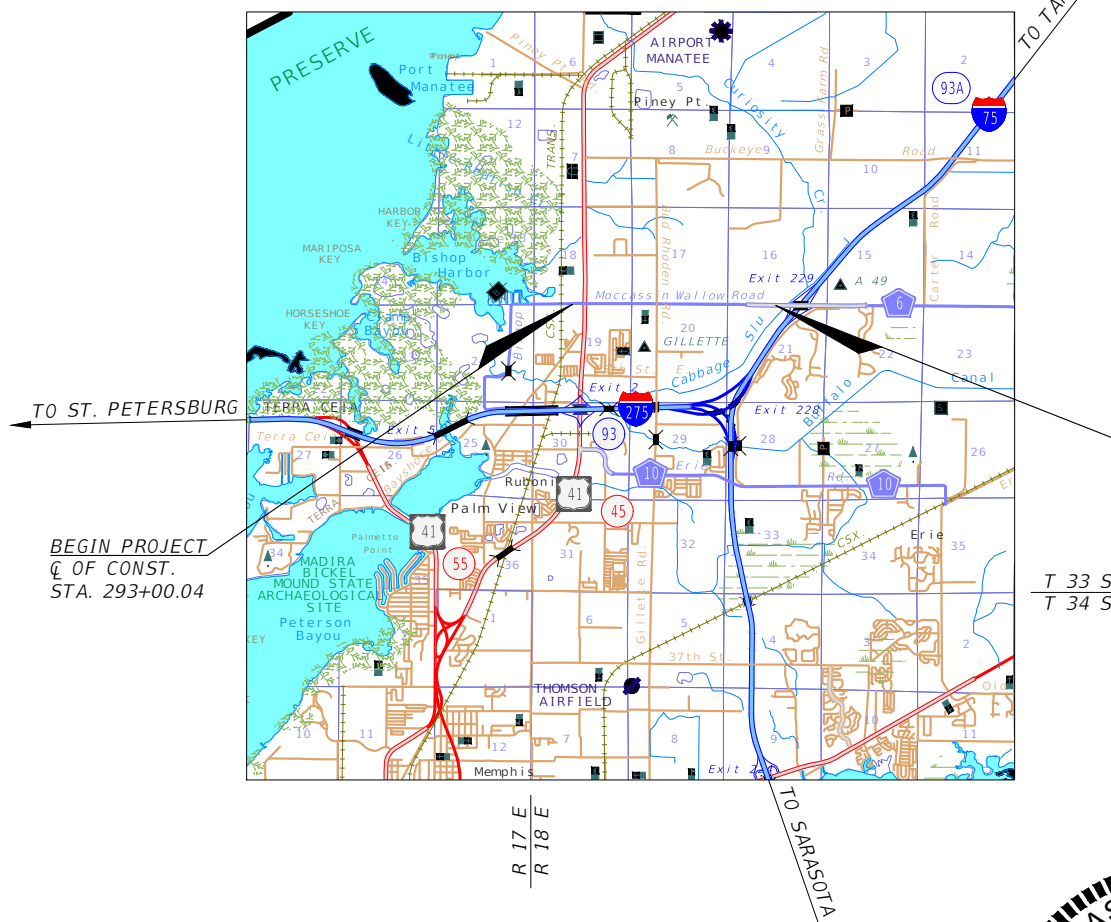
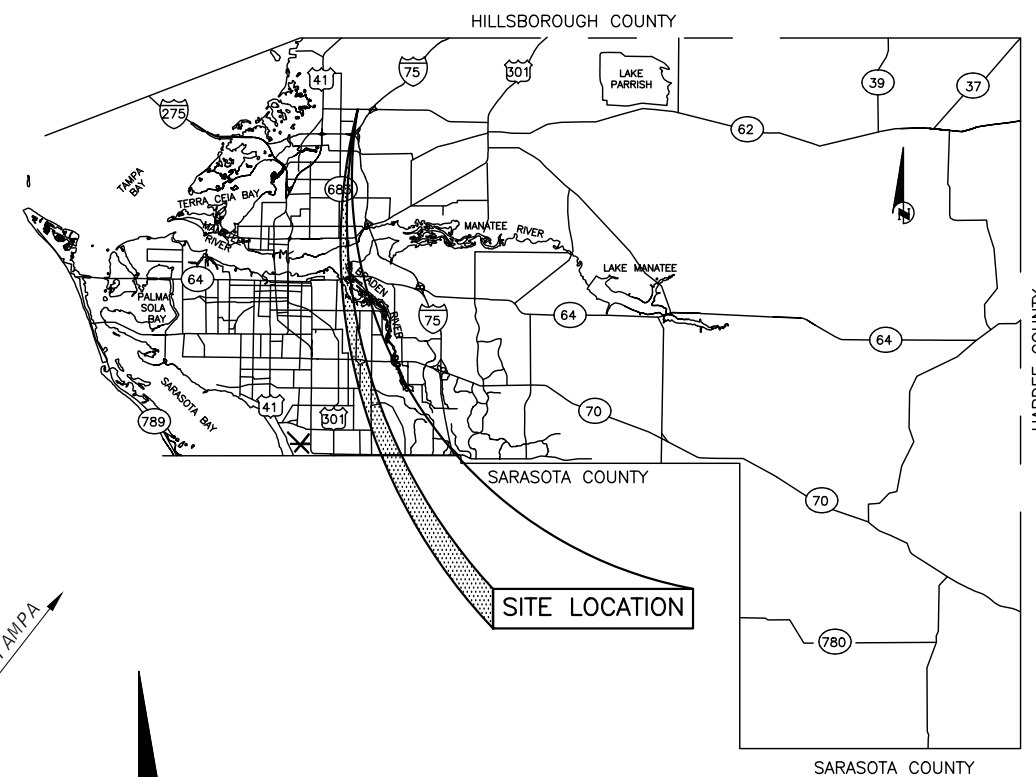




MANATEE COUNTY
PUBLIC WORKS DEPARTMENT

UTILITY DESIGN PLANS

MANATEE PROJECT ID 6092560
 MOCCASIN WALLOW ROAD
 FROM US 41 TO WEST OF I-75



INDEX OF UTILITY DESIGN PLANS

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PLANS PREPARED BY:

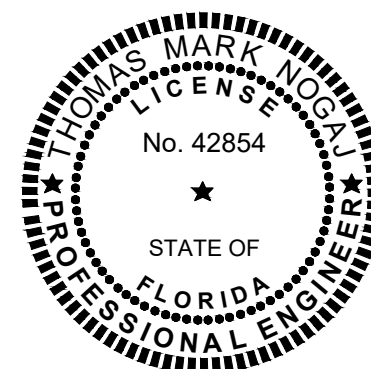


380 Park Place Blvd, Suite 300, Clearwater, Florida, 33759
 www.cardno.com - 727.531.3505
 Certificate of Authorization No. 29915

UTILITY DESIGN PLANS
 ENGINEER OF RECORD:

THOMAS M. NOGAJ, PHD
 P.E. NO.:42854

MANATEE COUNTY PROJECT MANAGER:
 DANIEL GARNER, PE



THIS DOCUMENT HAS BEEN DIGITALLY
 SIGNED AND SEALED BY:



PRINTED COPIES OF THIS DOCUMENT ARE
 NOT CONSIDERED SIGNED AND SEALED.
 THE SIGNATURE MUST BE VERIFIED ON
 THE ELECTRONIC DOCUMENTS

CARDNO
 380 PARK PLACE BLVD, CLEARWATER, FL 33759
 CERTIFICATE OF AUTHORIZATION NO. 29915
 THOMAS MARK NOGAJ, PHD, PE NO. 42854

SHEET NO.
G-1

GENERAL NOTES

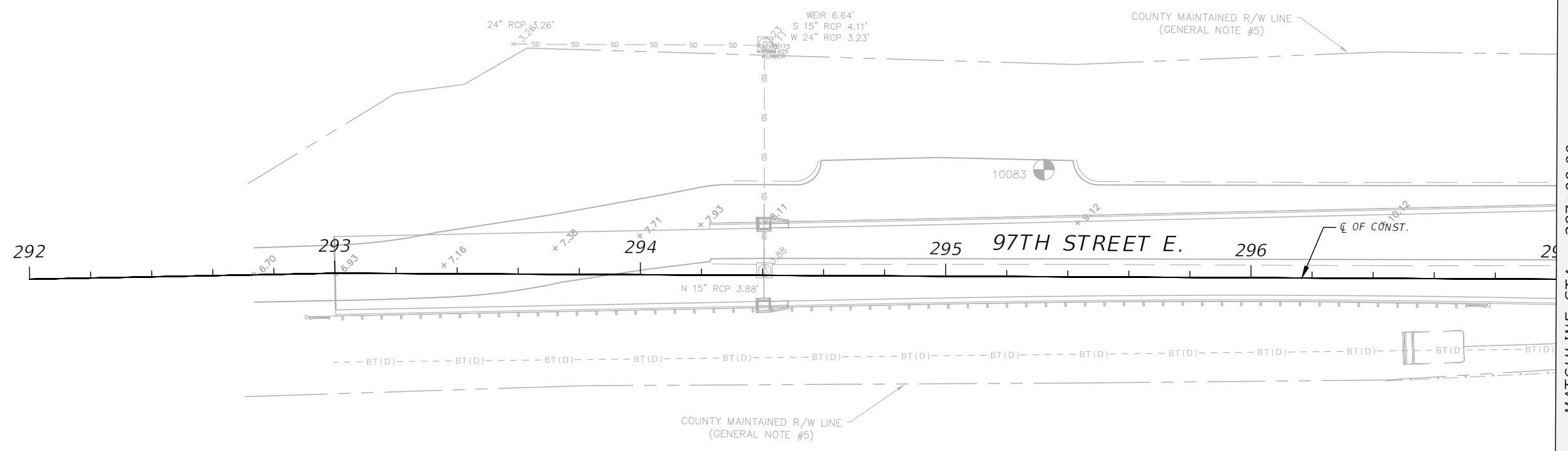
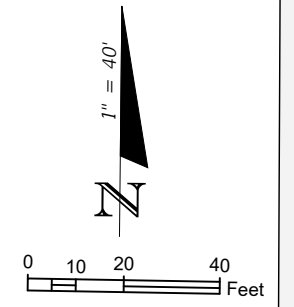
1. ALL WORKMANSHIP AND MATERIALS USED IN THE CONSTRUCTION OF THIS PROJECT SHALL BE NEW AND CONFORM TO, OR EXCEED THE LATEST LOCAL JURISDICTION STANDARDS.
2. CONTACT SUNSHINE STATE ONE CALL FOR UTILITY LOCATES A MINIMUM OF 48-HOURS AND A MAXIMUM OF 5-DAYS PRIOR TO START OF CONSTRUCTION AT 1-800-432-4770.
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT LOCAL POWER COMPANIES FOR RESTRAINING OF POLES DURING CONSTRUCTION. ALL ASSOCIATED COSTS WILL BE AT CONTRACTOR'S EXPENSE.
4. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO THE LOCAL NOISE ORDINANCE.
5. HOURS OF WORK SHALL BE: NON-FEDERAL HOLIDAYS, MONDAY - FRIDAY 7AM - 5PM. WORK OUTSIDE THESE HOURS MUST BE SCHEDULED 48 HOURS IN ADVANCE AND MAY BE SUBJECT TO REIMBURSEMENT FOR ADDITIONAL INSPECTION SERVICES.
6. DUE TO THE NATURE OF SOME WORK ELEMENTS, SUCH AS BUT NOT LIMITED TO, PAVEMENT CROSSINGS CONNECTIONS TO EXISTING MAINS, PLUGGING AND CAPPING EXISTING LINES, ETC., MAY REQUIRE WORK DURING NON ROUTINE HOURS SUCH AS NIGHT TIME.
7. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS PRIOR TO CONSTRUCTION. THESE MAY INCLUDE:
 - MANATEE COUNTY CONSTRUCTION PERMIT.
 - MANATEE COUNTY R.O.W. USE PERMIT
 - EPA NPDES PERMIT
 - DEWATERING PERMIT (AS REQUIRED)
8. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY AND THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION SAFETY. SPECIAL PRECAUTIONS MAY BE REQUIRED IN THE VICINITY OF POWER LINES AND OTHER UTILITIES.
9. THE CONTRACTOR IS TO FURNISH, ERECT AND MAINTAIN ALL NECESSARY TRAFFIC CONTROL AND SAFETY DEVICES, IN ACCORDANCE WITH THE US DEPARTMENT OF TRANSPORTATION, "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND THE LATEST FLORIDA DEPARTMENT OF TRANSPORTATION "STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION", LATEST EDITION AND CONTRACT SPECIFICATIONS.
10. THE CONTRACTOR IS TO PROVIDE, ERECT AND MAINTAIN EFFECTIVE BARRICADES, DANGER SIGNALS, SIGNS AND PEDESTRIAN DETOURS IN ALL AREAS WHERE REQUIRED FOR THE PROTECTION OF THE WORK AND THE SAFETY OF THE PUBLIC.
11. THE CONTRACTOR IS TO PROVIDE ACCESS FOR TRAFFIC AT ALL TIMES DURING CONSTRUCTION. CONSTRUCTION WILL BE CONDUCTED IN SUCH A MANNER THAT RESIDENTS RETAIN ACCESS TO THEIR DRIVEWAYS AT ALL TIMES.
12. REFERENCES TO FDOT INDEXES REFER TO THE MOST RECENT EDITION OF THE FDOT "STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION."
13. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTROL AND PREVENT EROSION AND THE TRANSPORTATION OF SEDIMENT TO SURFACE DRAINS AND OUTFALLS.
14. THE CONTRACTOR IS RESPONSIBLE TO PERFORM A REVIEW OF THE SITE TO DETERMINE EXISTING CONDITIONS AND ANYTHING NOT SHOWN ON THESE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND WILL NOT CONSTITUTE AN EXTRA UNLESS APPROVED BY THE ENGINEER.
15. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING OR REPLACING ANY DAMAGED ITEMS INCLUDING, BUT NOT LIMITED TO, DRIVEWAYS, IRRIGATION SYSTEMS, MAILBOXES, SIDEWALKS, STREET SIGNS, AND PRIVATE FENCES AS REQUIRED BY E.O.R./OTHER GOVERNING ENTITIES.
16. ALL OPEN ROAD CUTS SHALL BE FILLED, COMPACTED AND COVERED WITH A TEMPORARY ASPHALT PATCH DURING CONSTRUCTION AS REQUIRED. ALL OPEN CUTS ARE TO BE RESTORED BY THE CONTRACTOR AS REQUIRED BY F.D.O.T., AND MANATEE COUNTY UTILITIES.
17. ALL SECTION CORNERS OR PROPERTY CORNERS DISLOCATED OR DISTURBED BY THE CONSTRUCTION ACTIVITIES ARE TO BE RESET BY A REGISTERED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.
18. ALL DISTURBED AREAS WILL BE RESTORED TO THEIR ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE NOTED. RESTORED AREAS ARE TO BE GRADED TOWARD ROADWAY FOR PROPER DRAINAGE WHEREVER POSSIBLE.
19. CONTRACTOR IS TO PROVIDE ALL SHEETING, SHORING AND BRACING REQUIRED TO PROTECT ADJACENT STRUCTURES OR TO MINIMIZE TRENCH WIDTH. ALL COSTS WILL BE INCLUDED IN LF OF PIPE PAY ITEM.
20. THE CONTRACTOR IS RESPONSIBLE FOR THE DISPOSAL OF ALL CLEARED VEGETATION WITHIN FIVE (5) DAYS OF CLEARING AND GRUBBING WORK.
21. ALL EXCESS SOIL RESULTING FROM CONSTRUCTION ACTIVITIES THAT IS NOT CLAIMED BY THE OWNER WILL BECOME THE PROPERTY OF THE CONTRACTOR AND PROPERLY DISPOSED OF BY THE CONTRACTOR.
22. ALL VOIDS AFTER PLACEMENT OF SOD ARE TO BE FILLED WITH PREPARED SOIL MIX. THE SOD WILL BE ROLLED TO MEET THE PROPOSED GRADES. SOD PLACED ON SLOPES (3:1 OR STEEPER) MUST BE PEGGED.
23. AREAS OF EXPOSED EARTH RESULTING FROM CONSTRUCTION WILL BE SODDED IN KIND AS DIRECTED BY THE ENGINEER UNLESS OTHERWISE NOTED ON PLANS.
24. LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF THE PREPARATION OF THESE PLANS, BUT DO NOT PURPORT TO BE ABSOLUTELY CORRECT. THE CONTRACTOR IS TO VERIFY THE LOCATION, ELEVATIONS AND DIMENSIONS OF ALL EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES AFFECTING HIS WORK PRIOR TO CONSTRUCTION.
25. EACH WATER METER LOCATION AND THE PARCEL SERVED IS SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE. CONTRACTOR IS TO VERIFY LOCATION OF WATER METER AND THE PARCEL SERVED PRIOR TO REMOVAL, RELOCATION, OR ADJUSTMENT.
26. THE CONTRACTOR IS TO VERIFY IN THE FIELD THE LOCATION AND ELEVATION OF ALL EXISTING UTILITY CONNECTION POINTS PRIOR TO STARTING CONSTRUCTION AND WILL IMMEDIATELY NOTIFY THE ENGINEER AND OWNER OF ANY DISCREPANCIES FOUND.
27. THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THERE MAY BE SOME CONFLICTS WITH UTILITIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ENGINEER OF ANY CONFLICTS WITH PROPOSED WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE, PROTECT, AND REPLACE (IF DAMAGED) ANY AND ALL EXISTING UTILITIES ON THIS PROJECT AT THEIR OWN EXPENSE.

REVISIONS				THOMAS M. NOGAJ, PHD, P.E. P.E. LICENSE NUMBER 42854 CARDNO 380 PARK PLACE BLVD, SUITE 300 CLEARWATER, FLORIDA 33759 CERTIFICATE OF AUTHORIZATION 29915	MANATEE COUNTY		GENERAL NOTES (1)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	PROJECT ID		G-2
---	---				MOCCASIN WALLOW RD	6092560		

GENERAL NOTES-CONTINUED

28. THE CONSTRUCTION LIMITS INDICATED IN THESE PLANS ARE APPROXIMATE. ACTUAL LIMITS MAY BE SET IN THE FIELD AS DIRECTED BY THE ENGINEER.
29. ALL POTABLE WATER, FIRE, IRRIGATION SYSTEM, SANITARY SYSTEM, STORM SYSTEM AND OTHER UTILITIES COMPONENTS ARE TO BE PROTECTED AND WILL HAVE MINIMUM DISRUPTION DURING CONSTRUCTION. THE CONTRACTOR WILL IMMEDIATELY REPAIR ANY DAMAGE TO THE SYSTEMS.
30. DISRUPTIONS TO EXISTING RESIDENTIAL/COMMERCIAL WATER AND SEWER SERVICE WILL BE KEPT TO A MINIMUM. ALL WATER SERVICE INTERRUPTIONS SHALL BE COORDINATED WITH MANATEE COUNTY PUBLIC WORKS PROJECT MANAGER AND IN ACCORDANCE WITH ANY PROCEDURES FOR SHUT DOWNS.
31. THE CONTRACTOR WILL ENSURE THAT EXCAVATIONS ARE FREE OF DEBRIS PRIOR TO BACKFILLING.
32. THE CONTRACTOR WILL NOT ENTER OR OCCUPY ANY LAND OUTSIDE THE RIGHTS-OF-WAY OR PRIVATE PROPERTY WITHOUT THE WRITTEN CONSENT OF THE PROPERTY OWNER.
33. THE CONTRACTOR WILL COORDINATE WITH PROPERTY OWNERS AND MANATEE COUNTY TO RELOCATE SERVICE LINE, METER AND BACK FLOW DEVICE AND CONNECT TO EXISTING SERVICE LINES AS REQUIRED.
34. THE CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING A NPDES NOI PERMIT FROM EPA, AS WELL AS PREPARING AND MAINTAINING A STORMWATER POLLUTION PREVENTION PLAN FOR BOTH ONSITE AND OFFSITE IMPROVEMENTS. THE CONTRACTOR IS TO BECOME FAMILIAR WITH AND COMPLY WITH ALL REQUIREMENTS OF THE EPA NPDES PERMIT FOR THIS PROJECT. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY STORMWATER DISCHARGE PERMIT AND/OR DEWATERING PLAN, AND WILL BE RESPONSIBLE TO COMPLY WITH ALL CONDITIONS SET FORTH IN THE PERMIT.
35. THE CONTRACTOR WILL TAKE ALL REASONABLE MEANS TO ELIMINATE THE TRANSPORT OF DUST FROM THE PROJECT SITE. SPECIAL MEASURES, SUCH AS PERIODICALLY APPLYING WATER TO THE WORK SITE TO PREVENT DUST SHALL BE INCORPORATED INTO THE CONTRACTOR'S WORK PLAN.
36. WHERE REFERENCED STANDARDS CONFLICT, THE MORE STRINGENT STANDARD SHALL APPLY.
37. THE CONTRACTOR WILL SUPPORT AND PROTECT ALL EXISTING UTILITIES AS REQUIRED. THIS SHOULD INCLUDE BY-PASS PUMPING IF REQUIRED.
38. ALL EXISTING POTABLE WATER MAINS, RECLAIMED WATER MAINS, AND FORCE MAINS TAKEN OUT SERVICE WILL BE REMOVED AND DISPOSED OF PER MANATEE COUNTY SPECS.
39. VALVES, HYDRANTS, AND APPURTENANCES FOR POTABLE WATER, RECLAIMED WATER, AND SANITARY FORCE MAINS SHALL MEET MANATEE COUNTY STANDARDS.
40. ALL VALVES, FITTINGS, AND BENDS SHALL BE RESTRAINED WITH MECHANICAL JOINTS PER TABLES UG-8, UG-9, AND DRAWING UG-10.
41. UNLESS NOTED OTHERWISE, PROPOSED PVC PIPING SHALL BE C-900 (DR-18) AND PROPOSED DIP PIPING SHALL BE CLASS 250 (POLY-WRAPPED).
42. STATIONS AND OFFSET DISTANCES NOTED IN THE UTILITY PLAN AND PROFILE SHEETS ARE REFERENCED TO THE PROPOSED ROADWAY CONSTRUCTION BASELINE.

R E V I S I O N S				THOMAS M. NOGAJ, PHD,P.E. P.E. LICENSE NUMBER 42854 CARDNO 380 PARK PLACE BLVD, SUITE 300 CLEARWATER, FLORIDA 33759 CERTIFICATE OF AUTHORIZATION 29915	MANATEE COUNTY		<i>GENERAL NOTES (2)</i>	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	PROJECT ID		G-3
---	---				MOCCASIN WALLOW RD	6092560		



MATCHLINE STA. - 297+00.00

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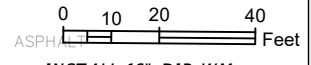
REVISIONS				THOMAS M. NOGAJ, PHD, P.E. P.E. LICENSE NUMBER 42854 CARDNO 380 PARK PLACE BLVD, SUITE 300 CLEARWATER, FLORIDA 33759 CERTIFICATE OF AUTHORIZATION 29915	MANATEE COUNTY		UTILITY PLAN (1)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	PROJECT ID		U-1
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Andrew Olivas

3/9/2022 1:44:10 PM

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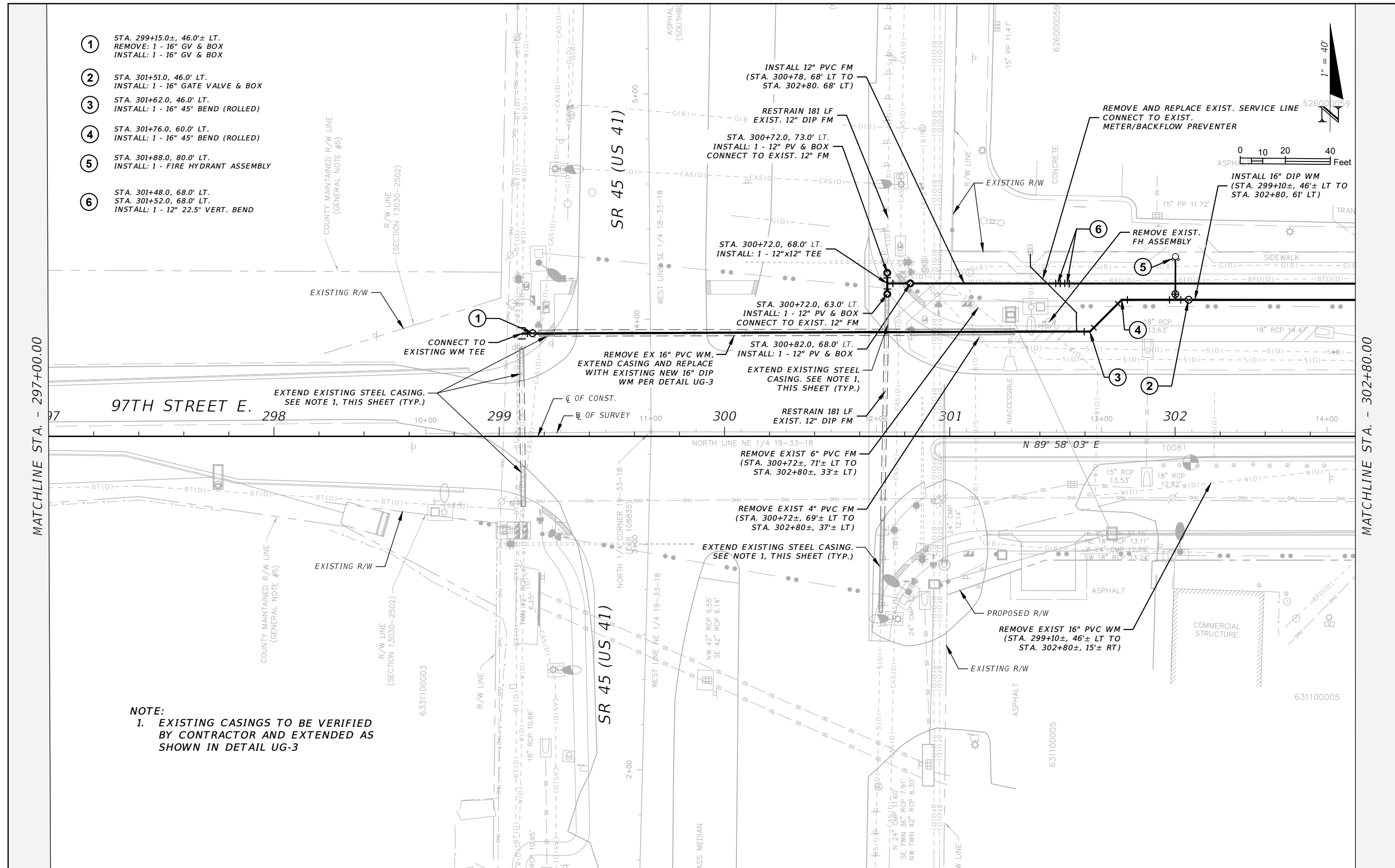
- ① STA. 299+15.0±, 46.0'± LT.
REMOVE: 1 - 16" GV & BOX
INSTALL: 1 - 16" GV & BOX
- ② STA. 301+51.0, 46.0' LT.
INSTALL: 1 - 16" GATE VALVE & BOX
- ③ STA. 301+62.0, 46.0' LT.
INSTALL: 1 - 16" 45° BEND (ROLLED)
- ④ STA. 301+76.0, 60.0' LT.
INSTALL: 1 - 16" 45° BEND (ROLLED)
- ⑤ STA. 301+88.0, 80.0' LT.
INSTALL: 1 - FIRE HYDRANT ASSEMBLY
- ⑥ STA. 301+48.0, 68.0' LT.
STA. 301+52.0, 68.0' LT.
INSTALL: 1 - 12" 22.5° VERT. BEND



MATCHLINE STA. - 297+00.00

MATCHLINE STA. - 302+80.00

NOTE:
1. EXISTING CASINGS TO BE VERIFIED BY CONTRACTOR AND EXTENDED AS SHOWN IN DETAIL UG-3



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

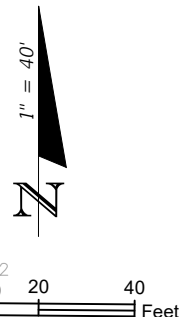
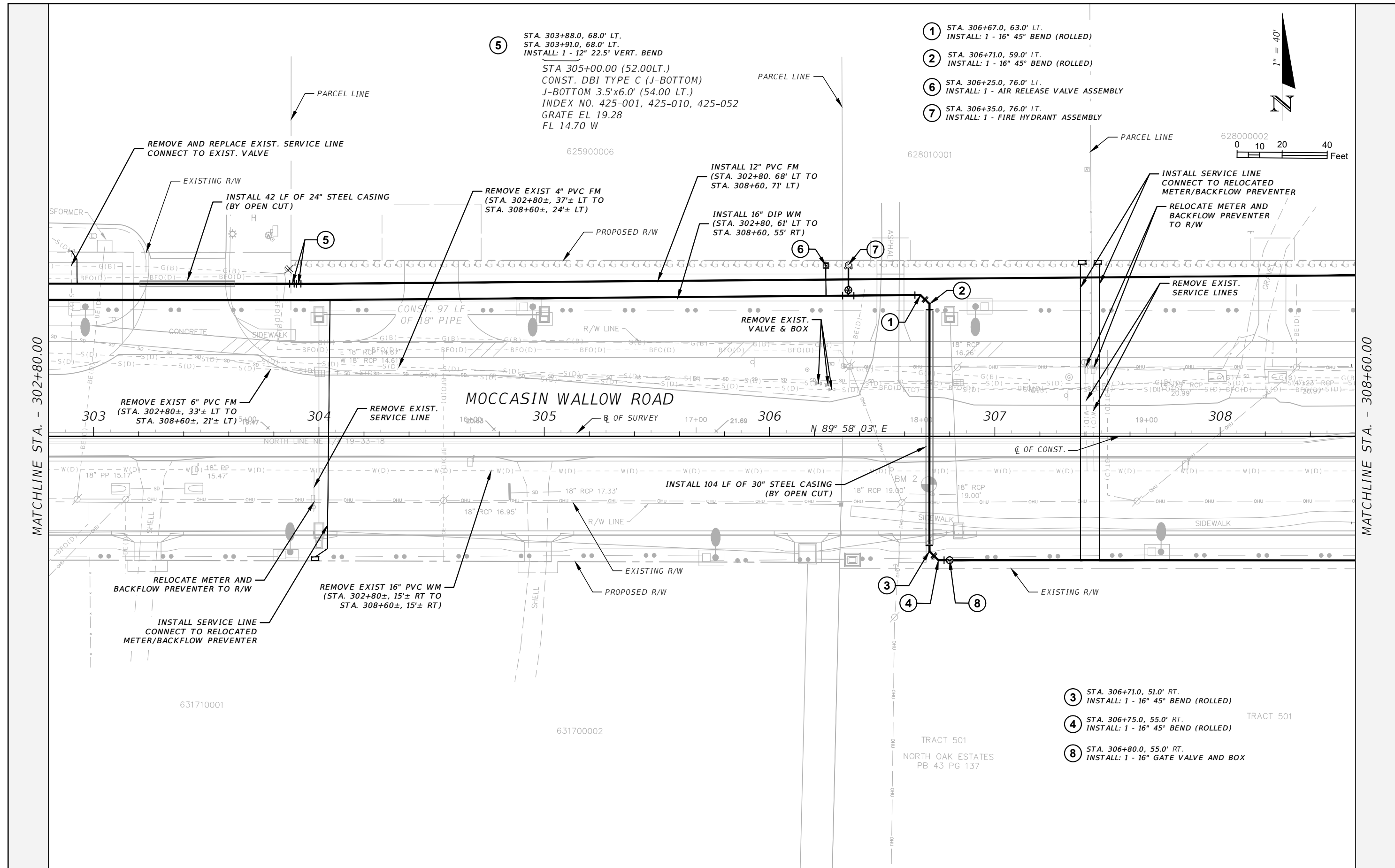
THOMAS M. NOGAJ, PHD, P.E.
P.E. LICENSE NUMBER 42854
CARDNO
380 PARK PLACE BLVD, SUITE 300
CLEARWATER, FLORIDA 33759
CERTIFICATE OF AUTHORIZATION 29915

MANATEE COUNTY	
ROAD NO.	PROJECT ID
MOCCASIN WALLOW RD	6092560

UTILITY PLAN (2)

SHEET NO.
U-2

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



- ⑤ STA. 303+88.0, 68.0' LT.
STA. 303+91.0, 68.0' LT.
INSTALL: 1 - 12" 22.5° VERT. BEND
STA 305+00.00 (52.00LT.)
CONST. DBI TYPE C (J-BOTTOM)
J-BOTTOM 3.5'x6.0' (54.00 LT.)
INDEX NO. 425-001, 425-010, 425-052
GRATE EL 19.28
FL 14.70 W
- ① STA. 306+67.0, 63.0' LT.
INSTALL: 1 - 16" 45° BEND (ROLLED)
- ② STA. 306+71.0, 59.0' LT.
INSTALL: 1 - 16" 45° BEND (ROLLED)
- ⑥ STA. 306+25.0, 76.0' LT.
INSTALL: 1 - AIR RELEASE VALVE ASSEMBLY
- ⑦ STA. 306+35.0, 76.0' LT.
INSTALL: 1 - FIRE HYDRANT ASSEMBLY

- ③ STA. 306+71.0, 51.0' RT.
INSTALL: 1 - 16" 45° BEND (ROLLED)
- ④ STA. 306+75.0, 55.0' RT.
INSTALL: 1 - 16" 45° BEND (ROLLED)
- ⑧ STA. 306+80.0, 55.0' RT.
INSTALL: 1 - 16" GATE VALVE AND BOX

