

CONSTRUCTION PLANS FOR SR 684 (CORTEZ ROAD) WATER MAIN AND FORCE MAIN INTRACOASTAL CROSSING

MANATEE COUNTY, FLORIDA

FEBRUARY 2024

MANATEE COUNTY PROJECT #6093070



PROJECT TEAM:

OWNER:
MANATEE COUNTY
1022 26TH AVE. E.
BRADENTON, FL 34208
CONTACT: ALBERT ROSENSTEIN, P.E., C.P.M.
941-708-7450 EXT. 7219

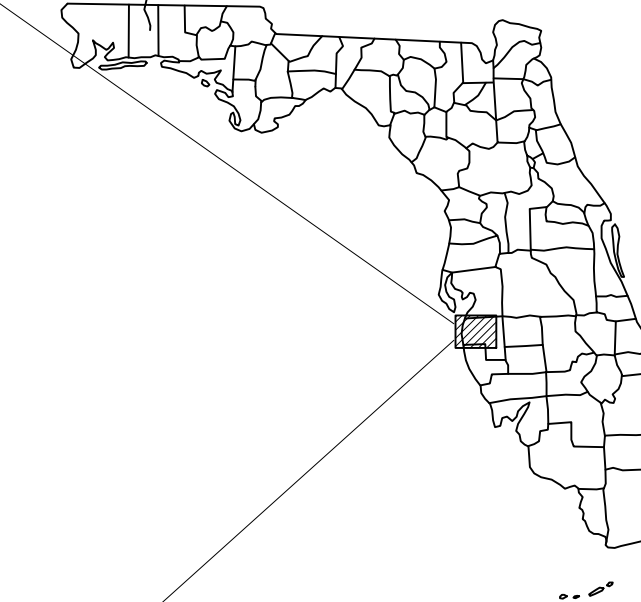
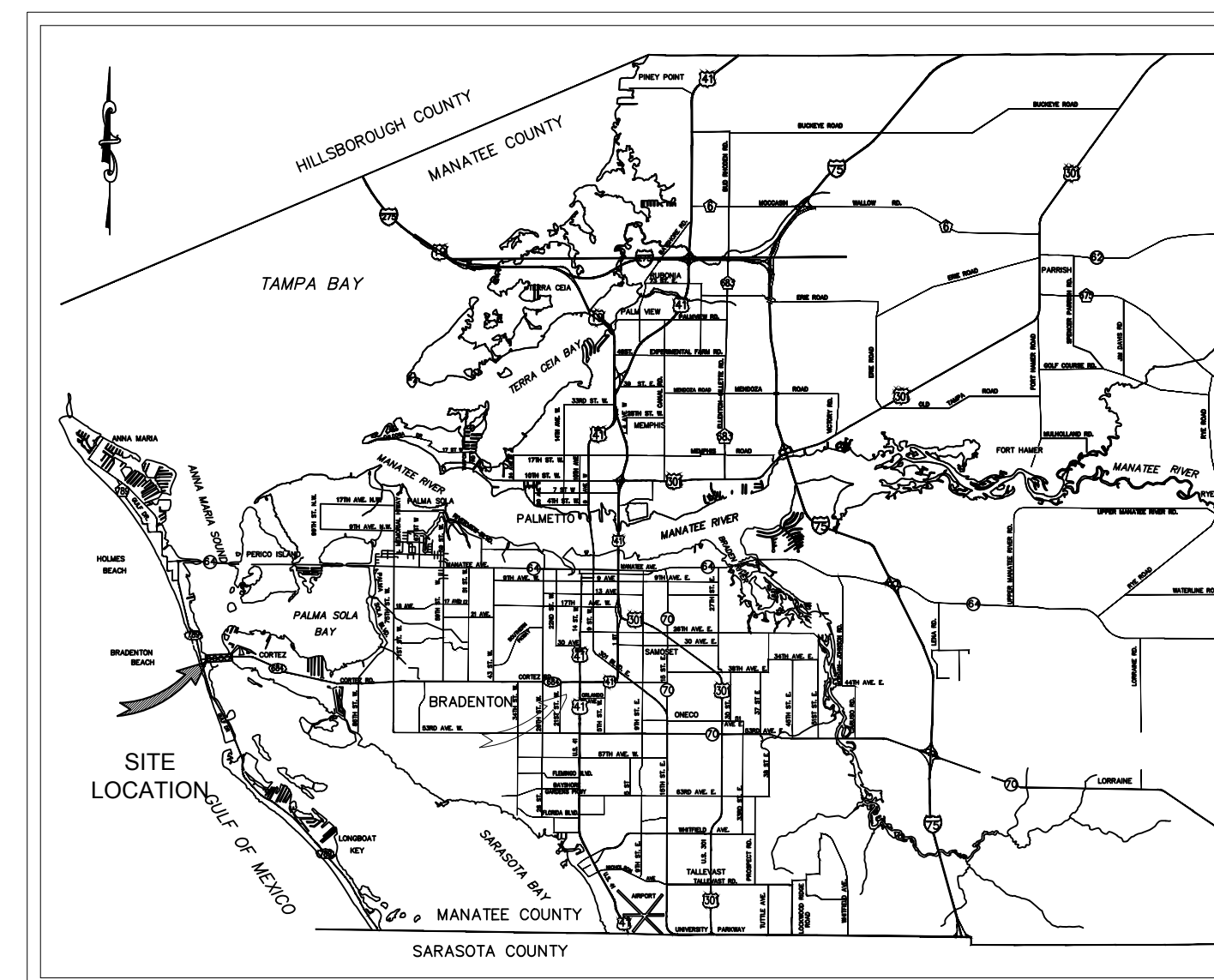
HYATT SURVEY SERVICES, INC
2012 LENA ROAD
BRADENTON, FL 34211
CONTACT: RUSSELL HYATT, P.S.M.
941-748-4693

ENGINEER:
KIMLEY-HORN AND ASSOCIATES, INC.
100 2ND AVENUE SOUTH, SUITE 105N
ST. PETERSBURG, FL 33701
CONTACT: JORDAN WALKER, P.E.
727-302-4320

SURVEYOR:
McKIM & CREED
1365 HAMLET AVE
CLEARWATER, FL 33756
CONTACT: CHRIS BOSSHART, P.S.M.
813-549-3740

UTILITY CONTACTS:

COMPANY	CONTACT	TELEPHONE NUMBER
BRIGHTHOUSE NETWORKS	TOM WRIGHT	941-345-1348
FPL	GREG COKER	941-723-4430
MCI (VERIZON)	JAMES BARRA	813-928-9881
MANATEE COUNTY (IT)	BILL KERSEY	941-708-4501 EXT. 5801
MANATEE COUNTY UTILITY OPERATIONS	MICHAEL STURM	941-708-7450 EXT. 7323
SPECTRUM	JAMES CRUZAN	727-329-2846
TECO/PEOPLES GAS	ANTHONY BAUBLITZ SR.	941-342-4025



PROJECT VICINITY MAP
N.T.S.

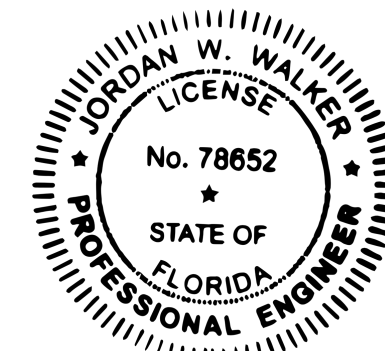
BID PLANS

PERMIT #2023-H-194-00154,
SR 684/US 41 CORTEZ RD W,
SECTION #13040000,
BMP #0.011, EMP #0.750

PREPARED BY
Kimley»Horn

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200 CENTRAL AVENUE, SUITE 800
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PHONE (727) 547-3999
WWW.KIMLEY-HORN.COM Registry No. 55106

GEORGE E. ROLAND, PROFESSIONAL ENGINEER,
STATE OF FLORIDA, LICENSE NO. 62338



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12740 GRAN BAY PARKWAY
SUITE 2350
JACKSONVILLE, FL 32258
REGISTRY 35106
GEORGE E. ROLAND, P.E. NO. 62338

THE ABOVE NAMED PROFESSIONAL ENGINEER
SHALL BE RESPONSIBLE FOR THE FOLLOWING
SHEETS IN ACCORDANCE WITH RULE
61G15-23.004, F.A.C.

SHEETS 22-23

JORDAN W. WALKER, PROFESSIONAL ENGINEER,
STATE OF FLORIDA, LICENSE NO. 78652

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SUITE 600
ST PETERSBURG, FL 33701
REGISTRY 35106
JORDAN W. WALKER, P.E. NO. 78652

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61G15-23.004, F.A.C.

SHEETS 1-21 AND 24-27

SHEET LIST	
Sheet Number	Sheet Title
01	COVER SHEET
02	GENERAL NOTES
03	KEY SHEET
04	WEST APPROACH
05	WEST APPROACH
06	INTRACOASTAL CROSSING
07	INTRACOASTAL CROSSING
08	INTRACOASTAL CROSSING
09	INTRACOASTAL CROSSING
10	EAST APPROACH
11	EAST APPROACH
12	EAST APPROACH
13	EAST APPROACH
14	EAST APPROACH
15	OVERALL DRILL PLAN
16	FORCE MAIN RELOCATION
17	WATER MAIN RELOCATION
18	EAST APPROACH CORTEZ RD CROSS SECTIONS
19	MAINTENANCE OF DRILL PLAN - WEST APPROACH
20	MAINTENANCE OF DRILL PLAN - EAST APPROACH
21	MAINTENANCE OF DRILL PLAN - LAY DOWN AREA
22	MAINTENANCE OF TRAFFIC - PEDESTRIAN / BICYCLE
23	MAINTENANCE OF TRAFFIC - VEHICLES
24	DETAILS 01
25	DETAILS 02
26	DETAILS 03
27	DETAILS 04

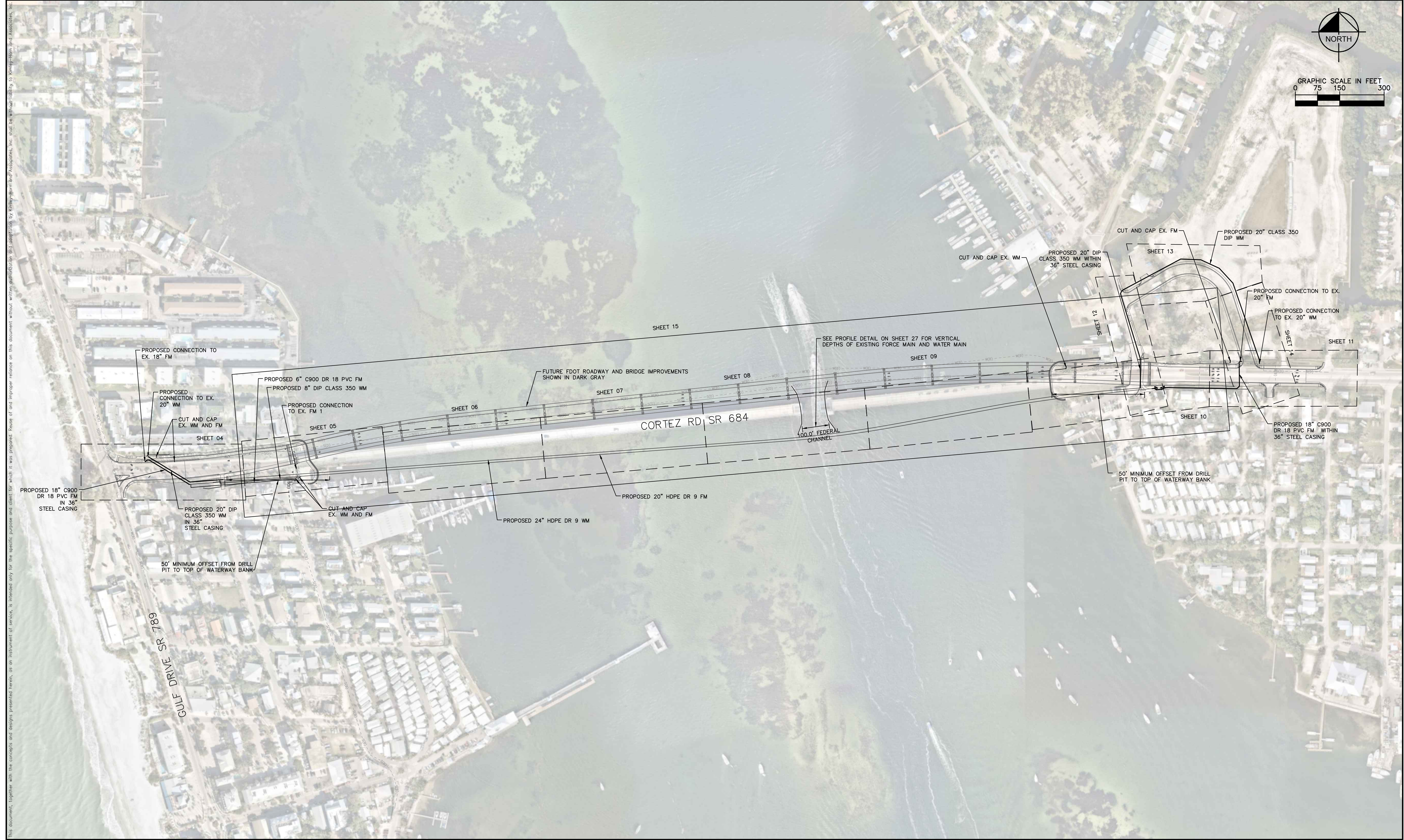
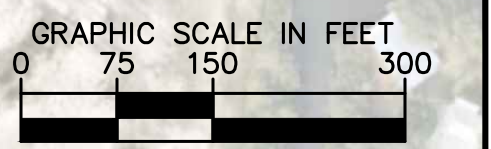
THE SITE CONSTRUCTION STAKEOUT SHALL BE PERFORMED UNDER THE DIRECTION OF A FLORIDA REGISTERED SURVEYOR. AUTOCAD FILES WILL BE FURNISHED TO AID IN THE SITE CONSTRUCTION STAKEOUT. ANY DISCREPANCIES FOUND BETWEEN AUTOCAD FILES AND SITE CONSTRUCTION PLANS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR CLARIFICATION PRIOR TO THAT STAKEOUT.

No.	REVISIONS	DATE	BY

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JORDAN WALKER, PE
FLORIDA LICENSE NUMBER:
78652

DATE
FEB 2024
PROJECT NO.
148400081
SHEET NUMBER
01



No.	REVISIONS	DATE	BY

Kimley»Horn

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 WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT 148400081
DATE FEBRUARY 2024
SCALE AS SHOWN
DESIGNED BY JWW
DRAWN BY ALC
CHECKED BY KMS

 **SR 684 (CORTEZ ROAD) WATER MAIN AND FORCE MAIN INTRACOASTAL CROSSING**

MANATEE COUNTY FL

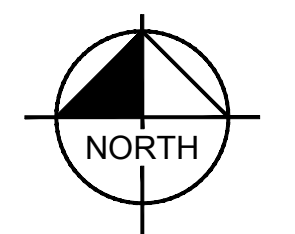
LICENSED PROFESSIONAL
JORDAN W. WALKER, P.E.
FL LICENSE NUMBER 78652
DATE:

KEY SHEET

SHEET NUMBER
03

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GRAPHIC SCALE IN FEET
 0 10 20 40
 HORIZONTAL SCALE: 1" = 20'
 VERTICAL SCALE: 1" = 4'

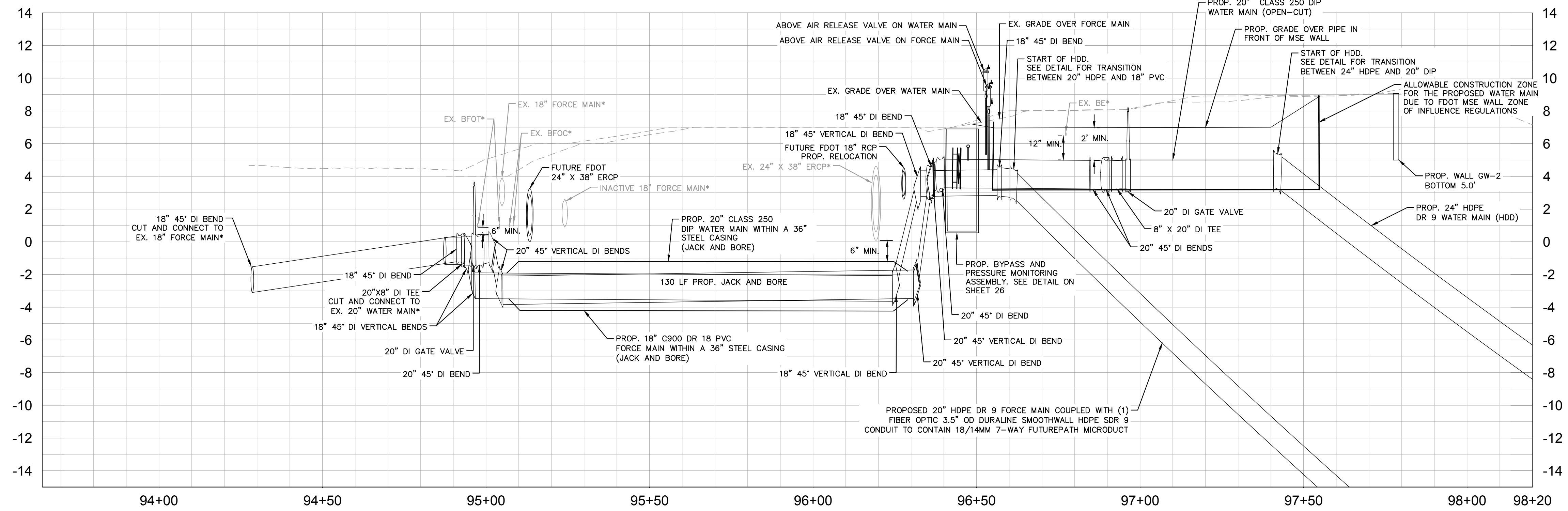
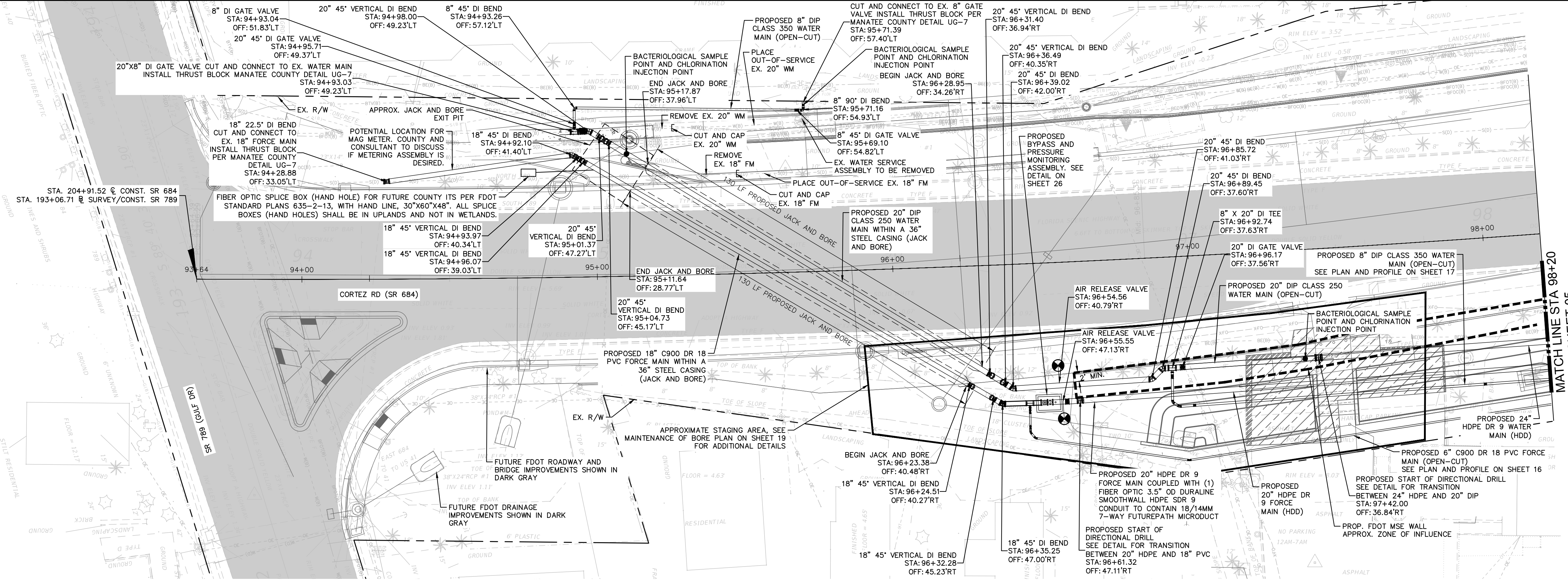
LEGEND

	SIDEWALK/CONCRETE DRIVEWAY RESTORATION
	FULL ROADWAY RESTORATION
	MILLING AND RESURFACING
	REMOVE & REPLACE CURB

NOTES:
 THE ELEVATIONS OF THE UTILITIES MARKED WITH AN ASTERISK (*) HAVE BEEN ASSUMED ON THE BASIS OF TYPICAL ANTICIPATED SOIL COVERAGE. CONTRACTOR SHALL NOT RELY ON THIS INFORMATION FOR CONSTRUCTION, BUT SHALL BE RESPONSIBLE FOR FIELD LOCATIONS (HORIZONTAL AND VERTICAL) OF ALL UTILITIES CROSSING THE PROPOSED PIPELINES. CONTRACTOR SHALL INCLUDE IN THE UNIT COST OF THE SUBJECT FORCE MAIN CONSTRUCTION, THE COST OF UTILITY ADJUSTMENTS NECESSARY TO ATTAIN DESIGN MINIMUM SEPARATION FOR UTILITIES CONFLICTING WITH THE CONSTRUCTION OF THE PROPOSED FORCE MAIN. INTERRUPTIONS OF ANY EXISTING UTILITY SERVICES SHALL BE NOTICED TO EFFECTED CUSTOMERS A MINIMUM OF 48 HOURS IN ADVANCE AND SHALL NOT EXCEED 4 HOURS IN DURATION.
 WHERE CONCRETE REPAIRS ARE NECESSARY AND EXPANSION JOINTS ARE PRESENT, CONTRACTOR TO REMOVE AND REPLACE CONCRETE UP TO THE NEXT EXPANSION JOINT; OTHERWISE, REPLACE CONCRETE AS NECESSARY.

- NOTES:
- CONTRACTOR SHALL RESTRAIN PIPE PER RESTRAIN LENGTHS TABLE ON DETAIL SHEET 24
 - CONSTRUCTION DEWATERING SHALL BE CONDUCTED IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS INCLUDING BUT NOT LIMITED TO CHAPTERS 62-621.300 AND 62-620 OF THE FLORIDA ADMINISTRATIVE CODE (FAC)
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GROUNDWATER / DEWATERING NOTE:
 THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR THIS ISSUE. WHEN PERFORMING GRADING OPERATIONS DURING PERIODS OF WET WEATHER, PROVIDE ADEQUATE DEWATERING, DRAINAGE AND GROUND WATER MANAGEMENT TO CONTROL MOISTURE OF SOILS.



No.	REVISIONS	DATE	BY

Kimley & Horn
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 200 CENTRAL AVENUE, SUITE 600, ST. PETERSBURG, FL 33701
 PHONE: 727-547-3999
 WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

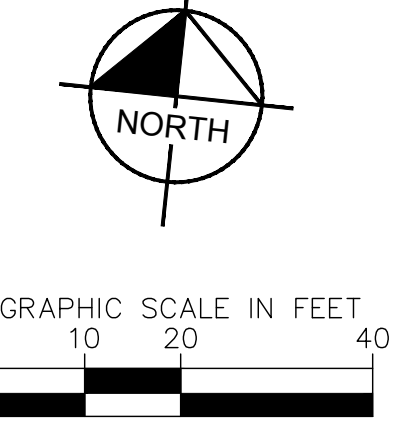
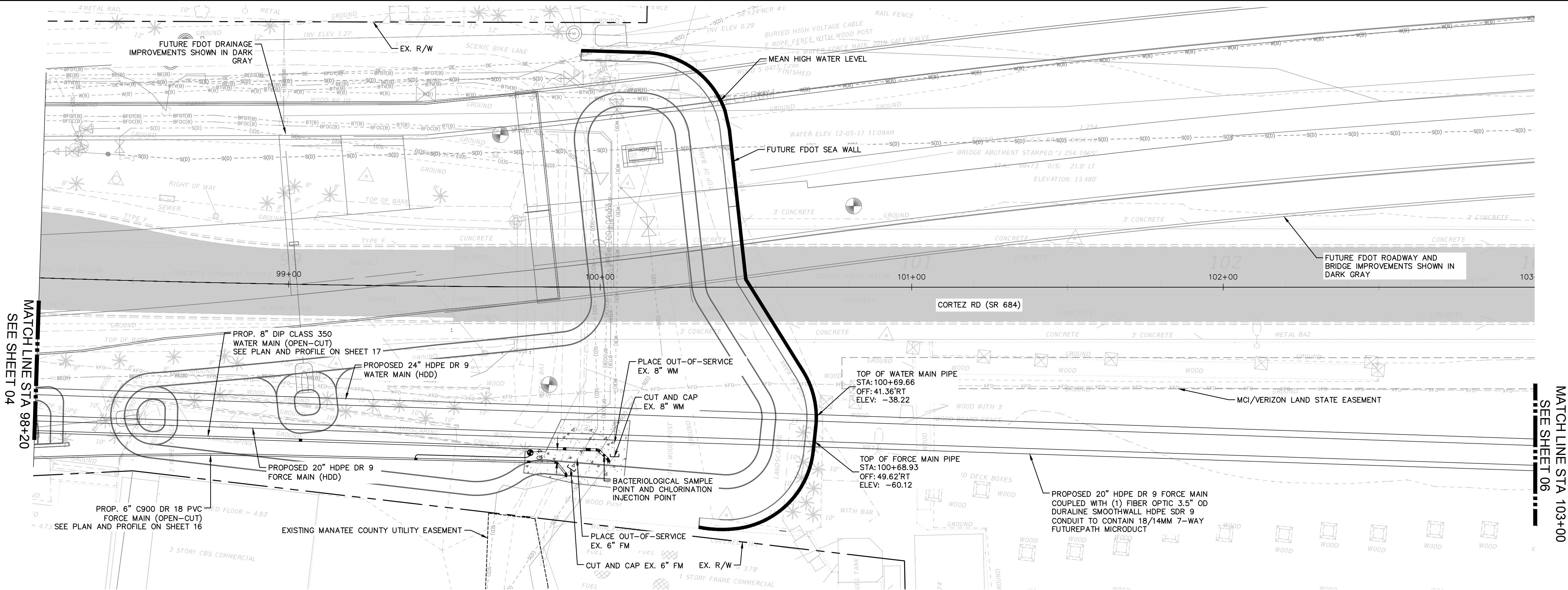
Manatee County
 SR 684 (CORTEZ ROAD) WATER MAIN AND FORCE MAIN INTRACOASTAL CROSSING
 MANATEE COUNTY

LICENSED PROFESSIONAL
 JORDAN W. WALKER, P.E.
 FL LICENSE NUMBER
 78652

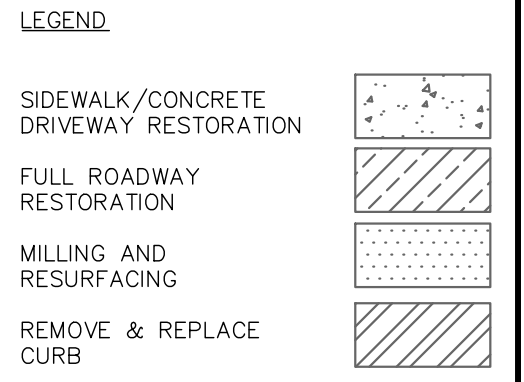
WEST APPROACH
 SHEET NUMBER
04

DATE:

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VERTICAL SCALE: 1" = 15'

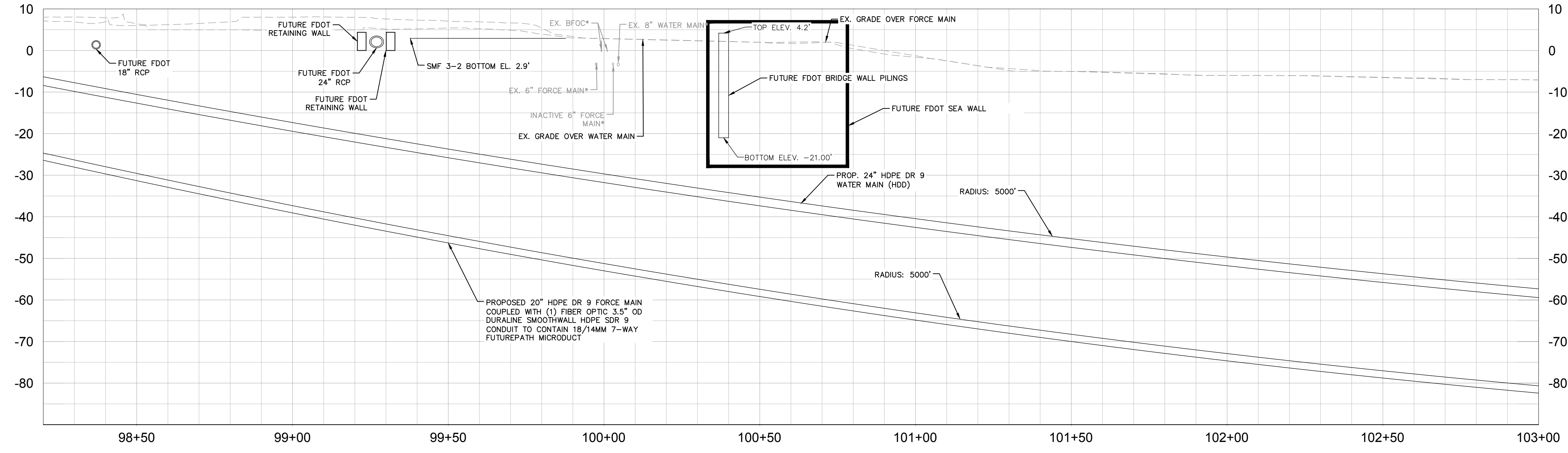


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PHONE: 727-547-3999
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT
148400081
DATE
FEBRUARY 2024
SCALE AS SHOWN
DESIGNED BY JWW
DRAWN BY ALC
CHECKED BY KMS

