



The Department of Planning and Development Services

City Hall | 16 Colomba Road | DeBary, FL 32713

Development Review Committee (DRC) Meeting

Tuesday, June 4th, 2024 – 9:30 AM

DRC AGENDA

1. CALL TO ORDER
2. ROLL CALL
3. APPROVAL OF MINUTES
 - DRC meeting on May 21st, 2024
4. NEW BUSINESS
 - **Case # 23-01-ODP-Highbanks Townhomes; Second Review**, Applicant is requesting approval of an Overall Development Plan for a residential development in the Glen Abbey PUD on East Highbanks Road, consisting of 126 townhomes, located on the properties with the Volusia County parcel IDs 802600000065 and 802700000062.
5. ADDITIONAL BUSINESS:
6. DISCUSSION:
7. ADJOURNMENT:

DISTRIBUTION:

Technical Review Staff:

- Steven Bapp, AICP, Growth Management Director - Planning and Zoning (SBapp@DeBary.org)
- Joseph Barker, AICP, Senior Planner - Planning and Zoning (JBarker@DeBary.org)
- Kayla Burney, Planning Technician - Planning and Zoning (KBurney@DeBary.org)
- Kevin Hare, Construction Manager (KHare@DeBary.org)
- Amy Long, Public Works Director (ALong@DeBary.org)
- Chad Qualls, Public Works Superintendent (CQualls@DeBary.org)
- Robert Scott, Orange City Fire Department (RScott@ourorangecity.com)
- Merylene Thomas, CNU-A, Senior Planner - Planning and Zoning (MThomas@DeBary.org)
- Richard Villasenor, City Engineer (RVillasenor@DeBary.org)
- Steve Wood, Building Inspector (Buildingofficial@DeBary.org)
- E-Sciences, Environmental Management Consultant (troberts@res.us)
- Fishback Dominick, Legal Consultant (DLangley@fishbacklaw.com)
- Stanley Group, Transportation Consultant (KingTanya@stanleygroup.com)
- SurvTech Solutions, Surveying Consultant (rfowler@survtechsolutions.com)
- Volusia County Utilities, Utilities (ErinReed@volusia.org)

PLEASE NOTE: Each DRC project on the agenda will take approximately 30 minutes unless otherwise noted.

APPLICANT(S): Please plan to attend the DRC meeting to discuss your project and review the comments with reviewers. Individuals with disabilities needing assistance to participate in any of these proceedings should contact the City Clerk at least three (3) working days in advance of the meeting date and time at (386) 601-0219.



**City of DeBary
Development Review Committee Meeting
May 21, 2024 - MINUTES**

CALL TO ORDER:

The meeting of the City of DeBary Development Review Committee was called to order by Richard Villasenor, City Engineer, at 9:30 am.

DRC MEMBERS PRESENT:

Richard Villasenor, City of DeBary
Joseph Barker, City of DeBary
Christopher Karl, Orange City Fire Department
Amy Long, City of DeBary
Steve Wood, City of DeBary

OTHERS PRESENT:

Kayla Burney, City of DeBary
Steve Costa, Charles Wayne Properties
Johnny Herbert, American Civil Engineering Co.
Carmen Rosamonda, City of DeBary

APPROVAL OF MINUTES:

The meeting minutes for the May 21, 2024 Meeting Minutes were approved.

NEW BUSINESS:

Riverview Estates PUD

Project # 22-01-PUD-Riverview Estates

Steve Costa, the applicant, came forward to speak. He noted the comments have been addressed.

Joseph Barker made a motion to recommend approval of the PUD, seconded by Steve Wood. The motion was approved by a 5-0 vote.

Meadows at Glen Abbey Sketch Plan

Project # CPS24-000001

Johnny Herbert, a representative for the applicant, came forward to speak.

Christopher Karl stated the fire access must be 20 feet wide minimum. He asked if the community will be gated. Mr. Herbert stated it would be a gated community. Mr. Karl stated access to the gate system will need to be provided. Mr. Karl made note on the requirements for fire lane markings, fire flow, drawings for fire apparatus, and access to the nearby fire hydrants. Mr. Karl stated the National Fire Prevention Code would treat the proposed structures as apartment buildings and made note of the applicable requirements for the structures.

Chairman Villasenor asked if the auto-turn would be consistent with the type of crane required to access the cell tower towards the rear of the property. Mr. Herbert stated he will follow up with that information at a later time. Chairman Villasenor asked if the cell tower has a turn-around. Mr. Herbert stated there is a three-point turn.

Chairman Villasenor noted the company that maintains the cell tower will need to be able to access the gated community. Mr. Herbert stated he will coordinate with the owner of the cell tower to ensure access is available.

Chairman Villasenor stated how points of conflict between golf cart users and other users will need to be further addressed.

Chairman Villasenor asked for the landscape details to be revised or added to accommodate low permeability soils where site fill conditions exceed installations or added within native soils.

Joseph Barker made note that Section 10 of the Development Agreement permits an architectural review board. Mr. Barker asked if that will be the case. Mr. Herbert stated he does not have that information and he will provide it at a later time.

Mr. Barker asked if there would be any solid waste containers on site. Mr. Herbert stated there would not be and that residents would have their own trash cans.

ADJOURNMENT:

The meeting was adjourned at 9:44 AM.



DRC 6-4-2024

Subject Case # 23-01-ODP-Highbanks Townhomes

Applicant: Tailwinds Development, LLC

Application Summary:

The applicant is requesting approval of an Overall Development Plan for 126 Townhome units off of East Highbanks Road located on the parcels with the Volusia County IDs 802600000065 and 802700000062.

Planning & Zoning

Joseph Barker, Senior Planner, AICP Candidate

Regarding Case # 23-01-ODP-Highbanks Townhomes, staff offers the following comments.

Comprehensive Plan Review:

In reviewing the application (proposed project), staff has reviewed it against the policies contained within the City's Comprehensive Plan (Plan) to determine whether or not the proposed project is consistent with the Plan, as required by Florida Statute 163.3194, and Section 1-2(b)(1) of the City's Land Development Code.

Future Land Use

The goal of the City's Future Land Use element of the Plan is to facilitate the development and use of land, including permanent open space, in an organized arrangement which supports the appropriate development of the overall community, including an efficient multi-modal transportation system that enhances the well-being of the City's residents and businesses.

Objective 5.1 states the City will carry out a program of activities to provide for its future growth by designating adequate land for the development of necessary land uses (including open space and public facility land uses), consistent both with the availability of needed public facilities and with the efficient use of such facilities.





Policy 5.106 states the City will ensure that adequate land is available for public facilities and utilities. During the development review process, plans for development of utilities and public facilities will be examined and any land necessary which may be provided in connection with the subject development will be reserved or acquired, as appropriate. **Consideration of the City's 5-year Capital Improvement Program (CIP) should be considered. There are multiple projects within the CIP that could be impacted by this development, including the East Highbanks right-turn-lane.**

Objective 5.5 states the City has established a set of land development regulations to implement and support the provisions of the Plan. Policy 5.505 mandates the City to consider the following when making a decision regarding the approval of a development:

- a. The impact of the proposed development on the natural environment and the capability to adequately mitigate any adverse impacts;
- b. The impact of the proposed development on existing and future development in the vicinity, including impacts on public facility capacity, adequate water supplies and associated public facilities, environmental impacts, the resulting appearance of the overall community, and the subsequent ability to properly develop or redevelop other nearby land;
- c. The reasonableness of the development vis-a-vis good design, orderly pattern of development, compatibility with the development of nearby areas, safety and convenience of occupants and the general public, and the presence or absence of unusual features which are favorable to successful or unsuccessful development;
- d. The availability of other suitable land (properly located and with the necessary characteristics) to serve the needs represented by the proposed development; and
- e. Whether there are mitigating or unusual circumstances (such as the potential for a taking to exist if no development is approved) which might be addressed through the approval of the development, with or without amendments or conditions.

Regarding impact on the natural environment, please refer to comments from Environmental Management. Please note that architectural elevations will need to be submitted to ensure compatibility in appearance with the overall community (Glen Abbey).





These may be submitted during the Preliminary Plat & Construction Plan application. Consideration will need to be given in regard to pedestrian connectivity and accessibility.

Transportation

The goal of the City's Transportation element is to facilitate the development of a safe, cost-effective, coordinated, connected, energy efficient, multimodal transportation system for the movement of people and goods to benefit the social, economic and physical development of the City and to reduce greenhouse gas emissions and vehicle miles of travel.

Objective 6.1 mandates the City to carry out a program of activities to facilitate the provision of a cost-effective, safe, convenient, and energy efficient multimodal transportation system. **Please see comments from Transportation.**

Objective 6.3 mandates the City to carry out a program of activities to provide for the protection of future rights-of-way for roads and mass transit facilities (including exclusive mass transit corridors).

Policy 6.302 mandates the City to consider the needs for future transportation rights-of-way in reviewing plans for major land developments. **Please see comments from Transportation.**

Objective 6.5 mandates the City to carry out a program of activities to address the provision of efficient public transportation (including paratransit) services based on existing and proposed major trip generators, safe and convenient public transit terminals, and accommodation of passengers with special needs.

Policy 6.502 mandates the City to support development of appropriate facilities through the land development review process, as well as through design of City projects. Such facilities might include bus shelters, bus pull-outs, fringe parking facilities, and optimum street layouts. **Proper consideration must be given to the development of appropriate facilities.**

Objective 6.7 requires the City to support the expansion of the SunRail commuter rail system, bus transportation, and bicycle and pedestrian facilities and reduce emphasis on transportation system improvements that favor the use of single-occupancy vehicles as the primary means of transportation.





Policy 6.703 requires the City to develop a program for bicycle and pedestrian connections along US Hwy 17/92 and other streets, pathways and trails linking DeBary Commuter Rail Station with the transit oriented development, South East Mixed Use Area, and the Village Center Area. **Consideration should be given to creating bicycle and pedestrian connections to U.S. Highway 17/92.**

Public Facilities Infrastructure

The goal of the City's Public Facilities Infrastructure element is to facilitate the development of adequate public infrastructure to serve the appropriate growth and development of the City, and with appropriate consideration to managing important natural resources.

Objective 7A mandates the City to carry out a program of activities to correct existing deficiencies in potable water treatment and distribution facilities, to provide adequate potable water facilities and to meet the needs of future growth. **Please see comments from Volusia County Utilities.**

Objective 7B mandates the City to carry out a program of activities to correct existing deficiencies in sanitary sewer collection and treatment facilities and to provide adequate sanitary sewer facilities to support high density mixed use developments within the Southeast Mixed Use Area/Transit Oriented Development District and to meet the needs of future growth. **Please see comments from Volusia County Utilities.**

Objective 7C mandates the City to carry out a program of activities to correct existing deficiencies in the stormwater management system and to provide adequate facilities to support high density mixed use developments within the Southeast Mixed Use Area/Transit Oriented Development Overlay District and to meet the needs of future growth. **Please see comments from Engineering.**

Capital Improvements

The goal of the City's Capital Improvements element is to facilitate the efficient provision of public facilities through coordination between needs and resources and through coordination between capital projects plans and the community's objectives as set forth in this Plan.

Objective 10.1 mandates the City to carry out a continuing program of activities to plan and construct capital facilities so as to reduce existing deficiencies, so as to provide for replacement of





obsolete or worn-out facilities, and so as to provide for the appropriate growth and development of the community.

Policy 10.104 provides for regulatory level of service (LOS) standards. **These standards should be taken into consideration. Please see Policy 6.704 for potential remedies if the LOS is insufficient.**

Objective 10.3 requires the City to ensure that the capacity of schools is sufficient to support residential subdivisions and site plans at the adopted level of service standard. This level of service standard shall be consistent with the level of service standard adopted in the interlocal agreement entered into by the School Board and the local governments within Volusia County.

Policy 10.302 provides for LOS standards for elementary schools. The adopted standard is 115% of permanent Florida Inventory of School Houses (FISH) capacity. **According to the 2023-2023 School Year LOS Chart (revised 3/1/2023), the utilization rate of DeBary Elementary with reserve was 116.5% for the current year. For the 2023-2024 School Year, it is projected to be 124.1%.** For more information regarding public school facility capacity, please see Chapter 12 of the Plan.

For all other elements of the Plan not discussed in this report, the project has been determined to be consistent with those elements.

Land Development Code Review:

The proposed project has been reviewed against the provisions of the City's Land Development Code (LDC).

Zoning

LDC Chapter 3, Article III, Division 3 provides for zoning classifications and development standards therein. This property is zoned Planned Unit Development (PUD), Swallows Golf and Country Club. Thus, the project is subject to the zoning regulations prescribed in Ordinance # 07-2024, specifically the Swallows Golf and Country Club Development Agreement (DA). This PUD is commonly referred to as "Glen Abbey" and will be referenced as such herein.

Section 6 of the DA prescribes development standards for townhome dwellings. Please correct the following:



- Southernmost lots on Sheet C1.2 are 1,880 square feet. Minimum lot size is 1,900. This appears to be due to the building being 94 feet deep while the others are 95 feet deep.
- The structure adjacent to the amenity center appears to not meet the 10-foot rear yard setback requirement.
- The four structures on the west end of Sheet C1.3 appear to not meet the 10-foot rear yard setback requirement.
- Please provide clarification on minimum floor area data depicted on Sheet C5.0, which states the minimum floor area is 1,200 square feet for the primary unit. The DA states the minimum floor area is 575 square feet.
- Please provide clarification on the minimum building setbacks depicted on Sheet C5.0. They seem to conflict with the DA.
- Sheet C5.0 states the maximum pervious lot coverage shall be 80%. LDC Chapter 4, Article II, Division 4, Section 4-81(f) states the area covered by structures and impervious surface shall not exceed 75% for any lot.

Supplementary Regulations

In addition to the development standards of the DA, LDC Chapter 3, Article III, Division 4 contains supplementary regulations that must be followed.

Please note at the time of preliminary plat submittal that details on lighting for the parking areas must be provided to ensure no artificial lighting will be directed upon adjacent properties.

Overall Development Plan Requirements

LDC Chapter 4, Article II, Division 2, Section 4-44 provides for requirements for overall development plan applications. Please provide the following site details:

- **Please provide a scale for the vicinity map.**
- **Total linear feet in streets.**
- **Easement locations (e.g., utility easement)**





Design and Construction Standards of Improvements

LDC Chapter 4, Article II, Division 4 provides for requirements of design for new subdivisions and standards for the construction of improvements.

Section 4-85 provides for requirements for utility easements, water and wastewater easements, and drainage and maintenance easements. **Please delineate these easements.**

Section 4-90 provides for requirements for sidewalks. Section 4-90(b)(1) requires paved sidewalks a minimum of 5 feet in width to be installed on both sides of all local streets within a new development. **Please provide sidewalks on both sides of all local streets.**

Landscaping and Buffer Standards

LDC Chapter 5, Article I provides for landscaping and buffer standards.

Section 5-4 provides for the provision of buffer yards and screening. **On Sheet L1.03, there is an area in the northern landscape buffer lacking landscaping. On Sheet L1.02, there is an area in the southern landscape buffer lacking landscaping. Please provide clarification.**

Section 5-5 provides for site fixtures. **Will there be a project identification sign? If so, please ensure it will not be oriented toward or visible from an adjacent single-family residential district.**

Please note at the time of preliminary plat submittal that details on lighting must be provided to ensure the lights are hooded and shielded so that the light source is not directly visible from an adjacent single-family residential district.

Section 5-7 provides for landscaping requirements for building perimeters. **Please provide a continuous landscape area with a minimum depth of 5 feet adjacent to all building perimeters where possible.**

Section 5-8 provides for landscaping requirements for vehicular use areas. **Please ensure the ends of planters next to parking stalls are set back 2 feet from the roadway.**





Section 5-10 provides for planting design and distribution requirements. **Trees shall be placed in the building perimeter landscape area at the corners of buildings along the building façade so that there is at least one tree per building side and no more than 50 lineal feet of wall between trees.**

Please provide a note on Sheet L1.00 stating all landscape areas shall be designed with plant spacing to achieve coverage of 80% of the landscape areas with living organic plant materials within 2 years.

Accent plantings shall be placed at building corners.

Section 5-12 provides for irrigation requirements. **On Sheet L2.01, the landscaping fronting East Highbanks Road does not appear to have irrigation.**

Please add a note stating that sprinkler heads shall be spaced so that spray patterns overlap by at least 75%.

Section 5-13 provides for materials specifications. **Will the canopy trees be capable of reaching a minimum height of 25 feet and crown spread of 15 feet at maturity?**

**Public Works Department
Amy Long, Deputy Public Works Director**

No comments have been received.

**Fire Services
Robert Scott, Fire Marshal**

1. Water line are shown on plans, but doesn't show any Fire Hydrants placement. Provide details on Fire Hydrants and Fire Flow requirement per the Florida Fire Prevention Code 7th ED of NFPA 1 Chapter 18 Section 18.1.3.2 and 18.4 for review.
2. Page C1.0 shows dead-end roads. Provide details on distance length of roadways. The Florida Fire Prevention Code 7th ED of NFPA 1 Chapter 18 Section 18.2.3.5.4.
3. Provide CAD Drawings for turning radius. The Florida Fire Prevention Code 7th ED of NFPA 1 Chapter 18 Section 18.2.3.5.3.





4. Plans don't show any Fire Lanes. Provide details to meet the Florida Fire Prevention Code 7th ED of NFPA 1 Chapter 18 Section 18.2.3.6.3.

Engineering
Richard Villaseñor, P.E., City Engineer

No comments have been received.

Building Department
Steve Wood, Building Official

No comments have been received.

Volusia County Utilities
Erin Reed, PhD, P.E., Water & Utilities Senior Engineer

VCU has reviewed the submittal and has the following comments:

1. Please show the connection to existing sewer.
2. Reference appropriate VCU standard detail for water main connection, meter, and backflow.
3. Please call-out the potable tap and specify a stainless steel tapping sleeve at the potable tap location.
4. VCU does not allow separate meters for irrigation unless it is connected to reclaimed water. Please remove the tee prior to the master meter.
5. Please visit Volusia County Water Resources & Utilities' website to obtain the most recent (2024) Standard Details, Specifications, and a list of approved materials including piping, fittings, valves, meters, etc. for applicable water, sewer, and reclaimed infrastructure: <https://www.volusia.org/services/public-works/water-resources-andutilities/utility-engineering.shtml>
6. Payment of the county's utility development fees is required before utility service will be provided. The county's utility development fee schedule and commercial water/sewer





service application are available online at: <https://www.volusia.org/services/public-works/water-resources-and-utilities/utility-engineering.shtml>

Environmental Management

Tom Roberts, Regional Science Manager, RES

All wetland, tree and protected species comments have been satisfactorily addressed by the applicant in their provided documents. RES has no additional questions or comments at this time.

Transportation

Tanya King, PE, Senior Transportation Engineer, TEDS

The October 2023 TIA Methodology Letter from Kimley-Horn addressed my previous comments (see attached). We offer no additional comments.

END OF COMMENTS

A written response to each of the above comments will be required when revisions are re-submitted to the City. Please be advised that additional comments may be forthcoming after a review of the revised plan set has been completed.

If you should have any questions, please feel free to contact me at 386-601-0203.

Steven Bapp, AICP

Sbapp@debary.org

Director of Growth Management

City of DeBary



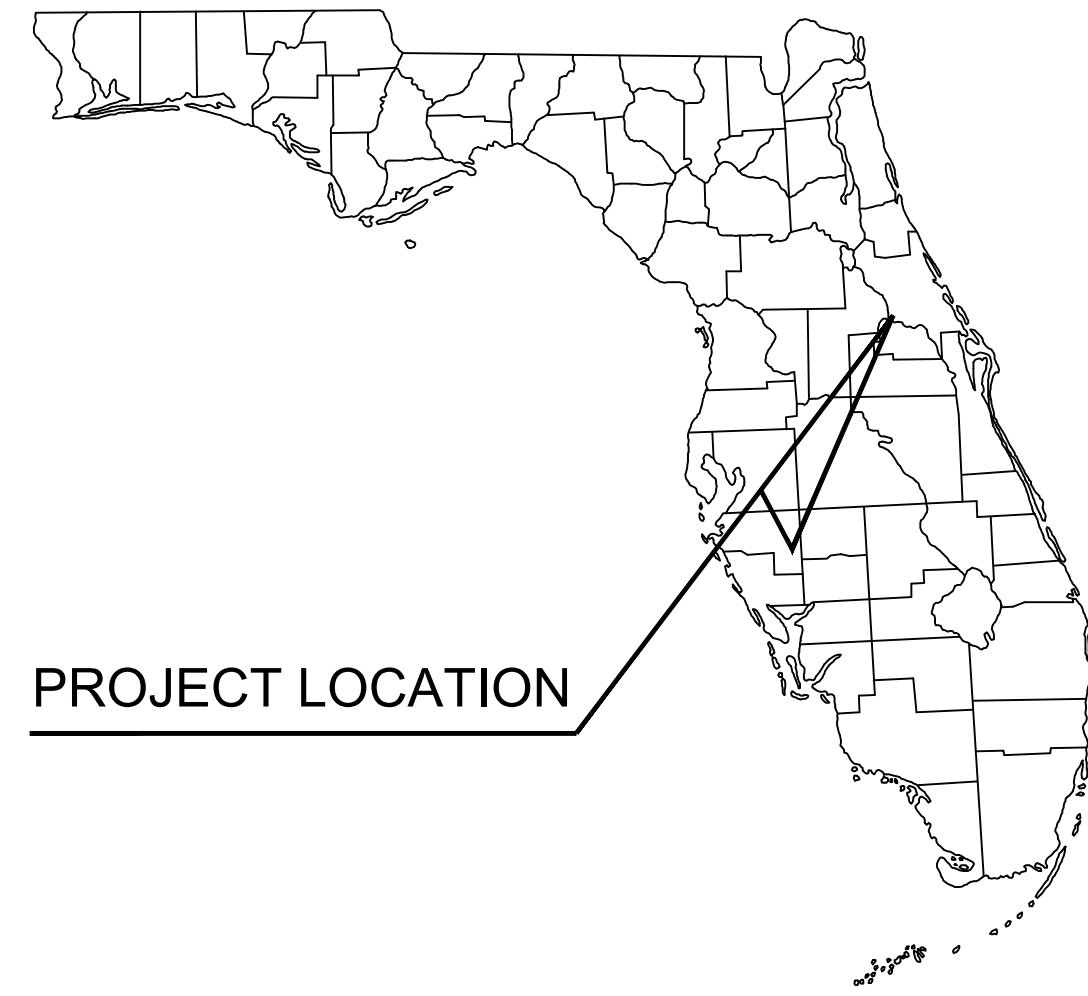
OVERALL DEVELOPMENT PLANS FOR Highbanks Townhomes

DEBARY, FLORIDA

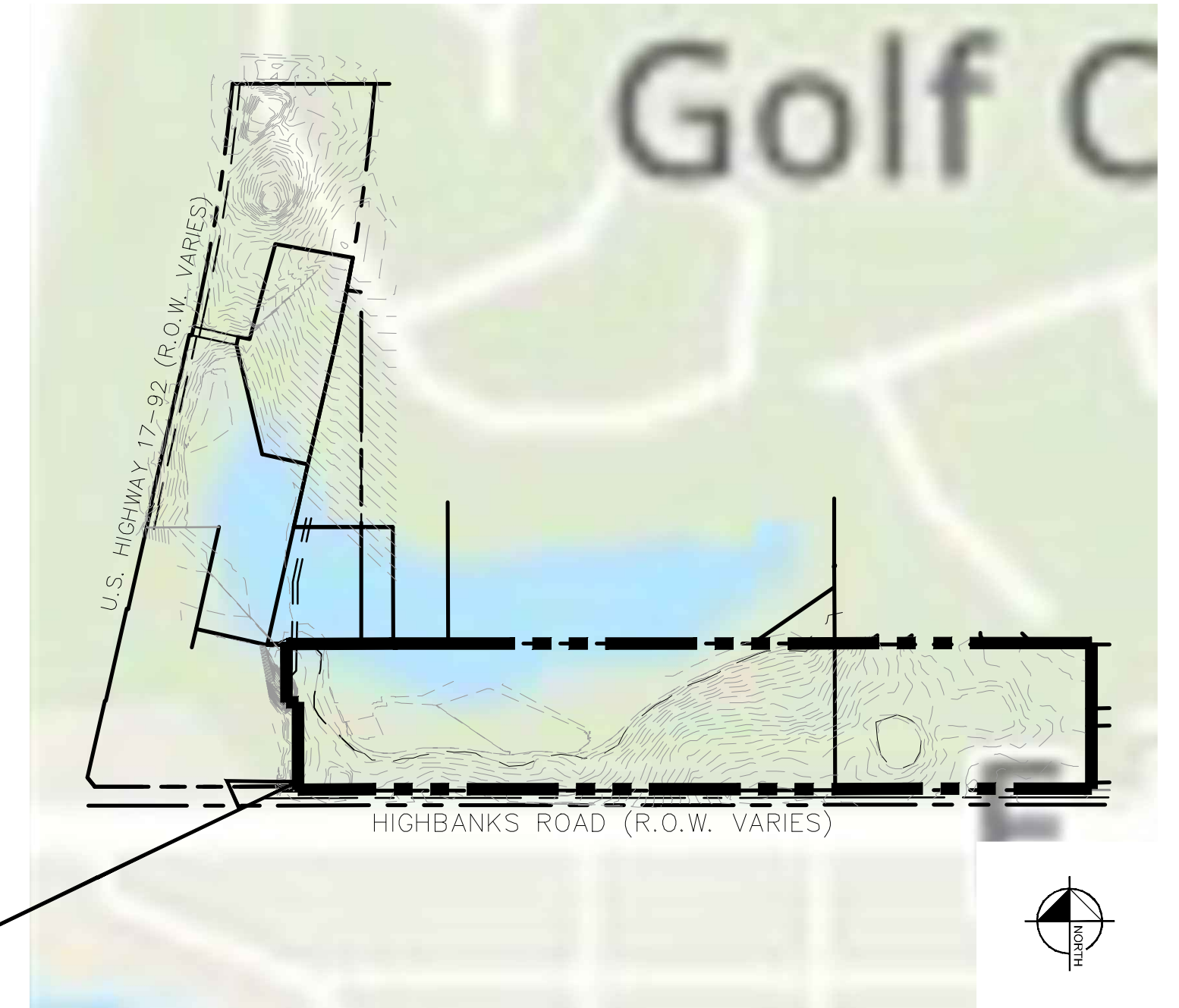
April 26, 2024

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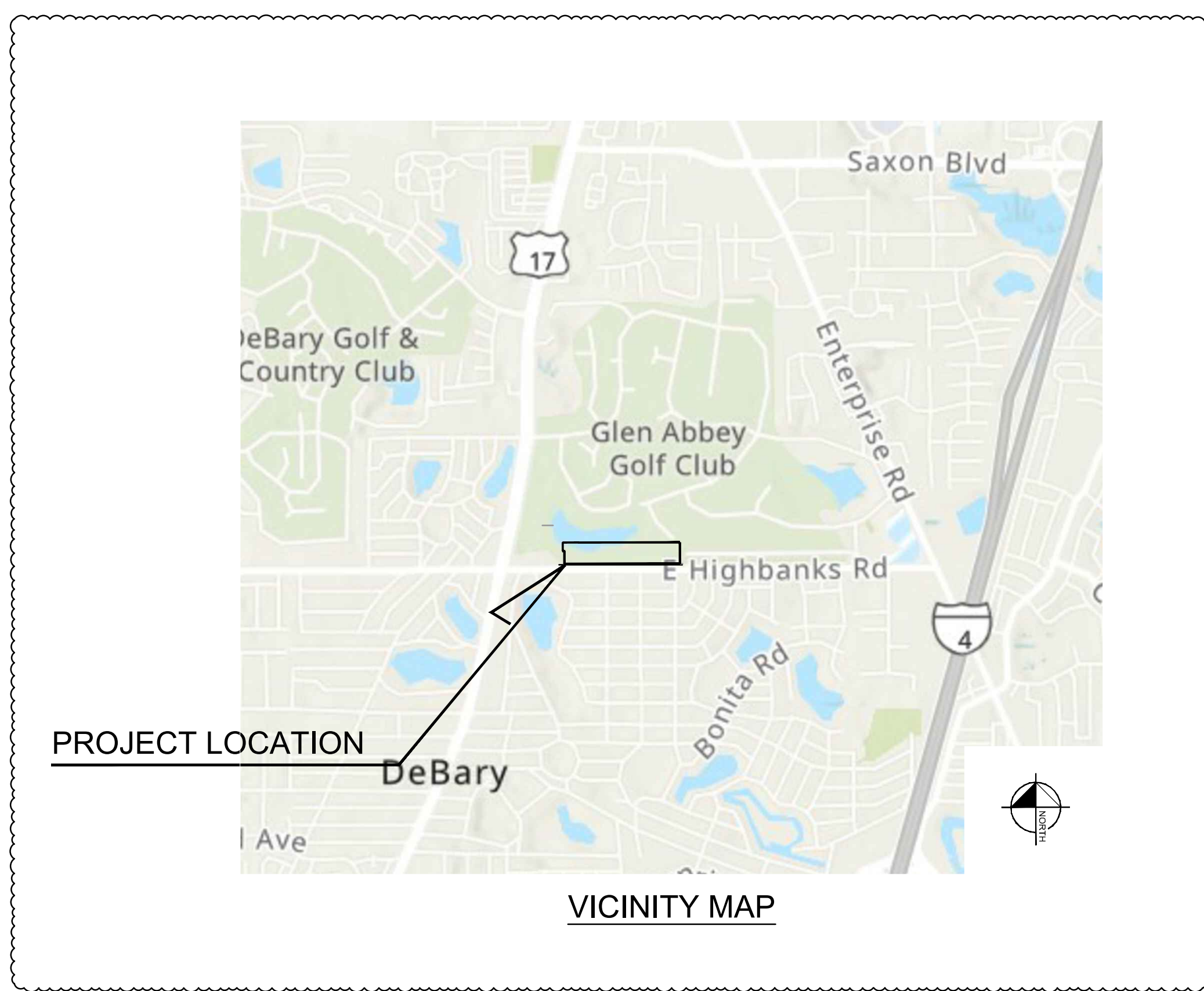
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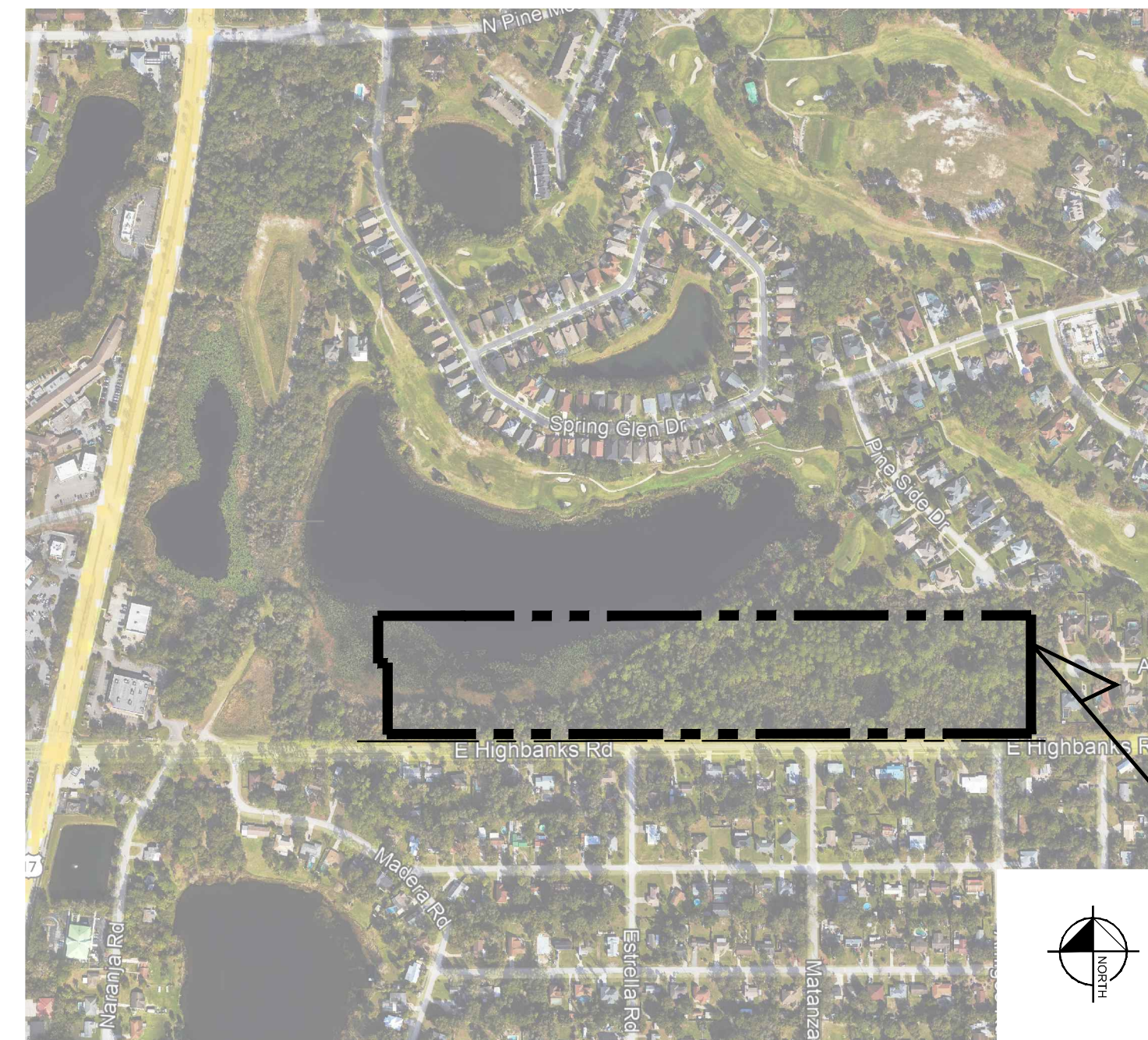
PROJECT LOCATION



TOPOGRAPHIC MAP



VICINITY MAP



AERIAL MAP
SECTION 27, TOWNSHIP 18, RANGE 30

PROJECT LOCATION

PROJECT LOCATION

LEGAL DESCRIPTION

PARCEL 1:

A PARCEL OF LAND BEING A PORTION OF THE SOUTHEAST 1/4 OF SECTION 27, TOWNSHIP 18 SOUTH, RANGE 30 EAST, VOLUSIA COUNTY, FLORIDA, LYING SOUTH OF THE SOUTH RIGHT-OF-WAY LINE FOR PINE MEADOWS DRIVE A 100.00 FOOT WIDE PUBLIC RIGHT OF WAY PER OFFICIAL RECORDS BOOK 2138, PAGE 1282, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA; LYING EAST OF THE OLD EAST RIGHT-OF-WAY LINE OF U.S. HIGHWAY 17-92, A 100 FOOT WIDE PUBLIC RIGHT-OF-WAY, LYING WEST OF A LINE THAT IS PARALLEL AND 500 FEET EASTERLY OF THE OLD RIGHT-OF-WAY LINE OF U.S. HIGHWAY 17-92 AND NORTH OF DEBARY CORNERS, ACCORDING TO THE PLAT THEREOF, AS RECORDED IN PLAT BOOK 55, PAGES 21-23, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA.

LESS AND EXCEPT:

CERTAIN PARCELS OF LAND TAKEN AS ADDITIONAL RIGHT-OF-WAY AND DRAINAGE RETENTION AREA FOR STATE ROAD 15/600 (U.S. 17-92) ACCORDING TO THE FLORIDA DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY MAP FOR STATE ROAD 15/600 SECTION NUMBER 79040-2503, SHEETS 3, 4, 5 AND 12 OF 16, MORE PARTICULARLY DESCRIBED IN FINAL JUDGEMENT RECORDED IN O.R. BOOK 4401, PAGE 2212, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA.

PARCEL 2:

A PARCEL OF LAND BEING A PORTION OF THE SOUTHEAST 1/4 OF SECTION 27, TOWNSHIP 18 SOUTH, RANGE 30 EAST, VOLUSIA COUNTY, FLORIDA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT A POINT ON THE EAST SECTION LINE 25 FEET NORTHERLY OF THE SOUTHEAST CORNER OF SAID SECTION 27; RUN THENCE SOUTH 89 DEG. 41' 25" WEST, ALONG THE NORTH RIGHT-OF-WAY LINE OF Highbanks ROAD A DISTANCE OF 2576.00 FEET TO THE INTERSECTION OF THE NORTH RIGHT-OF-WAY OF HIGHLANDS ROAD AND THE EAST RIGHT-OF-WAY OF U.S. HIGHWAY 17-92, AS IT EXISTED ON MAY 28, 1974, THENCE NORTH 12 DEG. 30' 50" EAST, ALONG THE SAID EAST RIGHT-OF-WAY LINE OF U.S. HIGHWAY 17-92, A DISTANCE OF 528.14 FEET, THENCE NORTH 89 DEG. 41' 25" EAST, A DISTANCE OF 512.79 FEET TO THE POINT OF BEGINNING; THENCE CONTINUE NORTH 89 DEG. 41' 25" EAST, A DISTANCE OF 340.89 FEET TO A POINT ON A LINE THAT IS PARALLEL WITH THE EAST LINE OF SAID SECTION 27; THENCE RUN SOUTH 00 DEG. 29' 32" EAST, FOR A DISTANCE OF 400.00 FEET TO A POINT ON THE NORTH LINE OF THE SOUTH 530 FEET OF THE SOUTHEAST 1/4 OF SAID SECTION 27; THENCE RUN SOUTH 89 DEG. 41' 25" WEST, ALONG SAID NORTH LINE OF THE SOUTH 530 FEET OF THE SOUTHEAST 1/4 FOR A DISTANCE OF 433.29 FEET TO A LINE 500 FEET EASTERLY OF AND PARALLEL WITH THE SAID EAST RIGHT-OF-WAY LINE OF U.S. HIGHWAY 17-92; THENCE RUN NORTH 12 DEG. 30' 50" EAST, ALONG SAID PARALLEL LINE FOR A DISTANCE OF 410.23 FEET TO THE POINT OF BEGINNING.

PARCEL 3:

THE SOUTH 525 FEET OF THE WEST 864.79 FEET OF THE SOUTHWEST 1/4 OF SECTION 26, TOWNSHIP 18 SOUTH, RANGE 30 EAST, LESS ROAD RIGHT-OF-WAY FOR Highbanks ROAD.

PARCEL 4:

THAT PORTION OF THE SOUTH 530.00' OF THE SOUTHEAST 1/4 OF SECTION 27, TOWNSHIP 18 SOUTH, RANGE 30 EAST, LYING EAST OF DEBARY CORNER, ACCORDING TO THE PLAT THEREOF, AS RECORDED IN PLAT BOOK 55, PAGE 21-24, OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA SOUTH OF THE DEBARY GOLF COURSE AND SPRING GLEN, UNIT 2, ACCORDING TO THE PLAT THEREOF, AS RECORDED IN PLAT BOOK 47, PAGE 103-107, OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA; LESS ROAD RIGHT-OF-WAY FOR Highbanks ROAD.

PART OF THE ABOVE REFERENCED PROPERTY IS LOCATED IN ZONE 'X', AREA OF 100 YEAR FLOODING, WITH NO BASE FLOOD ELEVATION PROVIDED WITH THE BALANCE OF SAID PROPERTY BEING LOCATED IN ZONE 'X', AREA OF MINIMAL FLOODING, AS PER F.I.R.M. COMMUNITY PANEL NO. 12127C0620 K, VOLUSIA COUNTY, FLORIDA, MAP DATED SEPTEMBER 29, 2017.

UTILITY PROVIDERS

WATER, SEWER, & RECLAIM WATER:
VOLUSIA COUNTY WATER & UTILITY
3151 E. NEW YORK
DELAND, FL 32720
CONTACT: EARL FARMER
PHONE: (386) 804-7788

POWER:
DUKE ENERGY
400 N SPRING GARDEN AVE
DELAND, FL 32720
PHONE: (800) 700-8744

GAS:
FLORIDA GAS TRANSMISSION COMPANY
2405 LUCIEN WAY, SUITE 200
MAITLAND, FL 32751
CONTACT: JOSEPH E. SANCHEZ
PHONE: (407) 838-7171

PROJECT TEAM

DEVELOPER:
TAILWINDS DEVELOPMENT, LLC
100 COLONIAL CENTER PKWY,
LAKE MARY, FL 32746
CONTACT: STEPHEN T. INFANTINO
PHONE: (407) 724-6051
EMAIL: SINFANTINO@TWDRE.COM

OWNER:
STEDRONSKY GEORGE R TR
1111 S LAKEMONT AVE
WINTER PARK, FLORIDA 32782

CIVIL ENGINEER:
KIMLEY-HORN AND ASSOCIATES, INC.
189 S. ORANGE AVENUE, SUITE 1000
ORLANDO, FL 32801
CONTACT: JOSH ENOT, P.E.
PHONE: (321) 754-0413
EMAIL: JOSHUA.ENOT@KIMLEY-HORN.COM

SURVEYOR
CHARLES ROB DEFOOR
P.O. BOX 1472
GENEVA, FLORIDA 32732
PHONE: (407) 880-9811

SHEET INDEX

C0.0	COVER
C1.0-C1.3	SITE PLAN
C2.0-C2.3	PAVING, GRADING, AND DRAINAGE
C3.0-C3.3	UTILITY PLAN
C4.0	TYPICAL ROAD SECTIONS
C5.0	LOT DIMENSIONS
L0.50-L0.55	TREE MITIGATION PLAN

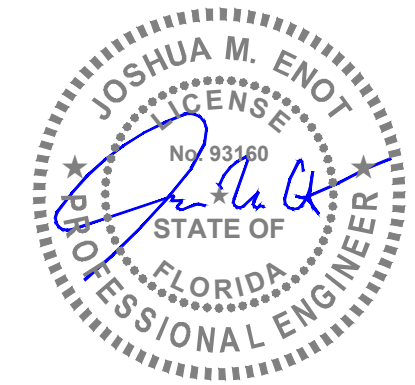
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CALL 48 HOURS
BEFORE YOU DIG
IT'S THE LAW!
DIAL 811



Know what's below.
Call before you dig.

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

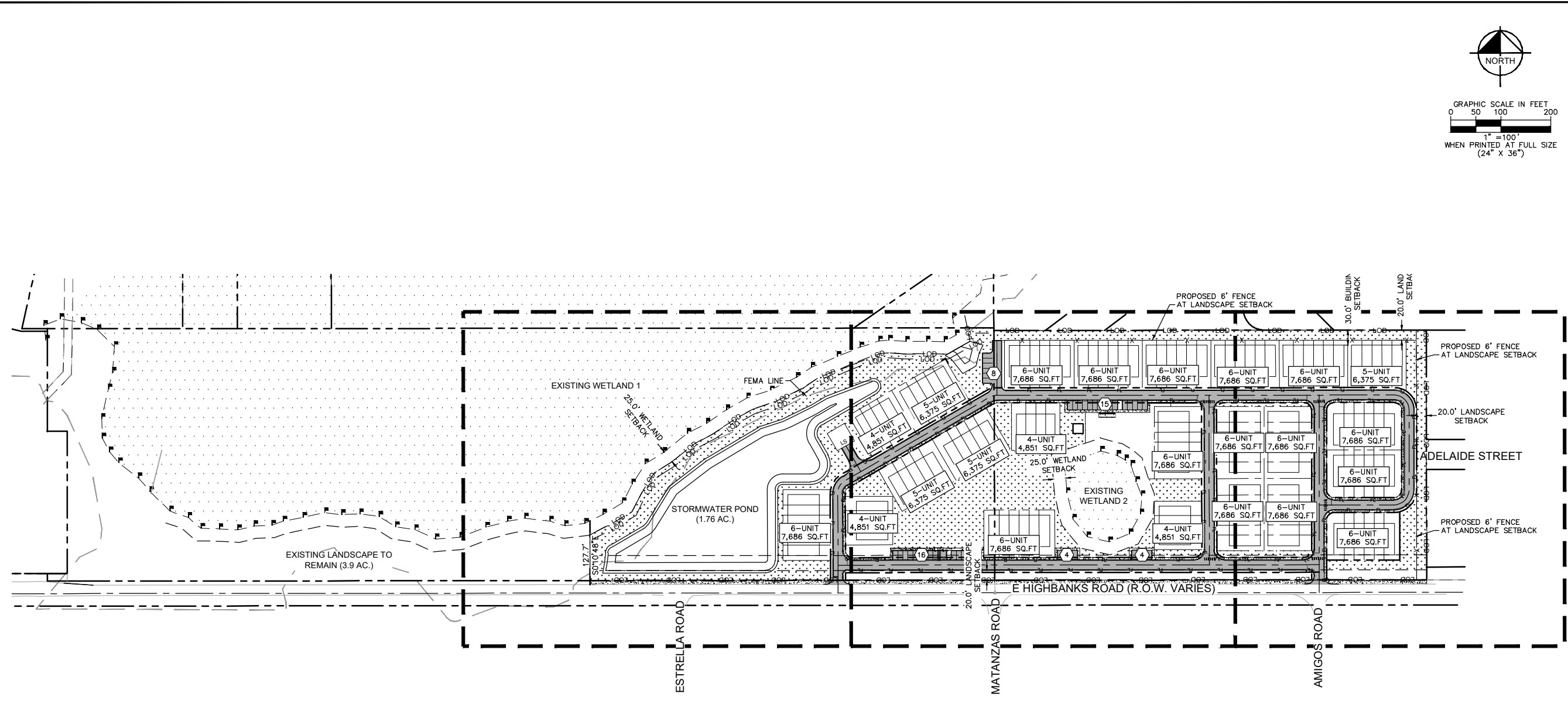


NO.	DATE	REVISIONS
1	09-20-23	CITY OF DEBARY COMMENTS REVISION

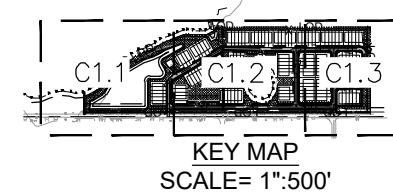
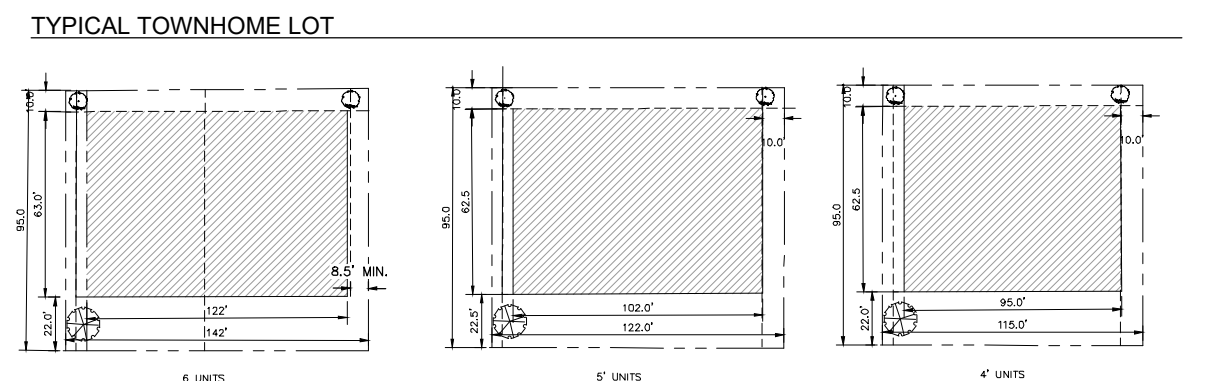
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 Drawing name: K:\orl_civil\249098007-e highbanks townhomes\CADD\ODP\plansheets\C0.0 - COVER.dwg C0.0 COVER SHEET Apr 26, 2024 11:28am by: Alex.Molton
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Plotted By: M. J. ... Date: 04/25/2024 ... City of DeBary Comments Revision 09-20-23 DS



SITE DATA													
ADDRESS:	E HIGHBANKS RD DEBARY, FL 32713												
APN:	802700000062 802600000065												
ZONING DISTRICT:	PLANNED UNIT DEVELOPMENT (PUD)												
LAND USE:	RESIDENTIAL												
ZONING:	PUD NORTH EAST WEST SOUTH												
FUTURE LAND USE:	LDR (LOW DENSITY RESIDENTIAL) NORTH EAST WEST SOUTH												
PARKING / LANDSCAPE BUFFER:	FRONT: 20.0' REAR: 20.0' SIDE (E): 20.0' SIDE (W): 25.0'												
PARKING TABLE:	<table border="1"> <thead> <tr> <th>STANDARD</th> <th>PROVIDED</th> <th>REQUIRED</th> </tr> </thead> <tbody> <tr> <td>45</td> <td>252</td> <td>252</td> </tr> <tr> <td>2</td> <td></td> <td></td> </tr> <tr> <td>TOTAL # OF UNITS (2 STALLS EACH)</td> <td>299</td> <td>252</td> </tr> </tbody> </table>	STANDARD	PROVIDED	REQUIRED	45	252	252	2			TOTAL # OF UNITS (2 STALLS EACH)	299	252
STANDARD	PROVIDED	REQUIRED											
45	252	252											
2													
TOTAL # OF UNITS (2 STALLS EACH)	299	252											
DENSITY CALCULATION													
(DWELLING UNITS PER NET BUILDABLE ACRE)													
TOTAL PARCEL AREA = 31.6 AC													
EXISTING NON-DEVELOPABLE FEATURES:													
EXISTING WETLAND & BUFFER 1:	12.1 AC												
EXISTING WETLAND & BUFFER 2:	0.8 AC												
EXISTING FEMA FLOOD PLAIN (REMOVING WETLAND 1):	3.2 AC												
TOTAL AREA OF EXISTING NON-DEVELOPABLE FEATURES:	16.1 AC												
DEVELOPABLE AREA = 31.6 - 16.1 = 15.5 AC													
TOTAL UNITS PROVIDED = 126 UNITS													
DENSITY CALCULATION													
TOTAL UNITS PROVIDED/DEVELOPABLE AREA:	= 126 UNITS / (15.5 AC)												
= 8 UNITS/DEVELOPABLE ACRE													
*MAX ALLOWABLE DENSITY: 14 UNITS/1 ACRE													
TOWNHOMES BUILDING COVERAGE	±161,489 S.F. (±3.71 AC)												
TOWNHOMES:	15 BUILDINGS - 6 UNIT 4 BUILDINGS - 5 UNIT 4 BUILDINGS - 4 UNIT 126 UNITS TOTAL												
OPEN SPACE CALCULATION													
TOTAL PARCEL AREA:	1,376,480 S.F. (31.6 AC)												
REQUIRED (20% OF SITE AREA)	275,296 S.F. (6.3 AC) 20%												
OPEN SPACE	70,976 (1.6 AC)												
- AMENITIES (PLAYGROUND, FREE PLAY AREA)	40,592 (0.93 AC)												
- DOG PARK	171,324 (3.9 AC)												
- TRAIL	61,777 (1.4 AC)												
- EXISTING LANDSCAPE TO REMAIN	352,191 (8.0 AC)												
RECREATIONAL SPACE	523,784 (11.9 AC)												
TOTAL OPEN SPACE	876,975 (19.9 AC) 25.5%												
REMAINING IMPERVIOUS AREA:	1,026,289 S.F. (23.6 AC) 74.6%												



CITY OF DEBARY COMMENTS REVISION 09-20-23 DS

189 S. ORANGE AVE., SUITE 1000, ORLANDO, FL 32801
PHONE: 407-899-1511
WWW.KIMLEY-HORN.COM REGISTRY No. 696

DATE

KHA PROJECT

OVERALL SITE PLAN

OVERALL DEVELOPMENT PLANS - E HIGHBANKS TOWNHOMES

NO.

