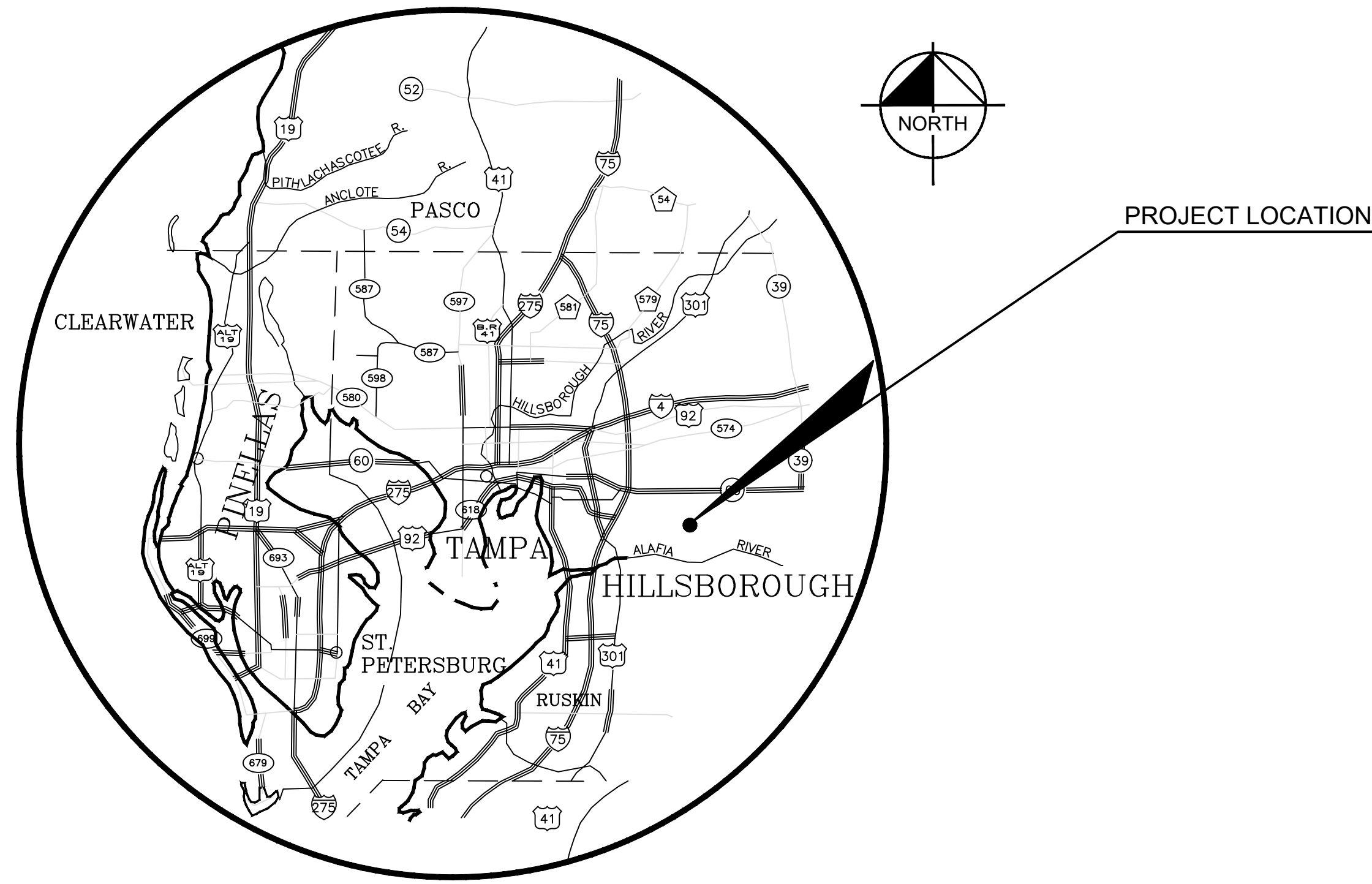
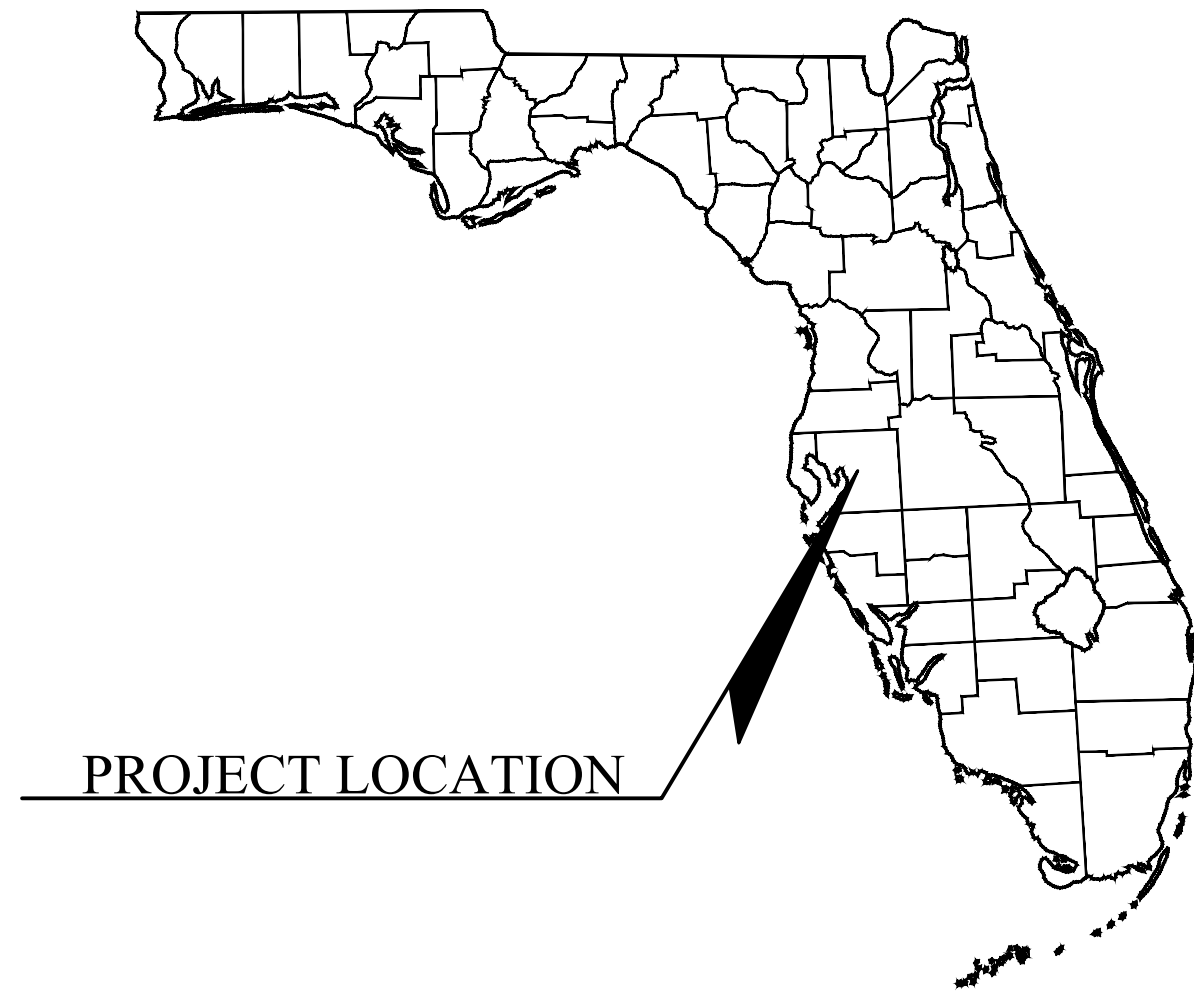


# CONSTRUCTION PLANS FOR HIDDEN LAKES RESIDENTIAL

PARCEL ID: 074715-0000, 074714-0000  
HILLSBOROUGH COUNTY, FLORIDA

PREPARED FOR

D AND J SOUTHERN PROPERTIES  
3718 JOHN MOORE ROAD  
BRANDON, FL 33511



VICINITY MAP

PREPARED BY



Engineering ~ Environmental  
Water Resource  
4260 W. Linebaugh Ave.  
Tampa, Florida 33624  
8043 Cooper Creek Blvd., Suite 210  
University Park, Florida 34201  
www.wraengineering.com CA 00007652  
Phone: 813.265.3130 941.275.9721

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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.

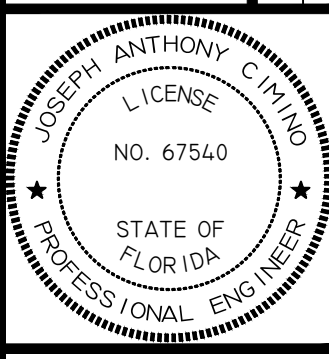
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COVER SHEET

HIDDEN LAKES  
RESIDENTIAL

ISSUED FOR: PERMITTING  
JOB #1543  
SEC. 11  
TWN: 30S  
RNG: 20E  
DESIGNED: JRO  
DRAWN: JRO  
APPROVED: JAC



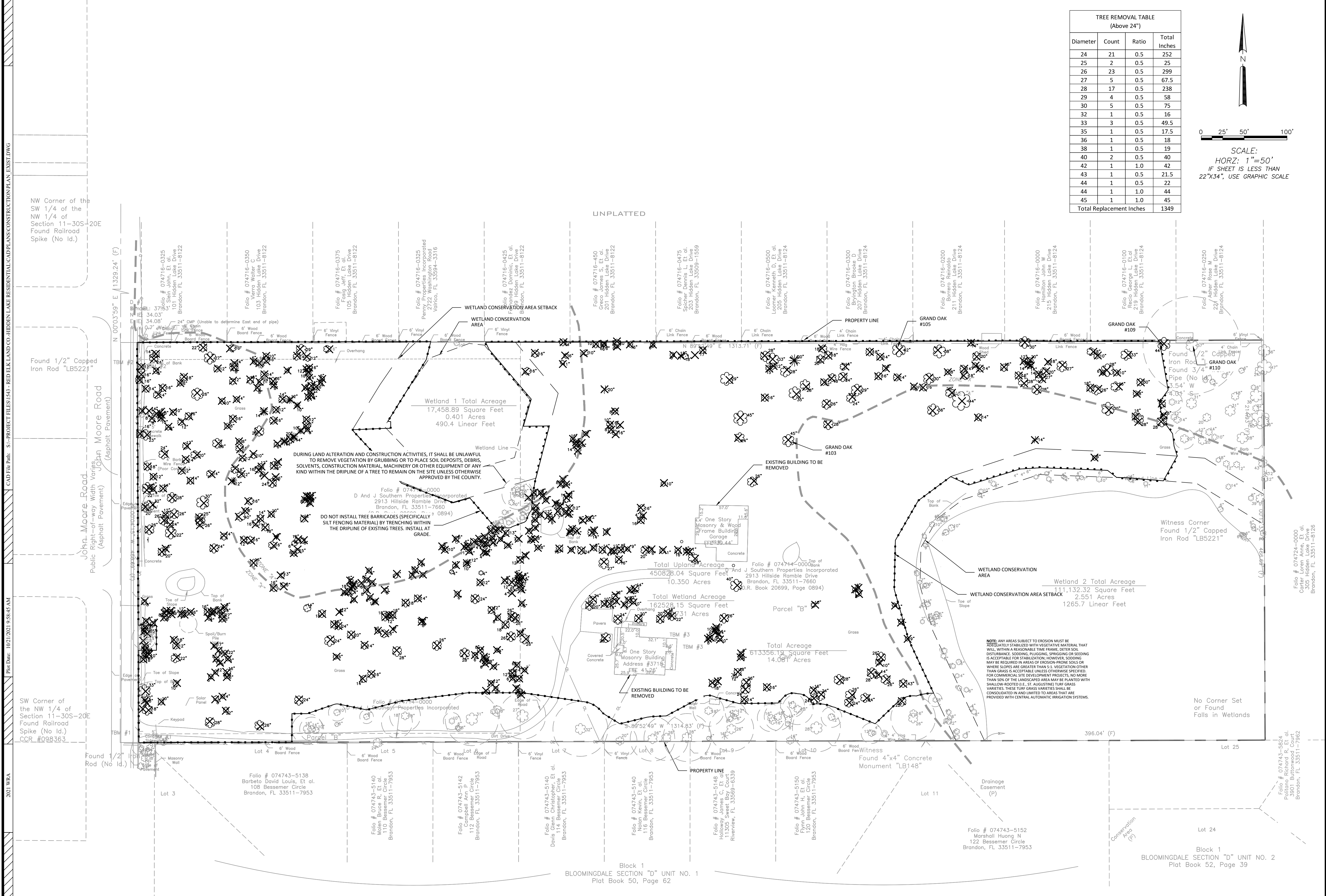
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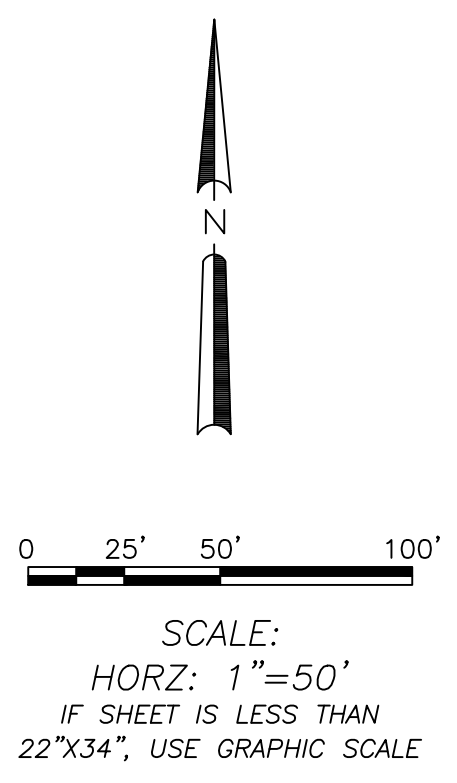
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NO.	DATE	DESCRIPTION
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4	7/29/21	RESPOND TO COUNTY COMMENTS
3	3/30/21	RESPOND TO COUNTY COMMENTS
2	3/9/21	RESPOND TO SWFWMD COMMENTS
1	2/3/21	RESPOND TO COUNTY COMMENTS

2021 WRA  
Plot Date: 10/21/2021 9:58:12 AM  
CAD File Path: S:\PROJECT FILES\1543 - RED ELK LAND CO.-HIDDEN LAKE RESIDENTIAL\CAD PLANS\CONSTRUCTION COVER\_SHEET.DWG





TREE REMOVAL TABLE (Above 24")			
Diameter	Count	Ratio	Total Inches
24	21	0.5	252
25	2	0.5	25
26	23	0.5	299
27	5	0.5	67.5
28	17	0.5	238
29	4	0.5	58
30	5	0.5	75
32	1	0.5	16
33	3	0.5	49.5
35	1	0.5	17.5
36	1	0.5	18
38	1	0.5	19
40	2	0.5	40
42	1	1.0	42
43	1	0.5	21.5
44	1	0.5	22
44	1	1.0	44
45	1	1.0	45
<b>Total Replacement Inches</b>			<b>1349</b>



2021 WRA CAD FILE PATH: S:\PROJECT FILES\1543 - RED BELK LAND CO.-HIDDEN LAKE RESIDENTIAL CAD PLANS CONSTRUCTION PLAN EXISTING.DWG Plot Date: 10/21/2021 9:58:45 AM

NW Corner of the SW 1/4 of the NW 1/4 of Section 11-30S-20E Found Railroad Spike (No Id.)

Found 1/2" Capped Iron Rod "LB5221"

SW Corner of the NW 1/4 of Section 11-30S-20E Found Railroad Spike (No Id.) CCR #098363

John Moore Road (Asphalt Pavement) Public Right-of-Way Width Variable

N 00°03'59" E 1329.24' (F)

Found 1/2" Rod (No Id.)

Folio # 074716-0325  
Shen John, Et al.  
105 Hidden Lake Drive  
Brandon, FL 33511-8122

Folio # 074716-0350  
Vierra Walter C  
103 Hidden Lake Drive  
Brandon, FL 33511-8122

Folio # 074716-0375  
Fasig Jeff, Et al.  
105 Hidden Lake Drive  
Brandon, FL 33511-8122

Folio # 074716-0325  
Penny Properties Incorporated  
Volrico, FL 33594-3316

Folio # 074716-0425  
Domestic, Et al.  
201 Hidden Lake Drive  
Brandon, FL 33511-8122

Folio # 074716-450  
Greco James S, Et al.  
201 Hidden Lake Drive  
Brandon, FL 33511-8122

Folio # 074716-0475  
203 Hidden Lake Drive  
Brandon, FL 33509-1559

Folio # 074716-0600  
Loomer Kenneth D, Et al.  
205 Hidden Lake Drive  
Brandon, FL 33511-8124

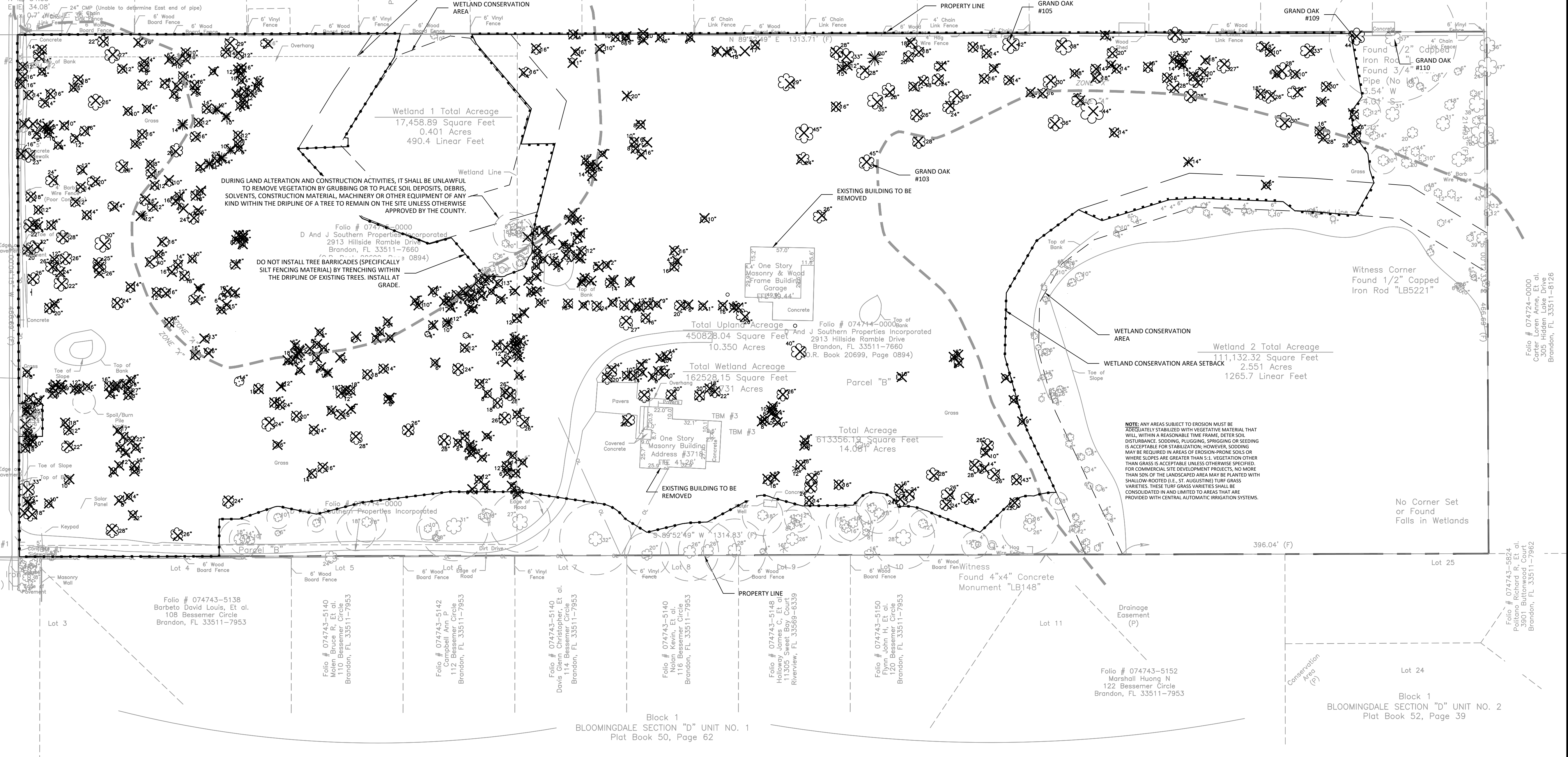
Folio # 074716-0300  
Bryington Brooke D  
207 Hidden Lake Drive  
Brandon, FL 33511-8124

Folio # 074716-0200  
211 Hidden Lake Drive  
Brandon, FL 33511-8124

Folio # 074716-0000  
Hamilton John W  
215 Hidden Lake Drive  
Brandon, FL 33511-8124

Folio # 074716-0100  
Reico George L, Et al  
Brandon, FL 33511-8124

Folio # 074716-0250  
Asher Rose W  
227 Hidden Lake Drive  
Brandon, FL 33511-8124



DURING LAND ALTERATION AND CONSTRUCTION ACTIVITIES, IT SHALL BE UNLAWFUL TO REMOVE VEGETATION BY GRUBBING OR TO PLACE SOIL DEPOSITS, DEBRIS, SOLVENTS, CONSTRUCTION MATERIAL, MACHINERY OR OTHER EQUIPMENT OF ANY KIND WITHIN THE DRIPLINE OF A TREE TO REMAIN ON THE SITE UNLESS OTHERWISE APPROVED BY THE COUNTY.

DO NOT INSTALL TREE BARRICADES (SPECIFICALLY SILT FENCING MATERIAL) BY TRENCHING WITHIN THE DRIPLINE OF EXISTING TREES. INSTALL AT GRADE.

NOTE: ANY AREAS SUBJECT TO EROSION MUST BE ADEQUATELY STABILIZED WITH VEGETATIVE MATERIAL THAT WILL, WITHIN A REASONABLE TIME FRAME, RESTORE SOIL DISTURBANCE, SODDING, PLUGGING, SPRIGGING OR SEEDING IS ACCEPTABLE FOR STABILIZATION; HOWEVER, SODDING MAY BE REQUIRED IN AREAS OF EROSION-PRONE SOILS OR WHERE SLOPES ARE GREATER THAN 5:1. VEGETATION OTHER THAN GRASS IS ACCEPTABLE UNLESS OTHERWISE SPECIFIED. FOR COMMERCIAL SITE DEVELOPMENT PROJECTS, NO MORE THAN 50% OF THE LANDSCAPED AREA MAY BE PLANTED WITH SHALLOW-ROOTED (I.E. ST. AUGUSTINE) TURF GRASS VARIETIES. THESE TURF GRASS VARIETIES SHALL BE CONSOLIDATED IN AND LIMITED TO AREAS THAT ARE PROVIDED WITH CENTRAL AUTOMATIC IRRIGATION SYSTEMS.

Folio # 074743-5138  
Barbeto David Louis, Et al.  
108 Bessemer Circle  
Brandon, FL 33511-7953

Folio # 074743-5140  
Moien Bruce R, Et al.  
114 Bessemer Circle  
Brandon, FL 33511-7953

Folio # 074743-5142  
Camball Ann P  
112 Bessemer Circle  
Brandon, FL 33511-7953

Folio # 074743-5140  
Davis Glenn Christopher, Et al.  
114 Bessemer Circle  
Brandon, FL 33511-7953

Folio # 074743-5140  
116 Bessemer Circle  
Brandon, FL 33511-7953

Folio # 074743-5148  
Holloway James C, Et al.  
11305 Sweet Boy Court  
Riverview, FL 33569-6339

Folio # 074743-5150  
Flynn John H, Et al.  
120 Bessemer Circle  
Brandon, FL 33511-7953

Folio # 074743-5152  
Marshall Huang N  
122 Bessemer Circle  
Brandon, FL 33511-7953

Block 1  
BLOOMINGDALE SECTION "D" UNIT NO. 1  
Plat Book 50, Page 62

Block 1  
BLOOMINGDALE SECTION "D" UNIT NO. 2  
Plat Book 52, Page 39

REVISIONS	
NO.	DATE
6	
5	
4	7/29/21 RESPOND TO COUNTY COMMENTS
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1	2/3/21 RESPOND TO COUNTY COMMENTS
	NO. DATE
	BY

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Water Resource ~ Survey  
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4260 W. Larchmont Ave.  
Tampa, Florida 33624  
CA 0007652, LB 8274  
Phone: 813.265.3130 941.275.9721

**EXISTING CONDITIONS AND TREE REMOVAL PLAN**

HIDDEN LAKES RESIDENTIAL

ISSUED FOR: PERMITTING  
JOB #1543 SEC. 11 TWIN-30S  
RNG-20E DESIGNED: JRO DRAWN: JRO APPROVED: JAC

Datum: NAVD 88

**100**



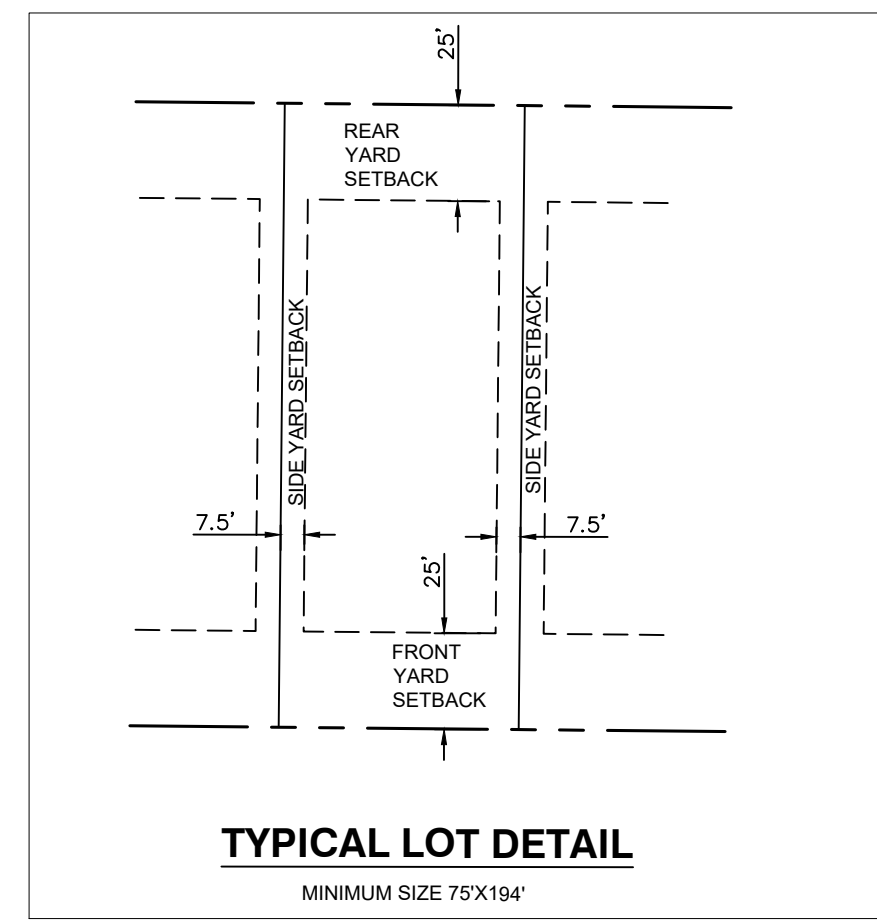
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**1. SITE DATA**

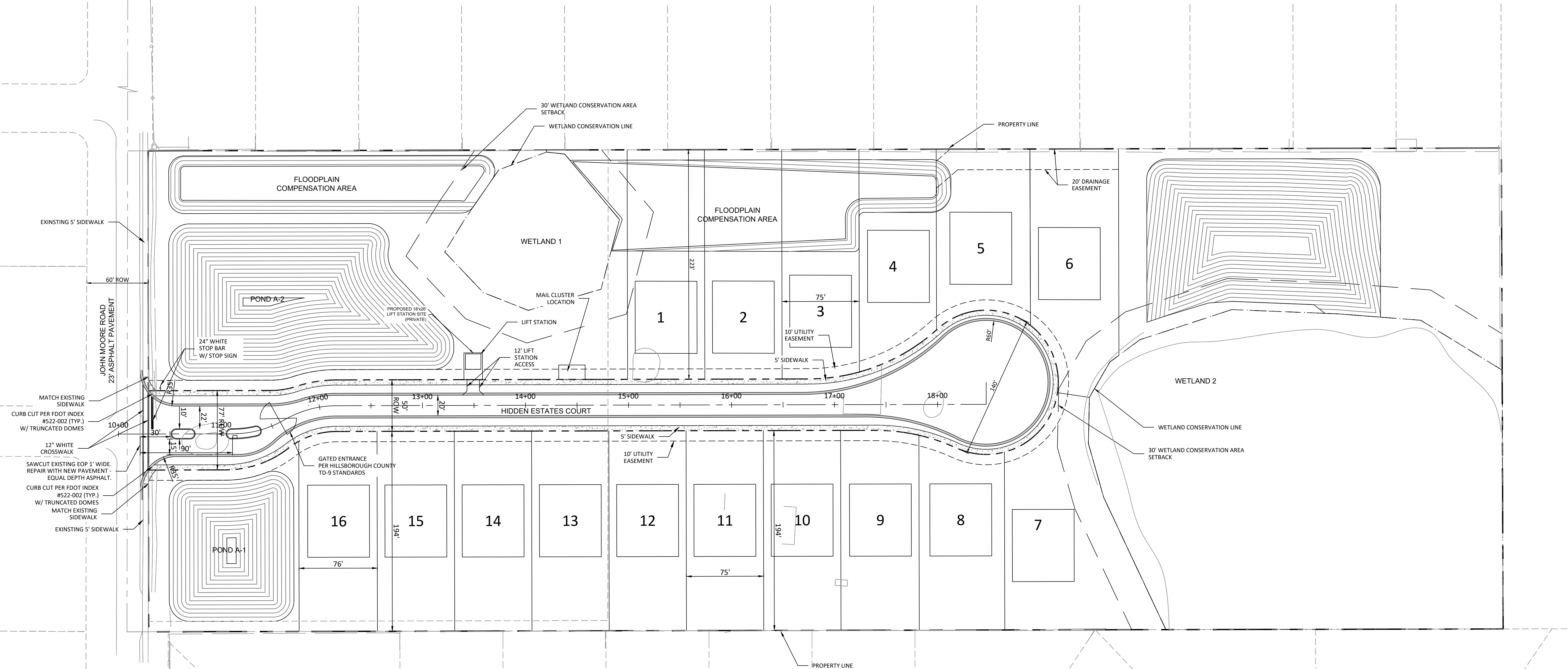
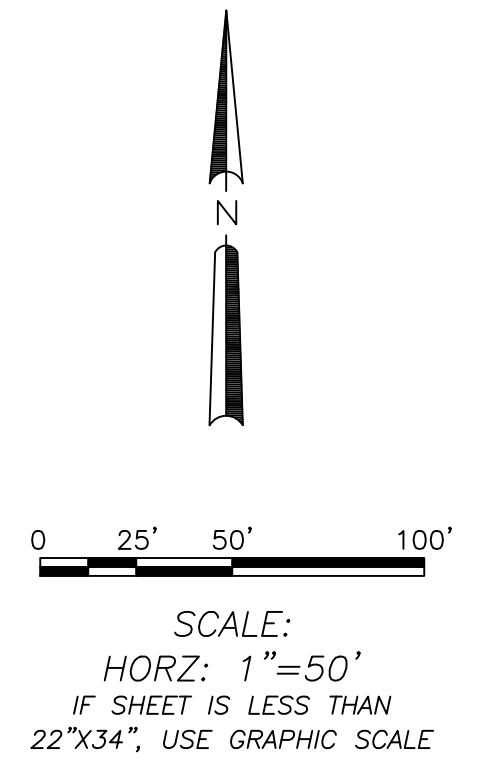
- TOTAL SITE AREA: 14.08 ACRES  
 - SITE ADDRESS/PIN: 074715-0000, 074714-0000  
 - PROPOSED USE: SINGLE FAMILY RESIDENTIAL  
 - FLOOD ZONE: X, A  
 - NUMBER OF SF LOTS: 16  
 - MINIMUM WIDTH: 75'  
 - MINIMUM DEPTH: 194'

- EXISTING ZONING: RSC-3  
 - EXISTING LAND USE: RES-4  
 - MINIMUM LOT SIZE: 14,520 SQ FT  
 FRONT YARD 25 FT  
 REAR YARD 25 FT  
 SIDE YARD 7.5 FT  
 - SETBACKS:

NOTE: MAIL DELIVERY PER CLUSTER BOX AS SHOWN ON THIS SHEET.



LOT	LOT AREAS		Minimum Lot	
	TOTAL		Width	Depth
1	16,706	SF	75	222
2	16,706	SF	75	222
3	16,597	SF	75	216
4	14,961	SF	75	175
5	14,725	SF	91	156
6	18,539	SF	86	171
7	22,763	SF	75	172
8	14,696	SF	83	170
9	14,676	SF	76	189
10	14,733	SF	75	194
11	14,550	SF	75	194
12	14,550	SF	75	194
13	14,550	SF	75	194
14	14,550	SF	75	194
15	14,550	SF	75	194
16	14,631	SF	76	194



**GENERAL IRRIGATION NOTES:**

- ONE HUNDRED (100) PERCENT AUTOMATIC IRRIGATION SYSTEMS SHALL BE REQUIRED. THIS SITE WILL UTILIZE POTABLE WATER.
- EXISTING PLANT COMMUNITIES AND ECOSYSTEMS MAINTAINED IN A NATURAL STATE DO NOT GENERALLY REQUIRE SUPPLEMENTAL IRRIGATION.
- RAIN OR MOISTURE SENSING SHUT-OFF DEVICES SHALL BE INSTALLED WITH ANY IRRIGATION SYSTEM. DRIP OR MICROJET IRRIGATION SHALL BE USED WHERE POSSIBLE. LOW TRAJECTORY SPRAY NOZZLES ARE ENCOURAGED.
- ALL IRRIGATION SYSTEMS SHALL USE THE LOWEST QUALITY WATER AVAILABLE WHICH ADEQUATELY AND SAFELY MEETS THE WATER NEEDS OF THE SYSTEM. STORMWATER REUSE, RECLAIMED WATER AND GRAY WATER IRRIGATION SYSTEMS SHALL BE USED WHERE FEASIBLE. SHALLOW WELLS AND WET RETENTION/DETENTION PONDS SHALL ALSO BE USED AS AN ALTERNATIVE TO POTABLE WATER.
- AN IRRIGATION PLAN SHALL BE PROVIDED SHOWING THE LOCATION OF THE WATER SOURCE AND SIZE OF WELL (IF APPLICABLE), BACKFLOW PREVENTER (IF APPLICABLE), THE LOCATION OF IRRIGATION HEADS, DRIP LINES, WATER LINES OR OTHER ITEMS THAT WILL SHOW THAT ONE HUNDRED (100) PERCENT AUTOMATIC IRRIGATION IS SERVING ALL REQUIRED LANDSCAPE AREAS ON THE PLAN.

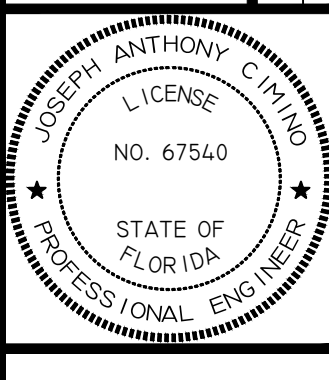
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3	3/30/21	RESPOND TO COUNTY COMMENTS		
2	3/9/21	RESPOND TO SWFWMD COMMENTS		
1	2/3/21	RESPOND TO COUNTY COMMENTS		

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**Water Resource ~ Survey**  
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 4260 W. Lincoln Ave  
 Tampa, Florida 33624  
 www.wraengineering.com  
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 Phone: 813.265.3130 941.275.9721



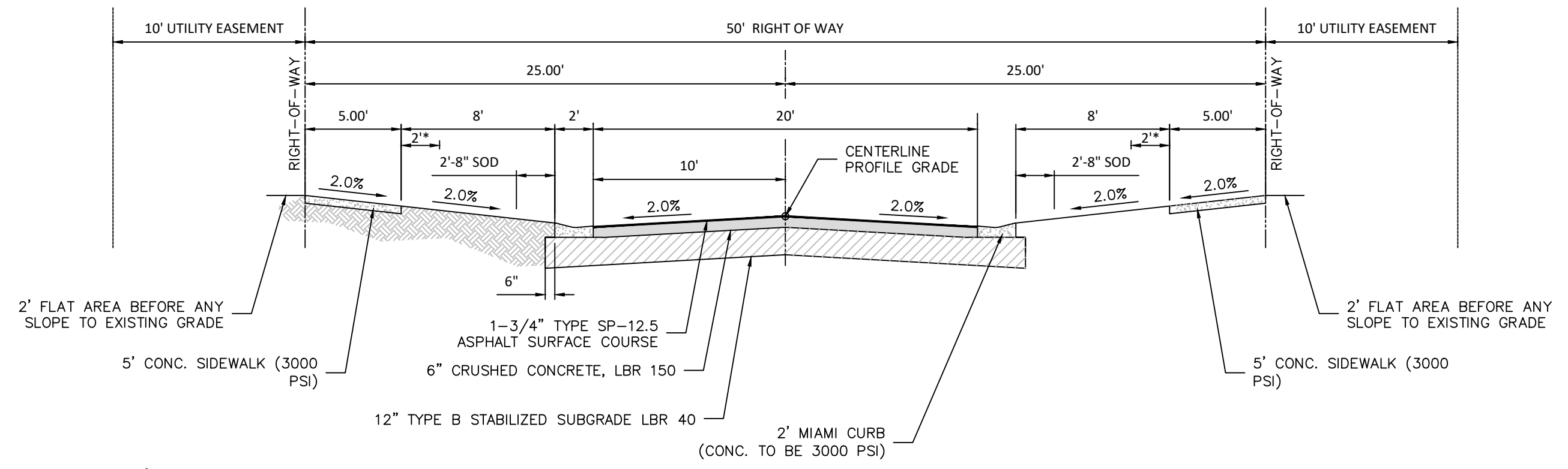
**SITE PLAN**

**HIDDEN LAKES RESIDENTIAL**



Datum: NAVD 88

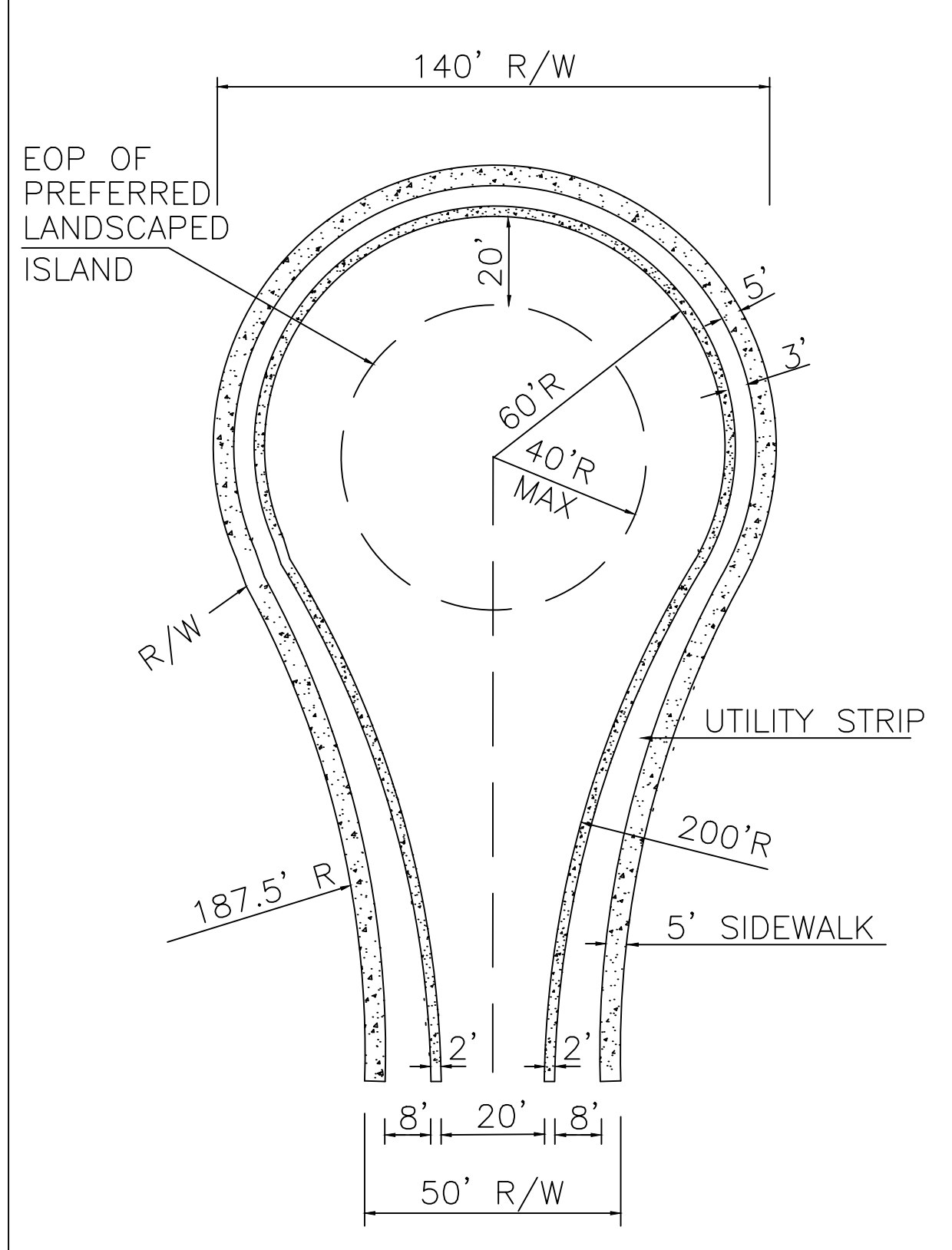
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 CAD File Path: S:\PROJECT FILES\1543 - RED ELK LAND CO. HIDDEN LAKE RESIDENTIAL\CAD PLANS\CONSTRUCTION\DETAILS\_SITIE.DWG



\* PROVIDE 2' MINIMUM CLEARANCE FROM FENCES, WALLS, HEDGES, ABOVEGROUND UTILITIES OR IMPROVEMENTS, DROP OFFS, OR FROM TOPS OF BANKS WITH SLOPES STEEPER THAN 1 TO 4, THAT INTERFERE WITH THE SAFE, FUNCTIONAL USE OF THE SIDEWALK, INTERMITTENT ABOVE GROUND UTILITIES, OR MATURE TREES, 2' OR LESS IN DIAMETER MAY BE PLACED IN THIS 2' STRIP AS FAR FROM THE SIDEWALK AS POSSIBLE, IF NOT IN THE CLEAR ZONE.

**PAVEMENT STRUCTURAL CALCULATION**  
 1.75" TYPE SP-12.5                      ● SN:0.44 = 0.77  
 6" CRUSHED CONCRETE LBR 150        ● SN:0.18 = 1.08  
 12" TYPE B STAB. SUBGRADE LBR 40   ● SN:0.08 = 0.96  
 TOTAL SN = 2.81

**TYP. ROADWAY SECTION**  
 SCALE: 1" = 6' HORIZONTAL  
 30 MPH DESIGN SPEED



**MANDATORY FOR DEAD END ROADS  
 GREATER THAN 150 FEET IN LENGTH**

NOTE : LANDSCAPED ISLAND IS ENCOURAGED

DRAWING NO. TD-4 SHEET NO. 2 OF 2		<b>CUL-DE-SAC          (MANDATORY FOR DEAD END ROADS          GREATER THAN 150 FEET IN LENGTH)          TYPICAL DETAILS</b>
TRANSPORTATION TECHNICAL MANUAL		
REVISION DATE :	RING: 20E    DESIGNED: JRO    DRAWN: JRO    APPROVED: JAC	JOB #1543    SEC: 11    TOWN: 308

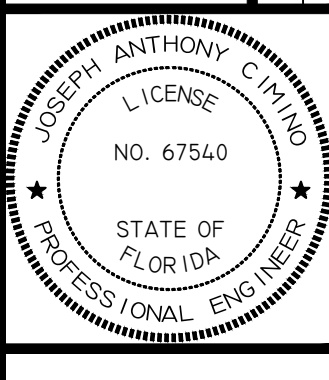
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5	
4	RESPOND TO COUNTY COMMENTS
3	RESPOND TO COUNTY COMMENTS
2	RESPOND TO SWFMD COMMENTS
1	RESPOND TO COUNTY COMMENTS
NO.	DATE
	BY

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 Tampa, Florida 33624  
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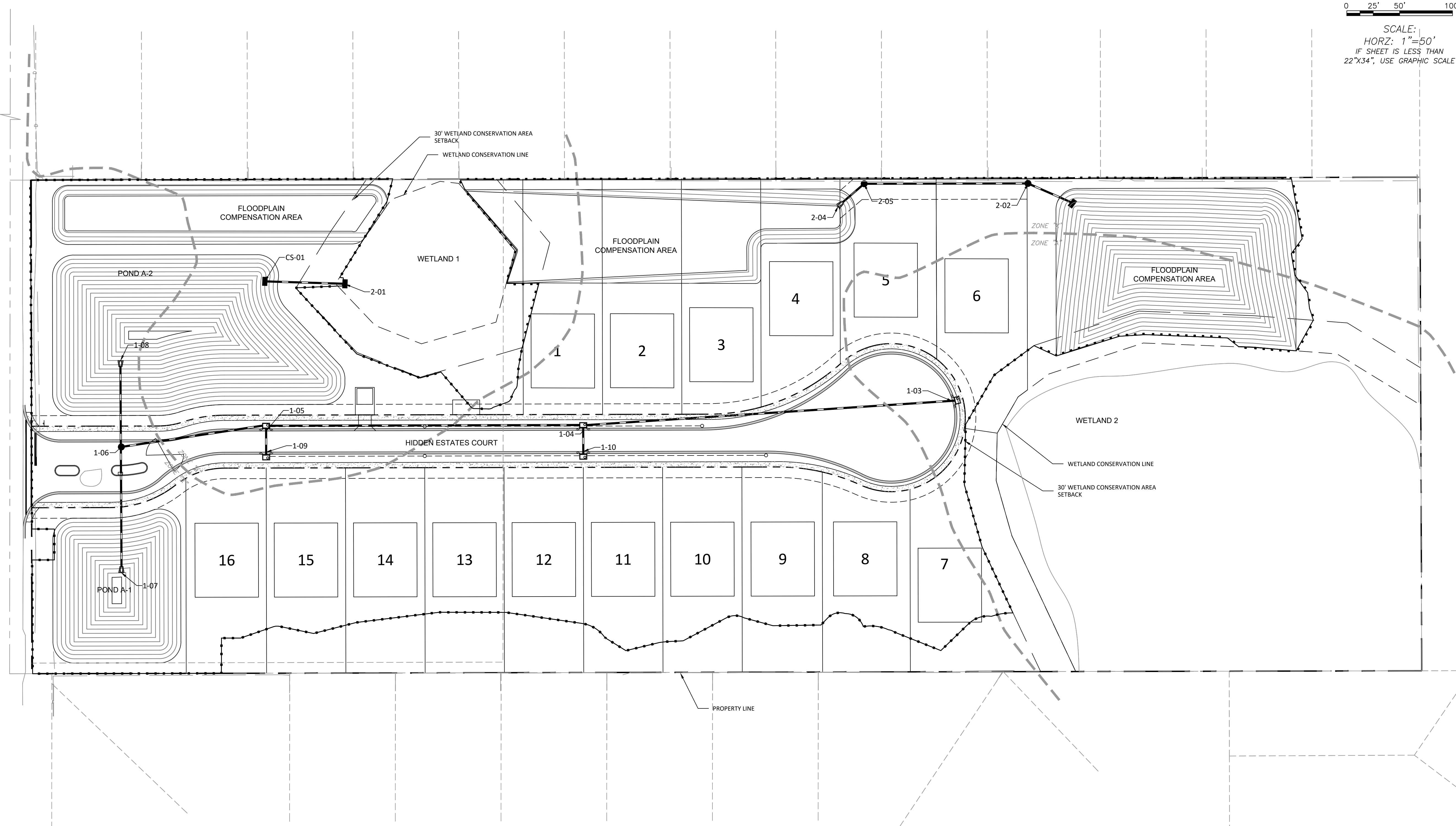
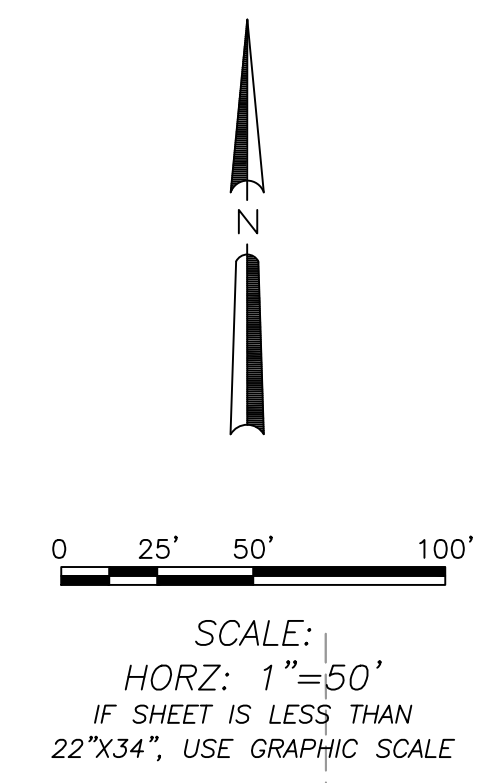
**SITE PLAN DETAILS**

**HIDDEN LAKES  
 RESIDENTIAL**  
 ISSUED FOR: PERMITTING  
 JOB #1543    SEC: 11    TOWN: 308



Datum: NAVD 88

2021 WRA  
 CAD File Path: S:\PROJECT FILES\143 - RED ELK LAND CO. HIDDEN LAKES RESIDENTIAL CAD PLANS CONSTRUCTION PLAN GRADING OVERALL.DWG  
 Plot Date: 10/21/2021 9:59:52 AM



**Flood Zone Information:**  
 Subject property is located in Flood Zones "A" & "X"  
 Flood Insurance Rate Map: 12057C  
 Panel No.: 0393 H  
 Community Name/No.: Hillsborough County/120112  
 Effective Date: August 28, 2008

1. The horizontal datum utilized for this project is NAD 1983 Florida West Zone, 2011 Adjustment, U.S. Survey Feet. Said datum was established by utilizing the Florida Permanent Reference Network (FPRN).
2. The vertical datum utilized for this project is NAVD 1988, U.S. Survey Feet. The benchmark utilized was Hillsborough County Benchmark "VC-070" with an elevation of 32.64 feet.