Manatee County
FLORIDA

SR 684 (CORTEZ ROAD) WATER MAIN AND FORCE MAIN INTRACOASTAL CROSSING
MANATEE COUNTY

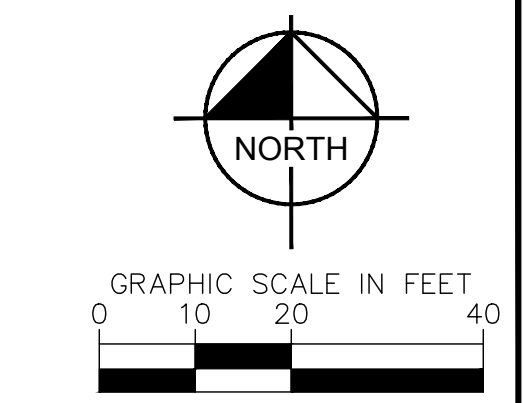
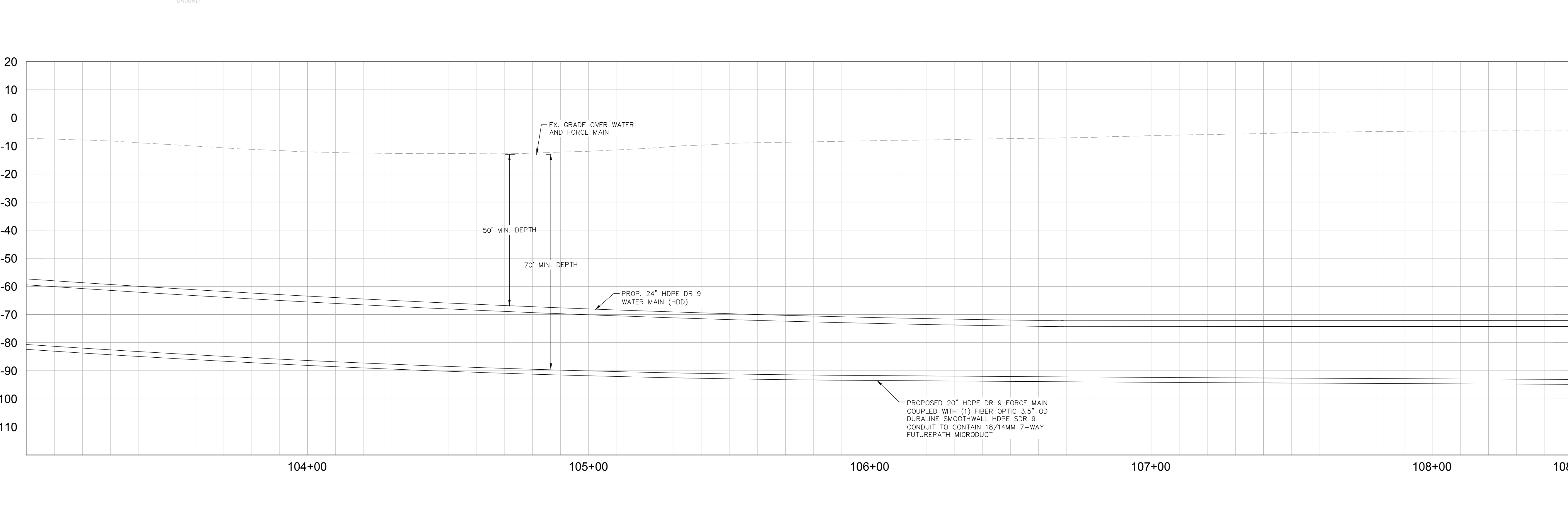
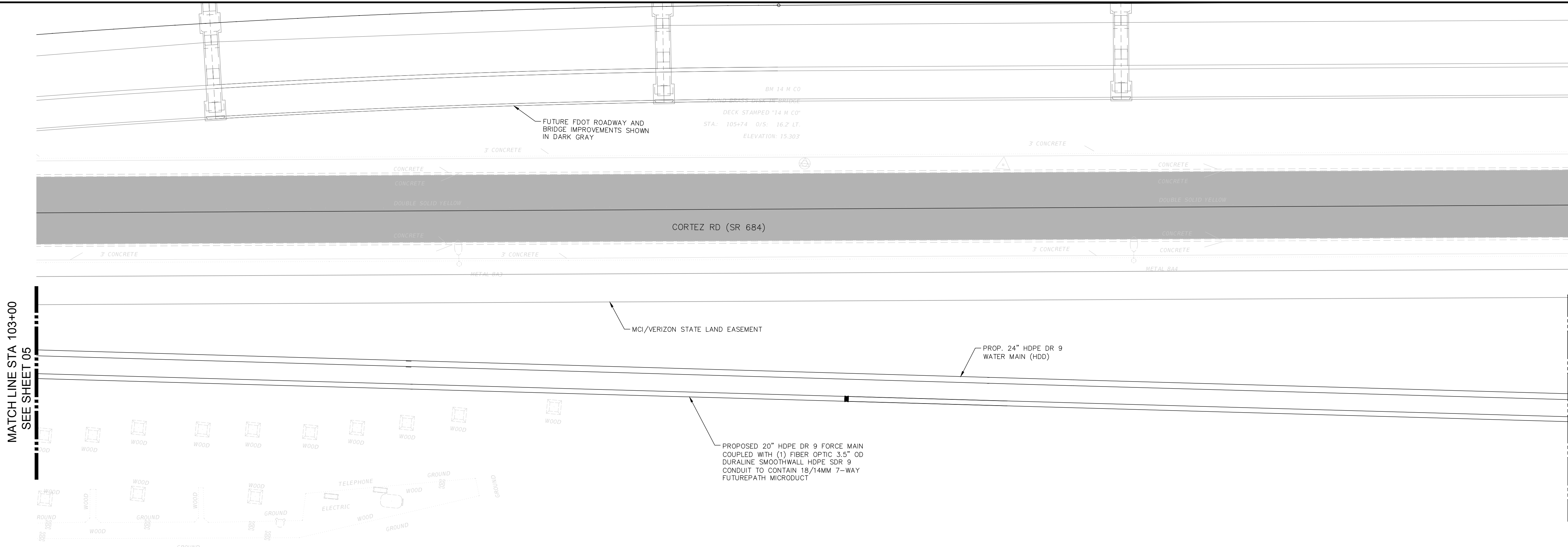
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JORDAN W. WALKER, P.E.
FL LICENSE NUMBER
78652

WEST APPROACH

SHEET NUMBER
05



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VERTICAL SCALE: 1" = 20'

LEGEND

SIDEWALK/CONCRETE DRIVEWAY RESTORATION	
FULL ROADWAY RESTORATION	
MILLING AND RESURFACING	
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PHONE: 727-547-3999
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT 148400081
DATE FEBRUARY 2024
SCALE AS SHOWN
DESIGNED BY JWW
DRAWN BY ALC
CHECKED BY KMS

Manatee County

SR 684 (CORTEZ ROAD) WATER MAIN AND FORCE MAIN INTRACOASTAL CROSSING

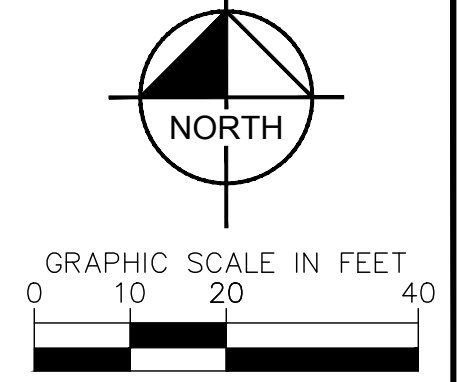
MANATEE COUNTY

LICENSED PROFESSIONAL
JORDAN W. WALKER, P.E.
FL LICENSE NUMBER 78652

INTRACOASTAL CROSSING

SHEET NUMBER
06

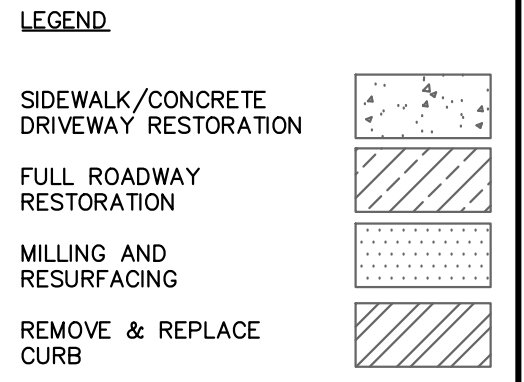
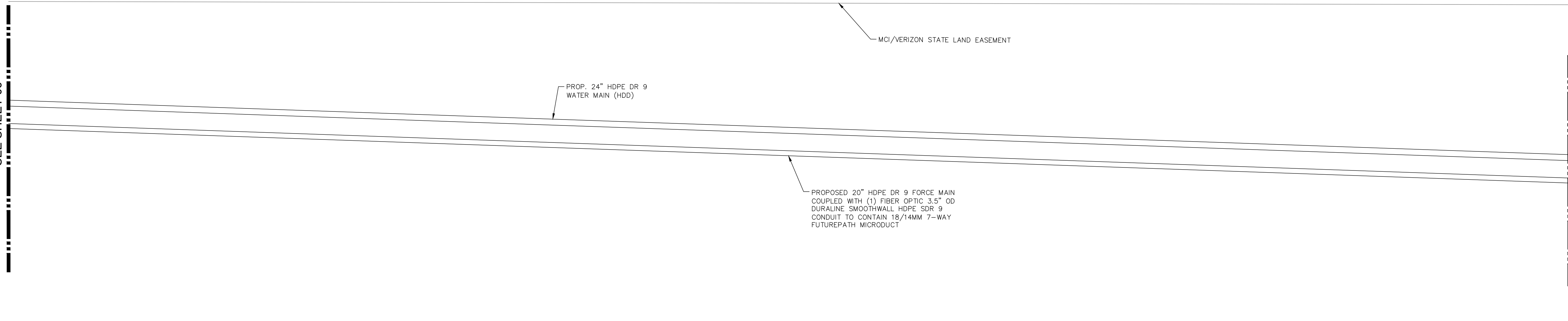
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HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 20'

MATCH LINE STA 108+50
SEE SHEET 06

MATCH LINE STA 114+00
SEE SHEET 08



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KHA PROJECT 148400081
DATE FEBRUARY 2024
SCALE AS SHOWN
DESIGNED BY JWW
DRAWN BY ALC
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Manatee County FLORIDA

SR 684 (CORTEZ ROAD) WATER MAIN AND FORCE MAIN INTRACOASTAL CROSSING

MANATEE COUNTY

LICENSED PROFESSIONAL

JORDAN W. WALKER, P.E.

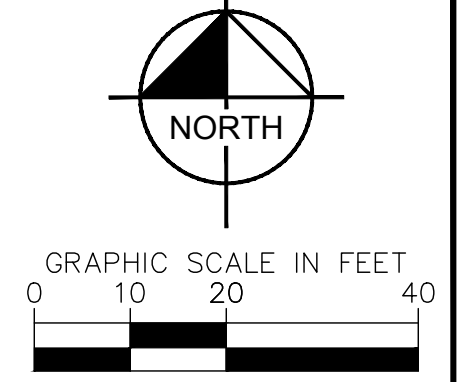
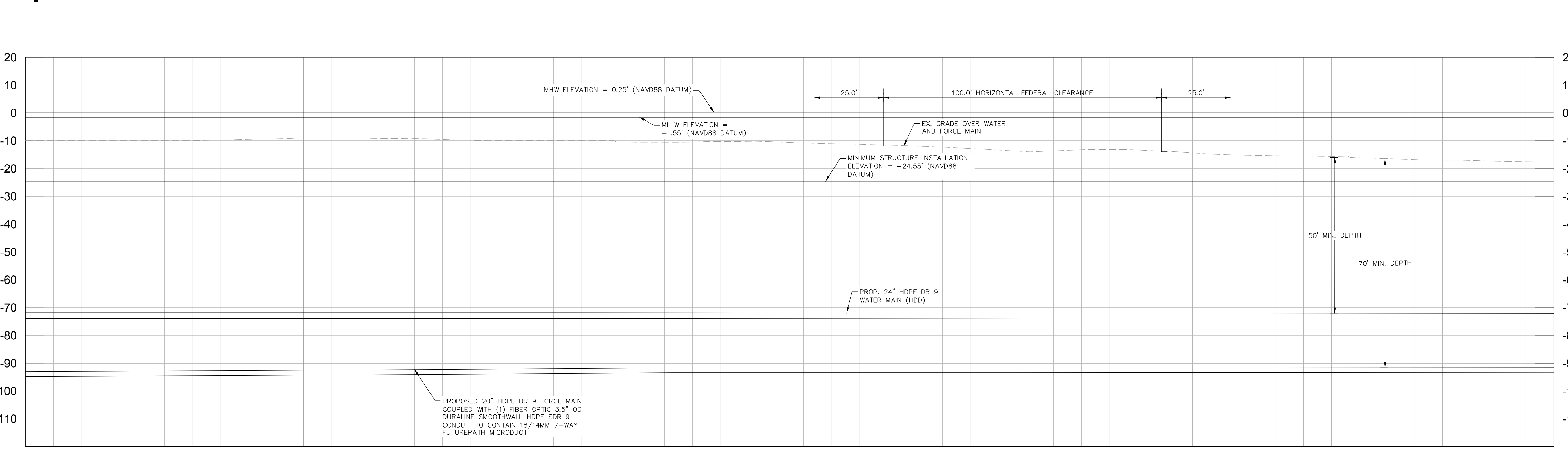
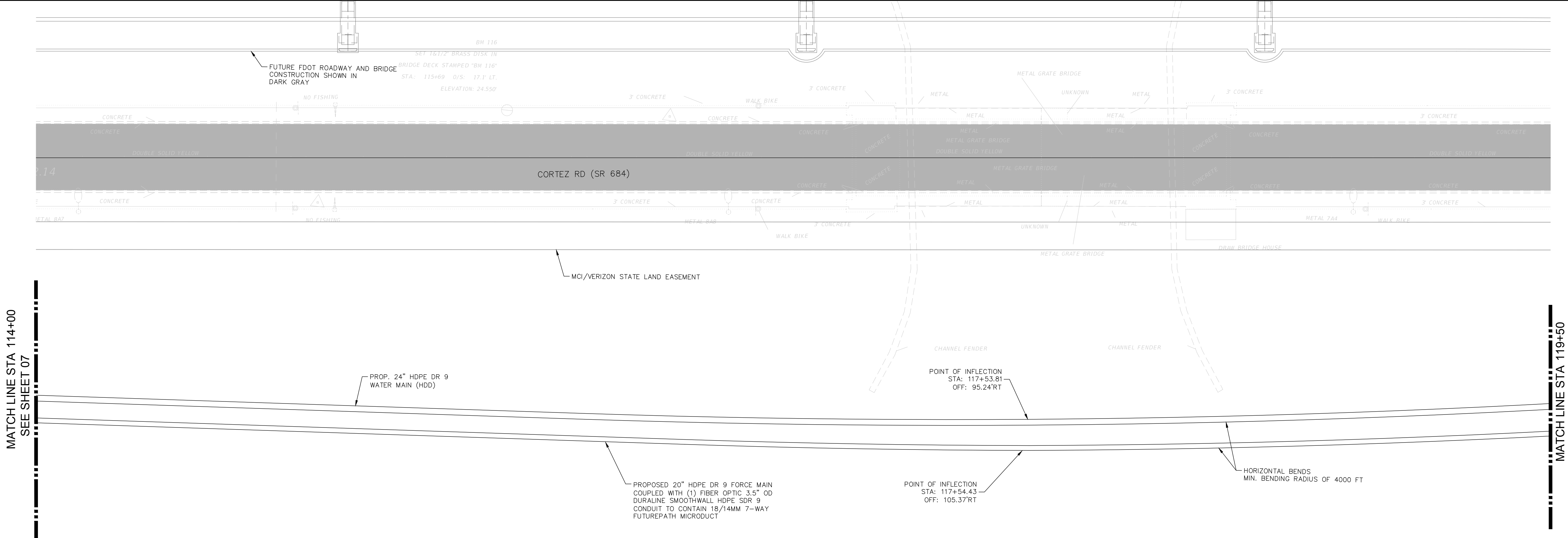
FL LICENSE NUMBER 78652

DATE:

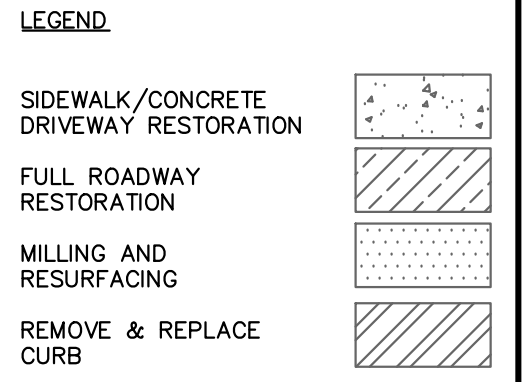
INTRACOASTAL CROSSING

SHEET NUMBER **07**

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No.	REVISIONS	DATE	BY

Kimley»Horn
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200 CENTRAL AVENUE, SUITE 600, ST. PETERSBURG, FL 33701
PHONE: 727-547-3999
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT 148400081
DATE FEBRUARY 2024
SCALE AS SHOWN
DESIGNED BY JWW
DRAWN BY ALC
CHECKED BY KMS

SR 684 (CORTEZ ROAD) WATER MAIN AND FORCE MAIN INTRACOASTAL CROSSING
MANATEE COUNTY

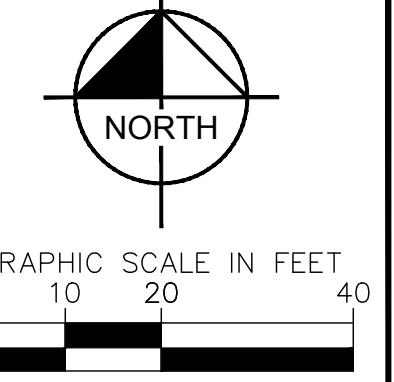
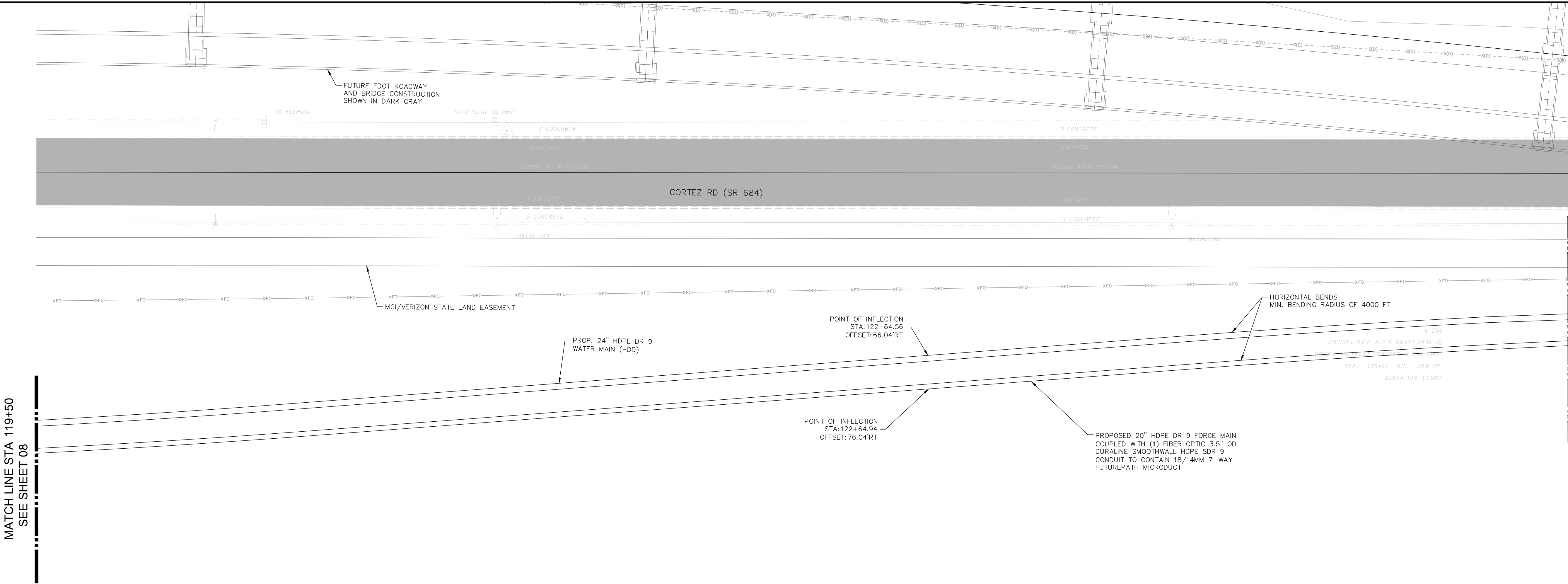
LICENSED PROFESSIONAL JORDAN W. WALKER, P.E.
FL LICENSE NUMBER 78652
FL DATE:

INTRACOASTAL CROSSING

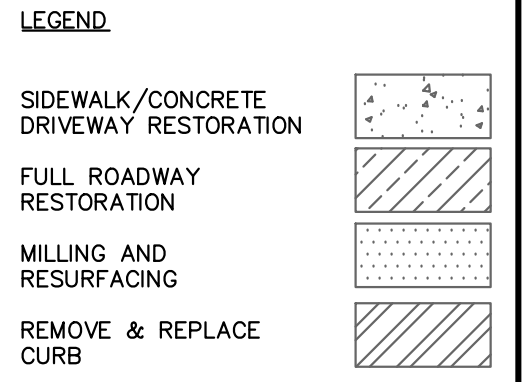
SHEET NUMBER 08



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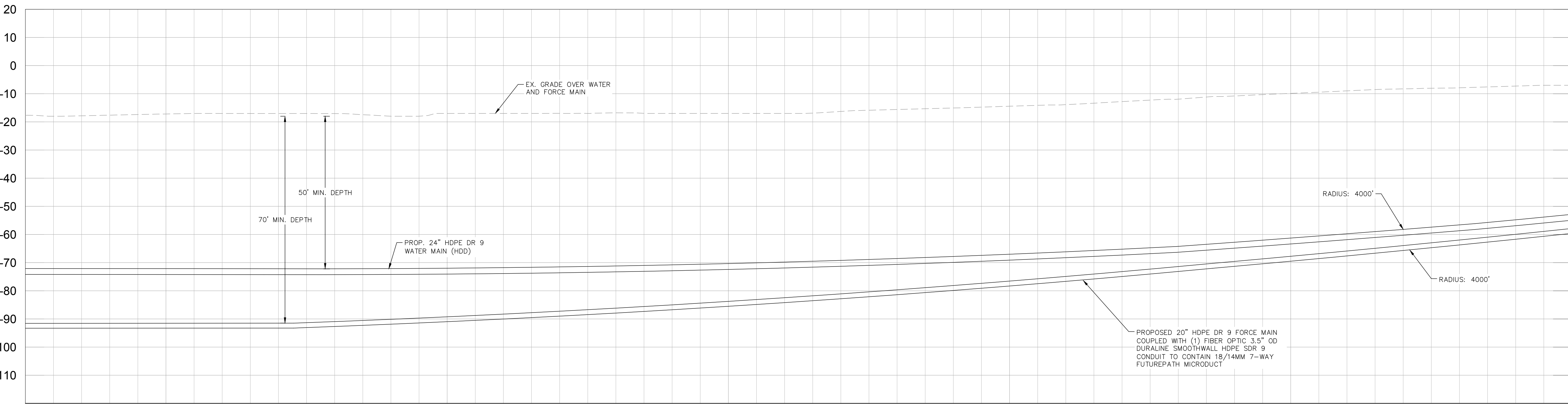


HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 20'



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WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

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DATE FEBRUARY 2024
SCALE AS SHOWN
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SR 684 (CORTEZ ROAD) WATER MAIN AND FORCE MAIN INTRACOASTAL CROSSING

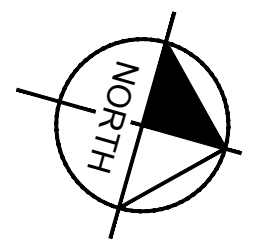
MANATEE COUNTY

LICENSED PROFESSIONAL JORDAN W. WALKER, P.E.
FL LICENSE NUMBER 78652
FL DATE:

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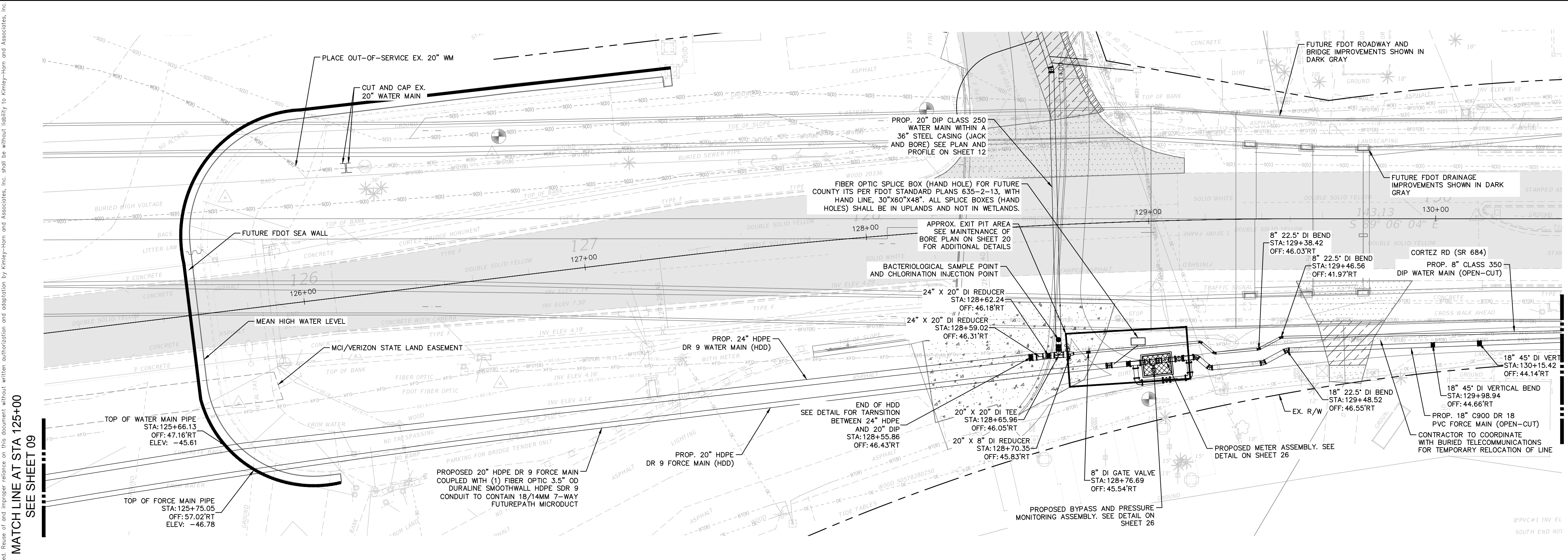
SHEET NUMBER 09

811 KNOW WHAT'S BELOW
ALWAYS CALL 811 BEFORE YOU DIG
It's fast. It's free. It's the law.
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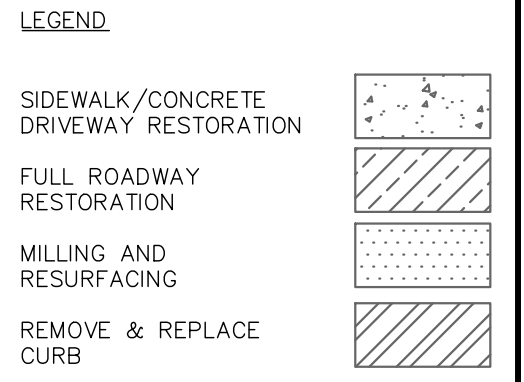
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HORIZONTAL SCALE: 1" = 20'
 VERTICAL SCALE: 1" = 15'



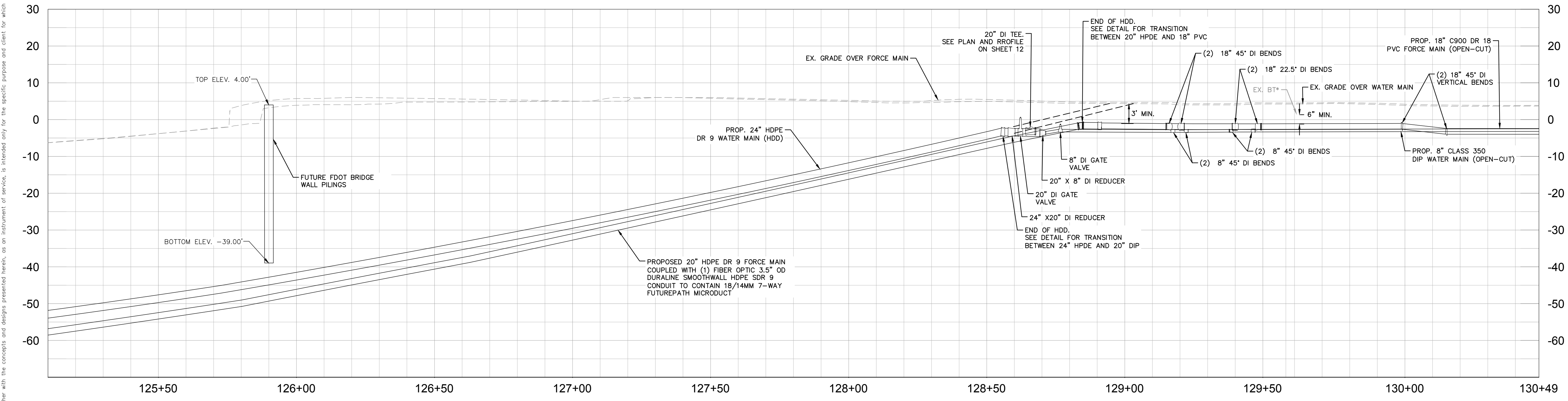
MATCH LINE AT STA 125+00
 SEE SHEET 09

MATCH LINE AT STA 130+50
 SEE SHEET 11



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KHA PROJECT 148400081
DATE FEBRUARY 2024
SCALE AS SHOWN
DESIGNED BY JWW
DRAWN BY ALC
CHECKED BY KMS

Manatee County
 FLORIDA

SR 684 (CORTEZ ROAD) WATER MAIN AND FORCE MAIN INTRACOASTAL CROSSING

MANATEE COUNTY

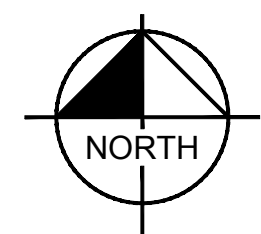
LICENSED PROFESSIONAL
 JORDAN W. WALKER, P.E.
 FL LICENSE NUMBER
 78652

EAST APPROACH

DATE: _____

SHEET NUMBER
10





GRAPHIC SCALE IN FEET
0 10 20 40

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 4'