DATE

SCALE AS SHOWN

DESIGNED BY

DRAWN BY

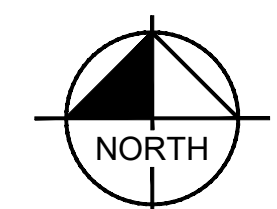
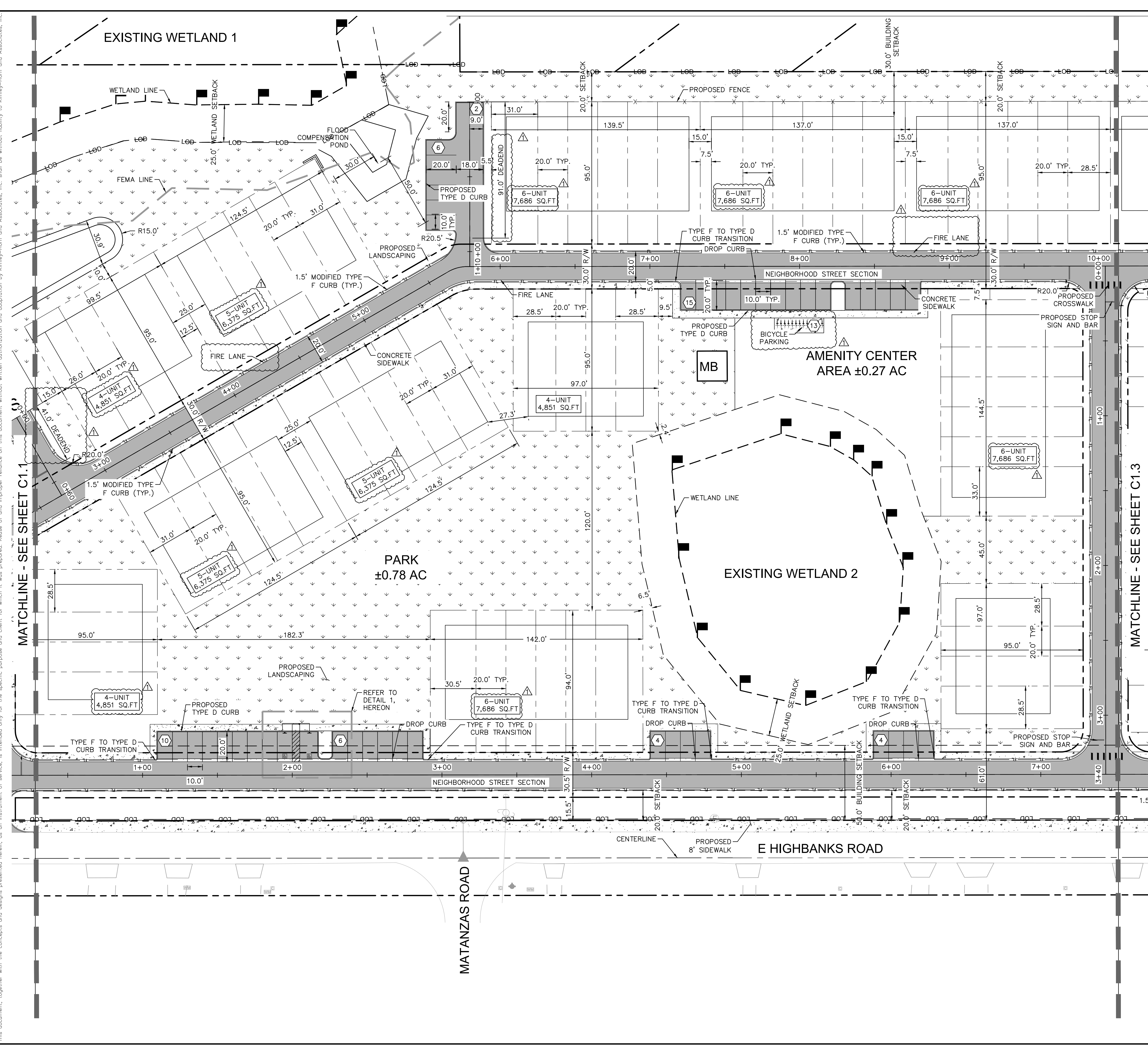
CHECKED BY

SHEET NUMBER

C1.0

DATE

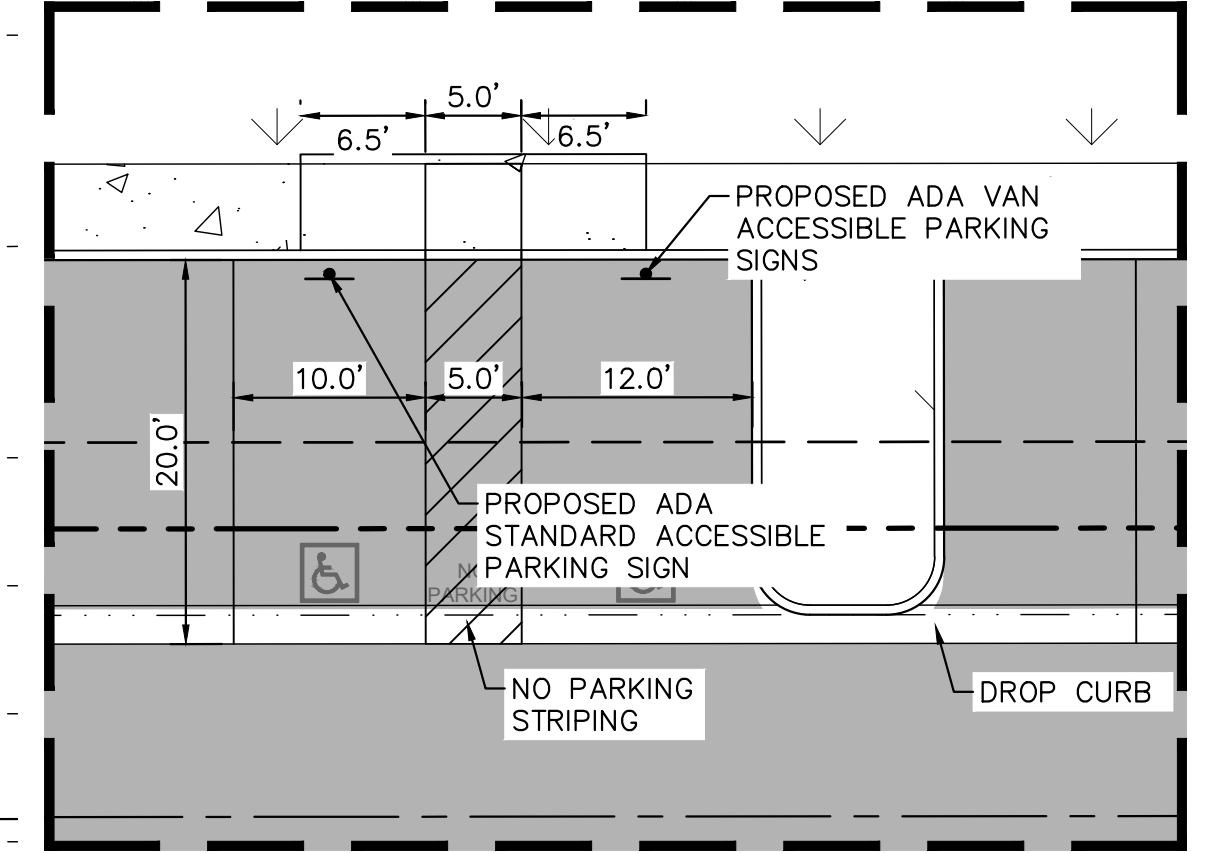
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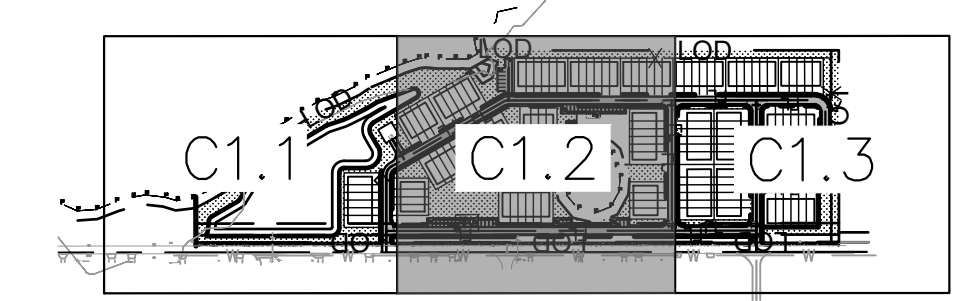
GRAPHIC SCALE IN FEET
 0 15 30 60
 1" = 30'
 WHEN PRINTED AT FULL SIZE
 (24" X 36")

LEGEND

- CENTER LINE
- PROPERTY LINE
- EASEMENT / SETBACK LINE
- FEMA ZONE A LINE
- WETLAND FLAGS
- FIRE LANE
- LIMITS OF DISTURBANCE
- PARKING STALL COUNT
- WETLAND PRESERVATION AREA
- PROPOSED CONCRETE SIDEWALK
- PROPOSED HEAVY DUTY ASPHALT PAVEMENT
- PROPOSED LANDSCAPING



DETAIL 1
 SCALE: 1"=10'



KEY MAP
 SCALE= 1":500'

	KHA PROJECT DATE SCALE AS SHOWN DESIGNED BY DRAWN BY CHECKED BY
SITE PLAN	
OVERALL DEVELOPMENT PLANS - E HIGHBANKS TOWNHOMES	
SHEET NUMBER C1.2	
CITY OF DEBARY COMMENTS REVISION 09-20-23 DS	No. REVISIONS DATE BY

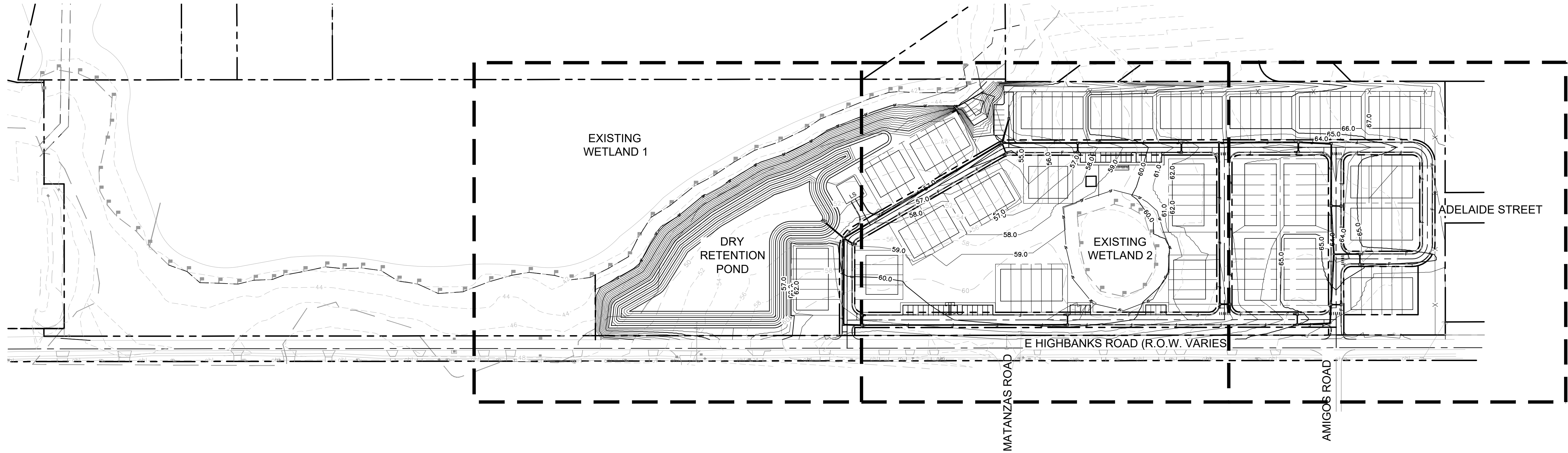
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GENERAL NOTES

1. MASTER STORMWATER SYSTEM WILL BE DESIGNED AND PERMITTED AS PART OF THE CONSTRUCTION PLAN REVIEW.
2. LOT GRADING WILL BE INCLUDED AS PART OF THE CONSTRUCTION PLAN REVIEW AS WELL AS FINISHED FLOOR ELEVATIONS.
3. STORMWATER CRITERIA WILL BE CONSISTENT WITH THE ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT AND THE CITY OF DEBARY REQUIREMENTS.
4. DRY STORMWATER SIZE AND AREA TO BE DETERMINED DURING MASS GRADING, STORMWATER DESIGN, AND PERMITTING.



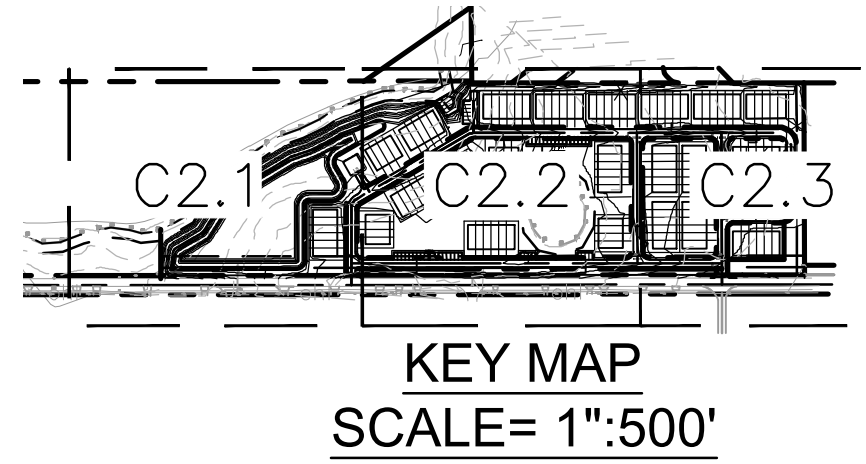
LEGEND

- CENTER LINE
- PROPERTY LINE
- - - EASEMENT / SETBACK LINE
- - - FEMA ZONE A LINE
- - - WETLAND FLAGS
- - - SF
- - - X.X'
- - - X.X'
- - - PROPOSED STORMWATER PIPE
- ▭ CURB INLET/CATCH BASIN INLET

NORTH

GRAPHIC SCALE IN FEET
0 50 100 200

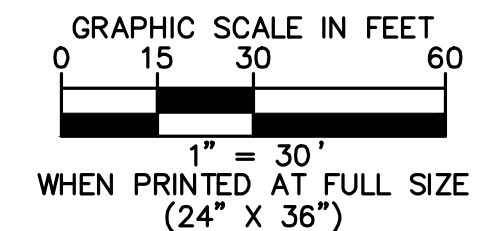
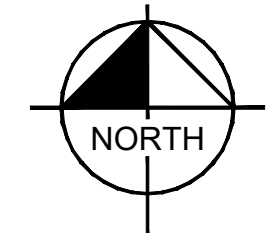
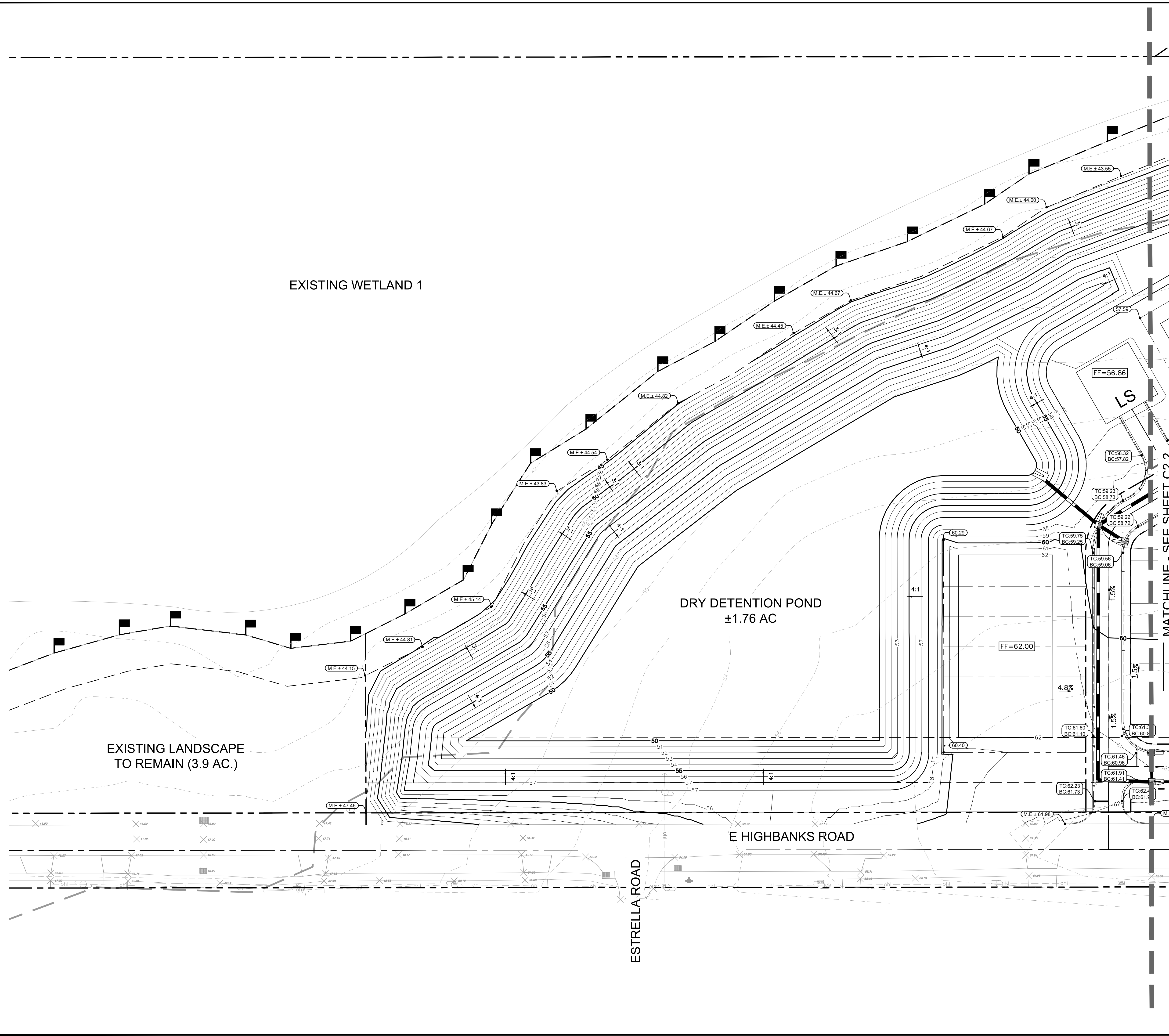
1" = 100'
WHEN PRINTED AT FULL SIZE
(24" X 36")



OVERALL PAVING, GRADING AND DRAINAGE	OVERALL DEVELOPMENT PLANS- E HIGHBANKS TOWNHOMES	KHA PROJECT		SHEET NUMBER C2.0
		DATE	DESIGNED BY	
		SCALE AS SHOWN	DRAWN BY	REVISIONS
		CHECKED BY	DATE	
				BY
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LEGEND

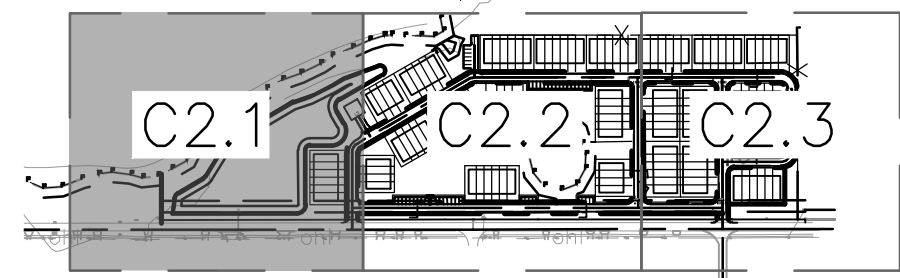
- CENTER LINE
- PROPERTY LINE
- EASEMENT / SETBACK LINE
- FEMA LINE
- WETLAND FLAGS
- SILT FENCE
- EXISTING CONTOUR
- PROPOSED CONTOUR

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KHA PROJECT	DATE
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	CHECKED BY

PAVING, GRADING AND DRAINAGE PLAN

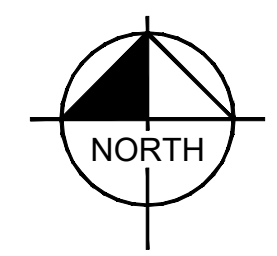
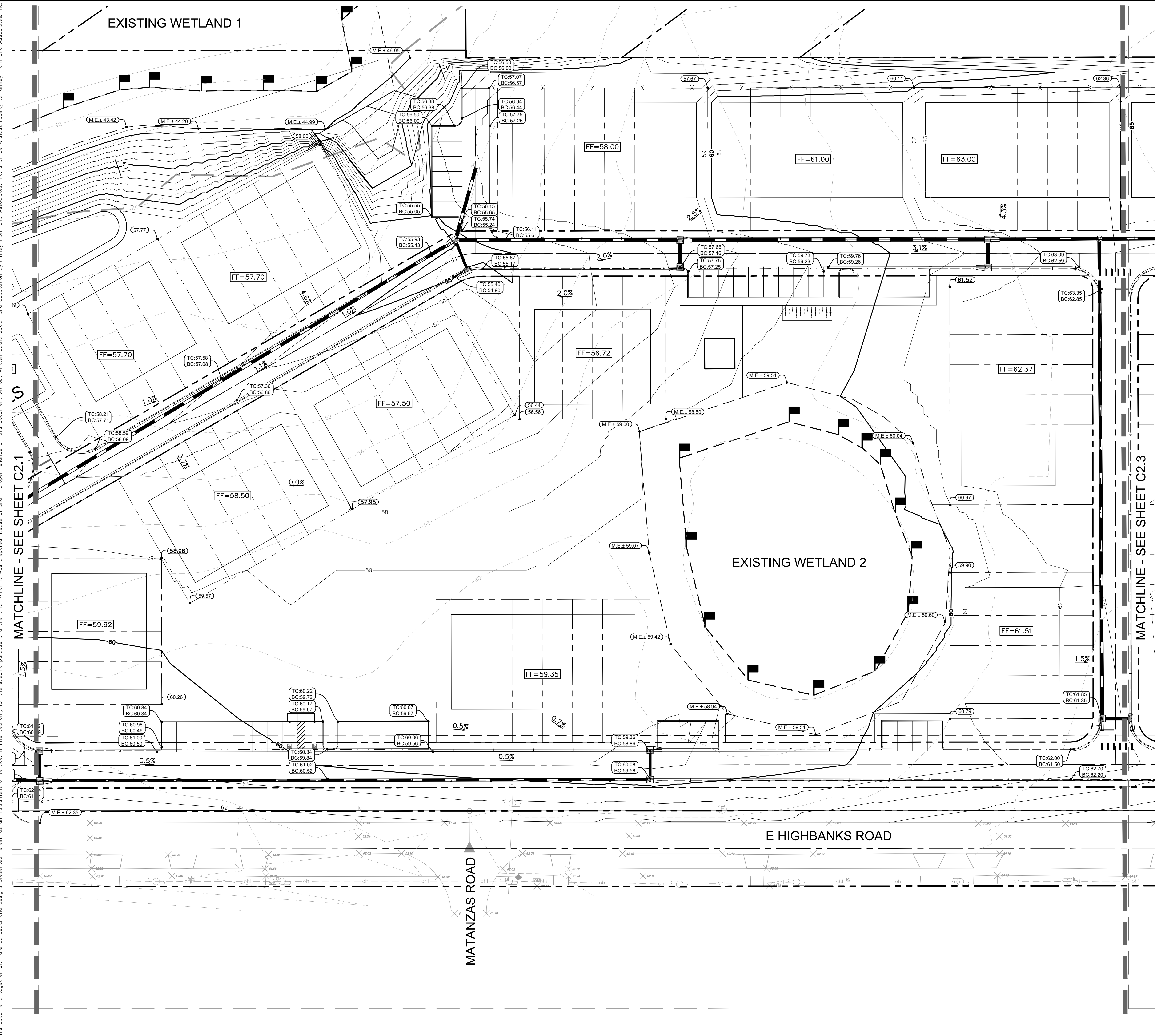
OVERALL DEVELOPMENT PLANS- E HIGHBANKS TOWNHOMES



KEY MAP
SCALE= 1"=500'

NO.	REVISIONS	DATE	BY

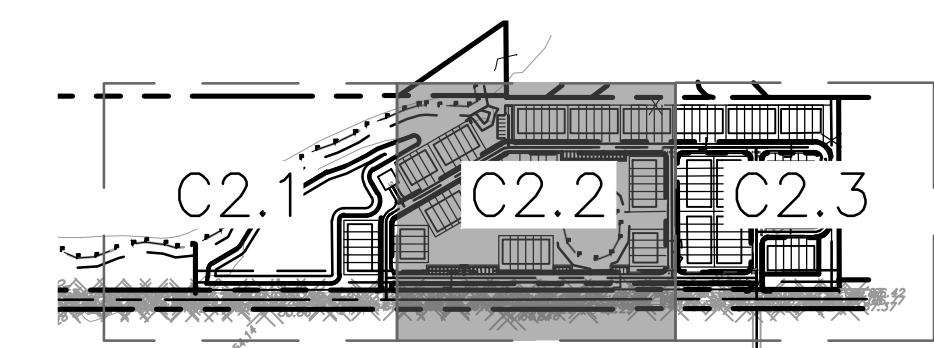
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GRAPHIC SCALE IN FEET
 0 15 30 60
 1" = 30'
 WHEN PRINTED AT FULL SIZE
 (24" X 36")

LEGEND

- CENTER LINE
- PROPERTY LINE
- EASEMENT / SETBACK LINE
- FEMA LINE
- WETLAND FLAGS
- SILT FENCE
- EXISTING CONTOUR
- PROPOSED CONTOUR



KEY MAP
 SCALE= 1":500'

Kimley»Horn				
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KHA PROJECT	DATE	SCALE AS SHOWN	DESIGNED BY	DRAWN BY
DATE	SCALE AS SHOWN	DESIGNED BY	DRAWN BY	CHECKED BY
PAVING, GRADING AND DRAINAGE PLAN		OVERALL DEVELOPMENT PLANS- E HIGHBANKS TOWNHOMES		
SHEET NUMBER C2.2		REVISIONS No. BY DATE		

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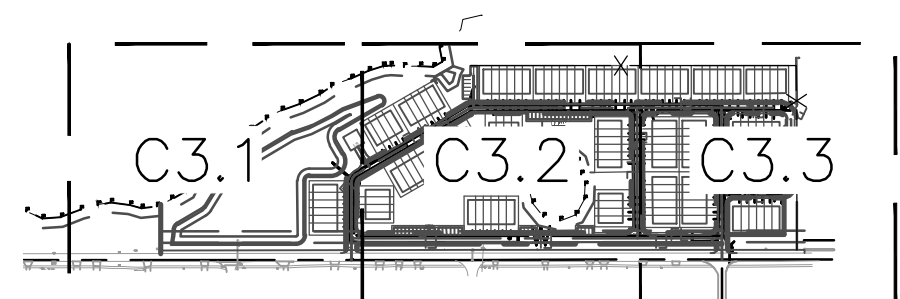
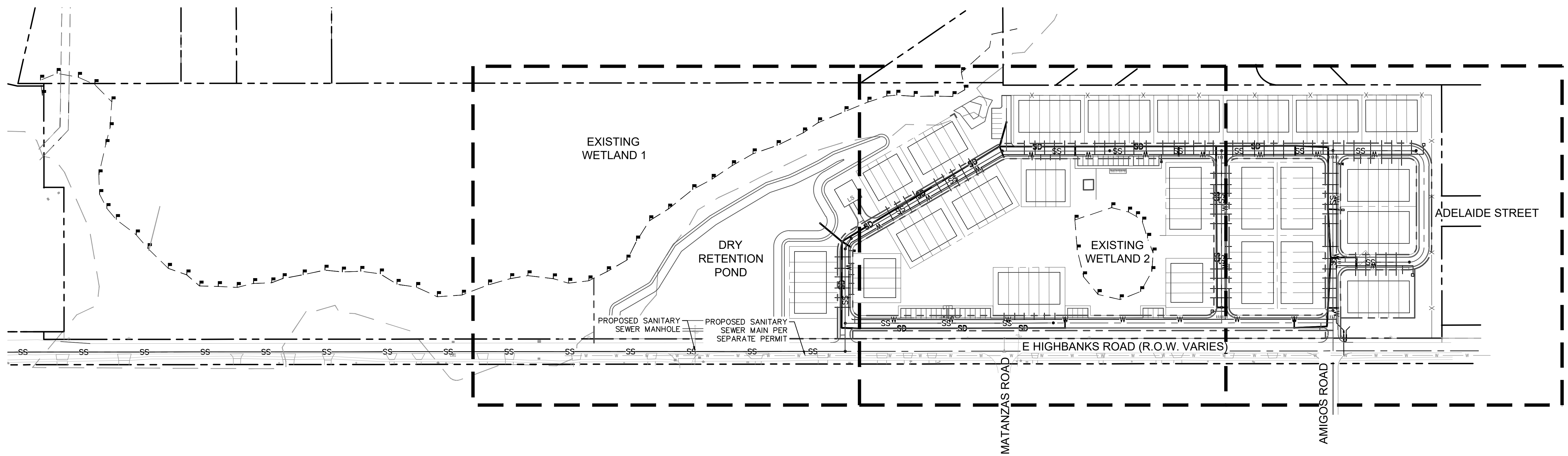
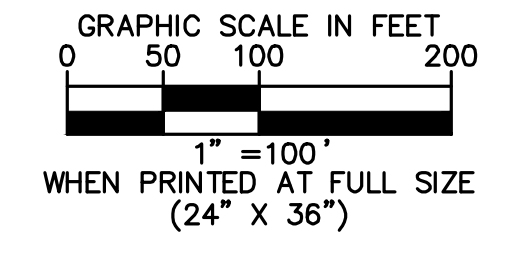
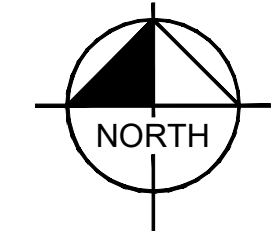
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GENERAL NOTES

1. A GRAVITY SEWER MAIN WILL BE PROVIDED AND SHALL DISCHARGE WASTEWATER INTO THE LIFT STATIONS LOCATED ON THE SOUTHWEST OF THE SITE.
2. FINAL GRAVITY SEWER MAIN AND FORCE MAIN LAYOUTS AND CONNECTIONS FOR ALL LOTS SHALL BE DETERMINED AT THE TIME OF INDIVIDUAL LOT DESIGN/CONSTRUCTION PERMITTING.
3. PROPOSED FORCE MAIN WILL CONNECT TO EXISTING FORCE MAIN TBD.
4. FINAL WATER MAIN LAYOUTS AND CONNECTIONS TO THE EXISTING WATER MAIN FOR ALL LOTS SHALL BE DETERMINED AT TIME OF INDIVIDUAL LOT DESIGN/CONSTRUCTION PERMITTING.
5. ALL FIRE FLOW, FIRE HYDRANT LAYOUT, AND FIRE LANE MARKINGS WILL BE ACCORDANCE WITH "THE FLORIDA FIRE PREVENTION CODE 6TH EDITION CHAPTER 18". THIS WILL BE INCORPORATED DURING CONSTRUCTION PLAN REVIEW WHEN STRUCTURES AND LOTS ARE PROPOSED.
6. THERE SHALL BE NO DISCHARGE OF LIQUID OR SOLID WASTES INTO ANY PUBLIC OR PRIVATE SEWAGE DISPOSAL SYSTEM, OR INTO OR ON THE GROUND, OR INTO ANY STREAM, WATERWAY, WATER BODY OR DRAINAGE CANAL, NOR ANY ACCUMULATION OF ANY LIQUID OR SOLID WASTES, IN VIOLATION OF THE APPLICABLE PROVISIONS OF THE COMPREHENSIVE PLAN, CHAPTER 4 OF THE CITY OF DEBARY LDC, OR APPLICABLE STATE STANDARDS.

LEGEND

- CENTER LINE
- PROPERTY LINE
- EASEMENT / SETBACK LINE
- FEMA ZONE A LINE
- WETLAND FLAGS
- W --- EXISTING WATER LINE
- SS --- EXISTING SANITARY SEWER LINE
- SD --- EXISTING STORM DRAIN LINE
- W --- PROPOSED WATER LINE
- SS --- PROPOSED SANITARY SEWER LINE

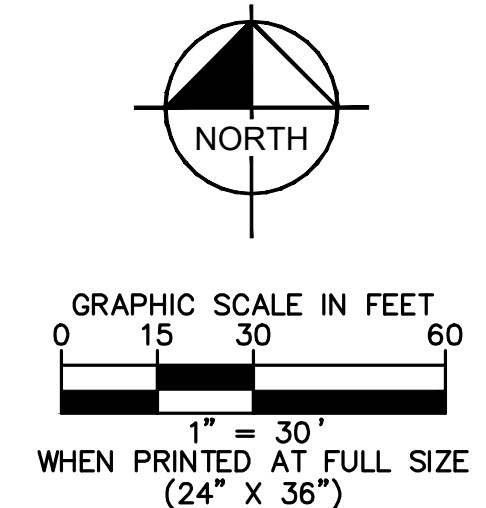
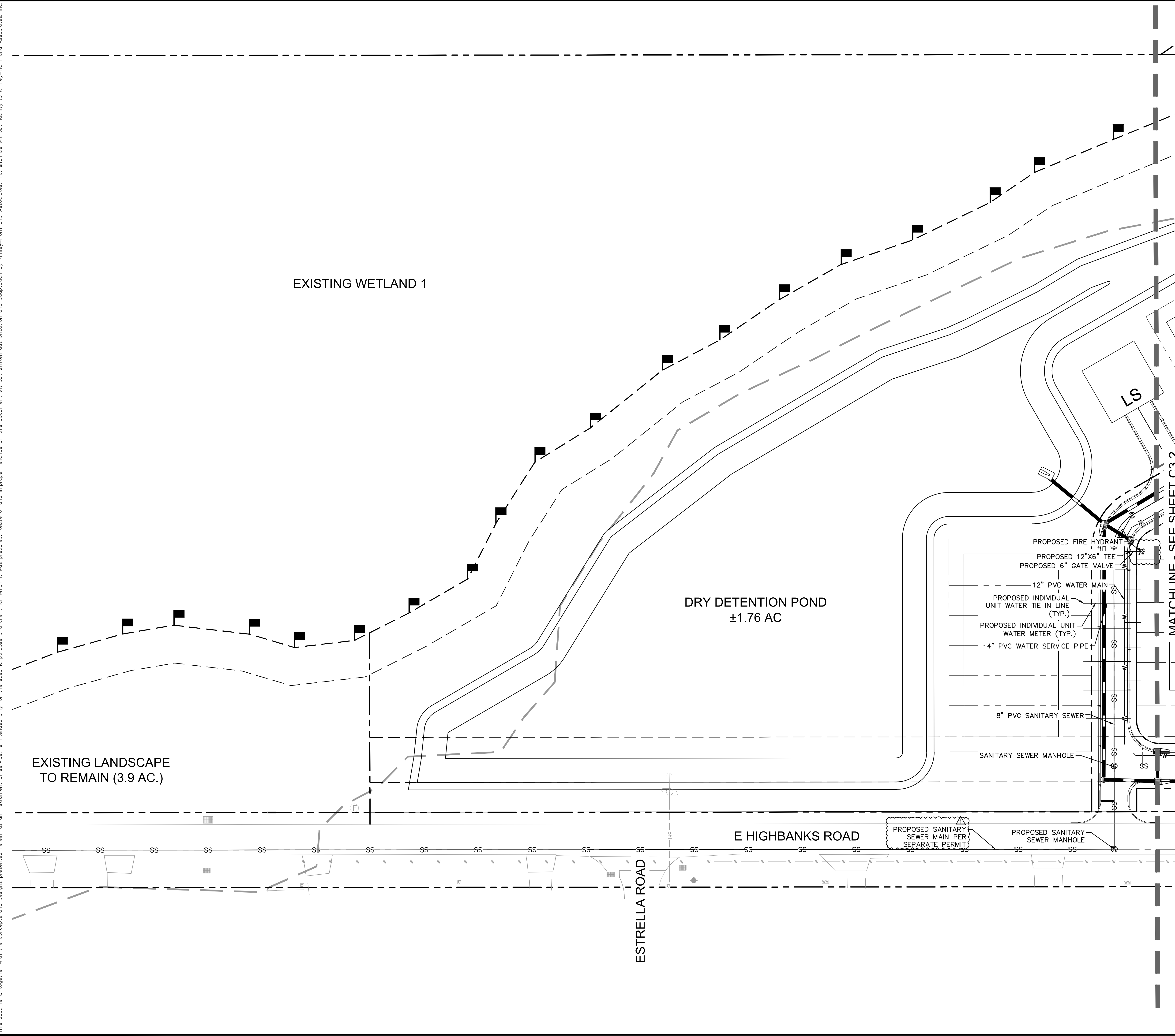


KEY MAP
SCALE= 1":500'

<p>189 S. ORANGE AVE., SUITE 1000, ORLANDO, FL 32801 PHONE: 407-898-1511 WWW.KIMLEY-HORN.COM REGISTRY No. 696</p>	<p>CITY OF DEBARY COMMENTS REVISION 09-20-23 DS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>No.</th> <th>REVISIONS</th> <th>DATE</th> <th>BY</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	No.	REVISIONS	DATE	BY				
	No.	REVISIONS	DATE	BY					
<p>KHA PROJECT</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>DATE</td> <td>SCALE AS SHOWN</td> </tr> <tr> <td>DESIGNED BY</td> <td>DRAWN BY</td> </tr> <tr> <td>CHECKED BY</td> <td> </td> </tr> </table>	DATE	SCALE AS SHOWN	DESIGNED BY	DRAWN BY	CHECKED BY		<p>OVERALL UTILITY PLAN</p>		
DATE	SCALE AS SHOWN								
DESIGNED BY	DRAWN BY								
CHECKED BY									
<p>OVERALL DEVELOPMENT PLANS- E HIGHBANKS TOWNHOMES</p>	<p>SHEET NUMBER C3.0</p>								

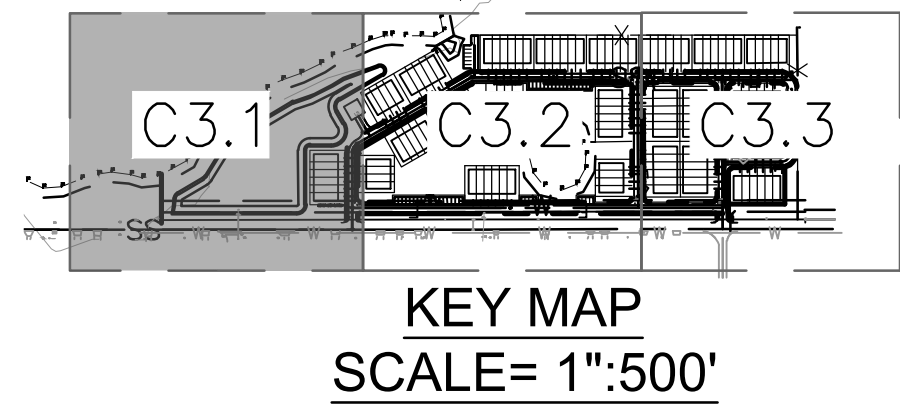
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LEGEND

---	CENTER LINE
---	PROPERTY LINE
---	EASEMENT / SETBACK LINE
---	FEMA ZONE A LINE
■	WETLAND FLAGS
W	EXISTING WATER LINE
SS	EXISTING SANITARY SEWER LINE
W	EXISTING STORM DRAIN LINE
W	PROPOSED WATER LINE
SS	PROPOSED SANITARY SEWER LINE



CITY OF DEBARY COMMENTS REVISION 09-20-23 DS

No.	REVISIONS	DATE	BY

Kimley»Horn
 189 S. ORANGE AVE., SUITE 1000, ORLANDO, FL 32801
 PHONE: 407-898-1511
 WWW.KIMLEY-HORN.COM REGISTRY No. 696

KHA PROJECT

DATE	
SCALE AS SHOWN	
DESIGNED BY	
DRAWN BY	
CHECKED BY	

UTILITY PLAN

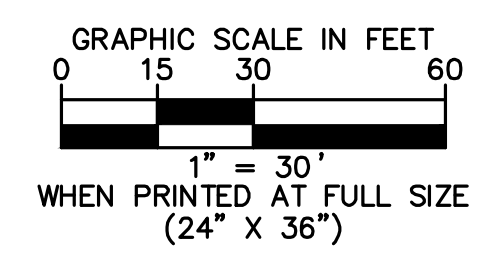
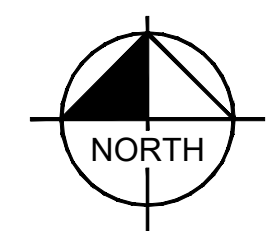
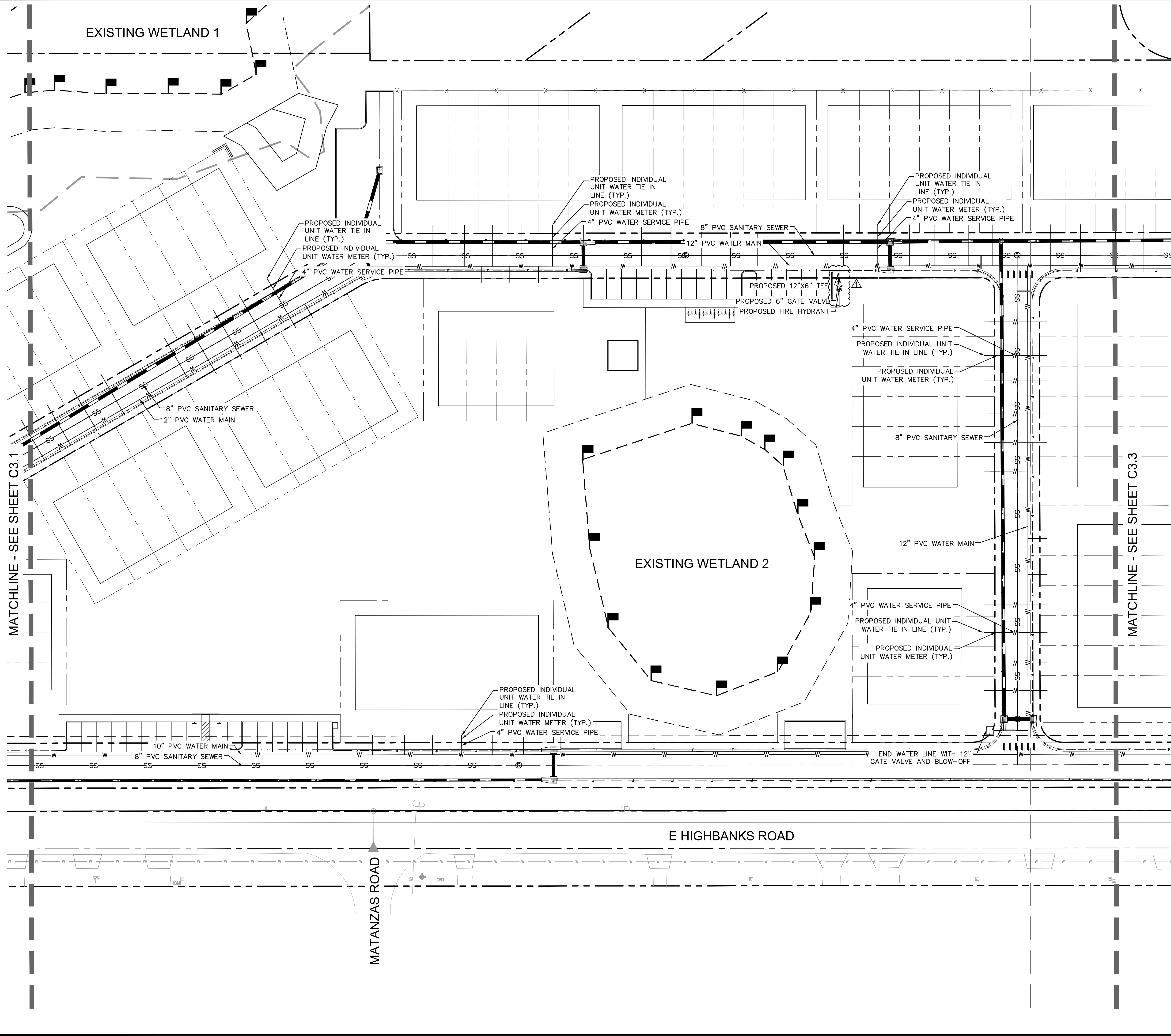
OVERALL DEVELOPMENT PLANS- E HIGHBANKS TOWNHOMES

SHEET NUMBER
C3.1

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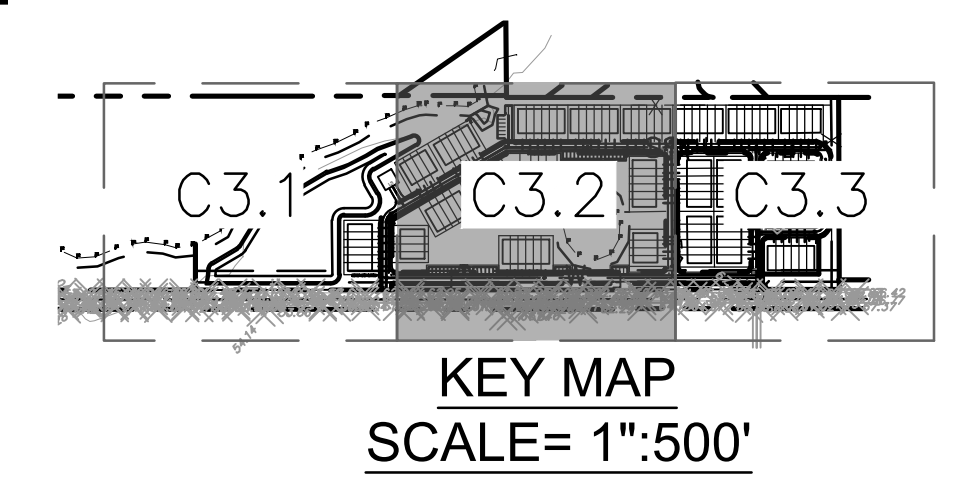
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LEGEND