NO.	DATE	DESCRIPTION
6		
5		
4	7/29/21	RESPOND TO COUNTY COMMENTS
3	3/30/21	RESPOND TO COUNTY COMMENTS
2	3/9/21	RESPOND TO SWFWMD COMMENTS
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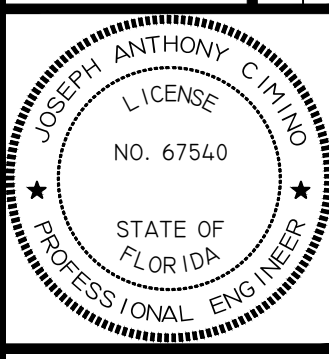
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**OVERALL GRADING AND  
 DRAINAGE PLAN**

**HIDDEN LAKES  
 RESIDENTIAL**

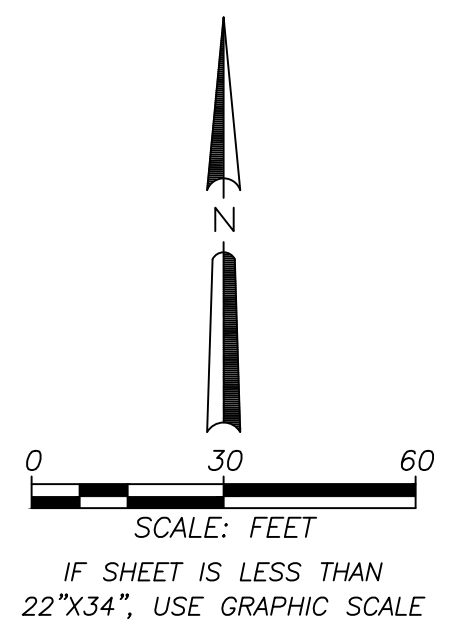
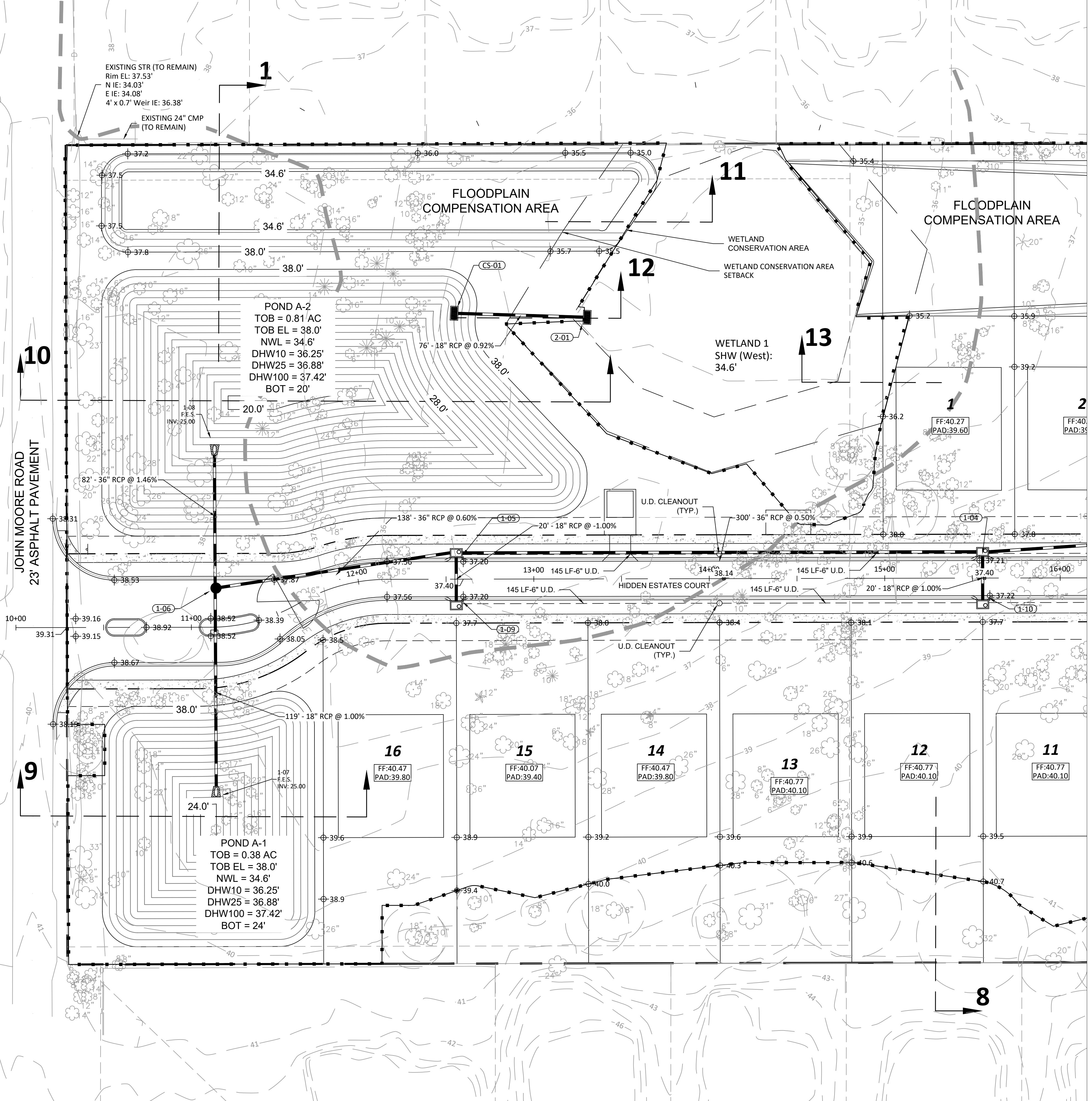
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 JOB #143  
 SEC. 11  
 TWIN-305  
 RNG-20E  
 DESIGNED: JRO  
 DRAWN: JRO  
 APPROVED: JAC



Datum: NAVD 88  
 300

CAD File Path: S:\PROJECT FILES\1543 - RED ELK LAND CO. HIDDEN LAKE RESIDENTIAL CAD PLANS CONSTRUCTION PLAN GRADING.DWG  
 Plot Date: 10/21/2021 10:00:13 AM  
 2021 WRA

Structure Table	
Structure Name	Structure Details
1-04 CURB INLET	RIM: 37.21 36" RCP(E) IE: 30.64 18" RCP(S) IE: 28.52 36" RCP(W) IE: 28.52
1-05 CURB INLET	RIM: 37.23 36" RCP(E) IE: 27.02 36" RCP(W) IE: 27.02 18" RCP(S) IE: 29.64
1-06 MANHOLE	RIM: 38.14 36" RCP(E) IE: 26.19 18" RCP(S) IE: 26.19 36" RCP(N) IE: 26.19
1-09 CURB INLET	RIM: 37.23 18" RCP(N) IE: 29.84
1-10 CURB INLET	RIM: 37.21 18" RCP(N) IE: 28.72
2-01 TYPE C	RIM: 34.50 18" RCP(W) IE: 31.50
CS-01 SEE DETAIL	RIM: 35.00 18" RCP(E) IE: 32.20



**GRADING AND DRAINAGE INDEX**

- MANHOLE
- ▤ FLARED/MES END SECTION
- ▣ FDOT TYPE-D INLET
- DRAINAGE PIPE
- - - SILT FENCE
- FLOW DIRECTION
- PROPOSED EOP ELEVATION
- - - PROPOSED GROUND ELEVATION
- + EXISTING ELEVATION

- NOTES:
- THE VERTICAL DATUM UTILIZED FOR THIS PROJECT IS NAVD 1988, U.S. SURVEY FEET. THE BENCHMARK UTILIZED WAS HILLSBOROUGH COUNTY BENCHMARK "KENDA" WITH AN ELEVATION OF 31.07 FEET.
  - THE CONTRACTOR SHALL PROVIDE A DEWATERING SEQUENCING PLAN TO SWFWMD FOR APPROVAL PRIOR TO ANY DEWATERING ACTIVITIES.
  - FEMA FLOODMAP DATA: THE PROPERTY IS IN FLOOD ZONES "A & X" FLOOD INSURANCE RATE MAP: 12057C PANEL NO.: 0393 H EFFECTIVE 8/28/2008.
  - "WETLAND 1" ZONE A EL = 36.98 PER NODE 720362 MARCH 2020 ALAFIA RIVER WATERSHED MANAGEMENT MASTER PLAN UPDATE.
  - "WETLAND 2" ZONE A EL = 38.8 PER NODE 720364 MARCH 2020 ALAFIA RIVER WATERSHED MANAGEMENT MASTER PLAN UPDATE.

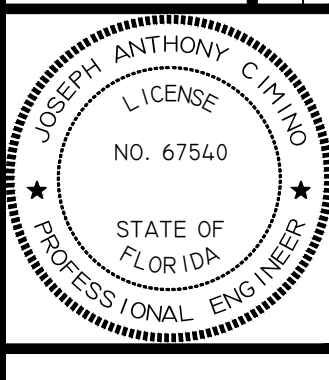
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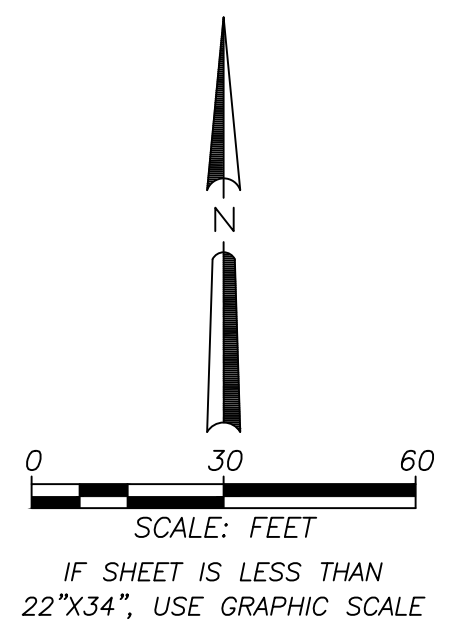
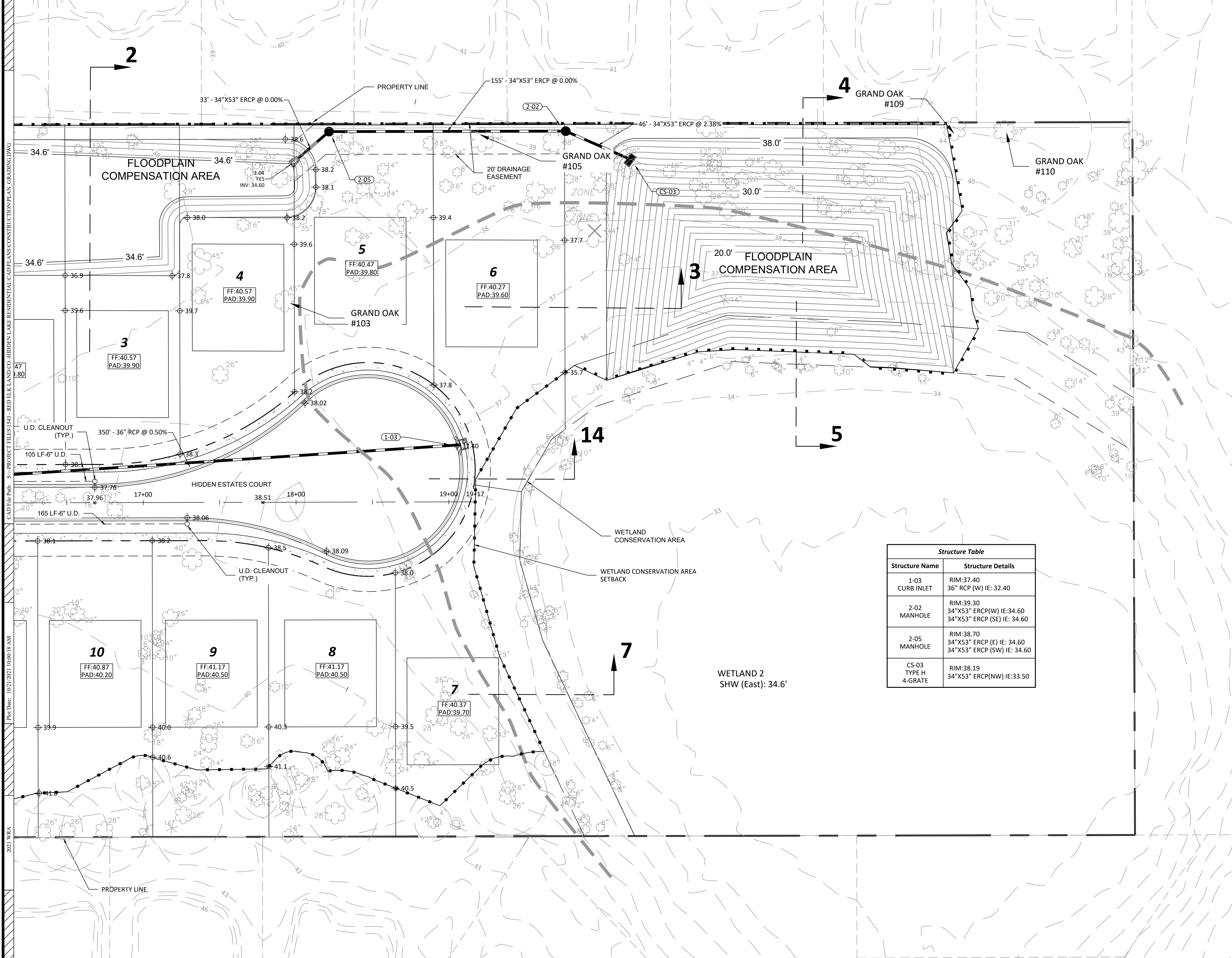
**GRADING AND DRAINAGE PLAN**

HIDDEN LAKES  
 RESIDENTIAL  
 ISSUED FOR: PERMITTING  
 JOB #1543 SEC. 11 TOWN-308 RNG.-20E DESIGNED: JRO. DRAWN: JRO. APPROVED: JAC

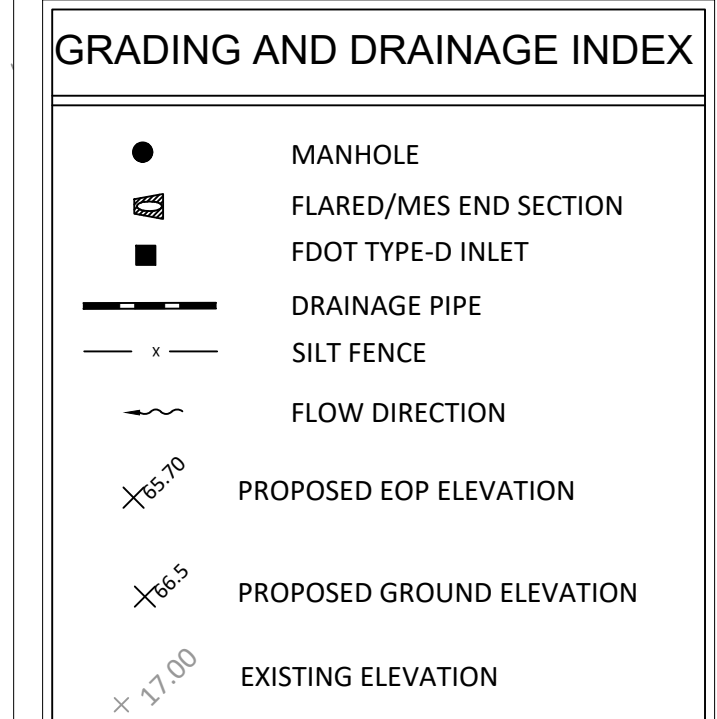


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Structure Table	
Structure Name	Structure Details
1-03 CURB INLET	RIM:37.40 36" RCP (W) IE: 32.40
2-02 MANHOLE	RIM:39.30 34"X53" ERCP(W) IE:34.60 34"X53" ERCP (SE) IE: 34.60
2-05 MANHOLE	RIM:38.70 34"X53" ERCP (E) IE: 34.60 34"X53" ERCP (SW) IE: 34.60
CS-03 TYPE H 4-GRATE	RIM:38.19 34"X53" ERCP(NW) IE:33.50



- NOTES:
1. THE VERTICAL DATUM UTILIZED FOR THIS PROJECT IS NAVD 1988, U.S. SURVEY FEET. THE BENCHMARK UTILIZED WAS HILLSBOROUGH COUNTY BENCHMARK "KENDA" WITH AN ELEVATION OF 31.07 FEET.
  2. THE CONTRACTOR SHALL PROVIDE A DEWATERING SEQUENCING PLAN TO SWFWMD FOR APPROVAL PRIOR TO ANY DEWATERING ACTIVITIES.
  3. FEMA FLOODMAP DATA: THE PROPERTY IS IN FLOOD ZONES "A & X" FLOOD INSURANCE RATE MAP: 12057C PANEL NO.: 0393 H EFFECTIVE 8/28/2008.
  4. "WETLAND 1" ZONE A EL =36.98 PER NODE 720362 MARCH 2020 ALAFIA RIVER WATERSHED MANAGEMENT MASTER PLAN UPDATE.
  5. "WETLAND 2" ZONE A EL =38.8 PER NODE 720364 MARCH 2020 ALAFIA RIVER WATERSHED MANAGEMENT MASTER PLAN UPDATE.

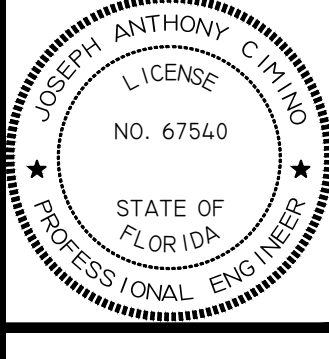
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4	7/29/21	RESPOND TO COUNTY COMMENTS
3	7/30/21	RESPOND TO SWFWMD COMMENTS
2	7/30/21	RESPOND TO COUNTY COMMENTS
1	7/30/21	RESPOND TO COUNTY COMMENTS

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 Tampa, Florida 33624  
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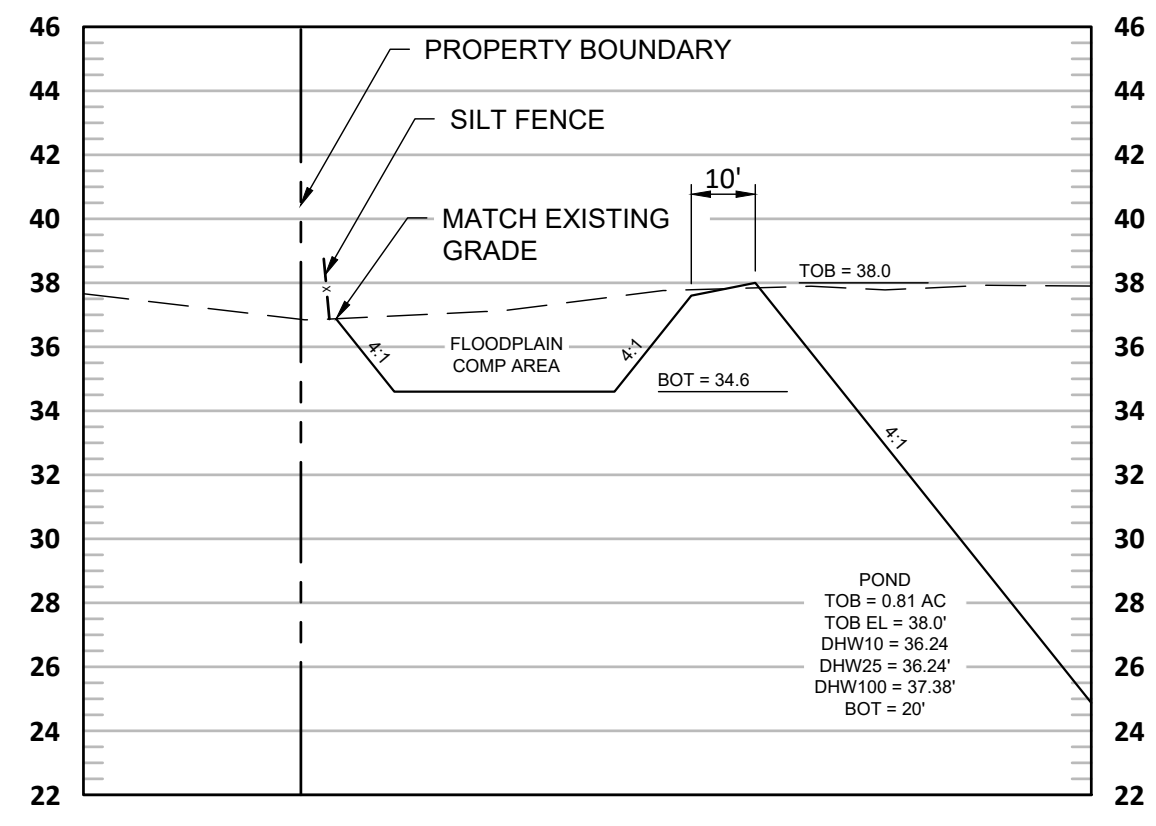
GRADING AND DRAINAGE PLAN

HIDDEN LAKES RESIDENTIAL  
 ISSUED FOR: PERMITTING  
 JOB #1543  
 SEC. 11  
 TOWN: 308  
 RING: 20E  
 DESIGNED: JRO  
 DRAWN: JRO  
 APPROVED: JAC

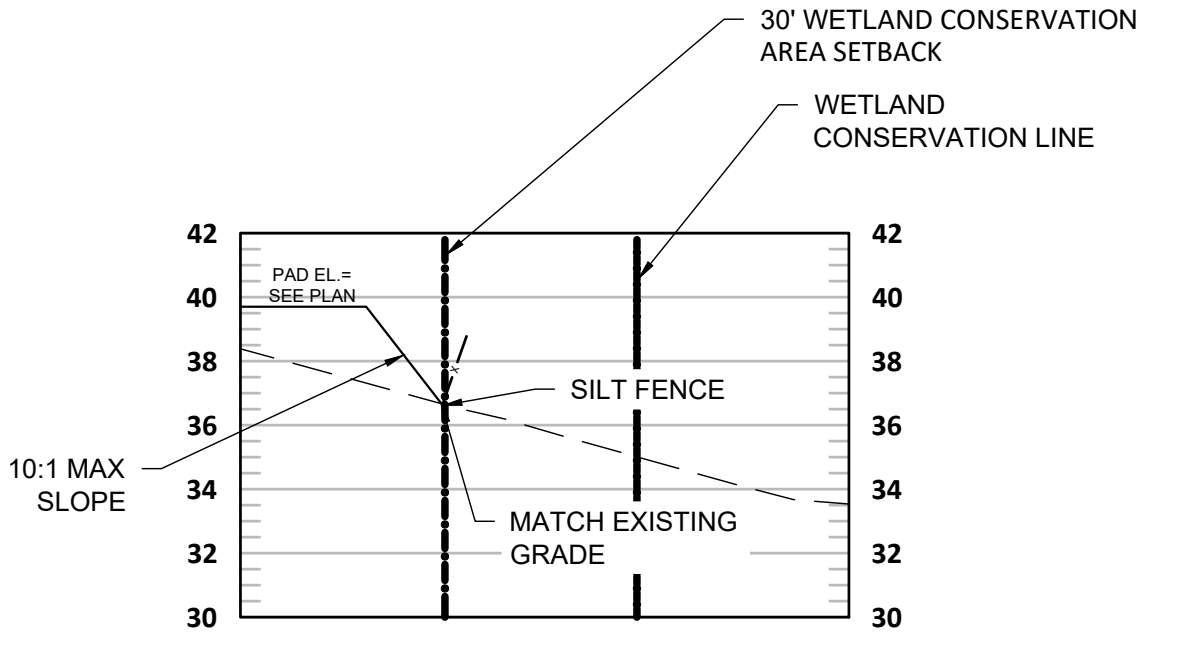


Datum: NAVD 88

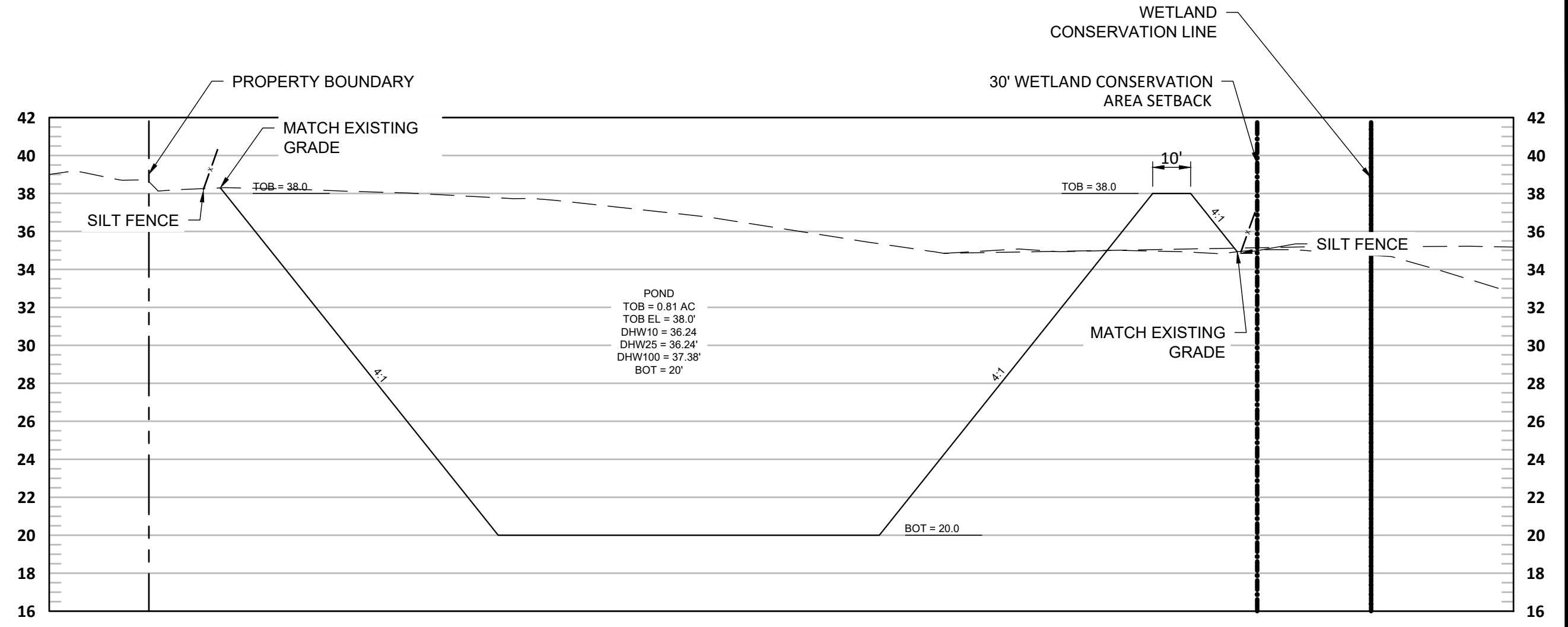
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 2021 WRA



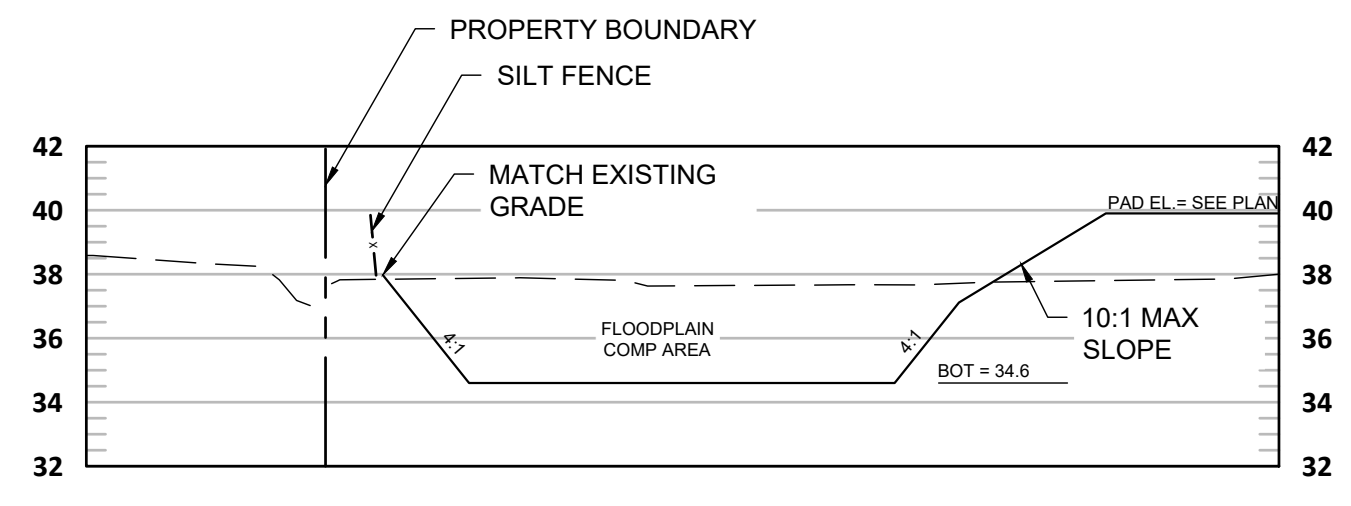
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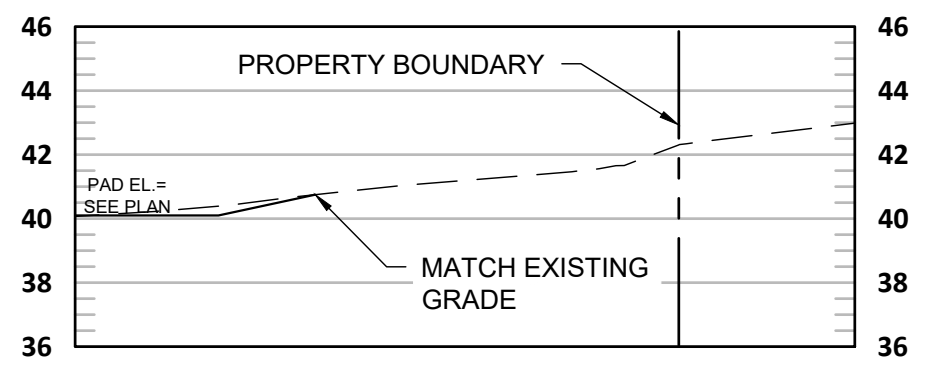
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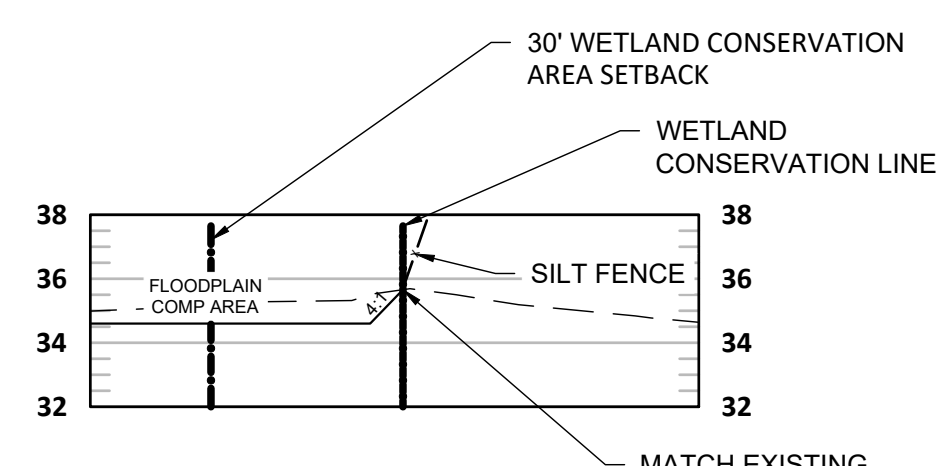
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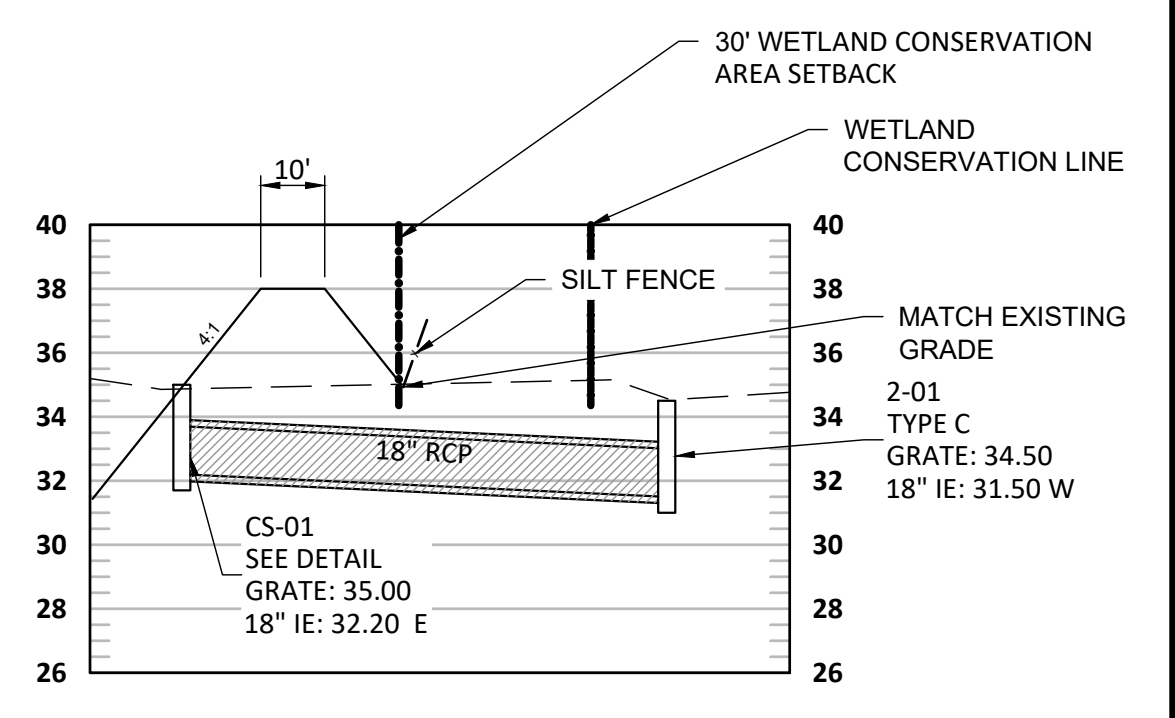
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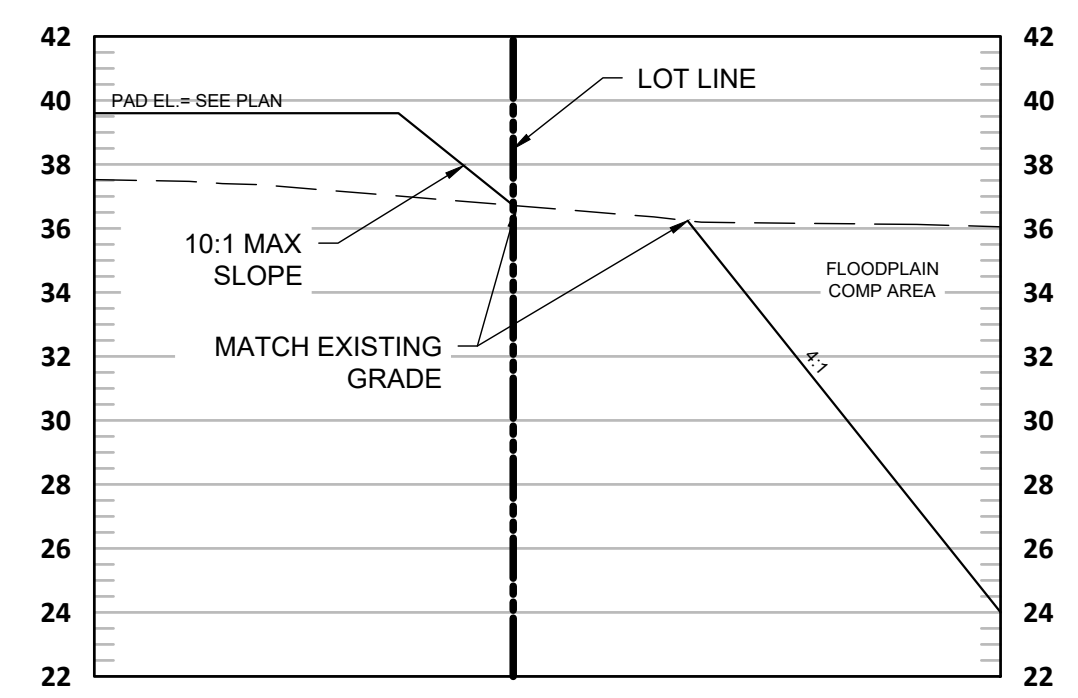
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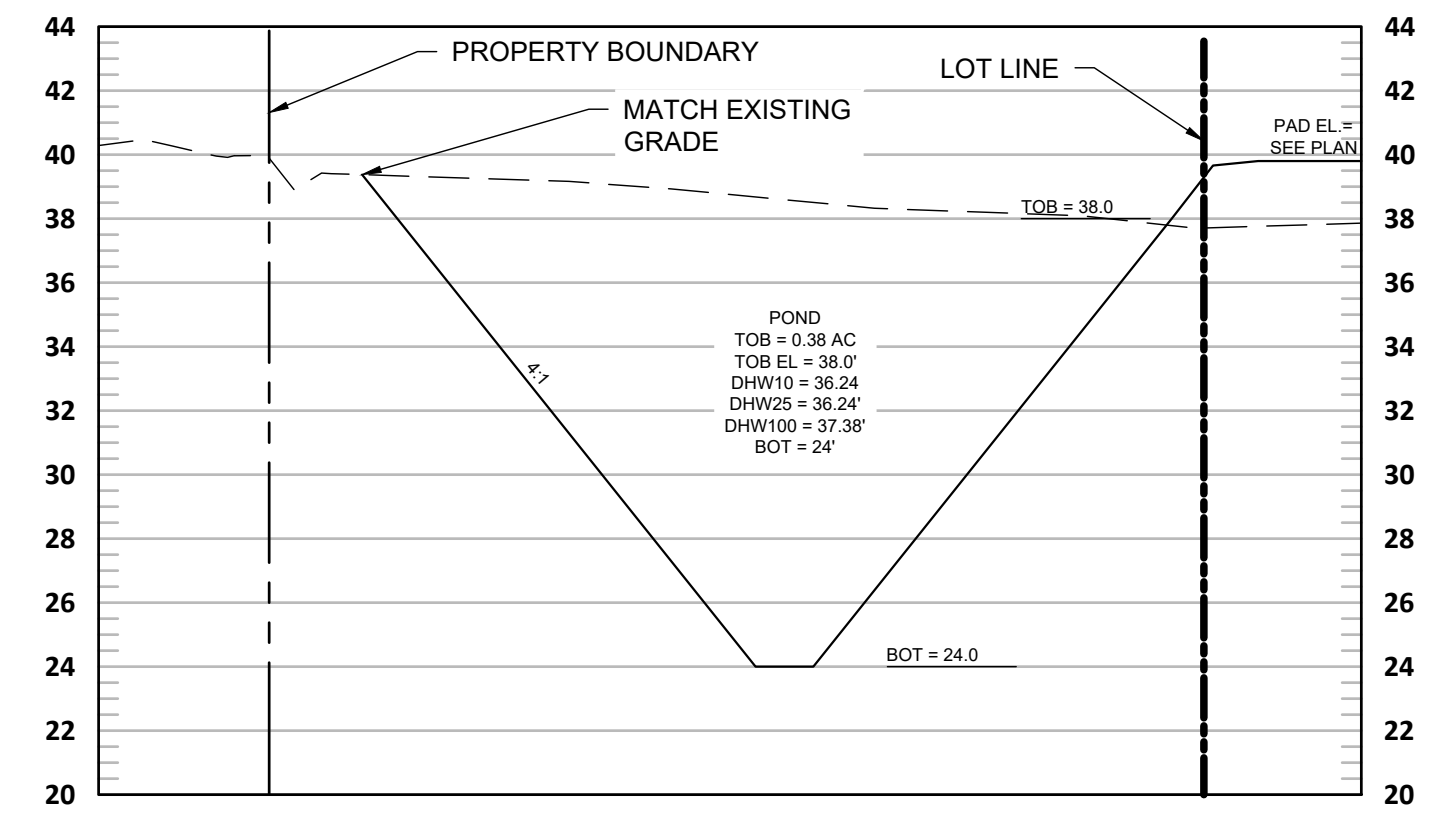
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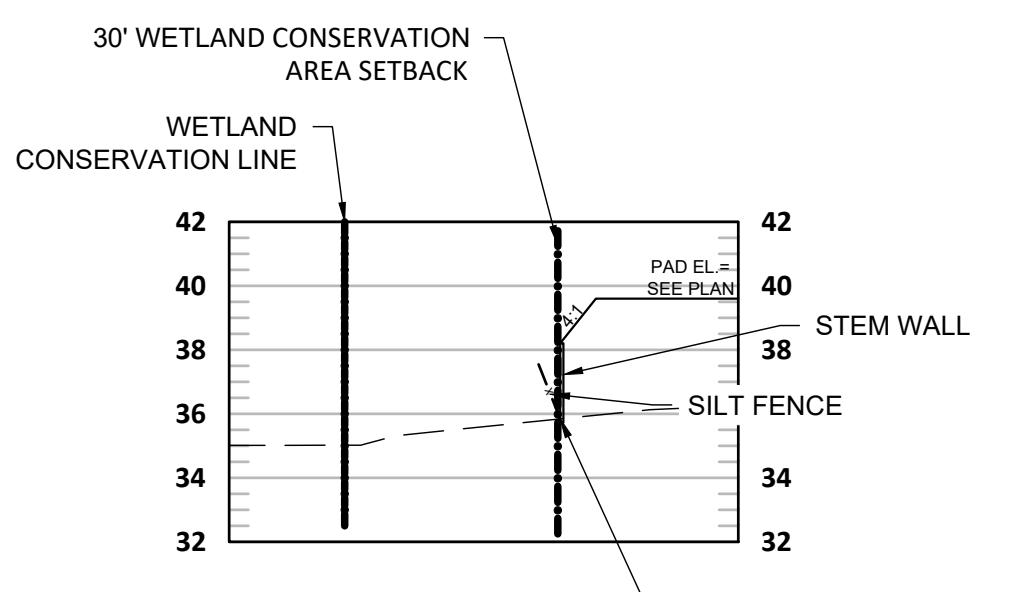
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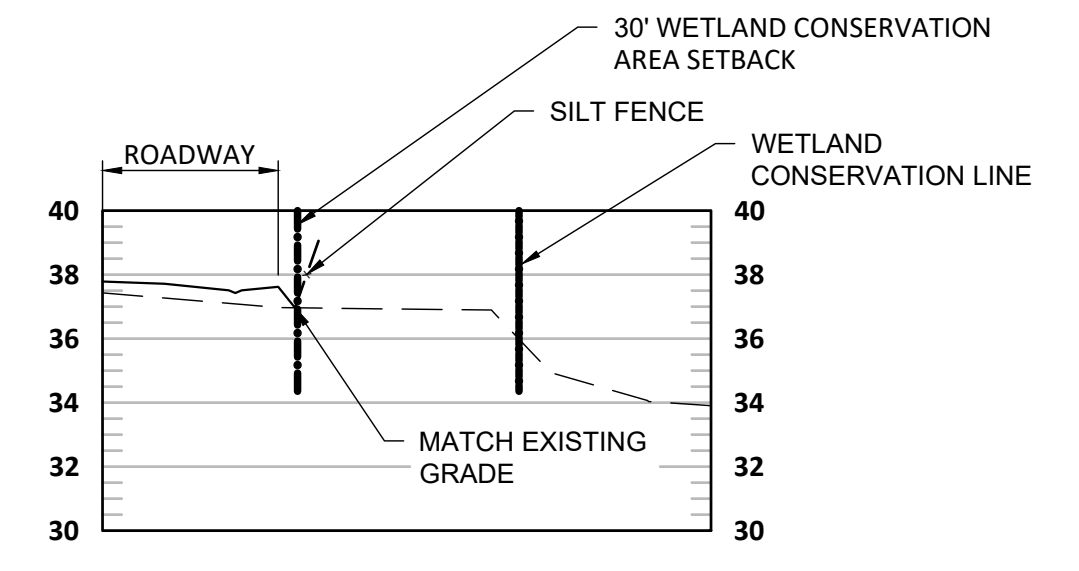
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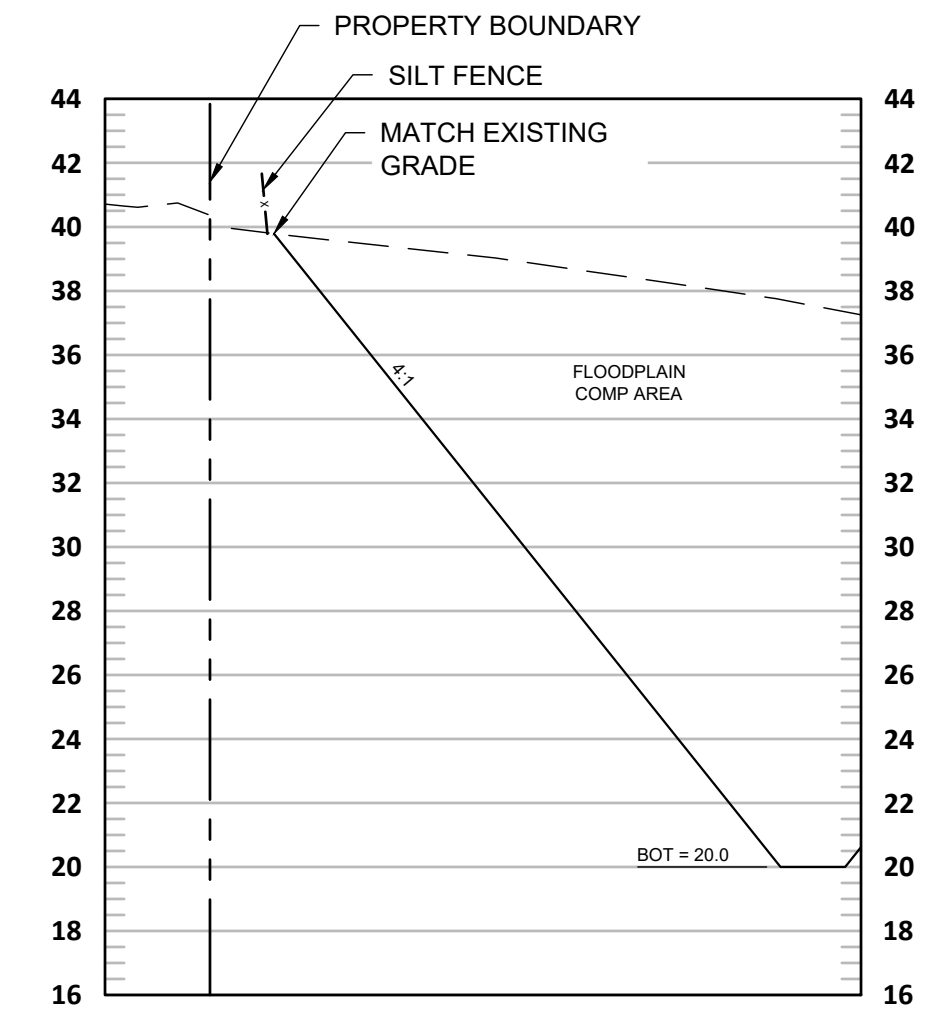
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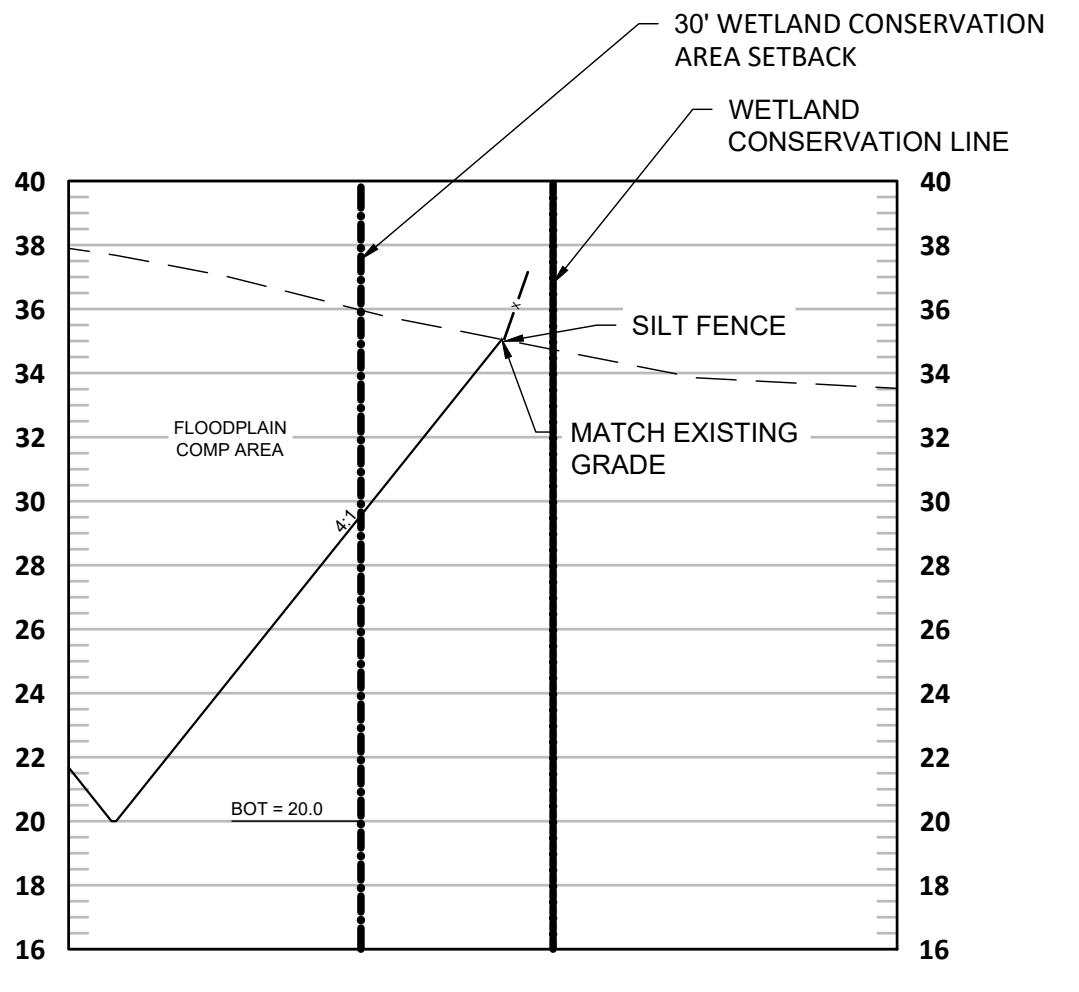
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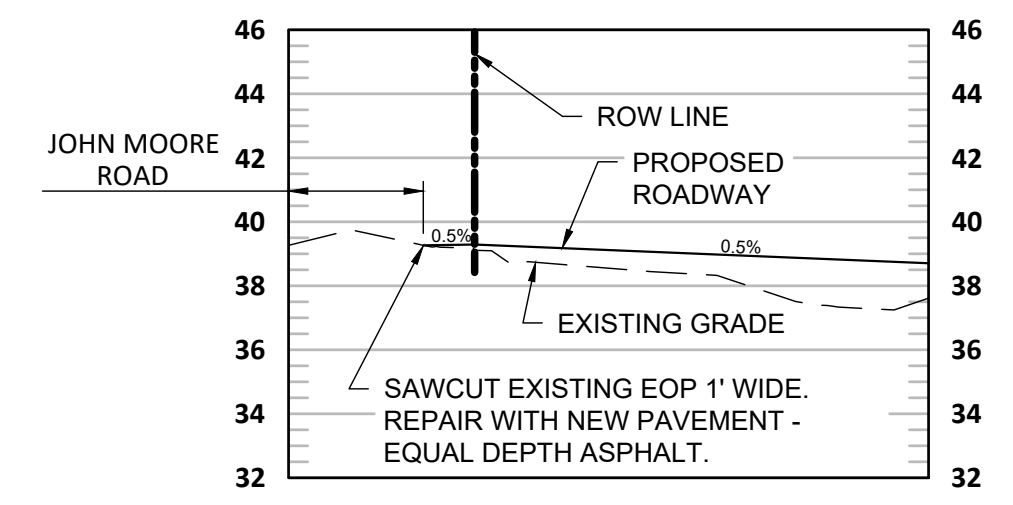
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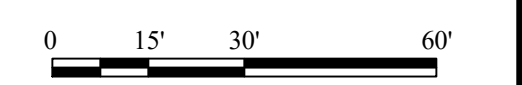
Section 4