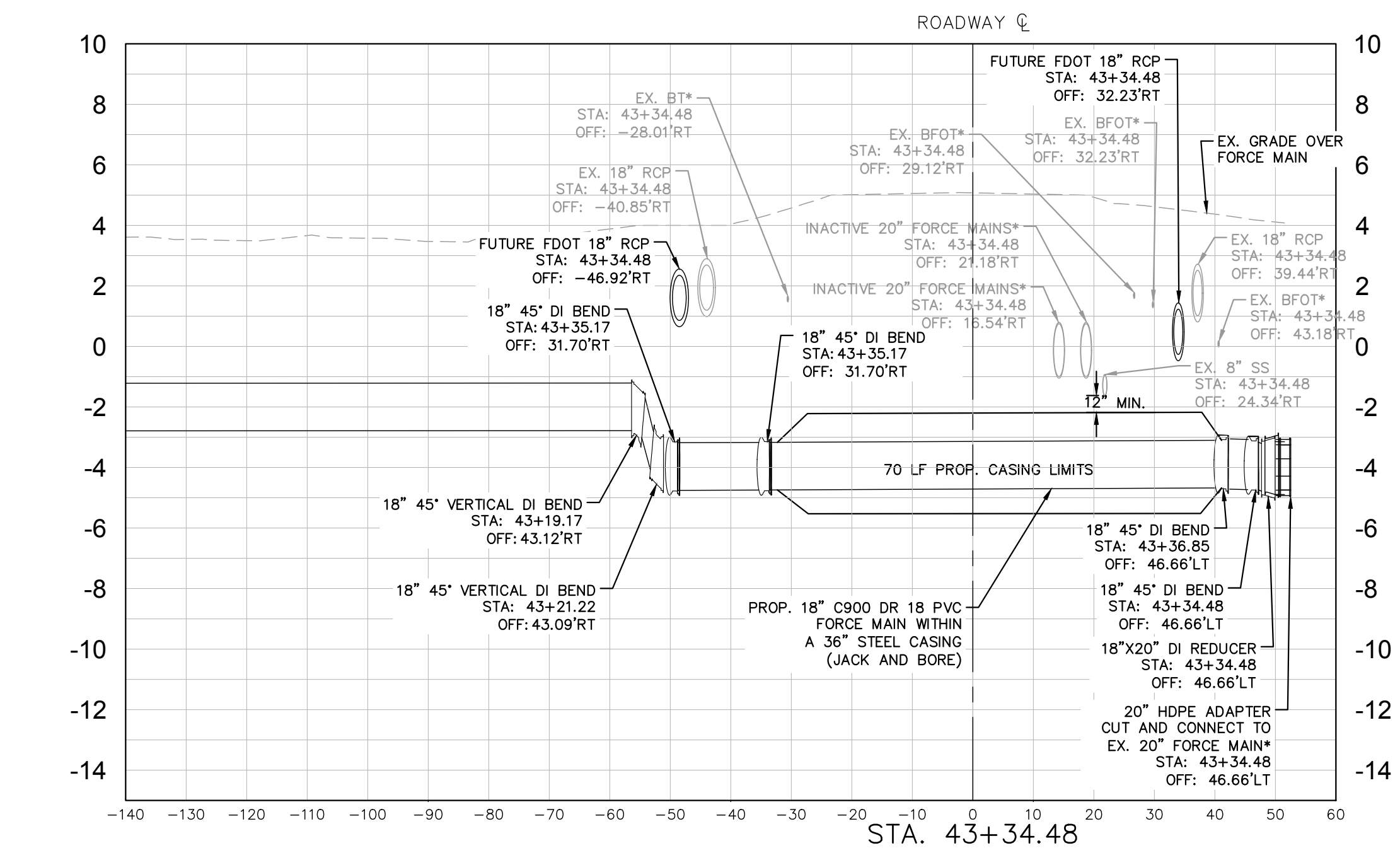
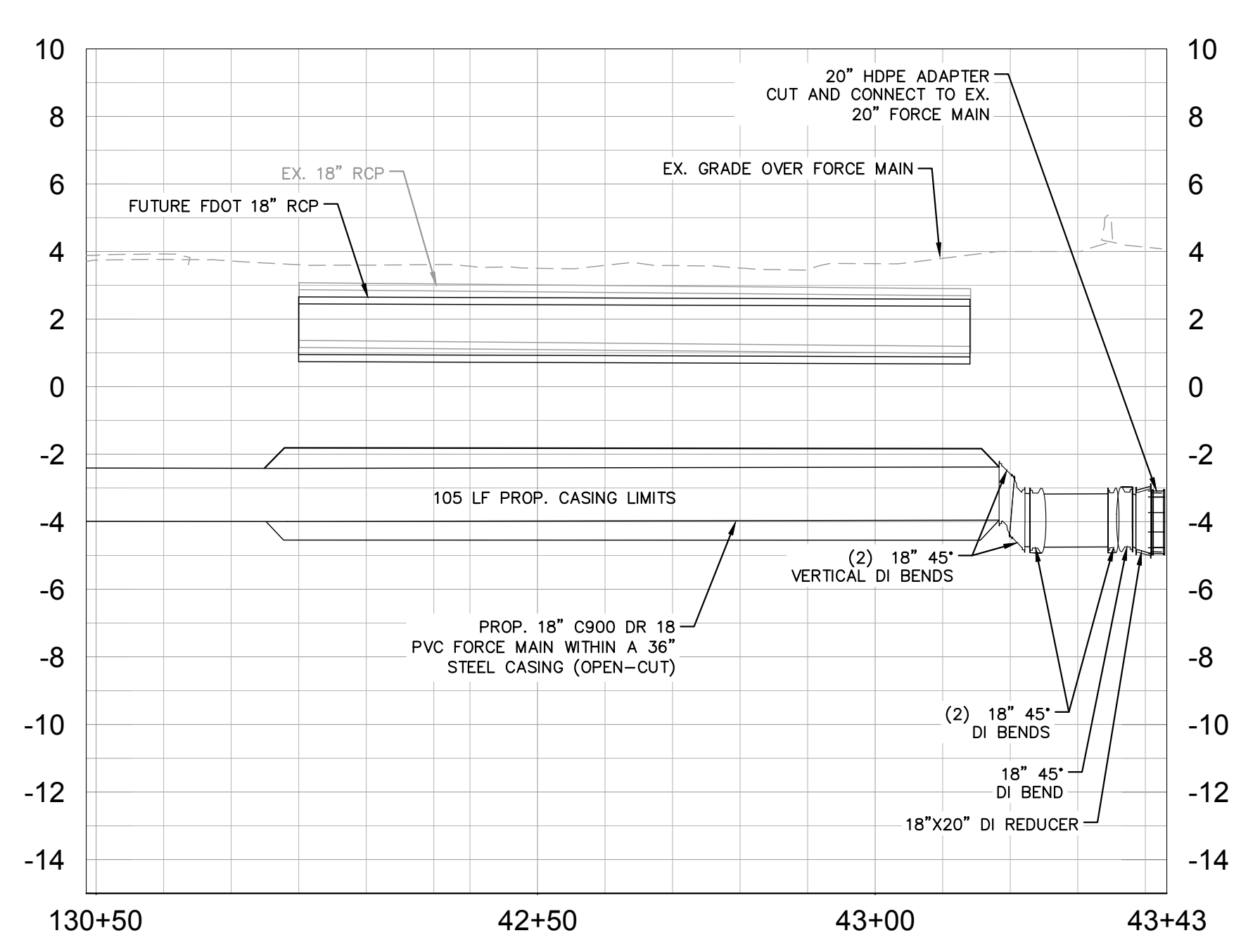
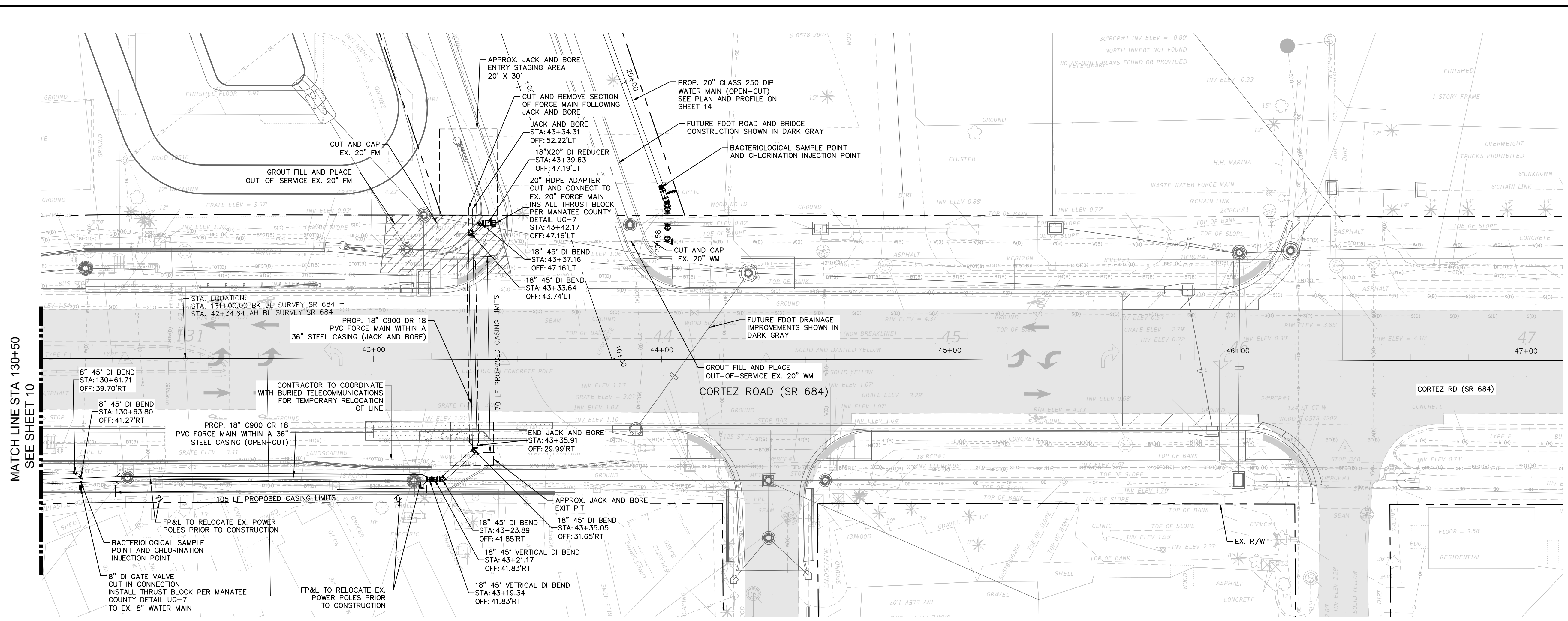
- LEGEND
- SIDEWALK/CONCRETE DRIVEWAY RESTORATION
 - FULL ROADWAY RESTORATION
 - MILLING AND RESURFACING
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No.	REVISIONS	DATE	BY

Kimley-Horn

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200 CENTRAL AVENUE, SUITE 600, ST. PETERSBURG, FL 33701
PHONE: 727-547-3999
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT 148400081
DATE FEBRUARY 2024
SCALE AS SHOWN
DESIGNED BY JWW
DRAWN BY ALC
CHECKED BY KMS

Manatee County
FLORIDA

SR 684 (CORTEZ ROAD) WATER MAIN AND FORCE MAIN INTRACOASTAL CROSSING
MANATEE COUNTY

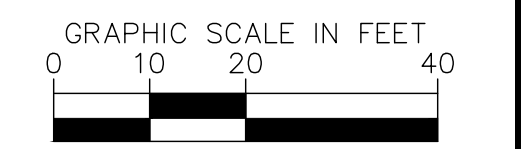
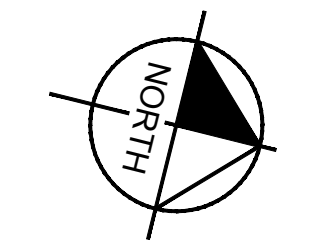
LICENSED PROFESSIONAL
JORDAN W. WALKER, P.E.
FL LICENSE NUMBER 78652

EAST APPROACH

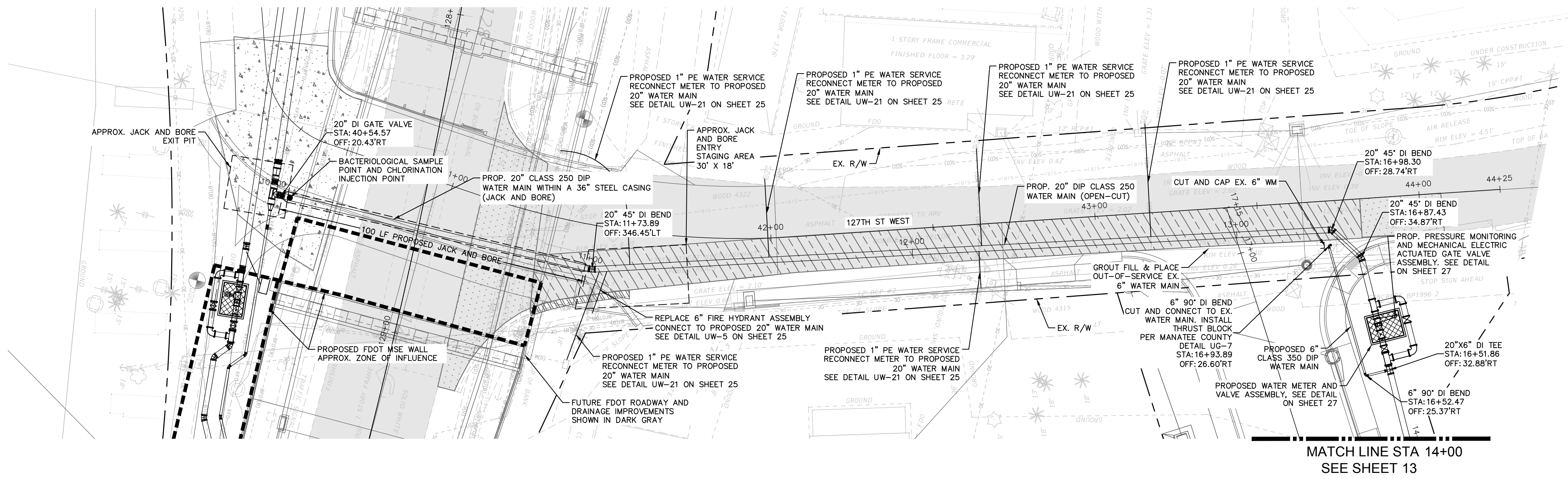
SHEET NUMBER **11**

DATE: _____

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HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 4'

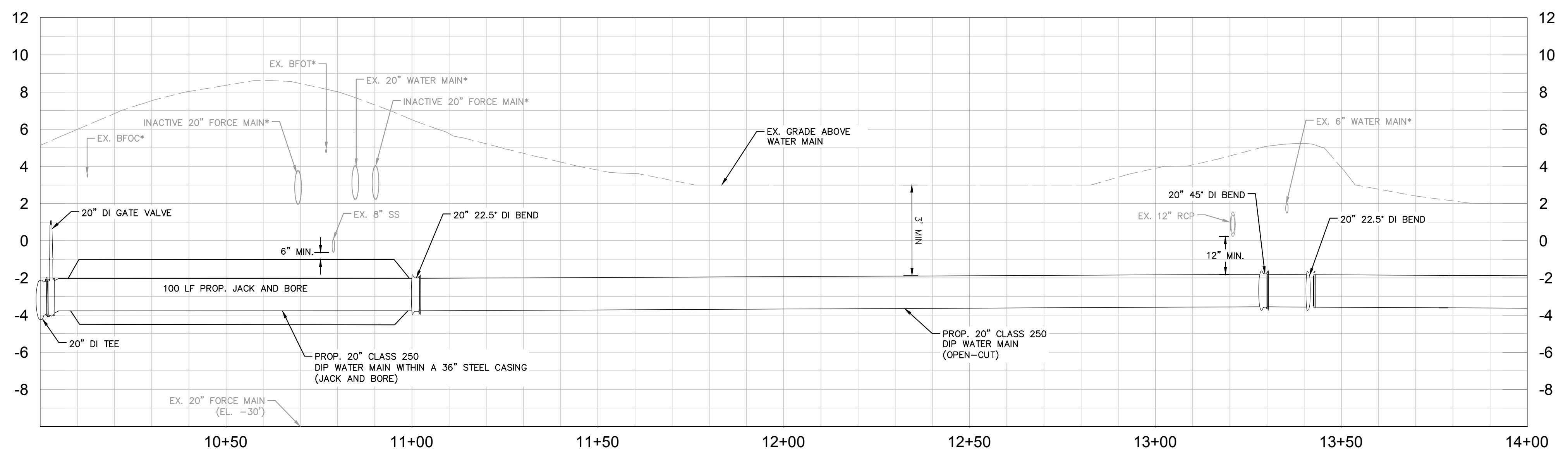


LEGEND

SIDEWALK/CONCRETE DRIVEWAY RESTORATION	
FULL ROADWAY RESTORATION	
MILLING AND RESURFACING	
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Kimley & Horn
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WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT 148400081
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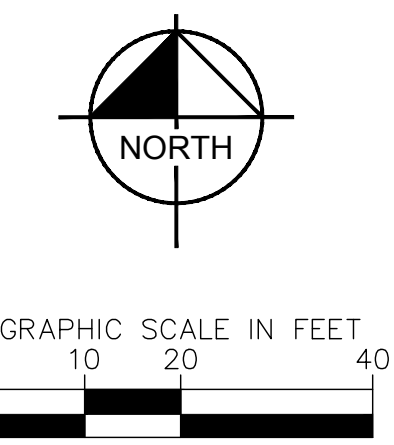
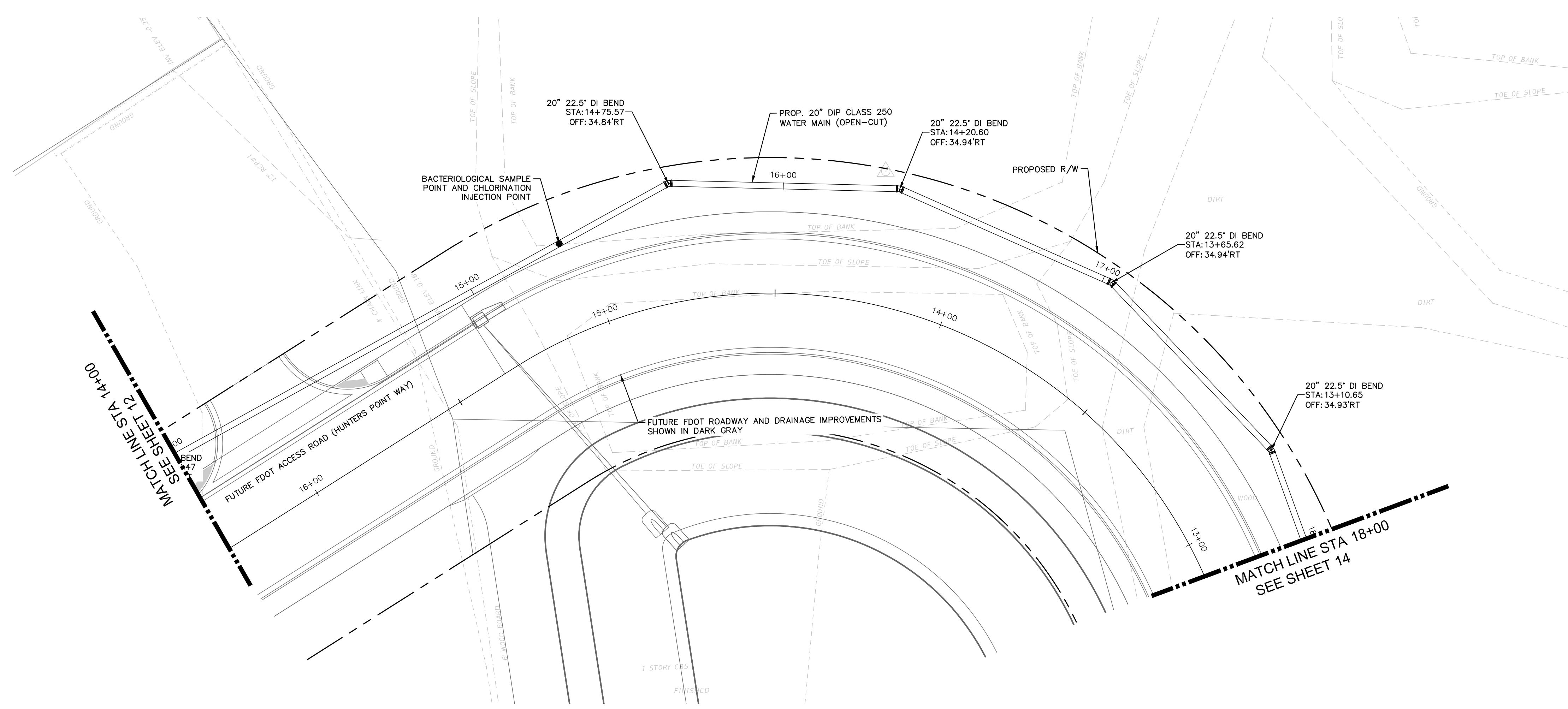
Manatee County
SR 684 (CORTEZ ROAD) WATER MAIN AND FORCE MAIN INTRACOASTAL CROSSING
MANATEE COUNTY

LICENSED PROFESSIONAL JORDAN W. WALKER, P.E.
FL LICENSE NUMBER 78652
FL DATE:

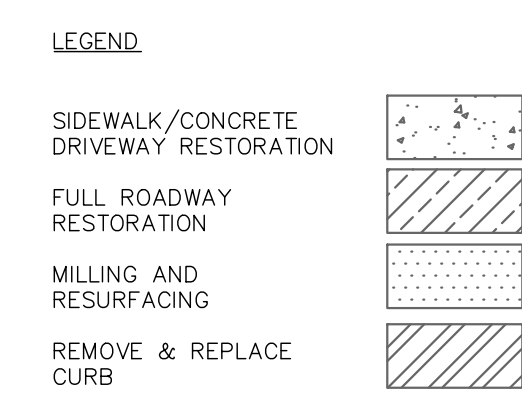
EAST APPROACH

SHEET NUMBER 12

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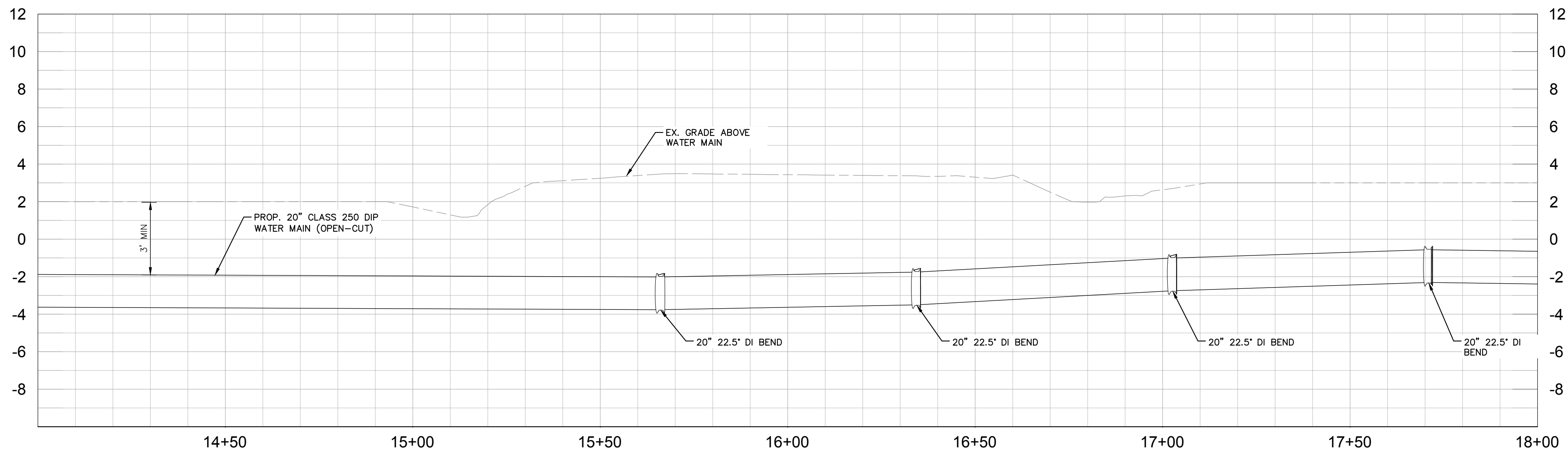


HORIZONTAL SCALE: 1" = 20'
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KHA PROJECT 148400081
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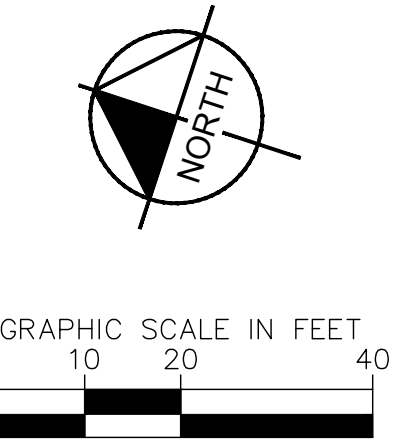
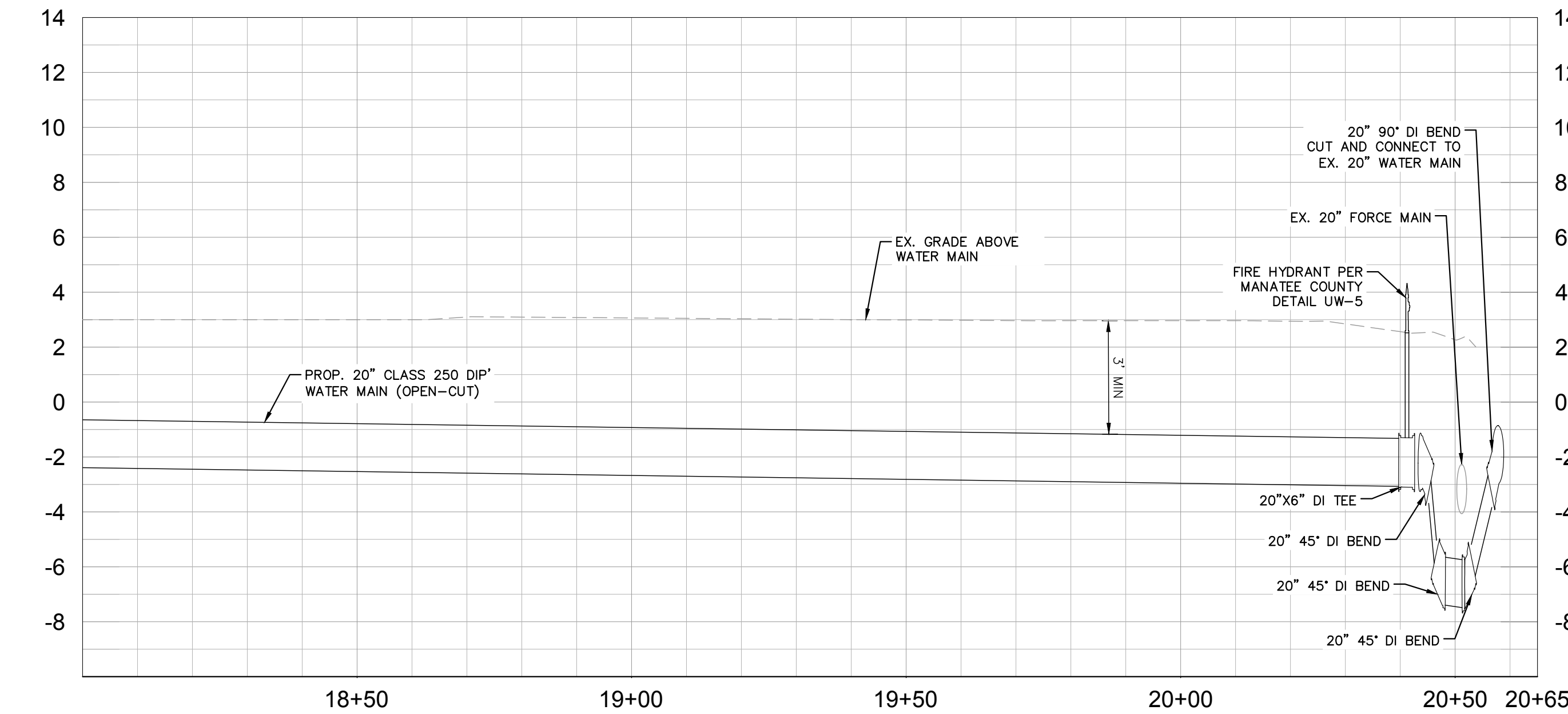
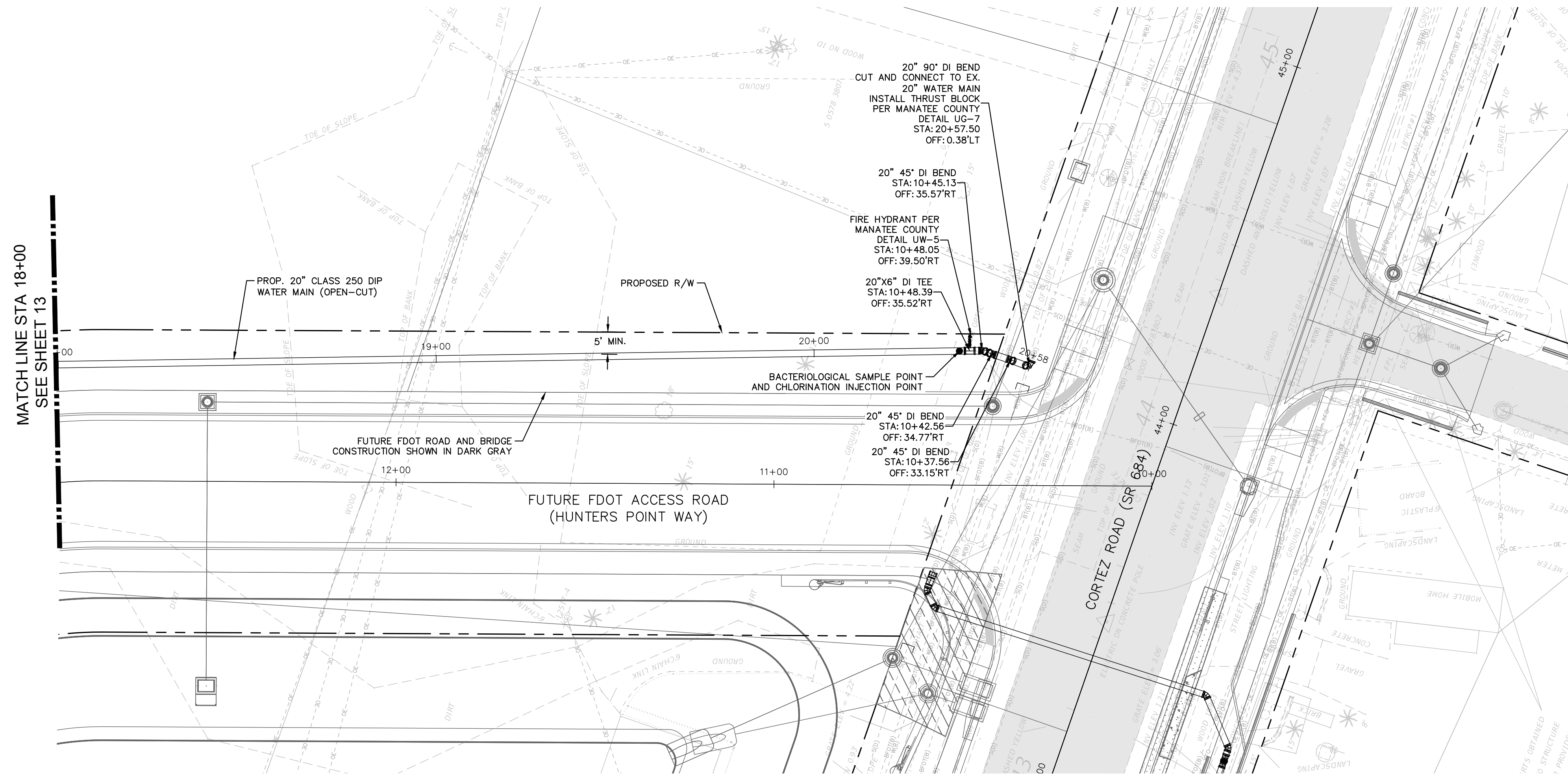
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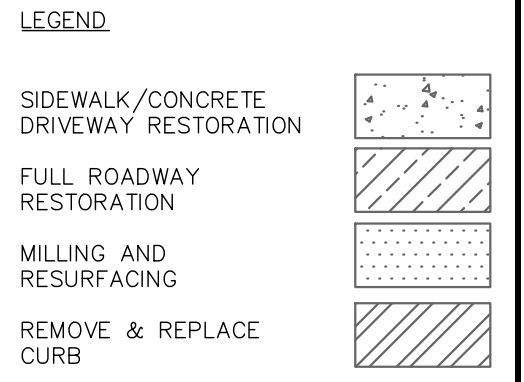
EAST APPROACH