	CENTER LINE
	PROPERTY LINE
	EASEMENT / SETBACK LINE
	FEMA ZONE A LINE
	WETLAND FLAGS
	EXISTING WATER LINE
	EXISTING SANITARY SEWER LINE
	EXISTING STORM DRAIN LINE
	PROPOSED WATER LINE
	PROPOSED SANITARY SEWER LINE



CITY OF DEBARY COMMENTS REVISION	09-20-23	DS
No.		REVISIONS
		DATE
		BY

Kimley»Horn
 189 S. ORANGE AVE., SUITE 1000, ORLANDO, FL 32801
 PHONE: 407-898-1511
 WWW.KIMLEY-HORN.COM REGISTRY No. 696

KHA PROJECT	DATE
SCALE AS SHOWN	DESIGNED BY
DRAWN BY	CHECKED BY

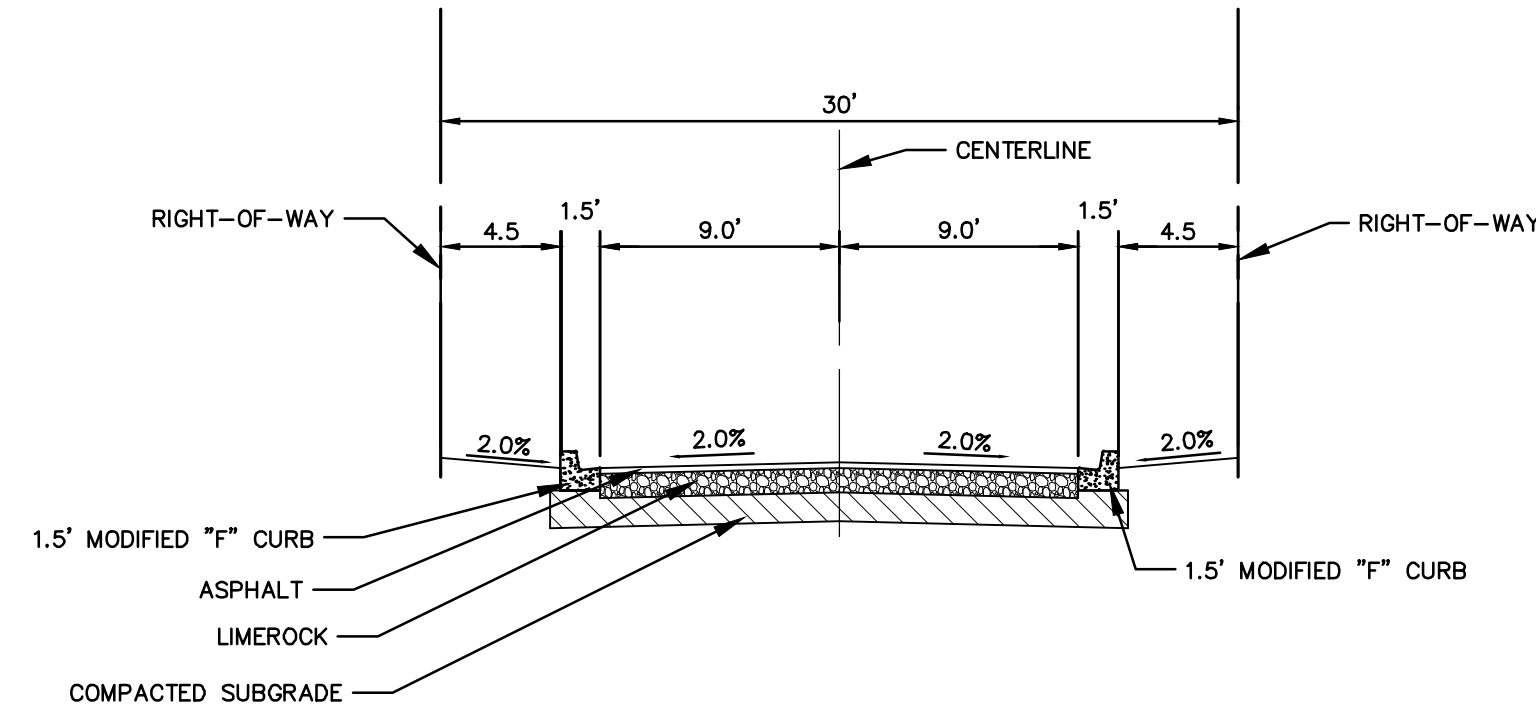
UTILITY PLAN

OVERALL DEVELOPMENT PLANS- E HIGHBANKS TOWNHOMES

SHEET NUMBER **C3.2**

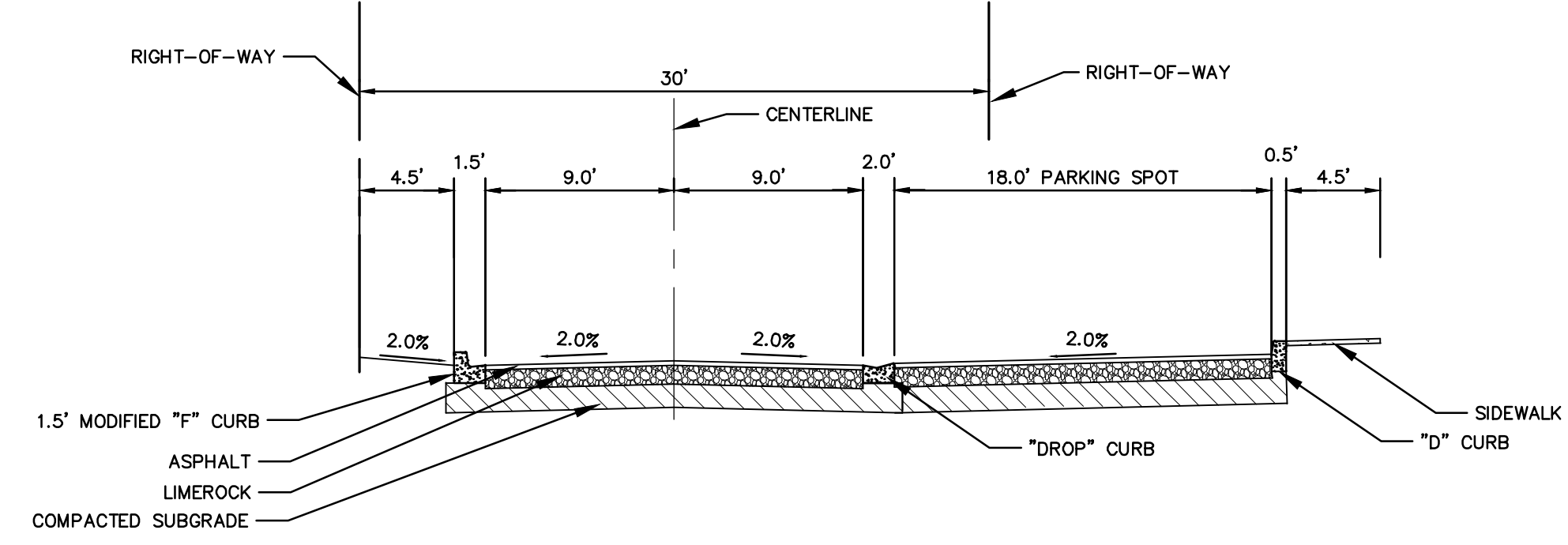
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Plotted By: Molton, Alex Sheet Set: 149303004 - Sanford MF @ STC Layout: C4.0 TYPICAL SECTIONS April 26, 2024 11:41:52am K:\proj_civil\249098007-a_highbanks_townhomes\CADD\ODP\plansheets\C4.0 - TYPICAL SECTIONS.dwg This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



TYPICAL NEIGHBORHOOD STREET SECTION-1

N.T.S.
PUBLIC ROAD / ROW
(FRONT LOADED LOTS)



TYPICAL NEIGHBORHOOD STREET SECTION-2

N.T.S.
PUBLIC ROAD / ROW
(FRONT LOADED LOTS)

OVERALL
DEVELOPMENT PLANS-
E HIGHBANKS
TOWNHOMES

TYPICAL SECTIONS

KHA PROJECT
DATE
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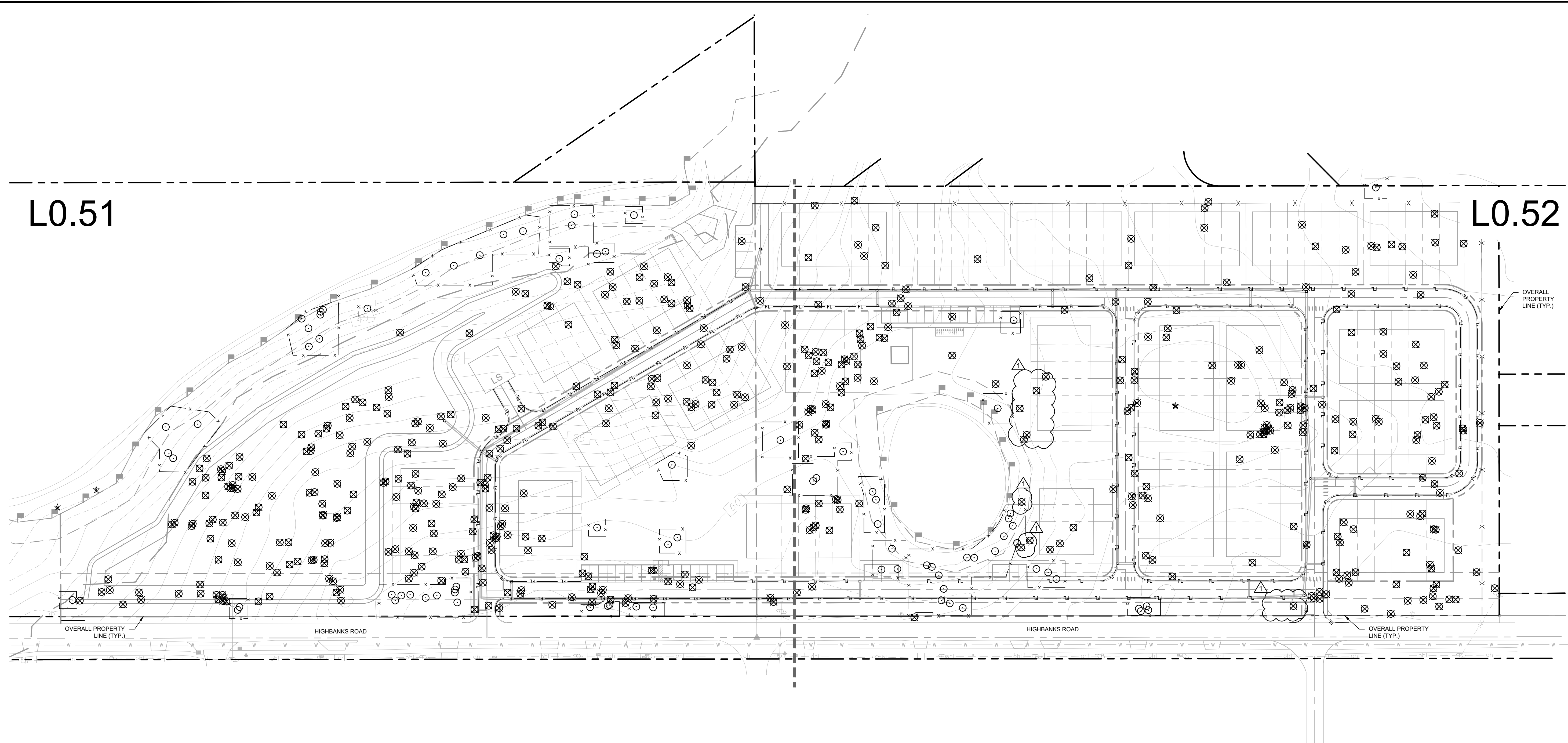
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No.	REVISIONS	DATE	BY

SHEET NUMBER
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LEGEND: SEE L0.53-L0.54 FOR TREE DATA TABLES

- SITE TREES PRESERVE IN PLACE
- TREES TO BE REMOVED
- SITE PALMS PRESERVE IN PLACE
- PALMS TO BE REMOVED
- TREE PROTECTION FENCE - MIN. 20' X 20'

TOTAL TREE PROTECTION FENCE AREA	47,370 SF
----------------------------------	-----------

TREE MITIGATION TABLE PER SEC 5-88	
REQUIRED:	
TOTAL SITE AREA	714,123
REQUIRED PROTECTION: (15%)	107,118.45
PROVIDED:	
WETLAND PRESERVATION AREA	24,139
OPEN SPACE	481,974.80
TOTAL	506,114
AREA TREE PROTECTION REQUIREMENT MET	

TREE DATA			
SPECIES	PRESERVE	REMOVE	TOTAL
BLACK CHERRY	0	8	8
MAGNOLIA	0	8	8
OAK	373	2,255	2,628
PALM	25	12	37
PINE	672	3,757	4,429
GRAND TOTAL	1,070	6,040	7,110

CROSS SECTIONAL CALCULATIONS	
TOTAL INCHES - SITE	7,039
TOTAL INCHES REMOVED	5,897
TOTAL INCHES PRESERVED	1,142
TOTAL INCHES REQUIRED FOR MITIGATION	5,897
TOTAL INCHES TO BE PROVIDED	1,086
TOTAL INCHES IN DEFICIT	4,811

GRAPHIC SCALE IN FEET
 0 30 60 120

NORTH

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 DIAL 811

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SUNSHINE STATE ONE CALL OF FLORIDA, INC.

REVISED PER CITY COMMENTS	DATE
	09/20/23 RYP

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KHA PROJECT 249096007
 DATE 03.31.2023
 SCALE AS SHOWN
 DESIGNED BY KHA
 DRAWN BY RYP
 CHECKED BY ASL
 DATE 4/26/2024

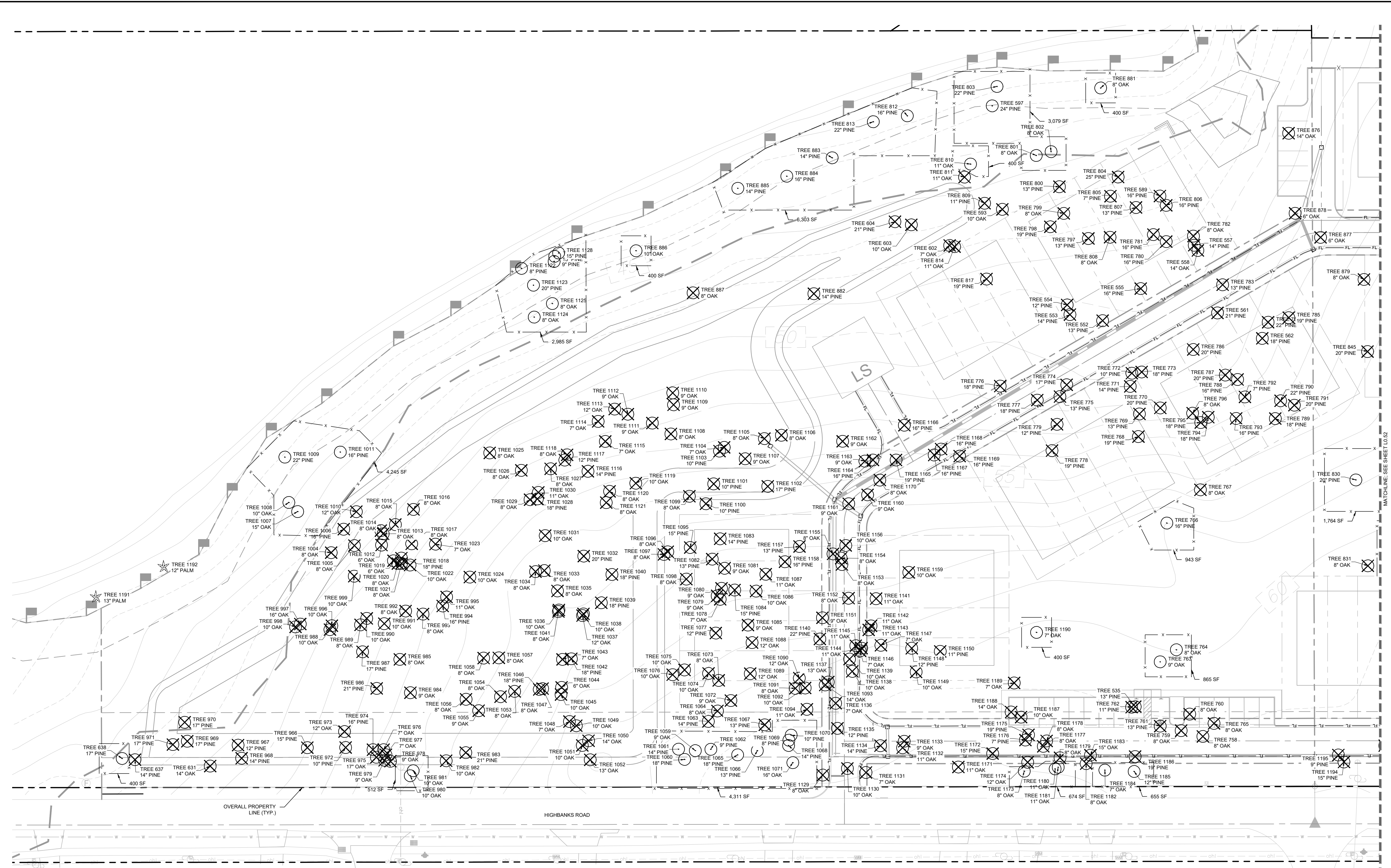
OVERALL TREE MITIGATION PLAN

E HIGHBANK TOWNHOMES

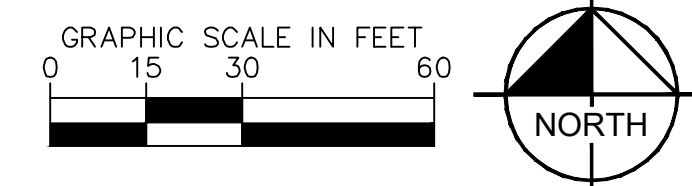
FLORIDA
 DEBARY
 SHEET NUMBER
L0.50

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 - TREES TO BE REMOVED
 - SITE PALMS PRESERVE IN PLACE
 - PALMS TO BE REMOVED
 - TREE PROTECTION FENCE - MIN. 20' X 20'



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DATE	03.31.2023
SCALE	AS SHOWN
DESIGNED BY	KHA
DRAWN BY	RYP
CHECKED BY	ASL
DATE	4/26/2024

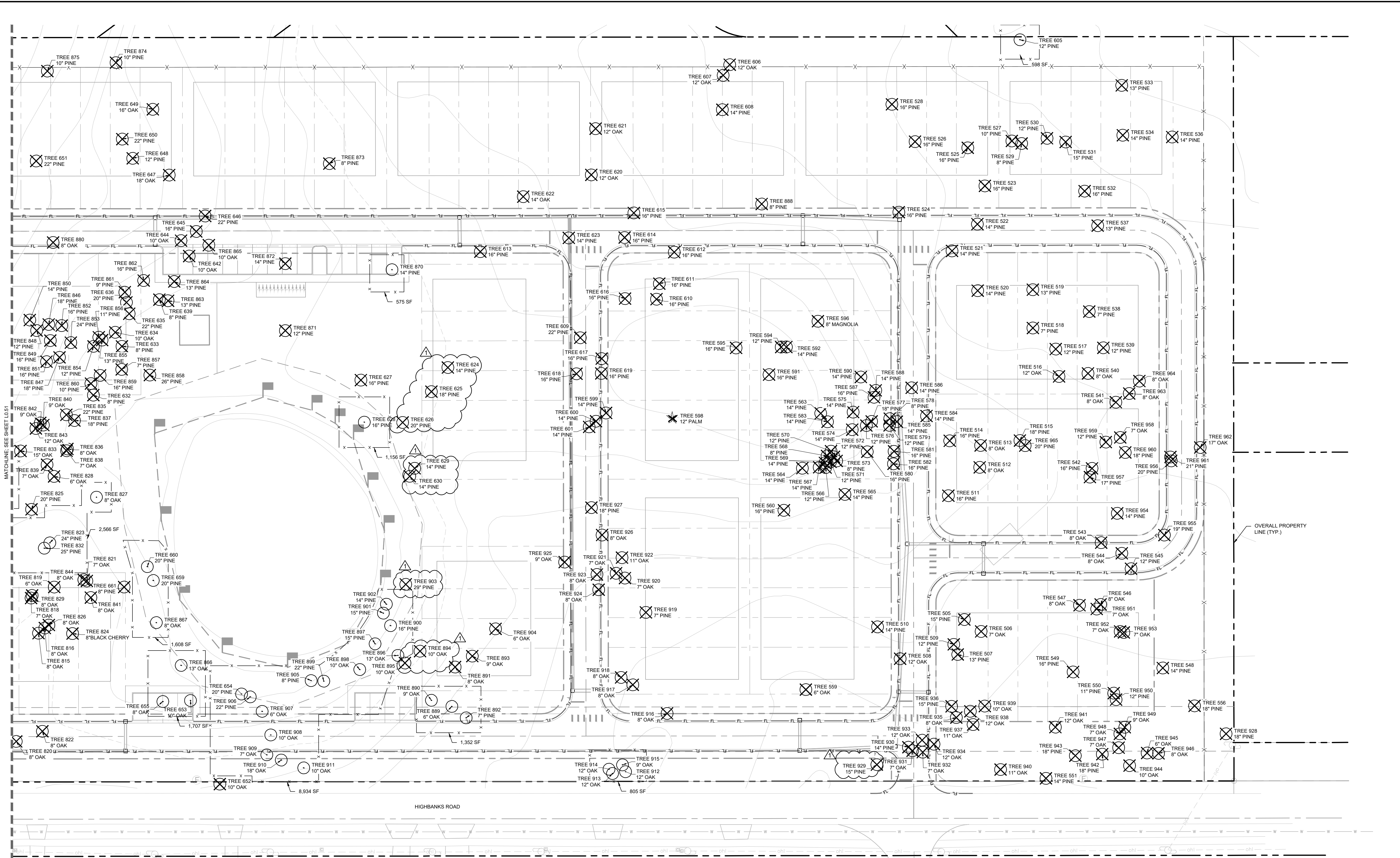
TREE MITIGATION PLAN

E HIGHBANK TOWNHOMES
 FLORIDA
 SHEET NUMBER
L0.51

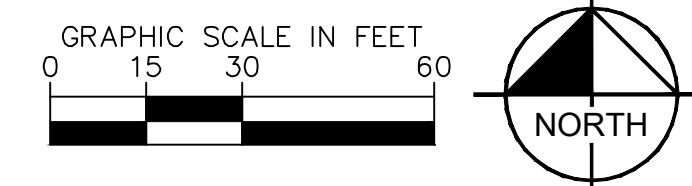
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 - TREES TO BE REMOVED
 - SITE PALMS PRESERVE IN PLACE
 - PALMS TO BE REMOVED
 - TREE PROTECTION FENCE - MIN. 20' X 20'



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 DATE 03.31.2023
 SCALE AS SHOWN
 DESIGNED BY KHA
 DRAWN BY RYP
 CHECKED BY ASIL DATE: 4/26/2024

TREE MITIGATION PLAN

E HIGHBANK TOWNHOMES
 FLORIDA
 DEBARY
 SHEET NUMBER L0.52

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TREE NUMBER	SPECIES	DBH (INCHES)	ACTION	DESCRIPTION
505	PINE	15"	REMOVE	
506	OAK	7"	REMOVE	
507	PINE	13"	REMOVE	
508	OAK	12"	REMOVE	
509	PINE	12"	REMOVE	
510	PINE	14"	REMOVE	
511	PINE	16"	REMOVE	
512	OAK	8"	REMOVE	
513	OAK	8"	REMOVE	
514	PINE	16"	REMOVE	
515	PINE	18"	REMOVE	
516	OAK	12"	REMOVE	
517	PINE	12"	REMOVE	
518	PINE	7"	REMOVE	
519	PINE	13"	REMOVE	
520	PINE	14"	REMOVE	
521	PINE	14"	REMOVE	
522	PINE	14"	REMOVE	
523	PINE	16"	REMOVE	
524	PINE	16"	REMOVE	
525	PINE	16"	REMOVE	
526	PINE	16"	REMOVE	
527	PINE	10"	REMOVE	
528	PINE	16"	REMOVE	
529	PINE	8"	REMOVE	
530	PINE	12"	REMOVE	
531	PINE	15"	REMOVE	
532	PINE	16"	REMOVE	
533	PINE	13"	REMOVE	
534	PINE	14"	REMOVE	
535	PINE	13"	REMOVE	
536	PINE	14"	REMOVE	
537	PINE	13"	REMOVE	
538	PINE	7"	REMOVE	
539	PINE	12"	REMOVE	
540	OAK	8"	REMOVE	
541	OAK	8"	REMOVE	
542	PINE	16"	REMOVE	
543	OAK	8"	REMOVE	
544	OAK	8"	REMOVE	
545	PINE	12"	REMOVE	
546	OAK	8"	REMOVE	
547	OAK	8"	REMOVE	
548	PINE	14"	REMOVE	
549	PINE	16"	REMOVE	
550	PINE	11"	REMOVE	
551	PINE	14"	REMOVE	
552	PINE	13"	REMOVE	
553	PINE	14"	REMOVE	
554	PINE	12"	REMOVE	
555	PINE	16"	REMOVE	
556	PINE	18"	REMOVE	
557	PINE	14"	REMOVE	
558	OAK	14"	REMOVE	
559	OAK	6"	REMOVE	
560	PINE	16"	REMOVE	
561	PINE	21"	REMOVE	
562	PINE	18"	REMOVE	
563	PINE	14"	REMOVE	
564	PINE	14"	REMOVE	
565	PINE	14"	REMOVE	
566	PINE	12"	REMOVE	
567	PINE	14"	REMOVE	
568	PINE	8"	REMOVE	
569	PINE	14"	REMOVE	
570	PINE	12"	REMOVE	
571	PINE	12"	REMOVE	
572	PINE	12"	REMOVE	
573	PINE	8"	REMOVE	
574	PINE	14"	REMOVE	
575	PINE	14"	REMOVE	
576	PINE	12"	REMOVE	
577	PINE	18"	REMOVE	
578	PINE	8"	REMOVE	
579	PINE	12"	REMOVE	
580	PINE	16"	REMOVE	
581	PINE	16"	REMOVE	
582	PINE	16"	REMOVE	
583	PINE	14"	REMOVE	
584	PINE	14"	REMOVE	
585	PINE	14"	REMOVE	
586	PINE	14"	REMOVE	
587	PINE	16"	REMOVE	
588	PINE	14"	REMOVE	
589	PINE	16"	REMOVE	
590	PINE	14"	REMOVE	
591	PINE	16"	REMOVE	
592	PINE	14"	REMOVE	
593	OAK	10"	REMOVE	
594	PINE	12"	REMOVE	
595	PINE	16"	REMOVE	
596	MAGNOLIA	8"	REMOVE	
597	PINE	24"	PRESERVE	
598	PALM	12"	REMOVE	
599	PINE	14"	REMOVE	
600	PINE	14"	REMOVE	
601	PINE	14"	REMOVE	
602	OAK	7"	REMOVE	
603	OAK	10"	REMOVE	
604	PINE	21"	REMOVE	

TREE NUMBER	SPECIES	DBH (INCHES)	ACTION	DESCRIPTION
605	PINE	12"	PRESERVE	
606	OAK	12"	REMOVE	
607	OAK	12"	REMOVE	
608	PINE	14"	REMOVE	
609	PINE	22"	REMOVE	
610	PINE	16"	REMOVE	
611	PINE	16"	REMOVE	
612	PINE	16"	REMOVE	
613	PINE	16"	REMOVE	
614	PINE	16"	REMOVE	
615	PINE	16"	REMOVE	
616	PINE	16"	REMOVE	
617	PINE	16"	REMOVE	
618	PINE	16"	REMOVE	
619	PINE	16"	REMOVE	
620	OAK	12"	REMOVE	
621	OAK	12"	REMOVE	
622	OAK	14"	REMOVE	
623	PINE	14"	REMOVE	
624	PINE	14"	REMOVE	
625	PINE	18"	REMOVE	
626	PINE	20"	REMOVE	
627	PINE	16"	REMOVE	
628	PINE	16"	PRESERVE	
629	PINE	14"	REMOVE	
630	PINE	14"	REMOVE	
631	OAK	14"	REMOVE	
632	PINE	8"	REMOVE	
633	PINE	8"	REMOVE	
634	OAK	10"	REMOVE	
635	PINE	22"	REMOVE	
636	PINE	20"	REMOVE	
637	PINE	14"	REMOVE	
638	PINE	17"	PRESERVE	
639	PINE	8"	REMOVE	
642	OAK	10"	REMOVE	
644	OAK	10"	REMOVE	
645	PINE	16"	REMOVE	
646	PINE	22"	REMOVE	
647	OAK	18"	REMOVE	SPECIMEN
648	PINE	12"	REMOVE	
649	OAK	16"	REMOVE	
650	PINE	22"	REMOVE	
651	PINE	22"	REMOVE	
652	OAK	10"	REMOVE	
653	OAK	10"	PRESERVE	
654	PINE	20"	PRESERVE	
655	OAK	8"	PRESERVE	
659	PINE	20"	PRESERVE	
660	PINE	20"	PRESERVE	
661	PINE	8"	REMOVE	
758	OAK	8"	REMOVE	
759	OAK	8"	REMOVE	
760	OAK	8"	REMOVE	
761	PINE	13"	REMOVE	
762	PINE	11"	REMOVE	
763	OAK	9"	PRESERVE	
764	OAK	8"	PRESERVE	
765	OAK	8"	REMOVE	
766	PINE	16"	PRESERVE	
767	OAK	8"	REMOVE	
768	PINE	19"	REMOVE	
769	PINE	13"	REMOVE	
770	PINE	20"	REMOVE	
771	PINE	14"	REMOVE	
772	PINE	10"	REMOVE	
773	PINE	18"	REMOVE	
774	PINE	17"	REMOVE	
775	PINE	13"	REMOVE	
776	PINE	18"	REMOVE	
777	PINE	18"	REMOVE	
778	PINE	19"	REMOVE	
779	PINE	12"	REMOVE	
780	PINE	16"	REMOVE	
781	PINE	16"	REMOVE	
782	OAK	8"	REMOVE	
783	PINE	13"	REMOVE	
784	PINE	22"	REMOVE	
785	PINE	19"	REMOVE	
786	PINE	20"	REMOVE	
787	PINE	20"	REMOVE	
788	PINE	16"	REMOVE	
789	PINE	18"	REMOVE	
790	PINE	22"	REMOVE	
791	PINE	20"	REMOVE	
792	PINE	7"	REMOVE	
793	PINE	16"	REMOVE	
794	PINE	18"	REMOVE	
795	PINE	18"	REMOVE	
796	OAK	8"	REMOVE	
797	PINE	13"	REMOVE	
798	PINE	19"	REMOVE	
799	OAK	8"	REMOVE	
800	PINE	13"	REMOVE	
801	OAK	8"	PRESERVE	
802	OAK	8"	PRESERVE	
803	PINE	22"	PRESERVE	
804	PINE	25"	REMOVE	
805	PINE	7"	REMOVE	
806	PINE	16"	REMOVE	

TREE NUMBER	SPECIES	DBH (INCHES)	ACTION	DESCRIPTION
807	PINE	13"	REMOVE	
808	OAK	8"	REMOVE	
809	PINE	11"	REMOVE	
810	OAK	11"	PRESERVE	
811	OAK	11"	REMOVE	
812	PINE	16"	PRESERVE	
813	PINE	22"	PRESERVE	
814	OAK	11"	REMOVE	
815	OAK	8"	REMOVE	
816	OAK	8"	REMOVE	
817	PINE	19"	REMOVE	
818	OAK	7"	REMOVE	
819	OAK	6"	REMOVE	
820	OAK	8"	REMOVE	
821	OAK	7"	REMOVE	
822	OAK	8"	REMOVE	
823	PINE	24"	PRESERVE	
824	BLACK CHERRY	8"	REMOVE	
825	PINE	20"	REMOVE	
826	OAK	8"	REMOVE	
827	OAK	8"	PRESERVE	
828	OAK	6"	REMOVE	
829	OAK	8"	REMOVE	
830	PINE	20"	PRESERVE	
831	OAK	8"	REMOVE	
832	PINE	25"	PRESERVE	
833	OAK	15"	REMOVE	
835	PINE	22"	REMOVE	
836	OAK	8"	REMOVE	
837	PINE	18"	REMOVE	
838	OAK	7"	REMOVE	
839	OAK	7"	REMOVE	
840	OAK	9"	REMOVE	
841	OAK	8"	REMOVE	
842	OAK	9"	REMOVE	
843	OAK	12"	REMOVE	
844	OAK	8"	REMOVE	
845	PINE	20"	REMOVE	
846	PINE	18"	REMOVE	
847	PINE	18"	REMOVE	
848	PINE	12"	REMOVE	
849	PINE	16"	REMOVE	
850	PINE	14"	REMOVE	
851	PINE	16"	REMOVE	
852	PINE	16"	REMOVE	
853	PINE	24"	REMOVE	
854	PINE	12"	REMOVE	
855	PINE	13"	REMOVE	
856	PINE	11"	REMOVE	
857	PINE	7"	REMOVE	
858	PINE	26"	REMOVE	
859	PINE	16"	REMOVE	
860	PINE	10"	REMOVE	
861	PINE	9"	REMOVE	
862	PINE	16"	REMOVE	
863	PINE	13"	REMOVE	
864	PINE	13"	REMOVE	
865	OAK	10"	REMOVE	
866	OAK	13"	PRESERVE	
867	OAK	8"	PRESERVE	
870	PINE	14"	PRESERVE	
871	PINE	12"	REMOVE	
872	PINE	14"	REMOVE	
873	PINE	8"	REMOVE	
874	PINE	10"	REMOVE	
875	PINE	10"	REMOVE	
876	OAK	14"	REMOVE	
877	OAK	6"	REMOVE	
878	OAK	6"	REMOVE	
879	OAK	8"	REMOVE	
880	OAK	8"	REMOVE	
881	OAK	8"	PRESERVE	
882	PINE	14"	REMOVE	
883	PINE	14"	PRESERVE	
884	PINE	16"	PRESERVE	
885	PINE	14"	PRESERVE	
886	OAK	10"	PRESERVE	
887	OAK	8"	REMOVE	
888	PINE	8"	REMOVE	
889	OAK	6"	PRESERVE	
890	OAK	9"	PRESERVE	
891	OAK	8"	REMOVE	
892	PINE	7"	PRESERVE	
893	OAK	9"	REMOVE	
894	OAK	10"	REMOVE	
895	OAK	10"	REMOVE	
896	OAK	13"	PRESERVE	
897	PINE	15"	PRESERVE	
898	OAK	10"	PRESERVE	
899	PINE	22"	PRESERVE	
900	PINE	16"	PRESERVE	
901	PINE	15"	PRESERVE	
902	PINE	14"	PRESERVE	
903	PINE	29"	REMOVE	
904	OAK	6"	REMOVE	
905	PINE	8"	PRESERVE	
906	PINE	22"	PRESERVE	
907	OAK	6"	PRESERVE	
908	OAK	10"	PRESERVE	
909	OAK	7"	PRESERVE	

TREE NUMBER	SPECIES	DBH (INCHES)	ACTION	DESCRIPTION
910	OAK	18"	PRESERVE	SPECIMEN
911	OAK	10"	PRESERVE	
912	OAK	12"	PRESERVE	
913	OAK	12"	PRESERVE	
914	OAK	12"	PRESERVE	
915	OAK	9"	PRESERVE	
916	OAK	8"	REMOVE	
917	OAK	8"	REMOVE	
918	OAK	8"	REMOVE	
919	PINE	7"	REMOVE	
920	OAK	7"	REMOVE	
921	OAK	7"	REMOVE	
922	OAK	11"	REMOVE	
923	OAK	8"	REMOVE	
924	OAK	8"	REMOVE	
925	OAK	9"	REMOVE	
926	OAK	8"	REMOVE	
927	PINE	18"	REMOVE	
928	PINE	18"	REMOVE	
929	PINE	15"	REMOVE	
930	PINE	14"	REMOVE	
931	OAK	7"	REMOVE	
932	OAK	7"	REMOVE	
933	OAK	12"	REMOVE	
934				

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Plotfile: By: Location: Alex_Sheet: Set: E_HIGHBANK_TOWNHOMES_Layout: L0.55 - April 26, 2024 - 11:46:12am - K:\verif_e\civil\240909007-e_highbanks_townhomes\CADD\cdd\plantables\LO.55 - TREE MITIGATION PLAN.dwg
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TREE MITIGATION SPECIFICATIONS

A. GENERAL

- 1. CONTRACTOR SHALL ADHERE TO ALL TREE PROTECTION REQUIREMENTS LISTED IN THESE SPECIFICATIONS AND/OR THOSE LISTED IN THE CITY OR COUNTY ZONING CODE, TREE PROTECTION (LATEST EDITION), WHICHEVER IS MORE STRINGENT SHALL APPLY.
2. CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION PROCEDURES WITH THE PROJECT ARBORIST PRIOR TO BEGINNING WORK.
3. ANY AREAS SUBJECT TO EROSION MUST BE ADEQUATELY STABILIZED WITH VEGETATION MATERIAL THAT WILL, WITHIN A REASONABLE TIME FRAME, DETER SOIL DISTURBANCE.
4. NO SIGNS, BUILDING PERMITS, WIRES OR OTHER ATTACHMENTS OF ANY KIND SHALL BE ATTACHED TO ANY TREE OR PALM. GUY WIRES DESIGNED TO PROTECT TREES ARE EXCLUDED FROM THIS PROHIBITION.
5. EXISTING TREE LOCATIONS AND SIZES ARE ESTIMATES AND ARE BASED ON A SURVEY PROVIDED BY THE OWNER SELECTED SURVEYOR.
6. CONTRACTOR SHALL COORDINATE TREE REMOVAL WITH PERMITTING AGENCY AND PROJECT ARBORIST PRIOR TO CONSTRUCTION. NO PERSON MAY REMOVE OR CAUSE TO BE REMOVED ANY PROTECTED TREE OR PALM WITHOUT FIRST HAVING PROCURED A PERMIT AS PROVIDED BY THE APPROPRIATE PERMITTING AGENCY.
7. FOR PROTECTED TREES OR PALMS BEING REMOVED, THE CONTRACTOR MUST GIVE THE PERMITTING AGENCY REASONABLE OPPORTUNITY TO RELOCATE TREES DESIGNATED FOR REMOVAL TO ANOTHER SITE AT THE PERMITTING AGENCY'S EXPENSE.
8. CONTRACTOR IS RESPONSIBLE FOR POSSESSING ALL REQUIRED APPLICATOR LICENSES, BUSINESS REGISTRATIONS AND INSURANCE, PESTICIDE LABELS, AND MATERIAL DATA SAFETY SHEETS. THE CONTRACTOR IS ALSO RESPONSIBLE FOR HAVING ALL SPILL CONTAINMENT MATERIALS AND REQUIRED PERSONAL PROTECTIVE EQUIPMENT FOR PESTICIDE APPLICATIONS AND ACCIDENTAL SPILLS ON SITE AT ALL TIMES. THE OWNER RESERVES THE RIGHT TO INSPECT EACH APPLICATOR AND HAVE THESE MATERIALS PRESENTED BEFORE AND DURING ANY PESTICIDE TREATMENT.
9. WHERE TRAFFIC AREAS ARE PROPOSED WITHIN THE DRIP LINE OF PROTECTED TREES AND LESS THAN FOUR (4) INCHES OF GRADE CHANGE ARE PROPOSED, PERMEABLE SURFACES THAT ALLOW AIR AND WATER INTO THE SOIL SHOULD BE USED IN LIEU OF ASPHALT OR OTHER SUCH IMPERVIOUS SURFACES.
10. TREE WELLS OF AN APPROVED DESIGN SHALL BE CONSTRUCTED AROUND ALL TREES TO BE PRESERVED WHEN MORE THAN FOUR INCHES OF FILL IS TO BE DEPOSITED WITHIN THE DRIP LINE AREA OF THOSE TREES. COORDINATE WITH PROJECT ARBORIST.
11. THE SEQUENCE OF TREE MITIGATION AND PRESERVATION MEASURES IS IMPERATIVE TO THE HEALTH AND SURVIVABILITY OF THE SUBJECT TREES AND SHALL BE COORDINATED WITH THE OWNER SELECTED PROJECT ARBORIST. THE DESIRED SEQUENCE IS OUTLINED BELOW:
a. TREE PROTECTION FENCING.
b. ROOT PRUNING AND ROOT BARRIERS.
c. CLEARING.
d. TREE CANOPY PRUNING.
e. FERTILIZATION.
f. INSECTICIDE.
g. IRRIGATION.

B. TREE PROTECTION FENCING

- 1. PRIOR TO THE ERECTION OF ANY TREE PROTECTION FENCING, ALL FOREIGN SURFACE MATERIAL, TRASH OR DEBRIS SHALL BE REMOVED FROM THE AREA TO BE ENCLOSED BY THE FENCING. AFTER ERECTION OF THE FENCING NO SUCH MATERIAL OR LITTER SHALL BE PERMITTED TO REMAIN WITHIN THE PROTECTED AREA.
2. TREE PROTECTION FENCING SHALL BE PLACED AROUND ALL PROTECTED TREES TO CREATE A PROTECTIVE ROOT ZONE AND SHALL REMAIN IN PLACE UNTIL SITE CLEARING, LAND ALTERATION, AND CONSTRUCTION ACTIVITIES ARE COMPLETE.
3. NATIVE GROUND COVER AND UNDERSTORY VEGETATION EXISTING WITHIN THE PROTECTED AREA SHALL REMAIN THROUGHOUT CONSTRUCTION. OTHER DESIGNATED VEGETATION AND INVASIVE PLANT SPECIES SHALL BE REMOVED ONLY BY MANUAL LABOR UTILIZING HAND TOOLS, OR BY OTHER METHODS APPROVED BY THE PROJECT ARBORIST.
4. TREE PROTECTION FENCING TYPES AND LOCATIONS SHALL BE ERECTED AS SHOWN ON THE TREE MITIGATION PLANS AND DETAILS, OR AS REQUESTED BY LOCAL AGENCY.
5. FINAL LOCATIONS SHALL BE COORDINATED WITH AND APPROVED BY THE PROJECT ARBORIST.
6. NO MATERIALS, EQUIPMENT, SPOIL, WASTE OR WASHOUT WATER MAY BE DEPOSITED, STORED, OR PARKED WITHIN 20 FEET OF THE TREE PROTECTION ZONE.
7. EROSION CONTROL DEVICES SUCH AS SILT FENCING, DEBRIS BASINS, AND WATER DIVERSION STRUCTURES SHALL BE INSTALLED TO PREVENT SILTATION AND/OR EROSION WITHIN THE TREE PROTECTION ZONE.
8. CONSTRUCTION ACTIVITY SHALL NOT DESTROY OR IRREVERSIBLY HARM THE ROOT SYSTEM OF PROTECTED TREES. POST HOLES AND TRENCHES LOCATED CLOSE TO PROTECTED TREES SHALL BE ADJUSTED TO AVOID DAMAGE TO MAJOR ROOTS.
9. DO NOT INSTALL CONDUIT, DRAIN OR IRRIGATION LINES, OR ANY UTILITY LINE WITHIN THE TREE PROTECTION ZONE WITHOUT THE APPROVAL OF THE PROJECT ARBORIST. IF LINES MUST TRAVERSE THE PROTECTION AREA, THEY SHALL BE TUNNELED OR BORED UNDER THE TREE.
10. CONTRACTOR'S ACCESS TO FENCED TREE PROTECTION AREAS WILL BE PERMITTED ONLY WITH APPROVAL OF THE PROJECT ARBORIST.
11. EXCAVATION OR GRADING REQUIRED WITHIN THE PROTECTED AREA SHALL BE LIMITED TO THREE (3) INCHES OF CUT OR FILL. COORDINATE WITH PROJECT ARBORIST.
12. STRUCTURES AND UNDERGROUND FEATURES TO BE REMOVED WITHIN THE TREE PROTECTION ZONE SHALL BE COORDINATED WITH THE PROJECT ARBORIST.
13. TREE PROTECTION FENCING AROUND TREES TO BE RELOCATED SHALL BE ERECTED UNTIL THE TREE IS READY TO BE RELOCATED AND NEW FENCING SHALL BE ERECTED AT THE TREES NEW LOCATION AND WILL REMAIN IN PLACE UNTIL ALL CONSTRUCTION ACTIVITIES ARE COMPLETE.
14. IF ANY DAMAGE TO TREE PROTECTION FENCING SHOULD OCCUR BY ACCIDENT OR NEGLIGENCE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMMEDIATE REPAIRS.
15. IF TEMPORARY HAUL OR ACCESS ROADS MUST PASS OVER THE PROTECTED AREA OF TREES TO BE PRESERVED, A ROAD BED OF SIX (6) INCHES OF MULCH OR GRAVEL SHALL BE CREATED TO PROTECT THE SOIL. THE ROAD BED MATERIAL SHALL BE REPLENISHED AS NECESSARY TO MAINTAIN A SIX (6) INCH ROAD BED AT ALL TIMES. CONTRACTOR SHALL REMOVE ALL SUCH MATERIALS FROM THE SITE AS SOON AS TEMPORARY ACCESS IS NO LONGER NECESSARY.
16. CONTRACTOR SHALL COORDINATE WITH THE PROJECT ARBORIST PRIOR TO THE REMOVAL OF ALL TREE PROTECTION FENCING.

C. ROOT PRUNING/TRENCHING

- 1. TRENCHING LOCATIONS SHALL BE APPROVED IN THE FIELD BY THE PROJECT ARBORIST.
2. TRENCHING EQUIPMENT THAT WILL TURN AT HIGH RPM'S IS PREFERRED, AND SHALL BE APPROVED BY THE PROJECT ARBORIST. APPROVED EQUIPMENT WILL BE USED TO PERFORM ALL ROOT PRUNING OPERATIONS. A MINIMUM DEPTH OF THREE FEET IS REQUIRED.
3. INSTALL ROOT BARRIER WHERE DESIGNATED. SEE TREE MITIGATION PLAN AND DETAIL SHEETS.
4. THE TRENCH SHALL BE BACKFILLED WITH PREVIOUSLY EXCAVATED SOIL AND COMPACTED IMMEDIATELY.
5. TREES TO BE RELOCATED SHALL BE ROOT PRUNED A MINIMUM OF TWELVE (12) WEEKS PRIOR TO TREE RELOCATION.
6. WHEN THE TREE ROOT ZONE WILL BE DISTURBED, AFFECTED ROOTS MUST BE SEVERED BY CLEAN PRUNING CUTS AT THE POINT WHERE CONSTRUCTION IMPACTS THE ROOTS.

D. CLEARING

- 1. ANY BRUSH CLEARING REQUIRED WITHIN THE TREE PROTECTION ZONE SHALL BE ACCOMPLISHED WITH HAND-OPERATED EQUIPMENT.
2. CONTRACTOR SHALL CLEAR ALL TREE PROTECTION AREAS OF VINES, SHRUBS, GROUND COVERS, WEEDS, SAPLINGS, AND INVASIVES LISTED ON THE LATEST EDITION OF THE FLORIDA EXOTIC PEST PLANT COUNCIL'S LIST OF INVASIVE SPECIES.
3. PROJECT ARBORIST MUST APPROVE METHODS OTHER THAN HAND CLEARING.

- 4. A TWO (2) INCH LAYER OF MULCH SHALL BE APPLIED OVER THE SURFACE OF EXPOSED ROOTS OF PROTECTED TREES DURING THE SITE CLEARING PHASE.