Section 5



ENTRANCE PROFILE



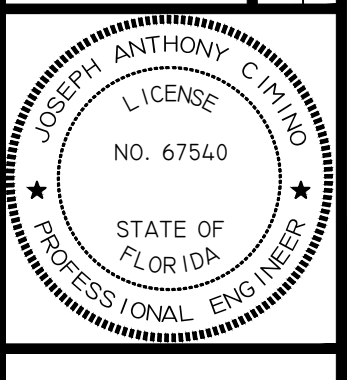
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 HORIZ: 1"=30'  
 VERT: 1"=6'  
 IF SHEET IS LESS THAN 22"X34",  
 USE GRAPHIC SCALE

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3	3/30/21	RESPOND TO COUNTY COMMENTS
2	3/9/21	RESPOND TO SWFWMD COMMENTS
1	2/3/21	RESPOND TO COUNTY COMMENTS

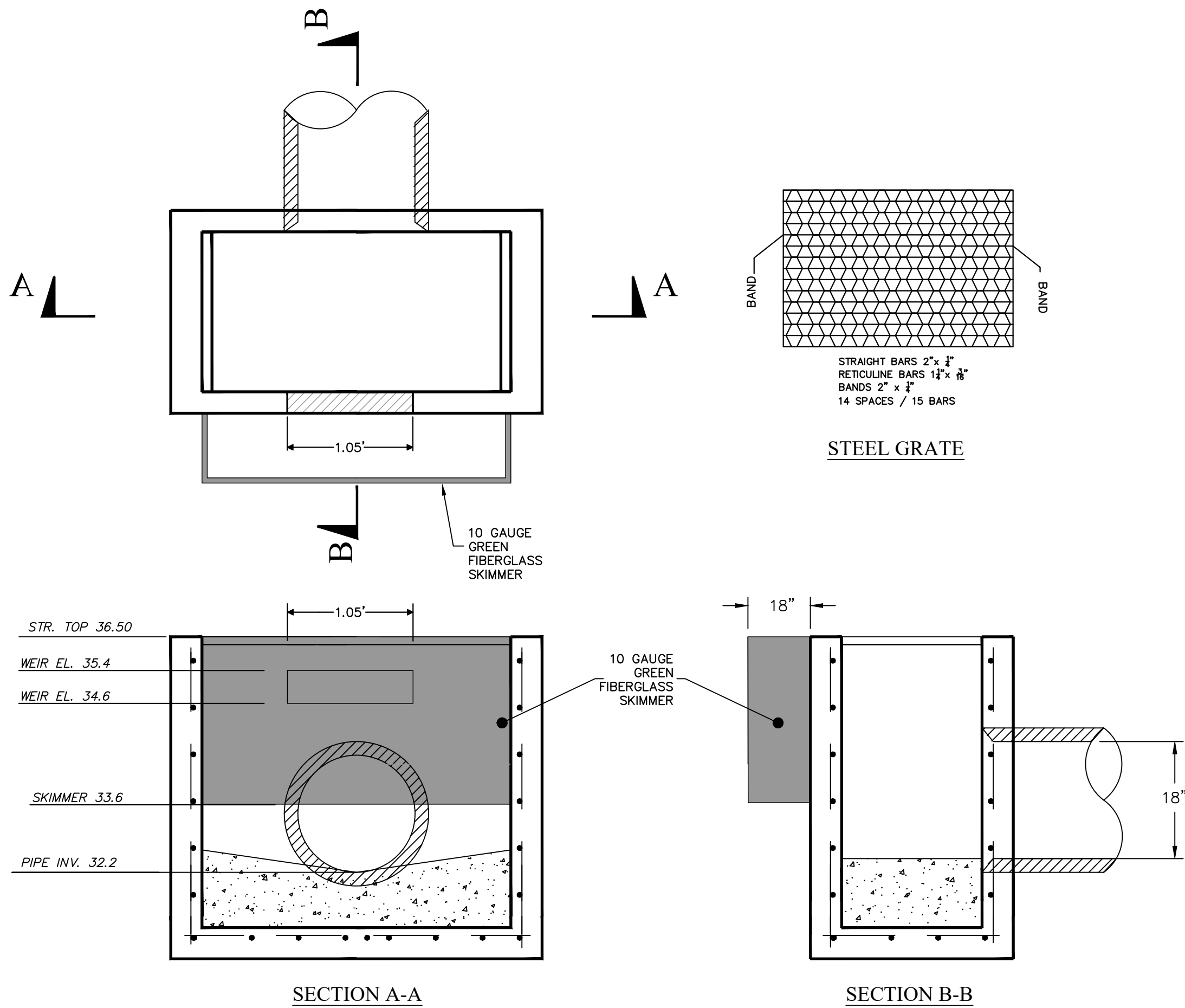
**Engineering ~ Environmental**  
**Water Resource ~ Survey**  
 7918 Cooper Creek Blvd.  
 University Park, Florida 34201  
 4260 W. Lincroft Ave.  
 Tampa, Florida 33624  
 www.wraengineering.com  
 CA 0007652, LB 8274  
 Phone: 813.265.3130 941.275.9721

SECTIONS  
 DESIGNED: JRO DRAWN: JRO APPROVED: JAC

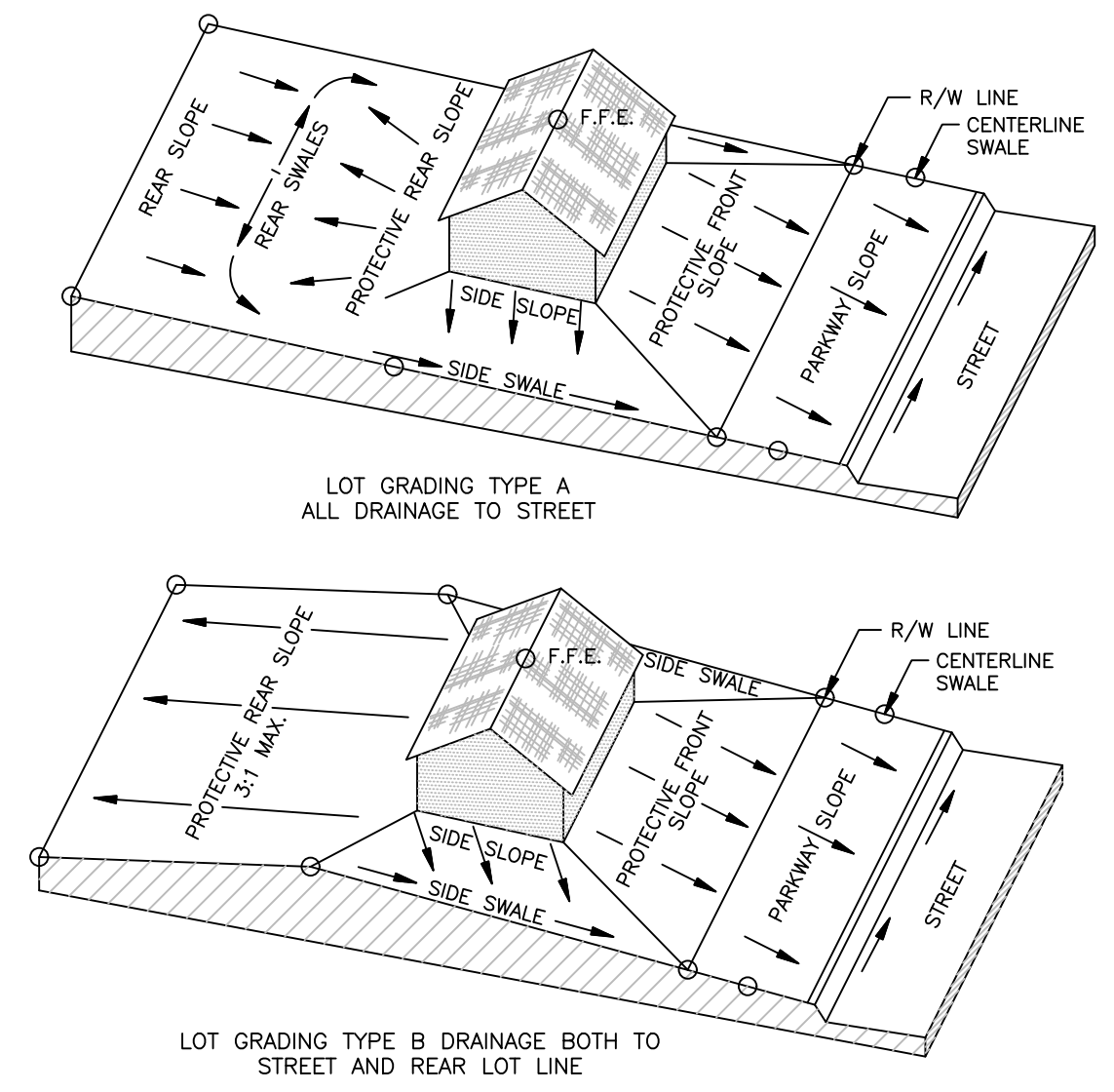
HIDDEN LAKES  
 RESIDENTIAL  
 ISSUED FOR: PERMITTING  
 JOB #1543 SEC: 11 TWIN: 305



2021 WRA  
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**STR CS-01 (TYPE-D)  
CONTROL STRUCTURE DETAIL**  
N.T.S

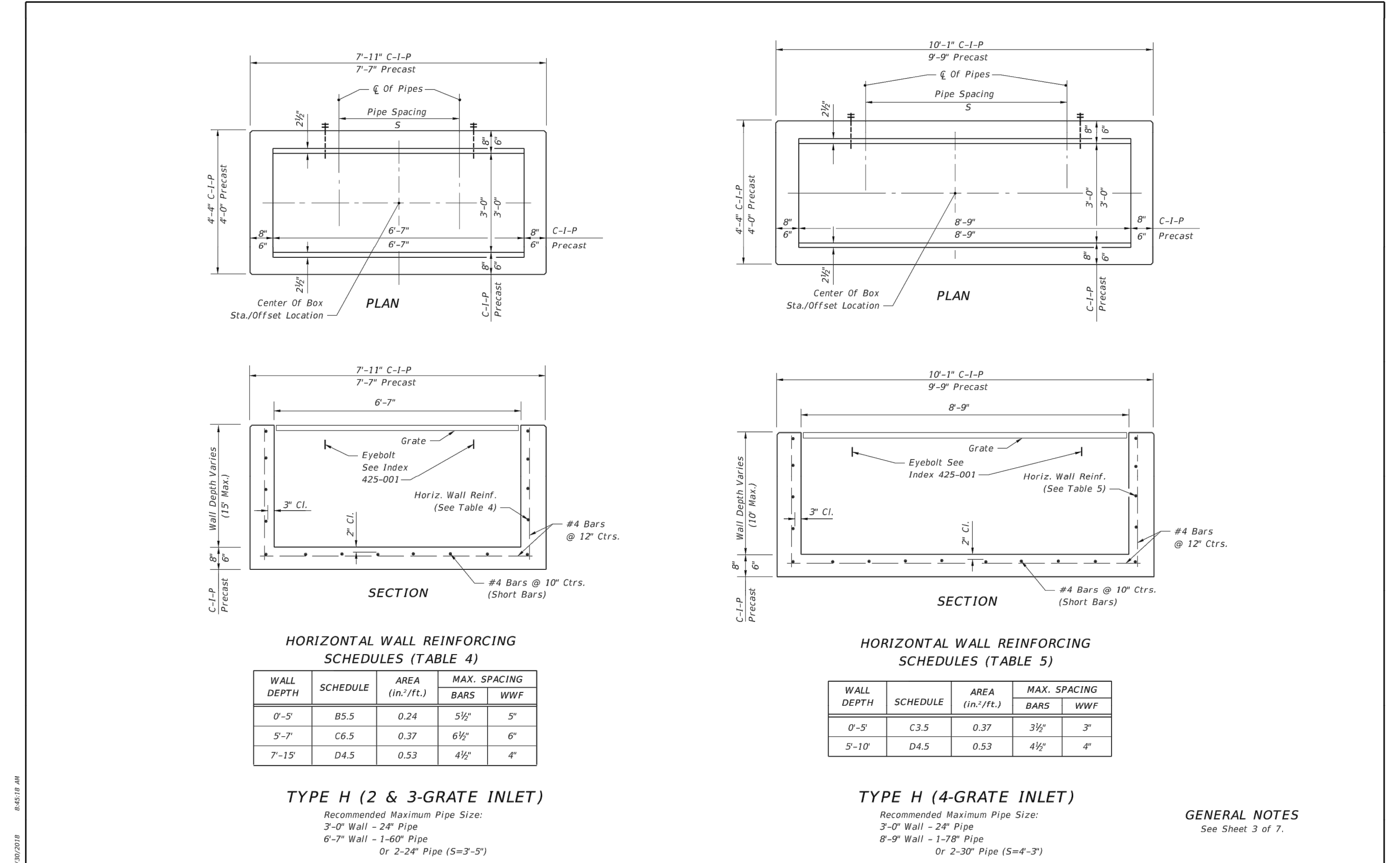
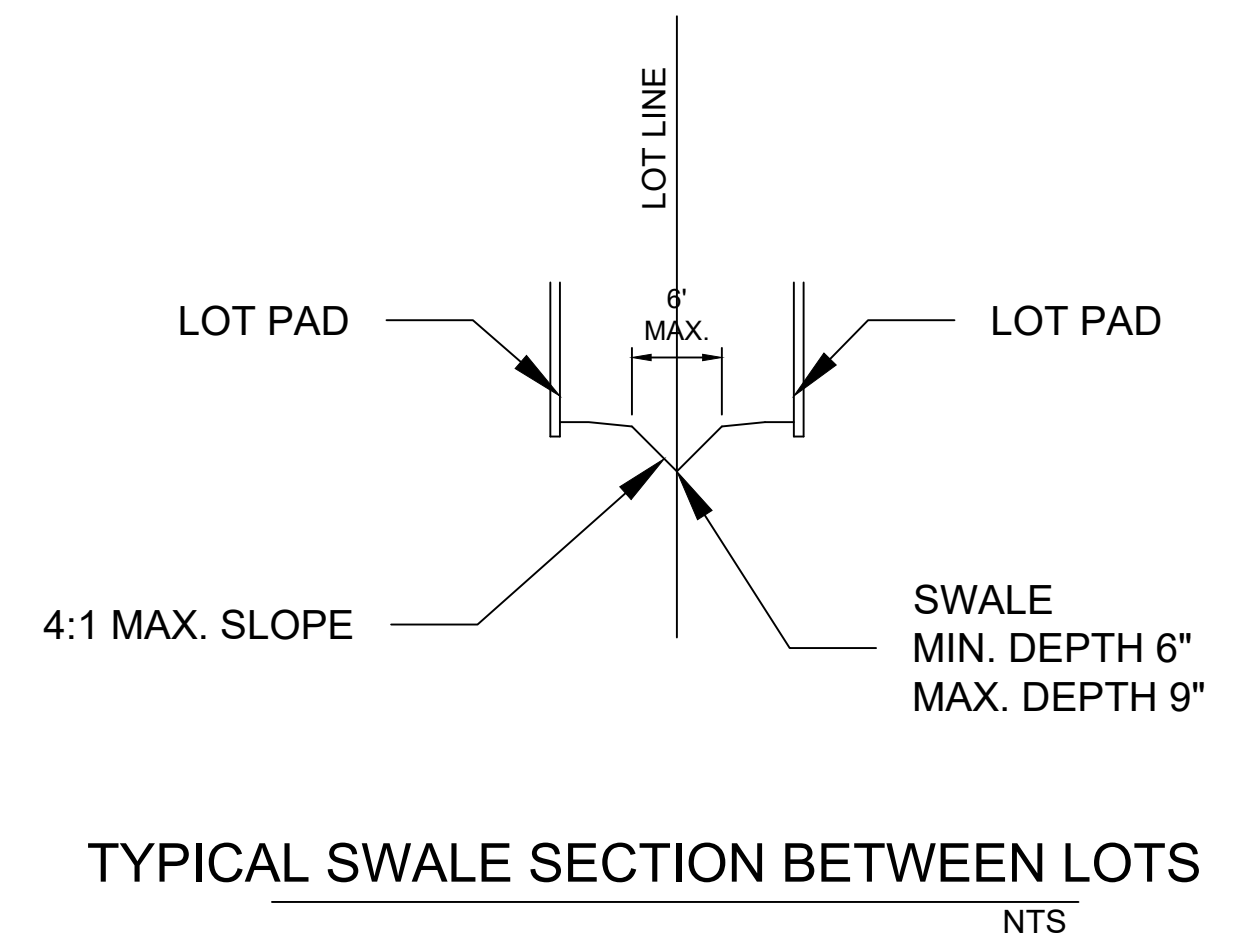


**NOTES:**

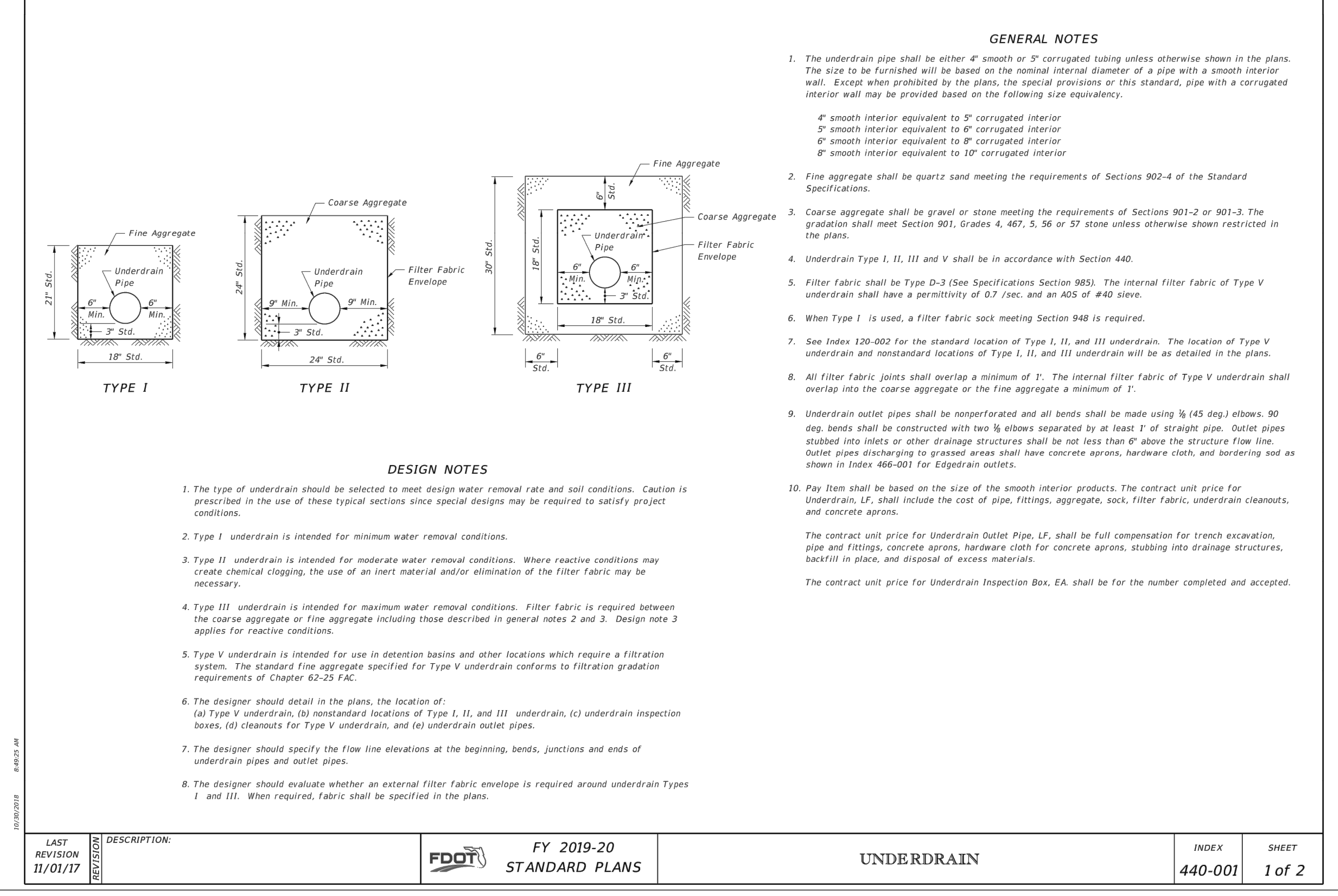
1. FINISH FLOOR ELEVATION TO BE A MIN. 16" ABOVE CENTERLINE OF ROAD GRADE AND BE AT A MIN 1 FT ABOVE THE 100 YEAR FLOOD PLAIN.
2. FINISH FLOOR ELEVATIONS OF ADJACENT STRUCTURES, IF EXISTING, SHALL BE PROVIDED.
3. ELEVATION OF SWALE AT CENTERLINE AT EACH PROPERTY LINE PROJECTION AND BOTH CULVERT INVERTS, IF EXISTING, SHALL BE PROVIDED.
4. ALL ROOF RUNOFF SHALL BE DIVERTED TOWARDS STREET AND/OR STORMWATER AREAS.

**TYPICAL LOT GRADING DETAIL**  
NOT TO SCALE

○ ELEVATION REQUIRED  
F.F.E. FINISH FLOOR ELEVATION



LAST REVISION 11/01/17	DESCRIPTION:	FDOT FY 2019-20 STANDARD PLANS	INDEX 425-052	SHEET 2 of 7
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LAST REVISION 11/01/17	DESCRIPTION:	FDOT FY 2019-20 STANDARD PLANS	INDEX 440-001	SHEET 1 of 2
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REVISIONS		Engineering ~ Environmental Water Resource ~ Survey	
6		RESPOND TO COUNTY COMMENTS	7/29/21
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4		RESPOND TO COUNTY COMMENTS	3/30/21
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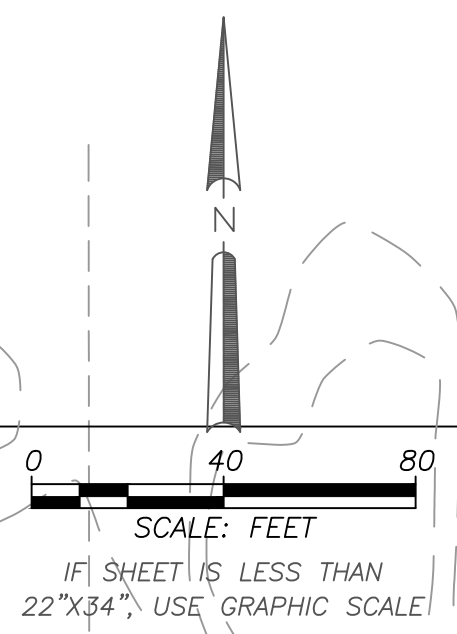
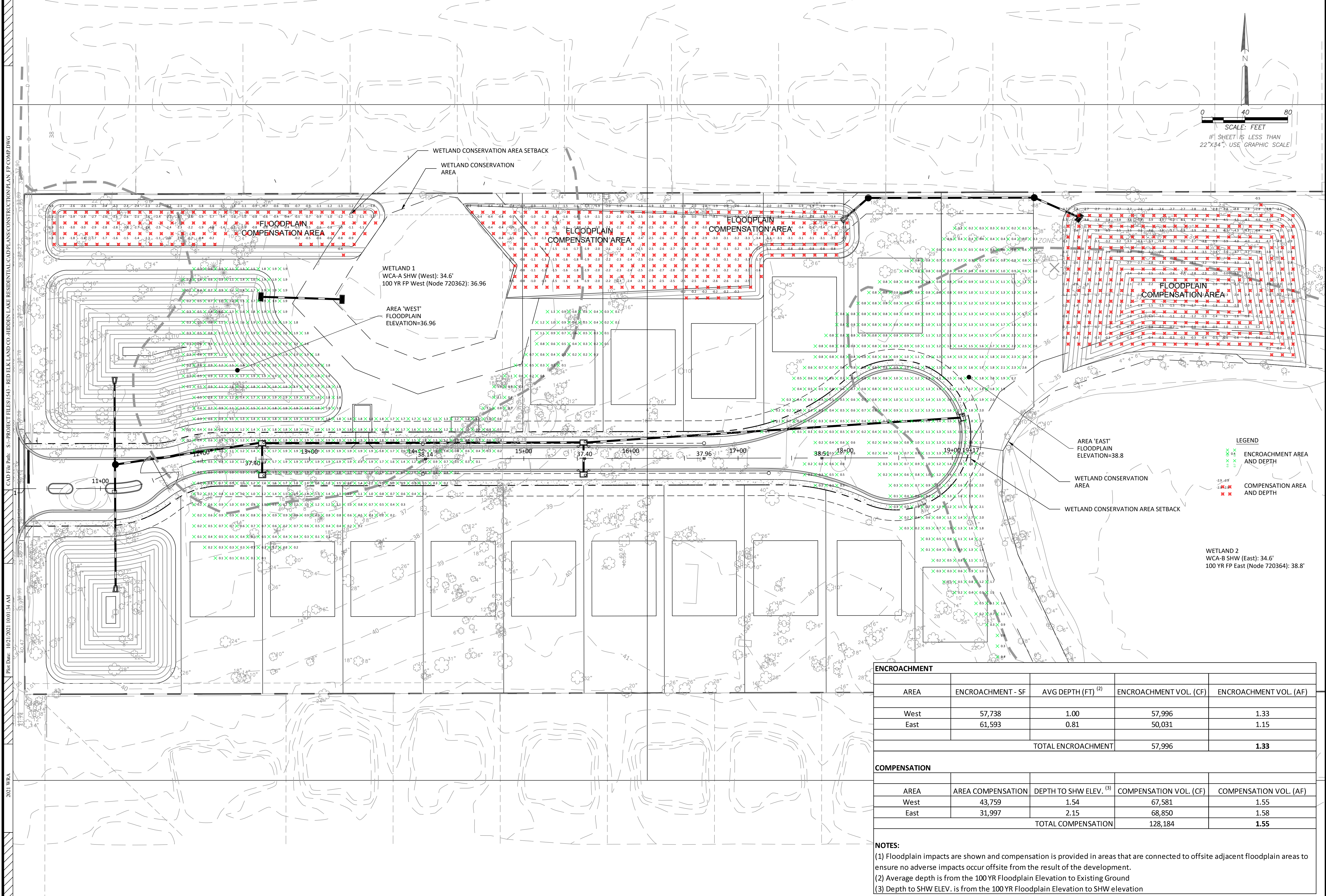
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**WRA**  
 7918 Cooper Creek Blvd  
 University Park, Florida 34701  
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DRAINAGE DETAILS  
 HIDDEN LAKES RESIDENTIAL  
 ISSUED FOR: PERMITTING  
 JOB #1543  
 SEC. 11  
 TWIN-305  
 RNG-20E  
 DESIGNED: JRO  
 DRAWN: JRO  
 APPROVED: JAC

STATE OF FLORIDA  
 PROFESSIONAL ENGINEER  
 LICENSE NO. 67540  
 JOSEPH ANTHONY C. PERDUE

Datum: NAVD 88  
 304



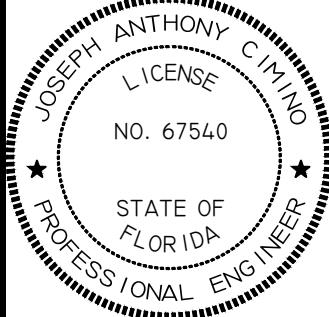
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1	2/3/21	RESPOND TO COUNTY COMMENTS

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Water Resource ~ Survey  
7908 Corner Creek Blvd  
University Park, Florida 34201  
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Phone: 813.265.3130 941.275.9721



FLOOD PLAN  
COMPENSATION PLAN

HIDDEN LAKES  
RESIDENTIAL  
ISSUED FOR: PERMITTING  
JOB #1543  
SEC. 11  
TWN-30S  
RNG-20E  
DESIGNED: JRO. DRAWN: JRO. APPROVED: JAC



Datum: NAVD 88

LEGEND

	ENCROACHMENT AREA AND DEPTH
	COMPENSATION AREA AND DEPTH

ENCROACHMENT				
AREA	ENCROACHMENT - SF	AVG DEPTH (FT) <sup>(2)</sup>	ENCROACHMENT VOL. (CF)	ENCROACHMENT VOL. (AF)
West	57,738	1.00	57,996	1.33
East	61,593	0.81	50,031	1.15
TOTAL ENCROACHMENT			57,996	1.33
COMPENSATION				
AREA	AREA COMPENSATION	DEPTH TO SHW ELEV. <sup>(3)</sup>	COMPENSATION VOL. (CF)	COMPENSATION VOL. (AF)
West	43,759	1.54	67,581	1.55
East	31,997	2.15	68,850	1.58
TOTAL COMPENSATION			128,184	1.55

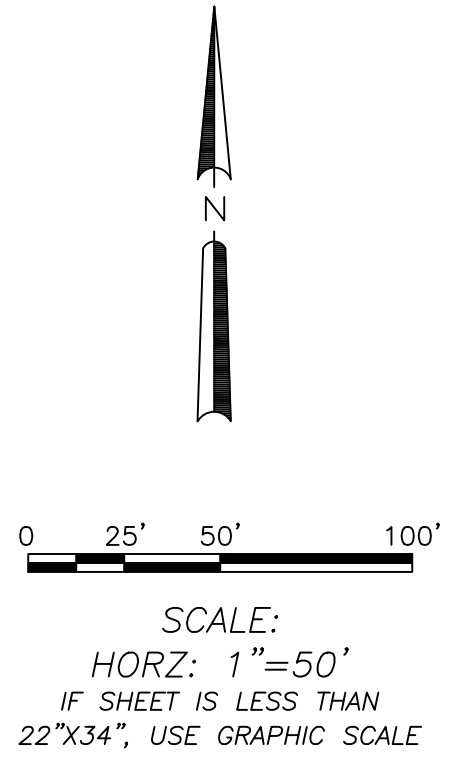
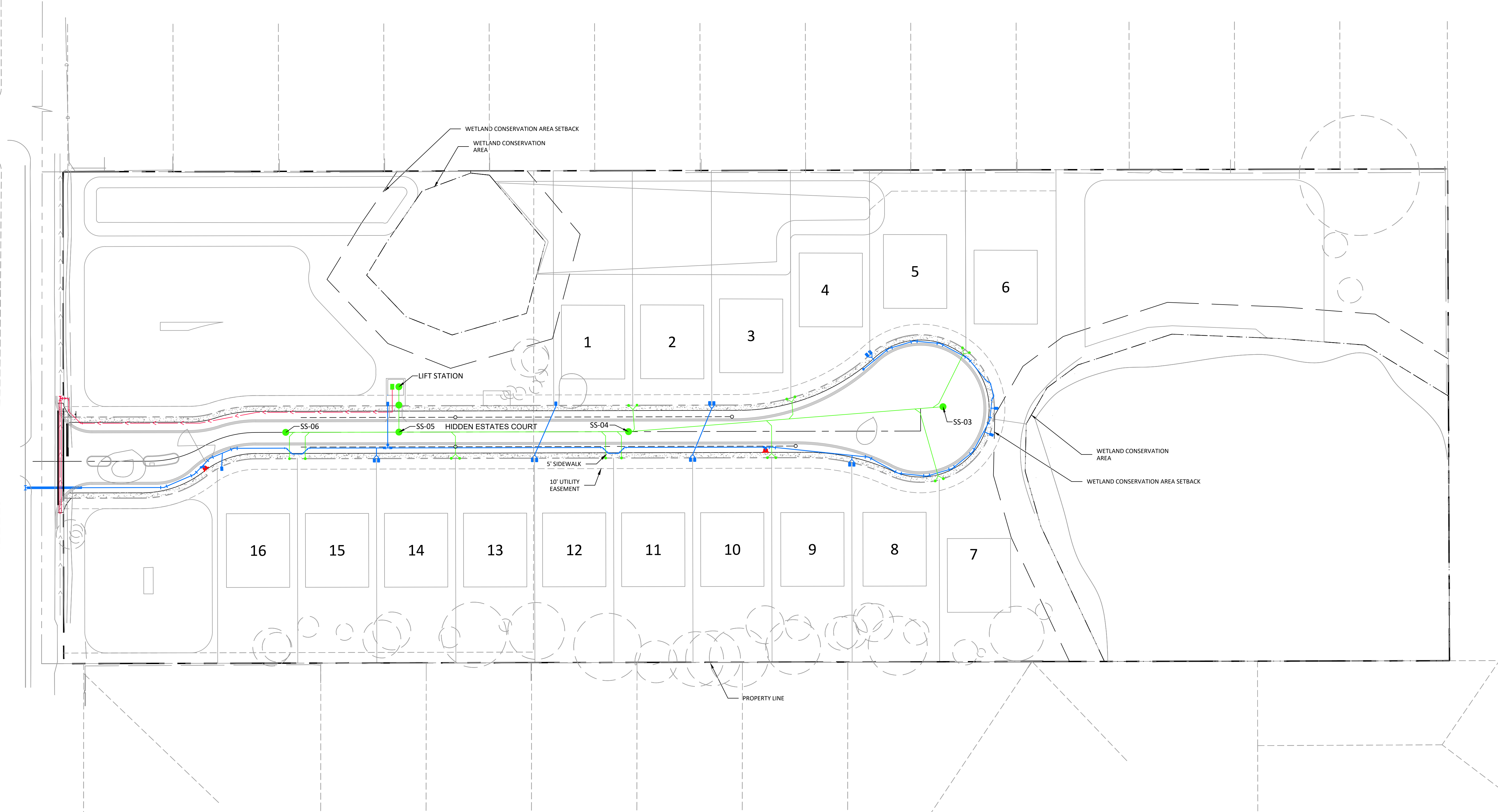
NOTES:  
(1) Floodplain impacts are shown and compensation is provided in areas that are connected to offsite adjacent floodplain areas to ensure no adverse impacts occur offsite from the result of the development.  
(2) Average depth is from the 100 YR Floodplain Elevation to Existing Ground  
(3) Depth to SHW ELEV. is from the 100 YR Floodplain Elevation to SHW elevation

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2021 WRA

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2020 WRA

Plot Date: 10/21/2021 10:02:00 AM



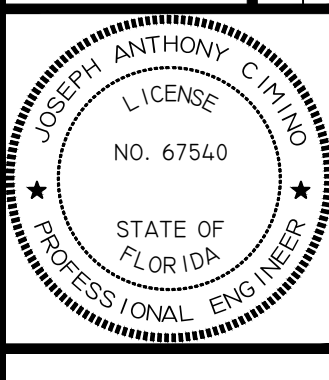
REVISIONS	
NO.	DATE
6	
5	
4	7/29/21
3	3/30/21
2	3/9/21
1	2/3/21

Engineering ~ Environmental  
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 7978 Cooper Creek Blvd  
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 4260 W. Lincoburg Ave  
 Tampa, Florida 33624  
 www.wraengineering.com  
 CA 0007652 LB 8274  
 Phone: 813.265.3130 941.275.9721



OVERALL UTILITY PLAN

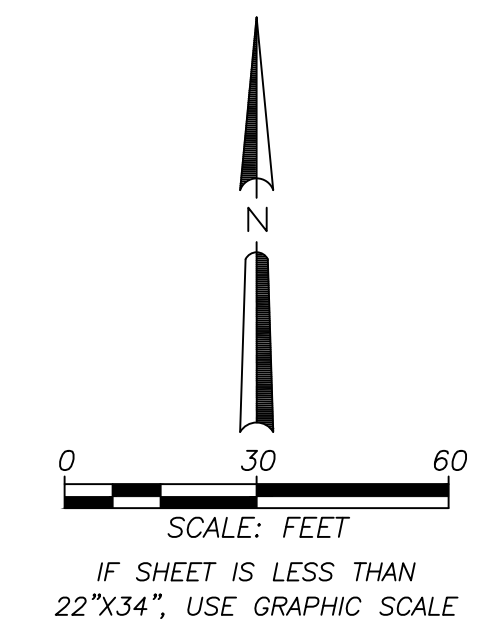
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 RESIDENTIAL  
 ISSUED FOR: PERMITTING  
 JOB #1543 SEC. 11 TWIN-305  
 RNG-20E DESIGNED:PRO. DRAWN:PRO. APPROVED:JAC



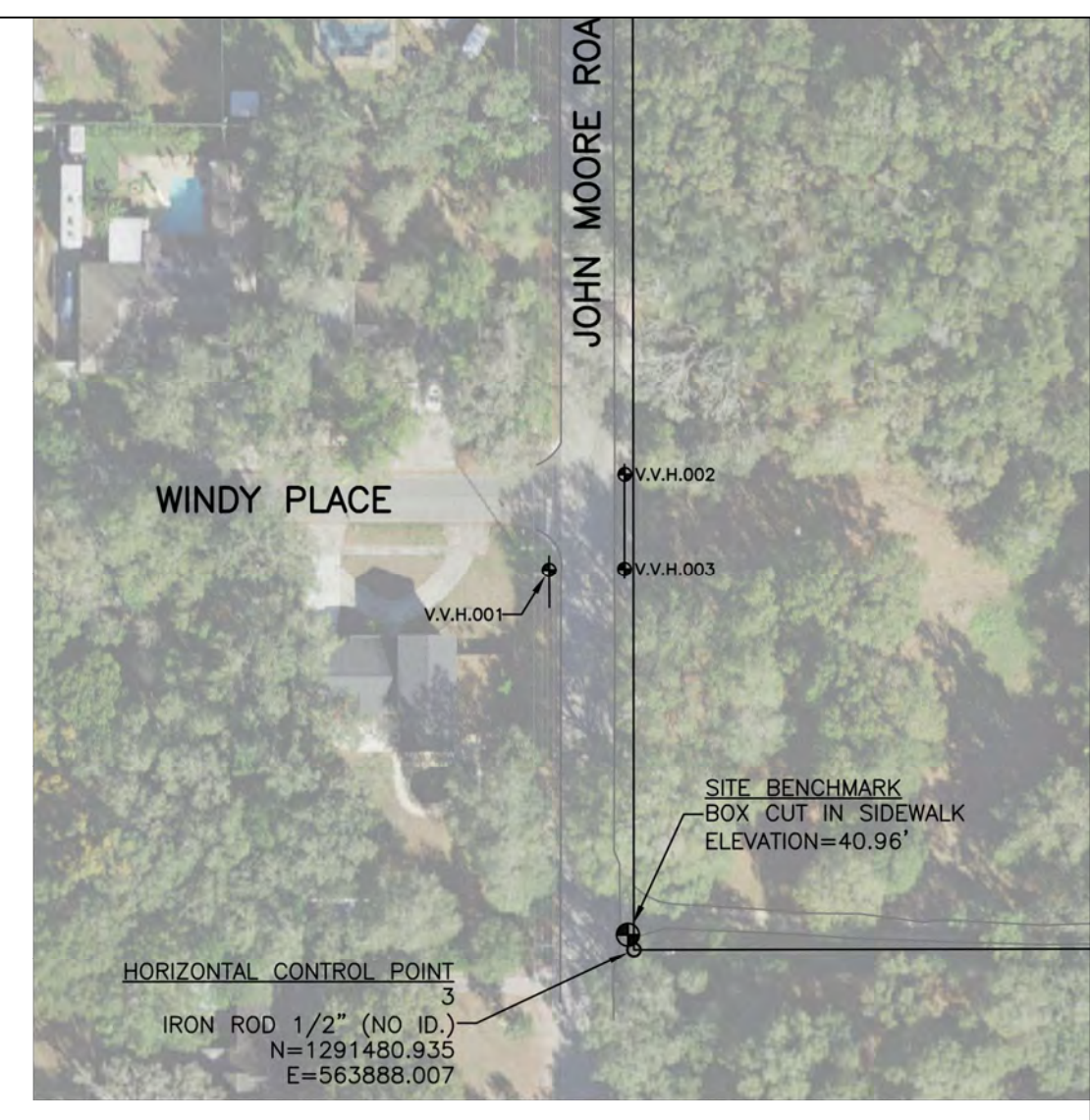
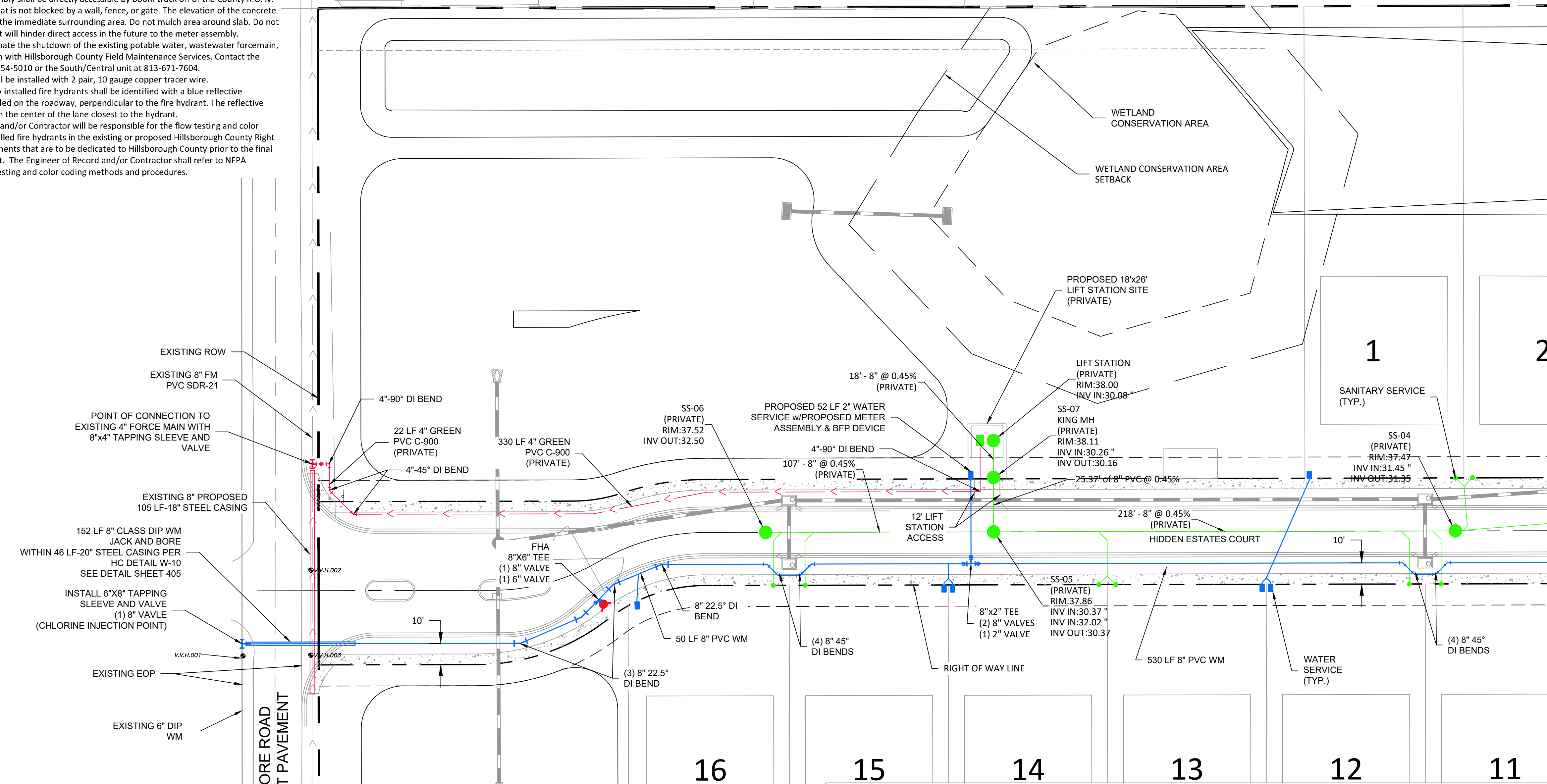
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**UTILITY NOTES**