MATCHLINE STA. - 302+80.00

MATCHLINE STA. - 308+60.00

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

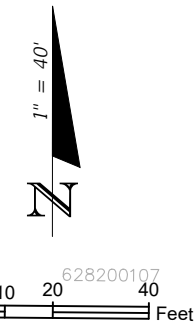
THOMAS M. NOGAJ, PHD, P.E.
P.E. LICENSE NUMBER 42854
CARDNO
380 PARK PLACE BLVD, SUITE 300
CLEARWATER, FLORIDA 33759
CERTIFICATE OF AUTHORIZATION 29915

MANATEE COUNTY	
ROAD NO.	PROJECT ID
MOCCASIN WALLOW RD	6092560

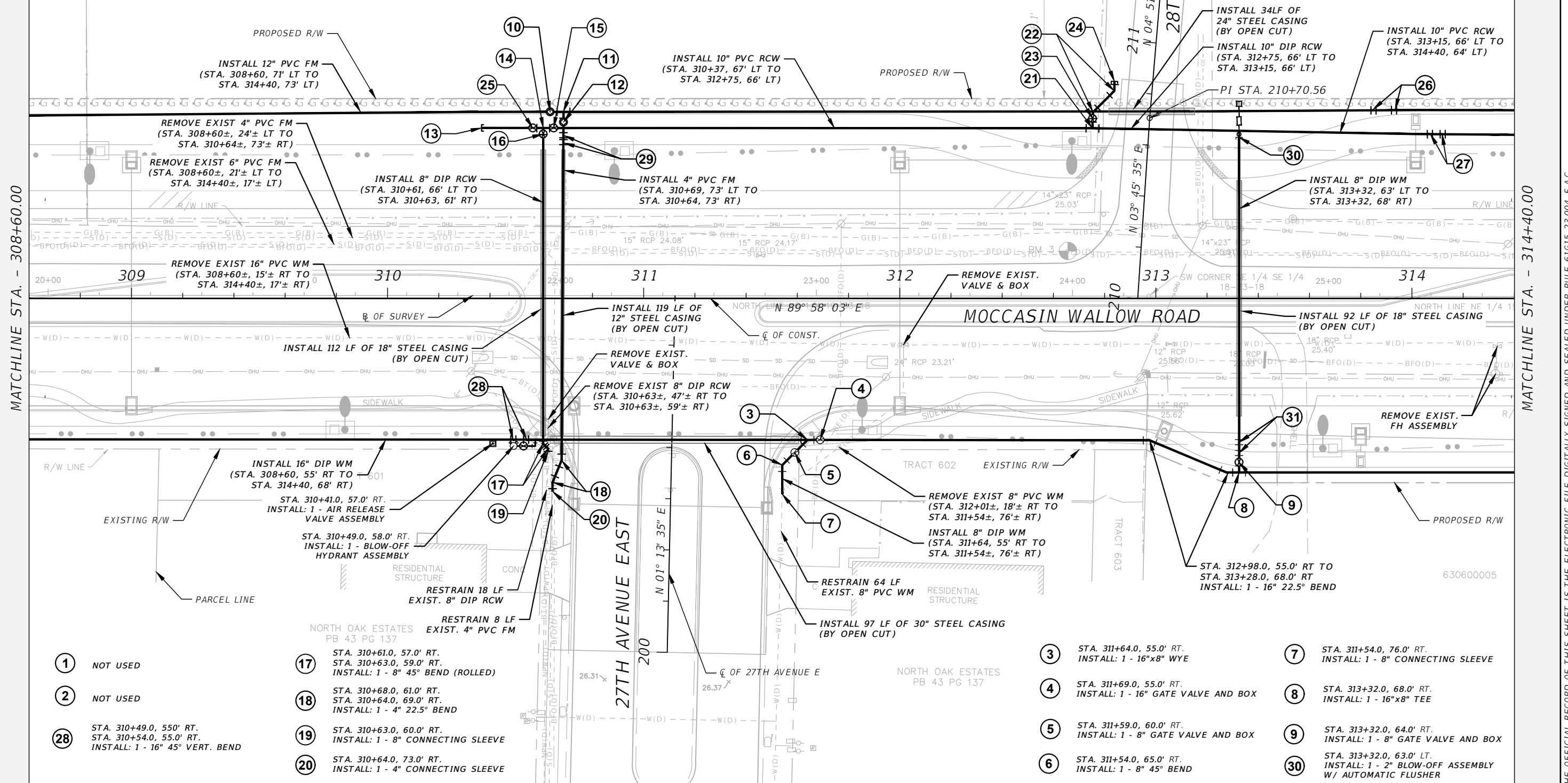
UTILITY PLAN (3)

SHEET NO.
U-3

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



- 10 STA. 310+63.0, 73.0' LT.
INSTALL: 1 - 12" PLUG VALVE AND BOX
- 11 STA. 310+69.0, 73.0' LT.
INSTALL: 1 - 12"x4" TEE
- 12 STA. 310+69.0, 69.0' LT.
INSTALL: 1 - 4" PLUG VALVE AND BOX
- 29 STA. 310+69.0, 61.0' LT.
STA. 310+69.0, 64.0' LT.
INSTALL: 1 - 4" 45° BEND (VERT.)
- 13 STA. 310+37.0, 67.0' LT.
INSTALL: 1 - 10" CAP
- 14 STA. 310+61.0, 67.0' LT.
INSTALL: 1 - 10"x8" TEE
- 15 STA. 310+65.0, 67.0' LT.
INSTALL: 1 - 10" GATE VALVE AND BOX
- 16 STA. 310+61.0, 64.0' LT.
INSTALL: 1 - 8" GATE VALVE AND BOX
- 21 STA. 312+75.0, 66.0' LT.
INSTALL: 1 - 10"x8" TEE
- 22 STA. 312+75.0, 70.0' LT.
STA. 312+84.0, 78.0' LT.
INSTALL: 1 - 8" 45° BEND
- 23 STA. 312+84.0, 82.0' LT.
INSTALL: 1 - 8" GATE VALVE AND BOX
- 24 STA. 312+84.0, 84.0' LT.
INSTALL: 1 - 8" PLUG
- 25 STA. 310+57.0, 67.0' LT.
INSTALL: 1 - 10" GATE VALVE & BOX
- 26 STA. 313+85.0, 73.0' LT.
STA. 313+93.0, 73.0' LT.
INSTALL: 1 - 10" 11.25° BEND (VERT.)
- 27 STA. 314+07.0, 64.0' LT.
STA. 314+12.0, 64.0' LT.
INSTALL: 1 - 10" 22.5° BEND (VERT.)
- 28 NOT USED
- 31 STA. 313+32.0, 56.0' RT.
STA. 313+32.0, 60.0' RT.
INSTALL: 1 - 8" 45° BEND (VERT.)



- 1 NOT USED
- 2 NOT USED
- 28 STA. 310+49.0, 55.0' RT.
STA. 310+54.0, 55.0' RT.
INSTALL: 1 - 16" 45° VERT. BEND

- 17 STA. 310+61.0, 57.0' RT.
STA. 310+63.0, 59.0' RT.
INSTALL: 1 - 8" 45° BEND (ROLLED)
- 18 STA. 310+68.0, 61.0' RT.
STA. 310+64.0, 69.0' RT.
INSTALL: 1 - 4" 22.5° BEND
- 19 STA. 310+63.0, 60.0' RT.
INSTALL: 1 - 8" CONNECTING SLEEVE
- 20 STA. 310+64.0, 73.0' RT.
INSTALL: 1 - 4" CONNECTING SLEEVE

- 3 STA. 311+64.0, 55.0' RT.
INSTALL: 1 - 16"x8" WYE
- 4 STA. 311+69.0, 55.0' RT.
INSTALL: 1 - 16" GATE VALVE AND BOX
- 5 STA. 311+59.0, 60.0' RT.
INSTALL: 1 - 8" GATE VALVE AND BOX
- 6 STA. 311+54.0, 65.0' RT.
INSTALL: 1 - 8" 45° BEND
- 7 STA. 311+54.0, 76.0' RT.
INSTALL: 1 - 8" CONNECTING SLEEVE
- 8 STA. 313+32.0, 68.0' RT.
INSTALL: 1 - 16"x8" TEE
- 9 STA. 313+32.0, 64.0' RT.
INSTALL: 1 - 8" GATE VALVE AND BOX
- 30 STA. 313+32.0, 63.0' LT.
INSTALL: 1 - 2" BLOW-OFF ASSEMBLY
W/ AUTOMATIC FLUSHER

MATCHLINE STA. - 308+60.00

MATCHLINE STA. - 314+40.00

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

THOMAS M. NOGAJ, PHD, P.E.
P.E. LICENSE NUMBER 42854
CARDNO
380 PARK PLACE BLVD, SUITE 300
CLEARWATER, FLORIDA 33759
CERTIFICATE OF AUTHORIZATION 29915

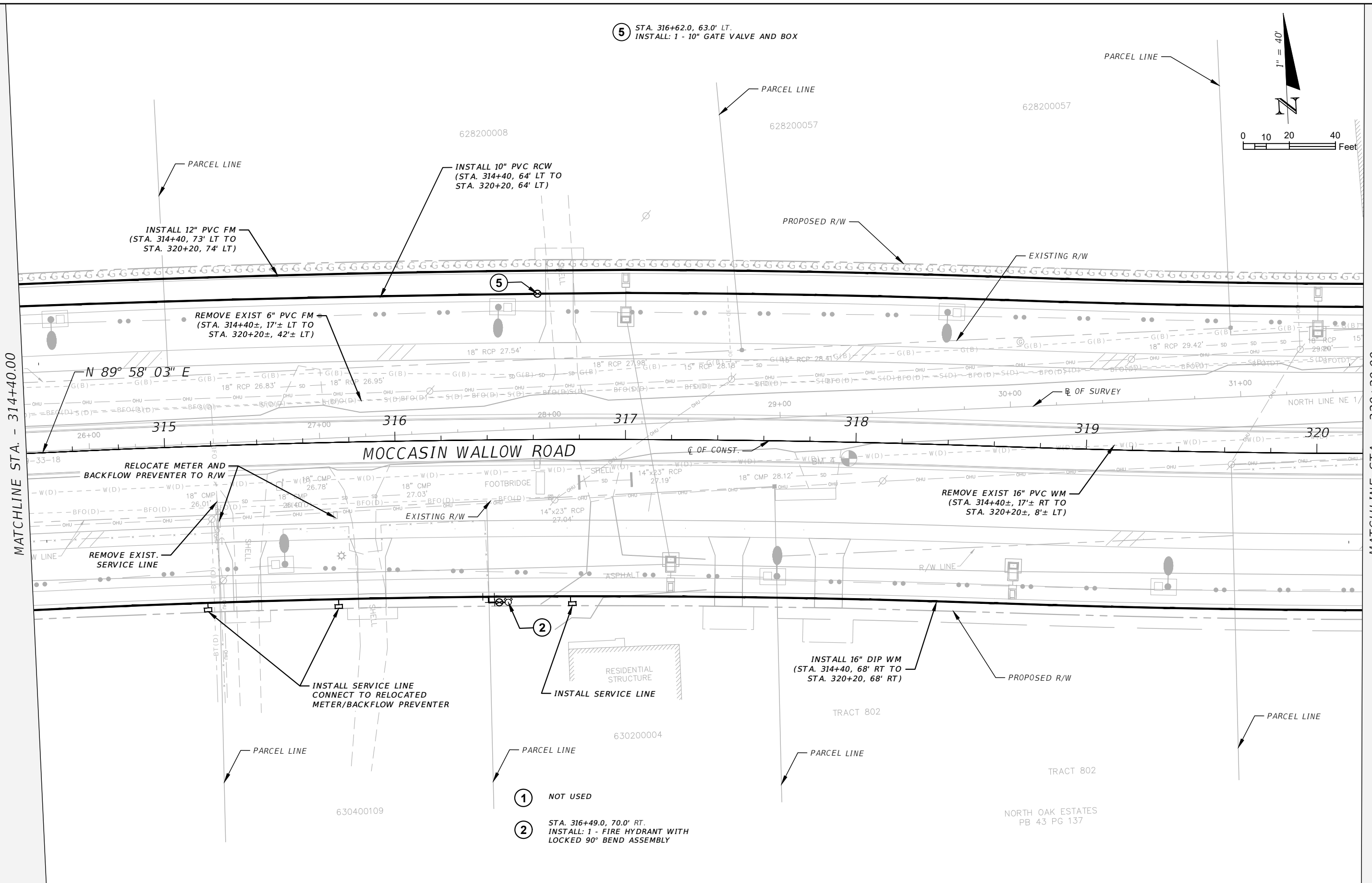
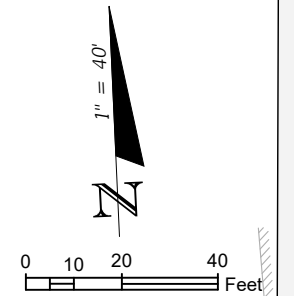
MANATEE COUNTY	
ROAD NO. MOCCASIN WALLOW RD	PROJECT ID 6092560

UTILITY PLAN (4)

SHEET NO.
U-4

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

5 STA. 316+62.0, 63.0' LT.
INSTALL: 1 - 10" GATE VALVE AND BOX



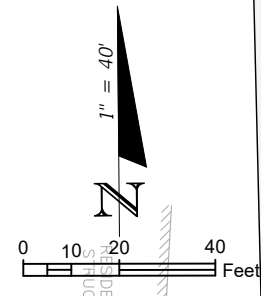
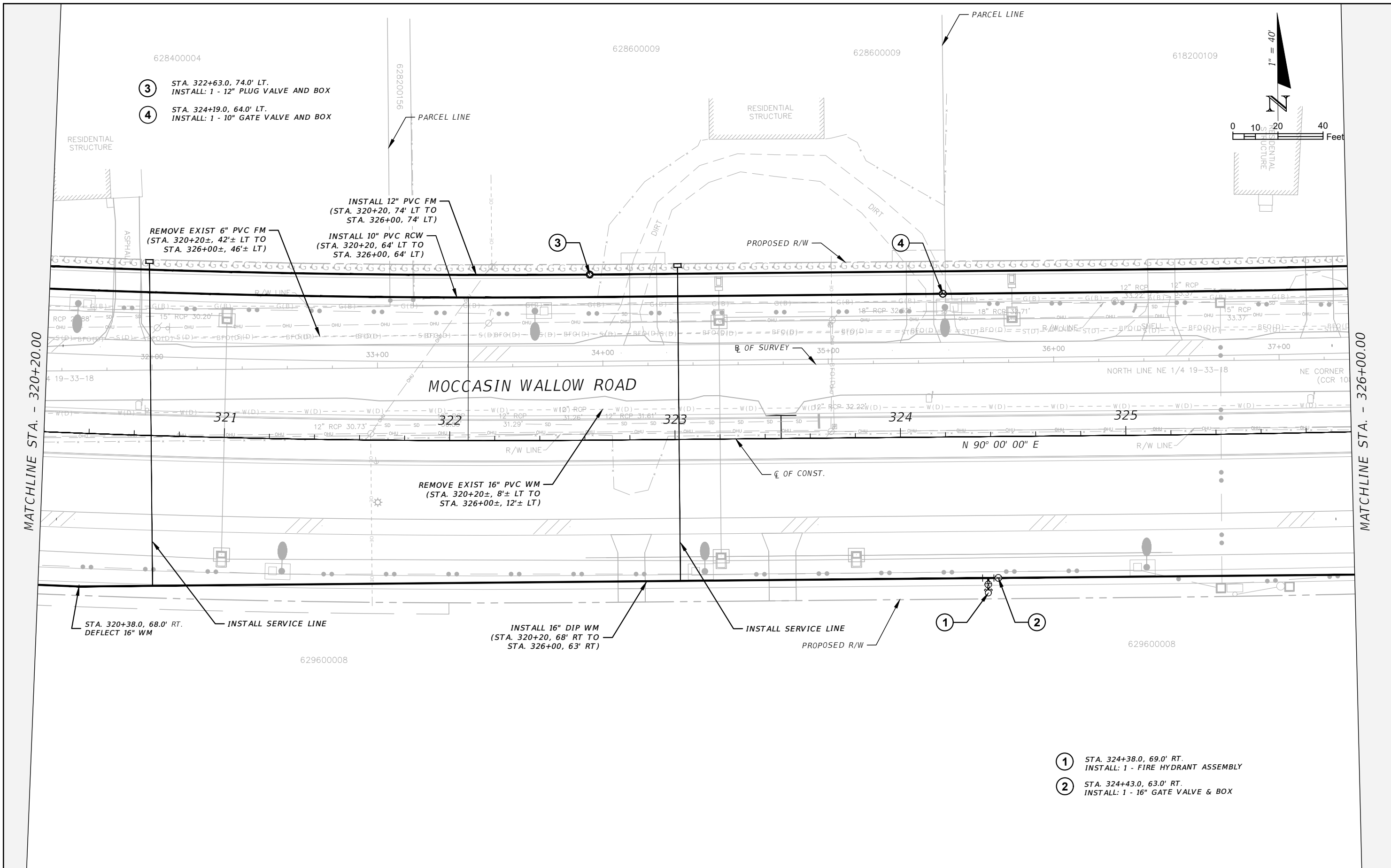
MATCHLINE STA. - 314+40.00

MATCHLINE STA. - 320+20.00

- 1 NOT USED
- 2 STA. 316+49.0, 70.0' RT.
INSTALL: 1 - FIRE HYDRANT WITH
LOCKED 90° BEND ASSEMBLY

REVISIONS				THOMAS M. NOGAJ, PHD, P.E. P.E. LICENSE NUMBER 42854 CARDNO 380 PARK PLACE BLVD, SUITE 300 CLEARWATER, FLORIDA 33759 CERTIFICATE OF AUTHORIZATION 29915	MANATEE COUNTY		UTILITY PLAN (5)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	PROJECT ID		U-5
					MOCCASIN WALLOW RD	6092560		

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



- ③ STA. 322+63.0, 74.0' LT.
INSTALL: 1 - 12" PLUG VALVE AND BOX
- ④ STA. 324+19.0, 64.0' LT.
INSTALL: 1 - 10" GATE VALVE AND BOX

REMOVE EXIST 6" PVC FM
(STA. 320+20±, 42'± LT TO
STA. 326+00±, 46'± LT)

INSTALL 12" PVC FM
(STA. 320+20, 74' LT TO
STA. 326+00, 74' LT)

INSTALL 10" PVC RCW
(STA. 320+20, 64' LT TO
STA. 326+00, 64' LT)

REMOVE EXIST 16" PVC WM
(STA. 320+20±, 8'± LT TO
STA. 326+00±, 12'± LT)

INSTALL 16" DIP WM
(STA. 320+20, 68' RT TO
STA. 326+00, 63' RT)

- ① STA. 324+38.0, 69.0' RT.
INSTALL: 1 - FIRE HYDRANT ASSEMBLY
- ② STA. 324+43.0, 63.0' RT.
INSTALL: 1 - 16" GATE VALVE & BOX

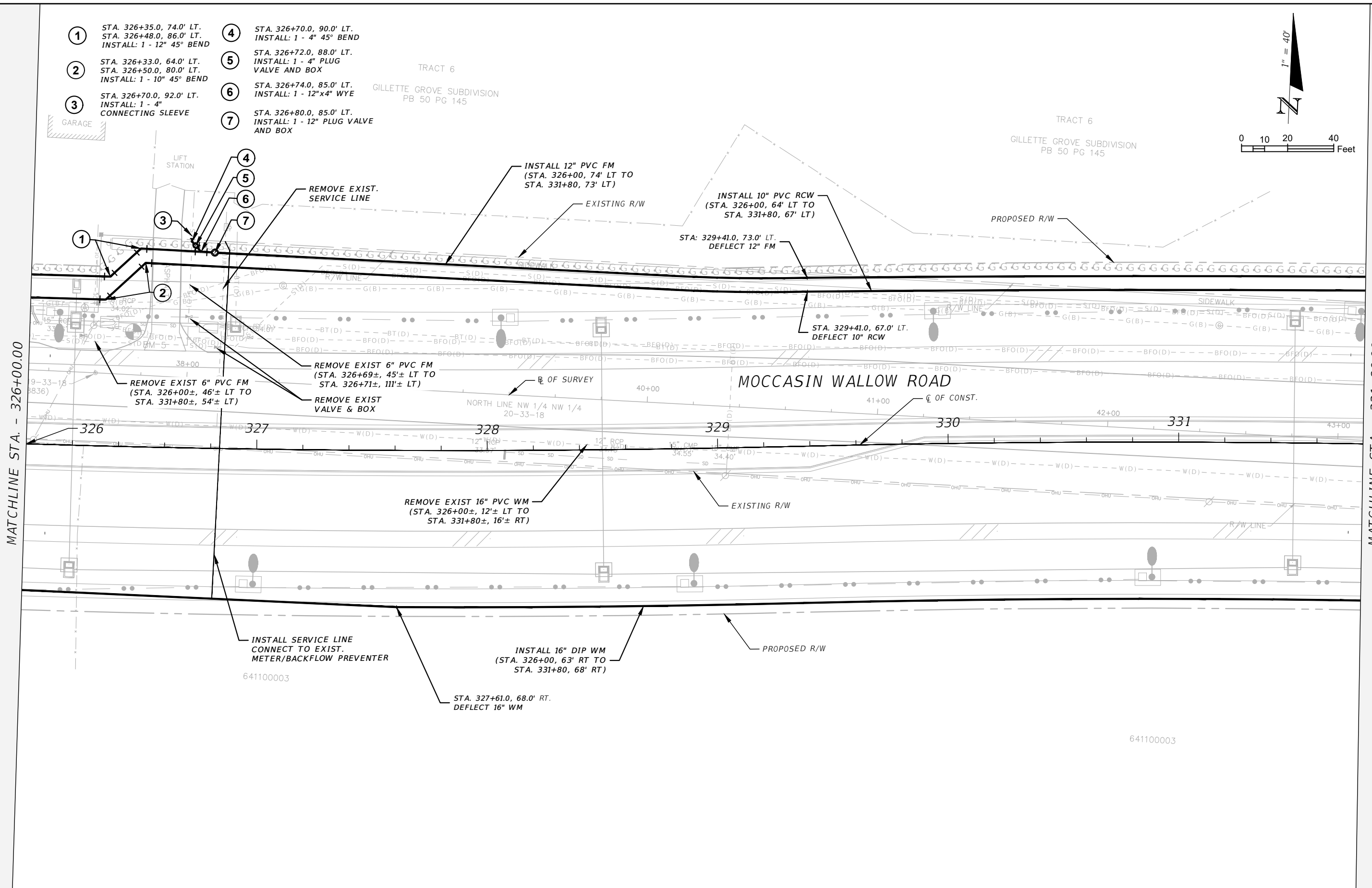
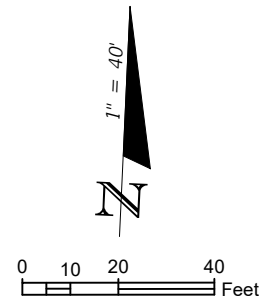
MATCHLINE STA. - 320+20.00

MATCHLINE STA. - 326+00.00

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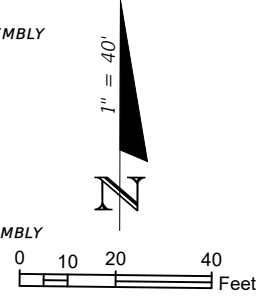
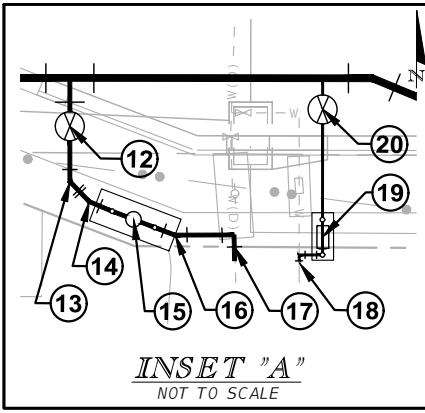
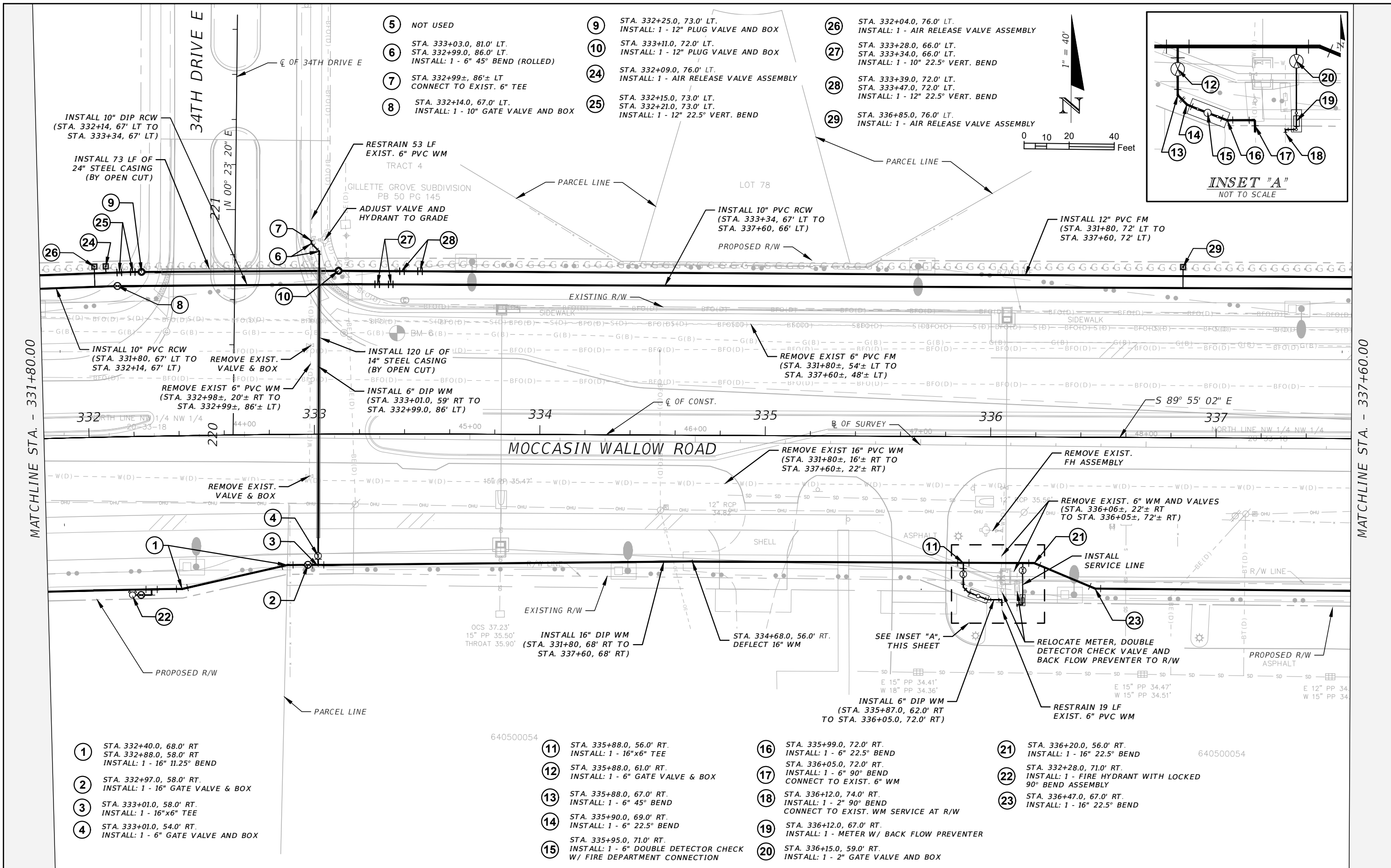
REVISIONS				THOMAS M. NOGAJ, PHD, P.E. P.E. LICENSE NUMBER 42854 CARDNO 380 PARK PLACE BLVD, SUITE 300 CLEARWATER, FLORIDA 33759 CERTIFICATE OF AUTHORIZATION 29915	MANATEE COUNTY		UTILITY PLAN (6)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	PROJECT ID		U-6
					MOCCASIN WALLOW RD	6092560		

- ① STA. 326+35.0, 74.0' LT.
STA. 326+48.0, 86.0' LT.
INSTALL: 1 - 12" 45° BEND
- ② STA. 326+33.0, 64.0' LT.
STA. 326+50.0, 80.0' LT.
INSTALL: 1 - 10" 45° BEND
- ③ STA. 326+70.0, 92.0' LT.
INSTALL: 1 - 4" CONNECTING SLEEVE
- ④ STA. 326+70.0, 90.0' LT.
INSTALL: 1 - 4" 45° BEND
- ⑤ STA. 326+72.0, 88.0' LT.
INSTALL: 1 - 4" PLUG VALVE AND BOX
- ⑥ STA. 326+74.0, 85.0' LT.
INSTALL: 1 - 12"x4" WYE
- ⑦ STA. 326+80.0, 85.0' LT.
INSTALL: 1 - 12" PLUG VALVE AND BOX



REVISIONS				THOMAS M. NOGAJ, PHD, P.E. P.E. LICENSE NUMBER 42854 CARDNO 380 PARK PLACE BLVD, SUITE 300 CLEARWATER, FLORIDA 33759 CERTIFICATE OF AUTHORIZATION 29915	MANATEE COUNTY		UTILITY PLAN (7)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	PROJECT ID		
					MOCCASIN WALLOW RD	6092560		U-7

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



- ① STA. 332+40.0, 68.0' RT
STA. 332+88.0, 58.0' RT
INSTALL: 1 - 16" 11.25° BEND
- ② STA. 332+97.0, 58.0' RT.
INSTALL: 1 - 16" GATE VALVE & BOX
- ③ STA. 333+01.0, 58.0' RT.
INSTALL: 1 - 16"x6" TEE
- ④ STA. 333+01.0, 54.0' RT.
INSTALL: 1 - 6" GATE VALVE AND BOX

- ⑤ NOT USED
- ⑥ STA. 333+03.0, 81.0' LT.
STA. 332+99.0, 86.0' LT.
INSTALL: 1 - 6" 45° BEND (ROLLED)
- ⑦ STA. 332+99±, 86'± LT
CONNECT TO EXIST. 6" TEE
- ⑧ STA. 332+14.0, 67.0' LT.
INSTALL: 1 - 10" GATE VALVE AND BOX

- ⑨ STA. 332+25.0, 73.0' LT.
INSTALL: 1 - 12" PLUG VALVE AND BOX
- ⑩ STA. 333+11.0, 72.0' LT.
INSTALL: 1 - 12" PLUG VALVE AND BOX
- ⑭ STA. 332+09.0, 76.0' LT.
INSTALL: 1 - AIR RELEASE VALVE ASSEMBLY
- ⑮ STA. 332+15.0, 73.0' LT.
STA. 332+21.0, 73.0' LT.
INSTALL: 1 - 12" 22.5° VERT. BEND

- ⑯ STA. 332+04.0, 76.0' LT.
INSTALL: 1 - AIR RELEASE VALVE ASSEMBLY
- ⑰ STA. 333+28.0, 66.0' LT.
STA. 333+34.0, 66.0' LT.
INSTALL: 1 - 10" 22.5° VERT. BEND
- ⑱ STA. 333+39.0, 72.0' LT.
STA. 333+47.0, 72.0' LT.
INSTALL: 1 - 12" 22.5° VERT. BEND
- ⑲ STA. 336+85.0, 76.0' LT.
INSTALL: 1 - AIR RELEASE VALVE ASSEMBLY

- ⑪ STA. 335+88.0, 56.0' RT.
INSTALL: 1 - 16"x6" TEE
- ⑫ STA. 335+88.0, 61.0' RT.
INSTALL: 1 - 6" GATE VALVE & BOX
- ⑬ STA. 335+88.0, 67.0' RT.
INSTALL: 1 - 6" 45° BEND
- ⑭ STA. 335+90.0, 69.0' RT.
INSTALL: 1 - 6" 22.5° BEND
- ⑮ STA. 335+95.0, 71.0' RT.
INSTALL: 1 - 6" DOUBLE DETECTOR CHECK
W/ FIRE DEPARTMENT CONNECTION

- ⑯ STA. 335+99.0, 72.0' RT.
INSTALL: 1 - 6" 22.5° BEND
- ⑰ STA. 336+05.0, 72.0' RT.
INSTALL: 1 - 6" 90° BEND
CONNECT TO EXIST. 6" WM
- ⑱ STA. 336+12.0, 74.0' RT.
INSTALL: 1 - 2" 90° BEND
CONNECT TO EXIST. WM SERVICE AT R/W
- ⑲ STA. 336+12.0, 67.0' RT.
INSTALL: 1 - METER W/ BACK FLOW PREVENTER
- ⑳ STA. 336+15.0, 59.0' RT.
INSTALL: 1 - 2" GATE VALVE AND BOX

- ㉑ STA. 336+20.0, 56.0' RT.
INSTALL: 1 - 16" 22.5° BEND
- ㉒ STA. 332+28.0, 71.0' RT.
INSTALL: 1 - FIRE HYDRANT WITH LOCKED
90° BEND ASSEMBLY
- ㉓ STA. 336+47.0, 67.0' RT.
INSTALL: 1 - 16" 22.5° BEND