E. TREE CANOPY PRUNING

- 1. TREE PRUNING SPECIFICATIONS SHALL BE DEFINED BASED ON SPECIFIC RECOMMENDATIONS OF THE PROJECT ARBORIST. INFORMATION PRESENTED BELOW SHOULD BE USED AS A GUIDELINE.
2. CONTRACTOR SHALL VISIT THE SITE WITH THE PROJECT ARBORIST TO VERIFY THE EXTENT OF REQUIRED PRUNING.
3. ALL PRUNING SHALL BE PERFORMED IN ACCORDANCE WITH THE RECOMMENDATIONS OF A QUALIFIED INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA) CERTIFIED ARBORIST OR AN AMERICAN SOCIETY OF CONSULTING ARBORISTS (ASCA) REGISTERED CONSULTING ARBORIST (RCA).
4. AT LEAST ONE MEMBER OF THE PRUNING CREW SHALL BE AN ISA CERTIFIED ARBORIST.
5. WHILE IN THE TREE, THE ARBORIST SHALL PERFORM AN AERIAL INSPECTION TO IDENTIFY DEFECTS THAT REQUIRE TREATMENT. ANY ADDITIONAL WORK NEEDED SHALL BE REPORTED TO THE OWNER.
6. PRUNING CUTS SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE ANSI A309 PRUNING STANDARD (AMERICAN NATIONAL STANDARD FOR TREE CARE OPERATIONS) AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF ANSI Z133.1 SAFETY STANDARD. PRUNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ISA'S 'BEST MANAGEMENT PRACTICES: TREE PRUNING'.
7. WHERE TEMPORARY CLEARANCE IS NEEDED FOR ACCESS, BRANCHES SHALL BE TIED BACK TO HOLD THEM OUT OF THE CLEARANCE ZONE.
8. NO MORE THAN 20 PERCENT OF LIVE FOLIAGE SHALL BE REMOVED WITHIN ANY TREE.
9. ALL TREES WITHIN THE PROJECT AREA SHALL BE PRUNED AS FOLLOWS:
a. LIVE BRANCH PRUNING SHOULD BE PERFORMED ONLY WHEN THE DANGER OF INSECT OR DISEASE INFESTATION IS NOT PRESENT.
b. REMOVE STUBS, CUTTING OUTSIDE THE WOUND WOOD TISSUE THAT HAS FORMED AROUND THE BRANCH.
c. CLEANING, FOR THE SELECTIVE REMOVAL OF DEAD, DISEASED, BROKEN, OR CROSSING BRANCHES DOWN TO ONE INCH IN DIAMETER OR AS DIRECTED BY THE PROJECT ARBORIST.
d. PRUNING CUTS LARGER THAN 4 INCHES IN DIAMETER, EXCEPT FOR DEAD WOOD, SHALL BE AVOIDED.
e. PRUNING CUTS THAT EXPOSE HEARTWOOD SHALL BE AVOIDED WHENEVER POSSIBLE.
f. ALL TREES WITH CROWNS THAT PROJECT INTO PARKING LOT/ROADWAY AREAS SHALL BE RAISED TO 14 FEET ABOVE FINISHED GRADE.
g. ALL TREES WITH CROWNS THAT PROJECT INTO SIDEWALK AREAS SHALL BE RAISED TO A HEIGHT OF 8 FEET ABOVE FINISHED GRADE.
9. TREES, WHO'S ROOT SYSTEMS WILL BE IMPACTED SHALL RECEIVE THE FOLLOWING PRUNING TO COMPENSATE FOR ROOT LOSS:
a. THE LOCATION AND SIZE OF BRANCHES FOR REDUCTION SHALL BE DEFINED BY THE PROJECT ARBORIST.
b. REDUCTION, OR THE SELECTIVE PRUNING TO REDUCE TREE HEIGHT OR SPREAD.
c. REDUCE END WEIGHT ON HEAVY, HORIZONTAL BRANCHES BY SELECTIVELY REMOVING SMALL DIAMETER BRANCHES, NO GREATER THAN 2 TO 3 INCHES, NEAR THE ENDS OF SCAFFOLD BRANCHES.
d. RAISING SHALL CONSIST OF SELECTIVE PRUNING TO PROVIDE VERTICAL CLEARANCE.
10. PROPOSED/REPLACEMENT TREES
a. PRUNING SHALL BE LIMITED TO CLEANING.
11. BRUSH SHALL BE CHIPPED AND SPREAD (ONLY WHEN DISEASE OR INSECT INFESTATION IS NOT PRESENT) UNDERNEATH TREES WITHIN THE TREE PROTECTION ZONE TO A MAXIMUM DEPTH OF THREE (3) INCHES, LEAVING THE TRUNK CLEAR OF MULCH.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL EXCESS DEBRIS ON A DAILY BASIS.

F. FERTILIZATION

- 1. CONTRACTOR SHALL COORDINATE FERTILIZATION PLAN, FOLLOWING BEST MANAGEMENT PRACTICES WITH THE PROJECT ARBORIST PRIOR TO COMMENCEMENT OF WORK.
2. EVERY EFFORT SHALL BE MADE TO UTILIZE CHEMICALS OF AN ORGANIC OR BIODEGRADABLE NATURE IN ORDER TO OFFER THE LEAST IMPACT TO THE NATURAL ENVIRONMENT. CONTRACTOR IS RESPONSIBLE FOR MIXING, APPLYING, AND DISPOSAL OF ALL CHEMICALS IN ACCORDANCE WITH STRICT ADHERENCE TO MANUFACTURER'S SPECIFICATIONS. COORDINATE WITH PROJECT ARBORIST FOR FURTHER INSTRUCTION.
3. ONLY TREES AFFECTED BY CONSTRUCTION OR AS SHOWN ON THE TREE MITIGATION PLAN AND TREE INVENTORY SCHEDULE SHALL BE TREATED.
4. TREES SPECIFIED TO RECEIVE FERTILIZER SHALL BE TREATED AS FOLLOWS:
a. MIX FERTILIZER ACCORDING TO MANUFACTURER'S SPECIFICATIONS INTO A TANK WITH AGITATION CAPABILITY.
b. MIX WETTING AGENT ACCORDING TO MANUFACTURER'S SPECIFICATIONS INTO SAME TANK WITH FERTILIZER. AGITATE MIX.
c. INJECT THE MIXTURE WITH A HYDRAULIC INJECTION SYSTEM INTO THE UPPER 6-12 INCHES OF SOIL WITH A SOIL PROBE. INJECT AT THE RATE OF ONE THIRD (1/3) GALLON AT EACH INJECTION SITE.
d. THE CRITICAL ROOT ZONE AREA PLUS 2' BEYOND THE CRITICAL ROOT ZONE SHALL BE INJECTED, BUT NOT BEYOND ROOT PRUNING LOCATIONS.
e. FERTILIZER SHALL BE INSTALLED PRIOR TO THE INSTALLATION OF ANY AERATION SYSTEMS.
f. EMPTY PRODUCT CONTAINERS SHALL BE STOCKPILED FOR INSPECTION BY THE PROJECT ARBORIST PRIOR TO DISPOSAL.

G. INSECTICIDE

- 7. NOTIFY PROJECT ARBORIST IF ANY INFESTATION IS NOTICED.
8. FOLLOW PROJECT ARBORIST'S RECOMMENDED PROCEDURES.
9. FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS CONCERNING APPLICATION. READ ALL WARNING LABELS.
10. ANY PETS, AS WELL AS, THE PETS FOOD AND WATER BOWLS SHOULD BE REMOVED FROM THE AREA AND ANY SWIMMING POOLS SHOULD BE COVERED. COORDINATE WITH PROJECT ARBORIST FOR FURTHER INSTRUCTION.
11. ENSURE COMPLETE COVERAGE AND REAPPLY 2-3 MONTHS AFTER INITIAL APPLICATION UTILIZING SAME PROCEDURE.

H. IRRIGATION

- 1. EVERY EFFORT SHALL BE MADE TO WATER THE PRESERVED TREES AND TRANSPLANTS. CONTRACTOR SHALL IRRIGATE BY HAND OR BY TEMPORARY IRRIGATION.
2. IRRIGATE AS REQUIRED BY PROJECT ARBORIST UNTIL PERMANENT IRRIGATION IS INSTALLED AND OPERATING.
3. UNDERGROUND IRRIGATION SHALL NOT BE INSTALLED WITHIN THE DRIP LINES OF EXISTING TREES UNLESS ROOT PROTECTION MEASURES ARE PROVIDED AND APPROVED BY PROJECT ARBORIST.

I. TREE REMOVALS

- 1. PRIOR TO AND DURING LAND CLEARING, INCLUDING GRUBBING, ALL TREES TO BE REMOVED SHALL BE CLEARLY MARKED BY PROJECT ARBORIST WITH RED SURVEY RIBBONS AT 36 INCHES MINIMUM ABOVE GRADE.
2. CONTRACTOR SHALL REMOVE ALL TREES AS SHOWN ON THE TREE MITIGATION PLANS AFTER THE TREE PROTECTION FENCING IS INSTALLED.
3. ALL TREES SHOWN TO BE REMOVED SHALL BE FELLED WITH A CHAIN SAW AND STUMP GROUND 6" BELOW SURFACE. ANY TREE SHOWN TO BE REMOVED THAT IS IN AN AREA WHERE COMPACTION IS CRITICAL SHALL BE FELLED WITH A CHAIN SAW AND STUMP REMOVED BY CONTRACTOR.
4. ALL WOOD AND STUMPS FROM REMOVALS SHALL BE HAULED FROM THE SITE THE SAME DAY, EXCEPT FOR TOPS. ALL TOPS ARE TO BE MULCHED AND STOCKPILED OR HAULED DIRECTLY TO MULCHED AREAS FOR RELOCATED TREES IF SCHEDULING PERMITS. TOPS

- SHALL BE CHIPPED AND PLACED IN THE TREE PROTECTION ZONE TO A DEPTH OF THREE (3) INCHES. ALL EXCESS WOOD CHIPS SHOULD BE HAULED OFF SITE AFTER TRANSPLANTING IS COMPLETE.

J. ALL BURN PITS IF APPLICABLE MUST BE APPROVED BY THE PROJECT ARBORIST AND OWNER.

- 6. TREES TO BE REMOVED THAT HAVE BRANCHES EXTENDING INTO THE CANOPY OF TREES TO REMAIN MUST BE REMOVED BY A QUALIFIED ISA CERTIFIED ARBORIST AND NOT BY DEMOLITION OR CONSTRUCTION CONTRACTORS. THE QUALIFIED ARBORIST SHALL REMOVE THE TREE IN A MANNER THAT CAUSES NO DAMAGE TO THE TREES AND UNDERSTORY VEGETATION TO REMAIN.
7. TREES TO BE REMOVED LOCATED WITHIN THE TREE PROTECTION ZONE SHALL BE REMOVED BY A QUALIFIED ISA CERTIFIED ARBORIST. THE TREES SHALL BE CUT NEAR GROUND LEVEL AND THE STUMP GROUND OUT.

L. TOPSOIL

- 10. CONTRACTOR SHALL COORDINATE ALL EARTHWORK OPERATIONS WITHIN TREE PROTECTION AREAS WITH THE PROJECT ARBORIST PRIOR TO BEGINNING WORK.
11. ALL TOPSOIL SHALL BE NATURAL, FRIABLE, FERTILE, FINE LOAMY SOIL POSSESSING CHARACTERISTICS OF REPRESENTATIVE TOPSOIL IN THE VICINITY THAT PRODUCES HEAVY GROWTH.
12. TOPSOIL PH RANGE OF 5.5 TO 7.0, 3-5 PERCENT ORGANIC MATERIAL MINIMUM, FREE FROM SUBSOIL, OBJECTIONABLE WEEDS, LITTER, SODS, STIFF CLAY, STONES LARGER THAN ONE (1) INCH IN DIAMETER, STUMPS, ROOTS, TRASH, TOXIC SUBSTANCES, OR ANY OTHER MATERIAL WHICH MAY BE HARMFUL TO PLANT GROWTH.
13. VERIFY AMOUNT STOCKPILED IF ANY, AND SUPPLY ADDITIONAL AS NEEDED FROM NATURALLY WELL-DRAINED SITES WHERE TOPSOIL OCCURS AT LEAST FOUR (4) INCHES DEEP. DO NOT OBTAIN TOPSOIL FROM BOGS OR MARSHES.
14. PROJECT ARBORIST SHALL APPROVE ALL TOPSOIL PRIOR TO PLACEMENT.

M. REPAIR OF DAMAGED TREES

- 1. IF DAMAGE TO ANY TREE SHOULD OCCUR BY ACCIDENT OR NEGLIGENCE DURING THE CONSTRUCTION PERIOD, THE PROJECT ARBORIST SHALL APPRAISE THE DAMAGE AND MAKE RECOMMENDATIONS TO THE OWNER FOR REPAIR BY THE CONTRACTOR.
2. IF ANY TREE DESIGNATED TO BE SAVED IS REMOVED FROM THE SITE WITHOUT PERMISSION OF THE OWNER'S REPRESENTATIVE, THE PROJECT ARBORIST SHALL APPRAISE THE TREE AND MAKE RECOMMENDATIONS TO THE OWNER FOR REPLACEMENT BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OF THE TREE AND ANY FEES THAT MAY BE ASSESSED TO THE OWNER BY THE GOVERNING AGENCY.

1 TYPICAL TREE MITIGATION NOTES

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Table with columns: REVISED PER CITY COMMENTS, DATE, BY. Includes a revision entry for 09/20/23 RYP.

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Project metadata table: KHA PROJECT 249096007, DATE 03.31.2023, SCALE AS SHOWN, DESIGNED BY KHA, DRAWN BY RYP, CHECKED BY ASIL, DATE 4/26/2024.

TREE SPECIFICATIONS

E HIGHBANK TOWNHOMES logo and location: FLORIDA, DEBARY.

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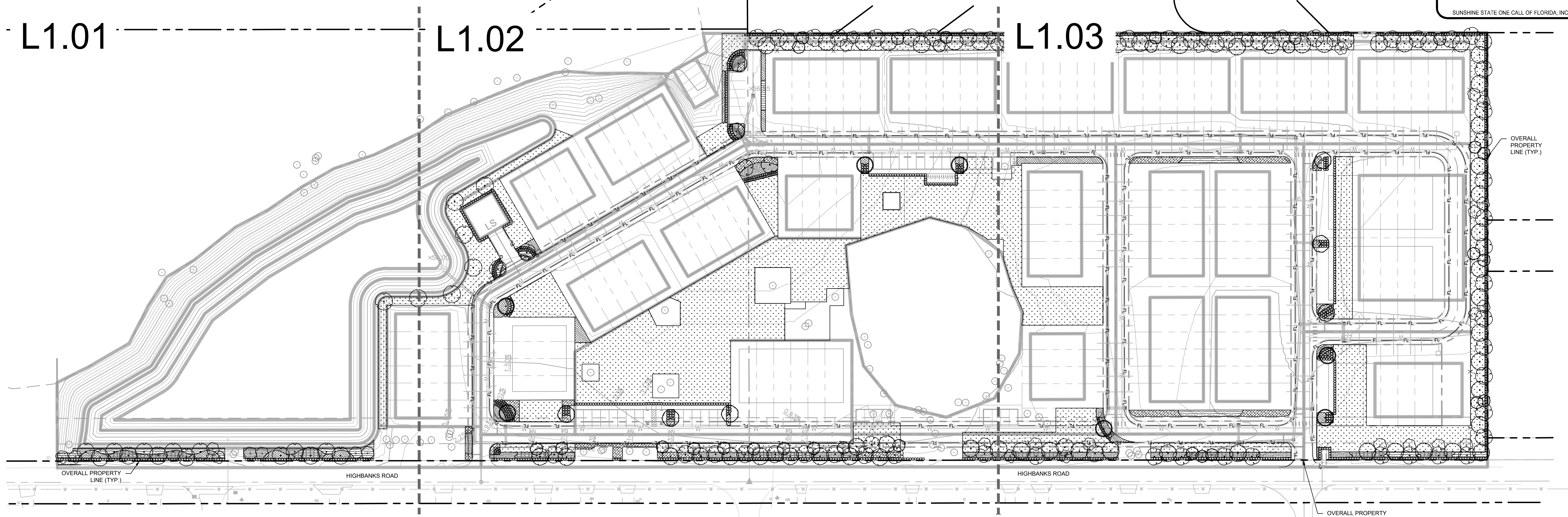
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IT'S THE LAW!
DIAL 811
Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.



- LANDSCAPE NOTES:**
- ALL LANDSCAPE MATERIAL TO BE FLORIDA GRADE #1 OR BETTER QUALITY
 - ALL LANDSCAPED AREAS ARE TO RECEIVE A MINIMUM OF 4" OF TOPSOIL.
 - ALL PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS, AND FREE OF PESTS AND DISEASE.
 - ALL MATERIALS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT BEFORE, DURING, AND AFTER INSTALLATION.
 - ALL TREES MUST BE GUYED OR STAKED AS SHOWN IN THE DETAILS.
 - ALL PLANTING AREAS SHALL BE COMPLETELY MULCHED AS SPECIFIED.
 - PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND SHALL AVOID DAMAGE TO ALL UTILITIES DURING THE COURSE OF THE WORK. LOCATIONS OF EXISTING BURIED UTILITY LINES SHOWN ON THE PLANS ARE BASED UPON BEST AVAILABLE INFORMATION AND ARE TO BE CONSIDERED APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR 1) TO VERIFY THE LOCATIONS OF UTILITY LINES ADJACENT TO THE WORK AREA 2) TO PROTECT ALL UTILITY LINES DURING THE CONSTRUCTION PERIOD 3) TO REPAIR ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTENANCES, ETC. WHICH OCCURS AS A RESULT OF THE CONSTRUCTION.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON THESE PLANS BEFORE PRICING THE WORK.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR DELIVERY SCHEDULE AND PROTECTION BETWEEN DELIVERY AND PLANTING TO MAINTAIN HEALTHY PLANT CONDITIONS.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULLY MAINTAINING (INCLUDING BUT NOT LIMITED TO: WATERING, SPRAYING, MULCHING, FERTILIZING, ETC.) ALL OF THE PLANT MATERIALS AND LAWN FOR THE WARRANTY PERIOD.
 - ANY PLANT MATERIAL WHICH IS DISEASED, DISTRESSED, DEAD, OR REJECTED (PRIOR TO SUBSTANTIAL COMPLETION) SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF THE SAME SPECIES, QUANTITY, AND SIZE AND MEETING ALL PLANT LIST SPECIFICATIONS.
 - THE CONTRACTOR SHALL COMPLETELY GUARANTEE ALL PLANT MATERIAL FOR WARRANTY PERIOD. THE CONTRACTOR SHALL PROMPTLY MAKE ALL REPLACEMENTS DURING THE NORMAL PLANTING SEASON.
 - STANDARDS SET FORTH IN "AMERICAN STANDARD FOR NURSERY STOCK" REPRESENT GUIDELINE SPECIFICATIONS ONLY AND SHALL CONSTITUTE MINIMUM QUALITY REQUIREMENTS FOR PLANT MATERIAL.
 - ALL LANDSCAPING SHALL BE INSTALLED ACCORDING TO SOUND NURSERY PRACTICES, AND SHALL BE FLORIDA NO. 1 OR BETTER AS GIVEN IN "GRADES AND STANDARDS FOR NURSERY PLANTS, PARTS I AND II," STATE OF FLORIDA, DEPARTMENT OF AGRICULTURE.
 - ALL INVASIVE / EXOTIC SPECIES AND PROHIBITED TREE SPECIES SHALL BE REMOVED FROM SITE, INCLUDING ROOT BALLS TO THE EXTENT POSSIBLE WITH NO DAMAGE TO ADJACENT EXISTING TREES.
 - ALL LANDSCAPE AREAS WILL BE PROVIDED WITH PERMANENT AUTOMATIC IRRIGATION SYSTEM.
 - TREE SUPPORT MATERIALS ARE TO BE REMOVED FROM EACH TREE ONCE IT IS "ESTABLISHED" (AS APPROVED BY THE LANDSCAPE ARCHITECT).
 - ALL PLANT SPECIFICATIONS IN THE PLANT SCHEDULE SHALL BE CONSIDERED THE MINIMUM ALLOWABLE SPECIFICATIONS. CONTRACTOR SHALL PROCURE PLANT MATERIALS AND UPSIZE AS NECESSARY TO MEET THE MOST STRINGENT SPECIFICATION.

PLANT SCHEDULE

CANOPY TREE	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
	LS	7	LIQUIDAMBAR STYRACIFLUA / SWEET GUM NATIVE, FL #1, STRAIGHT, SINGLE TRUNK, CLEAR TRUNK	FG	3" CAL MIN	12' HT
	MG	63	MAGNOLIA GRANDIFLORA / SOUTHERN MAGNOLIA NATIVE, FL #1, STRAIGHT, SINGLE TRUNK, CLEAR TRUNK	FG	3" CAL MIN	12' HT
	QS	8	QUERCUS SHUMARDII / SHUMARD OAK NATIVE, FL #1, STRAIGHT, SINGLE TRUNK, CLEAR TRUNK	FG	3" CAL MIN	12' HT
	QV	62	QUERCUS VIRGINIANA / SOUTHERN LIVE OAK NATIVE, FL #1, STRAIGHT, SINGLE TRUNK, CLEAR TRUNK	FG	3" CAL MIN	12' HT
	TD	21	TAXODIUM DISTICHUM / BALD CYPRESS FL #1, STRAIGHT, SINGLE TRUNK, FULL	FG	3" CAL MIN	12' HT
UNDERSTORY TREES	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
	IA	31	ILEX OPACA / AMERICAN HOLLY NATIVE, STRAIGHT, SINGLE LEADER	FG	2" CAL MIN	8' HT
	JS	31	JUNIPERUS VIRGINIANA SILICICOLA / SOUTHERN REDCEDAR NATIVE, STRAIGHT, SINGLE LEADER	FG	2" CAL MIN	8' HT
SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING	SIZE
	IN	136	ILEX VOMITORIA 'NANA' / DWARF YALPON HOLLY FULL	3 GAL	30" OC	24" HT
	PM	940	PODOCARPUS MACROPHYLLUS / YEW PODOCARPUS FULL	7 GAL	36" OC	36" HT
	RI	179	RHAPHIOLEPIS INDICA / INDIAN HAWTHORN FULL	3 GAL	30" OC	36" HT
	VO	224	VIBURNUM ODORATISSIMUM / SWEET VIBURNUM FULL	3 GAL	36" OC	36" HT
GROUND COVERS	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SIZE	SPACING
	AE	4,100 SF	ASPIDISTRA ELATIOR / CAST IRON PLANT FULL	1 GAL	12" FULL	18" OC
	HF	3,812 SF	HEMEROCALLIS FULVA / ORANGE DAYLILY FULL	1 GAL	12" FULL	18" OC
	OJ	3,476 SF	OPHIPOGON JAPONICUS / MONDO GRASS FULL	1 GAL	12" FULL	18" OC

	TC	4,714 SF	TRACHELOSPERMUM JASMINOIDES 'CONFEDERATE' / CONFEDERATE JASMINE FULL	1 GAL	12" FULL	18" OC
	TV	3,210 SF	TULBAGHIA VIOLACEA / SOCIETY GARLIC FULL	1 GAL	12" FULL	18" OC
SOD	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SIZE	SPACING
	PN	109,158 SF	PASPALUM NOTATUM / BAHIAGRASS ROLLED TIGHT, 100% WEED/INSECT/DISEASE FREE	SOD	-	-
MISC.	QTY	BOTANICAL / COMMON NAME	SPECIFICATIONS			
	MULCH	TBD	DESIGNER BROWN HARDWOOD MULCH 3" DEPTH MINIMUM, SHREDDED, FREE OF WEEDS/INVASIVE PLANT MATERIAL			

LANDSCAPE CALCULATIONS
PER "DEBARY" LAND DEVELOPMENT CODE

	REQUIRED	PROVIDED
BUFFERYARD MIN. 20' WIDTH, 2 CANOPY TREE PER 40 LF, 2 UNDERSTORY TREE PER 80 LF, CONTINUOUS SCREEN TO BE 0' HT	NORTH BUFFER: 843 LF 42 CANOPY TREES, 20 UNDERSTORY TREES, CONTINUOUS SCREEN EAST BUFFER: 491 LF 24 CANOPY TREES, 12 UNDERSTORY TREES, CONTINUOUS SCREEN SOUTH BUFFER 1: 352 LF 16 CANOPY TREES, 8 UNDERSTORY TREES, CONTINUOUS SCREEN SOUTH BUFFER 2: 766 LF 38 CANOPY TREES, 18 UNDERSTORY TREES, CONTINUOUS SCREEN SOUTH BUFFER 3: 197 LF 9 CANOPY TREES, 4 UNDERSTORY TREES, CONTINUOUS SCREEN	NORTH BUFFER: 843 LF 42 CANOPY TREES, 20 UNDERSTORY TREES, CONTINUOUS SCREEN EAST BUFFER: 491 LF 24 CANOPY TREES, 12 UNDERSTORY TREES, CONTINUOUS SCREEN SOUTH BUFFER 1: 352 LF 16 CANOPY TREES, 8 UNDERSTORY TREES, CONTINUOUS SCREEN SOUTH BUFFER 2: 766 LF 38 CANOPY TREES, 18 UNDERSTORY TREES, CONTINUOUS SCREEN SOUTH BUFFER 3: 197 LF 9 CANOPY TREES, 4 UNDERSTORY TREES, CONTINUOUS SCREEN
VUA REQUIREMENTS: MIN. 140 SF NO MORE THAN 15 PARKING STALLS CONTINUOUSLY SIDE BY SIDE	12 ISLANDS PROVIDED X 140 SF MIN = 1,680 SF OF VUA REQUIRED	4,827 SF PROVIDED
SECTION 5-4, 5-10 LANDSCAPE REQUIREMENTS: 25% OF SITE TOTAL REQUIRED LANDSCAPE TO BE COVERED WITH SHRUBS, GROUNDCOVERS, VINES SOD TO BE MIN. 400 SF -VARIETY OF TREE SPECIES	25% REQUIRED -SOD MIN. 400 SF REQUIRED -41+ REQUIRED TREES = 5 SPECIES REQUIRED	SOD: 109,158 SF SHRUBS/GROUNDCOVERS: 33,362 SF = 30.6% TO BE PROVIDED AS SHRUBS/GROUNDCOVERS -SOD MIN. 400 SF PROVIDED -41+ PROVIDED TREES = 5 SPECIES PROVIDED

No.	REVISIONS	DATE	BY

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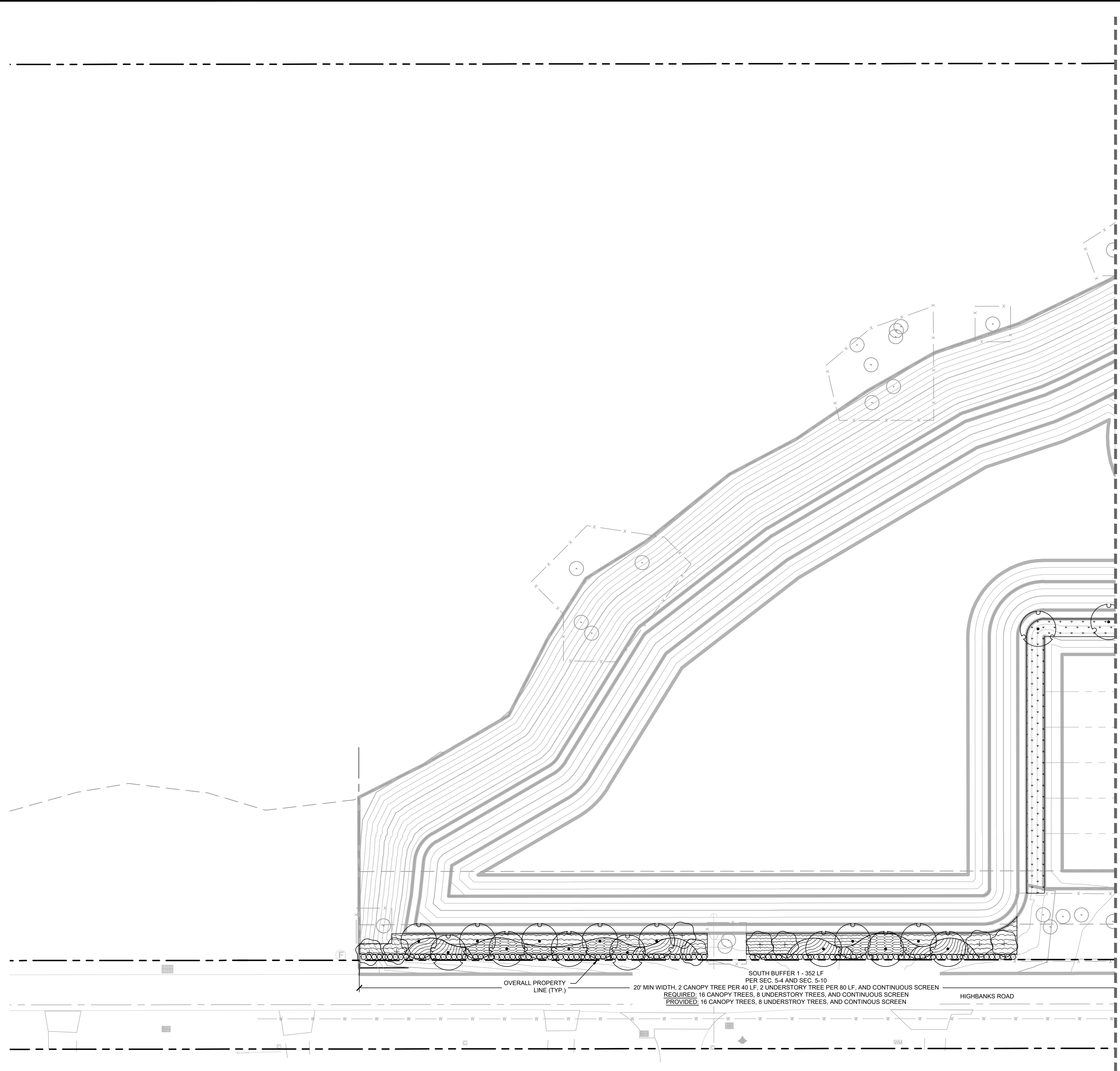
KHA PROJECT: 249096007
DATE: 09.20.23
SCALE: AS SHOWN
DESIGNED BY: KHA
DRAWN BY: RYP
CHECKED BY: JTC DATE: 4/26/2024

OVERALL LANDSCAPE PLAN

E HIGHBANK TOWNHOMES
FLORIDA
DEBARY

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PLANT SCHEDULE

CANOPY TREE	CODE	QTY	BOTANICAL / COMMON NAME
	LS	7	LIQUIDAMBAR STYRACIFLUA / SWEET GUM NATIVE, FL #1, STRAIGHT, SINGLE TRUNK, CLEAR TRUNK
	MG	63	MAGNOLIA GRANDIFLORA / SOUTHERN MAGNOLIA NATIVE, FL #1, STRAIGHT, SINGLE TRUNK, CLEAR TRUNK
	QS	8	QUERCUS SHUMARDII / SHUMARD OAK NATIVE, FL #1, STRAIGHT, SINGLE TRUNK, CLEAR TRUNK
	QV	62	QUERCUS VIRGINIANA / SOUTHERN LIVE OAK NATIVE, FL #1, STRAIGHT, SINGLE TRUNK, CLEAR TRUNK
	TD	21	TAXODIUM DISTICHUM / BALD CYPRESS FL #1, STRAIGHT, SINGLE TRUNK, FULL
UNDERSTORY TREES	CODE	QTY	BOTANICAL / COMMON NAME
	IA	31	ILEX OPACA / AMERICAN HOLLY NATIVE, STRAIGHT, SINGLE LEADER
	JS	31	JUNIPERUS VIRGINIANA SILICICOLA / SOUTHERN REDCEDAR NATIVE, STRAIGHT, SINGLE LEADER
SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME
	IN	136	ILEX VOMITORIA 'NANA' / DWARF YAUPOH HOLLY FULL
	PM	940	PODOCARPUS MACROPHYLLUS / YEW PODOCARPUS FULL
	RI	179	RHAPHOLEPIS INDICA / INDIAN HAWTHORN FULL
	VO	224	VIBURNUM ODORATISSIMUM / SWEET VIBURNUM FULL
GROUND COVERS	CODE	QTY	BOTANICAL / COMMON NAME
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	OJ	3,476 SF	OPHIPOGON JAPONICUS / MONDO GRASS FULL
	TC	4,714 SF	TRACHELOSPERMUM JASMINOIDES 'CONFEDERATE' / CONFEDERATE JASMINE FULL
	TV	3,210 SF	TULBAGHIA VIOLACEA / SOCIETY GARLIC FULL
SOD	CODE	QTY	BOTANICAL / COMMON NAME
	PN	109,158 SF	PASPALUM NOTATUM / BAHIA GRASS ROLLED TIGHT, 100% WEED/INSECT/DISEASE FREE
MISC.	QTY	BOTANICAL/COMMON NAME	SPECIFICATIONS
MULCH	TBD	DESIGNER BROWN HARDWOOD MULCH	3" DEPTH MINIMUM, SHREDDED, FREE OF WEEDS/INVASIVE PLANT MATERIAL

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No.	DATE	BY

KHA PROJECT
249096007

DATE
09.20.23

SCALE AS SHOWN

DESIGNED BY KHA

DRAWN BY RYP

CHECKED BY JTC

DATE: 4/26/2024

LANDSCAPE PLAN

E HIGHBANK TOWNHOMES

FLORIDA

DEBARY

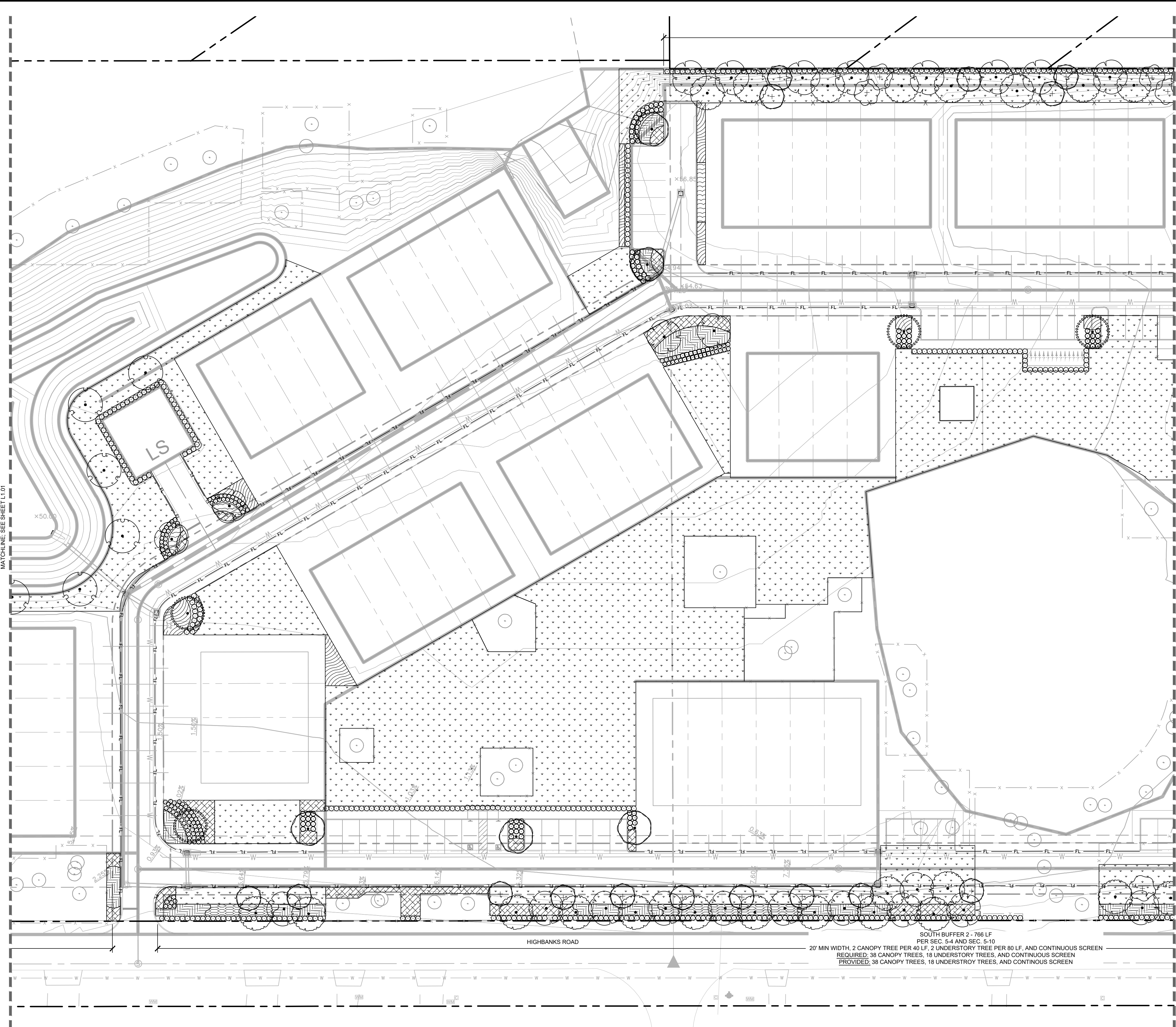
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LANDSCAPE PLAN

E HIGHBANK TOWNHOMES

FLORIDA

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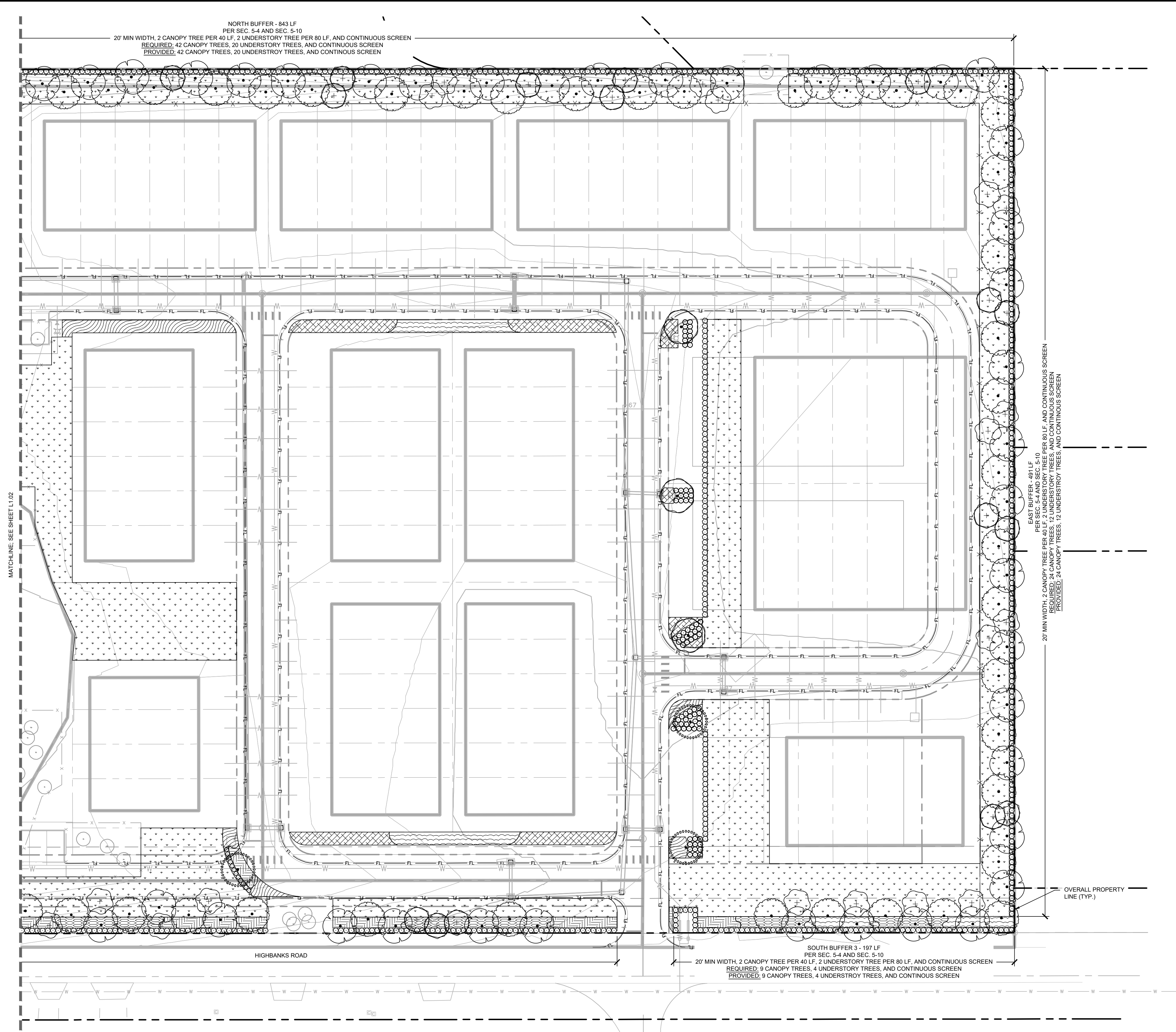
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 CHECKED BY: JTC DATE: 4/26/2024

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PLANT SCHEDULE

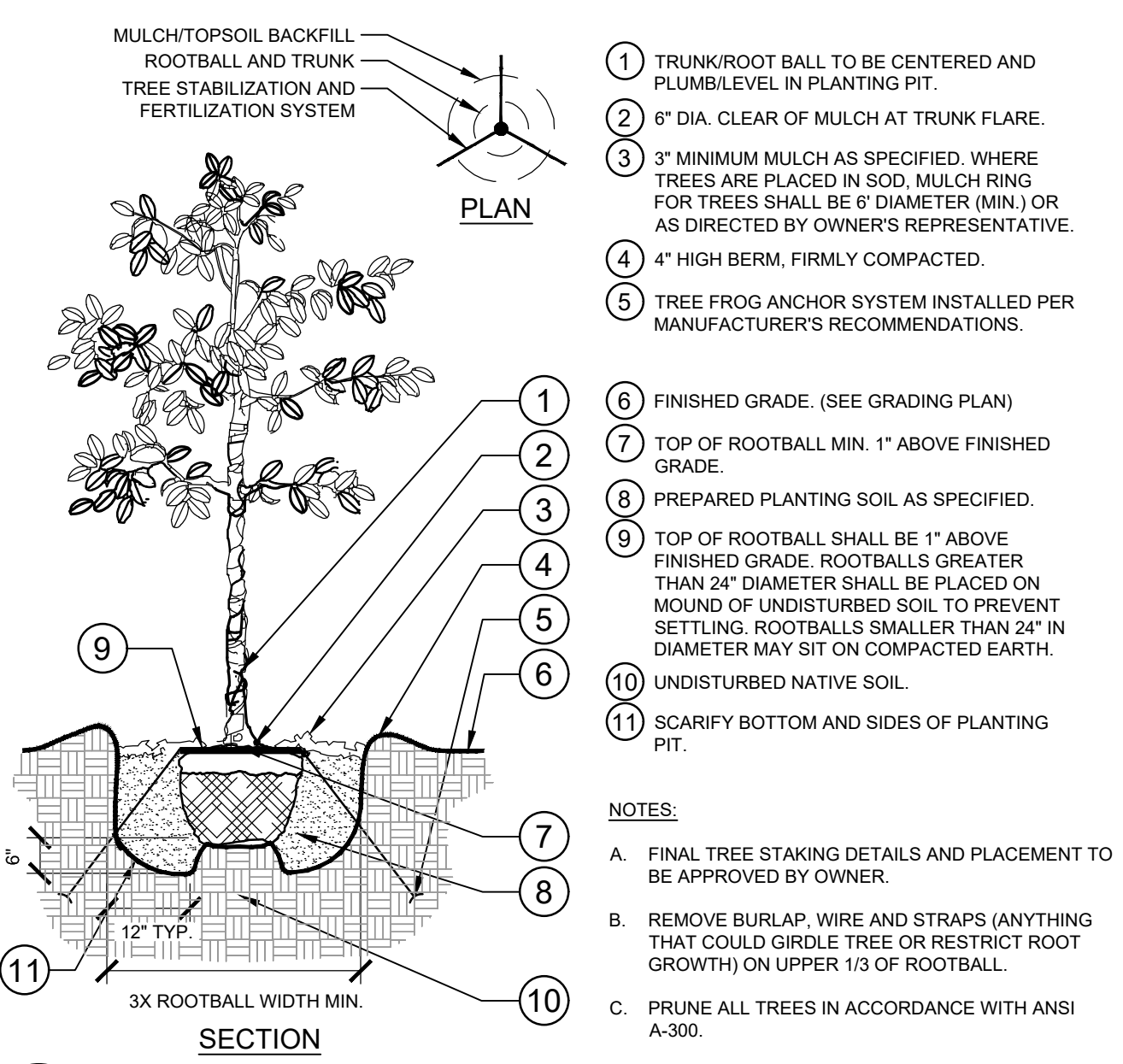
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LANDSCAPE PLAN

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 Date: 09.20.23
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 Drawn By: KHA
 Checked By: JTC
 Date: 4/26/2024



- TRUNK/ROOT BALL TO BE CENTERED AND PLUMB/LEVEL IN PLANTING PIT.
- 6" DIA. CLEAR OF MULCH AT TRUNK FLARE.
- 3" MINIMUM MULCH AS SPECIFIED. WHERE TREES ARE PLACED IN SOD, MULCH RING FOR TREES SHALL BE 6" DIAMETER (MIN.) OR AS DIRECTED BY OWNER'S REPRESENTATIVE.
- 4" HIGH BERM, FIRMLY COMPACTED.
- TREE FROG ANCHOR SYSTEM INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
- FINISHED GRADE. (SEE GRADING PLAN)
- TOP OF ROOTBALL MIN. 1" ABOVE FINISHED GRADE.
- PREPARED PLANTING SOIL AS SPECIFIED.
- TOP OF ROOTBALL SHALL BE 1" ABOVE FINISHED GRADE. ROOTBALLS GREATER THAN 24" DIAMETER SHALL BE PLACED ON MOUND OF UNDISTURBED SOIL TO PREVENT SETTLING. ROOTBALLS SMALLER THAN 24" IN DIAMETER MAY SIT ON COMPACTED EARTH.
- UNDISTURBED NATIVE SOIL.
- SCARIFY BOTTOM AND SIDES OF PLANTING PIT.

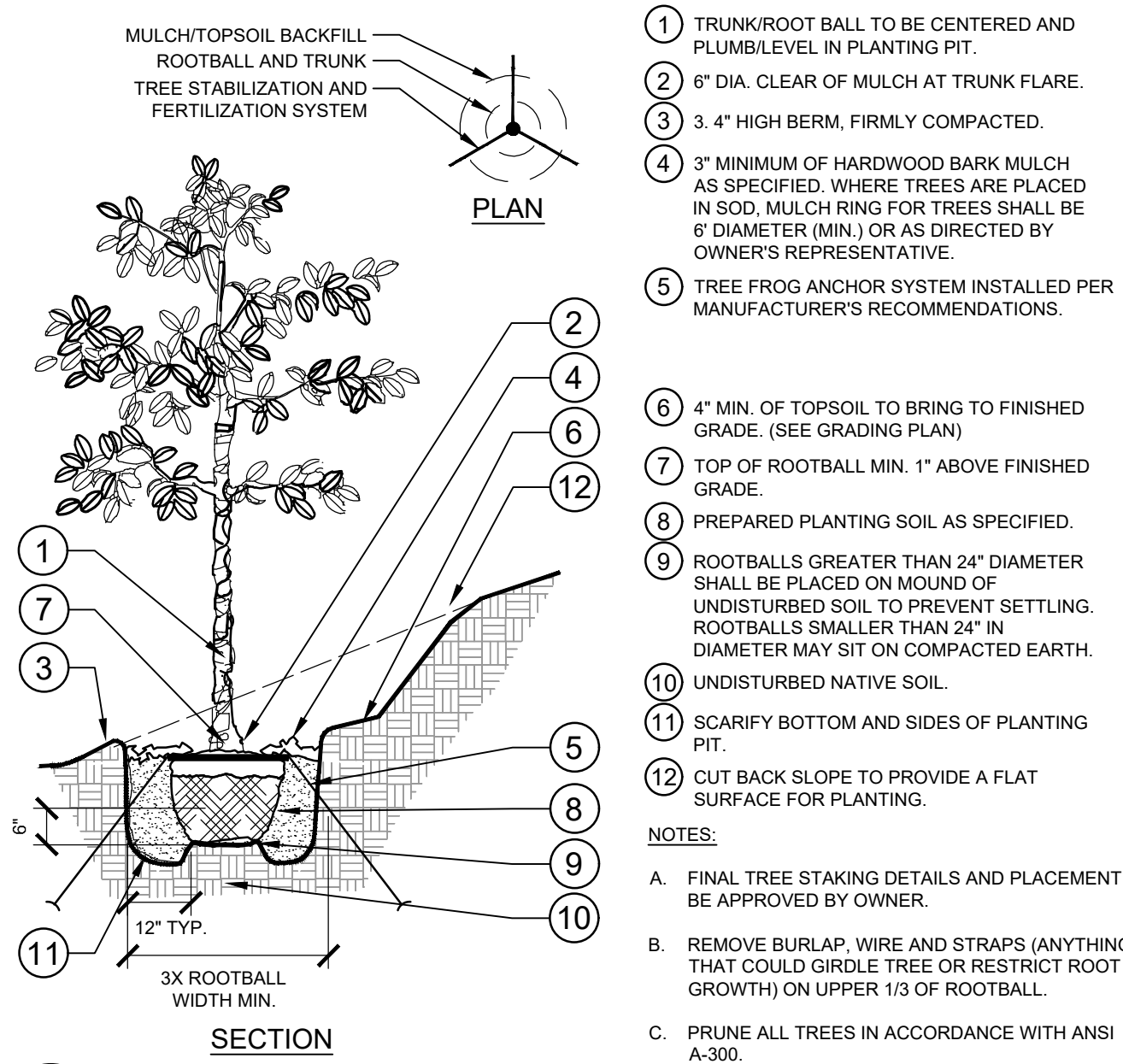
NOTES:

A. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.