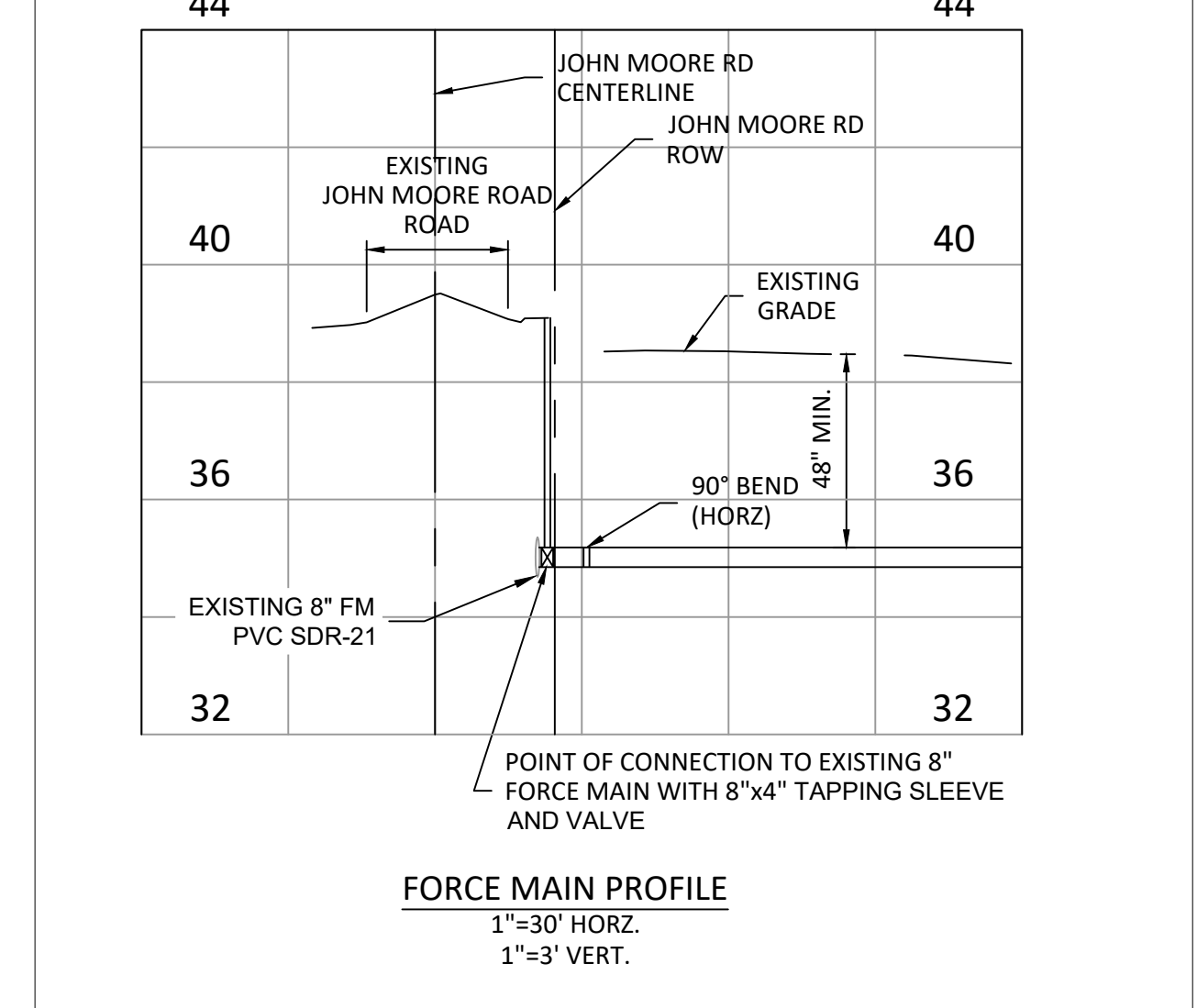
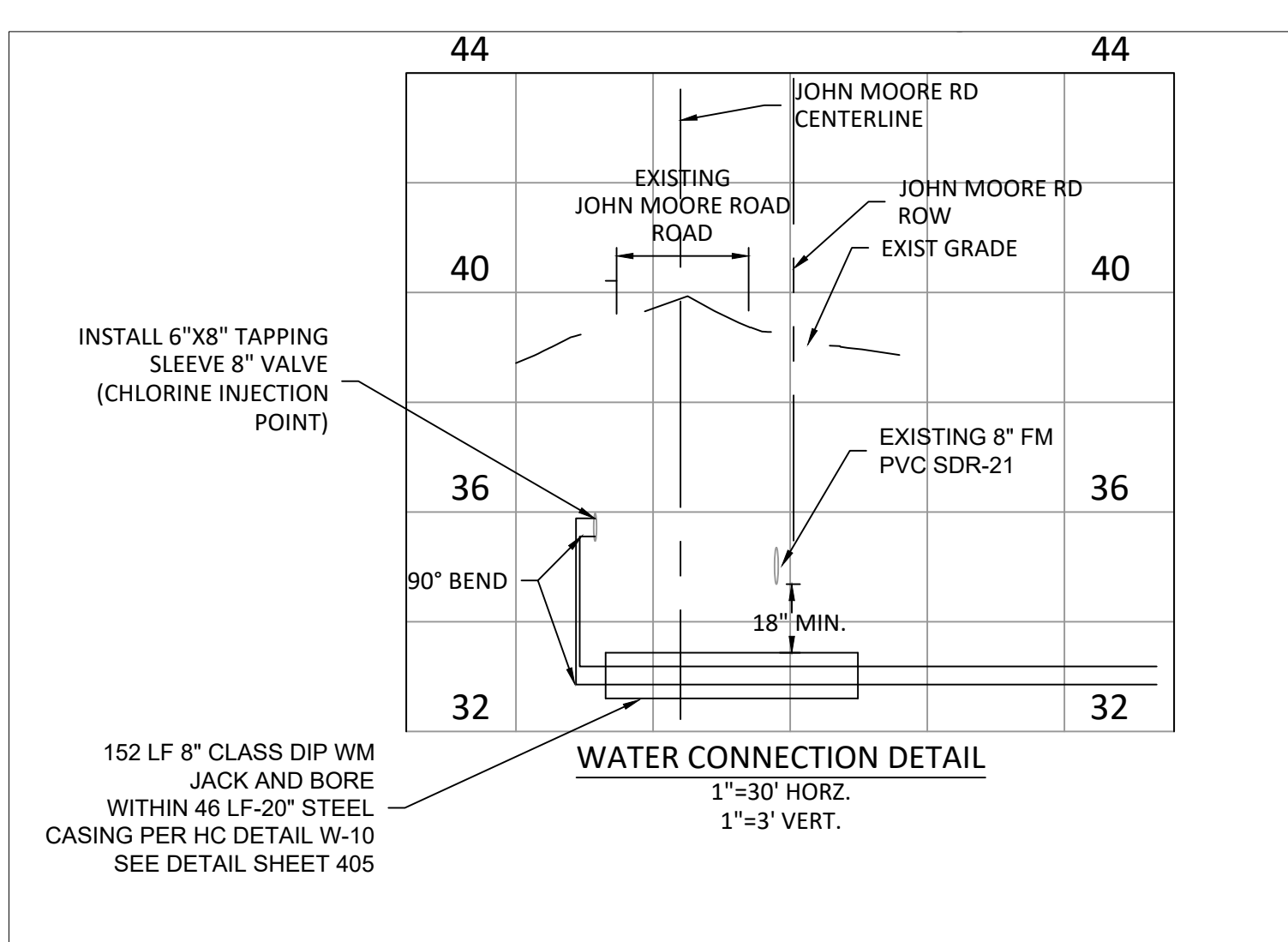
- a) The contractor/Engineer of Record shall contact the Hillsborough County Public Utility Dept. Inspection section and line maintenance to set up the pre-construction meeting. Contact Matt Ciofalo @ 272-5977 ext. 43534 for inspections and the south/central line maintenance unit at 671-7604 or the northwest line maintenance unit at 554-5010.
- b) All elevations reference the North American Vertical Datum of 1988 (NAVD 88).
- c) Contractor to expose water main and furnish tapping sleeve and valve for water meter tap and install 2" polyethylene (P.E.) water service line from main to meter. Hillsborough County Public Utilities will perform the tapping operation.
- d) Contractor to coordinate with Ken Williams for South/Central @ 813-671-7604, or Victor LeBron for Northwest @ 813-554-5010 of the Hillsborough County Public Utilities Dept. prior to the selection and ordering of the water meter and/or backflow prevention device assemblies.
- e) The master meter assembly shall be directly accessible by boom truck off of the County R.O.W. or by an interior road that is not blocked by a wall, fence, or gate. The elevation of the concrete slab will be higher than the immediate surrounding area. Do not mulch area around slab. Do not plant any landscape that will hinder direct access in the future to the meter assembly.
- f) Contractor must coordinate the shutdown of the existing potable water, wastewater forcemain, or reclaimed water main with Hillsborough County Field Maintenance Services. Contact the Northwest unit at 813-554-5010 or the South/Central unit at 813-671-7604.
- g) All non-metallic pipe will be installed with 2 pair, 10 gauge copper tracer wire.
- h) The location of all newly installed fire hydrants shall be identified with a blue reflective pavement marker installed on the roadway, perpendicular to the fire hydrant. The reflective marker will be located in the center of the lane closest to the hydrant.
- i) The Engineer of Record and/or Contractor will be responsible for the flow testing and color coding of all newly installed fire hydrants in the existing or proposed Hillsborough County Right of Way and utility easements that are to be dedicated to Hillsborough County prior to the final inspection of the project. The Engineer of Record and/or Contractor shall refer to NFPA Standard 291 for flow testing and color coding methods and procedures.



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 2021 WRA



REFERENCE POINT #	V.V.H. DESIGNATION	REFERENCE POINT ELEVATION	DEPTH TO TOP OF UTILITY	ELEVATION OF TOP OF UTILITY	UTILITY DESCRIPTION
50002	V.V.H.001	39.51'	3.54	35.97'	TOP OF 6" DUCTILE IRON WATER MAIN
50000	V.V.H.002	39.10'	3.76	35.34'	TOP OF 8" P.V.C. FORCE MAIN
50001	V.V.H.003	39.26'	3.38	35.88'	TOP OF 8" P.V.C. FORCE MAIN



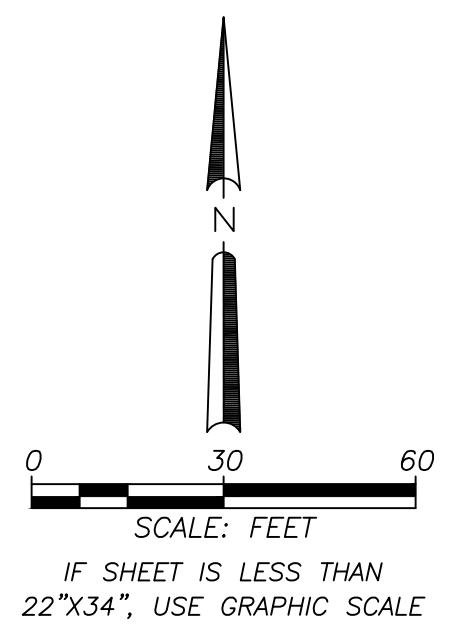
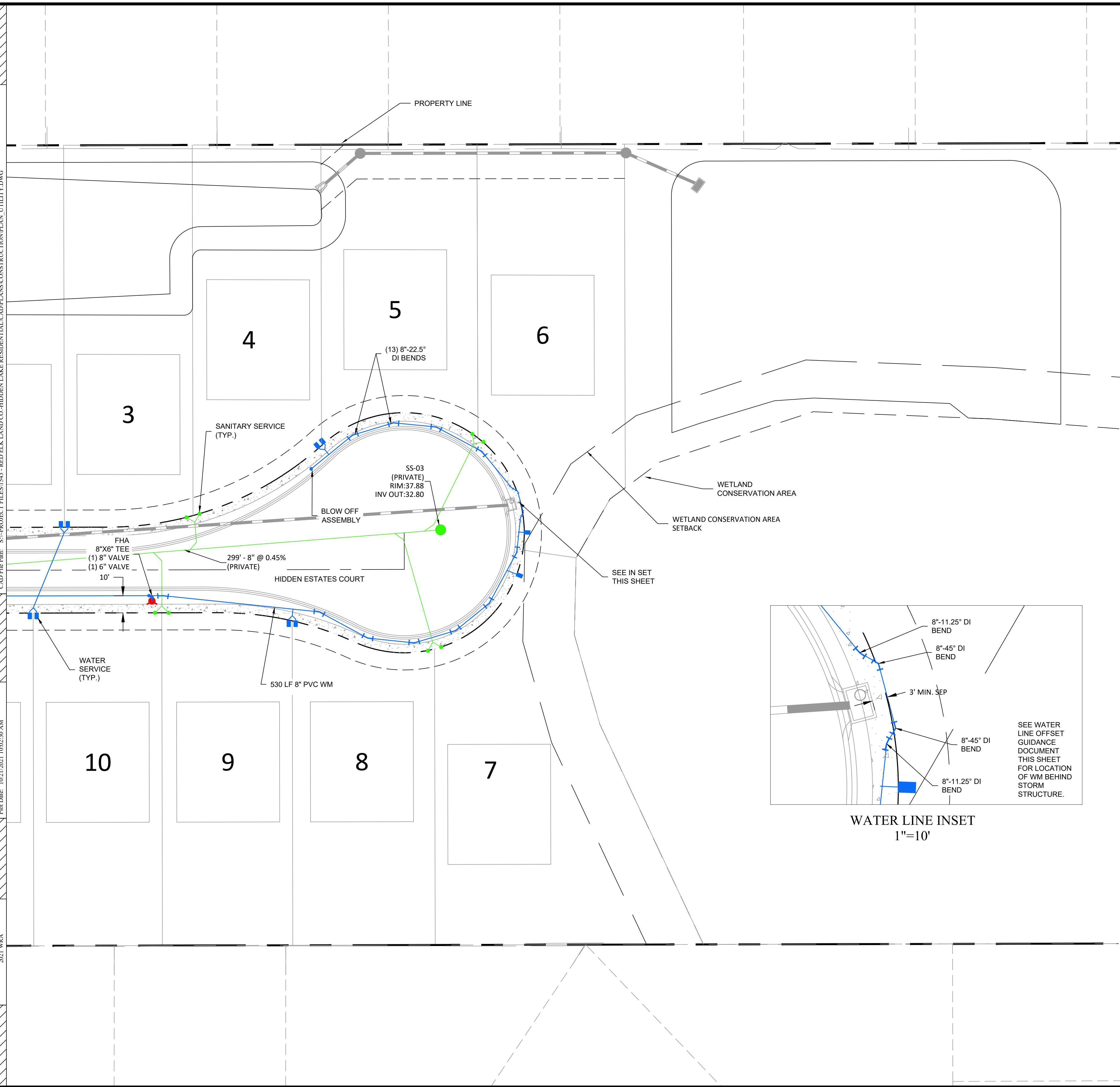
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4	7/20/21	RESPOND TO COUNTY COMMENTS
3	3/30/21	RESPOND TO COUNTY COMMENTS
2	3/9/21	RESPOND TO SWFWD COMMENTS
1	2/3/21	RESPOND TO COUNTY COMMENTS

**Engineering ~ Environmental**  
**Water Resource ~ Survey**  
 4260 W. Lincoburg Ave.  
 Tampa, Florida 33624  
 www.wraengineering.com  
 CA 00070652, LB 8274  
 Phone: 813.265.3130 941.275.9721

UTILITY PLAN  
 HIDDEN LAKES RESIDENTIAL  
 ISSUED FOR: PERMITTING  
 JOB #1543 SEC. 11 TOWN-305  
 RNS-20E DESIGNED: JRO DRAWN: JRO APPROVED: JAC

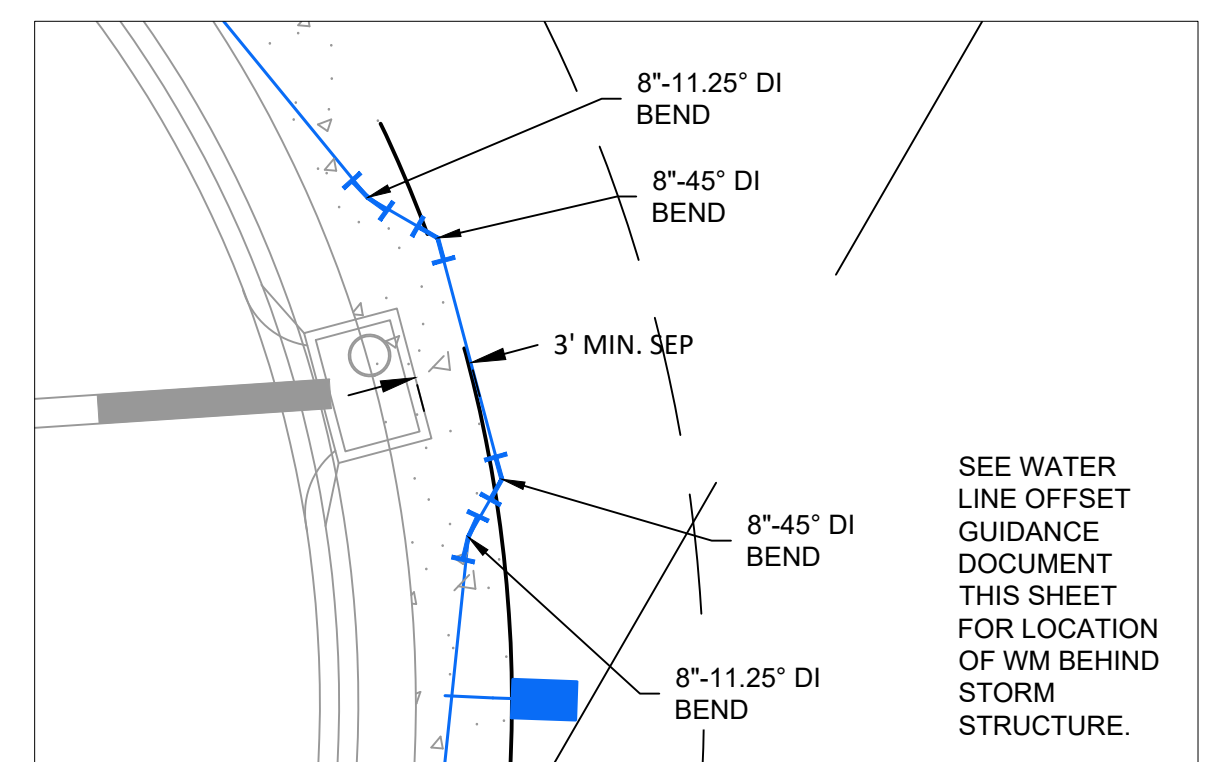
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 Datum: NAVD 88  
**401**

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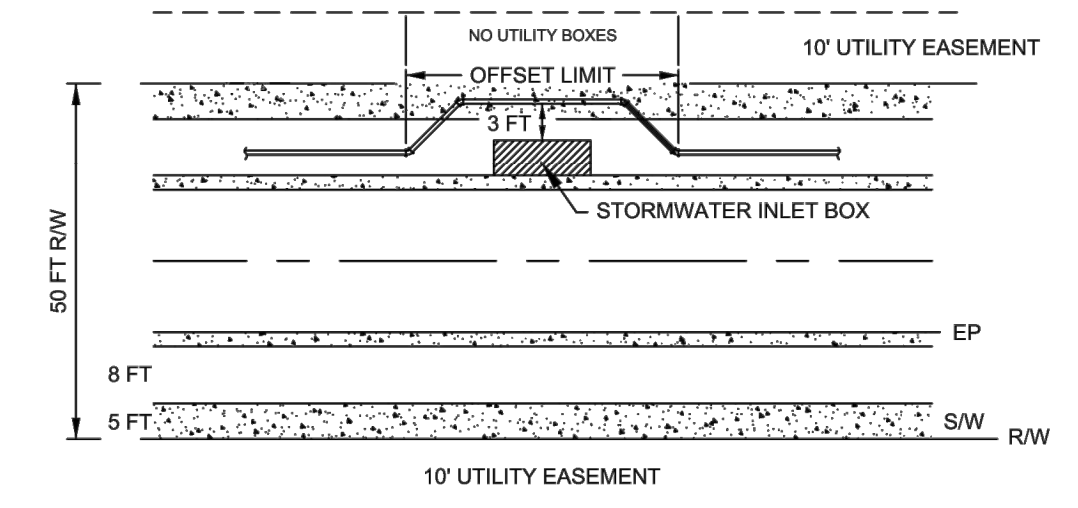


**UTILITY NOTES**

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**WATER LINE INSET**  
1"=10'



**NOTES:**

1. WATER LINE WITHIN OFFSET LIMIT IS DUCTILE IRON PIPE.
2. MAINTAIN AT LEAST THREE FEET OF CLEARANCE BETWEEN STORMWATER INLET BOX AND OUTSIDE FACE OF WATER LINE.
3. NO UTILITY BOXES WITHIN THE 10-FOOT UTILITY EASEMENT BEHIND THE OFFSET.
4. CENTER OFFSET ON STORMWATER INLET BOX. NO PIPE JOINTS OTHER THAN THE FOUR 45-DEGREE FITTINGS.
5. RESTRAIN ALL OFFSET FITTINGS AND ANY PIPE JOINTS WITHIN 10 FEET EITHER SIDE OF THE OFFSET.
6. NO WATER SERVICE TAPS WITHIN THE OFFSET. IF NEEDED, USE SINGLE SERVICE LATERALS AND SINGLE WATER SERVICES EITHER SIDE OF THE STORM INLET.

**WATER LINE OFFSET GUIDANCE DOCUMENT**      5/2021  
**HILLSBOROUGH COUNTY, FLORIDA**      SCALE: N.T.S.

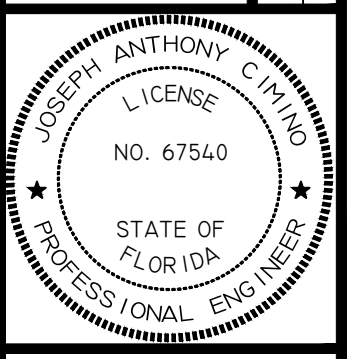
NO.	DATE	DESCRIPTION
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2	3/9/21	RESPOND TO SWFWD COMMENTS
3	3/30/21	RESPOND TO COUNTY COMMENTS
4	7/29/21	RESPOND TO COUNTY COMMENTS
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6		

**Engineering ~ Environmental**  
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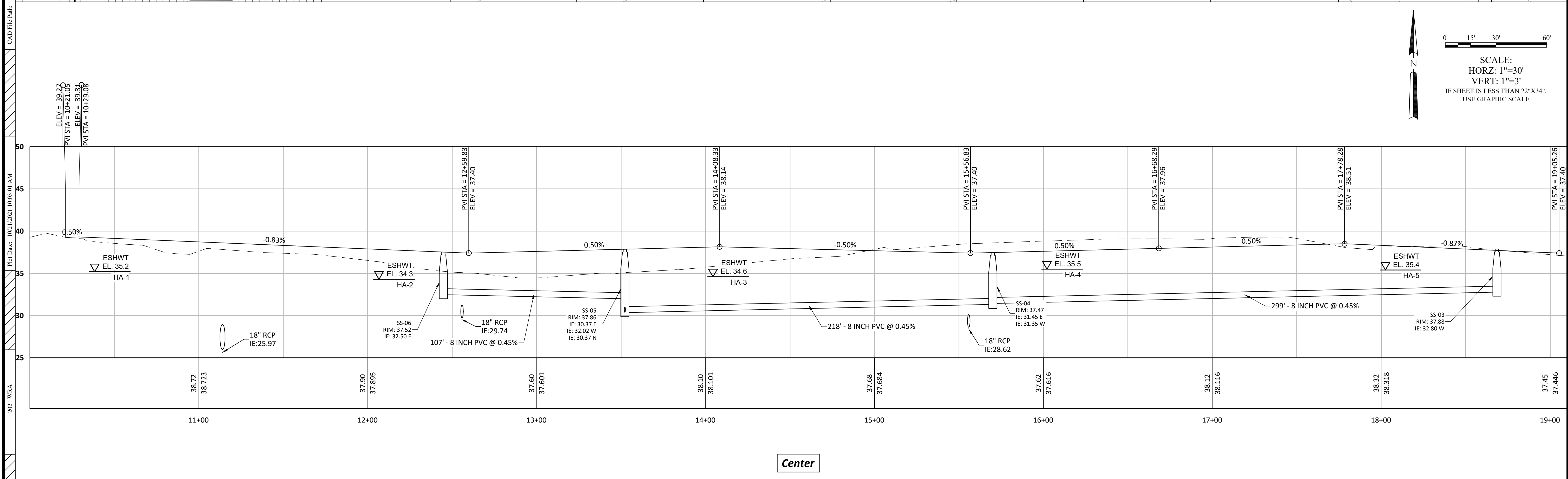
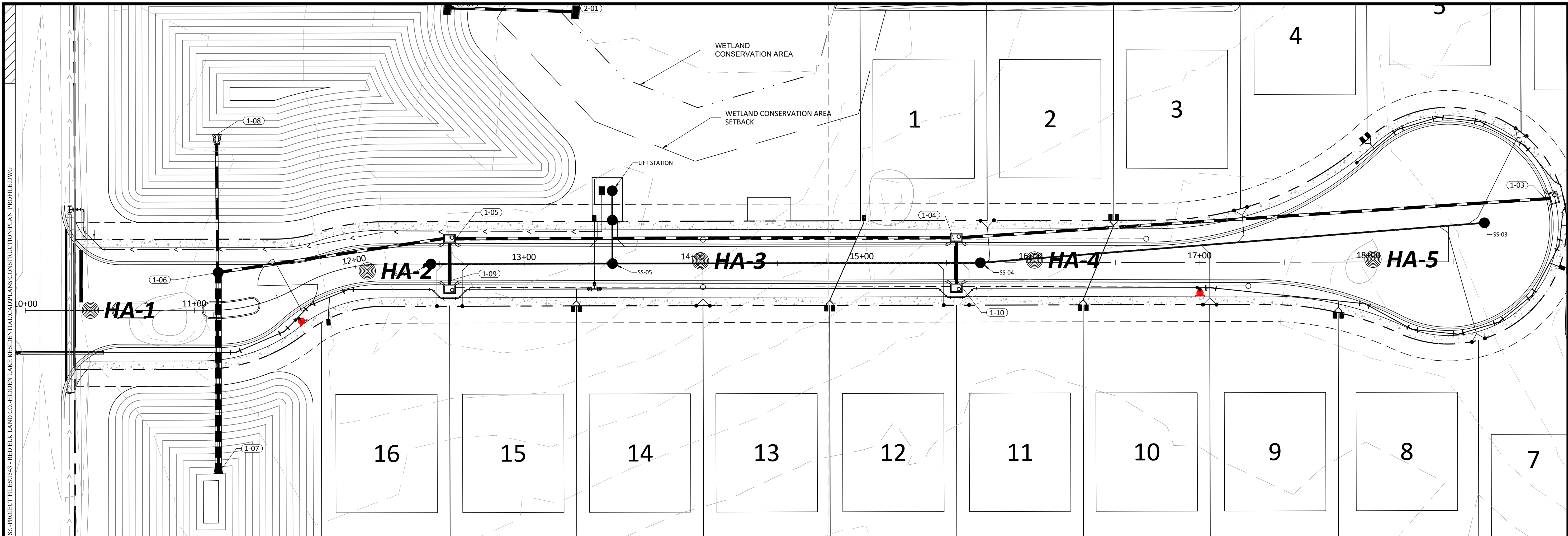


**UTILITY PLAN**

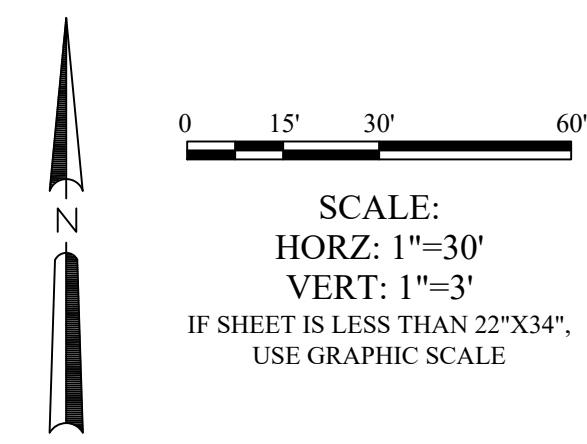
**HIDDEN LAKES**  
**RESIDENTIAL**  
 ISSUED FOR: PERMITTING  
 JOB #143      SEC. 11      TOWN-308      RING-20E      DESIGNED: JRO      DRAWN: JRO      APPROVED: JAC



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SCALE:  
 HORZ: 1"=30'  
 VERT: 1"=3'  
 IF SHEET IS LESS THAN 22"x34",  
 USE GRAPHIC SCALE

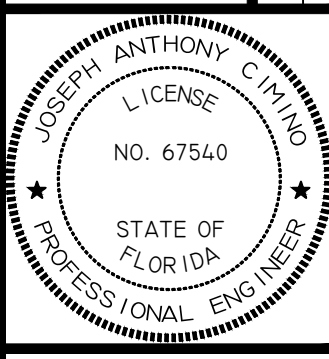
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4	7/29/21	RESPOND TO COUNTY COMMENTS
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PLAN AND PROFILE  
 HIDDEN LAKES  
 RESIDENTIAL

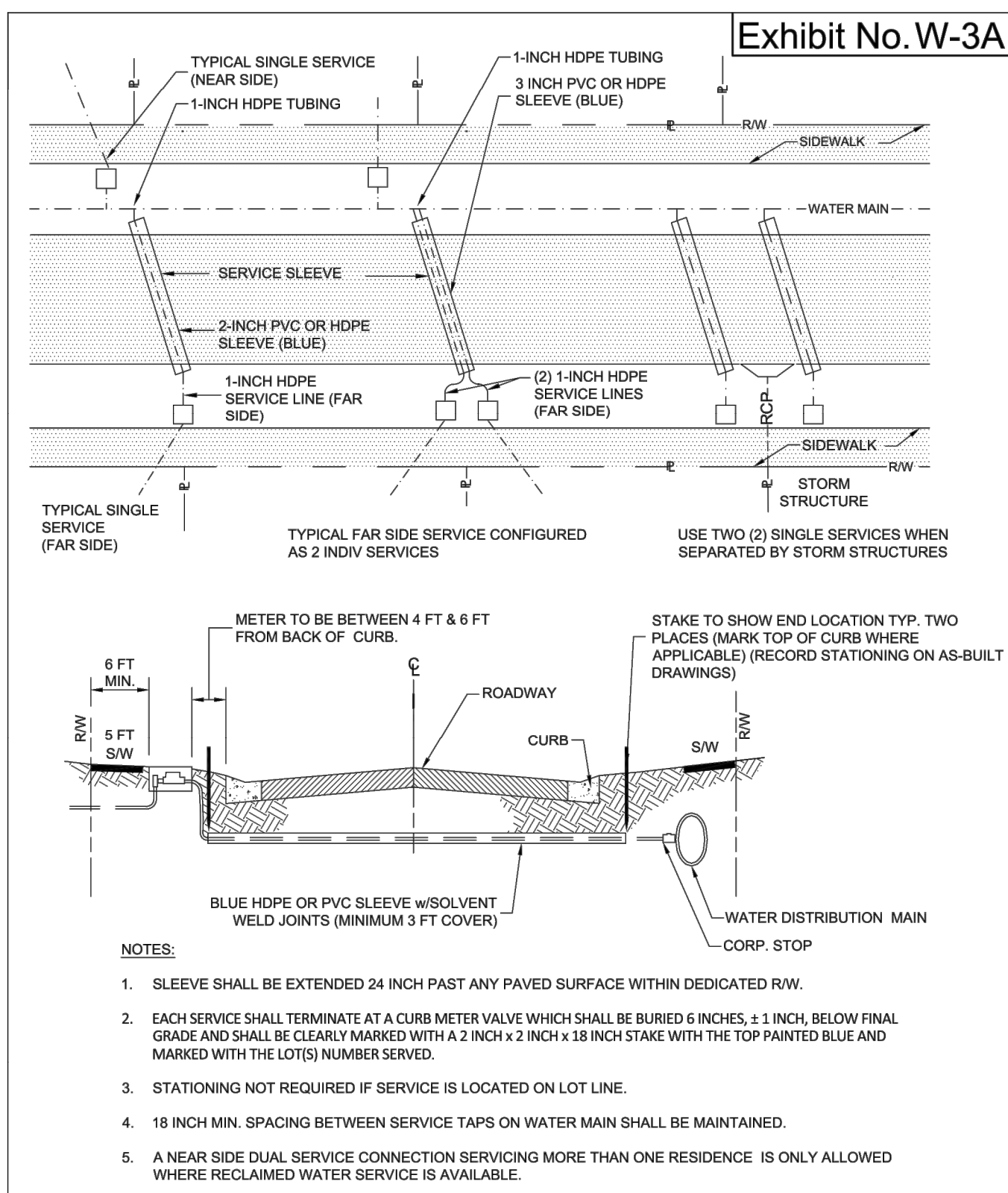
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 JOB #: 143 SEC: 11 TOWN: 308  
 RING: 20E DESIGNED: JRO DRAWN: JRO APPROVED: JAC



Datum: NAVD 88  
 403

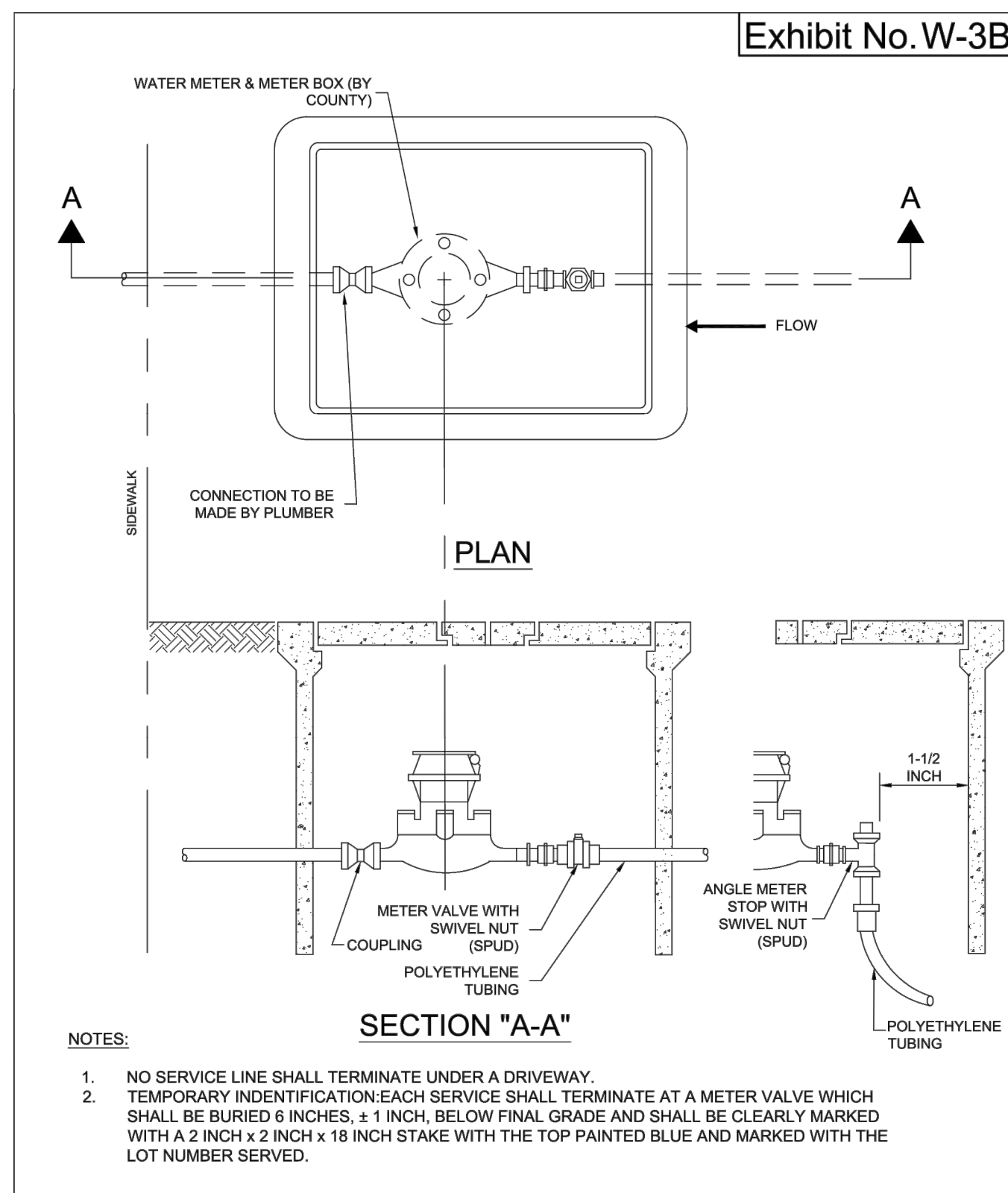


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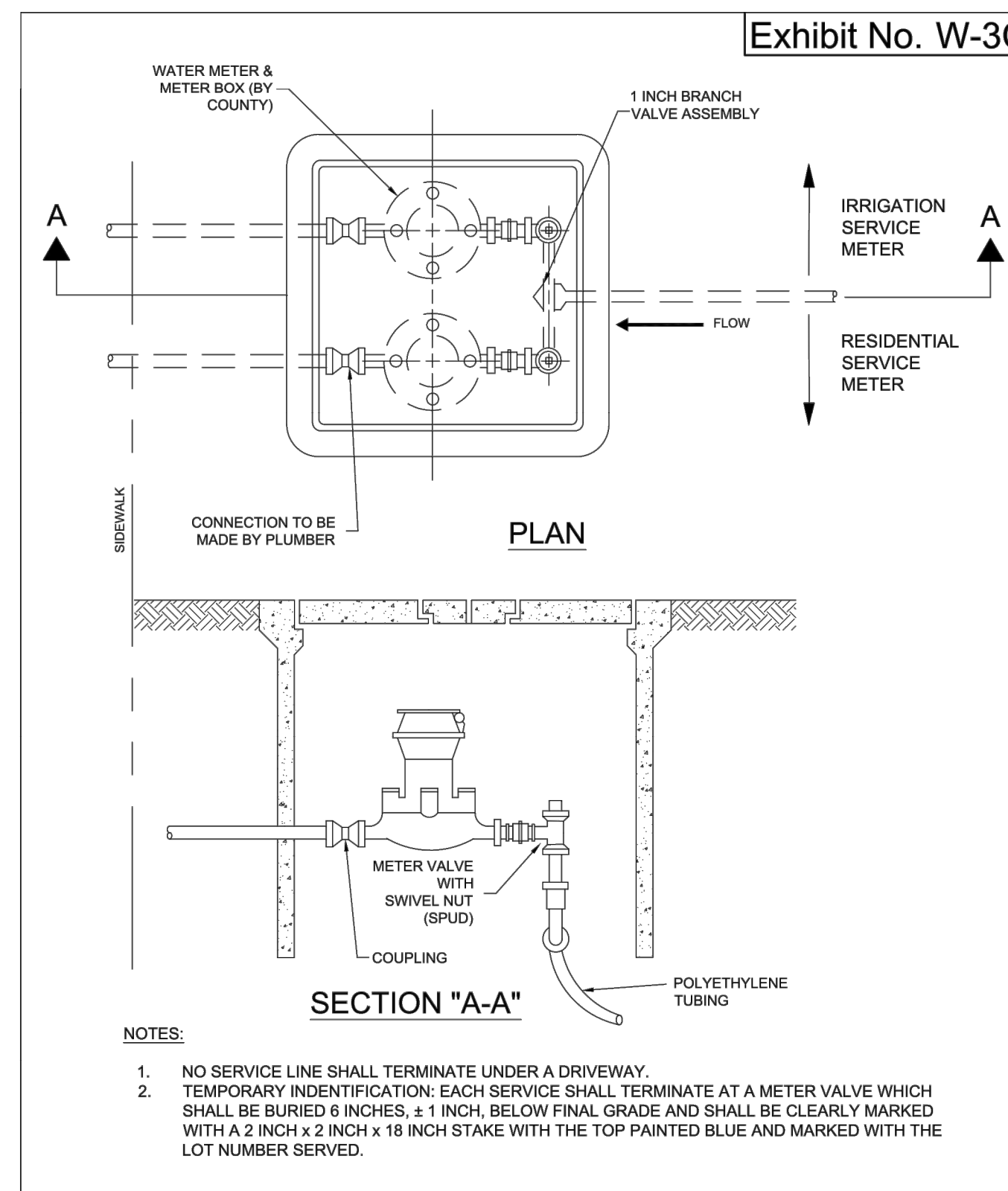
**RESIDENTIAL SERVICE LAYOUT**  
 HILLSBOROUGH COUNTY, FLORIDA

3/2020  
 SCALE: N.T.S.



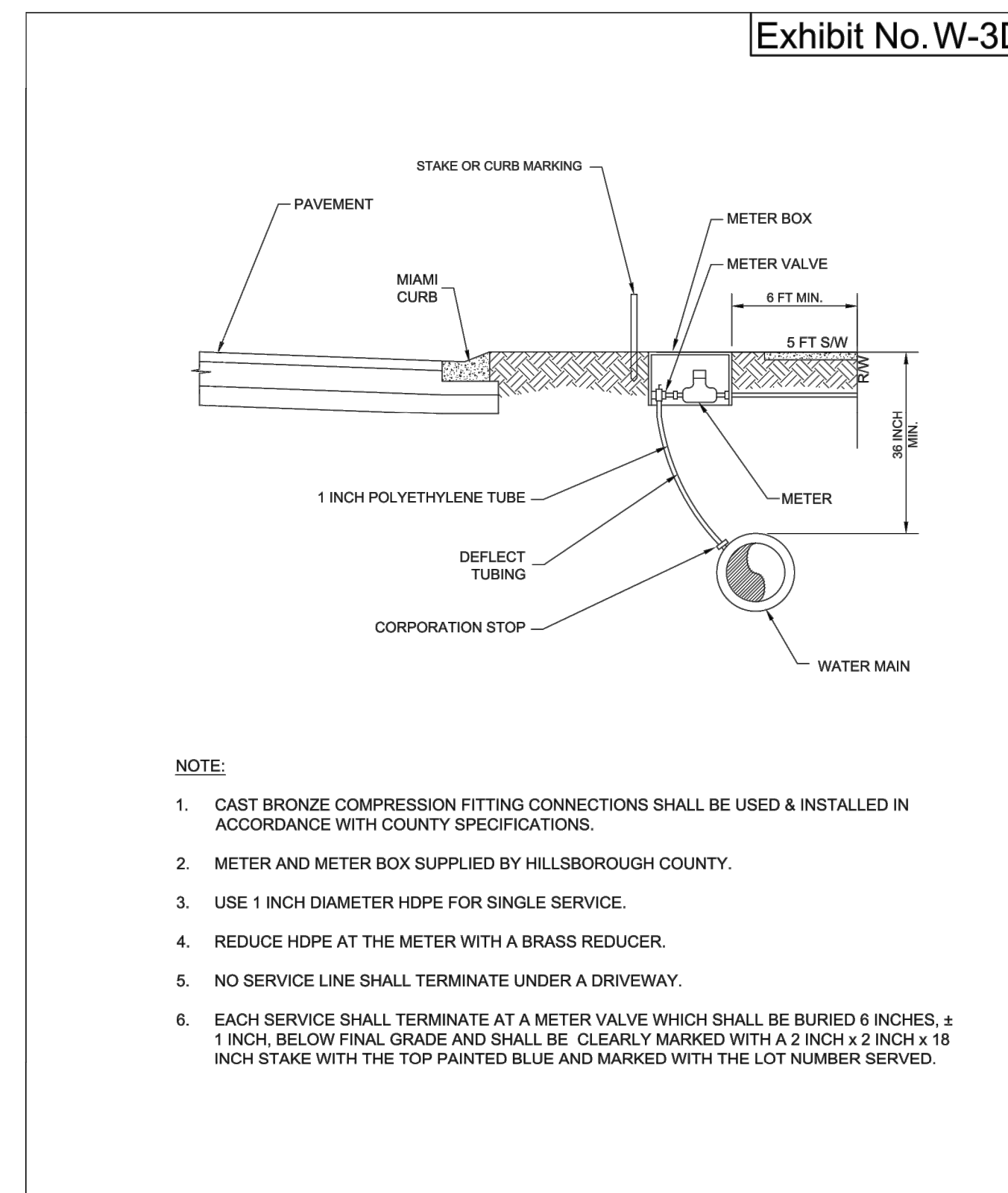
**RESIDENTIAL SINGLE METER SERVICE (NEAR SIDE & FAR SIDE)**  
 HILLSBOROUGH COUNTY, FLORIDA

3/2020  
 SCALE: N.T.S.



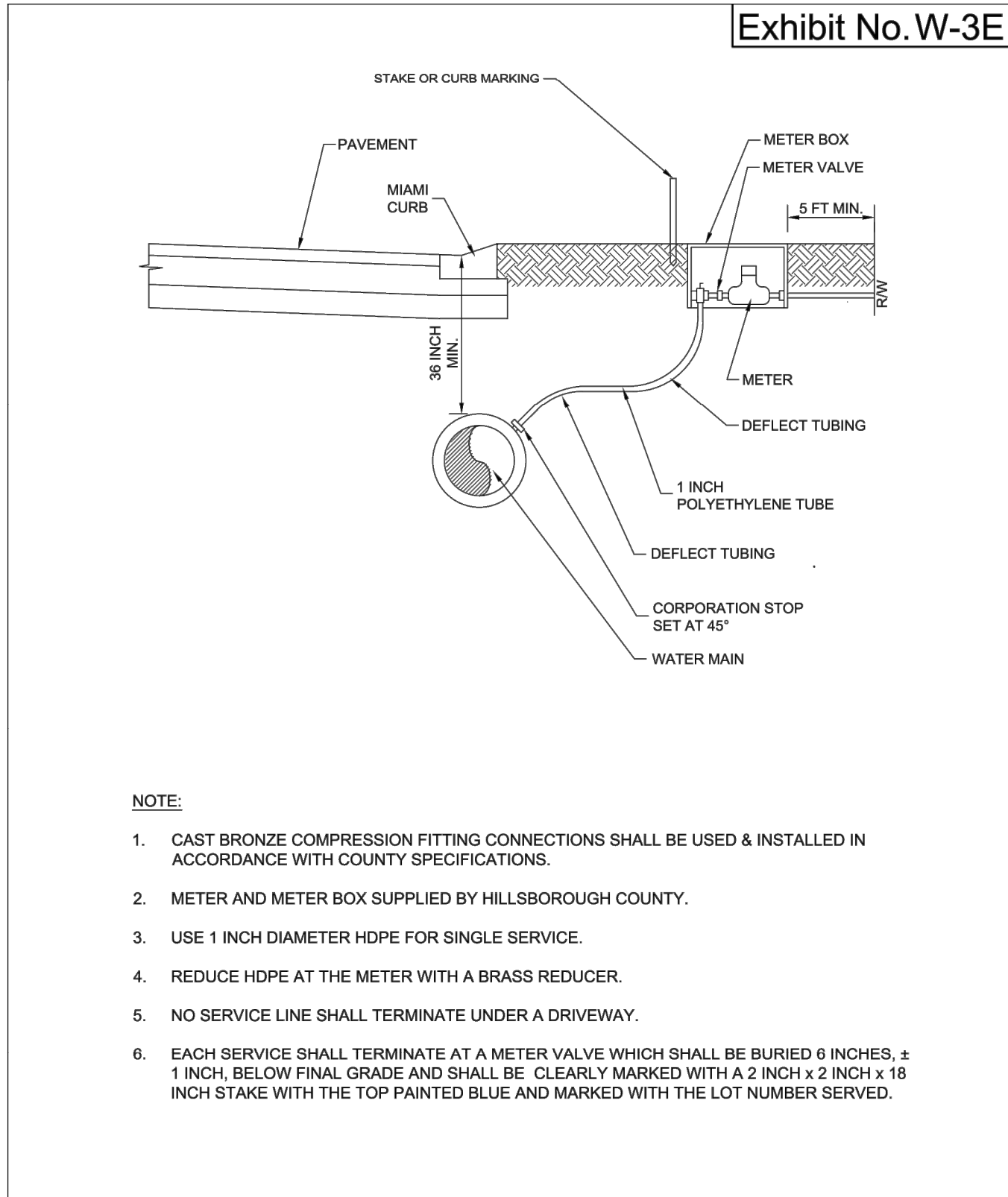
**RESIDENTIAL DUAL METER SINGLE LOT SERVICE**  
 HILLSBOROUGH COUNTY, FLORIDA

3/2020  
 SCALE: N.T.S.



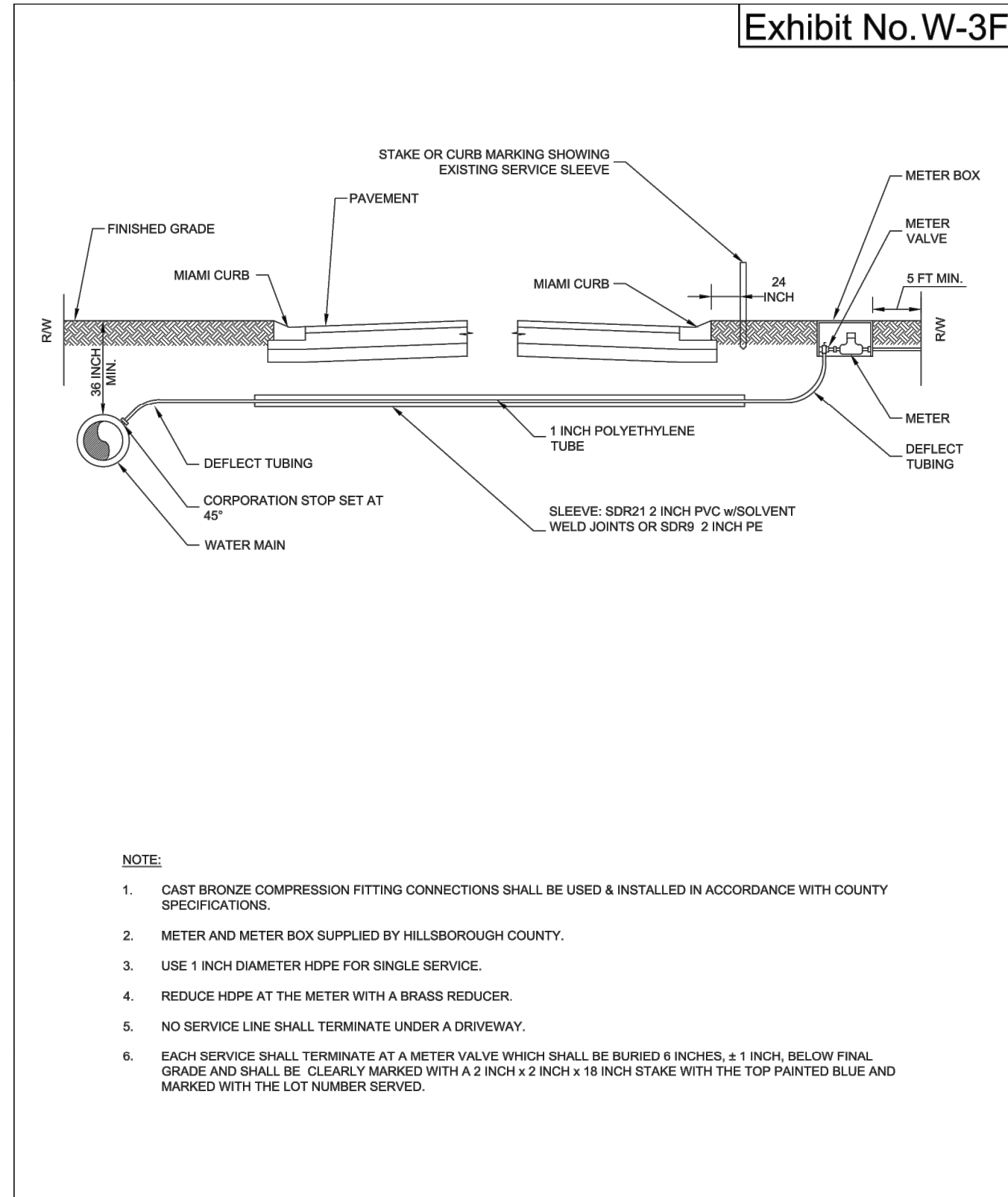
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 HILLSBOROUGH COUNTY, FLORIDA

3/2020  
 SCALE: N.T.S.