SHEET NUMBER 13

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CHECKED BY KMS

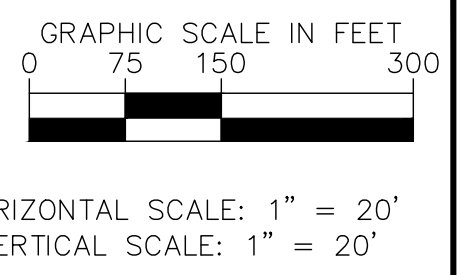
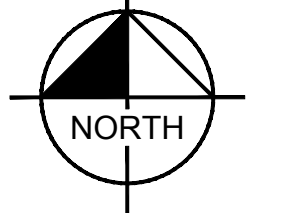
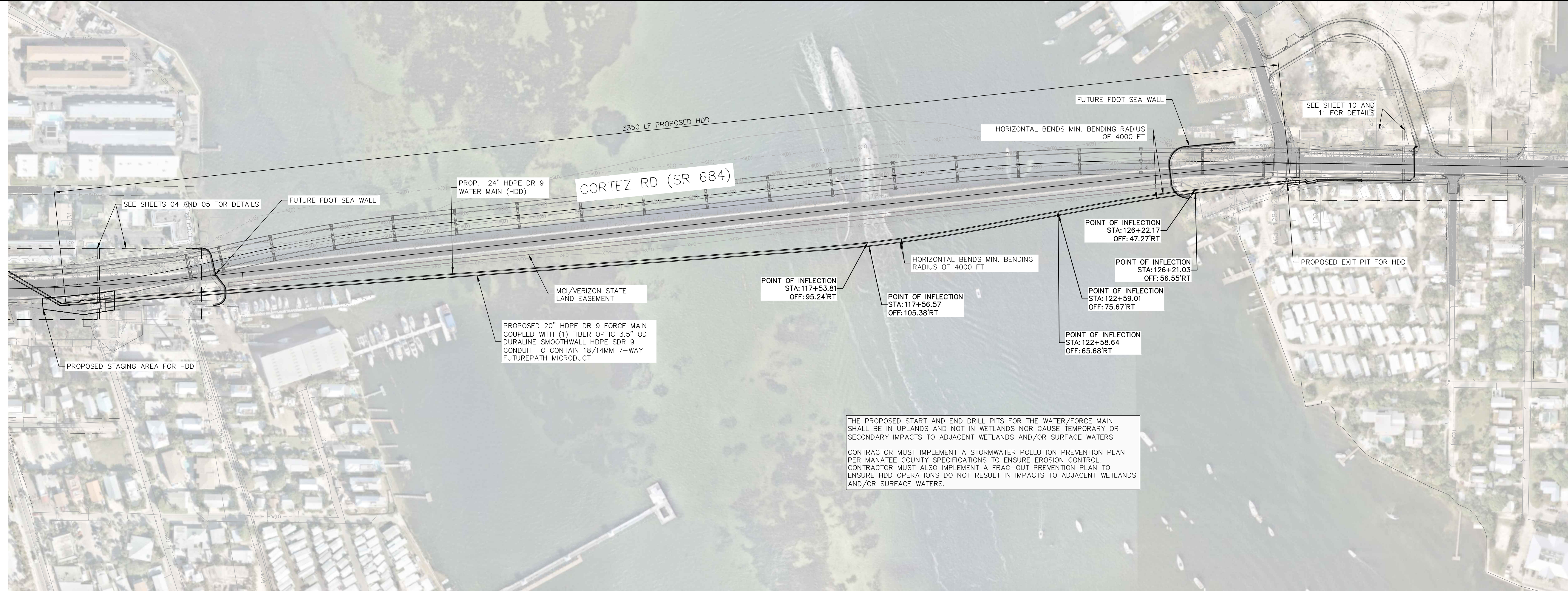
Manatee County
SR 684 (CORTEZ ROAD) WATER MAIN AND FORCE MAIN INTRACOASTAL CROSSING
MANATEE COUNTY

LICENSED PROFESSIONAL
JORDAN W. WALKER, P.E.
FL LICENSE NUMBER
78652

EAST APPROACH

SHEET NUMBER
14

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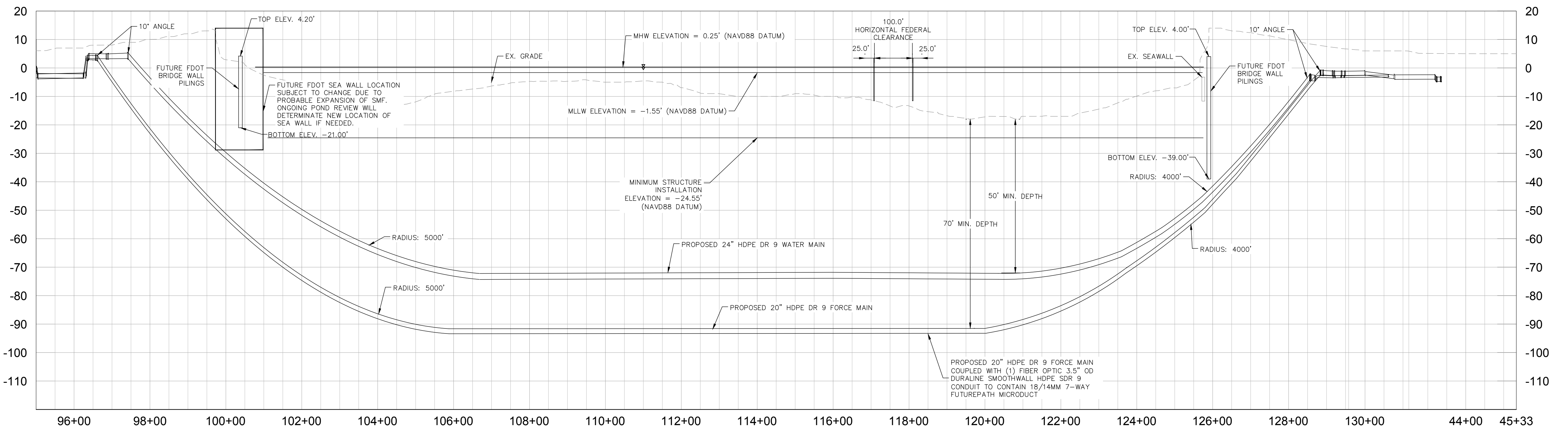
LEGEND

SIDEWALK/CONCRETE DRIVEWAY RESTORATION	
FULL ROADWAY RESTORATION	
MILLING AND RESURFACING	
REMOVE & REPLACE CURB	

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No.	REVISIONS	DATE	BY

Kimley-Horn

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 200 CENTRAL AVENUE, SUITE 600, ST. PETERSBURG, FL 33701
 PHONE: 727-547-3999
 WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT 148400081
DATE FEBRUARY 2024
SCALE AS SHOWN
DESIGNED BY JWW
DRAWN BY ALC
CHECKED BY KMS

Manatee County
 FLORIDA

SR 684 (CORTEZ ROAD) WATER MAIN AND FORCE MAIN INTRACOASTAL CROSSING

MANATEE COUNTY

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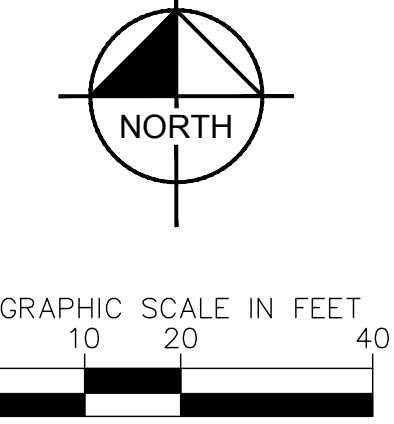
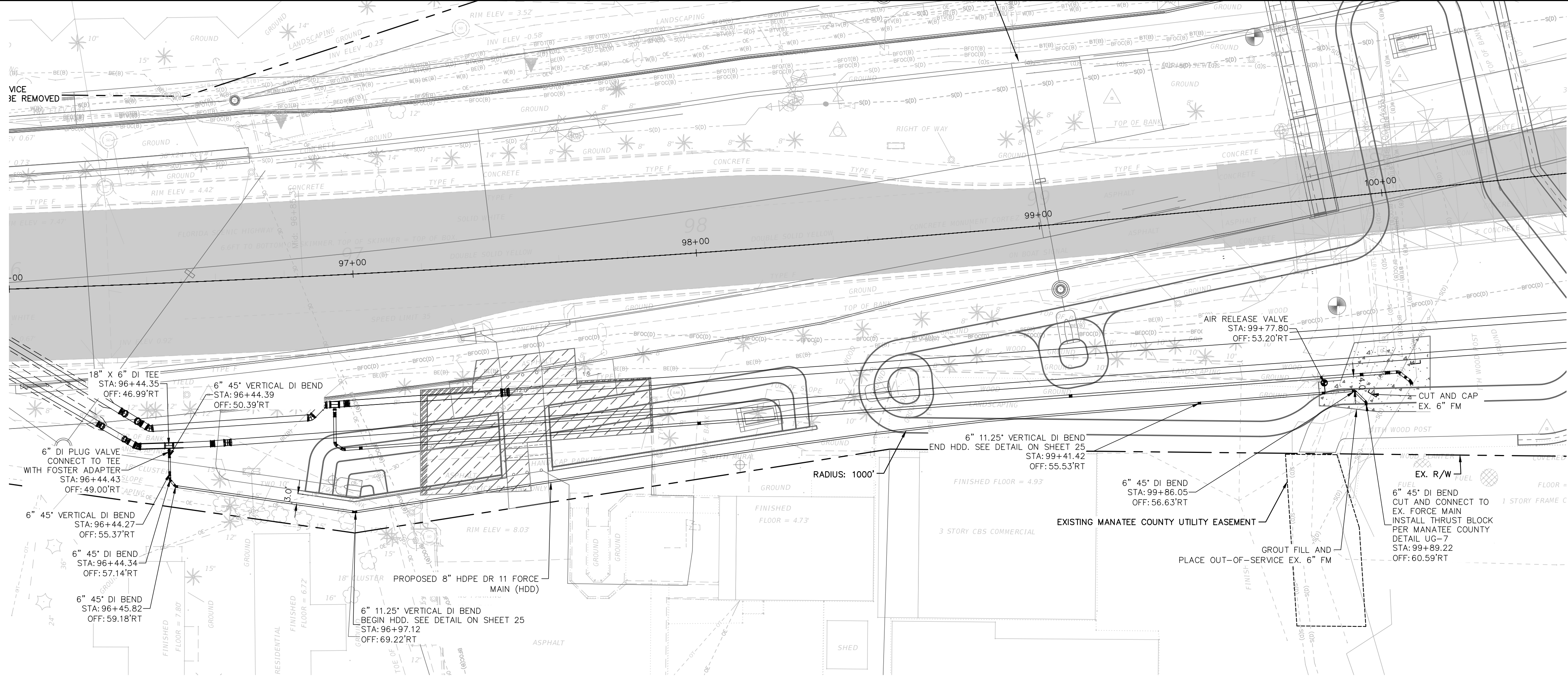
OVERALL DRILL PLAN

DATE: _____

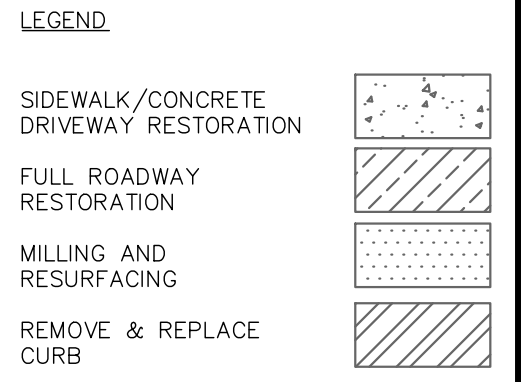
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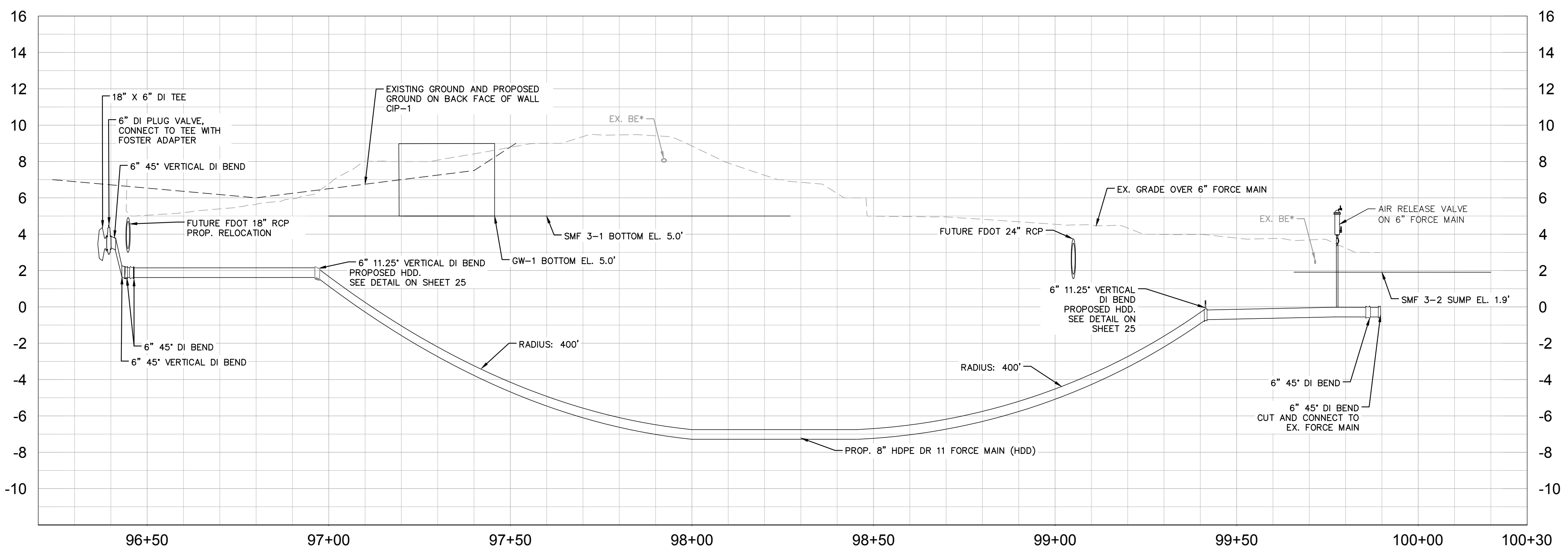
HORIZONTAL SCALE: 1" = 20'
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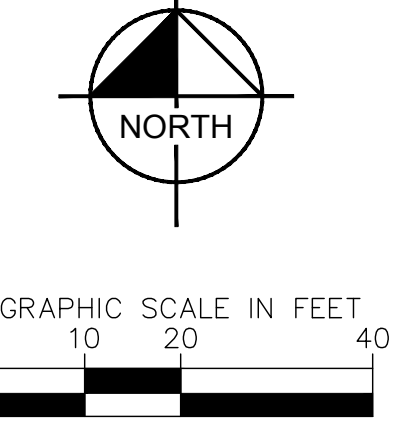
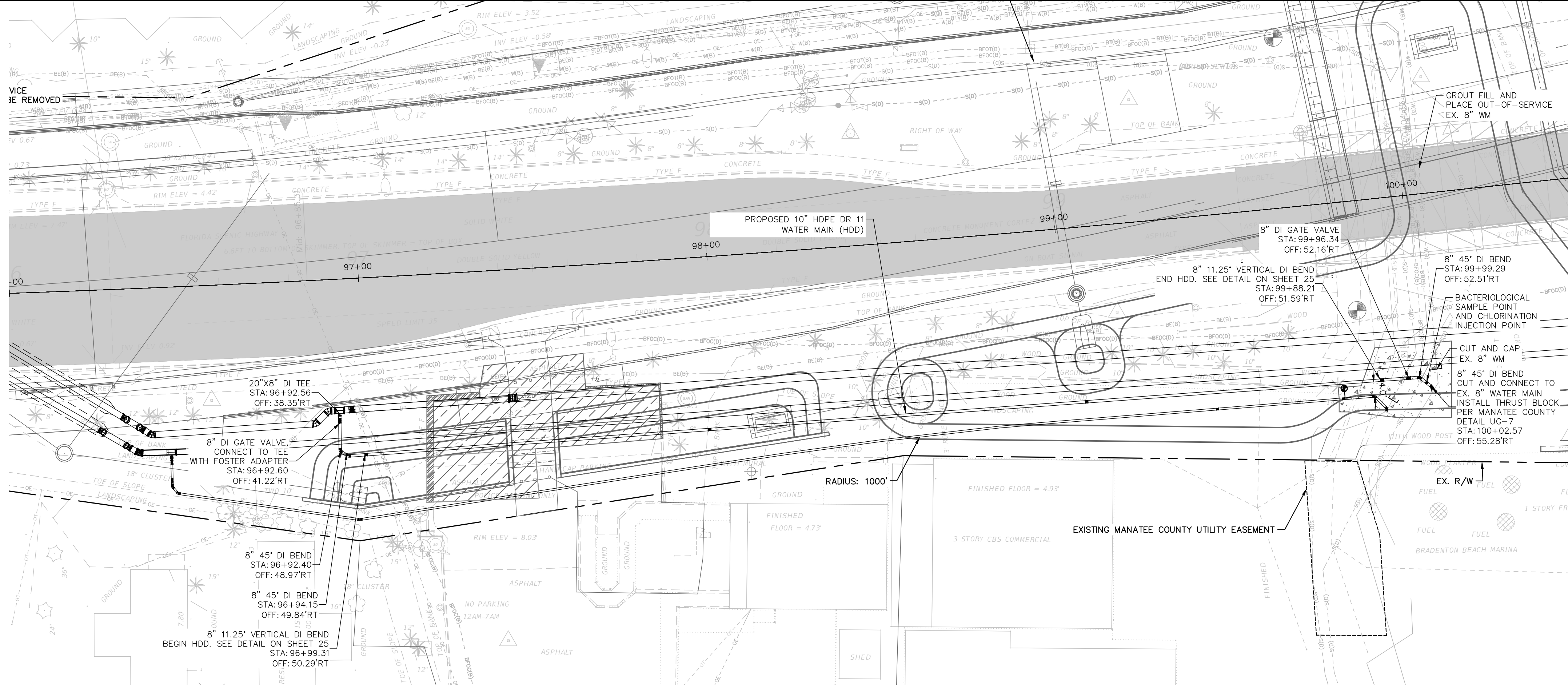
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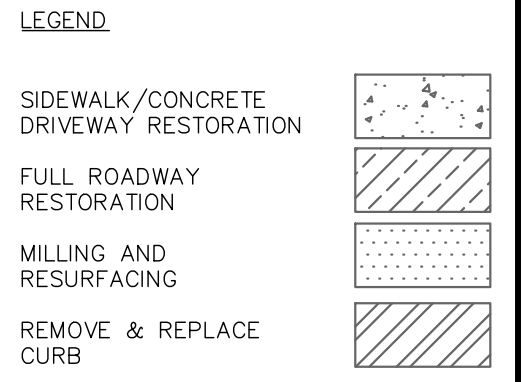
FORCE MAIN RELOCATION

SHEET NUMBER
16

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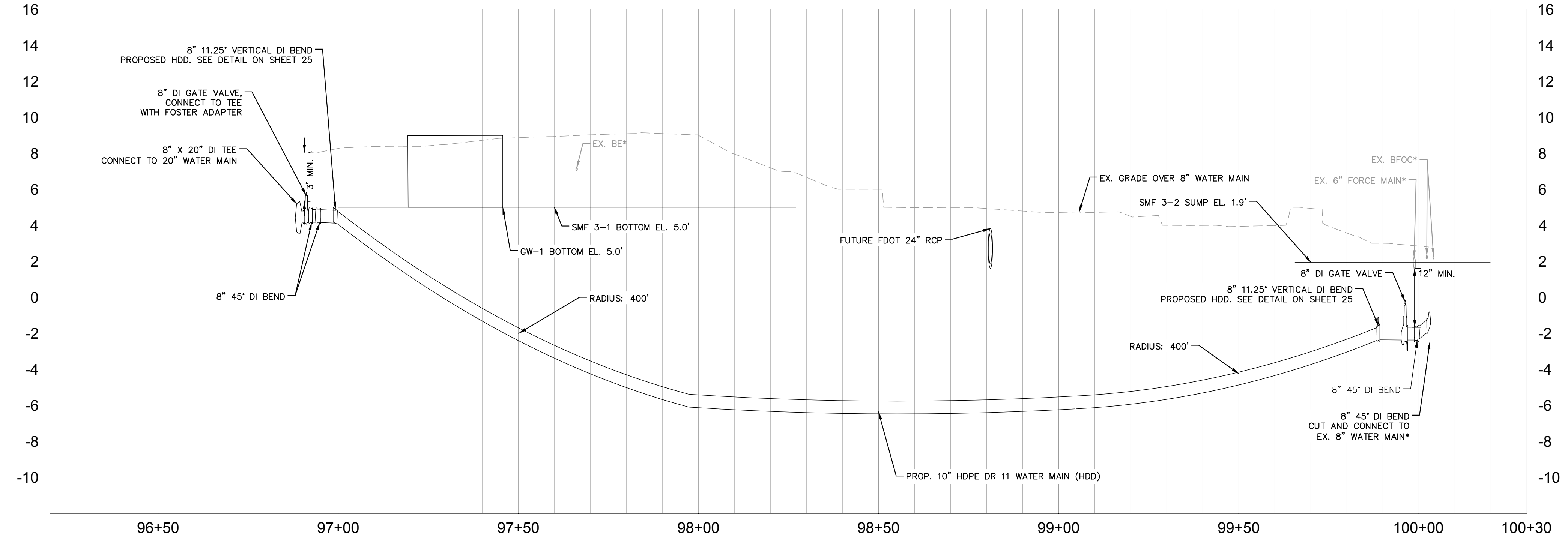


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Manatee County
FLORIDA

SR 684 (CORTEZ ROAD) WATER MAIN AND FORCE MAIN INTRACOASTAL CROSSING

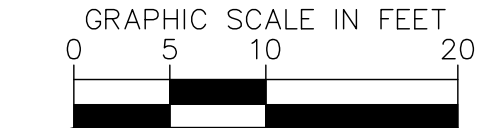
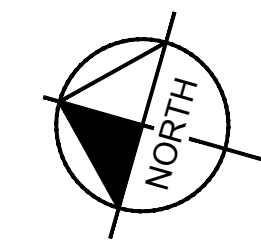
MANATEE COUNTY

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WATER MAIN RELOCATION

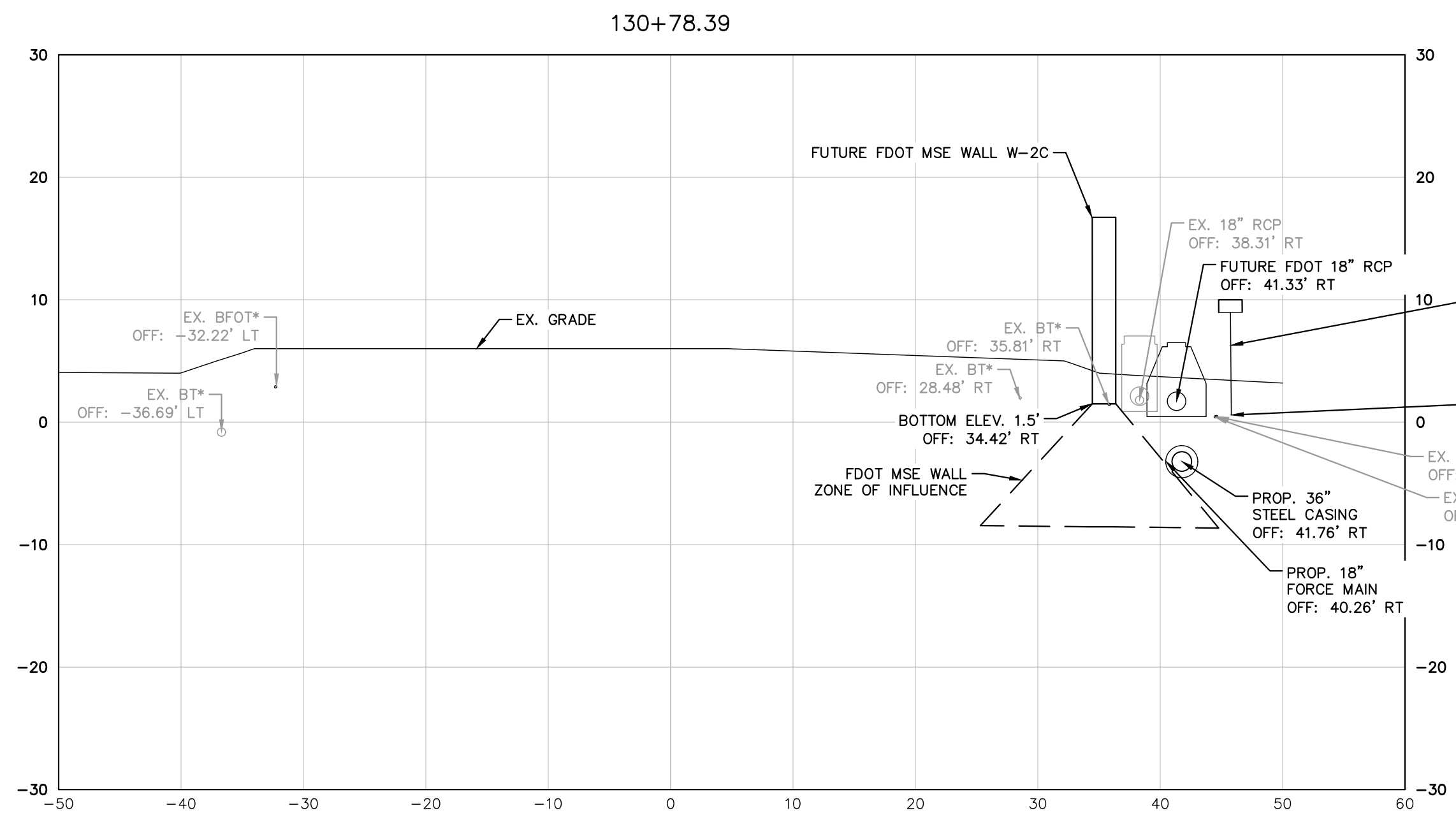
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SHEET NUMBER
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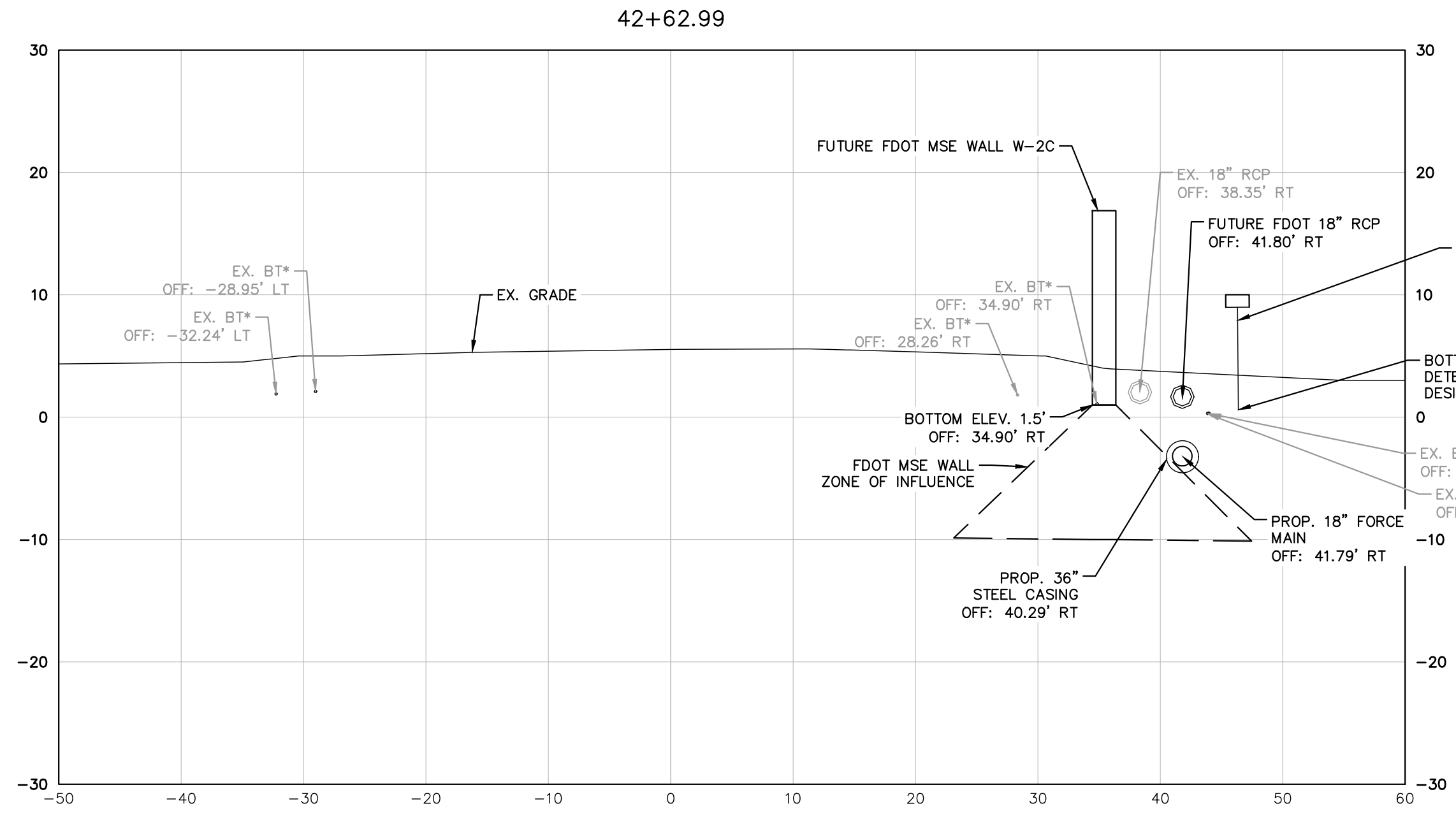
HORIZONTAL SCALE: 1" = 10'
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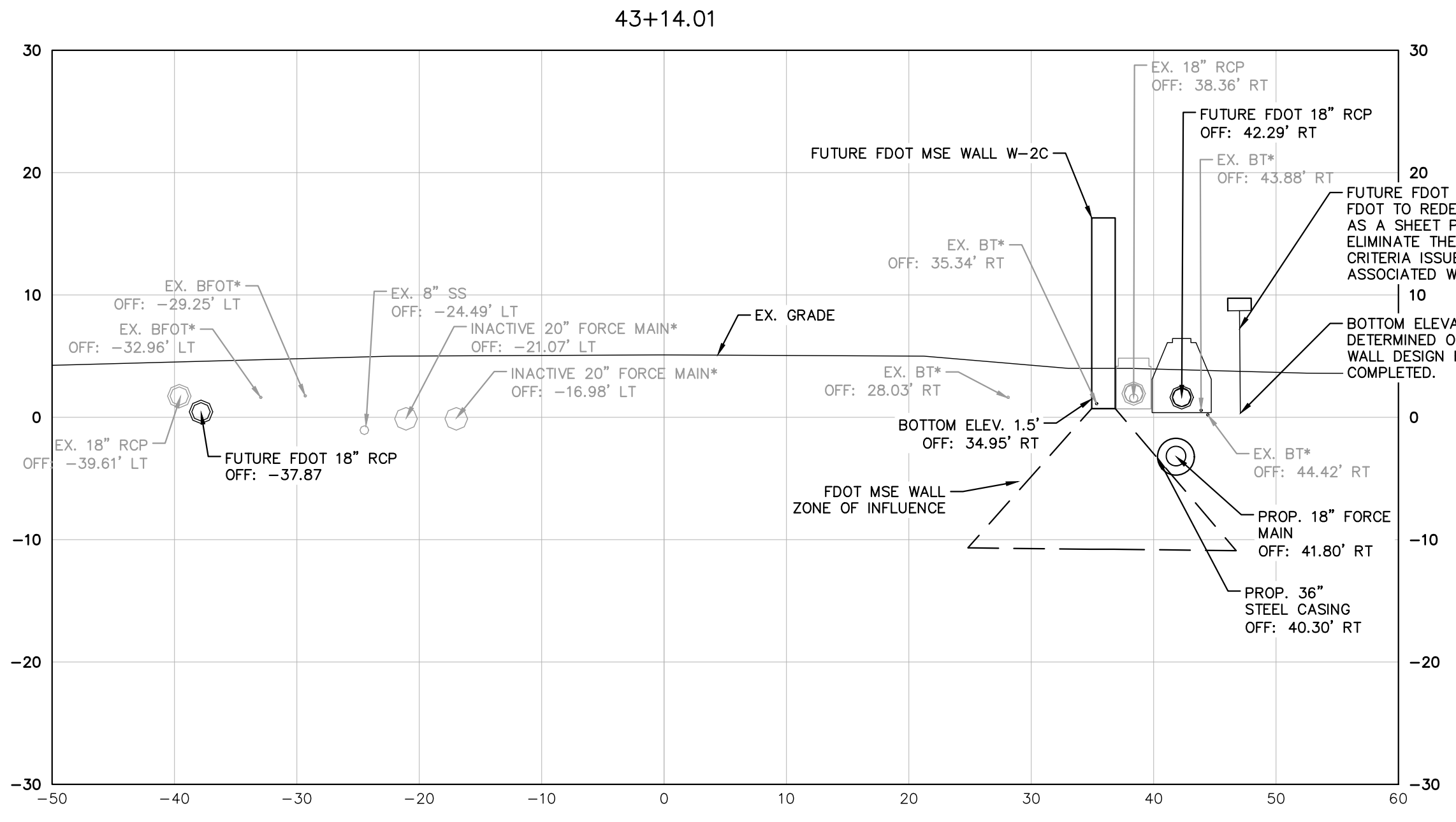
FUTURE FDOT MSE WALL W-3. FDOT TO REDESIGN THIS WALL AS A SHEET PILE WALL TO ELIMINATE THE WALL ZONE CRITERIA ISSUE THAT WOULD BE ASSOCIATED WITH AN MSE WALL

BOTTOM ELEVATION IS TO BE DETERMINED ONCE SHEET PILE WALL DESIGN HAS BEEN COMPLETED.