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

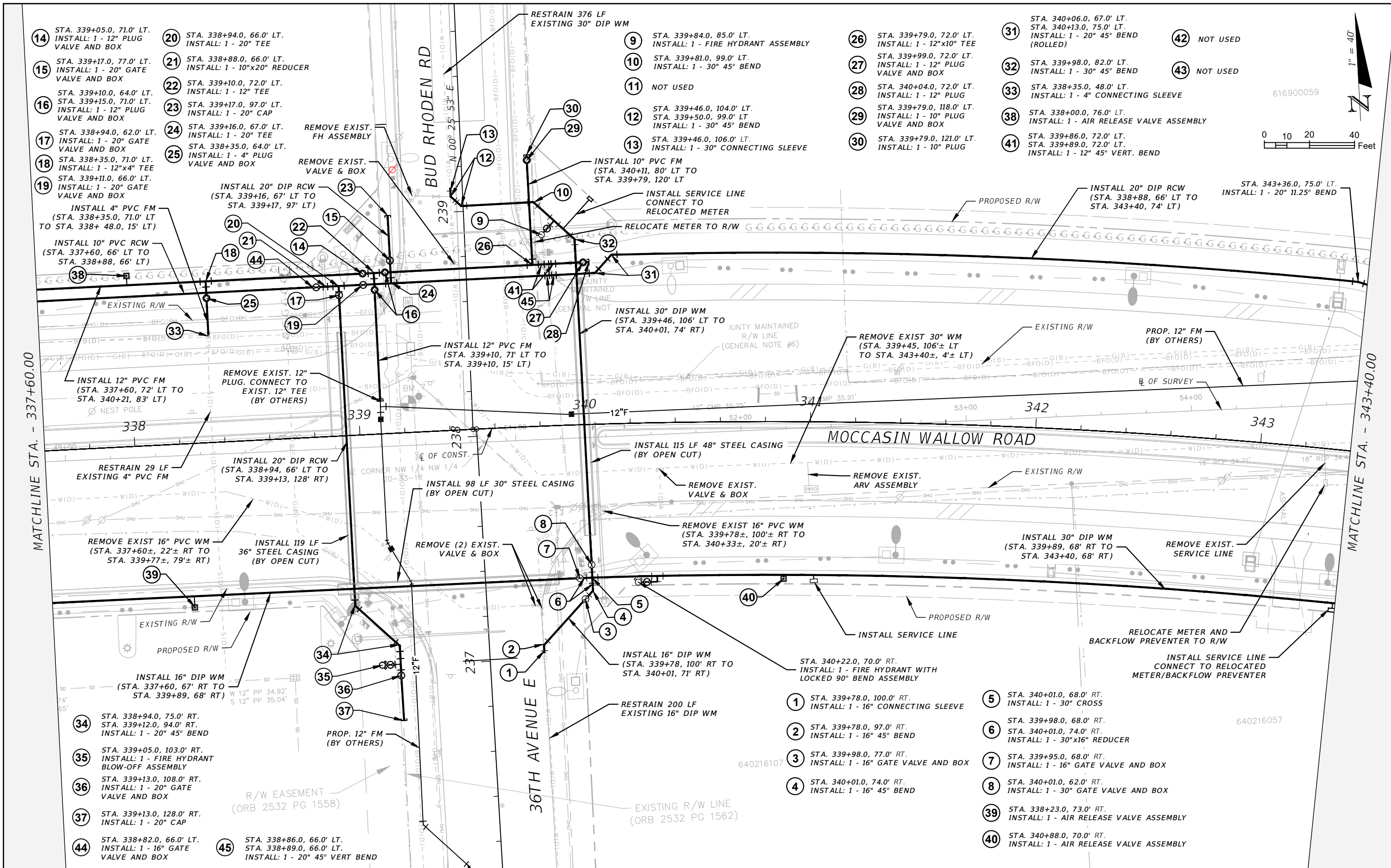
THOMAS M. NOGAJ, PHD, P.E.
P.E. LICENSE NUMBER 42854
CARDNO
380 PARK PLACE BLVD, SUITE 300
CLEARWATER, FLORIDA 33759
CERTIFICATE OF AUTHORIZATION 29915

MANATEE COUNTY	
ROAD NO.	PROJECT ID
MOCCASIN WALLOW RD	6092560

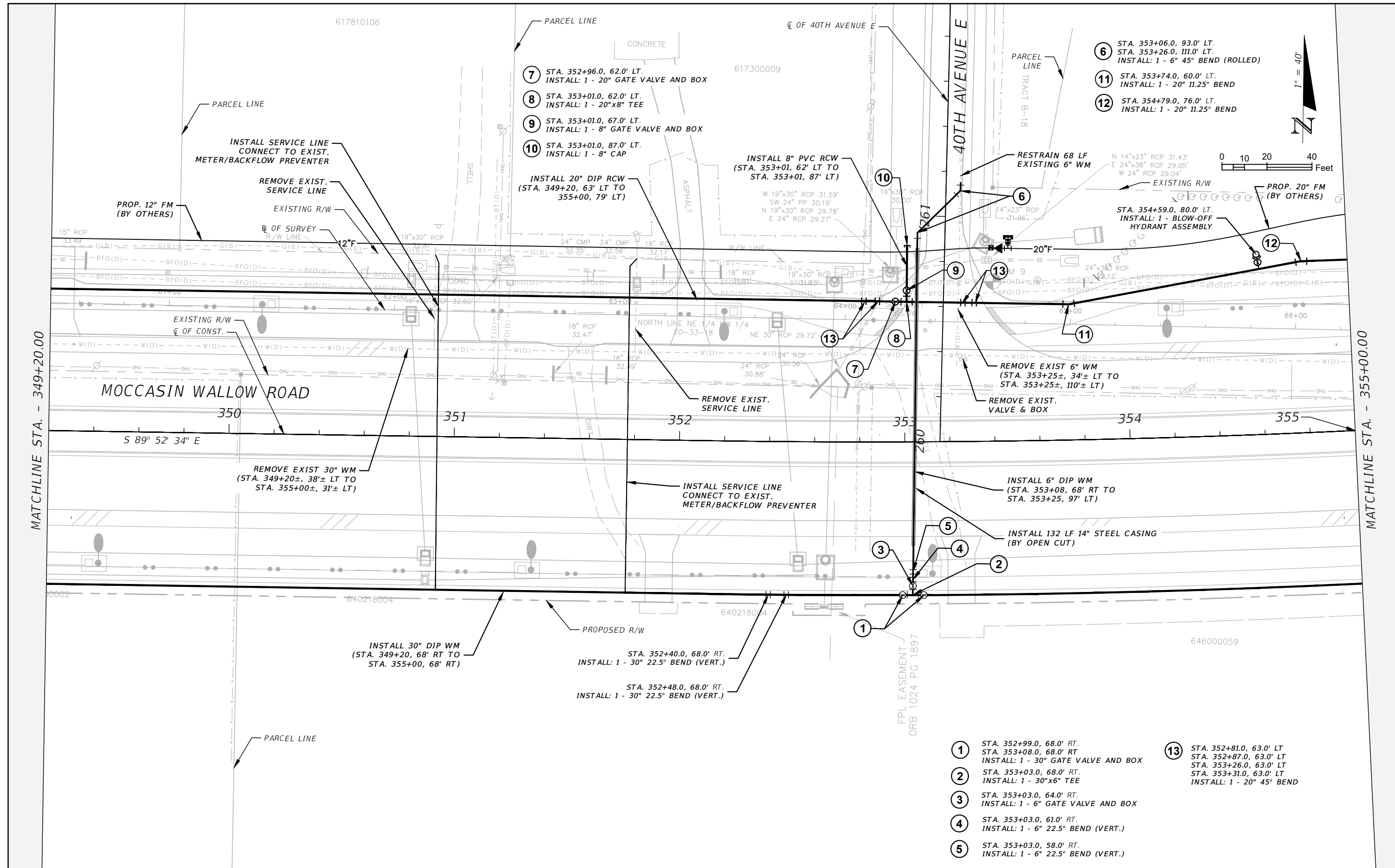
UTILITY PLAN (8)

SHEET NO.
U-8

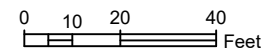
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- ⑥ STA. 353+06.0, 93.0' LT.
STA. 353+26.0, 111.0' LT.
INSTALL: 1 - 6" 45° BEND (ROLLED)
- ⑪ STA. 353+74.0, 60.0' LT.
INSTALL: 1 - 20" 11.25° BEND
- ⑫ STA. 354+79.0, 76.0' LT.
INSTALL: 1 - 20" 11.25° BEND



MATCHLINE STA. - 349+20.00

MATCHLINE STA. - 355+00.00

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REVISIONS			
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THOMAS M. NOGAJ, PHD, P.E.
P.E. LICENSE NUMBER 42854
CARDNO
380 PARK PLACE BLVD, SUITE 300
CLEARWATER, FLORIDA 33759
CERTIFICATE OF AUTHORIZATION 29915

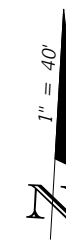
MANATEE COUNTY	
ROAD NO.	PROJECT ID
MOCCASIN WALLOW RD	6092560

UTILITY PLAN (11)

SHEET NO.
U-11

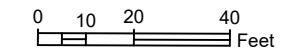
ARTISAN LAKES ESPLANADE
PB 61 PG 119

TRACT C-9



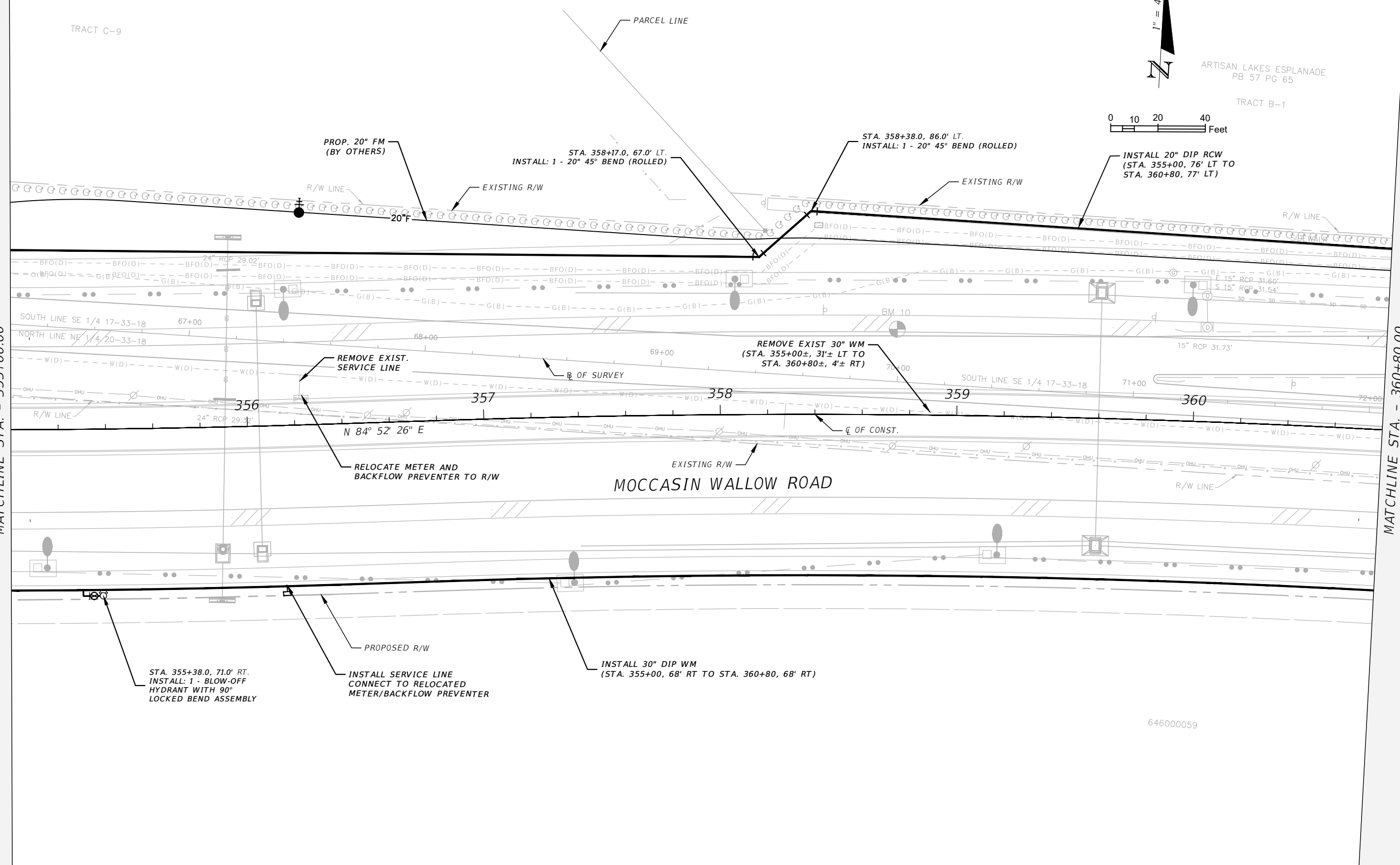
ARTISAN LAKES ESPLANADE
PB 57 PG 65

TRACT B-1



MATCHLINE STA. - 355+00.00

MATCHLINE STA. - 360+80.00



REVISIONS

DATE	DESCRIPTION	DATE	DESCRIPTION

THOMAS M. NOGAJ, PHD, P.E.
P.E. LICENSE NUMBER 42854
CARDNO
380 PARK PLACE BLVD, SUITE 300
CLEARWATER, FLORIDA 33759
CERTIFICATE OF AUTHORIZATION 29915

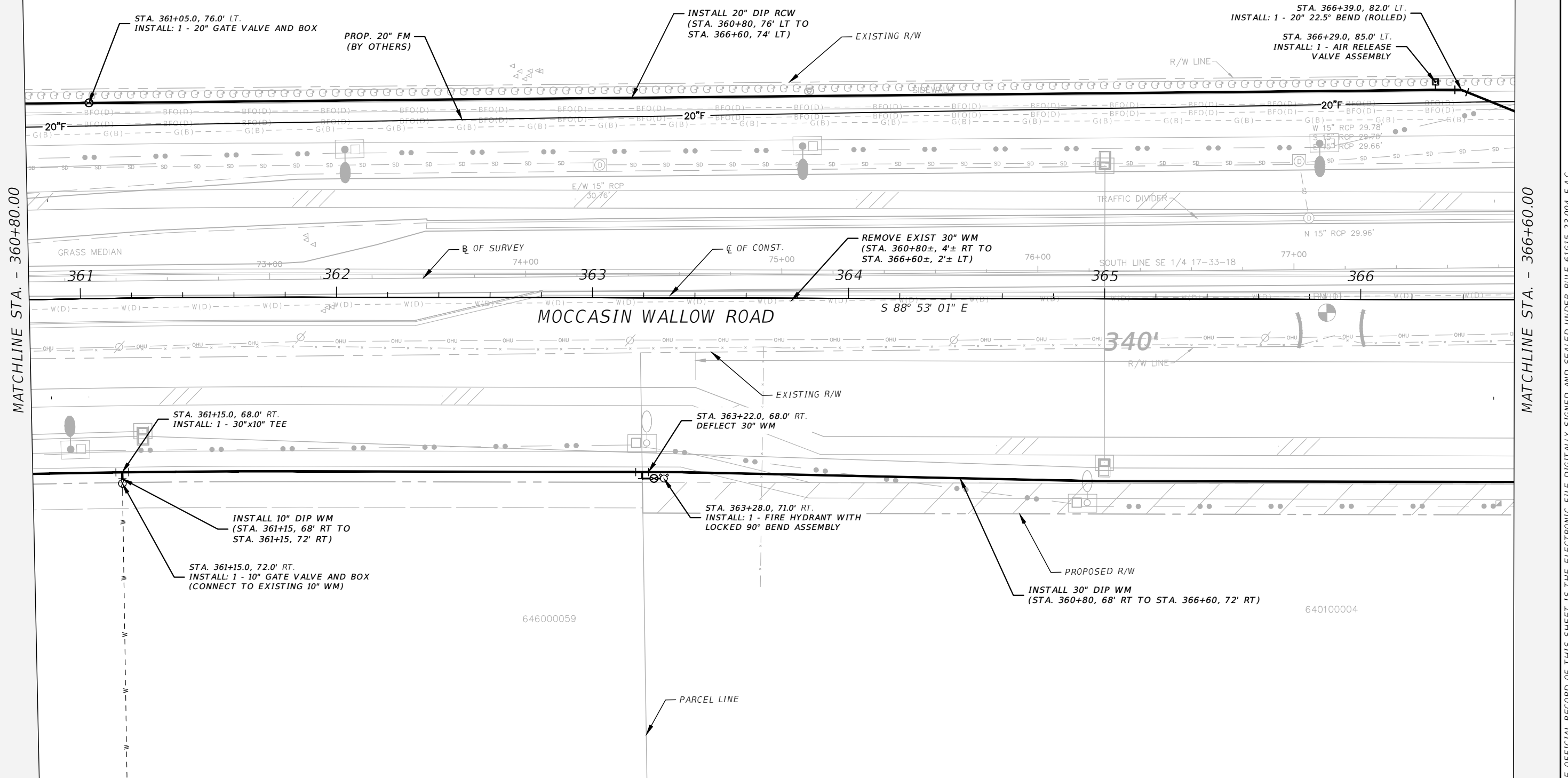
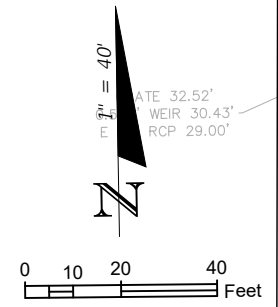
MANATEE COUNTY	
ROAD NO.	PROJECT ID
MOCCASIN WALLOW RD	6092560

UTILITY PLAN (12)

SHEET NO.
U-12

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ARTISAN LAKES ESPLANADE
PB 57 PG 65
TRACT B-1

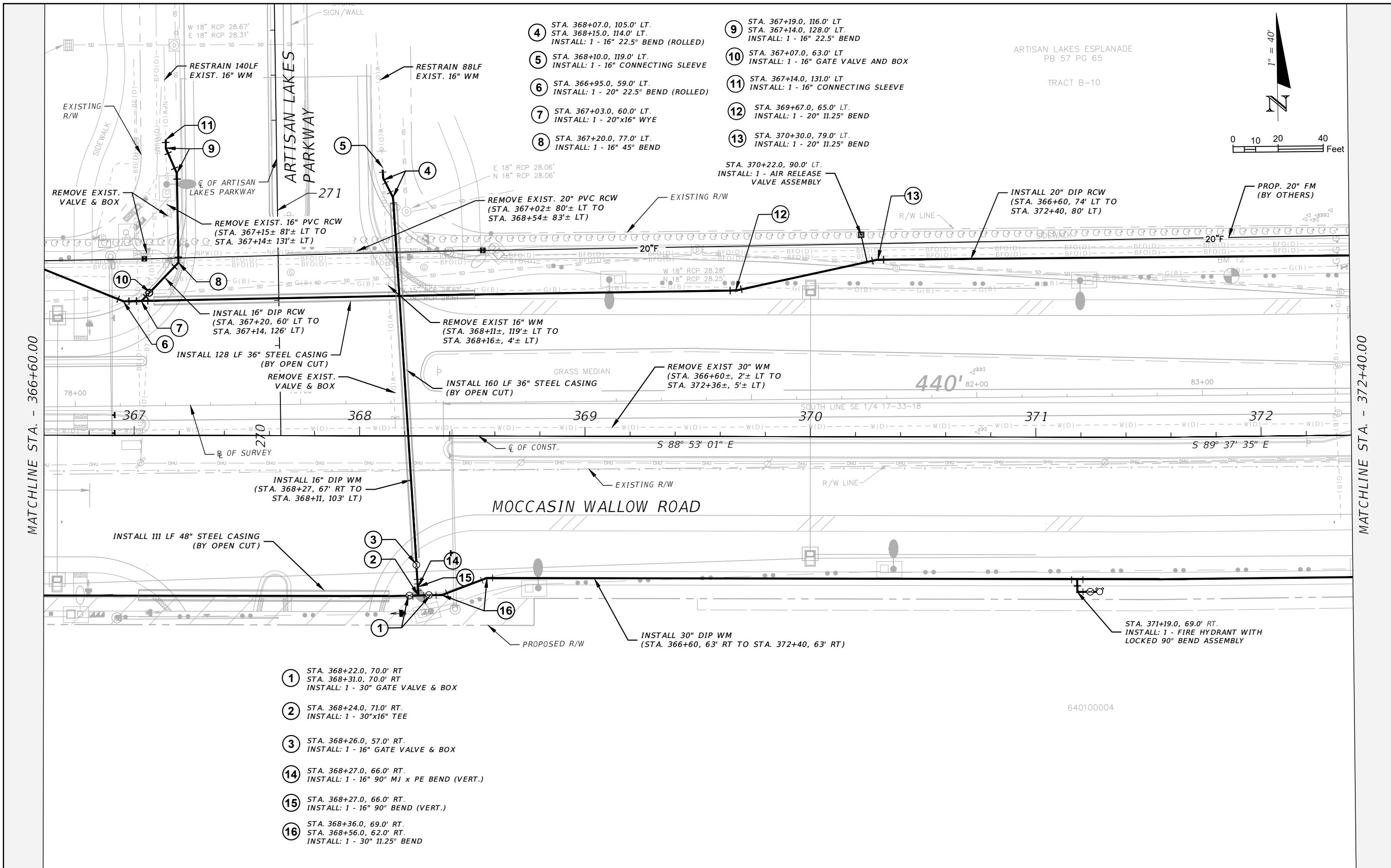


MATCHLINE STA. - 360+80.00

MATCHLINE STA. - 366+60.00

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REVISIONS				THOMAS M. NOGAJ, PHD, P.E. P.E. LICENSE NUMBER 42854 CARDNO 380 PARK PLACE BLVD, SUITE 300 CLEARWATER, FLORIDA 33759 CERTIFICATE OF AUTHORIZATION 29915	MANATEE COUNTY		UTILITY PLAN (13)	SHEET NO. U-13
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO. MOCCASIN WALLOW RD	PROJECT ID 6092560		



- ④ STA. 368+07.0, 105.0' LT.
STA. 368+15.0, 114.0' LT.
INSTALL: 1 - 16" 22.5° BEND (ROLLED)
- ⑤ STA. 368+10.0, 119.0' LT.
INSTALL: 1 - 16" CONNECTING SLEEVE
- ⑥ STA. 366+95.0, 59.0' LT.
INSTALL: 1 - 20" 22.5° BEND (ROLLED)
- ⑦ STA. 367+03.0, 60.0' LT.
INSTALL: 1 - 20"x16" WYE
- ⑧ STA. 367+20.0, 77.0' LT.
INSTALL: 1 - 16" 45° BEND
- ⑨ STA. 367+19.0, 116.0' LT.
STA. 367+14.0, 128.0' LT.
INSTALL: 1 - 16" 22.5° BEND
- ⑩ STA. 367+07.0, 63.0' LT.
INSTALL: 1 - 16" GATE VALVE AND BOX
- ⑪ STA. 367+14.0, 131.0' LT.
INSTALL: 1 - 16" CONNECTING SLEEVE
- ⑫ STA. 369+67.0, 65.0' LT.
INSTALL: 1 - 20" 11.25° BEND
- ⑬ STA. 370+30.0, 79.0' LT.
INSTALL: 1 - 20" 11.25° BEND

- ① STA. 368+22.0, 70.0' RT.
STA. 368+31.0, 70.0' RT.
INSTALL: 1 - 30" GATE VALVE & BOX
- ② STA. 368+24.0, 71.0' RT.
INSTALL: 1 - 30"x16" TEE
- ③ STA. 368+26.0, 57.0' RT.
INSTALL: 1 - 16" GATE VALVE & BOX
- ⑭ STA. 368+27.0, 66.0' RT.
INSTALL: 1 - 16" 90° MJ x PE BEND (VERT.)
- ⑮ STA. 368+27.0, 66.0' RT.
INSTALL: 1 - 16" 90° BEND (VERT.)
- ⑯ STA. 368+36.0, 69.0' RT.
STA. 368+56.0, 62.0' RT.
INSTALL: 1 - 30" 11.25° BEND

MATCHLINE STA. - 366+60.00

MATCHLINE STA. - 372+40.00

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

THOMAS M. NOGAJ, PHD, P.E.
P.E. LICENSE NUMBER 42854
CARDNO
380 PARK PLACE BLVD, SUITE 300
CLEARWATER, FLORIDA 33759
CERTIFICATE OF AUTHORIZATION 29915

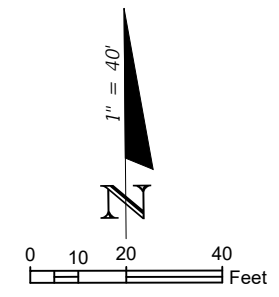
MANATEE COUNTY	
ROAD NO.	PROJECT ID
MOCCASIN WALLOW RD	6092560

UTILITY PLAN (14)

SHEET NO.
U-14

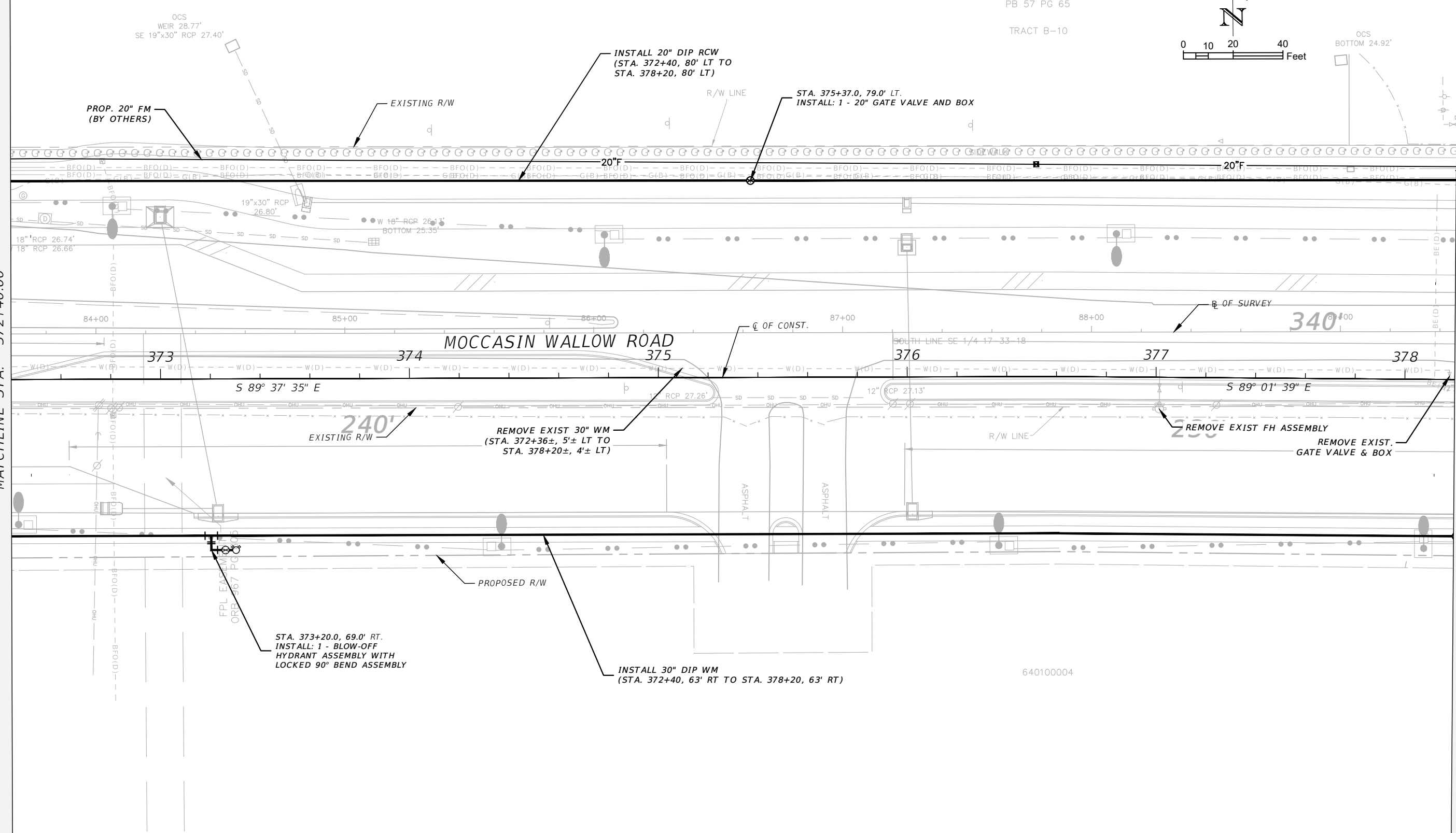
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ARTISAN LAKES ESPLANADE
PB 57 PG 65
TRACT B-10



MATCHLINE STA. - 372+40.00

MATCHLINE STA. - 378+20.00



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

THOMAS M. NOGAJ, PHD, P.E.
P.E. LICENSE NUMBER 42854
CARDNO
380 PARK PLACE BLVD, SUITE 300
CLEARWATER, FLORIDA 33759
CERTIFICATE OF AUTHORIZATION 29915

MANATEE COUNTY	
ROAD NO.	PROJECT ID
MOCCASIN WALLOW RD	6092560

UTILITY PLAN (15)

SHEET NO.
U-15

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⑥ STA. 378+21.0, 82.0' LT.
 STA. 378+24.0, 75.0' LT.
 INSTALL: 1 - 6" 22.5° BEND

CONNECT TO EXIST. 6" TEE
 STA. 378+21±, 84± LT

INSTALL 6" DIP WM
 (STA. 378+21, 84' LT TO
 STA. 378+26, 60' RT)

REMOVE EXIST 6" WM
 (STA. 378+21±, 1± RT TO
 STA. 378+21±, 84± LT)

INSTALL 92LF 14" STEEL CASING
 (BY OPEN CUT)

ARTISAN LAKES ESPLANADE
 PB 57 PG 65

TRACT G
 INSTALL 20" DIP RCW
 (STA. 378+20, 80' LT TO
 STA. 384+00, 63' LT)

STA. 379+66.0, 81.0' LT.
 INSTALL: 1 - 20" 22.5° BEND

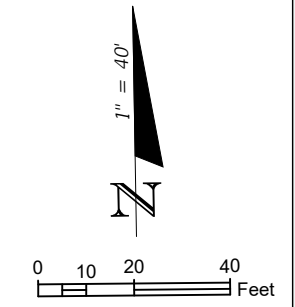
R/W LINE

PARCEL LINE

TRACT C-6

PARCEL LINE

610900519



STA. 383+36.0, 63.0' LT.
 INSTALL: 1 - 20" GATE VALVE AND BOX

EXISTING R/W

EXIST. 6" WM TO REMAIN

PROP. 20" FM
 (BY OTHERS)

EXISTING R/W

WALL

W(D)

WALL

R/W LINE

SIDEWALK

BOTTOM 25.42'

G(B)

G(B)

G(B)

G(B)

G(B)

G(B)

G(B)

G(B)

W(D)

W(D)

W(D)

W(D)

W(D)

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W(D)

W(D)

W(D)

W(D)

30" RCP

26.21'

30" RCP

26.12'

24" RCP

15.90'

BOTTOM 25.36'

INVS NOT OBTAINABLE

SE CORNER

17-33-18

90+00

91+00

379

380

BM 13

S 89° 01' 39" E

36" RCP

24.93'

12" RCP

27.43'

18" RCP

26.18'

OCS

18" RCP

26.31'

OHU

OHU

OHU

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OHU

STA. 380+16.0, 62.0' LT.
 INSTALL: 1 - 20" 22.5° BEND

☉ OF CONST.

SOUTH LINE SW 1/4 16-33-18

MOCCASIN WALLOW ROAD

382

383

REMOVE EXIST 30" WM
 (STA. 378+20±, 4± LT TO
 STA. 384+00±, 11± LT)

STA. 379+38.0, 79.0' RT.
 INSTALL: 1 - 30" 11.25° BEND (ROLLED)

STA. 379+01.0, 63.0' RT.
 INSTALL: 1 - 30" 11.25° BEND

STA. 378+81.0, 63.0' RT.
 INSTALL: 1 - 30" 22.5° BEND (VERT.)

STA. 378+65.0, 63.0' RT.
 INSTALL: 1 - 30" 22.5° BEND (VERT.)