B. REMOVE BURLAP, WIRE AND STRAPS (ANYTHING THAT COULD GIRDLE TREE OR RESTRICT ROOT GROWTH) ON UPPER 1/3 OF ROOTBALL.

C. PRUNE ALL TREES IN ACCORDANCE WITH ANSI A-300.

1 TREE PLANTING SECTION / PLAN NTS



- TRUNK/ROOT BALL TO BE CENTERED AND PLUMB/LEVEL IN PLANTING PIT.
- 6" DIA. CLEAR OF MULCH AT TRUNK FLARE.
- 3.4" HIGH BERM, FIRMLY COMPACTED.
- 3" MINIMUM OF HARDWOOD BARK MULCH AS SPECIFIED. WHERE TREES ARE PLACED IN SOD, MULCH RING FOR TREES SHALL BE 6" DIAMETER (MIN.) OR AS DIRECTED BY OWNER'S REPRESENTATIVE.
- TREE FROG ANCHOR SYSTEM INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
- 4" MIN. OF TOPSOIL TO BRING TO FINISHED GRADE. (SEE GRADING PLAN)
- TOP OF ROOTBALL MIN. 1" ABOVE FINISHED GRADE.
- PREPARED PLANTING SOIL AS SPECIFIED.
- ROOTBALLS GREATER THAN 24" DIAMETER SHALL BE PLACED ON MOUND OF UNDISTURBED SOIL TO PREVENT SETTLING. ROOTBALLS SMALLER THAN 24" IN DIAMETER MAY SIT ON COMPACTED EARTH.
- UNDISTURBED NATIVE SOIL.
- SCARIFY BOTTOM AND SIDES OF PLANTING PIT.
- CUT BACK SLOPE TO PROVIDE A FLAT SURFACE FOR PLANTING.

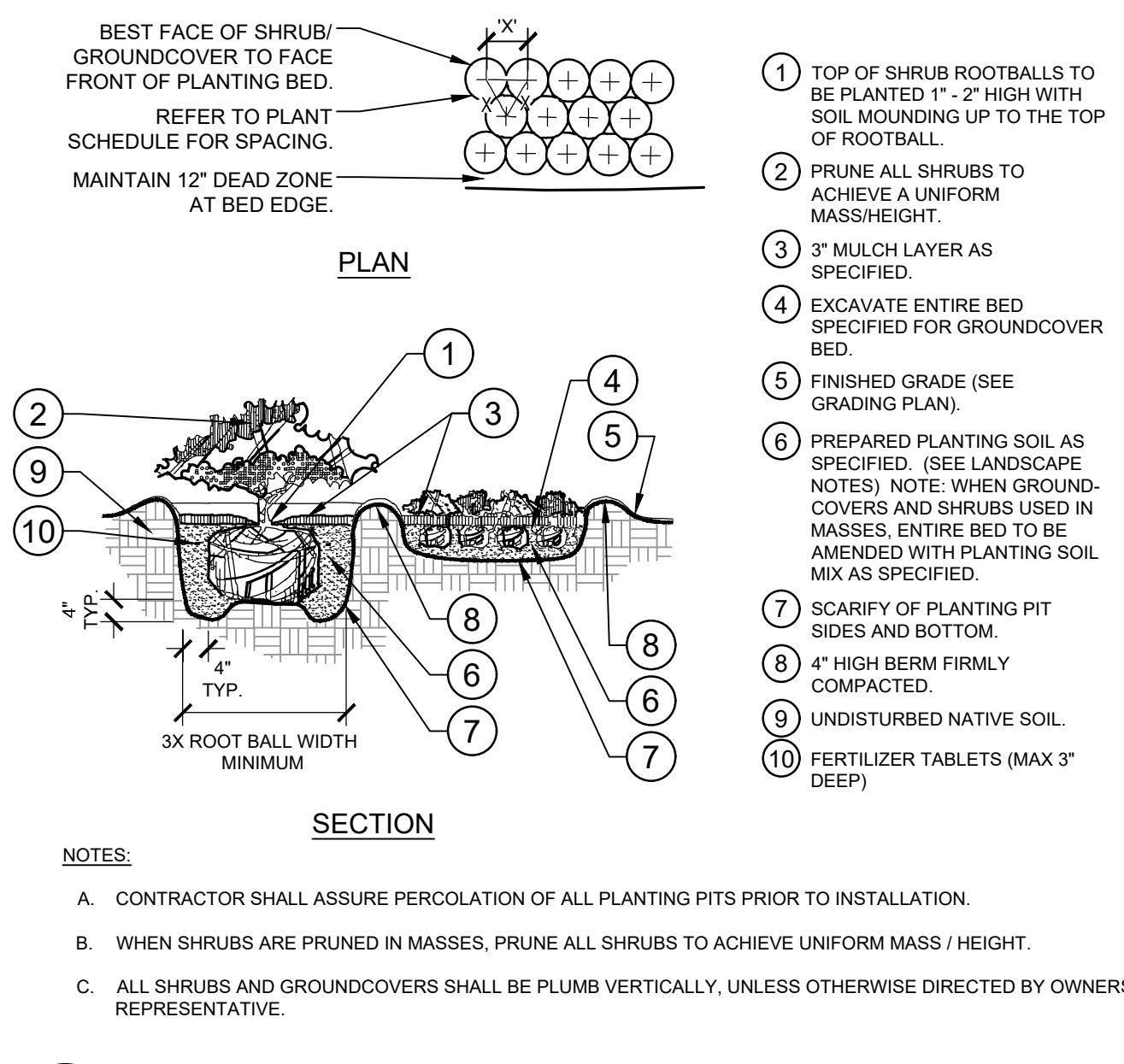
NOTES:

A. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.

B. REMOVE BURLAP, WIRE AND STRAPS (ANYTHING THAT COULD GIRDLE TREE OR RESTRICT ROOT GROWTH) ON UPPER 1/3 OF ROOTBALL.

C. PRUNE ALL TREES IN ACCORDANCE WITH ANSI A-300.

2 TREE PLANTING ON A SLOPE SECTION / PLAN NTS



- TOP OF SHRUB ROOTBALLS TO BE PLANTED 1" - 2" HIGH WITH SOIL MOUNDING UP TO THE TOP OF ROOTBALL.
- PRUNE ALL SHRUBS TO ACHIEVE A UNIFORM MASS/HEIGHT.
- 3" MULCH LAYER AS SPECIFIED.
- EXCAVATE ENTIRE BED SPECIFIED FOR GROUNDCOVER BED.
- FINISHED GRADE (SEE GRADING PLAN).
- PREPARED PLANTING SOIL AS SPECIFIED (SEE LANDSCAPE NOTES) NOTE: WHEN GROUND-COVERS AND SHRUBS USED IN MASSES, ENTIRE BED TO BE AMENDED WITH PLANTING SOIL MIX AS SPECIFIED.
- SCARIFY OF PLANTING PIT SIDES AND BOTTOM.
- 4" HIGH BERM FIRMLY COMPACTED.
- UNDISTURBED NATIVE SOIL.
- FERTILIZER TABLETS (MAX 3" DEEP)

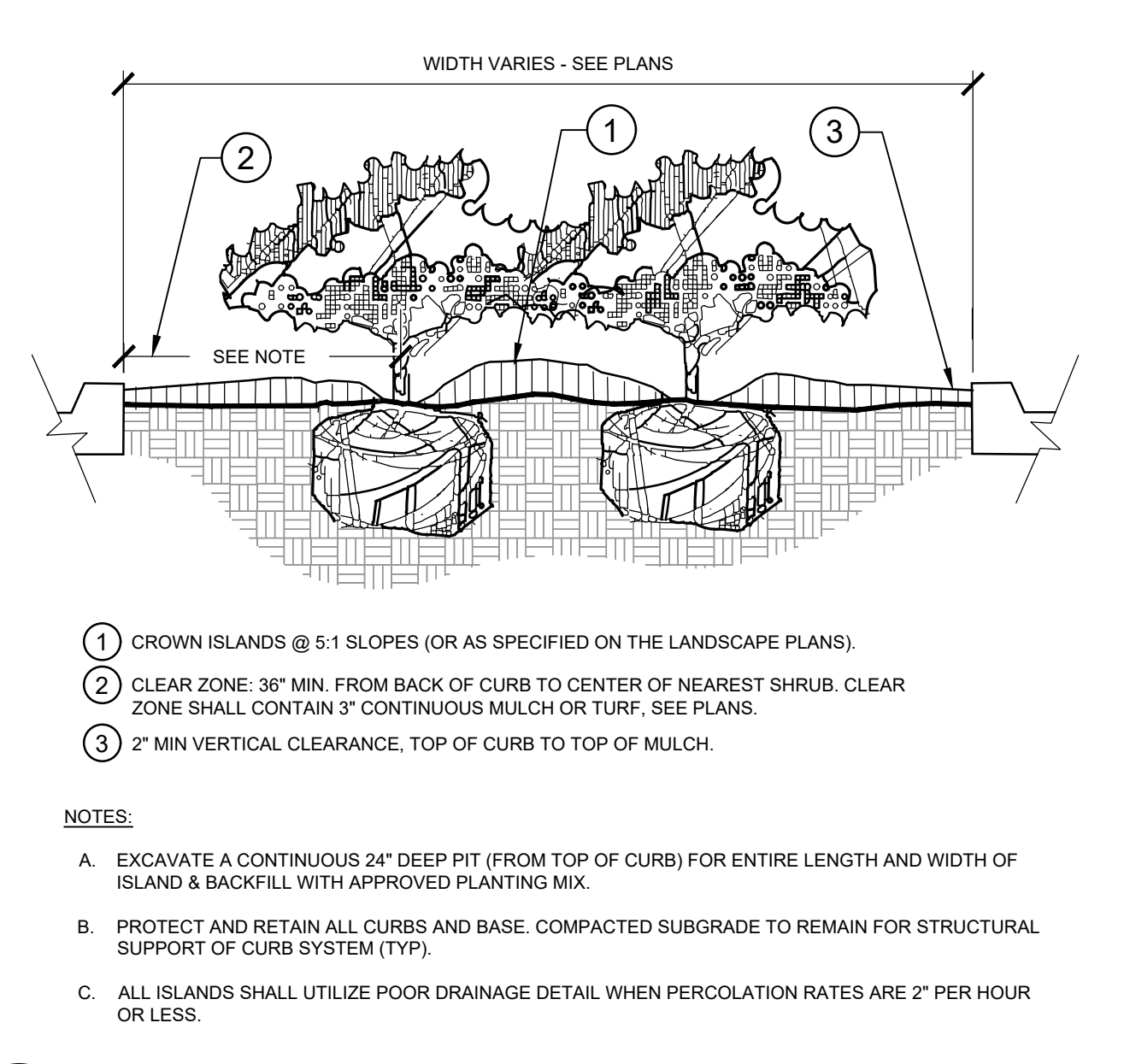
NOTES:

A. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.

B. WHEN SHRUBS ARE PRUNED IN MASSES, PRUNE ALL SHRUBS TO ACHIEVE UNIFORM MASS / HEIGHT.

C. ALL SHRUBS AND GROUNDCOVERS SHALL BE PLUMB VERTICALLY, UNLESS OTHERWISE DIRECTED BY OWNERS REPRESENTATIVE.

3 SHRUB/GROUNDCOVER PLANTING SECTION / PLAN NTS



- CROWN ISLANDS @ 5:1 SLOPES (OR AS SPECIFIED ON THE LANDSCAPE PLANS).
- CLEAR ZONE: 36" MIN. FROM BACK OF CURB TO CENTER OF NEAREST SHRUB. CLEAR ZONE SHALL CONTAIN 3" CONTINUOUS MULCH OR TURF, SEE PLANS.
- 2" MIN VERTICAL CLEARANCE, TOP OF CURB TO TOP OF MULCH.
- EXCAVATE A CONTINUOUS 24" DEEP PIT (FROM TOP OF CURB) FOR ENTIRE LENGTH AND WIDTH OF ISLAND & BACKFILL WITH APPROVED PLANTING MIX.
- PROTECT AND RETAIN ALL CURBS AND BASE. COMPACTED SUBGRADE TO REMAIN FOR STRUCTURAL SUPPORT OF CURB SYSTEM (TYP).
- ALL ISLANDS SHALL UTILIZE POOR DRAINAGE DETAIL WHEN PERCOLATION RATES ARE 2" PER HOUR OR LESS.

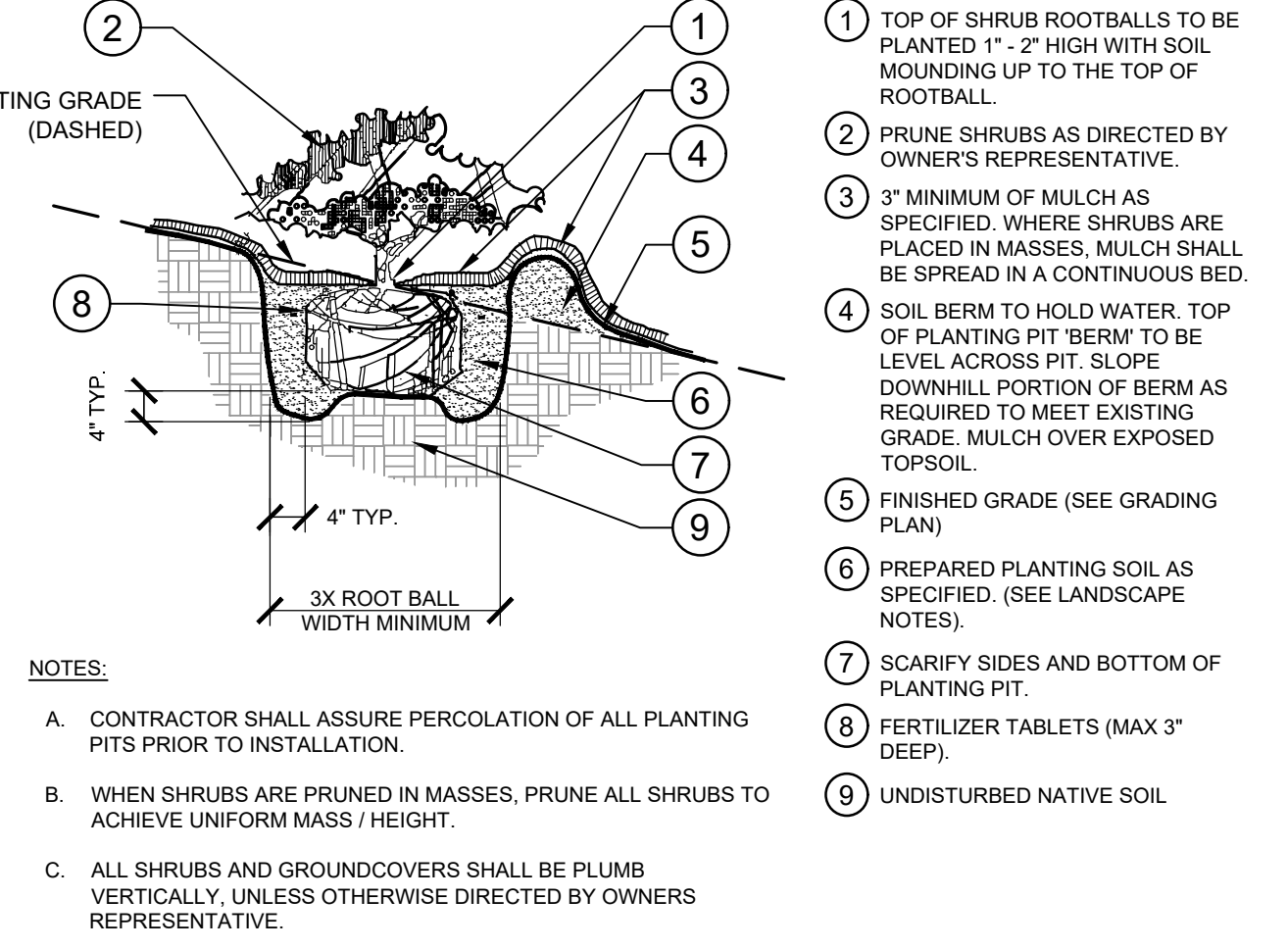
NOTES:

A. EXCAVATE A CONTINUOUS 24" DEEP PIT (FROM TOP OF CURB) FOR ENTIRE LENGTH AND WIDTH OF ISLAND & BACKFILL WITH APPROVED PLANTING MIX.

B. PROTECT AND RETAIN ALL CURBS AND BASE. COMPACTED SUBGRADE TO REMAIN FOR STRUCTURAL SUPPORT OF CURB SYSTEM (TYP).

C. ALL ISLANDS SHALL UTILIZE POOR DRAINAGE DETAIL WHEN PERCOLATION RATES ARE 2" PER HOUR OR LESS.

4 PLANTED PARKING LOT ISLANDS/MEDIANS SECTION NTS



- TOP OF SHRUB ROOTBALLS TO BE PLANTED 1" - 2" HIGH WITH SOIL MOUNDING UP TO THE TOP OF ROOTBALL.
- PRUNE SHRUBS AS DIRECTED BY OWNER'S REPRESENTATIVE.
- 3" MINIMUM OF MULCH AS SPECIFIED. WHERE SHRUBS ARE PLACED IN MASSES, MULCH SHALL BE SPREAD IN A CONTINUOUS BED.
- SOIL BERM TO HOLD WATER. TOP OF PLANTING PIT 'BERM' TO BE LEVEL ACROSS PIT. SLOPE DOWNHILL PORTION OF BERM AS REQUIRED TO MEET EXISTING GRADE. MULCH OVER EXPOSED TOPSOIL.
- FINISHED GRADE (SEE GRADING PLAN)
- PREPARED PLANTING SOIL AS SPECIFIED. (SEE LANDSCAPE NOTES).
- SCARIFY SIDES AND BOTTOM OF PLANTING PIT.
- FERTILIZER TABLETS (MAX 3" DEEP).
- UNDISTURBED NATIVE SOIL.

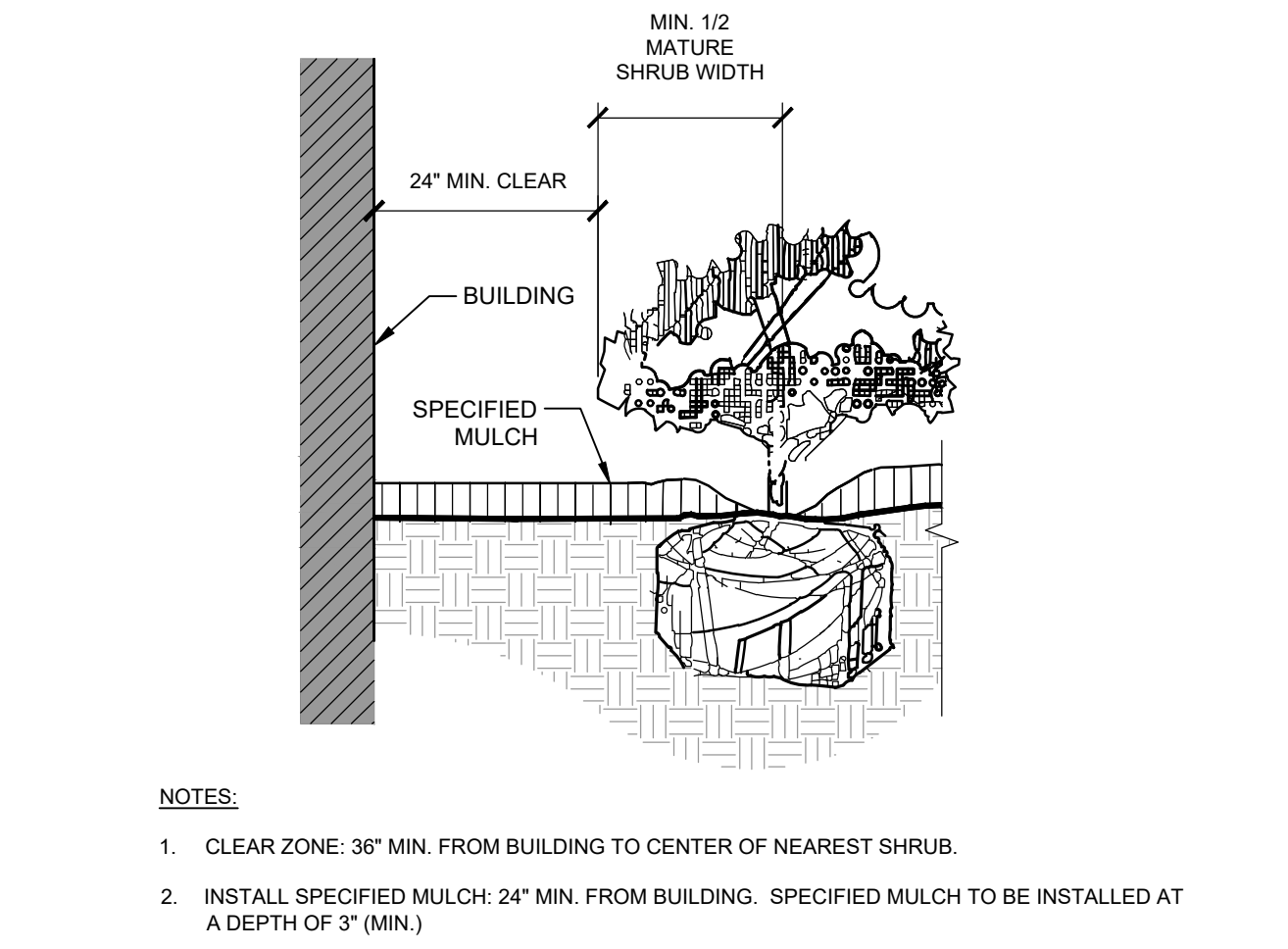
NOTES:

A. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.

B. WHEN SHRUBS ARE PRUNED IN MASSES, PRUNE ALL SHRUBS TO ACHIEVE UNIFORM MASS / HEIGHT.

C. ALL SHRUBS AND GROUNDCOVERS SHALL BE PLUMB VERTICALLY, UNLESS OTHERWISE DIRECTED BY OWNERS REPRESENTATIVE.

5 SHRUB/GROUNDCOVER PLANTING ON A SLOPE SECTION NTS



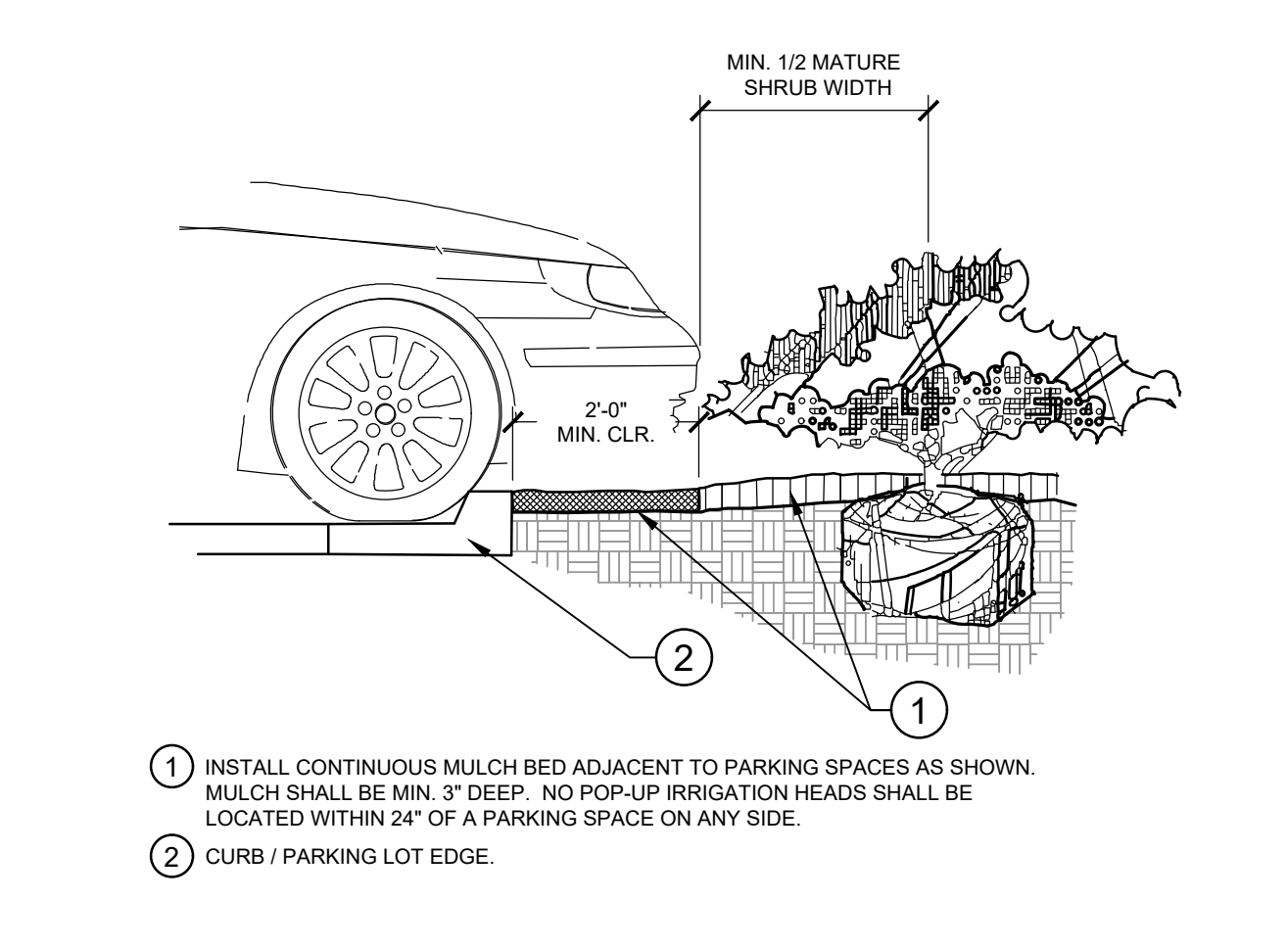
- CLEAR ZONE: 36" MIN. FROM BUILDING TO CENTER OF NEAREST SHRUB.
- INSTALL SPECIFIED MULCH: 24" MIN. FROM BUILDING. SPECIFIED MULCH TO BE INSTALLED AT A DEPTH OF 3" (MIN.)
- MIN. 1/2 MATURE SHRUB WIDTH
- 24" MIN. CLEAR
- BUILDING
- SPECIFIED MULCH

NOTES:

1. CLEAR ZONE: 36" MIN. FROM BUILDING TO CENTER OF NEAREST SHRUB.

2. INSTALL SPECIFIED MULCH: 24" MIN. FROM BUILDING. SPECIFIED MULCH TO BE INSTALLED AT A DEPTH OF 3" (MIN.)

6 PLANTINGS ADJACENT TO BUILDINGS SECTION NTS



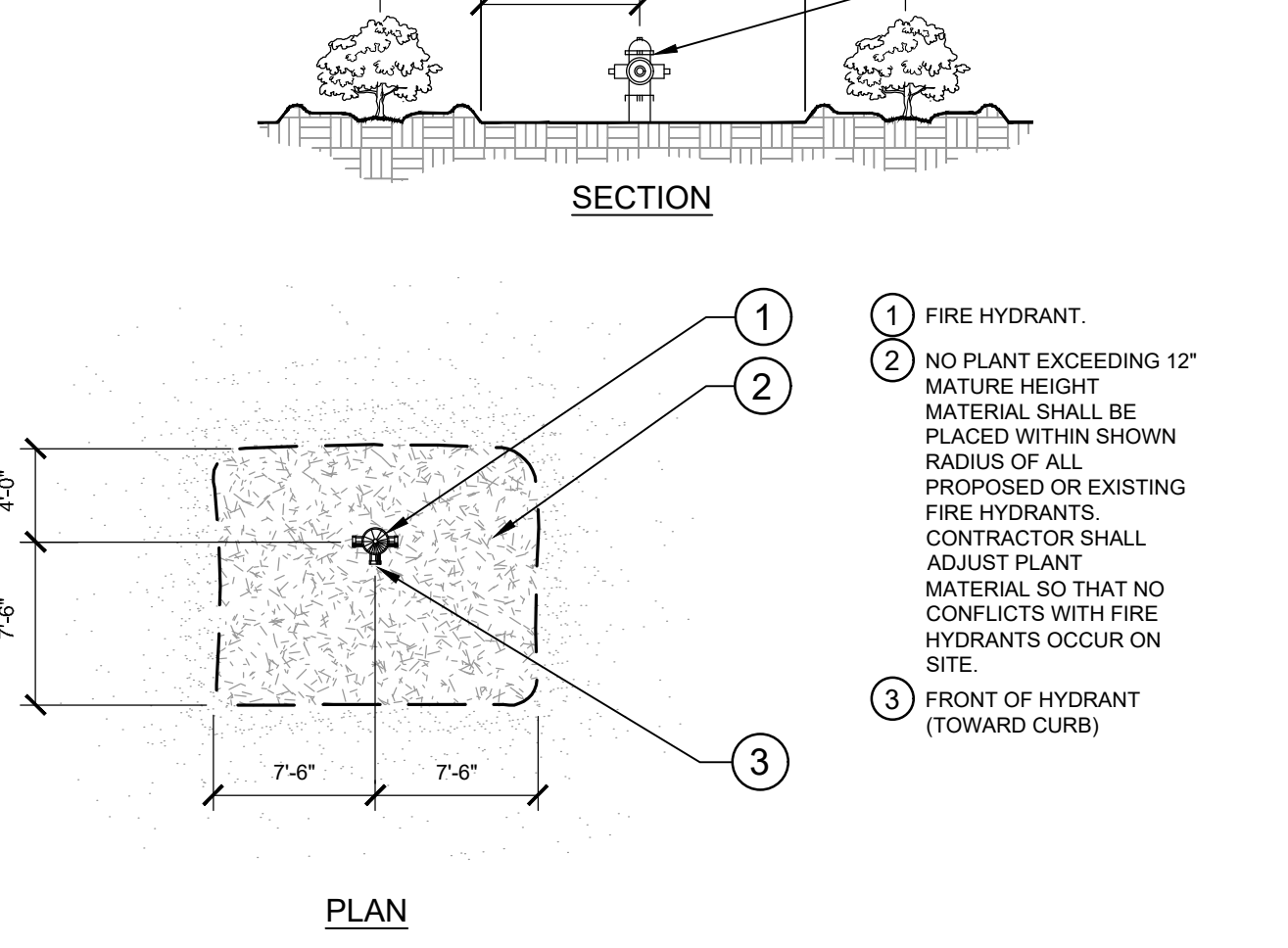
- INSTALL CONTINUOUS MULCH BED ADJACENT TO PARKING SPACES AS SHOWN. MULCH SHALL BE MIN. 3" DEEP. NO POP-UP IRRIGATION HEADS SHALL BE LOCATED WITHIN 24" OF A PARKING SPACE ON ANY SIDE.
- CURB / PARKING LOT EDGE.
- MIN. 1/2 MATURE SHRUB WIDTH
- 2'-0" MIN. CLR.

NOTES:

1. INSTALL CONTINUOUS MULCH BED ADJACENT TO PARKING SPACES AS SHOWN. MULCH SHALL BE MIN. 3" DEEP. NO POP-UP IRRIGATION HEADS SHALL BE LOCATED WITHIN 24" OF A PARKING SPACE ON ANY SIDE.

2. CURB / PARKING LOT EDGE.

7 PARKING SPACE/CURB PLANTING SECTION NTS



- FIRE HYDRANT.
- NO PLANT EXCEEDING 12" MATURE HEIGHT MATERIAL SHALL BE PLACED WITHIN SHOWN RADIUS OF ALL PROPOSED OR EXISTING FIRE HYDRANTS. CONTRACTOR SHALL ADJUST PLANT MATERIAL SO THAT NO CONFLICTS WITH FIRE HYDRANTS OCCUR ON SITE.
- FRONT OF HYDRANT (TOWARD CURB)
- MIN. 1/2 MATURE SHRUB WIDTH
- MIN. 15' CLEAR
- FIRE HYDRANT

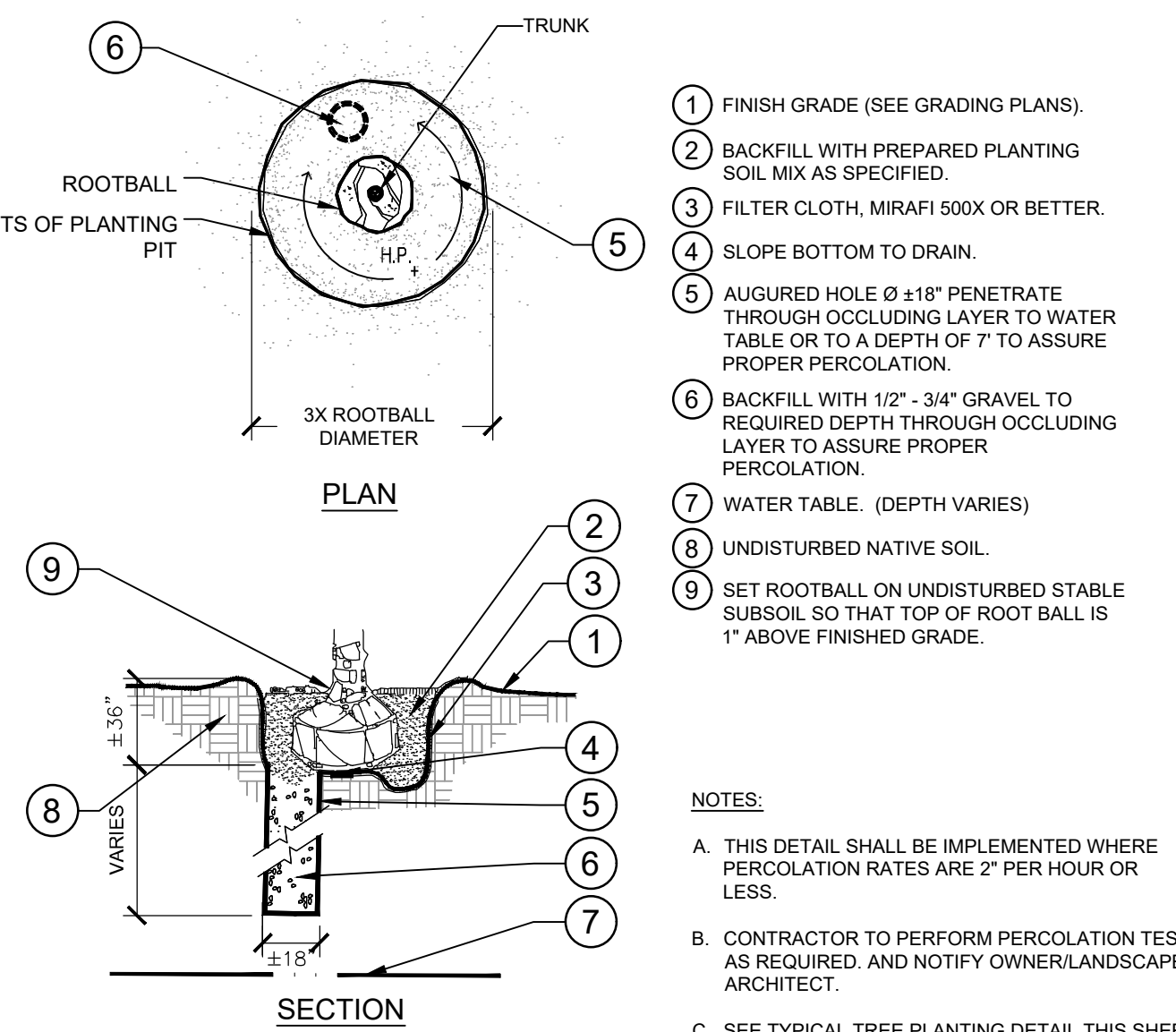
NOTES:

1. FIRE HYDRANT.

2. NO PLANT EXCEEDING 12" MATURE HEIGHT MATERIAL SHALL BE PLACED WITHIN SHOWN RADIUS OF ALL PROPOSED OR EXISTING FIRE HYDRANTS. CONTRACTOR SHALL ADJUST PLANT MATERIAL SO THAT NO CONFLICTS WITH FIRE HYDRANTS OCCUR ON SITE.

3. FRONT OF HYDRANT (TOWARD CURB)

8 SHRUB PLANTING AT FIRE HYDRANT SECTION / PLAN NTS



- FINISH GRADE (SEE GRADING PLANS).
- BACKFILL WITH PREPARED PLANTING SOIL MIX AS SPECIFIED.
- FILTER CLOTH, MIRAFI 500X OR BETTER.
- SLOPE BOTTOM TO DRAIN.
- AUGURED HOLE 9" x 18" PENETRATE THROUGH OCCULDING LAYER TO WATER TABLE OR TO A DEPTH OF 7' TO ASSURE PROPER PERCOLATION.
- BACKFILL WITH 1/2" - 3/4" GRAVEL TO REQUIRED DEPTH THROUGH OCCULDING LAYER TO ASSURE PROPER PERCOLATION.
- WATER TABLE. (DEPTH VARIES)
- UNDISTURBED NATIVE SOIL.
- SET ROOTBALL ON UNDISTURBED STABLE SUBSOIL SO THAT TOP OF ROOT BALL IS 1" ABOVE FINISHED GRADE.

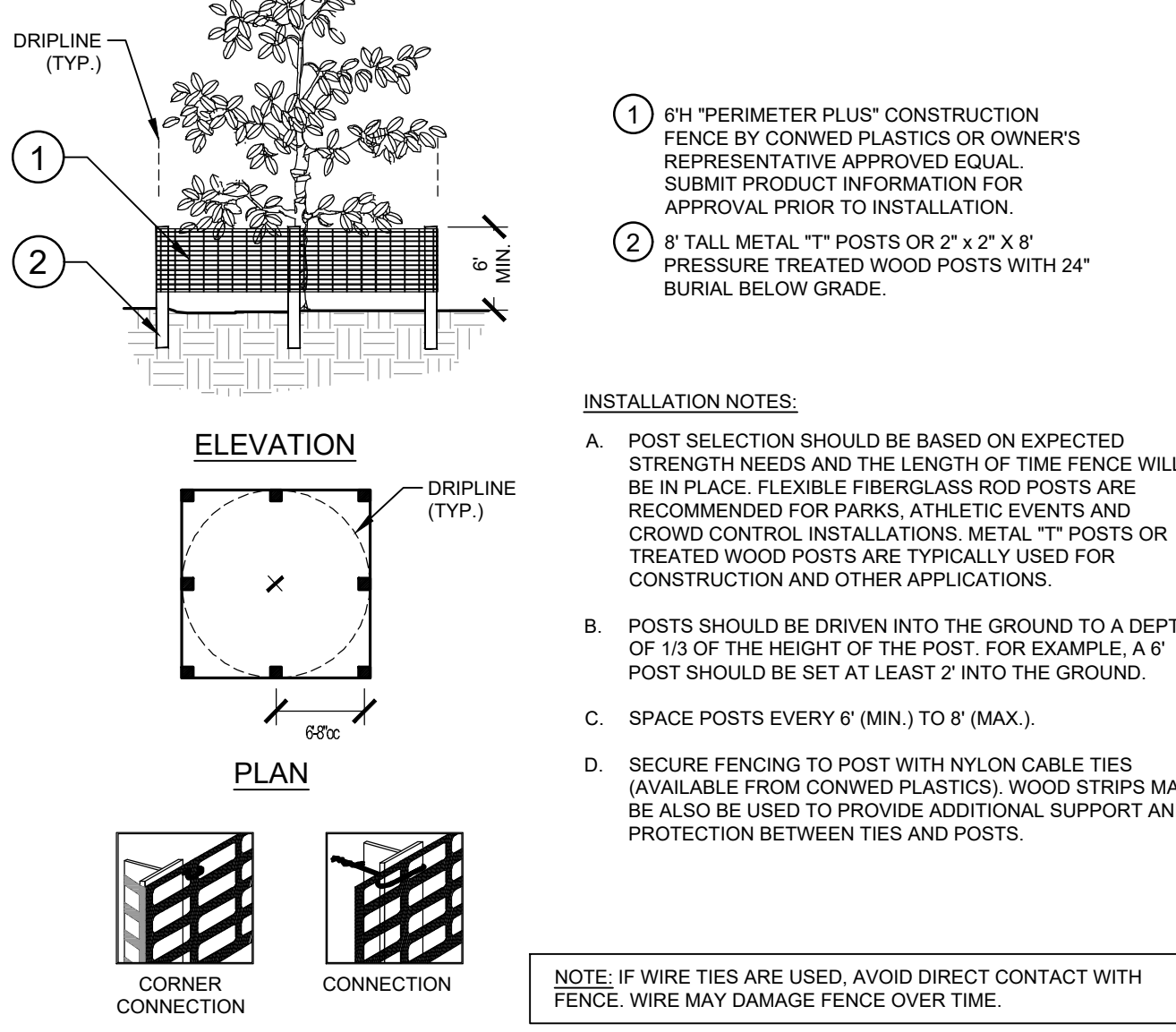
NOTES:

A. THIS DETAIL SHALL BE IMPLEMENTED WHERE PERCOLATION RATES ARE 2" PER HOUR OR LESS.

B. CONTRACTOR TO PERFORM PERCOLATION TEST AS REQUIRED, AND NOTIFY OWNER/LANDSCAPE ARCHITECT.

C. SEE TYPICAL TREE PLANTING DETAIL THIS SHEET FOR PLANT STAKING.

9 POOR DRAINAGE CONDITION SECTION / PLAN NTS



- 6" 'PERIMETER PLUS' CONSTRUCTION FENCE BY CONVEX PLASTICS OR OWNERS REPRESENTATIVE APPROVED EQUAL. SUBMIT PRODUCT INFORMATION FOR APPROVAL PRIOR TO INSTALLATION.
- 8" TALL METAL 'T' POSTS OR 2" x 2" x 8' PRESSURE TREATED WOOD POSTS WITH 24" BURIAL BELOW GRADE.

INSTALLATION NOTES:

A. POST SELECTION SHOULD BE BASED ON EXPECTED STRENGTH NEEDS AND THE LENGTH OF TIME FENCE WILL BE IN PLACE. FLEXIBLE FIBERGLASS ROD POSTS ARE RECOMMENDED FOR PARKS, ATHLETIC EVENTS AND CROWD CONTROL INSTALLATIONS. METAL 'T' POSTS OR TREATED WOOD POSTS ARE TYPICALLY USED FOR CONSTRUCTION AND OTHER APPLICATIONS.

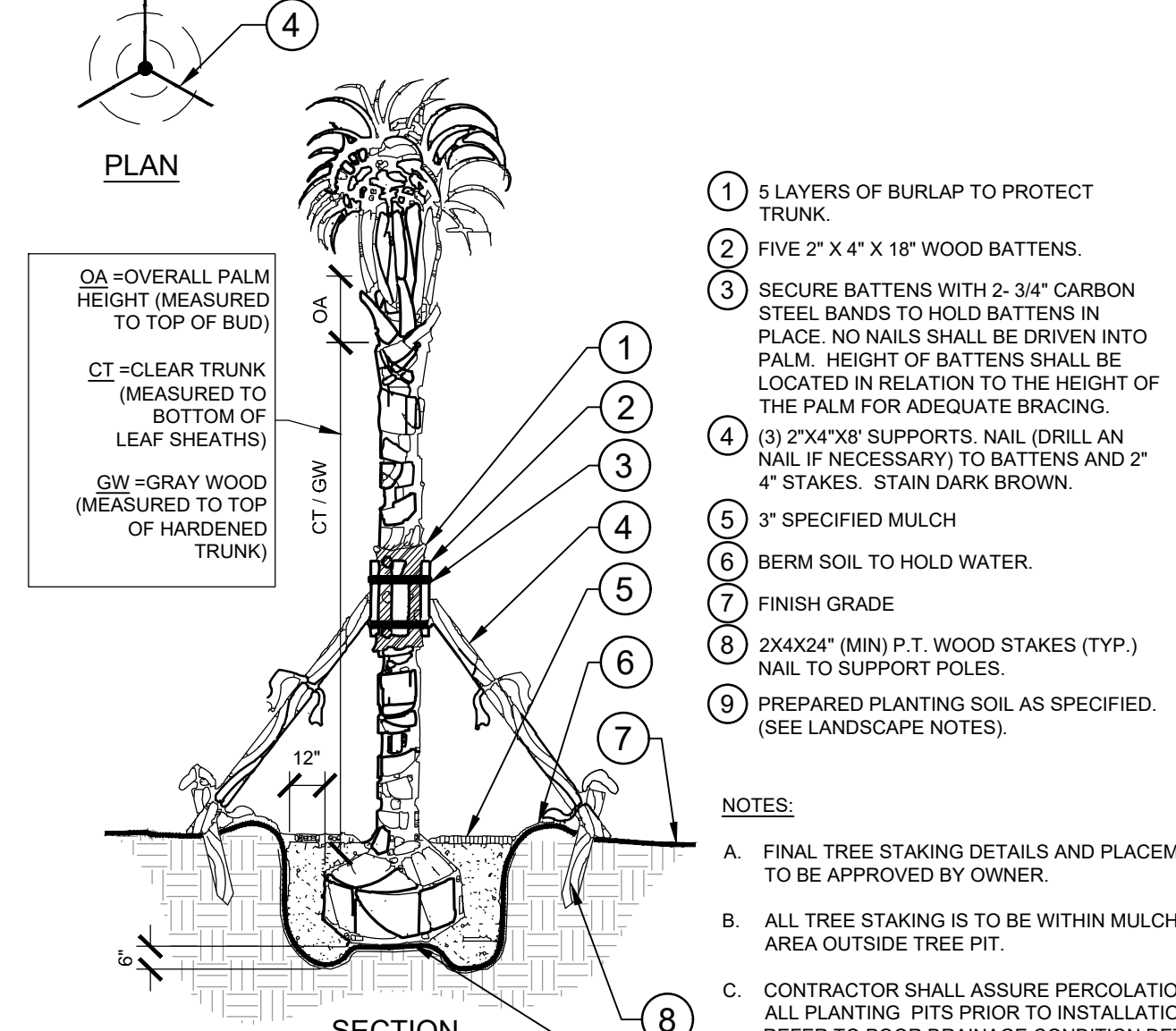
B. POSTS SHOULD BE DRIVEN INTO THE GROUND TO A DEPTH OF 1/3 OF THE HEIGHT OF THE POST. FOR EXAMPLE, A 6' POST SHOULD BE SET AT LEAST 2' INTO THE GROUND.

C. SPACE POSTS EVERY 6' (MIN.) TO 8' (MAX.).

D. SECURE FENCING TO POST WITH NYLON CABLE TIES (AVAILABLE FROM CONVEX PLASTICS). WOOD STRIPS MAY BE ALSO BE USED TO PROVIDE ADDITIONAL SUPPORT AND PROTECTION BETWEEN TIES AND POSTS.

NOTE: IF WIRE TIES ARE USED, AVOID DIRECT CONTACT WITH FENCE. WIRE MAY DAMAGE FENCE OVER TIME.

10 TREE PROTECTION FENCING ELEVATION / PLAN NTS



- 5 LAYERS OF BURLAP TO PROTECT TRUNK.
- FIVE 2" x 4" x 18" WOOD BATTENS.
- SECURE BATTENS WITH 2- 3/4" CARBON STEEL BANDS TO HOLD BATTENS IN PLACE. NO NAILS SHALL BE DRIVEN INTO PALM. HEIGHT OF BATTENS SHALL BE LOCATED IN RELATION TO THE HEIGHT OF THE PALM FOR ADEQUATE BRACING.
- (3) 2"x4"x8' SUPPORTS. NAIL (DRILL AN NAIL IF NECESSARY) TO BATTENS AND 2" 4" STAKES. STAIN DARK BROWN.
- 3" SPECIFIED MULCH
- BERM SOIL TO HOLD WATER.
- FINISH GRADE
- 2X4X24" (MIN) P.T. WOOD STAKES (TYP.) NAIL TO SUPPORT POLES.
- PREPARED PLANTING SOIL AS SPECIFIED. (SEE LANDSCAPE NOTES).

