	Date
5	Town Comm	02/01/24

Revisions

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
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Overall Off-Site Utility Plan

Whispering Hills Subdivision

Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
1"=200'	Scale
11/27/23	Date
WH2-OS1	File

Dwg. No.

OS1

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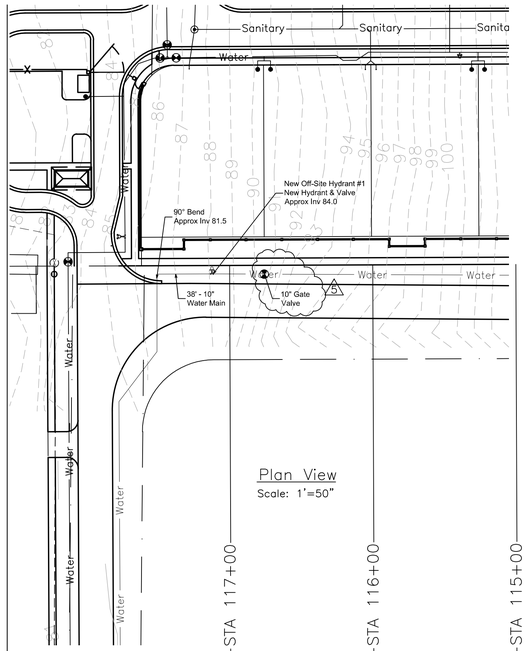
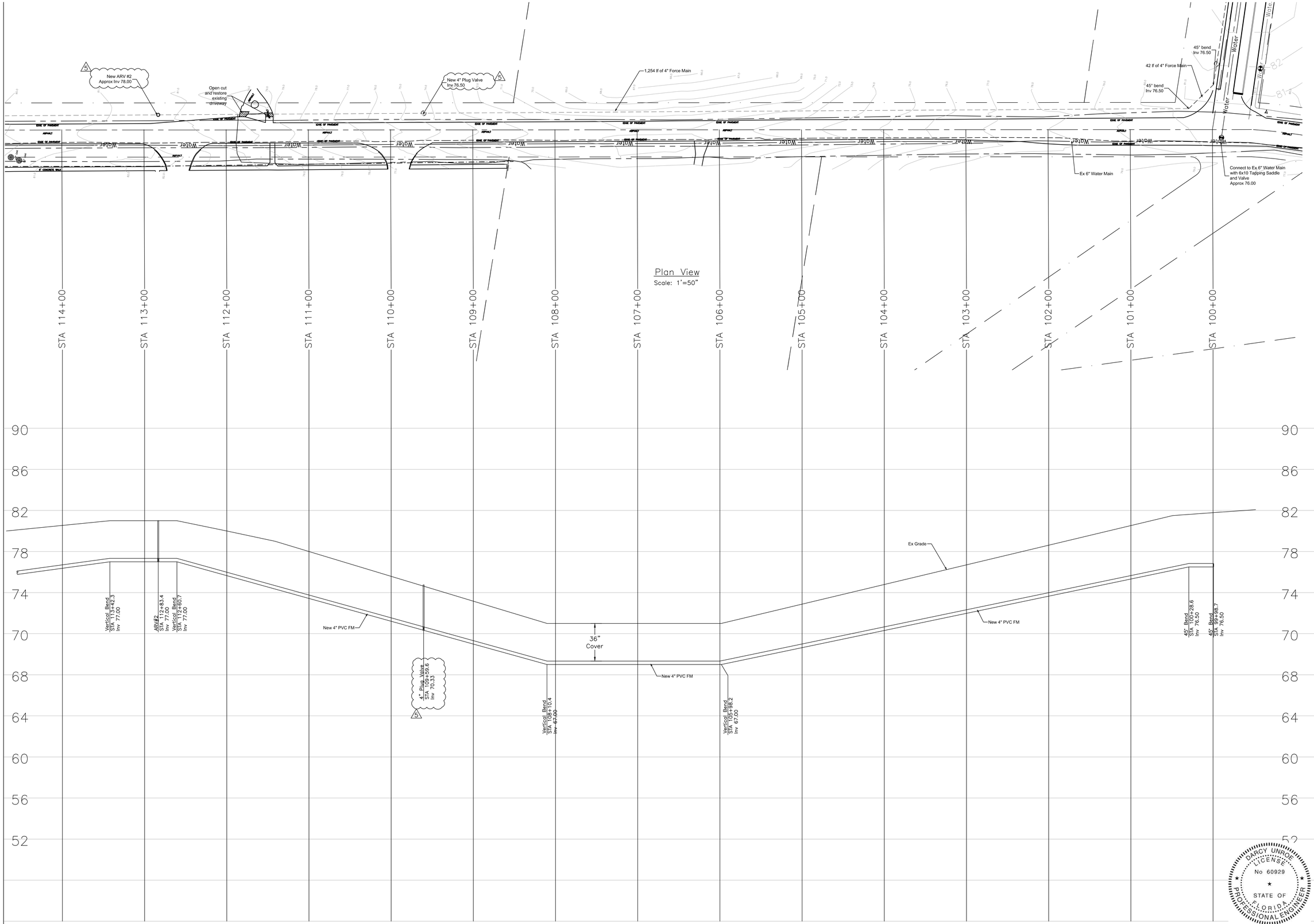
DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

Darcy Unroe PE 60929

Sanitary Water Sanitary Water Sanitary Water Sanitary Water Sanitary Water Sanitary Water Sanitary Water Sanitary Water Sanitary Water Sanitary Water Sanitary Water Sanitary Water Sanitary Water Sanitary Water Sanitary Water Sanitary Water Sanitary Water Water Water


Sanitary
Sanitary
Sanita
Water
New Off-Site Hydrant #1
New Hydrant & Valve
Approx Inv 84.0
90° Bend
Approx Inv 81.5
38' - 10"
Water Main
10" Gate
Valve
Water
Water
Water



Plan View
Scale: 1"=50'

Profile View
Scale: 1/4"=1'

#	Description	Date

Revisions

#	Description	Date
5	Town Comm	02/01/24

Revisions

Unroe Engineering, Inc
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Off-Site Plan - Profile #3

Whispering Hills Subdivision
Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
1"=50'	Scale
11/27/23	Date
WH2-OS4	File

Dwg. No.
OS4

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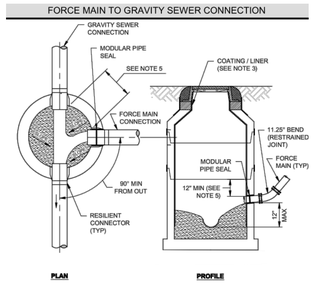
DARCY UNROE LICENSE No 60929 ★ STATE OF FLORIDA PROFESSIONAL ENGINEER

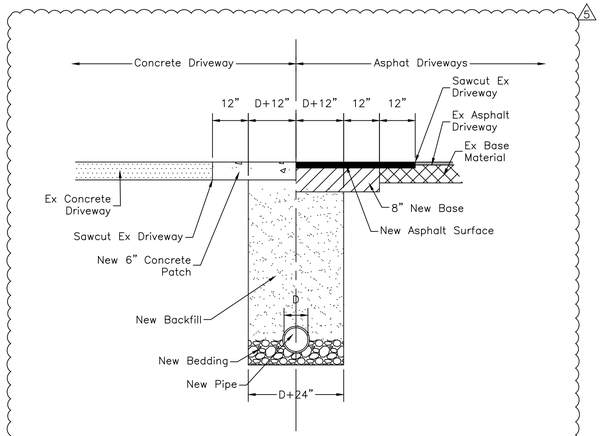
Darcy Unroe PE 60929



Forcemain to MH Connection

Notes:

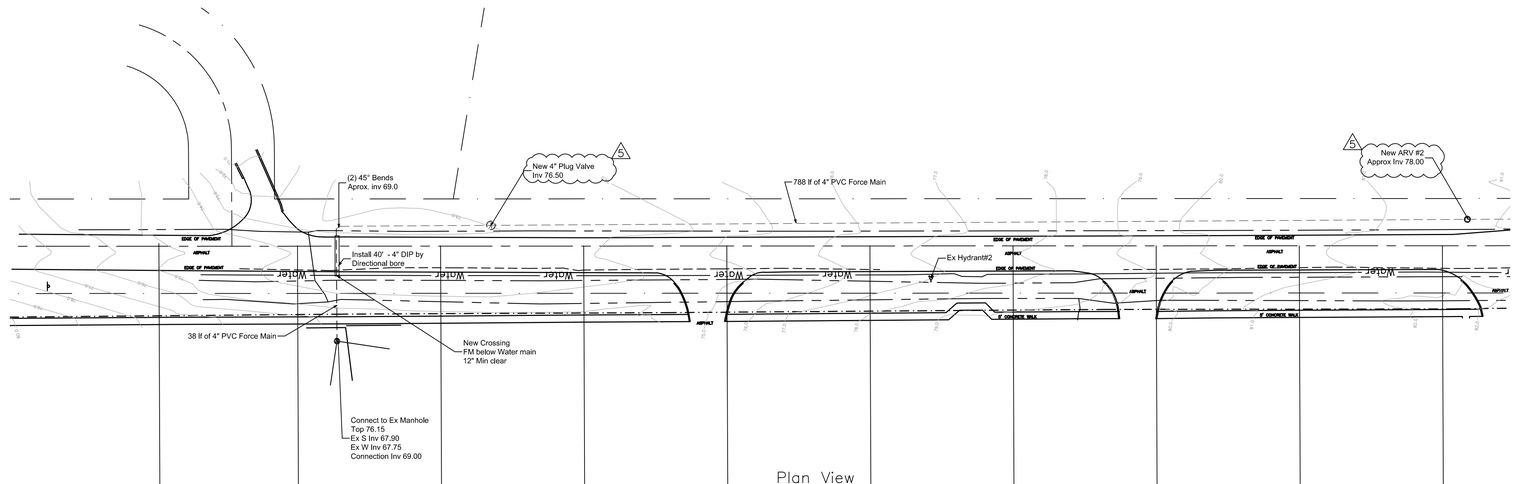
1. FORCE MAIN ORIENTED TO FACILITATE FLOW AND SHALL ENTER MANHOLE WITHIN 1-FT ABOVE INVERT OF THE EFFLUENT PIPE.
2. BENCH AS REQUIRED FOR FORCE MAIN.
3. EXISTING MANHOLE RECEIVING FORCE MAIN SHALL BE EPOXY COATED PER CITY APPROVED MATERIALS LIST.
4. CONTRACTOR SHALL COORDINATE THE PRESENCE OF UTILITIES INSPECTOR DURING EXCAVATION, CORING, AND CONNECTIONS TO EXISTING MANHOLES.
5. ALL PIPE CONNECTIONS SHALL HAVE A MINIMUM OF 12-IN SEPARATION FROM ALL JOINTS AND CORES.



Typical Driveway Restoration

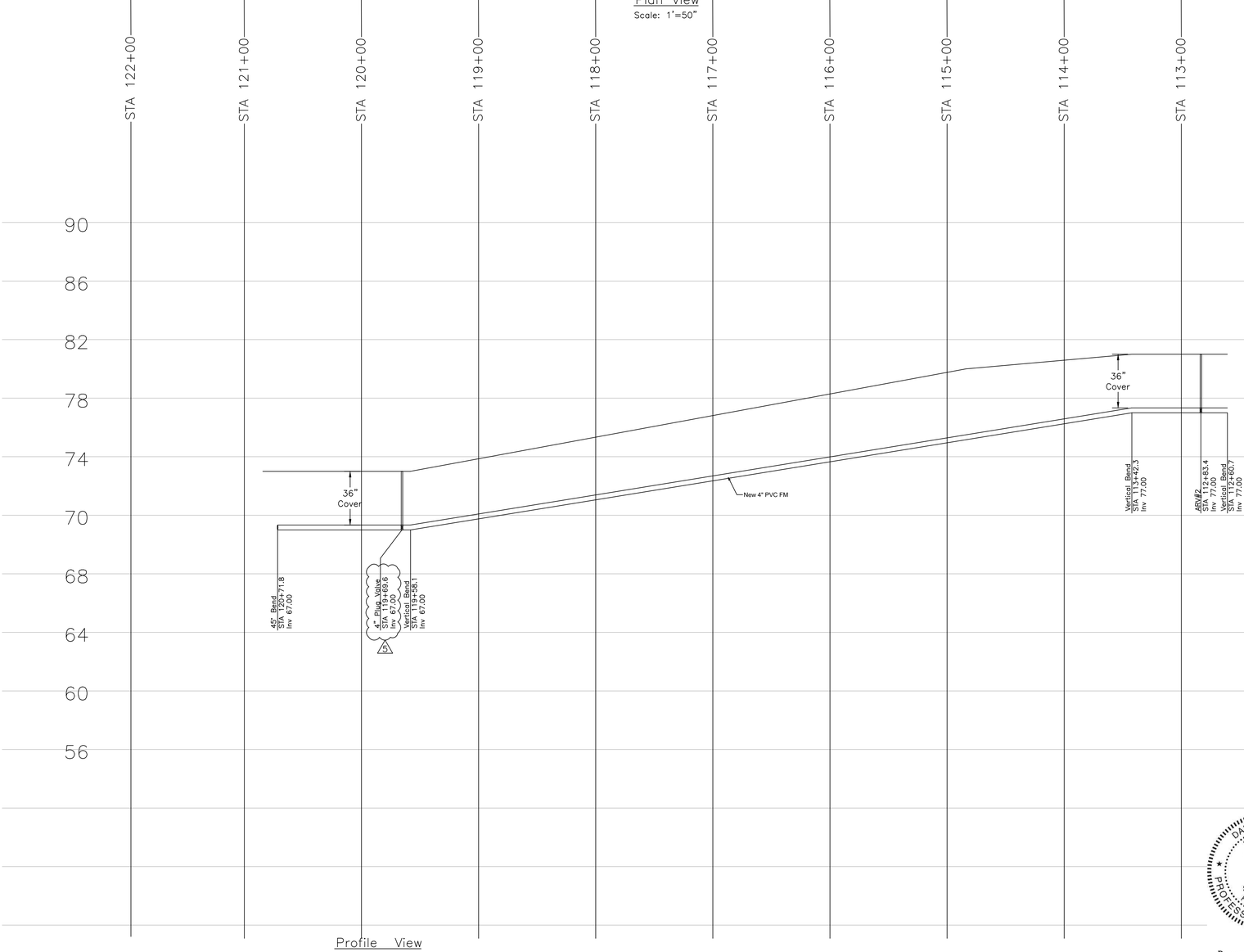
General notes

1. Base replacement shall be 3,000 psi high early strength concrete at 48 hours or 13" min. thickness of Duralock compacted to 98% T-180
2. Minimum asphaltic concrete surface thickness is 1.5" of SP9.5 over the cut area in one layer.
3. All surface joints shall be mechanically saw cut
4. RC-70 or equivalent liquid asphalt should be added to all surface joints to form seal in asphalt patches
5. Bedding and backfill with selected materials to be placed and compacted to 100% T-180 in 6" lifts



Plan View

Scale: 1"=50"



Profile View

Scale: 1/4"=1'

Revisions			
#	Date	Description	
5	02/01/24	Town Comm	

Unroe Engineering, Inc
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Off-Site Plan - Profile #4

Whispering Hills Subdivision

Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
1"=50'	Scale
11/27/23	Date
WH2-OS5	File

Dwg. No.

OS5

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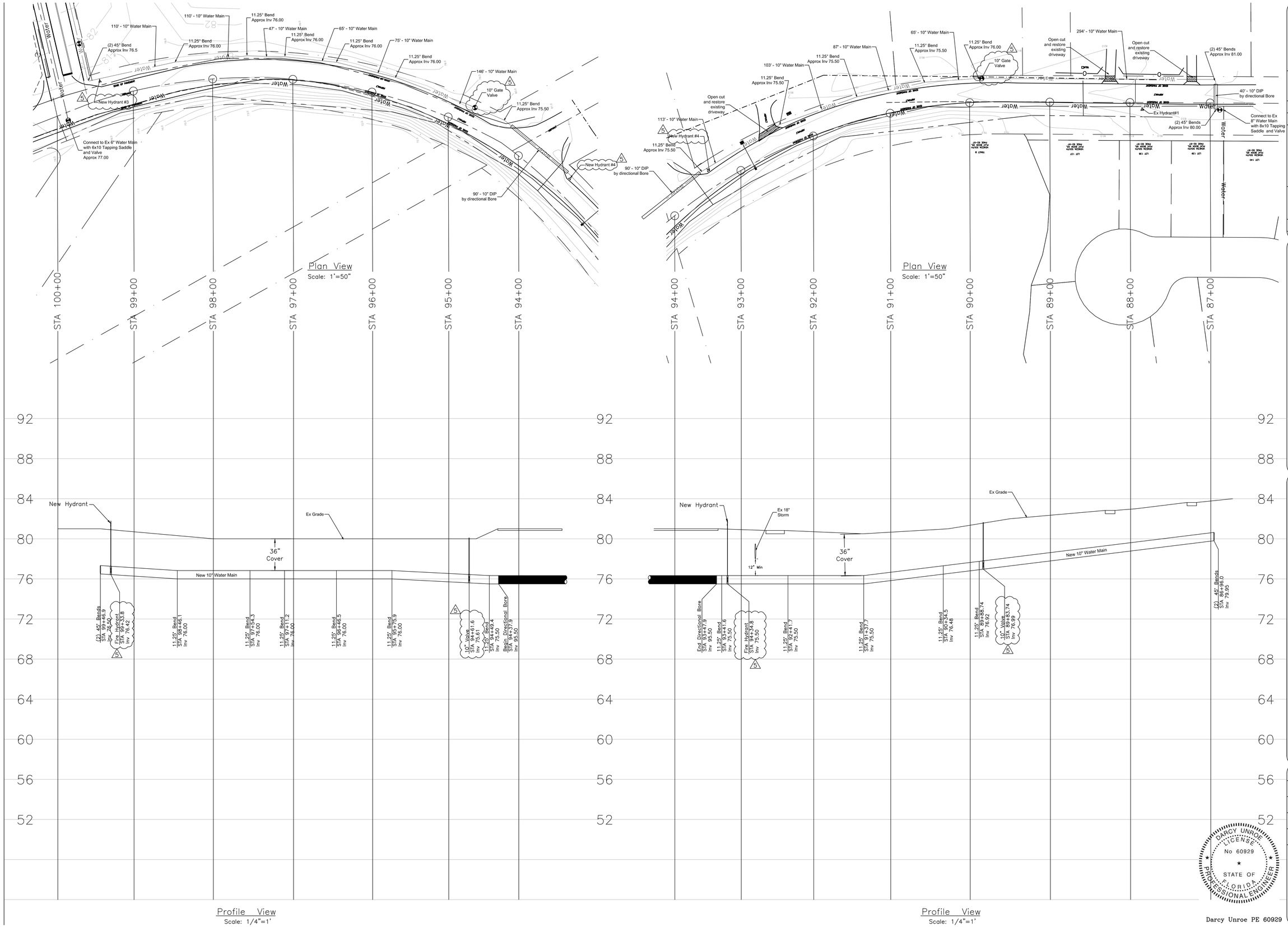
DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

Darcy Unroe PE 60929



Item 3.

#	Date	Description
5	02/01/24	Town Comm

Revisions

Revisions

Unroe Engineering, Inc
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Off-Site Plan - Profile #5

Whispering Hills Subdivision
Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
1"=50'	Scale
11/27/23	Date
WH2-OS6	File

Dwg. No.
OS6

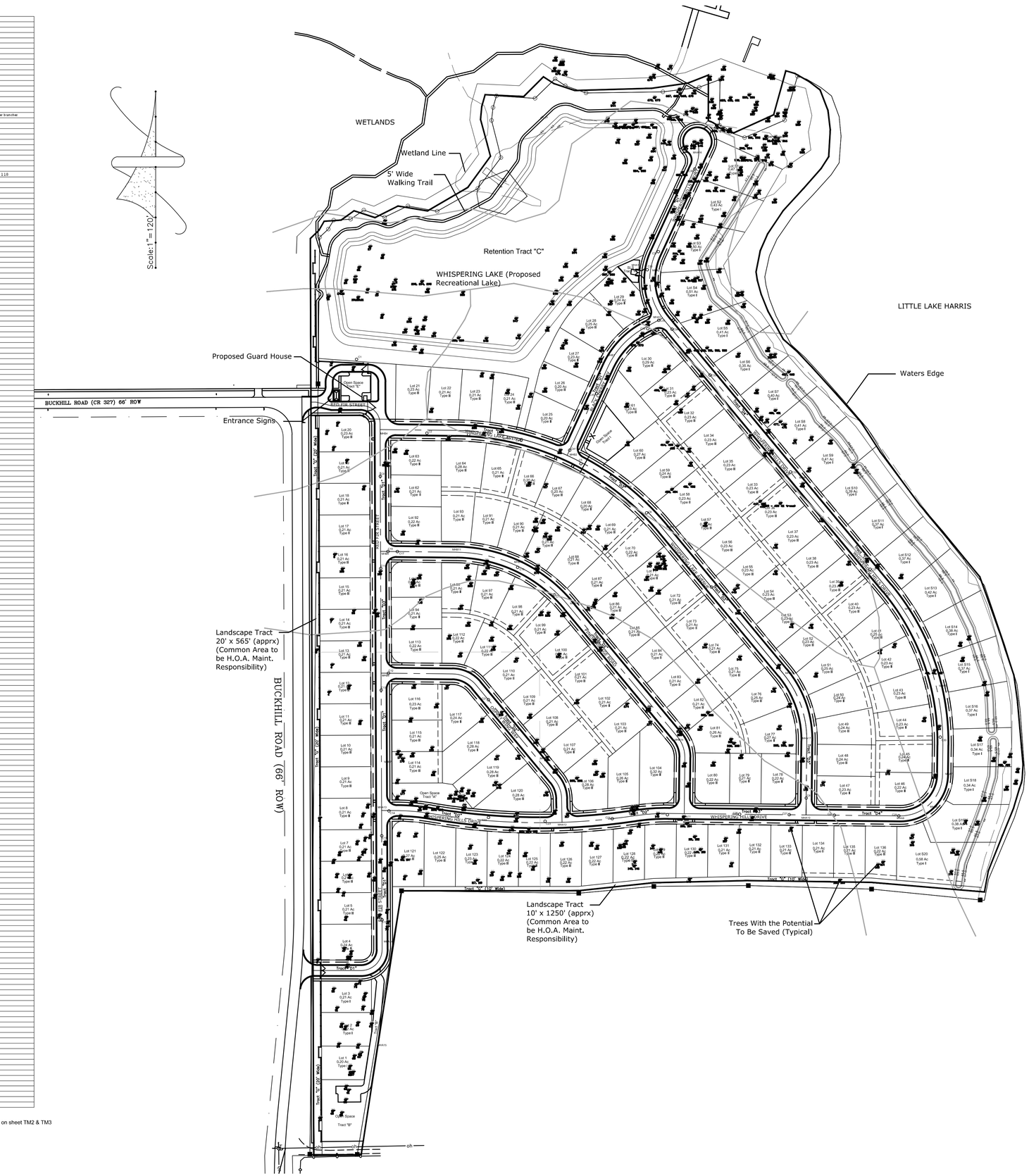
DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

Darcy Unroe PE 60929

Tree Save Table

Tree#	Save	Diameter (inches)	Species	Condition	Comments
10	1	10	Quercus virginiana	65	
11	1	17	Quercus laurifolia	50	leaning
12	1	8	Quercus laurifolia	65	
36	1	10&11	Quercus laurifolia	50	
39	1	16	Quercus laurifolia	60	
44	1	6	Quercus laurifolia	60	
46	1	6	Quercus laurifolia	60	
48	1	6	Quercus laurifolia	65	
49	1	9	Quercus laurifolia	60	
51	1	7	Quercus laurifolia	60	
54	1	7	Quercus laurifolia	60	
59	1	7	Quercus laurifolia	60	
60	1	7	Quercus laurifolia	60	
66	1	7	Prunus caroliniana	55	
70	1	7	Quercus laurifolia	60	Remove "Y"
73	1	11	Prunus caroliniana	45	
74	1	20	Quercus laurifolia	35	Check voids
76	1	9	Quercus laurifolia	40	Remove codominant stem and low w/ branches
81	1	8	Quercus laurifolia	65	
89	1	8	Quercus laurifolia	65	
95	1	6,6,&6	Quercus laurifolia	45	
100	1	7	Prunus caroliniana	60	
101	1	6	Prunus caroliniana	65	
105	1	8,5,6,&3	Quercus laurifolia	50	Remove 3" stem
109	1	10	Quercus laurifolia	65	
110	1	6	Quercus laurifolia	60	
111	1	6	Quercus laurifolia	60	
112	1	10&10	Prunus caroliniana	60	
117	1	7	Quercus laurifolia	50	Remove 5" tree between 117& 118
118	1	7	Quercus laurifolia	60	
122	1	8	Quercus laurifolia	65	
130	1	6	Prunus caroliniana	65	
131	1	6	Fraxinus americana	65	
137	1	8	Quercus laurifolia	65	Remove lower limbs
146	1	9&13	Prunus caroliniana	60	
158	1	8	Prunus caroliniana	60	
162	1	28	Quercus virginiana	65	
163	1	10	Quercus virginiana	60	
170	1	7	Quercus laurifolia	60	
171	1	8	Prunus caroliniana	65	
173	1	12	Quercus virginiana	65	
176	1	20	Quercus laurifolia	60	
177	1	6	Prunus caroliniana	65	
178	1	8	Quercus laurifolia	65	
179	1	7	Prunus caroliniana	65	
180	1	10	Prunus caroliniana	60	
181	1	6	Quercus laurifolia	65	
183	1	7	Quercus laurifolia	60	
190	1	14&15	Quercus laurifolia	40	Remove northern limb
195	1	8&10	Quercus laurifolia	50	Remove 8 stem
199	1	11&12	Prunus caroliniana	55	
200	1	6	Quercus laurifolia	60	Remove two stems Prunus caroliniana
201	1	6	Quercus laurifolia	65	
202	1	10	Quercus laurifolia	65	
207	1	8	Quercus laurifolia	65	
208	1	7	Quercus laurifolia	65	
209	1	6	Quercus laurifolia	65	
210	1	6	Quercus laurifolia	60	
211	1	6	Quercus laurifolia	60	Remove codominant stem
212	1	11 &12	Prunus caroliniana	60	
216	1	8	Quercus laurifolia	60	Codominant leader at 20'
221	1	14, 22, &10	Quercus laurifolia	50	
222	1	16	Quercus laurifolia	65	
224	1	20	Quercus laurifolia	65	
228	1	8	Quercus laurifolia	45	Codominant stems - remove one
229	1	21&15	Quercus laurifolia	40	Name v stock
232	1	6&8	Quercus laurifolia	50	
236	1	10&, 16	Pinus caroliniana	50	
239	1	10	Prunus caroliniana	55	Remove lower limbs
240	1	8	Quercus laurifolia	60	
246	1	7	Prunus caroliniana	60	
247	1	9, 10&12	Prunus caroliniana	50	
248	1	6 &6	Quercus laurifolia	55	Remove 5" stem
252	1	8&, 13	Prunus caroliniana	50	Remove 5" stem
263	1	9	Prunus caroliniana	45	
264	1	9	Prunus caroliniana	55	
271	1	7, 11&6	Quercus laurifolia	50	Remove 5" stem
274	1	13 &14	Quercus laurifolia	50	
282	1	10	Quercus virginiana	55	
310	1	20	Quercus virginiana	60	
311	1	14	Prunus caroliniana	55	
312	1	17	Quercus laurifolia	60	
317	1	13	Quercus laurifolia	50	
318	1	17	Quercus laurifolia	55	
319	1	11, 9 &8	Prunus caroliniana	45	
320	1	8, 9 & 10	Prunus caroliniana	45	
321	1	7&9	Prunus caroliniana	55	
322	1	8	Prunus caroliniana	60	
324	1	9&8	Prunus caroliniana	55	
325	1	11	Quercus laurifolia	45	
326	1	12	Quercus laurifolia	50	
329	1	6	Prunus caroliniana	60	
330	1	10&11	Quercus virginiana	55	Remove lower limbs
342	1	10& 12	Quercus laurifolia	50	
347	1	9&6	Quercus virginiana	55	Remove 4" stem
348	1	10& 15	Quercus virginiana	55	
358	1	7	Quercus laurifolia	50	Remove nearby 3 stem tree
359	1	13	Quercus laurifolia	55	
366	1	12	Prunus caroliniana	60	
380	1	7&8	Quercus laurifolia	50	Remove 3"and low er limb
381	1	16	Quercus laurifolia	60	
384	1	14	Fraxinus americana	55	
399	1	14	Fraxinus americana	55	
400	1	9	Quercus laurifolia	55	
401	1	16	Prunus caroliniana	60	
402	1	10	Fraxinus americana	55	
403	1	9	Fraxinus americana	55	
404	1	12	Prunus caroliniana	60	
406	1	9	Prunus caroliniana	60	
409	1	10	Prunus caroliniana	60	
413	1	8	Prunus caroliniana	60	
416	1	7	Prunus caroliniana	60	
417	1	10	Prunus caroliniana	65	
418	1	7&8	Prunus caroliniana	55	
422	1	9&14	Quercus laurifolia	50	Remove 9" stem
427	1	10	Prunus caroliniana	60	Remove adjacent oak
442	1	13	Prunus caroliniana	60	
446	1	27	Quercus laurifolia	60	
461	1	10&4	Quercus laurifolia	50	Remove 4" stem
462	1	10	Quercus laurifolia	50	
463	1	9	Quercus laurifolia	50	
464	1	7	Quercus laurifolia	50	
482	1	8	Quercus laurifolia	50	
486	1	10&8	Quercus laurifolia	50	Remove 6"stem
469	1	12	Prunus caroliniana	50	
470	1	11, 10& 10	Prunus caroliniana	50	
476	1	16	Prunus caroliniana	60	
477	1	11	Quercus laurifolia	55	Remove lower limb
478	1	16	Quercus laurifolia	50	
480	1	9&12	Quercus laurifolia	50	Remove lower limbs
481	1	7&8	Quercus laurifolia	50	Remove lower limbs
488	1	8&13	Quercus laurifolia	50	
489	1	8&8	Quercus laurifolia	50	
492	1	30	Prunus caroliniana	50	Rake crown
495	1	12&, 7	Prunus caroliniana	50	Remove 7" stem
496	1	11 & 10	Prunus caroliniana	50	Rake crown
500	1	9	Prunus caroliniana	50	
501	1	10	Prunus caroliniana	50	
502	1	8	Prunus caroliniana	50	
503	1	7	Prunus caroliniana	50	
507	1	11	Quercus laurifolia	60	
509	1	8	Quercus laurifolia	50	
510	1	11&8	Prunus caroliniana	50	Remove 6" stem
511	1	9	Quercus laurifolia	55	
512	1	22	Prunus caroliniana	55	
519	1	10&8	Prunus caroliniana	50	Remove 6" stem
520	1	15	Quercus laurifolia	50	
521	1	11	Quercus laurifolia	50	
522	1	8	Quercus laurifolia	50	
523	1	9 &13	Quercus laurifolia	50	Remove 9" stem
544	1	20	Prunus caroliniana	50	
557	1	14	Quercus virginiana	55	Remove tw o 4" stems
558	1	8	Quercus virginiana	60	
559	1	17	Prunus caroliniana	65	
560	1	20	Quercus virginiana	60	Remove lower stems
561	1	13&12	Quercus virginiana	50	Remove lower limbs
562	1	16 & 10	Quercus virginiana	50	Remove 10" stem
563	1	7	Quercus virginiana	60	
564	1	14&14	Quercus virginiana	55	
565	1	8	Quercus virginiana	55	
566	1	8	Quercus virginiana	60	
567	1	19	Quercus virginiana	50	
568	1	30	Quercus virginiana	65	
569	1	19	Quercus virginiana	60	
570	1	11	Quercus virginiana	60	
571	1	11	Quercus virginiana	60	
573	1	10&8	Quercus virginiana	50	
574	1	15&8	Quercus virginiana	50	
575	1	8&8	Prunus caroliniana	50	
576	1	10	Quercus virginiana	50	
577	1	8	Quercus virginiana	50	
578	1	10	Quercus virginiana	50	
579	1	12	Quercus virginiana	50	Remove three nearby trees
580	1	13	Quercus virginiana	55	
581	1	10	Quercus virginiana	50	
582	1	14&, 13	Quercus virginiana	55	
583	1	10&, 14	Quercus virginiana	55	
584	1	11&13	Quercus virginiana	50	
585	1	14	Quercus virginiana	60	
591	1	11	Quercus virginiana	50	
592	1	13	Quercus virginiana	50	
593	1	9	Quercus virginiana	50	
594	1	12	Quercus virginiana	50	Remove lower stems
595	1	11&11	Quercus virginiana	50	
596	1	9	Quercus virginiana	60	
597	1	12	Quercus virginiana	60	
601	1	7&13	Quercus virginiana	50	
602	1	16	Quercus virginiana	50	
603	1	10&15	Quercus virginiana	50	
660	1	9	Quercus virginiana	55	
661	1	11 & 14	Quercus virginiana	55	
662	1	11	Quercus virginiana	55	
663	1	12 & 14	Prunus caroliniana	60	
664	1	11, 12 & 10	Quercus virginiana	50	
665	1	21 & 12	Quercus virginiana	50	
666	1	14	Quercus virginiana	55	
667	1	10	Quercus virginiana	60	
668	1	10	Quercus virginiana	50	
669	1	9	Quercus virginiana	55	Remove dead stem
670	1	9,9&3	Quercus virginiana	50	Remove 3" stem
671	1	11	Quercus virginiana	55	
672	1	10	Quercus virginiana	50	
673	1	12	Quercus virginiana	50	
Total	202				

Note:
This table refers to trees that can potentially be saved as depicted on sheet TM2 & TM3

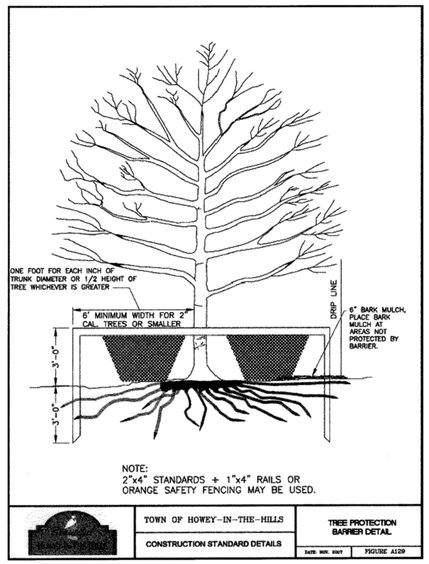


Landscape Notes:
- Entrance Signs may be located In the Landscape Easements. Such Landscape Buffers and Screens will be consistent with COHH LDR's.

Tree Protection Notes
A certified tree survey has been conducted by Ellis Surveying, Inc.
Of the total non-Pines located within the Parcel, the majority have ,been Identified as Diseased, Decayed, Dying, or Dangerous and will be removed. Of the remaining healthy non-Pines, many are in the way of construction. The Developer agree to maximize the number of healthy non-Pine trees .

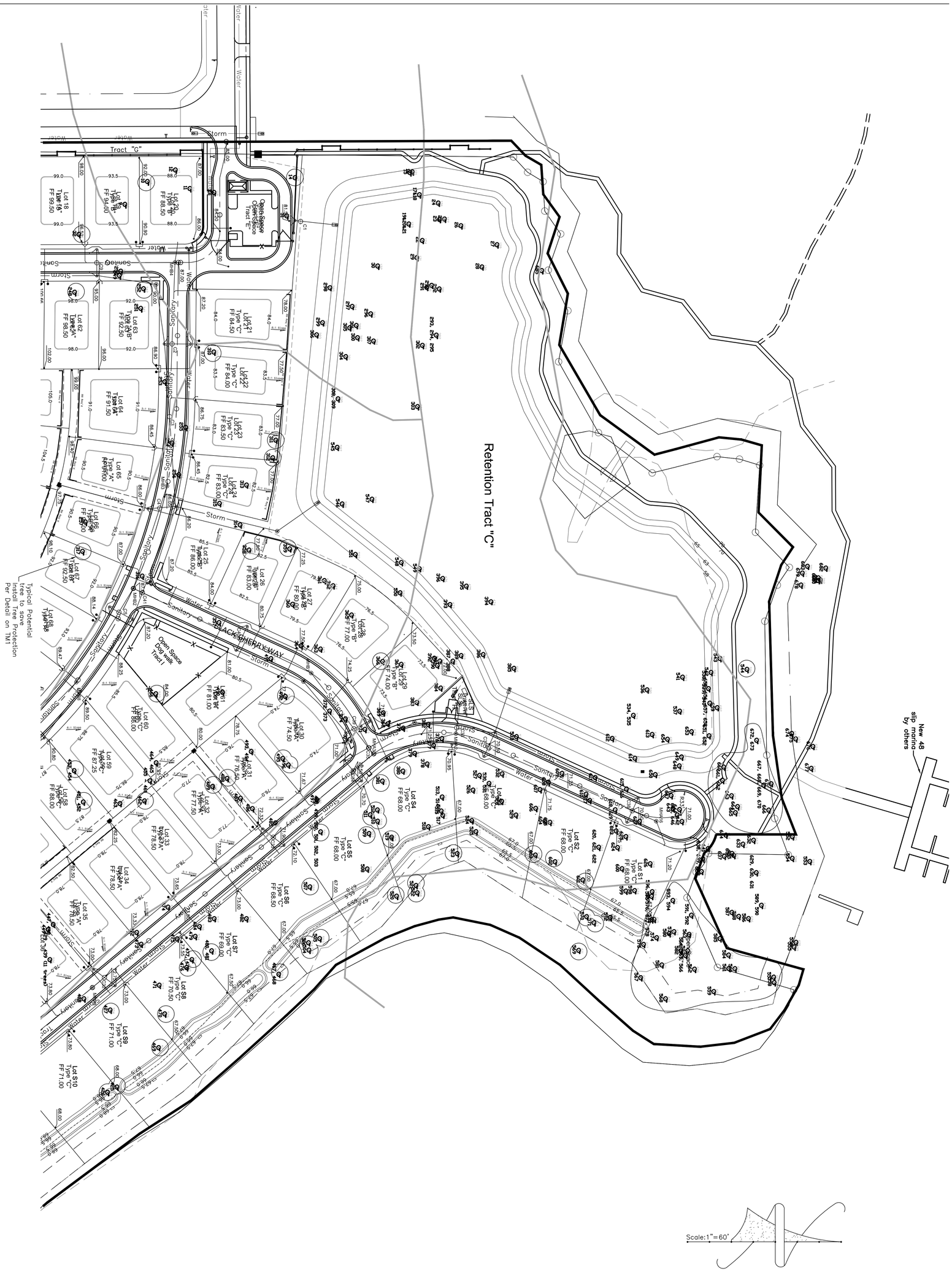
Trees will be saved in accordance with COHH Tree Protection Barrier Details.

Tree Requirements:
1, Howie LDR's require 3 trees per lot therefore a total of no less than 468 trees will be provided on the completed project. For any Lots having less than 3 trees homebuilders will be required to cure the deficiency.
2, In addition, to satisfy the replacement plantings requirement homebuilders will be required to provide the requisite replacement trees.



Item 3.

#	Revisions	Date	Description



Darcy Unroe PE 60929

STATE OF FLORIDA PROFESSIONAL ENGINEER DARCY UNROE LICENSE No 60929

Tree Mitigation Plan - North

WHISPERING HEIGHTS Subdivision

Buckhill Road, Howey-in-the-Hills, Florida

Unroe Engineering, Inc

Civil Engineering/Planning/Scientific Evaluation

PO Box 690942, Orlando, Fl 32869-0942

Business Authorization Number - EB 00006579 ph (407) 299-0650

Drawn	Checked	Scale	Date	File
DP	DP	1"=60'	09-07-21	WH2-TM2

Dwg. No. TM2

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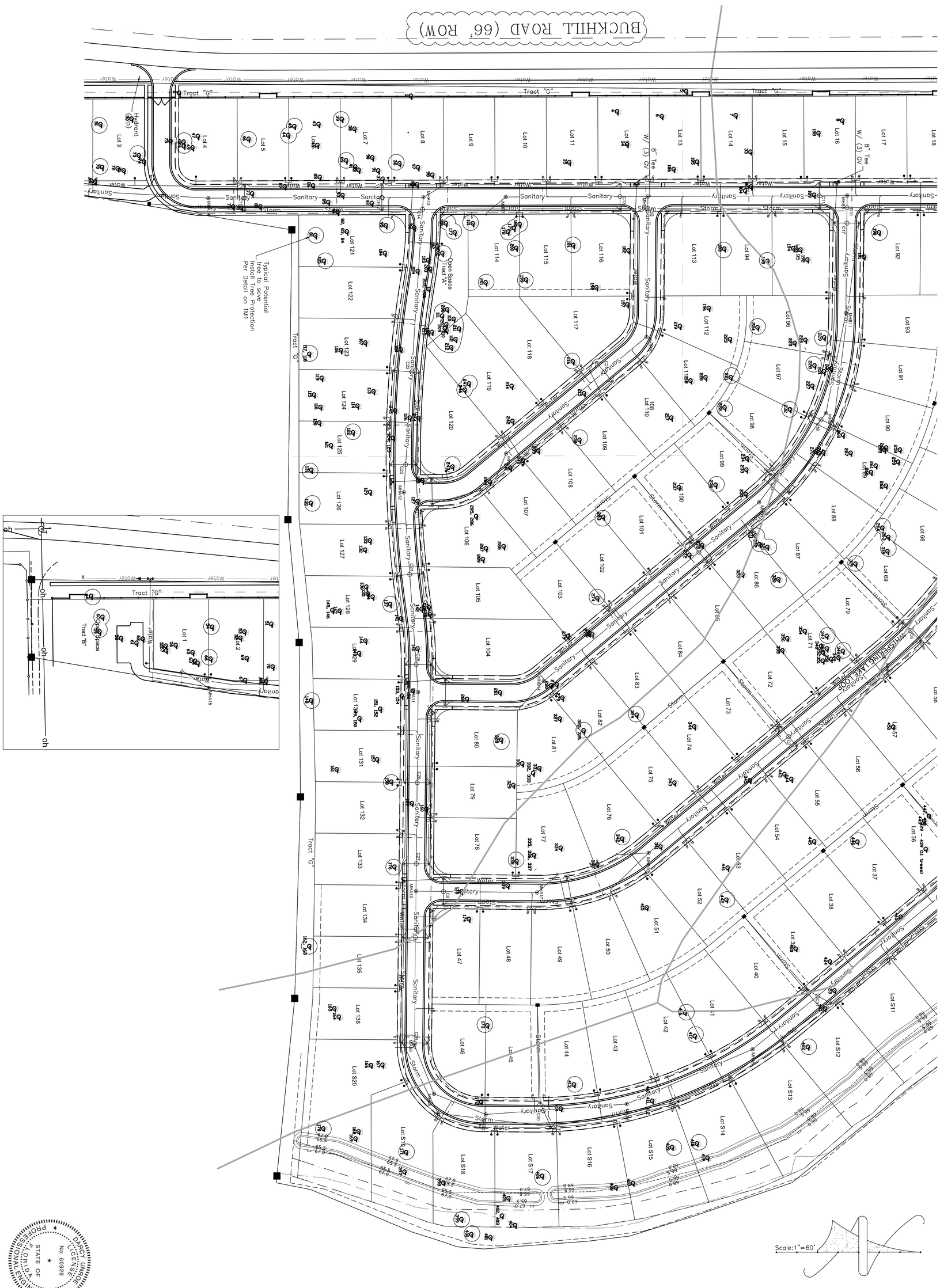
Revisions #	Date	Description

Revisions #	Date	Description

Item 2.



Darcy Unroe PE 60929

STATE OF FLORIDA PROFESSIONAL ENGINEER DARCY UNROE LICENSE No. 60929

Tree Mitigation Plan - South

WHISPERING HEIGHTS Subdivision

Buckhill Road, Howey-in-the-Hills, Florida

Unroe Engineering, Inc

Civil Engineering/Planning/Scientific Evaluation

PO Box 690942, Orlando, Fl 32869-0942

Business Authorization Number - EB 00006579 ph (407) 299-0650

Drawn	DP
Checked	DP
Scale	1"=60'
Date	09-07-21
File	WH2-TM3
Dwg. No.	TM3

45 of 83

Revisions				Revisions			
#	Date	Description		#	Date	Description	

Item 2.

61

Landrith Lighting Luminaire Schedule

Symbol	MANUFAC	Qty	Label	Arrangement	Description	LLF	Lum. Watts	Lum. Lumens	BUG Rating
	NLS LIGHTING	57	SLA	SINGLE	CAL-S-1P1-SS-T2-32L-53-30K-UNV-AM-FINISH-10K MOUNTED ON A4-S-SQL-18'-FINISH ARM & DSPSAP 14' S 188 FINISH HH 13ft POLE	1.000	54	5508	B2-U0-G2
	SIGSA	1	SLB	SINGLE	7726S K3 BLK	1.000	9	131	B0-U1-G0

Scale:1"=60'

Retention Tract "C"

Open Space Tract "F"

Open Space Tract "E"

Open Space Dog walk Tract I

Lot S1
Lot S2
Lot S3
Lot S4
Lot S5
Lot S6
Lot S7
Lot S8
Lot S9
Lot S10
Lot 18
Lot 19
Lot 20
Lot 21
Lot 22
Lot 23
Lot 24
Lot 25
Lot 26
Lot 27
Lot 28
Lot 29
Lot 30
Lot 31
Lot 32
Lot 33
Lot 34
Lot 35
Lot 58
Lot 59
Lot 60
Lot 61
Lot 62
Lot 63
Lot 64
Lot 65
Lot 66
Lot 67
Lot 68

Tract "G"

MH1A
MH1B
MH2
MH3
MH4
MH5
MH6
MH7
MH8

SLS Transformer

Water
Storm
Sanitary
Curb

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 0000657 9 ph (407) 299-0650

Revisions

#	Date	Description

Revisions

#	Date	Description

Site Lighting Photometrics - North

WHISPERING HEIGHTS Subdivision

Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
1"=60'	Scale
09-07-21	Date
WH2-SL1	File

Dwg. No.

SL1

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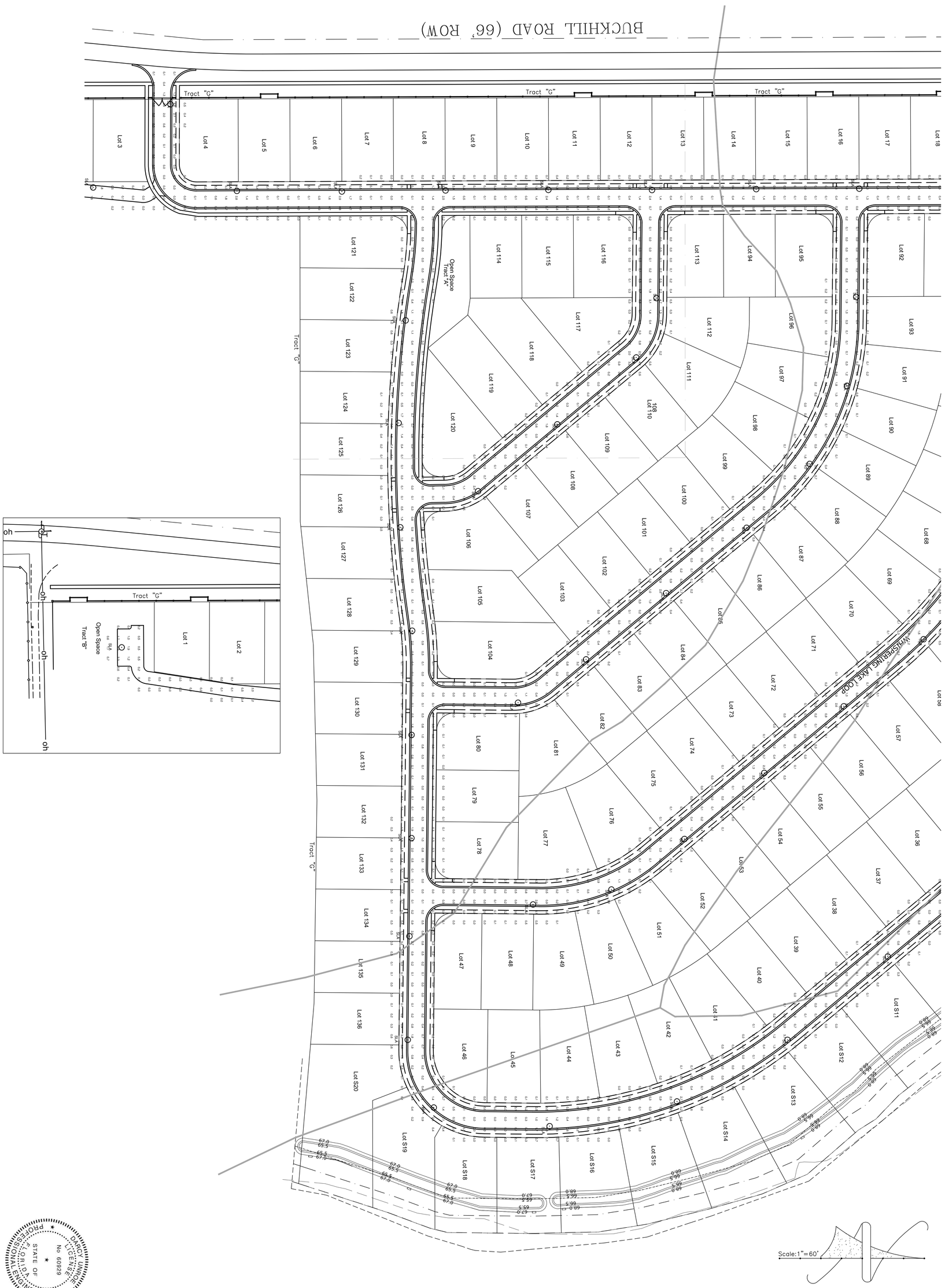
DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

Darcy Unroe PE 60929



PROFESSIONAL ENGINEER
STATE OF FLORIDA
DARCY UNROE
LICENSE
No 60929

Darcy Unroe PE 60929

Site Lighting - South

WHISPERING HEIGHTS Subdivision

Buckhill Road, Howey-in-the-Hills, Florida

Unroe Engineering, Inc

Civil Engineering/Planning/Scientific Evaluation

PO Box 690942, Orlando, Fl 32869-0942

Business Authorization Number - EB 00006579 ph (407) 299-0650

Revisions				Revisions			
#	Date	Description		#	Date	Description	

Drawn	DP
Checked	DP
Scale	1"=60'
Date	09-07-21
File	WH2-SL2

Dwg. No. SL2

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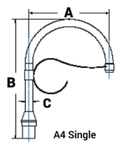
83

NLS LIGHTING

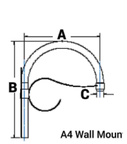
ARCHITECTURAL ARM 4

ARMS

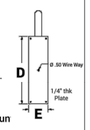
A4 Single



A4 Single



A4 Wall Moun



A4 Double 180

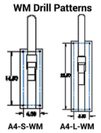
A4 Wall Mount

MODEL	A	B	C	D	E	EPA SGL	EPA DBL	EPA WM
A4-S	17 in.	30 in.	1 7/8" Ø (1-1/2 in. SCH40)	N/A	N/A	1.8	3.0	1.2
A4-S-WM	17 in.	25 in.	1 7/8" Ø (1-1/2 in. SCH40)	16 in.	6 in.	-	-	-
A4-L	26 in.	38 in.	1 7/8" Ø (1-1/2 in. SCH40)	N/A	N/A	1.5	2.7	1.0
A4-L-WM	26 in.	33 in.	1 7/8" Ø (1-1/2 in. SCH40)	24 in.	7 in.	-	-	-

Architectural Arm 4 is constructed of extruded aluminum tubing. Integrates with poles or tenons of 3-1/2", 4", 4-1/2", or 5" OD and is secured with 3/8" stainless steel Allen set screws.

Contact NLS for custom configuration or others mounting options. Arms are designed, tooled, fabricated and assembled in the USA.

WM Drill Patterns



A4-S-WM A4-L-WM

Project Name: Type:

Cat #	Mounting	Pole or Tenon Diameter	Color
Architectural Arm 4 Small **(A4-S)**	Single **(SGL)**	3" Round **(3R)**	Bronze **(BRZ)**
	Double 180° **(D180)**	4" Round **(4R)**	White **(WHT)**
Architectural Arm 4 Large **(A4-L)**	Wall Mount **(WM)**	4 ½" Round **(412R)**	Silver **(SVR)**
		5" Round **(5R)**	Black **(BLK)**
			Hunter Green **(HGN)**
			Graphite **(GPH)**
			Grey **(GRY)**
			Custom **(CS)**

NLS LIGHTING

CALIFORNIA SMALL

SITE + ARCHITECTURAL LIGHTING

The beautiful and simple California Series LED Pedestrian Luminaires depict not only the California lifestyle, but the architecture of California as well. This ornamental piece is a delightful sight to see and a great model to illuminate any urban, rural, retail, or park, or campus setting.