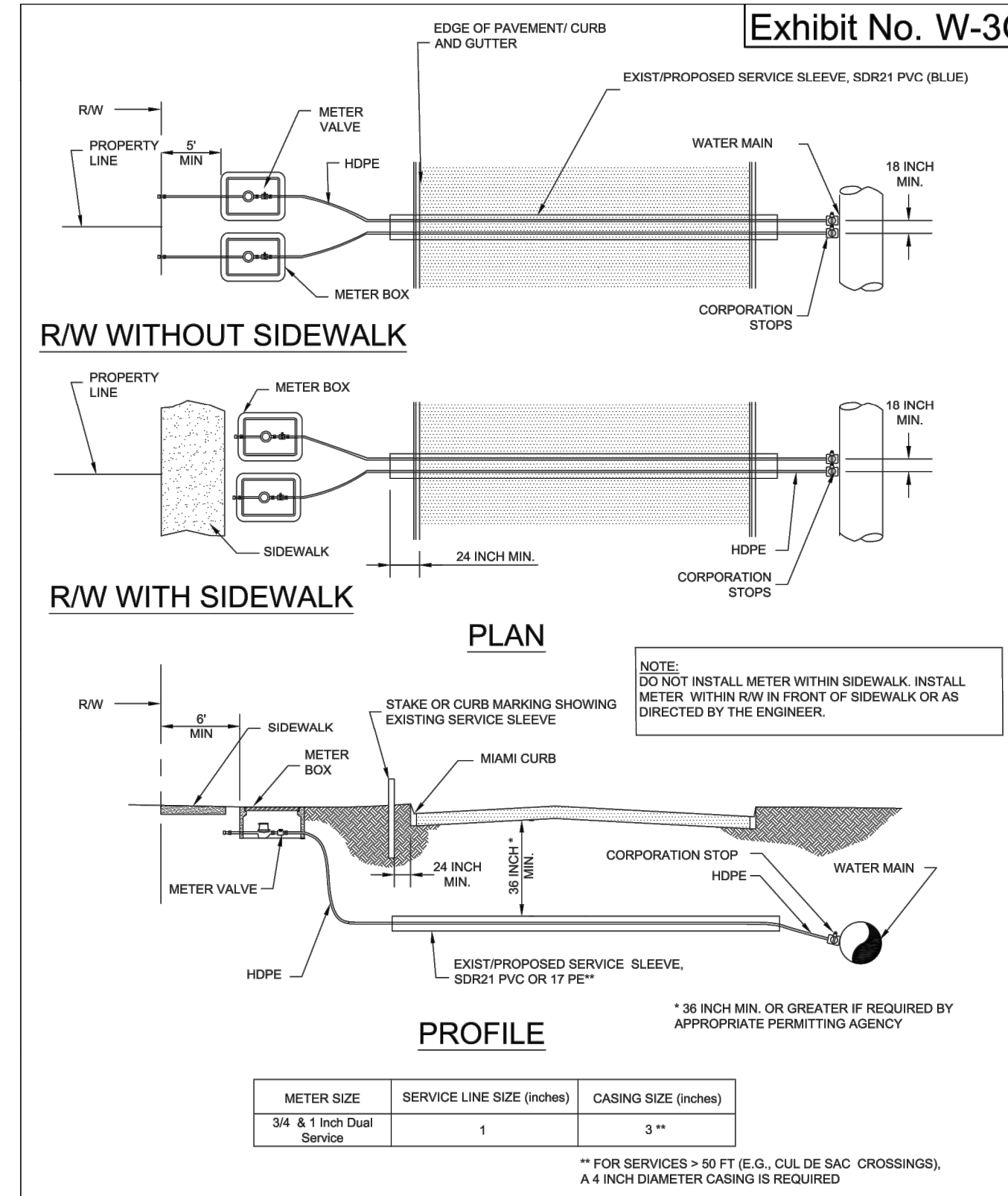
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 HILLSBOROUGH COUNTY, FLORIDA

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 SCALE: N.T.S.



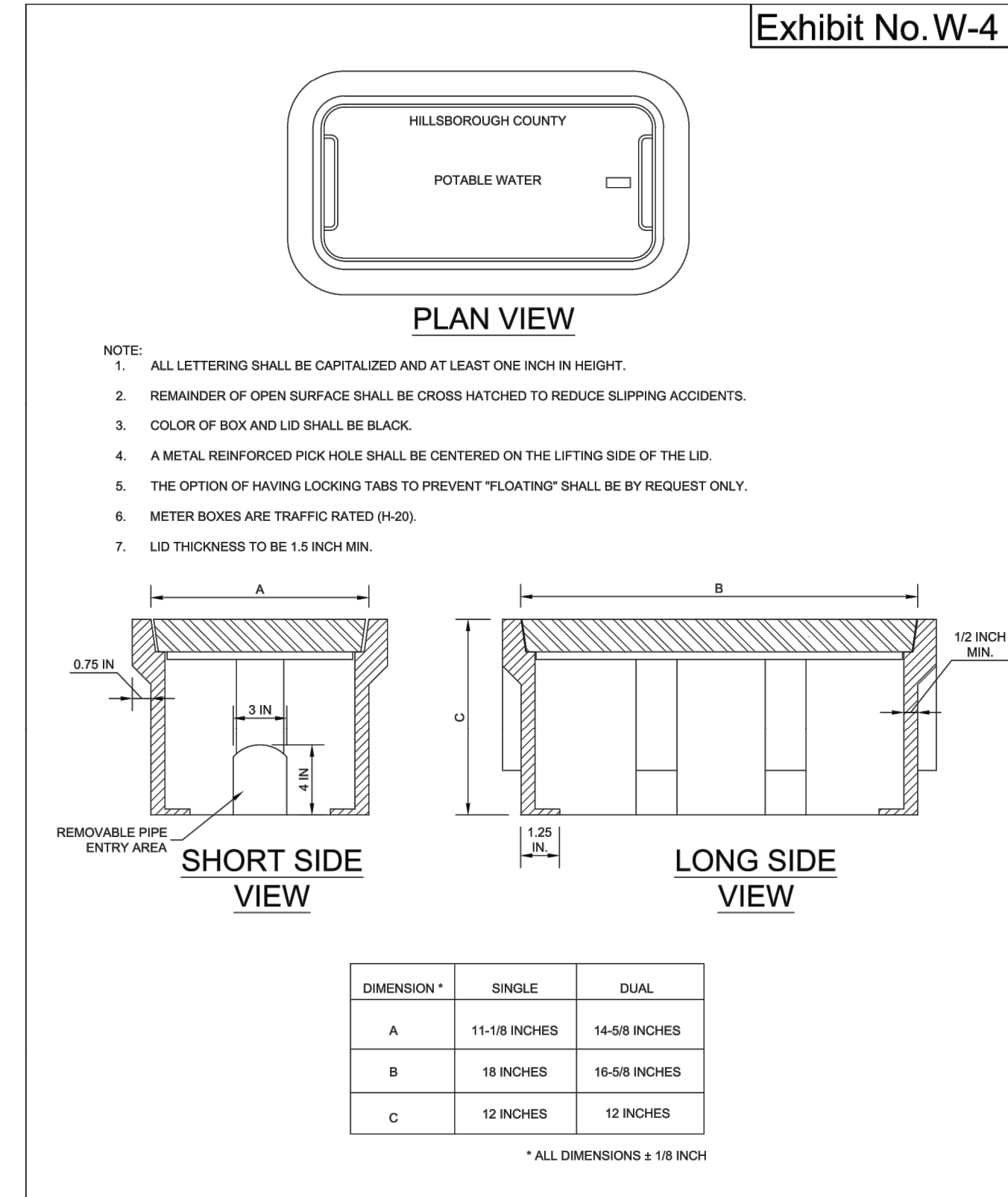
**RESIDENTIAL METER SERVICE INSTALLATION (FAR SIDE)**  
 HILLSBOROUGH COUNTY, FLORIDA

3/2020  
 SCALE: N.T.S.



**RESIDENTIAL DUAL LOT METERED SERVICE (FAR SIDE)**  
 HILLSBOROUGH COUNTY, FLORIDA

3/2020  
 SCALE: N.T.S.



**POTABLE WATER METER BOX**  
 HILLSBOROUGH COUNTY, FLORIDA

3/2020  
 SCALE: N.T.S.

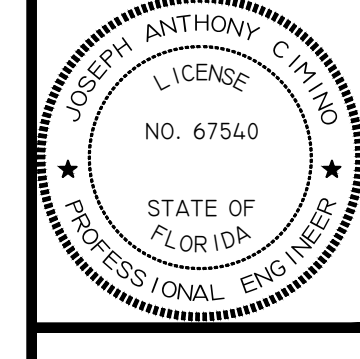
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1	2/3/21	RESPOND TO COUNTY COMMENTS

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UTILITY DETAILS

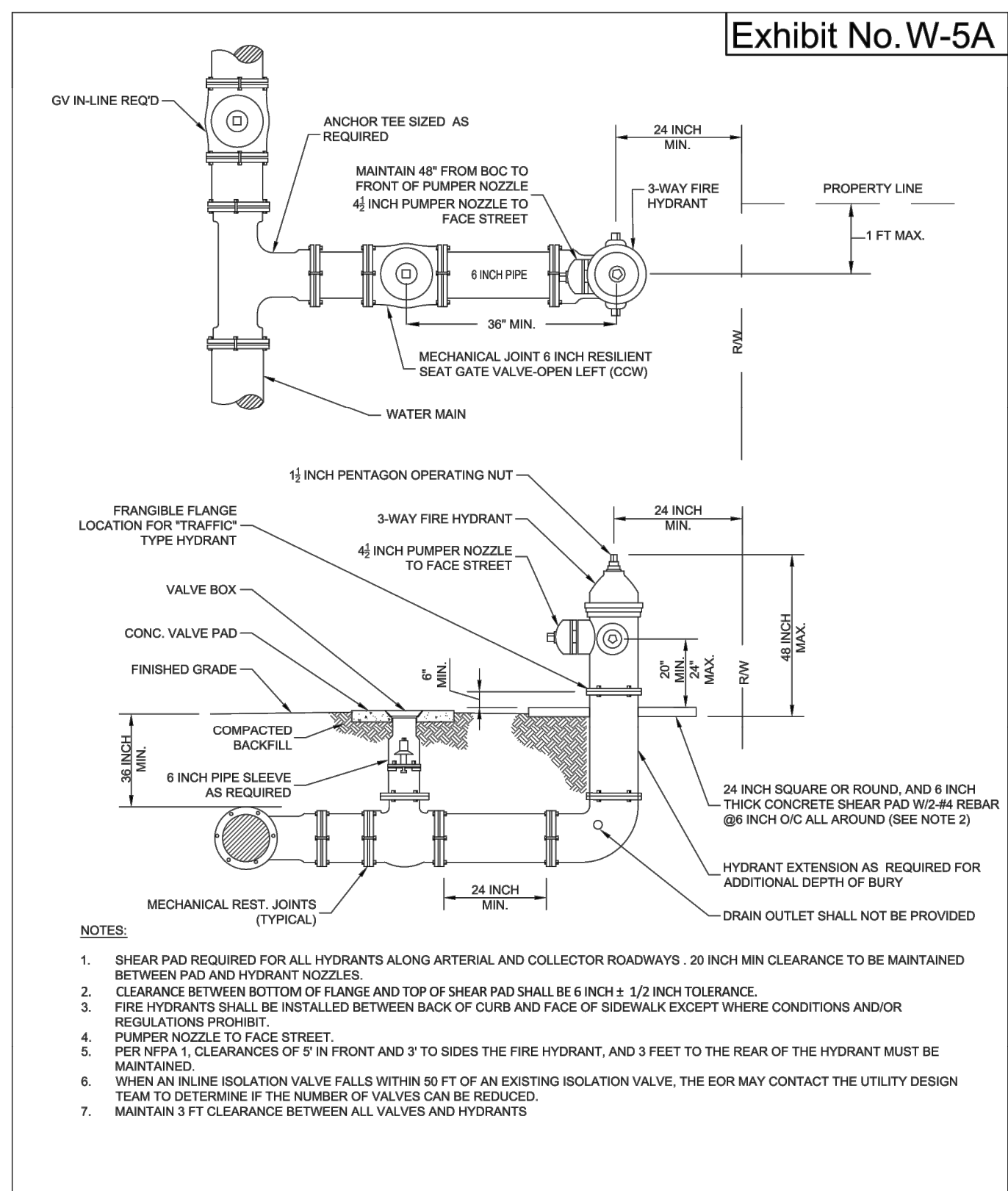
HIDDEN LAKES RESIDENTIAL



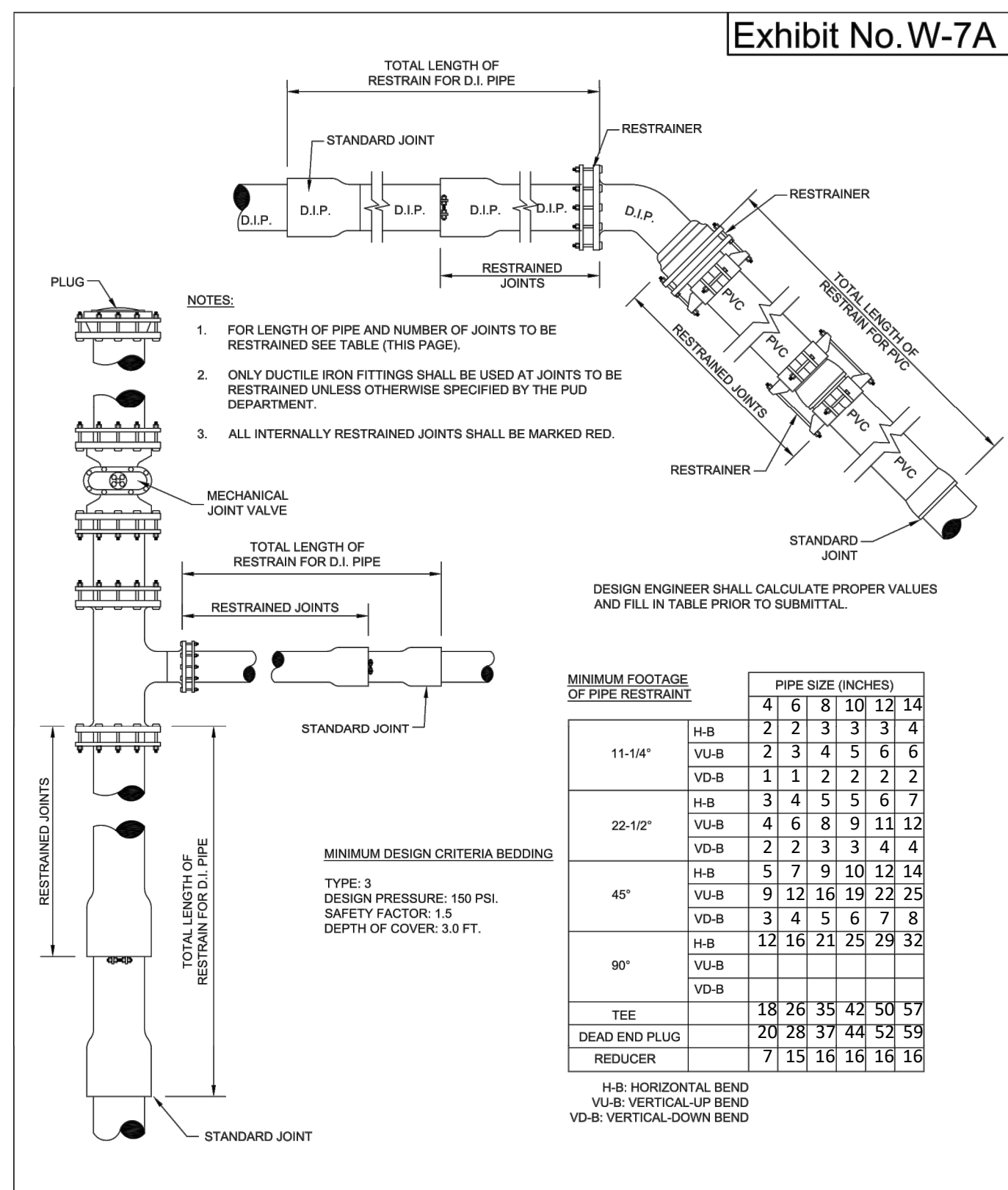
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 JOB #143 SEC. 11 TWIN-305 RING-20E DESIGNED: JRO. DRAWN: JRO. APPROVED: JAC

Datum: NAVD 88

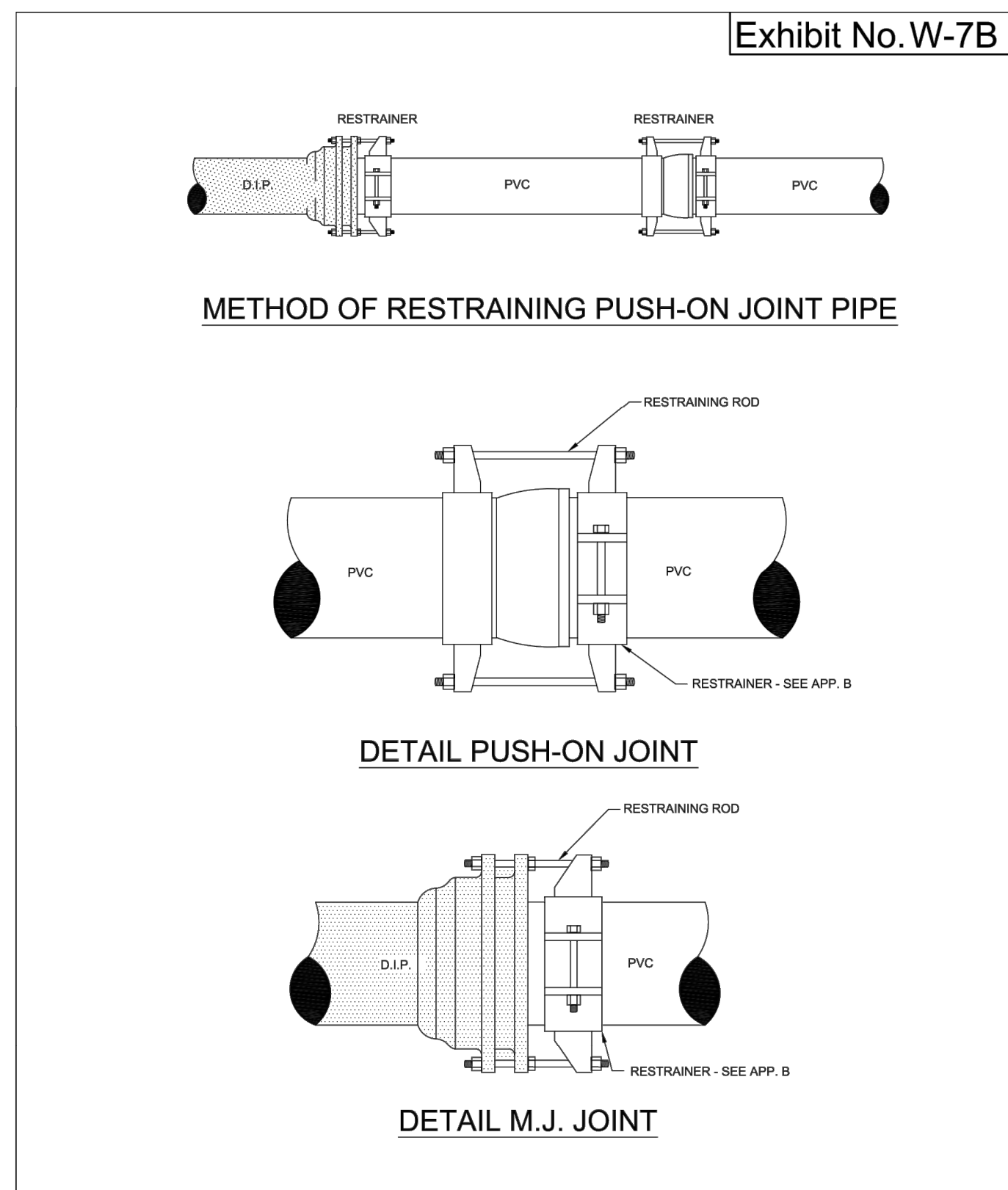
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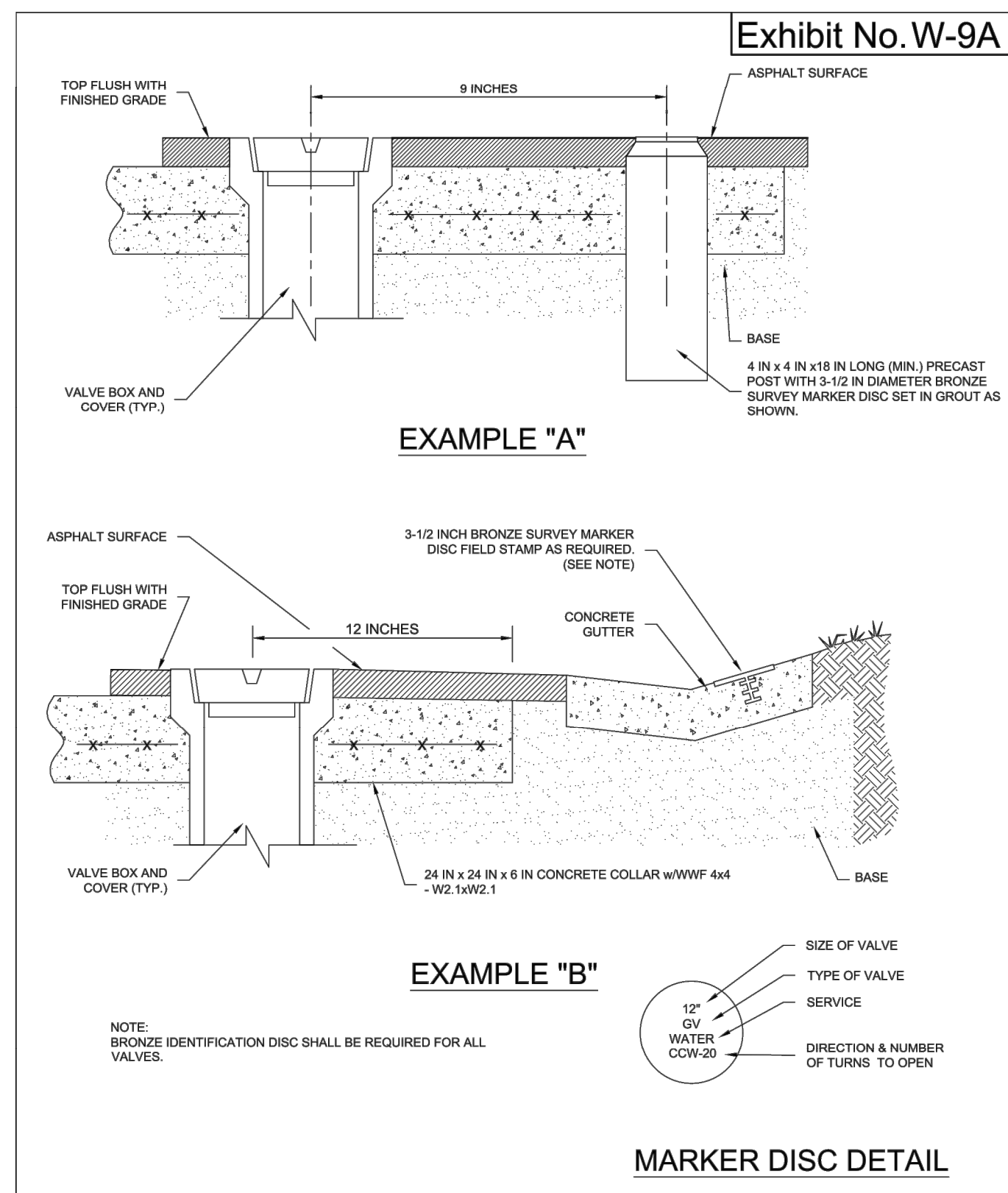
**FIRE HYDRANT (RESTRAINED)**  
 HILLSBOROUGH COUNTY, FLORIDA  
 3/2020  
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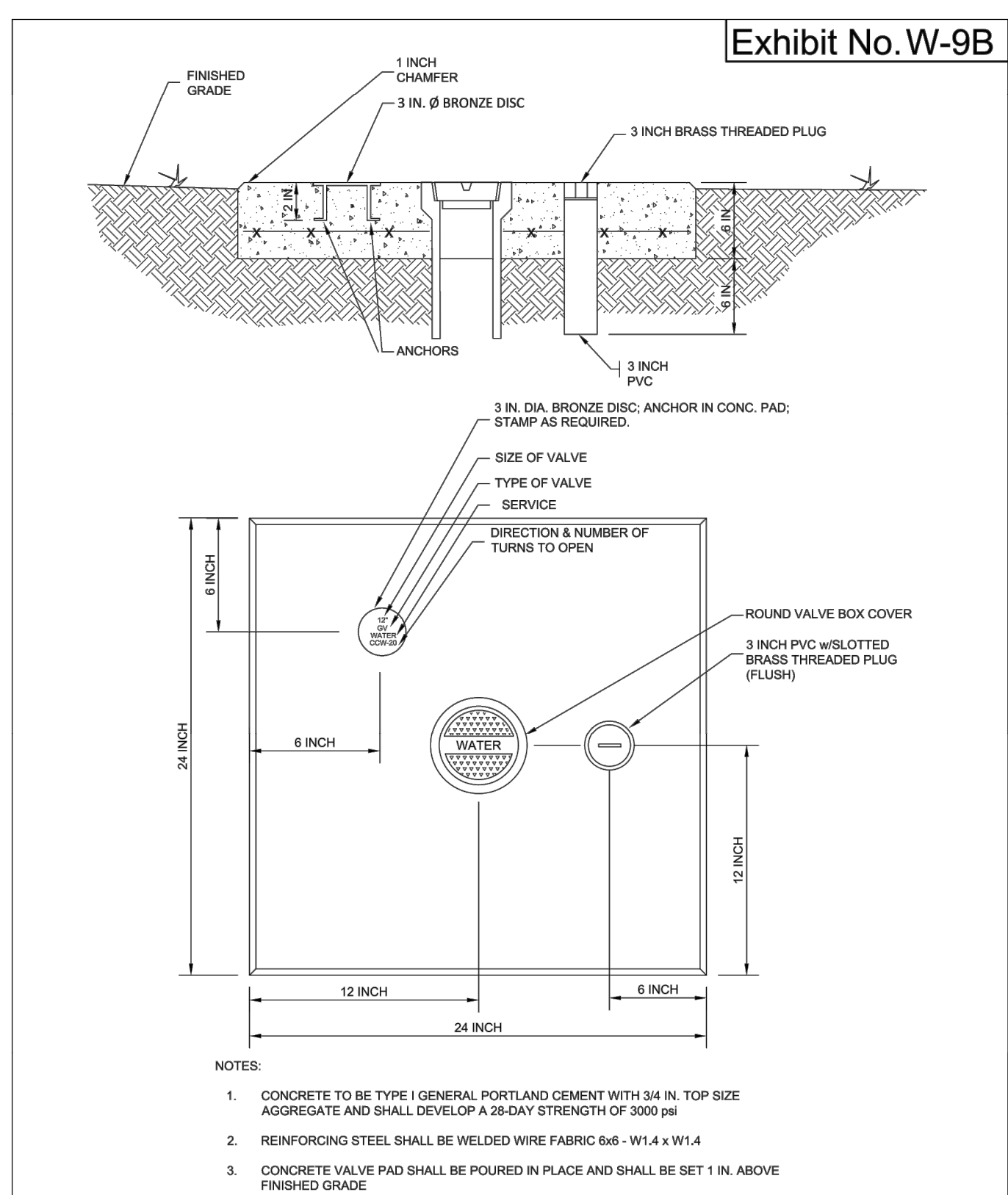
**RESTRAINED JOINT-STANDARD**  
 HILLSBOROUGH COUNTY, FLORIDA  
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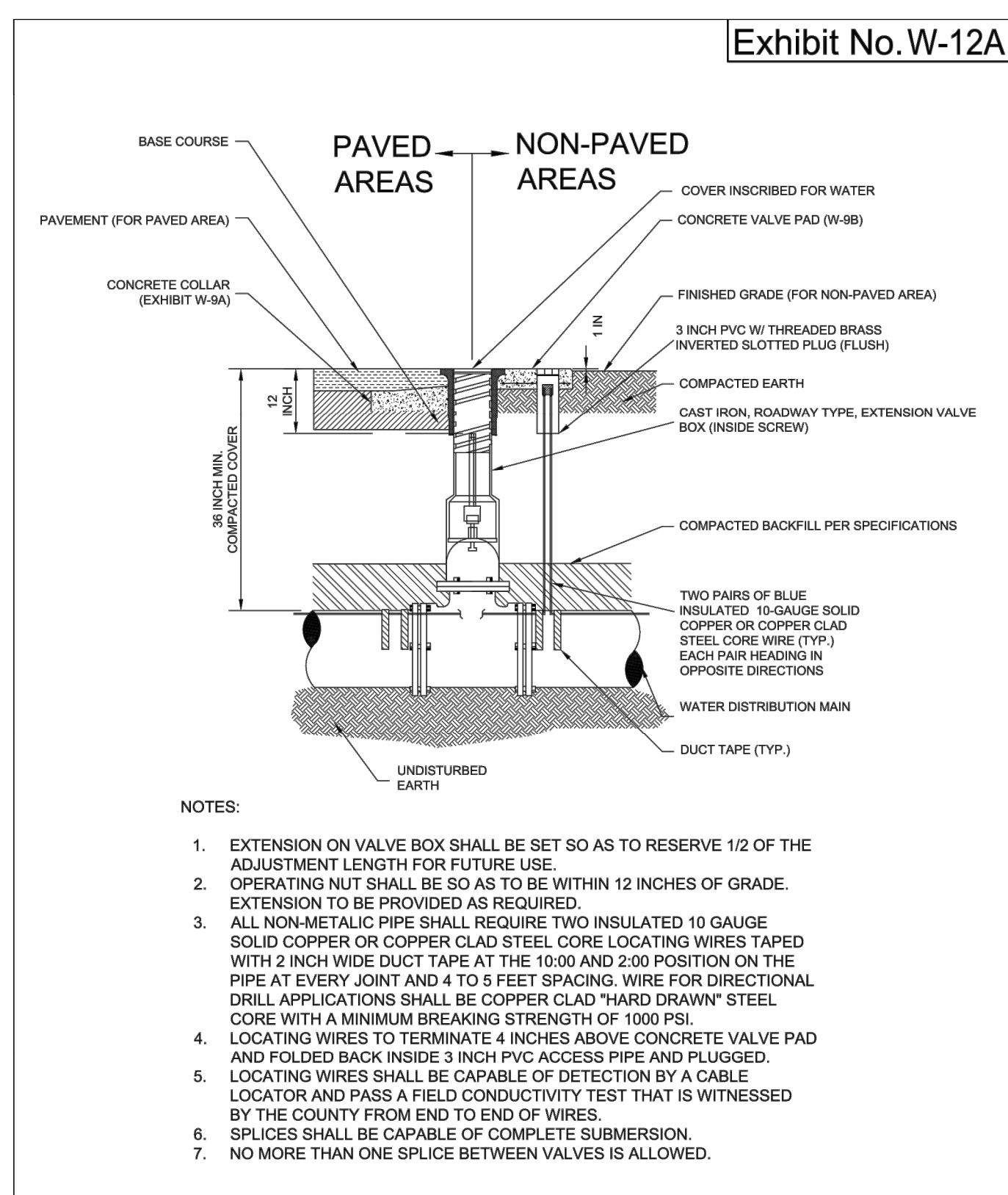
**RESTRAINED JOINT FOR PVC C-900 PIPE (4 IN TO 12 IN)**  
 HILLSBOROUGH COUNTY, FLORIDA  
 3/2020  
 SCALE: N.T.S.



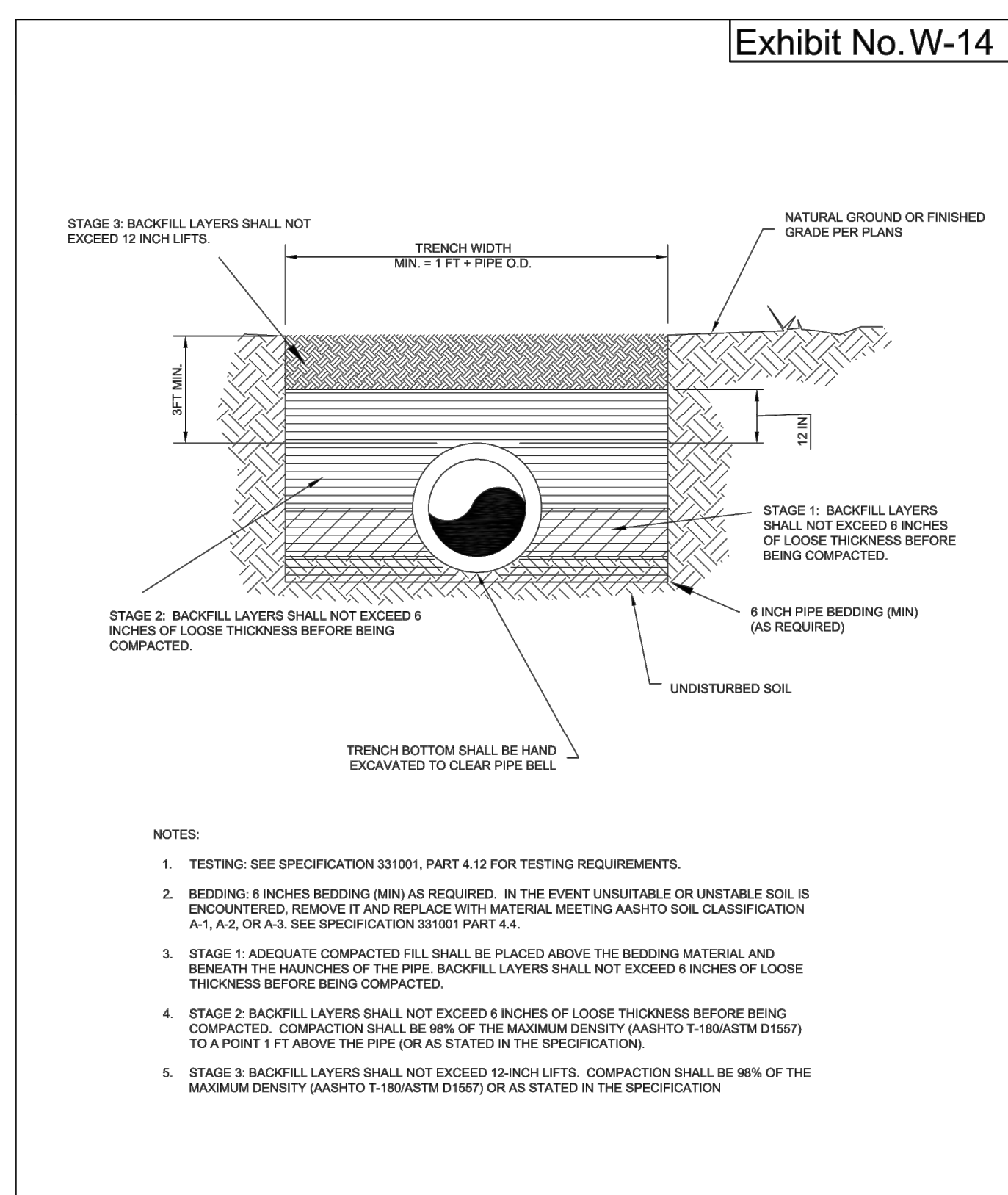
**VALVE BOX & MARKER INSTALLATION FOR PAVED AREAS**  
 HILLSBOROUGH COUNTY, FLORIDA  
 3/2020  
 SCALE: N.T.S.



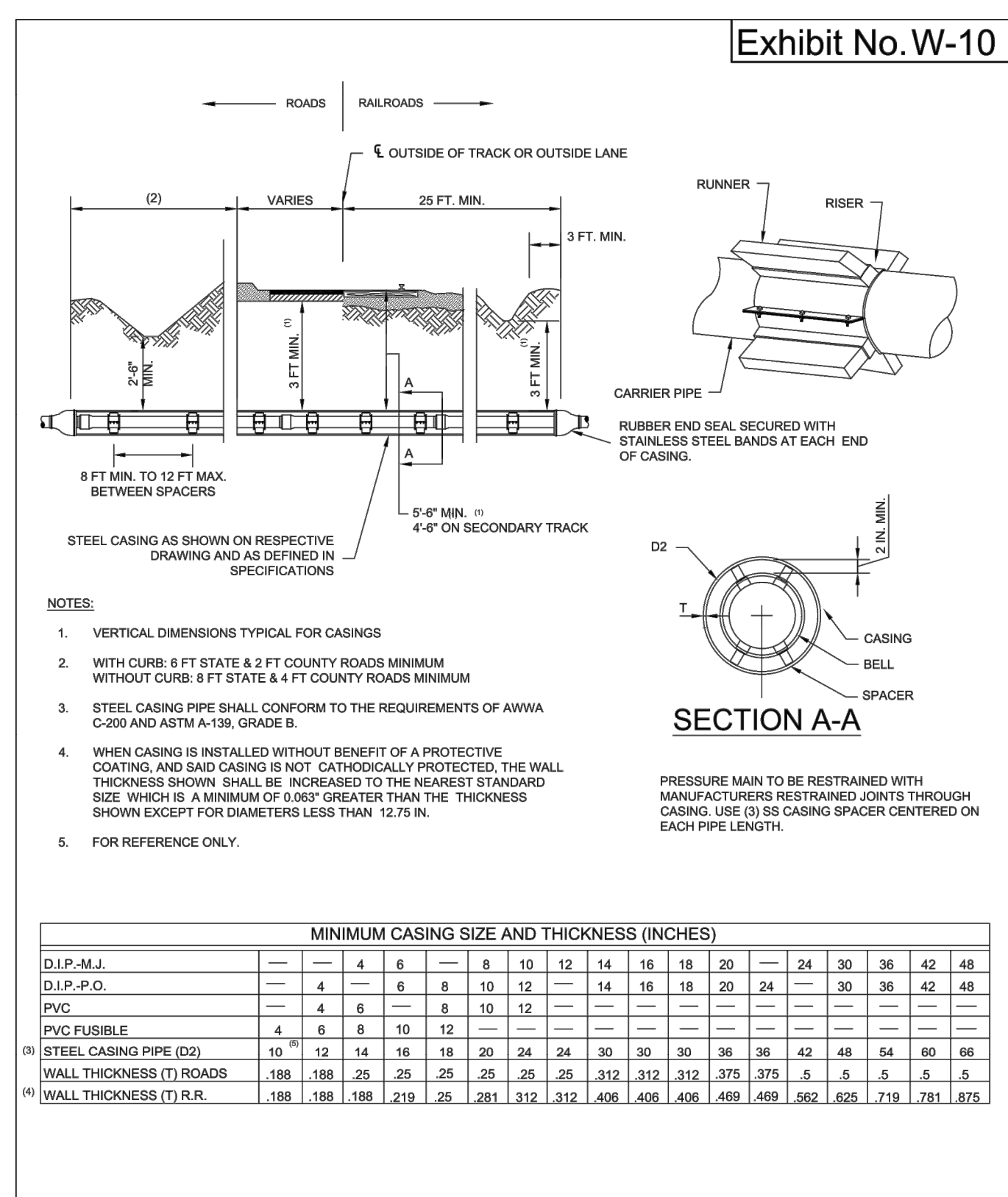
**CONCRETE VALVE PAD (FOR UNPAVED AREAS)**  
 HILLSBOROUGH COUNTY, FLORIDA  
 3/2020  
 SCALE: N.T.S.



**VALVE AND TRACER WIRE PAVED OR NON-PAVED AREAS**  
 HILLSBOROUGH COUNTY, FLORIDA  
 3/2020  
 SCALE: N.T.S.



**TRENCH DETAIL BACKFILL & COMPACTION**  
 HILLSBOROUGH COUNTY, FLORIDA  
 3/2020  
 SCALE: N.T.S.



**CASING DETAILS JACK & BORE**  
 HILLSBOROUGH COUNTY, FLORIDA  
 3/2020  
 SCALE: N.T.S.

REVISIONS  
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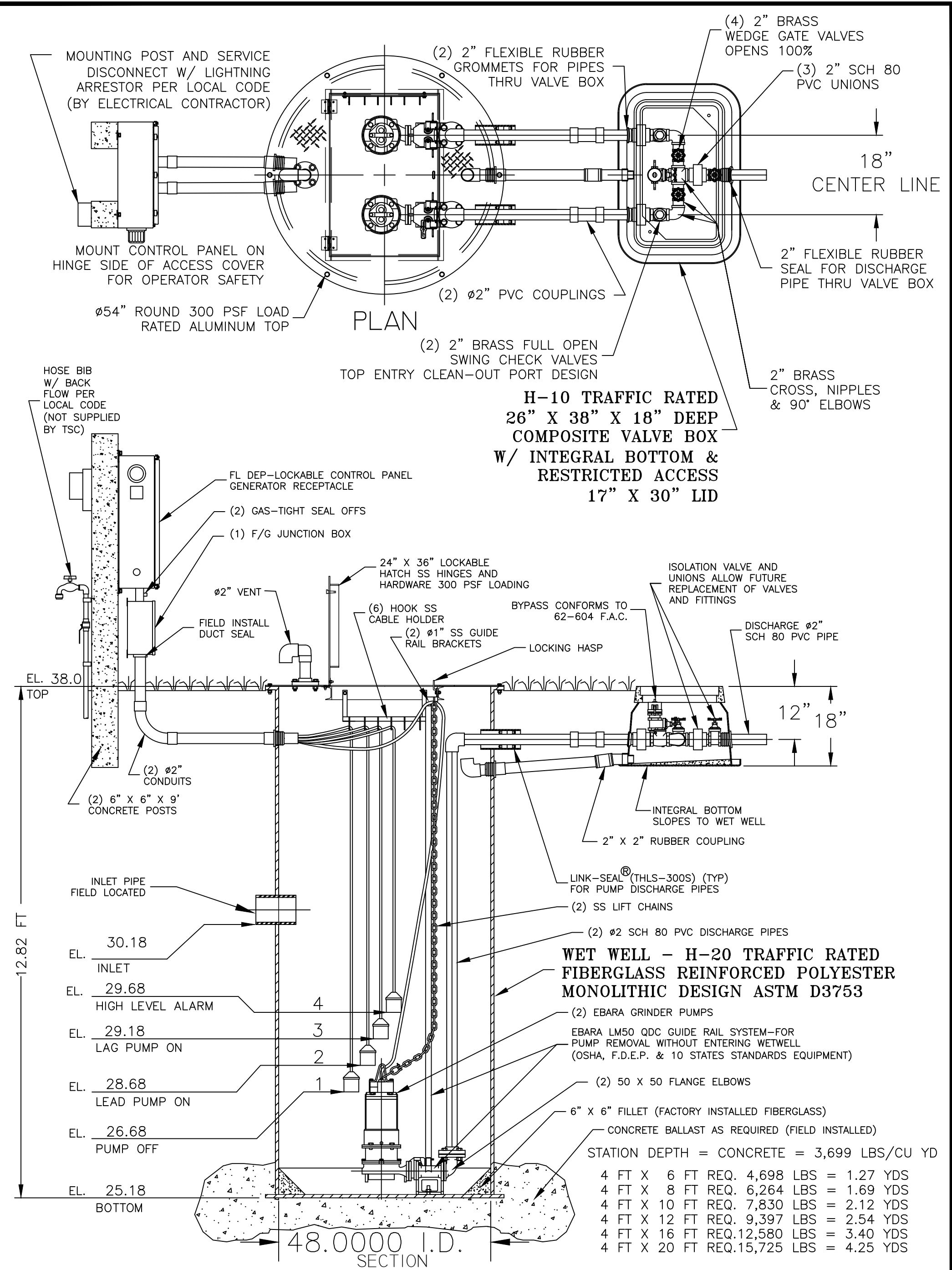
UTILITY DETAILS  
 HIDDEN LAKES  
 RESIDENTIAL  
 ISSUED FOR: PERMITTING  
 SEC. 11 TOWN-305  
 RING-20E  
 DESIGNED: JRO  
 DRAWN: JRO  
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 CAD File Path: S:\PROJECT FILES\143 - RED ELK LAND CO. HIDDEN LAKE RESIDENTIAL CAD PLANS CONSTRUCTION DETAILS, UTILITY.DWG

JONATHAN ANTHONY C. PH.D.  
 LICENSE  
 NO. 67540  
 STATE OF  
 FLORIDA  
 PROFESSIONAL ENGINEER

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 Job Date: 10/21/2021 10:58:46 AM  
 2021 WRA



**EBARA SEWAGE GRINDER PUMP**  
**48" DUPLEX STATION - 2" PIPING**  
**WITH SLIDE RAIL SYSTEM, V.B. AND F.D.E.P. PANEL**  
**TSC PRE-FAB PUMP SOLUTIONS®**

MODEL  
 TSC2-48.0 R21.dwg ©

2. GROUT FILLET (1 TO 1 SLOPE TO "HOPPER" BOTTOM)  
 1. HOSE BIBB WITH REDUCED PRESSURE BACK FLOW PREVENTER  
 FIELD INSTALL BY CONTRACTOR

JOB: \_\_\_\_\_  
 QS: \_\_\_\_\_

### GENERAL NOTES

FURNISH AND INSTALL EBARA SUBMERSIBLE GRINDER PUMPS:

**DESIGN CONDITION:**

MODEL	50 DGFU	3 / 5	HP
GPM	80	105	FT/TDH
VOLTAGE	208 / 230 / 460	SINGLE / THREE	PHASE
DISCHARGE	2"		IMPELLER

SEWAGE GRINDER PUMP: RATED FOR TWENTY (20) STARTS PER HOUR.

- AIR FILLED MOTOR DESIGNED FOR SEWAGE APPLICATION WITH CLASS F INSULATION.
- DUAL MECHANICAL SHAFT SEALS (SILICON CARBIDE / SILICON CARBIDE) LOCATED OUT OF THE PUMPAGE, IN A SEPARATE OIL FILLED CHAMBER.
- HIGH TEMPERATURE BALL BEARINGS B-10 RATING OF 60,000 HOURS, UPPER BEARING - SINGLE ROW AND LOWER BEARINGS - DOUBLE ROW TYPE.
- PUMP SHAFT HORSEPOWER (BHP) SHALL NOT EXCEED MOTOR RATED HORSEPOWER THROUGHOUT THE ENTIRE OPERATING RANGE OF THE PUMP PERFORMANCE CURVE.
- SINGLE PHASE MOTORS SHALL BE DUAL WOUND, CAPACITOR START-RUN AND CAPABLE OF OPERATING ON 208/230 VOLT WITH A 10% TOLERANCE VOLTAGE (190 TO 260). THREE PHASE MOTORS SHALL BE DUAL WOUND AND CAPABLE OF OPERATING ON 208/230 VOLT WITH A 10% TOLERANCE VOLTAGE (190 TO 260) OR OPERATE ON 460 VOLT BY CHANGING THE MOTOR LEADS INSIDE THE PUMP.

**FIBERGLASS WET WELL:** SHALL BE A ONE PIECE UNIT WITH INTEGRAL BOTTOM, WALL AND UPPER FLANGE. THE ENTIRE FIBERGLASS WET WELL SHALL HAVE A DYNAMIC LOAD RATING OF 16,000 FT/LBS. EACH UNIT MUST BE SERIAL NUMBERED TO IDENTIFY THE TEST PROCEDURE. ASTM D 3753 & H-20 SPECIFICATIONS SHALL BE REQUIRED AS MINIMUM.

**ALUMINUM HATCH:** TSC MODEL-54R (54") ROUND WITH 24" X 36" LOCKABLE HATCH, REINFORCED FOR LOAD RATING OF 300 LBS/FT WITH HOLD OPEN SAFETY ARM, LOCKING DEVICE FOR HASP TYPE PADLOCK AND STAINLESS STEEL HARDWARE.

**VALVE BOX:** FIBERGLASS COMPOSITE (H-10 TRAFFIC RATED) WITH INTEGRAL BOTTOM. (FOR 1 1/4" AND 2" DISCHARGE PIPING SXS HEADER SYSTEM) SHALL BE 26" X 38" X 18" WITH 17" X 30" LIMITED ACCESS LID

**ACCESSORIES:** #304 S/S - GUIDE RAILS, UPPER GUIDE RAIL BRACKETS, CABLE HOLDER, ANCHOR BOLTS AND PUMP LIFTING CHAINS.

**VALVES:** SHALL BE SEWAGE SERVICE DESIGN BRASS SWING CHECK VALVES WITH TOP ENTRY CLEAN-OUT PORT AND BRASS WEDGE GATE VALVES OPEN 100%.