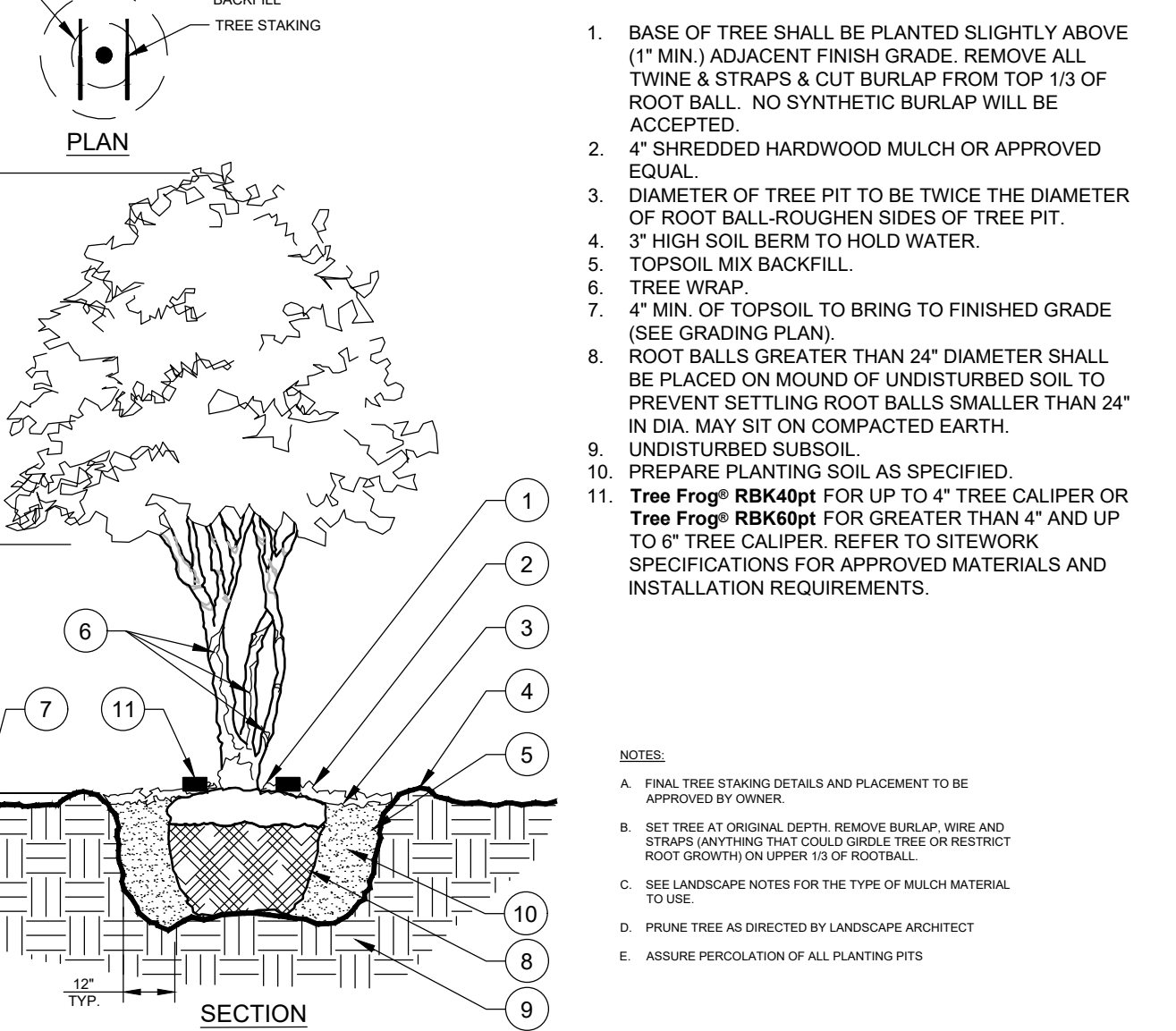
NOTES:

A. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.

B. ALL TREE STAKING IS TO BE WITHIN MULCH BED AREA OUTSIDE TREE PIT.

C. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION - REFER TO POOR DRAINAGE CONDITION DETAIL.

11 PALM PLANTING SECTION / PLAN NTS



- BASE OF TREE SHALL BE PLANTED SLIGHTLY ABOVE (1" MIN.) ADJACENT FINISH GRADE. REMOVE ALL TWINE & STRAPS & CUT BURLAP FROM TOP 1/3 OF ROOT BALL. NO SYNTHETIC BURLAP WILL BE ACCEPTED.
- 4" SHREDDED HARDWOOD MULCH OR APPROVED EQUAL.
- DIAMETER OF TREE PIT TO BE TWICE THE DIAMETER OF ROOT BALL-ROUGH SIDES OF TREE PIT.
- 3" HIGH SOIL BERM TO HOLD WATER.
- TOPSOIL MIX BACKFILL.
- TREE WRAP.
- 4" MIN. OF TOPSOIL TO BRING TO FINISHED GRADE (SEE GRADING PLAN)
- ROOT BALLS GREATER THAN 24" DIAMETER SHALL BE PLACED ON MOUND OF UNDISTURBED SOIL TO PREVENT SETTLING. ROOT BALLS SMALLER THAN 24" IN DIA. MAY SIT ON COMPACTED EARTH.
- UNDISTURBED SUBSOIL.
- PREPARE PLANTING SOIL AS SPECIFIED.
- Tree Frog® RBK40pt FOR UP TO 4" TREE CALIPER OR Tree Frog® RBK60pt FOR GREATER THAN 4" AND UP TO 6" TREE CALIPER. REFER TO SITEMARK SPECIFICATIONS FOR APPROVED MATERIALS AND INSTALLATION REQUIREMENTS.

NOTES:

A. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.

B. SET TREE AT ORIGINAL DEPTH. REMOVE BURLAP, WIRE AND STRAPS (ANYTHING THAT COULD GIRDLE TREE OR RESTRICT ROOT GROWTH) ON UPPER 1/3 OF ROOTBALL.

C. SEE LANDSCAPE NOTES FOR THE TYPE OF MULCH MATERIAL TO USE.

D. PRUNE TREE AS DIRECTED BY LANDSCAPE ARCHITECT

E. ASSURE PERCOLATION OF ALL PLANTING PITS

12 MULTI-TRUNK TREE PLANTING SECTION/PLAN NTS

Kimley»Horn

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REVISIONS

NO.	DATE	BY

LANDSCAPE DETAILS

E HIGHBANK TOWNHOMES

FLORIDA

SHEET NUMBER
L1.50

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GENERAL LANDSCAPE SPECIFICATIONS AND NOTES

A. SCOPE OF WORK

- 1. THE WORK CONSISTS OF: FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, TRANSPORTATION, AND ANY OTHER APPURTENANCES NECESSARY FOR THE COMPLETION OF THIS PROJECT AS SHOWN ON THE DRAWINGS, AS INCLUDED IN THE PLANT LIST, AND AS SPECIFIED HEREIN.
- 2. WORK SHALL INCLUDE MAINTENANCE AND WATERING OF ALL CONTRACT PLANTING AREAS UNTIL CERTIFICATION OF ACCEPTANCE BY THE OWNER.

B. PROTECTION OF EXISTING STRUCTURES

- 1. ALL EXISTING BUILDINGS, WALKS, WALLS, PAVING, PIPING, OTHER SITE CONSTRUCTION ITEMS, AND PLANTING ALREADY COMPLETED OR ESTABLISHED AND DESIGNATED TO REMAIN SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. ALL DAMAGE RESULTING FROM NEGLIGENCE SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER, AT NO COST TO THE OWNER.
- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL NECESSARY BMP DEVICES ACCORDING TO ALL REGULATORY AGENCY'S STANDARDS THROUGH THE DURATION OF ALL CONSTRUCTION ACTIVITIES.
- 3. THE CONTRACTOR SHALL SUBMIT A DETAILED PROJECT SPECIFIC WORK ZONE TRAFFIC CONTROL PLAN UNLESS THE WORK REQUIRES NOTHING MORE THAN A DIRECT APPLICATION OF FOOT DESIGN STANDARDS, INDEX 800. IF A DIRECT APPLICATION OF INDEX 800 IS PROPOSED, THE CONTRACTOR SHALL SUBMIT IN WRITING A STATEMENT INDICATING THE STANDARD INDEX AND PAGE NUMBER NO LESS THAN 10 BUSINESS DAYS PRIOR TO START OF CONSTRUCTION. WHEN A DIRECT APPLICATION OF FOOT STANDARD INDEX 800 IS NOT ACCEPTABLE A PROJECT SPECIFIC WORK ZONE TRAFFIC CONTROL PLAN SHALL BE PREPARED BY A FLORIDA PROFESSIONAL ENGINEER WHO HAS SUCCESSFULLY COMPLETED ADVANCED TRAINING IN MAINTENANCE OF TRAFFIC, AS DEFINED BY FOOT FOR APPROVAL BY THE COUNTY ENGINEERS REPRESENTATIVE.
- 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES, WHETHER PUBLIC OR PRIVATE, PRIOR TO EXCAVATION. THE INFORMATION AND DATA SHOWN WITH RESPECT TO EXISTING UNDERGROUND FACILITIES AT OR CONTIGUOUS TO THE SITE IS APPROXIMATE AND BASED ON INFORMATION FURNISHED BY THE OWNER OF SUCH UNDERGROUND FACILITIES OR ON PHYSICAL APPURTENANCES OBSERVED IN THE FIELD. THE OWNER AND DESIGN PROFESSIONAL SHALL NOT BE RESPONSIBLE FOR THE ACCURACY AND COMPLETENESS OF ANY SUCH INFORMATION OR DATA. THE CONTRACTOR SHALL HAVE FULL RESPONSIBILITY FOR REVIEWING AND CHECKING ALL SUCH INFORMATION AND DATA, LOCATING ALL UNDERGROUND FACILITIES DURING CONSTRUCTION, THE SAFETY AND PROTECTION THEREOF, REPAIRING ANY DAMAGE THERETO RESULTING FROM THE WORK. THE COST OF ALL WILL BE CONSIDERED AS HAVING BEEN INCLUDED IN THE CONTRACT PRICE. THE CONTRACTOR SHALL NOTIFY ANY AFFECTED UTILITY COMPANIES OR AGENCIES IN WRITING AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.

C. PROTECTION OF EXISTING PLANT MATERIALS

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UNAUTHORIZED CUTTING OR DAMAGE TO TREES AND SHRUBS EXISTING OR OTHERWISE CAUSED BY CARELESS EQUIPMENT OPERATION, MATERIAL STOCKPILING, ETC., THIS SHALL INCLUDE COMPACTION BY DRIVING OR PARKING INSIDE THE DRIP-LINE AND SPRINKLING OIL, GASOLINE, OR OTHER DELETERIOUS MATERIALS WITHIN THE DRIP-LINE. NO MATERIALS SHALL BE BURNED ON SITE. EXISTING TREES KILLED OR DAMAGED SO THAT THEY ARE MISAPPEAR AND/OR UNSIGHTLY SHALL BE REPLACED AT THE COST TO THE CONTRACTOR OF THREE HUNDRED DOLLARS (\$300) PER CALIPER INCH ON AN ESCALATING SCALE WHICH ADDS AN ADDITIONAL TWENTY (20) PERCENT PER INCH OVER FOUR (4) INCHES CALIPER AS FIXED AND AGREED LIQUIDATED DAMAGES. CALIPER SHALL BE MEASURED SIX (6) INCHES ABOVE GROUND LEVEL FOR TREES UP TO AND INCLUDING FOUR (4) INCHES IN CALIPER AND TWELVE (12) INCHES ABOVE GROUND LEVEL FOR TREES OVER FOUR (4) INCHES IN CALIPER.
- 2. SEE TREE MITIGATION PLAN AND NOTES, IF APPLICABLE.

D. MATERIALS

1. GENERAL

MATERIAL SAMPLES LISTED BELOW SHALL BE SUBMITTED FOR APPROVAL, ON SITE OR AS DETERMINED BY THE OWNER. UPON APPROVAL, DELIVERY OF MATERIALS MAY COMMENCE.

MATERIAL	SAMPLE SIZE
MULCH	ONE (1) CUBIC FOOT
TOPSOIL MIX	ONE (1) CUBIC FOOT
PLANTS	ONE (1) OF EACH VARIETY (OR TAGGED IN NURSERY)

2. PLANT MATERIALS

- a. PLANT SPECIES AND SIZE SHALL CONFORM TO THOSE INDICATED ON THE DRAWINGS. ALL NURSERY STOCK SHALL BE IN ACCORDANCE WITH GRADES AND STANDARDS FOR NURSERY PLANTS, LATEST EDITION, PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES. ALL PLANTS SHALL BE FLORIDA GRADE NO. 1 OR BETTER AS DETERMINED BY THE FLORIDA DIVISION OF PLANT INDUSTRY. ALL PLANTS SHALL BE HEALTHY, VIGOROUS, SOUND, WELL-BRANCHED, AND FREE OF DISEASE AND INSECTS, INSECT EGGS AND LARVAE AND SHALL HAVE ADEQUATE ROOT SYSTEMS. TREES FOR PLANTING IN ROWS SHALL BE UNIFORM IN SIZE AND SHAPE. ALL MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE OWNER. WHERE ANY REQUIREMENTS ARE OMITTED FROM THE PLANT LIST, THE PLANTS FURNISHED SHALL BE NORMAL FOR THE VARIETY. PLANTS SHALL BE PRUNED PRIOR TO DELIVERY ONLY WITH APPROVAL FROM OWNER OR OWNER'S REPRESENTATIVE. NO SUBSTITUTIONS SHALL BE MADE WITHOUT WRITTEN PERMISSION FROM THE OWNER'S REPRESENTATIVE.
- b. MEASUREMENTS: THE HEIGHT AND/OR WIDTH OF TREES SHALL BE MEASURED FROM THE GROUND OR ACROSS THE NORMAL SPREAD OF BRANCHES WITH THE PLANTS IN THEIR NORMAL POSITION. THIS MEASUREMENT SHALL NOT INCLUDE THE IMMEDIATE TERMINAL GROWTH. PLANTS LARGER IN SIZE THAN THOSE SPECIFIED IN THE PLANT LIST MAY BE USED IF APPROVED BY THE OWNER, IF THE USE OF LARGER PLANTS IS APPROVED, THE BALL OF EARTH OR SPREAD OF ROOTS SHALL BE INCREASED IN PROPORTION TO THE SIZE OF THE PLANT.
- c. INSPECTION: PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, OR UPON DELIVERY TO THE SITE, AS DETERMINED BY THE OWNER. FOR QUALITY, SIZE, AND VARIETY. SUCH APPROVAL SHALL NOT IMPAIR THE RIGHT OF INSPECTION AND REJECTION AT THE SITE DURING PROGRESS OF THE WORK OR AFTER COMPLETION FOR SIZE AND CONDITION OF ROOT BALLS OR ROOTS, LATENT DEFECTS OR INJURIES. REJECTED PLANTS SHALL BE REMOVED IMMEDIATELY FROM THE SITE. NOTICE REQUESTING INSPECTION SHALL BE SUBMITTED IN WRITING BY THE CONTRACTOR AT LEAST ONE (1) WEEK PRIOR TO ANTICIPATED DATE.

E. SOIL MIXTURE (PLANTING MEDIUM, PLANTING MIX, TOPSOIL MIX)

- 1. CONTRACTOR SHALL TEST EXISTING SOIL AND AMEND AS NECESSARY IN ACCORDANCE WITH THE GUIDELINES BELOW:
- 2. SOIL MIXTURE (PLANTING MEDIUM FOR PLANT PITS) SHALL CONSIST OF TWO PARTS OF TOPSOIL AND ONE PART SAND, AS DESCRIBED BELOW. CONTRACTOR TO SUBMIT SAMPLES AND PH TEST RESULTS OF SOIL MIXTURE FOR OWNER'S REPRESENTATIVE APPROVAL PRIOR TO PLANT INSTALLATION OPERATIONS COMMENCE.
 - a. TOPSOIL FOR USE IN PREPARING SOIL MIXTURE FOR BACKFILLING PLANT PITS SHALL BE FERTILE, FRIABLE, AND OF A LOAMY CHARACTER, REASONABLY FREE OF SUBSOIL, CLAY LUMPS, BRUSH WEEDS AND OTHER LITTER; FREE OF ROOTS, STUMPS, STONES LARGER THAN 2" IN ANY DIRECTION, AND OTHER EXTRANEIOUS OR TOXIC MATTER HARMFUL TO PLANT GROWTH. IT SHALL CONTAIN THREE (3) TO FIVE (5) PERCENT DECOMPOSED ORGANIC MATTER AND HAVE A PH BETWEEN 5.5 AND 7.0.
 - b. SAND SHALL BE COARSE, CLEAN, WELL-DRAINING, NATIVE SAND.
- 2. TREES SHALL BE PLANTED IN THE EXISTING NATIVE SOIL ON SITE, UNLESS DETERMINED TO BE UNSUITABLE - AT WHICH POINT THE CONTRACTOR SHALL CONTACT OWNER'S REPRESENTATIVE TO DISCUSS ALTERNATE RECOMMENDATION PRIOR TO PLANTING.

F. WATER

- 1. WATER NECESSARY FOR PLANTING AND MAINTENANCE SHALL BE OF SATISFACTORY QUALITY TO SUSTAIN ADEQUATE PLANT GROWTH AND SHALL NOT CONTAIN HARMFUL, NATURAL OR MAN-MADE ELEMENTS DETRIMENTAL TO PLANTS. WATER MEETING THE ABOVE STANDARD SHALL BE OBTAINED ON THE SITE FROM THE OWNER, IF AVAILABLE, AND THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ARRANGEMENTS FOR ITS USE BY HIS TANKS, HOSES, SPRINKLERS, ETC., IF SUCH WATER IS NOT AVAILABLE AT THE SITE, THE CONTRACTOR SHALL PROVIDE SATISFACTORY WATER FROM SOURCES OFF THE SITE AT NO ADDITIONAL COST TO THE OWNER.

* WATERING/IRRIGATION RESTRICTIONS MAY APPLY - REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.

G. FERTILIZER

CONTRACTOR SHALL PROVIDE FERTILIZER APPLICATION SCHEDULE TO OWNER, AS APPLICABLE TO SOIL TYPE, PLANT INSTALLATION TYPE, AND SITE'S PROPOSED USE. SUGGESTED FERTILIZER TYPES SHALL BE ORGANIC OR OTHERWISE NATURALLY-DERIVED.

* FERTILIZER RESTRICTIONS MAY APPLY - REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.

H. MULCH

- 1. MULCH MATERIAL SHALL BE MOISTENED AT THE TIME OF APPLICATION TO PREVENT WIND DISPLACEMENT, AND APPLIED AT A DEPTH OF THREE (3) INCHES. CLEAR MULCH FROM EACH PLANT'S CROWN (BASE). MULCH SHALL BE "FLORIMULCH," EUCALYPTUS MULCH, OR SIMILAR SUSTAINABLY HARVESTED MULCH UNLESS SPECIFIED OTHERWISE.
- 2. PROVIDE A THREE (3) INCH MINIMUM LAYER OF SPECIFIED MULCH OVER THE ENTIRE AREA OF EACH SHRUB BED, GROUND COVER, VINE BED, AND TREE PIT (6" MINIMUM) PLANTED UNDER THIS CONTRACT.

I. DIGGING AND HANDLING

- 1. PROTECT ROOTS OR ROOT BALLS OF PLANTS AT ALL TIMES FROM SUN, DRYING WINDS, WATER AND FREEZING, AS NECESSARY UNTIL PLANTING. PLANT MATERIALS SHALL BE ADEQUATELY PACKED TO PREVENT DAMAGE DURING TRANSIT. TREES TRANSPORTED MORE THAN TEN (10) MILES OR WHICH ARE NOT PLANTED WITHIN THREE (3) DAYS OF DELIVERY TO THE SITE SHALL BE SPRAYED WITH AN ANTITRANSPIRANT PRODUCT ("WILT-PRUF" OR EQUAL) TO MINIMIZE TRANSPIRATIONAL WATER LOSS.
- 2. BALLED AND BURLAPPED (B&B), AND FIELD GROWN (FG) PLANTS SHALL BE DUG WITH FIRM, NATURAL BALLS OF SOIL OF SUFFICIENT SIZE TO ENCOMPASS THE FIBROUS AND FEEDING ROOTS OF THE PLANTS. NO PLANTS MOVED WITH A ROOT BALL SHALL BE PLANTED IF THE BALL IS CRACKED OR BROKEN. PLANTS SHALL NOT BE HANDLED BY STEMS.

- 3. PLANTS MARKED "BR" IN THE PLANT LIST SHALL BE DUG WITH BARE ROOTS. CARE SHALL BE EXERCISED THAT THE ROOTS DO NOT DRY OUT DURING TRANSPORTATION AND PRIOR TO PLANTING.

- 4. PROTECTION OF PALMS: ONLY A MINIMUM OF FRONDS SHALL BE REMOVED FROM THE CROWN OF THE PALM TREES TO FACILITATE MOVING AND HANDLING. CLEAR TRUNK (CT) SHALL BE AS SPECIFIED AFTER THE MINIMUM OF FRONDS HAVE BEEN REMOVED. ALL PALMS SHALL BE BRACED PER PALM PLANTING DETAIL.

- 5. EXCAVATION OF TREE PITS SHALL BE PERFORMED USING EXTREME CARE TO AVOID DAMAGE TO SURFACE AND SUBSURFACE ELEMENTS SUCH AS UTILITIES OR HARDSCAPE ELEMENTS, FOOTERS AND PREPARED SUB-BASES.

J. CONTAINER GROWN STOCK

- 1. ALL CONTAINER GROWN MATERIAL SHALL BE HEALTHY, VIGOROUS, WELL-ROOTED PLANTS ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD. THE PLANTS SHALL HAVE TOPS WHICH ARE OF GOOD QUALITY AND ARE IN A HEALTHY GROWING CONDITION.
- 2. AN ESTABLISHED CONTAINER GROWN PLANT SHALL BE TRANSPLANTED INTO A CONTAINER AND GROWN IN THAT CONTAINER SUFFICIENTLY LONG ENOUGH FOR THE NEW FIBROUS ROOTS TO HAVE DEVELOPED SO THAT THE ROOT MASS WILL RETAIN ITS SHAPE AND HOLD TOGETHER WHEN REMOVED FROM THE CONTAINER. CONTAINER GROWN STOCK SHALL NOT BE HANDLED BY THEIR STEMS.
- 3. ROOT BOUND PLANTS ARE NOT ACCEPTABLE AND WILL BE REJECTED.
- 4. RPG="ROOTS PLUS GROWER" CONTAINER PRODUCTS SHALL BE USED WHERE SPECIFIED.

K. COLLECTED STOCK

WHEN THE USE OF COLLECTED STOCK IS PERMITTED AS INDICATED BY THE OWNER OR OWNER'S REPRESENTATIVE, THE MINIMUM SIZES OF ROOTBALLS SHALL BE EQUAL TO THAT SPECIFIED FOR THE NEXT LARGER SIZE OF NURSERY GROWN STOCK OF THE SAME VARIETY.

L. NATIVE STOCK

PLANTS COLLECTED FROM WILD OR NATIVE STANDS SHALL BE CONSIDERED NURSERY GROWN WHEN THEY HAVE BEEN SUCCESSFULLY RE-ESTABLISHED IN A NURSERY ROW AND GROWN UNDER REGULAR NURSERY CULTURAL PRACTICES FOR A MINIMUM OF TWO (2) GROWING SEASONS AND HAVE ATTAINED ADEQUATE ROOT AND TOP GROWTH TO INDICATE FULL RECOVERY FROM TRANSPLANTING INTO THE NURSERY ROW.

M. MATERIALS LIST

QUANTITIES NECESSARY TO COMPLETE THE WORK ON THE DRAWINGS SHALL BE FURNISHED BY THE CONTRACTOR. QUANTITY ESTIMATES HAVE BEEN MADE CAREFULLY, BUT THE LANDSCAPE ARCHITECT OR OWNER ASSUMES NO LIABILITY FOR OMISSIONS OR ERRORS. SHOULD A DISCREPANCY OCCUR BETWEEN THE PLANS AND THE PLANT LIST QUANTITY, THE OWNER'S REPRESENTATIVE SHALL BE NOTIFIED FOR CLARIFICATION PRIOR TO BIDDING OR INSTALLATION. ALL DIMENSIONS AND/OR SIZES SPECIFIED SHALL BE THE MINIMUM ACCEPTABLE SIZE.

N. FINE GRADING

- 1. FINE GRADING UNDER THIS CONTRACT SHALL CONSIST OF FINAL FINISHED GRADING OF LAWN AND PLANTING AREAS THAT HAVE BEEN ROUGH GRADED BY OTHERS. BERNING AS SHOWN ON THE DRAWINGS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, UNLESS OTHERWISE NOTED.
- 2. THE CONTRACTOR SHALL FINE GRADE THE LAWN AND PLANTING AREAS TO BRING THE ROUGH GRADE UP TO FINAL FINISHED GRADE ALLOWING FOR THICKNESS OF SOD AND/OR MULCH DEPTH. CONTRACTOR SHALL FINE GRADE BY HAND AND/OR WITH ALL EQUIPMENT NECESSARY INCLUDING A GRADING TRACTOR WITH FRONT-END LOADER FOR TRANSPORTING SOIL WITHIN THE SITE.
- 3. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED FOR POSITIVE DRAINAGE TO SURFACE/SUBSURFACE STORM DRAIN SYSTEMS. AREAS ADJACENT TO BUILDINGS SHALL SLOPE AWAY FROM THE BUILDINGS. REFER TO CIVIL ENGINEER'S PLANS FOR FINAL GRADES, IF APPLICABLE.

O. PLANTING PROCEDURES

- 1. CLEANING UP BEFORE COMMENCING WORK: THE CONTRACTOR SHALL CLEAN WORK AND SURROUNDING AREAS OF ALL RUBBISH OR OBJECTIONABLE MATTER DAILY. ALL MORTAR, CEMENT, AND TOXIC MATERIAL SHALL BE REMOVED FROM THE SURFACE OF ALL PLANT BEDS. THESE MATERIALS SHALL NOT BE MIXED WITH THE SOIL. SHOULD THE CONTRACTOR FIND SUCH SOIL CONDITIONS BENEATH THE SOIL WHICH WILL IN ANY WAY ADVERSELY AFFECT THE PLANT GROWTH, HE SHALL IMMEDIATELY CALL IT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. FAILURE TO DO SO BEFORE PLANTING SHALL MAKE THE CORRECTIVE MEASURES THE RESPONSIBILITY OF THE CONTRACTOR.
- 2. VERIFY LOCATIONS OF ALL UTILITIES, CONDUITS, SUPPLY LINES AND CABLES, INCLUDING BUT NOT LIMITED TO: ELECTRIC, GAS LINES AND TANKS), WATER, SANITARY SEWER, STORMWATER SYSTEMS, CABLE, AND TELEPHONE. PROPERLY MAINTAIN AND PROTECT EXISTING UTILITIES. CALL SUNSHINE STATE ONE CALL OF FLORIDA, INC. (811) TO LOCATE UTILITIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.
- 3. SUBGRADE EXCAVATION: CONTRACTOR IS RESPONSIBLE TO REMOVE ALL EXISTING AND IMPORTED LIMEROCK AND LIMEROCK SUB-BASE FROM ALL LANDSCAPE PLANTING AREAS TO A MINIMUM DEPTH OF 36" OR TO NATIVE SOIL. CONTRACTOR IS RESPONSIBLE TO BACKFILL THESE PLANTING AREAS TO ROUGH FINISHED GRADE WITH CLEAN TOPSOIL FROM AN ON-SITE SOURCE OR AN IMPORTED SOURCE. IF LIMEROCK OR OTHER ADVERSE CONDITIONS OCCUR IN PLANTED AREAS AFTER 36" DEEP EXCAVATION BY THE CONTRACTOR, AND POSITIVE DRAINAGE CAN NOT BE ACHIEVED, CONTRACTOR SHALL UTILIZE POOR DRAINAGE CONDITION PLANTING DETAIL.
- 4. FURNISH NURSERY'S CERTIFICATE OF COMPLIANCE WITH ALL REQUIREMENTS AS SPECIFIED HEREIN. INSPECT AND SELECT PLANT MATERIALS BEFORE PLANTS ARE DUG AT NURSERY OR GROWING SITE.
- 5. COMPLY WITH APPLICABLE FEDERAL, STATE, COUNTY, AND LOCAL REGULATIONS GOVERNING LANDSCAPE MATERIALS AND WORK. CONFORM TO ACCEPTED HORTICULTURAL PRACTICES AS USED IN THE TRADE. UPON ARRIVAL AT THE SITE, PLANTS SHALL BE THOROUGHLY WATERED AND PROPERLY MAINTAINED UNTIL PLANTED. PLANTS STORED ON-SITE SHALL NOT REMAIN UNPLANTED OR APPROPRIATELY HEALED IN FOR A PERIOD EXCEEDING TWENTY-FOUR (24) HOURS. AT ALL TIMES WORKMANLIKE METHODS CUSTOMARY IN GOOD HORTICULTURAL PRACTICES SHALL BE EXERCISED.
- 6. THE WORK SHALL BE COORDINATED WITH OTHER TRADES TO PREVENT CONFLICTS. COORDINATE PLANTING WITH IRRIGATION WORK TO ASSURE AVAILABILITY OF WATER AND PROPER LOCATION OF IRRIGATION APPURTENANCES AND PLANTS.
- 7. ALL PLANTING PITS SHALL BE EXCAVATED TO SIZE AND DEPTH IN ACCORDANCE WITH THE USA STANDARD FOR NURSERY STOCK 260.1, UNLESS SHOWN OTHERWISE ON THE DRAWINGS, AND BACK FILLED WITH THE PREPARED PLANTING SOIL MIXTURE AS SPECIFIED IN SECTION E. TEST ALL TREE PITS WITH WATER BEFORE PLANTING TO ASSURE PROPER DRAINAGE PERCOLATION IS AVAILABLE. NO ALLOWANCE WILL BE MADE FOR LOST PLANTS DUE TO IMPROPER DRAINAGE. IF POOR DRAINAGE EXISTS, UTILIZE "POOR DRAINAGE CONDITION" PLANTING DETAIL. TREES SHALL BE SET PLUMB AND HELD IN POSITION UNTIL THE PLANTING MIXTURE HAS BEEN FLUSHED INTO PLACE WITH A SLOW, FULL HOSE STREAM. ALL PLANTING SHALL BE PERFORMED BY PERSONNEL FAMILIAR WITH PLANTING PROCEDURES AND UNDER THE SUPERVISION OF A QUALIFIED LANDSCAPE FOREMAN. PROPER "JETTING IN" SHALL BE ASSURED TO ELIMINATE AIR POCKETS AROUND THE ROOTS. "JET STICK" OR EQUAL IS RECOMMENDED.
- 8. TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO BUILDINGS AND BUILDING STRUCTURES WHILE INSTALLING TREES.
- 9. SOIL MIXTURE SHALL BE AS SPECIFIED IN SECTION E OF THESE SPECIFICATIONS.
- 10. TREES AND SHRUBS SHALL BE SET STRAIGHT AT AN ELEVATION THAT, AFTER SETTLEMENT, THE PLANT CROWN WILL STAND ONE (1) TO TWO (2) INCHES ABOVE GRADE. EACH PLANT SHALL BE SET IN THE CENTER OF THE PIT. PLANTING SOIL MIXTURE SHALL BE BACK FILLED, THOROUGHLY TAMPED AROUND THE BALL, AND SETTLED BY WATER (AFTER TAMPING).
- 11. AMEND PINE AND OAK PLANT PITS WITH ECTOMYCORRHIZAL SOIL APPLICATION PER MANUFACTURER'S RECOMMENDATION. ALL OTHER PLANT PITS SHALL BE AMENDED WITH ENDOMYCORRHIZAL SOIL APPLICATION PER MANUFACTURER'S RECOMMENDATION. PROVIDE PRODUCT INFORMATION SUBMITTAL PRIOR TO INOCULATION.
- 12. FILL HOLE WITH SOIL MIXTURE, MAKING CERTAIN ALL SOIL IS SATURATED. TO DO THIS, FILL HOLE WITH WATER AND ALLOW TO SOAK MINIMUM TWENTY (20) MINUTES, STIRRING IF NECESSARY TO GET SOIL THOROUGHLY WET. PACK LIGHTLY WITH FEET, ADD MORE WET SOIL MIXTURE. DO NOT COVER TOP OF BALL WITH SOIL MIXTURE. ALL BURLAP, ROPE, WIRES, BASKETS, ETC., SHALL BE REMOVED FROM THE SIDES AND TOPS OF BALLS, BUT NO BURLAP SHALL BE PULLED FROM UNDERNEATH.
- 13. TREES SHALL BE PRUNED, AT THE DIRECTION OF THE OWNER OR OWNER'S REPRESENTATIVE, TO PRESERVE THE NATURAL CHARACTER OF THE PLANT. ALL SOFT WOOD OR SUCKER GROWTH AND ALL BROKEN OR BADLY DAMAGED BRANCHES SHALL BE REMOVED WITH A CLEAN CUT. ALL PRUNING TO BE PERFORMED BY CERTIFIED ARBORIST, IN ACCORDANCE WITH ANSI A300.
- 14. SHRUBS AND GROUND COVER PLANTS SHALL BE EVENLY SPACED IN ACCORDANCE WITH THE DRAWINGS AND AS INDICATED ON THE PLANT LIST. MATERIALS INSTALLED SHALL MEET MINIMUM SPECIMEN REQUIREMENTS OR QUANTITIES SHOWN ON PLANS, WHICHEVER IS GREATER. CULTIVATE ALL PLANTING AREAS TO A MINIMUM DEPTH OF 6", REMOVE AND DISPOSE ALL DEBRIS. MIX TOP 4" THE PLANTING SOIL MIXTURE AS SPECIFIED IN SECTION E. THOROUGHLY WATER ALL PLANTS AFTER INSTALLATION.
- 15. TREE GUYING AND BRACING SHALL BE INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLANS TO INSURE STABILITY AND MAINTAIN TREES IN AN UPRIGHT POSITION. IF THE CONTRACTOR AND OWNER DECIDE TO WAIVE THE TREE GUYING AND BRACING, THE OWNER SHALL NOTIFY THE PROJECT LANDSCAPE ARCHITECT IN WRITING AND AGREE TO INDEMNIFY AND HOLD HARMLESS THE PROJECT LANDSCAPE ARCHITECT IN THE EVENT UNSUPPORTED TREES PLANTED UNDER THIS CONTRACT FALL AND DAMAGE PERSON OR PROPERTY.
- 16. ALL PLANT BEDS SHALL BE KEPT FREE OF NOXIOUS WEEDS UNTIL FINAL ACCEPTANCE OF WORK. IF DIRECTED BY THE OWNER, "ROUND-UP" SHALL BE APPLIED FOR WEED CONTROL BY QUALIFIED PERSONNEL TO ALL PLANTING AREAS IN SPOT APPLICATIONS PER MANUFACTURER'S PRECAUTIONS AND SPECIFICATIONS. PRIOR TO FINAL INSPECTION, TREAT ALL PLANTING BEDS WITH AN APPROVED PRE-EMERGENT HERBICIDE AT AN APPLICATION RATE RECOMMENDED BY THE MANUFACTURER (AS ALLOWED BY JURISDICTIONAL AUTHORITY).

P. LAWN SODDING

- 1. THE WORK CONSISTS OF LAWN BED PREPARATION, SOIL PREPARATION, AND SODDING COMPLETE, IN STRICT ACCORDANCE WITH THE SPECIFICATIONS AND THE APPLICABLE DRAWINGS TO PRODUCE A TURF GRASS LAWN ACCEPTABLE TO THE OWNER.
- 2. ALL AREAS THAT ARE TO BE SODDED SHALL BE CLEARED OF ANY ROUGH GRASS, WEEDS, AND DEBRIS BY MEANS OF A SOD CUTTER TO A DEPTH OF THREE (3) INCHES, AND THE GROUND BROUGHT TO AN EVEN SURFACE. THE ROLLING SURFACE SHALL BE ROLLED WITH A ROLLER WEIGHING NOT MORE THAN ONE-HUNDRED (100) POUNDS PER FOOT OF WIDTH. DURING THE ROLLING, ALL DEPRESSIONS CAUSED BY SETTLEMENT SHALL BE FILLED WITH ADDITIONAL SOIL, AND THE SURFACE SHALL BE REGRADED AND ROLLED UNTIL PRESENTING A SMOOTH AND EVEN FINISH TO THE REQUIRED GRADE.

- 3. PREPARE LOOSE BED FOUR (4) INCHES DEEP. HAND RAKE UNTIL ALL BUMPS AND DEPRESSIONS ARE REMOVED. WET PREPARED AREA THOROUGHLY.

4. SODDING

- a. THE CONTRACTOR SHALL SOD ALL AREAS THAT ARE NOT PAVED OR PLANTED AS DESIGNATED ON THE DRAWINGS WITHIN THE CONTRACT LIMITS, UNLESS SPECIFICALLY NOTED OTHERWISE.
- b. THE SOD SHALL BE CERTIFIED TO MEET FLORIDA STATE PLANT BOARD SPECIFICATIONS, ABSOLUTELY TRUE TO VARIETAL TYPE, AND FREE FROM WEEDS, FUNGUS, INSECTS AND DISEASE OF ANY KIND.
- c. SOD PANELS SHALL BE LAID TIGHTLY TOGETHER SO AS TO MAKE A SOLID SODDED LAWN AREA. SOD SHALL BE LAID UNIFORMLY AGAINST THE EDGES OF ALL CURBS AND OTHER HARDSCAPE ELEMENTS. PAVED AND PLANTED AREAS ADJACENT TO BUILDINGS, A 24 INCH STONE MULCH STRIP SHALL BE PROVIDED. IMMEDIATELY FOLLOWING SOD LAYING, THE LAWN AREAS SHALL BE ROLLED WITH A LAWN ROLLER CUSTOMARILY USED FOR SUCH PURPOSES, AND THEN THOROUGHLY IRRIGATED. IF, IN THE OPINION OF THE OWNER, TOP-DRESSING IS NECESSARY AFTER ROLLING TO FILL THE VOIDS BETWEEN THE SOD PANELS AND TO EVEN OUT INCONSISTENCIES IN THE SOD, CLEAN SAND, AS APPROVED BY THE OWNER'S REPRESENTATIVE, SHALL BE UNIFORMLY SPREAD OVER THE ENTIRE SURFACE OF THE SOD AND THOROUGHLY WATERED IN. FERTILIZE INSTALLED SOD AS ALLOWED BY PROPERTY'S JURISDICTIONAL AUTHORITY.

- 5. DURING DELIVERY, PRIOR TO, AND DURING THE PLANTING OF THE LAWN AREAS, THE SOD PANELS SHALL AT ALL TIMES BE PROTECTED FROM EXCESSIVE DRYING AND UNNECESSARY EXPOSURE OF THE ROOTS TO THE SUN. ALL SOD SHALL BE STACKED SO AS NOT TO BE DAMAGED BY SWEATING OR EXCESSIVE HEAT AND MOISTURE.

6. LAWN MAINTENANCE

- a. WITHIN THE CONTRACT LIMITS, THE CONTRACTOR SHALL PRODUCE A DENSE, WELL ESTABLISHED LAWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND RE-SODDING OF ALL ERODED, SUNKEN OR BARE SPOTS (LARGER THAN 12"x12") UNTIL CERTIFICATION OF ACCEPTANCE BY THE OWNER'S REPRESENTATIVE. REPAIRED SODDING SHALL BE ACCOMPLISHED AS IN THE ORIGINAL WORK (INCLUDING REGRADING IF NECESSARY).
- b. CONTRACTOR RESPONSIBLE FOR ESTABLISHING AND MAINTAINING SOD/LAWN UNTIL ACCEPTANCE BY THE OWNER'S REPRESENTATIVE. PRIOR TO AND UPON ACCEPTANCE, CONTRACTOR TO PROVIDE WATERING/IRRIGATION SCHEDULE TO OWNER. OBSERVE ALL APPLICABLE WATERING RESTRICTIONS AS SET FORTH BY THE PROPERTY'S JURISDICTIONAL AUTHORITY.

Q. CLEANUP

UPON COMPLETION OF ALL PLANTING WORK AND BEFORE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL MATERIAL, EQUIPMENT, AND DEBRIS RESULTING FROM HIS WORK. ALL PAVED AREAS SHALL BE CLEANED AND THE SITE LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER'S REPRESENTATIVE.

R. PLANT MATERIAL MAINTENANCE

ALL PLANTS AND PLANTING INCLUDED UNDER THIS CONTRACT SHALL BE MAINTAINED BY WATERING, CULTIVATING, SPRAYING, AND ALL OTHER OPERATIONS (SUCH AS RE-STAKING OR REPAIRING GUY SUPPORTS) NECESSARY TO INSURE A HEALTHY PLANT CONDITION BY THE CONTRACTOR UNTIL CERTIFICATION OF ACCEPTANCE BY THE OWNER'S REPRESENTATIVE.

S. FINAL INSPECTION AND ACCEPTANCE OF WORK

FINAL INSPECTION AT THE END OF THE WARRANTY PERIOD SHALL BE ON PLANTING, CONSTRUCTION AND ALL OTHER INCIDENTAL WORK PERTAINING TO THIS CONTRACT. ANY REPLACEMENT AT THIS TIME SHALL BE SUBJECT TO THE SAME ONE (1) YEAR WARRANTY (OR AS SPECIFIED BY THE LANDSCAPE ARCHITECT OR OWNER IN WRITING) BEGINNING WITH THE TIME OF REPLACEMENT AND ENDING WITH THE SAME INSPECTION AND ACCEPTANCE HEREIN DESCRIBED.

T. WARRANTY

- 1. THE LIFE AND SATISFACTORY CONDITION OF ALL PLANT MATERIAL INSTALLED (INCLUDING SOD) BY THE LANDSCAPE CONTRACTOR SHALL BE WARRANTED BY THE CONTRACTOR FOR A MINIMUM OF ONE (1) CALENDAR YEAR COMMENCING AT THE TIME OF CERTIFICATION OF ACCEPTANCE BY THE OWNER'S REPRESENTATIVE.
- 2. ANY PLANT NOT FOUND IN A HEALTHY GROWING CONDITION AT THE END OF THE WARRANTY PERIOD SHALL BE REMOVED FROM THE SITE AND REPLACED AS SOON AS WEATHER CONDITIONS PERMIT. ALL REPLACEMENTS SHALL BE PLANTS OF THE SAME KIND AND SIZE AS SPECIFIED IN THE PLANT LIST. THEY SHALL BE FURNISHED PLANTED AND MULCHED AS SPECIFIED AT NO ADDITIONAL COST TO THE OWNER.
- 3. IN THE EVENT THE OWNER DOES NOT CONTRACT WITH THE CONTRACTOR FOR LANDSCAPE AND IRRIGATION MAINTENANCE, THE CONTRACTOR SHOULD VISIT THE PROJECT SITE PERIODICALLY DURING THE ONE (1) YEAR WARRANTY PERIOD TO EVALUATE MAINTENANCE PROCEDURES BEING PERFORMED BY THE OWNER. CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING OF MAINTENANCE PROCEDURES OR CONDITIONS WHICH THREATEN VIGOROUS AND HEALTHY PLANT GROWTH. SITE VISITS SHALL BE CONDUCTED A MINIMUM OF ONCE PER MONTH FOR A PERIOD OF TWELVE (12) MONTHS FROM THE DATE OF ACCEPTANCE.