The different caps and shades depict different California styles and a touch of California's historic Spanish mission era. The California Series is the perfect selection to combine both design and efficiency in light performance. Designed, tooled, manufactured and assembled in the USA.

* Using Architectural Arm 4 (AA4)

STAR POWER OPTICAL SYSTEM

The Star Power reflector is an excellent system which provides great value and performance.

LED WATTAGE CHART

	16L	32L
350 milliamps	18w	32w
530 milliamps	28w	54w
700 milliamps	36w	71w
1050 milliamps	56w	106w

Project Name: Type:

Cat #	Top	Shade	Light Dist.	# of LEDs	Milliamps	Kelvin	Volts	Mount	Color	Options
California Small 18" Diameter **(CAL-S)**	Top 1 **(TP1)**	Shade 1 **(S1)**	Type 2 **(T2)**	16 **(16L)**	350 **(35)**	3000K **(30K)**	120-277 **(UNV)**	Arm Mount **(AM)**	Bronze **(BRZ)**	House Side Shield **(HSS)**
	Top 2 **(TP2)**	Shade 6 **(S6)**	Type 3 **(T3)**	32 **(32L)**	530 **(53)**	4000K **(40K)**	347-480 **(HV)**	**For Arm Mount, please select an Architectural Arm: (AA) separately.*	White **(WHT)**	Bird Spikes **(BS)**
	Top 3 **(TP3)**	Shade 7 **(S7)**	Type 4 **(T4)**		700 **(7)**	5000K **(50K)**			Silver **(SVR)**	Marine Grade Finish **(MGF)**
		Shade 8 **(S8)**	Type 5 **(T5)**		1050 **(1)**				Hunter Green **(HGN)**	Photocell **(PC)** **Universal Voltage 120-277*
									Black **(BLK)**	FSP-211 with Motion Sensor (Universal Voltage) **(FSP-8)** **For 8' + Below* **(FSP-20)** **For 9' to 20'* **(FSP-40)** **For 21' to 40'*
									Graphite **(GPH)**	Surge Protector **(10K)**
									Grey **(GRY)**	
									Custom **(CS)**	

PRODUCT SPECIFICATIONS

Housing: Heavy Duty Marine Grade Cast and Spun Aluminum with 4 shade options and 3 cap options
LED: Lumileds Luxeon MX, CRI 70
Optics: Star Power T2, T3, T4 and T5
Watts: 18-106
L70 Depreciation: 483,000 Hours (@77°F/ 25°C)
L90: 70,000

Listings: UL 1598 Listed
Driver: 0-10V Dimming driver as standard by Philips Advance
THD @ Max Load < 15%
Power Factor @ Max Load < 0.95
Kelvin: 3000, 4000, or 5000
Finish: 5 mils Powder Coat
Warranty: Standard Warranty is 5 years for Driver and LEDs

PRODUCT DIMENSIONS

TOPS

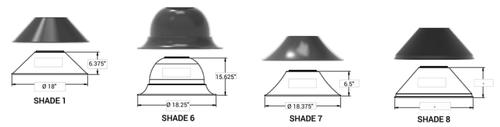
TOP 1
Smooth

TOP 2
Alum. Rings

TOP 3

PART NUMBER	T2 LUMENS	LM/W	T3 LUMENS	LM/W	T4 LUMENS	LM/W	T5 LUMENS	LM/W	Watts
CAL-S-16L-35-30K	1826	102	1854	103	1872	104	1800	100	18
CAL-S-16L-35-40K	1926	107	1908	106	1926	107	1854	103	18
CAL-S-16L-35-50K	2034	113	1998	111	2016	112	1908	106	18
CAL-S-16L-53-30K	2856	102	2884	103	2912	104	2800	100	28
CAL-S-16L-53-40K	2968	106	2968	106	2996	107	2884	103	28
CAL-S-16L-53-50K	3136	112	3108	111	3136	112	2968	106	28
CAL-S-16L-7-30K	3672	102	3708	103	3744	104	3600	100	36
CAL-S-16L-7-40K	3816	106	3816	106	3852	107	3708	103	36
CAL-S-16L-7-50K	4032	112	3996	111	4032	112	3816	106	36
CAL-S-16L-1-30K	5712	102	5768	103	5824	104	5600	100	56
CAL-S-16L-1-40K	5926	106	5926	106	5992	107	5768	103	56
CAL-S-16L-1-50K	6272	112	6216	111	6272	112	5936	106	56
CAL-S-32L-35-30K	3066	102	3099	103	3432	104	3300	100	33
CAL-S-32L-35-40K	3498	106	3498	106	3531	107	3399	103	33
CAL-S-32L-35-50K	3696	112	3663	111	3696	112	3498	106	33
CAL-S-32L-53-30K	5508	102	5562	103	5616	104	5400	100	54
CAL-S-32L-53-40K	5724	106	5724	106	5778	107	5562	103	54
CAL-S-32L-53-50K	6048	112	5994	111	6048	112	5724	106	54
CAL-S-32L-7-30K	7242	102	7313	103	7384	104	7100	100	71
CAL-S-32L-7-40K	7526	106	7597	107	7597	107	7313	103	71
CAL-S-32L-7-50K	7952	112	7881	111	7952	112	7526	106	71
CAL-S-32L-1-30K	10812	102	10918	103	11024	104	10600	100	106
CAL-S-32L-1-40K	11236	106	11342	107	11342	107	10918	103	106
CAL-S-32L-1-50K	11872	112	11766	111	11872	112	11236	106	106

SHADES



SHADE 1 SHADE 6 SHADE 7 SHADE 8

EPA	CAL-S
Single	0.82

NLS LIGHTING

DIRECT BURIAL POLE

STEEL, ALUM., SQUARE, ROUND, TAPERED

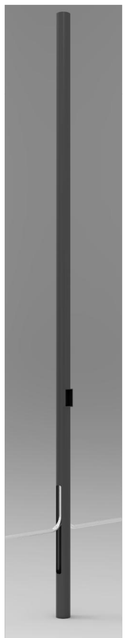
POLES + BASES

SHAFT
Shall be Grade B straight steel with yield strength of 46,000 PSI conforming to ASTM A500 Standards. All poles with hand hole have a welded ground lug.

Direct Burial poles can be ordered with optional coupling (specify height), optional hand hole (specify height), or optional Slot for conduit ingress and egress (specify height) . When poles are ordered with a three-way combination of Coupling, Hand Hole and Ground Lug, then the Ground Lug is positioned at 90 degrees to the Hand Hole and the Coupling is opposite the Hand Hole. When the pole is ordered with Hand Hole only, the Ground Lug is at 180 to the Hand Hole.

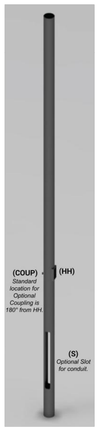
HAND HOLE COVER AND POLE CAP
Pole caps are injection molded snap-in caps in black finish. Optional hand hole covers are provided with internal bridge support. For added strength, constructed of 3" x 5" rectangular steel tubing, is welded to pole shaft.

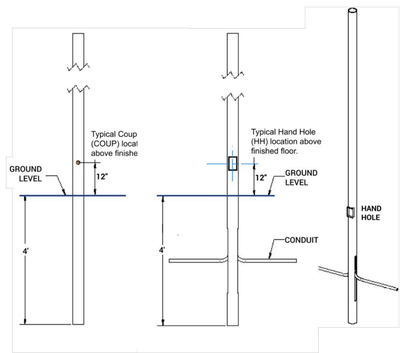
FINISH
All poles are finished with 3 to 5 mils of powder coat. All poles are sandblasted prior to powder coat application.



Project Name: Type:

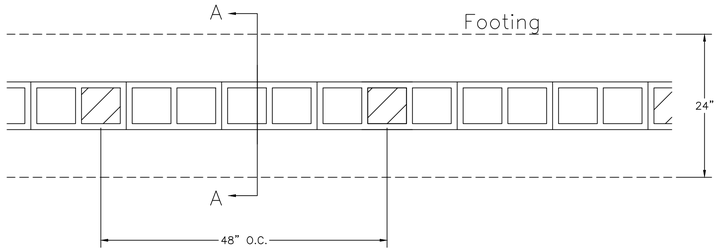
Cat #	Height (Above Grade)	Pole Dim.	Size	Orient	Color	Options
STEEL Direct Burial Round Straight Steel Pole **(DBRSSP)**	10' **(10)**	**ROUND** 3" OD **(3R)**	**STEEL** .120 in **(11G)**	Single **(SGL)**	Bronze **(BRZ)**	Slot **(S)**
Direct Burial Square Straight Steel Pole **(DBSSP)**	12' **(12)**	4" OD **(4R)**	180 in **(7G)**	Double **(D-90)** **(D-180)**	White **(WHT)**	Coupling **(COUP)**
ALUMINUM Direct Burial Round Straight Alum. Pole **(DBRSAP)**	14' **(14)**	5" OD **(5R)**	250 in **(25)**	Triple **(T-90)**	Silver **(SVR)**	**Standard location is opposite of HH. See next page for details. Consult Factory for Custom Height Above Finished Floor (AFF)*
Direct Burial Square Straight Alum. Pole **(DBSSAP)**	15' **(15)**	**SQUARE** 4" SQ **(4S)**	**ALUMINUM** .188 in **(18S)**	Quad **(QD)**	Green **(GRN)**	Hand Hole **(HH)**
	16' **(16)**	5" SQ **(5S)**	250 in **(25S)**	No Drill **(ND)** **Tenon Option*	Black **(BLK)**	Galvanized **(GLV)**
	18' **(18)**				Graphite **(GPH)**	**Tenon** 2 ⅜" Round **(T2R)**
	20' **(20)**				Grey **(GRY)**	3" Round **(T3R)**
	21' **(21)**				Custom **(CS)**	3 ½" Round **(T312R)**
	22' **(22)**					4 ½" Round **(T412R)**
	24' **(24)**					



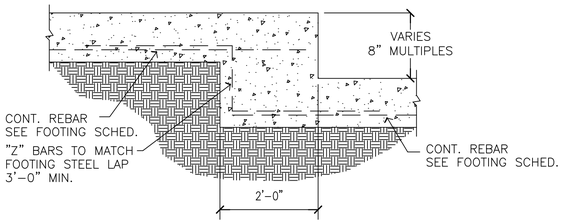


Item 3.

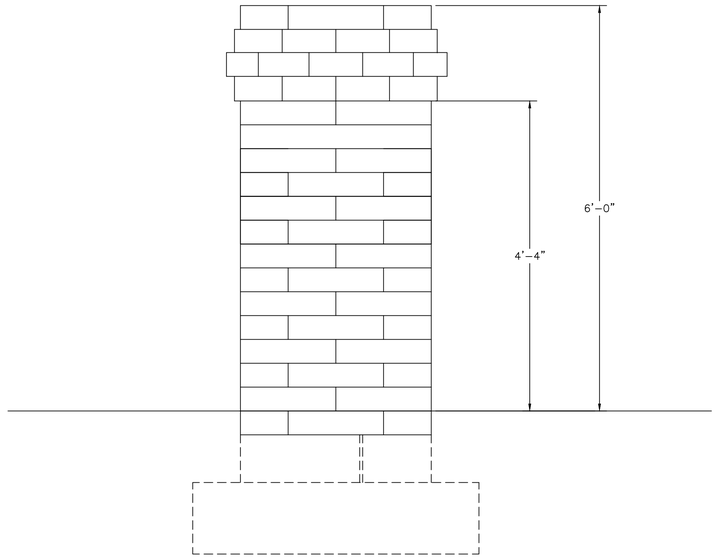
#	Description	Date



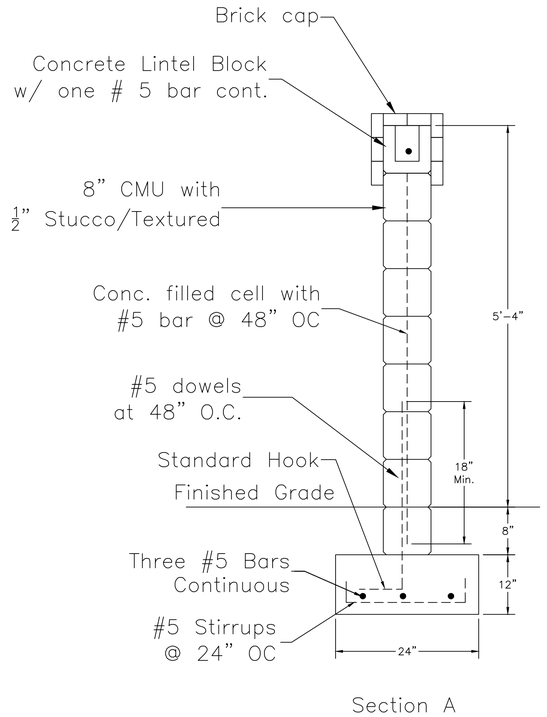
Plan View



TYPICAL STEP FOOTING DETAIL

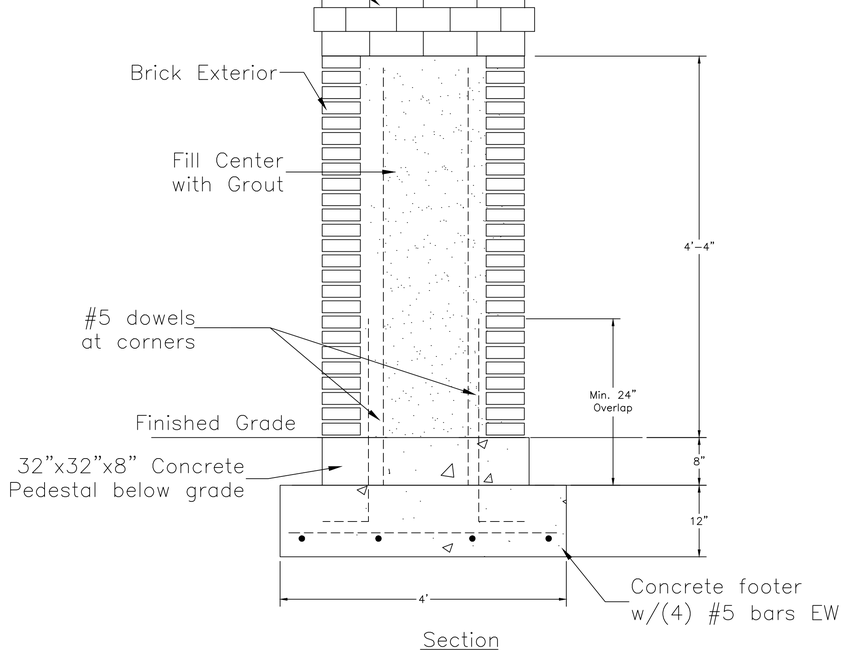


Side View

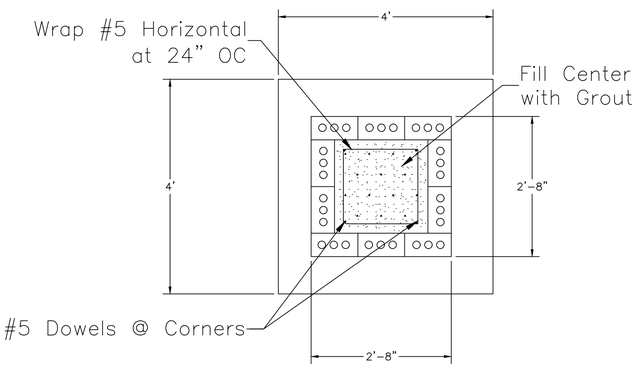


Section A

Block Wall Detail



Section



Top View

Brick Column Detail

Construction Notes
1. All work shall be in strict accordance with the 2020 Florida Building Codes.
2. A concrete work shall be in accordance with ACI 318-08.
3. All concrete 28 day strength shall be 3,000 psi
4. Footing design is based on the minimum soil bearing pressure of 2,000 psi
5. If footing elevation occurs in unsuitable soils, the engineer shall be notified immediately.

Engineering Notes
Basic Wind Speed - 130 MPH
Wind importance factor - 1
Building Category - 2
Wind exposure - C
Design wind pressure - 29.4 PSF

FOUNDATIONS:

SPREAD FOOTINGS SHALL BEAR ON SOIL COMPACTED TO DENSITY OF AT LEAST 95% OF MODIFIED PROCTOR MAXIMUM DENSITY (ASTM D1557) THE SOIL SHALL BE COMPACTED TO THIS DENSITY TO A DEPTH OF AT LEAST TWO (2) FEET BELOW TO BOTTOM OF FOOTING.

FILL UNDER FLOOR SLABS SHALL SHALL BE COMPACTED TO DENSITY OF AT LEAST 95% OF MODIFIED PROCTOR MAXIMUM DENSITY (ASTM).

IT SHALL BE OWNER'S RESPONSIBILITY TO VERIFY SOIL BEARING CAPACITY AND SUB SURFACE CONDITIONS, PRIOR TO START OF CONSTRUCTION. OWNERS GEOTECHNICAL CONSULTANT MAY RECOMMEND SITE PREPARATION . CONTRACTOR SHALL COORDINATE SOIL INVESTIGATION FINDINGS AND REQUIREMENTS OTHER THAN LISTED ABOVE WITH OWNER AND HIS GEOTECHNICAL CONSULTANTS SUBSEQUENT RECOMMENDATIONS

CONCRETE:

DESIGN OF REINFORCED CONCRETE CONFORMS WITH BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE- AC1 318, LATEST EDITION.

CONCRETE SHALL HAVE AN UNCONFINED COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.

REINFORCING STEEL SHALL BE ASTM A-615 GRADE 60 DEFORMED NEW BILLET STEEL CONFORMING TO ACI 301, ACI315, AVI 318 AND CRSI MANUAL OF STANDARD PRACTICE, LATEST EDITION.

ALL CONTINUOUS VERTICAL AND HORIZONTAL REINFORCING STEEL IN FOOTINGS, BEAMS, AND COLUMN SHALL BE LAP SPLICED A MINIMUM OF 36 BAR DIAMETERS OR 18", WHATEVER IS GREATER.

CONCRETE PROTECTION FOR REINFORCING BARS SHALL BE AS FOLLOWS:

FOOTING	3" CLEAR, BOTTOM AND SIDES, 2" CLEAR , TOP
SLABS	3/4" CLEAR, U.N.O.
PIERS	1-1/2" CLEAR TO STIRRUPS
COLUMNS	1-1/2" CLEAR TO TIES

Color and Finish Notes:
1. Block Wall Finish: ½" Textured Stucco with a 4x8 brick cap per detail.
2. Block Wall Color: Wall will be painted Off-White/Ash. The Brick Cap Color – Grey Mist
3. Brick Column Finish: 4x8 brick exterior
4. Brick Column Color: Brick Cap & Field Color – Grey Mist

Item 3.

#	Date	Description

Revisions

#	Date	Description

Revisions

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 00006579 ph (407) 299-0650

Block Wall & Brick Column Details
For Whispering Hills
Buckhill Road, Howey-in-the-Hills, Florida

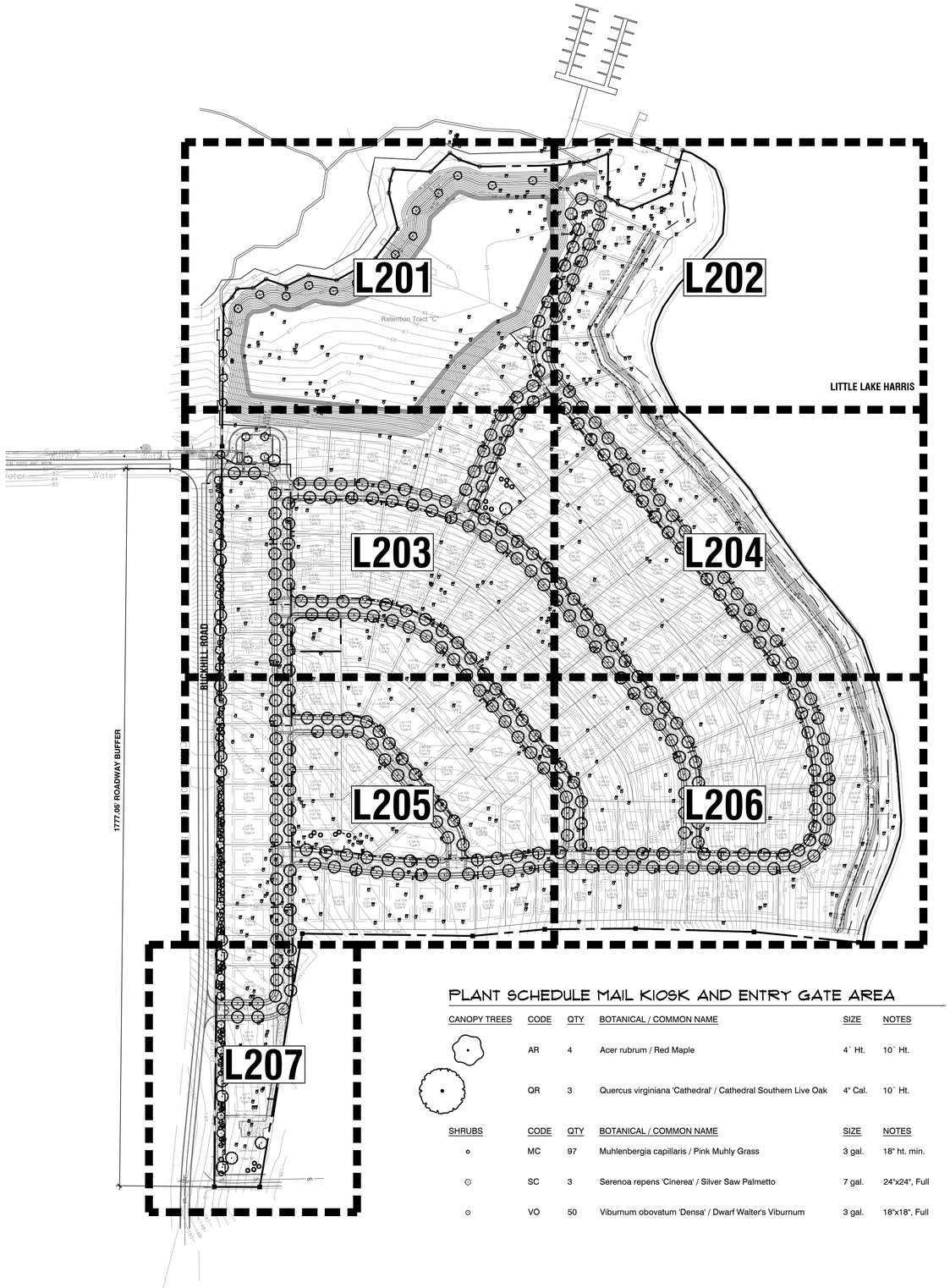
DP	Drawn
DP	Checked
per plan	Scale
09-07-21	Date
WH2-W1	File

Dwg. No.
W1

49 of 83

DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

Darcy Unroe PE 60929



OVERALL NOTES: per sheet TM1 of Unroe Engineering, Inc. Whispering Hills Subdivision Plan Set dated 7/2/2020

Tree Protection Notes

A certified tree survey has been conducted by Ellis Surveying, Inc.
Of the total non-Pines located within the Parcel, the majority have ,been Identified as Diseased, Decayed, Dying, or Dangerous and will be removed. Of the remaining healthy non-Pines, many are in the way of construction. The Developer agree to maximize the number of healthy non-Pine trees .
Trees will be saved in accordance with COHH Tree Protection Barrier Details.

Tree Requirements:

1. Howie LDR's require 3 trees per lot therefore a total of no less than 468 trees will be provided on the completed project. For any Lots having less than 3 trees homebuilders will be required to cure the deficiency. For single family lots that are one half acre or less in size, a minimum of three (3) canopy trees is required. Each such single family lot will be required to have one tree with a caliper of at least four inches (4") and two (2) trees each with a caliper of at least two and one half inches (4 2½"). These trees shall have a minimum height of 10 feet at time of planting. These trees should be canopy trees as listed in this chapter. Existing trees may be counted as meeting this requirement, as long as they are of sufficient size and accepted species. One of the canopy trees on each such single-family lot shall be planted in the front yard, no less than 5 feet and no more than 8 feet from the sidewalk or lot line. These trees will help to form a canopy over the sidewalk and street sides. Corner lots are required to provide two such trees, one on the front and one on the side of the lot. Additionally, if the lot is more than 100 feet wide at the sidewalk, then the lot will be required to have two such trees. Existing trees in this specific area can be counted as meeting this requirement. These trees shall be coordinated with the placement of streetlights to prevent conflicts. A list of approved canopy trees is included in this chapter.
2. In addition, to satisfy the replacement plantings requirement homebuilders will be required to provide the requisite replacement trees.

PLANT SCHEDULE

CANOPY TREES	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	NOTES
	AR	30	Acer rubrum / Red Maple Florida Fancy #1	4` Ht.	10` Ht.
	MG	12	Magnolia grandiflora / Southern Magnolia Florida Fancy #1, 30 gallon container or greater.	4" Cal.	10` Ht.
	PE	56	Pinus elliottii / Slash Pine Florida Fancy #1	4" Cal.	10` Ht.
	QR	328	Quercus virginiana 'Cathedral' / Cathedral Southern Live Oak Florida Fancy #1	4" Cal.	10` Ht.
ORNAMENTAL TREES	**CODE**	**QTY**	**BOTANICAL / COMMON NAME**	**SIZE**	**NOTES**
	IC	26	Ilex cassine / Dahoon Holly Florida Fancy #1	2.5" Cal.	8` Ht.
	LR	26	Lagerstroemia indica x fauriei 'Tuscarora' / Tuscarora Crape Myrtle Multi-Trunk Florida Fancy #1	1.5" Cal. Canes	8` Ht.
	PA	19	Prunus angustifolia / Chickasaw Plum Florida Fancy #1	2.5" Cal.	8` Ht.
SHRUBS	**CODE**	**QTY**	**BOTANICAL / COMMON NAME**	**SIZE**	**NOTES**
	HP	50	Hamelia patens 'Firefly' / Firefly Firebush	3 gal.	18"x18", Full
	MC	220	Muhlenbergia capillaris / Pink Muhly Grass	3 gal.	18" ht. min.
	SC	48	Serenoa repens 'Cinerea' / Silver Saw Palmetto	7 gal.	24"x24", Full
	VO	50	Viburnum obovatum 'Densa' / Dwarf Walter's Viburnum	3 gal.	18"x18", Full
	VS	471	Viburnum suspensum / Sandankwa Viburnum	3 gal.	30" Ht. Min.

SOD NOTE:
All sod areas to be non-irrigated Bahia Sod

PLANT SCHEDULE ROADWAY BUFFER

CANOPY TREES	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	NOTES
	AR	7	Acer rubrum / Red Maple	4` Ht.	10` Ht.
	MG	12	Magnolia grandiflora / Southern Magnolia	4" Cal.	10` Ht.
	PE	39	Pinus elliottii / Slash Pine	4" Cal.	10` Ht.
	QR	14	Quercus virginiana 'Cathedral' / Cathedral Southern Live Oak	4" Cal.	10` Ht.
ORNAMENTAL TREES	**CODE**	**QTY**	**BOTANICAL / COMMON NAME**	**SIZE**	**NOTES**
	IC	26	Ilex cassine / Dahoon Holly	2.5" Cal.	8` Ht.
	LR	26	Lagerstroemia indica x fauriei 'Tuscarora' / Tuscarora Crape Myrtle Multi-Trunk	1.5" Cal. Canes	8` Ht.
	PA	19	Prunus angustifolia / Chickasaw Plum	2.5" Cal.	8` Ht.
SHRUBS	**CODE**	**QTY**	**BOTANICAL / COMMON NAME**	**SIZE**	**NOTES**
	HP	50	Hamelia patens 'Firefly' / Firefly Firebush	3 gal.	18"x18", Full
	MC	123	Muhlenbergia capillaris / Pink Muhly Grass	3 gal.	18" ht. min.
	SC	45	Serenoa repens 'Cinerea' / Silver Saw Palmetto	7 gal.	24"x24", Full
	VS	471	Viburnum suspensum / Sandankwa Viburnum	3 gal.	30" Ht. Min.

PLANT SCHEDULE MAIL KIOSK AND ENTRY GATE AREA

CANOPY TREES	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	NOTES
	AR	4	Acer rubrum / Red Maple	4` Ht.	10` Ht.
	QR	3	Quercus virginiana 'Cathedral' / Cathedral Southern Live Oak	4" Cal.	10` Ht.
SHRUBS	**CODE**	**QTY**	**BOTANICAL / COMMON NAME**	**SIZE**	**NOTES**
	MC	97	Muhlenbergia capillaris / Pink Muhly Grass	3 gal.	18" ht. min.
	SC	3	Serenoa repens 'Cinerea' / Silver Saw Palmetto	7 gal.	24"x24", Full
	VO	50	Viburnum obovatum 'Densa' / Dwarf Walter's Viburnum	3 gal.	18"x18", Full

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kaley@floraviedesign.com

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RED JACKET DEVELOPMENT
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625 WALTHAM AVENUE
ORLANDO, FLORIDA 32409
PHONE: 407-855-1136

0 150 300 feet
SCALE: 1:150

No.	Date	Comment
1	2022-09-16	PER CITY COMMENTS
2	2022-12-08	UPDATED BACKGROUNDS

Professional Landscape Architect of Record:

Kaley M. Dunlap, PLA — LA6667256
Landscape Architect — Certificate No.

Project No.: 22-001
Project Phase: CITY SUBMITTAL
Project Title: WHISPERING HEIGHTS SUBDIVISION HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA
Sheet Title: OVERALL PLAN

Designed: KMD
Drawn: ZRR
Checked: KMD
Date: 01/12/2022
Sheet No.: L100

LANDSCAPE REQUIREMENTS

PER HOWEY-IN-THE-HILLS LAND DEVELOPMENT CODE

7.02.00 BUFFERS

2. A landscaped wall buffer with a minimum depth of 15 feet. The wall shall maintain a height of six feet from grade on highest side and all walls shall have a decorative exterior (no exposed block). Acceptable materials for wall faces are brick, stucco or stone or a combination of those materials. Wall columns shall have a maximum spacing of thirty feet (30') on walls up to two hundred feet (200') in length and forty feet (40') on walls more than two hundred feet (200') in length. Wall columns may extend up to two feet (2') above the height of the wall. Within each fifty-foot (50') increment along the wall, two (2) canopy trees, two (2) understory trees, and 30 linear feet of shrubs shall be planted. The trees shall not be closer than five feet (5') to a walk or wall. The shrubs shall be at least 30" in height at time of planting. For single family subdivisions, these buffers shall be on common property and dedicated to the homeowners' association for ownership and maintenance responsibilities. For multi-family sites, the buffer will be either owned by the property owner, or in the event of multiple owners, a condominium association or other common entity will own and maintain the buffer.

PROVIDED: 6' HEIGHT FINISHED WALL WITH LANDSCAPE BUFFER (SEE CHART BELOW)
REQUIREMENT SATISFIED.

7.04.01 Florida Water Star Program/Florida Friendly Landscaping

A. All required landscaping and irrigation shall be installed and maintained to be consistent with the water-efficient landscaping requirements established herein. Landowners are additionally encouraged to follow Waterwise Florida Landscapes, Florida Water Star Program, and Florida Irrigation Society Standards.
B. Landscape plants shall be selected based on appropriateness to the site considering conditions such as soil type, moisture, and sunlight using the principal of "right plant – right place," as described by the Florida Friendly Landscaping program. The plants shall be grouped and irrigated by hydrozone in accordance with their respective water needs. A list of appropriate plants and plant resources is contained in The Plant List for Lake County.
C. Synthetic Lawns and Plants: Synthetic or artificial turf, trees and plants shall be prohibited from use in lieu of required live plantings.
D. Limit irrigated lawn areas. Irrigation is not mandated by the Town. The use, type and location of irrigated lawn area in the landscape shall be selected in a planned manner and used as a fill-in material. Since most lawn varieties used in landscape require supplemental watering more frequently than other types of landscape plants, turf shall be placed so that it can be irrigated separately. The installation of turf grass shall be subject to the following:

1. Irrigated turf grasses may be installed on a maximum of sixty (60) percent of the pervious (landscape) area of any lot or parcel as follows:

TURF GRASS TABLE

Site Size	Irrigated Turf Area
< 5 Acres	60% of the pervious landscaped areas
5 to 10 Acres	60% of the pervious landscaped area, not to exceed 5 acres, whichever is less.
>10 acres	60% of the pervious landscaped area, not to exceed 10 acres, whichever is less

2. Exemptions:
(a) Unirrigated turf having an excellent drought tolerance rating, such as Bahia grass, may be used on the entire site and is not subject to this limitation.
(b) Agricultural uses, commercial golf courses greens and fairways, cemeteries, and public or private active recreation fields such as ball fields are exempt from this limitation.
(c) Existing Development: Property owners shall be encouraged to replace lawns and plants with Florida-Friendly Landscaping and drought tolerant turf for development existing as of June 14, 2021.
(d) The percentage of micro irrigation and/or non-irrigated areas shall be no less than 40 percent of the total irrigable area.

PROVIDED: BAHIA SOD AND FLORIDA FRIENDLY LANDSCAPING
REQUIREMENT SATISFIED.

7.05.01 Parking Lots

A. Terminal islands. Each row of parking spaces shall be terminated by landscaped islands to separate parking from adjacent drive aisles. Terminal islands shall measure a minimum of ten feet (10') in width and 20 feet (20') in length. Each terminal island shall include a canopy tree which is at least 4 inches DBH at time of planting, and ground cover. Shrubs may also be included.
B. Interior islands. Interior islands shall be used to shade parking lots. Interior islands are required every ten (10) parking spaces and shall be, at a minimum, the same size of a parking space (10 feet by 20 feet). Each interior island shall include a canopy tree which is at least 4 inches DBH at time of planting, and ground cover. Shrubs may also be included.
C. Divider medians. Landscaped divider medians shall form a continuous landscaped strip between abutting rows of parking. The minimum width of a divider median shall be 10 feet. Canopy trees at least 4 inches DBH at time of planting shall be spaced no fewer than one tree every 40 feet. Ground cover, shrubs, and understory trees shall also be included in divider medians.
D. All parking lot landscaping shall be designed with an irrigation system.

PARKING AREA LOCATED AT MAIL KIOSK AND ENTRY GATES
PROVIDED: (1) CANOPY TREE PER TERMINAL ISLAND AND GROUNDCOVER
REQUIREMENT SATISFIED.

SURVEY NOTES:

1. SEE CIVIL DRAWINGS FOR EXISTING CONDITIONS SURVEY.
2. SEE CIVIL DRAWINGS FOR EROSION AND SEDIMENTATION CONTROL PLAN.
3. THE CONTRACTOR SHALL MAKE A FULL REVIEW OF ALL EXISTING CONDITIONS OF THE SITE AND SHALL REPORT DISCREPANCIES TO THE LANDSCAPE ARCHITECT BEFORE STARTING WORK. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ACTUAL CONDITIONS AS THEY EXIST ON SITE.
4. EXISTING TREE CANOPIES WERE NOT SURVEYED. ALL TREE CANOPIES INDICATED ARE BASED ON SATELLITE IMAGERY AND AVERAGE CANOPY SIZE PER SURVEYED D.B.H. AND SPECIES.
5. EXISTING AND PROPOSED UTILITY LOCATIONS SHOWN ARE APPROXIMATE UNLESS SPECIFICALLY NOTED OTHERWISE IN THE DRAWINGS. SEE CIVIL PLANS FOR LOCATION OF BOTH PROPOSED AND EXISTING UTILITIES.
6. VERIFY LOCATIONS AND DEPTHS OF ALL UTILITIES IN THE FIELD AND NOTIFY LANDSCAPE ARCHITECT OF ANY CONFLICTS BETWEEN LAYOUT/GRADING AND SITE UTILITIES PRIOR TO THE START OF CONSTRUCTION.

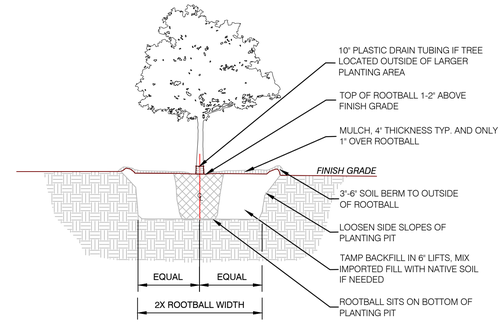
GENERAL NOTES:

1. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO REVIEW THE SITE CONDITIONS AND INFORM THE LANDSCAPE ARCHITECT AND OWNER OF ANY DISCREPANCIES IN SITE CONDITIONS OR EXISTING GRADES THAT ARE NOT DESCRIBED ON THE PLANS BEFORE COMMENCING WORK.
2. LANDSCAPE PLANTING CONTRACTOR SHALL CONTACT THE LANDSCAPE ARCHITECT TO REVIEW PLANS BEFORE COMMENCING WORK IN ORDER TO ASSURE CLOSE COORDINATION.
3. PRIOR TO PROJECT COMPLETION THE SITE IS TO BE THOROUGHLY CLEANED OF ALL CONSTRUCTION DEBRIS, SIGNS, ETC. AND REVIEWED BY THE LANDSCAPE ARCHITECT AND OWNER.
4. NO CONSTRUCTION ACTIVITY INCLUDING GRADE CHANGES, SURFACE TREATMENTS OR EXCAVATIONS OF ANY KIND IS PERMITTED WITHIN THE AREA IDENTIFIED AS A TREE PROTECTION ZONE (TPZ). IN ADDITION, NO ROOT CUTTING, NO STORAGE OF MATERIALS OR FILL, NO MOVEMENT OR STORAGE OF VEHICLES OR EQUIPMENT IS PERMITTED WITHIN THESE AREAS. THE AREAS IDENTIFIED AS A TPZ MUST REMAIN UNDISTURBED AT ALL TIMES.
5. ARBORICULTURAL WORK: ANY ROOTS OR BRANCHES WHICH EXTEND BEYOND THE TREE PROTECTION ZONE WHICH REQUIRE PRUNING, MUST BE PRUNED BY A QUALIFIED ARBORIST OR OTHER TREE PROFESSIONAL AS APPROVED BY THE OWNER OR OWNER'S REP. ALL PRUNING OF TREE ROOTS AND BRANCHES MUST BE IN ACCORDANCE WITH APPROPRIATE ARBORICULTURAL STANDARDS.
6. CONTRACTORS MUST CLEAN UP ALL TRASH AND DEBRIS ON THE CONSTRUCTION SITE AT THE END OF EACH DAY. LIGHTWEIGHT MATERIAL, PACKAGING, AND OTHER ITEMS MUST BE COVERED OR WEIGHTED DOWN TO PREVENT WIND FROM BLOWING SUCH MATERIALS OFF OF THE CONSTRUCTION SITE. DURING THE CONSTRUCTION PERIOD, THE CONSTRUCTION SITE MUST BE KEPT NEAT AND TIDY, DIRT, MUD OR OTHER DEBRIS RESULTING FROM ACTIVITY ON SITE MUST BE PROMPTLY REMOVED FROM SURROUNDING ROADS/PARKING AREAS.
7. CONTRACTOR TO CALL 1-800-432-4770 (CALL 811) TWO WEEKS PRIOR TO VERIFY LOCATION OF UNDERGROUND LINES, PIPES AND CABLES.

PLANTING INSTALLATION NOTES:

1. PLANT MATERIAL TO BE FLORIDA FANCY OR FLORIDA #1 OR BETTER. ALL PLANT MATERIALS SHALL CONFORM TO THE MINIMUM GUIDELINES ESTABLISHED BY THE AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.
2. ALL PLANTS SHALL BE HEALTHY, VIGOROUS, FREE OF DISEASE, INSECTS AND PESTS.
3. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT PLANT MATERIAL AT THE NURSERY OR AT THE SITE.
4. THE LANDSCAPE CONTRACTOR SHALL STAKE THE LOCATION OF ALL PROPOSED PLANT MATERIAL FOR APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO PLANTING. NO PLANTS SHALL BE PLANTED BEFORE THE ACCEPTANCE OF ROUGH GRADING. THE TRUNK FLARE (AT THE BASE OF THE TREE) SHALL BE PROPERLY EXPOSED FOR ALL PLANTINGS.
5. KEEP ROOTBALLS INTACT PRIOR TO AND DURING PLANTING OPERATIONS. PLANTS WITH BROKEN OR DAMAGED ROOT BALLS SHALL BE REJECTED AND IMMEDIATELY REMOVED FROM THE SITE. KEEP ROOT BALLS DAMP AND PROTECTED FROM DAMAGE DUE TO SUN AND WIND.
6. PLANTING PIT EXCAVATION: EXCAVATE FOR TREES WITH SLIGHTLY VERTICAL SIDES AND WITH BOTTOM OF EXCAVATION SLIGHTLY CROWNED TO PROMOTE DRAINAGE. SOIL EXCAVATED FROM PITS WILL BE USED TO BACKFILL THE PLANTING PITS.
7. ALL PLANTED AREAS WITHIN OR OUTSIDE THE LIMIT OF WORK WHICH ARE DISTURBED DURING CONSTRUCTION (INCLUDING PLANTING OPERATIONS) SHALL BE RETURNED TO ORIGINAL GRADE, LOAMED AND SEEDED OR MULCHED (AS APPROPRIATE) BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
8. TREE PLANTING: SEE DETAILS HEREIN FOR ADDITIONAL INFORMATION RELATED TO PLANTING PIT DIMENSIONS, PLANTING OPERATIONS, BACKFILLING, AND STAKING OF TREES.
9. CONTAINER STOCK PLANTING: PLANT CONTAINER GROWN STOCK THE SAME AS SPECIFIED FOR BALLED AND BURLAPPED STOCK, BUT REMOVE CONTAINERS COMPLETELY.
10. OBSTRUCTIONS: IF OBSTRUCTIONS OR OTHER CONDITIONS DETRIMENTAL TO HEALTHY PLANT GROWTH ARE ENCOUNTERED, NOTIFY LANDSCAPE ARCHITECT IMMEDIATELY AND REQUEST ADDITIONAL INSTRUCTIONS.
11. WATERING AND DRAINAGE: FILL EXCAVATIONS WITH WATER AND ALLOW WATER TO PERCOLATE OUT BEFORE PLANTING. IF PLANTING PITS DO NOT PERCOLATE OR DRAIN PROPERLY, NOTIFY LANDSCAPE ARCHITECT AND REQUEST ADDITIONAL INSTRUCTIONS PRIOR TO PLANTING. DO NOT PLANT INTO POORLY DRAINING PITS; POORLY DRAINING PLANTING PITS MAY HOLD WATER AND DROWN PLANTS.
12. WATERING: FLOOD ALL PLANTS WITH WATER TWICE WITHIN THE FIRST 24 HOURS AFTER PLANTING.
13. 13. ALL PLANT MATERIAL SHALL BE MULCHED AFTER PLANTING. BACKFILL TO ALLOW ROOM FOR 3" THICKNESS OF MULCH AFTER SETTLING, AND PLACE MULCH IN DISH AFTER FIRST WATERING AND WITHIN ONE WEEK OF PLANTING.
14. PRUNING AND SHAPING: PRUNE, THIN OUT AND SHAPE PLANTS IN COMPLIANCE WITH AMERICAN ASSOCIATION OF NURSERYMEN, HORTICULTURAL STANDARDS TO PRESERVE THE NATURAL CHARACTER AND ONLY AS APPROVED BY THE LANDSCAPE ARCHITECT. RETAIN REQUIRED HEIGHT AND SPREAD. DO NOT ALTER SHAPE AND DO NOT CUT LEADERS. REMOVE ALL DEAD WOOD, SUCKERS, BROKEN OR BRUISED BRANCHES, AND CROSSING BRANCHES.

LOCATION AND BUFFER TYPE	REQUIREMENT	PROVIDED
NORTH Timber S I 70 Land Use Code: 5400	not required	***not required***
WEST Government Submerged Land Land Use Code 8095 Little Lake Harris Wetland Area	not required	***not required***
SOUTH Single Family Lakefront Land Use Code: 0103	not required	***not required***
EAST Public R.O.W TYPE A BUFFER 1,777 linear feet	20' WIDTH per 50 linear feet 1,777 LF/50 LF = 35.54 (2) CANOPY TREES = 35.54*2 = 71 CANOPY TREES (2) ORNAMENTAL TREES = 35.54*2 = 71 ORNAMENTAL TREES (1) SINGLE ROW OF SHRUBS	***SOLID WALL*** ***(71) CANOPY TREES*** ***(71) ORNAMENTAL TREES*** ***(1) HEDGE ROW***

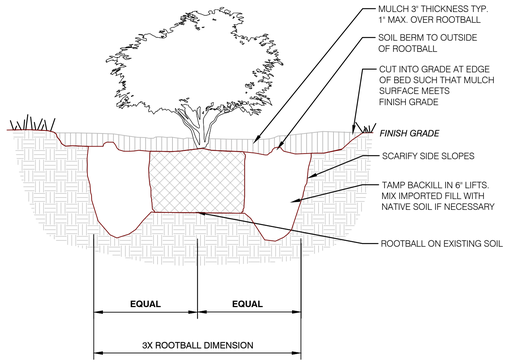


NOTES:

1. ENSURE PLANTING PIT DRAINS WELL PRIOR TO INSTALLATION.
2. REMOVE TREE FROM CONTAINER OR REMOVE UPPER ⅓ OF BURLAP AND WIRE MESH FOR B&B TREES.
3. SLICE ROOTBALL VERTICALLY ON OUTSIDE EDGES OF AND AROUND ROOTBALL.
4. TREE TO BE PLUMB. STAKE TREE, SUBMIT TREE STAKING DETAILS AND LAYOUT FOR APPROVAL.

1 TREE PLANTING DETAIL

SCALE: N.T.S. P-ED-01



2 SHRUB PLANTING DETAIL

SCALE: N.T.S. P-ED-04

811 Know what's **below.** **Call** before you dig.

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kaley@floraviedesign.com

PREPARED FOR:

RED JACKET DEVELOPMENT
CONTACT: CLAY FRANKEL
625 WALTHAM AVENUE
ORLANDO, FLORIDA 32409
PHONE: 407-855-1136

No.	Date	Comment
1	2022-09-16	PER CITY COMMENTS
2	2022-12-08	UPDATED BACKGROUNDS

Professional Landscape Architect of Record:

Kaley M. Dunlap, PLA — LA6667256
Landscape Architect — Certificate No.

Project No.: 22-001

Project Phase: CITY SUBMITTAL

Project Title: WHISPERING HEIGHTS SUBDIVISION HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA

Sheet Title: LANDSCAPE CALCULATIONS, NOTES, AND DETAILS

Designed:	KMD
Drawn:	ZRR
Checked:	KMD
Date:	01/12/2022

Sheet No.: L200

Retention Tract "C"

SLS Tract "H"

Lot 29
0.27 Ac
Type II

Lot 28
0.25 Ac
Type II

PREPARED BY:

floravie design

Contact: KALEY DUNLAP
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ORLANDO, FL 32804
TEL | 321-277-0826
kaley@floraviedesign.com

PREPARED FOR:

RED JACKET DEVELOPMENT
CONTACT: CLAY FRANKEL
625 WALTHAM AVENUE
ORLANDO, FLORIDA 32409
PHONE: 407-855-1136

0 60 30 feet
SCALE: 1:30

No.	Date	Comment
2	2022-12-08	UPDATED BACKGROUNDS

Professional Landscape Architect of Record:

Kaley M. Dunlap, PLA — LA6667256
Landscape Architect — Certificate No.

Project No.: 22-001

Project Phase: CITY SUBMITTAL

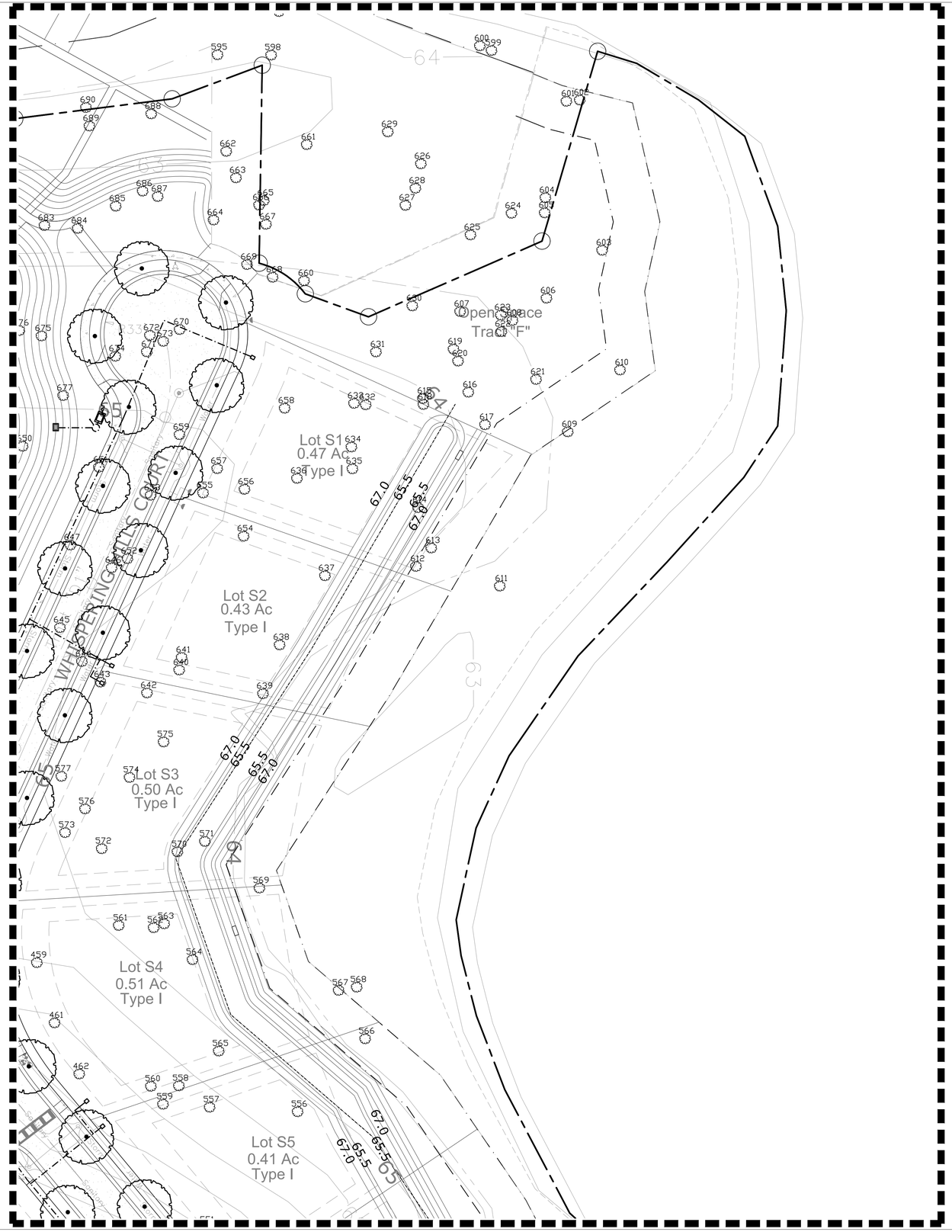
Project Title:

WHISPERING HEIGHTS SUBDIVISION
HOWEY-IN-THE-HILLS,
LAKE COUNTY, FLORIDA

Sheet Title: LANDSCAPE PLAN

Designed:	KMD
Drawn:	ZRR
Checked:	KMD
Date:	01/12/2022

Sheet No.: L201



PREPARED BY:

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916 VASSAR STREET
ORLANDO, FL 32804
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kaley@floraviedesign.com

PREPARED FOR:

RED JACKET DEVELOPMENT
CONTACT: CLAY FRANKEL
625 WALTHAM AVENUE
ORLANDO, FLORIDA 32409
PHONE: 407-855-1136

0 60 30 feet

SCALE: 1:30

No.	Date	Comment
2	2022-12-08	UPDATED BACKGROUNDS

Professional Landscape Architect of Record:

Kaley M. Dunlap, PLA — LA6667256
Landscape Architect — Certificate No.

Project No.: 22-001

Project Phase: CITY SUBMITTAL

Project Title:

WHISPERING HEIGHTS SUBDIVISION
HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA

Sheet Title: LANDSCAPE PLAN

Designed:	KMD
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Checked:	KMD
Date:	01/12/2022

Sheet No.: L201

MAIL KIOSK AND ENTRY GATE AREA

4" CHERRY

12" OAK

Open Space Tract "E"

RED FIR STREET

WHISPERING LAKE AVENUE

BLACK CHERRY WAY

Open Space Tract I

ROADWAY BUFFER

CANOPY TREE IN OPEN SPACE; BAHIA SOD GROUNDCOVER IN REMAINDER OF RECREATION TRACT, TYP.