INSTALL 30" DIP WM
 (STA. 378+20, 63' RT TO
 STA. 384+00, 79' RT)

STA. 380+90.0, 82.0' RT.
 INSTALL: 1 - AIR RELEASE
 VALVE ASSEMBLY

647300189

- ① STA. 378+35.0, 69.0' RT.
INSTALL: 1 - FIRE HYDRANT WITH
LOCKED 90° BEND ASSEMBLY
- ② STA. 378+21.0, 63.0' RT.
INSTALL: 1 - 30" GATE VALVE AND BOX
- ③ STA. 378+26.0, 63.0' RT.
INSTALL: 1 - 30"X6" CROSS
- ④ NOT USED
- ⑤ STA. 378+26.0, 59.0' RT.
INSTALL: 1 - 6" GATE VALVE AND BOX

MATCHLINE STA. - 378+20.00

MATCHLINE STA. - 384+00.00

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

THOMAS M. NOGAJ, PHD, P.E.
 P.E. LICENSE NUMBER 42854
 CARDNO
 380 PARK PLACE BLVD, SUITE 300
 CLEARWATER, FLORIDA 33759
 CERTIFICATE OF AUTHORIZATION 29915

MANATEE COUNTY	
ROAD NO.	PROJECT ID
MOCCASIN WALLOW RD	6092560

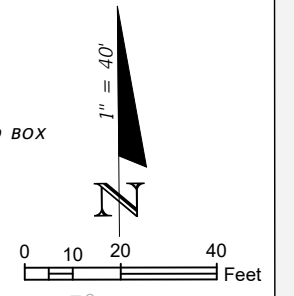
UTILITY PLAN (16)

SHEET NO.
U-16

P/O 610900609

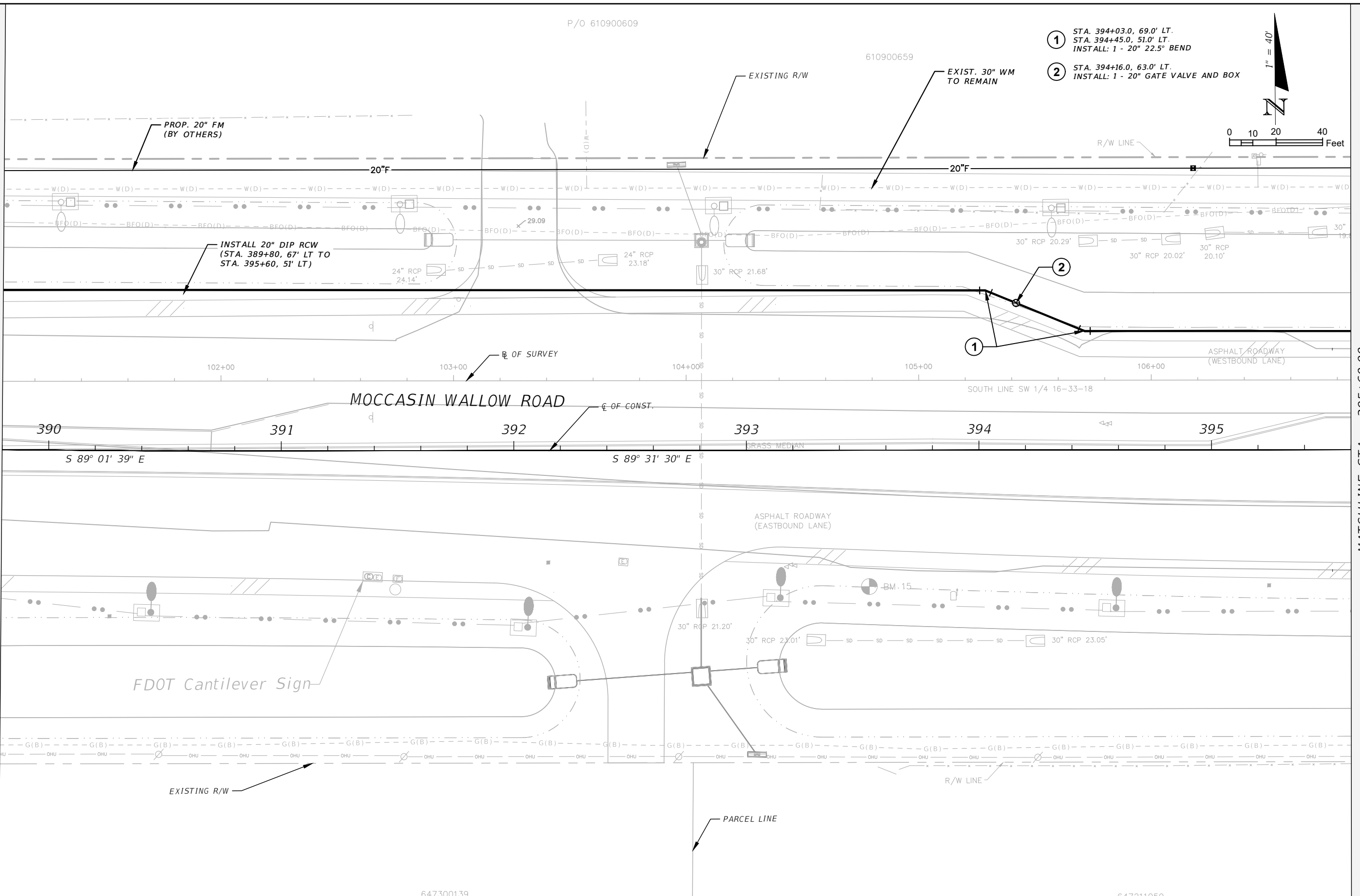
610900659

- ① STA. 394+03.0, 69.0' LT.
STA. 394+45.0, 51.0' LT.
INSTALL: 1 - 20" 22.5° BEND
- ② STA. 394+16.0, 63.0' LT.
INSTALL: 1 - 20" GATE VALVE AND BOX



MATCHLINE STA. - 389+80.00

MATCHLINE STA. - 395+60.00



FDOT Cantilever Sign

647300139

647311050

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

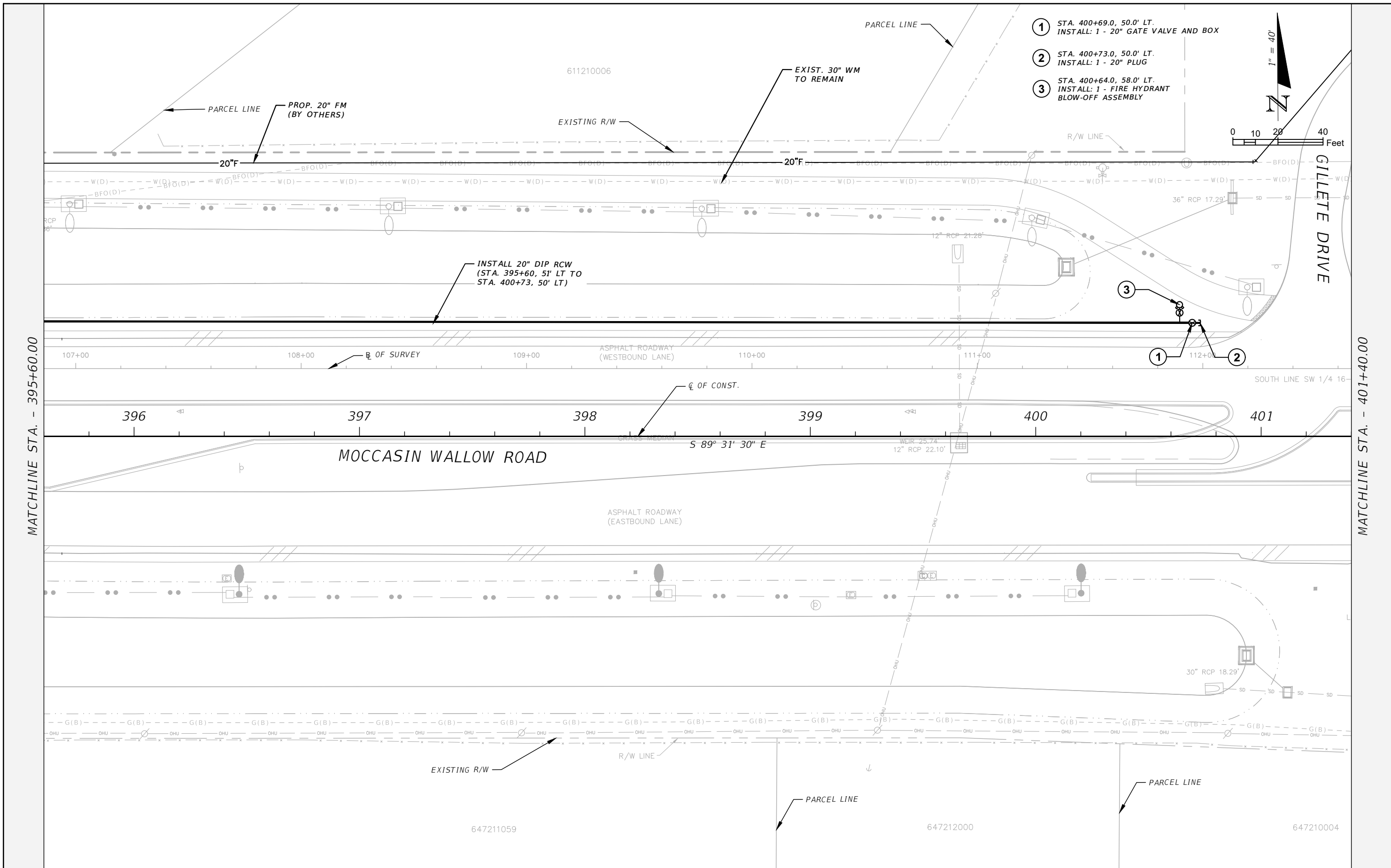
THOMAS M. NOGAJ, PHD, P.E.
P.E. LICENSE NUMBER 42854
CARDNO
380 PARK PLACE BLVD, SUITE 300
CLEARWATER, FLORIDA 33759
CERTIFICATE OF AUTHORIZATION 29915

MANATEE COUNTY	
ROAD NO.	PROJECT ID
MOCCASIN WALLOW RD	6092560

UTILITY PLAN (18)

SHEET NO.
U-18

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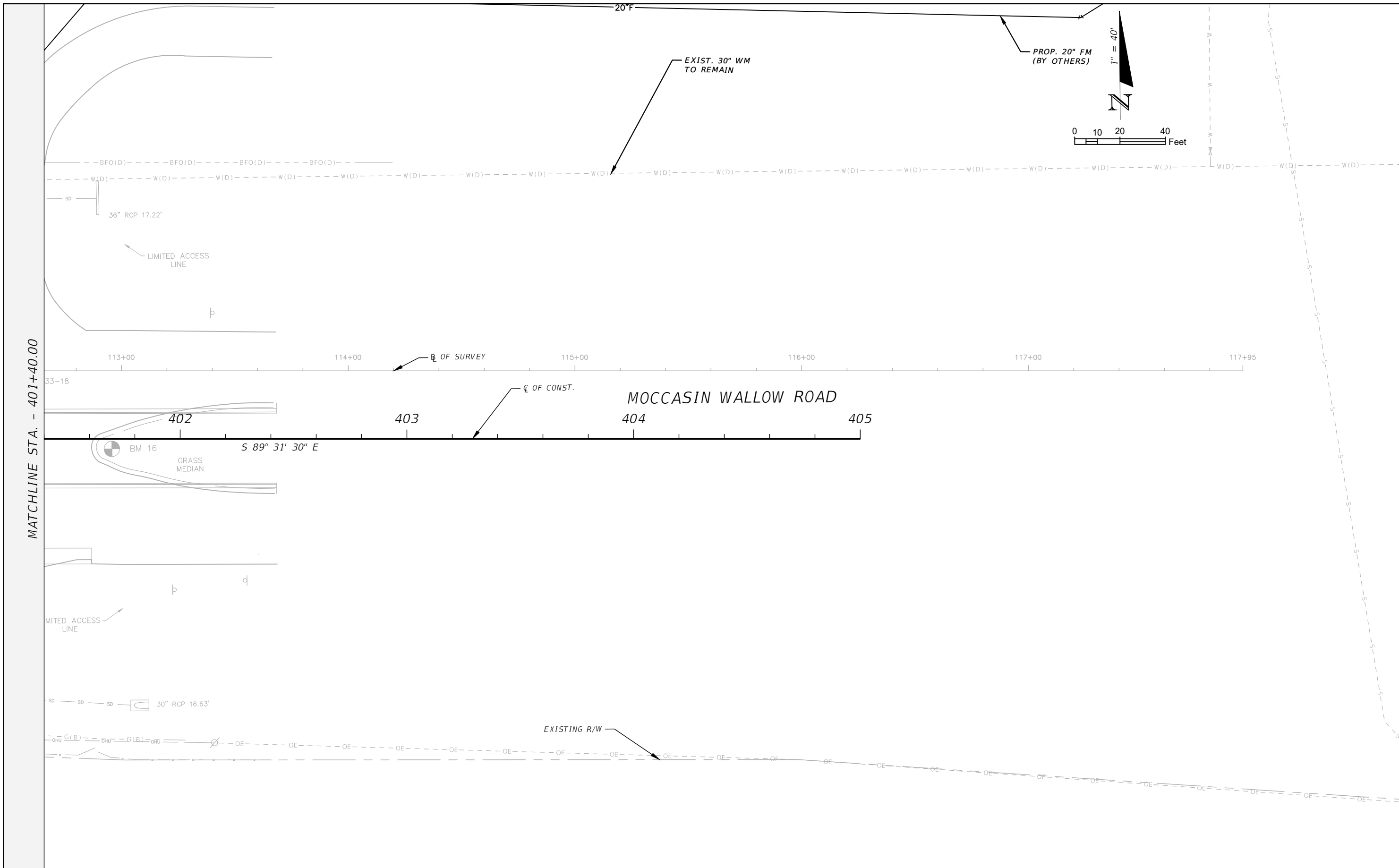
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

THOMAS M. NOGAJ, PHD, P.E.
P.E. LICENSE NUMBER 42854
CARDNO
380 PARK PLACE BLVD, SUITE 300
CLEARWATER, FLORIDA 33759
CERTIFICATE OF AUTHORIZATION 29915

MANATEE COUNTY	
ROAD NO.	PROJECT ID
MOCCASIN WALLOW RD	6092560

UTILITY PLAN (19)

SHEET NO.
U-19



MATCHLINE STA. - 401+40.00

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

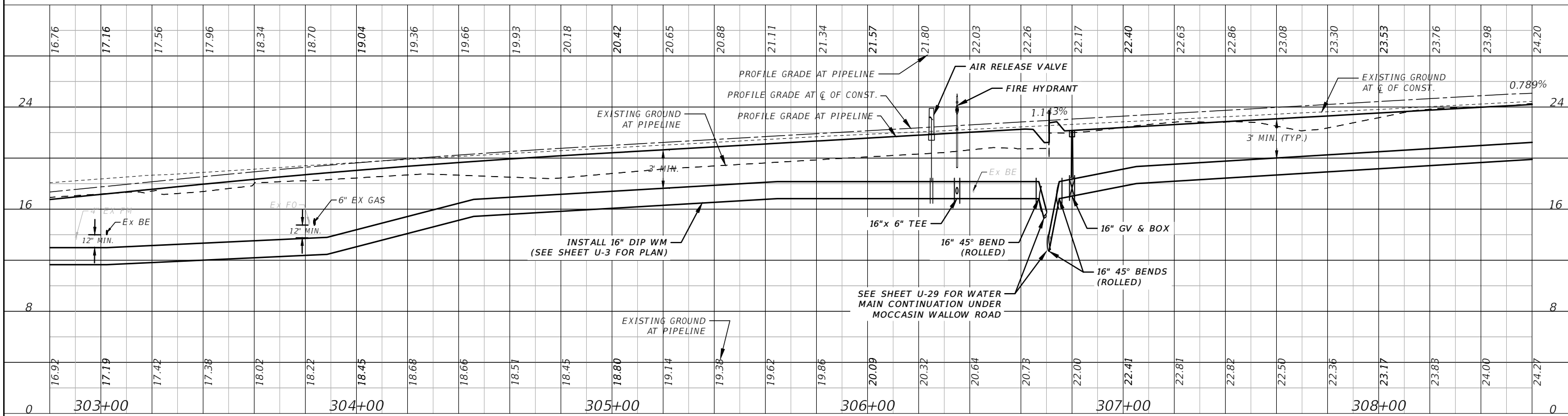
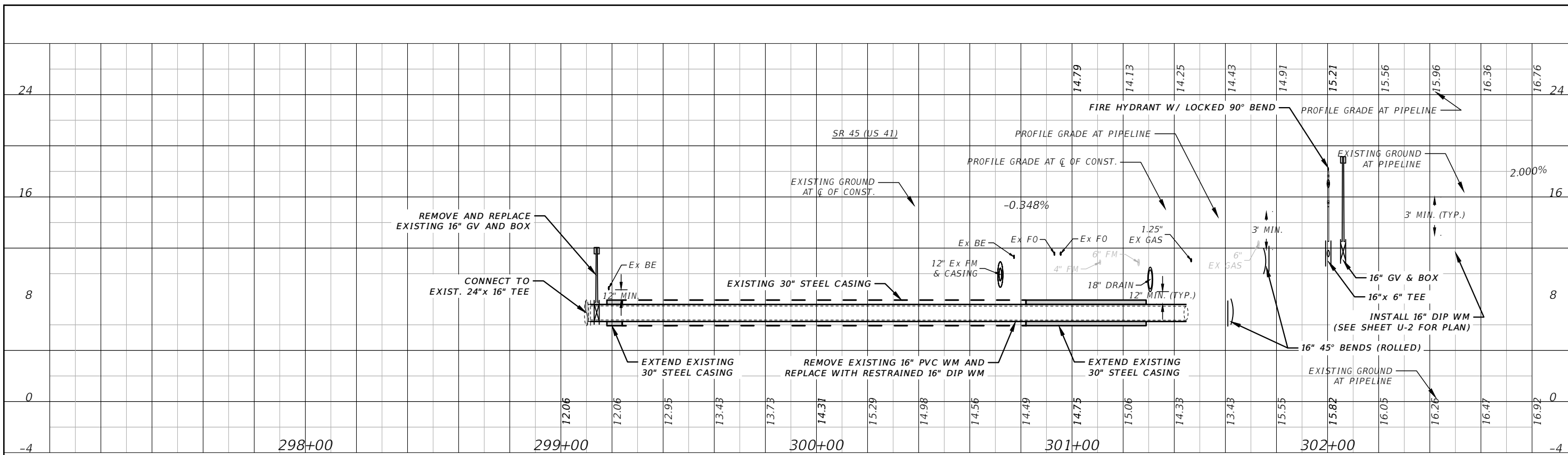
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

THOMAS M. NOGAJ, PHD, P.E.
 P.E. LICENSE NUMBER 42854
 CARDNO
 380 PARK PLACE BLVD, SUITE 300
 CLEARWATER, FLORIDA 33759
 CERTIFICATE OF AUTHORIZATION 29915

MANATEE COUNTY	
ROAD NO.	PROJECT ID
MOCCASIN WALLOW RD	6092560

UTILITY PLAN (20)

SHEET NO.
U-20



1" = 40' Horizontal
1" = 8' Vertical

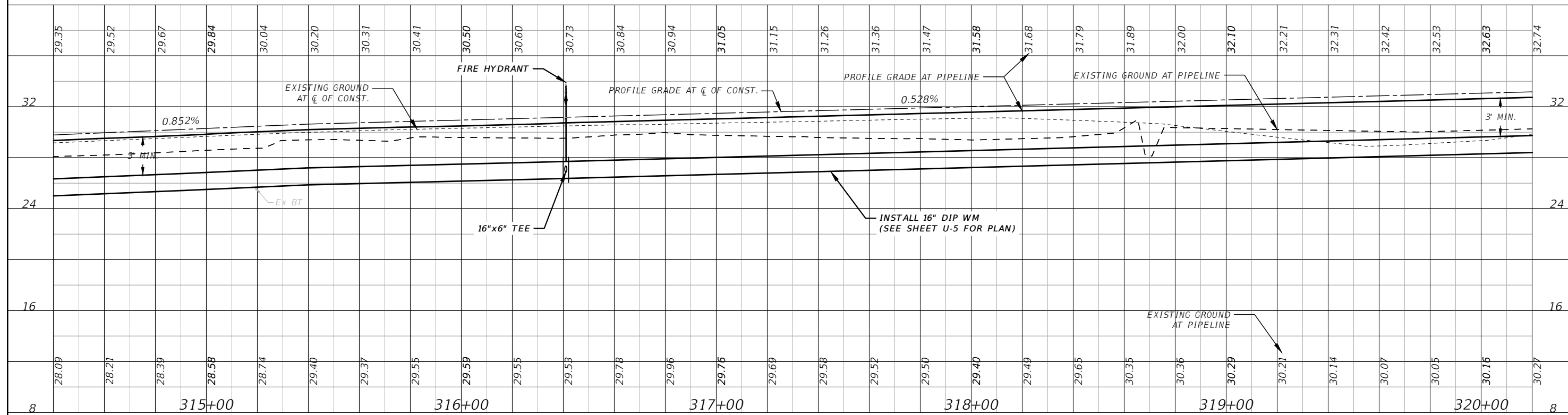
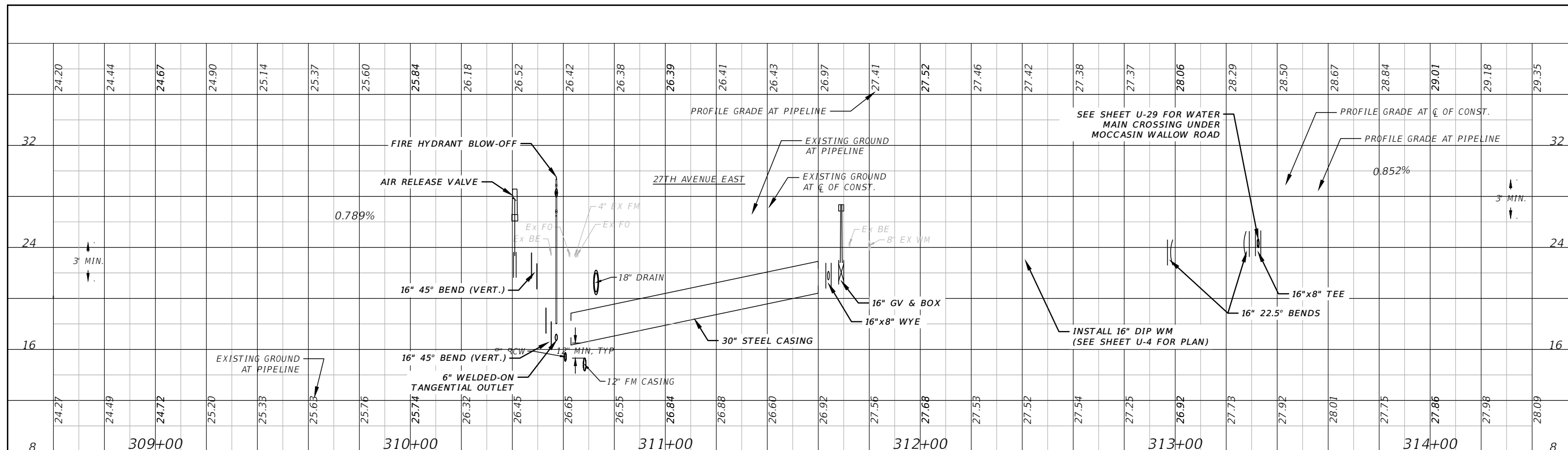
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

THOMAS M. NOGAJ, PHD, P.E.
P.E. LICENSE NUMBER 42854
CARDNO
380 PARK PLACE BLVD, SUITE 300
CLEARWATER, FLORIDA 33759
CERTIFICATE OF AUTHORIZATION 29915

MANATEE COUNTY	
ROAD NO.	PROJECT ID
MOCCASIN WALLOW RD	6092560

WATER MAIN PROFILE (1)

SHEET NO.
U-21



1" = 40' Horizontal
1" = 8' Vertical

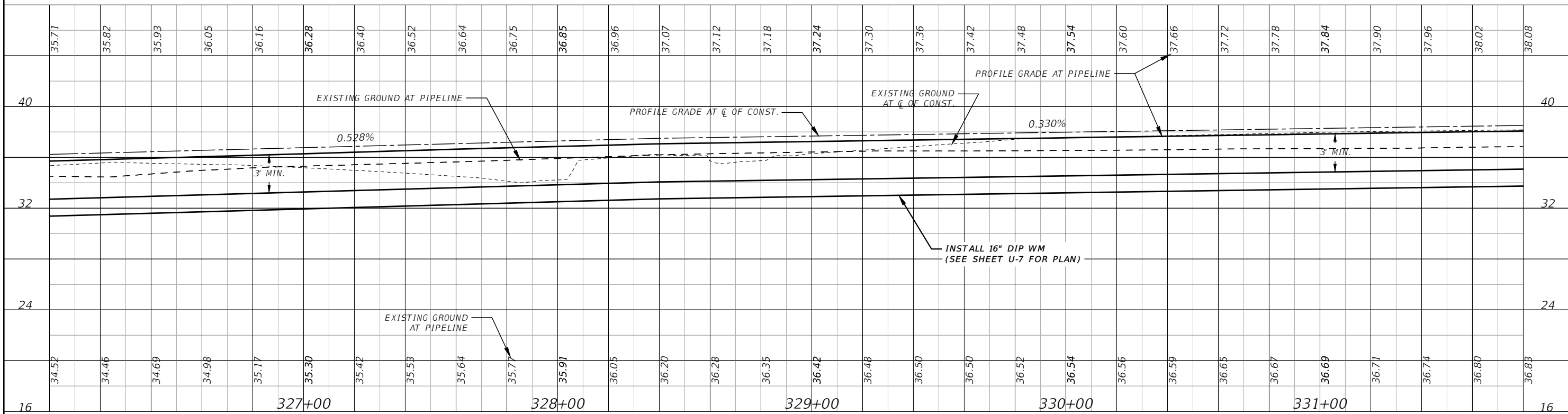
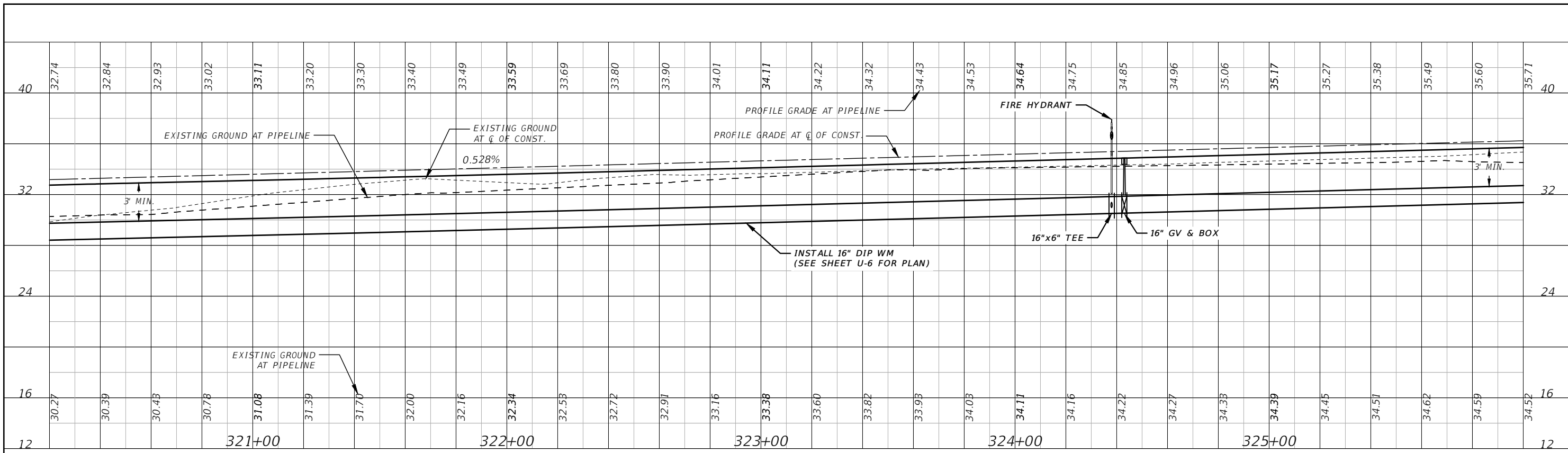
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
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P.E. LICENSE NUMBER 42854
CARDNO
380 PARK PLACE BLVD, SUITE 300
CLEARWATER, FLORIDA 33759
CERTIFICATE OF AUTHORIZATION 29915

MANATEE COUNTY	
ROAD NO.	PROJECT ID
MOCCASIN WALLOW RD	6092560

WATER MAIN PROFILE (2)

SHEET NO.
U-22



1" = 40' Horizontal
1" = 8' Vertical

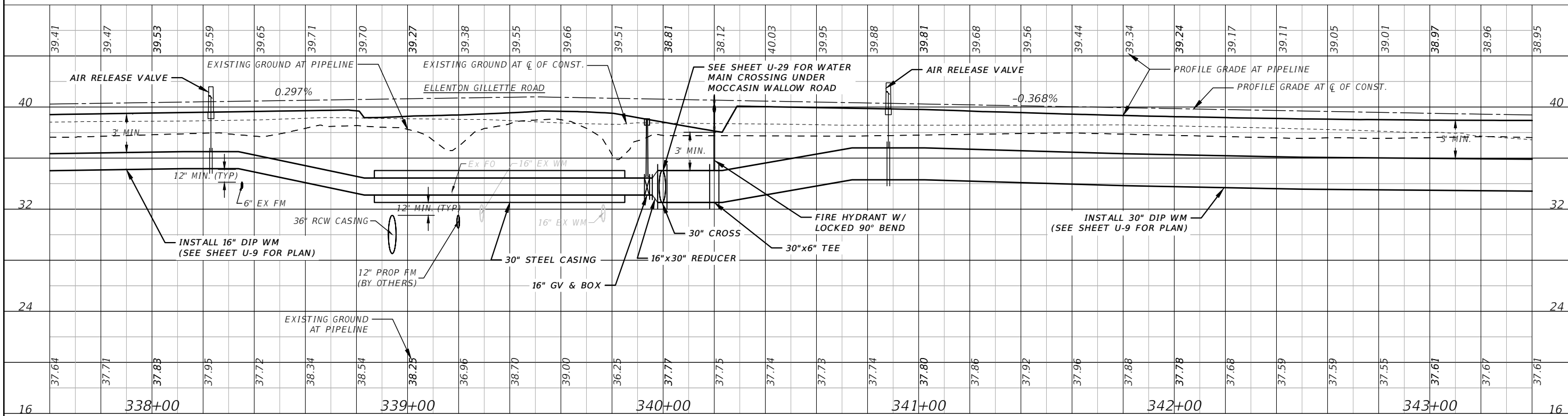
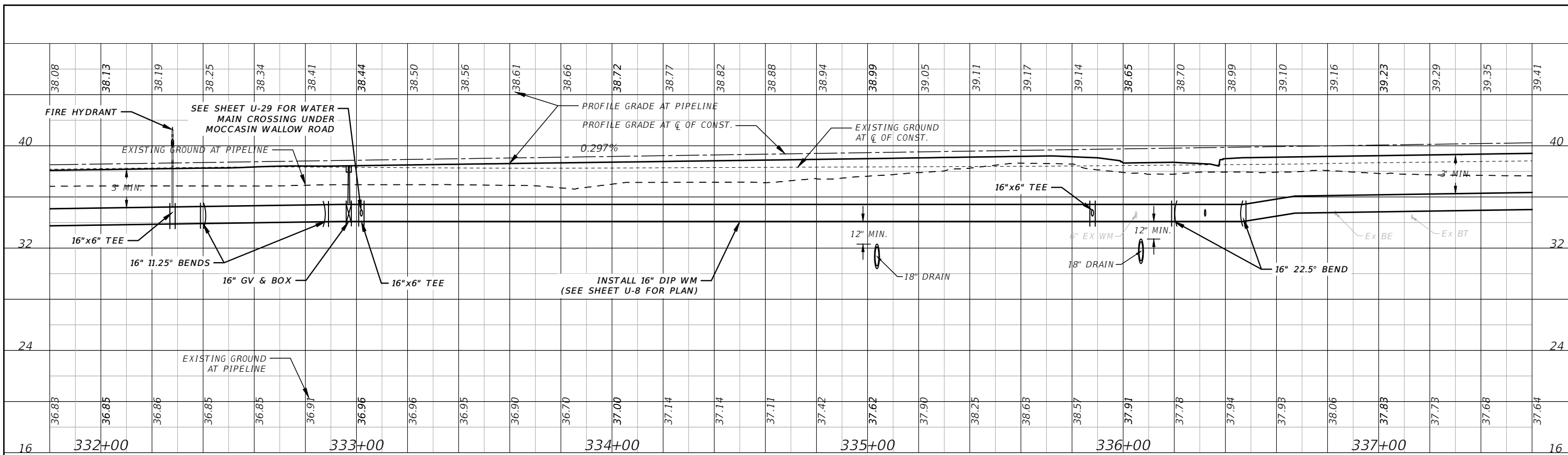
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
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P.E. LICENSE NUMBER 42854
CARDNO
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CLEARWATER, FLORIDA 33759
CERTIFICATE OF AUTHORIZATION 29915

MANATEE COUNTY	
ROAD NO.	PROJECT ID
MOCCASIN WALLOW RD	6092560

WATER MAIN PROFILE (3)

SHEET NO.
U-23



1" = 40' Horizontal
1" = 8' Vertical

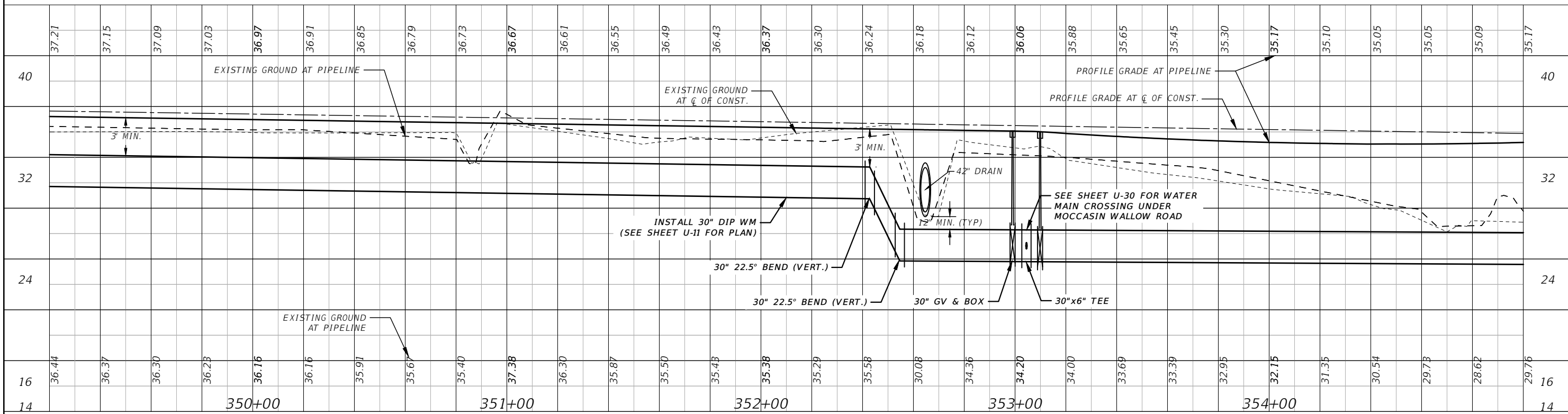
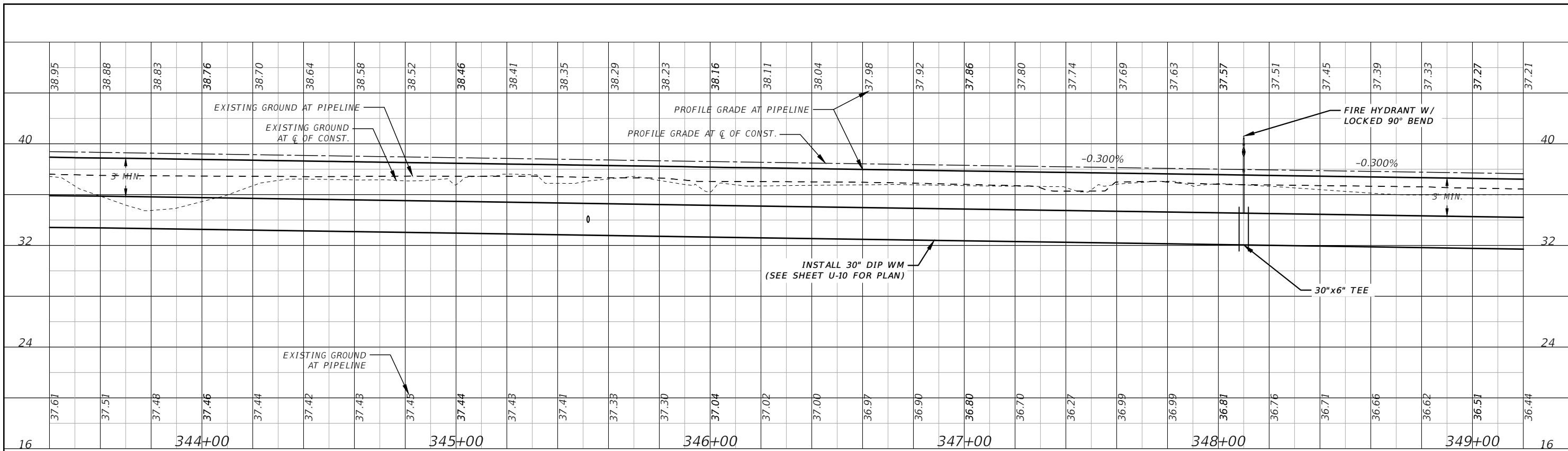
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
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P.E. LICENSE NUMBER 42854
CARDNO
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CLEARWATER, FLORIDA 33759
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MANATEE COUNTY	
ROAD NO.	PROJECT ID
MOCCASIN WALLOW RD	6092560