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Manatee County
FLORIDA

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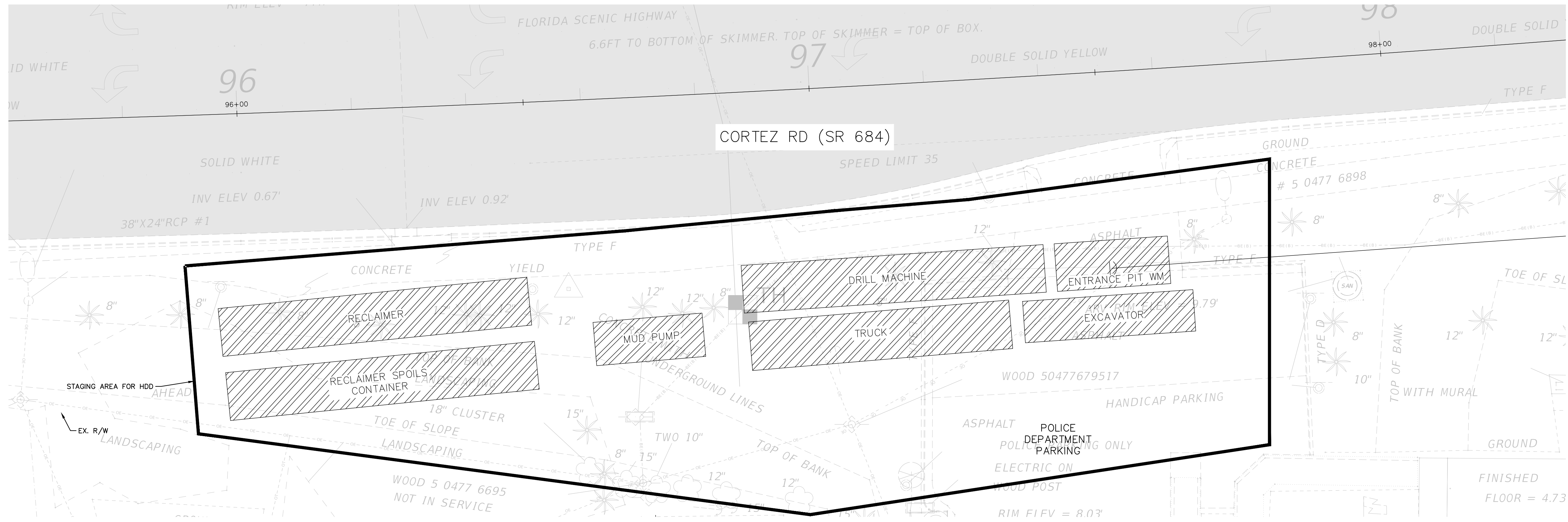
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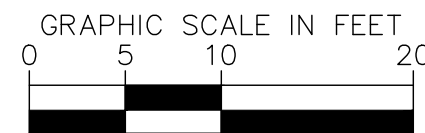
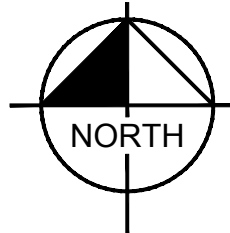
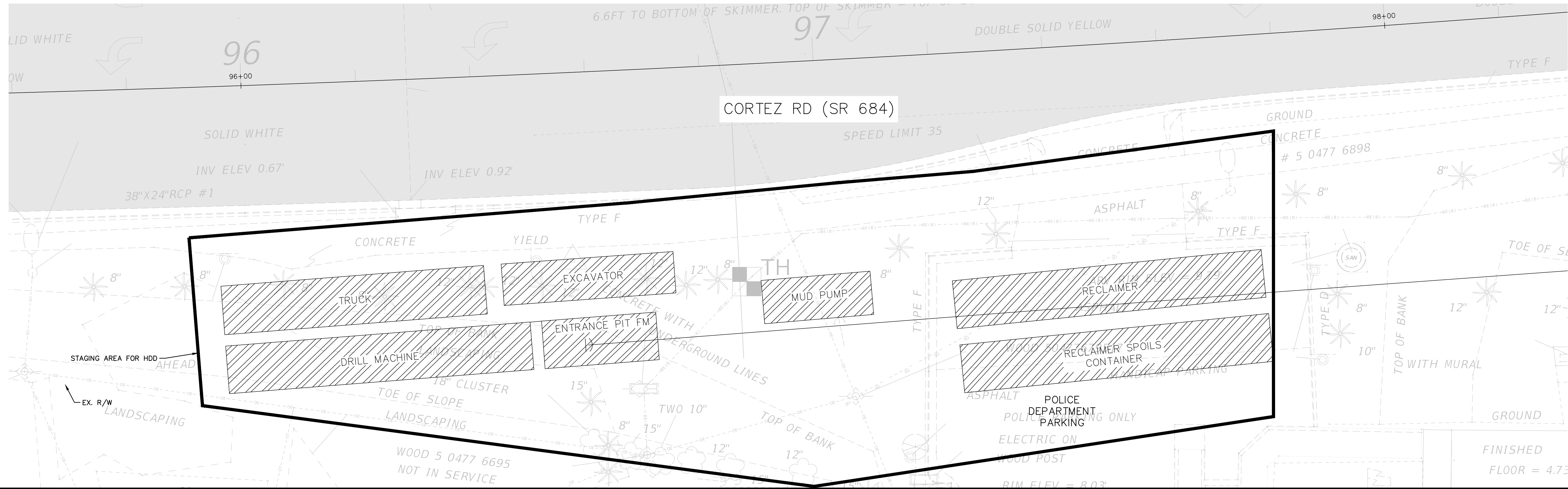
**EAST APPROACH CORTEZ RD
CROSS SECTIONS**

SHEET NUMBER
18

MAINTENANCE OF DRILL PLAN FOR WATER MAIN – ENTRY



MAINTENANCE OF DRILL PLAN FOR FORCE MAIN – ENTRY



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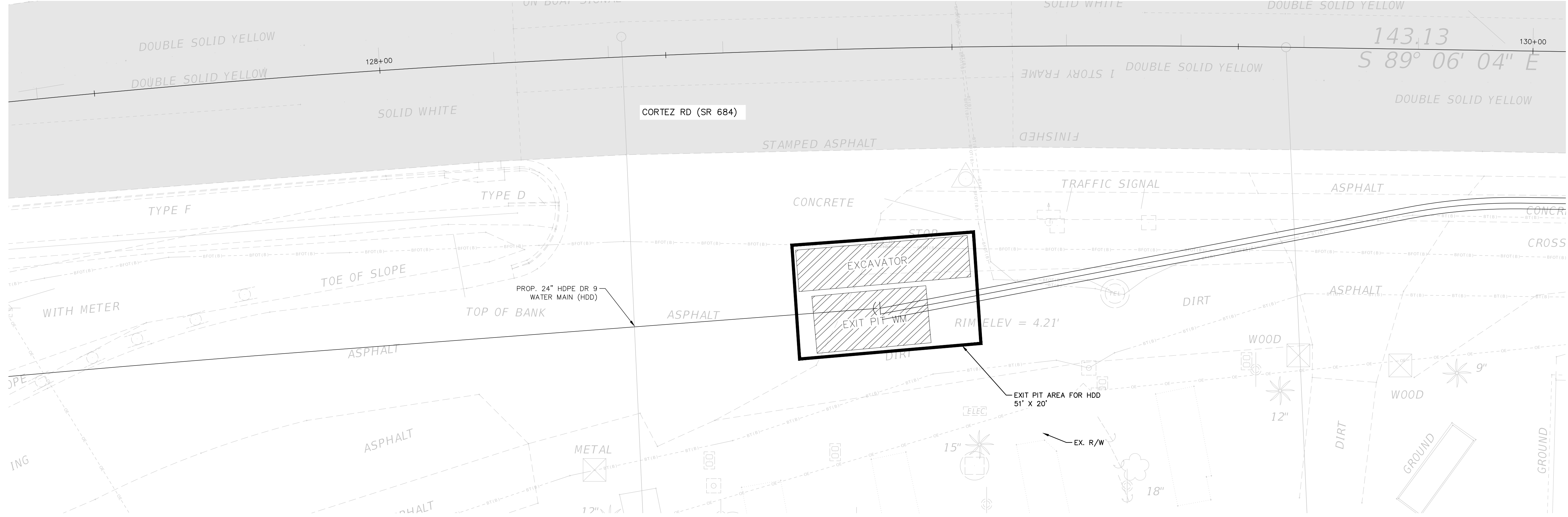
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MAINTENANCE OF DRILL PLAN - WEST APPROACH

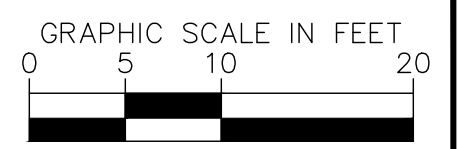
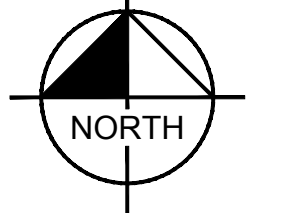
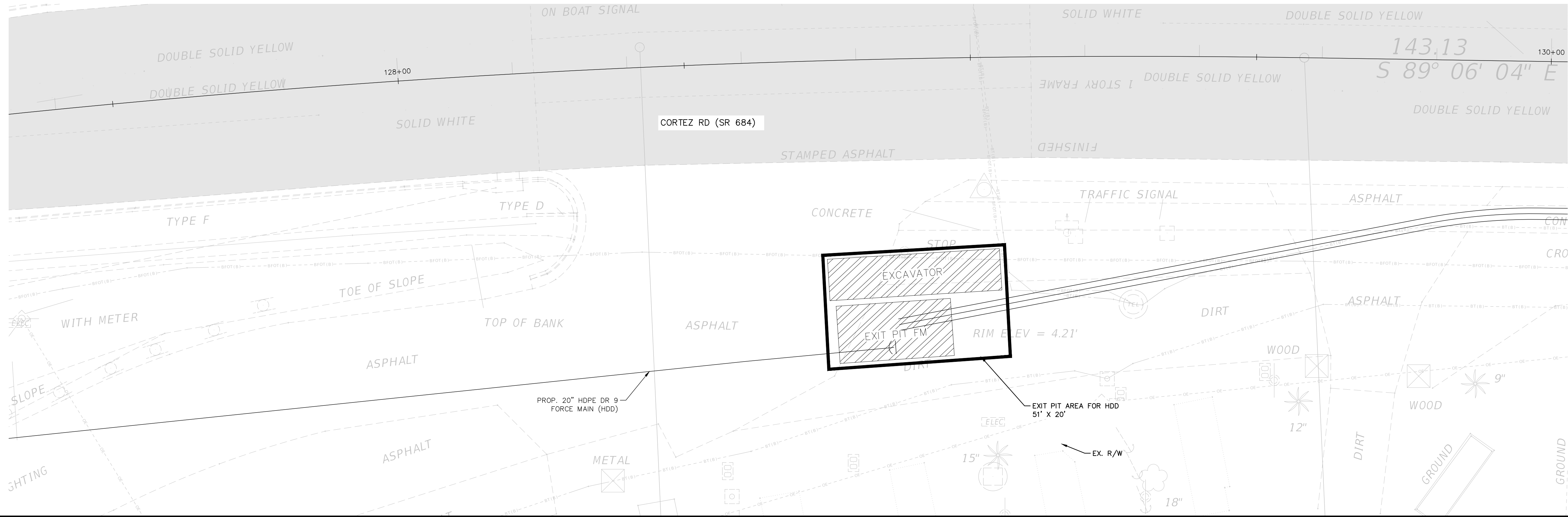
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MAINTENANCE OF DRILL PLAN FOR WATER MAIN – EXIT



MAINTENANCE OF DRILL PLAN FOR FORCE MAIN – EXIT



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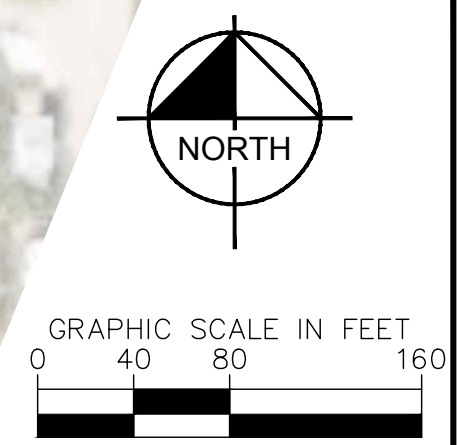
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MANATEE COUNTY

LICENSED PROFESSIONAL JORDAN W. WALKER, P.E. FL LICENSE NUMBER 78652

MAINTENANCE OF DRILL PLAN - EAST APPROACH

SHEET NUMBER 20

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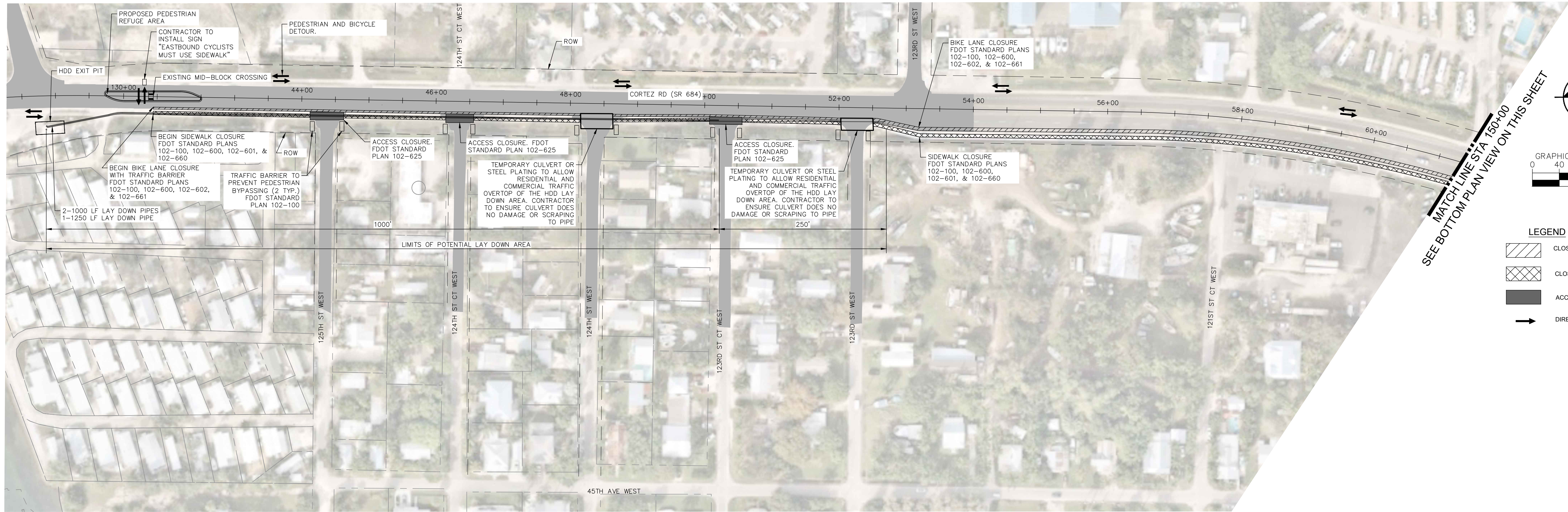

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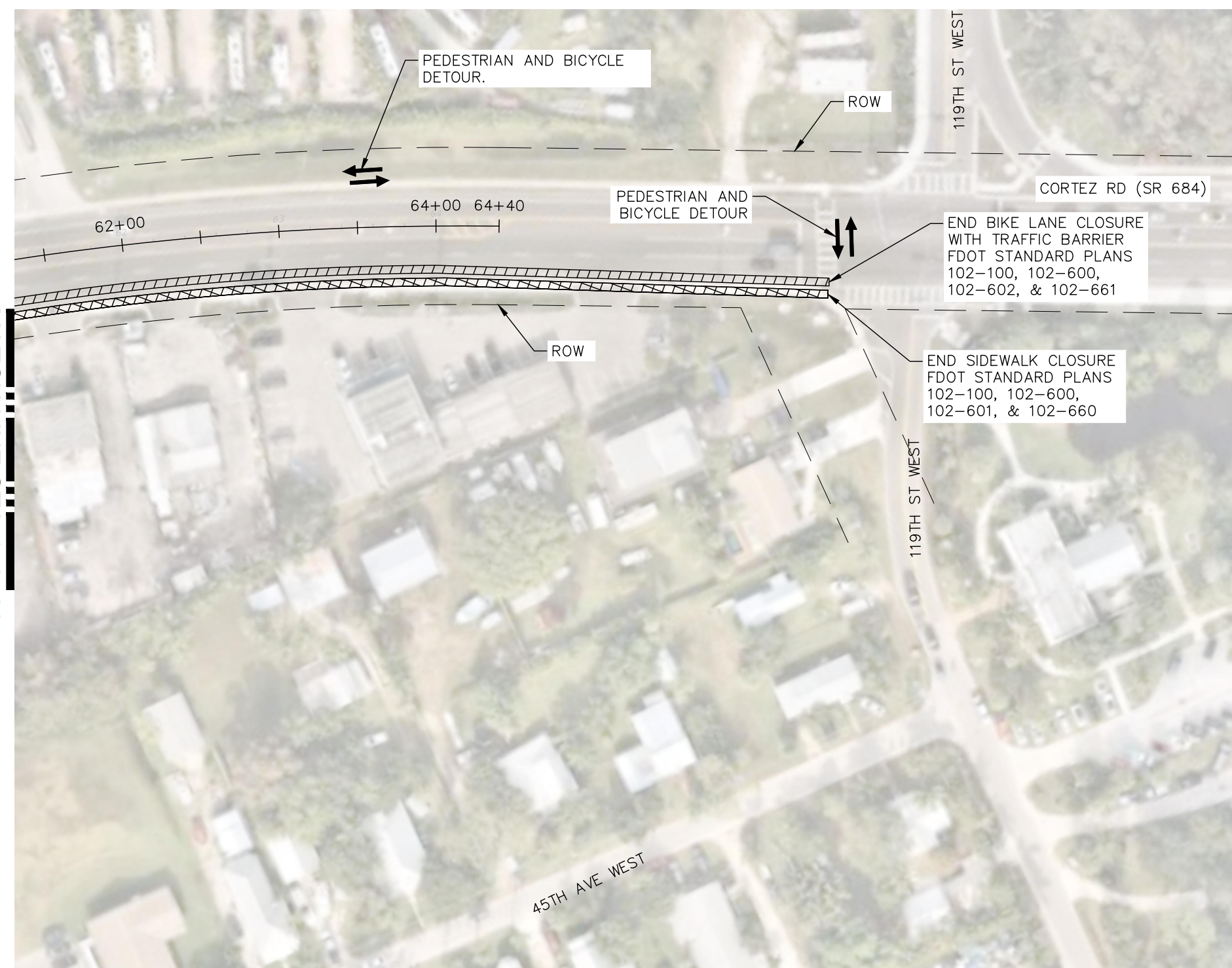
MAINTENANCE OF DRILL PLAN - LAY DOWN AREA

SHEET NUMBER
21

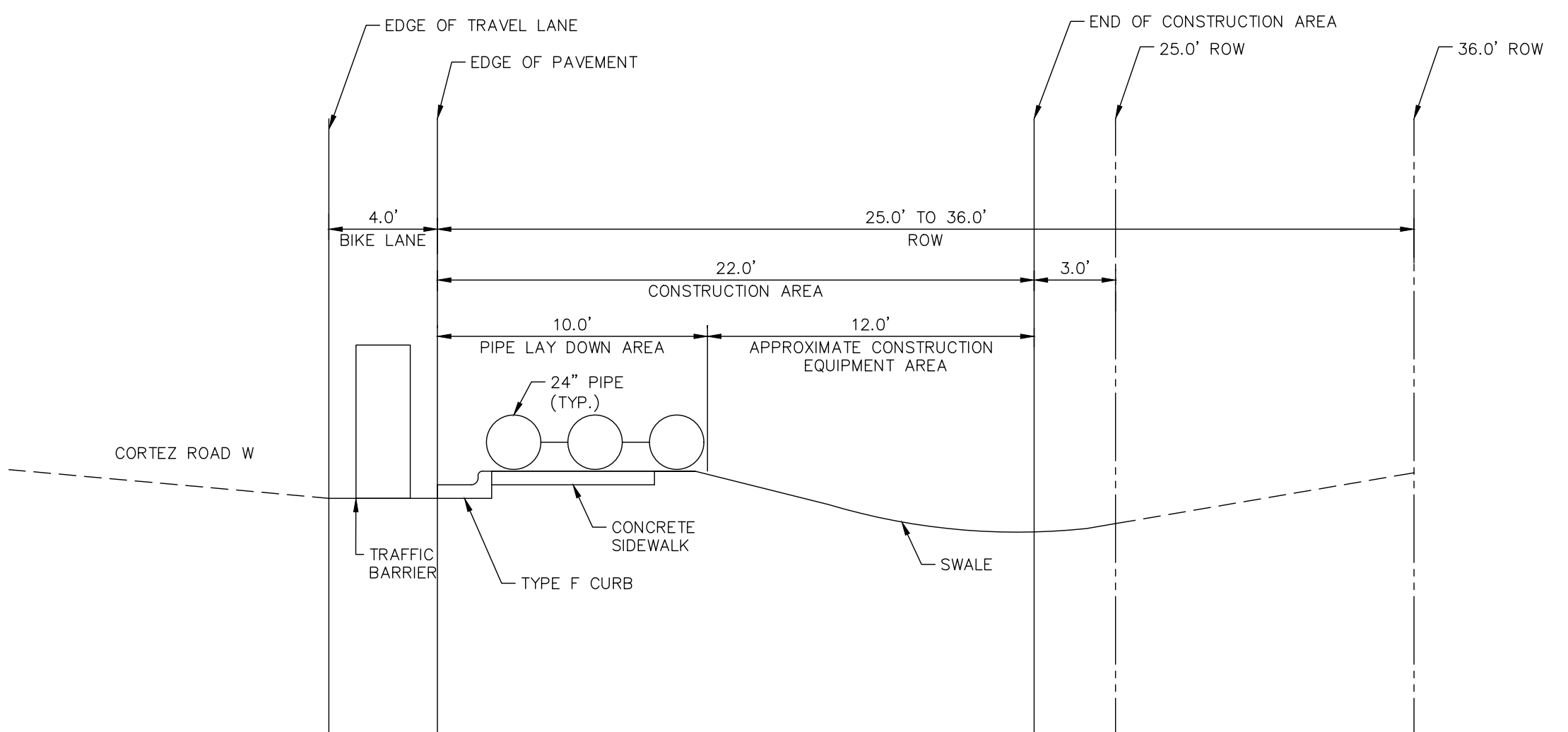
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MATCH LINE STA 150+00
SEE BOTTOM PLAN VIEW ON THIS SHEET



MATCH LINE STA 150+00
SEE TOP PLAN VIEW ON THIS SHEET



GROUNDWATER / DEWATERING NOTE:
THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR THIS ISSUE. WHEN PERFORMING GRADING OPERATIONS DURING PERIODS OF WET WEATHER, PROVIDE ADEQUATE DEWATERING, DRAINAGE AND GROUND WATER MANAGEMENT TO CONTROL MOISTURE OF SOILS.