Kimley»Horn

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KHA PROJECT
249096007

DATE
09.20.23

SCALE
AS SHOWN

DESIGNED BY
KHA

DRAWN BY
RYP

CHECKED BY
JTC

DATE
4/26/2024

LANDSCAPE SPECIFICATIONS

E HIGHBANK TOWNHOMES

FLORIDA

DEBARY

SHEET NUMBER

L1.51

1
L1.51

REVISIONS

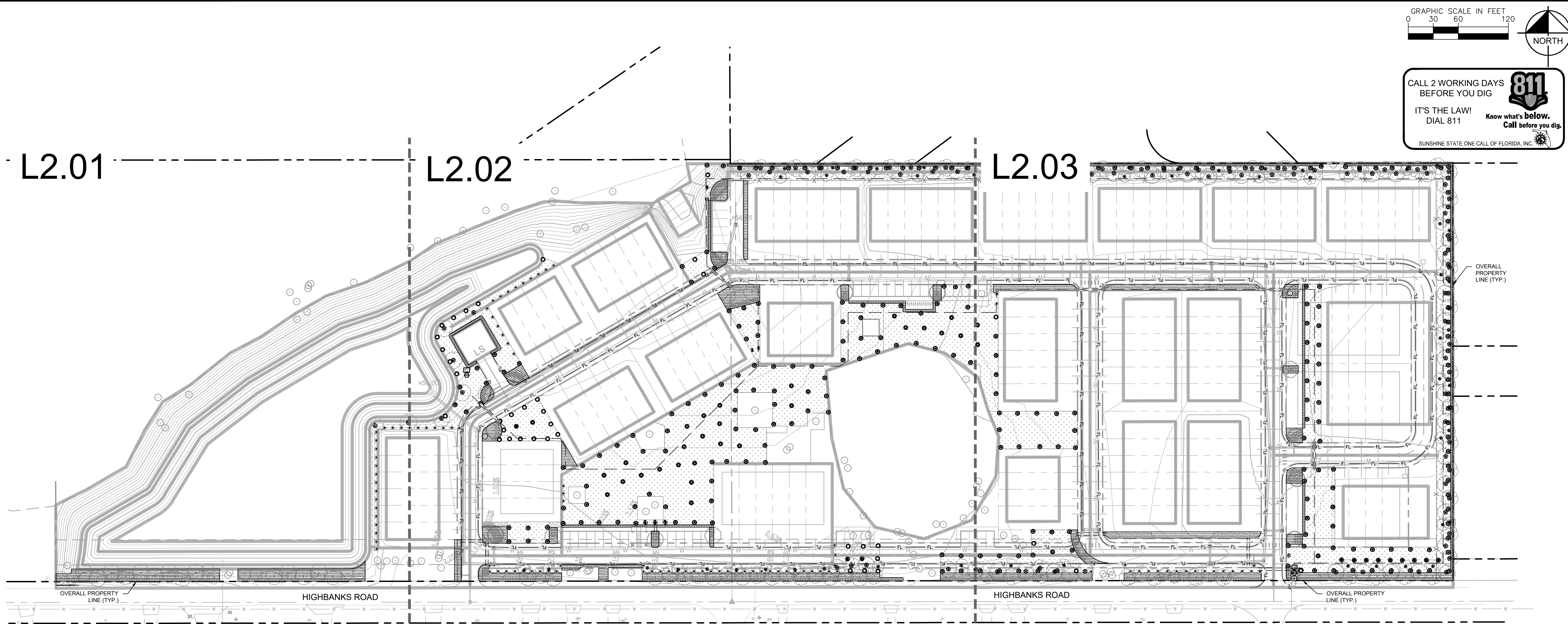
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DATE

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Plotted By: KHA, Alex, Sheet Set: E HIGHBANK TOWNHOMES, Layout: L2.00, April 26, 2024, 11:51:35am, K:\Veri_eval\240906007-e Highbanks Townhomes\CADD\cadd\plansheets\L2.00 - IRRIGATION PLAN.dwg, This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Release of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



IRRIGATION NOTES

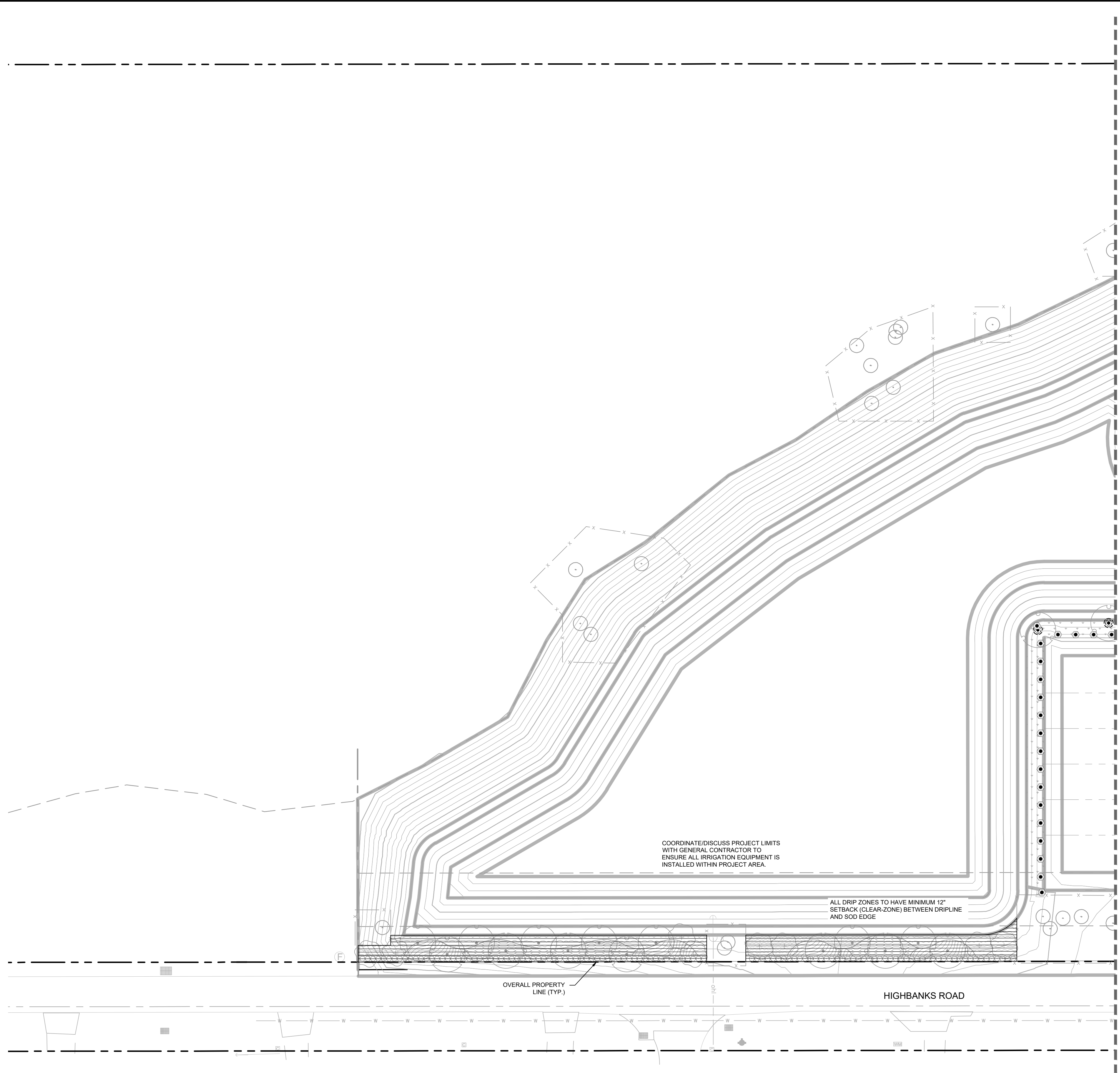
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, EQUIPMENT QUANTITIES, ETC. PRIOR TO BEGINNING WORK.
- CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES IN PLANS OR SPECIFICATIONS PRIOR TO BEGINNING OR CONTINUING WORK.
- THE CONTRACTOR SHALL MAKE NO SUBSTITUTIONS, DELETIONS, OR ADDITIONS TO THIS PLAN WITHOUT APPROVAL OF THE LANDSCAPE ARCHITECT.
- ALL CONSTRUCTION SHALL CONFORM TO CITY, COUNTY, STATE, AND FEDERAL REQUIREMENTS. IT SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO ENSURE THAT ALL IRRIGATION EQUIPMENT MEETS GOVERNMENT REGULATIONS. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS OR APPROVALS.
- THIS PLAN IS SCHEMATIC AND DUE TO THE NATURE OF CONSTRUCTION SLIGHT FIELD MODIFICATIONS MAY BE NECESSARY TO IMPLEMENT PLAN.
- CONTRACTOR TO VERIFY ACTUAL AVAILABLE WATER PRESSURE BEFORE BEGINNING INSTALLATION. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT IF AVAILABLE WATER PRESSURE WILL NOT ALLOW SYSTEM MODIFICATION TO BE POSSIBLE.
- IRRIGATION SYSTEMS CONNECTED TO REUSE WATER SUPPLY, SHALL HAVE A BACKFLOW PREVENTER INSTALLED.
- WHERE APPLICABLE IRRIGATION HEADS ARE TO BE ADJUSTED FOR COMPLETE COVERAGE WITH MINIMUM OVER SPRAY BEYOND LANDSCAPE AREAS.
- EXISTING TREES TO REMAIN ARE TO BE PROTECTED FROM DAMAGE. DO NOT TRENCH OR EXCAVATE WITHIN THE CRITICAL ROOT ZONE OF ANY TREE.
- ALL IRRIGATION SLEEVING TO BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR. ELECTRICAL WIRES FOR IRRIGATION VALVES AND IRRIGATION LINES ARE TO BE PLACED IN SEPARATE SLEEVES.
- IRRIGATION CONTRACTOR SHALL REVIEW WINTERIZATION PROCEDURES FOR IRRIGATION SYSTEM WITH OWNER'S REPRESENTATIVE.
- ALL PLANT MATERIAL IN TREE HOLDING AREAS SHALL BE MANUALLY WATERED/IRRIGATED TO KEEP MOIST UNTIL PLANTED.
- CONTRACTOR TO PROVIDE PERMANENT BENCH-MARKS ON ALL CURB LINES AT RELATED SLEEVE LOCATIONS (TYP).
- THE IRRIGATION SYSTEM SHALL BE DESIGNED AND INSTALLED TO MINIMIZE ROOT DISTURBANCE IN EXISTING TREES.
- IRRIGATION SPRAYS AND ROTORS ARE NOT COMBINED ON THE SAME CONTROL VALVE CIRCUIT - LANDSCAPE BEDS AND TURF ON SEPARATE CIRCUITS.
- MATCH PRECIPITATION RATES WITH ANY HEADS THAT ARE REPLACED.

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
	RAIN BIRD RSD-BEX RAIN SENSOR, WITH METAL LATCHING BRACKET, EXTENSION WIRE.	1	
	RAIN BIRD ESPLXMSM12 - 12-STATION EXPANSION MODULES.	1	
	RAIN BIRD ESPLXME2 W (2) ESPLXMSM12 36 STATION, TRADITIONALLY WIRED, COMMERCIAL CONTROLLER, (1) ESPLXME2 12-STATION, INDOOR/OUTDOOR, PLASTIC WALL-MOUNT ENCLOSURE W/ (2) ESPLXMSM12 - 12-STATION EXPANSION MODULES.	1	
	RAIN BIRD PESBR-PRS-D 1-1/2" 1IN. 1-1/2IN. 2IN. DURABLE CHLORINE-RESISTANT MASTER VALVES FOR RECLAIMED WATER APPLICATIONS. WITH SCRUBBER MECHANISM TECHNOLOGY, PURPLE FLOW CONTROL HANDLE, AND PRESSURE REGULATOR MODULE.	1	
	AREA TO RECEIVE DRIPLINE		
	RAIN BIRD XFD-09-12-NP DRIP RING	96	
	RAIN BIRD XFD-09-12-NP DRIP RING (ORNAMENTAL)	49	
	RAIN BIRD XFD-09-12-NP DRIP RING (ORNAMENTAL)	49	
	RAIN BIRD RSD-BEX RAIN SENSOR, WITH METAL LATCHING BRACKET, EXTENSION WIRE.	1	
	RAIN BIRD ESPLXMSM12 - 12-STATION EXPANSION MODULES.	1	
	RAIN BIRD ESPLXME2 W (2) ESPLXMSM12 36 STATION, TRADITIONALLY WIRED, COMMERCIAL CONTROLLER, (1) ESPLXME2 12-STATION, INDOOR/OUTDOOR, PLASTIC WALL-MOUNT ENCLOSURE W/ (2) ESPLXMSM12 - 12-STATION EXPANSION MODULES.	1	
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	RAIN BIRD XFD-09-12-NP DRIP RING (ORNAMENTAL)	49	
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	AREA TO RECEIVE DRIPLINE		
	RAIN BIRD XFD-09-12-NP DRIP RING	96	
	RAIN BIRD XFD-09-12-NP DRIP RING (ORNAMENTAL)	49	
	RAIN BIRD XFD-09-12-NP DRIP RING (ORNAMENTAL)	49	
	RAIN BIRD RSD-BEX RAIN SENSOR, WITH METAL LATCHING BRACKET, EXTENSION WIRE.	1	
	RAIN BIRD ESPLXMSM12 - 12-STATION EXPANSION MODULES.	1	
	RAIN BIRD ESPLXME2 W (2) ESPLXMSM12 36 STATION, TRADITIONALLY WIRED, COMMERCIAL CONTROLLER, (1) ESPLXME2 12-STATION, INDOOR/OUTDOOR, PLASTIC WALL-MOUNT ENCLOSURE W/ (2) ESPLXMSM12 - 12-STATION EXPANSION MODULES.	1	
	RAIN BIRD PESBR-PRS-D 1-1/2" 1IN. 1-1/2IN. 2IN. DURABLE CHLORINE-RESISTANT MASTER VALVES FOR RECLAIMED WATER APPLICATIONS. WITH SCRUBBER MECHANISM TECHNOLOGY, PURPLE FLOW CONTROL HANDLE, AND PRESSURE REGULATOR MODULE.	1	
	AREA TO RECEIVE DRIPLINE		
	RAIN BIRD XFD-09-12-NP DRIP RING	96	
	RAIN BIRD XFD-09-12-NP DRIP RING (ORNAMENTAL)	49	
	RAIN BIRD XFD-09-12-NP DRIP RING (ORNAMENTAL)	49	
	RAIN BIRD RSD-BEX RAIN SENSOR, WITH METAL LATCHING BRACKET, EXTENSION WIRE.	1	
	RAIN BIRD ESPLXMSM12 - 12-STATION EXPANSION MODULES.	1	
	RAIN BIRD ESPLXME2 W (2) ESPLXMSM12 36 STATION, TRADITIONALLY WIRED, COMMERCIAL CONTROLLER, (1) ESPLXME2 12-STATION, INDOOR/OUTDOOR, PLASTIC WALL-MOUNT ENCLOSURE W/ (2) ESPLXMSM12 - 12-STATION EXPANSION MODULES.	1	
	RAIN BIRD PESBR-PRS-D 1-1/2" 1IN. 1-1/2IN. 2IN. DURABLE CHLORINE-RESISTANT MASTER VALVES FOR RECLAIMED WATER APPLICATIONS. WITH SCRUBBER MECHANISM TECHNOLOGY, PURPLE FLOW CONTROL HANDLE, AND PRESSURE REGULATOR MODULE.	1	
	AREA TO RECEIVE DRIPLINE		
	RAIN BIRD XFD-09-12-NP DRIP RING	96	
	RAIN BIRD XFD-09-12-NP DRIP RING (ORNAMENTAL)	49	
	RAIN BIRD XFD-09-12-NP DRIP RING (ORNAMENTAL)	49	
	RAIN BIRD RSD-BEX RAIN SENSOR, WITH METAL LATCHING BRACKET, EXTENSION WIRE.	1	
	RAIN BIRD ESPLXMSM12 - 12-STATION EXPANSION MODULES.	1	
	RAIN BIRD ESPLXME2 W (2) ESPLXMSM12 36 STATION, TRADITIONALLY WIRED, COMMERCIAL CONTROLLER, (1) ESPLXME2 12-STATION, INDOOR/OUTDOOR, PLASTIC WALL-MOUNT ENCLOSURE W/ (2) ESPLXMSM12 - 12-STATION EXPANSION MODULES.	1	
	RAIN BIRD PESBR-PRS-D 1-1/2" 1IN. 1-1/2IN. 2IN. DURABLE CHLORINE-RESISTANT MASTER VALVES FOR RECLAIMED WATER APPLICATIONS. WITH SCRUBBER MECHANISM TECHNOLOGY, PURPLE FLOW CONTROL HANDLE, AND PRESSURE REGULATOR MODULE.	1	
	AREA TO RECEIVE DRIPLINE		
	RAIN BIRD XFD-09-12-NP DRIP RING	96	
	RAIN BIRD XFD-09-12-NP DRIP RING (ORNAMENTAL)	49	
	RAIN BIRD XFD-09-12-NP DRIP RING (ORNAMENTAL)	49	
	RAIN BIRD RSD-BEX RAIN SENSOR, WITH METAL LATCHING BRACKET, EXTENSION WIRE.	1	
	RAIN BIRD ESPLXMSM12 - 12-STATION EXPANSION MODULES.	1	
	RAIN BIRD ESPLXME2 W (2) ESPLXMSM12 36 STATION, TRADITIONALLY WIRED, COMMERCIAL CONTROLLER, (1) ESPLXME2 12-STATION, INDOOR/OUTDOOR, PLASTIC WALL-MOUNT ENCLOSURE W/ (2) ESPLXMSM12 - 12-STATION EXPANSION MODULES.	1	
	RAIN BIRD PESBR-PRS-D 1-1/2" 1IN. 1-1/2IN. 2IN. DURABLE CHLORINE-RESISTANT MASTER VALVES FOR RECLAIMED WATER APPLICATIONS. WITH SCRUBBER MECHANISM TECHNOLOGY, PURPLE FLOW CONTROL HANDLE, AND PRESSURE REGULATOR MODULE.	1	
	AREA TO RECEIVE DRIPLINE		
	RAIN BIRD XFD-09-12-NP DRIP RING	96	
	RAIN BIRD XFD-09-12-NP DRIP RING (ORNAMENTAL)	49	
	RAIN BIRD XFD-09-12-NP DRIP RING (ORNAMENTAL)	49	
	RAIN BIRD RSD-BEX RAIN SENSOR, WITH METAL LATCHING BRACKET, EXTENSION WIRE.	1	
	RAIN BIRD ESPLXMSM12 - 12-STATION EXPANSION MODULES.	1	
	RAIN BIRD ESPLXME2 W (2) ESPLXMSM12 36 STATION, TRADITIONALLY WIRED, COMMERCIAL CONTROLLER, (1) ESPLXME2 12-STATION, INDOOR/OUTDOOR, PLASTIC WALL-MOUNT ENCLOSURE W/ (2) ESPLXMSM12 - 12-STATION EXPANSION MODULES.	1	
	RAIN BIRD PESBR-PRS-D 1-1/2" 1IN. 1-1/2IN. 2IN. DURABLE CHLORINE-RESISTANT MASTER VALVES FOR RECLAIMED WATER APPLICATIONS. WITH SCRUBBER MECHANISM TECHNOLOGY, PURPLE FLOW CONTROL HANDLE, AND PRESSURE REGULATOR MODULE.	1	
	AREA TO RECEIVE DRIPLINE		
	RAIN BIRD XFD-09-12-NP DRIP RING	96	
	RAIN BIRD XFD-09-12-NP DRIP RING (ORNAMENTAL)	49	
	RAIN BIRD XFD-09-12-NP DRIP RING (ORNAMENTAL)	49	
	RAIN BIRD RSD-BEX RAIN SENSOR, WITH METAL LATCHING BRACKET, EXTENSION WIRE.	1	
	RAIN BIRD ESPLXMSM12 - 12-STATION EXPANSION MODULES.	1	
	RAIN BIRD ESPLXME2 W (2) ESPLXMSM12 36 STATION, TRADITIONALLY WIRED, COMMERCIAL CONTROLLER, (1) ESPLXME2 12-STATION, INDOOR/OUTDOOR, PLASTIC WALL-MOUNT ENCLOSURE W/ (2) ESPLXMSM12 - 12-STATION EXPANSION MODULES.	1	
	RAIN BIRD PESBR-PRS-D 1-1/2" 1IN. 1-1/2IN. 2IN. DURABLE CHLORINE-RESISTANT MASTER VALVES FOR RECLAIMED WATER APPLICATIONS. WITH SCRUBBER MECHANISM TECHNOLOGY, PURPLE FLOW CONTROL HANDLE, AND PRESSURE REGULATOR MODULE.	1	
	AREA TO RECEIVE DRIPLINE		
	RAIN BIRD XFD-09-12-NP DRIP RING	96	
	RAIN BIRD XFD-09-12-NP DRIP RING (ORNAMENTAL)	49	
	RAIN BIRD XFD-09-12-NP DRIP RING (ORNAMENTAL)	49	
	RAIN BIRD RSD-BEX RAIN SENSOR, WITH METAL LATCHING BRACKET, EXTENSION WIRE.	1	
	RAIN BIRD ESPLXMSM12 - 12-STATION EXPANSION MODULES.	1	
	RAIN BIRD ESPLXME2 W (2) ESPLXMSM12 36 STATION, TRADITIONALLY WIRED, COMMERCIAL CONTROLLER, (1) ESPLXME2 12-STATION, INDOOR/OUTDOOR, PLASTIC WALL-MOUNT ENCLOSURE W/ (2) ESPLXMSM12 - 12-STATION EXPANSION MODULES.	1	
	RAIN BIRD PESBR-PRS-D 1-1/2" 1IN. 1-1/2IN. 2IN. DURABLE CHLORINE-RESISTANT MASTER VALVES FOR RECLAIMED WATER APPLICATIONS. WITH SCRUBBER MECHANISM TECHNOLOGY, PURPLE FLOW CONTROL HANDLE, AND PRESSURE REGULATOR MODULE.	1	
	AREA TO RECEIVE DRIPLINE		
	RAIN BIRD XFD-09-12-NP DRIP RING	96	
	RAIN BIRD XFD-09-12-NP DRIP RING (ORNAMENTAL)	49	
	RAIN BIRD XFD-09-12-NP DRIP RING (ORNAMENTAL)	49	
	RAIN BIRD RSD-BEX RAIN SENSOR, WITH METAL LATCHING BRACKET, EXTENSION WIRE.	1	
	RAIN BIRD ESPLXMSM12 - 12-STATION EXPANSION MODULES.	1	
	RAIN BIRD ESPLXME2 W (2) ESPLXMSM12 36 STATION, TRADITIONALLY WIRED, COMMERCIAL CONTROLLER, (1) ESPLXME2 12-STATION, INDOOR/OUTDOOR, PLASTIC WALL-MOUNT ENCLOSURE W/ (2) ESPLXMSM12 - 12-STATION EXPANSION MODULES.	1	
	RAIN BIRD PESBR-PRS-D 1-1/2" 1IN. 1-1/2IN. 2IN. DURABLE CHLORINE-RESISTANT MASTER VALVES FOR RECLAIMED WATER APPLICATIONS. WITH SCRUBBER MECHANISM TECHNOLOGY, PURPLE FLOW CONTROL HANDLE, AND PRESSURE REGULATOR MODULE.	1	
	AREA TO RECEIVE DRIPLINE		
	RAIN BIRD XFD-09-12-NP DRIP RING	96	
	RAIN BIRD XFD-09-12-NP DRIP RING (ORNAMENTAL)	49	
	RAIN BIRD XFD-09-12-NP DRIP RING (ORNAMENTAL)	49	
	RAIN BIRD RSD-BEX RAIN SENSOR, WITH METAL LATCHING BRACKET, EXTENSION WIRE.	1	
	RAIN BIRD ESPLXMSM12 - 12-STATION EXPANSION MODULES.	1	
	RAIN BIRD ESPLXME2 W (2) ESPLXMSM12 36 STATION, TRADITIONALLY WIRED, COMMERCIAL CONTROLLER, (1) ESPLXME2 12-STATION, INDOOR/OUTDOOR, PLASTIC WALL-MOUNT ENCLOSURE W/ (2) ESPLXMSM12 - 12-STATION EXPANSION MODULES.	1	
	RAIN BIRD PESBR-PRS-D 1-1/2" 1IN. 1-1/2IN. 2IN. DURABLE CHLORINE		

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IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
	RAIN BIRD R-VAN-STRIP RD-06-SAM-P45-NP TURF ROTARY, 8FT-14FT - AND HAND ADJUSTABLE MULTI-STREAM ROTARY W/ RD1800 TURF SPRAY BODY ON 6IN. POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR, 1/2IN. NPT FEMALE THREADED INLET, W/ NON-POTABLE PURPLE CAP.	10	30
	RAIN BIRD R-VAN14 RD-06-SAM-P45-NP TURF ROTARY, 8FT-14FT 45-270 DEGREES AND 360 DEGREES, HAND ADJUSTABLE MULTI-STREAM ROTARY W/ RD1800 TURF SPRAY BODY ON 6IN. POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR, 1/2IN. NPT FEMALE THREADED INLET, W/ NON-POTABLE PURPLE CAP.	104	30
	RAIN BIRD R-VAN18 RD-06-SAM-P45-NP TURF ROTARY, 13FT-18FT 45-270 DEGREES AND 360 DEGREES, HAND ADJUSTABLE MULTI-STREAM ROTARY W/ RD1800 TURF SPRAY BODY ON 6IN. POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR, 1/2IN. NPT FEMALE THREADED INLET, W/ NON-POTABLE PURPLE CAP.	49	30
	RAIN BIRD R-VAN24 RD-06-SAM-P45-NP TURF ROTARY, 17FT-24FT 45-270 DEGREES AND 360 DEGREES, HAND ADJUSTABLE MULTI-STREAM ROTARY W/ RD1800 TURF SPRAY BODY ON 6IN. POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR, 1/2IN. NPT FEMALE THREADED INLET, W/ NON-POTABLE PURPLE CAP.	284	30
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	
	RAIN BIRD XFD-09-12-NP DRIP RING	96	
	RAIN BIRD XFD-09-12-NP DRIP RING (ORNAMENTAL)	49	
	AREA TO RECEIVE DRIPLINE RAIN BIRD XFD-09-12-NP XFD ON-SURFACE PRESSURE COMPENSATING LANDSCAPE DRIPLINE, 0.9 GPH EMITTERS AT 12" O.C. DRIPLINE LATERALS SPACED AT 12" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN, UV RESISTANT. SPECIFY XF INSERT FITTINGS.	32,144 L.F.	
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	
	RAIN BIRD PESBR-PRS-D 1-1/2" 1IN., 1-1/2IN., 2IN. DURABLE CHLORINE-RESISTANT MASTER VALVES FOR RECLAIMED WATER APPLICATIONS, WITH SCRUBBER MECHANISM TECHNOLOGY, PURPLE FLOW CONTROL HANDLE, AND PRESSURE REGULATOR MODULE.	1	
	RAIN BIRD ESPLXME2 W/ (2) ESPLXMSM12 36 STATION, TRADITIONALLY WIRED, COMMERCIAL CONTROLLER, (1) ESPLXME2 12-STATION, INDOOR/OUTDOOR, PLASTIC WALL-MOUNT ENCLOSURE, W/ (2) ESPLXMSM12 - 12-STATION EXPANSION MODULES.	1	
	RAIN BIRD RSD-BEX RAIN SENSOR, WITH METAL LATCHING BRACKET, EXTENSION WIRE.	1	
	RAIN BIRD FS-150-P 1-1/2IN. FLOW SENSOR, PLASTIC PVC MODEL, SUGGESTED OPERATING RANGE 5.0 GPM TO 100.0 GPM. SIZE FOR FLOW NOT ACCORDING TO PIPE SIZE. RAIN BIRD COMPATIBLE CONTROLLERS: ESP-LXIV(M/P) LXD LXM2(P) MEX OR CONTROLLERS ACCEPTING CUSTOM K-FACTOR AND OFFSET. INSTALL IN RAIN BIRD VALVE BOX.	1	
	WATER METER 1-1/2"	1	
	IRRIGATION MAINLINE: PVC SCHEDULE 40	3,339 L.F.	
	PIPE SLEEVE: PVC SCHEDULE 40 - LATERAL SLEEVE	174.8 L.F.	
	PIPE SLEEVE: PVC SCHEDULE 40 - MAINLINE SLEEVE	162.5 L.F.	

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PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM

REVISIONS

No.	DATE	BY

KHA PROJECT
240909007

DATE
09.20.23

SCALE AS SHOWN

DESIGNED BY KHA

DRAWN BY RYP

CHECKED BY JTC DATE: 4/26/2024

IRRIGATION PLAN

E HIGHBANK TOWNHOMES

FLORIDA

DEBARY

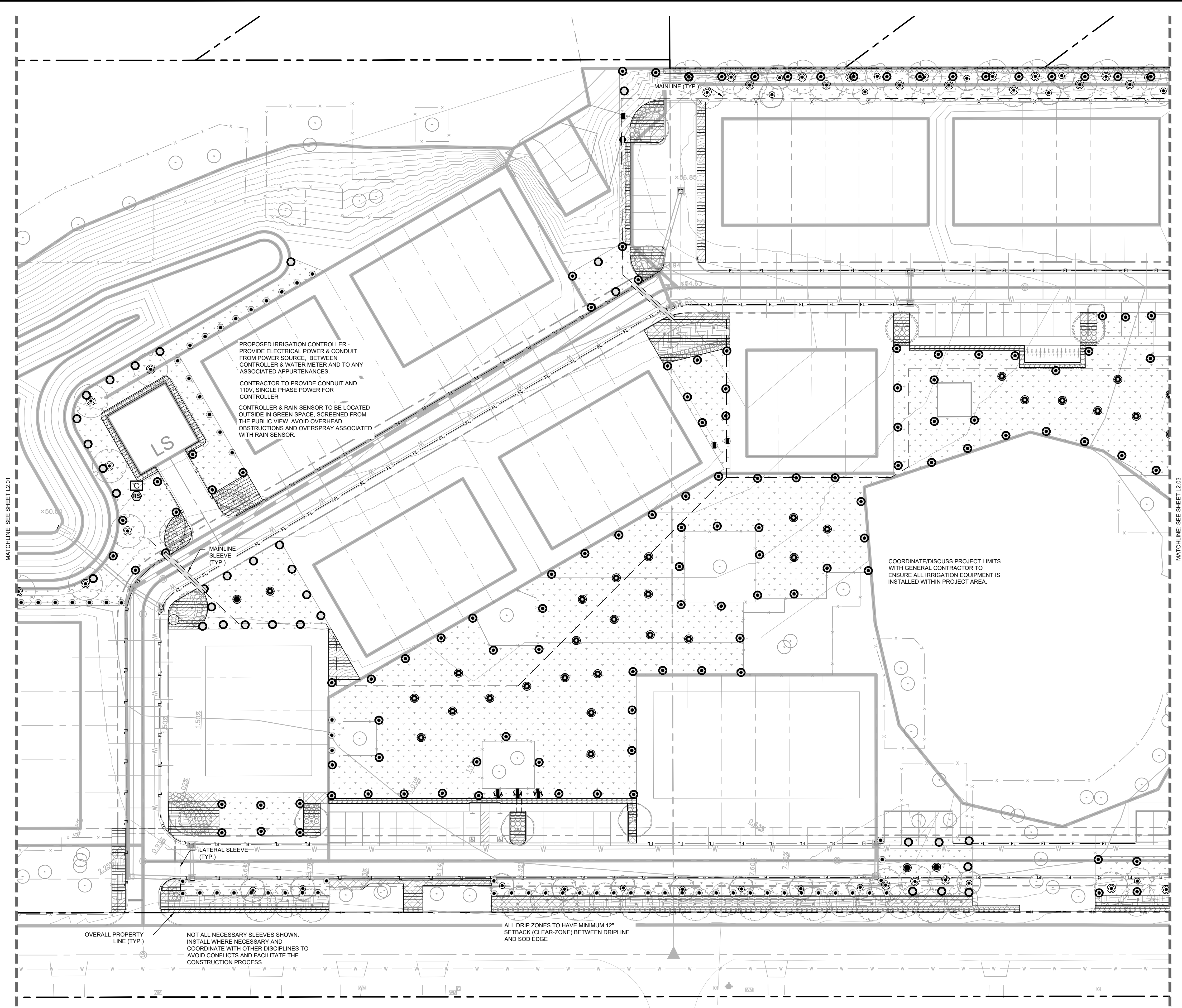
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No.	DATE	BY

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IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
	RAIN BIRD R-VAN-STRIP RD-06-SAM-P45-NP TURF ROTARY, 8FT-14FT - AND HAND ADJUSTABLE MULTI-STREAM ROTARY W/ RD1800 TURF SPRAY BODY ON 6IN. POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR, 1/2IN. NPT FEMALE THREADED INLET, W/ NON-POTABLE PURPLE CAP.	10	30
	RAIN BIRD R-VAN14 RD-06-SAM-P45-NP TURF ROTARY, 8FT-14FT 45-270 DEGREES AND 360 DEGREES. HAND ADJUSTABLE MULTI-STREAM ROTARY W/ RD1800 TURF SPRAY BODY ON 6IN. POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR, 1/2IN. NPT FEMALE THREADED INLET, W/ NON-POTABLE PURPLE CAP.	104	30
	RAIN BIRD R-VAN18 RD-06-SAM-P45-NP TURF ROTARY, 13FT-18FT 45-270 DEGREES AND 360 DEGREES. HAND ADJUSTABLE MULTI-STREAM ROTARY W/ RD1800 TURF SPRAY BODY ON 6IN. POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR, 1/2IN. NPT FEMALE THREADED INLET, W/ NON-POTABLE PURPLE CAP.	49	30
	RAIN BIRD R-VAN24 RD-06-SAM-P45-NP TURF ROTARY, 17FT-24FT 45-270 DEGREES AND 360 DEGREES. HAND ADJUSTABLE MULTI-STREAM ROTARY W/ RD1800 TURF SPRAY BODY ON 6IN. POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR, 1/2IN. NPT FEMALE THREADED INLET, W/ NON-POTABLE PURPLE CAP.	284	30
	RAIN BIRD XFD-09-12-NP DRIP RING	96	
	RAIN BIRD XFD-09-12-NP DRIP RING (ORNAMENTAL)	49	
	AREA TO RECEIVE DRIPLINE RAIN BIRD XFD-09-12-NP XFD ON-SURFACE PRESSURE COMPENSATING LANDSCAPE DRIPLINE, 0.9 GPH EMITTERS AT 12" O.C. DRIPLINE LATERALS SPACED AT 12" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN, UV RESISTANT. SPECIFY XF INSERT FITTINGS.	32,144 L.F.	
	RAIN BIRD PESBR-PRS-D 1-1/2" 1IN., 1-1/2IN., 2IN. DURABLE CHLORINE-RESISTANT MASTER VALVES FOR RECLAIMED WATER APPLICATIONS. WITH SCRUBBER MECHANISM TECHNOLOGY, PURPLE FLOW CONTROL HANDLE, AND PRESSURE REGULATOR MODULE.	1	
	RAIN BIRD ESPLXME2 W/ (2) ESPLXMSM12 36 STATION, TRADITIONALLY WIRED, COMMERCIAL CONTROLLER, (1) ESPLXME2 12-STATION, INDOOR/OUTDOOR, PLASTIC WALL-MOUNT ENCLOSURE, W/ (2) ESPLXMSM12 - 12-STATION EXPANSION MODULES.	1	
	RAIN BIRD RSD-BEX RAIN SENSOR, WITH METAL LATCHING BRACKET, EXTENSION WIRE.	1	
	RAIN BIRD FS-150-P 1-1/2IN. FLOW SENSOR, PLASTIC PVC MODEL, SUGGESTED OPERATING RANGE 5.0 GPM TO 100.0 GPM. SIZE FOR FLOW NOT ACCORDING TO PIPE SIZE. RAIN BIRD COMPATIBLE CONTROLLERS: ESP-LXIV(M/P) LXO LXME2(P) MEX OR CONTROLLERS ACCEPTING CUSTOM K-FACTOR AND OFFSET. INSTALL IN RAIN BIRD VALVE BOX.	1	
	WATER METER 1-1/2"	1	
	IRRIGATION MAINLINE: PVC SCHEDULE 40	3,339 L.F.	
	PIPE SLEEVE: PVC SCHEDULE 40 - LATERAL SLEEVE	174.8 L.F.	
	PIPE SLEEVE: PVC SCHEDULE 40 - MAINLINE SLEEVE	162.5 L.F.	

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KHA PROJECT 249096007	DATE 09.20.23	SCALE AS SHOWN	DESIGNED BY KHA	DRAWN BY RYP	CHECKED BY JTC	DATE 4/26/2024
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IRRIGATION PLAN

E HIGHBANK TOWNHOMES

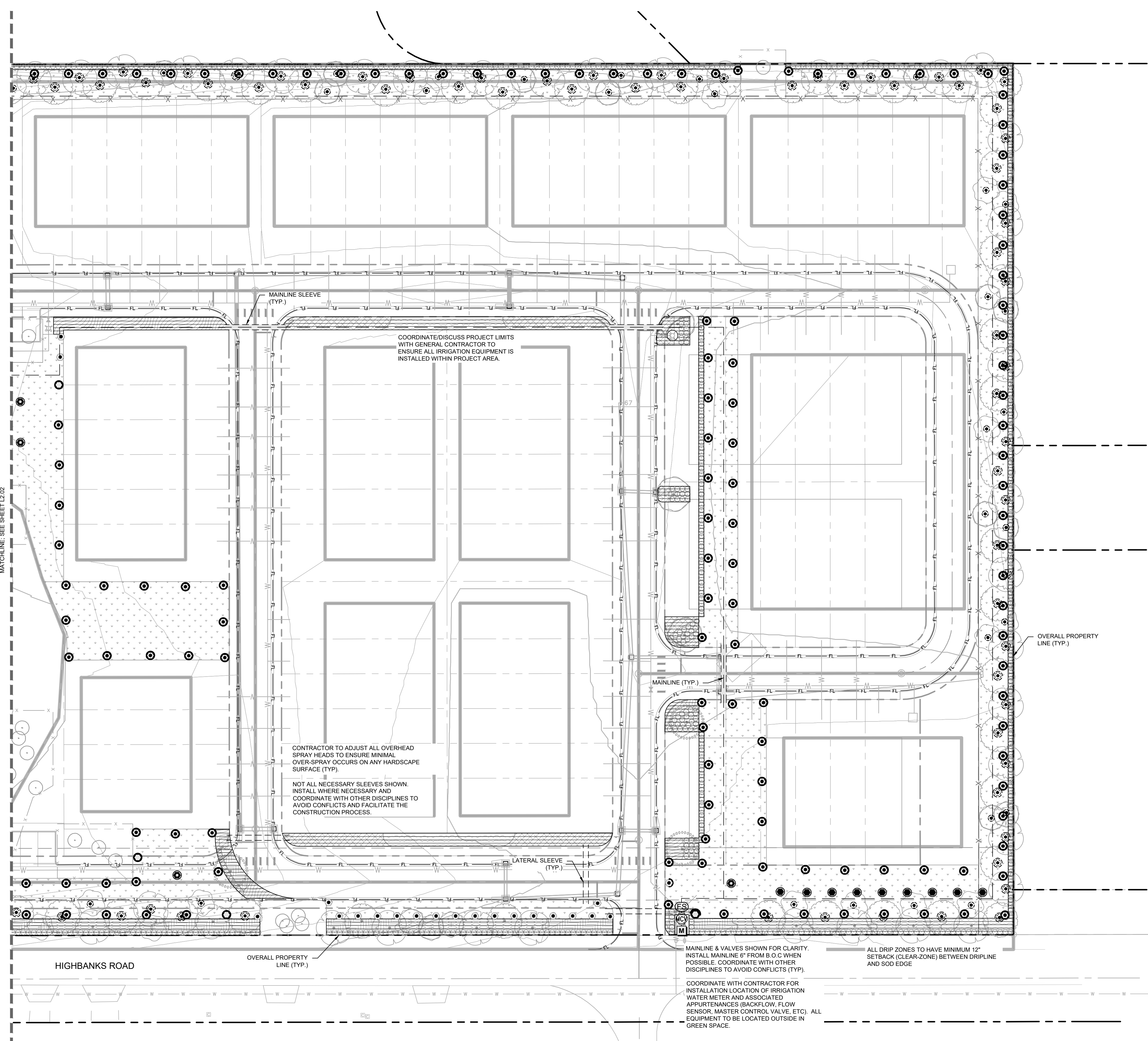
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IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
	RAIN BIRD R-VAN-STRIP RD-06-SAM-P45-NP TURF ROTARY, 8FT-14FT - AND HAND ADJUSTABLE MULTI-STREAM ROTARY W/ RD1800 TURF SPRAY BODY ON 6IN. POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR, 1/2IN. NPT FEMALE THREADED INLET, W/ NON-POTABLE PURPLE CAP.	10	30
	RAIN BIRD R-VAN14 RD-06-SAM-P45-NP TURF ROTARY, 8FT-14FT 45-270 DEGREES AND 360 DEGREES. HAND ADJUSTABLE MULTI-STREAM ROTARY W/ RD1800 TURF SPRAY BODY ON 6IN. POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR, 1/2IN. NPT FEMALE THREADED INLET, W/ NON-POTABLE PURPLE CAP.	104	30
	RAIN BIRD R-VAN18 RD-06-SAM-P45-NP TURF ROTARY, 13FT-18FT 45-270 DEGREES AND 360 DEGREES. HAND ADJUSTABLE MULTI-STREAM ROTARY W/ RD1800 TURF SPRAY BODY ON 6IN. POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR, 1/2IN. NPT FEMALE THREADED INLET, W/ NON-POTABLE PURPLE CAP.	49	30
	RAIN BIRD R-VAN24 RD-06-SAM-P45-NP TURF ROTARY, 17FT-24FT 45-270 DEGREES AND 360 DEGREES. HAND ADJUSTABLE MULTI-STREAM ROTARY W/ RD1800 TURF SPRAY BODY ON 6IN. POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR, 1/2IN. NPT FEMALE THREADED INLET, W/ NON-POTABLE PURPLE CAP.	284	30
	RAIN BIRD XFD-09-12-NP DRIP RING	96	
	RAIN BIRD XFD-09-12-NP DRIP RING (ORNAMENTAL)	49	
	AREA TO RECEIVE DRIPLINE RAIN BIRD XFD-09-12-NP XFD ON-SURFACE PRESSURE COMPENSATING LANDSCAPE DRIPLINE, 0.9 GPH EMITTERS AT 12" O.C. DRIPLINE LATERALS SPACED AT 12" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN, UV RESISTANT. SPECIFY XF INSERT FITTINGS.	32,144 L.F.	
	RAIN BIRD PESBR-PRS-D 1-1/2" 1IN., 1-1/2IN., 2IN. DURABLE CHLORINE-RESISTANT MASTER VALVES FOR RECLAIMED WATER APPLICATIONS. WITH SCRUBBER MECHANISM TECHNOLOGY, PURPLE FLOW CONTROL HANDLE, AND PRESSURE REGULATOR MODULE.	1	
	RAIN BIRD ESPLXME2 W/ (2) ESPLXMSM12 36 STATION, TRADITIONALLY-WIRED, COMMERCIAL CONTROLLER, (1) ESPLXME2 12-STATION, INDOOR/OUTDOOR, PLASTIC WALL-MOUNT ENCLOSURE, W/ (2) ESPLXMSM12 - 12-STATION EXPANSION MODULES.	1	
	RAIN BIRD RSD-BEX RAIN SENSOR, WITH METAL LATCHING BRACKET, EXTENSION WIRE.	1	
	RAIN BIRD FS-150-P 1-1/2IN. FLOW SENSOR, PLASTIC PVC MODEL, SUGGESTED OPERATING RANGE 5.0 GPM TO 100.0 GPM. SIZE FOR FLOW NOT ACCORDING TO PIPE SIZE. RAIN BIRD COMPATIBLE CONTROLLERS: ESP-LXIV(M/P) LXI LXII(M/P) MEX OR CONTROLLERS ACCEPTING CUSTOM K-FACTOR AND OFFSET. INSTALL IN RAIN BIRD VALVE BOX.	1	
	WATER METER 1-1/2"	1	
	IRRIGATION MAINLINE: PVC SCHEDULE 40	3,339 L.F.	
	PIPE SLEEVE: PVC SCHEDULE 40 - LATERAL SLEEVE	174.8 L.F.	
	PIPE SLEEVE: PVC SCHEDULE 40 - MAINLINE SLEEVE	162.5 L.F.	

CONTRACTOR TO ADJUST ALL OVERHEAD SPRAY HEADS TO ENSURE MINIMAL OVER-SPRAY OCCURS ON ANY HARDSCAPE SURFACE (TYP.).

NOT ALL NECESSARY SLEEVES SHOWN. INSTALL WHERE NECESSARY AND COORDINATE WITH OTHER DISCIPLINES TO AVOID CONFLICTS AND FACILITATE THE CONSTRUCTION PROCESS.

MAINLINE & VALVES SHOWN FOR CLARITY. INSTALL MAINLINE 6" FROM B.O.C WHEN POSSIBLE. COORDINATE WITH OTHER DISCIPLINES TO AVOID CONFLICTS (TYP.).

COORDINATE WITH CONTRACTOR FOR INSTALLATION LOCATION OF IRRIGATION WATER METER AND ASSOCIATED APPURTENANCES (BACKFLOW, FLOW SENSOR, MASTER CONTROL VALVE, ETC.) ALL EQUIPMENT TO BE LOCATED OUTSIDE IN GREEN SPACE.

ALL DRIP ZONES TO HAVE MINIMUM 12" SETBACK (CLEAR-ZONE) BETWEEN DRIPLINE AND SOD EDGE

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FLORIDA

DEBARY

IRRIGATION PLAN

SHEET NUMBER
L2.03

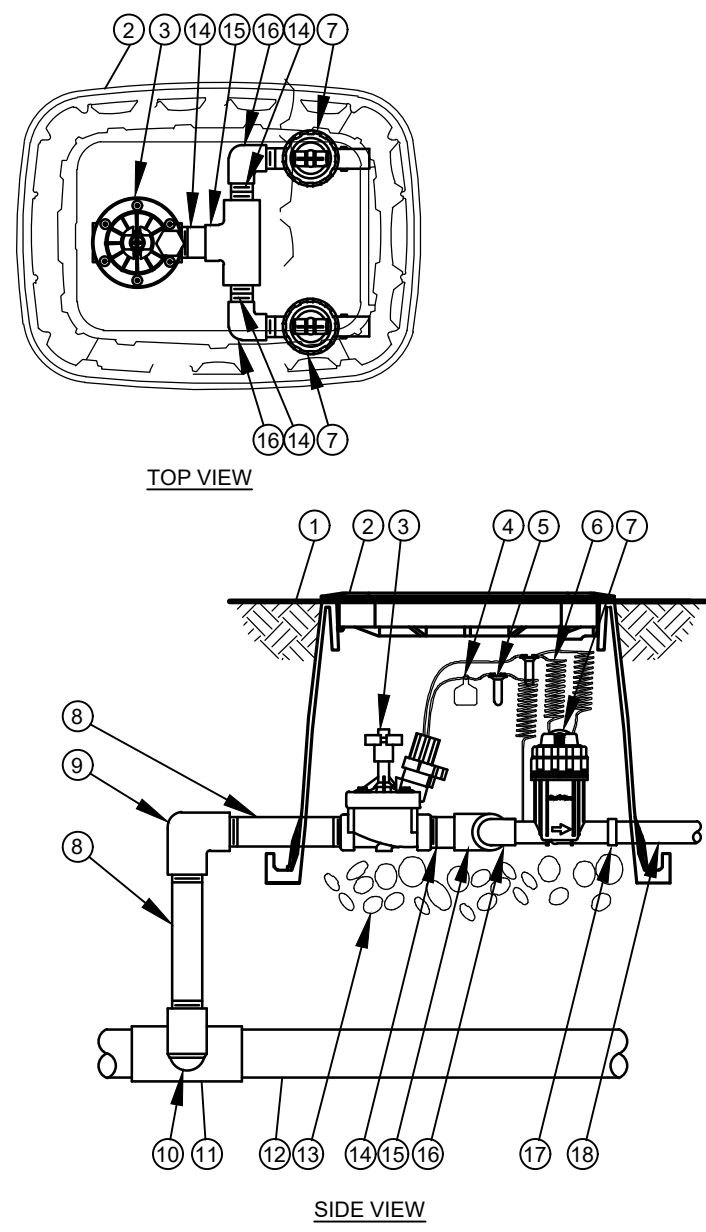
NO.	REVISIONS	DATE	BY

KHA PROJECT 249096007
 DATE 09.20.23
 SCALE AS SHOWN
 DESIGNED BY KHA
 DRAWN BY RYP
 CHECKED BY JTC DATE: 4/26/2024

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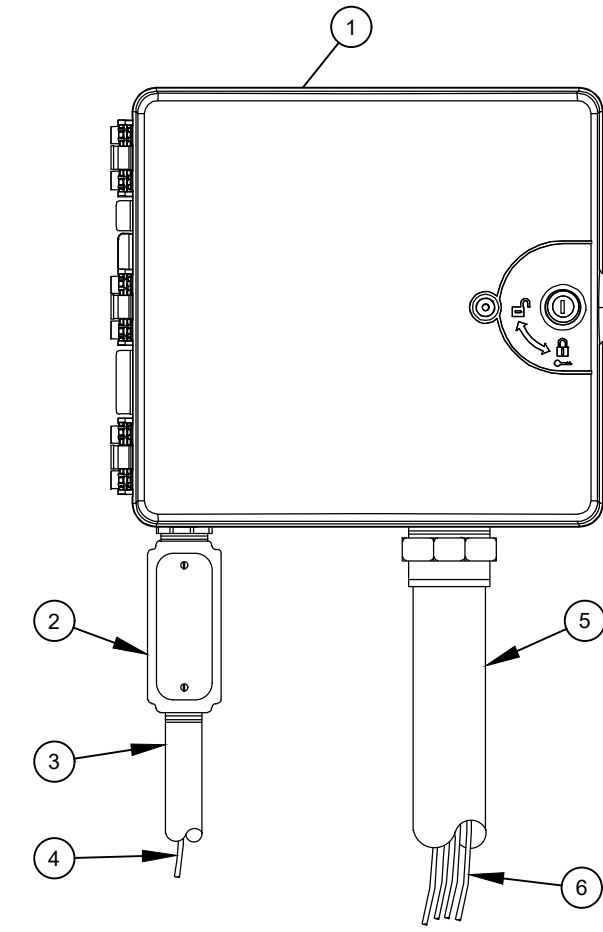
Projected By: KIMLEY-HORN AND ASSOCIATES, INC. (KHA) SHEET: E-HIGHBANK TOWNHOMES - Layout: L2.50 - April 26, 2024 - 11:51:58am. K:\Veri_e-dwg\240906007-e_highbanks_townhomes\CA001_cdp\plan\irrigation\irrigation PLAN.dwg

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- 1 FINISH GRADE/TOP OF MULCH
- 2 VALVE BOX WITH COVER:
- 3 REMOTE CONTROL VALVE:
- 4 ID TAG
- 5 WATERPROOF CONNECTION:
- 6 30-INCH LINEAR LENGTH OF WIRE, COILED
- 7 PRESSURE REGULATING QUICK CHECK BASKET FILTER:
- 8 PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
- 9 PVC SCH 40 ELL
- 10 PVC SCH 80 NIPPLE (2-INCH LENGTH, HIDDEN) AND PVC SCH 40 ELL
- 11 PVC SCH 40 TEE OR ELL
- 12 MAINLINE PIPE
- 13 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
- 14 PVC SCH 80 NIPPLE, CLOSE
- 15 PVC SCH 40 TEE
- 16 PVC SCH 40 ELL
- 17 PVC SCH 40 FEMALE ADAPTOR
- 18 LATERAL PIPE

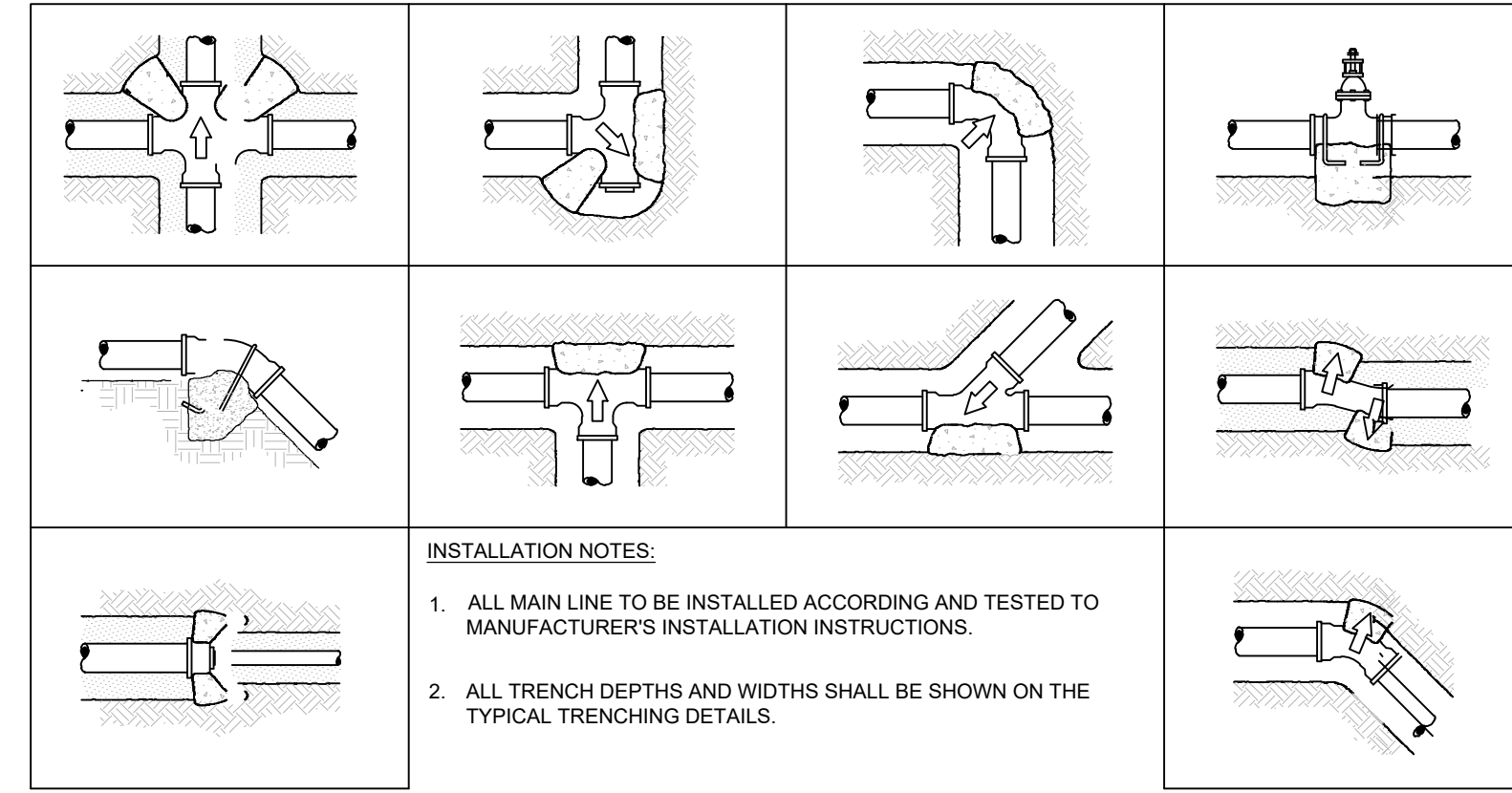
1 COMMERCIAL CONTROL DRIP ZONE VALVE KIT
L2.50 SECTION / PLAN NTS



- 1 IRRIGATION CONTROLLER: CONTROLLER (OWNER TO SPECIFY WALL MOUNT OR STAINLESS STEEL PEDESTAL MOUNT). INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- 2 JUNCTION BOX
- 3 1-INCH CONDUIT AND FITTINGS TO POWER SUPPLY
- 4 POWER SUPPLY WIRE
- 5 2-INCH CONDUIT AND FITTINGS FOR STATION WIRES
- 6 WIRES TO REMOTE CONTROL VALVES

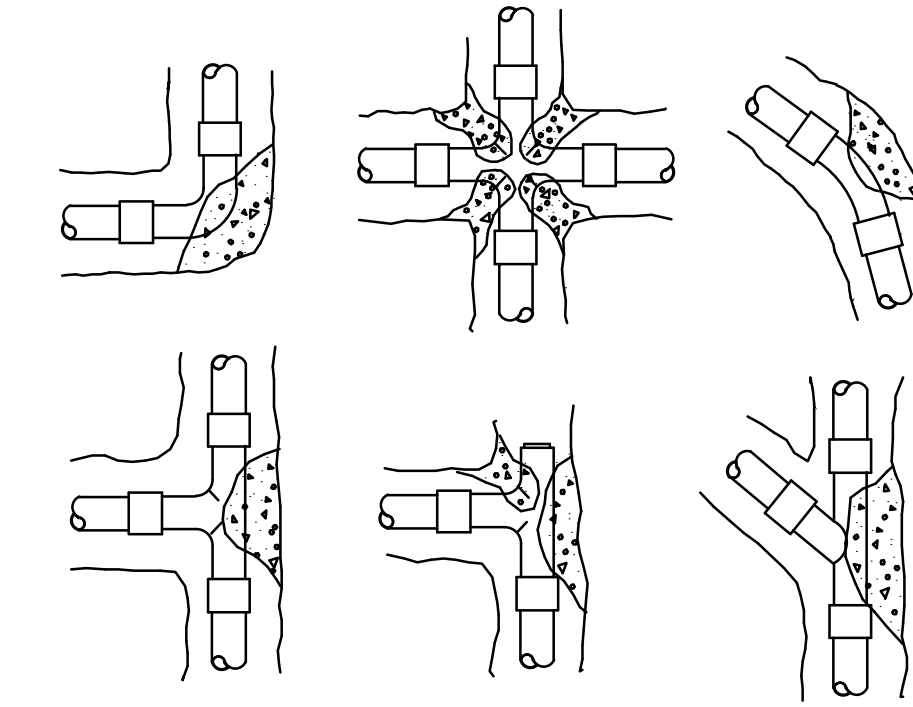
- NOTES:
1. FOR EASE OF INSTALLATION INTO A CONTROLLER WITH MORE THAN 24 STATIONS, INSTALL A JUNCTION BOX AT THE BASE OF CONTROLLER AND TRANSITION LARGER VALVE AND COMMON WIRES FROM FIELD TO 18 AWG MULTI CONDUCTOR WIRE TO BE USED IN CONTROLLER.
 2. USE STEEL CONDUIT FOR ABOVE GRADE AND SCH 40 PVC CONDUIT FOR BELOW GRADE CONDITIONS.
 3. PROVIDE PROPER GROUNDING COMPONENTS TO ACHIEVE GROUND RESISTANCE OF 10 OHMS OR LESS.