**PIPING:** 2" SCHEDULE 80 PVC.

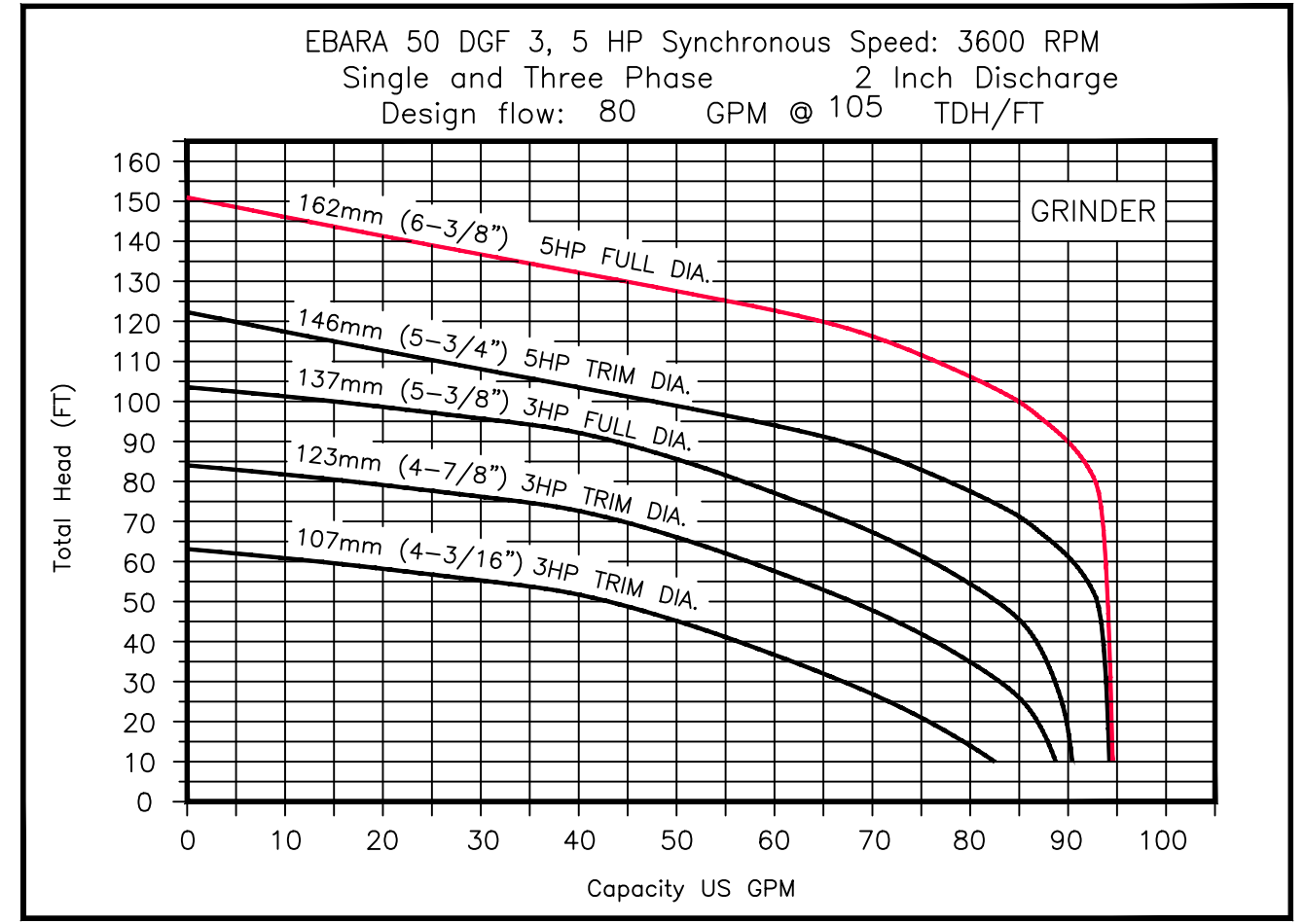
**FLOAT SWITCHES:** UL LISTED SJ ELECTRO MODEL (SJ 30 SWENO).

PUMP SUPPLIER SHALL PROVIDE SUBMERSIBLE PUMPS, SLIDE RAIL ASSEMBLIES, CONTROL PANEL, JUNCTION BOX, FLOAT SWITCHES, ALUMINUM HATCH AND ACCESSORIES TO INSURE PROPER OPERATION AND WARRANTY.

THE COMPLETE PACKAGE PUMPING STATION SHALL HAVE PUMP BASES, SLIDE RAIL ASSEMBLIES AND DISCHARGE PIPING ASSEMBLED BY TECHNICAL SALES CORPORATION READY TO SHIP FOR FIELD INSTALLATION. THE MANUFACTURER OF PRE-FAB PUMP SOLUTIONS®.

TECHNICAL SALES CORPORATION, 4621 N. HALE AVE TAMPA, FL 33614 (813)876-9256

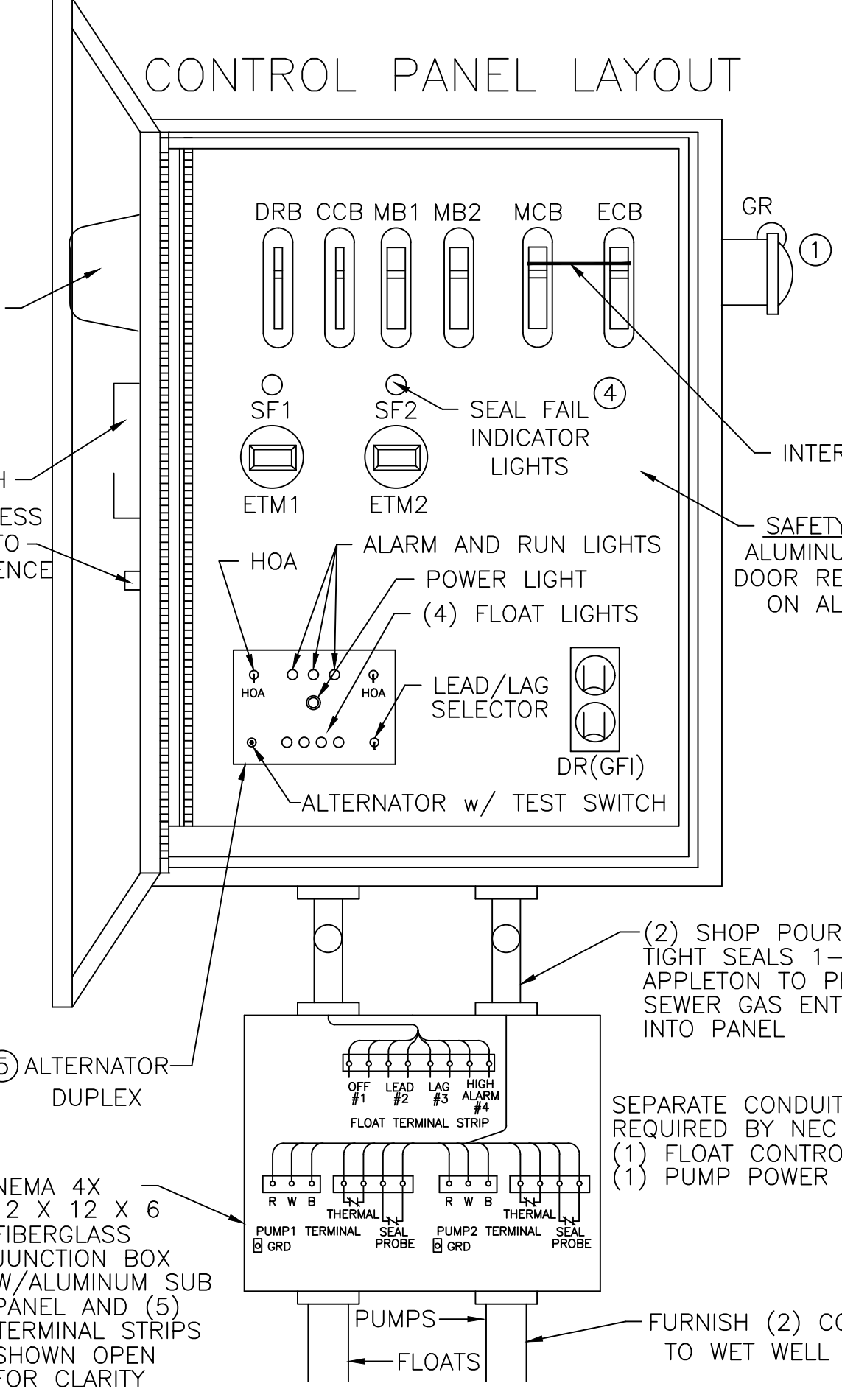
### Ebara Submersible Pumps



PUMP PERFORMANCE CURVE

**CONTROL PANEL** - SHALL CONFORM TO FL DEP 62-604 F.A.C. CONTROL PANEL SHALL BE TSC MODEL # 38-D IN NEMA 4X FIBERGLASS ENCLOSURE. THE PANEL SHALL MEET STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP), ENVIRONMENTAL PROTECTION COMMISSION (EPC) AND LOCAL CODE REQUIREMENTS GOVERNING PRIVATE LIFT STATIONS.

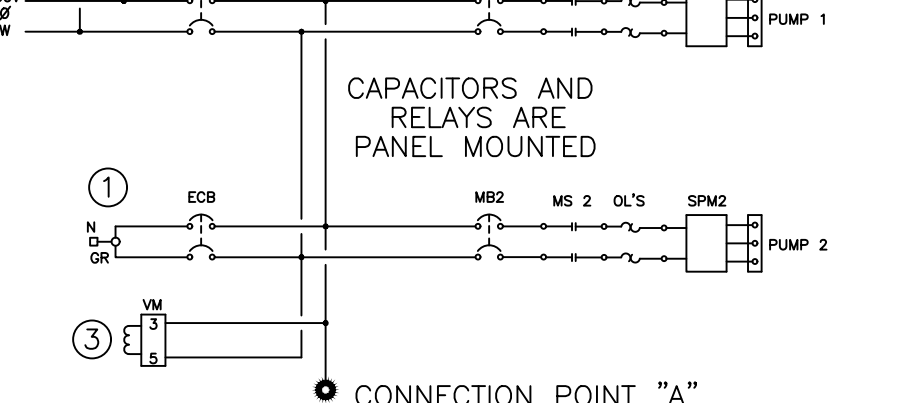
FLOAT SWITCHES AND CONTROL SYSTEM SHALL BE UL LISTED AND INTRINSICALLY SAFE. ALL COMPONENTS SHALL BE UL LISTED.  
 A JUNCTION BOX IS REQUIRED, WITH SHOP POURED SEALS BETWEEN BOX AND CONTROL PANEL TO PREVENT SEWER GAS ENTRY INTO CONTROL PANEL.  
 ELECTRICAL CONTRACTOR TO PROVIDE SERVICE DISCONNECT WITH LIGHTNING ARRESTOR MOUNTED PER LOCAL CODES.  
 THE CONTROL PANEL SHALL BE SUITABLY INSTALLED TO PREVENT SETTLING OR TIPPING.



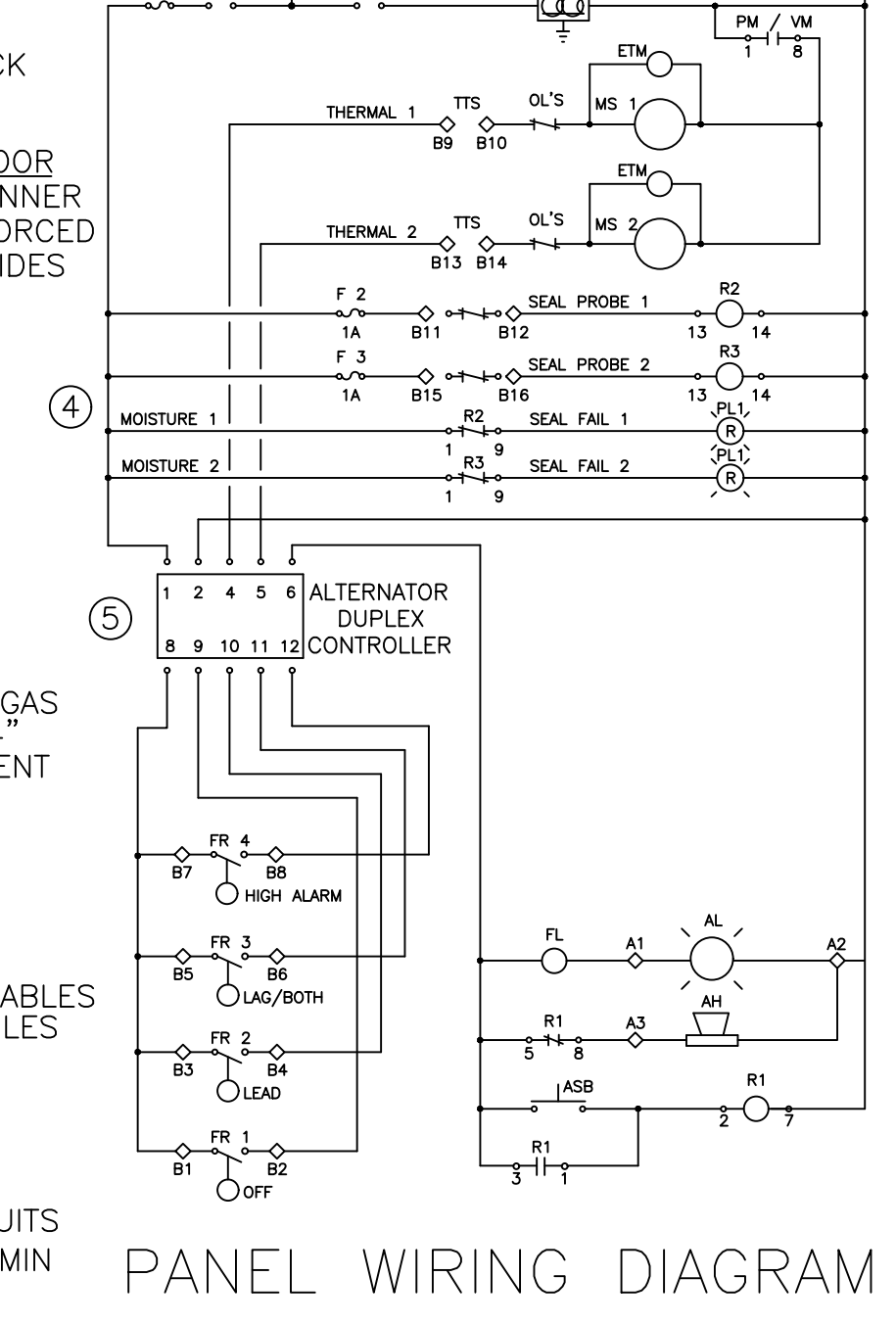
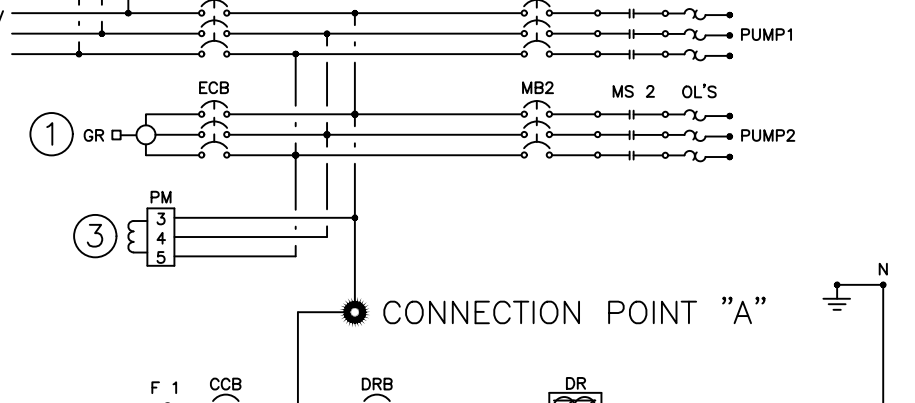
**LEGEND**

- AH ALARM HORN
- AL ALARM LIGHT
- ASB ALARM SILENCE BUTTON
- ATS ALTERNATOR W/ TEST SWITCH
- CCB CONTROL CIRCUIT BREAKER
- DRB DUPLEX RECEPTACLE BREAKER
- DRB DUPLEX RECEPTACLE BREAKER
- ECB EMERGENCY CIRCUIT BREAKER
- ETM ELAPSED TIME METER
- F FUSE
- FL FLASHER
- FS FLOAT SWITCH (REGULATOR)
- GR GENERATOR RECEPTACLE
- GRD GROUND
- HOA HAND-OFF-AUTOMATIC SELECTOR
- LA LIGHTNING ARRESTOR
- MB MOTOR BREAKER
- MCB MAIN CIRCUIT BREAKER
- MS MOTOR STARTER
- N NEUTRAL
- OL'S OVERLOAD HEATERS
- PM PHASE MONITOR
- PTS PUMP TERMINAL STRIP
- R RELAY
- RC RUN CAPACITOR
- RD DISCHARGE RESISTOR
- RL PUMP RUN INDICATORS
- RTS REGULATOR TERMINAL STRIP
- SC START CAPACITOR
- SF SEAL FAIL (SHAFT)
- SR START RELAY
- SP SURGE PROTECTOR
- TTS THERMAL TERMINAL STRIP

### SINGLE PHASE WIRING DIAGRAM



### THREE PHASE WIRING DIAGRAM



PANELS SHALL CONFORM TO FLORIDA DEP 62-604 F.A.C.

- GENERATOR RECEPTACLE FOR EMERGENCY POWER CONNECTION WITH INTERLOCK
- SURGE PROTECTION AND LIGHTNING PROTECTION ON ALL INCOMING LEGS
- PHASE PROTECTION SHALL BE PROVIDED
- SHAFT SEAL FAIL DETECTION
- ALTERNATOR w/ TEST SWITCH

PANEL MANUFACTURER SHALL BE A "UL" LISTED SHOP.

TSC DUPLEX GRINDER PUMP STATION  
 FIBERGLASS WET WELL

**TECHNICAL SALES CORPORATION**  
 TSC PRE-FAB PUMP SOLUTIONS®  
 WATERWORKS & WASTEWATER SPECIALTIES

*Representing Innovative Manufacturers*  
 MODEL TSC2-48.0 ©

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 TAMPA, FL 33614 FAX (813)874-1194  
 EMAIL: Sales@TSCtampa.com  
 REV-21 SCALE: N.T.S.

NO.	DATE	DESCRIPTION
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Engineering ~ Environmental  
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 7908 Cooper Creek Blvd  
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**LIFT STATION DETAILS**

**HIDDEN LAKES RESIDENTIAL**

ISSUED FOR: PERMITTING  
 JOB #143  
 SEC. 11  
 TWS-305  
 RNG-20E  
 DESIGNED: JRO  
 DRAWN: JRO  
 APPROVED: JAC

JOSEPH ANTHONY C. PH.D.  
 LICENSE  
 NO. 67540  
 STATE OF FLORIDA  
 PROFESSIONAL ENGINEER

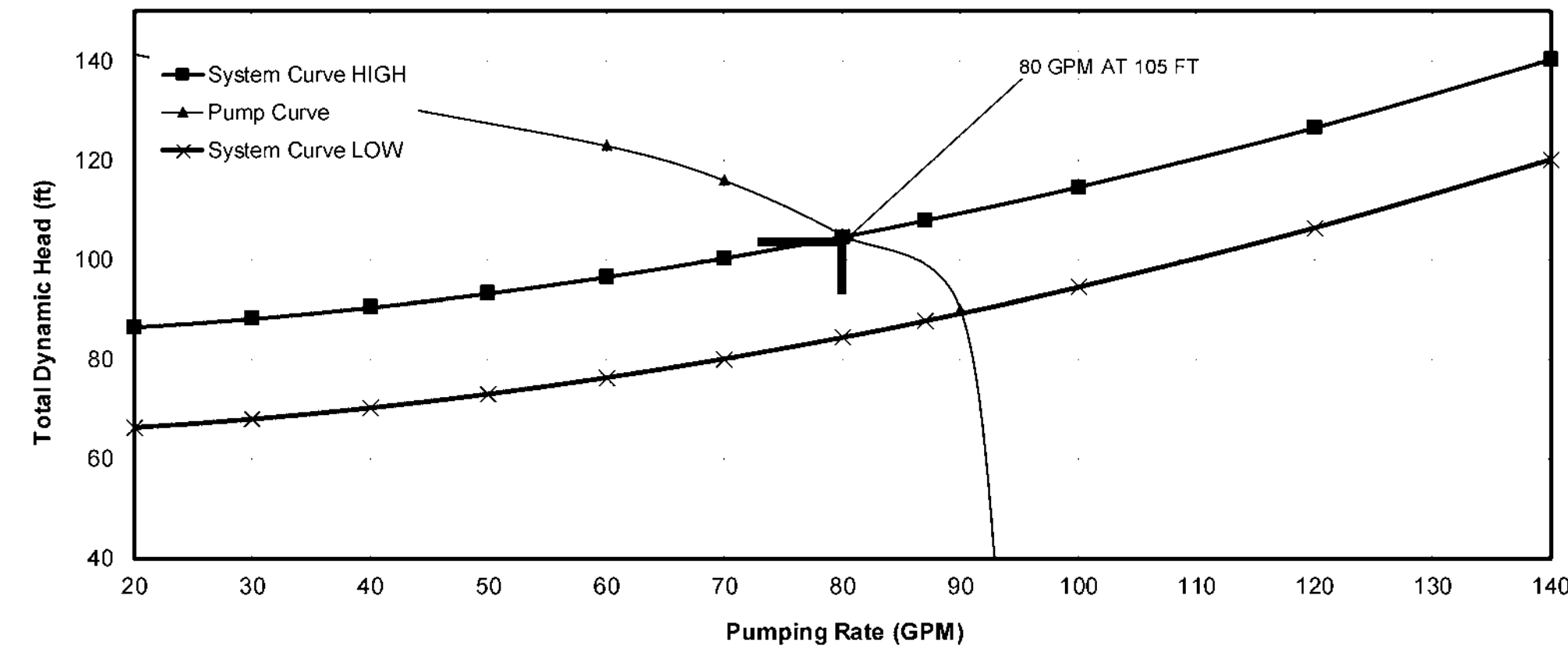
48" DUPLEX GRINDER STATION-2" PIPING W/ SLIDE RAIL SYSTEM, VALVE BOX AND F.D.E.P. PANEL TSCE2-48.0 R21©

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Plot Date: 10/21/2021 10:58:49 AM

2021 WRA

SYSTEM CURVE VS. PUMP PERFORMANCE CURVE



SYSTEM CURVE CALCULATIONS

I. Pump Station Piping			
1. Equivalent Lengths			
Quantity	Size (in)	Type	Equivalent Length
14.82	2	PVC	25
2	2	90 deg Elbows	24
0	2	45 deg Elbows	0
0	2	22.5 deg Elbows	0
1	2	Gate Valve	3
1	2	Check Valve	25
0	2	Tapping Valve	0
1	2	Tee	25
SUB-TOTAL			102

II. On-Site and Off-Site Piping			
1. Equivalent Lengths			
Quantity	Size	Type	Equivalent Length
361	4	PVC	361
3	4	90 deg Elbows	27
0	4	45 deg Elbows	0
2	4	22.5 deg Elbows	8
2	4	Gate Valve	6.4
0	4	Check Valve	0
0	4	Tapping Valve	0
1	4	Tee	25
SUB-TOTAL			427.4

III. Static Head	
All Pumps Off in Wetwell (ft-NGVD)	26.68
Pipe Center Line At Discharge (ft-NGVD)	30.00
<b>Total Static Head (ft)</b>	<b>3.32</b>

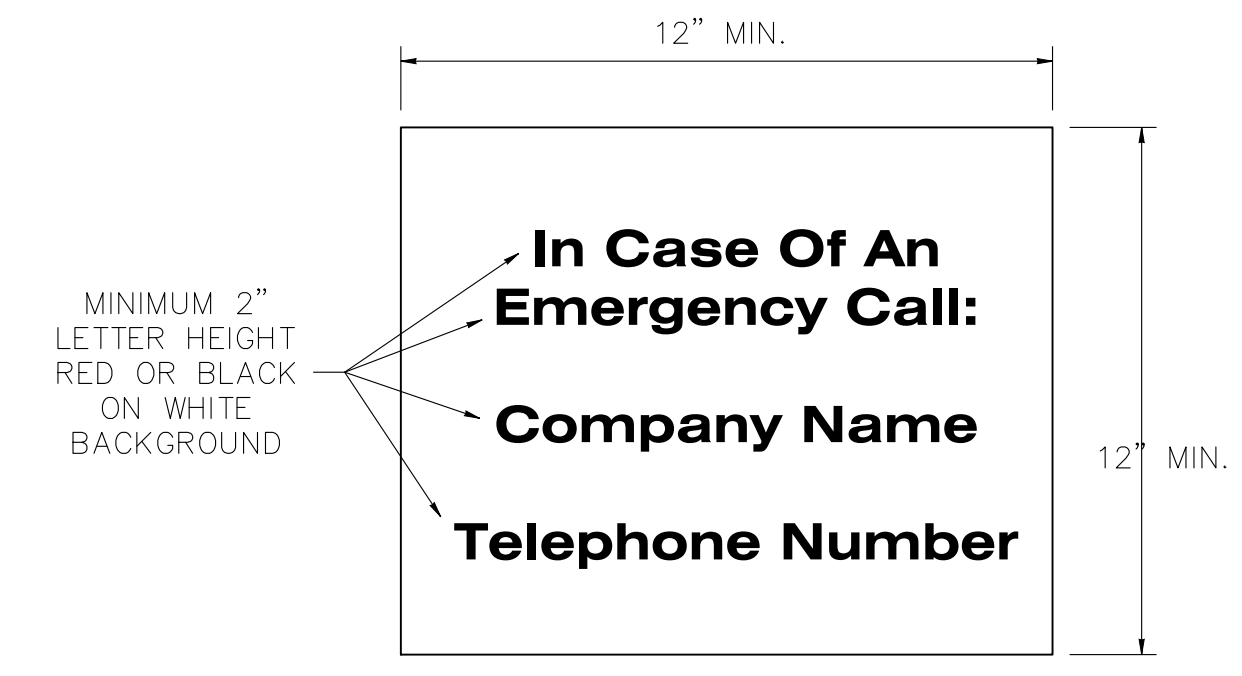
IV. Peak Pressure Head at POC (ft)	
Pressure (psi)	35

V. Static Pressure Head at POC (ft)	
Pressure (psi)	27

SYSTEM CURVE VS PUMP CURVE OPERATING CONDITIONS

ITEM	FLOW RATE (GPM)												
	0	10	20	30	40	50	60	70	80	87	100	120	140
<b>A. FRICTION LOSS</b>													
(1) EQUIVALENT LENGTH PUMPING STATION PIPING 102 LF OF 2 PVC	0.0	0.4	1.3	2.8	4.8	7.2	10.1	13.4	17.2	20.1	26.0	36.4	48.4
(2) EQUIVALENT LENGTH ON-SITE AND OFF-SITE PIPING 427.4 LF OF 4 PVC	0.0	0.1	0.2	0.4	0.7	1.0	1.4	1.9	2.5	2.9	3.7	5.2	6.9
<b>B. STATIC HEAD</b> 3.32 ft	3.32	3.32	3.32	3.32	3.32	3.32	3.32	3.32	3.32	3.32	3.32	3.32	3.32
<b>C. DESIGN PRESSURE AT POINT OF CONNECTION</b>	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6
PEAK STATIC 81.60 ft	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4
<b>D. TOTAL LOSS (HIGH) (SYSTEM CURVE)</b>	85	85	86	88	90	93	96	100	105	108	115	127	140
<b>E. TOTAL LOSS (LOW) (SYSTEM CURVE)</b>	65	65	66	68	70	73	76	80	84	88	94	106	120

Values per Hazen Williams Coefficients of 120.



TYPICAL PUMP STATION EMERGENCY ADVISORY SIGN DETAIL

NOT TO SCALE  
SIGN TO BE POSTED CONSPICUOUSLY ON PUMP STATION WALL OR GATE OR ON THE CONTROL PANEL IF NO WALL OR GATE.

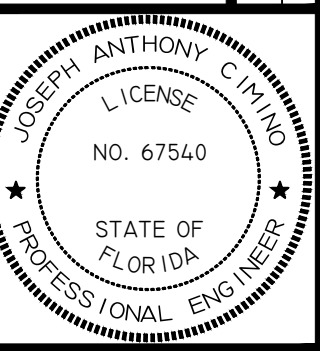
REVISIONS			
NO.	DATE	DESCRIPTION	BY
6			
5			
4	7/29/21	RESPOND TO COUNTY COMMENTS	
3	3/30/21	RESPOND TO COUNTY COMMENTS	
2	3/9/21	RESPOND TO SWFWMD COMMENTS	
1	2/3/21	RESPOND TO COUNTY COMMENTS	

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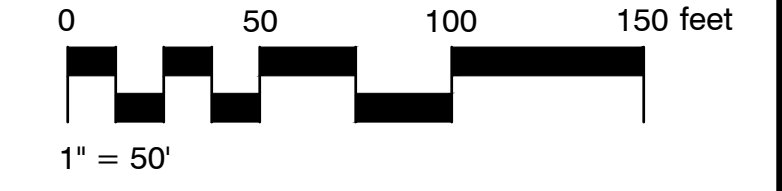
LIFT STATION DETAILS

HIDDEN LAKES  
RESIDENTIAL

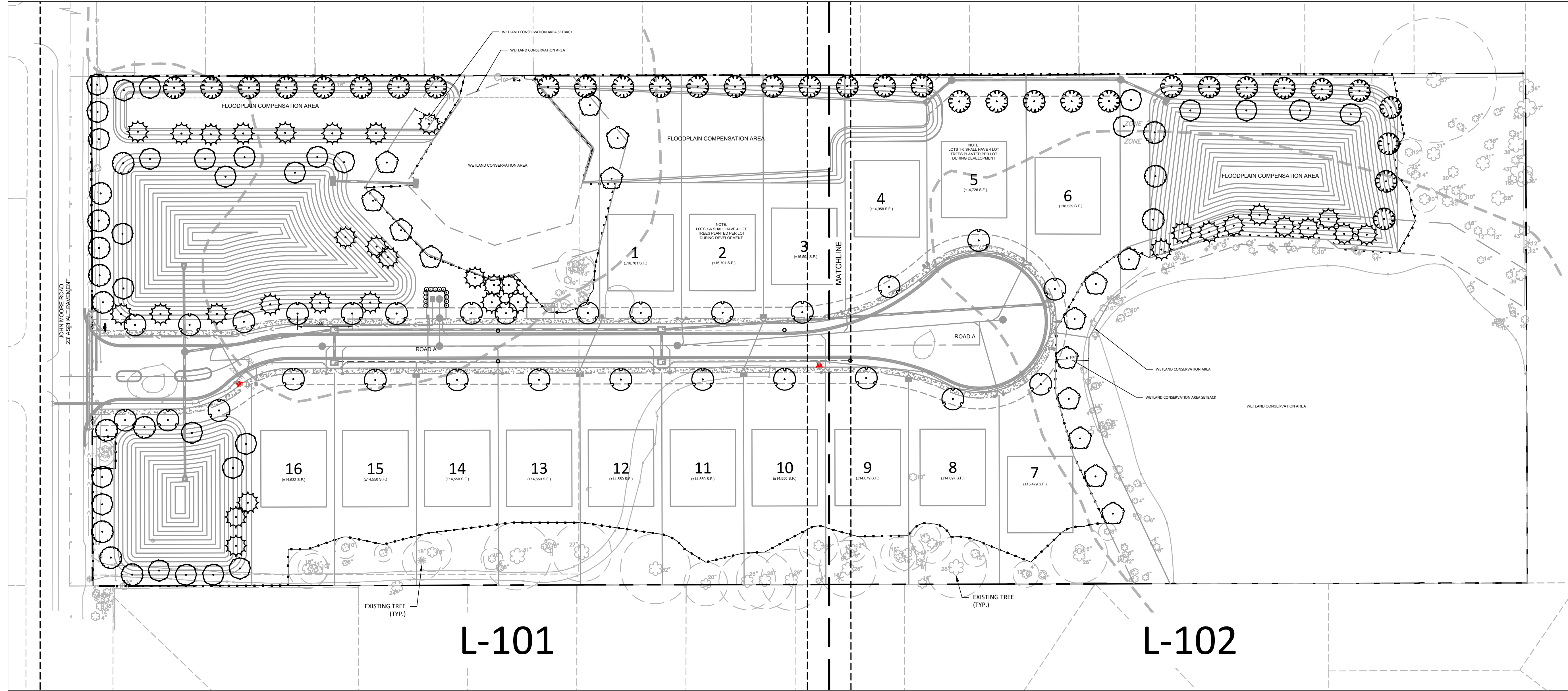


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 Job Date: 10/21/2021 10:04:15 AM  
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**NOTE:** THE OWNER OR TENANT SHALL PROVIDE ADEQUATE SOIL, WATER, OR OTHER PLANT NEEDS TO SUSTAIN HEALTHY GROWTH AND MATURITY OF PLANT SPECIES. DISEASE OR INSECT INFESTATION SHALL BE MONITORED AND TREATED BY THE TENANTS OR OWNER. DEAD OR DISEASED LANDSCAPE PLANTINGS SHALL BE REMOVED AND REPLACED BY THE TENANT OR PROPERTY OWNER.



L-101

L-102

NO.	DATE	DESCRIPTION
6		
5		
4	7/29/21	RESPOND TO COUNTY COMMENTS
3	3/30/21	RESPOND TO COUNTY COMMENTS
2	3/9/21	RESPOND TO SWFWMD COMMENTS
1	2/3/21	RESPOND TO COUNTY COMMENTS

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OVERALL  
 LANDSCAPE PLAN

HIDDEN LAKES  
 RESIDENTIAL



ISSUED FOR: PERMITTING  
 JOB # 143 SEC. 11 TWIN-305 RING-20E DESIGNED: GW DRAWN: GW APPROVED: SR

Datum: NAVD 88

L-100

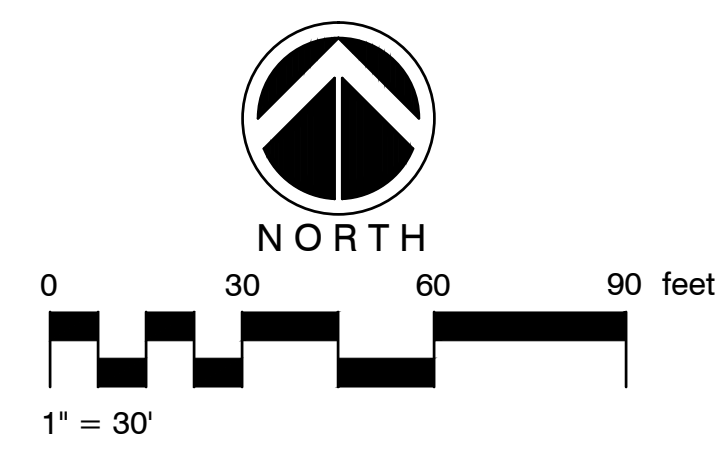
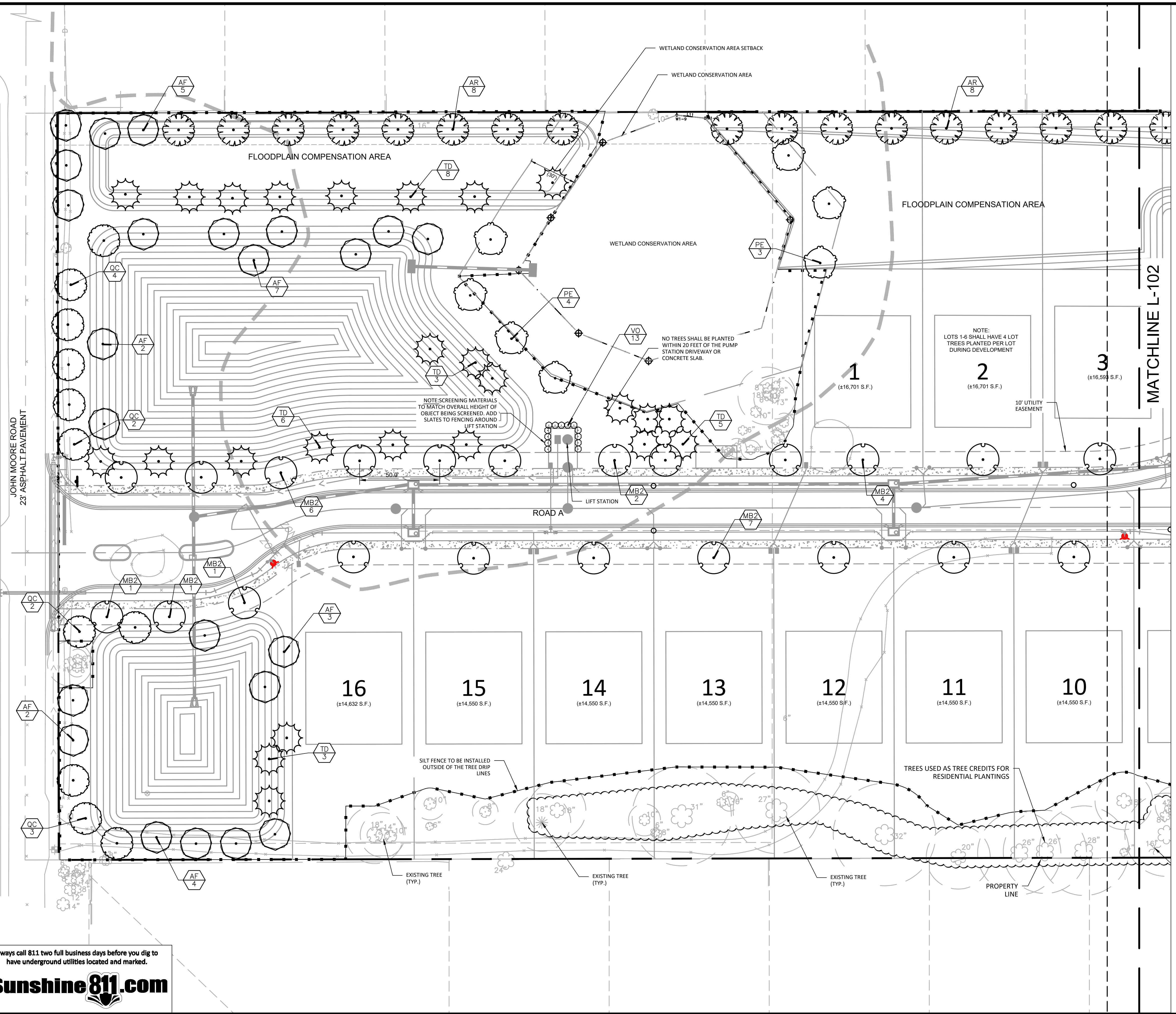
Always call 811 two full business days before you dig to have underground utilities located and marked.



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Plot Date: 10/21/2021 10:06:29 AM

2021 WRA



Always call 811 two full business days before you dig to have underground utilities located and marked.

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2	3/9/21	RESPOND TO SWFWD COMMENTS
1	2/3/21	RESPOND TO COUNTY COMMENTS

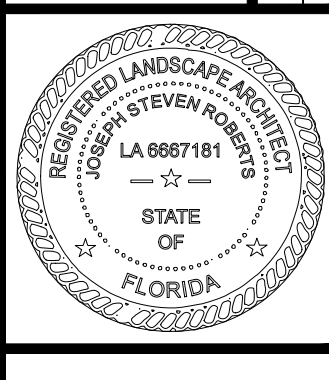
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**LANDSCAPE PLAN**

**HIDDEN LAKES RESIDENTIAL**

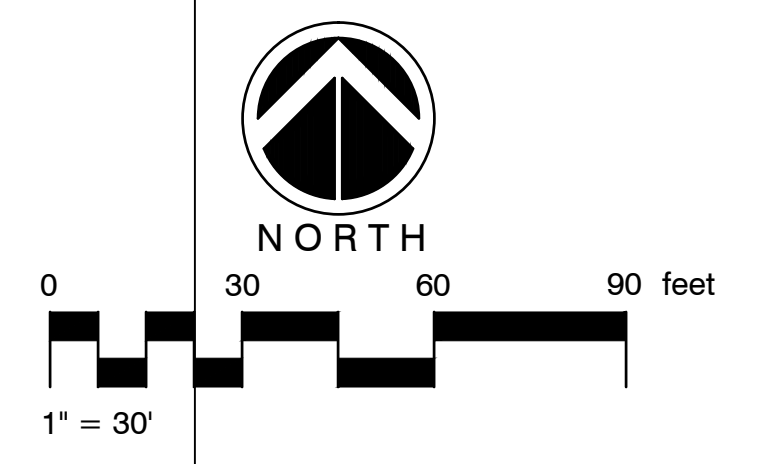
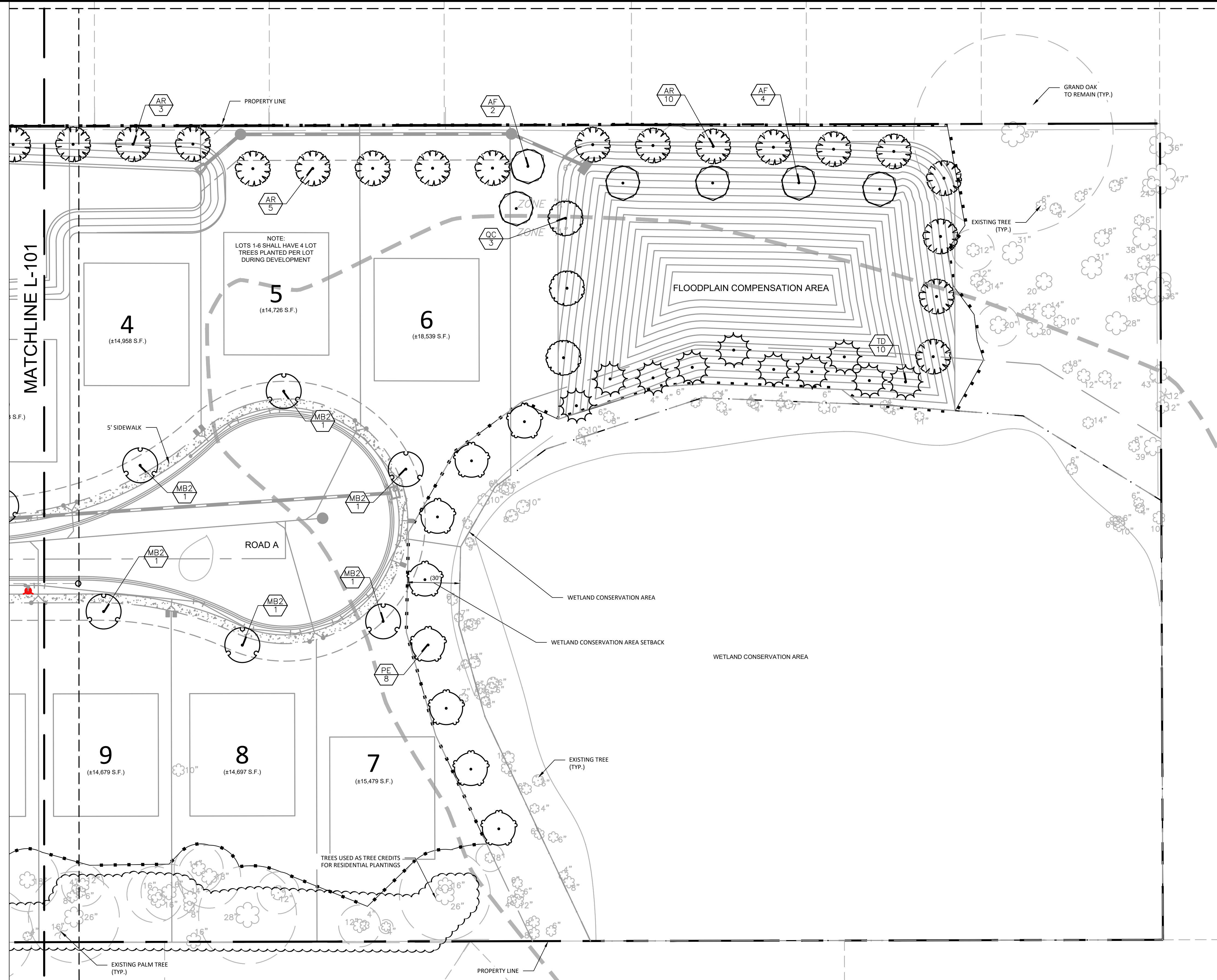
ISSUED FOR: PERMITTING  
 JOB #1543 SEC. 11 TWIN-305 RING-20E  
 DESIGNED: GW DRAWN: GW APPROVED: SR



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**L-101**

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Always call 811 two full business days before you dig to have underground utilities located and marked.



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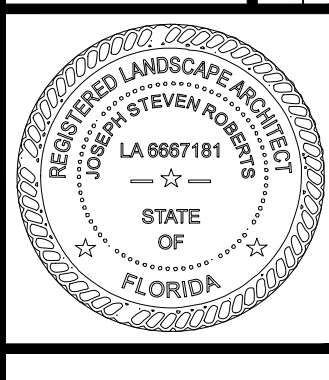
NO.	DATE	DESCRIPTION
1	2/3/21	RESPOND TO COUNTY COMMENTS
2	3/9/21	RESPOND TO SWFMD COMMENTS
3	3/30/21	RESPOND TO COUNTY COMMENTS
4	7/29/21	RESPOND TO COUNTY COMMENTS
5		
6		

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LANDSCAPE PLAN

HIDDEN LAKES  
 RESIDENTIAL  
 ISSUED FOR: PERMITTING  
 JOB #143  
 SEC: 11  
 TOWN: 308  
 RANG: 20E  
 DESIGNED: GW  
 DRAWN: GW  
 APPROVED: SR



Datum: NAVD 88

**LANDSCAPE NOTES:**

- STREET TREES SHALL BE PLANTED WITHIN THE ROAD RIGHT-OF-WAY A MINIMUM OF FIVE FEET FROM THE BACK OF CURB AND A MINIMUM OF THREE FEET FROM THE INSIDE EDGE OF A PROPOSED OR ESTABLISHED SIDEWALK. WHEN POSSIBLE, STREET TREES SHOULD BE CENTERED AND EVENLY SPACED IN FRONT OF THE LOT AND EVENLY SPACED ON ROADWAYS NOT FRONTED BY LOTS.
- WHEN NOT FEASIBLE TO PLANT TREES IN THE ROAD RIGHT-OF-WAY, AS DETERMINED BY THE ADMINISTRATOR, PLANTINGS SHALL BE PERMITTED ON THE LOT, PROVIDED THE TREES ARE INSTALLED WITHIN FIVE FEET OF THE RIGHT-OF-WAY.
- STREET TREES SHALL BE PLANTED A MINIMUM OF TEN FEET FROM ANY ABOVE GROUND UTILITY, SUCH AS TRANSFORMER PADS AND FIRE HYDRANTS.
- MAXIMUM FLEXIBILITY SHALL BE GIVEN TO THE PLACEMENT OF STREET TREES TO ACCOMMODATE IMPROVEMENTS SUCH AS DRIVEWAYS, UTILITIES, LIGHTING, ETC. THE UTILITY NOTIFICATION CENTER SHOULD BE NOTIFIED TO VERIFY THE LOCATION OF UTILITY LINES PRIOR TO PLANTING.
- STREET TREE PLANTINGS SHALL BE IN COMPLIANCE WITH THE PLANTING STANDARDS AND ROADWAY LANDSCAPING GUIDELINES DESCRIBED IN GUIDELINES FOR LANDSCAPING HILLSBOROUGH COUNTY ROADWAYS.
- COMMERCIAL SITE DEVELOPMENT PROJECTS, NO MORE THAN 50% OF THE LANDSCAPED AREA MAY BE PLANTED WITH SHALLOW-ROOTED (I.E., ST. AUGUSTINE) TURF GRASS VARIETIES. THESE TURF GRASS VARIETIES SHALL BE CONSOLIDATED IN AND LIMITED TO AREAS THAT ARE PROVIDED WITH CENTRAL AUTOMATIC IRRIGATION SYSTEMS.

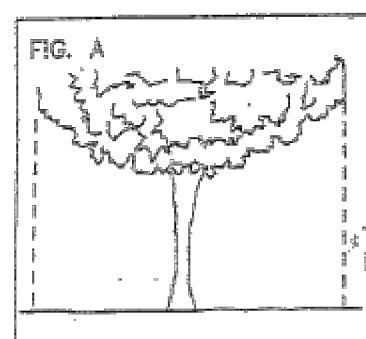
**PLANT SCHEDULE**

TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	NATIVE	REMARKS
	AR	34	ACER RUBRUM	RED MAPLE	3" CAL.	B&B	YES	TREE FROM; PRUNED FOR PEDESTRIAN CLEARANCE; FLORIDA #1
	AF	29	ACER RUBRUM 'FLORIDA FLAME'	FLORIDA FLAME RED MAPLE	3" CAL.	B&B	YES	FLORIDA #1
	PE	15	PINUS ELLIOTTI	SLASH PINE	3" CAL.	B&B	YES	FLORIDA #1
	QC	14	QUERCUS VIRGINIANA	CATHEDRAL LIVE OAK	3" CAL.	B&B	YES	FLORIDA #1
	TD	35	TAXODIUM DISTICHUM	BALD CYPRESS	3" CAL.	B&B	YES	FLORIDA #1
STREET TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	NATIVE	REMARKS
	MB2	28	MAGNOLIA GRANDIFLORA 'BRACKENS BROWN BEAUTY'	BRACKEN'S SOUTHERN MAGNOLIA	4" CAL.	B&B	YES	FLORIDA #1
SCREENING SHRUB	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	NATIVE	REMARKS
	VO	13	VIBURNUM OBOVATUM	WALTER'S VIBURNUM	7 GAL.	B&B	YES	48" MIN. HT.; 48" O.C.