WATER MAIN PROFILE (4)

SHEET NO.
U-24



1" = 40' Horizontal
1" = 8' Vertical

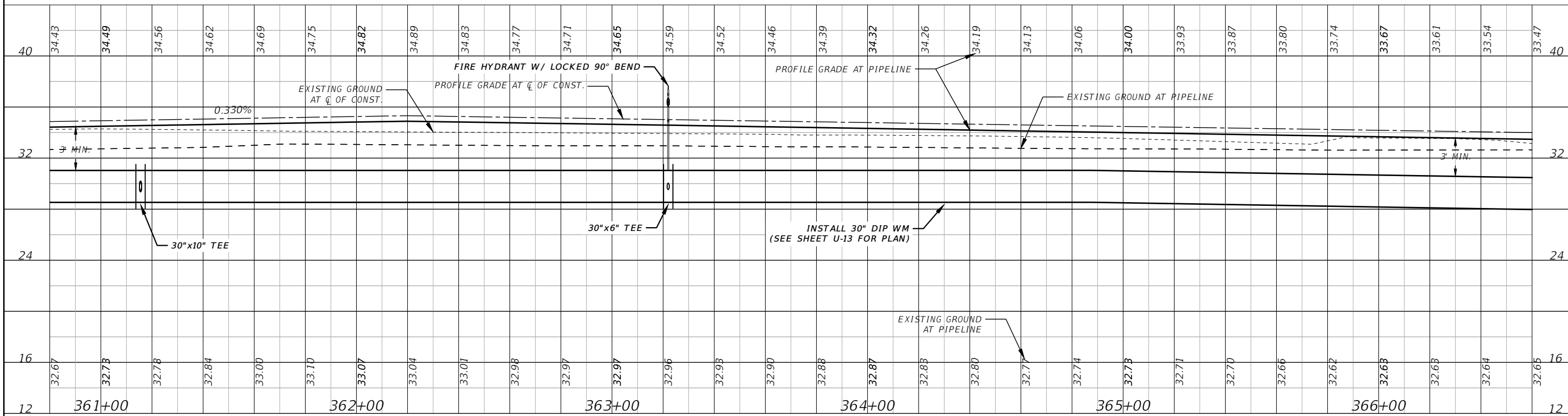
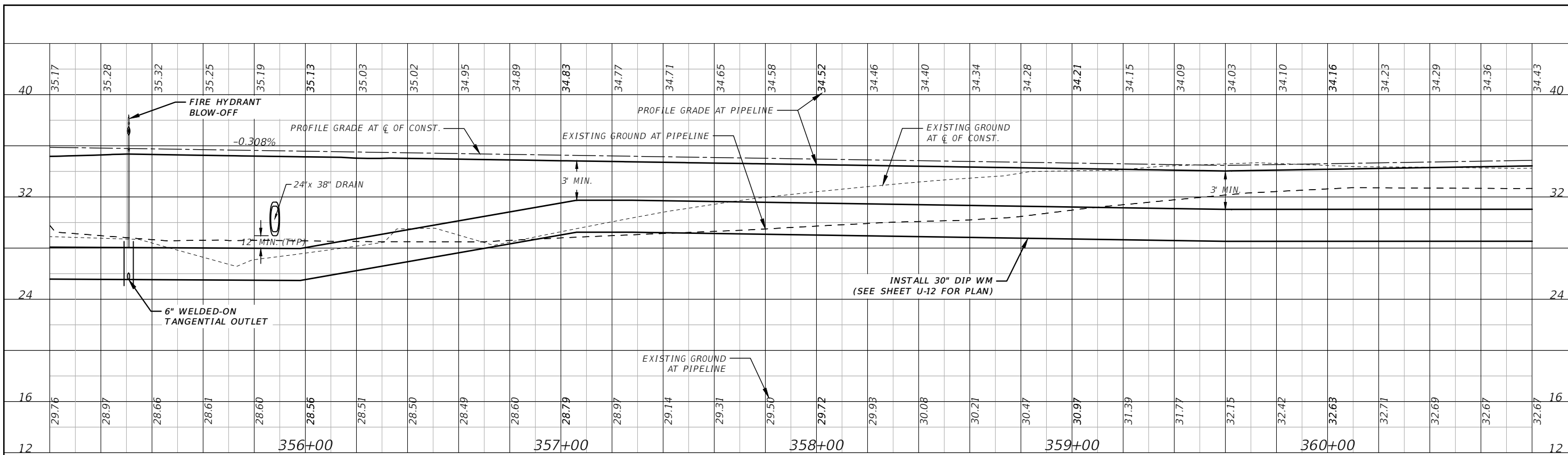
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
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P.E. LICENSE NUMBER 42854
CARDNO
380 PARK PLACE BLVD, SUITE 300
CLEARWATER, FLORIDA 33759
CERTIFICATE OF AUTHORIZATION 29915

MANATEE COUNTY	
ROAD NO.	PROJECT ID
MOCCASIN WALLOW RD	6092560

WATER MAIN PROFILE (5)

SHEET NO.
U-25



1" = 40' Horizontal
1" = 8' Vertical

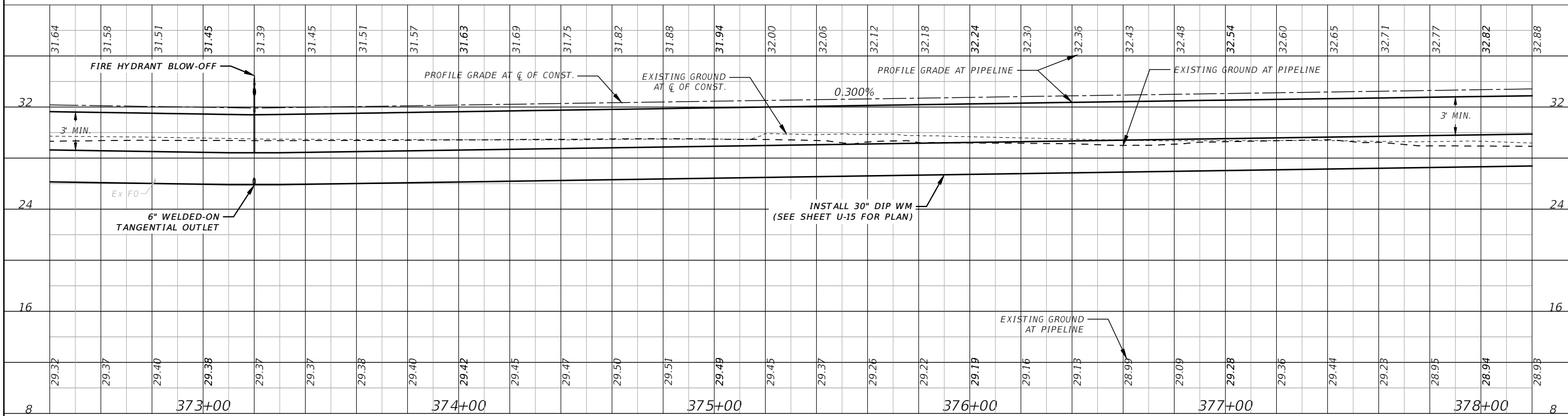
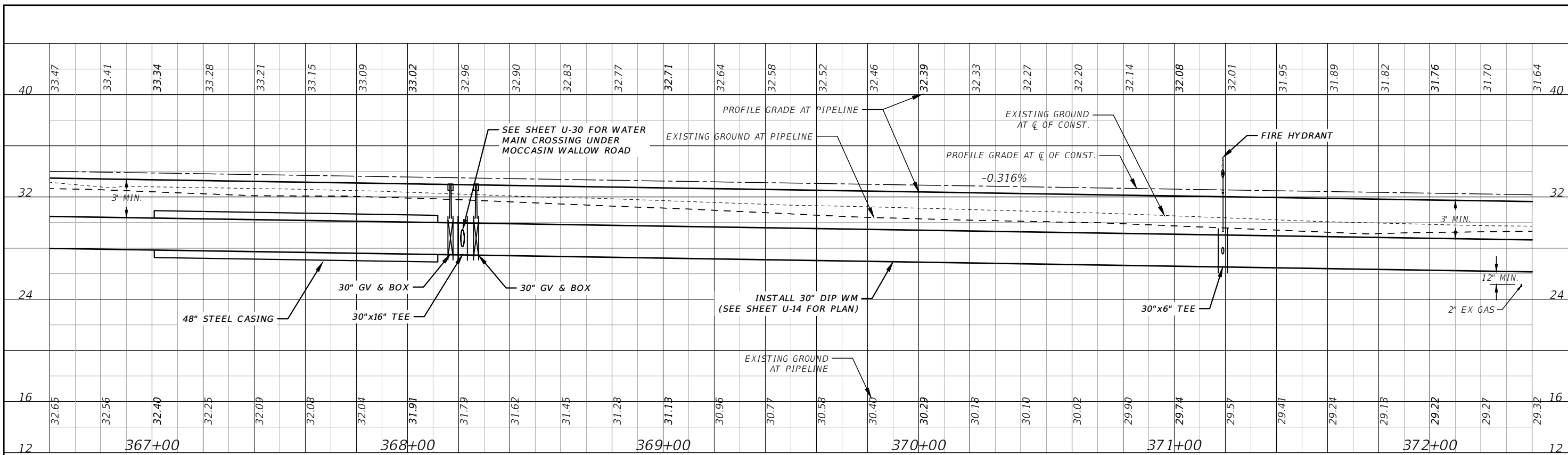
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
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P.E. LICENSE NUMBER 42854
CARDNO
380 PARK PLACE BLVD, SUITE 300
CLEARWATER, FLORIDA 33759
CERTIFICATE OF AUTHORIZATION 29915

MANATEE COUNTY	
ROAD NO.	PROJECT ID
MOCCASIN WALLOW RD	6092560

WATER MAIN PROFILE (6)

SHEET NO.
U-26



1" = 40' Horizontal
1" = 8' Vertical

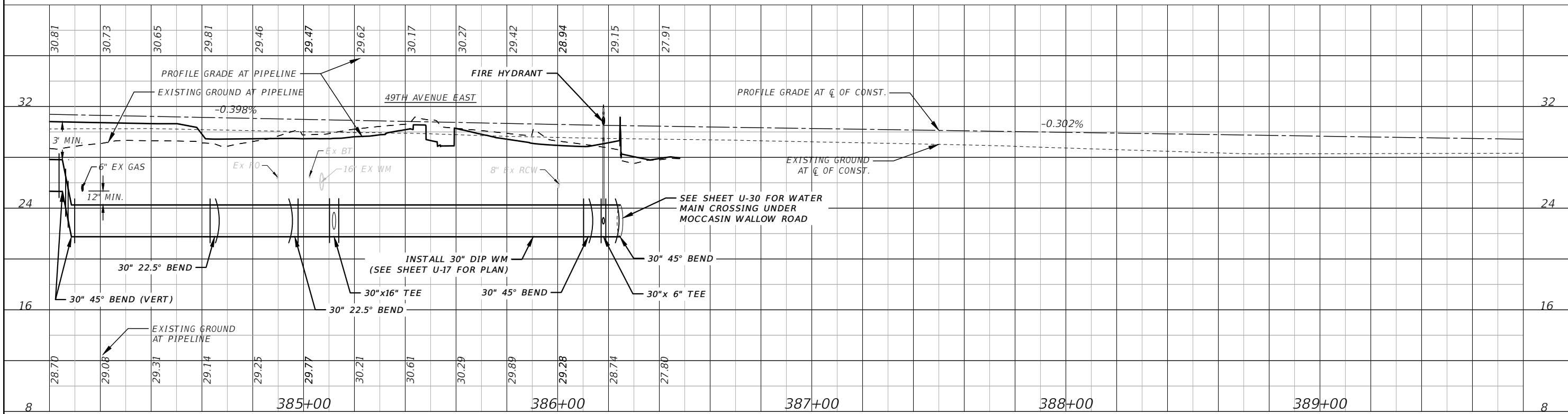
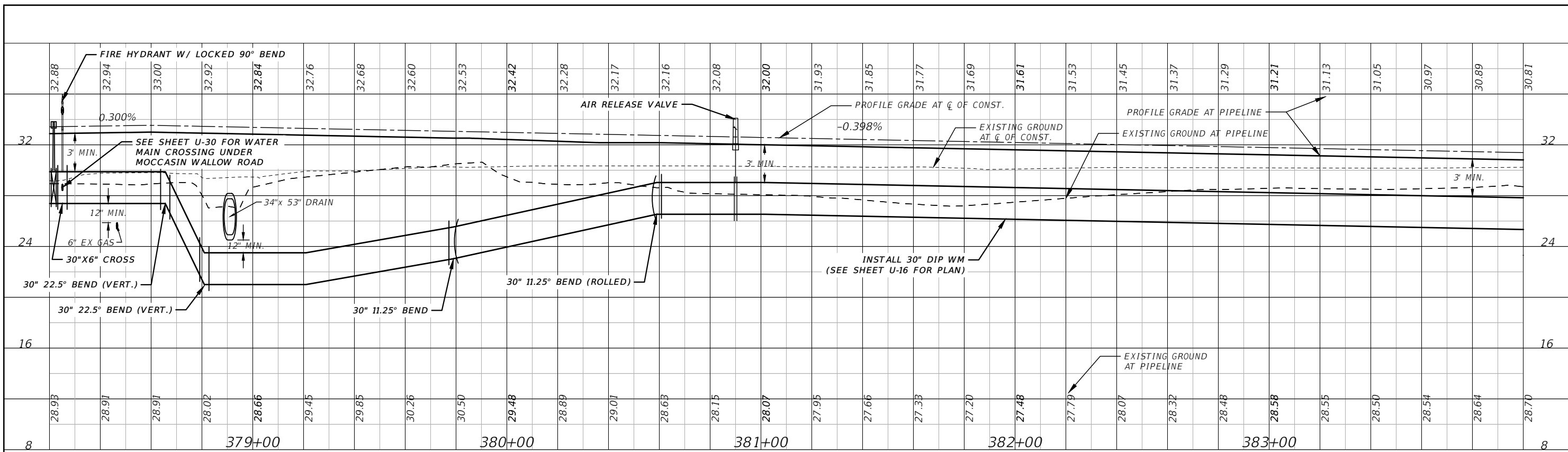
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
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P.E. LICENSE NUMBER 42854
CARDNO
380 PARK PLACE BLVD, SUITE 300
CLEARWATER, FLORIDA 33759
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MANATEE COUNTY	
ROAD NO.	PROJECT ID
MOCCASIN WALLOW RD	6092560

WATER MAIN PROFILE (7)

SHEET NO.
U-27



1" = 40' Horizontal
1" = 8' Vertical

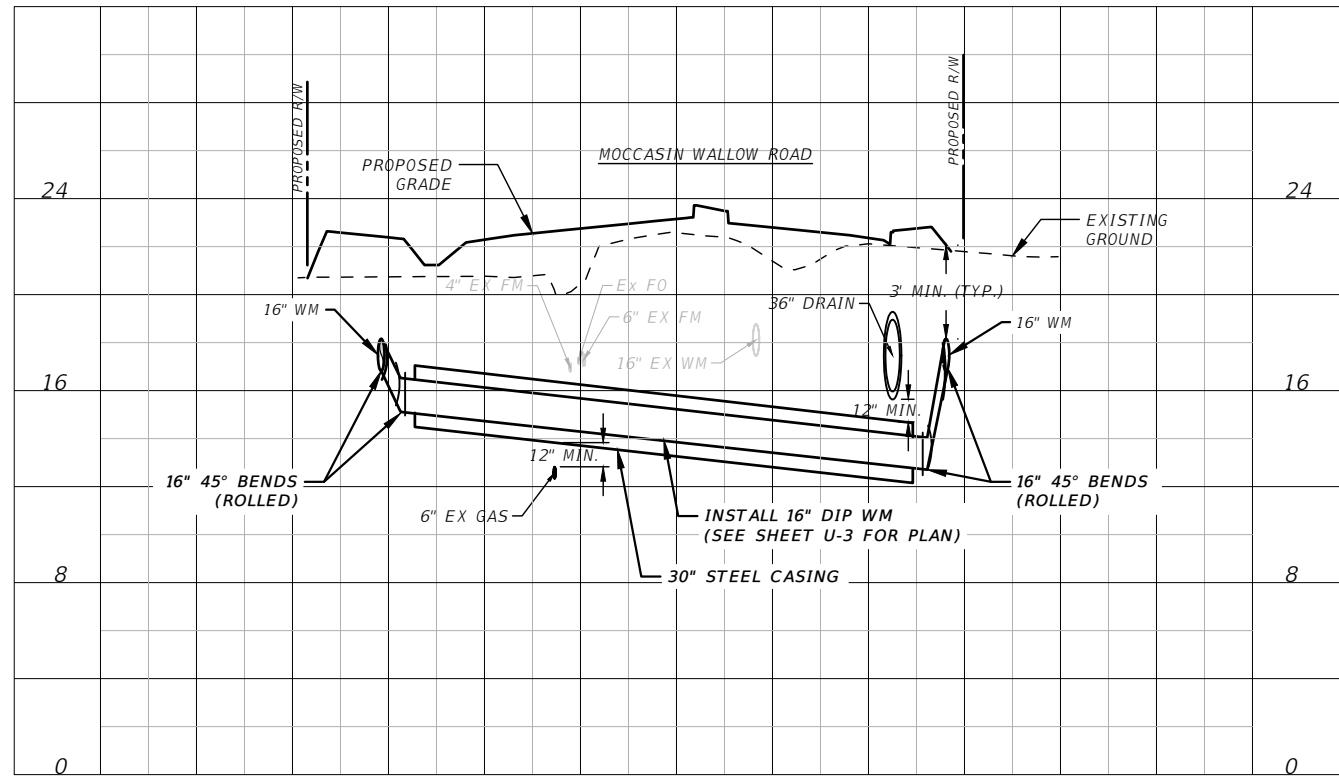
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
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P.E. LICENSE NUMBER 42854
CARDNO
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CERTIFICATE OF AUTHORIZATION 29915

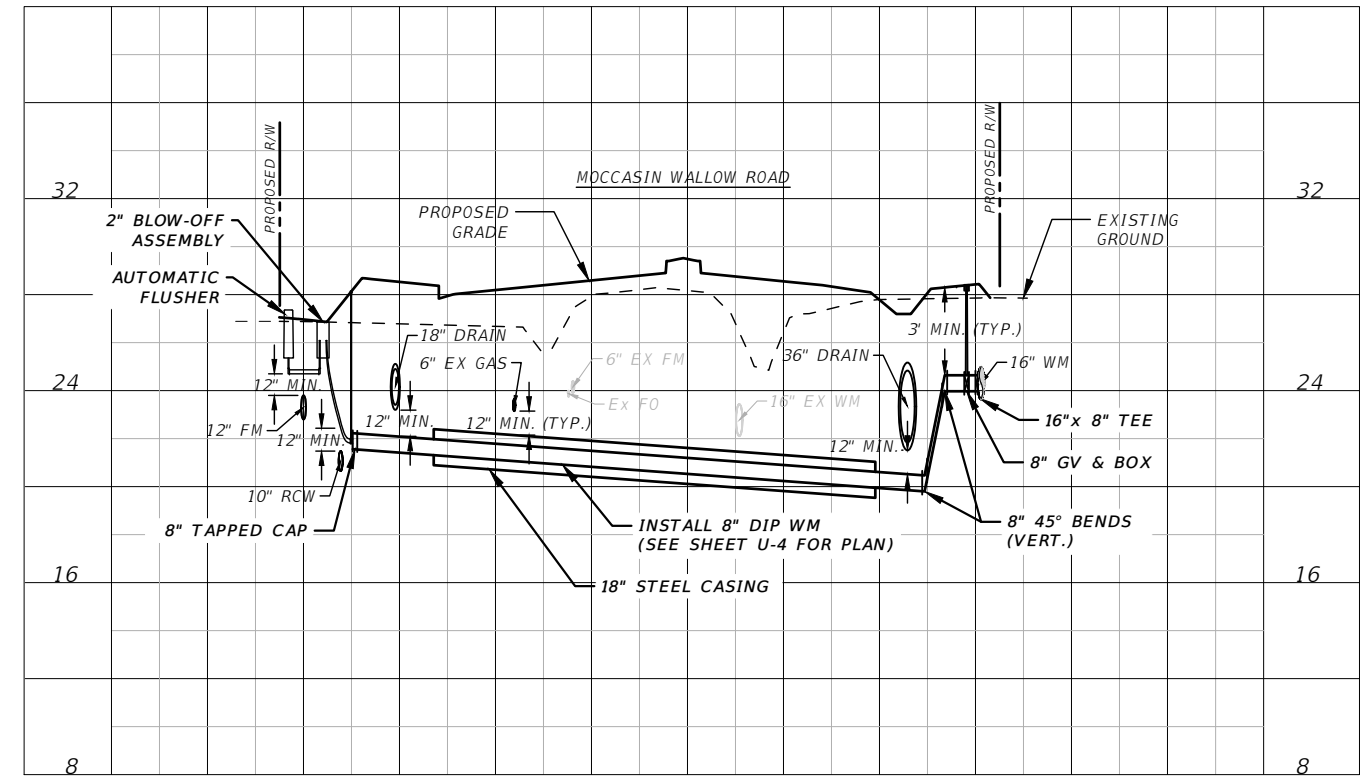
MANATEE COUNTY	
ROAD NO.	PROJECT ID
MOCCASIN WALLOW RD	6092560

WATER MAIN PROFILE (8)

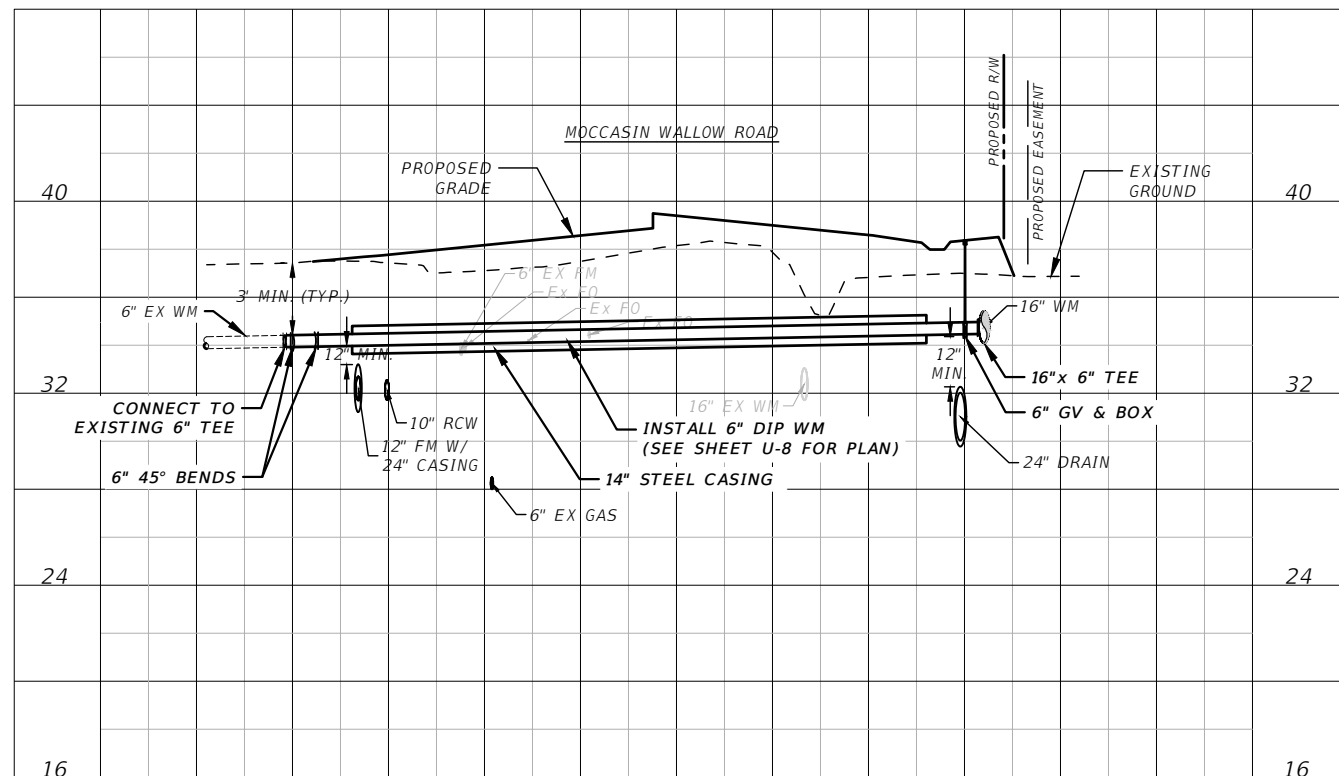
SHEET NO.
U-28



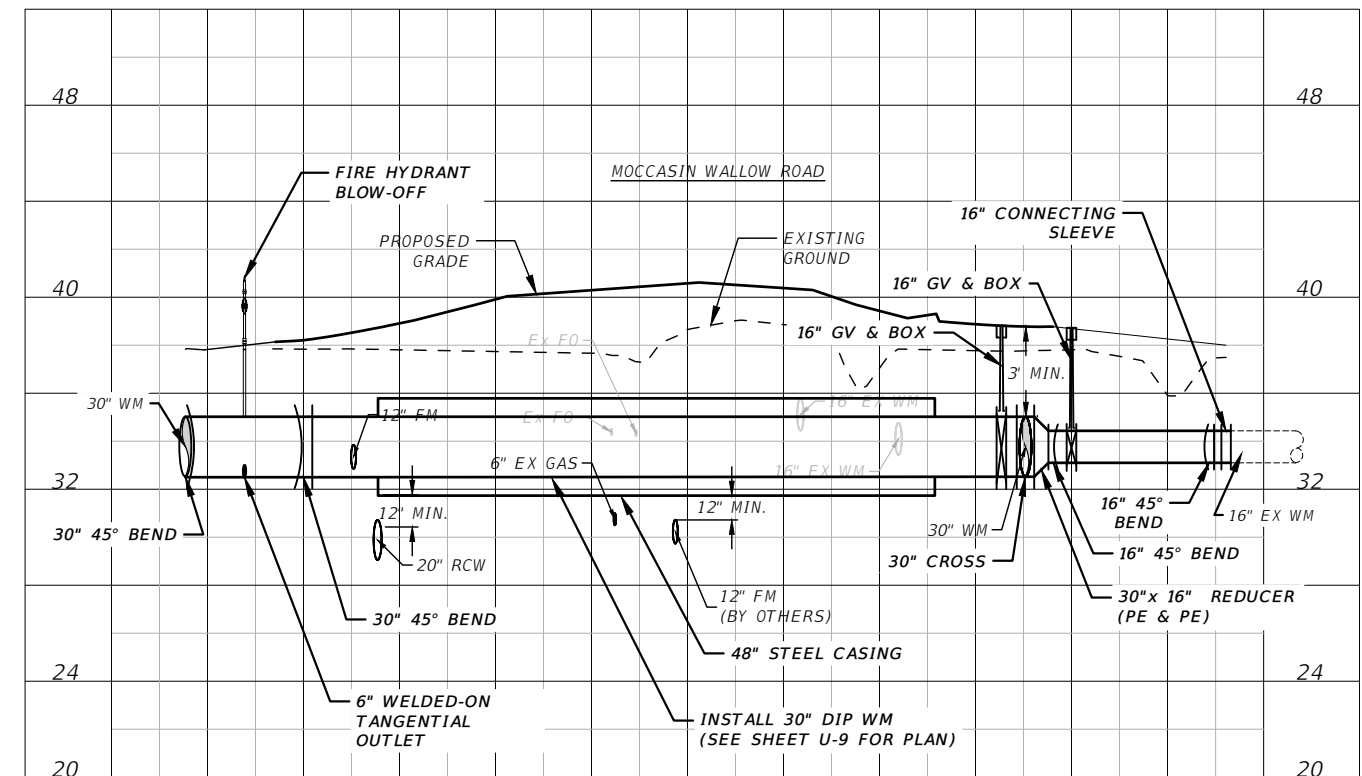
STATION 306+71



STATION 313+32



STATION 333+01



STATION 340+01

1" = 40' Horizontal
1" = 8' Vertical

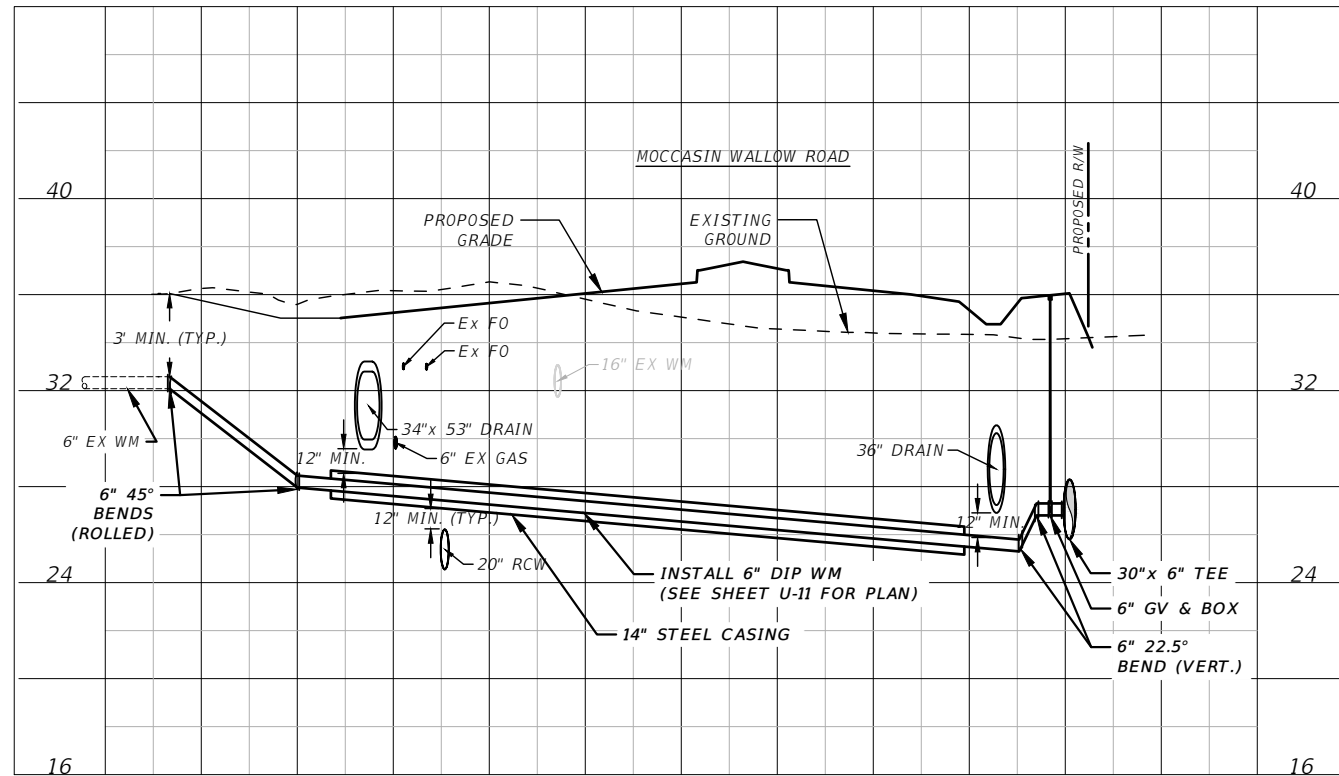
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
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P.E. LICENSE NUMBER 42854
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CERTIFICATE OF AUTHORIZATION 29915