BENCH, TYP.

TRASH RECEPTACLE, TYP.

Lot 17 0.21 Ac Type II
Lot 18 0.21 Ac Type II
Lot 19 0.21 Ac Type II
Lot 20 0.23 Ac Type II
Lot 21 0.23 Ac Type II
Lot 22 0.21 Ac Type II
Lot 23 0.21 Ac Type II
Lot 24 0.21 Ac Type II
Lot 25 0.20 Ac Type II
Lot 26 0.20 Ac Type II
Lot 27 0.21 Ac Type II
Lot 30 0.29 Ac Type II
Lot 61 0.23 Ac Type II
Lot 60 0.27 Ac Type II
Lot 63 0.22 Ac Type II
Lot 64 0.28 Ac Type II
Lot 65 0.21 Ac Type II
Lot 66 0.20 Ac Type II
Lot 67 0.20 Ac Type II
Lot 68 0.20 Ac Type II
Lot 69 0.21 Ac Type II
Lot 70 0.22 Ac Type II
Lot 71 0.21 Ac Type II
Lot 62 0.21 Ac Type II
Lot 92 0.22 Ac Type II
Lot 93 0.21 Ac Type II
Lot 91 0.21 Ac Type II
Lot 90 0.21 Ac Type II
Lot 89 0.21 Ac Type II
Lot 88 0.21 Ac Type II
Lot 87 0.21 Ac Type II
Lot 86 0.21 Ac Type II
Lot 16 0.21 Ac Type II
Lot 15 0.21 Ac Type II
Lot 14 0.21 Ac
Lot 95 0.23 Ac Type II
Lot 96 0.21 Ac Type II
Lot 97 0.21 Ac Type II
Lot 98 0.21 Ac Type II
Lot 94 0.21 Ac Type II

0 60 30 feet
SCALE: 1:30

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CONTACT: CLAY FRANKEL
625 WALTHAM AVENUE
ORLANDO, FLORIDA 32409
PHONE: 407-855-1136

No.	Date	Comment
1	2022-09-16	PER CITY COMMENTS
2	2022-12-08	UPDATED BACKGROUNDS

Professional Landscape Architect of Record:

Kaley M. Dunlap, PLA — Landscape Architect
LA6667256 — Certificate No.

Project No.: 22-001

Project Phase: CITY SUBMITTAL

Project Title:
WHISPERING HEIGHTS SUBDIVISION
HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA

Sheet Title: LANDSCAPE PLAN

Designed: KMD
Drawn: ZRR
Checked: KMD
Date: 01/12/2022

Sheet No.: L203

PREPARED BY:

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CONTACT: CLAY FRANKEL
625 WALTHAM AVENUE
ORLANDO, FLORIDA 32409
PHONE: 407-855-1136

0 60 30 feet

SCALE: 1:30

No.	Date	Comment
1	2022-09-16	PER CITY COMMENTS
2	2022-12-08	UPDATED BACKGROUNDS

Professional Landscape Architect of Record:

Kaley M. Dunlap, PLA — Landscape Architect
LA6667256 — Certificate No.

Project No.: 22-001

Project Phase: CITY SUBMITTAL

Project Title:

WHISPERING HEIGHTS SUBDIVISION
HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA

Sheet Title: LANDSCAPE PLAN

Designed:	KMD
Drawn:	ZRR
Checked:	KMD
Date:	01/12/2022

Sheet No.: L204

Lot 13
0.21 Ac
Type II

Lot 12
0.21 Ac
Type II

Lot 11
0.21 Ac
Type II

Lot 10
0.21 Ac
Type II

Lot 9
0.21 Ac
Type II

Lot 8
0.21 Ac
Type II

Lot 7
0.21 Ac
Type II

Lot 6
0.21 Ac
Type II

Lot 113
0.22 Ac
Type II

Lot 112
0.22 Ac
Type II

Lot 111
0.22 Ac
Type II

Lot 110
0.21 Ac
Type II

Lot 116
0.23 Ac
Type II

Lot 117
0.24 Ac
Type II

Lot 115
0.21 Ac
Type II

Lot 118
0.28 Ac
Type II

Lot 114
0.21 Ac
Type II

Lot 119
0.28 Ac
Type II

Lot 120
0.28 Ac
Type II

Lot 121
0.27 Ac
Type II

Lot 122
0.25 Ac
Type II

Lot 123
0.23 Ac
Type II

Lot 124
0.22 Ac
Type II

Lot 125
0.22 Ac
Type II

Lot 126
0.22 Ac
Type II

Lot 127
0.22 Ac
Type II

Lot 128
0.22 Ac
Type II

Lot 129
0.22 Ac
Type II

Lot 99
0.21 Ac
Type II

Lot 100
0.21 Ac
Type II

Lot 101
0.21 Ac
Type II

Lot 109
0.21 Ac
Type II

Lot 108
0.21 Ac
Type II

Lot 107
0.21 Ac
Type II

Lot 106
0.28 Ac
Type II

Lot 105
0.26 Ac
Type II

Lot 104
0.32 Ac
Type II

Lot 85
0.21 Ac
Type II

Lot 84
0.21 Ac
Type II

Lot 102
0.21 Ac
Type II

Lot 103
0.21 Ac
Type II

PINE PASSAGE ROAD

OSPREY WING WAY

WHISPERING HILLS DRIVE

Tract "G" (10' Wide)

Open Space
Tract "A"

BENCH AND TRASH RECEPTACLE, TYP.

CANOPY TREE IN OPEN SPACE; BAHIA SOD GROUNDCOVER IN REMAINDER OF RECREATION TRACT, TYP.

ROADWAY BUFFER

662' ROW

STREET

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CONTACT: CLAY FRANKEL
625 WALTHAM AVENUE
ORLANDO, FLORIDA 32409
PHONE: 407-855-1136

0 60 30 feet

SCALE: 1:30

No.	Date	Comment
1	2022-09-16	PER CITY COMMENTS
2	2022-12-08	UPDATED BACKGROUNDS

Professional Landscape Architect of Record:

Kaley M. Dunlap, PLA — LA6667256
Landscape Architect — Certificate No.

Project No.: 22-001

Project Phase: CITY SUBMITTAL

Project Title:

WHISPERING HEIGHTS SUBDIVISION
HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA

Sheet Title: LANDSCAPE PLAN

Designed: KMD
Drawn: ZRR
Checked: KMD
Date: 01/12/2022

Sheet No.: L205

Lot 83
0.21 Ac
Type II

Lot 74
0.21 Ac
Type II

Lot 75
0.21 Ac
Type II

Lot 82
0.21 Ac
Type II

Lot 76
0.25 Ac
Type II

Lot 81
0.26 Ac
Type II

Lot 77
0.27 Ac
Type II

Lot 52
0.23 Ac
Type II

Lot 51
0.25 Ac
Type II

Lot 50
0.24 Ac
Type II

Lot 49
0.24 Ac
Type II

Lot 48
0.24 Ac
Type II

Lot 41
0.25 Ac
Type II

Lot 42
0.23 Ac
Type II

Lot 43
0.23 Ac
Type II

Lot 44
0.23 Ac
Type II

Lot 45
0.24 Ac
Type II

Lot 47
0.23 Ac
Type II

Lot 46
0.22 Ac
Type II

Lot S14
0.38 Ac
Type I

Lot S15
0.37 Ac
Type I

Lot S16
0.37 Ac
Type I

Lot S17
0.34 Ac
Type I

Lot S18
0.34 Ac
Type I

Lot S19
0.38 Ac
Type I

Lot S20
0.58 Ac
Type I

Lot 80
0.22 Ac
Type II

Lot 79
0.21 Ac
Type II

Lot 78
0.22 Ac
Type II

Lot 130
0.22 Ac
Type II

Lot 131
0.21 Ac
Type II

Lot 132
0.21 Ac
Type II

Lot 133
0.21 Ac
Type II

Lot 134
0.21 Ac
Type II

Lot 135
0.21 Ac
Type II

Lot 136
0.22 Ac
Type II

WHISPERING HILLS DRIVE

Tract "G" (10' Wide)

IRRIGATION BLOW OFF

PREPARED BY:

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PHONE: 407-855-1136

0 60 30 feet

SCALE: 1:30

No.	Date	Comment
1	2022-09-16	PER CITY COMMENTS
2	2022-12-08	UPDATED BACKGROUNDS

Professional Landscape Architect of Record:

Kaley M. Dunlap, PLA — LA6667256
Landscape Architect — Certificate No.

Project No.: 22-001

Project Phase: CITY SUBMITTAL

Project Title:

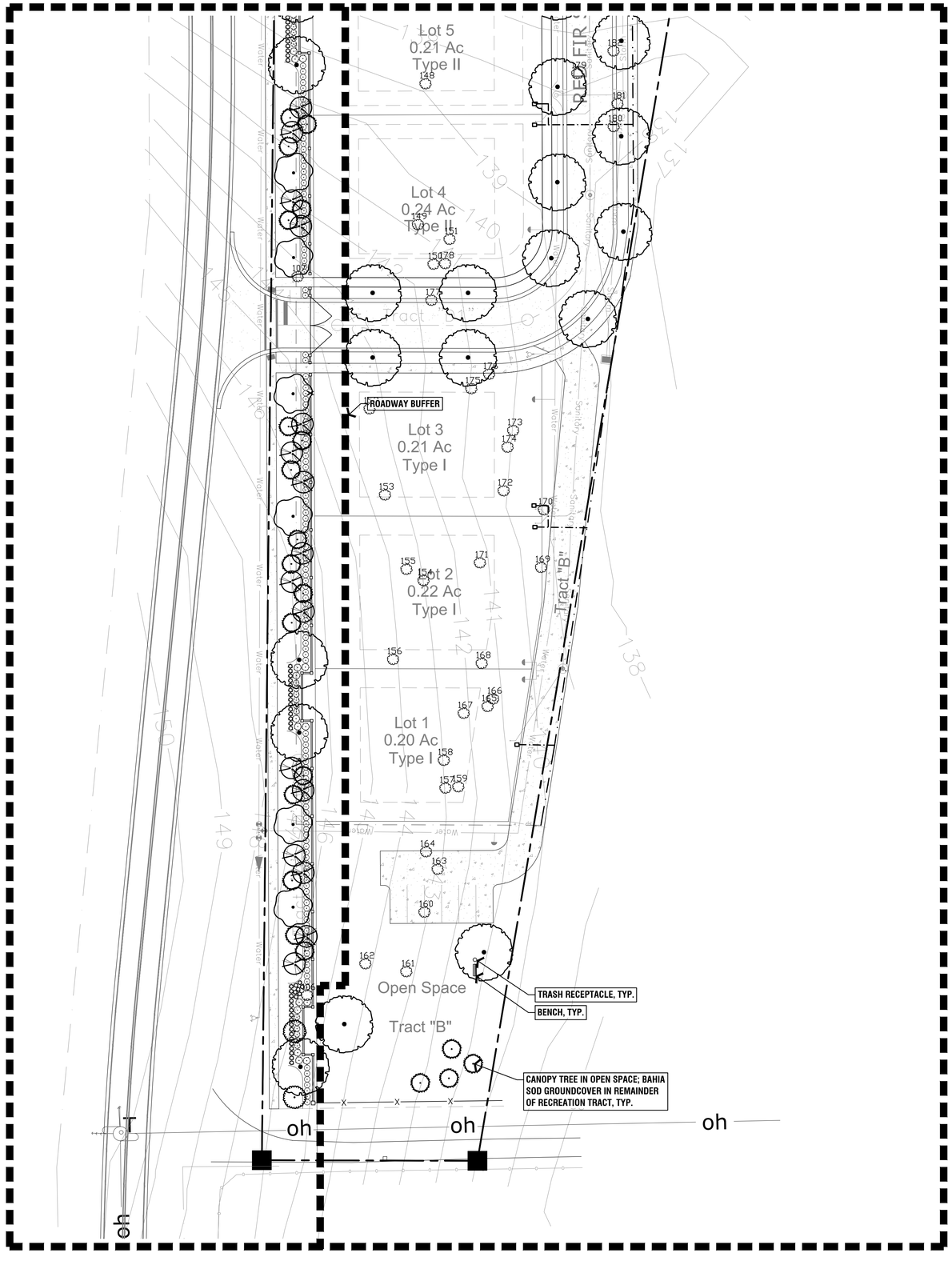
WHISPERING HEIGHTS SUBDIVISION
HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA

Sheet Title:

LANDSCAPE PLAN

Designed: KMD
Drawn: ZRR
Checked: KMD
Date: 01/12/2022

Sheet No.: L206



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0 60 30 feet

SCALE: 1:30

No.	Date	Comment
1	2022-09-16	PER CITY COMMENTS
2	2022-12-08	UPDATED BACKGROUNDS

Professional Landscape Architect of Record:

Kaley M. Dunlap, PLA — LA6667256
Landscape Architect — Certificate No.

Project No.: 22-001

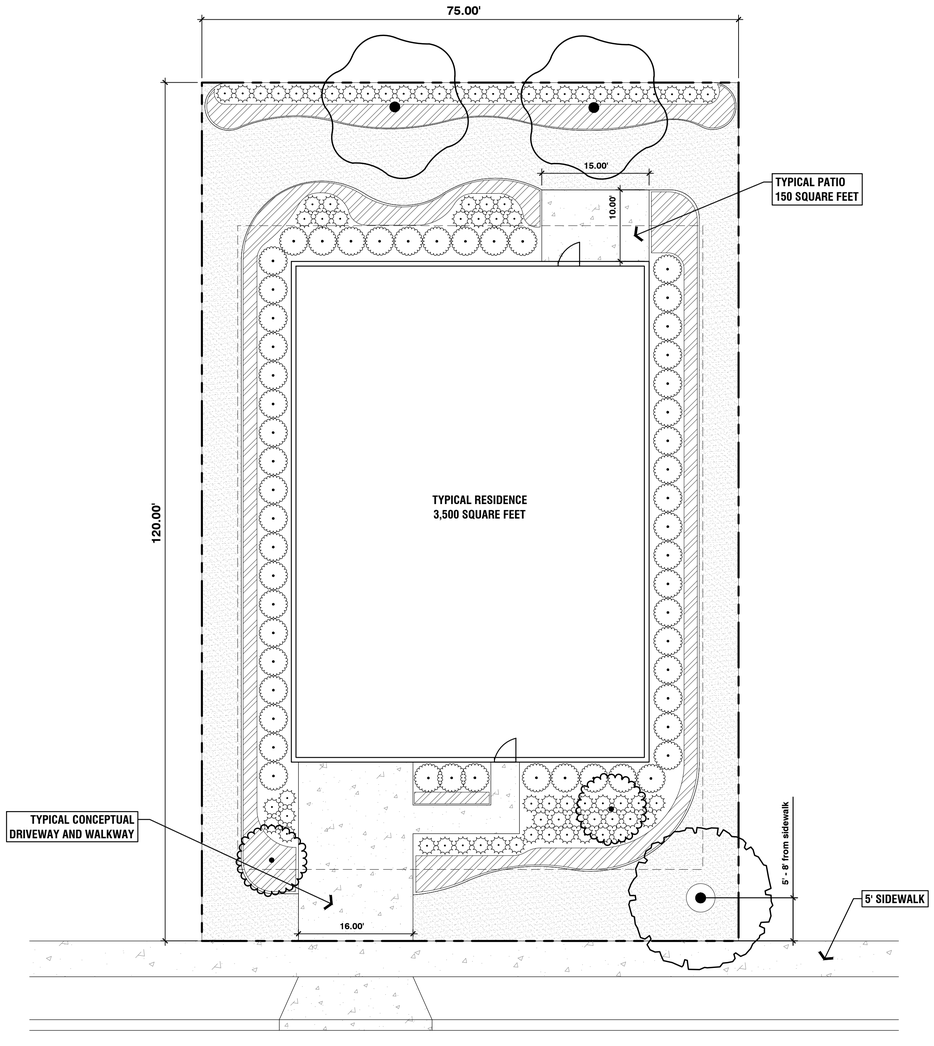
Project Phase: CITY SUBMITTAL

Project Title:
WHISPERING HEIGHTS SUBDIVISION
HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA

Sheet Title: LANDSCAPE PLAN

Designed:	KMD
Drawn:	ZRR
Checked:	KMD
Date:	01/12/2022

Sheet No.: L207



7.08.01 Required Landscaping

A. For single family lots that are one half acre or less in size, a minimum of three (3) canopy trees is required. Each such single family lot will be required to have one tree with a caliper of at least four inches (4") and two (2) trees each with a caliper of at least two and one half inches (4 2½"). These trees shall have a minimum height of 10 feet at time of planting. These trees should be canopy trees as listed in this chapter. Existing trees may be counted as meeting this requirement, as long as they are of sufficient size and accepted species. One of the canopy trees on each such single-family lot shall be planted in the front yard, no less than 5 feet and no more than 8 feet from the sidewalk or lot line. These trees will help to form a canopy over the sidewalk and street sides. Corner lots are required to provide two such trees, one on the front and one on the side of the lot. Additionally, if the lot is more than 100 feet wide at the sidewalk, then the lot will be required to have two such trees. Existing trees in this specific area can be counted as meeting this requirement. These trees shall be coordinated with the placement of streetlights to prevent conflicts. A list of approved canopy trees is included in this chapter.

B. A minimum of two (2) understory trees are required for single family lots of onehalf acre or less in size. For lots greater than one half acre in size, an additional understory tree is required for each additional one quarter of an acre above the one-half acre, or portion thereof.

C. A maximum of fifty percent (50%) of the landscaped area may be covered with other ground covers should be used to the extent possible

D. Shrubs and other plants shall be used as foundation plants along the outline of the house, except where doors or patios are located. Alternate plantings may be permitted if the architectural style of the house warrants it.

E. A minimum of two areas of the yard that have at least 400 square feet of non-turf plantings in a row or cluster, not including the foundation plantings, is required. For single family lots greater than one half acre in size, an additional 400 square feet of non-turf plantings in a row or cluster, not including the foundation plantings, is required for each additional eighth of an acre, or portion thereof.

F. At least 50% of the landscaped area for each single-family lot shall be drought tolerant or Florida Friendly plants. Florida Friendly plants require a minimum of irrigation and shall be grouped together on the lot in order to reduce the irrigation requirement for those zones.

TYPICAL CALCULATIONS

TOTAL LOT SIZE:	9,000 SQUARE FEET
PERVIOUS AREA	4,801 SQUARE FEET
50% MAX SOD AREA:	2,400.5 SQUARE FEET
PROVIDED SOD AREA:	2,339 SQUARE FEET
48.7% SOD AREA	
REQUIREMENT SATISFIED.	

CONCEPT PLANT SCHEDULE TYPICAL LOT LAYOUT

LARGE CANOPY	1	
Magnolia grandiflora / Southern Magnolia		4" Cal., 10` Ht.
Quercus virginiana / Southern Live Oak		4" Cal., 10` Ht.
SMALL CANOPY	2	
Acer rubrum / Red Maple		2.5" Cal., 10` Ht.
Platanus occidentalis / American Sycamore		2.5" Cal., 10` Ht.
Quercus shumardii / Shumard Oak		2.5" Cal., 10` Ht.
UNDERSTORY	2	
Ilex opaca / American Holly		2.5" Cal., 8` Ht.
Lagerstroemia indica / Multi-trunk Crape Myrtle		1.5" Cal. Canes, 8` Ht.
Ligustrum japonicum / Multi-trunkJapanese Privet		1.5" Cal. Canes, 8` Ht.
Sabal palmetto / Cabbage Palmetto		FG, 8` Clear Trunk, Slick
FOUNDATION SHRUB	54	
Hamelia patens 'Firefly' / Firefly Firebush		7 gal., 24"x24", Full
Illicium floridanum / Florida Anise		7 gal., 24"x24", Full
Viburnum suspensum / Sandankwa Viburnum		7 gal., 24"x24", Full
SMALL SHRUBS AND GRASSES	72	
Hypericum perforatum / St. John's Wort		3 gal., 15"x15"
Muhlenbergia capillaris / Pink Muhly Grass		3 gal., 15"x15"
Rhaphiolepis indica / Indian Hawthorn		3 gal., 15"x15"
Sabal minor / Dwarf Palmetto		3 gal., 15"x15"
Zamia pumila / Coontie Cycad		3 gal., 15"x15"
GROUNDCOVERS	853 sf	
Arachis glabrata / Perennial Peanut		1 gal.
Lantana camara / Lantana		1 gal.
Liriope muscari / Lilyturf		1 gal.
Trachelospermum asiaticum / Asiatic Jasmine		1 gal.
SOD	2,339 sf	
Stenotaphrum secundatum / St. Augustine Grass		---

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0 20 10 feet
SCALE: 1:10

No.	Date	Comment
1	2022-09-16	PER CITY COMMENTS
2	2022-12-08	UPDATED BACKGROUNDS

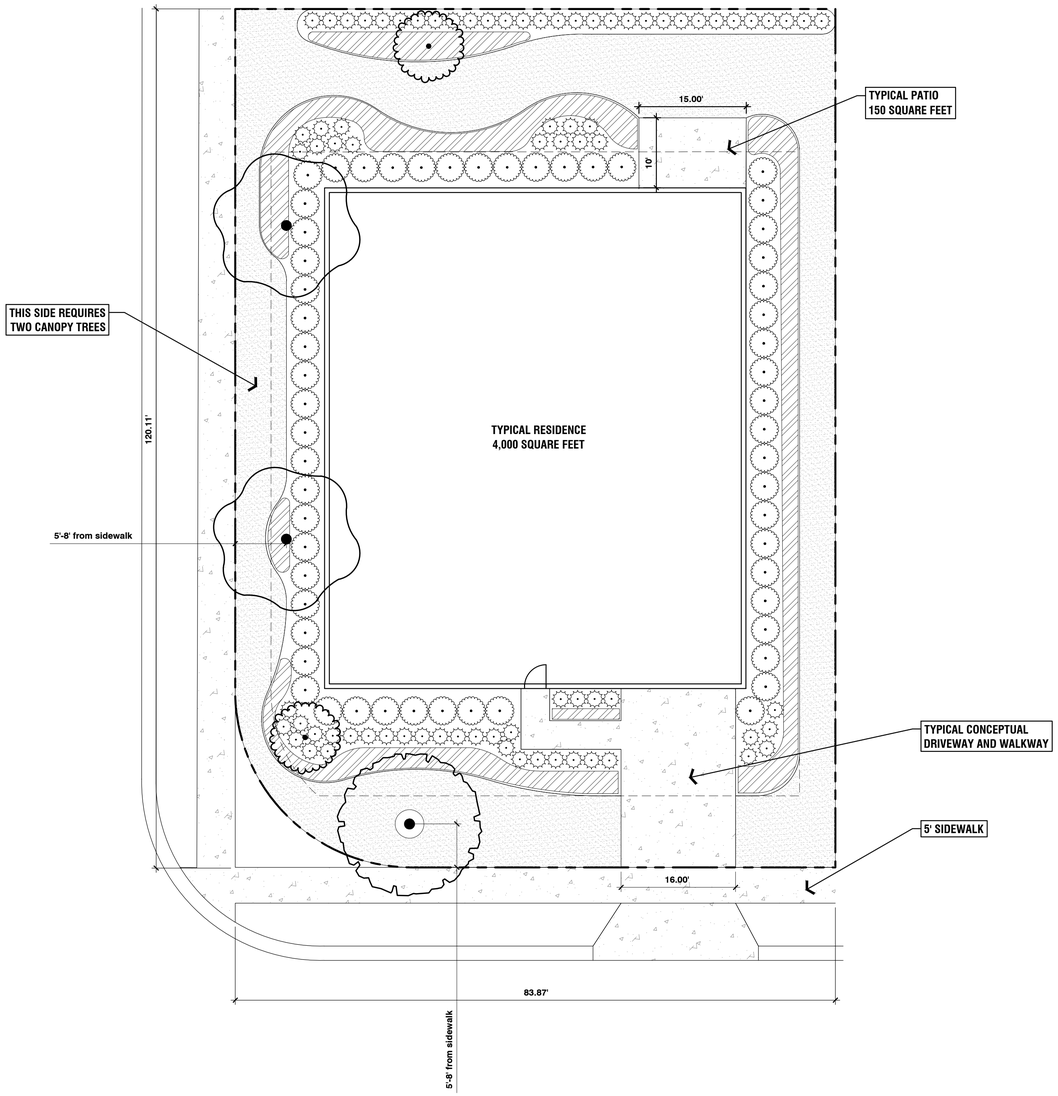
Professional Landscape Architect of Record:

Kaley M. Dunlap, PLA — LA6667256
Landscape Architect — Certificate No.

Project No.: 22-001
Project Phase: CITY SUBMITTAL
Project Title: WHISPERING HEIGHTS SUBDIVISION HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA
Sheet Title: TYPICAL LOT LANDSCAPE PLAN

Designed:	KMD
Drawn:	ZRR
Checked:	KMD
Date:	01/12/2022

Sheet No.: L300



7.08.01 Required Landscaping

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E. A minimum of two areas of the yard that have at least 400 square feet of non-turf plantings in a row or cluster, not including the foundation plantings, is required. For single family lots greater than one half acre in size, an additional 400 square feet of non-turf plantings in a row or cluster, not including the foundation plantings, is required for each additional eighth of an acre, or portion thereof.

F. At least 50% of the landscaped area for each single-family lot shall be drought tolerant or Florida Friendly plants. Florida Friendly plants require a minimum of irrigation and shall be grouped together on the lot in order to reduce the irrigation requirement for those zones.

TYPICAL CALCULATIONS

TOTAL LOT SIZE:	9,900 SQUARE FEET
PERVIOUS AREA	5,276 SQUARE FEET
50% MAX SOD AREA:	2,638 SQUARE FEET
PROVIDED SOD AREA:	2,529 SQUARE FEET
47.9% SOD AREA	
REQUIREMENT SATISFIED.	

CONCEPT PLANT SCHEDULE TYPICAL CORNER LOT

	LARGE CANOPY	1	
	Magnolia grandiflora / Southern Magnolia		4" Cal., 10` Ht.
	Quercus virginiana / Southern Live Oak		4" Cal., 10` Ht.
	SMALL CANOPY	2	
	Acer rubrum / Red Maple		2.5" Cal., 10` Ht.
	Platanus occidentalis / American Sycamore		2.5" Cal., 10` Ht.
	Quercus shumardii / Shumard Oak		2.5" Cal., 10` Ht.
	UNDERSTORY	2	
	Ilex opaca / American Holly		2.5" Cal., 8` Ht.
	Lagerstroemia indica / Multi-trunk Crape Myrtle		1.5" Cal. Canes, 8` Ht.
	Ligustrum japonicum / Multi-trunkJapanese Privet		1.5" Cal. Canes, 8` Ht.
	Sabal palmetto / Cabbage Palmetto		FG, 8` Clear Trunk, Slick
	FOUNDATION SHRUB	57	
	Hamelia patens 'Firefly' / Firefly Firebush		7 gal., 24"x24", Full
	Illicium floridanum / Florida Anise		7 gal., 24"x24", Full
	Viburnum suspensum / Sandankwa Viburnum		7 gal., 24"x24", Full
	SMALL SHRUBS AND GRASSES	78	
	Hypericum perforatum / St. John's Wort		3 gal., 15"x15"
	Muhlenbergia capillaris / Pink Muhly Grass		3 gal., 15"x15"
	Rhaphiolepis indica / Indian Hawthorn		3 gal., 15"x15"
	Sabal minor / Dwarf Palmetto		3 gal., 15"x15"
	Zamia pumila / Coontie Cycad		3 gal., 15"x15"
	GROUNDCOVERS	798 sf	
	Arachis glabrata / Perennial Peanut		1 gal.
	Lantana camara / Lantana		1 gal.
	Liriope muscari / Lilyturf		1 gal.
	Trachelospermum asiaticum / Asiatic Jasmine		1 gal.
	SOD	2,529 sf	
	Stenotaphrum secundatum / St. Augustine Grass		---

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0 20 10 feet
SCALE: 1:10

No.	Date	Comment
1	2022-09-16	PER CITY COMMENTS
2	2022-12-08	UPDATED BACKGROUNDS

Professional Landscape Architect of Record:

Kaley M. Dunlap, PLA — LA6667256
Landscape Architect — Certificate No.

Project No.: 22-001

Project Phase: CITY SUBMITTAL

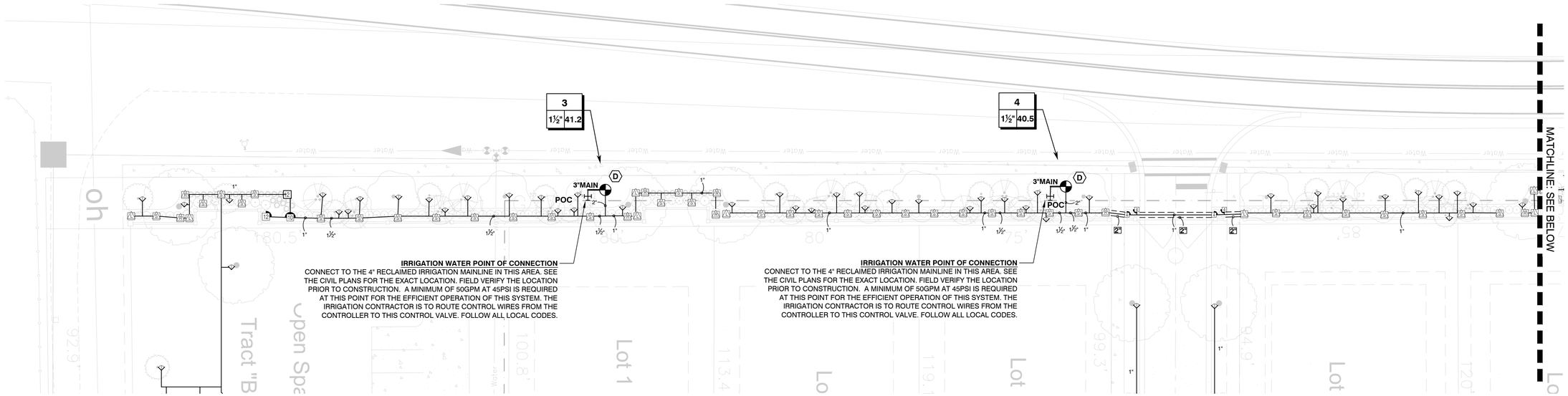
Project Title: WHISPERING HEIGHTS SUBDIVISION HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA

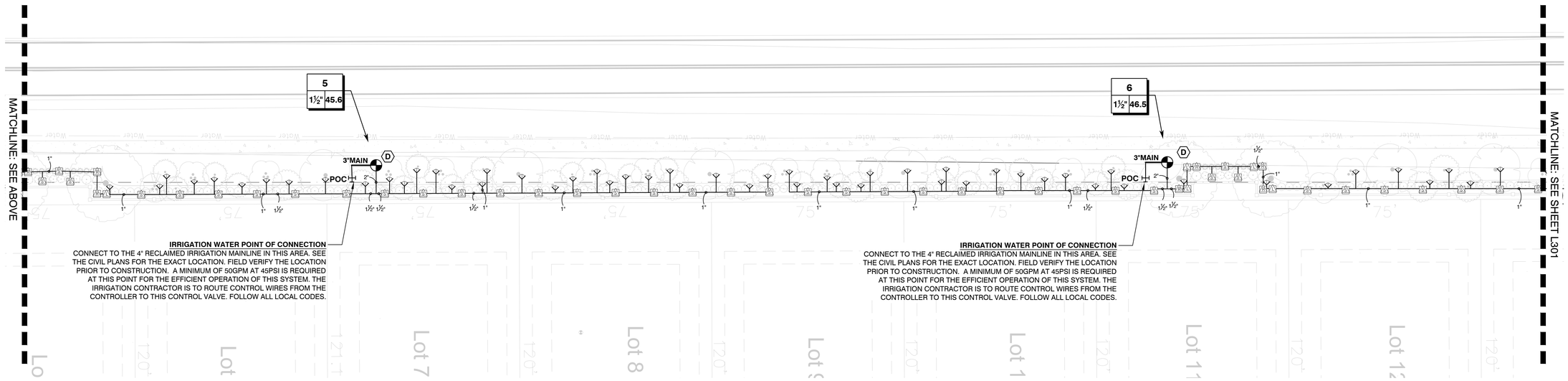
Sheet Title: TYPICAL LOT LANDSCAPE PLAN

Designed:	KMD
Drawn:	ZRR
Checked:	KMD
Date:	01/12/2022

Sheet No.: L301

Retention Tract "C"
Lot 21
0.23 Ac
Type II
Lot 22
0.21 Ac
Lot 23
Lot 24
Lot 28
0.25 Ac
Type II
Lot 29
0.27 Ac
Type II
SLS
Tract "H"
Sanitary
Sanitary
Sanitary





NOT FOR CONSTRUCTION.
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UNDERGROUND SERVICE ALERT

PREPARED BY:
floravie design
Contact: KALEY DUNLAP
916 VASSAR STREET
ORLANDO, FL 32804
TEL | 321-277-0826
kaley@floraviedesign.com

PREPARED FOR:
RED JACKET DEVELOPMENT
CONTACT: CLAY FRANKEL
625 WALTHAM AVENUE
ORLANDO, FLORIDA 32409
PHONE: 407-855-1136

0 20 40 feet
SCALE: 1:20

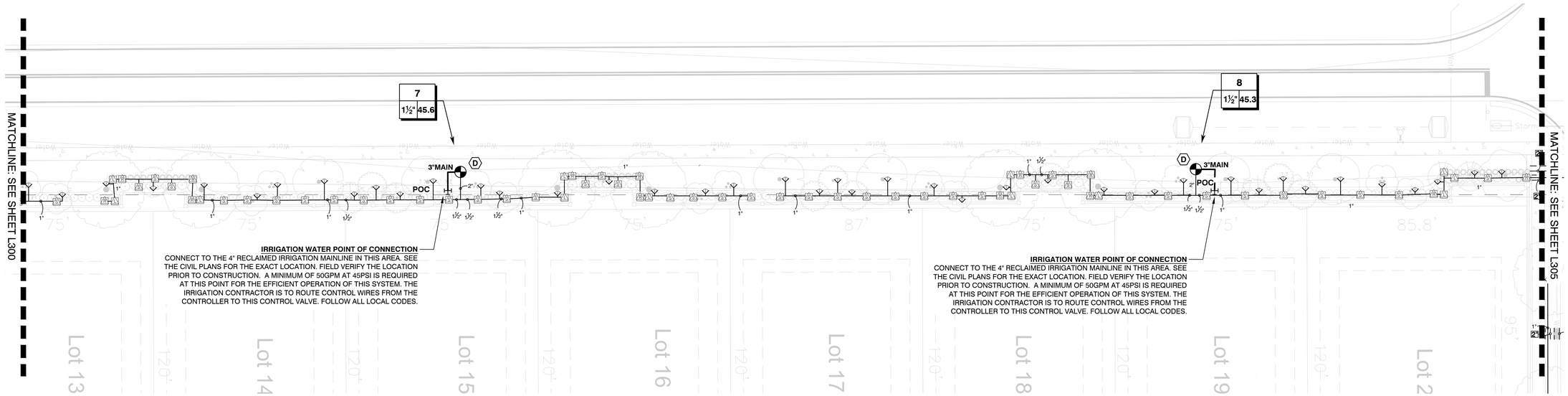
No.	Date	Comment

Professional Landscape Architect of Record:

Kaley M. Dunlap, PLA — LA6667256
Landscape Architect — Certificate No.

Project No.: 22-001
Project Phase: CITY SUBMITTAL
Project Title: WHISPERING HILLS SUBDIVISION HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA
Sheet Title: IRRIGATION PLAN

Designed:	IDS	Sheet No.:	L300
Drawn:	CAZ		
Checked:	KMD		
Date:	01/12/22		



IRRIGATION WATER POINT OF CONNECTION
CONNECT TO THE 4" RECLAIMED IRRIGATION MAINLINE IN THIS AREA. SEE THE CIVIL PLANS FOR THE EXACT LOCATION. FIELD VERIFY THE LOCATION PRIOR TO CONSTRUCTION. A MINIMUM OF 50GPM AT 45PSI IS REQUIRED AT THIS POINT FOR THE EFFICIENT OPERATION OF THIS SYSTEM. THE IRRIGATION CONTRACTOR IS TO ROUTE CONTROL WIRES FROM THE CONTROLLER TO THIS CONTROL VALVE. FOLLOW ALL LOCAL CODES.

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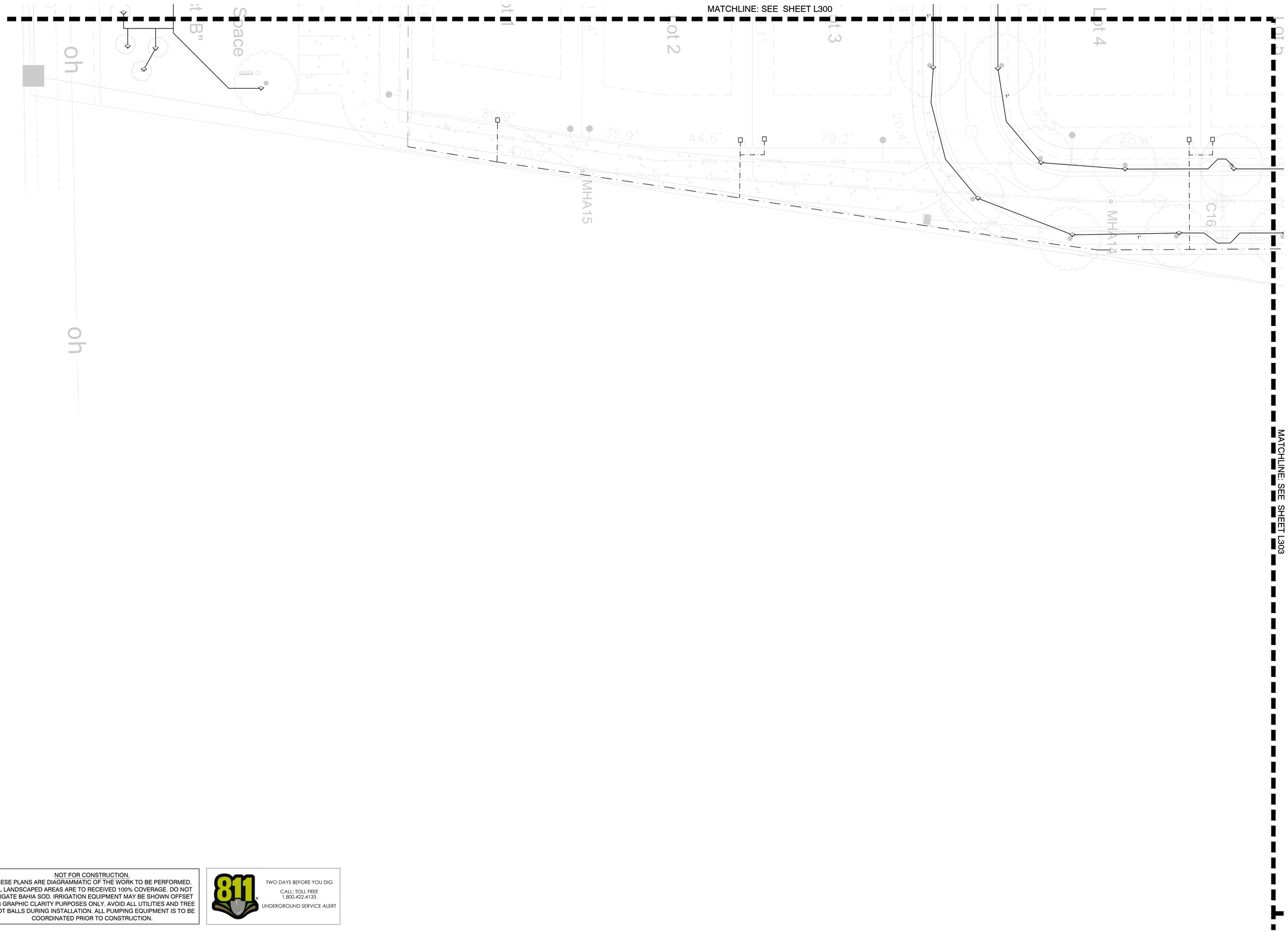
Project Title: WHISPERING HILLS SUBDIVISION HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA
Sheet Title: IRRIGATION PLAN

Designed:	IDS
Drawn:	CAZ
Checked:	KMD
Date:	01/12/22

Sheet No.: L301



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No.	Date	Comment

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Kaley M. Dunlap, PLA — LA6667256
Landscape Architect — Certificate No.

Project No.: 22-001

Project Phase: CITY SUBMITTAL

Project Title:
WHISPERING HILLS SUBDIVISION
HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA

Sheet Title: IRRIGATION PLAN

Designed:	IDS
Drawn:	CAZ
Checked:	KMD
Date:	01/12/22

Sheet No.: L302

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2 | 1" | 15

1.5"MAIN D

POC

IRRIGATION WATER POINT OF CONNECTION
CONNECT TO THE 4" RECLAIMED IRRIGATION MAINLINE IN THIS AREA. SEE THE CIVIL PLANS FOR THE EXACT LOCATION. FIELD VERIFY THE LOCATION PRIOR TO CONSTRUCTION. A MINIMUM OF 20GPM AT 45PSI IS REQUIRED AT THIS POINT FOR THE EFFICIENT OPERATION OF THIS SYSTEM. THE IRRIGATION CONTRACTOR IS TO ROUTE CONTROL WIRES FROM THE CONTROLLER TO THIS CONTROL VALVE. FOLLOW ALL LOCAL CODES.

9 | 1" | 14

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10 | 1" | 10

MATCHLINE: SEE SHEET L302

MATCHLINE: SEE SHEET L304

MATCHLINE: SEE SHEET L306

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ORLANDO, FL 32804
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PHONE: 407-855-1136

0 20 40 feet
SCALE: 1:20

No.	Date	Comment

Professional Landscape Architect of Record:

Kaley M. Dunlap, PLA — LA6667256
Landscape Architect — Certificate No.

Project No.: 22-001

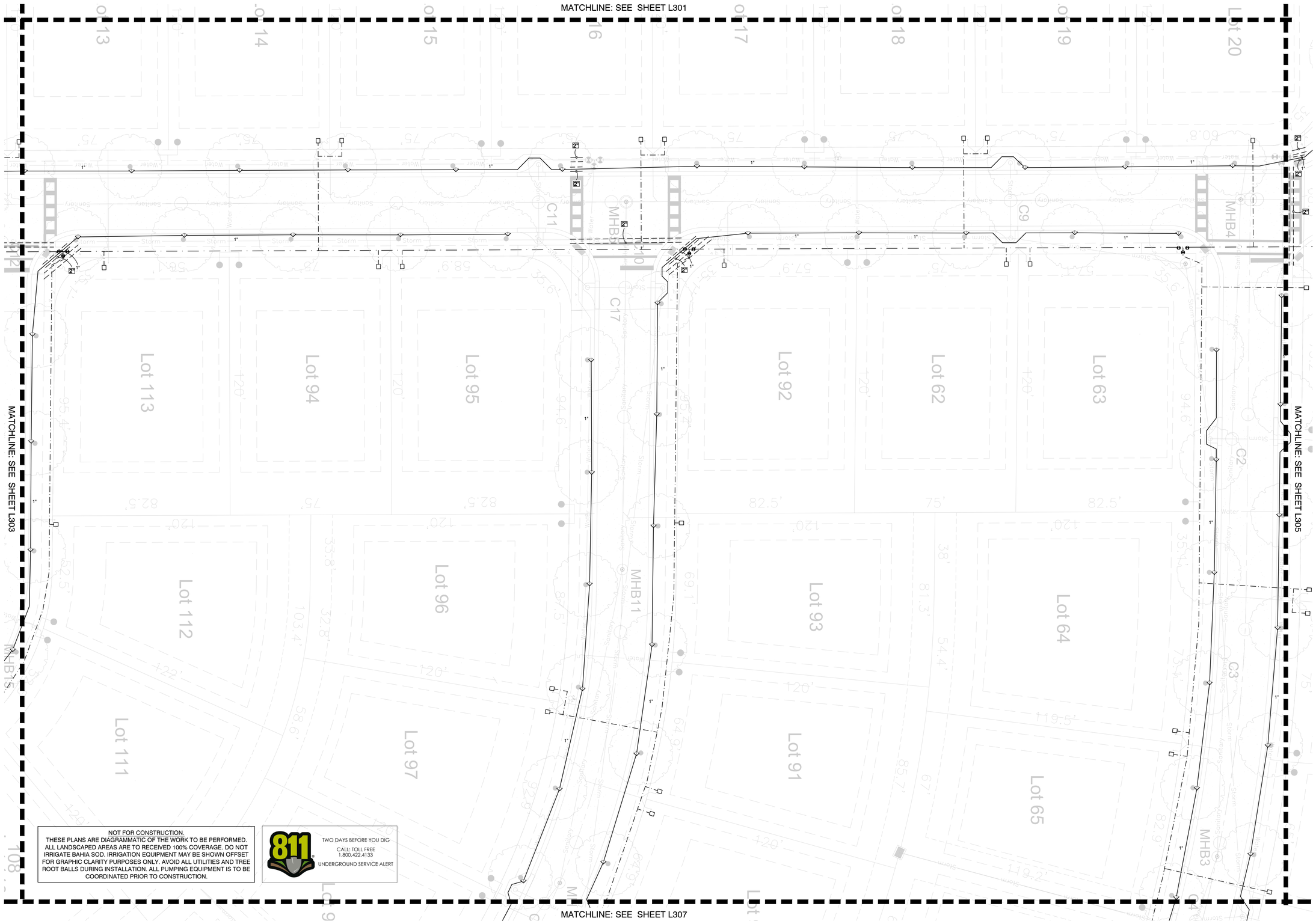
Project Phase: CITY SUBMITTAL

Project Title:
WHISPERING HILLS SUBDIVISION
HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA

Sheet Title: IRRIGATION PLAN

Designed: IDS
Drawn: CAZ
Checked: KMD
Date: 01/12/22

Sheet No.: L303



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No.	Date	Comment

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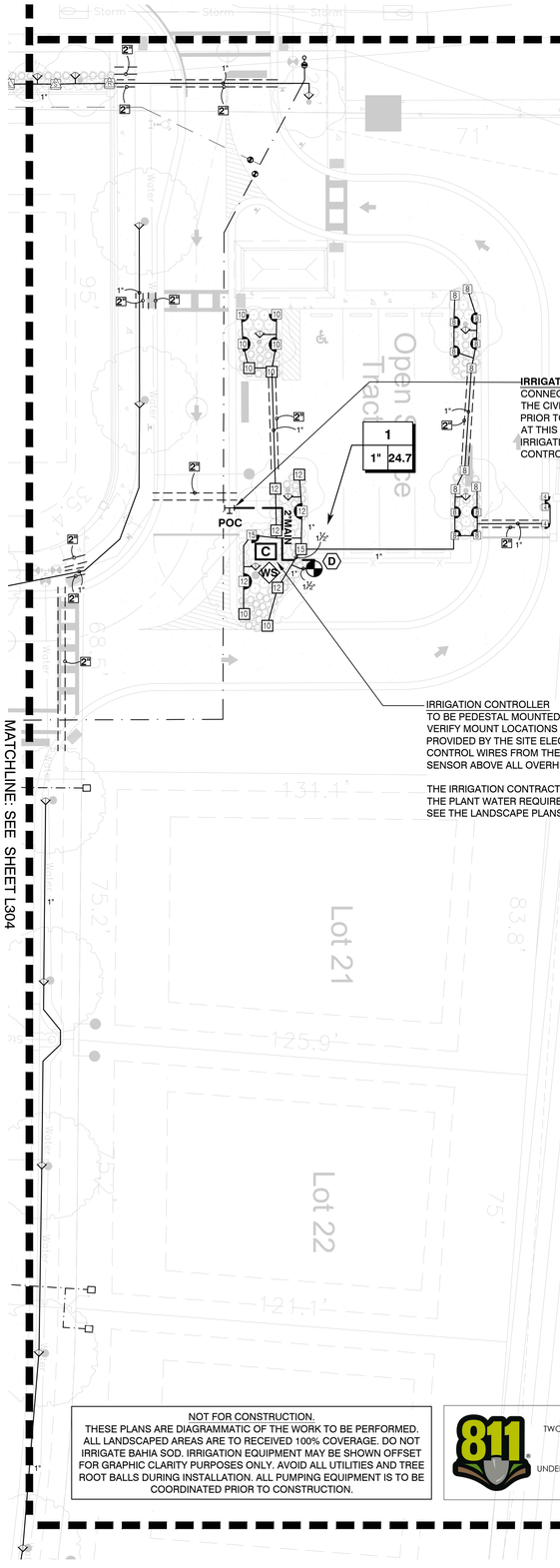
Project No.: 22-001
Project Phase: CITY SUBMITTAL
Project Title: WHISPERING HILLS SUBDIVISION HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA
Sheet Title: IRRIGATION PLAN

Designed:	IDS	Sheet No.: L304
Drawn:	CAZ	
Checked:	KMD	
Date:	01/12/22	

MATCHLINE: SEE SHEET L301



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CONNECT TO THE 4" RECLAIMED IRRIGATION MAINLINE IN THIS AREA. SEE THE CIVIL PLANS FOR THE EXACT LOCATION. FIELD VERIFY THE LOCATION PRIOR TO CONSTRUCTION. A MINIMUM OF 30GPM AT 45PSI IS REQUIRED AT THIS POINT FOR THE EFFICIENT OPERATION OF THIS SYSTEM. THE IRRIGATION CONTRACTOR IS TO ROUTE CONTROL WIRES FROM THE CONTROLLER TO THIS CONTROL VALVE. FOLLOW ALL LOCAL CODES.

IRRIGATION CONTROLLER
TO BE PEDESTAL MOUNTED ON A CONCRETE PAD IN THIS AREA. BEFORE INSTALLATION VERIFY MOUNT LOCATIONS IN THE FIELD. 120VAC, 1.0 AMP, ELECTRIC POWER SUPPLY PROVIDED BY THE SITE ELECTRICAL CONTRACTOR. ROUTE AND DIRECT BURY THE CONTROL WIRES FROM THE CONTROLLER TO EACH CONTROL VALVE. MOUNT THE RAIN SENSOR ABOVE ALL OVERHEAD OBSTRUCTIONS.

THE IRRIGATION CONTRACTOR IS TO SET THE RUN TIMES FOR EACH ZONE TO MATCH THE PLANT WATER REQUIREMENTS, SITE CONDITIONS AND MICRO-CLIMATE FACTORS. SEE THE LANDSCAPE PLANS FOR PLANT SPECIFICATIONS.

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MATCHLINE: SEE SHEET L304

MATCHLINE: SEE SHEET L308

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floravie design
Contact: KALEY DUNLAP
916 VASSAR STREET
ORLANDO, FL 32804
TEL | 321-277-0826
kaley@floraviedesign.com

PREPARED FOR:
RED JACKET DEVELOPMENT
CONTACT: CLAY FRANKEL
625 WALTHAM AVENUE
ORLANDO, FLORIDA 32409
PHONE: 407-855-1136

0 20 40 feet
SCALE: 1:20

No.	Date	Comment

Professional Landscape Architect of Record:

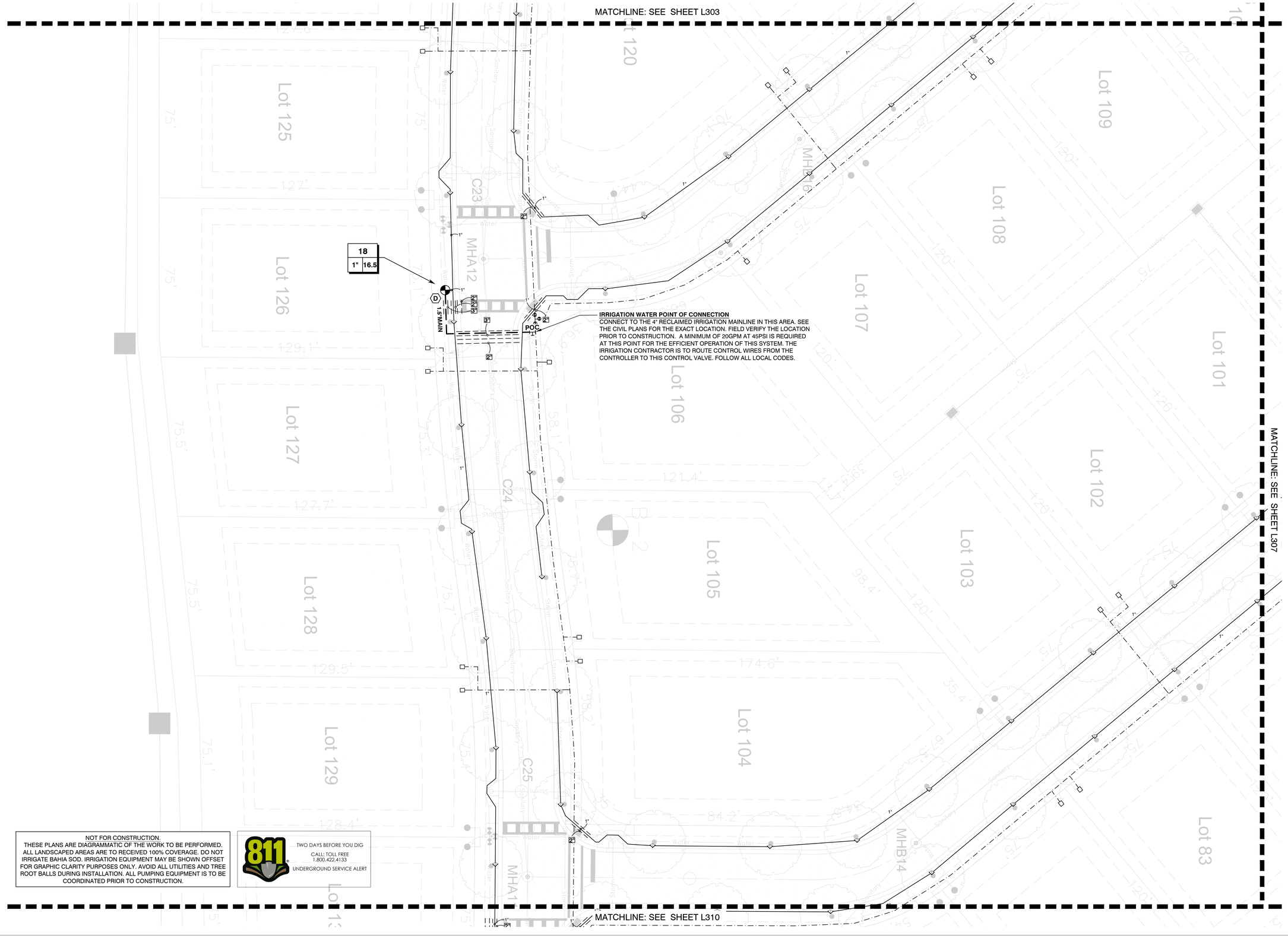
Kaley M. Dunlap, PLA — LA6667256
Landscape Architect — Certificate No.