2 TYPICAL CONTROLLER
L2.50 ELEVATION NTS



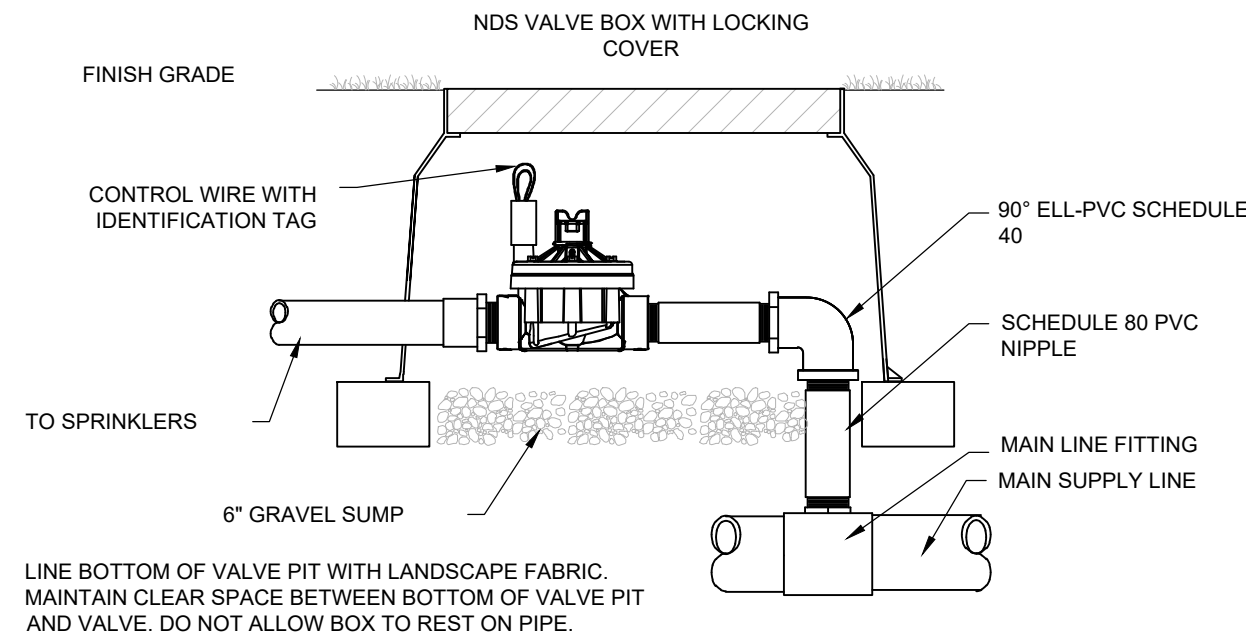
- INSTALLATION NOTES:
1. ALL MAIN LINE TO BE INSTALLED ACCORDING AND TESTED TO MANUFACTURER'S INSTALLATION INSTRUCTIONS.
 2. ALL TRENCH DEPTHS AND WIDTHS SHALL BE SHOWN ON THE TYPICAL TRENCHING DETAILS.

3 TYPICAL THRUST BLOCK
L2.50 SECTION NTS



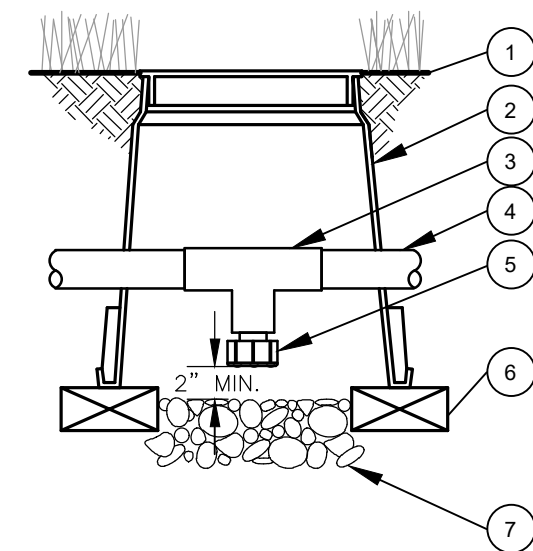
- INSTALLATION NOTES:
1. 3000 PSI CONCRETE OR BETTER IS TO BE USED FOR THRUST BLOCKS.
 2. FOR 45°/90° FITTINGS, MINIMUM OF 2 CUBIC FEET OF CONCRETE TO BE USED.
 3. FOR 22:1/2° FITTINGS, MINIMUM OF 0.5 CUBIC FEET OF CONCRETE TO BE USED.
 4. FOR TEES, MINIMUM OF 2 CUBIC FEET OF CONCRETE TO BE USED. THRUST
- BLOCKS REQUIRED FOR IRRIGATION MAINLINE 2 1/2" AND LARGER.

4 THRUST BLOCK REINFORCEMENT
L2.50 SECTION NTS



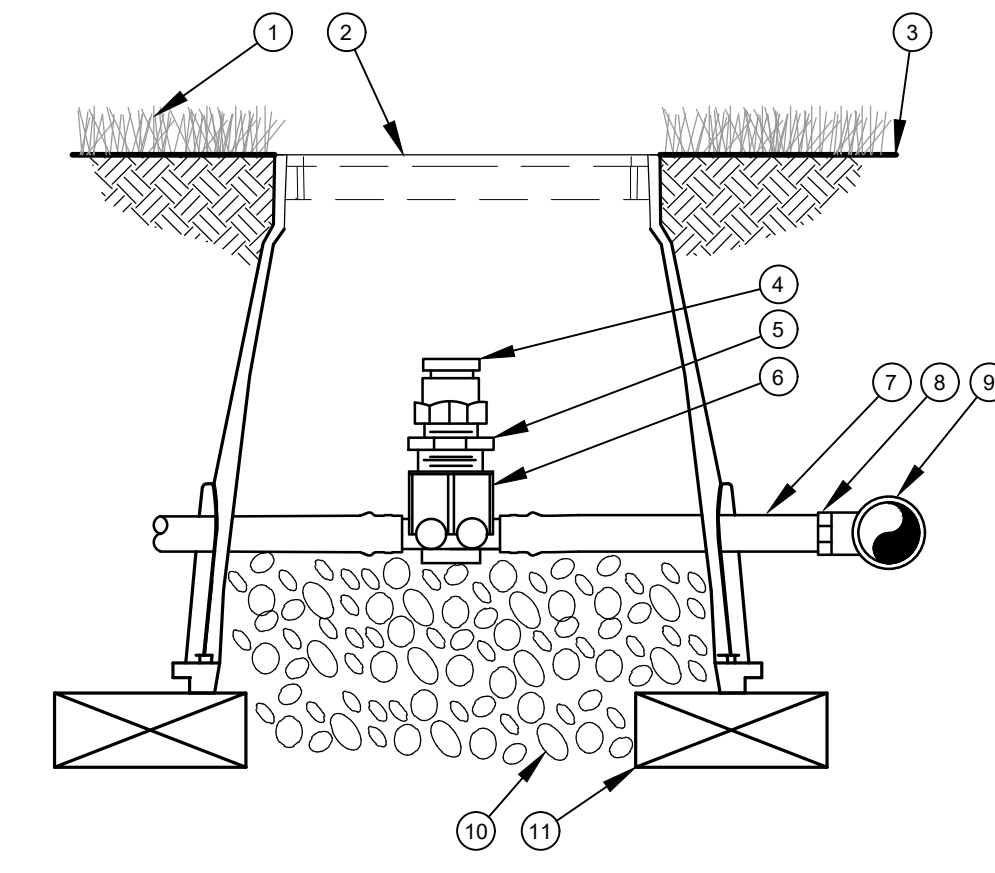
- FINISH GRADE
- NDS VALVE BOX WITH LOCKING COVER
- CONTROL WIRE WITH IDENTIFICATION TAG
- TO SPRINKLERS
- 6" GRAVEL SUMP
- LINE BOTTOM OF VALVE PIT WITH LANDSCAPE FABRIC. MAINTAIN CLEAR SPACE BETWEEN BOTTOM OF VALVE PIT AND VALVE. DO NOT ALLOW BOX TO REST ON PIPE.
- 90° ELL-PVC SCHEDULE 40
- SCHEDULE 80 PVC NIPPLE
- MAIN LINE FITTING
- MAIN SUPPLY LINE

5 TYPICAL CONTROL VALVE
L2.50 SECTION NTS



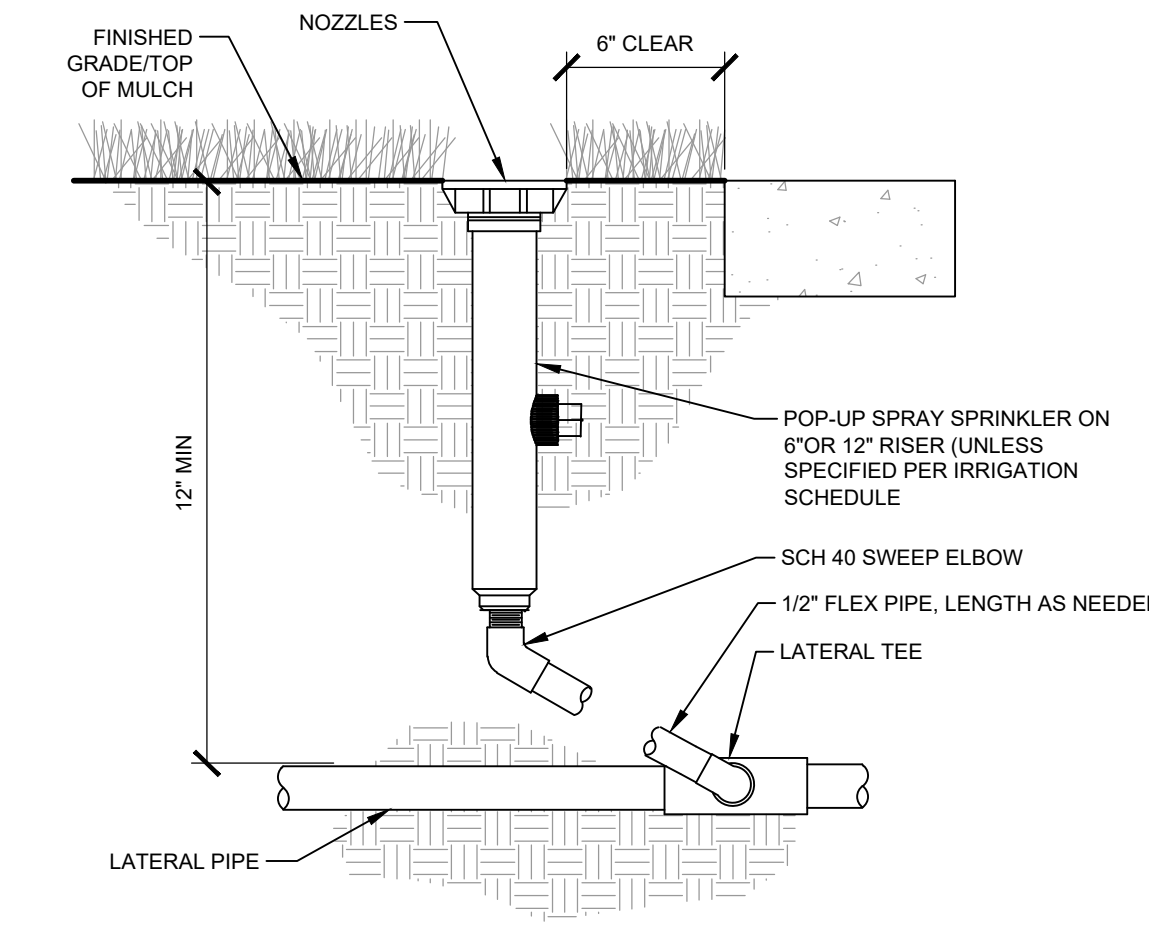
- 1 FINISH GRADE/TOP OF MULCH
- 2 VALVE BOX WITH COVER:
- 3 PVC SCH 40 TEE
- 4 PVC LATERAL PIPE
- 5 FILTERED DRAIN VALVE:
- 6 BRICK (1 OF 2)
- 7 6-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL

6 DRAIN VALVE
L2.50 SECTION NTS



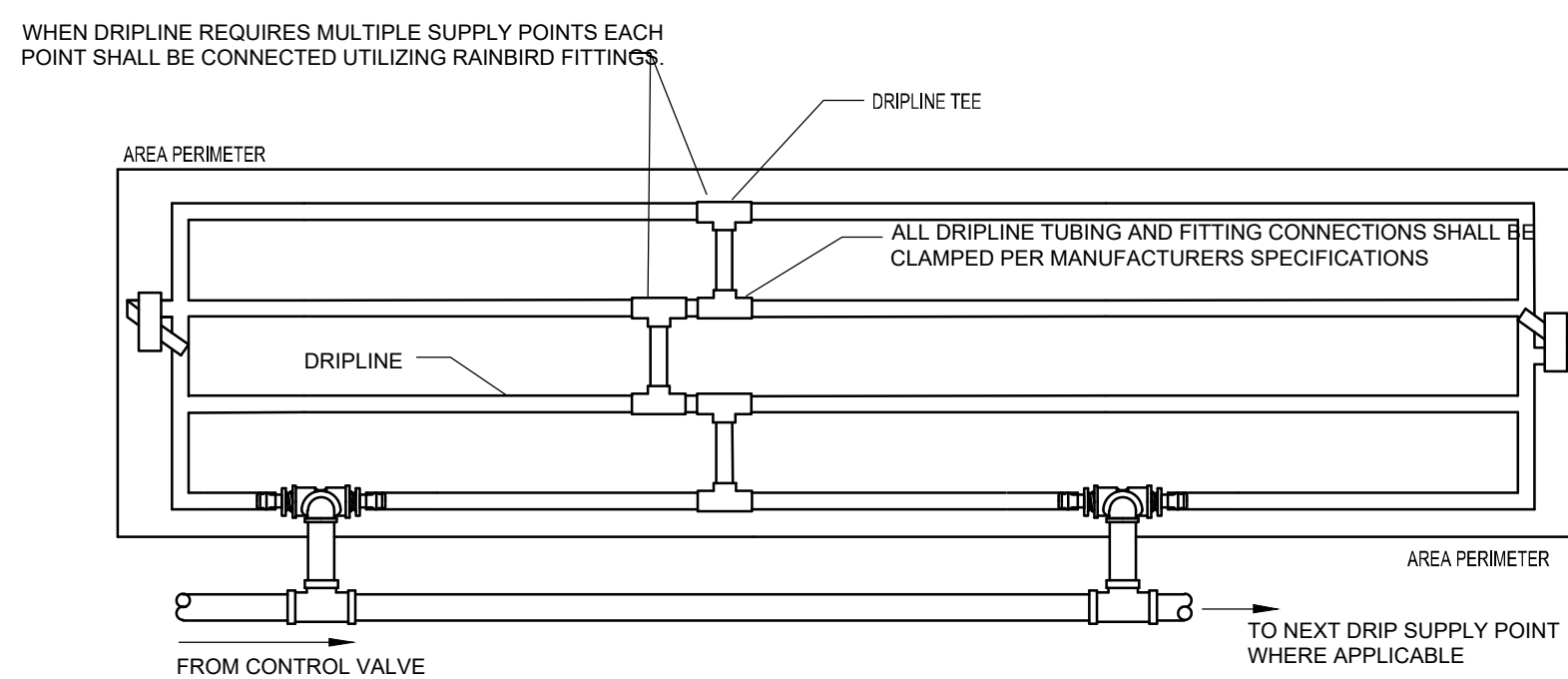
- 1 TURF GRASS
- 2 VALVE BOX LID
- 3 FINISH GRADE
- 4 1/2" AIR RELIEF VALVE: TO BE INSTALLED AT HIGH POINTS IN DRIP ZONE
- 5 1/2" x 3/4" PVC REDUCER BUSHING
- 6 BARB X FEMALE THREAD CONNECTOR:
- 7 1/2" BLANK DRIPLINE TUBING:
- 8 BARB X MALE THREAD CONNECTOR:
- 9 PVC TEE CONNECTED TO PVC HEADER PIPE
- 10 3" MINIMUM DEPTH OF 3/4" WASHED GRAVEL
- 11 BRICK (1 OF 2)

7 AIR RELIEF VALVE IN XFS DRIP LINE
L2.50 SECTION NTS



- FINISHED GRADE/TOP OF MULCH
- NOZZLES
- 6" CLEAR
- 12" MIN
- POP-UP SPRAY SPRINKLER ON 6" OR 12" RISER (UNLESS SPECIFIED PER IRRIGATION SCHEDULE)
- SCH 40 SWEEP ELBOW
- LATERAL TEE
- LATERAL PIPE

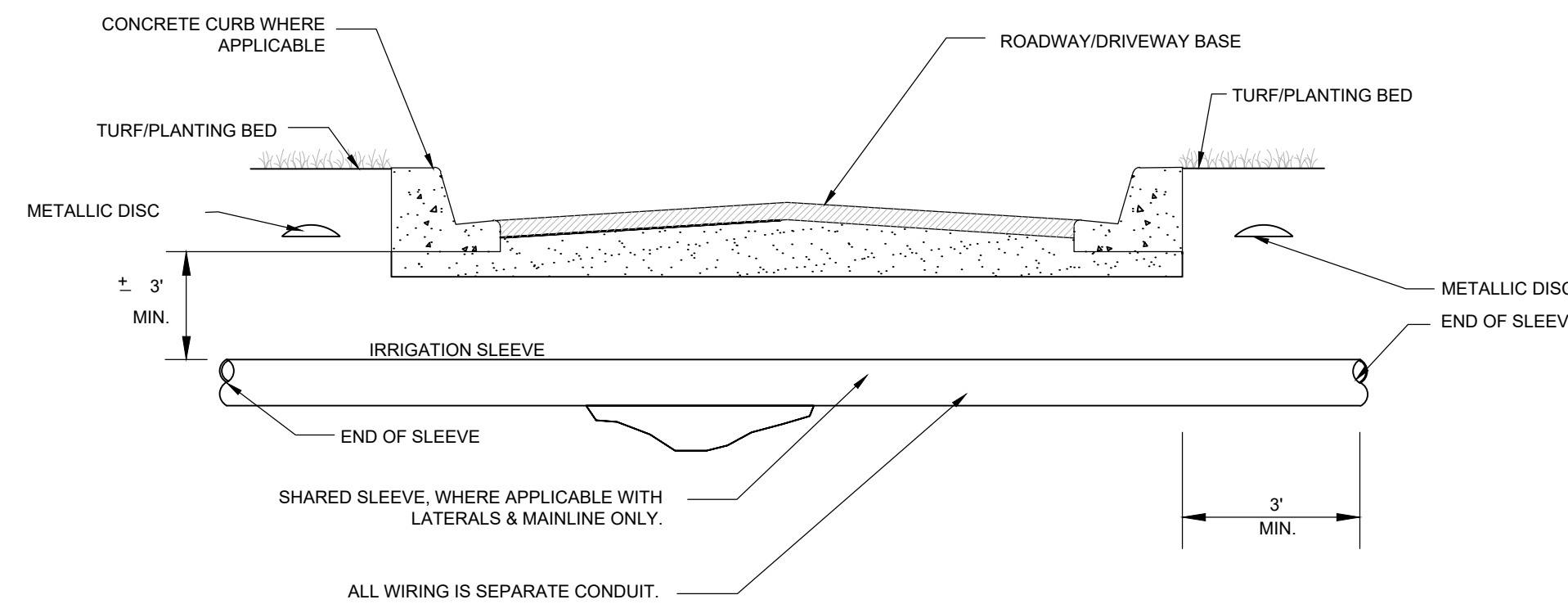
8 TYPICAL SPRAY / ROTAR HEAD
L2.50 SECTION NTS



- WHEN DRIPLINE REQUIRES MULTIPLE SUPPLY POINTS EACH POINT SHALL BE CONNECTED UTILIZING RAINBIRD FITTINGS
- AREA PERIMETER
- DRIPLINE TEE
- ALL DRIPLINE TUBING AND FITTING CONNECTIONS SHALL BE CLAMPED PER MANUFACTURER'S SPECIFICATIONS
- DRIPLINE
- FROM CONTROL VALVE
- TO NEXT DRIP SUPPLY POINT WHERE APPLICABLE

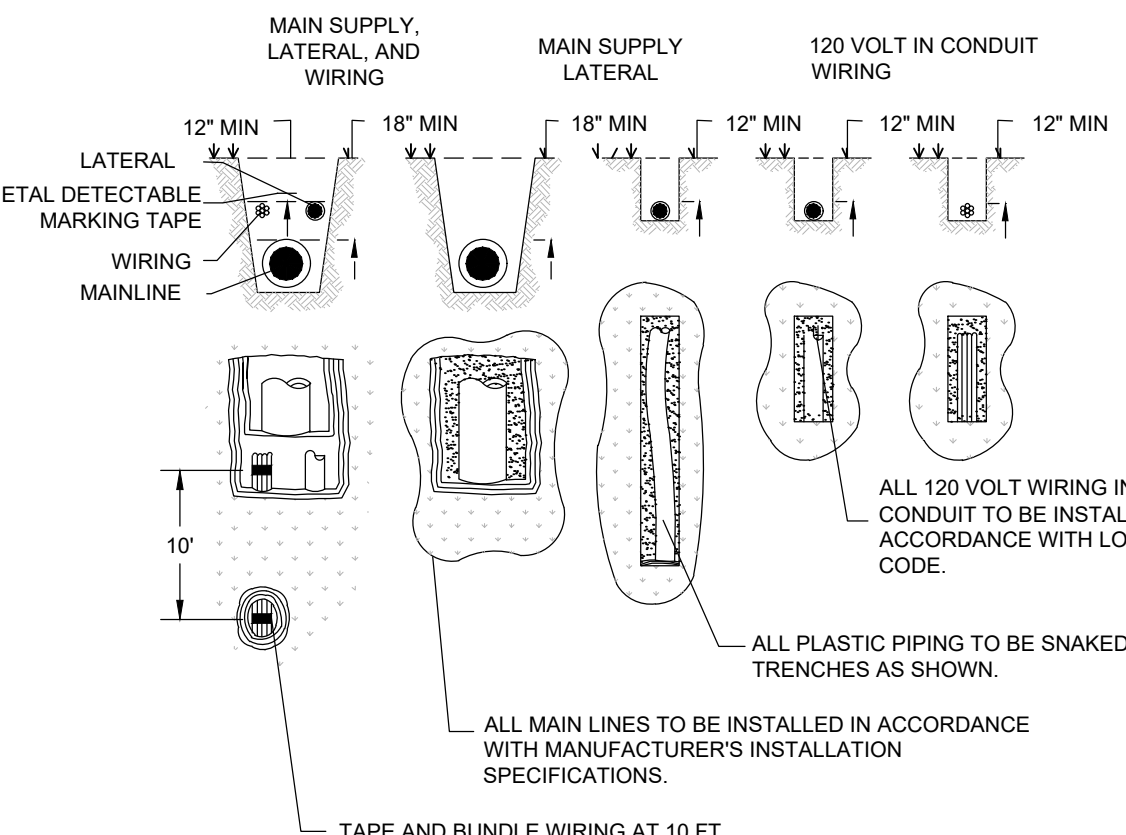
- NOTE:
1. DRIP TUBING TO BE ROUTED IN THE PLANT MATERIAL BED WITH AT MAXIMUM LATERAL SPACING OF 16 INCHES.
 2. DRIP TUBING TO BE INSTALLED IN A GRID PATTERN. DRIP TUBING SHALL NOT BE INSTALLED IN A LONG CONTINUOUS RUN.
 3. CONTRACTOR TO REFER TO IRRIGATION PLAN FOR LOCATION OF CONTROL VALVES THAT UTILIZE MULTIPLE DRIPLINE SUPPLY CONNECTIONS (IF SHOWN).
- CONTRACTOR TO REFER TO IRRIGATION PLAN FOR LOCATION OF CONTROL VALVES THAT UTILIZE MULTIPLE DRIPLINE SUPPLY CONNECTIONS (IF SHOWN).

9 TYPICAL DRIP LINE
L2.50 PLAN NTS



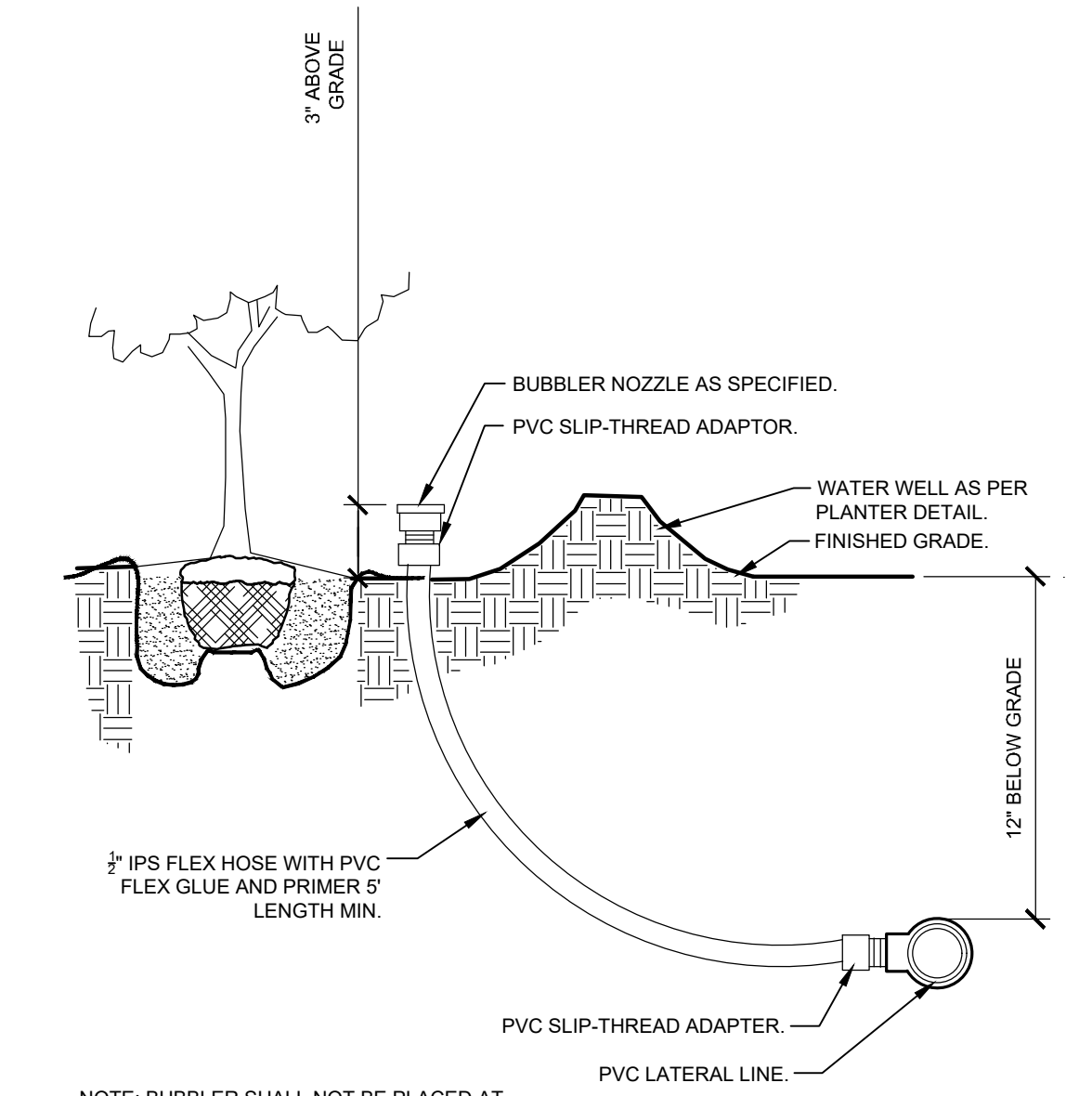
- CONCRETE CURB WHERE APPLICABLE
- TURF/PLANTING BED
- ROADWAY/DRIVEWAY BASE
- TURF/PLANTING BED
- METALLIC DISC
- IRRIGATION SLEEVE
- END OF SLEEVE
- 3' MIN
- SHARED SLEEVE, WHERE APPLICABLE WITH LATERALS & MAINLINE ONLY.
- ALL WIRING IS SEPARATE CONDUIT.
- METALLIC DISC END OF SLEEVE

10 TYPICAL SLEEVING
L2.50 SECTION NTS



- MAIN SUPPLY, LATERAL AND WIRING
- MAIN SUPPLY LATERAL
- 120 VOLT IN CONDUIT WIRING
- 12" MIN
- 18" MIN
- 18" MIN
- 12" MIN
- 12" MIN
- 12" MIN
- LATERAL
- METAL DETECTABLE MARKING TAPE
- WIRING MAINLINE
- ALL 120 VOLT WIRING IN CONDUIT TO BE INSTALLED IN ACCORDANCE WITH LOCAL CODE.
- ALL PLASTIC PIPING TO BE SNAKED IN TRENCHES AS SHOWN.
- ALL MAIN LINES TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION SPECIFICATIONS.
- TAPE AND BUNDLE WIRING AT 10 FT. INTERVALS

11 TYPICAL TRENCHING
L2.50 SECTION / PLAN NTS



- 3" ABOVE GRADE
- BUBBLER NOZZLE AS SPECIFIED.
- PVC SLIP-THREAD ADAPTOR.
- WATER WELL AS PER PLANTER DETAIL
- FINISHED GRADE.
- 12" BELOW GRADE
- 3/4" IPS FLEX HOSE WITH PVC FLEX GLUE AND PRIMER 5' LENGTH MIN.
- PVC SLIP-THREAD ADAPTER
- PVC LATERAL LINE.

NOTE: BUBBLER SHALL NOT BE PLACED AT TRUNK FLARE.

12 TYPICAL BUBBLER
L2.50 SECTION NTS

NO.	REVISIONS	DATE	BY

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KHA PROJECT
 249096007
 DATE
 09.20.23
 SCALE AS SHOWN
 DESIGNED BY KHA
 DRAWN BY RYP
 CHECKED BY JTC DATE: 4/26/2024

IRRIGATION DETAILS

E HIGHBANK
 TOWNHOMES
 FLORIDA
 DEBARY

SHEET NUMBER
 L2.50


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Plotted By: kcollins, Alex, Sheet Set: E HIGHBANK TOWNHOMES, Layout: L2.51, April 26, 2024, 11:51:58am, k:\verif_cad\240909007-e highbank townhomes\CADD\ODP\plan sheets\L2.51 - IRRIGATION PLAN.dwg

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IRRIGATION SYSTEM NOTES:

- THE IRRIGATION MAINLINE LAYOUT IS DIAGRAMMATIC. ANY CHANGES MADE IN THE IRRIGATION MAINLINE DUE TO FIELD CONDITIONS OR CONTRACTOR'S SUBMITTED DESIGN SHALL BE IN ACCORDANCE WITH THESE STANDARDS.
 - SET SPRAY HEADS 6" AND ROTORS 12" IN FROM BACK OF CURB OR 24" IF PAVEMENT HAS NO CURB.
 - IRRIGATION CONTRACTOR IS RESPONSIBLE FOR PERFORMING ALL NECESSARY MODIFICATIONS REQUIRED TO MEET THE SCHEMATIC INTENT OF THESE PLANS PRIOR TO SUBMITTING PROPOSAL. THESE PLANS OUTLINE THE OVERALL LAYOUT THE SYSTEM AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ZONE THE SYSTEM ACCORDINGLY BASED ON FLOW AND PRESSURE AVAILABLE. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE FOLLOWING BUT NOT LIMITED TO AVAILABLE FLOW, AVAILABLE PRESSURE, CONNECTION ASSEMBLY, CAPACITY OF THE SYSTEM.
 - CONTRACTOR TO PROVIDE NEW AUTOMATIC CONTROLLER FOR PROPOSED SYSTEM (NO BATTERY OPERATED CONTROLLERS ALLOWED), COORDINATE LOCATION WITH OWNER.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AUTOMATIC RAIN SENSOR. COORDINATE LOCATION W/ OWNER.
 - IRRIGATION SHALL NOT BE COMBINED ON A SINGLE ZONE AND SHALL BE ZONED ACCORDING TO IRRIGATION TYPE, PRECIPITATION RATE, AND THE SYSTEM'S AVAILABLE WATER / PRESSURE. CONTRACTOR TO SUBMIT SHOP DRAWINGS TO OWNER FOR REVIEW PRIOR TO INSTALLATION.
 - VERIFY LOCATIONS OF ALL UNDERGROUND UTILITIES PRIOR TO INSTALLATION OF IRRIGATION SYSTEM. ALL UTILITIES AND STRUCTURES MAY NOT BE SHOWN ON THESE PLANS-CONTRACTOR SHALL FIELD VERIFY.
 - CONTRACTOR TO FIELD VERIFY ALL POINT OF CONNECTION SOURCE INFORMATION INCLUDING PSI AND GPM PRIOR TO CONSTRUCTION.
 - INSTALLATION OF WORK SHALL BE COORDINATED WITH OTHER CONTRACTORS IN SUCH A MANNER AS TO ALLOW FOR A SPEEDY AND ORDERLY COMPLETION OF ALL WORK ON-SITE.
 - CONTRACTOR SHALL COORDINATE WITH THE PLANTING PLAN FOR PLANTER BED AND TREE LOCATIONS TO ENSURE ALL PLANT MATERIAL IS COVERED BY 100% HEAD-TO-HEAD IRRIGATION.
 - CONTRACTOR SHALL PROVIDE "AS-BUILT" DRAWINGS OF THE FINAL INSTALLATION TO OWNER AT SUBSTANTIAL COMPLETION BEFORE RECEIVING FINAL PAYMENT.
 - PRODUCTS SHALL BE AS SPECIFIED OR APPROVED EQUAL.
- PRE-APPROVED MANUFACTURERS:
- TORO
 - HUNTER
 - RAINBIRD
- IRRIGATION CONTRACTOR SHALL SECURE ANY AND ALL NECESSARY PERMITS FOR THE WORK PRIOR TO COMMENCEMENT OF HIS OPERATIONS ON-SITE. COPIES OF THE PERMITS SHALL BE SENT TO THE OWNER/GENERAL CONTRACTOR. WORK IN THE R.O.W. SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF LOCAL AND/OR STATE JURISDICTION.
 - LOCATE ALL IRRIGATION LINES WITHIN LANDSCAPED AREAS WHENEVER POSSIBLE. ALL LINES UNDER PAVEMENT MUST BE SLEEVED WITHIN SCH. 40 PVC 2x SIZE OF PIPE AND FREE OF STONES/DEBRIS. ALL VALVES SHALL BE LOCATED WITHIN LANDSCAPED AREAS.
 - MAINLINE SHALL NOT BE LOCATED WITHOUT PRIOR APPROVAL OF THE OWNER'S REPRESENTATIVE.
 - THE IRRIGATION CONTRACTOR SHALL BE DIRECTLY RESPONSIBLE FOR SLEEVEING AND DIRECTIONAL BORES.
 - ALL SLEEVES UTILIZED BY THE IRRIGATION CONTRACTOR WHETHER INSTALLED BY HIM OR NOT, SHALL BE LOCATED ON THE "AS-BUILT" DRAWINGS. THE DEPTH BELOW FINISH GRADE, TO THE NEAREST FOOT OF EACH END OF THE SLEEVE SHALL BE NOTED AT EACH SLEEVE LOCATION ON THE "AS-BUILT" DRAWINGS. ALL SLEEVES ON PLAN FOR WALL PENETRATIONS AND UNDER SIDEWALKS SHALL BE SIZED TWO PIPE SIZES GREATER THAN THE PIPE IT CARRIES.
 - ALL PRESSURIZED MAINLINES AND LATERALS UNDER PAVEMENT SHALL BE WITHIN SCH. 40 PVC SLEEVES. WHERE ELECTRIC OR HYDRAULIC VALVE CONTROL LINES PASS THROUGH A SLEEVE WITH OTHER MAIN OR LATERAL LINES THEY SHALL BE CONTAINED WITHIN A SEPARATE, SMALLER CONDUIT.
 - NUMBER THE TOP OF ALL VALVE BOX LIDS WITH MINIMUM 1" HEIGHT BLACK LETTERS TO CORRESPOND TO AUTOMATIC AND GATE VALVE DESIGNATIONS. ALL HOSE BIBB VALVE BOXES SHALL BE LABELED IN A SIMILAR MANNER WITH THE DESIGNATION "HB" LETTER OUTSIDE OF TIME CLOCK CABINETS TO CORRESPOND WITH IRRIGATION CLOCK PROGRAM DESIGNATION.
 - THE IRRIGATION CONTRACTOR SHALL INSTALL A COLOR CODED METAL DETECTABLE MARKING TAPE WHICH CLEARLY NOTES: "CAUTION: IRRIGATION LINE BURIED BELOW." THE TAPE SHALL BE INSTALLED THE FULL LENGTH OF THE IRRIGATION MAINLINE.
 - ELECTRIC SERVICE TO THE CONTROLLER SHALL BE PROVIDED BY THE GENERAL CONTRACTOR.
 - ALL 24 VAC WIRING FROM DECODER TO VALVE SHALL BE OF DIRECT BURIAL COPPER WIRE. MAXIMUM LENGTH OF WIRE FROM DECODER TO VALVE SHALL NOT EXCEED 400 FEET. AS FOLLOWS:
CONTROL WIRES - #14
COMMON WIRES - #14
 - ALL VALVES, SPLICES WITHIN CONTROL LINES, AND QUICK COUPLERS SHALL BE LOCATED WITHIN NDS VALVE BOXES AS FOLLOWS:
-RECTANGULAR 12"x17" HEAVY DUTY BOX. (PURPLE COVER FOR REUSE TO BE PROVIDED WHERE APPROPRIATE).
 - ALL IRRIGATION HEADS/DRIP TUBING SHALL BE LOCATED ONE (1) FOOT FROM BACK OF CURB WHEN NEXT TO A ROADWAY. (THIS SHALL NOT INCLUDE PARKING AREAS OR DRIVE AISLES).
 - HEADS, LATERALS, EMITTERS, AND VALVES ARE NOT SHOWN, BUT ARE NECESSARY FOR A FULLY FUNCTIONING IRRIGATION SYSTEM.
 - LOCATE ALL VALVES IN PLANTING BEDS WITH A MINIMUM OF 3'-0" FROM BACK OF CURB OR EDGE OF PAVEMENT, UNLESS OTHERWISE NOTED. PIPE SIZES ON EITHER SIDE OF SECTION VALVES CONNECTING MAINLINE TO SECTION LATERAL SHALL BE ONE (1) PIPE SIZE LARGER THAN VALVE SIZE. WHERE MAINLINES RUN PARALLEL TO PAVEMENT OR CURBING, THE MAINLINE SHALL BE OFFSET 2'-0" FROM THE EDGE OF PAVEMENT OR CURB.
 - IRRIGATION ZONES SHALL BE SEPARATED FOR HIGH AND LOW WATER USE REQUIREMENTS AND OPERATED ON DIFFERENT WATERING CYCLES. BUBBLERS, DRIPLINE, AND SPRAY HEADS SHALL BE SEPARATED ON DIFFERENT VALVES. AT NO TIME SHALL MULTIPLE IRRIGATION HEAD TYPES BE LOCATED ON THE SAME VALVE.
 - ALL DRIP ZONES SHALL BE INSTALLED WITH A FLUSH VALVE AND AIR RELIEF VALVE. IN THE EVENT THAT A DRIP ZONE HAS MORE THAN ONE HIGH OR LOW POINT, MORE THAN ONE AIR RELIEF VALVE OR FLUSH VALVE WILL BE REQUIRED FOR THAT ZONE. DRIPLINE SHALL PROVIDE 0.9 GPH EMITTERS, 12" O.C. WITH 12" LINE SPACING AT A MINIMUM.
 - ALL WIRING FOR CONNECTION OF THE VALVES TO THE CONTROLLER SHALL FOLLOW MANUFACTURERS SPECIFICATIONS. IF REQUIRED, ALL WIRING FOR A TWO WIRE PATH SHALL BE WITH RED/BLUE TWISTED PAIR 14 AWG. ELECTRIC CONTROL LINES FROM THE DECODER TO THE SOLENOID VALVES SHALL BE TWISTED PAIR 18 AWG. ALL DECODERS SHALL BE GROUNDED EVERY 1,000 L.F. OR EVERY 10 DEVICES. ALL WIRE SHALL BE FURNISHED IN MINIMUM 2,500' REELS AND SPLICING SHALL BE MINIMIZED. BURY SPLICE KIT. ALL 24 VOLT WIRING SHALL BE DONE IN ACCORDANCE WITH EXISTING CODES. SPLICING SHALL BE IN VALVE BOXES OR CONTROLLERS ONLY. IRRIGATION SYSTEM CONTROL SHALL BE TWO WIRE PATH. CONTRACTOR SHALL FOLLOW ALL MANUFACTURER'S REQUIREMENTS FOR THIS INSTALLATION. TWO WIRE SYSTEM SHALL HAVE 2-WAY COMMUNICATIONS FIELD PROGRAMMABILITY, STATION SPECIFICATIONS AND INTEGRATED SURGE PROTECTION.
 - ALL CONTROL WIRE SHALL BE INSTALLED IN A 1 1/2" ELECTRICAL CONDUIT.
 - SMALLEST DIAMETER LATERAL PIPE SHALL BE 3/4".
 - IRRIGATION SYSTEM SHALL BE CAPABLE OF SUPPLYING AN AVERAGE OF 1.05" OF WATER PER WEEK WITHIN WATERING RESTRICTIONS AS APPLICABLE.
 - IRRIGATION SYSTEM SHALL NOT BE INSTALLED THROUGH EXISTING, OR PRESERVED PLANT COMMUNITIES. DO NOT TRENCH THROUGH EXISTING ROOT SYSTEMS OF ANY VEGETATION INTENDED TO BE PRESERVED.
 - CONTRACTOR TO MINIMIZE IRRIGATION OVERTHROW TO IMPERVIOUS AND NATURAL AREAS THROUGH FIELD ADJUSTMENTS TO INDIVIDUAL HEADS.
 - ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR TO THE CONDITION DENOTED ON THE LANDSCAPE PLAN.
 - IRRIGATION PIPING INSTALLED UNDER ROADS AND SIDEWALKS SHALL BE IN SCHEDULE 40 PVC SLEEVEING AT 2X THE PIPE SIZE. ALL SLEEVEING SHALL BE FREE OF STONES AND DEBRIS.
 - IRRIGATION SOURCE TO BE EITHER WELL, POTABLE, OR NON-POTABLE WATER. IRRIGATION CONTRACTOR TO VERIFY SOURCE PRIOR TO DESIGN.
 - POINT OF CONNECTION TO BE DETERMINED BY OWNER. IRRIGATION SYSTEM CONNECTIONS TO THE LOCAL JURISDICTION SERVICE SHALL COMPLY WITH ALL APPLICABLE CODES.
 - IRRIGATION CONNECTION MAY REQUIRE BACKFLOW PREVENTION, VERIFY WITH LOCAL JURISDICTION.
 - IRRIGATION SYSTEM SHALL COMPLY WITH THE LOCAL JURISDICTION LAND DEVELOPMENT CODE.

KHA PROJECT 240909007	DATE 09.20.23	SCALE AS SHOWN	DESIGNED BY KHA	DRAWN BY RYP	CHECKED BY JTC	DATE: 4/26/2024	 © 2023 KIMLEY-HORN AND ASSOCIATES, INC. 189 S. ORANGE AVENUE, SUITE 1000, ORLANDO, FL 32801 PHONE: 407-898-1511 WWW.KIMLEY-HORN.COM	REVISIONS No. DATE BY
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