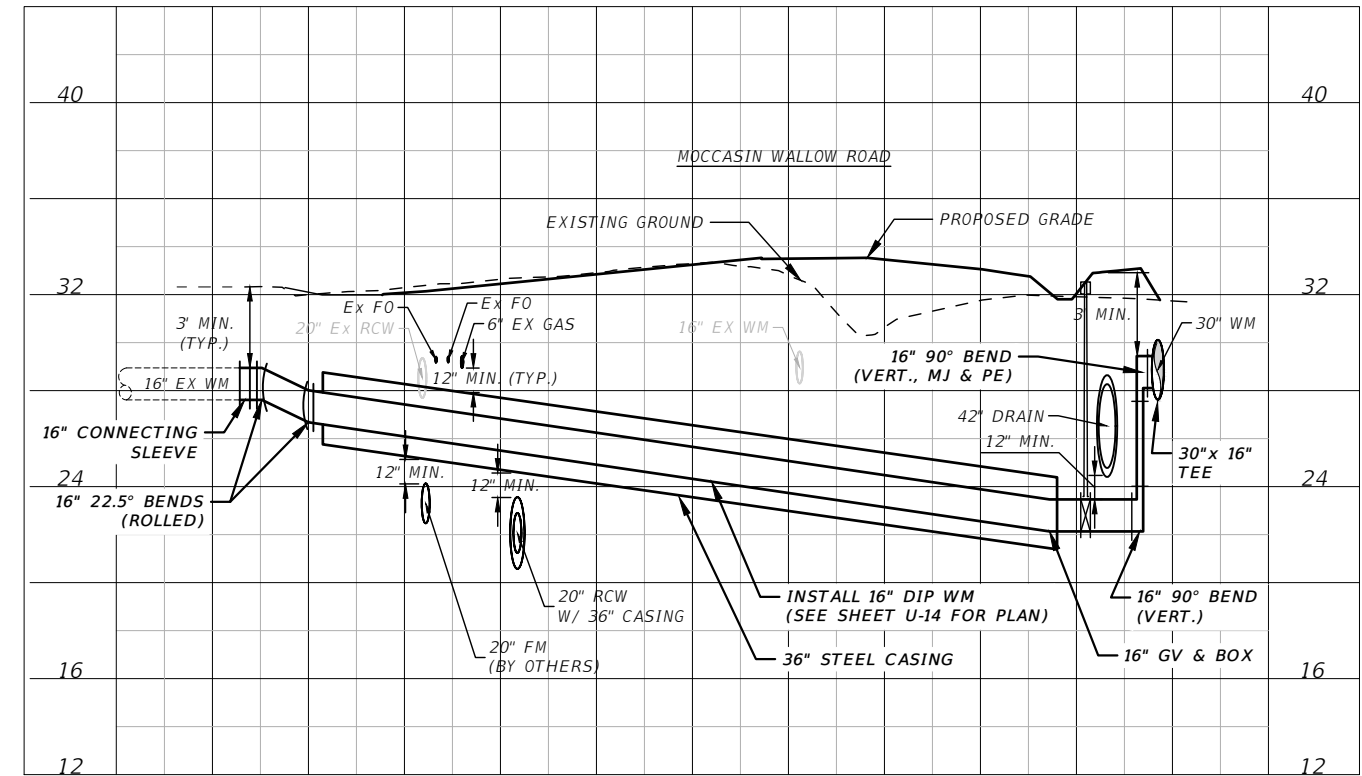
MANATEE COUNTY	
ROAD NO.	PROJECT ID
MOCCASIN WALLOW RD	6092560

WATER MAIN PROFILE (9)

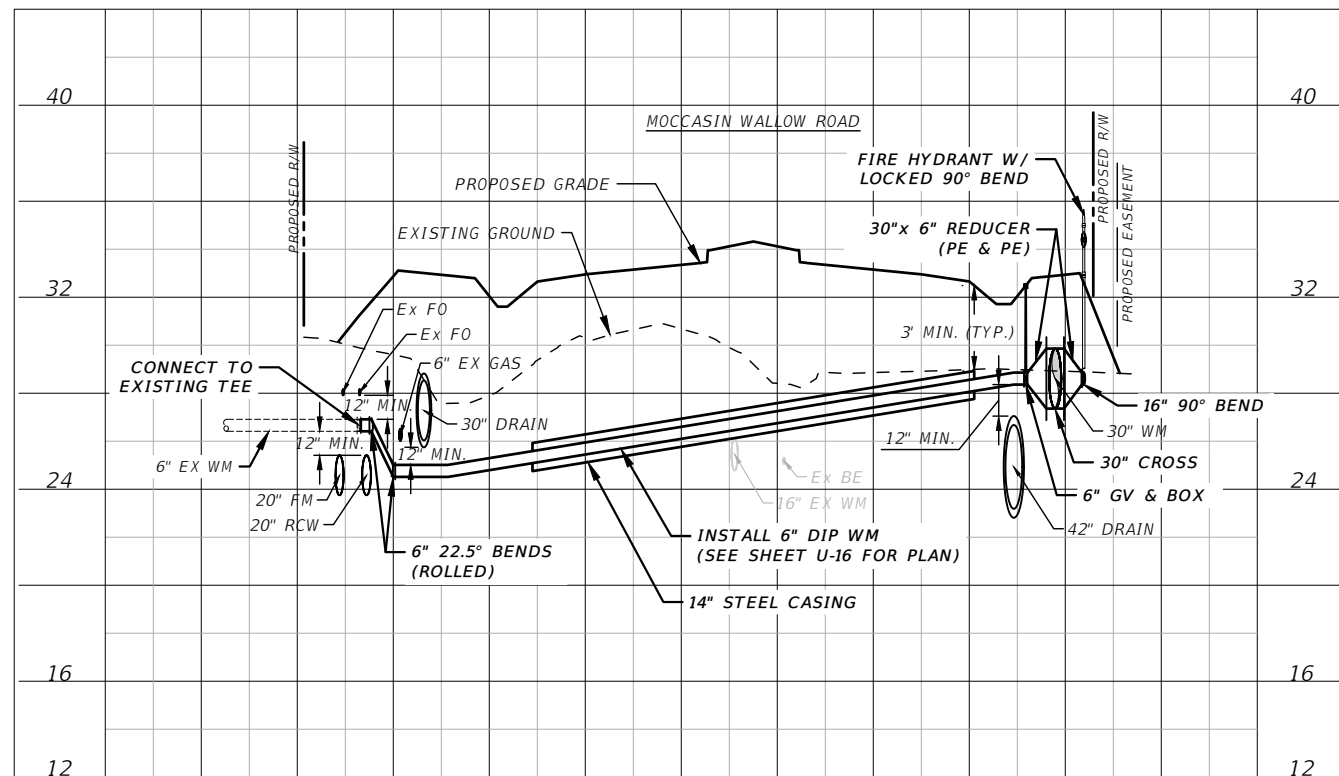
SHEET NO.
U-29



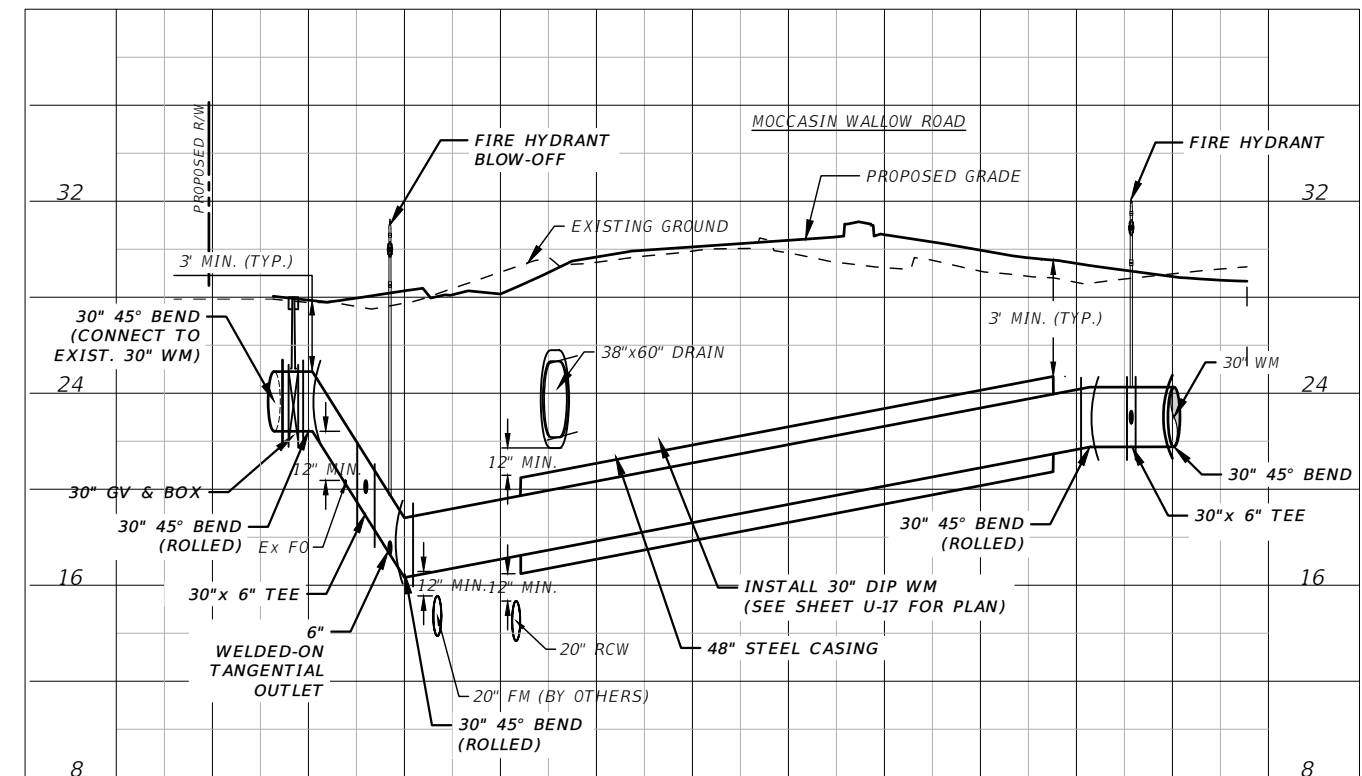
STATION 353+03



STATION 368+09



STATION 378+26



STATION 386+24

1" = 40' Horizontal
1" = 8' Vertical

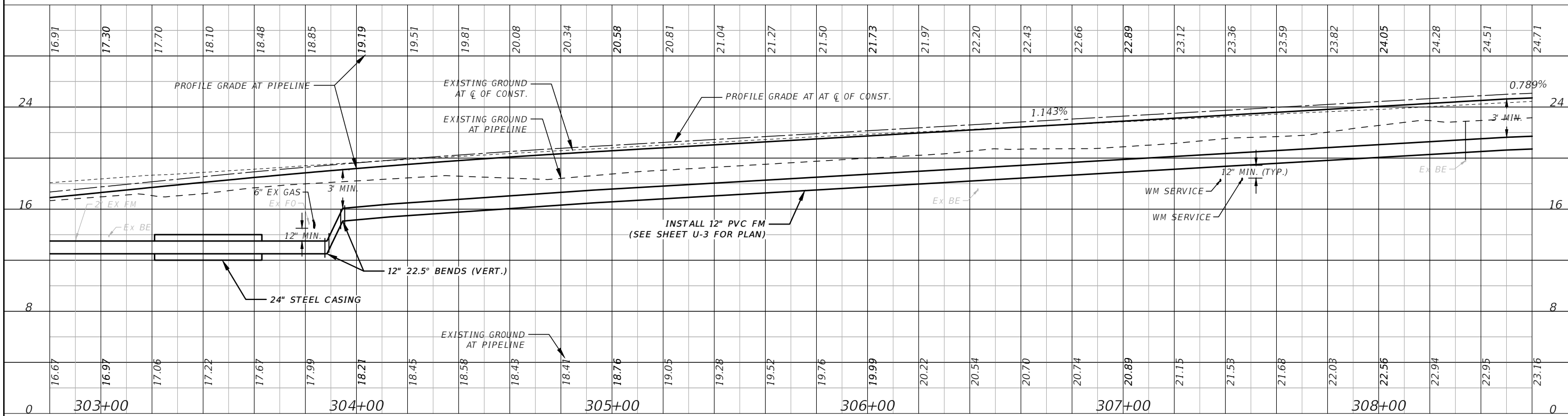
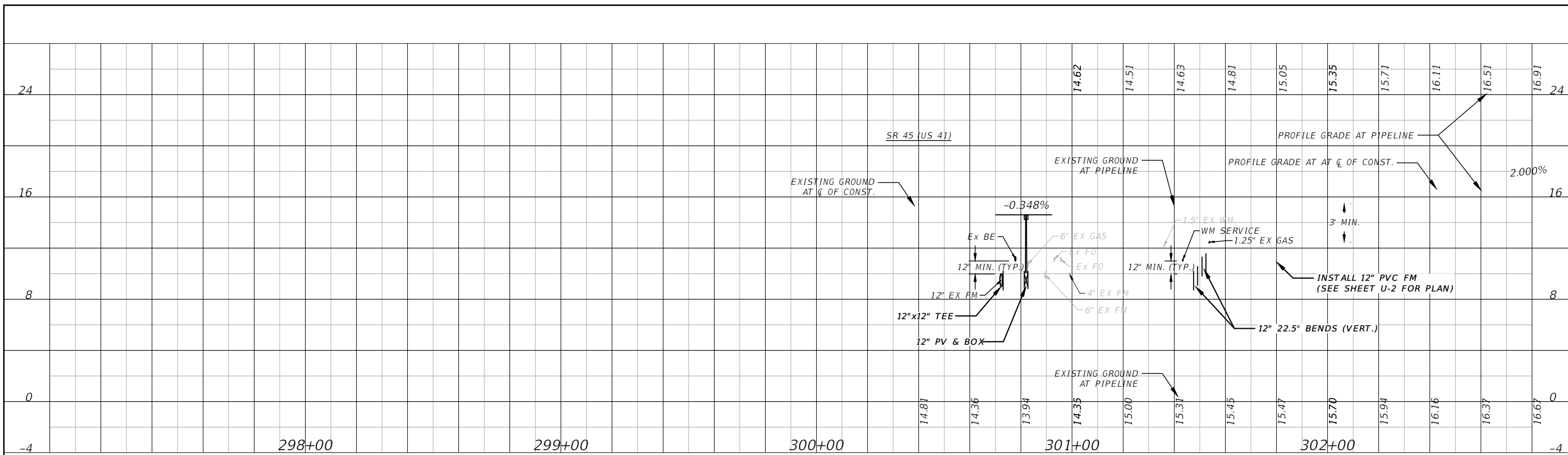
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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MANATEE COUNTY	
ROAD NO.	PROJECT ID
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WATER MAIN PROFILE (10)

SHEET NO.
U-30



1" = 40' Horizontal
1" = 8' Vertical

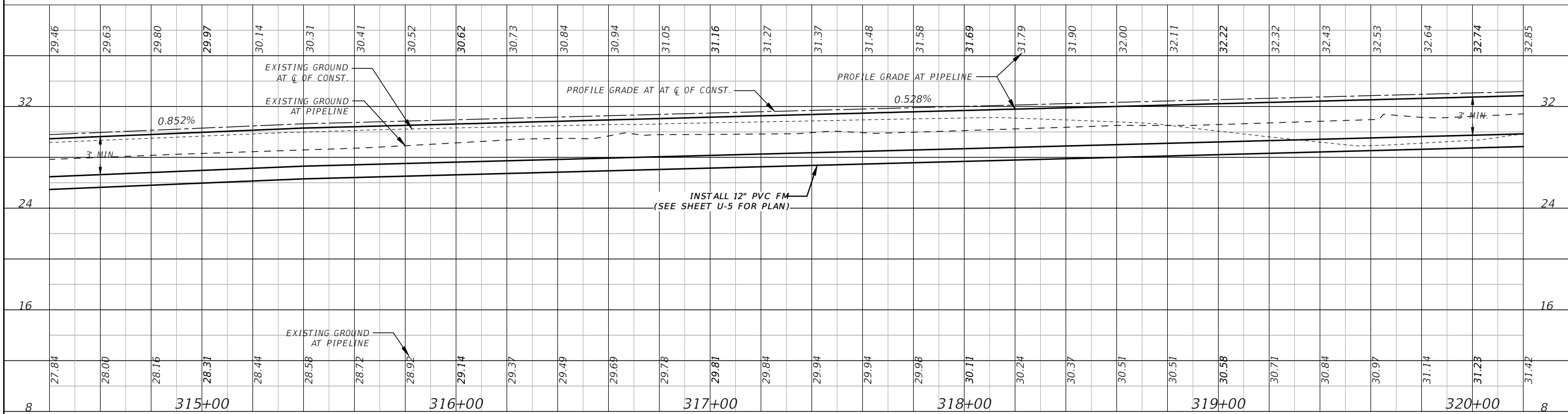
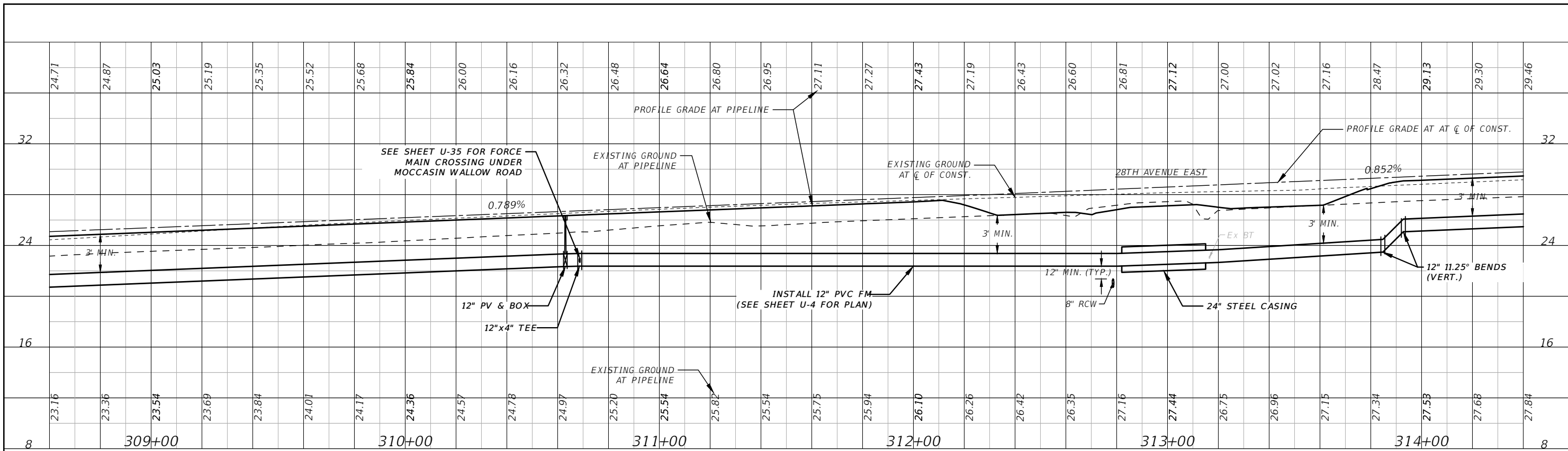
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
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MANATEE COUNTY	
ROAD NO.	PROJECT ID
MOCCASIN WALLOW RD	6092560

FORCE MAIN PROFILE (1)

SHEET NO.
U-31



1" = 40' Horizontal
1" = 8' Vertical

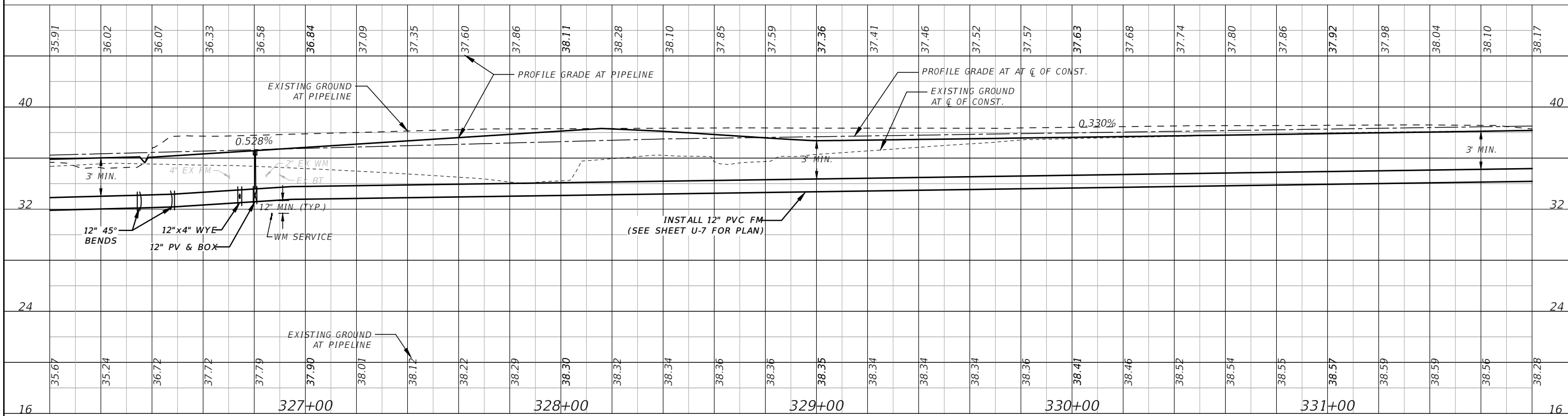
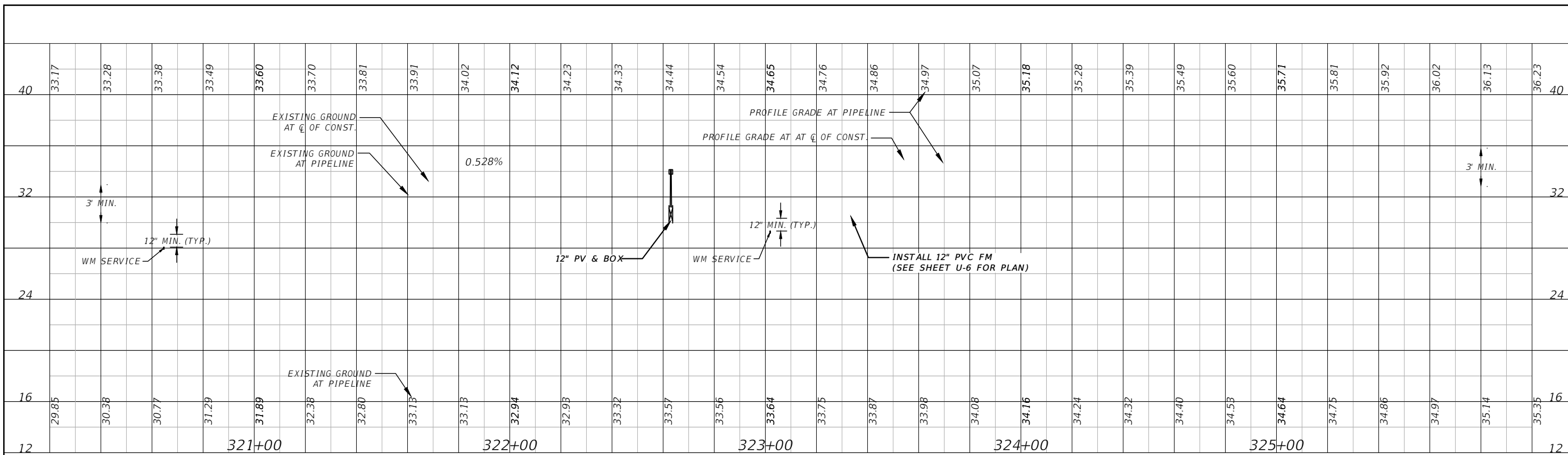
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
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P.E. LICENSE NUMBER 42854
CARDNO
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MANATEE COUNTY	
ROAD NO. MOCCASIN WALLOW RD	PROJECT ID 6092560

FORCE MAIN PROFILE (2)

SHEET NO.
U-32



1" = 40' Horizontal
1" = 8' Vertical

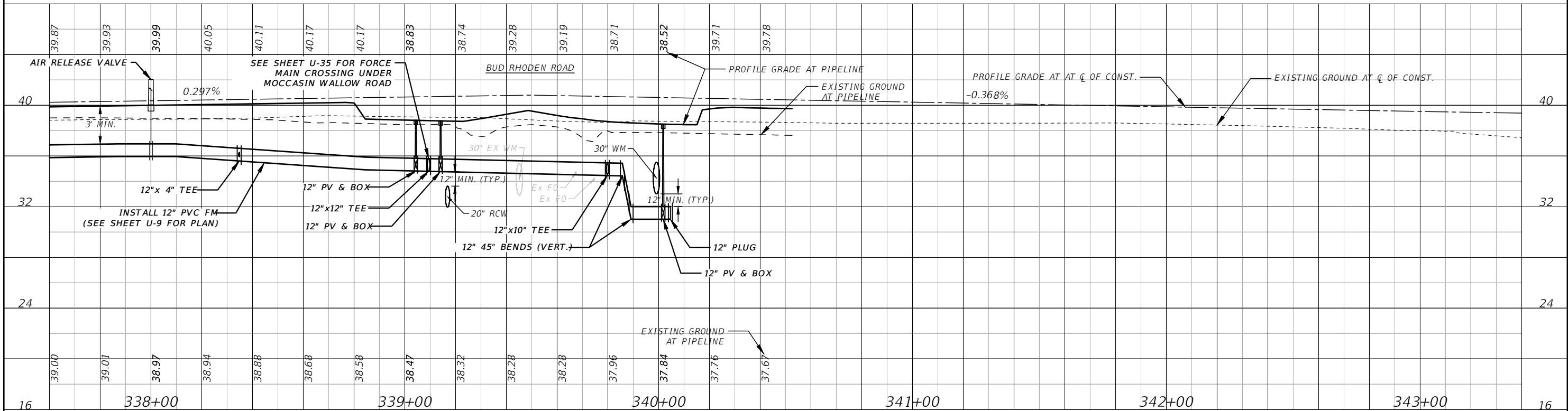
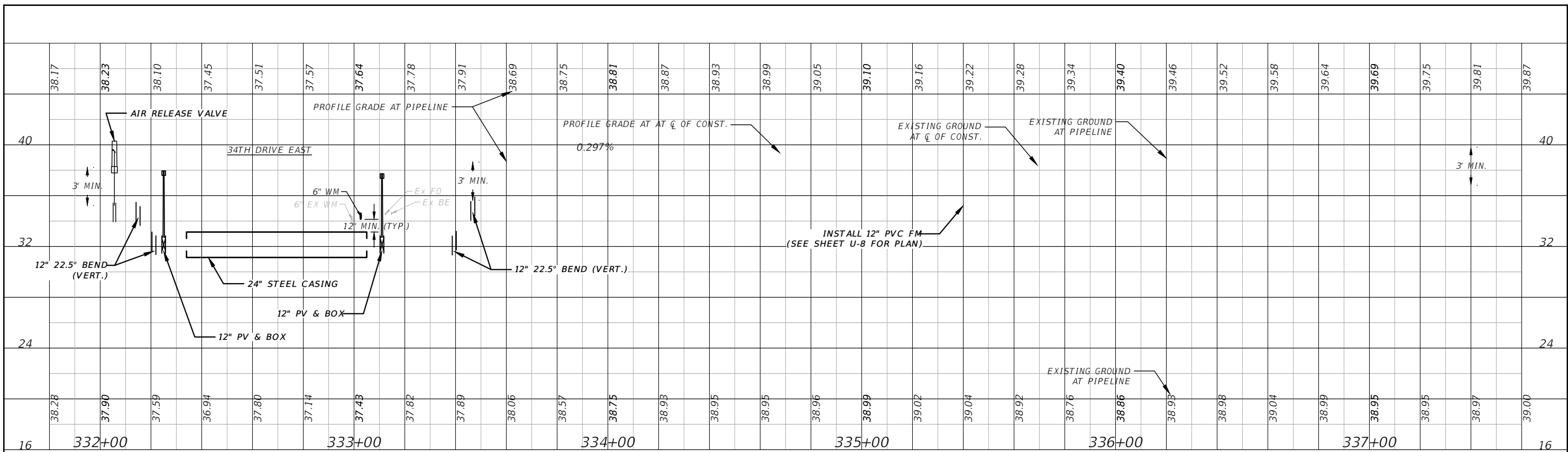
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
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P.E. LICENSE NUMBER 42854
CARDNO
380 PARK PLACE BLVD, SUITE 300
CLEARWATER, FLORIDA 33759
CERTIFICATE OF AUTHORIZATION 29915

MANATEE COUNTY	
ROAD NO.	PROJECT ID
MOCCASIN WALLOW RD	6092560

FORCE MAIN PROFILE (3)

SHEET NO.
U-33



1" = 40' Horizontal
1" = 8' Vertical

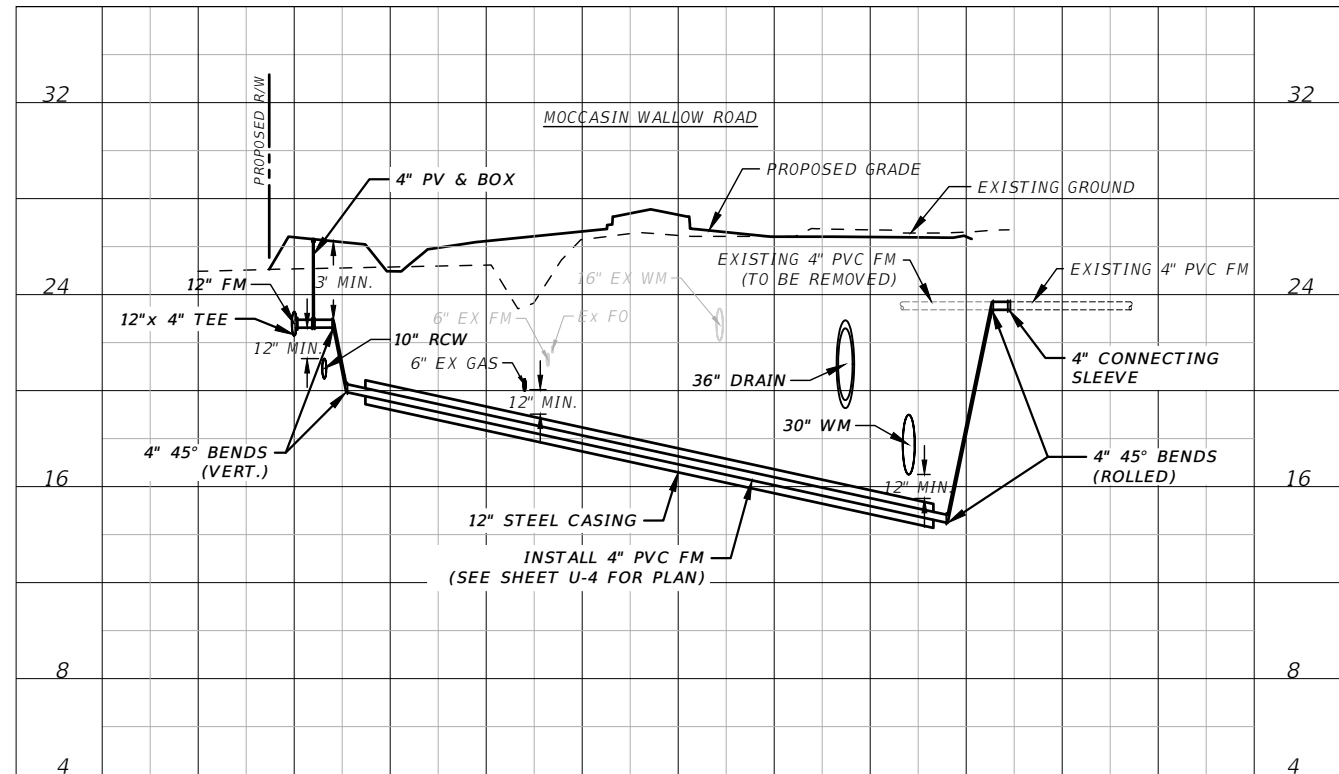
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
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P.E. LICENSE NUMBER 42854
CARDNO
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CLEARWATER, FLORIDA 33759
CERTIFICATE OF AUTHORIZATION 29915

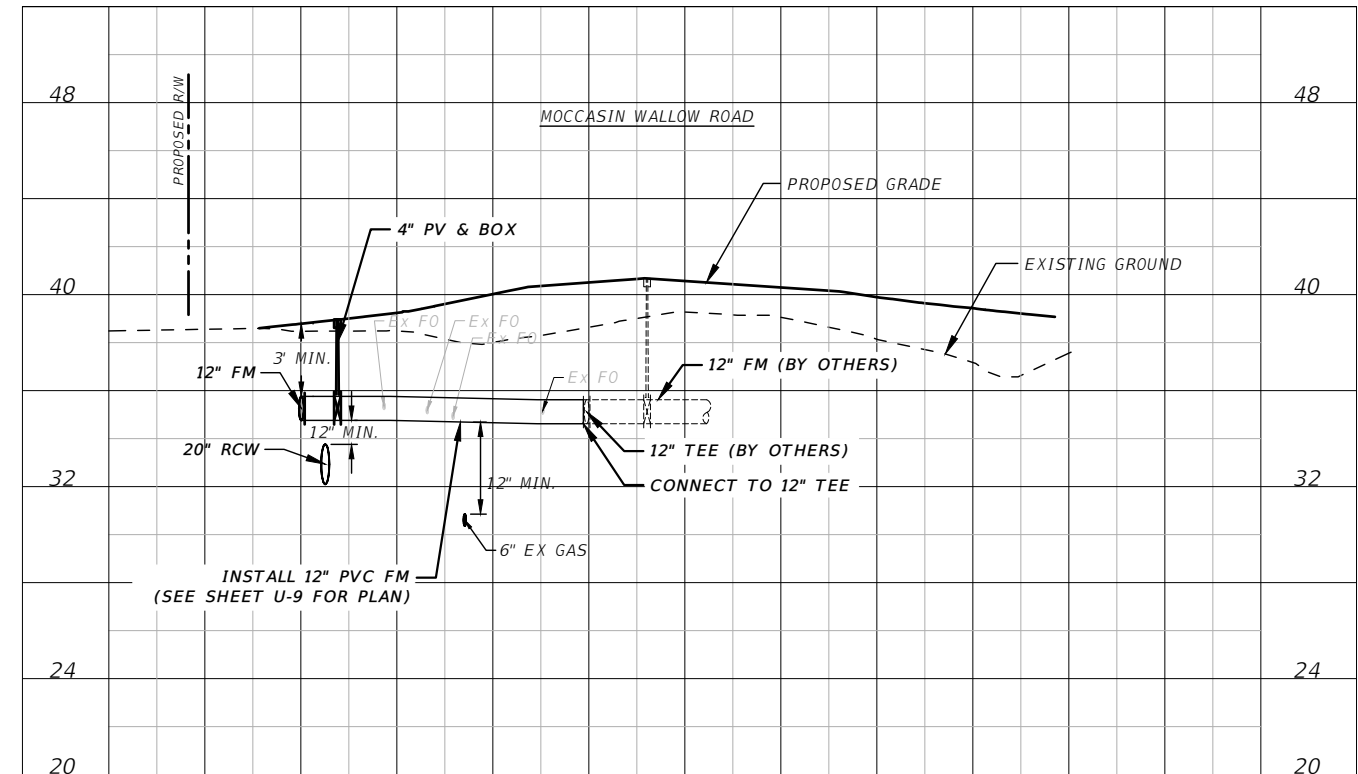
MANATEE COUNTY	
ROAD NO.	PROJECT ID
MOCCASIN WALLOW RD	6092560