Project No.: 22-001
Project Phase: CITY SUBMITTAL
Project Title: WHISPERING HILLS SUBDIVISION HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA
Sheet Title: IRRIGATION PLAN

Designed:	IDS
Drawn:	CAZ
Checked:	KMD
Date:	01/12/22

Sheet No.: L305

MATCHLINE: SEE SHEET L303



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0 20 40 feet
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No.	Date	Comment

Professional Landscape Architect of Record:

Kaley M. Dunlap, PLA — LA6667256
Landscape Architect — Certificate No.

Project No.: 22-001

Project Phase: CITY SUBMITTAL

Project Title:
WHISPERING HILLS SUBDIVISION
HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA

Sheet Title:
IRRIGATION PLAN

Designed:	IDS
Drawn:	CAZ
Checked:	KMD
Date:	01/12/22

Sheet No.: L306

MATCHLINE: SEE SHEET L304

MATCHLINE: SEE SHEET L306

MATCHLINE: SEE SHEET L308

MATCHLINE: SEE SHEET L311

11	
1"	11

12	
1"	15

13	
1"	14.5

1.5" MAIN

POC

IRRIGATION WATER POINT OF CONNECTION
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Project Phase: CITY SUBMITTAL

Project Title:
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Sheet Title:
IRRIGATION PLAN

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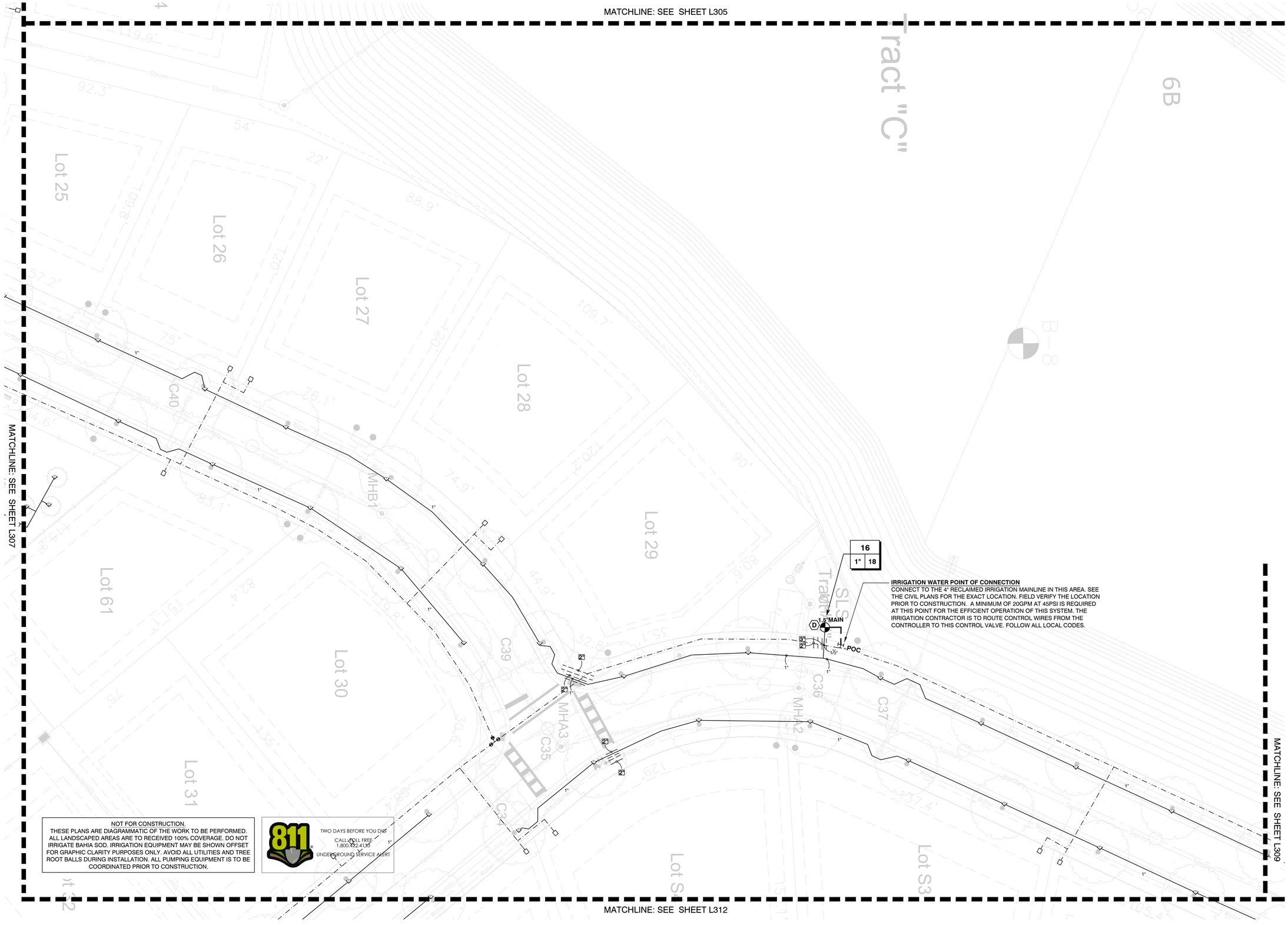
Checked:	KMD
Date:	01/12/22

Sheet No.: L307



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Project Phase: CITY SUBMITTAL

Project Title:

WHISPERING HILLS SUBDIVISION
HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA

Sheet Title:

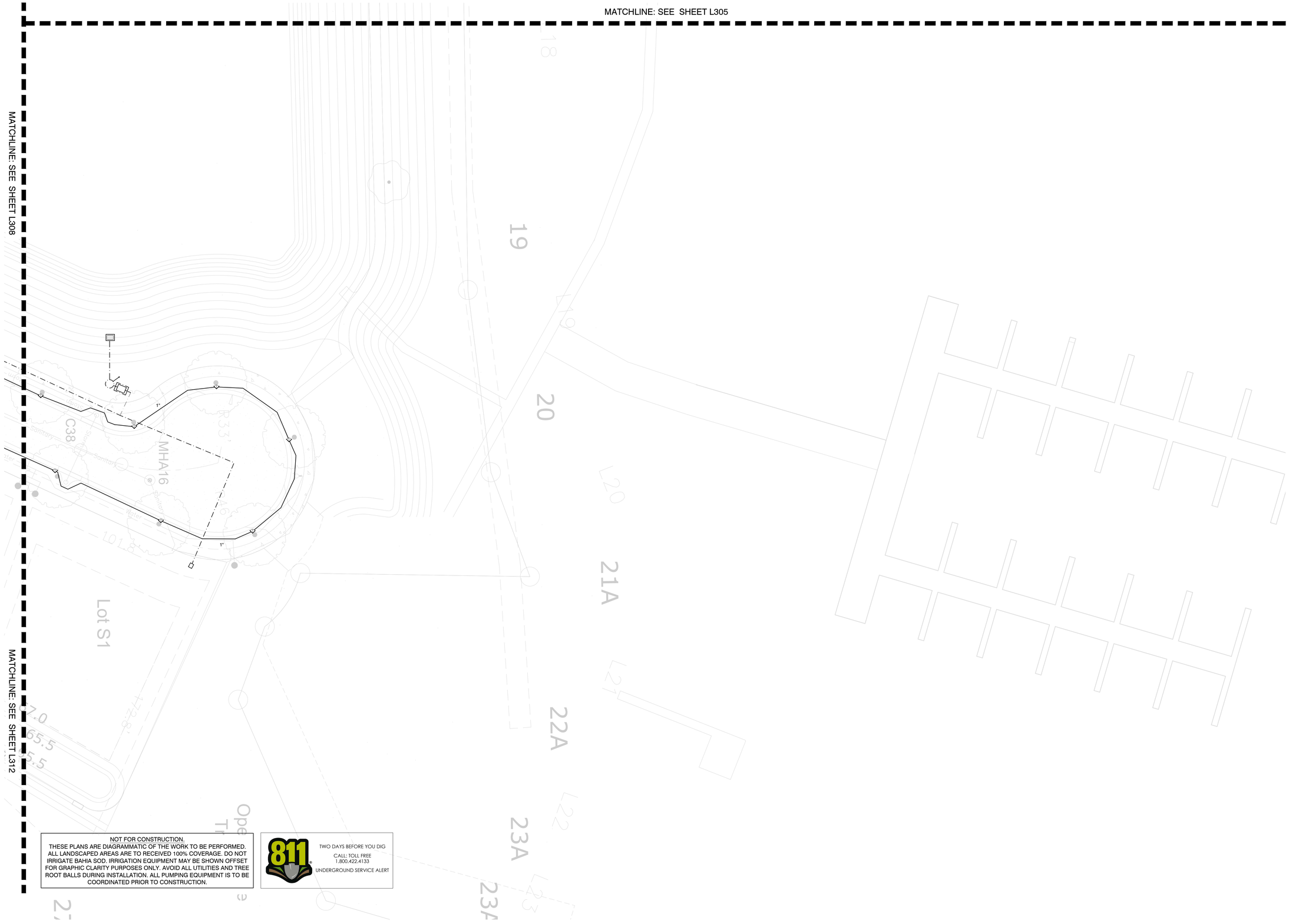
IRRIGATION PLAN

Designed:	IDS
Drawn:	CAZ
Checked:	KMD
Date:	01/12/22

Sheet No.: L308

MATCHLINE: SEE SHEET L305

MATCHLINE: SEE SHEET L308



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Project No.: 22-001

Project Phase: CITY SUBMITTAL

Project Title:
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Sheet Title:
IRRIGATION PLAN

Designed:	IDS
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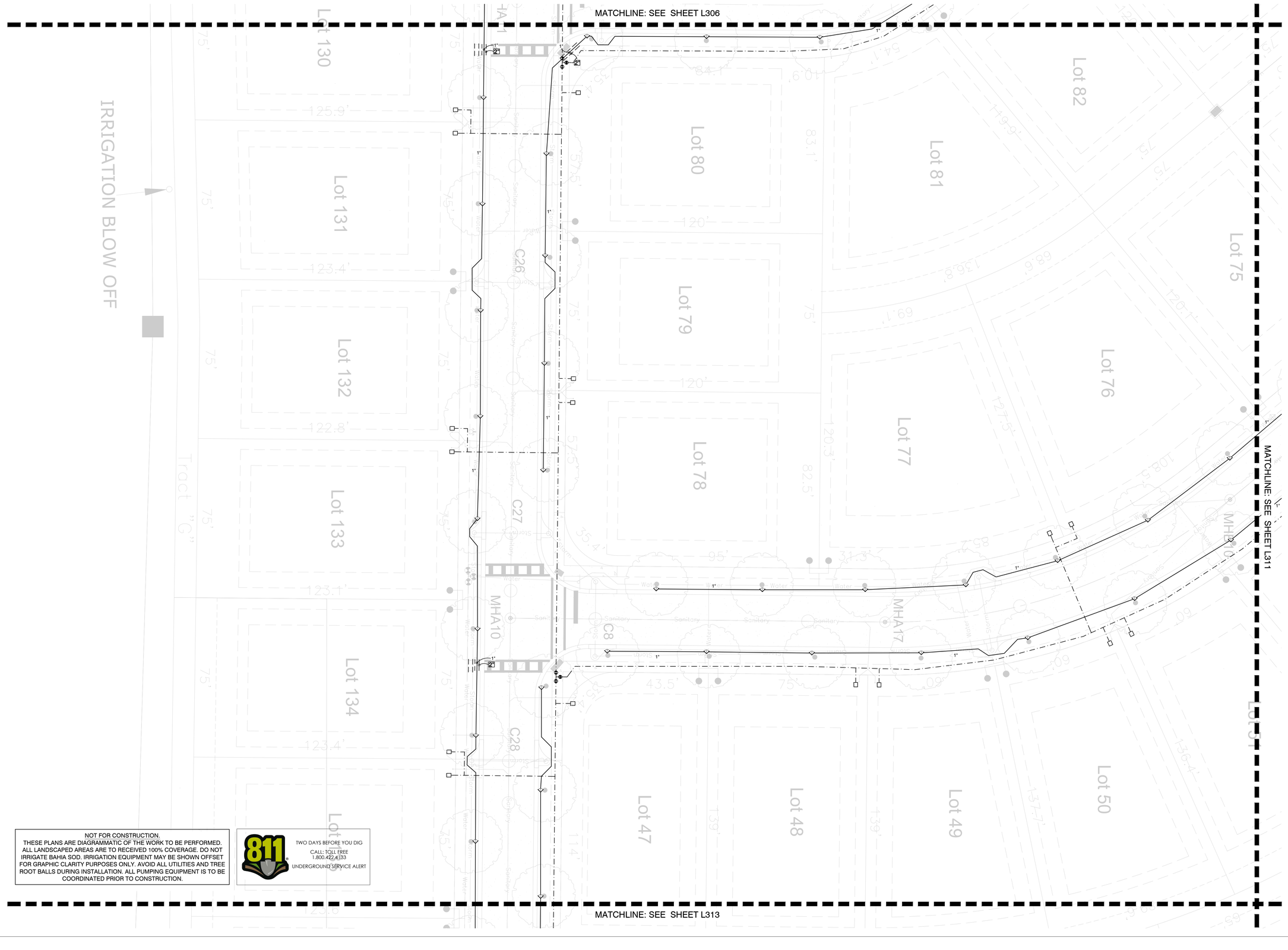
Sheet No.: L309



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Project No.: 22-001

Project Phase: CITY SUBMITTAL

Project Title:
WHISPERING HILLS SUBDIVISION
HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA

Sheet Title:
IRRIGATION PLAN

Designed:	IDS
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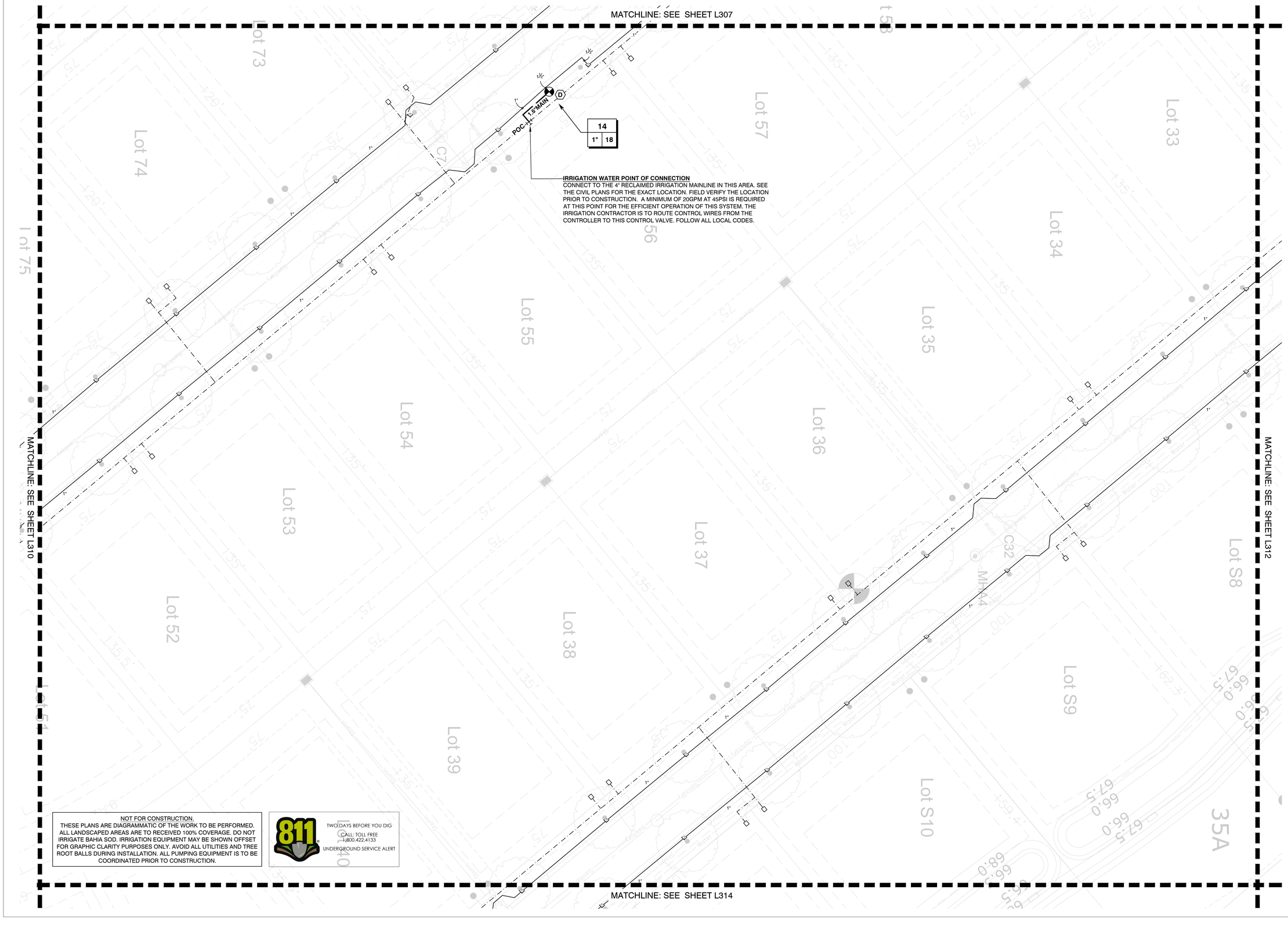
Sheet No.: L310



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Drawn:	CAZ
Checked:	KMD
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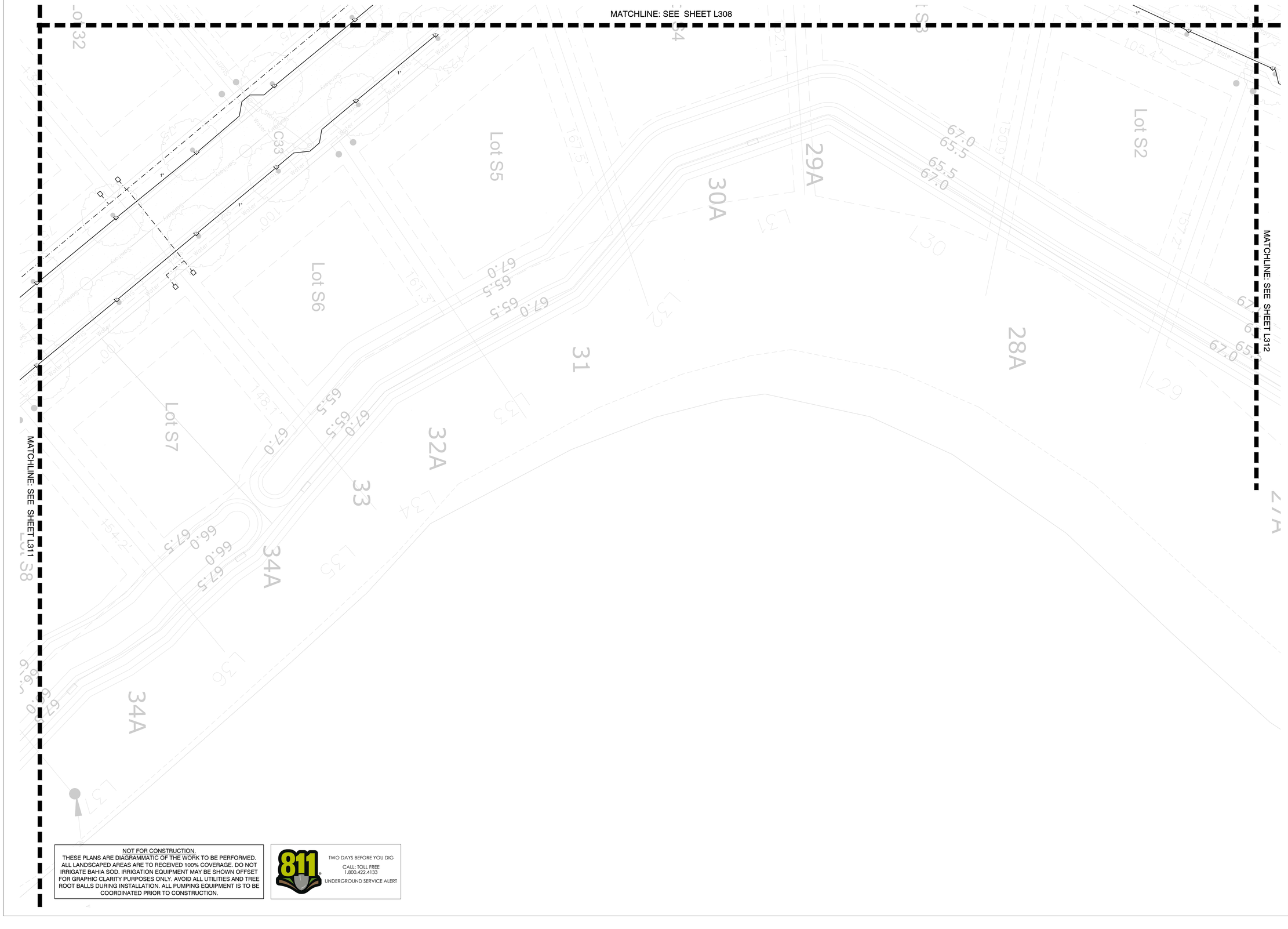

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811 TWO DAYS BEFORE YOU DIG
CALL: TOLL FREE
1.800.422.4133
UNDERGROUND SERVICE ALERT

PREPARED BY:
floravie design
Contact: KALEY DUNLAP
916 VASSAR STREET
ORLANDO, FL 32804
TEL | 321-277-0826
kaley@floraviedesign.com

PREPARED FOR:
RED JACKET DEVELOPMENT
CONTACT: CLAY FRANKEL
625 WALTHAM AVENUE
ORLANDO, FLORIDA 32409
PHONE: 407-855-1136

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SCALE: 1:20

No.	Date	Comment

Professional Landscape Architect of Record:

Kaley M. Dunlap, PLA — LA6667256
Landscape Architect — Certificate No.

Project No.: 22-001

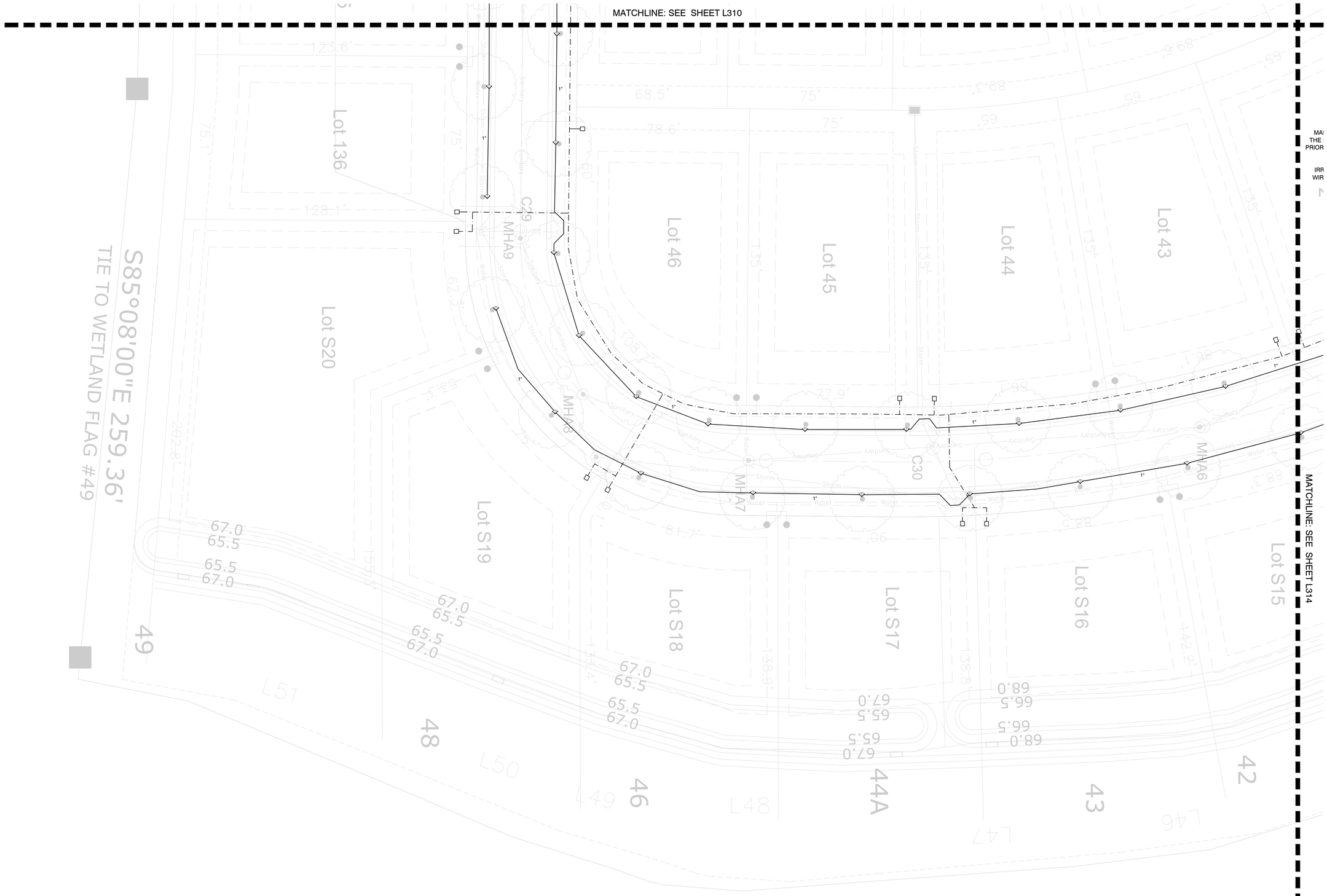
Project Phase: CITY SUBMITTAL

Project Title:
WHISPERING HILLS SUBDIVISION
HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA

Sheet Title: IRRIGATION PLAN

Designed:	IDS
Drawn:	CAZ
Checked:	KMD
Date:	01/12/22

Sheet No.: L312



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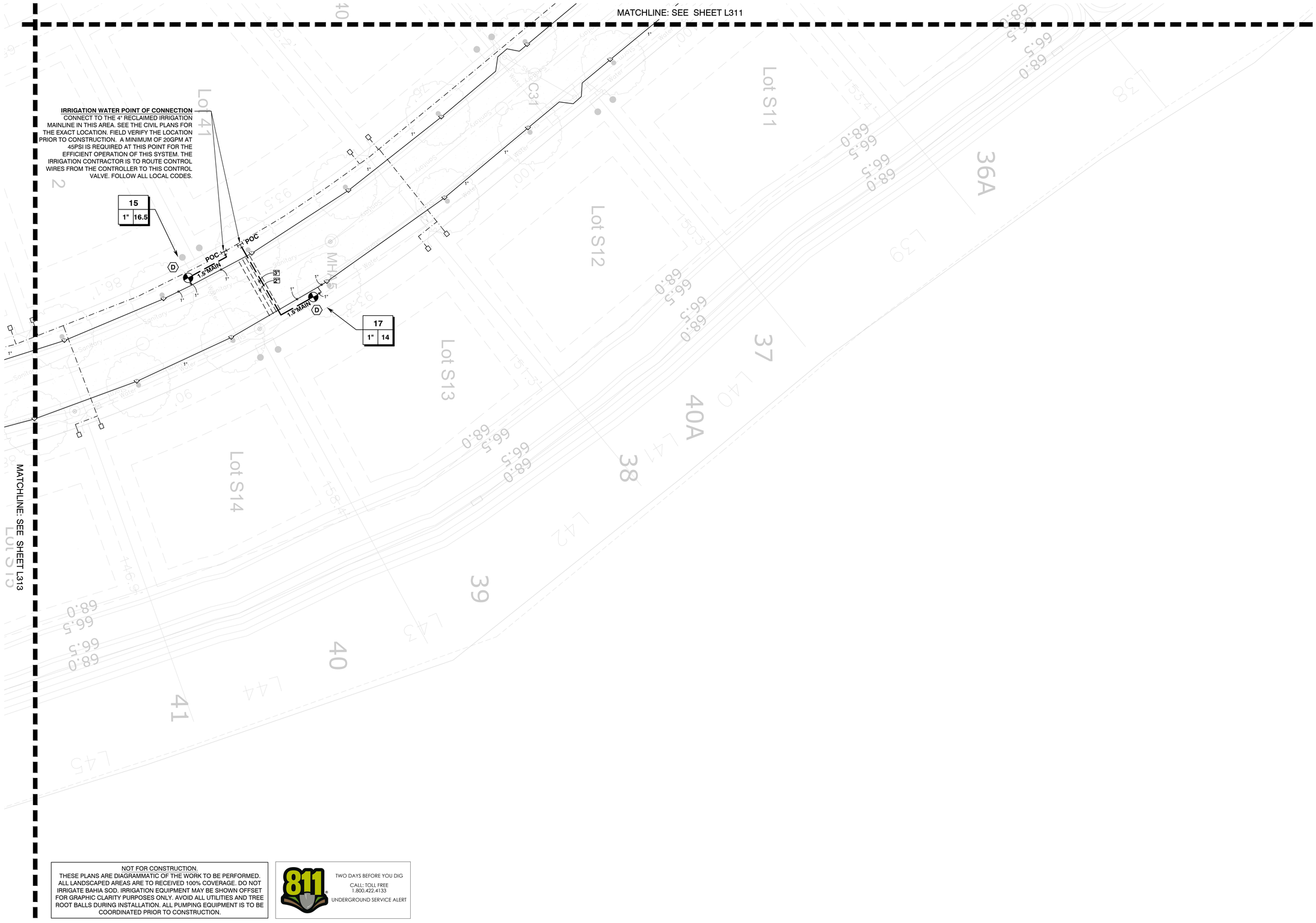

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Landscape Architect — Certificate No.

Project No.: 22-001

Project Phase: CITY SUBMITTAL

Project Title:
WHISPERING HILLS SUBDIVISION
HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA

Sheet Title:
IRRIGATION PLAN

Designed:	IDS
Drawn:	CAZ
Checked:	KMD
Date:	01/12/22

Sheet No.: L314

IRRIGATION NOTES

1. THE PLANS AND DRAWINGS ARE DIAGRAMMATIC OF THE WORK TO BE PERFORMED. SOME COMPONENTS MAY BE SHOWN OUTSIDE THE WORK AREA FOR CLARITY. THE WORK SHALL BE EXECUTED IN A MANNER TO AVOID CONFLICTS WITH UTILITIES AND OTHER ELEMENTS OF CONSTRUCTION, INCLUDING LANDSCAPE MATERIALS. ALL DEVIATIONS FROM THE PLANS SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE BEFORE BEING INSTALLED.

2. THE CONTRACTOR SHALL COMPLY WITH ALL CURRENT LOCAL CODES, ORDINANCES, AND REGULATIONS.

3. ALL IRRIGATION MAINLINE AND LATERAL LINES ARE TO NOT EXCEED A VELOCITY OF 5FPS.

4. THE CONTRACTOR SHALL NOT WILLFULLY INSTALL ANY ASPECT OF THE IRRIGATION SYSTEM AS SHOWN ON THE PLANS AND DRAWINGS, WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS, GRADE DIFFERENCES, OR DISCREPANCIES EXIST THAT MIGHT NOT HAVE BEEN KNOWN DURING THE DESIGN OF THE IRRIGATION SYSTEM. IN THE EVENT THAT NOTIFICATION OF THE CONFLICT IS NOT APPROVED BY THE OWNER'S REPRESENTATIVE, THE CONTRACTOR WILL ASSUME FULL RESPONSIBILITY FOR ALL REVISIONS.

5. REFER TO THE LANDSCAPE PLANS WHEN TRENCHING TO AVOID TREE ROOT BALLS WHEN INSTALLING IRRIGATION EQUIPMENT. CALL 811 AND REFER TO UTILITY PLANS PRIOR TO TRENCHING.

6. IRRIGATION CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS, INCLUDING UTILITY LOCATIONS BEFORE INSTALLATION OF THE IRRIGATION SYSTEM. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSTALLATION WITH ALL OTHER CONSTRUCTION ON SITE, ESPECIALLY LANDSCAPE INSTALLATION. THE IRRIGATION SYSTEM SHALL BE RELOCATED AT NO ADDITIONAL COST FOR ANY CONFLICT WITH LANDSCAPE INSTALLATION OR ANY OTHER SITE CONSTRUCTION OR EXISTING CONDITIONS.

7. VERIFY THE REQUIRED MINIMUM STATIC WATER PRESSURE IS AVAILABLE AT THE PROJECT SITE PRIOR TO BEGINNING THE IRRIGATION INSTALLATION. NOTIFY THE IRRIGATION DESIGN CONSULTANT AND LANDSCAPE ARCHITECT IN WRITING IF THE MINIMUM STATIC WATER PRESSURE OR WATER VOLUME IS NOT AVAILABLE. SEE PLAN SHEET FOR REQUIREMENTS.

8. WHERE EXISTING OR NEW TREES, LIGHT FIXTURES, SIGNS, ELECTRONIC CONTROLLERS AND/OR OTHER OBJECTS ARE AN OBSTRUCTION TO AN IRRIGATION SPRINKLER'S PATTERN, THE COMPONENT AND PIPING SHALL BE RELOCATED AS NECESSARY TO OBTAIN PROPER COVERAGE OF AN IRRIGATION SPRINKLER'S PATTERN WITHOUT DAMAGING THE OBSTRUCTION.

9. 100% HEAD TO HEAD COVERAGE IS REQUIRED. ASSURE THAT ANY MODIFIED SPACING DOES NOT EXCEED THE SPACING SHOWN IN THE PLANS.

10. THE IRRIGATION CONTRACTOR SHALL ADJUST ALL SPRINKLERS TO AVOID OVER SPRAY ONTO IMPERVIOUS AREAS.

11. ALL MATERIALS AND EQUIPMENT SHOWN SHALL BE NEW. IF THE DRAWINGS DO NOT THOROUGHLY DESCRIBE THE TECHNIQUES TO BE USED, THE INSTALLER SHALL FOLLOW THE INSTALLATION METHODS AND INSTRUCTIONS RECOMMENDED BY THE PRODUCT MANUFACTURER.

12. THE LOCATION OF THE IRRIGATION MAINLINE SHALL BE IDENTIFIED IN THE FIELD AND APPROVED BY THE OWNER'S REPRESENTATIVE BEFORE INSTALLATION.

13. THE IRRIGATION CONTRACTOR IS TO SUBMIT PRODUCT SPECIFICATION SHEETS FOR ALL IRRIGATION EQUIPMENT TO BE USED FOR APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

14. THE QUANTITIES SHOWN IN THE LEGEND SHEETS SHALL NOT BE USED FOR BIDDING PURPOSES. THE CONTRACTOR WILL BE RESPONSIBLE FOR CONDUCTING A COMPREHENSIVE MATERIALS TAKEOFF TO DETERMINE THE ACTUAL QUANTITIES OF MATERIAL NECESSARY TO EXECUTE THE WORK DESCRIBED IN THE DOCUMENTS.

15. ALL TRENCHES SHALL BE BACKFILLED WITH CLEAN DEBRIS-FREE MATERIALS.

16. IRRIGATION CONTRACTOR IS TO INSTALL CHRISTY ZONE TAGS WITH THE CORRESPONDING CONTROLLER ZONE NUMBER AT EACH CONTROL VALVE.

17. WHEN THE IRRIGATION MAINLINE IS 3" OR LARGER, ALL CHANGES OF DIRECTION SHALL BE ACCOMPLISHED WITH THE USE OF DUCTILE IRON ELBOWS AND TEES W/ PROPER THRUST BLOCKING. INSTALL JOINT RESTRAINT FITTINGS AS NECESSARY.

18. AS BUILT DOCUMENTS ARE TO BE PROVIDED TO THE OWNER UPON COMPLETION OF THE PROJECT. THE MAINLINE, CONTROL VALVES, ISOLATION VALVES, GROUND RODS AND SPLICE BOXES SHALL BE LOCATED WITH A MEASUREMENT FROM TWO FIXED POINTS.

19. THE IRRIGATION CONTRACTOR SHALL SECURE ANY AND ALL NECESSARY PERMITS FOR THE WORK PRIOR TO COMMENCEMENT OF ON-SITE OPERATIONS.

20. A MAINLINE PRESSURE TEST IS TO BE CONDUCTED BEFORE BACKFILLING. ALL FINDINGS ARE TO BE REPORTED TO THE LANDSCAPE ARCHITECT WITHIN TWENTY FOUR HOURS POST TEST.

21. ALL SLEEVES ARE TO BE TWO TIMES THE SIZE OF THE PIPE AND TO BE COORDINATED WITH THE HARDSCAPE CONTRACTORS PRIOR TO CONSTRUCTION.

22. PROVIDE ALL NECESSARY EQUIPMENT FOR THE TWO-WIRE SYSTEM TO OPERATE EFFICIENTLY. SEE THE TWO-WIRE NOTES.

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TWO-WIRE NOTES

DECODERS

CONTROLLER SHALL INTERFACE WITH HUNTER ICD DECODERS, EACH CAPABLE OF CONTROLLING 1, 2, 4, OR 6 VALVES (ICD-100, ICD-200, ICD-400, AND ICD-600)

PROVIDE AN ICD-SEN SENSOR DECODER FOR FLOW SENSOR(S) AND/OR CLIK SENSOR(S) ON TWO WIRE PATH

WIRE CONNECTIONS FROM DECODER OUTPUT TO SOLENOID SHALL BE 14 AWG, TYPE PE

WIRE DISTANCE FROM DECODER OUTPUT TO SOLENOID UNDER NORMAL CONDITIONS SHALL NOT EXCEED 150-FT [45-M]

INSTALL IN VALVE BOX ON DECODER STAKE KIT (DECSTAKE-10) WITH BOTTOM OF DECODER FACING UP

CONTRACTOR SHALL INDICATE ASSOCIATED VALVE NUMBER(S) ON MANUFACTURER PROVIDED LABEL ON DECODER WITH PERMANENT MARKER

WIRES

WIRE FOR TWO-WIRE PATH SHALL BE TWISTED AND JACKETED HUNTER IDWIRE, OR APPROVED EQUAL (PAIGE ELECTRIC P7354D); COATED WIRE SHALL NOT BE ACCEPTED AS AN EQUAL: ACCEPTABLE EQUAL PRODUCTS MUST CONSIST OF TWO SEPARATELY PE JACKETED WIRE TWISTED INSIDE OF A PE JACKET

CONTRACTOR SHALL INSTALL IDWIRE1 (14 AWG) FOR WIRE PATH LENGTH UP TO 10,000-FT [3,048-M] AND IDWIRE2 (12 AWG) FOR WIRE PATH LENGTH UP TO 15,000-FT [4,572-M], WIRE PATH LENGHTS DECREASE WITH SUBSTITUTED WIRE

WIRE JACKET COLORS SHALL BE SUCH TO FACILITATE THE IDENTIFICATION OF VARIOUS WIRE PATH ZONES; SEE WIRE JACKET CHART FOR WIRE TYPE, COLOR AND ASSOCIATED VALVES

THE CONTROLLER ALLOWS UP TO THREE (3) TWO-WIRE PATHS PER OUTPUT MODULE, CONTRACTOR SHALL NOT CONNECT ANY TWO-WIRE PATH FROM ONE OUTPUT MODULE TO ANOTHER OUTPUT MODULE

WIRE CONNECTION FROM DECODER OUTPUT TO SOLENOID SHALL BE COLORED TO MATCH THE ASSOCIATED DECODER OUTPUT STATION COLOR; RED AND BLUE COLORED WIRES SHALL NOT BE USED FOR CONNECTION BETWEEN DECODER OUTPUT AND SOLENOID

SPLICES

ALL CONNECTIONS AND SPLICES IN THE RED/BLUE TWO-WIRE PATH MUST BE MADE WITH 3M DBR/Y-6 WATERPROOF CONNECTORS INSTALLED PER MANUFACTURERS INSTRUCTIONS IN VALVE BOX WITH OPEN END OF CONNECTOR FACING DOWN

CONTRACTOR SHALL PROVIDE 36-IN [1-M] LOOP OF SLACK WIRE, MEASURED FROM TOP OF VALVE BOX, NEATLY COILED INSIDE ALL SPLICE BOXES AND VALVE BOXES

ANY SPLICES IN THE TWO-WIRE PATH NOT ASSOCIATED WITH A DECODER SHALL BE HOUSED IN SEPARATE VALVE BOXES WITH 36-IN [1-M] LOOP OF SLACK WIRE

CONTRACTOR SHALL INDICATE TWO-WIRE PATH DIRECTIONS IN PERMANENT MARKER WITHIN 6-IN [2.5-CM] OF TWO-WIRE SPLICE ON WIRE JACKET OR ID TAG ZIP TIED TO WIRE: INCOMING WIRE SHALL BE MARKED "CONTROLLER" ON WIRE JACKET OR ID TAG AND MUST INCLUDE ZIP-TIE ATTACHED TO WIRE JACKET EACH OUTGOING TWO-WIRE PATH SHALL BE MARKED WITH CONNECTED VALVES ON WIRE JACKET

CONTRACTOR SHALL ENSURE ALL CONNECTIONS TO BE WATERTIGHT WITH NO ELECTRICAL LEAKAGE TO GROUND OR SHORTING BETWEEN CONDUCTORS

GROUNDING

ALL GROUNDING AND INSTALLATION OF EQUIPMENT SPECIFIED SHALL BE INSTALLED IN STRICT COMPLIANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS

BOTH THE CONTROLLER AND THE DECODERS SHALL BE GROUNDED TO GROUND RODS OR PLATES WITH LESS THAN 10 OHMS RESISTANCE

IRRIGATION CONTROLLER AND PAD SHALL NOT FALL WITHIN THE SPHERE OF INFLEUNCE OF A GROUND ROD OR PLATE

AT A MINIMUM, EARTH GROUND SHALL BE CONNECTED AT THE FIRST DECODER OF EACH WIRE PATH LEAVING THE CONTROLLER, AND EVERY 12TH VALVE/DECODER OR 1,000-FT [304-M] OF TWO-WIRE RUN (WHICHEVER IS SHORTER), AND AT THE LAST VALVE/DECODER IN ANY WIRE RUN EXCEEDING 50' FROM MAIN WIRE PATH

FOR USE OF GROUNDING PLATE:

SOLID COPPER GROUNDING PLATE SHALL HAVE A PRE-WELDED #6 AWG INSULATED GREEN-YELLOW WIRE

GROUND PLATES ARE TO BE INSTALLED TO A MINIMUM DEPTH OF 30-IN [76-CM]

GROUND PLATES SHALL BE MADE OF A COPPER ALLOY INTENDED FOR GROUNDING APPLICATIONS AND HAVE MINIMUM DIMENSIONS AS FOLLOWS:

A. FOR GROUNDING CONTROLLERS - 4-IN [10-CM] X 8-FT [1.2-M] X 0.0625-IN [1.5-MM] SOLID COPPER GROUNDING PLATE, WITH 25-FT [7.6-M] CONTINUOUS LENGTH OF 6 AWG, GREEN INSULATED, WITH EXTRUDED YELLOW STRIPE, SOLID BARE COPPER WIRE WELDED TO THE PLATE (PAIGE ELECTRIC 182199IC) AND TWO 50-LB [22.6-KG] BAGS OF POWERSET EARTH CONTACT MATERIAL (PAIGE ELECTRIC 1820058) FOR POROUS SOILS OR TWO 50-LB [22.6-KG] BAGS OF POWERFILL EARTH CONTACT MATERIAL (PAIGE ELECTRIC 1820059) FOR NON-POROUS SOILS

B. FOR GROUNDING DECODERS - 4-IN [10-CM] X 3-FT [1-M] X 0.0625-IN [1.5-MM] SOLID COPPER GROUNDING PLATE, WITH 15-FT [4.5-M] CONTINUOUS LENGTH OF 10 AWG, GREEN INSULATED, WITH EXTRUDED YELLOW STRIPE, SOLID BARE COPPER WIRE IS WELDED TO THE PLATE (PAIGE ELECTRIC 182201IC) AND ONE 50-LB [22.6-KG] BAG OF POWERSET EARTH CONTACT MATERIAL (PAIGE ELECTRIC 1820058) FOR POROUS SOILS OR ONE 50-LB [22.6-KG] BAG OF POWERFILL EARTH CONTACT MATERIAL (PAIGE ELECTRIC 1820059) FOR NON-POROUS SOILS FOR USE OF GROUNDING ROD: GROUND ROD SHALL BE 5/8-IN [15-MM] DIAMETER X 8-FT [1.2-M] LONG COPPER CLAD STEEL GROUND RODS WITH 15-FT [4.5-M] PRE-WELDED #6 AWG INSULATED GREEN-YELLOW WIRE (PAIGE ELECTRIC PART # 182000IC6)

GROUND ROD SHALL BE DRIVEN INTO THE GROUND IN A VERTICAL POSITION OR AN OBLIQUE ANGLE NOT TO EXCEED 45 DEGREES AT A LOCATION 10-FT [3-M] FROM THE ELECTRONIC EQUIPMENT, THE GROUND PLATE, OR THE WIRES AND CABLES CONNECTED TO EQUIPMENT BEING GROUNDED

ADDITIONAL GROUND ROD IN DAISY CHAIN INSTALLATION SHALL BE 5/8-IN [15-MM] DIAMETER X 8-FT [1.2-M] LONG COPPER CLAD STEEL GROUND RODS WITH 25-FT [4.5-M] PRE-WELDED #6 AWG INSULATED GREEN-YELLOW WIRE (PAIGE ELECTRIC PART # 182007IC6)

GROUND RODS SHALL BE COVERED BY A VALVE BOX

ALL CIRCUIT COMPONENTS SHALL BE INSTALLED IN STRAIGHT LINES

GROUND ROD AND PLATE LOCATION

CONTRACTOR SHALL LOCATE AND INSTALL GROUND ROD AND/OR PLATE IN AREA OF MOIST SOIL TO MAXIMIZE ELECTRICAL CONDUCTIVITY

SURGE PROTECTION (LIGHTING ARRESTOR)

CONTRACTOR SHALL INSTALL PAIGE ELECTRIC 250090LED LIGHTENING ARRESTOR PER MANUFACTURERS SPECIFICATIONS AS CLOSE TO CONTROLLER POWER SOURCE AS POSSIBLE TO PROTECT THE IRRIGATION CONTROLLER FROM SURGES THROUGH 120 OR 240 VAC WIRES

TURN OVER ITEMS

CONTRACTOR SHALL PROVIDE PROJECT OWNER WITH THE FOLLOWING AT PROJECT COMPLETION AND TURN OVER: A2C-D SD CARD WITH SAVED STATION AND IRRIGATION PROGRAM INFORMATION

PRODUCT MANUALS

IN ADDITION TO IRRIGATION AS-BUILT REQUIREMENTS, THE CONTRACTOR SHALL INCLUDE IN THE AS-BUILT DRAWINGS OF IRRIGATION SYSTEM GRAPHICALLY DEPICTING LOCATION OF TWO-WIRE PATH(S), GROUNDING LOCATION AND TYPE, DECODERS, NON-DECODER WIRE SPLICES, INDICATION OF TWO-WIRE SPLICE TYPES (1-WAY, 2-WAY, 3-WAY, ETC), AND TERMINATION OF TWO-WIRE PATHS ICD-HP HANDHELD PROGRAMMER AND DIAGNOSTIC TOOL ROAM XL HANDHELD REMOTE AND RECEIVER

MANUFACTURER TRAINING

PRIOR TO INSTALLATION THE CONTRACTOR SHALL HAVE COMPLETED AND RECEIVED CERTIFICATION FOR THE FOLLOWING TRAINING MODULES PROVIDED BY HUNTER INDUSTRIES:

DECODER SPECIALIST PROGRAM

MULTIMETER BASICS COURSE

EXPERT PROGRAM

PRE-CONSTRUCTION MEETING

PRIOR TO INSTALLATION OF TWO-WIRE IRRIGATION SYSTEM, A PRE-CONSTRUCTION MEETING SHALL BE CONDUCTED WITH PROJECT OWNER'S REPRESENTATIVE, INSTALLING CONTRACTOR, AND IRRIGATION TWO-WIRE MANUFACTURER AT NO ADDITIONAL COST FROM MANUFACTURER

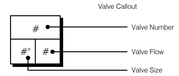
TECHNICAL SUPPORT

HUNTER INDUSTRIES (800) 733-2823

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
2Q 2H 4Q 4H 6Q 6H	HUNTER PROS-12-PRS30-CV-F-R SHORT RADIUS NOZZLES SHRUB SPRAY, 30 PSI REGULATED 12" POP-UP. WITH FACTORY INSTALLED DRAIN CHECK VALVE, FLOGUARD AND RECLAIMED PURPLE BODY CAP. CO-MOLDED WIPER SEAL WITH UV RESISTANT MATERIAL.	7	30
ES LCS RCS CS SS	HUNTER PROS-12-PRS30-CV-F-R 5` STRIP SPRAY SHRUB SPRAY, 30 PSI REGULATED 12" POP-UP. WITH FACTORY INSTALLED DRAIN CHECK VALVE, FLOGUARD AND RECLAIMED PURPLE BODY CAP. CO-MOLDED WIPER SEAL WITH UV RESISTANT MATERIAL.	171	30
8Q 8T 8H 8F	HUNTER PROS-12-PRS30-CV-F-R 8` RADIUS SHRUB SPRAY, 30 PSI REGULATED 12" POP-UP. WITH FACTORY INSTALLED DRAIN CHECK VALVE, FLOGUARD AND RECLAIMED PURPLE BODY CAP. CO-MOLDED WIPER SEAL WITH UV RESISTANT MATERIAL.	8	30
10Q 10T 10H 10F	HUNTER PROS-12-PRS30-CV-F-R 10` RADIUS SHRUB SPRAY, 30 PSI REGULATED 12" POP-UP. WITH FACTORY INSTALLED DRAIN CHECK VALVE, FLOGUARD AND RECLAIMED PURPLE BODY CAP. CO-MOLDED WIPER SEAL WITH UV RESISTANT MATERIAL.	5	30
12Q 12T 12H 12F 12TQ 12TF	HUNTER PROS-12-PRS30-CV-F-R 12` RADIUS SHRUB SPRAY, 30 PSI REGULATED 12" POP-UP. WITH FACTORY INSTALLED DRAIN CHECK VALVE, FLOGUARD AND RECLAIMED PURPLE BODY CAP. CO-MOLDED WIPER SEAL WITH UV RESISTANT MATERIAL.	3	30
15Q 15T 15H 15F 15TQ 15TF	HUNTER PROS-12-PRS30-CV-F-R 15` RADIUS SHRUB SPRAY, 30 PSI REGULATED 12" POP-UP. WITH FACTORY INSTALLED DRAIN CHECK VALVE, FLOGUARD AND RECLAIMED PURPLE BODY CAP. CO-MOLDED WIPER SEAL WITH UV RESISTANT MATERIAL.	1	30
4 6 8 10 12 15 17	HUNTER PROS-12-PRS30-CV-F-R ADJUSTABLE ARC SHRUB SPRAY, 30 PSI REGULATED 12" POP-UP. WITH FACTORY INSTALLED DRAIN CHECK VALVE, FLOGUARD AND RECLAIMED PURPLE BODY CAP. CO-MOLDED WIPER SEAL WITH UV RESISTANT MATERIAL.	16	30
25 30 10 20	HUNTER PCB-R FLOOD BUBBLER, 1/2" FIPT. WITH PURPLE CAP FOR RECLAIMED WATER USE.	477	30

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	HUNTER ICV-G-R 1", 1-1/2", 2", AND 3" PLASTIC ELECTRIC REMOTE CONTROL VALVES, GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET, FOR COMMERCIAL/MUNICIPAL USE. WITH RECLAIMED WATER ID, PURPLE HANDLE.	18
C	HUNTER ACC-PED-A2C-75D-M 75-STATION DECODER CONTROLLER IN AN OUTDOOR METAL PEDESTAL.	1
D	HUNTER ICD-100 SINGLE STATION DECODER W/SURGE SUPPRESSION AND GROUND WIRE. TO BE INSTALLED ON UNIVERSAL DECODER STAKE KIT (DECSTAKE10).	18
WS	HUNTER RAIN-CLIK RAIN SENSOR, WITH CONDUIT INSTALLATION, MOUNT AS NOTED. NORMALLY CLOSED SWITCH.	1
POC	POINT OF CONNECTION 1 1/2" CONNECT TO THE RECLAIMED MAINLINE PROPOSED BY THE CIVIL ENGINEER	18
	IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21-NP	19,375 L.F.
	IRRIGATION MAINLINE: PVC CLASS 200 SDR 21-NP	515.8 L.F.
	PIPE SLEEVE: PVC SCHEDULE 40	1,040 L.F.