No.	REVISIONS	DATE	BY

Kimley-Horn
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200 CENTRAL AVENUE, SUITE 600, ST. PETERSBURG, FL 33701
PHONE: 727-547-3999
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT 148400081
DATE MAY 2023
SCALE AS SHOWN
DESIGNED BY JWW
DRAWN BY SLB
CHECKED BY KMS

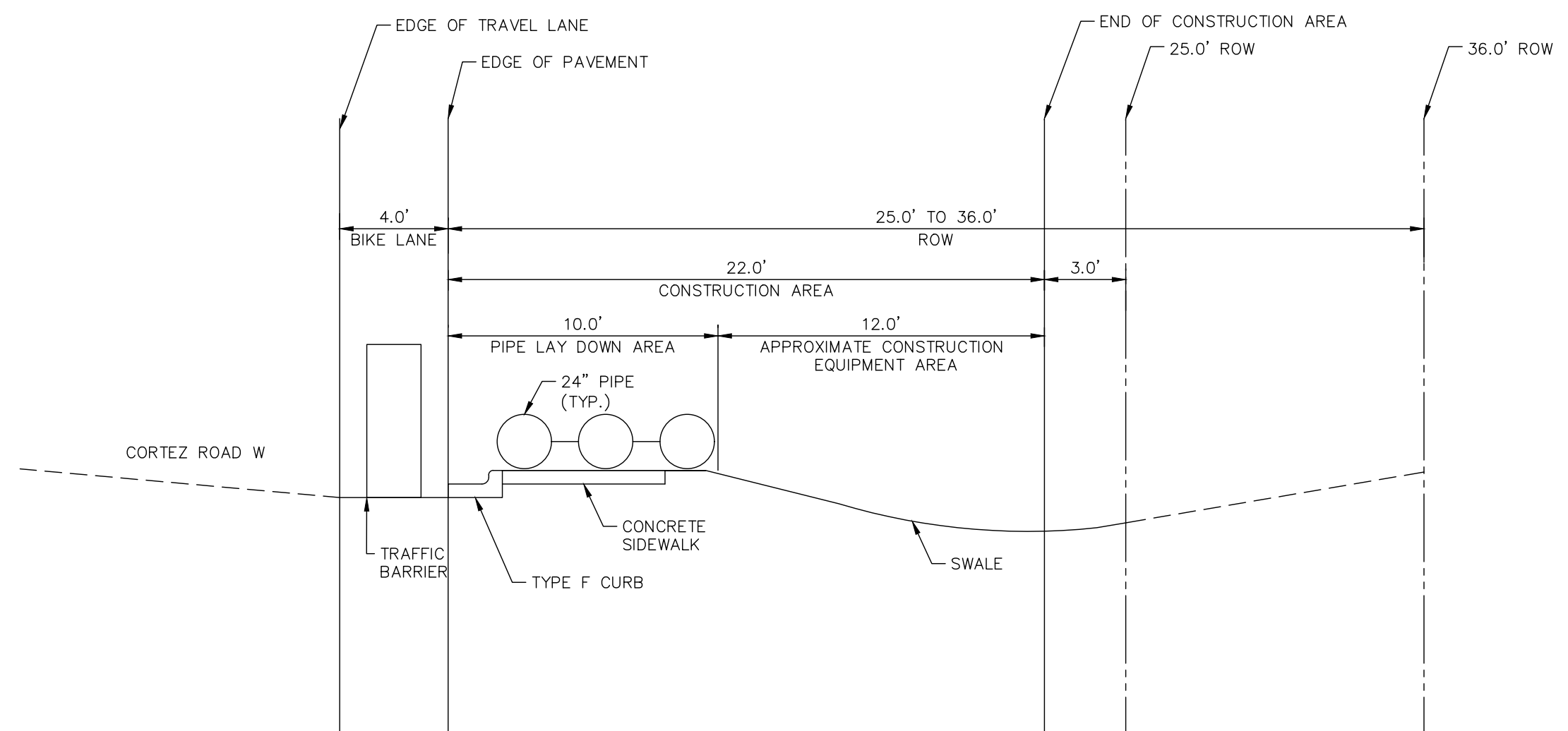
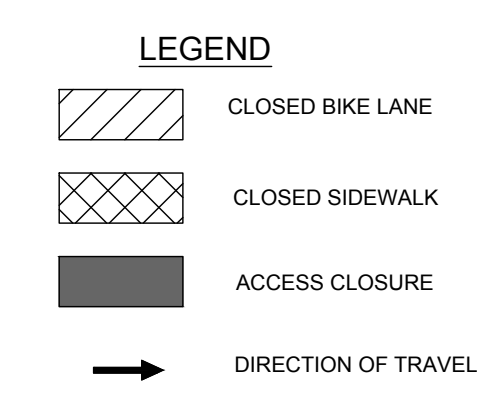
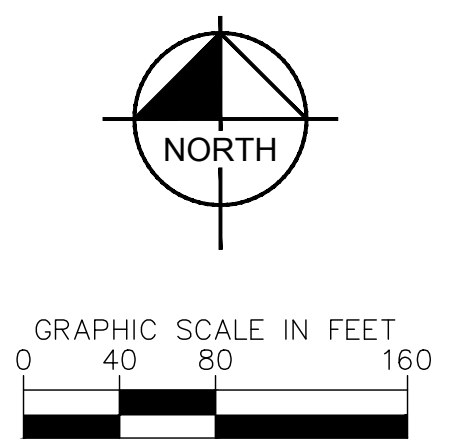
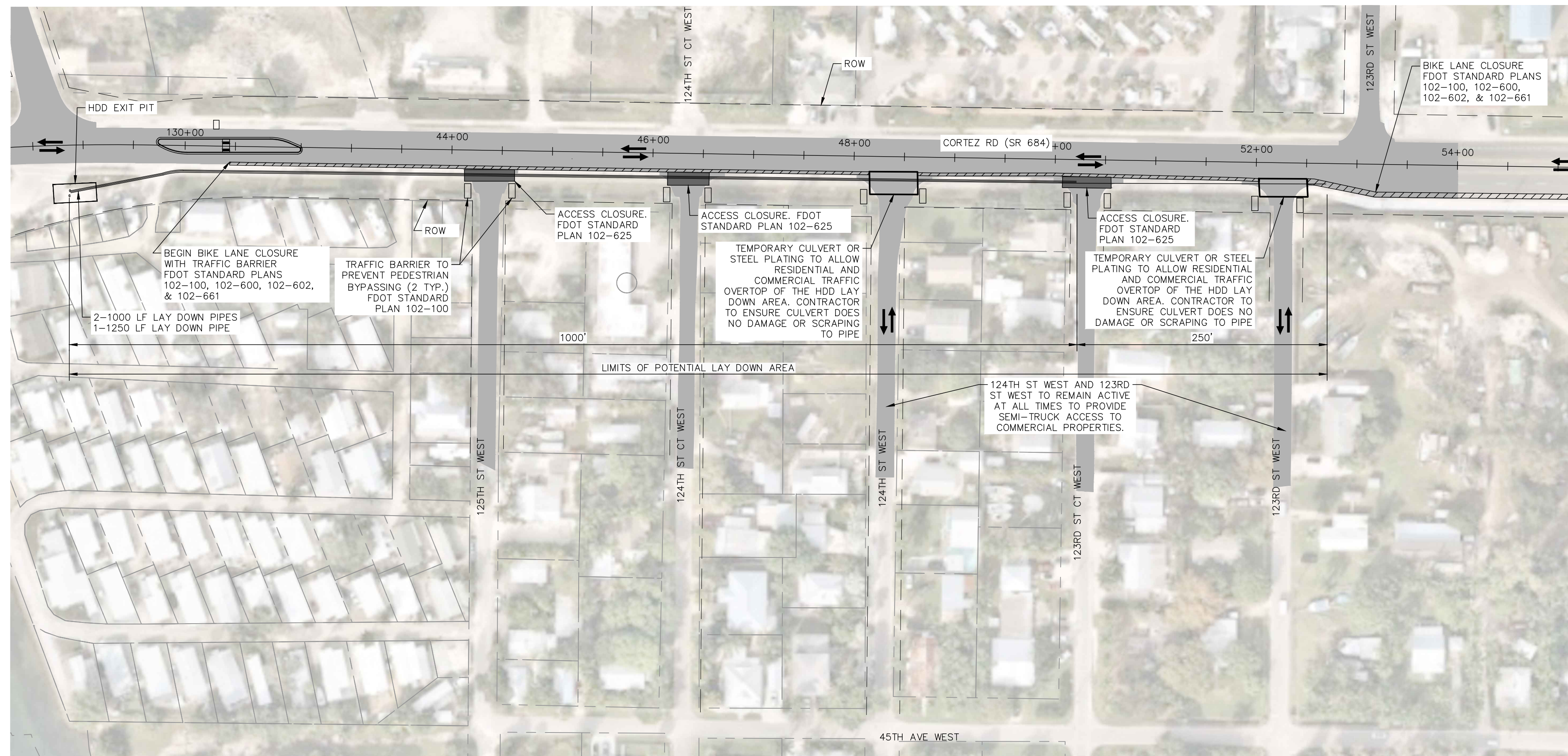
Manatee County
SR 684 (CORTEZ ROAD) WATER MAIN AND FORCE MAIN INTRACOASTAL CROSSING
MANATEE COUNTY

LICENSED PROFESSIONAL
GEORGE E. ROLAND, P.E.
FL LICENSE NUMBER
62338
DATE:

MAINTENANCE OF TRAFFIC - PEDESTRIAN / BICYCLE

SHEET NUMBER
22

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TYPICAL SECTION OF PIPE LAY DOWN AREA
1"=5'

GROUNDWATER / DEWATERING NOTE:
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No.	REVISIONS	DATE	BY

Kimley & Horn

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KHA PROJECT
148400081
DATE
MAY 2023
SCALE AS SHOWN
DESIGNED BY JWW
DRAWN BY SLB
CHECKED BY KMS

Manatee County Florida

SR 684 (CORTEZ ROAD) WATER MAIN AND FORCE MAIN INTRACOASTAL CROSSING

MANATEE COUNTY

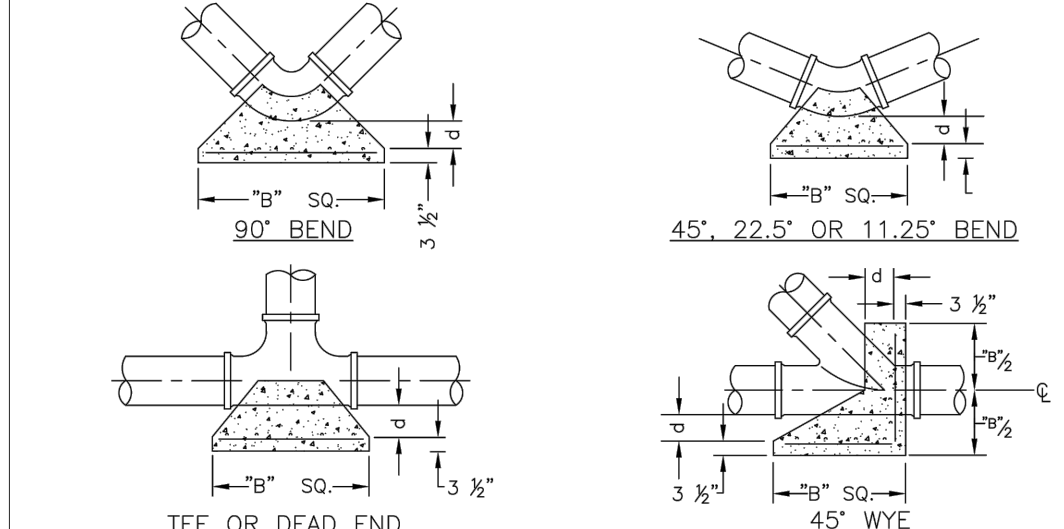
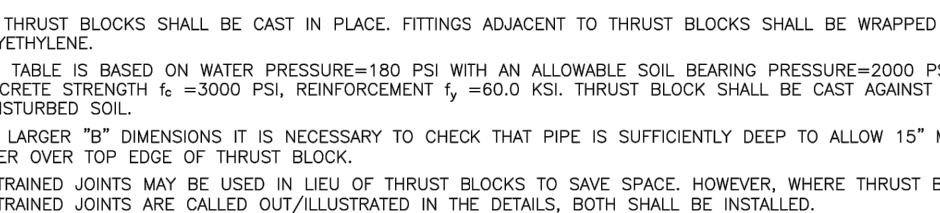
LICENSED PROFESSIONAL
GEORGE E. ROLAND, P.E.
FL LICENSE NUMBER
62338

MAINTENANCE OF TRAFFIC - VEHICLE

SHEET NUMBER
23

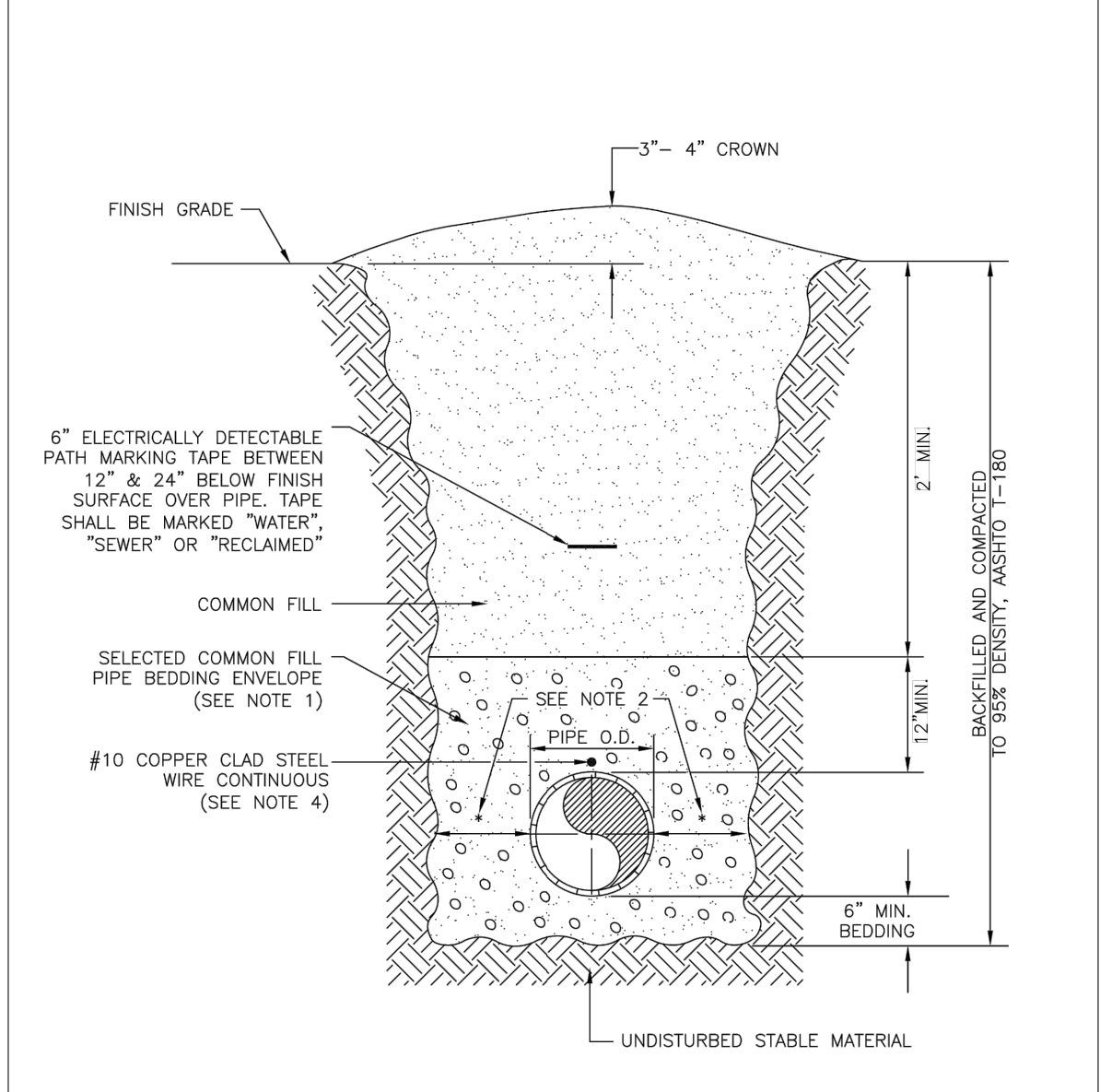
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PIPE SIZE (IN.)	90° BEND		45° BEND		22.5° BEND		11.25° BEND		DEAD END & TEE		45° WYE	
	B	d	B	d	B	d	B	d	B	d	B	d
4	1.5	3 1/2	1.1	3 1/2	0.8	3 1/2	0.6	3 1/2	1.3	3 1/2	1.1	3 1/2
6	2.2	5 1/4	1.6	3 3/4	1.2	3 1/2	0.8	3 1/2	1.9	4 1/2	1.6	3 3/4
8	2.9	7	2.1	5	1.5	3 1/2	1.1	3 1/2	2.4	5 3/4	2.0	4 3/4
10	3.5	8 1/2	2.6	6 1/4	1.9	4 1/2	1.3	3 1/2	3.0	7 1/4	2.5	6
12	4.2	10	3.1	7 1/2	2.2	5 1/4	1.6	3 3/4	3.5	8 1/4	3.0	7 1/4
14	4.9	11 3/4	3.6	8 3/4	2.6	6 1/4	1.8	4 1/4	4.1	9 3/4	3.4	8 1/4
16	5.5	13 1/4	4.1	9 3/4	2.9	7	2.1	5	4.7	11 1/4	3.9	9 1/4
18	6.2	15	4.6	11	3.3	8	2.3	5 1/2	5.2	12 1/2	4.4	10 1/2
20	6.9	16 1/2	5.0	12	3.6	8 3/4	2.6	6 1/4	5.8	14	4.9	11 3/4
24	8.2	19 1/4	6.0	14 1/2	4.3	10 1/4	3.1	7 1/2	6.9	16 1/2	5.8	14
30	10.1	24 1/4	7.5	18	5.3	12 3/4	3.8	9	8.5	20 1/2	7.2	17 1/4
36	12.1	29	8.9	21 1/4	6.4	15 1/4	4.5	10 3/4	10.2	24 3/4	8.6	20 3/4



MANATEE COUNTY PUBLIC WORKS DEPARTMENT		CONCRETE THRUST BLOCKS	UG-7
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		

- NOTES:
- USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
 - PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
 - TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.



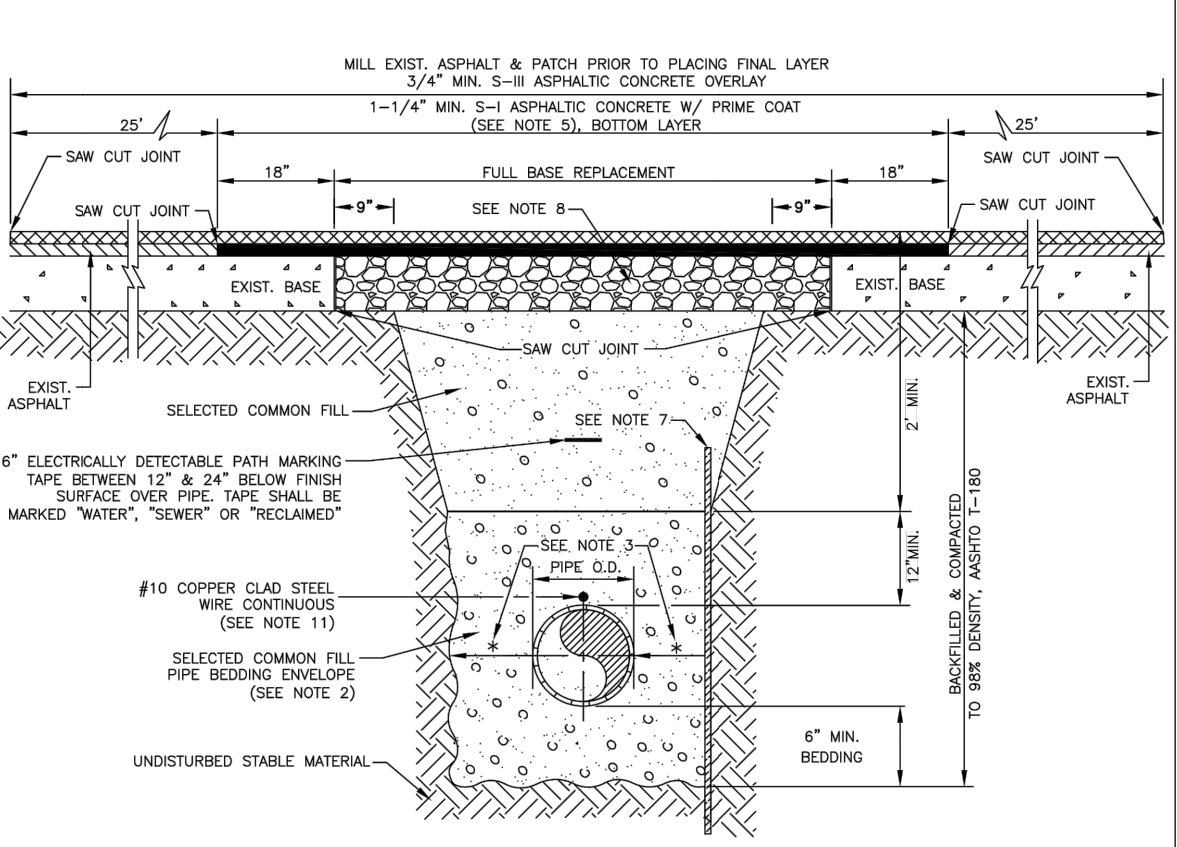
MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TRENCH WITH UNIMPROVED SURFACE TYPE A-1 PIPE BEDDING	UG-11
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		

MAIN PIPE SIZE	HORIZ. BENDS		TEES		REDUCERS		PLUGS & VALVES	
	90°	45°	SIZE	LENGTH	SIZE	LENGTH		
24	90	38	18	118	X10	118	X10	118
20	78	32	16	108	X10	108	X10	108
16	66	27	13	96	X10	96	X10	96
12	52	22	10	84	X10	84	X10	84
10	44	18	9	72	X10	72	X10	72
8	37	15	7	60	X10	60	X10	60
6	29	12	6	48	X10	48	X10	48
4	21	8	4	36	X10	36	X10	36

- NOTES:
- RESTRAIN 11.25° BENDS 50% OF LENGTH FOR 22.5° BENDS.
 - ALL VALVES AND FITTINGS SHALL BE RESTRAINED TO THE CONNECTING SECTIONS OF PIPE.
 - ALL ISOLATION VALVES MUST BE PROPERLY ANCHORED OR RESTRAINED TO RESIST A 180 PSI TEST PRESSURE IN EITHER DIRECTION.
 - PIPE SIZES ARE GIVEN IN INCHES.
 - RESTRAINED PIPE LENGTHS ARE GIVEN IN FEET.
 - LENGTHS SHOWN ARE FOR A TEST PRESSURE OF 180 PSI.
 - THE RESTRAINED LENGTHS SHOWN IN THESE TABLES ARE BASED ON SOIL CLASSIFICATION SP WITH AWWA TYPE 3 TRENCH CONDITIONS, 180 PSI TEST PRESSURE, 3 FEET OF COVER AND 1.5 FACTOR OF SAFETY. ACTUAL BURY CONDITIONS MUST BE DETERMINED BY THE ENGINEER OF RECORD AND THE RESTRAINED LENGTHS MODIFIED ACCORDINGLY.
 - RESTRAINED LENGTHS TO BE APPLIED TO PIPELINES PER DETAIL UG-10 RESTRAINED LENGTHS FOR PIPE.
 - ALL RESTRAINED JOINT HARDWARE SHALL CONFORM TO 1.11.17 OF THE PUBLIC WORKS UTILITIES STANDARDS MANUAL.
 - ALL THREE "LEGS" OF TEES SHALL BE RESTRAINED PER THE STATED LENGTH IN THE TABLE.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		RESTRAINED LENGTHS FOR PVC PIPE	UG-8
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		

- NOTES:
- BITUMINOUS PAVEMENT SHALL BE REMOVED IN CLEAN STRAIGHT LINES BY SAW CUTTING. WHERE BITUMINOUS PAVEMENT ADJACENT TO A TRENCH, THE EDGES ADJACENT TO THE TRENCH SHALL BE TRIMMED TO A NEAT STRAIGHT LINE BEFORE RESURFACING TO ENSURE THAT ALL AREAS TO BE RESURFACED ARE ACCESSIBLE TO ROLLERS OR TAMPERS USED TO COMPACT THE SUB-GRADE OR PAVING MATERIALS.
 - USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
 - PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
 - ASPHALTIC CONCRETE STRUCTURE COURSE WITH PRIME COAT SHALL BE THE SAME DEPTH AND TYPE AS EXISTING OR A MINIMUM OF 1-1/4" INCH S-I, WHICHEVER IS GREATER.
 - MILL 25' BACK FROM TRENCH CROSSING SAW CUTS. ADJUST MILLING PER INDIVIDUAL SITE TO NOT IMPACT BASE. BUTT JOINT TO EXIST ASPHALT. FINAL OVERLAY TO MATCH EXISTING WITH NO DISCREPANT "BUMP" AT JOINT. MILLING LIMITS THAT IMPACT INTERSECTION SHALL BE ADDRESSED ON A CASE BY CASE BASIS AND APPROVED BY MANATEE COUNTY.
 - SHEETING ORDERED LEFT IN PLACE TO BE CUT OFF 24" BELOW FINISHED GRADE OR 12" BELOW SUBGRADE.
 - NEW BASE SHALL MATCH EXISTING, OR BE CRUSHED CONCRETE, 8" MIN. THICKNESS, LBR ≥150, WHICHEVER IS GREATER.
 - TEMPORARY PATCHES WILL BE INSTALLED TO PROVIDE A SMOOTH ALL WEATHER SURFACE AT ALL TIMES. PERMANENT REPLACEMENT TO BE MADE AS SOON AS POSSIBLE.
 - RESTORE SIGNAGE & MARKING WITH THERMOPLASTIC PER FDOT STANDARDS, LATEST EDITION.
 - TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.
 - NOTES 5, THRU 10, ARE MINIMUM REQUIREMENTS FOR A TRENCH IN A LOCAL ROAD. REFER TO LATEST EDITION OF MANATEE COUNTY HIGHWAY AND TRAFFIC STANDARDS FOR ADDITIONAL REQUIREMENTS.



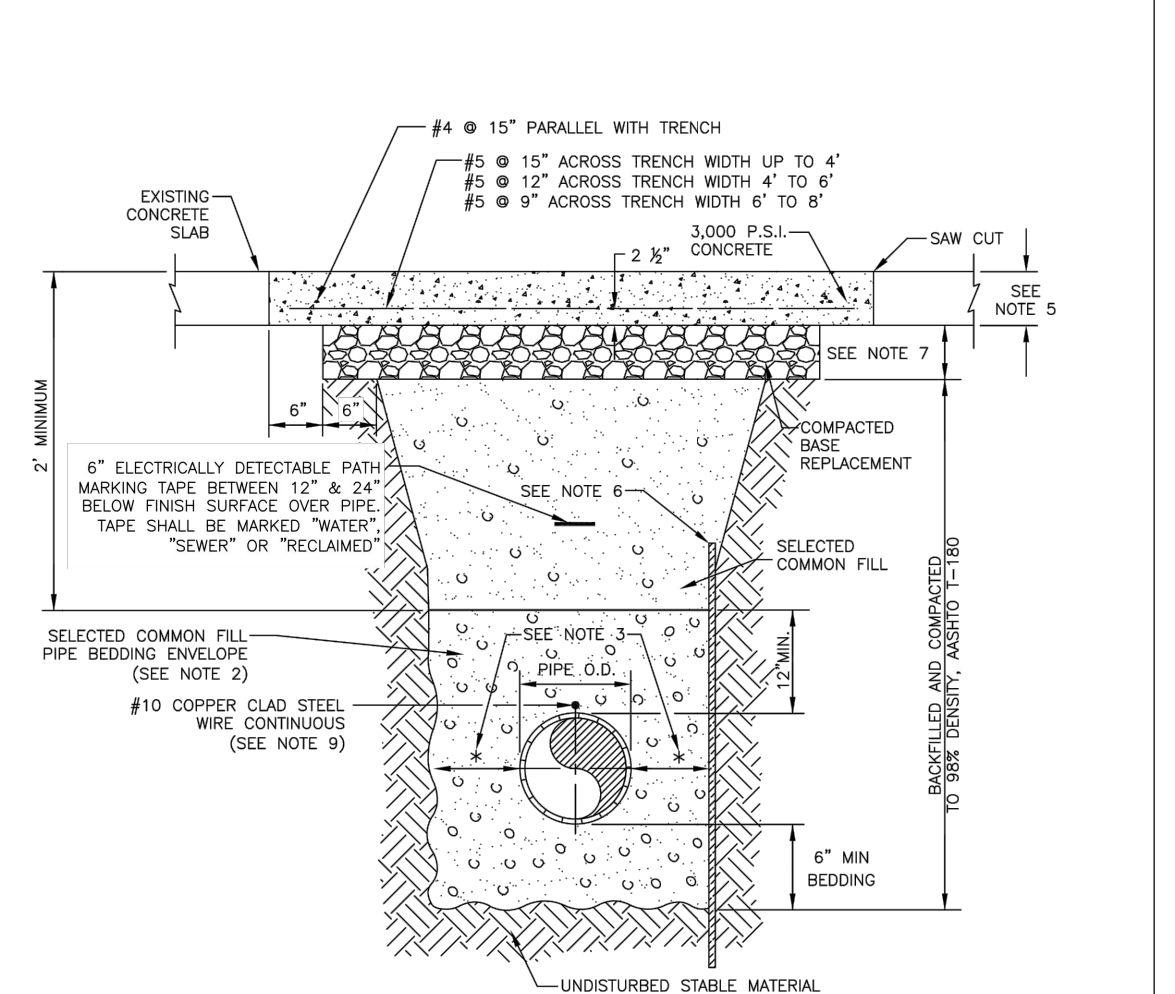
MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TRENCH WITH ASPHALT PAVEMENT SURFACE TYPE A-1 PIPE BEDDING (CROSSING)	UG-12
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		

MAIN PIPE SIZE	HORIZ. BENDS		TEES		REDUCERS		PLUGS & VALVES	
	90°	45°	SIZE	LENGTH	SIZE	LENGTH		
36	142	59	28	336	X10	336	X10	336
30	124	51	25	300	X10	300	X10	300
24	106	44	21	264	X10	264	X10	264
20	92	38	18	228	X10	228	X10	228
16	77	32	15	192	X10	192	X10	192
12	61	25	12	156	X10	156	X10	156
10	52	22	10	144	X10	144	X10	144
8	44	18	9	120	X10	120	X10	120
6	34	14	7	96	X10	96	X10	96
4	24	10	5	72	X10	72	X10	72

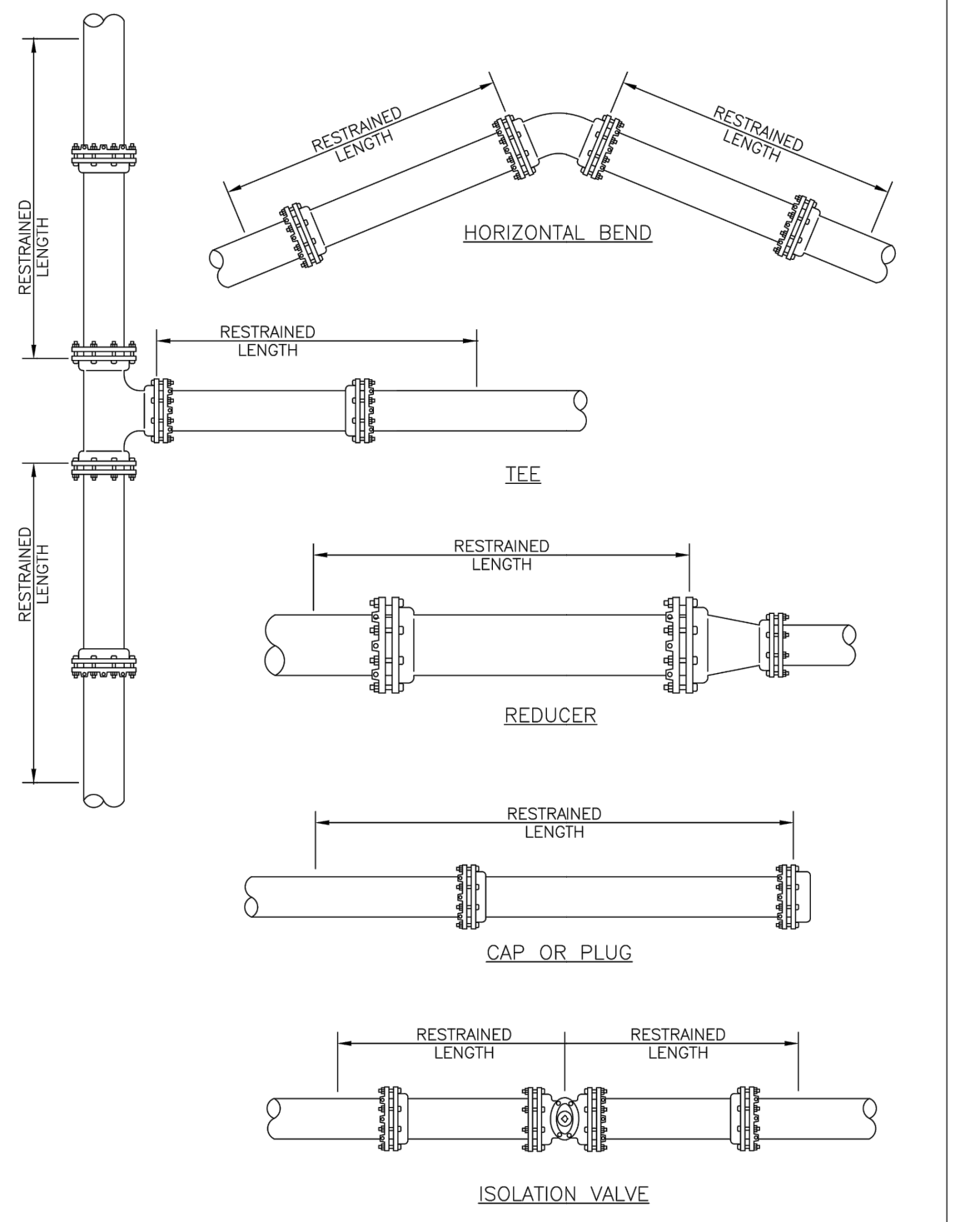
- NOTES:
- SEE UG-8, RESTRAINED LENGTHS FOR PVC PIPE DETAIL FOR NOTES 1 THROUGH 9 THAT ARE ALSO APPLICABLE TO RESTRAINED LENGTHS FOR DIP.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		RESTRAINED LENGTHS FOR DIP	UG-9
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		