FORCE MAIN PROFILE (A)

SHEET NO.
U-34



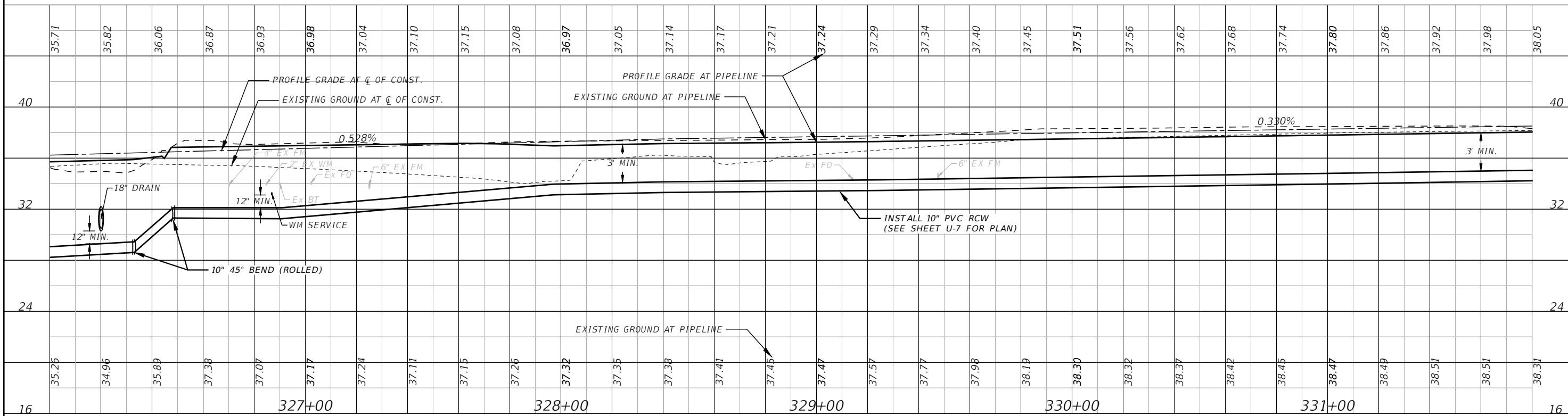
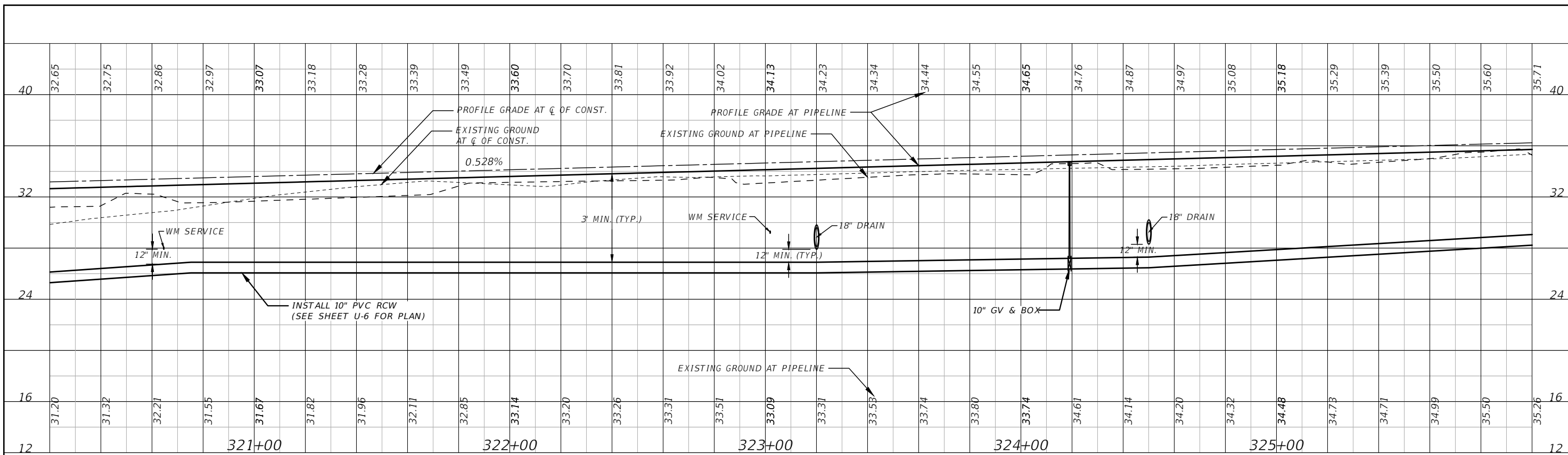
STATION 310+69



STATION 339+10

1" = 40' Horizontal
1" = 8' Vertical

REVISIONS				THOMAS M. NOGAJ, PHD, P.E. P.E. LICENSE NUMBER 42854 CARDNO 380 PARK PLACE BLVD, SUITE 300 CLEARWATER, FLORIDA 33759 CERTIFICATE OF AUTHORIZATION 29915	MANATEE COUNTY		FORCE MAIN PROFILE (5)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	PROJECT ID		U-35
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1" = 40' Horizontal
1" = 8' Vertical

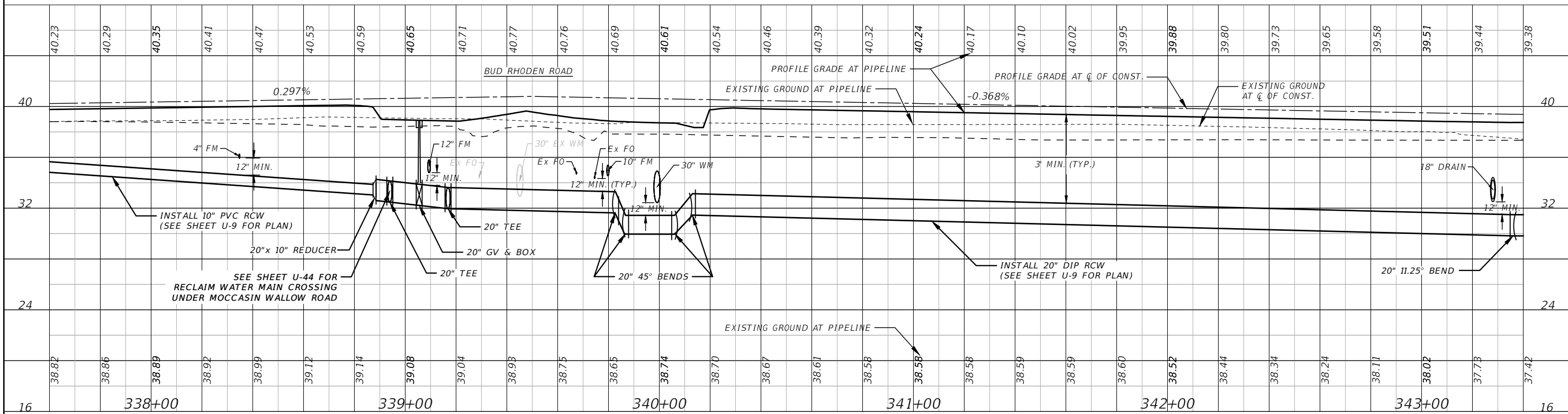
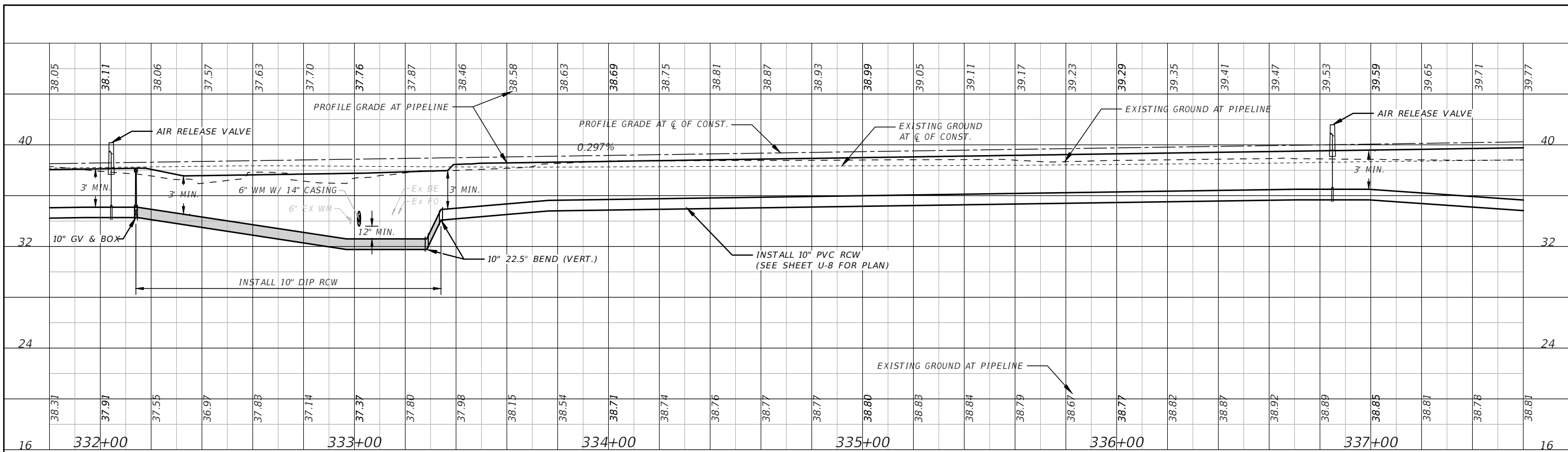
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
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P.E. LICENSE NUMBER 42854
CARDNO
380 PARK PLACE BLVD, SUITE 300
CLEARWATER, FLORIDA 33759
CERTIFICATE OF AUTHORIZATION 29915

MANATEE COUNTY	
ROAD NO.	PROJECT ID
MOCCASIN WALLOW RD	6092560

RECLAIMED WATER PROFILE (2)

SHEET NO.
U-37



1" = 40' Horizontal
1" = 8' Vertical

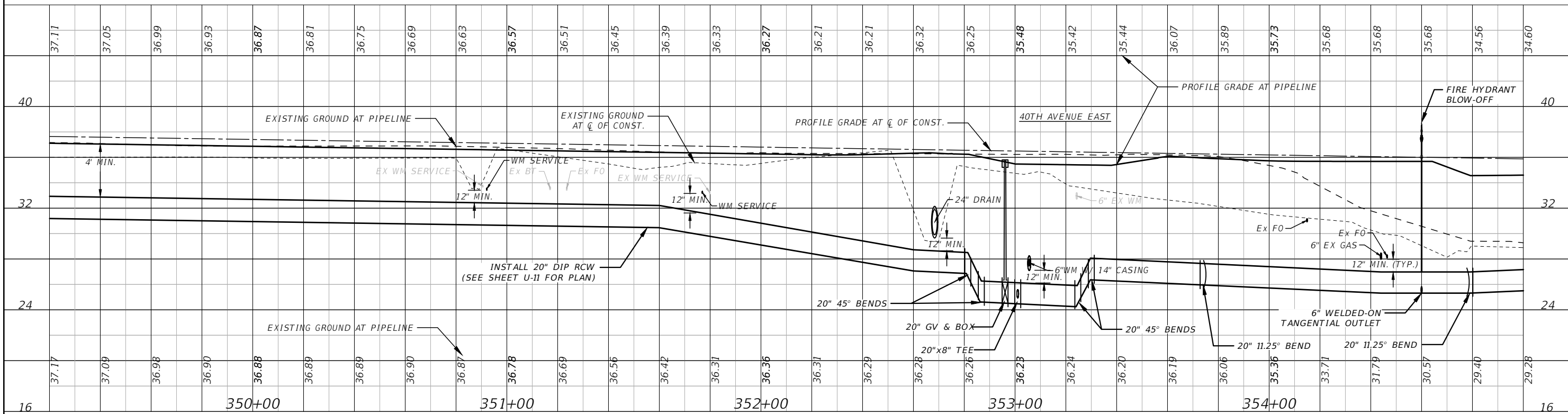
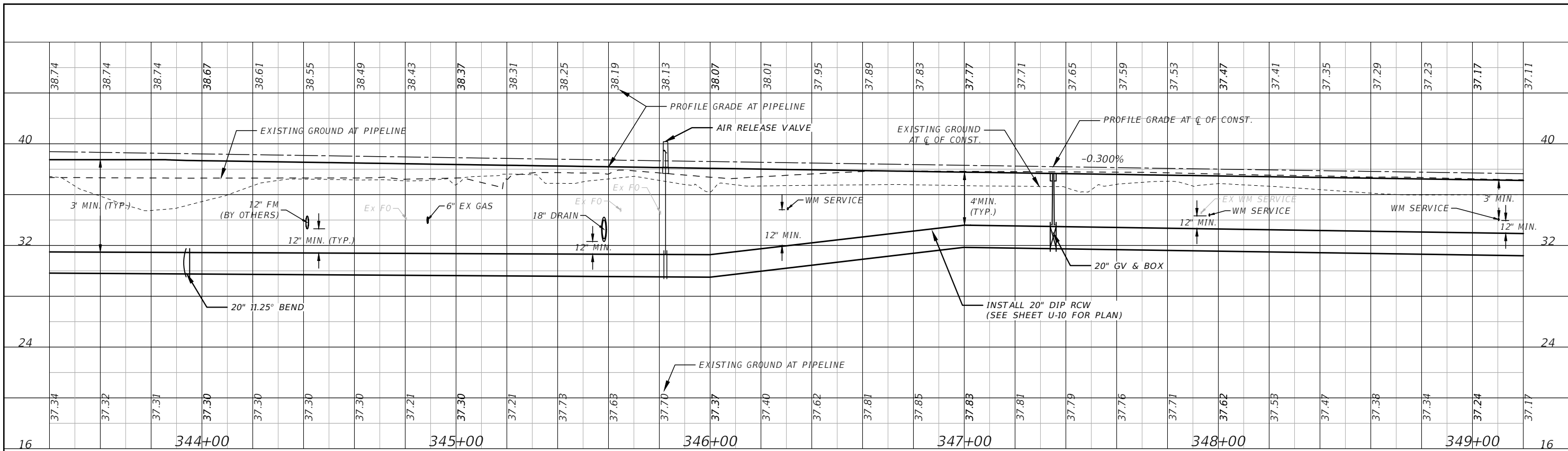
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
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P.E. LICENSE NUMBER 42854
CARDNO
380 PARK PLACE BLVD, SUITE 300
CLEARWATER, FLORIDA 33759
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RECLAIMED WATER PROFILE (3)

SHEET NO.
U-38



1" = 40' Horizontal
1" = 8' Vertical

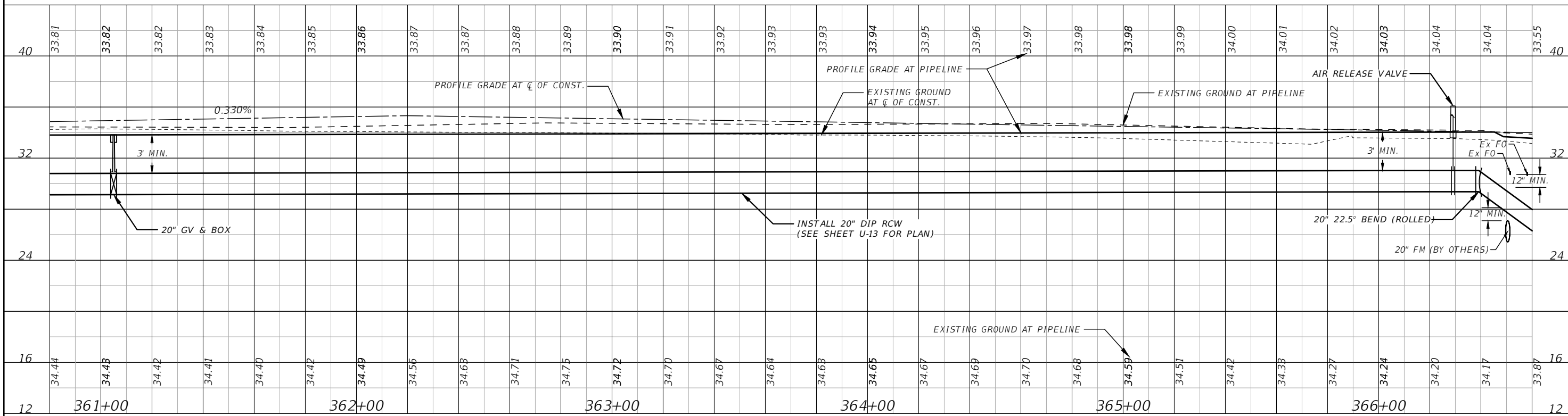
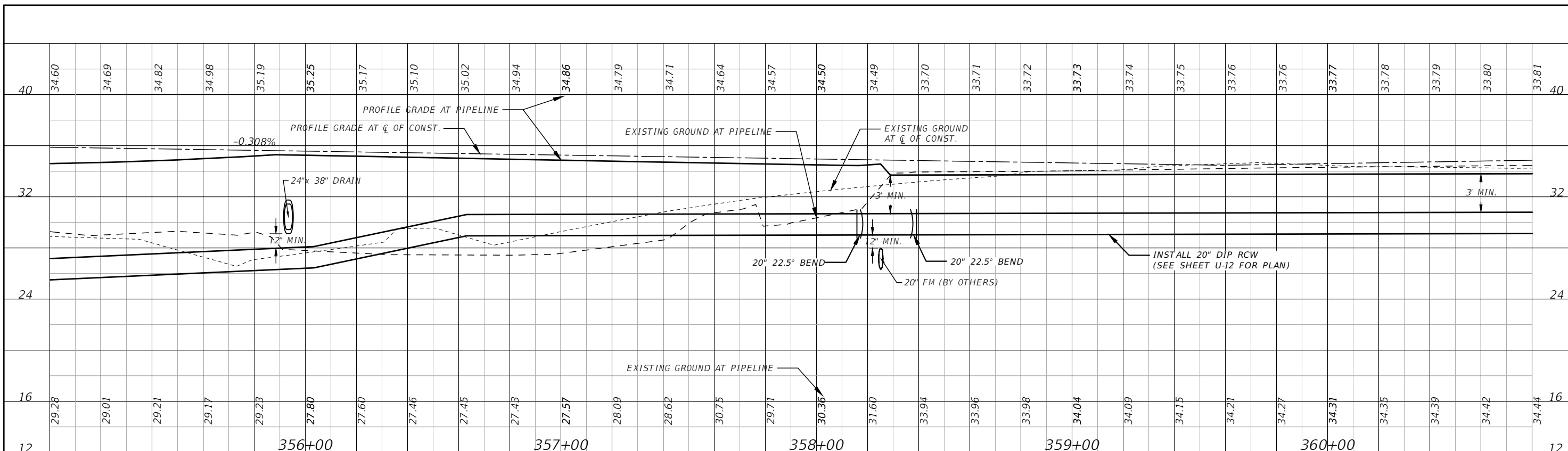
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
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P.E. LICENSE NUMBER 42854
CARDNO
380 PARK PLACE BLVD, SUITE 300
CLEARWATER, FLORIDA 33759
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MOCCASIN WALLOW RD	6092560

RECLAIMED WATER PROFILE (4)

SHEET NO.
U-39



1" = 40' Horizontal
1" = 8' Vertical

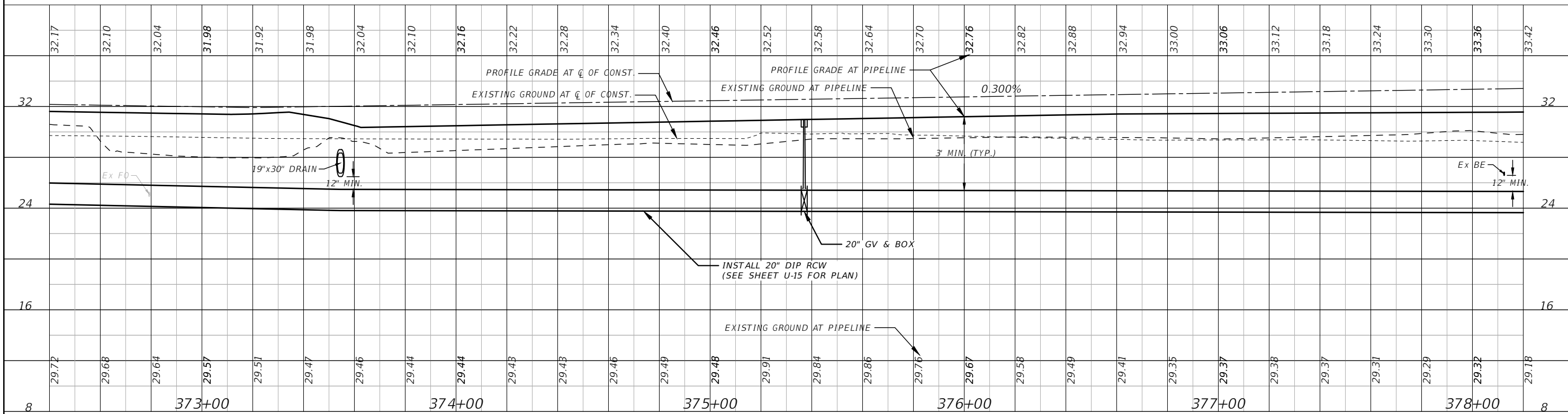
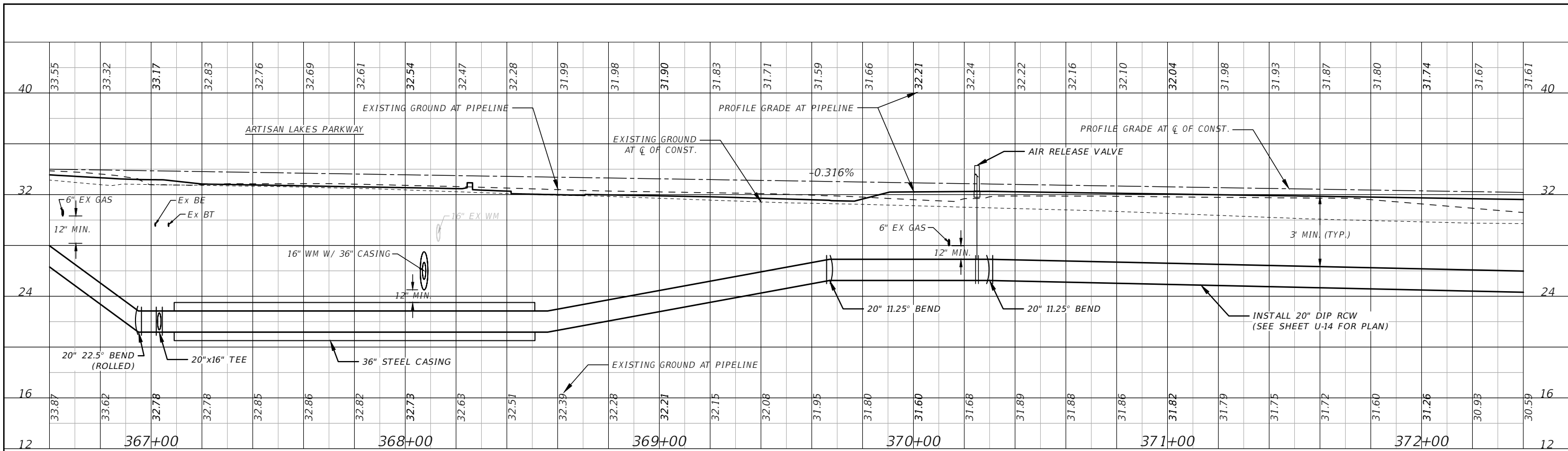
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
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P.E. LICENSE NUMBER 42854
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MOCCASIN WALLOW RD	6092560

RECLAIMED WATER PROFILE (5)

SHEET NO.
U-40



1" = 40' Horizontal
1" = 8' Vertical

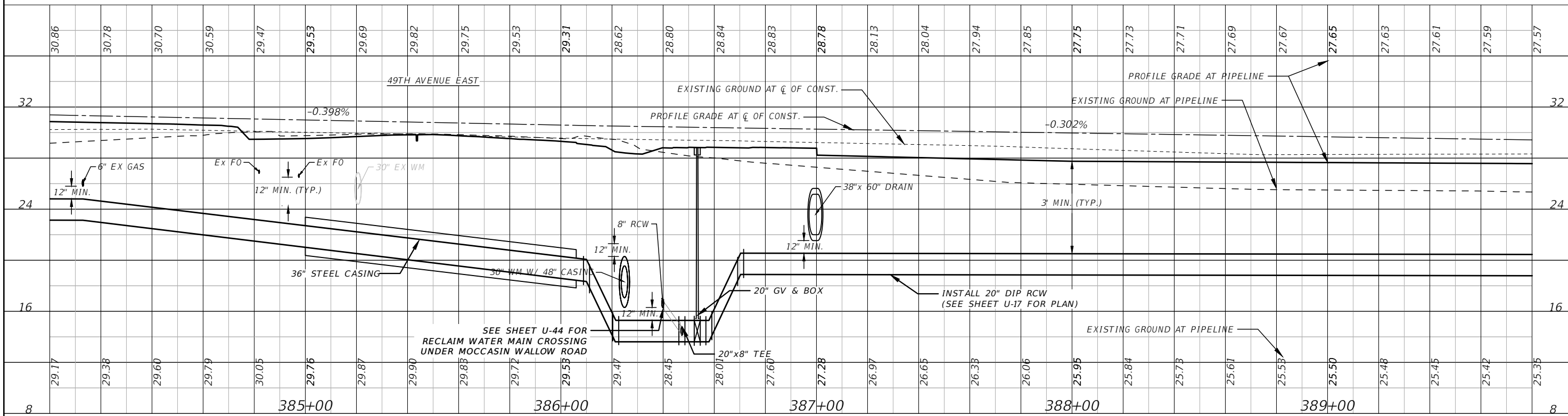
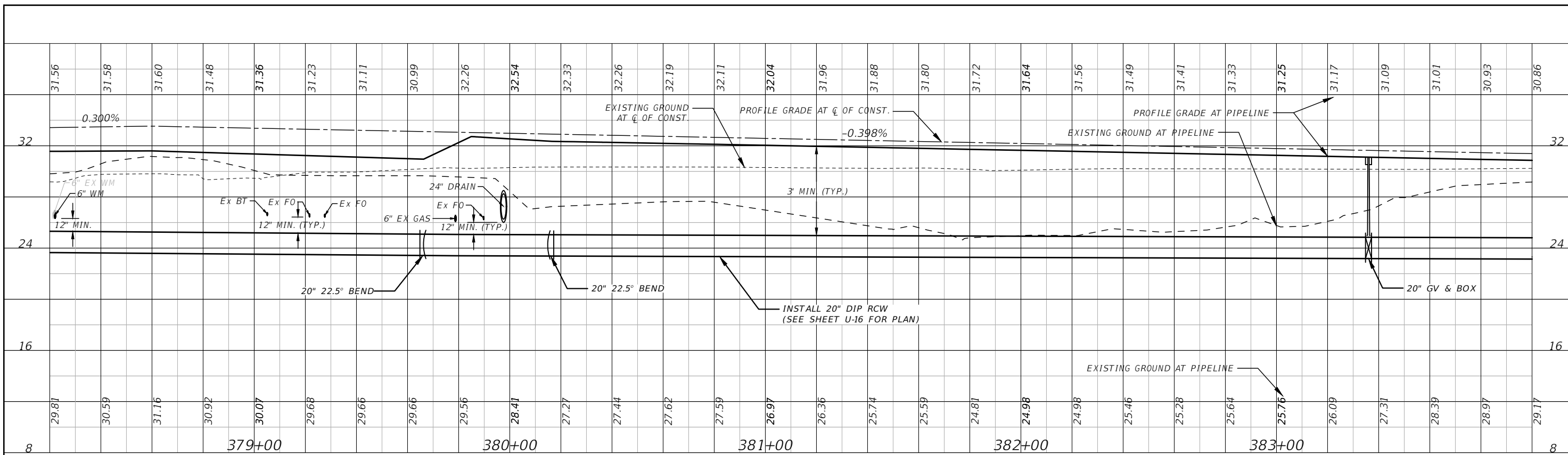
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
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P.E. LICENSE NUMBER 42854
CARDNO
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CLEARWATER, FLORIDA 33759
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MANATEE COUNTY	
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MOCCASIN WALLOW RD	6092560

RECLAIMED WATER PROFILE (6)

SHEET NO.
U-41



1" = 40' Horizontal
1" = 8' Vertical

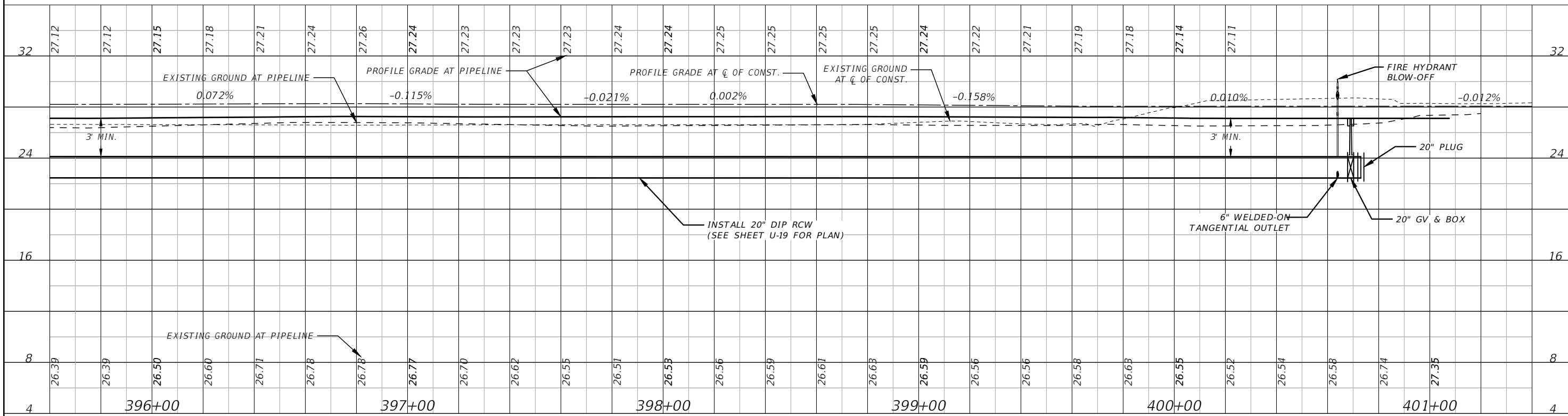
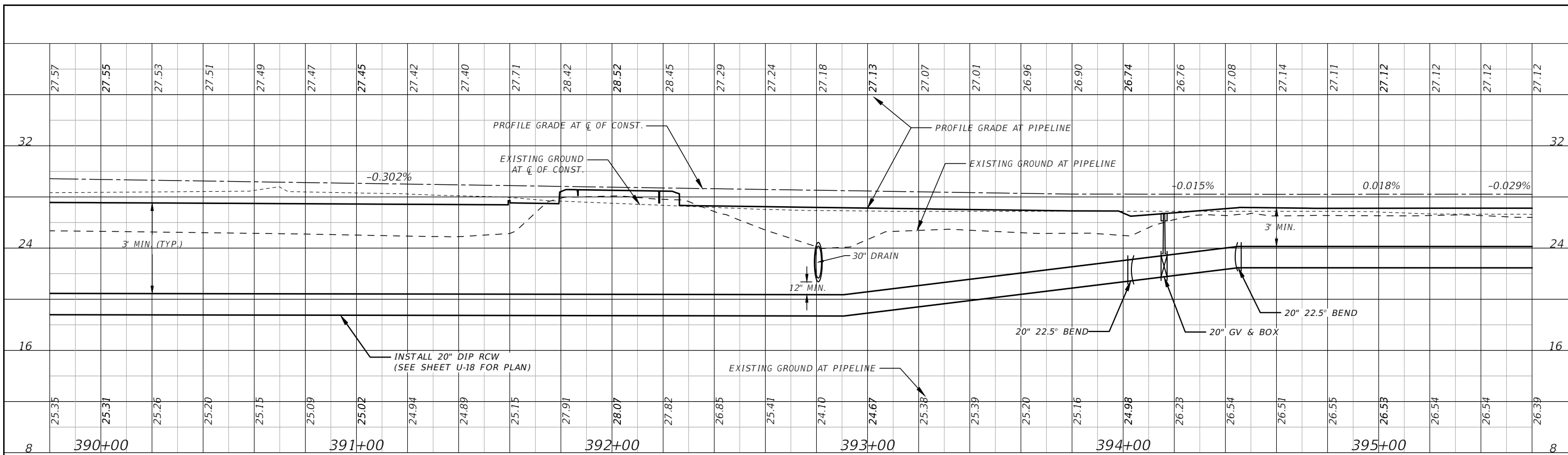
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
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P.E. LICENSE NUMBER 42854
CARDNO
380 PARK PLACE BLVD, SUITE 300
CLEARWATER, FLORIDA 33759
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MANATEE COUNTY	
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MOCCASIN WALLOW RD	6092560