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VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	PSI	PSI @ POC	PRECIP
1	HUNTER ICV-G-R	1"	SHRUB SPRAY	24.72	33.1	33.7	1.81 in/h
2	HUNTER ICV-G-R	1"	BUBBLER	15	35.8	35.9	1.7 in/h
3	HUNTER ICV-G-R	1-1/2"	SHRUB SPRAY	41.16	34.1	34.8	1.96 in/h
4	HUNTER ICV-G-R	1-1/2"	SHRUB SPRAY	40.45	34.2	35.6	2.14 in/h
5	HUNTER ICV-G-R	1-1/2"	SHRUB SPRAY	45.55	33.9	37.4	1.82 in/h
6	HUNTER ICV-G-R	1-1/2"	SHRUB SPRAY	46.5	34.7	39.9	1.91 in/h
7	HUNTER ICV-G-R	1-1/2"	SHRUB SPRAY	45.55	33.9	40.7	2.59 in/h
8	HUNTER ICV-G-R	1-1/2"	SHRUB SPRAY	45.3	34.5	42.7	2.25 in/h
9	HUNTER ICV-G-R	1"	BUBBLER	14	38.5	38.5	1.7 in/h
10	HUNTER ICV-G-R	1"	BUBBLER	10	33.9	33.9	1.7 in/h
11	HUNTER ICV-G-R	1"	BUBBLER	11	34.1	34.1	1.7 in/h
12	HUNTER ICV-G-R	1"	BUBBLER	15	35.9	35.9	1.7 in/h
13	HUNTER ICV-G-R	1"	BUBBLER	14.5	35.4	35.5	1.7 in/h
14	HUNTER ICV-G-R	1"	BUBBLER	18	37.6	37.8	1.7 in/h
15	HUNTER ICV-G-R	1"	BUBBLER	16.5	36.4	36.5	1.7 in/h
16	HUNTER ICV-G-R	1"	BUBBLER	18	36.8	37.1	1.7 in/h
17	HUNTER ICV-G-R	1"	BUBBLER	14	36.5	36.6	1.7 in/h
18	HUNTER ICV-G-R	1"	BUBBLER	16.5	36.3	36.4	1.7 in/h

THE IRRIGATION CONTRACTOR IS TO SET THE RUN TIMES FOR EACH ZONE TO MATCH THE PLANT WATER REQUIREMENTS, SITE CONDITIONS AND MICRO-CLIMATE FACTORS. SEE THE LANDSCAPE PLANS FOR PLANT SPECIFICATIONS.

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RED JACKET DEVELOPMENT
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No.	Date	Comment

Professional Landscape Architect of Record:

Kaley M. Dunlap, PLA — LA6667256
Landscape Architect — Certificate No.

Project No.: 22-001

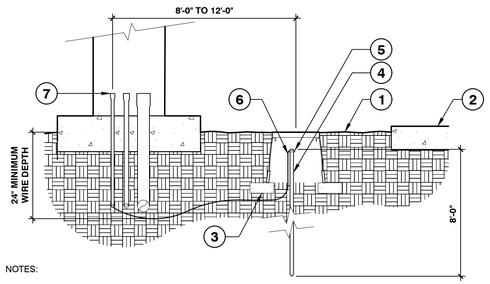
Project Phase: CITY SUBMITTAL

Project Title:
WHISPERING HILLS SUBDIVISION
HOWEY-IN-THE-HILLS,
LAKE COUNTY, FLORIDA

Sheet Title:
IRRIGATION NOTES & LEGEND

Designed: IDS
Drawn: CAZ
Checked: KMD
Date: 01/12/22

Sheet No.: L315



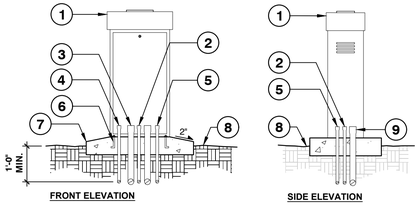
NOTES:

1. ALL GROUNDING REQUIREMENTS FOR CONTROLLERS SHALL CONFORM TO LOCAL ELECTRIC CODES.
2. GROUNDING ROD SHALL NOT BE LOCATED IN THE SAME TRENCH AS IRRIGATION MAINLINES OR LATERAL LINES.
3. VALVE BOX SHALL BE WRAPPED WITH A MINIMUM 3 MIL THICK PLASTIC AND SECURED TO THE VALVE BOX USING DUCT TAPE OR ELECTRICAL TAPE.
4. INSTALL GROUNDING ROD PER THE CONTROLLER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

1. FINISH GRADE
2. PAVEMENT
3. THREE (3) 4" x 8" BRICKS
4. 5/8" x 8'-0" COPPER GROUNDING ROD
5. GROUNDING ROD CLAMP
6. #6 AWG BARE COPPER WIRE
7. 1/2" PVC ELECTRICAL CONDUIT AND SWEEP FOR EARTH GROUND

1 GROUNDING ROD

1" = 1'-0" FX-IR-FX-AUXEQ-01



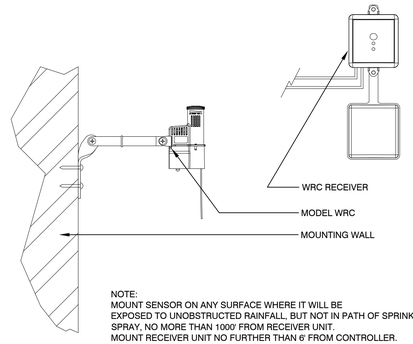
NOTES:

1. COMMON AND CONTROLLER WIRE TO BE BUNDLED USING ELECTRICAL TAPE AT 10'-0" ON CENTER.
2. GROUNDING RODS SHALL BE LOCATED BETWEEN 8'-0" AND 12'-0" AWAY FROM THE CONTROLLER. GROUNDING RODS SHALL BE 3/8" IN DIAMETER X 8' IN LENGTH. CONNECT THE GROUNDING ROD TO THE CONTROLLER USING 6 GAUGE BARE COPPER WIRE OR PER THE MANUFACTURER'S SPECIFICATIONS.SEE GROUNDING ROD DETAIL.
3. ET STATION TO BE INSTALLED NO FURTHER THAN 90' AWAY FROM THE CONTROLLER AND A MINIMUM OF 15' OFF OF THE GROUND, OUT FROM UNDER ANY OVERHEAD OBSTRUCTIONS SUCH AS, BUT NOT LIMITED TO BUILDING OVERHANGS, TREES, OR UTILITIES.

1. PEDESTAL MOUNTED CONTROLLER (SEE IRRIGATION LEGEND FOR MAKE AND MODEL, INSTALL CONTROLLER PER MANUFACTURER SPECIFICATIONS)
2. 1" PVC ELECTRICAL CONDUIT FOR GROUNDING WIRE
3. 2" PVC ELECTRICAL CONDUIT FOR REMOTE CONTROL WIRES (TRADITIONAL & 2-WIRE)
4. 1" PVC ELECTRICAL CONDUIT FOR INPUT POWER PER LOCAL AND NATIONAL CODES
5. 1" PVC ELECTRICAL CONDUIT FOR SENSOR WIRES
6. 1/2" x 4" CADIUM PLATED 'J' ANCHOR BOLTS AT FOUR LOCATIONS
7. CONCRETE FOOTING (INSTALL PER MANUFACUTURER'S SPECIFICATION)
8. FINISHED GRADE
9. OPTIONAL 2" PVC ELECTRICAL CONDUIT FOR AN ADDITIONAL WIRES

2 PEDESTAL MOUNTED CONTROLLER

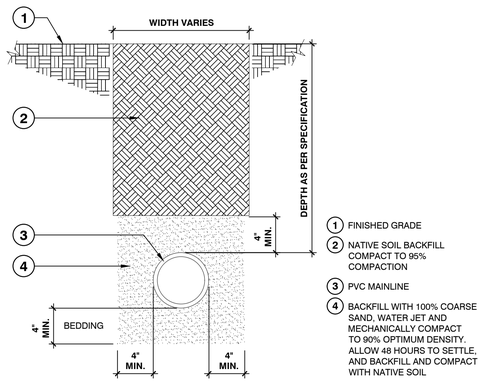
1/2" = 1'-0" FX-IR-FX-CONT-04



NOTE:
MOUNT SENSOR ON ANY SURFACE WHERE IT WILL BE EXPOSED TO UNOBSTRUCTED RAINFALL, BUT NOT IN PATH OF SPRINKLER SPRAY, NO MORE THAN 1000' FROM RECEIVER UNIT.
MOUNT RECEIVER UNIT NO FURTHER THAN 6' FROM CONTROLLER.

3 WIRELESS RAIN-CLIK

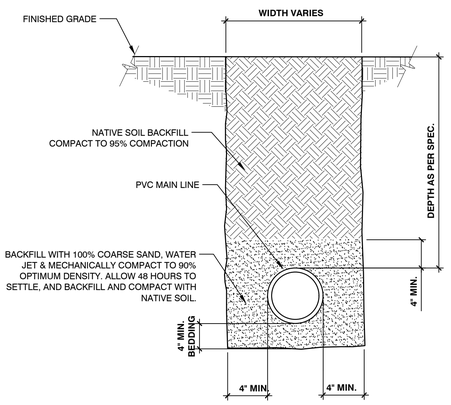
3" = 1'-0" FX-IR-HUNT-SENS-17



1. FINISHED GRADE
2. NATIVE SOIL BACKFILL COMPACT TO 95% COMPACTION
3. PVC MAINLINE
4. BACKFILL WITH 100% COARSE SAND, WATER JET AND MECHANICALLY COMPACT TO 90% OPTIMUM DENSITY. ALLOW 48 HOURS TO SETTLE, AND BACKFILL AND COMPACT WITH NATIVE SOIL

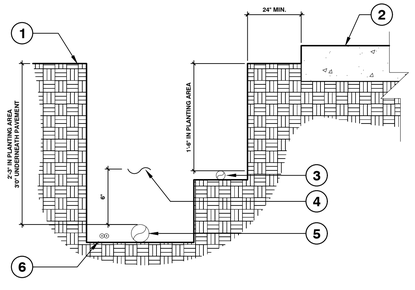
4 MAINLINE WITH SAND BEDDING

1 1/2" = 1'-0" FX-IR-FX-AUXEQ-13



5 SLEEVE AT ROAD

1 1/2" = 1'-0" FX-IR-FX-AUXEQ-15



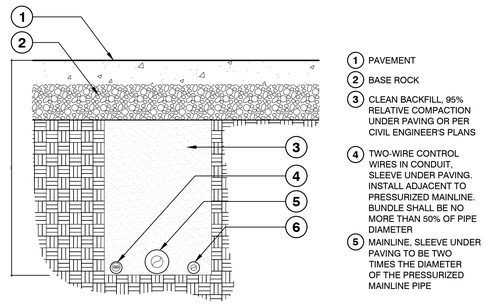
NOTES:

1. SEE IRRIGATION LEGEND FOR MAINLINE AND LATERAL LINE PIPE SIZE AND TYPE.
2. 2-WIRE IRRIGATION WIRE SHALL BE DIRECT BURIED UNLESS UNDER HARDSCAPE OR SPECIFIED OTHERWISE.
3. DETECTABLE LOCATOR TAPE SHALL BE LOCATED SIX INCHES (6") ABOVE THE ENTIRE MAINLINE RUN.

1. FINISHED GRADE
2. PAVEMENT
3. NON-PRESSURIZED LINE (LATERAL LINE)
4. DETECTABLE LOCATOR TAPE
5. PRESSURIZED LINE (MAINLINE)
6. TWO WIRE CONTROL WIRES DIRECT BURY

6 IRRIGATION TRENCHING - TWO WIRE - DIRECT BURY

N.T.S I-09



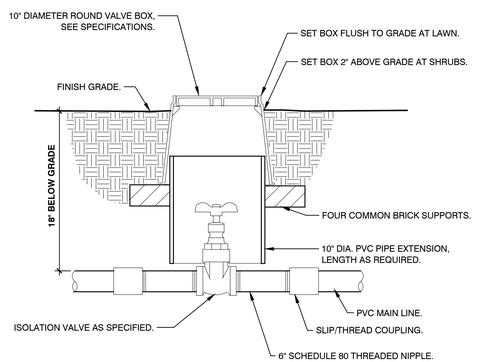
NOTES:

1. SEE IRRIGATION LEGEND FOR MAINLINE SIZE AND TYPE.
2. ALL SLEEVES SHALL BE SCH. 40 PVC PIPE.
3. ALL SLEEVES SHALL EXTEND 12" BEYOND THE EDGE OF PAVEMENT.
4. END OF SLEEVES SHALL BE LOCATED WITH A WOODEN STAKE OR PVC PIPE. LOCATORS SHALL RUN CONTINUOUSLY FROM THE END OF THE SLEEVE TO FINISHED GRADE.

1. PAVEMENT
2. BASE ROCK
3. CLEAN BACKFILL, 95% RELATIVE COMPACTION UNDER PAVING OR PER CIVIL ENGINEER'S PLANS
4. TWO-WIRE CONTROL WIRES IN CONDUIT, SLEEVE UNDER PAVING. INSTALL ADJACENT TO PRESSURIZED MAINLINE. BUNDLE SHALL BE NO MORE THAN 50% OF PIPE DIAMETER
5. MAINLINE, SLEEVE UNDER PAVING TO BE TWO TIMES THE DIAMETER OF THE PRESSURIZED MAINLINE PIPE
6. NON-PRESSURIZED LINE, SLEEVE UNDER PAVING TO BE BE TWO TIMES THE DIAMETER OF THE LATERAL LINE

7 PIPE BENEATH PAVEMENT - TWO WIRE

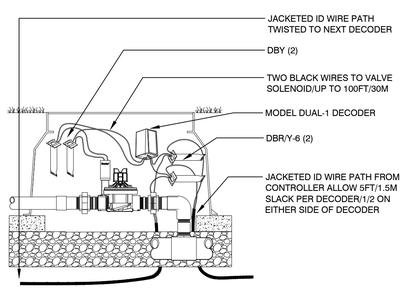
N.T.S I-04



8 BRASS ISOLATION VALVE

1 1/2" = 1'-0" FX-IR-FX-ISOV-01

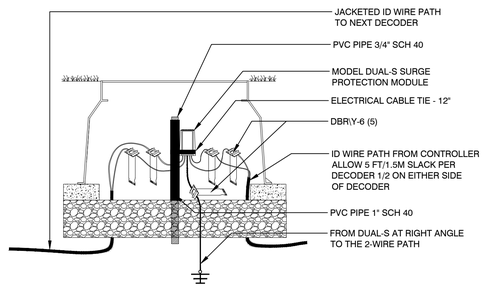
NOTE:
ALL DUAL-1 DECODERS SHALL HAVE THE FOLLOWING ADDRESS AND CORRESPONDING COLOR
ADDRESS 1 = BLACK
ADDRESS 2 = YELLOW
ADDRESS 3 = GREEN
ADDRESS 4 = WHITE
ADDRESS 5 = ORANGE
ADDRESS 6 = PURPLE



9 DUAL-1 DECODER

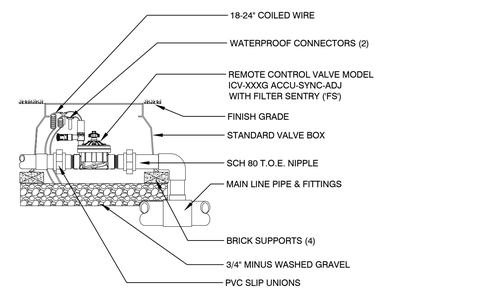
1 1/2" = 1'-0" FX-IR-HUNT-CONT-11

NOTE:
ALL DUAL-1 DECODERS SHALL HAVE THE FOLLOWING ADDRESS AND CORRESPONDING COLOR
ADDRESS 1 = BLACK
ADDRESS 2 = YELLOW
ADDRESS 3 = GREEN
ADDRESS 4 = WHITE
ADDRESS 5 = ORANGE
ADDRESS 6 = PURPLE



10 DUAL-S SURGE DEVICE

1 1/2" = 1'-0" FX-IR-HUNT-CONT-15



11 ICV GLOBE VALVE W/ ACCU-SYNC-ADJ AND UNIONS

1" = 1'-0" FX-IR-HUNT-VALV-19

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No.	Date	Comment

Professional Landscape Architect of Record:

Kaley M. Dunlap, PLA — LA6667256
Landscape Architect — Certificate No.

Project No.: 22-001

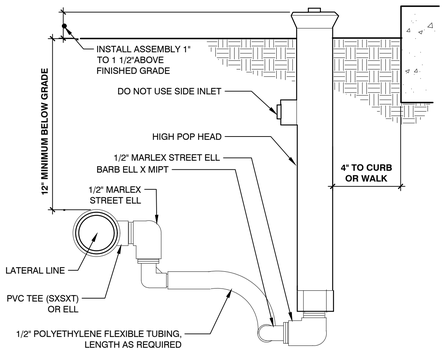
Project Phase: CITY SUBMITTAL

Project Title:
WHISPERING HILLS SUBDIVISION
HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA

Sheet Title:
IRRIGATION DETAILS

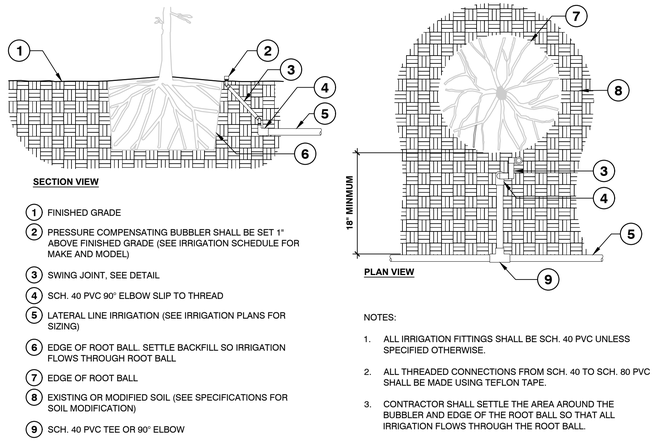
Designed:	IDS
Drawn:	CAZ
Checked:	KMD
Date:	01/12/22

Sheet No.: L316



1 SHRUB SPRAY HIGHPOP W/FLEX ASSEMBLY

3" = 1'-0" FX-IR-FX-HEAD-08



SECTION VIEW

PLAN VIEW

1. FINISHED GRADE
2. PRESSURE COMPENSATING BUBBLER SHALL BE SET 1" ABOVE FINISHED GRADE (SEE IRRIGATION SCHEDULE FOR MAKE AND MODEL)
3. SWING JOINT, SEE DETAIL
4. SCH. 40 PVC 90° ELBOW SLIP TO THREAD
5. LATERAL LINE IRRIGATION (SEE IRRIGATION PLANS FOR SIZING)
6. EDGE OF ROOT BALL. SETTLE BACKFILL SO IRRIGATION FLOWS THROUGH ROOT BALL
7. EDGE OF ROOT BALL
8. EXISTING OR MODIFIED SOIL (SEE SPECIFICATIONS FOR SOIL MODIFICATION)
9. SCH. 40 PVC TEE OR 90° ELBOW

NOTES:

1. ALL IRRIGATION FITTINGS SHALL BE SCH. 40 PVC UNLESS SPECIFIED OTHERWISE.
2. ALL THREADED CONNECTIONS FROM SCH. 40 TO SCH. 80 PVC SHALL BE MADE USING TEFLON TAPE.
3. CONTRACTOR SHALL SETTLE THE AREA AROUND THE BUBBLER AND EDGE OF THE ROOT BALL SO THAT ALL IRRIGATION FLOWS THROUGH THE ROOT BALL.

2 IRRIGATION BUBBLER W/ LAYOUT

3/4" = 1'-0" FX-IR-FX-BUBB-04

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No.	Date	Comment

Professional Landscape Architect of Record:

Kaley M. Dunlap, PLA — LA6667256
Landscape Architect — Certificate No.

Project No.: 22-001

Project Phase: CITY SUBMITTAL

Project Title:

WHISPERING HILLS
SUBDIVISION
HOWEY-IN-THE-HILLS,
LAKE COUNTY, FLORIDA

Sheet Title:

IRRIGATION DETAILS

Designed:	IDS
Drawn:	CAZ
Checked:	KMD
Date:	01/12/22

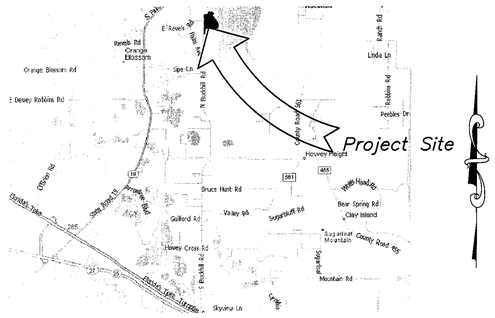
Sheet No.: L317

Boundary Survey
Section 36, Township 20 South, Range 25 East
Lake County, Florida
Whispering Hills

Legend & Abbreviations

● Found Iron Rod or Pipe	Power Pole
■ Found Concrete Monument	→ Guy Wire
◉ Found P.K. Nail & Disk	—x—x— Fence
× Found X-Cut	—E—E— Overhead Utility Lines
○ Set 5/8" Capped Iron Rod	⊕ Well
◎ Set P.K. Nail & Disk	
(F) Field Measurement	
(D) Deed Reference	
(P) Plat Reference	

Vicinity Map



Description: Project Limits
A portion of Government Lots 5 and 6, in Section 36, Township 20 South, Range 25 East, Lake County, Florida,

more particularly described as follows:

Commence at the Southwest corner of the Southeast ¼ of Section 36, Township 20 South, Range 25 East, Lake County, Florida; thence coincident with the South Boundary of said Southeast ¼, S 89°50'08" E a distance of 32.76 feet to a point on the East Right-of-way Boundary of Buckhill Road per OSPREY HEIGHTS-PHASE 1A, as recorded in Plat Book 33, Page 66 of the public records of Lake County, Florida, said point being the POINT OF BEGINNING; thence departing said South Boundary, coincident with said East Right-of-way Boundary and the Northerly extension thereof, N 00°36'32" E a distance of 2184.33 feet; thence N 47°09'43" E a distance of 28.30 feet; thence N 21°02'11" E a distance of 24.81 feet; thence N 86°55'48" E a distance of 40.31 feet; thence N 55°05'08" E a distance of 38.19 feet; thence S 71°01'20" E a distance of 52.29 feet; thence N 64°09'46" E a distance of 61.62 feet; thence S 79°41'54" E a distance of 70.94 feet; thence N 60°39'33" E a distance of 110.96 feet; thence N 36°52'01" E a distance of 91.94 feet; thence N 13°52'52" W a distance of 29.71 feet; thence N 14°17'52" W a distance of 61.64 feet; thence N 06°23'22" E a distance of 30.93 feet; thence N 16°45'59" E a distance of 28.88 feet; thence S 86°22'27" E a distance of 91.79 feet; thence N 45°57'51" E a distance of 66.74 feet; thence S 55°54'12" E a distance of 29.18 feet; thence S 70°43'29" E a distance of 52.36 feet; thence N 89°10'11" E a distance of 183.00 feet; thence N 82°49'33" E a distance of 87.24 feet; thence N 69°29'41" E a distance of 52.88 feet; thence S 00°53'22" W a distance of 108.93 feet to a point coincident with a non-tangent curve concave to the Southwest, said curve having a radius of 46.00 feet, a delta angle of 38°39'48" and being subtended by a chord bearing S 56°23'48" E for a distance of 30.46 feet; thence coincident with the arc of said curve a distance of 31.04 feet; thence S 70°02'13" E a distance of 36.99 feet; thence N 66°26'02" E a distance of 104.12 feet; thence N 16°19'52 E a distance of 108.8 feet, more or less, to the waters edge of Little Lake Harris; thence Southerly coincident with the waters edge of Little Lake Harris to the Northeast corner of the lands described in Official Records Book 1775, Page 275 of the Public Records of Lake County, Florida; thence departing said waters edge, coincident with the North Boundary of said lands for the following five (5) courses: 1.) N 84°17'12" W a distance of 269.90 feet; 2.) thence N 88°21'36" W a distance of 293.43 feet; 3.) thence S 89°30'46" W a distance of 224.96 feet; 4.) thence S 84°47'04" W a distance of 179.68 feet; 5.) thence N 89°13'45" W a distance of 421.93 feet to a point on the West Boundary of said lands; thence departing said North Boundary, coincident with said West Boundary, S 09°31'29" W a distance of 636.42 feet to a point on the aforementioned South Boundary of the Southeast ¼ of said Section 36; thence coincident with said South Boundary, N 89°51'03" W a distance of 112.96 feet to the POINT OF BEGINNING.

Containing an area of 2651920.89 square feet, 60.880 acres more or less.

Curve Information: Field

CURVE	RADIUS	ARC LENGTH	CHORD BEARING	CHORD LENGTH	DELTA ANGLE	TANGENT
C1	46.00'	31.04'	S 56°23'48" E	30.46'	38°39'48"	16.14'

Line Information: Field

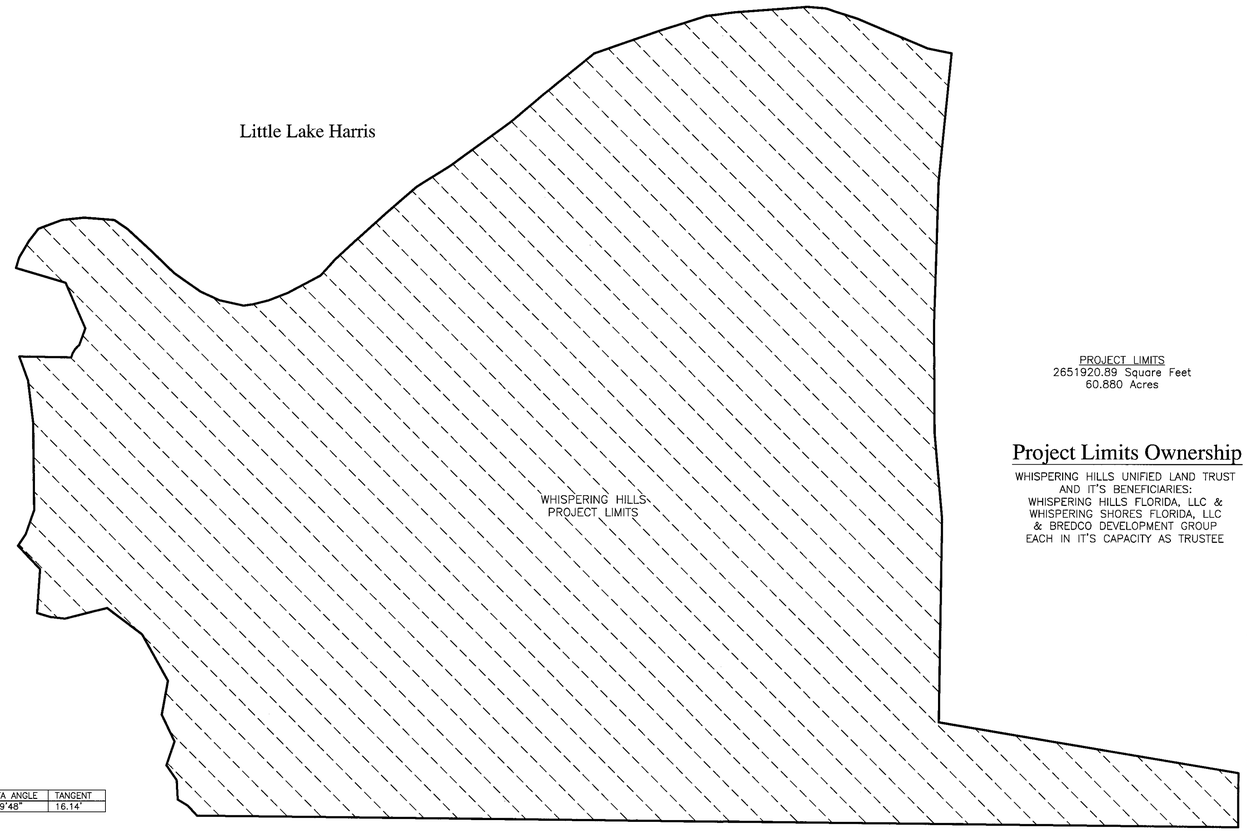
LINE	BEARING	DISTANCE
L1	S 89°50'08" E	32.76'
L2	N 89°36'12" W	33.26'
L3	S 59°21'44" E	39.46'
L4	S 51°48'39" E	32.32'
L5	S 20°06'30" E	52.66'
L6	S 05°48'50" E	46.69'
L7	S 04°14'38" W	63.65'
L8	S 33°26'19" W	33.87'
L9	S 42°12'38" W	63.00'
L10	S 43°27'07" W	70.97'
L11	S 34°38'41" W	66.78'
L12	S 24°34'08" W	43.64'
L13	S 12°12'12" W	51.72'
L14	S 07°48'34" E	19.89'
L15	S 14°19'43" E	34.15'
L16	S 21°00'25" E	43.53'
L17	S 27°45'01" E	76.71'
L18	S 47°28'28" E	45.18'
L19	S 42°26'57" E	51.56'
L20	S 41°22'02" E	87.92'
L21	S 40°24'32" E	86.99'
L22	S 32°00'05" E	82.70'
L23	S 35°51'18" E	158.38'
L24	S 39°44'36" E	86.83'
L25	S 38°30'16" E	48.41'
L26	S 38°37'19" E	88.55'
L27	S 18°50'58" E	150.83'
L28	S 17°00'24" E	31.36'
L29	S 17°24'59" E	66.00'
L30	S 06°59'58" E	62.36'
L31	S 04°11'13" E	110.04'
L32	S 04°23'45" E	41.16'
L33	S 04°33'28" W	36.78'
L34	S 14°23'11" W	7.18'
L35	S 20°10'10" W	13.99'
L36	S 17°31'58" W	50.58'
L37	S 22°56'32" W	68.25'
L38	S 22°36'49" W	91.03'
L39	S 11°13'03" W	51.32'

Line Information: Deed

LINE	BEARING	DISTANCE
L66	N 89°17'20" E	146.00'

Line Information: Field

LINE	BEARING	DISTANCE
L40	N 89°51'03" W	112.96'
L41	N 47°09'43" E	28.30'
L42	N 21°02'11" E	24.81'
L43	N 86°55'48" E	40.31'
L44	N 55°05'08" E	38.19'
L45	S 71°01'20" E	52.29'
L46	N 64°09'46" E	61.62'
L47	S 79°41'54" E	70.94'
L48	N 60°39'33" E	110.96'
L49	N 36°52'01" E	91.94'
L50	N 13°52'52" W	29.71'
L51	N 14°17'52" W	61.64'
L52	N 06°23'22" E	30.93'
L53	N 16°45'59" E	28.88'
L54	S 86°22'27" E	91.79'
L55	N 45°57'51" E	66.74'
L56	S 55°54'12" E	29.18'
L57	S 70°43'29" E	52.36'
L58	N 89°10'11" E	183.00'
L59	N 82°49'33" E	87.24'
L60	N 69°29'41" E	52.88'
L61	S 00°53'22" W	108.93'
L62	S 70°02'13" E	36.99'
L63	N 66°26'02" E	104.12'
L64	N 16°19'52" E	108.8'±
L65	S 72°51'43" E	22.57'



PROJECT LIMITS
2651920.89 Square Feet
60.880 Acres

Project Limits Ownership

WHISPERING HILLS UNIFIED LAND TRUST
AND IT'S BENEFICIARIES:
WHISPERING HILLS FLORIDA, LLC &
WHISPERING SHORES FLORIDA, LLC
& BREDCO DEVELOPMENT GROUP
EACH IN IT'S CAPACITY AS TRUSTEE

0' 150' 300' 450'
Scale: 1" = 150'

Surveyor's Notes

1.) Not valid without the signature and original raised seal of a Florida Licensed Surveyor and Mapper.
2.) The coordinate and bearing structure for this survey is based on Florida State Plane Coordinate System, East zone, North American Datum of 1983 (NAD83), 1990 adjustment. Horizontal control station utilized was National Geodetic Survey (NGS) first (1st) order control station "LC 06".
3.) All utilities depicted hereon are from visible evidence only. Surveyor did not contact subsurface utility locator service.
4.) No underground foundations or footers were excavated or located for this survey.
5.) Boundary Survey has been performed without benefit of title policy or abstract. Therefore surveyor can make no guarantees to ownership or encumbrances.

Stacy L. Brown P.S.M. No. 6516
SurvTech Solutions, Inc. L.B. No. 7340

Project Name: Whispering Hills	PROJECT NO.: 20060189
Address: North Buckhill Road	City: Howey-in-the-Hills State: Florida

REVISION	DATE	INITIALS
Revised parent parcel & project limits boundaries.	11/18/08	T.M.
Added wetland line.	5/14/09	S.B.
Added Army Corp of Engineers wetland areas.	9/9/10	S.B.
Added information for Parcels C, F, S & T.	3/31/11	T.M.
Revised legal descriptions.	12/12/11	T.M.
Removed all internal parcels	5/16/12	S.B.

SURVEYING TODAY WITH TOMORROWS TECHNOLOGY

Drafted By: S. Brown
Date Drafted: 7/07/07
Approved By: S. Brown
Date Approved: 7/09/07
Field Date: 3/28/07
Phase: 6
Revision Date: 5/16/12
Drawing Name: 20060189_6PL
Scale: 1" = 100'
Field Book/Page: 27-09/7

SURVTECH SOLUTIONS, INC.
10220 U.S. Highway 92 East
Tampa, FL 33610
phone: (813)-621-4929
fax: (813)-621-7194
Licensed Business #7340
email: sbrown@survtechsolutions.com
http://www.survtechsolutions.com

Project Limits Boundary Detail Sheet
Whispering Hills

0' 100' 200' 300'
Scale: 1" = 100'

Little Lake Harris

Little Lake Harris

Survey Closure Line

Safe Upland Line 62.10' (NAVD 1988) per Richard Malloy, Bureau of State Lands, Tallahassee, Florida (As Supplied to SurvTech by Client)

Parent Parcel

Wetland Line per Land Planning Group (As Supplied)

Wetland Line per Land Planning Group (As Supplied)

Note: An ordinary high water elevation has not been determined for Lake Harris, therefore, the safe upland line is depicted hereon for constraint purposes as well as for a survey closure line.

Project Limits

Found 4x4 Concrete Monument "LB #4709"
LAT:28°42'10.3575"
LON:-81°45'39.7139"

10' Witness Corner
Found 4"x4" Concrete Monument "L.B. #4709"
LAT:28°41'50.3072"
LON:-81°45'31.9325"

Southerly (D)

259.90' (F) S 85°08'00" E 270'± (D) 269.90' (F) N 84°17'12" W

Found 6" Concrete Monument "L.S. #1916"

North Boundary of lands described in O.R. Book 1775, Page 275 of the Public Records of Lake County, Florida

283.40' (D) S 89°10'40" E 283.43' (F) N 88°21'36" W

Found 6" Concrete Monument "L.S. #1916"

224.98' (D) N 88°40'20" E 224.96' (F) S 89°30'46" W

Found 6" Concrete Monument "L.S. #1916"

179.74' (D) N 83°58'40" E 179.85' (F) S 84°47'04" W

Found 6" Concrete Monument "L.S. #1916"

421.77' (D) N 89°57'20" E 421.93' (F) N 89°13'45" W

Found 4"x4" Concrete Monument (No Id.)
LAT:28°41'50.4351"
LON:-81°45'47.4034"

S 89°17'20" W 1310.00' (D)

GOVERNMENT LOT 6

GOVERNMENT LOT 5

Total Project Acreage
2651920.89 Square Feet
60.880 Acres

LESS OUT PARCEL

South Boundary of Government Lot 5, also being the North Boundary of Government Lot 6

Project Limits

South Boundary of the S.E. ¼ of Section 36-20S-25E

Wetland Line per Army Corps of Engineers

Wetland Line per Land Planning Group (As Supplied)

10' Dirt Drive

N 89°19'07" W 921.33' (F)

North Boundary of the S.E. ¼ of Section 36-20S-25E

North Boundary of Government Lot 5 per Township Plat Dated March 13, 1850 and Original Conveyances Out of U.S. Government and the State of Florida

West Boundary of Government Lot 5 per Township Plat Dated March 21, 1850 on File at the Bureau of Land Management and Has Been Distributed by Lake County

298.28' (F) N 00°35'36" E 1109.18' (F) 810.90' (F)

Northwest Corner of the SE ¼ of Section 36-20S-25E
Found 3" Pipe (No Id.)
LAT:28°42'10.4077"
LON:-81°45'50.0595"

LAT:28°42'02.3786"
LON:-81°45'49.7220"
Found 4"x4" Concrete Monument "L.B. #4709"

Possible Encroachment

Found 4"x4" Concrete Monument "L.B. #4709"
LAT:28°42'02.3795"
LON:-81°45'50.0955"

West Boundary of the S.E. ¼ of Section 36-20S-25E

2184.33' (F)

East Right-of-way Boundary of Buckhill Road per OSPREY HEIGHTS-PHASE 1A, as recorded in Plat Book 33, Page 66

N 00°36'32" E 1835.08' (F)
N 00°35'36" E 1835.25' (F)

Clay Road

Clay Road

Buckhill Road
Public Right-of-way width varies
Clay Road (width varies)

West Boundary of lands described in O.R. Book 1775, Page 275 of the Public Records of Lake County, Florida

S 09°31'29" W 636.42' (F) N 08°42'20" E 636.35' (D)

Point of Beginning
LESS OUT PARCEL
Found 4"x4" Concrete Monument (No Id.)
LAT:28°41'44.2146"
LON:-81°45'48.5407"

Point of Beginning
Project Limits
Found 4"x4" Concrete Monument "L.B. #4709"

30' Ingress/Egress Easement per O.R. Book 282, Page 579

L40 L66

10' Dirt Drive

Point of Commencement
Southwest Corner of the SE ¼ of Section 36-20S-25E
Found 4"x4" Concrete Monument (No Id.)
LAT:28°41'44.2092"
LON:-81°45'50.1769"

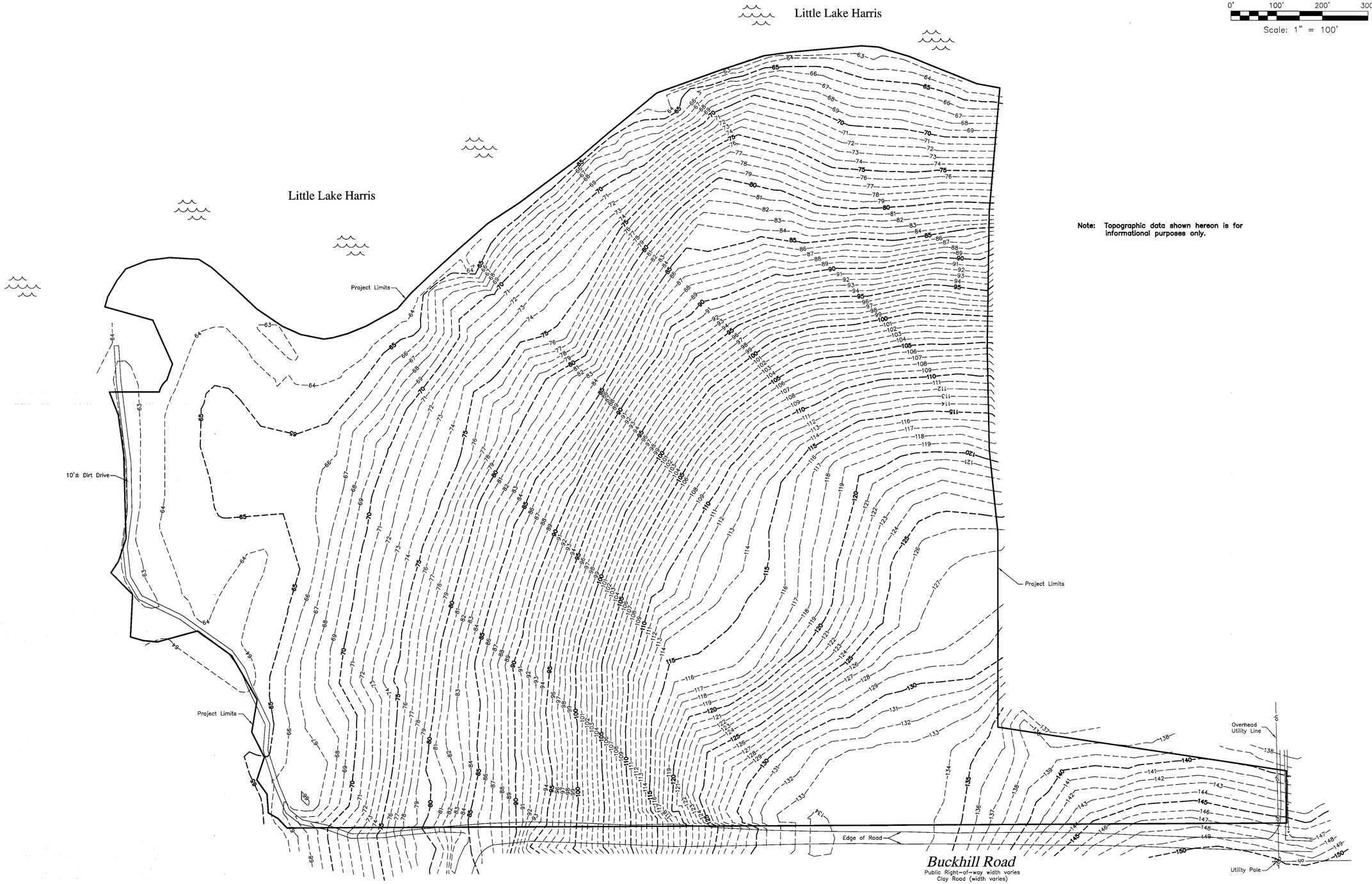
Boundary Survey
PREPARED FOR:
Whispering Hills

SURVTECH SOLUTIONS, INC.
10220 U.S. Highway 92 East
Tampa, FL 33610
Licensed Business #7340
phone: (813)-621-4929
fax: (813)-621-7194
email: sbrown@survtechsolutions.com
http://www.survtechsolutions.com

Topographic Detail Sheet

0' 100' 200' 300'

Scale: 1" = 100'



Note: Topographic data shown hereon is for informational purposes only.

Stacy L. Brown P.S.M. No. 6516
SurvTech Solutions, Inc. L.B. No. 7340

Boundary Survey
PREPARED FOR:
Whispering Hills

SURVTECH SOLUTIONS, INC.
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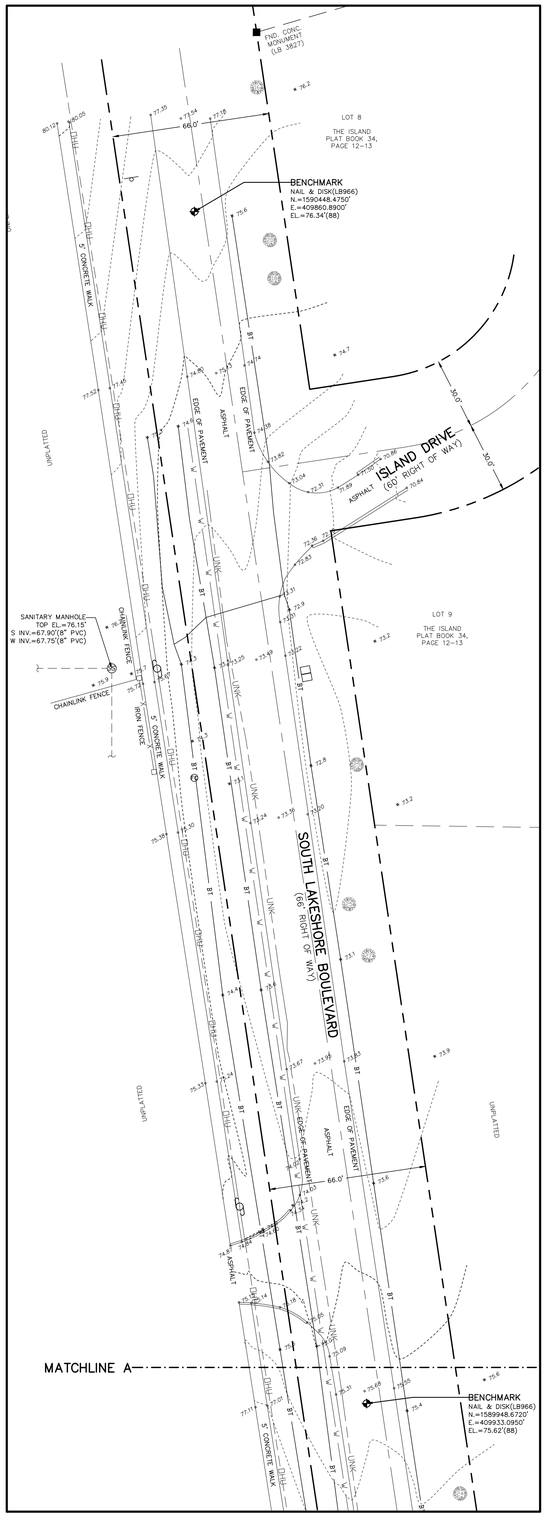
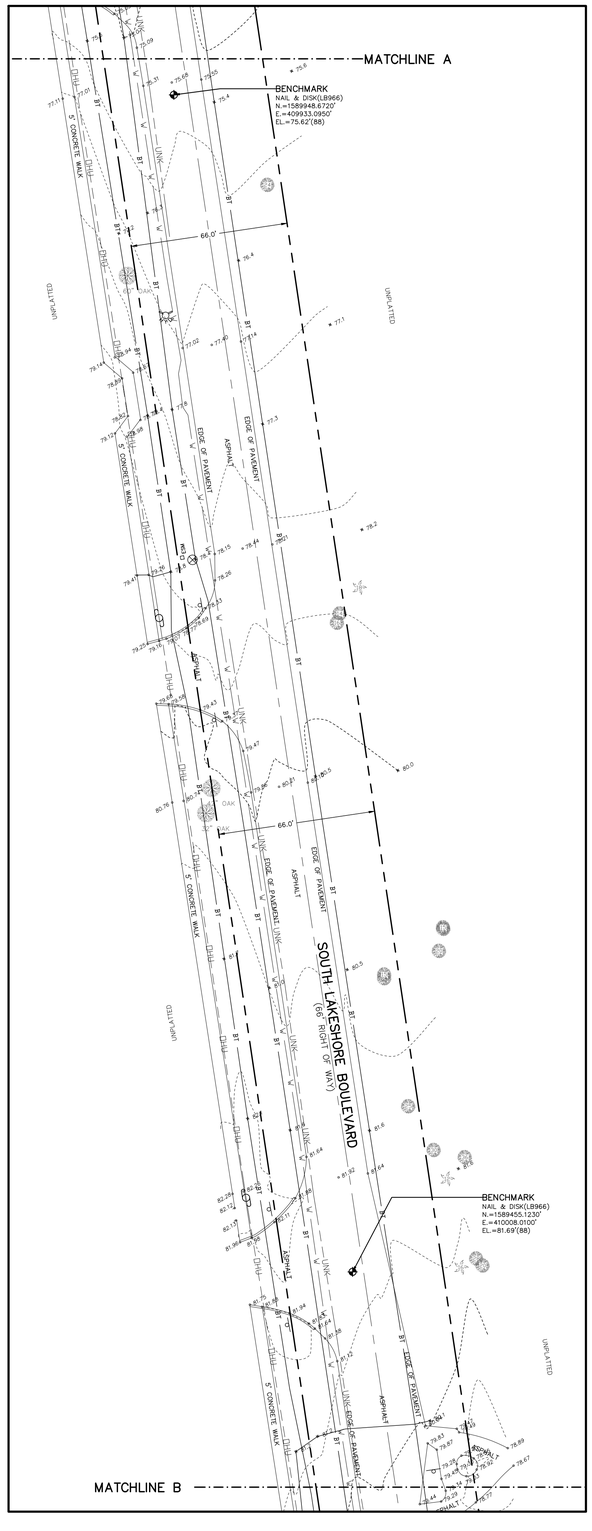
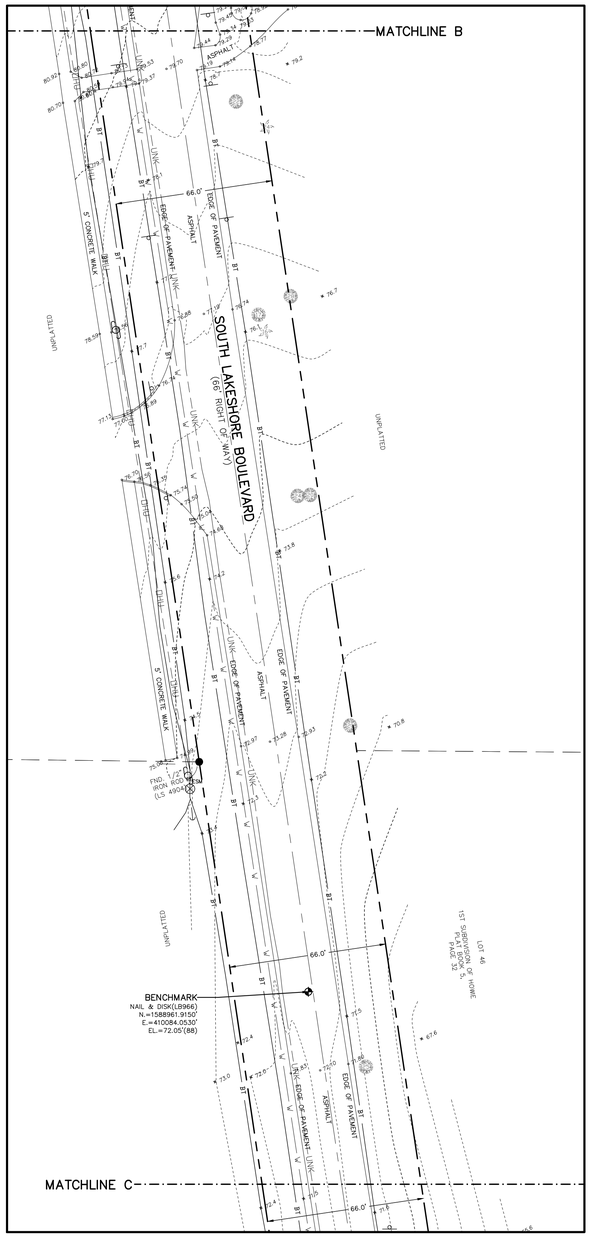
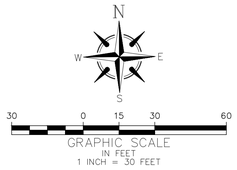








SURVEYOR'S NOTES:

ELEVATIONS SHOWN HEREON ARE BASED ON N.A.V.D. 1988 DATUM. REFERENCE BENCHMARK IS XXX

BEARINGS SHOWN HEREON ARE BASED ON THE FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE. (NAD 83, 2007 ADJUSTMENT) AS DETERMINED FROM GLOBAL POSITIONING SYSTEM (GPS).

UNLESS OTHERWISE NOTED, PLAT INFORMATION IS EQUAL TO FIELD MEASURED DATA.

NO UNDERGROUND INSTALLATIONS, IMPROVEMENTS OR ROOF OVERHANGS HAVE BEEN LOCATED EXCEPTS AS NOTED HEREON.