- NOTES:
- CONCRETE PAVEMENT SHALL BE REMOVED WITH SAWED EDGES AND CUT AT A MINIMUM DEPTH OF ONE AND ONE-HALF (1-1/2)\"/>

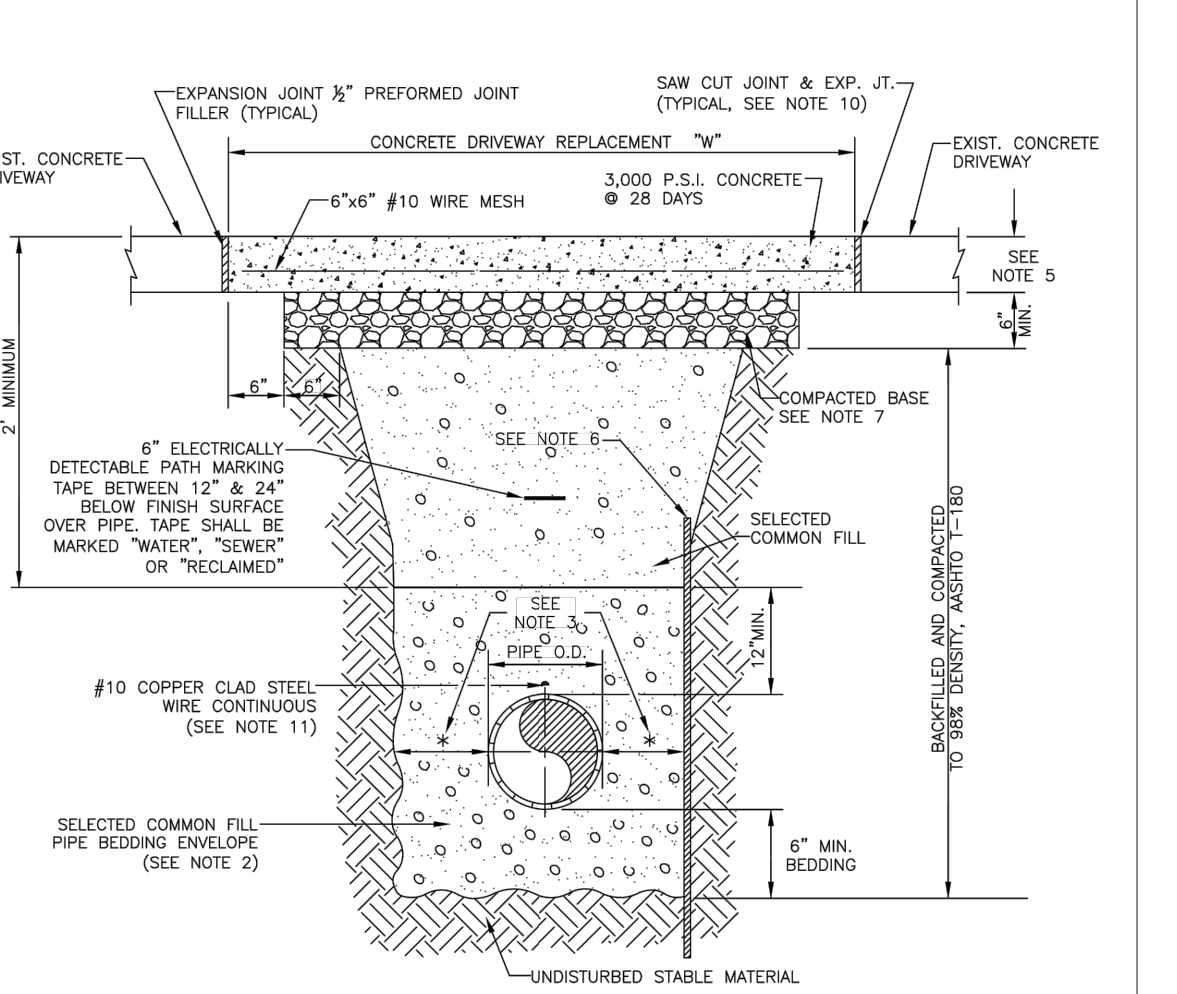


MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TRENCH WITH CONCRETE PAVEMENT SURFACE TYPE A-1 PIPE BEDDING	UG-13
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		



MANATEE COUNTY PUBLIC WORKS DEPARTMENT		RESTRAINED LENGTHS FOR PIPE	UG-10
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		

- NOTES:
- CONCRETE PAVEMENT SHALL BE REMOVED WITH SAWED EDGES AND CUT AT A MINIMUM DEPTH OF ONE AND ONE-HALF (1-1/2)\"/>



MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TRENCH WITH CONCRETE DRIVEWAY SURFACE TYPE A-1 PIPE BEDDING	UG-14
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		

No.	REVISIONS	DATE	BY

Kimley-Horn

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PHONE: 727-547-3999
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT
148400081

DATE
FEBRUARY 2024

SCALE AS SHOWN

DESIGNED BY JWW

DRAWN BY ALC

CHECKED BY KMS

SR 684 (CORTEZ ROAD) WATER MAIN AND FORCE MAIN INTRACOASTAL CROSSING

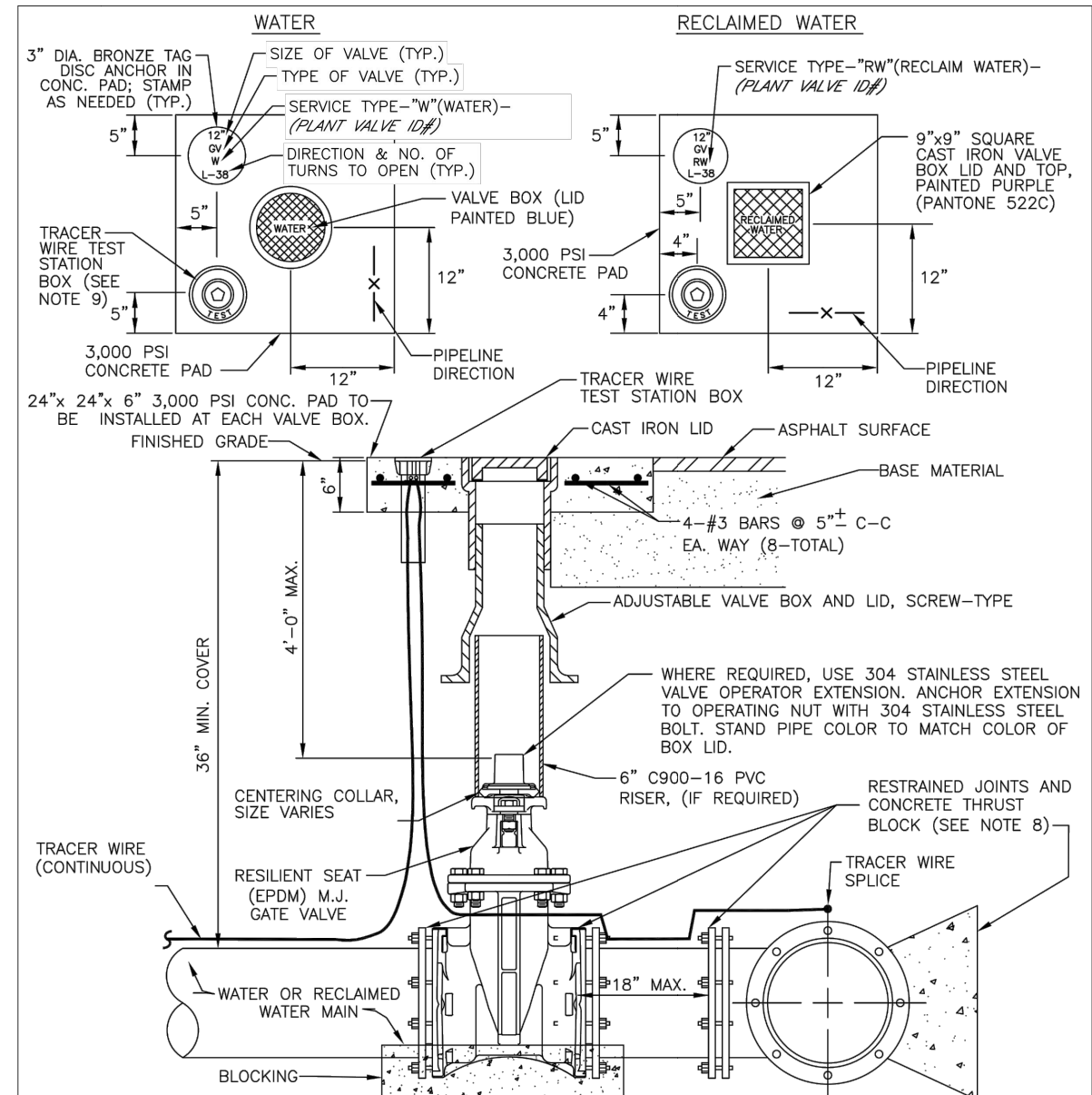
MANATEE COUNTY

LICENSED PROFESSIONAL
JORDAN W. WALKER, P.E.
FL LICENSE NUMBER
78652

SHEET NUMBER
24

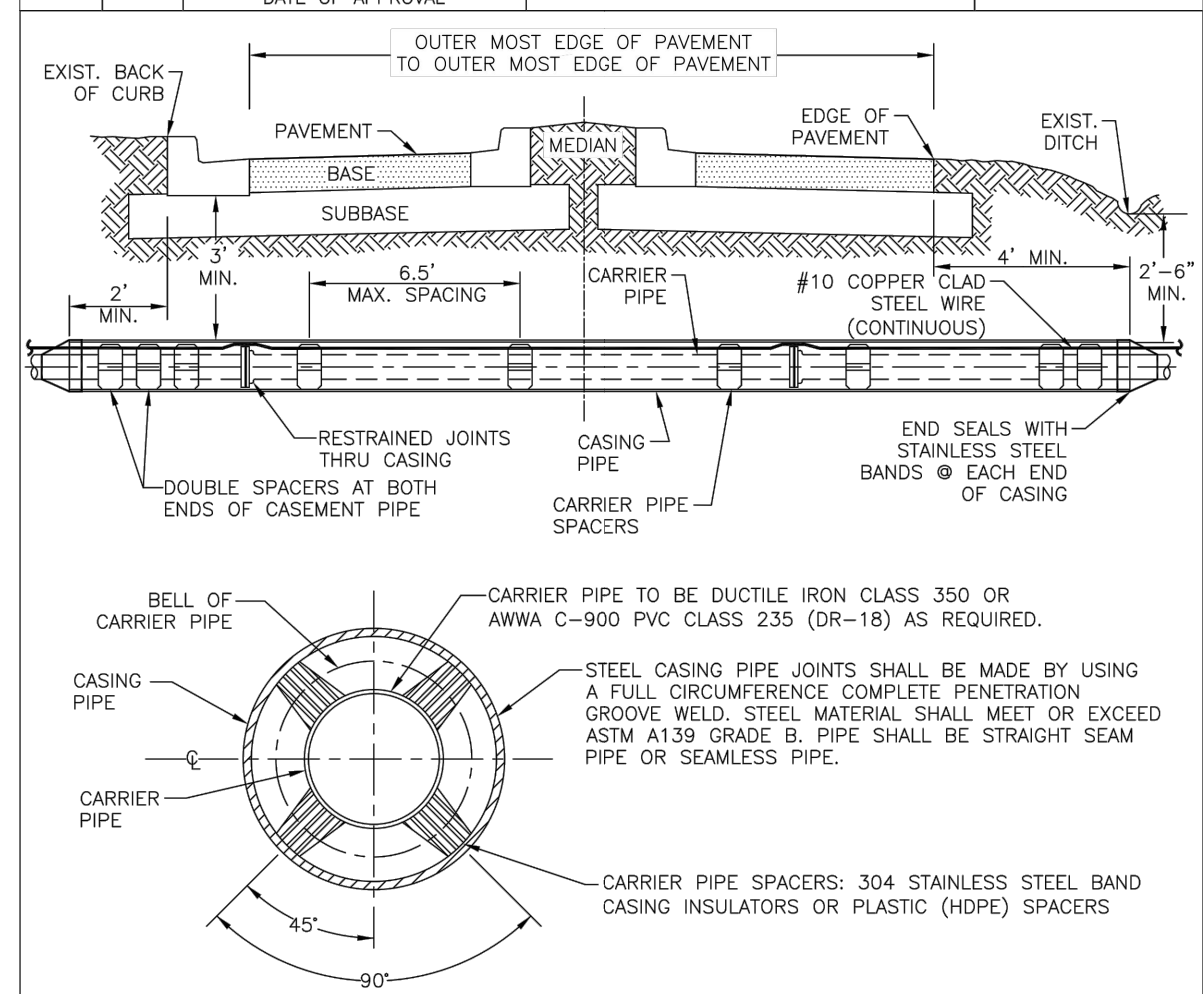
DETAILS

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- NOTES:
1. 'W' or 'RW' to be impressed into the newly-poured concrete curb along with distance in feet to the valve. If no curb, install a blue disc with 'W' or purple disc with 'RW' using a 1/8\"/>

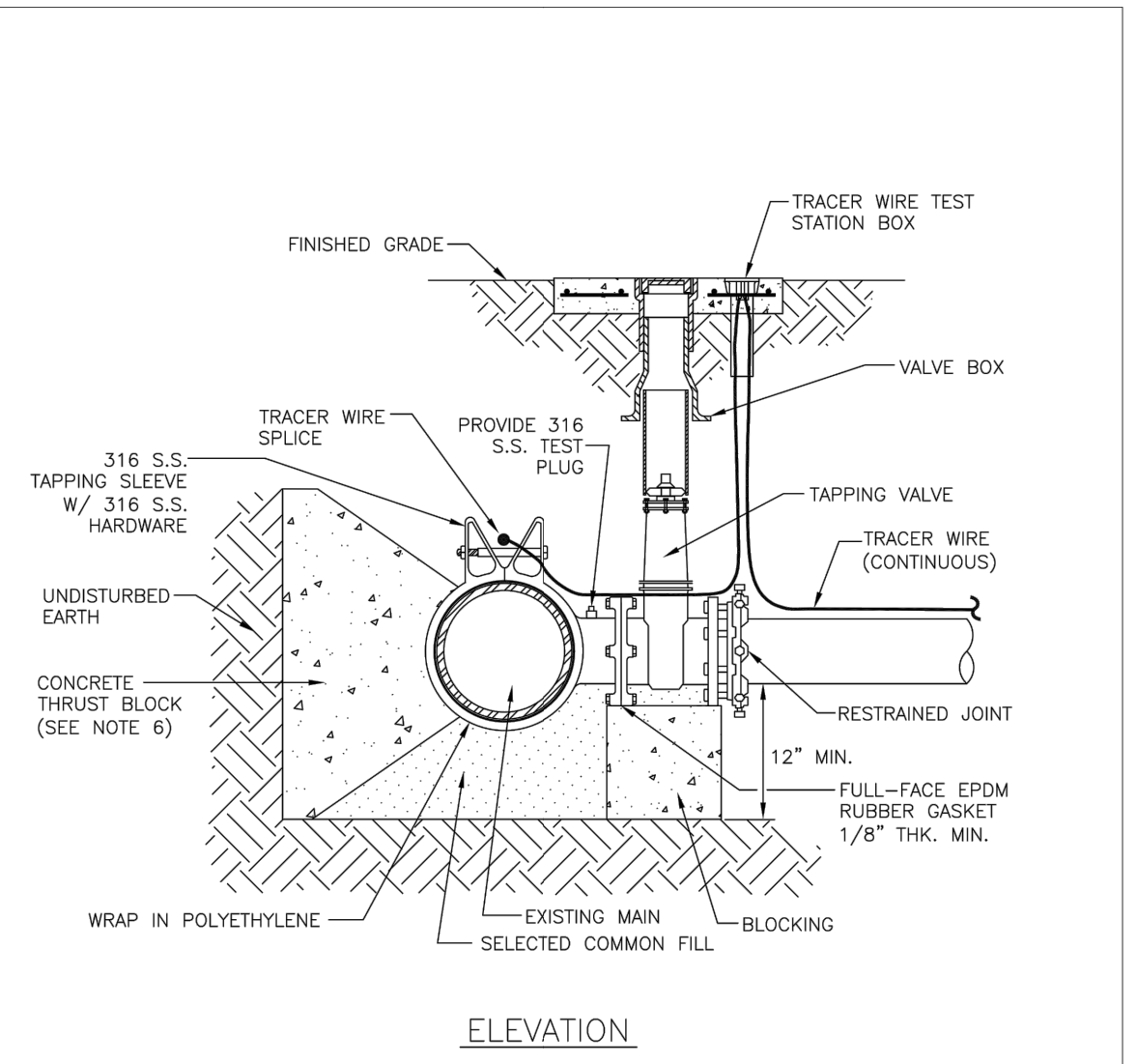
MANATEE COUNTY PUBLIC WORKS DEPARTMENT
GATE VALVE, BOX, LID AND TAG
REV. BY DATE February 25, 2020
DATE OF APPROVAL
UW-2



CARRIER SIZE & MINIMUM CASING SIZE
CARRIER 4\"/>

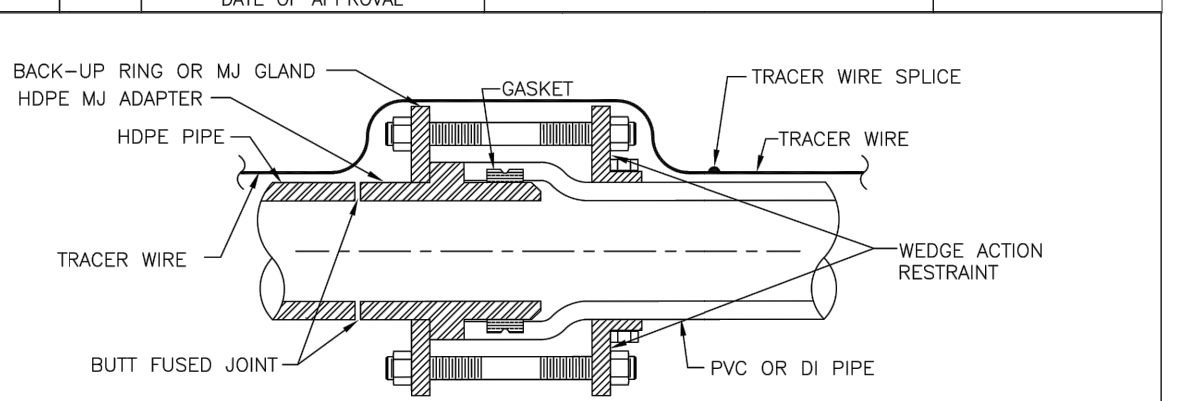
- NOTES:
1. THE ENGINEER OF RECORD MAY SELECT A LARGER CASING DIAMETER, INCREASE WALL THICKNESS, AND/OR INCREASE DEPTH OF BURY DUE TO EXTERNAL LOADS WITH COUNTY APPROVAL PRIOR TO PERFORMING THE WORK.
2. ALL PIPES CROSSINGS OF FEDERAL OR STATE ROADS; OR RAILROADS SHALL BE INSTALLED IN A CASING PIPE.
3. ALL PIPES CROSSINGS OF COUNTY LOCAL ARTERIAL AND THROUGHFARE ROADWAYS SHALL BE IN A CASING PIPE.
4. SPLIT-STEEL CASINGS MAY BE USED ON EXISTING COUNTY MAINS ONLY.
5. FOR JACK & BORE SPECIFICATIONS UNDER STATE ROADS AND RAILROADS, REFER TO THE F.D.O.T. UTILITY ACCOMMODATION MANUAL, LATEST EDITION.
6. HDPE CASING SHALL HAVE ALL WELD BEADS REMOVED FROM THE INSIDE SURFACE SUCH THAT THE JOINT SURFACES SHALL BE SMOOTH.
7. *14-INCH DIAMETER MAINS ARE NOT TO BE INSTALLED.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT
CASING CROSSING
REV. BY DATE February 25, 2020
DATE OF APPROVAL
UG-3

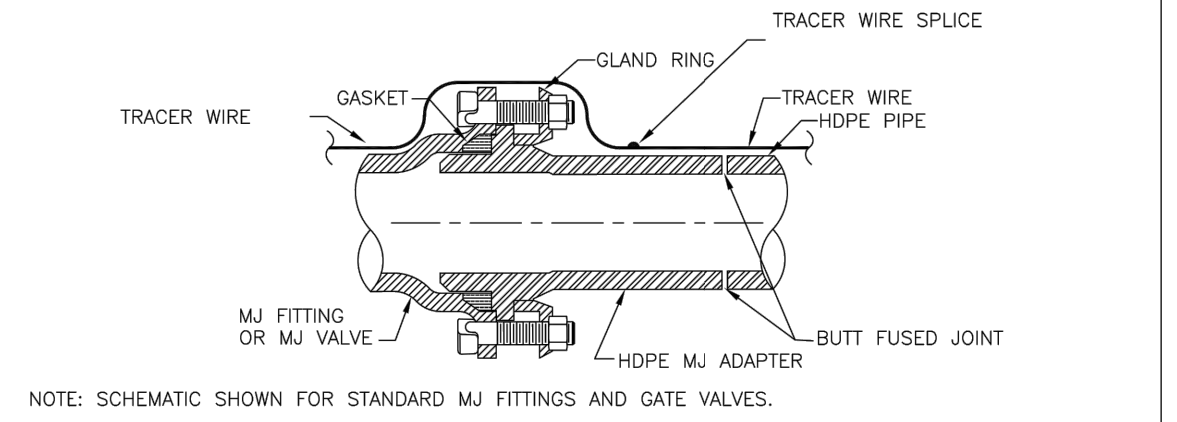


- NOTES:
1. PRIOR TO TAPPING, CONTRACTOR TO DEMONSTRATE 60 MINUTE HYDROSTATIC TEST OF THE TAPPING SLEEVE AND VALVE WITH NO LOSS OF 180 PSI PRESSURE FOR WATER AND RECLAIMED WATER.
2. ALL FITTINGS TO BE WRAPPED WITH 20 MIL POLYETHYLENE WRAP AT THRUST BLOCK.
3. ALL TAPS ON CONCRETE WATER MAINS AND LARGER THAN 12\"/>

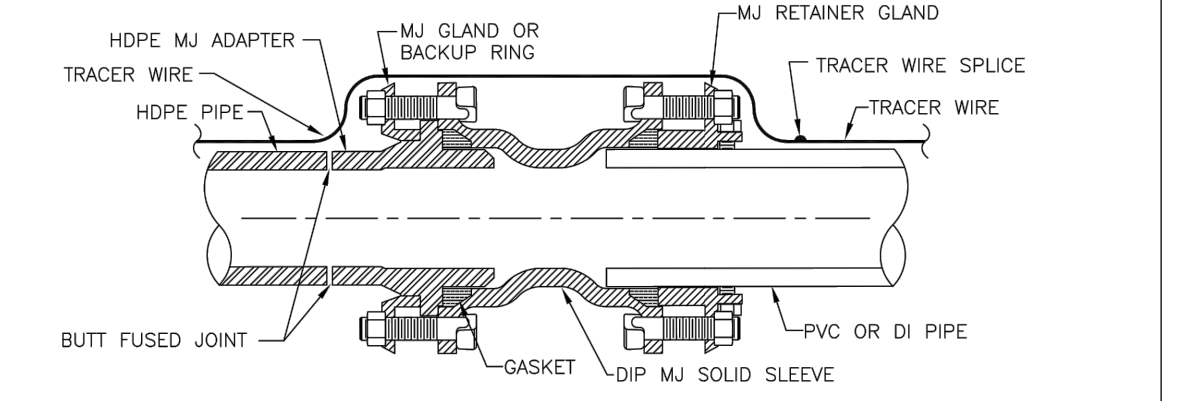
MANATEE COUNTY PUBLIC WORKS DEPARTMENT
TAPPING SLEEVE AND VALVE (WATER/RECLAIM)
REV. BY DATE February 25, 2020
DATE OF APPROVAL
UW-3



HDPE PIPE TO PVC PIPE / SPIGOT TO BELL CONNECTION



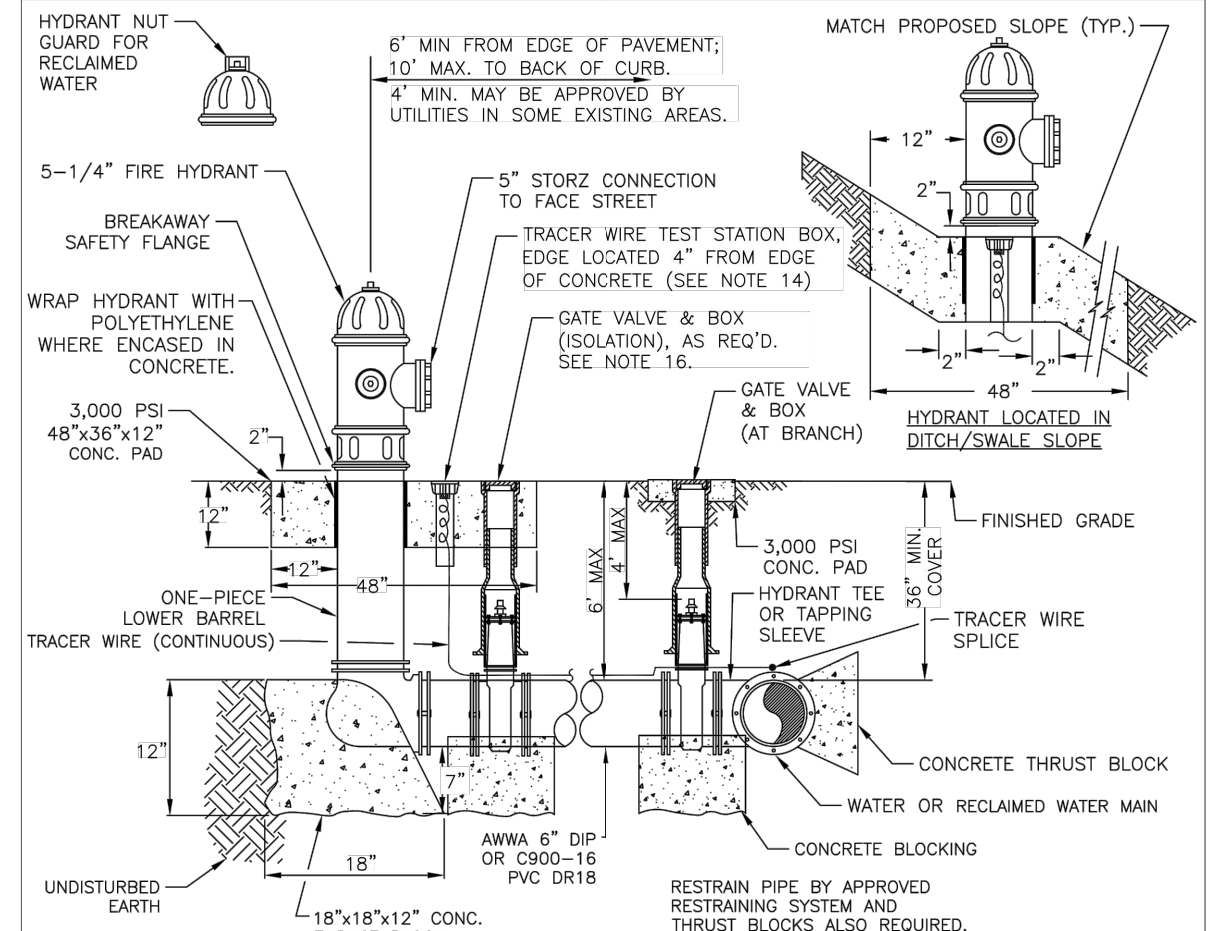
HDPE PIPE TO MJ FITTING TRANSITION



HDPE PIPE TO PVC PIPE SPIGOT TO SPIGOT CONNECTION

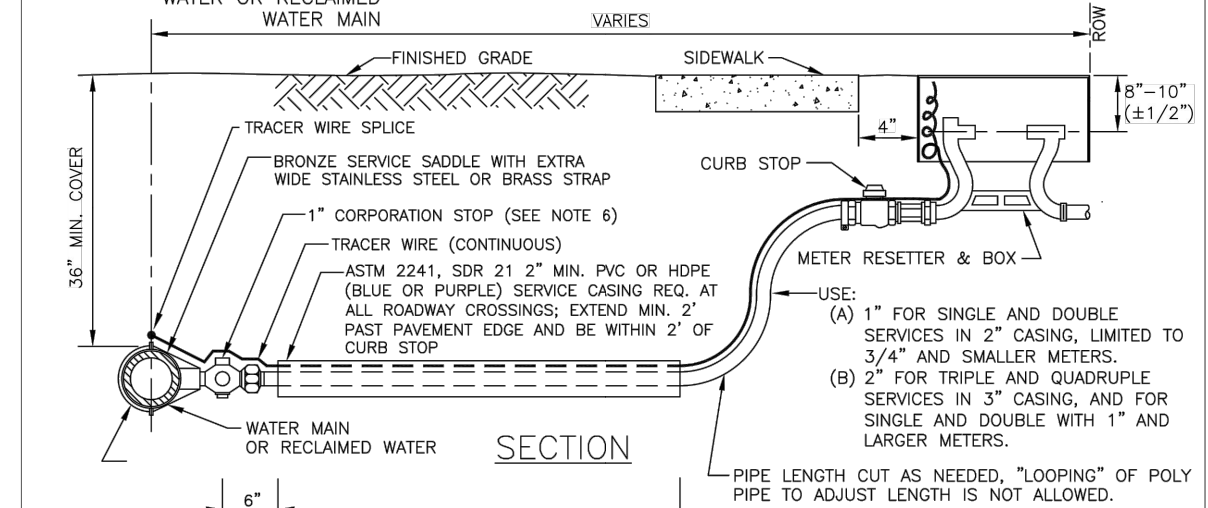
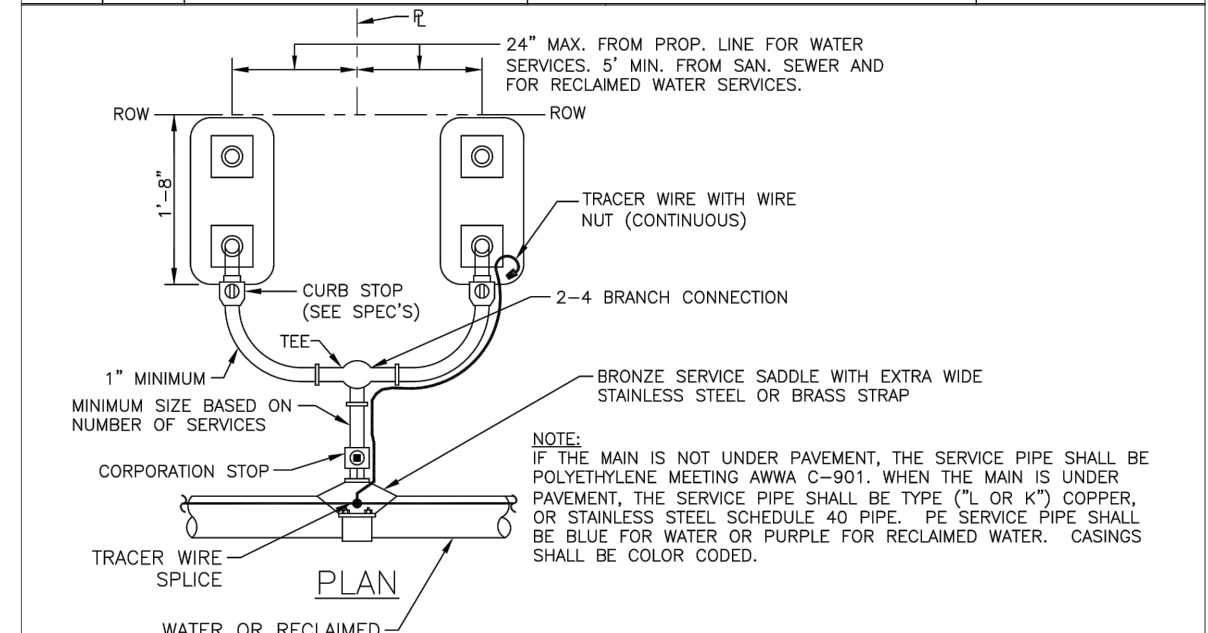
- 1. ONE TRACER WIRE SHALL BE SECURED TO THE PIPE FOR ALL TYPES OF PIPELINE INSTALLATIONS.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT
HDPE TO PVC OR DI PIPE ADAPTER
REV. BY DATE February 25, 2020
DATE OF APPROVAL
UG-6



- NOTES:
1. WEEPHOLES SHALL BE EXCLUDED FROM THE FIRE HYDRANT.
2. FIRE HYDRANTS SHALL BE A MINIMUM OF 6\"/>

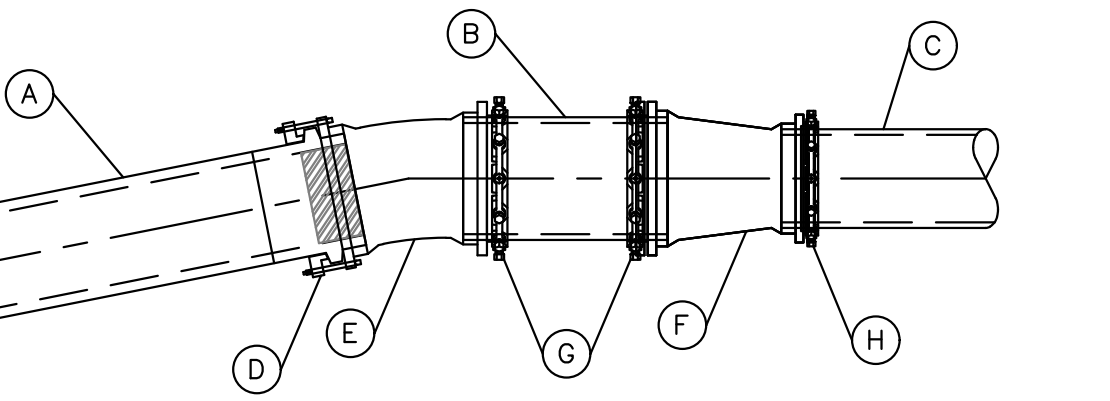
MANATEE COUNTY PUBLIC WORKS DEPARTMENT
FIRE HYDRANT ASSEMBLY
REV. BY DATE February 25, 2020
DATE OF APPROVAL
UW-5



- NOTES:
1. ALL SERVICE TAPS TO BE LOCATED IN THE FIELD. TAPS SHALL BE NO CLOSER THAN 2\"/>

MANATEE COUNTY PUBLIC WORKS DEPARTMENT
TYPICAL SERVICE CONNECTION
REV. BY DATE February 25, 2020
DATE OF APPROVAL
UW-21

LIMITS OF DIRECTIONAL BORE (COST OF ALL PIPING, FITTINGS, RESTRAINTS, ETC. TO BE INCLUDED IN COST OF DIRECTIONAL BORE) APPROX. DISTANCE



- A HDPE PIPE (NOMINAL SIZE NOTED IN TABLE BELOW)
B 3 LF OF PVC OR DI PIPE (NOMINAL SIZE NOTED IN TABLE BELOW)
C PVC PIPE (NOMINAL SIZE NOTED IN TABLE BELOW)
D HDPE/DUCTILE IRON M.J. ADAPTER WITH GASKET SEAL AND STAINLESS STEEL STIFFENER (NOMINAL SIZE NOTED IN TABLE BELOW)
E 11.25\"/>

DIAMETER OF DRILL PIPE
6\"/>

HDPE TO PVC/DIP TRANSITION DETAIL
N.T.S.