**PROTECTIVE BARRIER REQUIREMENTS  
AND  
SPECIFICATIONS FOR EXISTING TREES TO REMAIN**

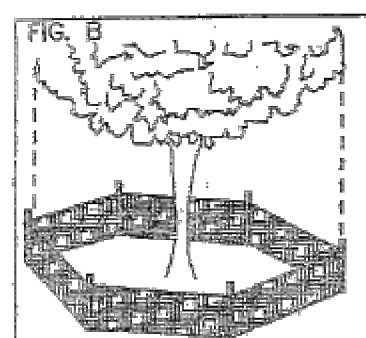
PROTECTIVE BARRIERS are used during land alteration and construction activities to protect trees and natural areas to be retained on a site.

PROTECTIVE BARRIERS must be erected around TREES to be retained within an area where land alteration and construction activities will occur as well as along NATURAL AREAS where such areas are adjacent to permitted land alteration or construction activities. A PROTECTIVE BARRIER must remain in place until the land alteration and construction activities are completed or until commencement of grade finishing and sodding. No ground disturbance must occur within the barricaded area. The following represents the County's minimum protective barrier specifications.



- TREES - To restrict access into the area within the CANOPY DRIPLINE of a tree, a physical structure not less than 3 feet in height, comprised of wood or other suitable material, is placed around the tree at the CANOPY DRIPLINE, except where land alteration or construction activities are approved within the CANOPY DRIPLINE.

The CANOPY DRIPLINE of a tree is the imaginary, vertical line that extends downward from the outermost tips of the tree's branches to the ground. Fig. A

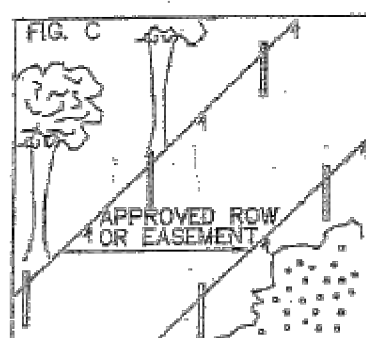


**BARRIER SPECIFICATIONS FOR TREES:**

Four corner upright stakes of no less than 2"x 2" lumber connected by horizontal members of no less than 1"x 4" lumber; or upright stakes spaced at 5' intervals of no less than 1"x 1" lumber connected by silt screen fabric or material of comparable durability. Fig. B

- NATURAL AREAS - To restrict access into areas where land alteration and construction activities are not authorized a physical structure not less than 3 feet in height is placed along the perimeter of such areas.

**BARRIER SPECIFICATIONS FOR NATURAL AREAS:**



Upright stakes of no less than 1"x 1" lumber spaced no more than 25' apart and connected by twine flagged with plastic surveying tape at regular intervals of 5-10'. Fig. C. Other methods of demarcation will be considered depending upon the characteristics of the site.

**WHY A BARRIER**

- To protect all above ground portions of trees and other significant vegetation from mechanical damage.
- To protect root systems from compaction.
- To provide awareness of protected areas to equipment operators.

**TREE PRESERVATION PLAN**

- IF ANY, TEMPORARY BARRICADES SHALL BE REMOVED PROMPTLY UPON COMPLETION OF THE WORK.
- CONTRACTOR IS RESPONSIBLE TO REPLACE AND RESTORE DAMAGED SITE LIGHTING, DEAD OR LANDSCAPE MATERIALS/PLANTS, PARKING LOT PAVING, SIDEWALK PAVING, CURBS, SIGNAGE, IRRIGATION EQUIPMENT OR ANY OTHER DAMAGED ITEMS DUE TO CONSTRUCTION ACTIVITIES IF LOCATED ON TARGET PROPERTY.
- EXCAVATIONS AND DISTURBANCES CAUSED TO TURF AND LANDSCAPED AREAS ON TARGET LAND SHALL BE BACKFILLED AND GRADED SO AS TO BE FREE OF TRIPPING HAZARDS AND THE LIKE.
- THE CONTRACTOR SHALL KEEP ALL TARGET PROPERTY FREE OF CONSTRUCTION MATERIALS, DEBRIS, AND ANY RELATED ITEMS AT ALL TIMES. AREAS WHERE SOIL, MUD OR SAND HAS BEEN DEPOSITED ONTO TARGET PROPERTIES DUE TO CONSTRUCTION ACTIVITIES SHALL BE CLEANED IMMEDIATELY.
- FOR LOCATIONS ON TARGET PROPERTY, ANY EXCAVATION WITHIN PAVED OR AREAS TRAVELED BY VEHICLES AND PEDESTRIANS, REMOVAL OF PAVEMENT AND OR TRENCHES MUST BE IMMEDIATELY BACKFILLED AND COMPACTED SO THAT IT IS SAFE FOR VEHICULAR AND PEDESTRIAN TRAFFIC. PEDESTRIAN AND OR VEHICULAR ROUTES MUST BE SAFE AND USEABLE AT ALL TIMES DURING THE TARGET STORE HOURS OF OPERATION AND FOR 1 HOUR BEFORE OPENING AND 1 HOUR AFTER CLOSING. REMOVED PAVEMENT WILL BE RESTORED WITH LIKE MATERIALS PROMPTLY. EXCAVATIONS AND DISTURBANCES CAUSED TO TURF AND LANDSCAPED AREAS SHALL BE BACKFILLED AND GRADED SO AS TO BE FREE OF TRIPPING HAZARDS AND THE LIKE.

TREE REMOVAL TABLE (Above 24")			
Diameter	Count	Ratio	Total Inches
24	21	0.5	252
25	2	0.5	25
26	23	0.5	299
27	5	0.5	67.5
28	17	0.5	238
29	4	0.5	58
30	5	0.5	75
32	1	0.5	16
33	3	0.5	49.5
35	1	0.5	17.5
36	1	0.5	18
38	1	0.5	19
40	2	0.5	40
42	1	1.0	42
43	1	0.5	21.5
44	1	0.5	22
44	1	1.0	44
45	1	1.0	45
Total Replacement Inches			1349

STREET TREES					
SEC. 6.06.05					
The planting of street trees along local and collector roadways of subdivisions shall be required. One street tree for each lot shall be required. For lots on culs-de-sac, one street tree shall be planted on every other lot beginning with the lot at the cul-de-sac entry. Along collector and local streets not fronted by lots, one street tree shall be required per 50 linear feet of roadway on both sides of the road right-of-way.					
	# LOTS	# LOTS ON CULS-DE-SAC	R.O.W NORTH L.F.	R.O.W. SOUTH L.F.	TOTAL STREET TREES REQ'D
TREES REQUIRED	10	6	461	127	28
TREES PROVIDED	10	6	9	3	28

RESIDENTIAL PLANTINGS		
SEC. 6.06.03.B		
A MINIMUM NUMBER OF TREES SHALL BE REQUIRED BASED ON DEVELOPMENT TYPE AND AREA.		
DEVELOPMENT TYPE AND AREA - SINGLE FAMILY LOT - GREATER THAN 10,890 BUT LESS THAN 21,780 S.F.		
LOT SIZES	>= 10,890 - <21,780	
16 LOTS	4 SHADE TREES PER LOT	
TREES REQ'D	64	
TREES PROVIDED	LOTS 1-6	24*
TREES PROVIDED	LOTS 7-16	40 EXISTING TREE CREDITS
*TO BE PROVIDED DURING LOT CONSTRUCTION.		

ABOVE GROUND UTILITY EQUIPMENT	
SEC. 6.06.06.C	
ALL NEWLY DEVELOPED AND REDEVELOPED ABOVE GROUND UTILITY APPURTENANCES VISIBLE FROM THE PUBLIC RIGHT-OF-WAY, INCLUDING PEDESTALS, UTILITY METERS, TRANSFORMERS, BACK-FLOWP PREVENTION DEVICES, ETC., SHALL BE SCREENED. MATERIALS EARTH TONE COLORS FOR SCREENING SHALL BE COMPATIBLE WITH THE NATURAL SETTING AND SURROUNDING STRUCTURES. CHAIN LINE FENCING ALONE SHALL NOT BE ACCEPTED.	
NOTE: CONTRACTOR TO PROVIDE SHRUB MATERIAL EQUAL IN HEIGHT AND SPACED 4" O.C. FOR ALL ABOVE GROUND UTILITIES NOT SHOWN ON PLANS. SHRUB MATERIAL SHALL BE SELECTED FROM AN COUNTY APPROVED PLANT LIST OR THOSE PLANT SPECIES CURRENTLY SPECIFIED IN THE PLANS.	
4' HT. ABOVE GROUND UTILITY EQUIPMENT	=13 SHRUBS REQ'D
13 SHRUBS PROVIDED	

TREE REMOVAL REPLACEMENT	
SEC. 4.01.06.A	
THE DEVELOPER SHALL BE REQUIRED TO REPLACE 50 PERCENT OF THE TOTAL DBH OF ANY TREE HAVING A DBH OF 24 INCHES OR GREATER OR ANY CLUMP OF TREES, AS DEFINED IN THE CODE, THAT IS TO BE REMOVED FROM THE SITE TOTALING 24 INCHES OR GREATER.	
1349	DBH INCHES REMOVED
310	DBH PROPOSED TREES PROVIDED (NEW PLANTINGS & CREDITS)
1039	REMAINING DBH INCHES DEFICIT
0	DBH CREDITS (FROM EXISTING TREES RETAINED)
1039	TREE INCHES TO BE PAID INTO TREE FUND

TREE REPLACEMENT CALC'S		
ITEMS BEING PLANTED	NUMBER OF TREES	TOTAL DBH INCHES
3" CAL. TREES (2" DBH CREDIT)	127	254
4" CAL. TREES (3" DBH CREDIT)	28*	56
5" CAL. TREES (4" DBH CREDIT)	0	0
TOTAL		310

Tree Fund Calculation		
Total DBH to be Replaced	1349	
Total DBH Provided	310	
Excess DBH to be Replaced or Paid	1039	
\$ 65.00	\$ 67,535.00	Cost to pay into fund

\* SEE TREE REPLACEMENT NOTE, FIRST 1" DBH DOES NOT COUNT TOWARD REPLACEMENT

**TREE REPLACEMENT NOTE:**

- TREE REPLACEMENT IS IN DBH (DIAMETER BRESTH HEIGHT) AND NOT CALIPER INCH.
- YOU CAN UPSIZE THE REQUIRED LANDSCAPING TREES (SHADE SPECIES ONLY) AND GET CREDIT FOR EVERYTHING ABOVE 1" DBH / 2" CALIPER (EXAMPLE; A 4" CALIPER TREE = 3" DBH, RECEIVES 1" LANDSCAPE AND 2" REPLACEMENT CREDIT). EXTRA TREES PLANTED WILL RECEIVE FULL DBH CREDIT.

REVISIONS			
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LANDSCAPE SCHEDULE,  
NOTES & CALCULATIONS

HIDDEN LAKES  
RESIDENTIAL

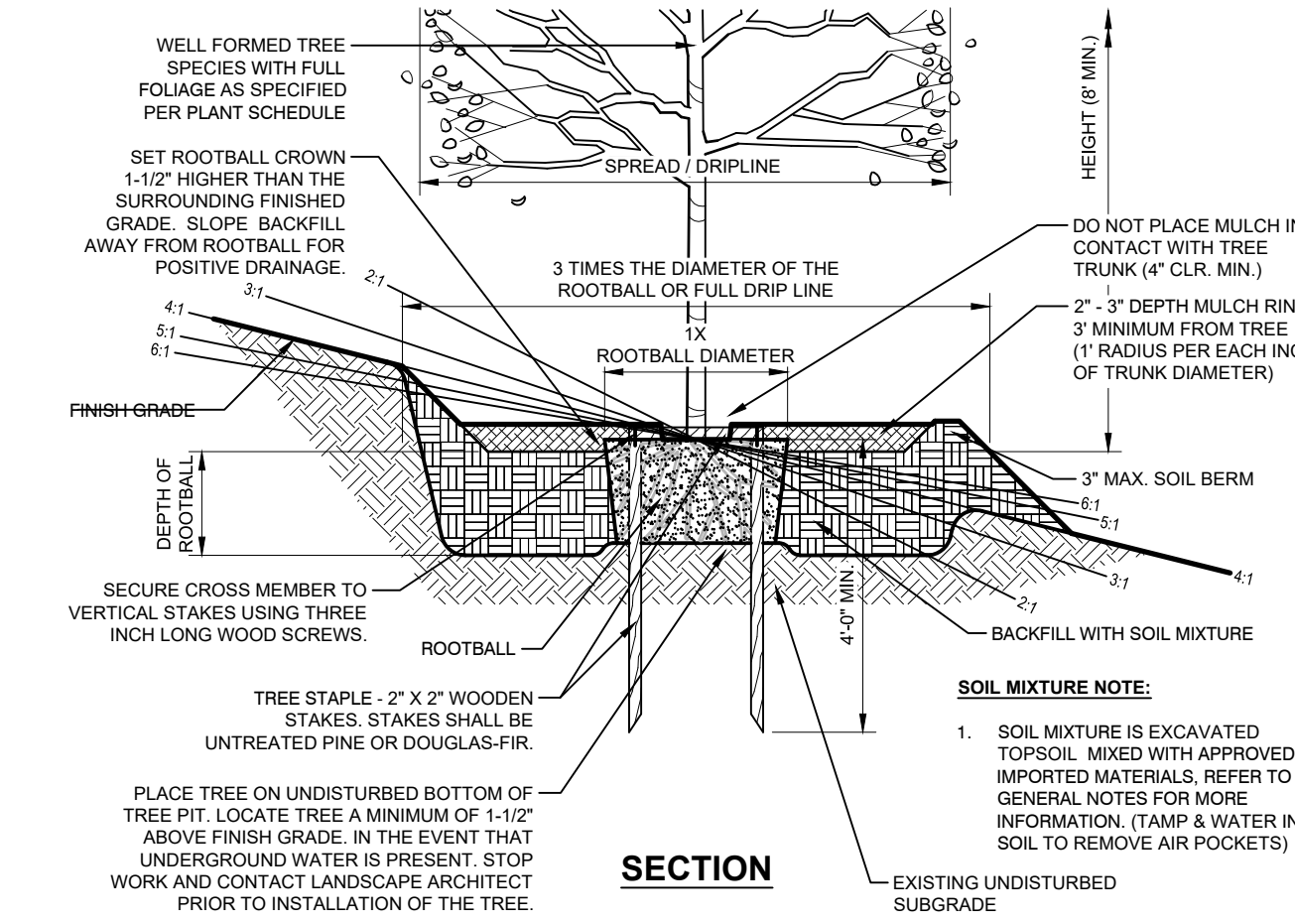
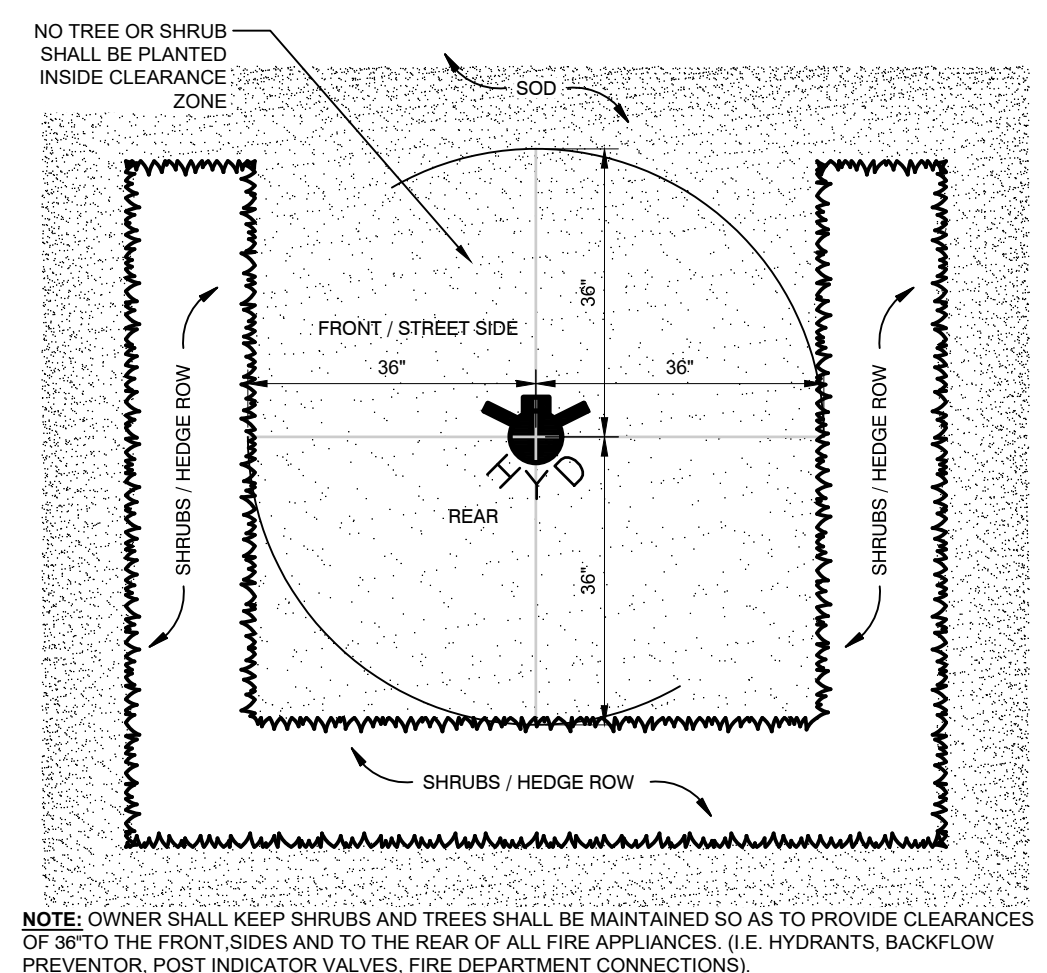
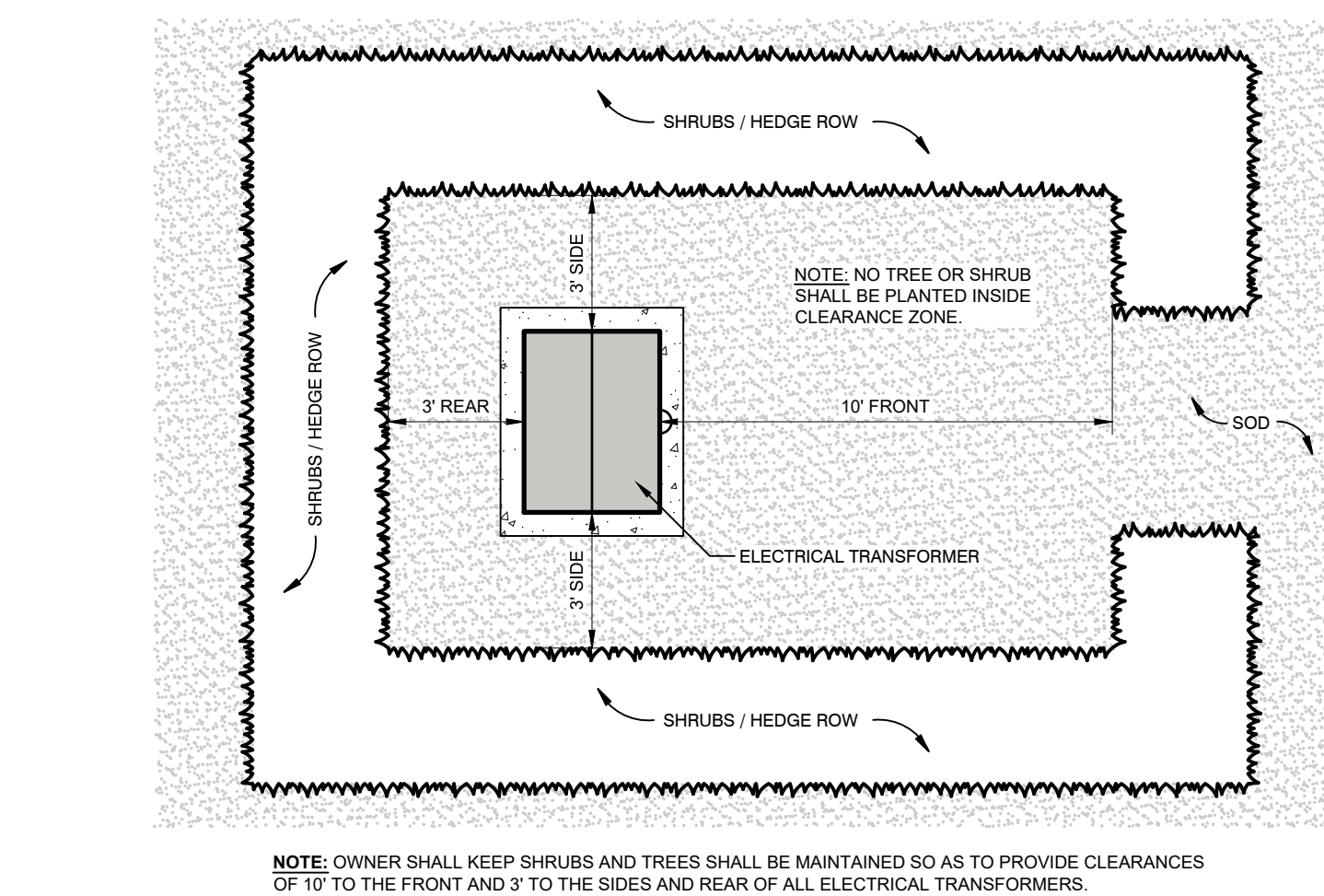
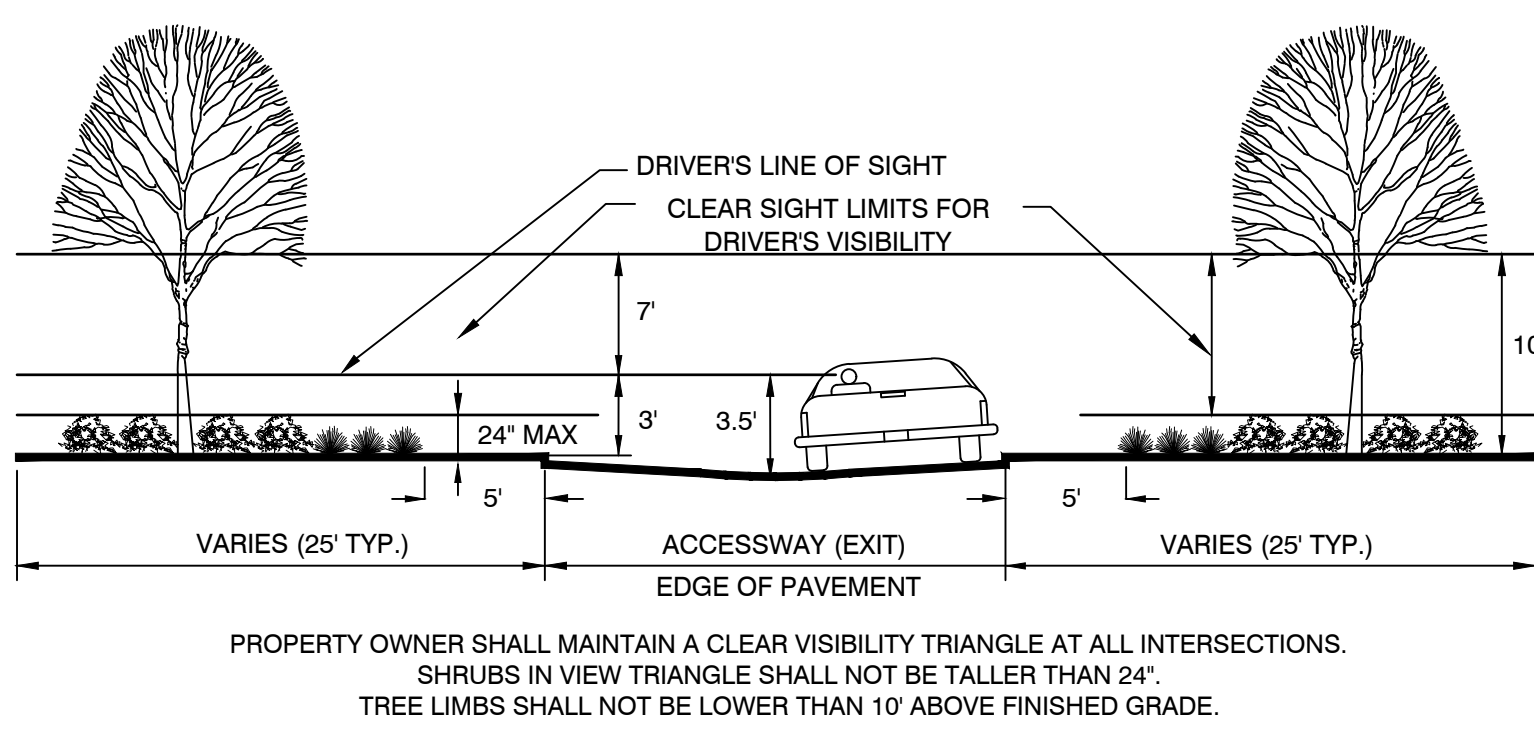
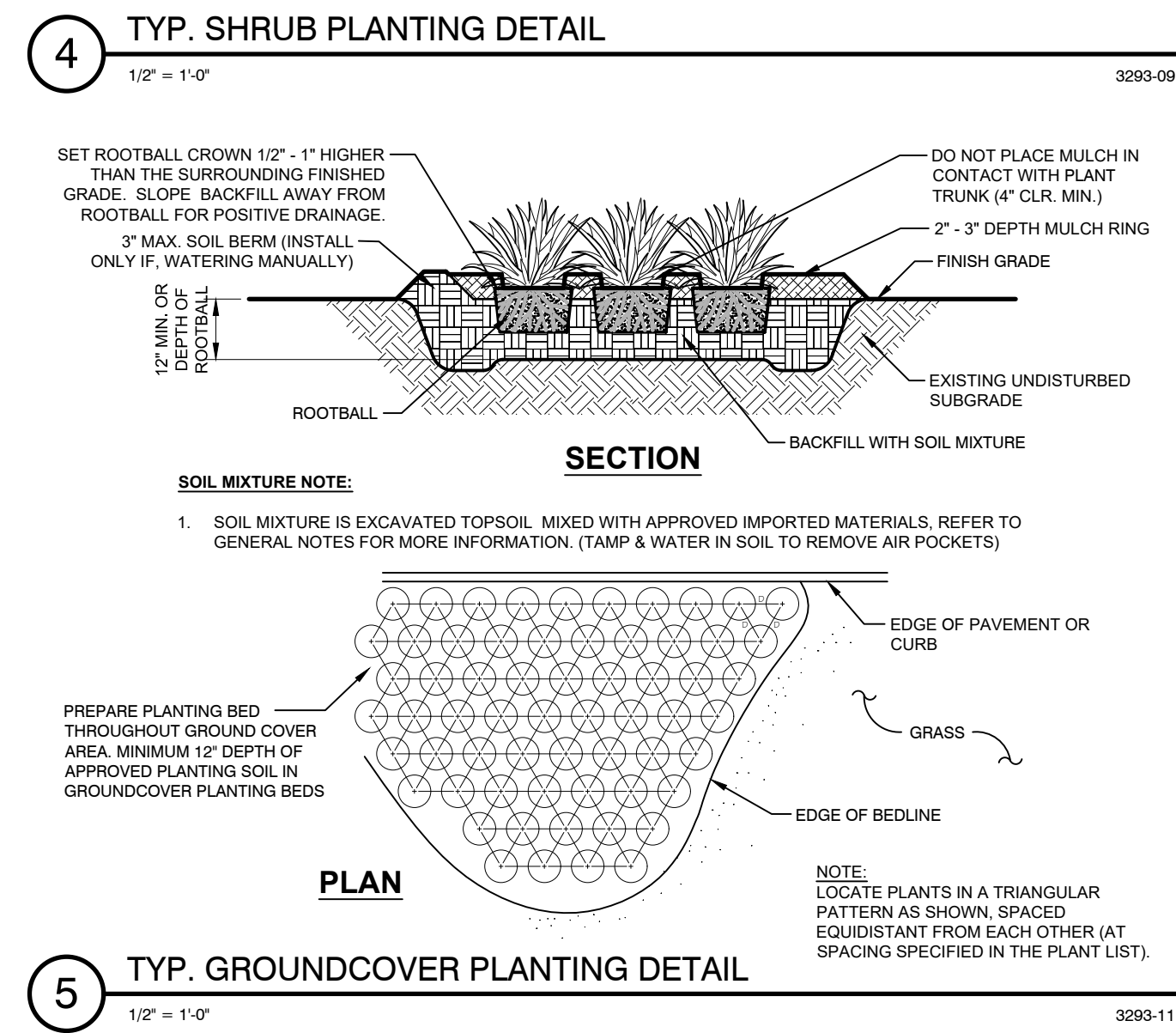
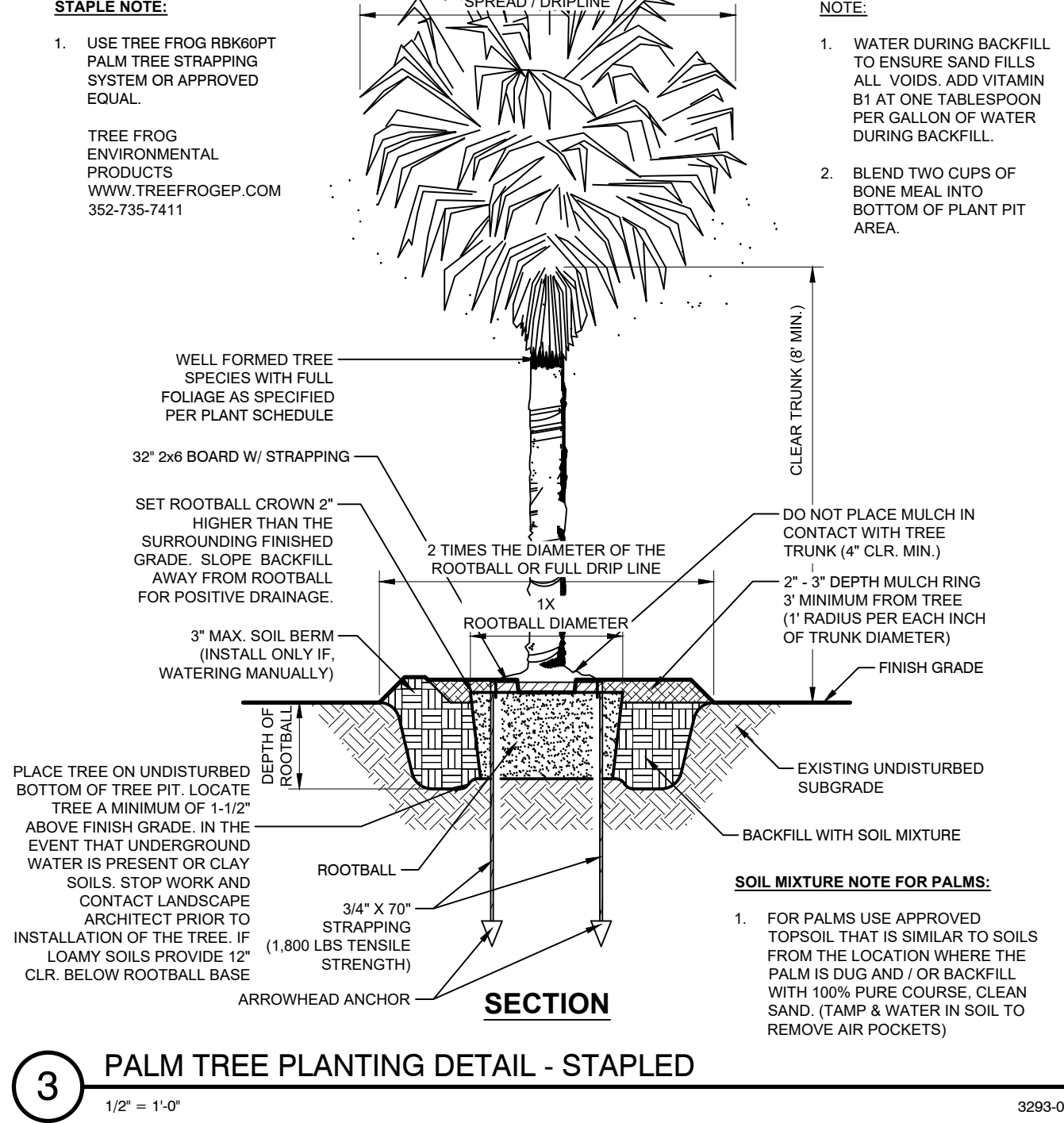
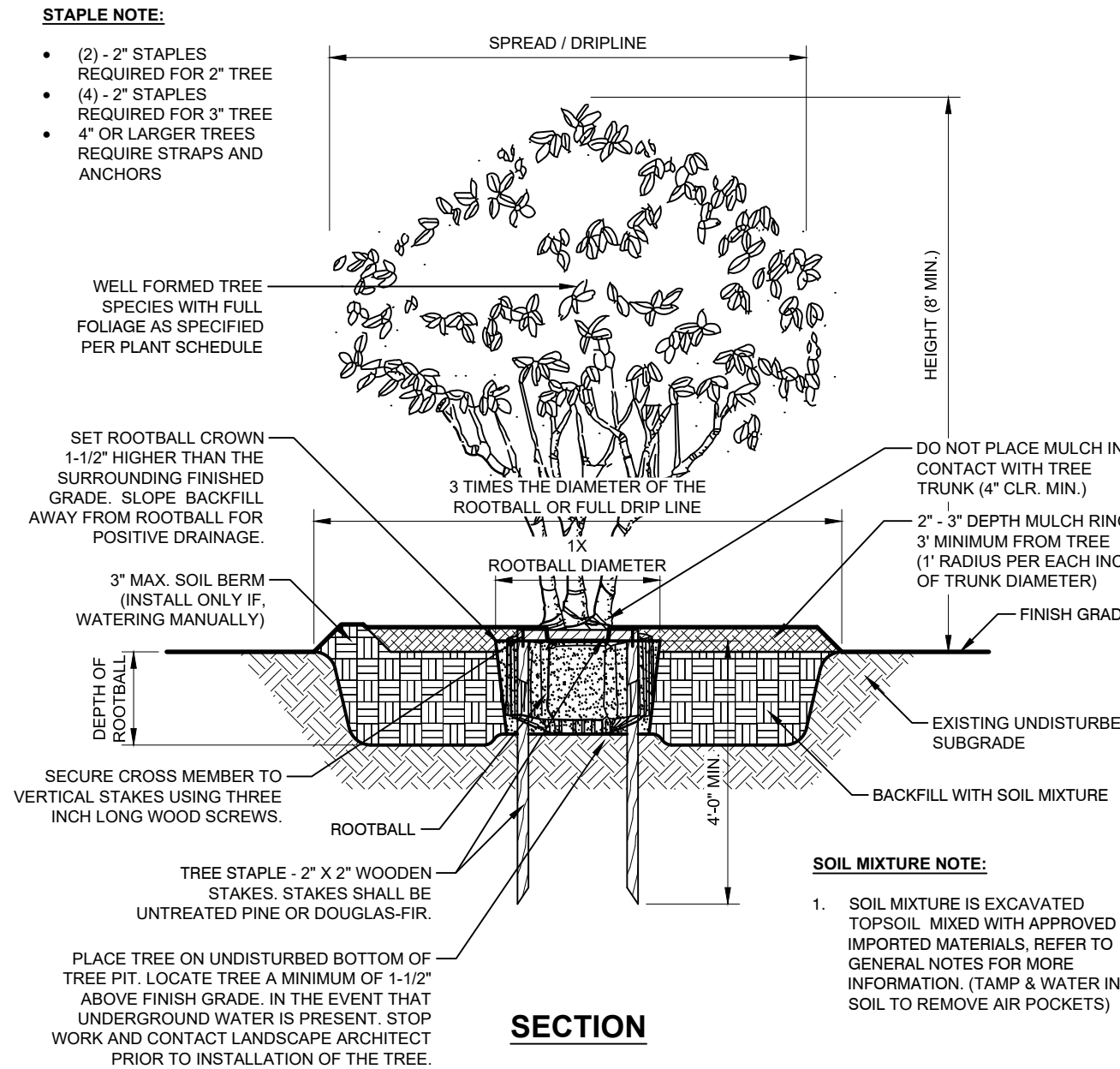
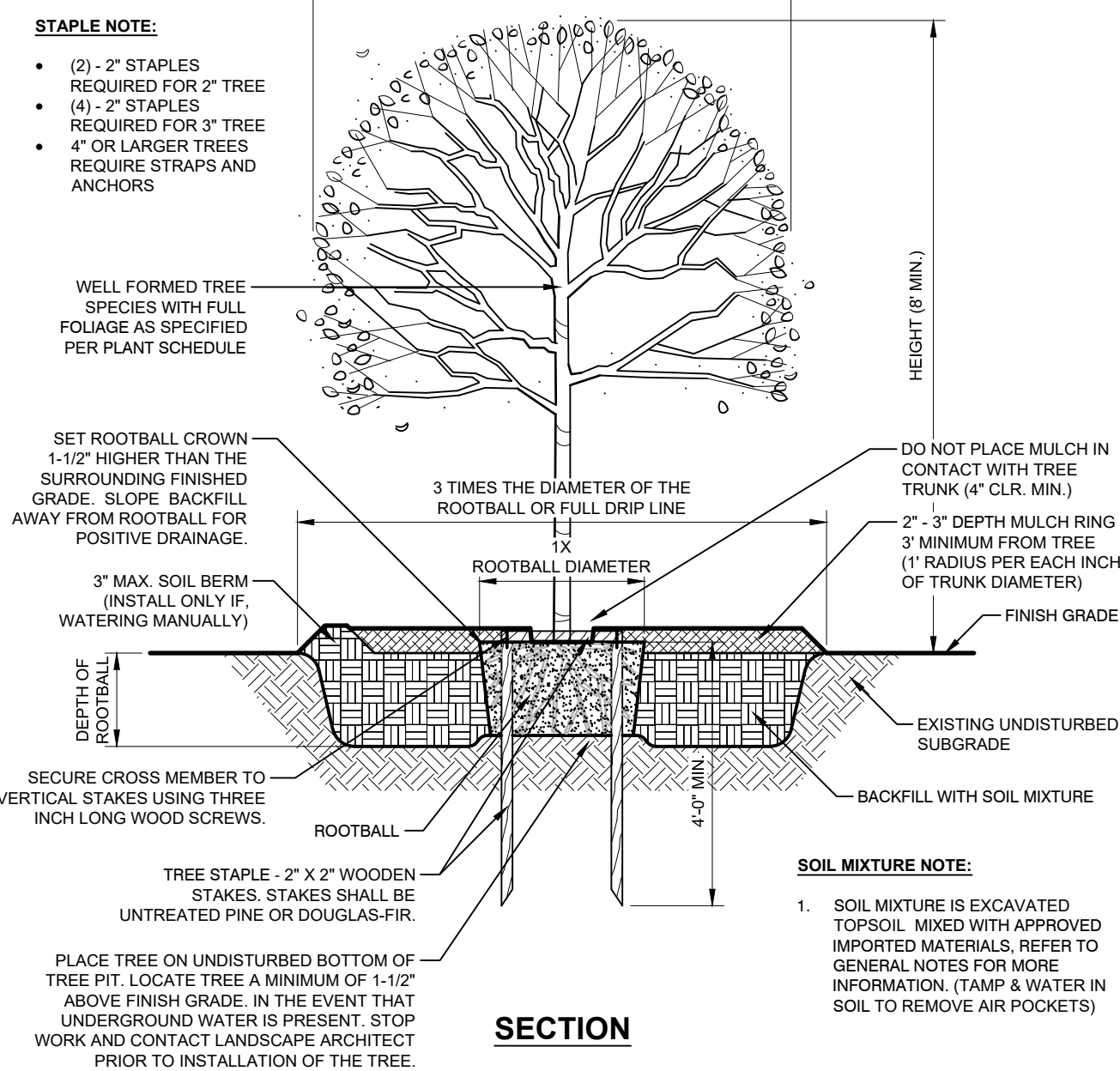
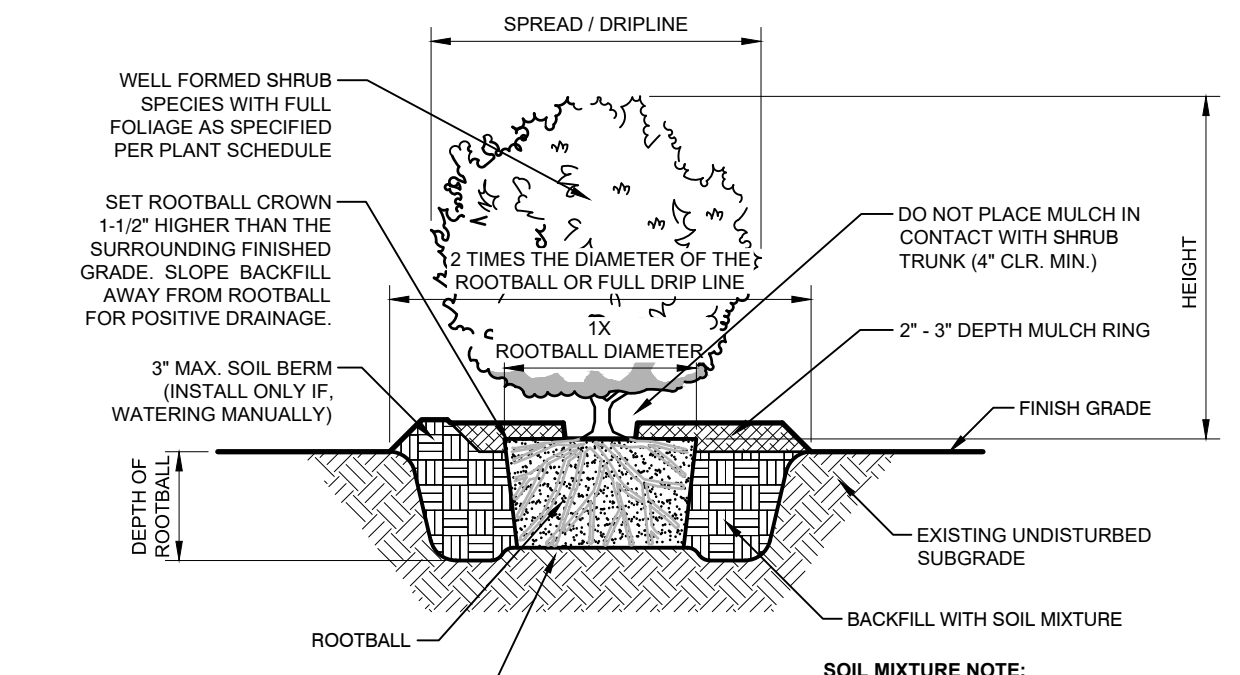
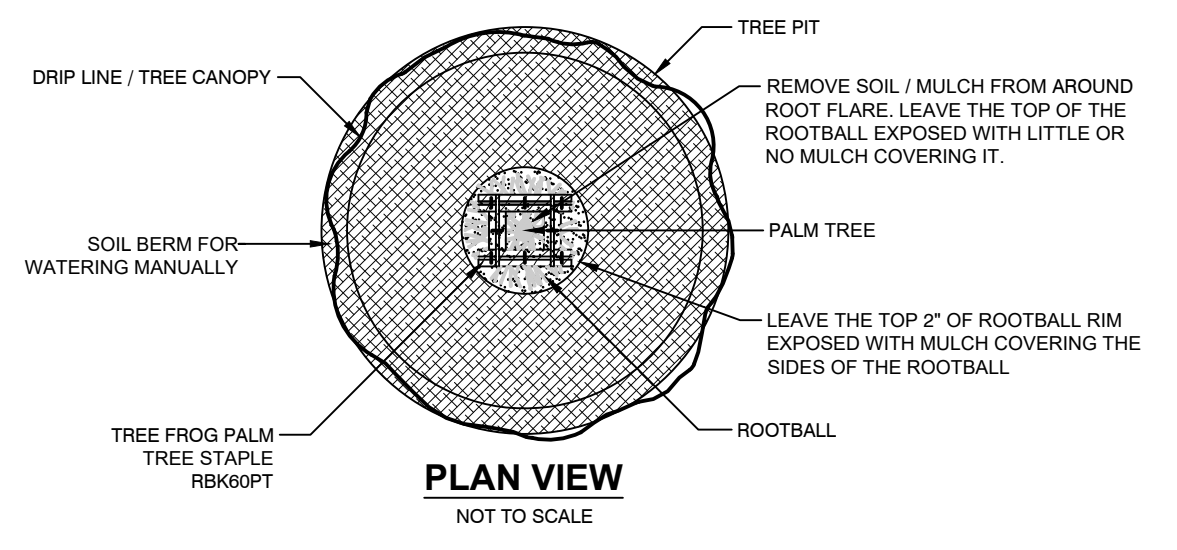
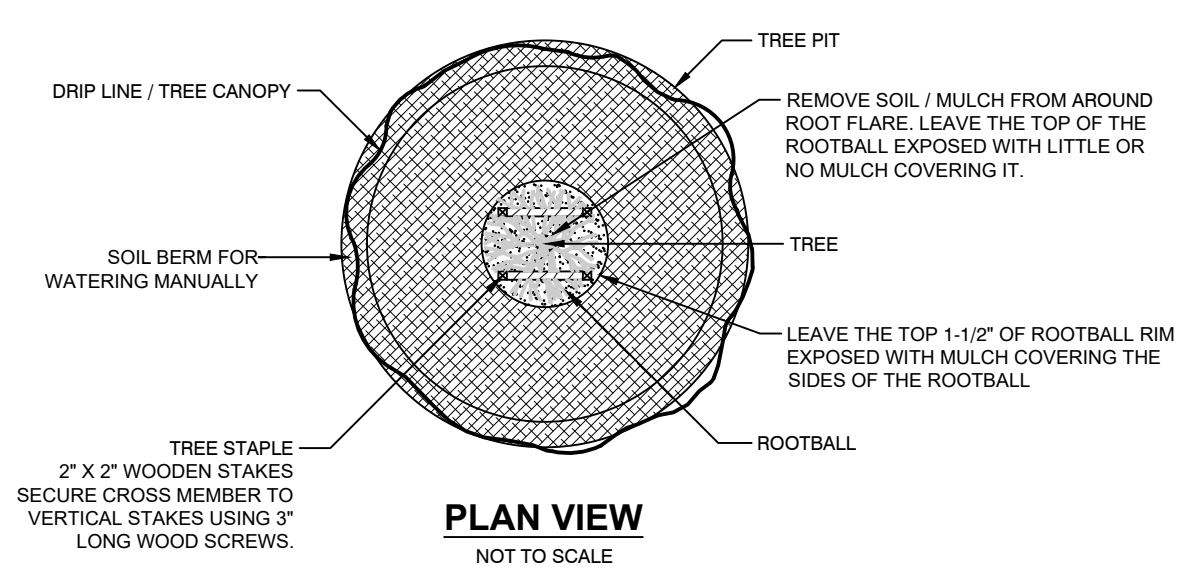
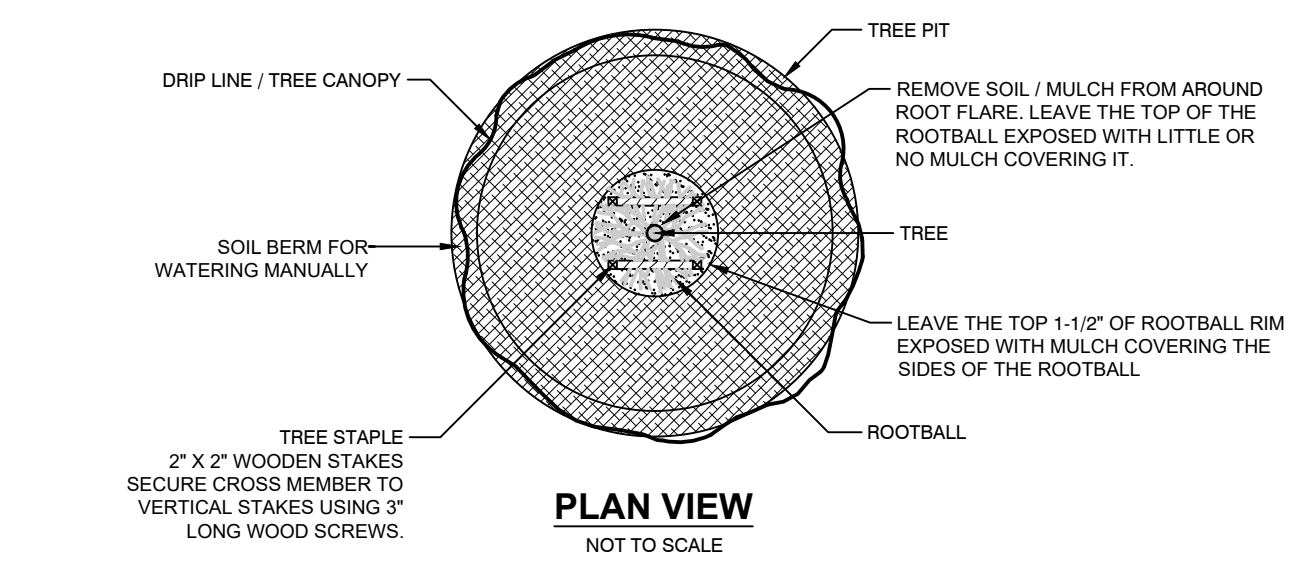


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 Plot Date: 10/21/2021 10:11:15 AM



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6		
5	7/29/21	RESPOND TO COUNTY COMMENTS
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3	3/30/21	RESPOND TO COUNTY COMMENTS
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1	2/3/21	RESPOND TO COUNTY COMMENTS

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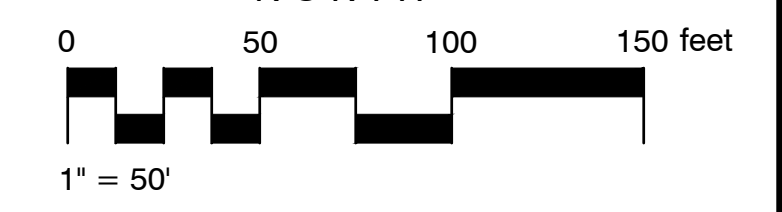


**LANDSCAPE DETAILS**  
 RING-20E DESIGNED-GW DRAWN-GW APPROVED-SR  
 TWIN-30S

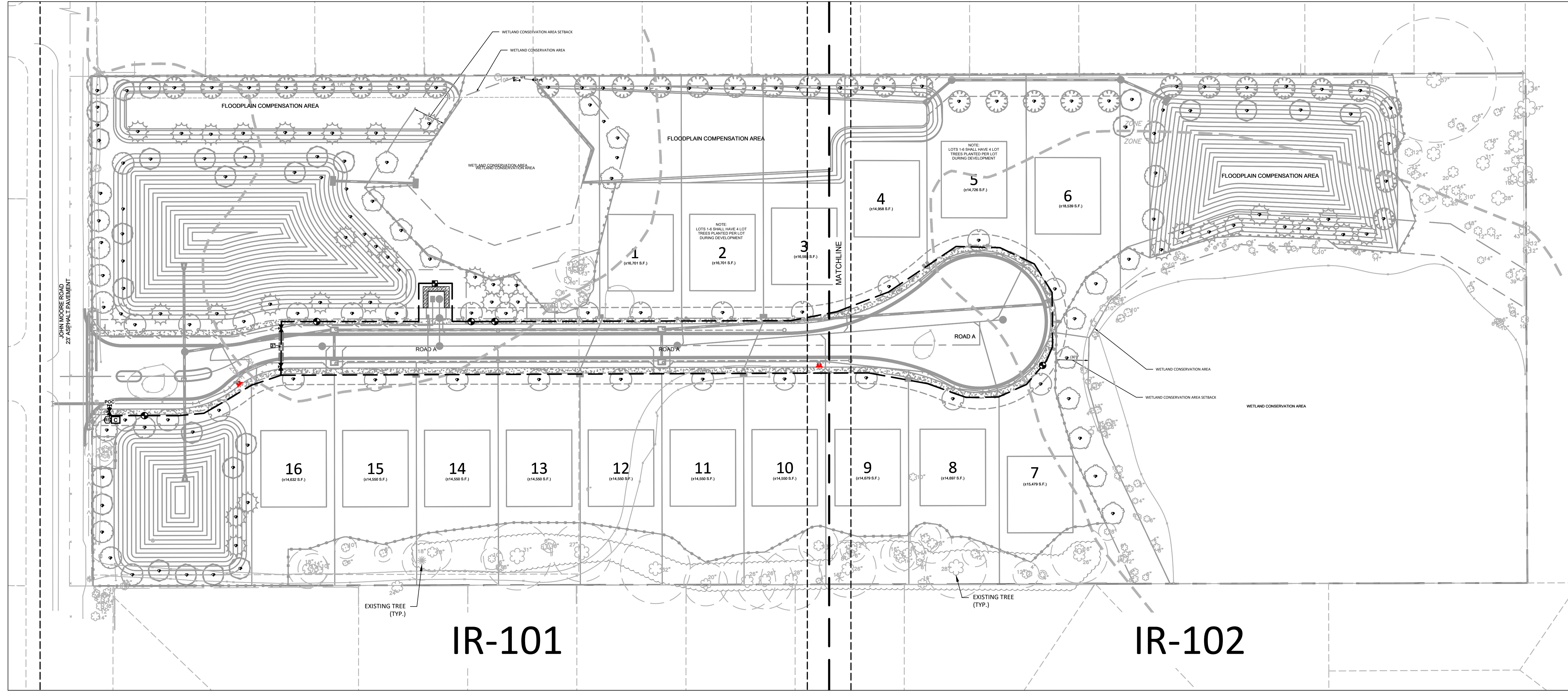
**HIDDEN LAKES RESIDENTIAL**  
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 Plot Date: 10/21/2021 10:11:57 AM  
 CAD File Path: S:\PROJECT FILES\1543 - RED ELK LAND CO. HIDDEN LAKE RESIDENTIAL CAD PLANS CONSTRUCTION PLAN IRRIGATION.DWG



**NOTE: PIPING SHOWN IS SCHEMATIC IN NATURE AND IS SHOWN FOR ROUTING PURPOSES. IT IS THE INTENT OF THE PIPING TO RUN ALONG THE INSIDE OF SIDEWALKS AND BED EDGES.**



**IR-101**

**IR-102**

**GENERAL NOTES:**

1. AN AUTOMATIC IRRIGATION SYSTEM IS REQUIRED TO MAINTAIN THE CODE MINIMUM LANDSCAPING SHOWN ON THIS PLAN AS A PART OF THIS APPROVAL PROCESS.