THE SURVEYOR HAS NOT MADE A SEARCH OF THE PUBLIC RECORDS FOR EASEMENTS, RESTRICTIONS, RESERVATIONS AND/OR RIGHTS-OF-WAY OF RECORD.

NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

POINT ELEVATIONS WITH TWO DECIMAL PRECISION DENOTE PAVEMENT, CONCRETE AND TOP OF WATER SHOTS. ONE DECIMAL PRECISION DENOTES NATURAL GROUND OR A SOFT SHOT, ALL OTHERS ARE AS NOTED.

RIGHT OF WAY SHOWN HEREON IS BASED UPON FIELD MONUMENTATION AND BEST AVAILABLE RIGHT OF WAY INFORMATION.

= PINE = CAMPHOR
= PALM = OAK

CERTIFICATION:

I HEREBY CERTIFY TO:
RED JACKET DEVELOPMENT GROUP, LLC

RICHARD D. BROWN, P.S.M.
STATE OF FLORIDA
REGISTRATION NO. 5700
(NOT VALID WITHOUT SIGNATURE AND SEAL)

11/15/2023
DATE

ABBREVIATIONS

P.B. PLAT BOOK	(C) CALCULATED	° DEGREES	ALL PROPERTY CORNERS AS NOTED.	EL. ELEVATION	BENCHMARK	CLEAN OUT
O.B. DEED BOOK	(P) PLAT	' MINUTES	D.U.E. DRAINAGE AND UTILITY EASEMENT	P.T. POINT OF TANGENCY	WOOD POWER POLE	SANITARY SEWER M.HOLE
BK. BOOK	(D) DESCRIBED	" SECONDS	ID IDENTIFICATION	P.C. POINT OF CURVE	CONCRETE POWER POLE	STORM SEWER M.HOLE
PG. PAGE	(M) MEASURED	± MORE OR LESS	P.C.P. PERMANENT CONTROL POINT	P.R.C. POINT OF REVERSE CURVE	METAL POWER POLE	GAS METER
SECT. SECTION	CB. CHORD BEARING	L.B. LICENSED BUSINESS	P.O.B. POINT OF BEGINNING	P.I. POINT OF INTERSECTION	GUY WIRE ANCHOR	GAS VALVE
TWP. TOWNSHIP	CH. CHORD	L.S. LICENSED SURVEYOR	P.O.C. POINT OF COMMENCEMENT	N.&T. NAIL AND TAB	WOOD LIGHT POLE	CABLE TELEVISION RISER
RGE. RANGE	R. RADIUS	B.W.F. BARBED WIRE FENCE	F/F. FINISH FLOOR ELEVATION	C.M.P. CORRUGATED METAL PIPE	CONCRETE LIGHT POLE	TELEPHONE RISER
COR. CORNER	L. LENGTH	H.W.F. HOG WIRE FENCE	L.F.E. LOWEST FLOOR ELEVATION	R.C.P. REINFORCED CONCRETE PIPE	METAL LIGHT POLE	TELEPHONE CONTROL BOX
AC. ACRES	Δ DELTA	C.L.F CHAIN LINK FENCE	G.F.E. GARAGE FLOOR ELEVATION	INV. INVERT	FIBERGLASS LIGHT POLE	ELECTRIC TRANSFORMER
P.S.M. PROFESSIONAL SURVEYOR AND MAPPER	T. TANGENT	W.F. WOOD FENCE	R/W RIGHT OF WAY	FD. FOUND	FIRE HYDRANT	ELECTRIC SERVICE METER
BM BENCHMARK	C/L. CENTERLINE	E.P. EDGE OF PAVEMENT	O.R. OFFICIAL RECORDS	P.R.M. PERMANENT REFERENCE MONUMENT	WATER VALVE	TRAF. SIGNAL CONTROL BOX
C.B.S. CONCRETE BLOCK & STUCCO		FRM. FRAME	STY. STORY	TX TRANSFORMER	WELL	BOLLARD
UGP UNDERGROUND POWER LINE		O/S OFFSET	CONC. CONCRETE		WATER METER	SIGN
OHP OVERHEAD POWER LINE					RECLAIMED WATER VALVE	FIBER OPTIC MARKER
BT BURIED TELEPHONE LINE					RECLAIMED WATER METER	TELEPHONE MARKER
GAS BURIED GAS MAIN					AIR RELEASE VALVE	GAS MARKER
W BURIED WATER LINE						
SAN BURIED SANITARY SEWER LINE						

TOPOGRAPHIC SURVEY

LANDS IN SEC. 36-20-25

REVISIONS
ADDITIONAL TOPO 11/15/23
CAD FILE# 23-378 ROUTE.DWG

NAVD 1988
VERTICAL DATUM

SECT. 36 TWP. 20 S. RGE. 25 E.

DATE OF SURVEY 9/5/23 | JOB #23-378 | SCALE: 1"=30' | DRAWN BY: AB | CHECKED BY: RDB

JOHNSTON'S SURVEYING INC.
900 Cross Prairie Parkway, Kissimmee, Florida 34744
(407) 847-2179 • Fax (407) 847-6140 LB 966

SHEET 1 OF 2

MATCHLINE C

MATCHLINE D

NORTH BUCKHILL ROAD
(RIGHT OF WAY)
ASPHALT

SOUTH LAKESHORE BOULEVARD
(66' RIGHT OF WAY)

BENCHMARK
NAIL & DISK(LB966)
N.=1587970.6470'
E.=410199.8930'
EL.=81.18'(88)

BENCHMARK
NAIL & DISK(LB966)
N.=1588468.0900'
E.=410159.4390'
EL.=77.33'(88)

MATCHLINE E

MATCHLINE F

PALM AVENUE
(RIGHT OF WAY)

BENCHMARK
NAIL & DISK(LB966)
N.=1587575.6510'
E.=409892.5480'
EL.=81.24'(88)

TRACT B
VENEZIA SOUTH
PLAT BOOK 65,
PAGE 92-97

LOT 46
1ST SUBDIVISION OF HOWE
PLAT BOOK 5,
PAGE 32

LOT 47
1ST SUBDIVISION OF HOWE
PLAT BOOK 5,
PAGE 32

LOT 38 & 39
1ST SUBDIVISION OF HOWE
PLAT BOOK 5,
PAGE 32

LOT 36
1ST SUBDIVISION OF HOWE
PLAT BOOK 5,
PAGE 32

LOT 37
1ST SUBDIVISION OF HOWE
PLAT BOOK 5,
PAGE 32

LOT 139
VENEZIA SOUTH
PLAT BOOK 65,
PAGE 92-97

LOT 138
VENEZIA SOUTH
PLAT BOOK 65,
PAGE 92-97

LOT 137
VENEZIA SOUTH
PLAT BOOK 65,
PAGE 92-97

BENCHMARK
NAIL & DISK(LB966)
N.=1587518.1810'
E.=409394.1640'
EL.=83.54'(88)

℄ EAST REVELS ROAD
(RIGHT OF WAY PER
PLAT BOOK 65, PAGES 92-97)

(60' PLATTED
RIGHT OF WAY
NOT OPEN
OR IMPROVED)

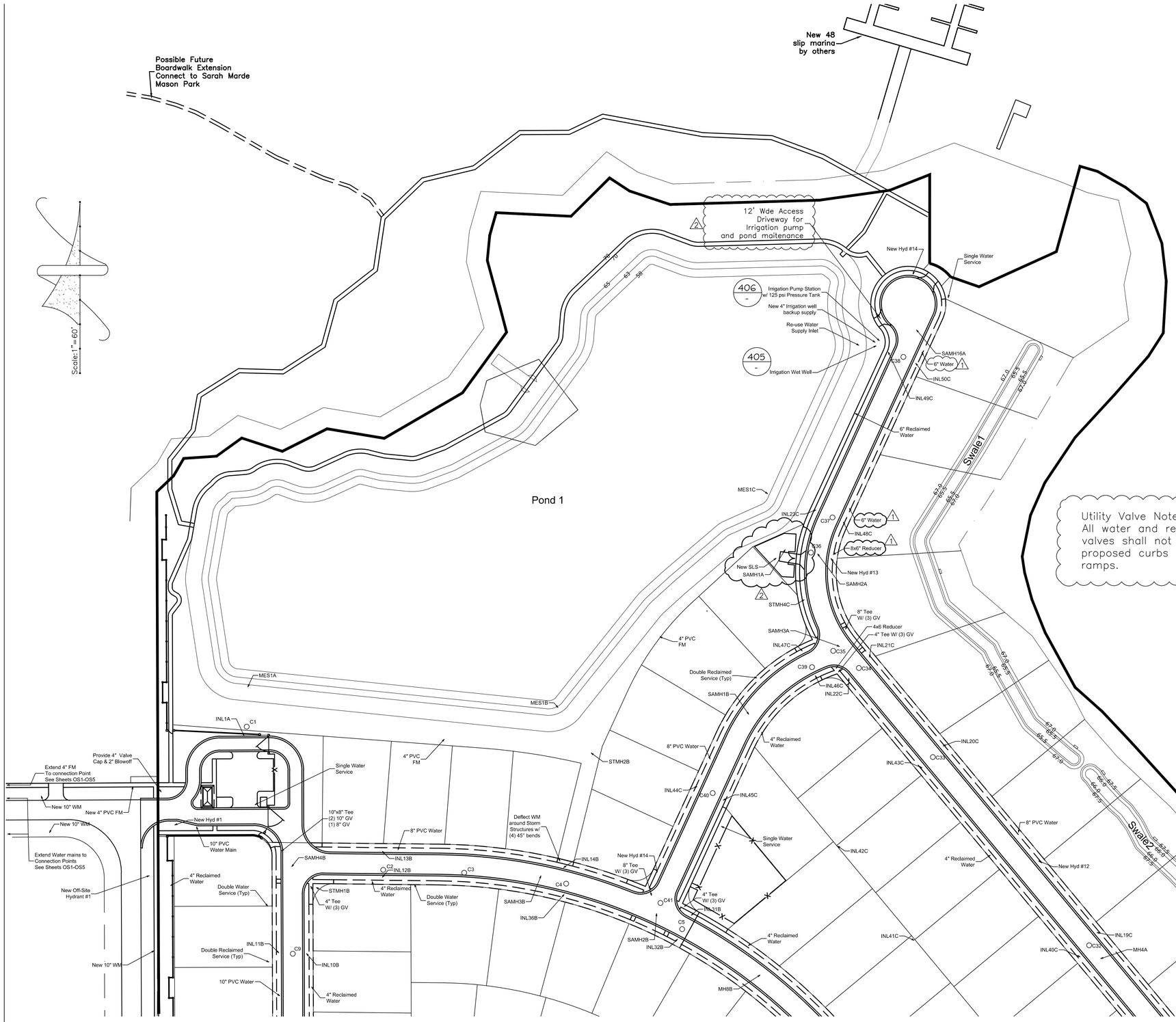
UNPLATTED

N
W E
S

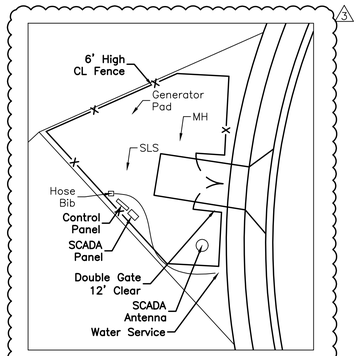
30 0 15 30 60
GRAPHIC SCALE
IN FEET
1 INCH = 30 FEET

JOHNSTON'S
SURVEYING INC.
900 Cross Prairie Parkway, Kissimmee, Florida 34744
(407) 847-2179 ● Fax (407) 847-6140 LB 966

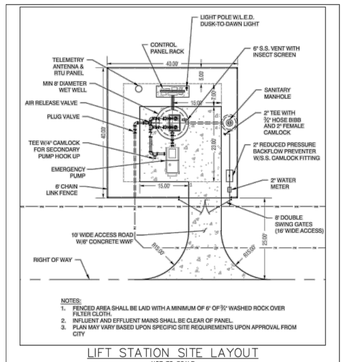
SHEET 2 OF 2



Utility Valve Note:
All water and reclaimed valves shall not be set within proposed curbs or curb ramps.



Lift Station Tract Layout
Scale: 1"=20'



LIFT STATION SITE LAYOUT
NOT TO SCALE

Howey-in-the-Hills Standard Details — DATE: DEC 2023 — DETAIL WW-10

1. ALL PUMP STATIONS SHALL BE PROVIDED WITH A SUITABLY-SIZED, ENGINE-DRIVEN STANDBY EMERGENCY BYPASS PUMP ASSEMBLY, TO BE SIZED BY THE PROJECT ENGINEER. THE BYPASS PUMP SHALL BE A HORIZONTAL END SUCTION SOLIDS HANDLING CENTRIFUGAL PUMP CAPABLE OF HANDLING THE DESIGN FLOW OF THE PUMP STATION AND BE SELF-PRIMING FROM DRY CONDITIONS.
2. THE BYPASS PUMP SHALL BE FULLY AUTOMATIC, UTILIZING AUTO-START CONTROLS INTEGRATED INTO THE MAIN CONTROL PANEL THAT RESPOND TO VARYING LIQUID LEVELS VIA FLOAT SWITCHES. AUTOMATION SHALL ALLOW FOR PUMP STATION OPERATION IN THE EVENT OF A POWER OUTAGE OR SUBMERSIBLE PUMP FAILURE. THE CONTROLLER SHALL BE EQUIPPED WITH AUTOMATIC AND MANUAL OPERATION MODES.
3. THE SUB-BASE DUAL WALL FUEL TANK SHALL BE THE MANUFACTURER'S STANDARD UNIT, SIZED TO PROVIDE A MINIMUM OF 24-HOURS OF FUEL TO OPERATE THE BYPASS PUMP. HOWEVER, THE FUEL TANK SHALL BE LESS THAN 500 GALLONS IN SIZE.
4. THE MAXIMUM SOUND LEVEL WITH THE COMPLETE BYPASS PUMP ASSEMBLY OPERATING SHALL NOT EXCEED 72 DBA AT 23 FEET. EXHAUST SYSTEM SHALL BE IN COMPLIANCE WITH EPA TIER 2 EXHAUST EMISSION REQUIREMENTS.
5. THE UNIT SHALL BE PROVIDED WITH AN APPROPRIATE BLOCK HEATER FOR COLD STARTS. THE TRANSFORMER FOR PROVIDING POWER TO THE BLOCK HEATER SHALL BE PLACED SEPARATELY FROM THE CONTROL PANEL AND THE BYPASS PUMP UNIT.
6. BYPASS PUMP ASSEMBLY INCLUDING BASE AND VIBRATION ISOLATORS SHALL BE ANCHORED TO A SUITABLY-SIZED CONCRETE PAD IN NEARBY PROXIMITY TO THE PUMP STATION.
7. THE BYPASS PUMP UNIT SHALL BE AS MANUFACTURED BY THOMPSON PUMP & MANUFACTURING OR APPROVED EQUAL.
8. THE BYPASS PUMP SET SHALL BE SHOP PRIMED AND FINISH COATED IN ACCORDANCE WITH THE MANUFACTURER'S STANDARD PRACTICE. AN ADEQUATE SUPPLY OF TOUCH-UP PAINT SHALL BE PROVIDED.
9. A REPRESENTATIVE OF HOWEY-IN-THE-HILLS SHALL BE PRESENT FOR THE INITIAL START-UP OF THE BYPASS PUMP ASSEMBLY. SPECIAL TOOLS AND SPARE PARTS AS REQUIRED SHALL BE PROVIDED TO THE TOWN.
10. THE FOLLOWING TABLE SHALL BE COMPLETED AND SHOWN ON THE PLANS.

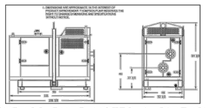
THOMPSON PUMP MODEL NO.: 4JSVC

MUFFLERS RESIDENTIAL GRADE, BATTERY CHARGER, DUAL WALL SUBBASE FUEL STORAGE TANK 114 GALLONS

SOUND ATTENUATED OUTDOOR ENCLOSURE

RAINHOODS: _____ YES __X__ NO

DISTRIBUTION PANEL: _____ FACTORY MOUNTED __X__ ADJACENT TO GENERATOR ASSEMBLY



LS BYPASS PUMP NOTES & DIMENSIONS

Howey-in-the-Hills Standard Details — DATE: DEC 2023 — DETAIL WW-10A

#	Date	Description
5	02/01/24	Town Comm
4	5/3/23	Town Comm
3	12/8/22	Town Comm
2	9/19/22	Town Comm
1		

Revisions

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 0000679 ph (407) 299-0650

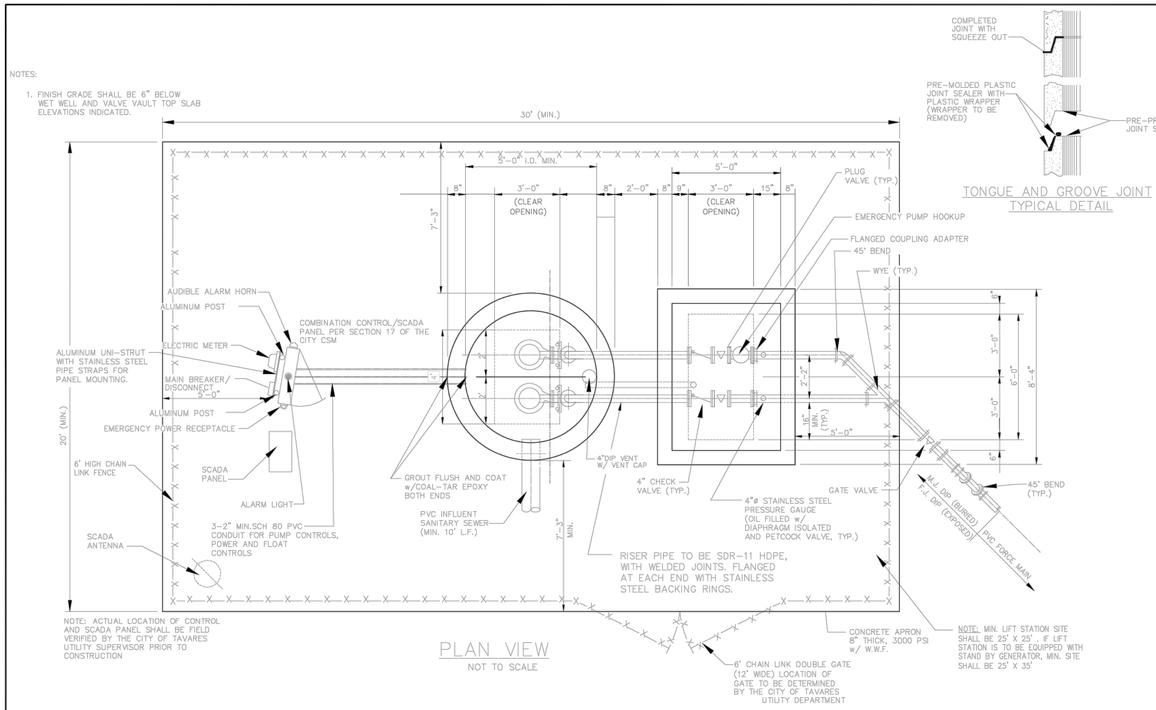
Subdivision Utility Plan - North

WHISPERING HEIGHTS Subdivision
Buckhill Road, Howey-in-the-Hills, Florida

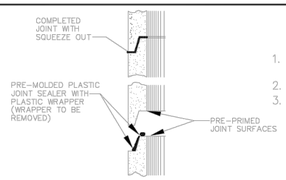
DP	Drawn
DP	Checked
1"=60'	Scale
09-07-21	Date
WH2-C8	File

Dwg. No.
C8
10 of 83

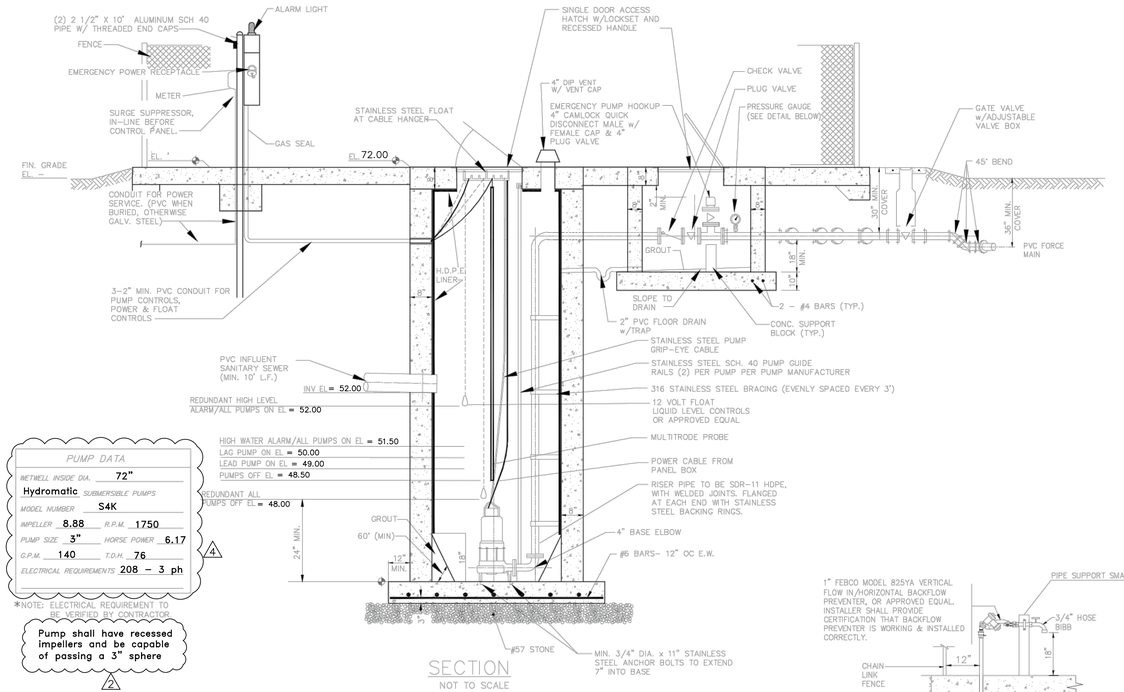
DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER
Darcy Unroe PE 60929



PLAN VIEW
NOT TO SCALE



TONGUE AND GROOVE JOINT
TYPICAL DETAIL



PUMP DATA

WETWELL INSIDE DIA.	72"
Hydromatic SUBMERSIBLE PUMPS	
MODEL NUMBER	S4K
IMPELLER 8.88 R.P.M.	1750
PUMP SIZE 3" HORSE POWER	6.17
G.P.M. 140 T.D.H.	76
ELECTRICAL REQUIREMENTS	208 - 3 ph

*NOTE: ELECTRICAL REQUIREMENT TO BE VERIFIED BY CONTRACTOR.

4

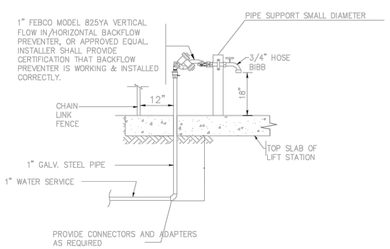
Pump shall have recessed impellers and be capable of passing a 3" sphere

2

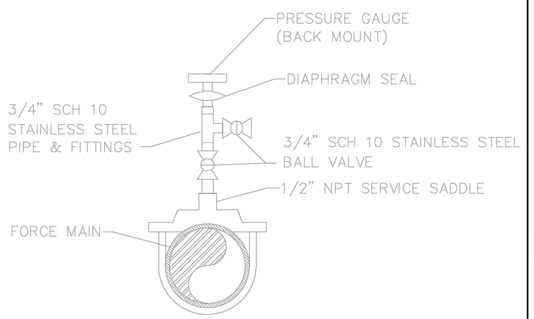
SECTION
NOT TO SCALE

DUPLEX LIFT STATION

NOT TO SCALE



HOSE BIBB DETAIL
NOT TO SCALE



PRESSURE GAUGE DETAIL
NOT TO SCALE

NOTES:

1. PUMPS: SHALL HAVE (2) 2" STAINLESS STEEL GUIDE RAILS PER PUMP AND A BPI FRONT DUPLEX SYSTEM.
2. LEVEL CONTROLS: SHALL BE IN ACCORDANCE WITH SECTION 17 OF THE CITY UTILITY MANUAL.
3. WET WELL ACCESS COVER: SHALL HAVE CLEAR OPENING OF 36"x48". ACCESS FRAME AND COVER SHALL HAVE A 1/4" THICK ONE-PIECE, MILL FINISH, EXTRUDED ALUMINUM FRAME, INCORPORATING A CONTINUOUS CONCRETE ANCHOR. DOOR PANEL(S) SHALL BE 1/4" ALUMINUM DIAMOND PLATE, REINFORCED TO WITHSTAND A LIVE LOAD OF 300 PSF. DOOR(S) SHALL OPEN TO 90° AND AUTOMATICALLY LOCK WITH STAINLESS STEEL HOLD OPEN ARMS WITH ALUMINUM RELEASE HANDLES. DOOR(S) SHALL CLOSE FLUSH WITH THE FRAME. UNIT SHALL LOCK WITH A NONCORROSIVE LOCKING BAR. FRAME SHALL SUPPORT GUIDE RAILS AND CABLE HOLDER FOR ELECTRICAL WIRING. ALL ACCESS FRAME, COVER, AND HARDWARE SHALL BE CONSTRUCTED OF STAINLESS STEEL. ALL SURFACES IN CONTACT WITH CONCRETE SHALL HAVE A SHOP COAT OF ZINC CHROMATIC PRIMER APPROVED ALKALI RESISTANT PAINT OR APPROVED PROTECTIVE COATING. DOUBLE DOOR ACCESS COVERS SHALL HAVE REMOVABLE CENTER BAR SUPPORT. COVER MUST BE COMPATIBLE WITH PUMP.
4. VALVE VAULT ACCESS COVER: SHALL HAVE CLEAR OPENING OF 36"x72" ACCESS AS MANUFACTURED IN ACCORDANCE WITH APPENDIX A, APPROVED MANUFACTURER LIST OF THE CITY CSM. ACCESS FRAME AND COVER SHALL HAVE A 1/4" THICK ONE-PIECE, MILL FINISH, EXTRUDED ALUMINUM FRAME, INCORPORATING A CONTINUOUS CONCRETE ANCHOR. DOOR PANEL(S) SHALL BE 1/4" ALUMINUM DIAMOND PLATE, REINFORCED TO WITHSTAND A LIVE LOAD OF 300 PSF. DOOR(S) SHALL OPEN TO 90° AND AUTOMATICALLY LOCK WITH STAINLESS STEEL HOLD OPEN ARMS WITH ALUMINUM RELEASE HANDLES. DOOR(S) SHALL CLOSE FLUSH WITH THE FRAME. UNIT SHALL LOCK WITH A NONCORROSIVE LOCKING BAR. ALL ACCESS FRAME, COVER, HARDWARE, AND FASTENERS SHALL BE CONSTRUCTED OF 316 STAINLESS STEEL. ALL SURFACES IN CONTACT WITH CONCRETE SHALL HAVE A SHOP COAT OF ZINC CHROMATIC PRIMER, APPROVED ALKALI RESISTANT PAINT OR APPROVED PROTECTIVE COATING. DOUBLE DOOR ACCESS COVERS SHALL HAVE REMOVABLE CENTER BAR SUPPORT. COVER MUST BE COMPATIBLE WITH PUMP.
5. ELECTRICAL SERVICE ENTRANCE: PROVIDE METER SOCKET AND MAIN DISCONNECT MEETING APPLICABLE ELECTRIC CODES AND REQUIREMENTS OF POWER COMPANY. LIGHTNING AND VOLTAGE SURGE PROTECTION TO BE PROVIDED.COST FOR THE ELECTRICAL SERVICE AND COORDINATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
6. CONTROL PANEL: SHALL BE IN ACCORDANCE WITH SECTION 17 OF THE CITY CSM. PANEL SHALL BE EQUIPPED WITH THREE, 2" X 6" ALUMINUM NIPPLES TO THE SEALOFFS, WITH SCH 80 PVC TO WET WELL.
7. PAINT: INSIDE AND OUTSIDE OF VALVE VAULT SHALL BE PAINTED WITH TWO COATS OF MATERIAL IN ACCORDANCE WITH APPENDIX A, APPROVED MANUFACTURER LIST OF THE CITY CSM APPLIED AS PER MANUFACTURER'S RECOMMENDATIONS.
8. VALVE VAULT : PRECAST CONCRETE 60"x 84" (MINIMUM) INSIDE DIMENSIONS.
9. STEEL PLACED IN BOTTOM SLAB IS TO BE IDENTICAL TO THE TOP SLAB EXCEPT THAT DIAGONAL BARS AND OPENINGS ARE ELIMINATED. STEEL IS CONTINUOUS AND SLAB IS SOLID.
10. CONTRACTOR TO CONFIRM SERVICE ARRANGEMENTS WITH POWER COMPANY BEFORE COMMENCING WORK. CONTRACTOR TO RUN UNDERGROUND WIRING TO NEAREST TRANSFORMER OR HAND HOLE.
11. ALL FASTENERS ON FLANGES AND ETC. INSIDE WET WELL WILL BE STAINLESS STEEL.
12. DIMENSIONS BETWEEN CENTERLINE OF PIPES ARE STANDARD FOR PIPE SIZES SPECIFIED.
13. SHOP DRAWINGS OF ENTIRE INSTALLATION MUST BE APPROVED BY CITY PRIOR TO PLACEMENT OF ORDER.
14. PLUG VALVES SHALL BE CONSTRUCTED WITH RESILIENT FACED PLUGS. ON BY-PASS LINES, VALVES SHALL BE BURIED WITH ACCESS THROUGH CAST IRON VALVE BOXES. VALVES SHALL HAVE A 2" OPERATION NUT. ONE(1) 5' LONG VALVE WRENCH SHALL BE PROVIDED TO THE CITY OF TAVARES PER LIFT STATION. ALL PLUG VALVES 8" AND SMALLER SHALL BE 1/4 TURN TYPE.
15. ALL EXPOSED AND EMBEDDED CONDUITS TO BE SCHEDULE 80 PVC.
16. ALL EXPOSED METAL SHALL BE PAINTED WITH TWO (2) COATS OF EXTERIOR BLACK ENAMEL PAINT.
17. ALL EXTERNAL PIPING SHALL BE DUCTILE IRON CLASS 50 (FLANGED JOINT FOR EXPOSED PIPE & MECHANICAL JOINT FOR BURIED PIPE). ALL INTERNAL WET WELL PIPING FROM THE PUMP DISCHARGE ELBOW TO THE VALVE BOX SHALL BE MINIMUM SDR-11 HDPE.
18. ALL DIMENSIONS AND LOCATIONS OF UTILITIES TO BE FIELD VERIFIED BY CONTRACTOR.
19. PRESSURE GAUGES SHALL BE STAINLESS STEEL WITH STAINLESS STEEL DIAPHRAGM, LIQUID FILLED, 4" DIAMETER DIAL WITH 0-100 PSI RANGE. CHECK VALVES SHALL OUTSIDE LEVER AND WEIGHT.
20. PADLOCKS FOR ACCESS COVERS AND CONTROL PANEL SHALL BE KEYED ALIKE, FURNISH TWO (2) KEYS PER LOCK. BOLTS IN LOCKING DEVICE SHALL BE STAINLESS STEEL.
21. WET WELL TO BE H.D.P.E. LINED WITH A MINIMUM THICKNESS OF 2 MM, MECHANICALLY ANCHORED TO THE CONCRETE. ALL JOINTS SHALL BE EXTRUSION WELDED BY CERTIFIED WELDERS.
22. SOD ALL AREAS DISTURBED BY CONSTRUCTION.
23. ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE WILL REQUIRE SHOP COATING OF SUITABLE PROTECTIVE COATING TO RESIST CORROSION.
24. BYPASS PUMPING: CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BYPASS PUMPING. A BYPASS PUMPING PLAN SHALL BE SUBMITTED AT THE TIME OR PERMIT APPLICATION TO THE ENVIRONMENTAL SERVICES DIRECTOR. CITIZEN CONSIDERATION WILL BE REVIEWED WHEN BYPASS PUMPING EQUIPMENT IS REQUIRED. SOUND ATTENUATING ENCLOSURES MAY BE REQUIRED, AT THE DISCRETION OF THE ENVIRONMENTAL SERVICES DIRECTOR.
25. FIELD TESTING: THE CONTRACTOR SHALL FURNISH THE SERVICES OF THE SYSTEM SUPPLIER'S SERVICEMAN, ALL SPECIAL TOOLS, CALIBRATION EQUIPMENT, AND LABOR TO PERFORM THE TESTS. CERTIFIED COPIES OF THE TESTS SHALL BE FURNISHED IN DUPLICATE TO THE CITY ENGINEER PRIOR TO FINAL APPROVAL.
26. DRIVEWAY SHALL HAVE A MINIMUM WIDTH OF 12 FEET.

DATE: FEB 2022

DETAIL WW-11

Howey-in-the-Hills Standard Details

Item 3.

#	Date	Description
4	11/27/23	Town Comm
3	12/9/22	Town Comm
2	9/19/22	Town Comm
1	Date	Description

Revisions

Unroe Engineering, Inc
Civil Engineering/Planning/Scientific Evaluation
PO Box 690942, Orlando, Fl 32869-0942
Business Authorization Number - EB 00006579 ph (407) 299-0650

SANITARY SEWER LIFT STATION
WHISPERING HEIGHTS Subdivision
Buckhill Road, Howey-in-the-Hills, Florida

DP	Drawn
DP	Checked
----	Scale
09-07-21	Date
WH2-C19	File

Dwg. No.
C19
21 of 83

DARCY UNROE LICENSE No 60929 STATE OF FLORIDA PROFESSIONAL ENGINEER

Darcy Unroe PE 60929

THE OFFICE OF PUBLIC SAFETY SUPPORT
20415 Independence Blvd., Groveland, FL 34736

October 23, 2023

RE: Whispering Heights and Whispering Shores (AK 3564219 located in Howey in the Hills)
Extension for Subdivision Name Reservations

To whom it may concern,

We currently have the following Subdivision names reserved and have approved an extension of the reservation:

WHISPERING HEIGHTS
WHISPERING SHORES

The initial reservation that was made on April 13, 2022 has expired. Based on the recent request we will be renewing the above referenced Subdivision name reservations for 18 months, expiring on April 23, 2025.

Thank you,

Office of Public Safety Support – Addressing

addressing@lakecountyfl.gov
352-253-1818

THE OFFICE OF PUBLIC SAFETY SUPPORT
20415 Independence Blvd., Groveland, FL 34736

October 23, 2023

RE: Whispering Heights & Whispering Shores, AK 3564219 Howey in the Hills
Extension for Road Name Reservations

To whom it may concern,

We currently have the following street names reserved for the Whispering Heights & Whispering Shores Subdivision:

RED FIR STREET	OSPREY WING WAY	WHISPERING HEIGHTS AVENUE
PINES PASSAGE ROAD	BLACK CHERRY WAY	WHISPERING SHORES DRIVE

The initial reservation that was made on April 15, 2022 has expired. Based on the recent request we will be renewing the above referenced street name reservations for 18 months, expiring on April 23, 2025.

Thank you,

Office of Public Safety Support – Addressing

addressing@lakecountyfl.gov
352-253-1818

St. Johns River
Water Management District
Michael A. Register, P.E., Executive Director

4049 Reid Street • P.O. Box 1429 • Palatka, FL 32178-1429 • 386-329-4500 • www.sjrwmd.com

March 15, 2024

Clay Frankel
Red Jacket Development Group, LLC
625 Waltham Ave
Orlando, FL 32809-4205

SUBJECT: 102286-14
Whispering Hills

Dear Sir/Madam:

Enclosed is your individual permit issued by the St. Johns River Water Management District on March 15, 2024. This permit is a legal document and should be kept with your other important documents. Permit issuance does not relieve you from the responsibility of obtaining any necessary permits from any federal, state, or local agencies for your project.

Technical Staff Report:
If you wish to review a copy of the Technical Staff Report (TSR) that provides the District's staff analysis of your permit application, you may view the TSR by going to the Permitting section of the District's website at www.sjrwmd.com/permitting. Using the "search applications and permits" feature, you can use your permit number or project name to find information about the permit. When you see the results of your search, click on the permit number and then on the TSR folder.

Noticing Your Permit:
For noticing instructions, please refer to the noticing materials in this package regarding closing the point of entry for someone to challenge the issuance of your permit. Please note that if a timely petition for administrative hearing is filed, your permit will become non-final and any activities that you choose to undertake pursuant to your permit will be at your own risk. Please refer to the attached Notice of Rights to determine any legal rights you may have concerning the District's agency action.

Compliance with Permit Conditions:
To submit your required permit compliance information, go to the District's website at www.sjrwmd.com/permitting. Under the "Apply for a permit or submit compliance data" section, click to sign-in to your existing account or to create a new account. Select the "Compliance Submittal" tab, enter your permit number, and select "No Specific Date" for the Compliance Due Date Range. You will then be able to view all the compliance submittal requirements for your

GOVERNING BOARD

Rob Bradley, CHAIR FLEMING ISLAND
Maryam H. Ghyabi-White, VICE CHAIR ORMOND BEACH
J. Chris Peterson, SECRETARY WINTER PARK
Cole Oliver, TREASURER MERRITT ISLAND
Ryan Atwood MOUNT DORA
Doug Bournique VERO BEACH
Douglas Burnett ST. AUGUSTINE
Ron Howse COCOA
Janet Price FERNANDINA BEACH

project. Select the compliance item that you are ready to submit and then attach the appropriate information or form. The forms to comply with your permit conditions are available at www.sjrwmd.com/permitting under the section “Handbooks, forms, fees, final orders”. Click on forms to view all permit compliance forms, then scroll to the ERP application forms section and select the applicable compliance forms. Alternatively, if you have difficulty finding forms or need copies of the appropriate forms, please contact the Bureau of Regulatory Support at (386) 329-4570.

Transferring Your Permit:

Your permit requires you to notify the District within 30 days of any change in ownership or control of the project or activity covered by the permit, or within 30 days of any change in ownership or control of the real property on which the permitted project or activity is located or occurs. You will need to provide the District with the information specified in rule 62-330.340, Florida Administrative Code (F.A.C.). Generally, this will require you to complete and submit Form 62-330.340(1), “Request to Transfer Permit,” available at http://www.sjrwmd.com/permitting/permitforms.html.

Please note that a permittee is liable for compliance with the permit before the permit is transferred. The District, therefore, recommends that you request a permit transfer in advance in accordance with the applicable rules. You are encouraged to contact District staff for assistance with this process.

Thank you and please let us know if you have additional questions. For general questions contact e-permit@sjrwmd.com or (386) 329-4570.

Sincerely,

Michelle Reiber, Bureau Chief
Division of Regulatory Services
St. Johns River Water Management District
525 Community College Parkway, S.E.
Palm Bay, FL 32909
(321) 409-2129

Enclosures: Permit
Notice of Rights
List of Newspapers for Publication

cc: District Permit File

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
Post Office Box 1429
Palatka, Florida 32178-1429

PERMIT NO: 102286-14 **DATE ISSUED:** March 15, 2024

PROJECT NAME: Whispering Hills

A PERMIT AUTHORIZING:

Minor Modification of Permit No. 40-069-102286-10 for Whispering Hills to include a five-year extension of time for the construction and operation of a Stormwater Management System for a 51.61-acre project, as per plans received by the February 4, 2010.

LOCATION: Lake County
Section 36, Township 20 South, Range 25 East

RECEIVING WATERBODY: Little Lake Harris; Class III Fresh, IW

ISSUED TO:

Red Jacket Development Group, LLC
625 Waltham Avenue
Orlando, FL 32809-4205

The permittee agrees to hold and save the St. Johns River Water Management District and its successors harmless from any and all damages, claims, or liabilities which may arise from permit issuance. Said application, including all plans and specifications attached thereto, is by reference made a part hereof.

This permit does not convey to the permittee any property rights nor any rights or privileges other than those specified herein, nor relieve the permittee from complying with any law, regulation or requirement affecting the rights of other bodies or agencies. All structures and works installed by permittee hereunder shall remain the property of the permittee.

This permit may be revoked, modified or transferred at any time pursuant to the appropriate provisions of Chapter 373, Florida Statutes.

PERMIT IS CONDITIONED UPON:

See conditions on attached “Exhibit A”, dated March 15, 2024

AUTHORIZED BY: St. Johns River Water Management District
Division of Regulatory Services

By:

Sandra Joiner
Supervising Professional Engineer

"EXHIBIT A"
CONDITIONS FOR ISSUANCE OF PERMIT NUMBER 102286-14
Whispering Hills
Dated March 15, 2024

1. All activities shall be implemented following the plans, specifications and performance criteria approved by this permit. Any deviations must be authorized in a permit modification in accordance with Rule 62-330.315, F.A.C. Any deviations that are not so authorized may subject the permittee to enforcement action and revocation of the permit under Chapter 373, F.S.

2. A complete copy of this permit shall be kept at the work site of the permitted activity during the construction phase, and shall be available for review at the work site upon request by the District staff. The permittee shall require the contractor to review the complete permit prior to beginning construction.

3. Activities shall be conducted in a manner that does not cause or contribute to violations of state water quality standards. Performance-based erosion and sediment control best management practices shall be installed immediately prior to, and be maintained during and after construction as needed, to prevent adverse impacts to the water resources and adjacent lands. Such practices shall be in accordance with the State of Florida Erosion and Sediment Control Designer and Reviewer Manual (Florida Department of Environmental Protection and Florida Department of Transportation June 2007), and the Florida Stormwater Erosion and Sedimentation Control Inspector's Manual (Florida Department of Environmental Protection, Nonpoint Source Management Section, Tallahassee, Florida, July 2008), which are both incorporated by reference in subparagraph 62-330.050(9)(b)5, F.A.C., unless a project-specific erosion and sediment control plan is approved or other water quality control measures are required as part of the permit.

4. At least 48 hours prior to beginning the authorized activities, the permittee shall submit to the District a fully executed Form 62-330.350(1), "Construction Commencement Notice," (October 1, 2013) (http://www.flrules.org/Gateway/reference.asp?No=Ref-02505), incorporated by reference herein, indicating the expected start and completion dates. A copy of this form may be obtained from the District, as described in subsection 62-330.010(5), F.A.C., and shall be submitted electronically or by mail to the Agency. However, for activities involving more than one acre of construction that also require a NPDES stormwater construction general permit, submittal of the Notice of Intent to Use Generic Permit for Stormwater Discharge from Large and Small Construction Activities, DEP Form 62-621.300(4)(b), shall also serve as notice of commencement of construction under this chapter and, in such a case, submittal of Form 62-330.350(1) is not required.

5. Unless the permit is transferred under Rule 62-330.340, F.A.C., or transferred to an operating entity under Rule 62-330.310, F.A.C., the permittee is liable to comply with the plans, terms and conditions of the permit for the life of the project or activity.

6. Within 30 days after completing construction of the entire project, or any independent portion of the project, the permittee shall provide the following to the Agency, as applicable:

   a. For an individual, private single-family residential dwelling unit, duplex, triplex, or quadruplex — "Construction Completion and Inspection Certification for Activities Associated with a Private Single-Family Dwelling Unit" [Form 62-330.310(3)]; or

   b. For all other activities — "As-Built Certification and Request for Conversion to Operation Phase" [Form 62-330.310(1)].

   c. If available, an Agency website that fulfills this certification requirement may be used in lieu of the form.

7. If the final operation and maintenance entity is a third party:

   a. Prior to sales of any lot or unit served by the activity and within one year of permit issuance, or within 30 days of as-built certification, whichever comes first, the permittee shall submit, as applicable, a copy of the operation and maintenance documents (see sections 12.3 thru 12.3.4 of Volume I) as filed with the Florida Department of State, Division of Corporations and a copy of any easement, plat, or deed restriction needed to operate or maintain the project, as recorded with the Clerk of the Court in the County in which the activity is located.

   b. Within 30 days of submittal of the as- built certification, the permittee shall submit "Request for Transfer of Environmental Resource Permit to the Perpetual Operation and Maintenance Entity" [Form 62-330.310(2)] to transfer the permit to the operation and maintenance entity, along with the documentation requested in the form. If available, an Agency website that fulfills this transfer requirement may be used in lieu of the form.

8. The permittee shall notify the District in writing of changes required by any other regulatory District that require changes to the permitted activity, and any required modification of this permit must be obtained prior to implementing the changes.

9. This permit does not:

   a. Convey to the permittee any property rights or privileges, or any other rights or privileges other than those specified herein or in Chapter 62-330, F.A.C.;

   b. Convey to the permittee or create in the permittee any interest in real property;

   c. Relieve the permittee from the need to obtain and comply with any other required federal, state, and local authorization, law, rule, or ordinance; or

   d. Authorize any entrance upon or work on property that is not owned, held in easement, or controlled by the permittee.

10. Prior to conducting any activities on state-owned submerged lands or other lands of the state, title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund, the permittee must receive all necessary approvals and authorizations under Chapters 253 and 258, F.S. Written authorization that requires formal execution by the Board of Trustees of the Internal Improvement Trust Fund shall not be considered received until it has been fully executed.

11. The permittee shall hold and save the District harmless from any and all damages, claims, or liabilities that may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any project authorized by the permit.

12. The permittee shall notify the District in writing:

    a. Immediately if any previously submitted information is discovered to be inaccurate; and

    b. Within 30 days of any conveyance or division of ownership or control of the property or the system, other than conveyance via a long-term lease, and the new owner shall request transfer of the permit in accordance with Rule 62-330.340, F.A.C. This does not apply to the sale of lots or units in residential or commercial subdivisions or condominiums where the stormwater management system has been completed and converted to the operation phase.

13. Upon reasonable notice to the permittee, District staff with proper identification shall have permission to enter, inspect, sample and test the project or activities to ensure conformity with the plans and specifications authorized in the permit.

14. If prehistoric or historic artifacts, such as pottery or ceramics, projectile points, stone tools, dugout canoes, metal implements, historic building materials, or any other physical remains that could be associated with Native American, early European, or American settlement are encountered at any time within the project site area, the permitted project shall cease all activities involving subsurface disturbance in the vicinity of the discovery. The permittee or other designee shall contact the Florida Department of State, Division of Historical Resources, Compliance Review Section (DHR), at (850) 245-6333, as well as the appropriate permitting agency office. Project activities shall not resume without verbal or written authorization from the Division of Historical Resources. If unmarked human remains are encountered, all work shall stop immediately and the proper authorities notified in accordance with Section 872.05, F.S. For project activities subject to prior consultation with the DHR and as an alternative to the above requirements, the permittee may follow procedures for unanticipated discoveries as set forth within a cultural resources assessment survey determined complete and sufficient by DHR and included as a specific permit condition herein.

15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under Rule 62-330.201, F.A.C., provides otherwise.

16. The permittee shall provide routine maintenance of all components of the stormwater management system to remove trapped sediments and debris. Removed materials shall be disposed of in a landfill or other uplands in a manner that does not require a permit under Chapter 62-330, F.A.C., or cause violations of state water quality standards.

17. This permit is issued based on the applicant's submitted information that reasonably demonstrates that adverse water resource-related impacts will not be caused by the completed permit activity. If any adverse impacts result, the District will require the permittee to eliminate the cause, obtain any necessary permit modification, and take any necessary corrective actions to resolve the adverse impacts.

18. A Recorded Notice of Environmental Resource Permit may be recorded in the county public records in accordance with Rule 62-330.090(7), F.A.C. Such notice is not an encumbrance upon the property.

19. At a minimum, all retention and detention storage areas must be excavated to rough grade prior to building construction or placement of impervious surface within the area to be served by those facilities. To prevent reduction in storage volume and percolation rates, all accumulated sediment must be removed from the storage area prior to final grading and stabilization.

20. All wetland areas or water bodies that are outside the specific limits of construction authorized by this permit must be protected from erosion, siltation, scouring or excess turbidity, and dewatering.

21. This permit does not authorize the permittee to cause any adverse impact to or "take" of state listed species and other regulated species of fish and wildlife. Compliance with state laws regulating the take of fish and wildlife is the responsibility of the owner or applicant associated with this project. Please refer to Chapter 68A-27 of the Florida Administrative Code for definitions of "take" and a list of fish and wildlife species. If listed species are observed onsite, FWC staff are available to provide decision support information or assist in obtaining the appropriate FWC permits. Most marine endangered and threatened species are statutorily protected and a "take" permit cannot be issued. Requests for further information or review can be sent to FWCConservationPlanningServices@MyFWC.com.

22. This authorization to construct will expire on March 4, 2029.

23. The proposed surface water management system must be constructed and operated in accordance with the plans received by the District on February 4, 2010.

Notice Of Rights

1. A person whose substantial interests are or may be affected has the right to request an administrative hearing by filing a written petition with the St. Johns River Water Management District (District). Pursuant to Chapter 28-106 and Rule 40C-1.1007, Florida Administrative Code, the petition must be filed (received) either by delivery at the office of the District Clerk at District Headquarters, P. O. Box 1429, Palatka Florida 32178-1429 (4049 Reid St., Palatka, FL 32177) or by e-mail with the District Clerk at Clerk@sjrwmd.com, within twenty-six (26) days of the District depositing the notice of District decision in the mail (for those persons to whom the District mails actual notice), within twenty-one (21) days of the District emailing the notice of District decision (for those persons to whom the District emails actual notice), or within twenty-one (21) days of newspaper publication of the notice of District decision (for those persons to whom the District does not mail or email actual notice). A petition must comply with Sections 120.54(5)(b)4. and 120.569(2)(c), Florida Statutes, and Chapter 28-106, Florida Administrative Code. The District will not accept a petition sent by facsimile (fax), as explained in paragraph no. 4 below.

2. Please be advised that if you wish to dispute this District decision, mediation may be available and that choosing mediation does not affect your right to an administrative hearing. If you wish to request mediation, you must do so in a timely-filed petition. If all parties, including the District, agree to the details of the mediation procedure, in writing, within 10 days after the time period stated in the announcement for election of an administrative remedy under Sections 120.569 and 120.57, Florida Statutes, the time limitations imposed by Sections 120.569 and 120.57, Florida Statutes, shall be tolled to allow mediation of the disputed District decision. The mediation must be concluded within 60 days of the date of the parties' written agreement, or such other timeframe agreed to by the parties in writing. Any mediation agreement must include provisions for selecting a mediator, a statement that each party shall be responsible for paying its pro-rata share of the costs and fees associated with mediation, and the mediating parties' understanding regarding the confidentiality of discussions and documents introduced during mediation. If mediation results in settlement of the administrative dispute, the District will enter a final order consistent with the settlement agreement. If mediation terminates without settlement of the dispute, the District will notify all the parties in writing that the administrative hearing process under Sections 120.569 and 120.57, Florida Statutes, is resumed. Even if a party chooses not to engage in formal mediation, or if formal mediation does not result in a settlement agreement, the District will remain willing to engage in informal settlement discussions.

3. A person whose substantial interests are or may be affected has the right to an informal administrative hearing pursuant to Sections 120.569 and 120.57(2), Florida Statutes, where no material facts are in dispute. A petition for an informal hearing must also comply with the requirements set forth in Rule 28-106.301, Florida Administrative Code.

Notice Of Rights

4. A petition for an administrative hearing is deemed filed upon receipt of the complete petition by the District Clerk at the District Headquarters in Palatka, Florida during the District's regular business hours. The District's regular business hours are 8:00 a.m. – 5:00 p.m., excluding weekends and District holidays. Petitions received by the District Clerk after the District's regular business hours shall be deemed filed as of 8:00 a.m. on the District's next regular business day. The District's acceptance of petitions filed by e-mail is subject to certain conditions set forth in the District's Statement of Agency Organization and Operation (issued pursuant to Rule 28-101.001, Florida Administrative Code), which is available for viewing at *sjrwmd.com*. These conditions include, but are not limited to, the petition being in the form of a PDF or TIFF file and being capable of being stored and printed by the District. Further, pursuant to the District's Statement of Agency Organization and Operation, attempting to file a petition by facsimile is prohibited and shall not constitute filing.

5. Failure to file a petition for an administrative hearing within the requisite timeframe shall constitute a waiver of the right to an administrative hearing. (Rule 28-106.111, Florida Administrative Code).

6. The right to an administrative hearing and the relevant procedures to be followed are governed by Chapter 120, Florida Statutes, Chapter 28-106, Florida Administrative Code, and Rule 40C-1.1007, Florida Administrative Code. Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means the District's final action may be different from the position taken by it in this notice. A person whose substantial interests are or may be affected by the District's final action has the right to become a party to the proceeding, in accordance with the requirements set forth above.

7. Pursuant to Section 120.68, Florida Statutes, a party to the proceeding before the District who is adversely affected by final District action may seek review of the action in the District Court of Appeal by filing a notice of appeal pursuant to Rules 9.110 and 9.190, Florida Rules of Appellate Procedure, within 30 days of the rendering of the final District action.

8. A District action is considered rendered, as referred to in paragraph no. 7 above, after it is signed on behalf of the District and filed by the District Clerk.