Kimley & Horn
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KHA PROJECT 148400081
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SR 684 (CORTEZ ROAD) WATER MAIN AND FORCE MAIN INTRACOASTAL CROSSING
MANATEE COUNTY

LICENSED PROFESSIONAL
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FL LICENSE NUMBER 78652

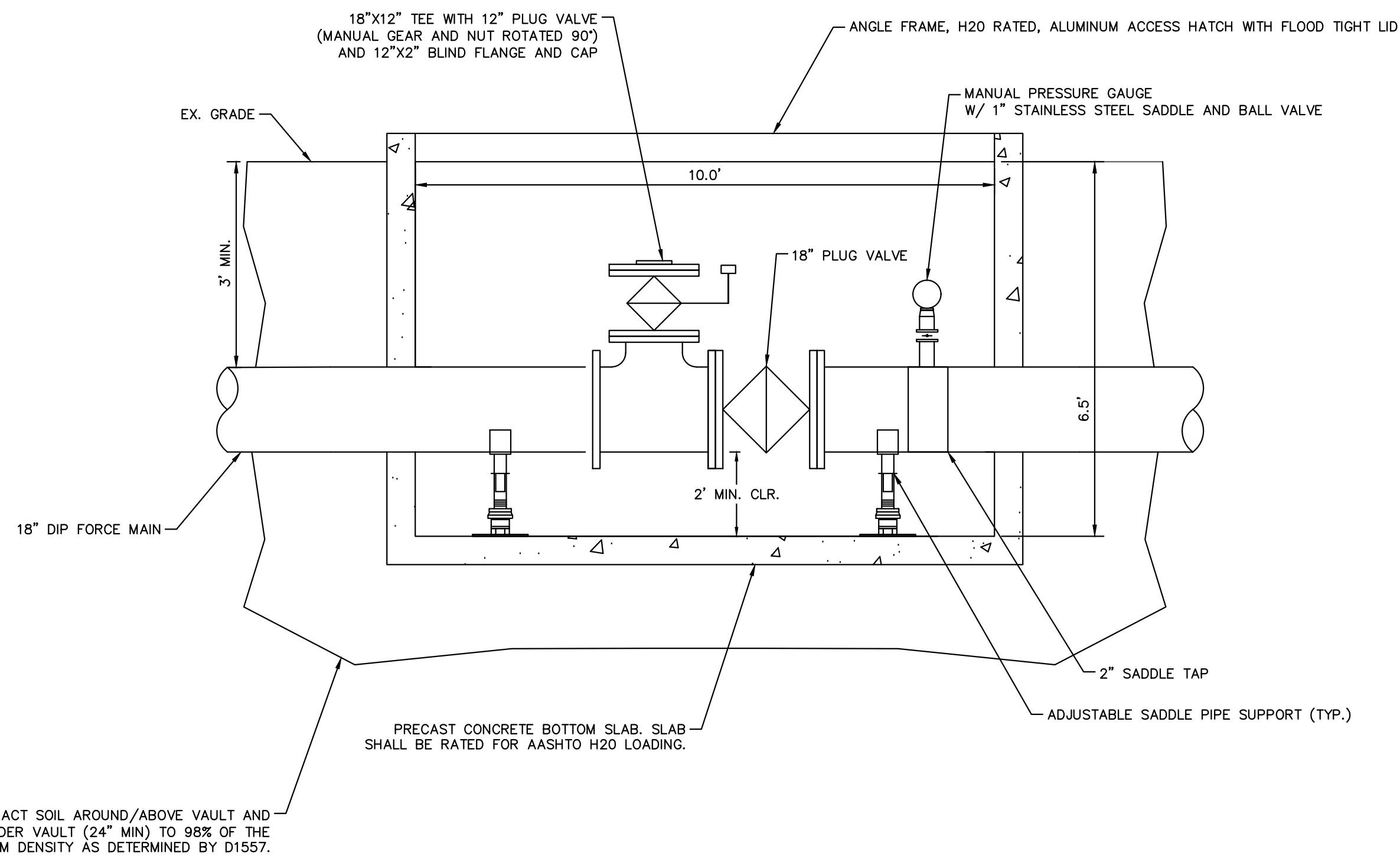
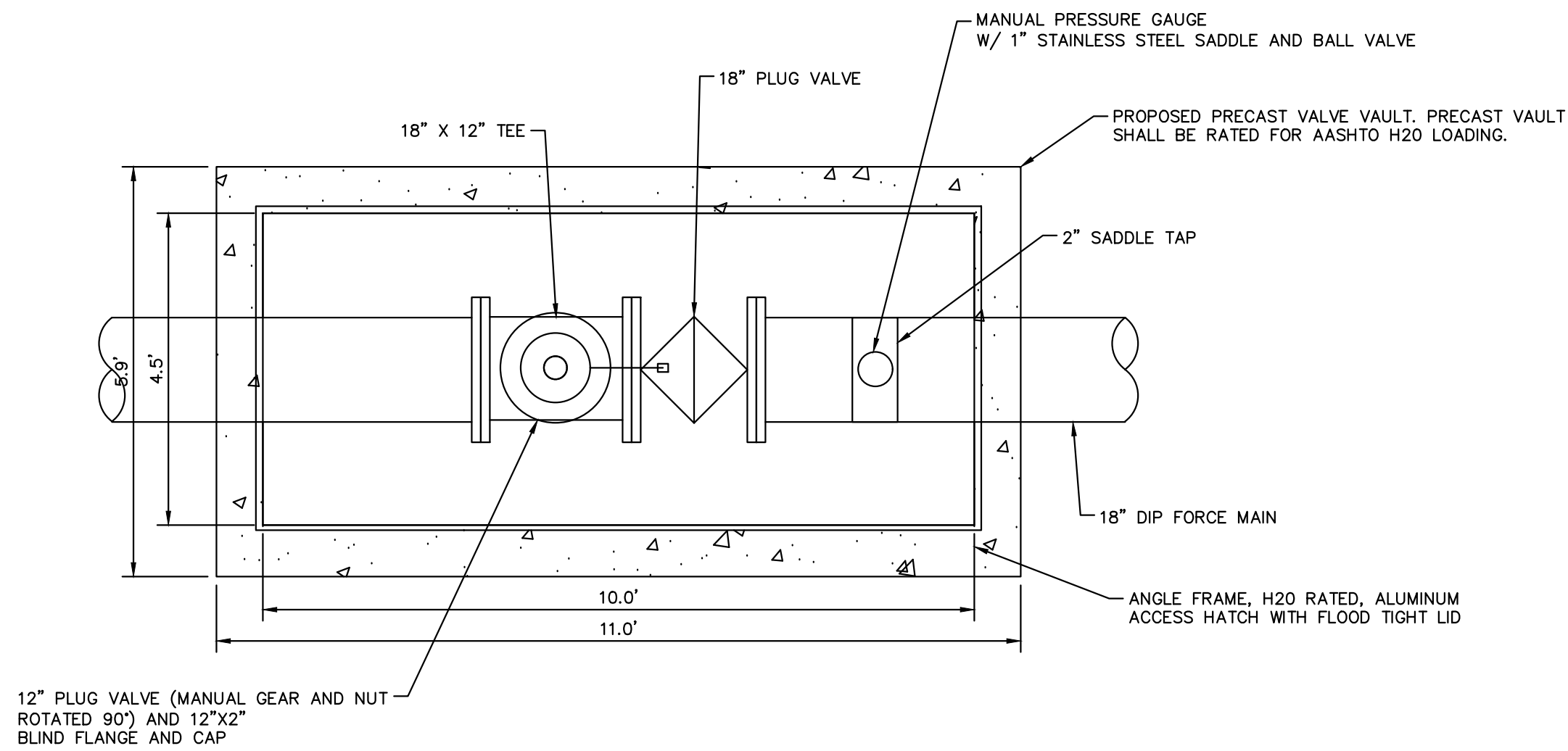
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DETAILS
SHEET NUMBER 25
DATE:

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ELECTRICAL & INSTRUMENTATION APPROACH:

POWER:

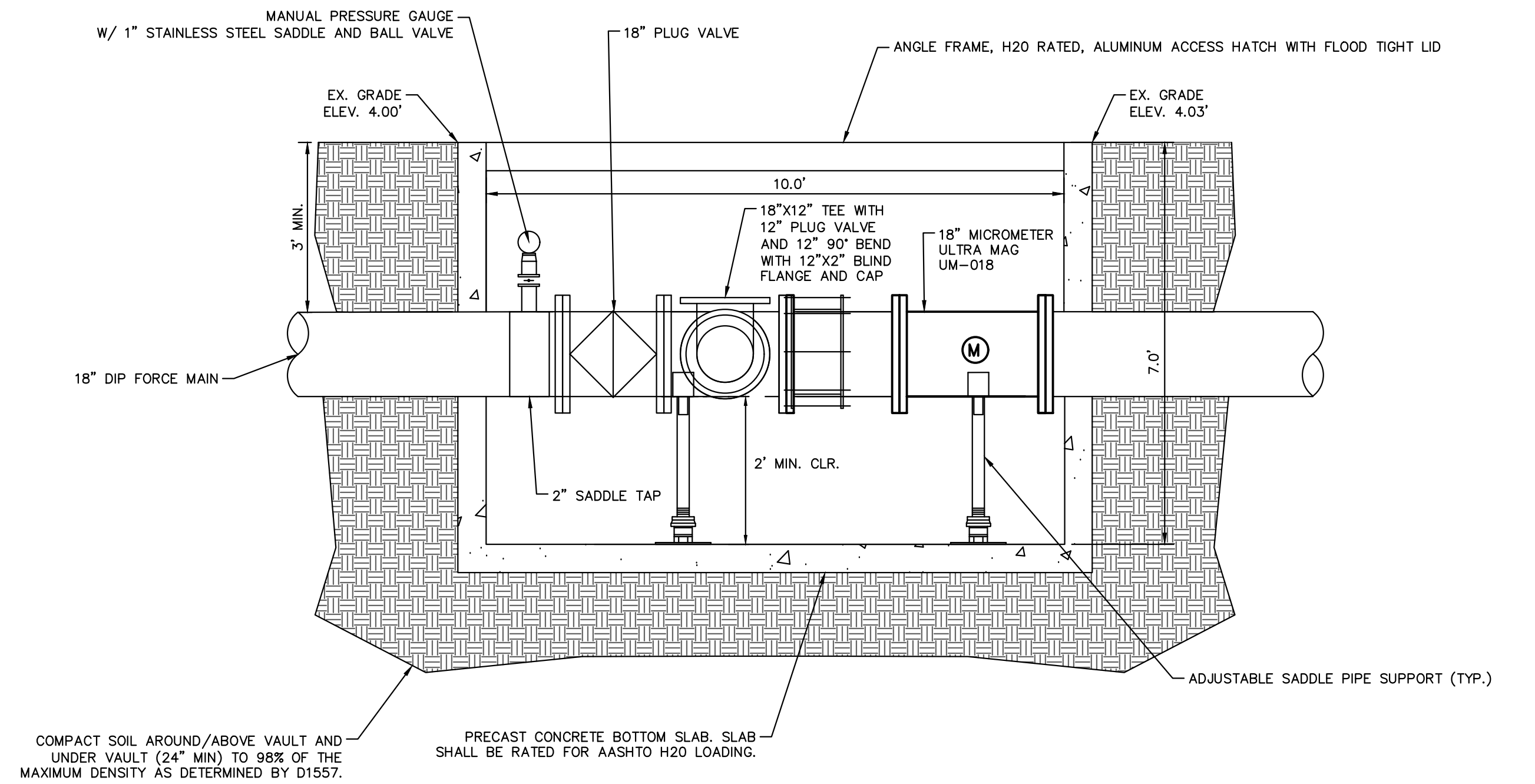
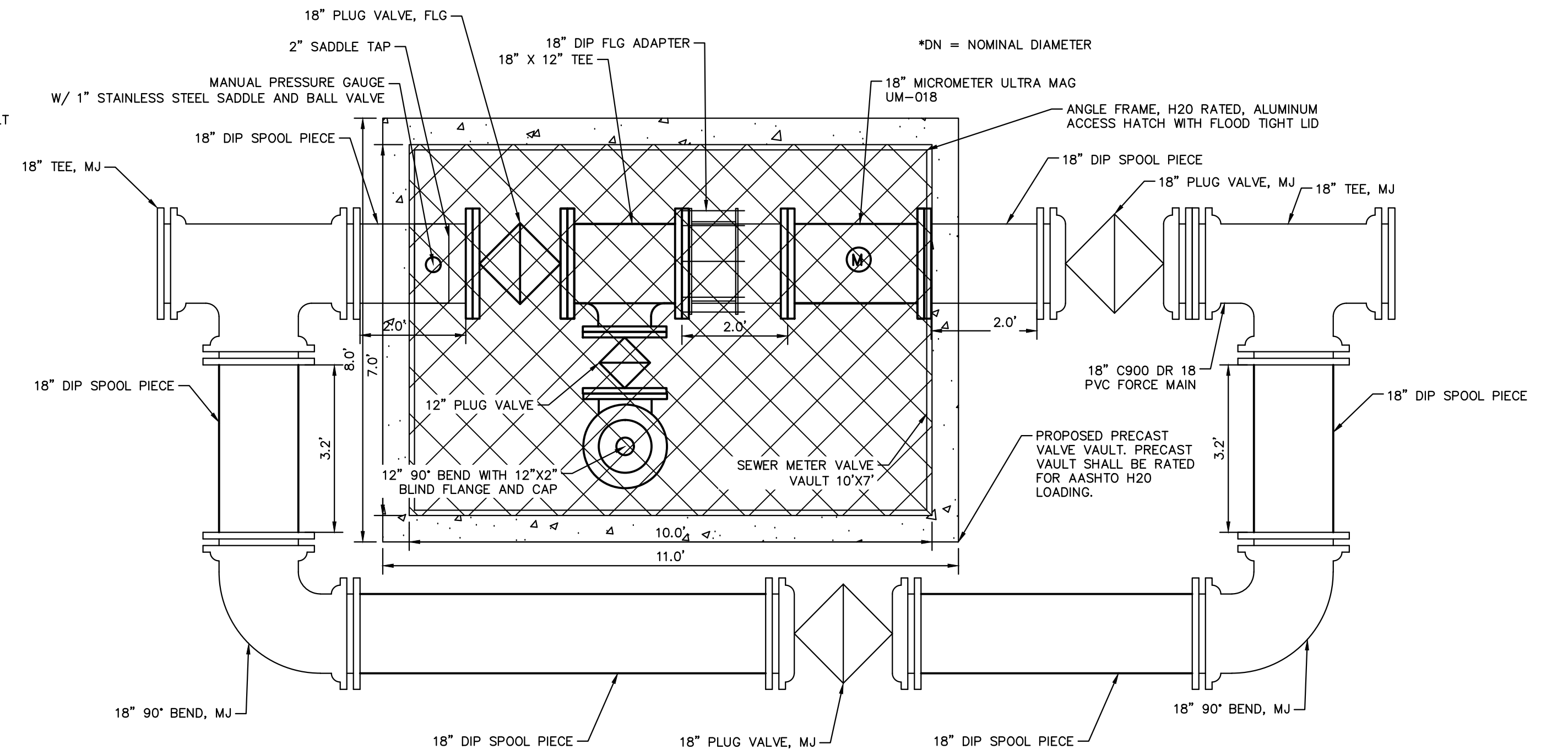
- CONTRACTOR SHALL DESIGN AND CONNECT TO THE ELECTRICAL SERVICE FOR POWER FOR FLOW METER.
- THE ELECTRICAL UTILITY SUPPLYING THIS AREA IS FLORIDA POWER & LIGHT COMPANY (FPL).
- THE APPROACH WOULD BE TO OBTAIN AN OVERHEAD OR UNDERGROUND 120/240VAC, 1 ϕ SERVICES FROM FPL OVERHEAD DISTRIBUTION SYSTEM IN THE VICINITY. ONE SERVICE WOULD SUPPLY THE FLOW METER ASSEMBLY. THE SERVICE WILL TERMINATE IN A CONTRACTOR FURNISHED SELF-CONTAINED METER SOCKET WITH REVENUE METER FURNISHED AND INSTALLED BY FPL.



FORCE MAIN BYPASS ASSEMBLY
WEST APPROACH DETAIL

N.T.S.

26



FORCE MAIN PRESSURE MONITORING
AND BYPASSING ASSEMBLY EAST
APPROACH DETAIL

N.T.S.

26

No.	REVISIONS	DATE	BY

Kimley»Horn

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200 CENTRAL AVENUE, SUITE 600, ST. PETERSBURG, FL 33701
PHONE: 727-547-3999
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT 148400081
DATE FEBRUARY 2024
SCALE AS SHOWN
DESIGNED BY JWW
DRAWN BY ALC
CHECKED BY KMS

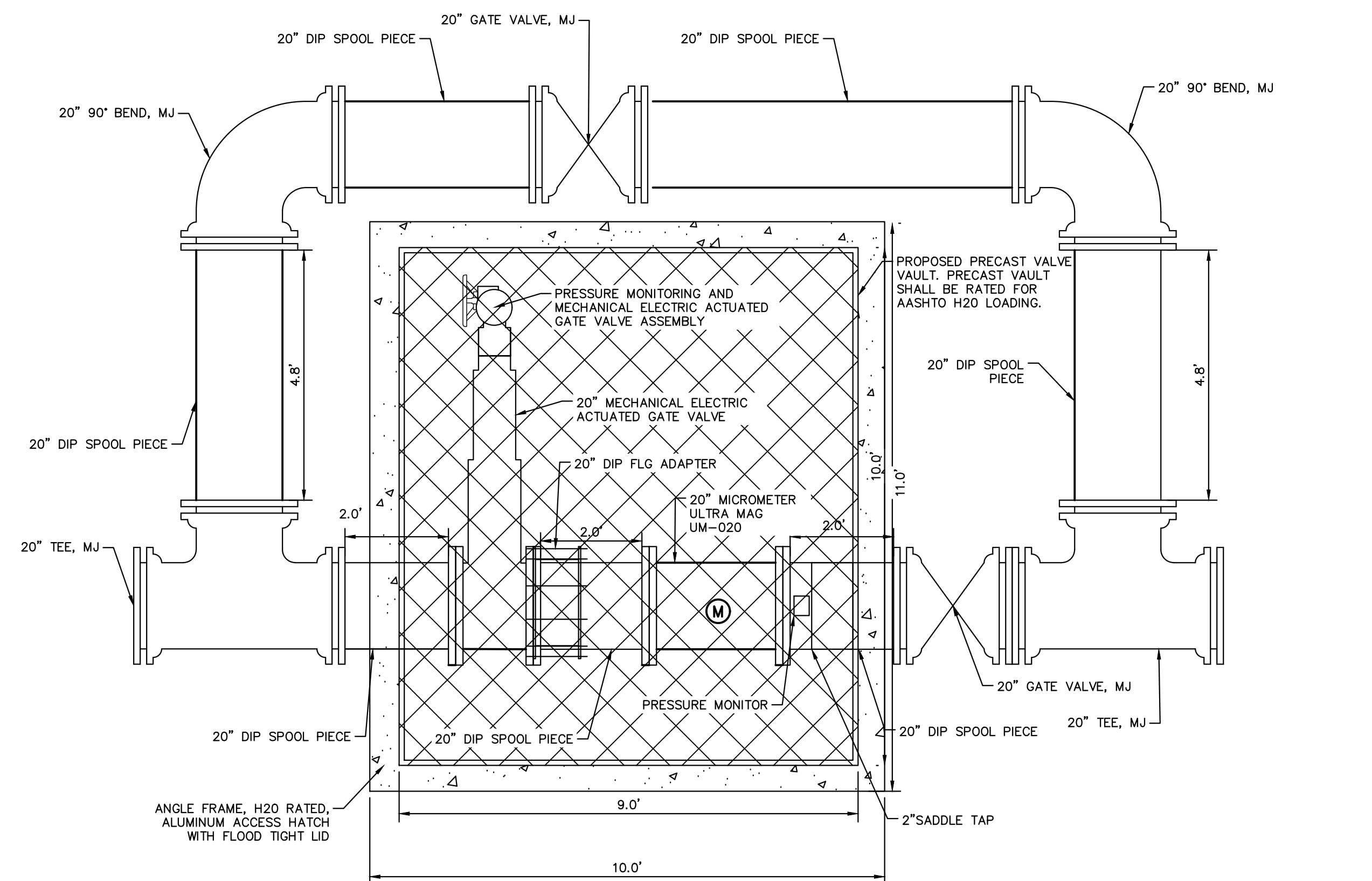

**SR 684 (CORTEZ ROAD) WATER MAIN AND
FORCE MAIN INTRACOASTAL CROSSING**
 MANATEE COUNTY

LICENSED PROFESSIONAL JORDAN W. WALKER, P.E. FL LICENSE NUMBER 78652

DETAILS

SHEET NUMBER 26

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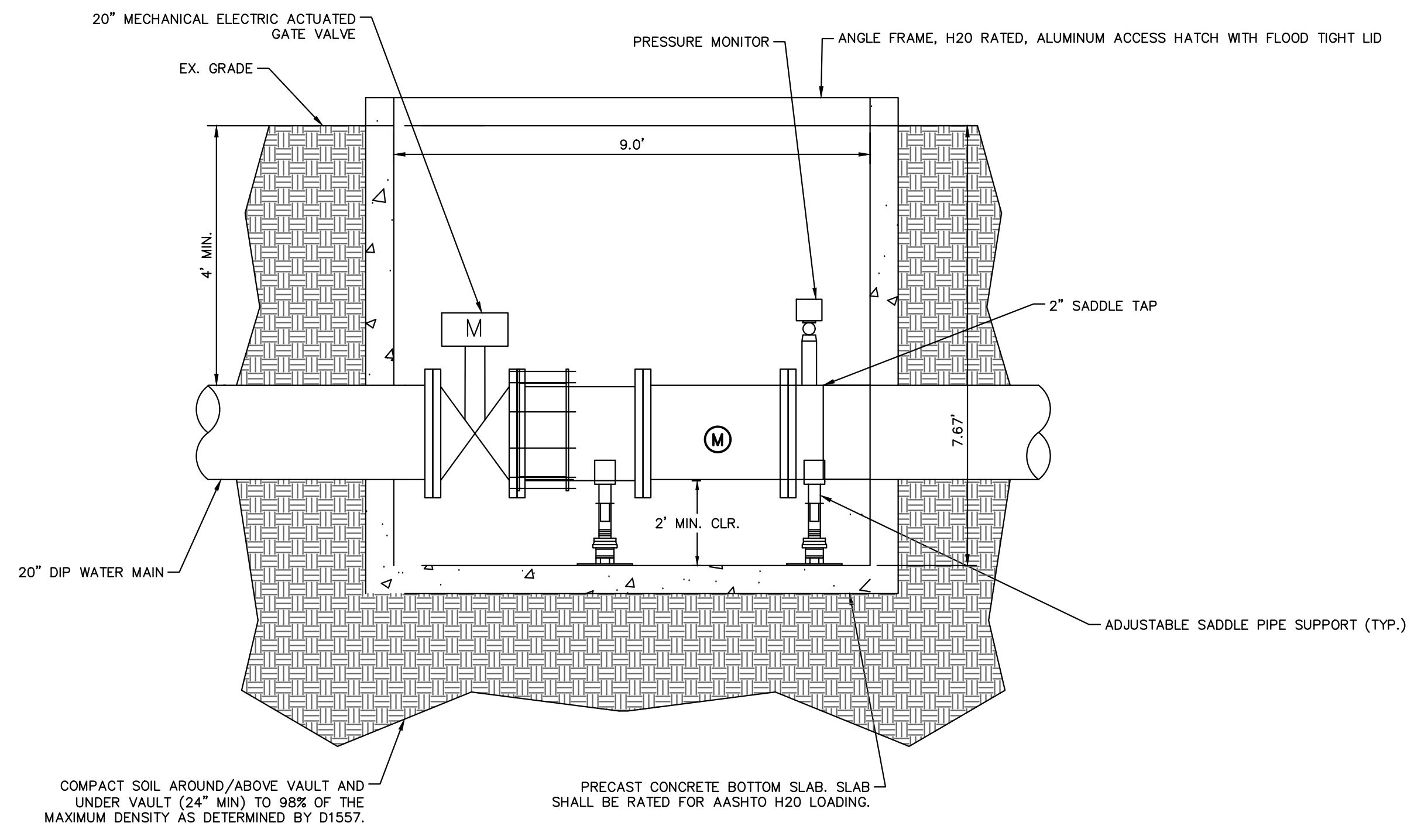


ELECTRICAL & INSTRUMENTATION APPROACH:
POWER:

- CONTRACTOR SHALL DESIGN AND CONNECT TO THE ELECTRICAL SERVICE FOR POWER FOR REMOTE MONITORING OF PRESSURE AND FLOW ON THE WATER MAIN WITH THE ADDITION OF A MOTOR OPERATED VALVE AND REMOTE MANUAL CONTROL.
- THE ELECTRICAL UTILITY SUPPLYING THIS AREA IS FLORIDA POWER & LIGHT COMPANY (FPL).
- FPL ELECTRIC SERVICE STANDARDS ALLOW 115V SINGLE PHASE MOTORS UP TO 1/2 HP AND RECOMMENDS SINGLE PHASE MOTORS 3/4 HP AND ABOVE BE 230V. SINGLE PHASE MOTORS ABOVE 5 HP ARE NOT ALLOWED.
- THE APPROACH WOULD BE TO OBTAIN AN OVERHEAD OR UNDERGROUND 120/240VAC, 1Ø SERVICES FROM FPL OVERHEAD DISTRIBUTION SYSTEM IN THE VICINITY. ONE SERVICE WOULD SUPPLY THE WATER MAIN ASSEMBLY. THE SERVICE WILL TERMINATE IN A CONTRACTOR FURNISHED SELF-CONTAINED METER SOCKET WITH REVENUE METER FURNISHED AND INSTALLED BY FPL.

INSTRUMENTATION:
 PROPOSED INSTRUMENTATION SHALL BE INTEGRATED WITH THE CURRENT MANATEE COUNTY SYSTEM.

INSTRUMENT	MANUFACTURER
PRESSURE INDICATING TRANSMITTER	1. ENDRESS & HAUSER 2. ROSEMOUNT



WATER MAIN PRESSURE MONITORING AND VALVE ASSEMBLY EAST APPROACH DETAIL
 N.T.S.

27

No.	REVISIONS	DATE	BY

Kimley»Horn

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Manatee County FLORIDA

SR 684 (CORTEZ ROAD) WATER MAIN AND FORCE MAIN INTRACOASTAL CROSSING
 MANATEE COUNTY

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