Always call 811 two full business days before you dig to have underground utilities located and marked.



NO.	DATE	DESCRIPTION
6		
5		
4	7/29/21	RESPOND TO COUNTY COMMENTS
3	3/30/21	RESPOND TO COUNTY COMMENTS
2	3/9/21	RESPOND TO SWFWMD COMMENTS
1	2/3/21	RESPOND TO COUNTY COMMENTS

**Engineering ~ Environmental Water Resource ~ Survey**  
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 University Park, Florida 34201  
 4260 W. Linscomb Ave.  
 Tampa, Florida 33624  
 www.wraengineering.com  
 CA 00070652 LB 8274  
 Phone: 813.265.3130 941.275.9721



**OVERALL IRRIGATION PLAN**

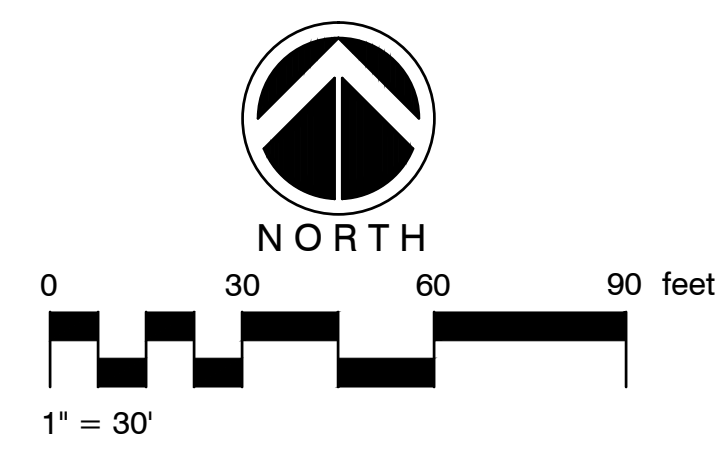
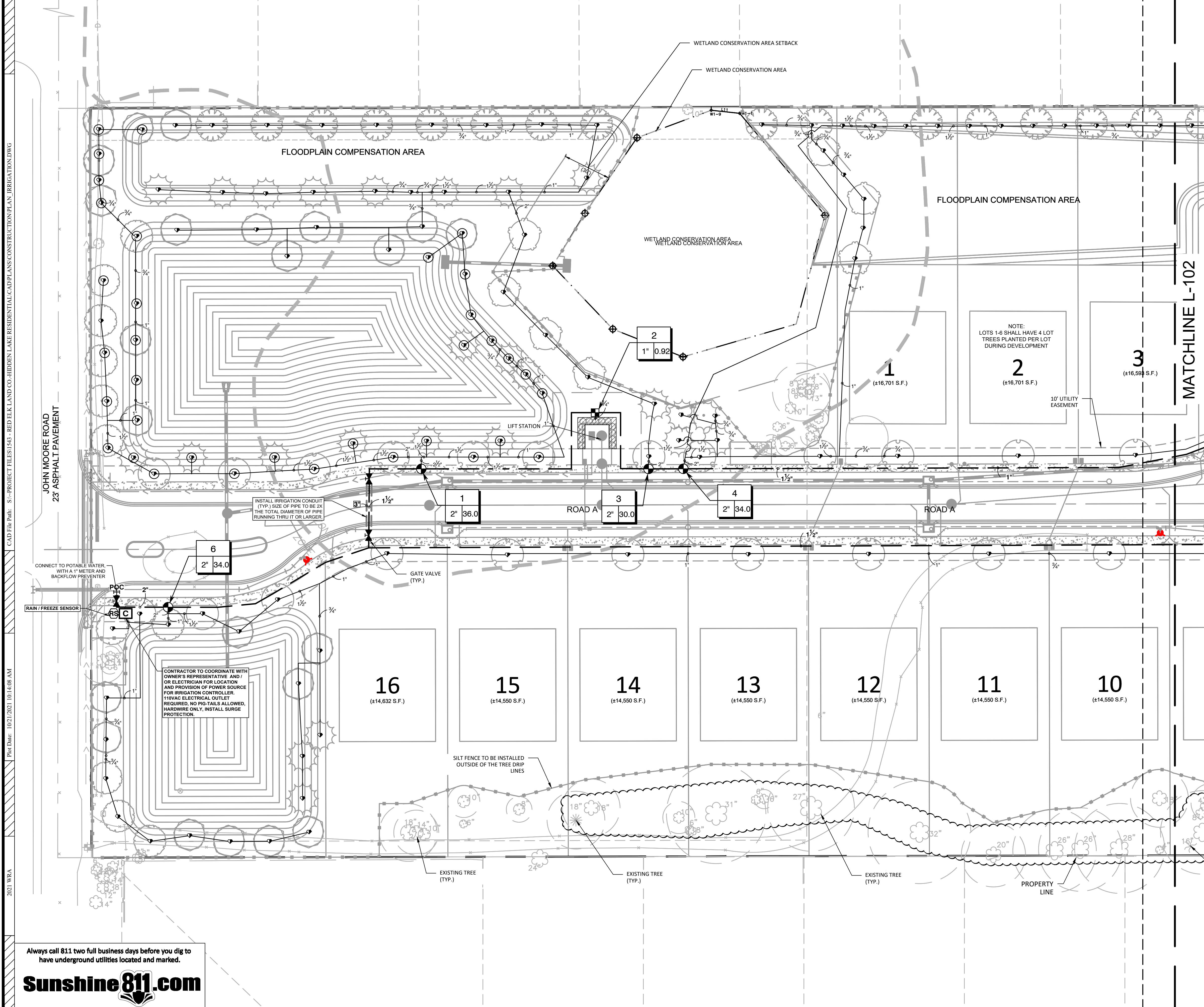
**HIDDEN LAKES RESIDENTIAL**



ISSUED FOR: PERMITTING  
 JOB #1543 SEC. 11 TWIN-305 RNG-20E DESIGNED-GW DRAWN-GW APPROVED-SR

Datum: NAVD 88

**IR-100**



2021 WRA  
 Plot Date: 10/21/2021 10:14:08 AM  
 CAD File Path: S:\PROJECT FILES\143 - RED ELK LAND CO. HIDDEN LAKES RESIDENTIAL CAD PLANS CONSTRUCTION PLAN IRRIGATION.DWG

Always call 811 two full business days before you dig to have underground utilities located and marked.



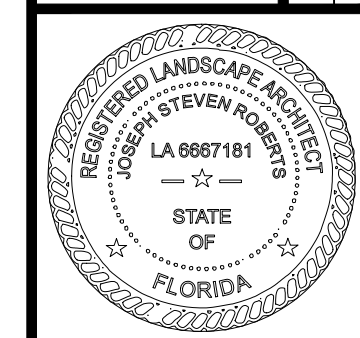
**NOTE: PIPING SHOWN IS SCHEMATIC IN NATURE AND IS SHOWN FOR ROUTING PURPOSES. IT IS THE INTENT OF THE PIPING TO RUN ALONG THE INSIDE OF SIDEWALKS AND BED EDGES.**

NO.	DATE	DESCRIPTION
1	2/3/21	RESPOND TO COUNTY COMMENTS
2	3/9/21	RESPOND TO SWFWD COMMENTS
3	3/30/21	RESPOND TO COUNTY COMMENTS
4	7/29/21	RESPOND TO COUNTY COMMENTS
5		
6		

**Engineering ~ Environmental**  
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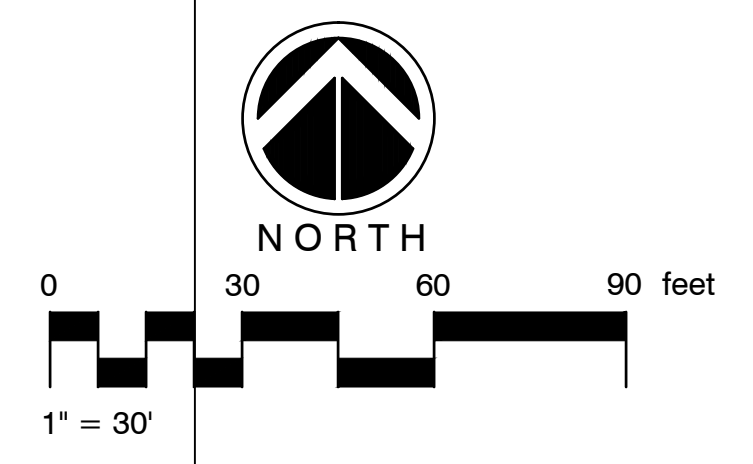
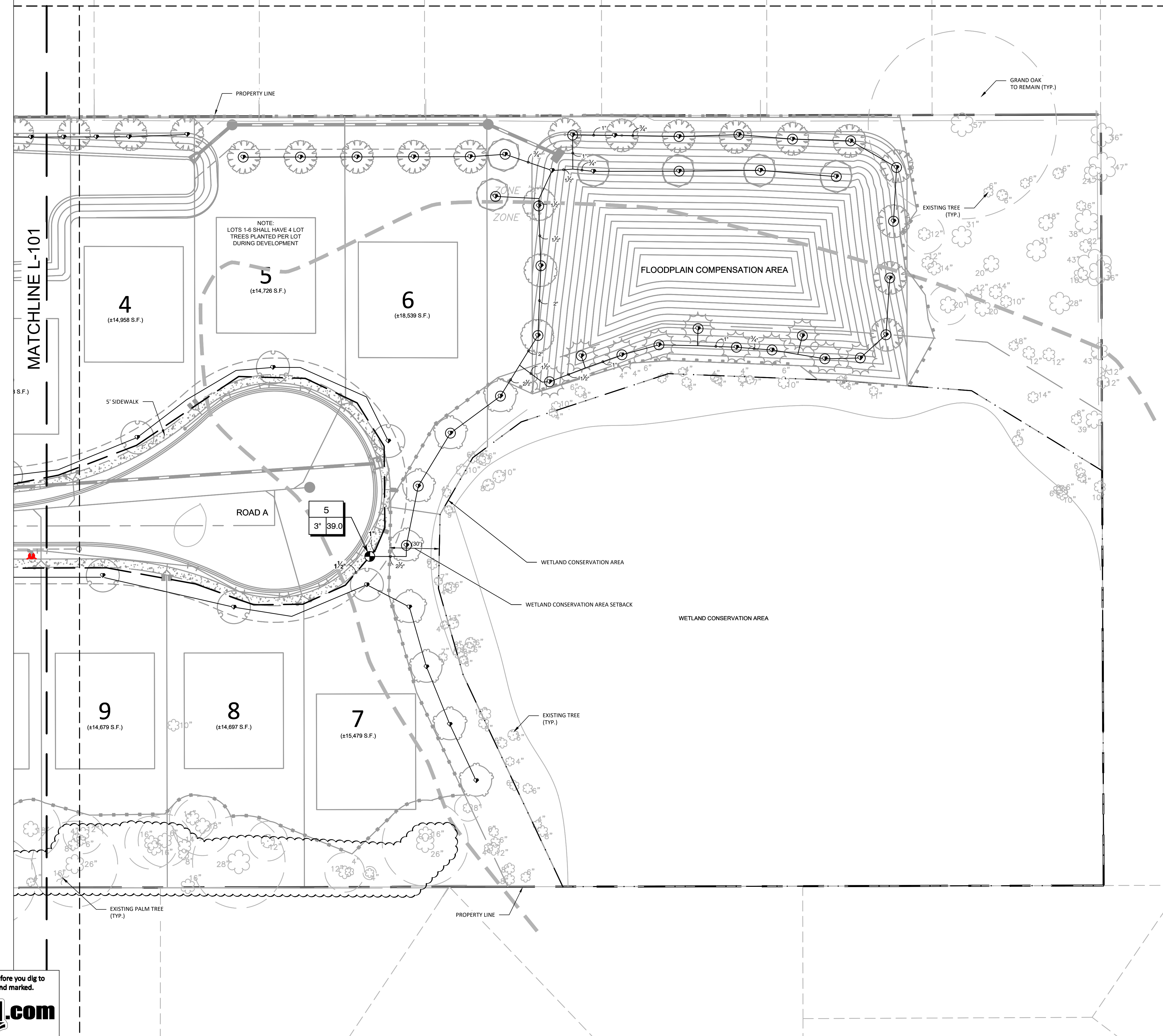
IRRIGATION PLAN

HIDDEN LAKES  
 RESIDENTIAL  
 ISSUED FOR: PERMITTING  
 JOB #143 SEC. 11 TWIN-308 RNG-20E DESIGNED: GW DRAWN: GW APPROVED: SR



Datum: NAVD 88  
 IR-101

2021 WRA  
 Plot Date: 10/21/2021 10:16:27 AM  
 CAD File Path: S:\PROJECT FILES\143 - RED ELK LAND CO. HIDDEN LAKE RESIDENTIAL CAD PLANS CONSTRUCTION PLAN IRRIGATION.DWG



Always call 811 two full business days before you dig to have underground utilities located and marked.

**NOTE: PIPING SHOWN IS SCHEMATIC IN NATURE AND IS SHOWN FOR ROUTING PURPOSES. IT IS THE INTENT OF THE PIPING TO RUN ALONG THE INSIDE OF SIDEWALKS AND BED EDGES.**

NO.	DATE	DESCRIPTION
1	2/3/21	RESPOND TO COUNTY COMMENTS
2	3/9/21	RESPOND TO SWFMD COMMENTS
3	3/30/21	RESPOND TO COUNTY COMMENTS
4	7/29/21	RESPOND TO COUNTY COMMENTS
5	7/29/21	RESPOND TO COUNTY COMMENTS
6		

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 4260 W. Lincoburg Ave.  
 Tampa, Florida 33624

**IRRIGATION PLAN**

**HIDDEN LAKES RESIDENTIAL**

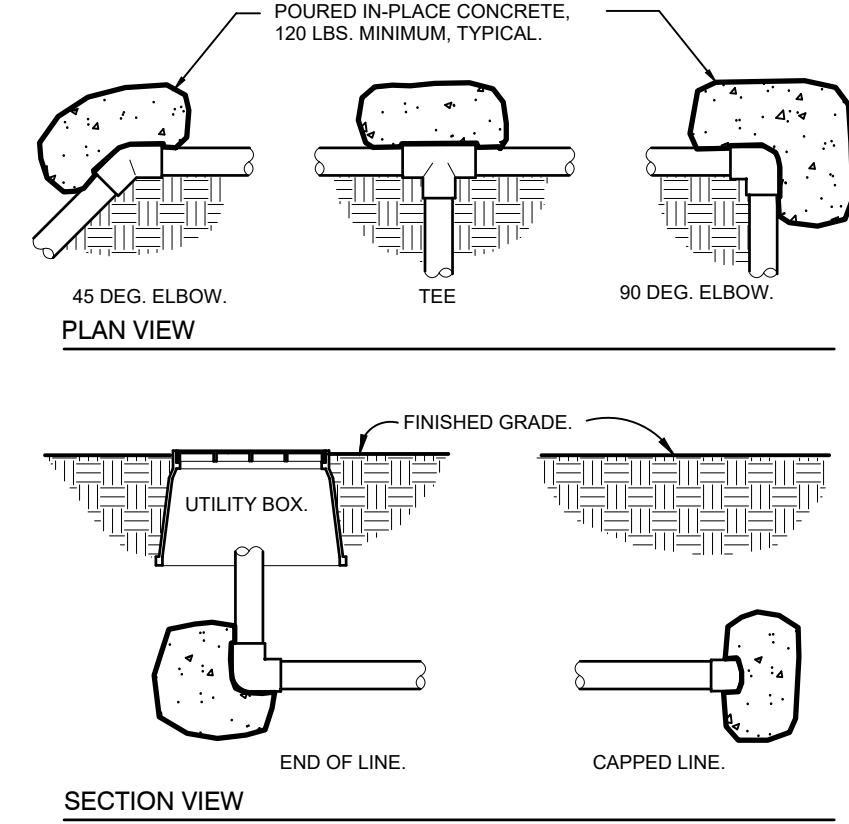
ISSUED FOR: PERMITTING  
 JOB #143  
 SEC. 11  
 TWIN-305  
 RING-20E  
 DESIGNED: GW  
 DRAWN: GW  
 APPROVED: SR

Datum: NAVD 88

**IR-102**

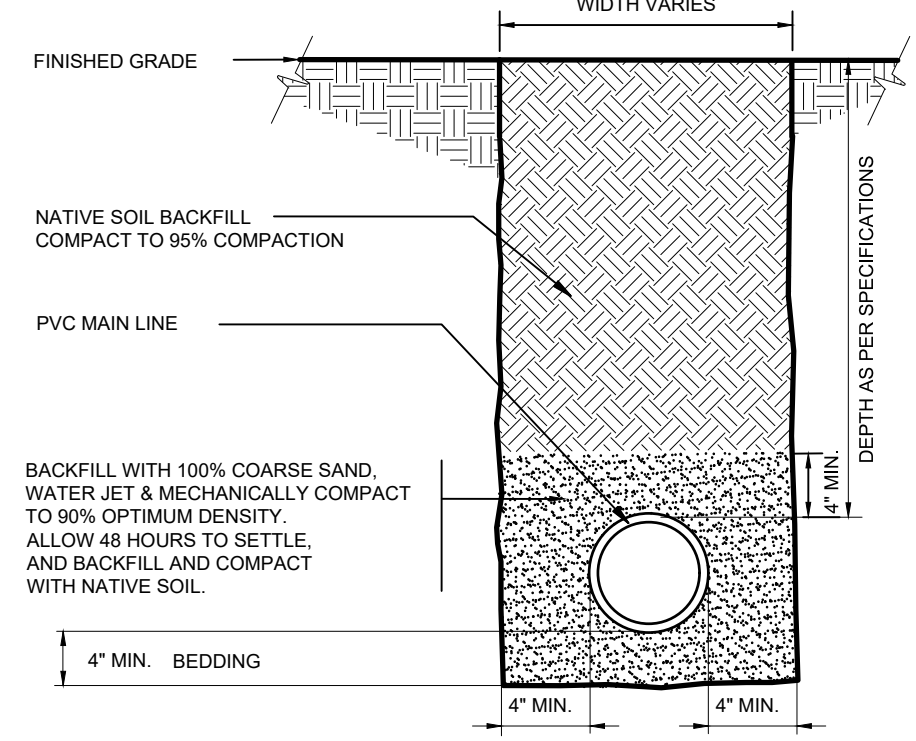


2021 WRA  
 Job Date: 10/21/2021 10:18:29 AM  
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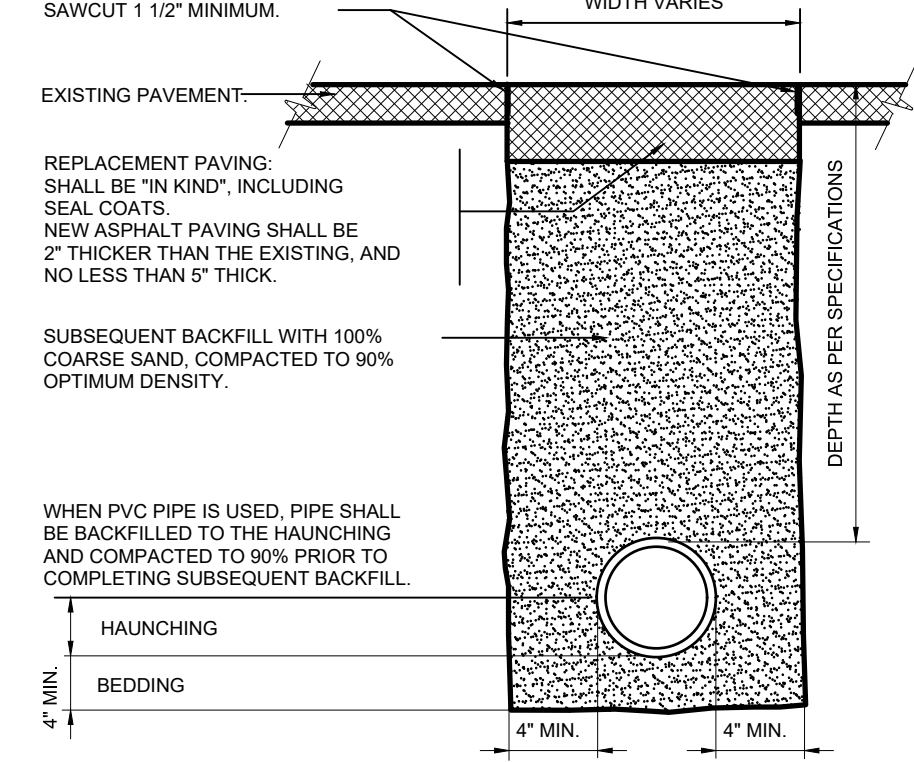


NOTE: PLACE FILTER FABRIC BETWEEN CONCRETE AND PIPE. THIS TO PREVENT THE CONCRETE FROM BINDING TO THE PIPE NOT ALLOWING SMALL MOVEMENTS DURING WATER HAMMER.

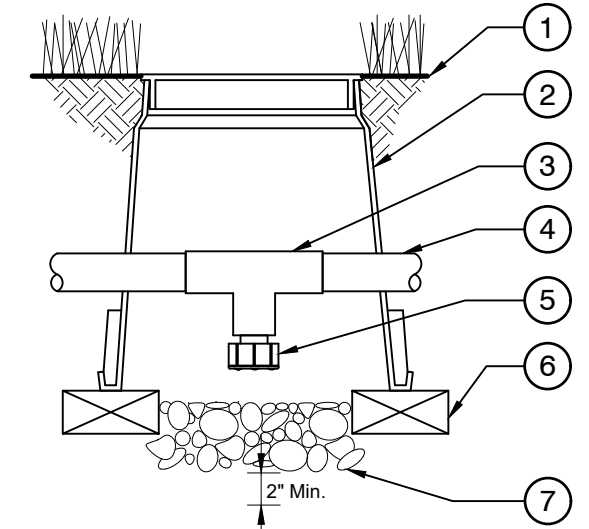
**6 THRUST BLOCKING**  
 3/4" = 1'-0" 328409.78-01



**7 MAINLINE WITH SAND BEDDING**  
 1 1/2" = 1'-0" FX-IR-FX-AUXEQ-13

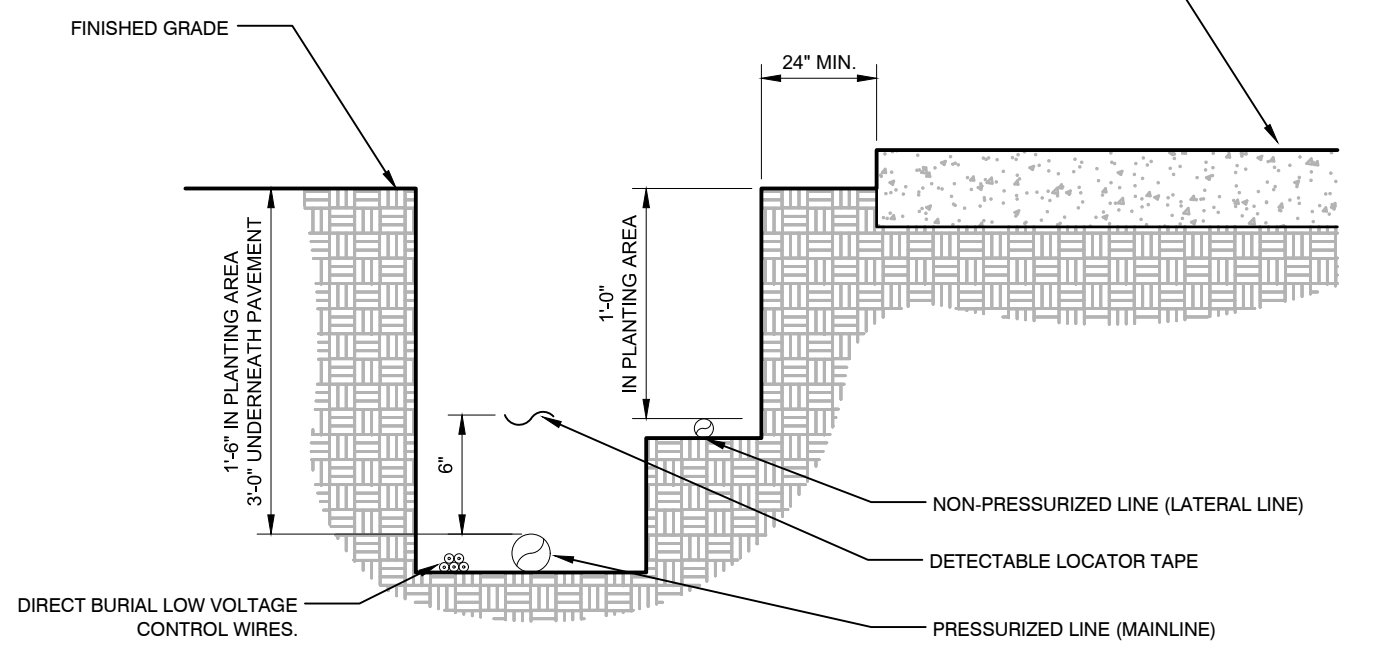


**8 TRENCH DETAIL AT ASPHALT PAVING**  
 1 1/2" = 1'-0" 328409.78-02



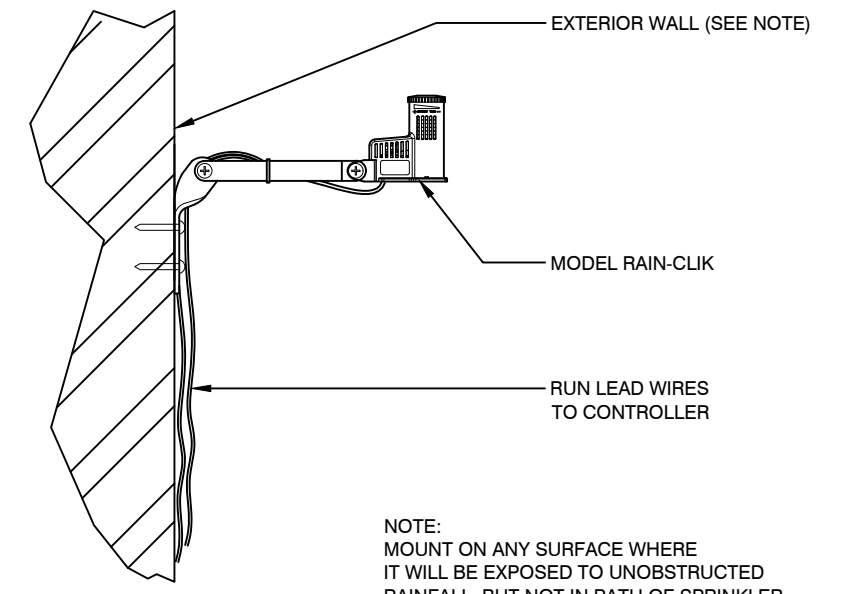
- 1 FINISH GRADE/TOP OF MULCH
- 2 VALVE BOX WITH COVER: RAIN BIRD VB-6RND
- 3 PVC SCH 40 TEE
- 4 PVC LATERAL PIPE
- 5 FILTERED DRAIN VALVE: RAIN BIRD 16A-FDV-075
- 6 BRICK (1 OF 2)
- 7 8-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL

**9 RAIN BIRD VALVE BOX VB-6RND / DRAIN VALVE DETAIL**  
 NOT TO SCALE FX-IR-RB-VBOX-04

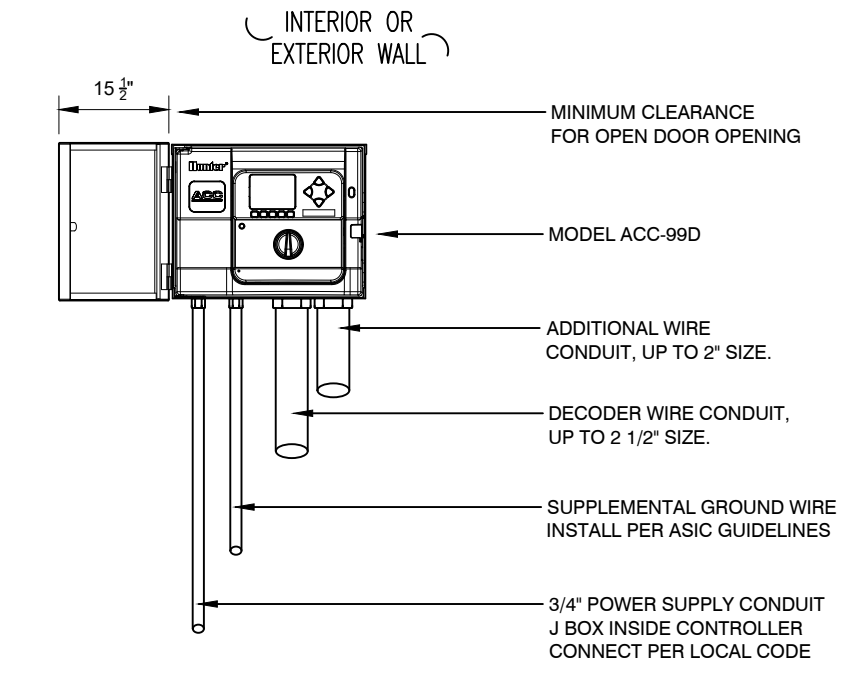


- NOTES:**
- SEE IRRIGATION LEGEND FOR MAINLINE AND LATERAL LINE PIPE SIZE AND TYPE.
  - DIRECT BURIAL CONTROL WIRES SHALL BE INSTALLED IN SCH. 40 PVC ELECTRICAL CONDUIT IF REQUIRED.
  - 2-WIRE IRRIGATION WIRE SHALL BE INSTALLED IN SCH. 40 PVC ELECTRICAL CONDUIT.
  - DETECTABLE LOCATOR TAPE SHALL BE LOCATED SIX INCHES (6") ABOVE THE ENTIRE MAINLINE RUN.

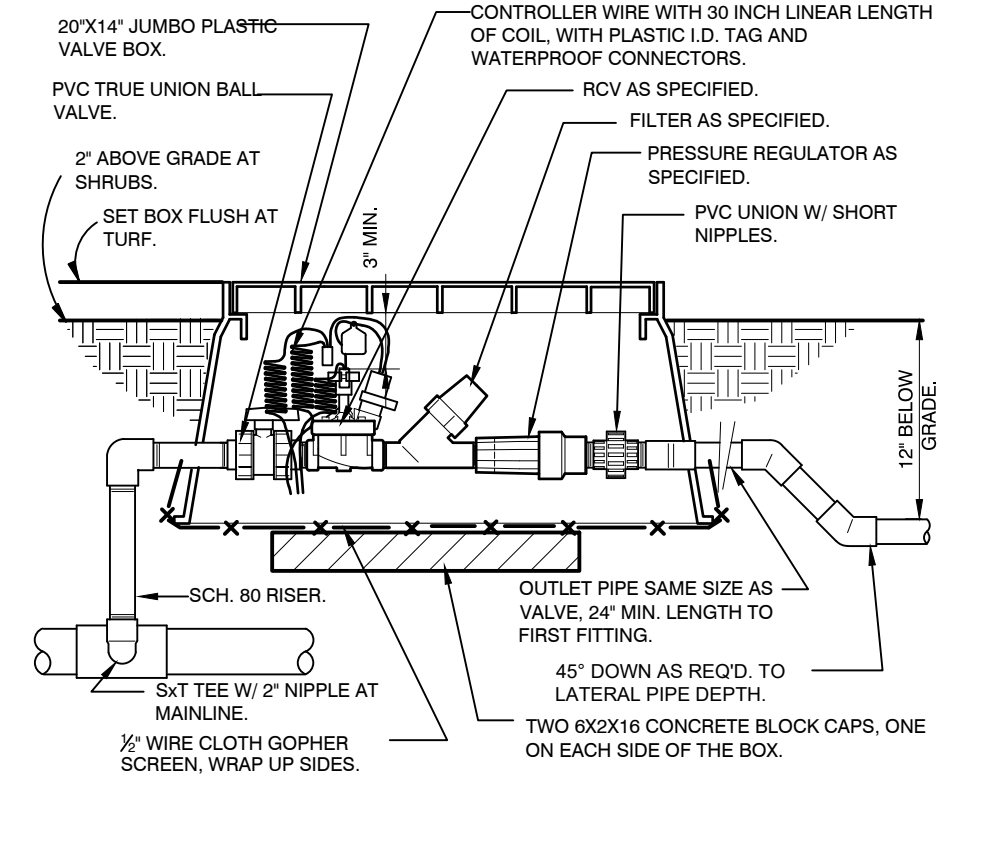
**11 IRRIGATION TRENCHING**  
 1 1/2" = 1'-0"



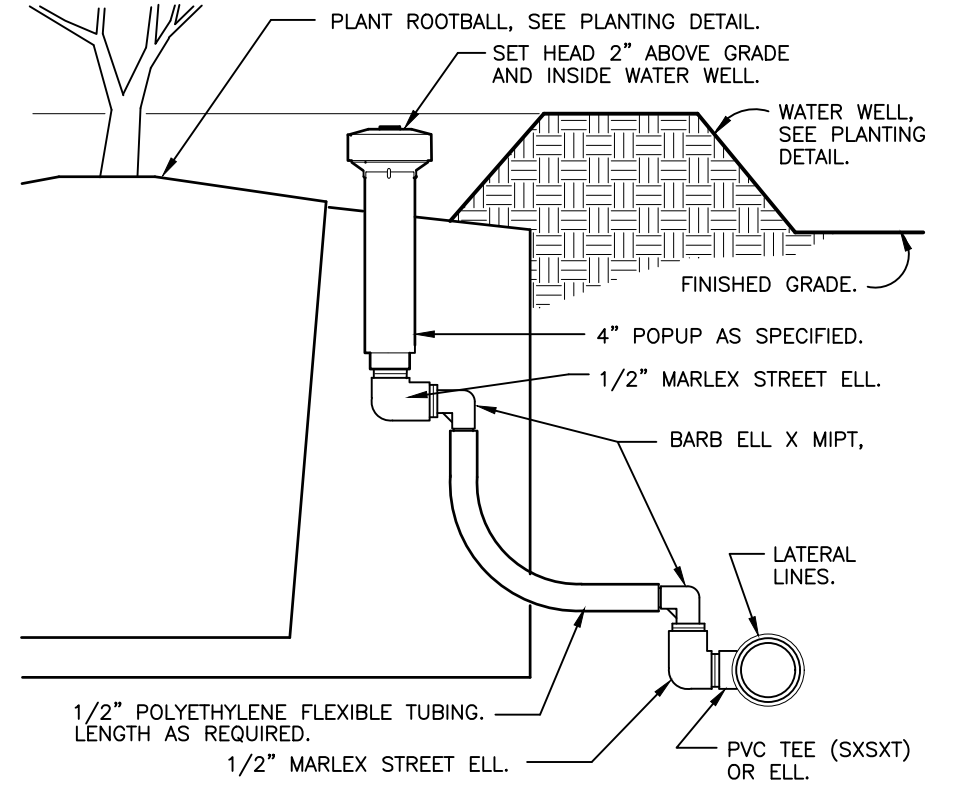
**12 RAIN-CLICK**  
 3' = 1'-0" FX-IR-HUNT-SENS-16



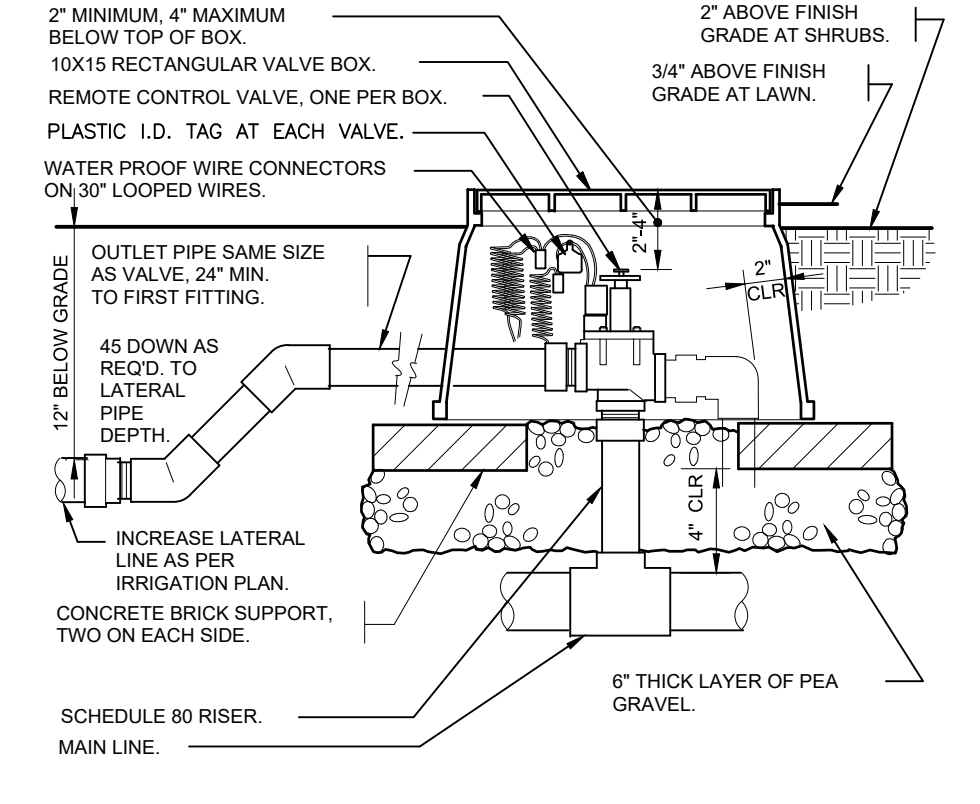
**13 ACC-99D CONTROLLER WALL MOUNT**  
 1" = 1'-0" FX-IR-HUNT-CONT-01



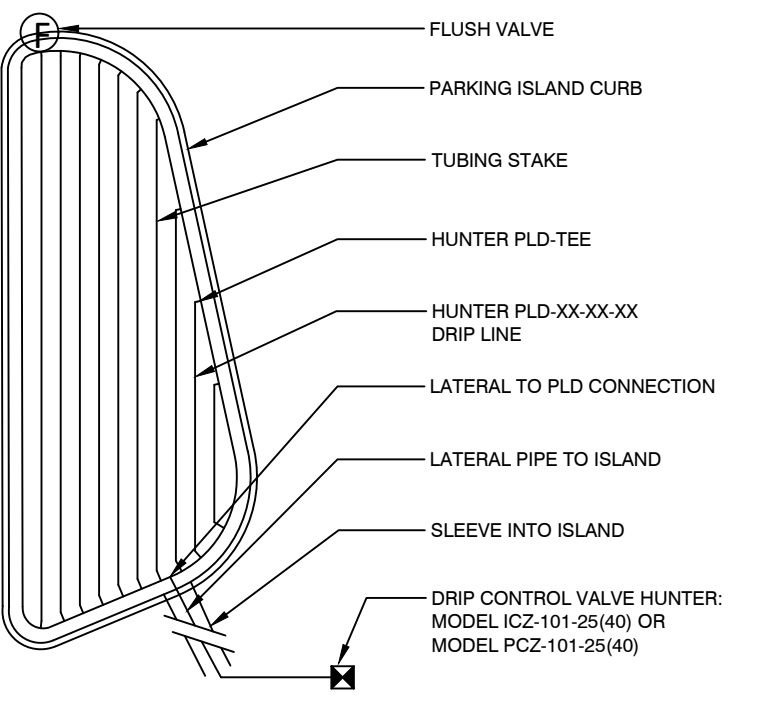
**14 1" DRIP VALVE/FILTER/REGULATOR**  
 1 1/2" = 1'-0" FX-IR-FX-DRIP-12



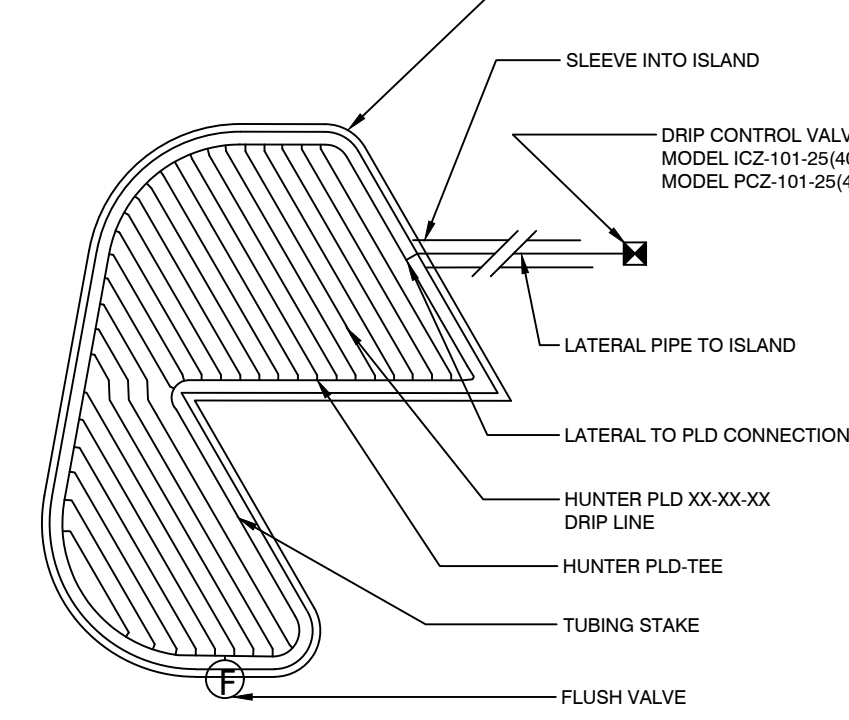
**4 POPUP BUBBLER AT PLANT PIT**  
 3" = 1'-0" 32 8403.59-04



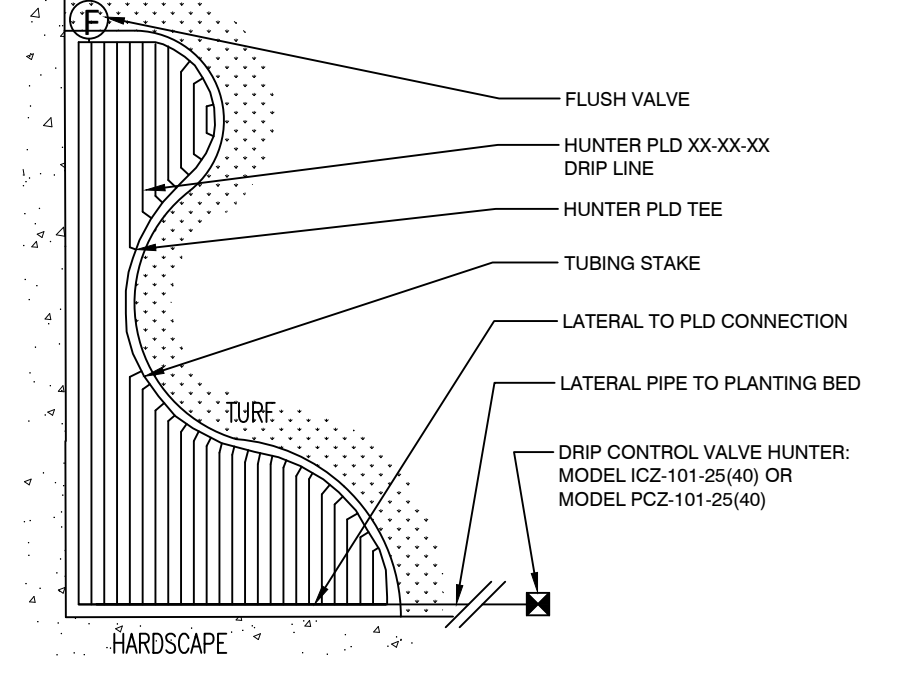
**5 ELECTRIC REMOTE CONTROL VALVE**  
 1 1/2" = 1'-0" 328406.13-01



**17 IRREGULAR ISLAND B**  
 1" = 1'-0" FX-IR-HUNT-MICR-18



**18 IRREGULAR ISLAND A**  
 1" = 1'-0" FX-IR-HUNT-MICR-19



**20 CURVELINAR PLANT BED**  
 NOT TO SCALE FX-IR-HUNT-MICR-31



REVISIONS	
NO.	DATE
6	
5	
4	7/29/21 RESPOND TO COUNTY COMMENTS
3	3/30/21 RESPOND TO COUNTY COMMENTS
2	3/9/21 RESPOND TO SWFWMD COMMENTS
1	2/3/21 RESPOND TO COUNTY COMMENTS

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IRRIGATION DETAILS

HIDDEN LAKES RESIDENTIAL



Datum: NAVD 88

IR-104