9. Failure to observe the relevant timeframes for filing a petition for judicial review as described in paragraph no. 7 above will result in waiver of that right to review.

NOR.Decision.DOC.001
Revised 12.7.11

NOTICING INFORMATION

Please be advised that the St. Johns River Water Management District will not publish a notice in the newspaper advising the public that it has issued a permit for this project.

Newspaper publication, using the District's notice form, notifies members of the public of their right to challenge the issuance of the permit. If proper notice is given by newspaper publication, then there is a 21-day time limit for someone to file a petition for an administrative hearing to challenge the issuance of the permit.

To close the point of entry for filing a petition, you may publish (at your own expense) a one-time notice of the District's decision in a newspaper of general circulation within the affected area as defined in Section 50.011 of the Florida Statutes. If you do not publish a newspaper notice to close the point of entry, the time to challenge the issuance of your permit will not expire and someone could file a petition even after your project is constructed.

A copy of the notice form and a partial list of newspapers of general circulation are attached for your convenience. However, you are not limited to those listed newspapers. If you choose to close the point of entry and the notice is published, the newspaper will return to you an affidavit of publication. In that event, it is important that you either submit a scanned copy of the affidavit by emailing it to *compliancesupport@sjrwmd.com* (preferred method) **or** send a copy of the original affidavit to:

Office of Records and Regulatory Support
4049 Reid Street
Palatka, FL 32177

If you have any questions, please contact the Office of Records and Regulatory Support at (386) 329-4570.

NOTICE OF AGENCY ACTION TAKEN BY THE
ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

Notice is given that the following permit was issued on _____:

(Name and address of applicant) _____
permit#_____. The project is located in _____County, Section _____, Township _____ South, Range _____ East. The permit authorizes a surface water management system on _____ acres for _____ known as _____. The receiving water body is _____.

A person whose substantial interests are or may be affected has the right to request an administrative hearing by filing a written petition with the St. Johns River Water Management District (District). Pursuant to Chapter 28-106 and Rule 40C-1.1007, Florida Administrative Code (F.A.C.), the petition must be filed (received) either by delivery at the office of the District Clerk at District Headquarters, P.O. Box 1429, Palatka FL 32178-1429 (4049 Reid St, Palatka, FL 32177) or by e-mail with the District Clerk at Clerk@sjrwmd.com, within twenty-one (21) days of newspaper publication of the notice of District decision (for those persons to whom the District does not mail or email actual notice). A petition must comply with Sections 120.54(5)(b)4. and 120.569(2)(c), Florida Statutes (F.S.), and Chapter 28-106, F.A.C. The District will not accept a petition sent by facsimile (fax). Mediation pursuant to Section 120.573, F.S., may be available and choosing mediation does not affect your right to an administrative hearing.

A petition for an administrative hearing is deemed filed upon receipt of the complete petition by the District Clerk at the District Headquarters in Palatka, Florida during the District's regular business hours. The District's regular business hours are 8 a.m. – 5 p.m., excluding weekends and District holidays. Petitions received by the District Clerk after the District's regular business hours shall be deemed filed as of 8 a.m. on the District's next regular business day. The District's acceptance of petitions filed by e-mail is subject to certain conditions set forth in the District's Statement of Agency Organization and Operation (issued pursuant to Rule 28-101.001, Florida Administrative Code), which is available for viewing at www.sjrwmd.com. These conditions include, but are not limited to, the petition being in the form of a PDF or TIFF file and being capable of being stored and printed by the District. Further, pursuant to the District's Statement of Agency Organization and Operation, attempting to file a petition by facsimile (fax) is prohibited and shall not constitute filing.

The right to an administrative hearing and the relevant procedures to be followed are governed by Chapter 120, Florida Statutes, Chapter 28-106, Florida Administrative Code, and Rule 40C-1.1007, Florida Administrative Code. Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means the District's final action may be different from the position taken by it in this notice. **Failure to file a petition for an administrative hearing within the requisite time frame shall constitute a waiver of the right to an administrative hearing. (Rule 28-106.111, F.A.C.).**

If you wish to do so, please visit http://www.sjrwmd.com/nor_dec/ to read the complete Notice of Rights to determine any legal rights you may have concerning the District's decision(s) on the permit application(s) described above. You can also request the Notice of Rights by contacting the Director of Office of Records and Regulatory Support, 4049 Reid St., Palatka, FL 32177-2529, tele. no. (386)329-4570.

NEWSPAPER ADVERTISING

ALACHUA
Gainesville Sun, Legal Advertising
2700 SW 13th Street
Gainesville, FL 32608
866-858-9652

BAKER
Baker County Press, Legal Advertising
P. O. Box 598
Maclenny, FL 3206 3
904-259-2400/ fax 904-259-6502

BRADFORD
Bradford County Telegraph, Legal Advertising
P. O. Drawer A
Starke, FL 32901
904-964-6305/ fax 904-964-8628

BREVARD
Florida Today, Legal Advertising
P. O. Box 419000
Melbourne, FL 32941-9000
321-242-3832/ fax 321-242-6618

CLAY
Clay Today, Legal Advertising
1560 Kinsley Ave., Suite 1
Orange Park, FL 32073
904-264-3200/ fax 904-264-3285

DUVAL
Daily Record, Legal Advertising
P. O. Box 1769
Jacksonville, FL 32201
904-356-2466 / fax 904-353-2628

FLAGLER
Flagler Tribune, c/o News Journal
P. O. Box 2831
Daytona Beach, FL 32120-2831
386- 681-2322

INDIAN RIVER
Treasure Coast News
760 NW Enterprise Dr.
Port St. Lucie, FL 34986
772-283-5252

LAKE
Daily Commercial, Legal Advertising
P. O. Drawer 490007
Leesburg, FL 34749
352-365-8235/fax 352-365-1951

MARION
Ocala Star Banner, Legal Advertising
2121 SW 19th Avenue Road
Ocala, FL 34474
352-867-4010/fax 352-867-4126

NASSAU
News-Leader, Legal Advertising
P. O. Box 766
Fernandina Beach, FL 32035
904-261-3696/fax 904-261-3698

OKEECHOBEE
Okeechobee News, Legal Advertising
P. O. Box 639
Okeechobee, FL 34973-0639
863-763-3134/fax 863-763-5901

ORANGE
Sentinel Communications, Legal Advertising
633 N. Orange Avenue
Orlando, FL 32801
407-420-5160/ fax 407-420-5011

OSCEOLA
Little Sentinel, Legal Advertising
633 N. Orange Avenue
Orlando, FL 32801
407-420-5160/ fax 407-420-5011

PUTNAM
Palatka Daily News, Legal Advertising
P. O. Box 777
Palatka, FL 32178
386-312-5200/ fax 386-312-5209

ST. JOHNS
St. Augustine Record, Legal Advertising
P. O. Box 1630
St. Augustine, FL 32085
904-819-3439

SEMINOLE
Sanford Herald, Legal Advertising
300 North French Avenue
Sanford, FL 32771
407-323-9408

VOLUSIA
News Journal Corporation, Legal Advertising
P. O. Box 2831
Daytona Beach, FL 32120-2831
(386) 681-2322

St. Johns River
Water Management District
Ann B. Shortelle, Ph.D., Executive Director

4049 Reid Street • P.O. Box 1429 • Palatka, FL 32178-1429 • 386-329-4500
On the internet at www.sjrwmd.com.

March 06, 2019

Clay Frankel
Red Jacket Development Group, LLC
625 Waltham Ave
Orlando, FL 32809-4205

SUBJECT: 102286-10
Whispering Hills

Dear Sir/Madam:

Enclosed is your individual permit issued by the St. Johns River Water Management District on March 06, 2019. This permit is a legal document and should be kept with your other important documents. Permit issuance does not relieve you from the responsibility of obtaining any necessary permits from any federal, state, or local agencies for your project.

Technical Staff Report:
If you wish to review a copy of the Technical Staff Report (TSR) that provides the District's staff analysis of your permit application, you may view the TSR by going to the Permitting section of the District's website at www.sjrwmd.com/permitting. Using the "search applications and permits" feature, you can use your permit number or project name to find information about the permit. When you see the results of your search, click on the permit number and then on the TSR folder.

Noticing Your Permit:
For noticing instructions, please refer to the noticing materials in this package regarding closing the point of entry for someone to challenge the issuance of your permit. Please note that if a timely petition for administrative hearing is filed, your permit will become non-final and any activities that you choose to undertake pursuant to your permit will be at your own risk.

Compliance with Permit Conditions:
To submit your required permit compliance information, go to the District's website at www.sjrwmd.com/permitting. Under the "Apply for a permit or submit compliance data" section, click to sign-in to your existing account or to create a new account. Select the "Compliance Submittal" tab, enter your permit number, and select "No Specific Date" for the Compliance Due Date Range. You will then be able to view all the compliance submittal requirements for your project. Select the compliance item that you are ready to submit and then attach the appropriate information or form. The forms to comply with your permit conditions are available at www.sjrwmd.com/permitting under the section "Handbooks, forms, fees, final orders". Click on forms to view all permit compliance forms, then scroll to the ERP application forms section and select the applicable compliance forms. Alternatively, if you have difficulty finding forms or need copies of the appropriate forms, please contact the Bureau of Regulatory Support at (386) 329-4570.

GOVERNING BOARD

John A. Miklos, CHAIRMAN ORLANDO
Fred N. Roberts Jr., VICE CHAIRMAN OCALA
Chuck Drake, SECRETARY ORLANDO
Ron Howse, TREASURER COCOA
Douglas C. Bournique VERO BEACH
Douglas Burnett ST. AUGUSTINE
Susan Dolan SANFORD
Janet Price FERNANDINA BEACH
Allan Roberts ST. AUGUSTINE

Transferring Your Permit:
Your permit requires you to notify the District within 30 days of any change in ownership or control of the project or activity covered by the permit, or within 30 days of any change in ownership or control of the real property on which the permitted project or activity is located or occurs. You will need to provide the District with the information specified in rule 62-330.340, Florida Administrative Code (F.A.C.). Generally, this will require you to complete and submit Form 62-330.340(1), "Request to Transfer Permit," available at http://www.sjrwmd.com/permitting/permitforms.html.

Please note that a permittee is liable for compliance with the permit before the permit is transferred. The District, therefore, recommends that you request a permit transfer in advance in accordance with the applicable rules. You are encouraged to contact District staff for assistance with this process.

Thank you and please let us know if you have additional questions. For general questions contact e-permit@sjrwmd.com or (386) 329-4570.

Sincerely,

Michelle Reiber

Michelle Reiber, Bureau Chief
Regulatory Services
St. Johns River Water Management District
525 Community College Parkway, S.E.
Palm Bay, FL 32909
(321) 409-2129

Enclosures: Permit

cc: District Permit File

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
Post Office Box 1429
Palatka, Florida 32178-1429

PERMIT NO: 102286-10 **DATE ISSUED:** March 06, 2019

PROJECT NAME: Whispering Hills

A PERMIT AUTHORIZING:
Minor Modification of Permit No. 40-069-102286-8 for Whispering Hills to include a five-year extension of time for the construction and operation of a Stormwater Management System for a 51.61-acre project, as per plans received by the February 4, 2010.

LOCATION:
Section(s): 36 Township(s): 20S Range(s): 25E
Lake County

Receiving Water Body:

Name	Class
Little Lake Harris	III Fresh, IW

ISSUED TO:
Red Jacket Development Group, LLC
625 Waltham Ave
Orlando, FL 32809-4205

The permittee agrees to hold and save the St. Johns River Water Management District and its successors harmless from any and all damages, claims, or liabilities which may arise from permit issuance. Said application, including all plans and specifications attached thereto, is by reference made a part hereof.

This permit does not convey to the permittee any property rights nor any rights or privileges other than those specified herein, nor relieve the permittee from complying with any law, regulation or requirement affecting the rights of other bodies or agencies. All structures and works installed by permittee hereunder shall remain the property of the permittee.

This permit may be revoked, modified or transferred at any time pursuant to the appropriate provisions of Chapter 373, Florida Statutes.

PERMIT IS CONDITIONED UPON:
See conditions on attached "Exhibit A", dated March 06, 2019

AUTHORIZED BY: St. Johns River Water Management District
Division of Regulatory Services

By: Marjorie D. Cook

Marjorie Cook
Supervising Professional Engineer

"EXHIBIT A"
CONDITIONS FOR ISSUANCE OF PERMIT NUMBER 102286-10
Whispering Hills
DATED March 06, 2019

1. All activities shall be implemented following the plans, specifications and performance criteria approved by this permit. Any deviations must be authorized in a permit modification in accordance with Rule 62-330.315, F.A.C. Any deviations that are not so authorized may subject the permittee to enforcement action and revocation of the permit under Chapter 373, F.S.

2. A complete copy of this permit shall be kept at the work site of the permitted activity during the construction phase, and shall be available for review at the work site upon request by the District staff. The permittee shall require the contractor to review the complete permit prior to beginning construction.

3. Activities shall be conducted in a manner that does not cause or contribute to violations of state water quality standards. Performance-based erosion and sediment control best management practices shall be installed immediately prior to, and be maintained during and after construction as needed, to prevent adverse impacts to the water resources and adjacent lands. Such practices shall be in accordance with the State of Florida Erosion and Sediment Control Designer and Reviewer Manual (Florida Department of Environmental Protection and Florida Department of Transportation June 2007), and the Florida Stormwater Erosion and Sedimentation Control Inspector's Manual (Florida Department of Environmental Protection, Nonpoint Source Management Section, Tallahassee, Florida, July 2008), which are both incorporated by reference in subparagraph 62-330.050(9)(b)5, F.A.C., unless a project-specific erosion and sediment control plan is approved or other water quality control measures are required as part of the permit.

4. At least 48 hours prior to beginning the authorized activities, the permittee shall submit to the District a fully executed Form 62-330.350(1), "Construction Commencement Notice," (October 1, 2013) (http://www.flrules.org/Gateway/reference.asp?No=Ref-02505), incorporated by reference herein, indicating the expected start and completion dates. A copy of this form may be obtained from the District, as described in subsection 62-330.010(5), F.A.C., and shall be submitted electronically or by mail to the Agency. However, for activities involving more than one acre of construction that also require a NPDES stormwater construction general permit, submittal of the Notice of Intent to Use Generic Permit for Stormwater Discharge from Large and Small Construction Activities, DEP Form 62-621.300(4)(b), shall also serve as notice of commencement of construction under this chapter and, in such a case, submittal of Form 62-330.350(1) is not required.

5. Unless the permit is transferred under Rule 62-330.340, F.A.C., or transferred to an operating entity under Rule 62-330.310, F.A.C., the permittee is liable to comply with the plans, terms and conditions of the permit for the life of the project or activity.

6. Within 30 days after completing construction of the entire project, or any independent portion of the project, the permittee shall provide the following to the Agency, as applicable:

   a. For an individual, private single-family residential dwelling unit, duplex, triplex, or quadruplex — "Construction Completion and Inspection Certification for Activities Associated with a Private Single-Family Dwelling Unit" [Form 62-330.310(3)]; or

   b. For all other activities — "As-Built Certification and Request for Conversion to Operation Phase" [Form 62-330.310(1)].

c. If available, an Agency website that fulfills this certification requirement may be used in lieu of the form.

7. If the final operation and maintenance entity is a third party:

   a. Prior to sales of any lot or unit served by the activity and within one year of permit issuance, or within 30 days of as-built certification, whichever comes first, the permittee shall submit, as applicable, a copy of the operation and maintenance documents (see sections 12.3 thru 12.3.4 of Volume I) as filed with the Florida Department of State, Division of Corporations and a copy of any easement, plat, or deed restriction needed to operate or maintain the project, as recorded with the Clerk of the Court in the County in which the activity is located.

   b. Within 30 days of submittal of the as- built certification, the permittee shall submit "Request for Transfer of Environmental Resource Permit to the Perpetual Operation and Maintenance Entity" [Form 62-330.310(2)] to transfer the permit to the operation and maintenance entity, along with the documentation requested in the form. If available, an Agency website that fulfills this transfer requirement may be used in lieu of the form.

8. The permittee shall notify the District in writing of changes required by any other regulatory District that require changes to the permitted activity, and any required modification of this permit must be obtained prior to implementing the changes.

9. This permit does not:

   a. Convey to the permittee any property rights or privileges, or any other rights or privileges other than those specified herein or in Chapter 62-330, F.A.C.;

   b. Convey to the permittee or create in the permittee any interest in real property;

   c. Relieve the permittee from the need to obtain and comply with any other required federal, state, and local authorization, law, rule, or ordinance; or

   d. Authorize any entrance upon or work on property that is not owned, held in easement, or controlled by the permittee.

10. Prior to conducting any activities on state-owned submerged lands or other lands of the state, title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund, the permittee must receive all necessary approvals and authorizations under Chapters 253 and 258, F.S. Written authorization that requires formal execution by the Board of Trustees of the Internal Improvement Trust Fund shall not be considered received until it has been fully executed.

11. The permittee shall hold and save the District harmless from any and all damages, claims, or liabilities that may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any project authorized by the permit.

12. The permittee shall notify the District in writing:

    a. Immediately if any previously submitted information is discovered to be inaccurate; and

    b. Within 30 days of any conveyance or division of ownership or control of the property or the system, other than conveyance via a long-term lease, and the new owner shall

request transfer of the permit in accordance with Rule 62-330.340, F.A.C. This does not apply to the sale of lots or units in residential or commercial subdivisions or condominiums where the stormwater management system has been completed and converted to the operation phase.

13. Upon reasonable notice to the permittee, District staff with proper identification shall have permission to enter, inspect, sample and test the project or activities to ensure conformity with the plans and specifications authorized in the permit.

14. If prehistoric or historic artifacts, such as pottery or ceramics, projectile points, stone tools, dugout canoes, metal implements, historic building materials, or any other physical remains that could be associated with Native American, early European, or American settlement are encountered at any time within the project site area, the permitted project shall cease all activities involving subsurface disturbance in the vicinity of the discovery. The permittee or other designee shall contact the Florida Department of State, Division of Historical Resources, Compliance Review Section (DHR), at (850) 245-6333, as well as the appropriate permitting agency office. Project activities shall not resume without verbal or written authorization from the Division of Historical Resources. If unmarked human remains are encountered, all work shall stop immediately and the proper authorities notified in accordance with Section 872.05, F.S. For project activities subject to prior consultation with the DHR and as an alternative to the above requirements, the permittee may follow procedures for unanticipated discoveries as set forth within a cultural resources assessment survey determined complete and sufficient by DHR and included as a specific permit condition herein.

15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under Rule 62-330.201, F.A.C., provides otherwise.

16. The permittee shall provide routine maintenance of all components of the stormwater management system to remove trapped sediments and debris. Removed materials shall be disposed of in a landfill or other uplands in a manner that does not require a permit under Chapter 62-330, F.A.C., or cause violations of state water quality standards.

17. This permit is issued based on the applicant's submitted information that reasonably demonstrates that adverse water resource-related impacts will not be caused by the completed permit activity. If any adverse impacts result, the District will require the permittee to eliminate the cause, obtain any necessary permit modification, and take any necessary corrective actions to resolve the adverse impacts.

18. A Recorded Notice of Environmental Resource Permit may be recorded in the county public records in accordance with Rule 62-330.090(7), F.A.C. Such notice is not an encumbrance upon the property.

19. At a minimum, all retention and detention storage areas must be excavated to rough grade prior to building construction or placement of impervious surface within the area to be served by those facilities. To prevent reduction in storage volume and percolation rates, all accumulated sediment must be removed from the storage area prior to final grading and stabilization.

20. All wetland areas or water bodies that are outside the specific limits of construction authorized by this permit must be protected from erosion, siltation, scouring or excess turbidity, and dewatering.

21. The operation and maintenance entity shall submit inspection reports to the District one year after the operation phase of the permit becomes effective and every two years thereafter on form 62-330.331(1), "Operation and Maintenance Inspection Certification". The inspection form must be signed and sealed by an appropriate registered professional.

22. The proposed surface water management system must be constructed and operated in accordance with the plans received by the District on February 4, 2010.

23. This permit for construction will expire on March 4, 2024.

Notice Of Rights

1. A person whose substantial interests are or may be affected has the right to request an administrative hearing by filing a written petition with the St. Johns River Water Management District (District). Pursuant to Chapter 28-106 and Rule 40C-1.1007, Florida Administrative Code, the petition must be filed (received) either by delivery at the office of the District Clerk at District Headquarters, P. O. Box 1429, Palatka Florida 32178-1429 (4049 Reid St., Palatka, FL 32177) or by e-mail with the District Clerk at Clerk@sjrwmd.com, within twenty-six (26) days of the District depositing the notice of District decision in the mail (for those persons to whom the District mails actual notice), within twenty-one (21) days of the District emailing the notice of District decision (for those persons to whom the District emails actual notice), or within twenty-one (21) days of newspaper publication of the notice of District decision (for those persons to whom the District does not mail or email actual notice). A petition must comply with Sections 120.54(5)(b)4. and 120.569(2)(c), Florida Statutes, and Chapter 28-106, Florida Administrative Code. The District will not accept a petition sent by facsimile (fax), as explained in paragraph no. 4 below.

2. Please be advised that if you wish to dispute this District decision, mediation may be available and that choosing mediation does not affect your right to an administrative hearing. If you wish to request mediation, you must do so in a timely-filed petition. If all parties, including the District, agree to the details of the mediation procedure, in writing, within 10 days after the time period stated in the announcement for election of an administrative remedy under Sections 120.569 and 120.57, Florida Statutes, the time limitations imposed by Sections 120.569 and 120.57, Florida Statutes, shall be tolled to allow mediation of the disputed District decision. The mediation must be concluded within 60 days of the date of the parties' written agreement, or such other timeframe agreed to by the parties in writing. Any mediation agreement must include provisions for selecting a mediator, a statement that each party shall be responsible for paying its pro-rata share of the costs and fees associated with mediation, and the mediating parties' understanding regarding the confidentiality of discussions and documents introduced during mediation. If mediation results in settlement of the administrative dispute, the District will enter a final order consistent with the settlement agreement. If mediation terminates without settlement of the dispute, the District will notify all the parties in writing that the administrative hearing process under Sections 120.569 and 120.57, Florida Statutes, is resumed. Even if a party chooses not to engage in formal mediation, or if formal mediation does not result in a settlement agreement, the District will remain willing to engage in informal settlement discussions.

3. A person whose substantial interests are or may be affected has the right to an informal administrative hearing pursuant to Sections 120.569 and 120.57(2), Florida Statutes, where no material facts are in dispute. A petition for an informal hearing must also comply with the requirements set forth in Rule 28-106.301, Florida Administrative Code.

4. A petition for an administrative hearing is deemed filed upon receipt of the complete petition by the District Clerk at the District Headquarters in Palatka, Florida during the District's regular business hours. The District's regular business hours are 8:00 a.m. – 5:00 p.m., excluding weekends and District holidays. Petitions received by the District Clerk after the District's regular business hours shall be deemed filed as of 8:00 a.m. on the District's next regular business day. The District's acceptance of petitions filed by e-mail is subject to certain conditions set forth in the District's Statement of Agency Organization and Operation (issued pursuant to Rule 28-101.001, Florida Administrative Code), which is available for viewing at *sjrwmd.com*. These conditions include, but are not limited to, the petition being in the form of a PDF or TIFF file and being capable of being stored and printed by the District. Further, pursuant to the District's Statement of Agency Organization and Operation, attempting to file a petition by facsimile is prohibited and shall not constitute filing.

5. Failure to file a petition for an administrative hearing within the requisite timeframe shall constitute a waiver of the right to an administrative hearing. (Rule 28-106.111, Florida Administrative Code).

6. The right to an administrative hearing and the relevant procedures to be followed are governed by Chapter 120, Florida Statutes, Chapter 28-106, Florida Administrative Code, and Rule 40C-1.1007, Florida Administrative Code. Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means the District's final action may be different from the position taken by it in this notice. A person whose substantial interests are or may be affected by the District's final action has the right to become a party to the proceeding, in accordance with the requirements set forth above.

7. Pursuant to Section 120.68, Florida Statutes, a party to the proceeding before the District who is adversely affected by final District action may seek review of the action in the District Court of Appeal by filing a notice of appeal pursuant to Rules 9.110 and 9.190, Florida Rules of Appellate Procedure, within 30 days of the rendering of the final District action.

8. A District action is considered rendered, as referred to in paragraph no. 7 above, after it is signed on behalf of the District and filed by the District Clerk.

9. Failure to observe the relevant timeframes for filing a petition for judicial review as described in paragraph no. 7 above will result in waiver of that right to review.

NOR.Decision.DOC.001
Revised 12.7.11

Notice Of Rights

Certificate of Service

I HEREBY CERTIFY that a copy of the foregoing Notice of Rights has been sent to the permittee:

Clay Frankel
Red Jacket Development Group, LLC
625 Waltham Ave
Orlando, FL 32809-4205

This 6th day of March, 2019.

M. Daniels

Margaret Daniels, Office Director
Office of Business and Administrative Services
St. Johns River Water Management District
4049 Reid Street
Palatka, FL 32177-2529
(386) 329-4570

Permit Number: 102286-10

NOTICING INFORMATION

Dear Permittee:

Please be advised that the St. Johns River Water Management District will not publish a notice in the newspaper advising the public that it has issued a permit for this project.

Newspaper publication, using the District's notice form, notifies members of the public of their right to challenge the issuance of the permit. If proper notice is given by newspaper publication, then there is a 21-day time limit for someone to file a petition for an administrative hearing to challenge the issuance of the permit.

To close the point of entry for filing a petition, you may publish (at your own expense) a one-time notice of the District's decision in a newspaper of general circulation within the affected area as defined in Section 50.011 of the Florida Statutes. If you do not publish a newspaper notice to close the point of entry, the time to challenge the issuance of your permit will not expire and someone could file a petition even after your project is constructed.

A copy of the notice form and a partial list of newspapers of general circulation are attached for your convenience. However, you are not limited to those listed newspapers. If you choose to close the point of entry and the notice is published, the newspaper will return to you an affidavit of publication. In that event, it is important that you either submit a scanned copy of the affidavit by emailing it to *compliancesupport@sjrwmd.com* (preferred method) **or** send a copy of the original affidavit to:

Margaret Daniels, Office Director
Office of Business and Administrative Services
4049 Reid Street
Palatka, FL 32177

If you have any questions, please contact the Office of Business and Administrative Services at (386) 329-4570.

Sincerely,

M. Daniels

Margaret Daniels, Office Director
Office of Business and Administrative Services

NOTICE OF AGENCY ACTION TAKEN BY THE
ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

Notice is given that the following permit was issued on _____:

(Name and address of applicant)_____
permit#_____. The project is located in _____County, Section _____, Township _____ South, Range _____ East. The permit authorizes a surface water management system on _____ acres for _____ known as _____. The receiving water body is _____.

A person whose substantial interests are or may be affected has the right to request an administrative hearing by filing a written petition with the St. Johns River Water Management District (District). Pursuant to Chapter 28-106 and Rule 40C-1.1007, Florida Administrative Code (F.A.C.), the petition must be filed (received) either by delivery at the office of the District Clerk at District Headquarters, P.O. Box 1429, Palatka FL 32178-1429 (4049 Reid St, Palatka, FL 32177) or by e-mail with the District Clerk at Clerk@sjrwmd.com, within twenty-one (21) days of newspaper publication of the notice of District decision (for those persons to whom the District does not mail or email actual notice). A petition must comply with Sections 120.54(5)(b)4. and 120.569(2)(c), Florida Statutes (F.S.), and Chapter 28-106, F.A.C. The District will not accept a petition sent by facsimile (fax). Mediation pursuant to Section 120.573, F.S., may be available and choosing mediation does not affect your right to an administrative hearing.

A petition for an administrative hearing is deemed filed upon receipt of the complete petition by the District Clerk at the District Headquarters in Palatka, Florida during the District's regular business hours. The District's regular business hours are 8 a.m. – 5 p.m., excluding weekends and District holidays. Petitions received by the District Clerk after the District's regular business hours shall be deemed filed as of 8 a.m. on the District's next regular business day. The District's acceptance of petitions filed by e-mail is subject to certain conditions set forth in the District's Statement of Agency Organization and Operation (issued pursuant to Rule 28-101.001, Florida Administrative Code), which is available for viewing at www.sjrwmd.com. These conditions include, but are not limited to, the petition being in the form of a PDF or TIFF file and being capable of being stored and printed by the District. Further, pursuant to the District's Statement of Agency Organization and Operation, attempting to file a petition by facsimile (fax) is prohibited and shall not constitute filing.

The right to an administrative hearing and the relevant procedures to be followed are governed by Chapter 120, Florida Statutes, Chapter 28-106, Florida Administrative Code, and Rule 40C-1.1007, Florida Administrative Code. Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means the District's final action may be different from the position taken by it in this notice. **Failure to file a petition for an administrative hearing within the requisite time frame shall constitute a waiver of the right to an administrative hearing. (Rule 28-106.111, F.A.C.).**

If you wish to do so, please visit http://www.sjrwmd.com/nor_dec/ to read the complete Notice of Rights to determine any legal rights you may have concerning the District's decision(s) on the permit application(s) described above. You can also request the Notice of Rights by contacting the Director of Business and Administrative Services, 4049 Reid St., Palatka, FL 32177-2529, tele. no. (386)329-4570.

NEWSPAPER ADVERTISING

ALACHUA
The Alachua County Record, Legal Advertising
P. O. Box 806
Gainesville, FL 32602
352-377-2444/ fax 352-338-1986

BAKER
Baker County Press, Legal Advertising
P. O. Box 598
Maclenny, FL 32063
904-259-2400/ fax 904-259-6502

BRADFORD
Bradford County Telegraph, Legal Advertising
P. O. Drawer A
Starke, FL 32901
904-964-6305/ fax 904-964-8628

BREVARD
Florida Today, Legal Advertising
P. O. Box 419000
Melbourne, FL 32941-9000
321-242-3832/ fax 321-242-6618

CLAY
Clay Today, Legal Advertising
1560 Kinsley Ave., Suite 1
Orange Park, FL 32073
904-264-3200/ fax 904-264-3285

DUVAL
Daily Record, Legal Advertising
P. O. Box 1769
Jacksonville, FL 32201
904-356-2466 / fax 904-353-2628

FLAGLER
Flagler Tribune, c/o News Journal
P. O. Box 2831
Daytona Beach, FL 32120-2831
386- 681-2322

INDIAN RIVER
Vero Beach Press Journal, Legal Advertising
P. O. Box 1268
Vero Beach, FL 32961-1268
772-221-4282/ fax 772-978-2340

LAKE
Daily Commercial, Legal Advertising
P. O. Drawer 490007
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352-365-8235/fax 352-365-1951

MARION
Ocala Star Banner, Legal Advertising
2121 SW 19th Avenue Road
Ocala, FL 34474
352-867-4010/fax 352-867-4126

NASSAU
News-Leader, Legal Advertising
P. O. Box 766
Fernandina Beach, FL 32035
904-261-3696/fax 904-261-3698

OKEECHOBEE
Okeechobee News, Legal Advertising
P. O. Box 639
Okeechobee, FL 34973-0639
863-763-3134/fax 863-763-5901

ORANGE
Sentinel Communications, Legal Advertising
633 N. Orange Avenue
Orlando, FL 32801
407-420-5160/ fax 407-420-5011

OSCEOLA
Little Sentinel, Legal Advertising
633 N. Orange Avenue
Orlando, FL 32801
407-420-5160/ fax 407-420-5011

PUTNAM
Palatka Daily News, Legal Advertising
P. O. Box 777
Palatka, FL 32178
386-312-5200/ fax 386-312-5209

ST. JOHNS
St. Augustine Record, Legal Advertising
P. O. Box 1630
St. Augustine, FL 32085
904-819-3436

SEMINOLE
Seminole Herald, Legal Advertising
300 North French Avenue
Sanford, FL 32771
407-323-9408

VOLUSIA
News Journal Corporation, Legal Advertising
P. O. Box 2831
Daytona Beach, FL 32120-2831
(386) 681-2322

St. Johns River Water Management District
Michael A. Register, P.E., Executive Director

4049 Reid Street • P.O. Box 1429 • Palatka, FL 32178-1429 • 386-329-4500 • www.sjrwmd.com

September 26, 2022

Clay Frankel
Red Jacket Development Group
625 Waltham Ave
Orlando, FL 32809-4205

SUBJECT: 102286-13
Whispering Shores - Permit Extension

Dear Sir/Madam:

Enclosed is your individual permit issued by the St. Johns River Water Management District on September 26, 2022. This permit is a legal document and should be kept with your other important documents. Permit issuance does not relieve you from the responsibility of obtaining any necessary permits from any federal, state, or local agencies for your project.

Technical Staff Report:
If you wish to review a copy of the Technical Staff Report (TSR) that provides the District's staff analysis of your permit application, you may view the TSR by going to the Permitting section of the District's website at www.sjrwmd.com/permitting. Using the "search applications and permits" feature, you can use your permit number or project name to find information about the permit. When you see the results of your search, click on the permit number and then on the TSR folder.

Noticing Your Permit:
For noticing instructions, please refer to the noticing materials in this package regarding closing the point of entry for someone to challenge the issuance of your permit. Please note that if a timely petition for administrative hearing is filed, your permit will become non-final and any activities that you choose to undertake pursuant to your permit will be at your own risk. Please refer to the attached Notice of Rights to determine any legal rights you may have concerning the District's agency action.

Compliance with Permit Conditions:
To submit your required permit compliance information, go to the District's website at www.sjrwmd.com/permitting. Under the "Apply for a permit or submit compliance data" section, click to sign-in to your existing account or to create a new account. Select the "Compliance Submittal" tab, enter your permit number, and select "No Specific Date" for the Compliance Due Date Range. You will then be able to view all the compliance submittal requirements for your project. Select the compliance item that you are ready to submit and then attach the appropriate information or form. The forms to comply with your permit conditions are available at www.sjrwmd.com/permitting under the section "Handbooks, forms, fees, final orders". Click on forms to view all permit compliance forms, then scroll to the ERP application forms section and

GOVERNING BOARD

Rob Bradley, CHAIR FLEMING ISLAND
Maryam H. Ghyabi-White, VICE CHAIR ORMOND BEACH
J. Chris Peterson, SECRETARY WINTER PARK
Ron Howse, TREASURER COCOA
Ryan Atwood MOUNT DORA
Doug Bournique VERO BEACH
Douglas Burnett ST. AUGUSTINE
Cole Oliver MERRITT ISLAND
Janet Price FERNANDINA BEACH

select the applicable compliance forms. Alternatively, if you have difficulty finding forms or need copies of the appropriate forms, please contact the Bureau of Regulatory Support at (386) 329-4570.

Transferring Your Permit:

Your permit requires you to notify the District within 30 days of any change in ownership or control of the project or activity covered by the permit, or within 30 days of any change in ownership or control of the real property on which the permitted project or activity is located or occurs. You will need to provide the District with the information specified in rule 62-330.340, Florida Administrative Code (F.A.C.). Generally, this will require you to complete and submit Form 62-330.340(1), "Request to Transfer Permit," available at http://www.sjrwmd.com/permitting/permitforms.html.

Please note that a permittee is liable for compliance with the permit before the permit is transferred. The District, therefore, recommends that you request a permit transfer in advance in accordance with the applicable rules. You are encouraged to contact District staff for assistance with this process.

Thank you and please let us know if you have additional questions. For general questions contact e-permit@sjrwmd.com or (386) 329-4570.

Sincerely,

Michelle Reiber

Michelle Reiber, Bureau Chief
Division of Regulatory Services
St. Johns River Water Management District
525 Community College Parkway, S.E.
Palm Bay, FL 32909
(321) 409-2129

Enclosures: Permit
Notice of Rights
List of Newspapers for Publication

cc: District Permit File

Darcy Unroe
Unroe Engineering
2750 Taylor Ave Ste A-3
Orlando, FL 32806-4474

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
Post Office Box 1429
Palatka, Florida 32178-1429

PERMIT NO: 102286-13 **DATE ISSUED:** September 26, 2022

PROJECT NAME: Whispering Shores - Permit Extension

A PERMIT AUTHORIZING:
Minor Modification of Permit #IND-069-102286-9 for Whispering Shores to include a five-year extension of time for the construction as per plans received by the District on September 21, 2017.

LOCATION:
Section(s): 36 Township(s): 20S Range(s): 25E
Lake County

Receiving Water Body:

Name	Class
Little Lake Harris	III Fresh, IW

ISSUED TO:
Red Jacket Development Group
625 Waltham Ave
Orlando, FL 32809-4205

The permittee agrees to hold and save the St. Johns River Water Management District and its successors harmless from any and all damages, claims, or liabilities which may arise from permit issuance. Said application, including all plans and specifications attached thereto, is by reference made a part hereof.

This permit does not convey to the permittee any property rights nor any rights or privileges other than those specified herein, nor relieve the permittee from complying with any law, regulation or requirement affecting the rights of other bodies or agencies. All structures and works installed by permittee hereunder shall remain the property of the permittee.

This permit may be revoked, modified or transferred at any time pursuant to the appropriate provisions of Chapter 373, Florida Statutes.

PERMIT IS CONDITIONED UPON:

See conditions on attached “Exhibit A”, dated September 26, 2022

AUTHORIZED BY: St. Johns River Water Management District
Division of Regulatory Services

By: _____
Sandra Joiner
Supervising Professional Engineer

"EXHIBIT A"
CONDITIONS FOR ISSUANCE OF PERMIT NUMBER 102286-13
Whispering Shores - Permit Extension
DATED September 26, 2022

1. All activities shall be implemented following the plans, specifications and performance criteria approved by this permit. Any deviations must be authorized in a permit modification in accordance with Rule 62-330.315, F.A.C. Any deviations that are not so authorized may subject the permittee to enforcement action and revocation of the permit under Chapter 373, F.S.

2. A complete copy of this permit shall be kept at the work site of the permitted activity during the construction phase, and shall be available for review at the work site upon request by the District staff. The permittee shall require the contractor to review the complete permit prior to beginning construction.

3. Activities shall be conducted in a manner that does not cause or contribute to violations of state water quality standards. Performance-based erosion and sediment control best management practices shall be installed immediately prior to, and be maintained during and after construction as needed, to prevent adverse impacts to the water resources and adjacent lands. Such practices shall be in accordance with the State of Florida Erosion and Sediment Control Designer and Reviewer Manual (Florida Department of Environmental Protection and Florida Department of Transportation June 2007), and the Florida Stormwater Erosion and Sedimentation Control Inspector's Manual (Florida Department of Environmental Protection, Nonpoint Source Management Section, Tallahassee, Florida, July 2008), which are both incorporated by reference in subparagraph 62-330.050(9)(b)5, F.A.C., unless a project-specific erosion and sediment control plan is approved or other water quality control measures are required as part of the permit.

4. At least 48 hours prior to beginning the authorized activities, the permittee shall submit to the District a fully executed Form 62-330.350(1), "Construction Commencement Notice," (October 1, 2013) (http://www.flrules.org/Gateway/reference.asp?No=Ref-02505), incorporated by reference herein, indicating the expected start and completion dates. A copy of this form may be obtained from the District, as described in subsection 62-330.010(5), F.A.C., and shall be submitted electronically or by mail to the Agency. However, for activities involving more than one acre of construction that also require a NPDES stormwater construction general permit, submittal of the Notice of Intent to Use Generic Permit for Stormwater Discharge from Large and Small Construction Activities, DEP Form 62-621.300(4)(b), shall also serve as notice of commencement of construction under this chapter and, in such a case, submittal of Form 62-330.350(1) is not required.

5. Unless the permit is transferred under Rule 62-330.340, F.A.C., or transferred to an operating entity under Rule 62-330.310, F.A.C., the permittee is liable to comply with the plans, terms and conditions of the permit for the life of the project or activity.

6. Within 30 days after completing construction of the entire project, or any independent portion of the project, the permittee shall provide the following to the Agency, as applicable:

    a. For an individual, private single-family residential dwelling unit, duplex, triplex, or quadruplex — "Construction Completion and Inspection Certification for Activities Associated with a Private Single-Family Dwelling Unit" [Form 62-330.310(3)]; or

    b. For all other activities — "As-Built Certification and Request for Conversion to Operation Phase" [Form 62-330.310(1)].

c. If available, an Agency website that fulfills this certification requirement may be used in lieu of the form.

7. If the final operation and maintenance entity is a third party:

   a. Prior to sales of any lot or unit served by the activity and within one year of permit issuance, or within 30 days of as-built certification, whichever comes first, the permittee shall submit, as applicable, a copy of the operation and maintenance documents (see sections 12.3 thru 12.3.4 of Volume I) as filed with the Florida Department of State, Division of Corporations and a copy of any easement, plat, or deed restriction needed to operate or maintain the project, as recorded with the Clerk of the Court in the County in which the activity is located.

   b. Within 30 days of submittal of the as- built certification, the permittee shall submit "Request for Transfer of Environmental Resource Permit to the Perpetual Operation and Maintenance Entity" [Form 62-330.310(2)] to transfer the permit to the operation and maintenance entity, along with the documentation requested in the form. If available, an Agency website that fulfills this transfer requirement may be used in lieu of the form.

8. The permittee shall notify the District in writing of changes required by any other regulatory District that require changes to the permitted activity, and any required modification of this permit must be obtained prior to implementing the changes.

9. This permit does not:

   a. Convey to the permittee any property rights or privileges, or any other rights or privileges other than those specified herein or in Chapter 62-330, F.A.C.;

   b. Convey to the permittee or create in the permittee any interest in real property;

   c. Relieve the permittee from the need to obtain and comply with any other required federal, state, and local authorization, law, rule, or ordinance; or

   d. Authorize any entrance upon or work on property that is not owned, held in easement, or controlled by the permittee.

10. Prior to conducting any activities on state-owned submerged lands or other lands of the state, title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund, the permittee must receive all necessary approvals and authorizations under Chapters 253 and 258, F.S. Written authorization that requires formal execution by the Board of Trustees of the Internal Improvement Trust Fund shall not be considered received until it has been fully executed.

11. The permittee shall hold and save the District harmless from any and all damages, claims, or liabilities that may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any project authorized by the permit.

12. The permittee shall notify the District in writing:

    a. Immediately if any previously submitted information is discovered to be inaccurate; and

    b. Within 30 days of any conveyance or division of ownership or control of the property or the system, other than conveyance via a long-term lease, and the new owner shall request transfer of the permit in accordance with Rule 62-330.340, F.A.C. This does

not apply to the sale of lots or units in residential or commercial subdivisions or condominiums where the stormwater management system has been completed and converted to the operation phase.

13. Upon reasonable notice to the permittee, District staff with proper identification shall have permission to enter, inspect, sample and test the project or activities to ensure conformity with the plans and specifications authorized in the permit.

14. If prehistoric or historic artifacts, such as pottery or ceramics, projectile points, stone tools, dugout canoes, metal implements, historic building materials, or any other physical remains that could be associated with Native American, early European, or American settlement are encountered at any time within the project site area, the permitted project shall cease all activities involving subsurface disturbance in the vicinity of the discovery. The permittee or other designee shall contact the Florida Department of State, Division of Historical Resources, Compliance Review Section (DHR), at (850) 245-6333, as well as the appropriate permitting agency office. Project activities shall not resume without verbal or written authorization from the Division of Historical Resources. If unmarked human remains are encountered, all work shall stop immediately and the proper authorities notified in accordance with Section 872.05, F.S. For project activities subject to prior consultation with the DHR and as an alternative to the above requirements, the permittee may follow procedures for unanticipated discoveries as set forth within a cultural resources assessment survey determined complete and sufficient by DHR and included as a specific permit condition herein.

15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under Rule 62-330.201, F.A.C., provides otherwise.

16. The permittee shall provide routine maintenance of all components of the stormwater management system to remove trapped sediments and debris. Removed materials shall be disposed of in a landfill or other uplands in a manner that does not require a permit under Chapter 62-330, F.A.C., or cause violations of state water quality standards.

17. This permit is issued based on the applicant's submitted information that reasonably demonstrates that adverse water resource-related impacts will not be caused by the completed permit activity. If any adverse impacts result, the District will require the permittee to eliminate the cause, obtain any necessary permit modification, and take any necessary corrective actions to resolve the adverse impacts.

18. A Recorded Notice of Environmental Resource Permit may be recorded in the county public records in accordance with Rule 62-330.090(7), F.A.C. Such notice is not an encumbrance upon the property.

19. At a minimum, all retention and detention storage areas must be excavated to rough grade prior to building construction or placement of impervious surface within the area to be served by those facilities. To prevent reduction in storage volume and percolation rates, all accumulated sediment must be removed from the storage area prior to final grading and stabilization.

20. All wetland areas or water bodies that are outside the specific limits of construction authorized by this permit must be protected from erosion, siltation, scouring or excess turbidity, and dewatering.

21. The operation and maintenance entity shall inspect the stormwater or surface water management system once within two years after the completion of construction and every

two years thereafter to determine if the system is functioning as designed and permitted. The operation and maintenance entity must maintain a record of each required inspection, including the date of the inspection, the name and contact information of the inspector, and whether the system was functioning as designed and permitted, and make such record available for inspection upon request by the District during normal business hours. If at any time the system is not functioning as designed and permitted, then within 30 days the entity shall submit a report electronically or in writing to the District using Form 62-330.311(1), “Operation and Maintenance Inspection Certification,” describing the remedial actions taken to resolve the failure or deviation.

22. This permit does not authorize the permittee to cause any adverse impact to or “take” of state listed species and other regulated species of fish and wildlife. Compliance with state laws regulating the take of fish and wildlife is the responsibility of the owner or applicant associated with this project. Please refer to Chapter 68A-27 of the Florida Administrative Code for definitions of “take” and a list of fish and wildlife species. If listed species are observed onsite, FWC staff are available to provide decision support information or assist in obtaining the appropriate FWC permits. Most marine endangered and threatened species are statutorily protected and a “take” permit cannot be issued. Requests for further information or review can be sent to FWCConservationPlanningServices@MyFWC.com.

23. The proposed surface water management system shall be constructed and operated in accordance with the plans received by the District on September 21, 2017.

24. This permit for construction will expire on September 22, 2027.

Notice Of Rights

1. A person whose substantial interests are or may be affected has the right to request an administrative hearing by filing a written petition with the St. Johns River Water Management District (District). Pursuant to Chapter 28-106 and Rule 40C-1.1007, Florida Administrative Code, the petition must be filed (received) either by delivery at the office of the District Clerk at District Headquarters, P. O. Box 1429, Palatka Florida 32178-1429 (4049 Reid St., Palatka, FL 32177) or by e-mail with the District Clerk at Clerk@sjrwmd.com, within twenty-six (26) days of the District depositing the notice of District decision in the mail (for those persons to whom the District mails actual notice), within twenty-one (21) days of the District emailing the notice of District decision (for those persons to whom the District emails actual notice), or within twenty-one (21) days of newspaper publication of the notice of District decision (for those persons to whom the District does not mail or email actual notice). A petition must comply with Sections 120.54(5)(b)4. and 120.569(2)(c), Florida Statutes, and Chapter 28-106, Florida Administrative Code. The District will not accept a petition sent by facsimile (fax), as explained in paragraph no. 4 below.

2. Please be advised that if you wish to dispute this District decision, mediation may be available and that choosing mediation does not affect your right to an administrative hearing. If you wish to request mediation, you must do so in a timely-filed petition. If all parties, including the District, agree to the details of the mediation procedure, in writing, within 10 days after the time period stated in the announcement for election of an administrative remedy under Sections 120.569 and 120.57, Florida Statutes, the time limitations imposed by Sections 120.569 and 120.57, Florida Statutes, shall be tolled to allow mediation of the disputed District decision. The mediation must be concluded within 60 days of the date of the parties' written agreement, or such other timeframe agreed to by the parties in writing. Any mediation agreement must include provisions for selecting a mediator, a statement that each party shall be responsible for paying its pro-rata share of the costs and fees associated with mediation, and the mediating parties' understanding regarding the confidentiality of discussions and documents introduced during mediation. If mediation results in settlement of the administrative dispute, the District will enter a final order consistent with the settlement agreement. If mediation terminates without settlement of the dispute, the District will notify all the parties in writing that the administrative hearing process under Sections 120.569 and 120.57, Florida Statutes, is resumed. Even if a party chooses not to engage in formal mediation, or if formal mediation does not result in a settlement agreement, the District will remain willing to engage in informal settlement discussions.

3. A person whose substantial interests are or may be affected has the right to an informal administrative hearing pursuant to Sections 120.569 and 120.57(2), Florida Statutes, where no material facts are in dispute. A petition for an informal hearing must also comply with the requirements set forth in Rule 28-106.301, Florida Administrative Code.

Notice Of Rights

4. A petition for an administrative hearing is deemed filed upon receipt of the complete petition by the District Clerk at the District Headquarters in Palatka, Florida during the District's regular business hours. The District's regular business hours are 8:00 a.m. – 5:00 p.m., excluding weekends and District holidays. Petitions received by the District Clerk after the District's regular business hours shall be deemed filed as of 8:00 a.m. on the District's next regular business day. The District's acceptance of petitions filed by e-mail is subject to certain conditions set forth in the District's Statement of Agency Organization and Operation (issued pursuant to Rule 28-101.001, Florida Administrative Code), which is available for viewing at *sjrwmd.com*. These conditions include, but are not limited to, the petition being in the form of a PDF or TIFF file and being capable of being stored and printed by the District. Further, pursuant to the District's Statement of Agency Organization and Operation, attempting to file a petition by facsimile is prohibited and shall not constitute filing.

5. Failure to file a petition for an administrative hearing within the requisite timeframe shall constitute a waiver of the right to an administrative hearing. (Rule 28-106.111, Florida Administrative Code).

6. The right to an administrative hearing and the relevant procedures to be followed are governed by Chapter 120, Florida Statutes, Chapter 28-106, Florida Administrative Code, and Rule 40C-1.1007, Florida Administrative Code. Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means the District's final action may be different from the position taken by it in this notice. A person whose substantial interests are or may be affected by the District's final action has the right to become a party to the proceeding, in accordance with the requirements set forth above.

7. Pursuant to Section 120.68, Florida Statutes, a party to the proceeding before the District who is adversely affected by final District action may seek review of the action in the District Court of Appeal by filing a notice of appeal pursuant to Rules 9.110 and 9.190, Florida Rules of Appellate Procedure, within 30 days of the rendering of the final District action.

8. A District action is considered rendered, as referred to in paragraph no. 7 above, after it is signed on behalf of the District and filed by the District Clerk.

9. Failure to observe the relevant timeframes for filing a petition for judicial review as described in paragraph no. 7 above will result in waiver of that right to review.

NOR.Decision.DOC.001
Revised 12.7.11

NOTICING INFORMATION

Please be advised that the St. Johns River Water Management District will not publish a notice in the newspaper advising the public that it has issued a permit for this project.

Newspaper publication, using the District's notice form, notifies members of the public of their right to challenge the issuance of the permit. If proper notice is given by newspaper publication, then there is a 21-day time limit for someone to file a petition for an administrative hearing to challenge the issuance of the permit.

To close the point of entry for filing a petition, you may publish (at your own expense) a one-time notice of the District's decision in a newspaper of general circulation within the affected area as defined in Section 50.011 of the Florida Statutes. If you do not publish a newspaper notice to close the point of entry, the time to challenge the issuance of your permit will not expire and someone could file a petition even after your project is constructed.

A copy of the notice form and a partial list of newspapers of general circulation are attached for your convenience. However, you are not limited to those listed newspapers. If you choose to close the point of entry and the notice is published, the newspaper will return to you an affidavit of publication. In that event, it is important that you either submit a scanned copy of the affidavit by emailing it to *compliancesupport@sjrwmd.com* (preferred method) **or** send a copy of the original affidavit to:

Office of Records and Regulatory Support
4049 Reid Street
Palatka, FL 32177

If you have any questions, please contact the Office of Records and Regulatory Support at (386) 329-4570.

NOTICE OF AGENCY ACTION TAKEN BY THE
ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

Notice is given that the following permit was issued on _____:

(Name and address of applicant)_____
permit#_____. The project is located in _____County, Section _____, Township _____ South, Range _____ East. The permit authorizes a surface water management system on _____ acres for _____ known as _____. The receiving water body is _____.

A person whose substantial interests are or may be affected has the right to request an administrative hearing by filing a written petition with the St. Johns River Water Management District (District). Pursuant to Chapter 28-106 and Rule 40C-1.1007, Florida Administrative Code (F.A.C.), the petition must be filed (received) either by delivery at the office of the District Clerk at District Headquarters, P.O. Box 1429, Palatka FL 32178-1429 (4049 Reid St, Palatka, FL 32177) or by e-mail with the District Clerk at Clerk@sjrwmd.com, within twenty-one (21) days of newspaper publication of the notice of District decision (for those persons to whom the District does not mail or email actual notice). A petition must comply with Sections 120.54(5)(b)4. and 120.569(2)(c), Florida Statutes (F.S.), and Chapter 28-106, F.A.C. The District will not accept a petition sent by facsimile (fax). Mediation pursuant to Section 120.573, F.S., may be available and choosing mediation does not affect your right to an administrative hearing.

A petition for an administrative hearing is deemed filed upon receipt of the complete petition by the District Clerk at the District Headquarters in Palatka, Florida during the District's regular business hours. The District's regular business hours are 8 a.m. – 5 p.m., excluding weekends and District holidays. Petitions received by the District Clerk after the District's regular business hours shall be deemed filed as of 8 a.m. on the District's next regular business day. The District's acceptance of petitions filed by e-mail is subject to certain conditions set forth in the District's Statement of Agency Organization and Operation (issued pursuant to Rule 28-101.001, Florida Administrative Code), which is available for viewing at www.sjrwmd.com. These conditions include, but are not limited to, the petition being in the form of a PDF or TIFF file and being capable of being stored and printed by the District. Further, pursuant to the District's Statement of Agency Organization and Operation, attempting to file a petition by facsimile (fax) is prohibited and shall not constitute filing.

The right to an administrative hearing and the relevant procedures to be followed are governed by Chapter 120, Florida Statutes, Chapter 28-106, Florida Administrative Code, and Rule 40C-1.1007, Florida Administrative Code. Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means the District's final action may be different from the position taken by it in this notice. **Failure to file a petition for an administrative hearing within the requisite time frame shall constitute a waiver of the right to an administrative hearing. (Rule 28-106.111, F.A.C.).**

If you wish to do so, please visit http://www.sjrwmd.com/nor_dec/ to read the complete Notice of Rights to determine any legal rights you may have concerning the District's decision(s) on the permit application(s) described above. You can also request the Notice of Rights by contacting the Director of Office of Records and Regulatory Support, 4049 Reid St., Palatka, FL 32177-2529, tele. no. (386)329-4570.

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Add lift station details WW-10 & WW-10A to the plan [This comment was not addressed in the resubmittal].

No construction shall commence until all applicable outside agency permits are provided to the Town.

TMH CONSULTING, INC.
Community Planning Services

TMHConsulting@cfl.rr.com
97 N. Saint Andrews Dr.
Ormond Beach, FL 32174
PH: 386.316.8426

MEMORANDUM

TO: Howey-in-the-Hills Planning Board
CC: J. Brock, Town Clerk
FROM: Thomas Harowski, AICP, Planning Consultant
SUBJECT: EAR-Based Comprehensive Plan Review Status
DATE: June 27, 2024

For the June planning board meeting two additional elements have been submitted for reviw by the planning board. These are the intergovernmental coordination element and the concurrency element. This brings the total number of draft elements offered for board review to nine. The following chart shows the current status of all plan elements.

Plan Element	Draft	Planning Board Review	Other review	Transmit to Town Council
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Conservation	Complete	4-25-24		
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Concurrency	Complete	6-27-24		
Public Participation	No Change			
Public School Facilities	No Change			
Property Rights	No Change			

We also note the Public Facilities Element and the Captial Improvements Element which have previously been reviewed by the planning board have been modified to include recommendations from the water supply work plan that the Town is required to update. The water supply work program will be a stand-alone document that is coordinated with the planning program from the water management district, and it is a requirement of the state to have one. The impacts to the goals, objectives and policies are to acknowledge the need to coordinate with the water management district on water

planning and identifying a time frame for future revisions in the water supply plan. We have also deleted some duplicate policies leaving the primary location in the Public Facilities element. Three elements have no revisions proposed and will not need to be updated except for a minor text edit.

The various elements will need to be updated to include revisions that are now being considered by the Town Council for adoption. Since these changes will have gone through the full review process they will be part of the plan as permanent text and will not be called out as additions or deletions.

At this point the planning board needs to decide how the board wishes to finalize the EAR updates and transmit the package of amendment to the Town Council for action. The review process will require a transmittal by Town Council to the Department of Commerce and other review agencies. After a comment period, the Town Council will need to make final adjustments if any and then adopt the amendment package.

CONCURRENCY MANAGEMENT SYSTEM ELEMENT

TOWN OF HOWEY-IN-THE-HILLS

LAKE COUNTY, FLORIDA

ADOPTED ON OCTOBER 11, 2010

AMENDED ON APRIL 22, 2020

CONCURRENCY MANAGEMENT SYSTEM ELEMENT
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CHAPTER 9
CONCURRENCY MANAGEMENT SYSTEM ELEMENT

Definitions

The following definitions shall apply to the Concurrency Management System.

Concurrency Facilities: Public facilities and services for which a level of service must be met concurrent with the impacts of development or an acceptable deadline shall include:

a. Potable Water.
b. Sanitary Sewer.
c. Drainage.
d. Recreation.
e. Solid Waste.
f. Transportation.
g. Public Schools.

"Proceeding in Good Faith": Identifiable actions taken by an applicant of an approved final development order to proceed with actual construction and implementation of the final development plan.

Final Development Order: The official authorization from the Town of Howey-in-the-Hills approving the final development plans for a proposed development project. The issuance of a final development order issued after the effect date of the ordinance adopting the Comprehensive Plan shall only occur if the final development plan complies with the goals, objectives, and policies established in the *Comprehensive Plan*.

Final development orders shall include final subdivision plan approvals, final plat approval, final site plan approval, and building permit.

A. OVERVIEW OF THE CONCURRENCY MANAGEMENT SYSTEM

The Concurrency Management System (CMS) is a mechanism to assist in the implementation of the goals, objectives, and policies of the Town's *Comprehensive Plan*. The purpose of the CMS is to establish an ongoing mechanism which ensures facilities and services needed to support development will be available concurrent with the impacts of such development. Prior to the issuance of a development order and development permit, the CMS must ensure the adopted level of service standards required for the following facilities will be maintained: roads; potable water; sanitary sewer; solid waste; stormwater management; parks and recreation; and public schools.

The CMS is an accounting system that maintains a record of the existing levels of service and what impacts, if any, can be expected as a result of proposed developments, facility expansions, and other factors that can affect the adopted level of service standards of a community.

B. REQUIREMENTS FOR CONCURRENCY

The Town will require that all development meet the requirements of concurrency. The following are the requirements for concurrency:

Minimum requirements for Concurrency. The Town shall maintain a concurrency management system to ensure public facilities and services needed to support development are available concurrent with the impacts of such development and will address the following items.

For potable water, sewer, solid waste, and drainage, at a minimum, the following standards will satisfy the concurrency requirement:

(1) the necessary facilities and services are in place at the time a final development order is issued; or

(2) a final development order is issued subject to the condition that the necessary facilities and services will be in the place when the impacts of the development occur; or

(3) the necessary facilities are under construction at the time a final development order is issued; or

(4) the necessary facilities and services are guaranteed in an enforceable development agreement. An enforceable development agreement may include, but is not limited to, development agreements pursuant to Section 163.3220, Florida Statutes or an agreement or development order issued pursuant to Chapter 380, Florida Statutes. The agreement must guarantee

that the necessary facilities and services will be in place when the impact of development occurs; or

(5) the necessary facilities and services are in place no later than the issuance of a certificate of occupancy as required by Chapter 163.3180 F.S.

For parks and recreation, at a minimum, the following standards will satisfy the concurrency requirement:

(1) at the time the final development order is issued, the necessary facilities and services are the subject of a binding executed contract which provides for the commencement of the construction of the required facilities or the provision of services within one year of the issuance of the final development order; or

(2) the necessary facilities and services are guaranteed in an enforceable development agreement which requires the commencement of the construction of the facilities or the provision of services within one year of the issuance of the applicable development order. An enforceable development agreement may include, but is not limited to, development agreements pursuant to Section 163.3220, Florida Statutes or an agreement or development order issued pursuant to Chapter 380, Florida Statutes; or

(3) the necessary facilities and services are in place no later than 1 year after issuance of a certificate of occupancy as required by Chapter 163.3180 F.S.

For roads, at a minimum, the following standards will satisfy the concurrency requirement:

(1) the necessary facilities and services are in place at the time a final development order is issued; or

(2) a final development order is issued subject to the condition that the necessary facilities and services will be in place when the impacts of the development occur; or

(3) the necessary facilities are under construction at the time a final development order is issued; or

(4) at the time the final development order is issued, the necessary facilities and services are the subject of a binding executed contract which provides for the commencement of the construction of the required facilities or the provision of services within three years of the approval of the development order; or

(5) ~~The necessary facilities and services are guaranteed in an enforceable development agreement which requires the commencement of the construction of the facilities or the provision of services within three years of the approval of the applicable development order as required in Chapter 163.3180, F.S. An enforceable development agreement may include, but is not limited to, development agreements pursuant to section 163.3220, Florida Statutes or an agreement or development order issued pursuant to Chapter 380, Florida Statutes; or~~

The necessary facilities are guaranteed through a proportionate share agreement which meets the requirements of Chapter 163.3180 F.S.

(6) the necessary facilities and services are guaranteed in an enforceable development agreement that includes the provisions of paragraphs 1-3 above. An enforceable development agreement may include, but is not limited to, a development order issued pursuant to Chapter 380, Florida Statutes. The agreement must guarantee that the necessary facilities and services will be in place when the impacts of the development occur; or

(7) ~~the necessary facilities and services are in place or under construction no later than 3 years after issuance of a certificate of occupancy.~~

In order to promote non-residential development in the Central Avenue corridor, projects proposed in the Town Center Overlay and Town Center Flex Overlay shall be exempt from traffic concurrency.

For school facilities, the following standards will satisfy the concurrency requirement:

(1) For district-wide concurrency service areas:

a. at the time the residential development order or permit is issued, the necessary facilities and services are in place or under construction; or

b. A residential development order or permit is issued subject to the conditions that the necessary facilities and services needed to serve the new development are scheduled to be in place or under construction not more than 3 years after permit issuance as provided in the adopted public school facilities program.

2. For less than district-wide concurrency service areas: If public school concurrency is applied on less than a district-wide basis in the form of concurrency service areas, a residential development order or permit shall be issued only if the needed capacity for the particular service area is

available in one or more contiguous service areas and school capacity is available district-wide.

C. ISSUANCE OF DEVELOPMENT ORDERS OR PERMITS

The Town's CMS shall ensure all development can meet the requirements for concurrency prior to the issuance of a final development order or permit. All applicants for final development orders or permits shall be required to provide all information deemed necessary by the Town so that the impacts of the proposed development may be accurately assessed. Once the Town has determined that a proposed development meets the requirements for concurrency, and has issued a Town development order or permit, the Town shall not revoke that development order or permit because of a subsequent facility capacity deficiency, unless the proposed development would cause unhealthy or unsafe conditions, or unless the proposed development was issued a development order or permit under erroneous information supplied by the proposed developer, or unless the proposed developer fails to meet the conditions of approval of the final development order or permit. In this latter situation, certificates of occupancy may also be denied.

The Town shall establish expiration dates for development orders, development permits, and for the reserved capacity of public facilities allocated to specific development orders or permits as required by concurrency.

Howey-in-the-Hills shall annually determine the available capacity for public facilities for which the Town has operational or maintenance responsibility, and for State and County roads. Owners or operators of public facilities not operated, maintained, or owned by the Town shall supply the Town with available capacity information annually, or as otherwise reasonable depending on development activity that requires the use of such a facility.

D. GOAL, OBJECTIVE AND POLICY STATEMENTS SUPPORTING CONCURRENCY

The concurrency doctrine is supported by various goals, objectives, and policies throughout the Town's *Comprehensive Plan*. These policy statements are adopted by the Town and will be implemented by the concurrency management system. The policy statements generally establish standards and criteria for concurrency.

E. PUBLIC FACILITY CAPACITY AND LEVEL OF SERVICE INVENTORY

As part of its CMS, the Town will be responsible for the collection and maintenance of an inventory of all public facilities and services. The inventory shall be based on the most recently available information and shall be used to monitor the adopted level of service standards and to determine public facility capacity. This information shall be made available to the public and shall be updated annually by December 1 of each year.

The following inventories shall be maintained by Howey-in-the-Hills in order to evaluate the concurrency requirements of proposed development and expansions to an existing development and to assess existing and future capacity of public facilities and services:

1. Transportation

The Town will maintain an inventory of the level of service on roadway links within its jurisdiction. The existing level of service will be based on the most recent traffic count data reported by the Florida Department of Transportation and Lake County for each segment identified in the *Transportation Element* of this *Comprehensive Plan* or plan amendment. Traffic count data and level of service standards will be updated yearly, based on reported information from the FDOT and Lake County. The inventory shall, at a minimum, include the following:

a) the adopted level of service standard.
b) existing facility capacities and deficiencies.
c) capacity reserved for approved but unbuilt development.
d) the projected capacities or deficiencies attributable to approved but unbuilt development; and
e) any existing or scheduled road improvement to be made on Town, County, or State maintained roadways within the Town's jurisdiction; or improvements to be made by other public agencies or in conjunction with approved development.

2. Potable Water

An inventory of the Town's potable water system will, at a minimum, include the following:

a) the level of service standards adopted in the *Comprehensive Plan*.
b) existing design capacities and system deficiencies.
c) capacity reserved for approved but unbuilt development.
d) the projected capacities or deficiencies attributable to approved but unbuilt development; and
e) any improvements or expansions made to the system by the Town or any approved development order, in the current fiscal year, and the impact on existing capacities or deficiencies.

3. Sanitary Sewer

For all developments on a central sanitary system, the Town will maintain an inventory that includes:

a) the level of service standards adopted in the *Comprehensive Plan*.

b) existing design capacities and system deficiencies.
c) the permitted capacity.
d) capacity reserved for approved but unbuilt development.
e) the projected capacities or deficiencies attributable to approved but unbuilt development; and
f) any improvements or expansions made to design or permitted capacity by the Town or any approved development order, in the current fiscal year, and the impact on existing capacities or deficiencies.

4. Solid Waste Disposal

An inventory of the Town's solid waste disposal system will, at a minimum, include the following:

a) the level of service standards adopted in the *Comprehensive Plan*.
b) existing and projected design capacities of all applicable solid waste disposal facilities.
c) capacity reserved for approved but unbuilt development.
d) the projected capacities or deficiencies attributable to approved but unbuilt development; and
e) any improvements or expansions made to the design capacity, and the impact on existing capacities or deficiencies.

5. Stormwater Management

An inventory of the Town's stormwater management facilities will, at a minimum, include the following:

a) the level of service standards adopted in the *Comprehensive Plan*.
b) the existing level of service measured by storm event; and
c) any proposed stormwater management facilities that will impact the capacity of the Town's stormwater management facilities.

6. Recreation and Open Space

An inventory of the Town's recreational sites and facilities will, at a minimum, include the following:

a) the existing acres of recreational sites as outlined in the *Recreation and Open Space Element*.
b) the adopted level of service standard as outlined in the *Recreation and Open Space Element*.
c) the existing capacities or deficiencies of the Town's recreation system.
d) capacity reserved for approved but unbuilt development.

e) the projected capacities or deficiencies attributable to approved but unbuilt development; and
f) any improvements or expansions made to the system by the Town or any approved development order, in the current fiscal year, and the impact on existing capacities or deficiencies.

F. CONCURRENCY MONITORING SYSTEM

In addition to maintaining an inventory of public facilities and services, Howey-in-the-Hills will also be responsible for maintaining a record of public facility and service capacities or volumes which are committed for approved developments as a result of development orders issued by the Town. If service is provided by an entity other than the Town, this will require coordination between the service provider and the Town in order to maintain an accounting system which accurately tracks approved developments.

Accountability shall be established by reserving capacity from the total available capacity for all approved development orders. Once capacity has been reserved for a specific development, it cannot be reassigned to another development prior to the expiration of the first development's development order or permit. Capacity reservations shall be renewed yearly in order to be accounted for in the annual concurrency process. Upon the expiration of an approved development order with concurrency standing, which has not been implemented, or which the Town has determined to have been abandoned by the applicant, the capacity allocated to the proposed development shall be deleted. Deleted capacity shall then become available to other proposed developments. A priority waiting list shall be established for the purpose of allocating deleted capacity. When determining how much capacity is available for proposed developments, the Town shall consider all capacity that has been reserved for approved development orders.

G. CONCURRENCY ASSESSMENT

The Howey-in-the-Hills Town Council or its designee will be responsible for determining whether concurrency will be met when it considers applications for development orders for final site plans and/or final subdivision plans. When reviewing applications for development orders, the Council shall perform an assessment to determine whether public facilities will be available concurrent with the impacts of the proposed development. A facility inventory, as outlined above, shall be used as a basis for establishing existing conditions. The ability of existing public facilities to service new development shall be determined based on the following criteria:

(a) the ability of existing facilities to accommodate the proposed development at the adopted level of service.
(b) existing facility deficiencies which will need to be corrected prior to the completion of the proposed development.
(c) facility improvements or additions needed to accommodate the impacts of proposed development at the adopted level of service standard.

(d) the date facility improvements or additions need to be completed in order to maintain the adopted level of service for the public facilities affected by the proposed development.

H. GOALS, OBJECTIVES AND IMPLEMENTING POLICIES

GOAL 1: The Town shall ensure that public facilities and services needed to accommodate growth during the planning period (up to 2035) are safely and efficiently provided concurrently with associated growth.

OBJECTIVE 1.1: ***Implementing the Concurrency Management System.*** To implement the Town's *Concurrency Management System* and ensure that public facilities and services needed to support development are available concurrent with the impacts of such development.

POLICY 1.1.1: ***Assist Applicants of Development.*** The Land Development Regulations shall continue to contain a descriptive guide to assist developers and other interested parties in understanding the concurrency determination process, steps to performing a concurrency review, and the development review process involving the issuance of a certificate of concurrency.

POLICY 1.1.2: ***Adoption of Level of Service Standards.*** The standards for levels of service for each type of public facility mandatorily subject to concurrency requirements shall apply to development orders issued by the Town of Howey-in-the-Hills upon the commencement date established within the adopting ordinance applicable to this *Comprehensive Plan.*

POLICY 1.1.3: ***Concurrency Requirements.*** The Town Council shall ensure that the impacts of development on public facilities within the Town's jurisdictional area occur concurrently with such development prior to an issuance of a final development order.

POLICY 1.1.4: ***Requirement for Public Facilities and Services.*** The Town's *Concurrency Management System* shall provide that public facilities and services needed to support development are available concurrent with the impacts of such development by meeting the following standards prior to issuance of a final development order.

a. For potable water, sanitary sewer, solid waste, and drainage, at a minimum, the following standards will satisfy the concurrency requirement:

(1) the necessary facilities and services are in place at the time a final development order is issued; or

(2) a final development order is issued subject to the condition that the necessary facilities and services will be in the place when the impacts of the development occur; or

(3) the necessary facilities are under construction at the time a final development order is issued; or

(4) the necessary facilities and services are guaranteed in an enforceable development agreement. An enforceable development agreement may include, but is not limited to, development agreements pursuant to Section 163.3220, Florida Statutes or an agreement or development order issued pursuant to Chapter 380, Florida Statutes. The agreement must guarantee that the necessary facilities and services will be in place when the impact of development occurs; or

(5) the necessary facilities and services are in place no later than the issuance of a certificate of occupancy as required by Chapter 163.3180 F.S.

b. For parks and recreation, at a minimum, the following standards will satisfy the concurrency requirement:

(1) at the time the final development order is issued, the necessary facilities and services are the subject of a binding executed contract which provides for the commencement of the construction of the required facilities or the provision of services within one year of the issuance of the final development order; or

(2) the necessary facilities and services are guaranteed in an enforceable development agreement which requires the commencement of the construction of the facilities or the provision of services within one year of the issuance of the applicable development order. An enforceable development agreement may include, but is not limited to, development agreements pursuant to Section 163.3220, Florida Statutes or an agreement or development order issued pursuant to Chapter 380, Florida Statutes; or

(3) the necessary facilities and services are in place no later than 1 year after issuance of a certificate of occupancy.

c. For roads, at a minimum, the following Standards will satisfy the concurrency requirement:

(1) the necessary facilities and services are in place at the time a final development order is issued; or

(2) a final development order is issued subject to the condition that the necessary facilities and services will be in place when the impacts of the development occur; or

(3) the necessary facilities are under construction at the time a final development order is issued; or

(4) at the time the final development order is issued, the necessary facilities and services are the subject of a binding executed contract which provides for the commencement of the construction of the required facilities or the provision of services within three years of the approval of the development order, or

(5) ~~The necessary facilities and services are guaranteed in an enforceable development agreement which requires the commencement of the construction of the facilities or the provision of services within three years of the approval of the applicable development order as required in Chapter 163.3180, F.S. An enforceable development agreement may include, but is not limited to, development agreements pursuant to section 163.3220, Florida Statutes or an agreement or development order issued pursuant to Chapter 380, Florida Statutes; or~~

The necessary facilities are guaranteed through a proportionate share agreement which meets the requirements of Chapter 163.3180 F.S.

(6) the necessary facilities and services are guaranteed in an enforceable development agreement that includes the provisions of paragraphs 1-3 above. An enforceable development agreement may include, but is not limited to, a development order issued pursuant to Chapter 380, Florida Statutes. The agreement must guarantee that the necessary facilities and services will be in place when the impacts of the development occur; or

(7) ~~the necessary facilities and services are in place or under construction no later than 3 years after issuance of a certificate of occupancy as required by Chapter 163.3180 F.S.~~
Non-residential and mixed use projects in the Town Center Commercial Overlay District and the Town Center Flex Overlay District are exempt from traffic concurrency.

d. For school facilities, the following standards will satisfy the concurrency requirement:

(1) For district-wide concurrency service areas:

a. at the time the residential development order or permit is issued, the necessary facilities and services are in place or under construction; or

b. A residential development order or permit is issued subject to the conditions that the necessary facilities and services needed to serve the new development are scheduled to be in place or under construction not more than 3 years after permit issuance as provided in the adopted public school facilities program.

(2) For less than district-wide concurrency service areas: If public school concurrency is applied on less than a district-wide basis in the form of concurrency service areas, a residential development order or permit shall be issued only if the needed capacity for the particular service area is available in one or more contiguous service areas and school capacity is available district-wide.

e. In determining the availability of services or facilities, a developer may propose, and the Town Council may approve developments in stages or phases so that facilities and services needed for each phase shall be available.

f. The latest point in the application process for the determination of concurrency is prior to the approval of a final development order or permit.

~~**POLICY 1.1.5:** ***Roadways Concurrency Requirements and 5-Year CIP.*** In addition to guidelines established in Policy 1.1.4, roadways facilities will be~~

~~deemed concurrent based on the adopted *Five-Year Capital Improvements Program (CIP)* as described in the following criteria:~~

~~1. The *Five-Year CIP* and the *Capital Improvements Element* of the Town's *Comprehensive Plan* are financially feasible.~~

~~2. the *Five-Year CIP* includes improvements necessary to correct any identified facility deficiencies and maintain adopted levels of service for existing and permitted development.~~

~~3. The *Five-Year CIP* is a realistic, financially feasible program based on currently available revenue sources and development orders will only be issued if the public facilities necessary to serve the development are available or included in the *Five-Year Schedule of Capital Improvements*.~~

~~4. The *Five-Year CIP* identifies whether funding is for design, engineering, consultant fees, or construction and indicates, by funded year, how the dollars will be allocated.~~

~~5. The *Five-Year CIP* identifies the year in which actual construction of the roadway project will occur and only those projects scheduled for construction within the first three years of the Howey-in-the-Hills or Florida Department of Transportation five-year programs will be utilized for concurrency determination.~~

~~6. A plan amendment will be required in order to eliminate, defer, or delay construction of any roadway facility or service which is needed to maintain the adopted level of service standard.~~

TMH CONSULTING, INC.
Community Planning Services

TMHConsulting@cfl.rr.com
97 N. Saint Andrews Dr.
Ormond Beach, FL 32174
PH: 386.316.8426

MEMORANDUM

TO: Howey-in-the-Hills Planning Board
CC: J. Brock, Town Clerk
FROM: Thomas Harowski, AICP, Planning Consultant
SUBJECT: EAR-Based Comprehensive Plan Review Status
DATE: June 27, 2024

For the June planning board meeting two additional elements have been submitted for reviw by the planning board. These are the intergovernmental coordination element and the concurrency element. This brings the total number of draft elements offered for board review to nine. The following chart shows the current status of all plan elements.

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Public School Facilities	No Change			
Property Rights	No Change			

We also note the Public Facilities Element and the Captial Improvements Element which have previously been reviewed by the planning board have been modified to include recommendations from the water supply work plan that the Town is required to update. The water supply work program will be a stand-alone document that is coordinated with the planning program from the water management district, and it is a requirement of the state to have one. The impacts to the goals, objectives and policies are to acknowledge the need to coordinate with the water management district on water

planning and identifying a time frame for future revisions in the water supply plan. We have also deleted some duplicate policies leaving the primary location in the Public Facilities element. Three elements have no revisions proposed and will not need to be updated except for a minor text edit.

The various elements will need to be updated to include revisions that are now being considered by the Town Council for adoption. Since these changes will have gone through the full review process they will be part of the plan as permanent text and will not be called out as additions or deletions.

At this point the planning board needs to decide how the board wishes to finalize the EAR updates and transmit the package of amendment to the Town Council for action. The review process will require a transmittal by Town Council to the Department of Commerce and other review agencies. After a comment period, the Town Council will need to make final adjustments if any and then adopt the amendment package.

INTERGOVERNMENTAL COORDINATION ELEMENT

TOWN OF HOWEY-IN-THE-HILLS

LAKE COUNTY, FLORIDA

ADOPTED ON OCTOBER 11, 2010

UPDATED APRIL 22, 2020

INTERGOVERNMENTAL COORDINATION ELEMENT
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CHAPTER 7
INTERGOVERNMENTAL COORDINATION ELEMENT

A. INTRODUCTION

1. Purpose

It is the purpose of the *Intergovernmental Coordination Element* to identify and resolve incompatible goals, objectives, policies and development proposed in local government comprehensive plans and to determine and respond to the needs for coordination processes and procedures with adjacent local governments, and regional and state agencies. Intergovernmental coordination shall be utilized to the extent required to carry out the provisions of this Chapter.

The effective implementation of federal, state, regional and local planning policies requires:

1) the identification of all agencies with which the local government must coordinate.
2) a thorough understanding of the roles of each agency and that of the local government; and
3) the creation of adequate intergovernmental coordination mechanisms to carry out policies.

This *Element* seeks to accomplish these objectives through a systematic identification and analysis; deficiencies are addressed and actions to improve coordination are proposed.

Through analysis and subsequent improvement of intergovernmental coordination, local governments will be able to identify and resolve incompatible goals, objectives, policies, and development proposed in its local comprehensive plan.

Ultimately, the refinement of such a process should allow local governments to coordinate comprehensive planning with other entities, ensuring compatible development and adequate public services across jurisdictional boundaries. The coordination process is a continuous one and should provide for effective monitoring evaluating systems as well.

2. Howey-in-the-Hills' Setting

The Town of Howey-in-the-Hills is located in Central Florida within the central portion of Lake County. The Town has modestly grown over the years with a ~~2015~~ 2020 population of ~~1,106~~ 1803. The Town does have several major subdivision projects in the pipeline which are expected to fuel some additional growth through ~~2035~~ 2045.

~~The Town has a voting mayor, four council positions, and appointed positions consisting of the town clerk, police chief, planning director, and public works director. The Council also acts as the Land Planning Agency.~~

~~No municipality is~~ Groveland is the only city directly adjacent to Howey-in-the-Hills. ~~However,~~ The City of Tavares is about 1 ½ miles northeast of Town, the City of Leesburg is about 4 miles northwest of Town, the Town of Astatula is about 1 ½ miles east of town, and the City of Groveland is about 2 miles south of Town.

B. INTERGOVERNMENTAL COORDINATION DATA REQUIREMENTS

Howey-in-the-Hills is a small town that has formal agreements with many governmental entities in order to coordinate future planning and provide daily services. One example is the agreement with Lake County for fire and rescue services. Another example is the interlocal agreement with the local governments in Lake County, including Lake County Public Schools, for school concurrency.

Inventory – Adjacent Governments, School Board, Agencies, Districts and Utilities that Provide Services to the Town include:

City of Groveland

East Central Florida Regional Planning Council.

Florida Department of Agriculture.

Florida Department of ~~Community Affairs~~ Commerce.

Florida Department of Environmental Protection.

Florida Department of Transportation.

Florida Fish and Wildlife Commission.

~~Haines City – Utilization of Special Magistrate to Enforce Municipal Codes; 2009-current~~.

~~Lake County Board of County Commissioners – Annexation of a portion of County Road 48, Number Two Road, and North Buckhill Road for Police Protection and Traffic Control; 2007-current~~.

Lake County Board of County Commissioners – Interlocal Service Boundary Agreement, 2013.

Lake County Board of County Commissioners - CDBG, 2009-2010.

Lake County Board of County Commissioners - Contractor Licensing and Regulations Services; 2008-current.

~~Lake County Board of County Commissioners - Engineering Study for Lakeshore Blvd and East Revels Road; 2009-2010~~.

Lake County Board of County Commissioners - Animal Control, 2005- current.

Lake County Board of County Commissioners – Collection of Impact Fees and Fire Rescue Assessments; 2002-current.

Lake County Board of County Commissioners – County wide Communications System; 2007-current.

Lake County Board of County Commissioners – Distribution of Local Government Infrastructure Surtax; 2000-current.

Lake County Board of County Commissioners – Library Systems; 2008-current.

Lake County School Board – Community Development District for Wastewater Services for the Lake Hills Exceptional Student Education Center; 2008-current.

Lake County School Board – School Facilities Planning and Siting; 2006-current.

Lake County School Board (Interlocal Agreement for Public School Facility Planning and Implementation of Concurrency); 2008-present.

Lake County Water Alliance; 2005-current.

Lake-Sumter Metropolitan Planning Organization; 2007-current; and

St. Johns River Water Management District.

Coordination with the Board of County Commissioners is by the ~~Mayor~~ Town Manager with assistance as needed by ~~the other~~ members of the Council, the Town Attorney, and the Town Clerk ~~and her staff~~. ~~Coordination is by telephone, email, personal visits, letters or FAX~~. The Police Chief coordinates with the sheriff. ~~Telephone, email, personal visits, letters and FAX are used~~. Where applicable, joint planning and service agreements are used

C. LAKE COUNTY SCHOOL BOARD

An interlocal agreement with the Lake County School Board was initially adopted in 2006 and amended in 2008. The Town will keep the Lake County School Board advised as to new developments and development patterns along with associated data and population projections to aid in the planning of school expansions and new schools. Similarly, the School Board will keep the Town informed of their plans and needs for new facilities and sites. An agreement to include the School Board in the development review process on a regular basis is beneficial to both parties. The Town currently sends all proposed residential development projects to the Lake County Schools Planning Department to assist in their planning efforts.

Specific problems and needs identified in all *Elements* of this *Plan* would benefit at least indirectly from improved or additional intergovernmental coordination. Such agreements with the Lake County School Board would allow for more efficient provision of facilities and services including roads, water, sewer, parks, recreation, schools and public safety.

D. WASTEWATER SERVICE AGREEMENTS

In 2007, the Town of Howey-in-the-Hills and the Central Lake Community Development District (CDD), a Florida Special District created pursuant to Chapter 190 of the Florida Statutes, entered into a wholesale wastewater service agreement with ~~The Mission~~, The Reserve, and Venezia North and South planned unit developments. The developments will connect to the CDD's wastewater system and purchase wastewater capacity on a wholesale basis. It is important to note that the Town will own and maintain the wastewater collection system (mains, lift stations, etc.) within the Town limits.

E. POTABLE WATER SERVICE AREA MAP

~~It is important to note that the Town's original Potable Water Service Area Map adopted in August 2003 indicated that there was a conflict between the utility service area claimed by the Town and the utility service area claimed by the City of Groveland. To resolve this conflict, as required by Chapter 180 F.S., the Town adopted Resolution #2010-004, which redefined the Town's utility service area to exclude those areas of overlap with the City of Groveland's utility service area (see *Appendix A* of the *Public Facilities Element* for details). The revised utility service area is featured on the Town's *Utility Service Area Map*. The Utility Service Area represents the long-range planning area for Howey-in-the-Hills.~~

The Town has established a Chapter 180 Potable Water Service Area through an interlocal agreement with Lake County and other local governments. The Town currently serves a portion of the Chapter 180 service area with its existing potable water system and planned expansions. Lake County has granted approval to the planned Drake Point development to establish its own potable water treatment plant serving that project which lies within the Town's designated 180 area.

F. INTERGOVERNMENTAL COORDINATION ANALYSIS REQUIREMENTS

All existing coordination mechanisms described in Section B of this *Element* ~~are~~ have proven ~~to~~ to be generally effective ~~and no problems exist~~.

~~The Town is continuing ongoing efforts to establish a Joint Planning Agreement with the County. Additionally, the Town is continuing efforts with the County to establish and maintain the water quality standards of Little Lake Harris and Lake Illinois. Howey-in-the-Hills shall pursue a formal agreement with Lake County on educating lakefront property owners on the importance of protecting the lakes from various means of pollution and will seek joint enforcement provisions~~.

The Town shall evaluate and compare any future annexations or developments with Lake County and the East Central Florida Regional Planning Council's (ECFRPC) *Comprehensive Policy Plan* to ensure consistency. Howey-in-the-Hills will work with the ECFRPC on any regional planning matters.

No designated area of critical state concern falls partially or wholly within the Town.

~~With reference to S 163.3177(6) (h) 1 F.S., Section B above covered this *Element*~~.

An Interlocal Agreement for Public School Facility Planning between the Town, the Lake County School Board, and all other local governments in Lake County was adopted ~~as required by the state's school concurrency regulations~~ in 2006. While school concurrency is no longer mandatory, the Town has chosen to continue to apply concurrency criteria to schools. This agreement will ensure the short- and long-range planning for future schools in the county to accommodate new students as a result of new residential growth. The agreement also calls for joint use of facilities and co-location of schools and parks as well as coordination of the necessary infrastructure (roads, water, and wastewater) to support new schools. Through this process, schools will be properly located to reduce urban sprawl and respect existing neighborhoods.

G. GOALS, OBJECTIVES AND IMPLEMENTING POLICIES

GOAL 1: Coordinate with Federal, State and Local government and quasi-government entities whose respective empowered activities, duties and responsibilities influence, effect, or control governmental affairs and land development decisions held by the Town of Howey-in-the-Hills in order to establish effective growth management, development activities, and natural resource conservation, with consideration to limited available finances.

(Note: No municipalities are located adjacent to the Town of Howey-in-the-Hills.)

OBJECTIVE 1.1: ***Coordination with Lake County.*** Coordinate with Lake County on issues pertaining to land use activities and public programs applicable to adjacent unincorporated lands and unincorporated enclaves.

POLICY 1.1.1: ***Exchange of Comprehensive Plans.*** The Town shall ~~willingly~~ provide a copy of its *Comprehensive Plan* to Lake County and shall review the most recent *Lake County Comprehensive Plan* on the County's website to mutually promote consistency with adopted Plans.

POLICY 1.1.2: ***Notification of Amendments to Comprehensive Plan and Development Activities.*** The Town shall file a written request to Lake County to receive notification of any proposed land use amendments, changes to adopted levels of service, and all applications for development affecting land adjacent to Town boundaries as well as such activities occurring within one mile from the Town's limits, within a reasonable timeframe for the Town to respond to any concerns. The Town shall reciprocate such

information to Lake County and allow response to Lake County growth management concerns.

POLICY 1.1.3: ***Coordinating Growth Management Issues.*** The Town shall coordinate growth management issues with Lake County by presenting Town concerns through documented transmittals, scheduled meetings, attendance at County public hearings, joint ad hoc technical coordination committees, and, where relevant, less formal communications.

The Town shall promote reciprocal participation of County staff and officials in local growth management affairs. Growth management issues to be pursued, but not limited to, comprise the following:

- annexations.
- availability of and impact to existing and proposed public services.
- concurrency requirements.
- compatible and consistent land uses.
- impacts to environmentally sensitive lands and the preservation of natural resources.
- affordable housing issues and housing needs for special groups.
- access to recreational facilities; and
- emergency management related issues.

All proposed public facilities shall be consistent with the guidelines and standards established in the *Public Facilities* and *Capital Improvements Elements* of this *Comprehensive Plan*.

POLICY 1.1.4: ***Establishing a Joint Annexation Agreement.*** ~~By December 2012~~, the Town shall coordinate with Lake County ~~to establish~~ on a joint annexation agreement. This agreement shall at minimum address the following:

- appropriate procedures for annexation.
- establishing compatible and consistent land uses for lands in the annexation zone; and
- defining the appropriate application of concurrency within the annexation zone.

OBJECTIVE 1.2: ***School Board Cooperation and Coordination.*** Full cooperation and coordination with the Lake County School Board as needed to coordinate planning activities and maximize the use of available public facilities.

POLICY 1.2.1: ***Existing Agreements with School Board.*** The Town will pursue formalization of existing agreements with the Lake County School Board for the use of school facilities for recreation services and activities. Agreements should establish a level of service ratio to determine the maximum allowable use of the facilities for public access to optimize the use of the facilities and to help the Town determine its long-term recreation needs.

POLICY 1.2.2: ***Annual Review of School Board Interlocal Agreement.*** Review annually the interlocal agreement with the School District of Lake County to ensure inclusion of:

- coordination of *Public School Facilities Element*.
- review of population projection figures.
- corroboration on public school facilities siting.
- infrastructure and safety needs of schools.
- adoption of level of service standards.
- creation of a public school capital facilities program; and
- definition of the geographic application of school concurrency; the use of schools by the public, including use as emergency shelters; and for outlining public school concurrency requirements for future development.

POLICY 1.2.3: ***Deficient Levels of Service.*** The Town shall coordinate with the School District of Lake County to identify deficient Levels of Services for public school facilities, and to mitigate for those deficiencies through the development process when applicable.

POLICY 1.2.5: ***Participation in Joint Meetings.*** The Town shall participate in regularly scheduled joint meetings with all participants identified in the *Interlocal Agreement for Public School Facility Planning and Implementation of Concurrency*.

OBJECTIVE 1.3: ***Abiding by and Enforcing School Board Interlocal Agreement.*** The Town shall abide by and enforce the interlocal agreement between the Town and School Board to require cooperation in terms of population and school siting.

POLICY 1.3.1: ***Provision of Facility Plans and Projections.*** The School Board shall provide facilities plans and population projections on an annual basis to ensure that consistency is maintained between the two.

POLICY 1.3.2: ***Provision of Site Plans.*** The School Board shall provide the Town with any plans to site schools within the corporate limits or joint planning area.

POLICY 1.3.3: ***Provision of Land Use Amendments.*** The Town shall provide to the School Board all applications for land use plan amendments that have the potential of increasing residential density and that may affect student enrollment, enrollment projections, or school facilities.

POLICY 1.3.4: ***School Board Member.*** The Town shall allow a member of the School Board to sit on the local planning agency and comment on proposals that have the potential to increase density.

POLICY 1.3.5: ***Lake County Educational Concurrency Review Committee.*** Take part in the Lake County Educational Concurrency Review Committee established by the County, School Board and municipalities that shall meet at least annually but more often if needed, as outlined in the Interlocal Agreement between Lake County, Lake County School Board and Municipalities for School Facilities Planning and Siting, and will hear reports and discuss issues concerning school concurrency.

POLICY 1.3.6: ***Joint Staff School Concurrency Review Group.*** Take part in The Joint Staff School Concurrency Review Group, comprised of Staff of the County, Cities, and School Board, that shall meet at least quarterly, as outlined in the Interlocal Agreement between Lake County, Lake County School Board and Municipalities for School Facilities Planning and Siting, to discuss issues concerning school concurrency. These issues shall include but not be limited to land use and school facilities planning, including such issues as population and student projections, level of service, capacity, development trends, school needs, co-location and joint use opportunities, and ancillary infrastructure improvements needed to support schools and ensure safe student access. The School Board staff shall be responsible for making meeting arrangements.

OBJECTIVE 1.4: ***Sufficient School Capacity.*** The Town shall, throughout the planning period, coordinate with Lake County Public Schools (LCPS) to ensure that sufficient school capacity is available to support proposed development and that necessary infrastructure is available to accommodate new schools.

POLICY 1.4.1: ***Representative to Serve on Educational Concurrency Review Committee.*** The Town shall designate a representative to serve on the LCPS Educational Concurrency Review Committee to discuss issues and formulate recommendations regarding the coordination of land use and schools.

POLICY 1.4.2: ***Projecting Student Population.*** The Town shall provide projected development data to LCPS on a regular basis to assist in development of a long-range planning model to project student enrollment.

POLICY 1.4.3: ***Reviewing LCPS Model Projections.*** As a member of the LCPS Educational Concurrency Review Committee, the Town shall review LCPS model projections for consistency with the Town's projections and, if necessary, shall recommend additions or modifications to the model results.

POLICY 1.4.4: ***Compliance with School Concurrency Agreement.*** The Town shall comply with the Amended Interlocal Agreement for Public School Facility Planning and Implementation of Concurrency adopted in 2008.

OBJECTIVE 1.5: ***Coordinate with the Plans of Federal and State Regulatory Agencies.*** Coordinate with the plans of Federal, State, and Regional Government Agencies to establish consistency and compatibility between the Town's *Comprehensive Plan* and the plans and proposed activities of these regulatory agencies.

POLICY 1.5.1: ***Coordinating Planning Activities.*** The Town shall continually coordinate planning activities involving *Elements* of the *Comprehensive Plan* with Lake County, Lake County School Board, Florida Department of Transportation, and any other regional or state agencies with land use or environmental regulatory authority, which provide services within the Town of Howey-in-the-Hills.

POLICY 1.5.2: ***State Road 19 and County Road 48 Improvements and Maintenance.*** The Town shall coordinate with the Florida Department of Transportation on issues pertaining to improvements and maintenance of SR 19 and Lake County on issues pertaining to improvements and maintenance on County Road 48.

POLICY 1.5.3: ***Affordable Housing Issues.*** The Town shall coordinate with the U.S. Department of Housing and Urban Development and the Florida Department of ~~Community Affairs~~ Commerce independently and in conjunction with the Lake County Department

of Planning and Development to obtain financial assistance for affordable housing programs serving very low, low, and moderate income households within Lake County, including supporting infrastructure.

POLICY 1.5.4: ***Coordination with State and Federal Agencies on Public Facilities.*** Issues concerning coordination with State and Federal agencies involve drainage, solid waste and hazardous waste, potable water, sanitary sewer, and natural groundwater aquifer recharge. The Town shall coordinate plans and improvements proposed and scheduled within the *Comprehensive Plan* with those planned by the respective State and Federal agencies having authority to implement such improvements. Coordination shall also include the availability of State and Federal funds to support implementation of proposed infrastructure needs. All proposed public facilities shall be consistent with the guidelines and standards established in the *Public Facilities* and *Capital Improvements Elements* of this *Comprehensive Plan*.

POLICY 1.5.5: ***Coordination with State and Federal Agencies on Conservation Issues.*** Conservation issues that require coordination with State and Federal agencies include the possible acquisition of land adjacent to Little Lake Harris occupying an undisturbed vegetative community, protection of the natural groundwater aquifer, historical sites, wetlands, Little Lake Harris, sinkhole potential, wildlife and wildlife habitats, and air quality. The Town shall coordinate the Comprehensive Plan with plans and programs under the authority of the State and Federal agencies, according to the relationship of the conservation activity with the various agencies.

POLICY 1.5.6: ***Recreational Coordination.*** The Town shall coordinate recreation plans proposed within the *Comprehensive Plan* with proposed programs and plans established by the Florida Department of Natural Resources and the Florida Forever program as well as Lake County.

POLICY 1.5.7: ***Emergency Management.*** The Town shall coordinate growth and development proposed within the *Comprehensive Plan* with the proposed emergency preparedness plans and programs of the Florida Department of Emergency Management and the Lake County Department of Emergency Management.

POLICY 1.5.8: ~~***Assessing SJRWMD's Water Supply Facilities Work Plan.*** The Town of Howey-in-the-Hills' *Water Supply Facilities Work Plan*~~

~~*(Work Plan)*, shall assess existing and projected water sources and needs for at least a 10-year planning period and consider the *Regional Water Supply Plan* of the St. Johns River Water Management District. The *Work Plan* shall identify traditional and alternative water supply sources that the Town may use to meet existing and projected water demands. The alternative water supply projects in the *Work Plan* will be selected from the applicable District's Regional Water Supply Plans or otherwise proposed by the Town.~~

POLICY 1.5.9: ~~***Update of the Town's Water Supply Facilities Work Plan.*** Howey-in-the-Hills shall coordinate with the St. Johns River Water Management District during updates to their *Regional Water Supply Plan*, to identify potentially feasible alternative water supply projects in the Town. Within 18 months of the adoption of the St. Johns River Water Management District's *Water Supply Plan*, the Town shall complete updates of the appropriate elements and adopt related plan amendments in order to address all of the 10-year water facilities supply work plan components of Chapter 163, F.S. The Town shall also update its *Water Supply Facilities Work Plan* every five years, within 18 months of the adoption of the St. Johns Water Management District Regional *Water Supply Plan.*~~

POLICY 1.5.10: ***Coordination with Local Governments Bordering the Utility Service Area.*** The Town shall coordinate with all municipalities that border the Town's Utility Service Area (City of Groveland, Town of Astatula, City of Leesburg, City of Minneola, and City of Tavares) to maintain and implement an interlocal agreement in regards to addressing, at minimum, the following growth management issues:

- annexation issues.
- jurisdictional responsibility of public facilities.
- concurrency requirements.
- compatible and consistent land uses.
- impacts to environmentally sensitive lands and the preservation of natural resources.
- affordable housing issues and housing needs for special groups.
- access to recreational facilities; and
- emergency management related issues.

All proposed public facilities shall be consistent with the guidelines and standards established in the *Public Facilities* and *Capital Improvements Elements* of this *Comprehensive Plan*.

POLICY 1.5.11: ***Local Government Coordination and Overlapping of Utility Service Area Boundaries.*** The Town shall continue to ensure that the overlapping of utility service area boundaries with adjacent local governments is avoided by coordinating with the adjacent local governments and maintaining and abiding by the established interlocal agreements for municipal services.

POLICY 1.5.12: ***Wholesale Wastewater Treatments.*** The Town shall continue to monitor and enforce the guidelines provided in the wholesale wastewater treatment agreements established with the Central Lake Community Development District. The Town shall also provide coordination with any future wastewater treatment providers established within the Town's Utility Service Area Boundary.

POLICY 1.5.13: ~~***Providing Potable Water Interconnection for Emergency Purposes.*** The Town shall continue to provide potable water interconnection with the Central Lake Community Development District, the Mission Inn, and adjacent municipalities for emergency purposes.~~

OBJECTIVE 1.6: ***Coordination with the East Central Florida Regional Planning Council.*** Coordinate proposed development within the *Comprehensive Plan* with policies established within the ECFRPC's Regional Policy Plan.

POLICY 1.6.1: ***Cooperation with the East Central Florida Regional Planning Council (ECFRPC).*** The Town shall cooperate with the ECFRPC in the review of regional policies and standards which require coordination with local governments and their comprehensive planning activities. The Town shall assure that proposed growth and developments within the *Comprehensive Plan* remain generally consistent with the ECFRPC's Regional Policy Plan. Other issues of coordination shall include, but may not be limited to, development of regional impact (DRI's), comprehensive plan review, intergovernmental coordination, and conflict resolution.

OBJECTIVE 1.7: ***Informal and Formal Mechanisms for Coordinating Impacts of Developments.*** Informal and formal mechanisms for coordinating impacts of development proposed in adjacent governmental jurisdictions shall be established.

POLICY 1.7.1: ***Formal Mechanism with the County.*** The Town shall work with Lake County to mutually disseminate information pertaining to proposed development adjacent to the Town, or proposed within a distance at which an impact to levels of service will be evident, in order to coordinate growth and development affecting adjacent government's adopted levels of services or other development concerns addressed within the *Comprehensive Plan*. Such an Agreement should stipulate required responsibility of a developer to include a joint technical analysis of both jurisdiction's Concurrency Management Systems where a proposed development is anticipated to impact levels of service within both areas.

The Town ~~Clerk~~ Manager shall assume responsibility to coordinate with Lake County on development impacts transcending Town boundaries.

POLICY 1.7.2: ***Informal Mechanisms with the County's Planning Department.*** The Town's planning consultant shall coordinate with the Lake County Department of Planning and Development to jointly review impacts of County development on Howey-in-the-Hills' adopted levels of service and anticipated growth and development within the Town. Such activities shall occur through joint meetings, written and verbal communications, and Town attendance at appropriate County public meetings addressing the proposed development.

POLICY 1.7.3: ***Resolving Annexation Issues.*** The Town shall communicate and coordinate with adjacent homeowners, nearby neighborhoods and others within any future joint planning area to resolve any annexation issues.

POLICY 1.7.4: ***Requested Interlocal Agreements.*** The Town shall cooperate in the preparation of any needed or requested Interlocal agreements.

OBJECTIVE 1.8: ***Conflict Resolution Through Mediation.*** The Town shall coordinate with other public entities in drafting a strategic plan for Lake County for resolving conflicts between Howey-in-the-Hills and Lake County, other Lake County municipalities, the Lake County School Board, and Special Purpose Districts.

POLICY 1.8.1: ***Informal Mediation Process.*** The Town shall establish an informal mediation process for solving local intergovernmental coordination problems among local governments and other units of government providing services.

POLICY 1.8.2: ***Formal Mediation Process.*** Where informal mediation fails to resolve local conflicts, the Town Council shall determine if the issue warrants intervention of an unbiased mediation forum. Such mediation shall be granted to the East Central Florida Regional Planning Council unless evidence is shown that the ECFRPC will not represent a fair or unbiased mediator. Upon such determination, the Town shall coordinate with the Florida Department of ~~Community Affairs~~ Commerce to resolve intergovernmental conflict with another Regional Planning Council serving as the mediator.

~~**OBJECTIVE 1.9:** ***Campus Master Plan.*** When a campus master plan prepared pursuant to Section 240.155, Florida Statutes, includes area within the Town, the Town shall recognize the campus master plan, and the Town shall coordinate with any University or College regarding the provisions of any campus master development agreement.~~

~~**POLICY 1.9.1:** ***Coordinating with Campus Master Plans.*** For applicable campus master plans prepared pursuant to Section 240.155, Florida Statutes, the Town shall meet with the University or College to establish procedures to recognize a campus master plan and to coordinate regarding the provisions of the campus master development agreement.~~

OBJECTIVE 1.10: ***Countywide Significant Facilities.*** The Town shall coordinate with Lake County regarding the siting of facilities with countywide significance, including locally unwanted land uses.

POLICY 1.10.1: ***Defining Facilities of Countywide Significance and Unwanted Land Uses.*** Facilities of countywide significance include but are not limited to hospitals, major school facilities, and governmental complexes. Locally unwanted land uses include but are not limited to uses that produce enough traffic, noise, smoke, odor, dust, fumes or vibrations to have an effect on the health and general welfare of the citizens of Howey-in-the-Hills.

POLICY 1.10.2: ***Identifying Facilities of Countywide Significance and Unwanted Land Uses.*** The Town shall meet annually or more frequently if needed with Lake County to identify facilities of countywide significance, including locally unwanted land uses, and to discuss the planning of these facilities. The coordination shall identify the best available data and analysis regarding these facilities and land uses and provide recommendations, if appropriate, regarding the siting of the facilities and land uses.

POLICY 1.10.3: ***Notice to County.*** The Town shall provide the County notice and opportunity to comment on the siting of facilities of countywide significance, including locally unwanted land uses. The Town shall provide an opportunity for the comments to be addressed in the siting process.

OBJECTIVE 1.11: ***Population Projections.*** The Town shall coordinate population projections with Lake County, the Lake County School Board, the Lake-Sumter Metropolitan Planning Organization, and other units of local government providing public facilities and services.

POLICY 1.11.1: ***Developing Countywide Population Projections.*** The Town shall meet annually or more frequently if needed with the Lake County Planning Department to discuss and develop countywide population projections that include expected growth shown in the Town's *Comprehensive Plan*. The Town will review the draft population projections and consider using them in the Town's *Comprehensive Plan* to foster the joint utilization of consistent and coordinated population projections between the Town and County.

POLICY 1.11.2: ***School Board Projections.*** The Town shall meet annually or more frequently if needed with the Lake County School Board to discuss population projections used in the Town's *Comprehensive Plan* in order to allow the School Board to consider Town growth and development projections and the Town to consider School Board enrollment projections. The population projections shall address but not be limited to the location, timing and amount of school students.

POLICY 1.11.3: ***Lake-Sumter MPO Projections.*** The Town shall meet annually or more frequently if needed with the Lake-Sumter Metropolitan Planning Organization to discuss population projections and consider expected growth shown in the Town's *Comprehensive Plan*.

POLICY 1.11.4: ***Other Units of Government and Population Projections.*** The Town shall meet annually or more frequently if needed with other units of local government providing public facilities and services to discuss population projections used in the Town's *Comprehensive Plan*.