RECLAIMED WATER PROFILE (7)

SHEET NO.
U-42



1" = 40' Horizontal
1" = 8' Vertical

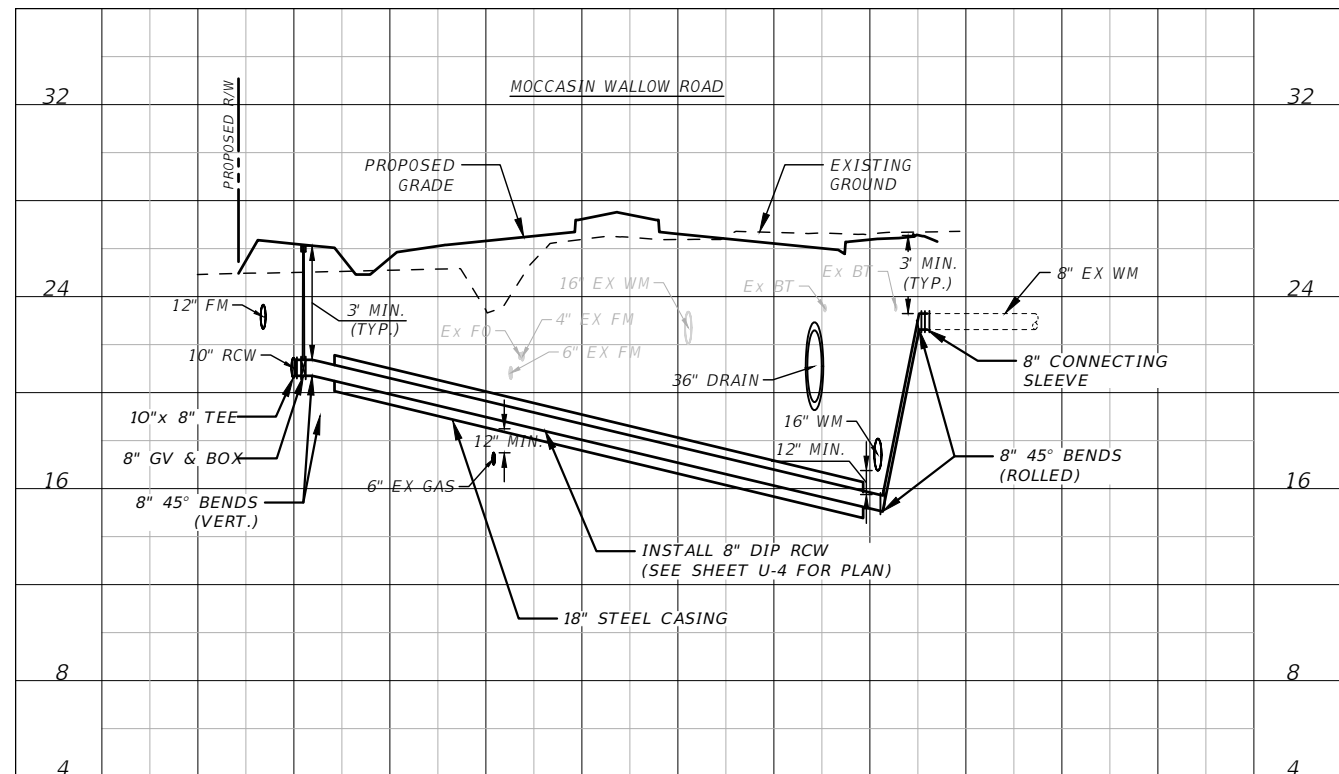
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
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THOMAS M. NOGAJ, PHD, P.E.
P.E. LICENSE NUMBER 42854
CARDNO
380 PARK PLACE BLVD, SUITE 300
CLEARWATER, FLORIDA 33759
CERTIFICATE OF AUTHORIZATION 29915

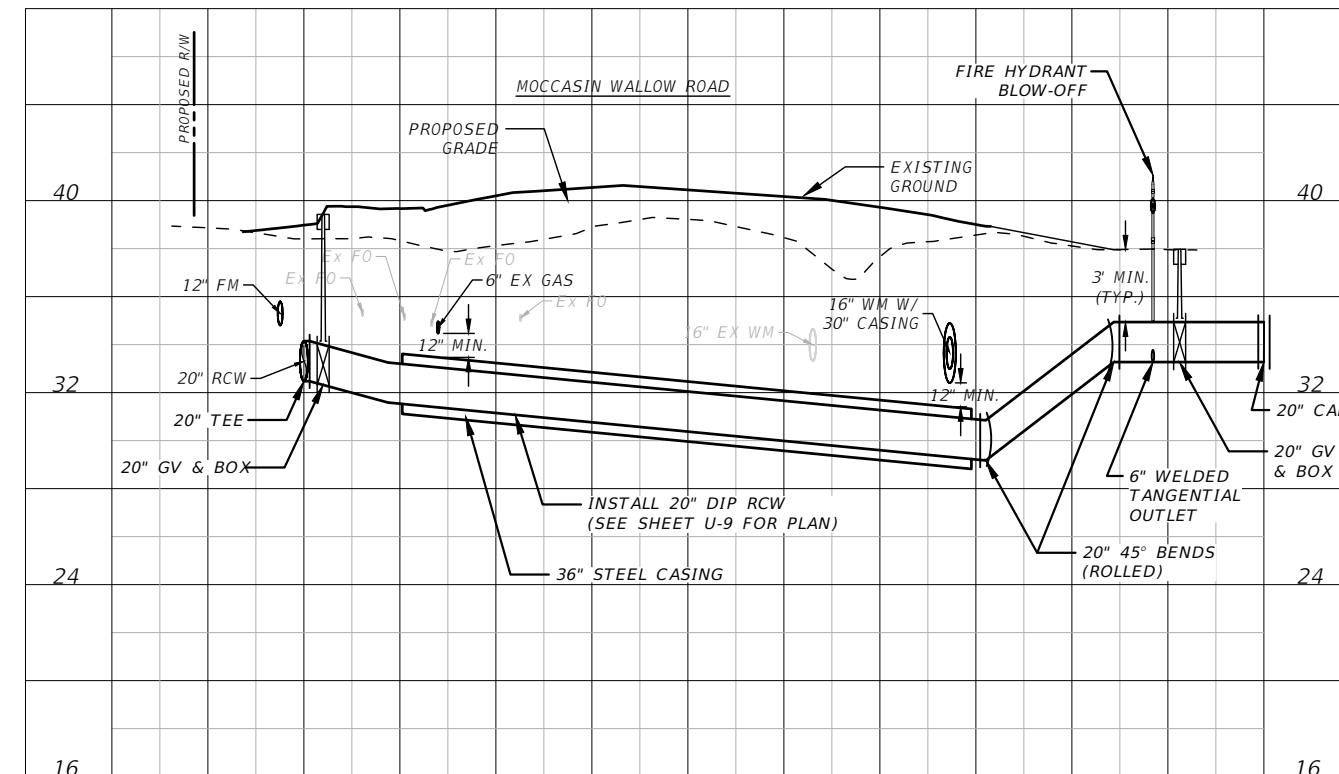
MANATEE COUNTY	
ROAD NO.	PROJECT ID
MOCCASIN WALLOW RD	6092560

RECLAIMED WATER PROFILE (8)

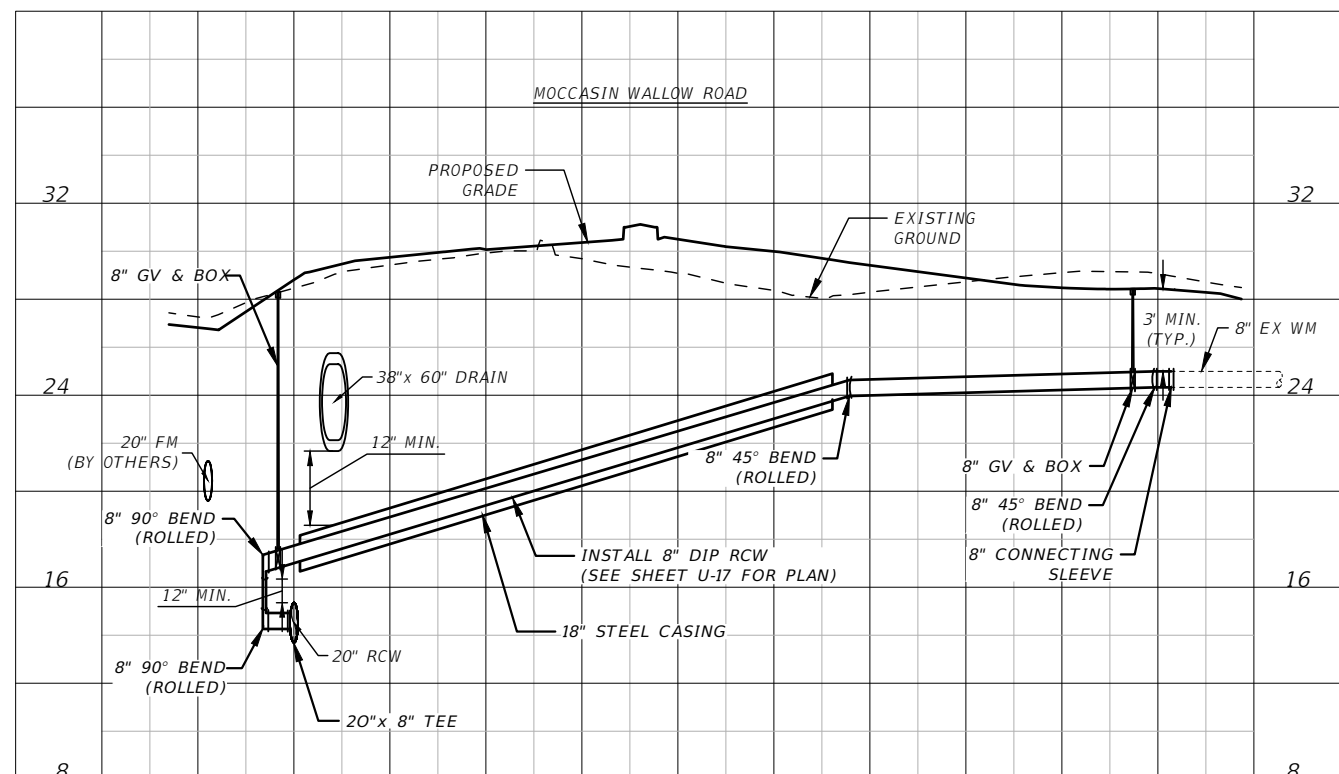
SHEET NO.
U-43



STATION 310+61



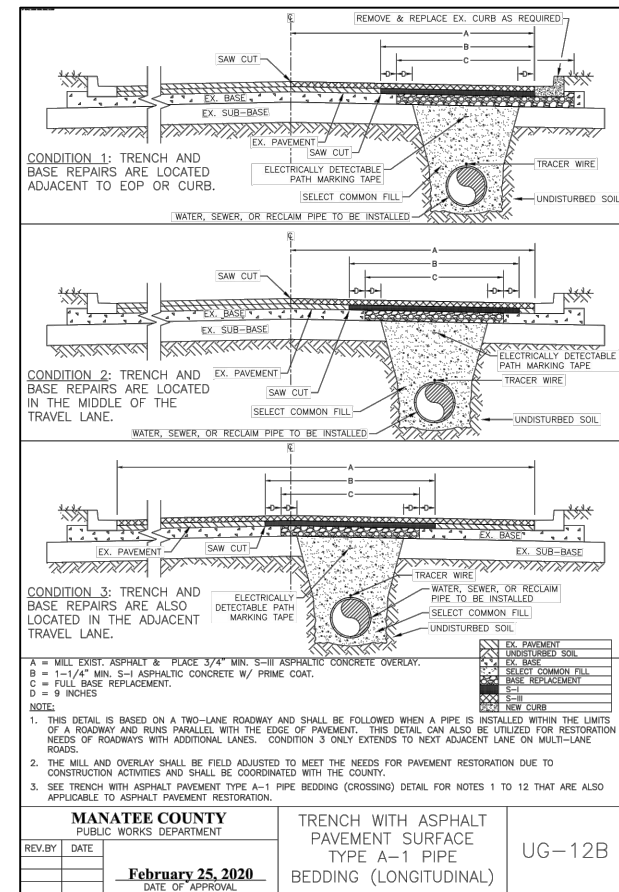
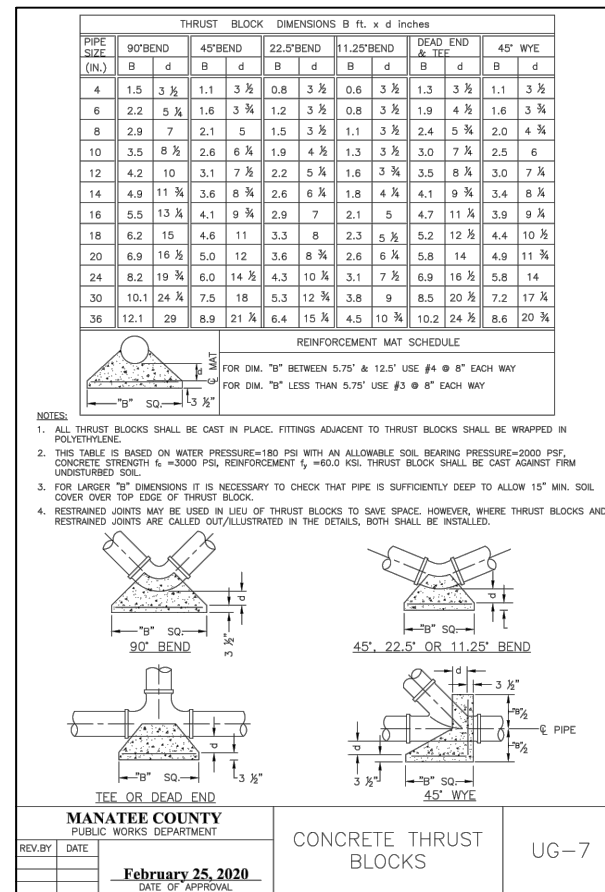
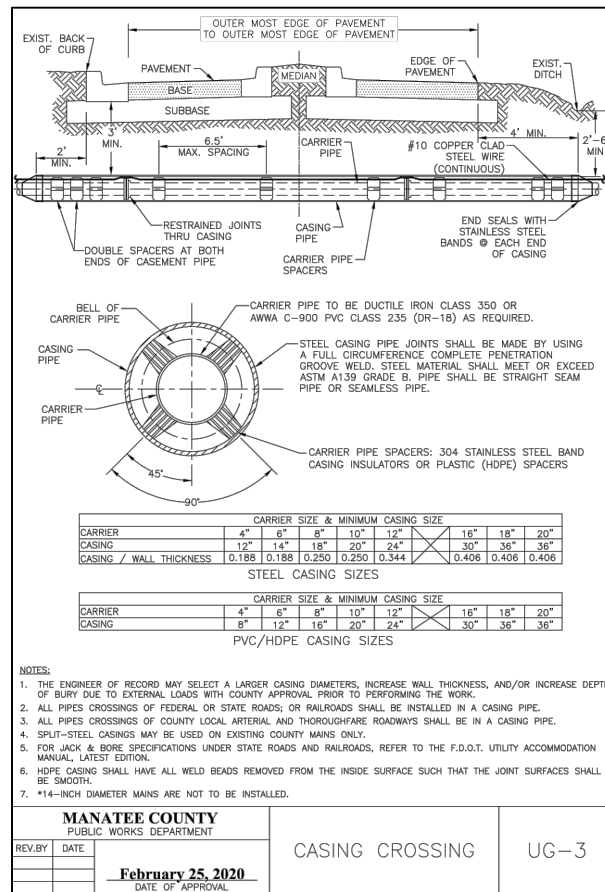
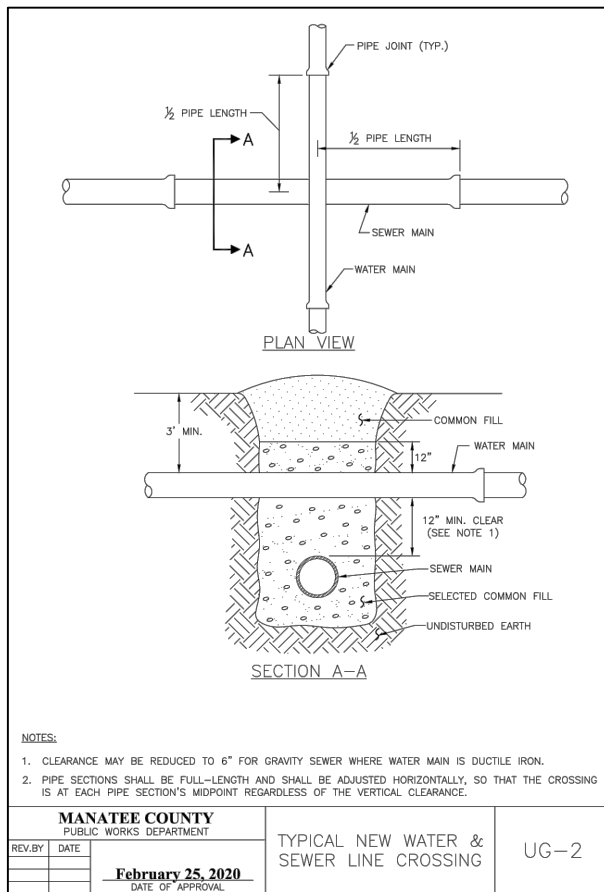
STATION 338+94



STATION 386+40

1" = 40' Horizontal
1" = 8' Vertical

REVISIONS				THOMAS M. NOGAJ, PHD, P.E. P.E. LICENSE NUMBER 42854 CARDNO 380 PARK PLACE BLVD, SUITE 300 CLEARWATER, FLORIDA 33759 CERTIFICATE OF AUTHORIZATION 29915	MANATEE COUNTY		RECLAIMED WATER PROFILE (9)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	PROJECT ID		U-44
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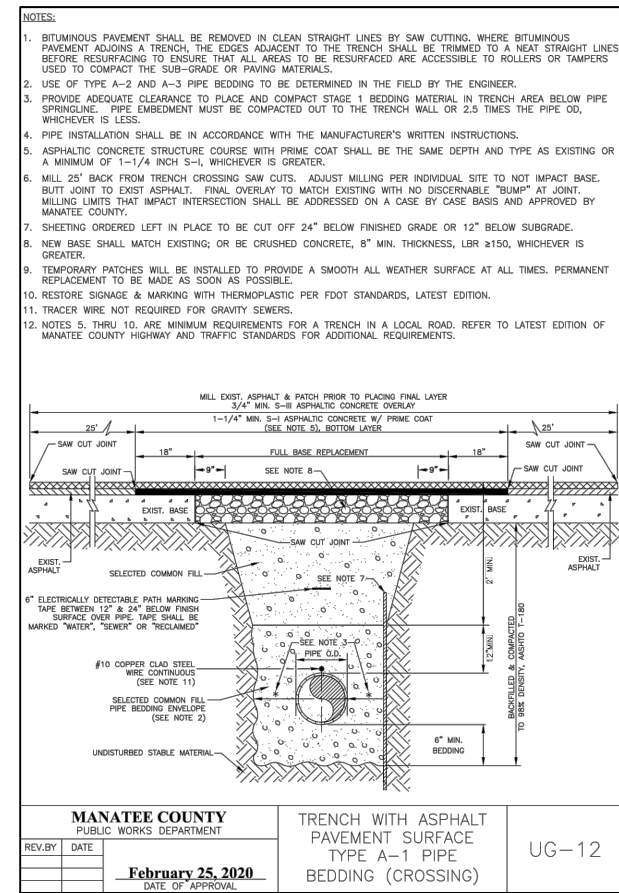
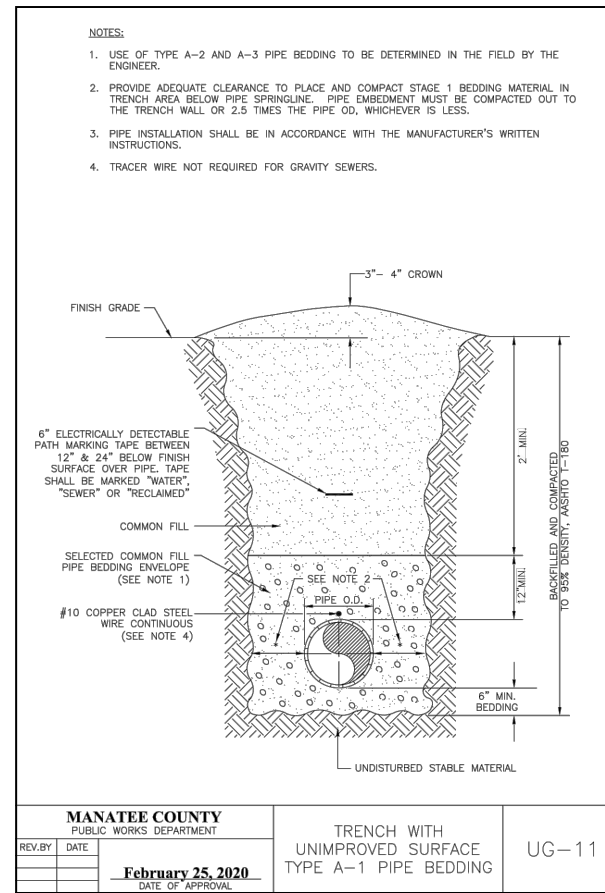
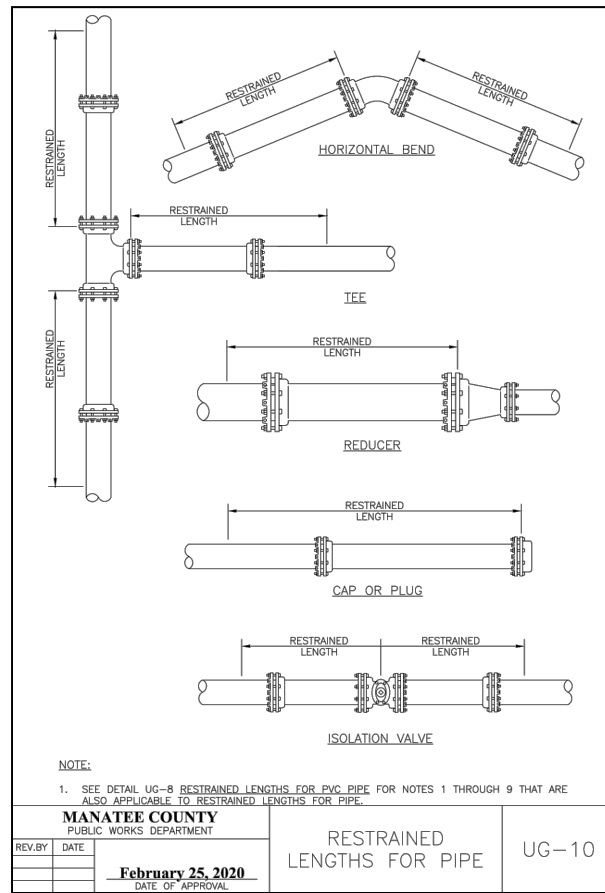
REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR DIP (POLY-WRAPPED)

MAIN PIPE SIZE	HORIZ. BENDS			TEES												REDUCERS												PLUGS & VALVES
	90°	45°	22.5°	SIZE LENGTH												SIZE LENGTH												
36	142	59	28	x36	x30	x24	x20	x16	x12	x10	x8	x6	x4	x30	x24	x20	x16	x12	x10	x8	x6	x4	45.3					
30	124	51	25	x30	x24	x20	x16	x12	x10	x8	x6	x4	x30	x24	x20	x16	x12	x10	x8	x6	x4	39.1						
24	106	44	21	x24	x20	x16	x12	x10	x8	x6	x4	x30	x24	x20	x16	x12	x10	x8	x6	x4	32.7							
20	92	38	18	x20	x16	x12	x10	x8	x6	x4	x30	x24	x20	x16	x12	x10	x8	x6	x4	28.0								
16	77	32	15	x16	x12	x10	x8	x6	x4	x30	x24	x20	x16	x12	x10	x8	x6	x4	23.1									
12	61	25	12	x12	x10	x8	x6	x4	x30	x24	x20	x16	x12	x10	x8	x6	x4	18.1										
10	52	22	10	x10	x8	x6	x4	x30	x24	x20	x16	x12	x10	x8	x6	x4	15.3											
8	44	18	9	x8	x6	x4	x30	x24	x20	x16	x12	x10	x8	x6	x4	12.8												
6	34	14	7	x6	x4	x30	x24	x20	x16	x12	x10	x8	x6	x4	9.8													
4	24	10	5	x4	x30	x24	x20	x16	x12	x10	x8	x6	x4	6.9														

MANATEE COUNTY
PUBLIC WORKS DEPARTMENT

REV. BY: DATE: **February 25, 2020**
DATE OF APPROVAL

RESTRAINED LENGTHS FOR DIP UG-9



REVISIONS				THOMAS M. NOGAJ, PHD, P.E. P.E. LICENSE NUMBER 42854 CARDNO 380 PARK PLACE BLVD, SUITE 300 CLEARWATER, FLORIDA 33759 CERTIFICATE OF AUTHORIZATION 29915	MANATEE COUNTY		SHEET NO. U-45
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO. MOCCASIN WALLOW RD	PROJECT ID 6092560	
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MANATEE COUNTY

DETAILS (1)

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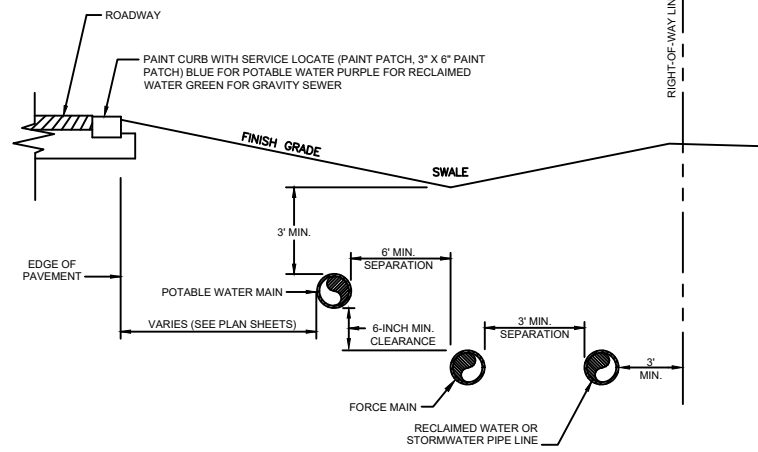
REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR C900-16 PVC PIPE (DR-18)

MAIN PIPE SIZE	HORIZ. BENDS	TEES	REDUCERS					PLUGS & VALVES		
			SIZE	LENGTH	SIZE	LENGTH	SIZE		LENGTH	
24	90	45	22.5	X24	X20	X18	X16	X14	X12	214
20	78	32	16	X20	X18	X16	X14	X12	X10	184
16	66	27	13	X16	X14	X12	X10	X8	X6	151
12	52	22	10	X12	X10	X8	X6	X4	X3	118
10	44	18	9	X10	X8	X6	X4	X3	X2	100
8	37	15	7	X8	X6	X4	X3	X2	X1	83
6	29	12	6	X6	X4	X3	X2	X1	X0	63
4	21	8	4	X4	X3	X2	X1	X0	X0	45

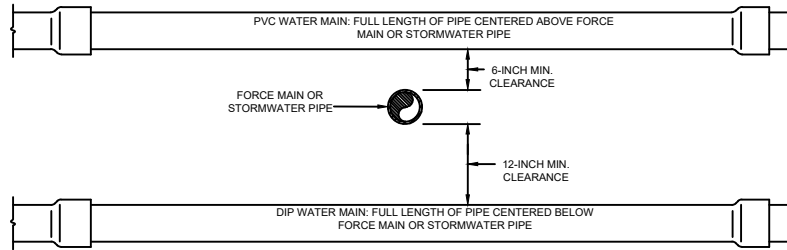
NOTES:

- 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		



HORIZONTAL SEPARATION



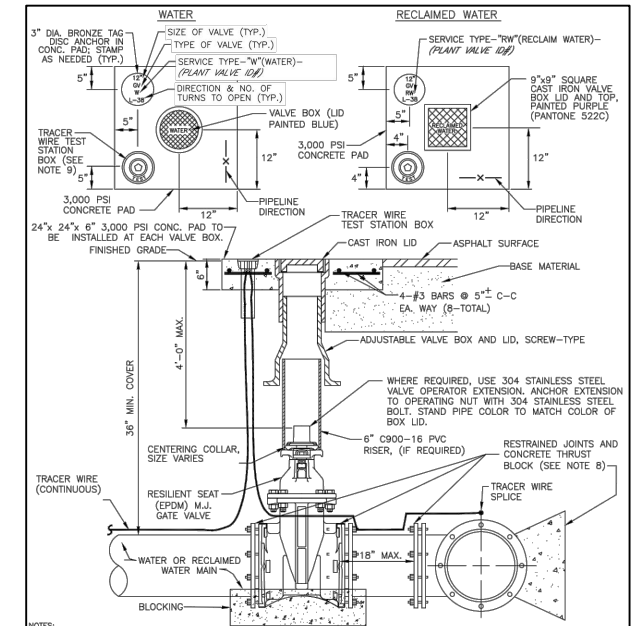
VERTICAL SEPARATION

WATER LINES AND WATER LINE ADJUSTMENTS NOTES:

- LOCATIONS (KNOWN) OF EXISTING WATER LINES CROSSING SEWERS PROPOSED TO BE IMPROVED ARE INDICATED ON PLANS AS "CONFLICT" (S). OTHER CROSSING LOCATIONS MAY EXIST - WHICH ARE NOT KNOWN.
- WATER LINES AT SEWER-CROSSING LOCATIONS SHALL BE ADJUSTED TO PROVIDE A MINIMUM OF 0.5 FEET CLEAR SEPARATION FROM THE SEWER. WHEN INDICATED ON THE PLANS OR DIRECTED IN THE FIELD. SEPARATE PAY IS PROVIDED FOR CROSSING ADJUSTMENTS OF 6 INCH DIAMETER OR GREATER (WATER LINES). ALL ADJUSTMENTS OF 4 INCH DIAMETER OR LESS WATER LINES SHALL BE CONSIDERED AS INCIDENTAL CONSTRUCTION.
- VERTICAL SEPARATIONS REQUIREMENTS:
 - UNDERGROUND WATER MAINS CROSSING NEWLY PROPOSED SANITARY SEWERS SHALL HAVE, OR BE ADJUSTED SO THAT THE VERTICAL CLEARANCE IS A MINIMUM OF 6 INCHES; A MINIMUM OF 12 INCHES IS PREFERRED IF CONDITIONS ALLOW. THE WATER MAIN SHALL CROSS OVER THE SANITARY SEWER, UNLESS SPECIFICALLY AUTHORIZED OR DIRECTED OTHERWISE.
 - WATER LINES REQUIRED TO BE ADJUSTED TO OBTAIN THE VERTICAL SEPARATION SHALL BE CONSTRUCTED WITH ONE FULL LENGTH OF WATER MAIN PIPE CENTERED ABOVE AND OVER THE SEWER, SO THAT THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE AWAY FROM THE POINT OF CONFLICT. ANY SANITARY SEWER JOINTS WITHIN FIVE FEET OF THE WATER MAIN SHALL BE CONCRETE ENCASED.
 - OTHER MEANS MAY BE DIRECTED OR APPROVED BY THE ENGINEER TO MEET FAC 62-604 AND/OR FAC 62-555 AS APPLICABLE.
- WATER LINE "MATERIALS AND RESTRAINING"
 - ALL WATER LINE PIPE 4 INCH THROUGH 12" SHALL BE OF PVC C-900, WATER LINE PIPE GREATER THAN 16 INCH SHALL BE OF PVC C-905, OR DUCTILE IRON CLASS 50 AS APPLICABLE. WATER LINE PIPE LESS THAN 4-INCH DIAMETER SHALL BE CLASS 200, SDR 21 PVC. ALL FITTINGS AND TRANSITION COUPLINGS SHALL BE OF APPROPRIATE STRENGTH AND AS APPROVED BY THE ENGINEER. ALL WATER PIPE ANCHORAGE SHALL BE BY RESTRAINING DEVICES APPROVED BY THE ENGINEER AND NO THRUST BLOCKS SHALL BE ALLOWED - WITHOUT SPECIFIC WRITTEN APPROVAL.
- WATER LINE ADJUSTMENT CONSTRUCTION PROTOCOL
 - PRIOR TO ADJUSTMENT CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER (IN WRITING), HIS COMPLETE PLANS FOR THE CONNECTION CONSTRUCTION OF EACH RESPECTIVE NEW WATER LINE SEGMENT. THE WRITTEN PLAN SHALL INCLUDE THE PROPOSED MATERIALS, RESTRAINING DEVICES, METHODS TO DEWATER, ESTIMATED TIME OF DAY OR NIGHT THE CONNECTIONS WILL BE MADE, AND ANTICIPATED TIME OF INTERRUPTED SERVICE. CONTRACTOR SHALL FURNISH HIS COMPLETE LIST OF RETRAINING FITTINGS AND/OR DEVICES TO THE ENGINEER AS SOON AS POSSIBLE, PRIOR TO ORDERING (AND NO LESS THAN 15 DAYS IN ADVANCE OF) THE PROPOSED CONSTRUCTION. ALL PROPOSED MATERIALS MEASURES, METHODS, AND TIMES MUST RECEIVE THE ENGINEER'S APPROVAL.
 - FORTY-EIGHT (48) HOURS PRIOR TO ADJUSTMENT CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE COUNTY FOR THE OBSERVATION AND COORDINATION OF ALL MEASURES, INCLUDING NOTICES TO WATER CUSTOMERS.
 - WATER LINE ADJUSTMENTS SHALL BE DISINFECTED PER AWWA C-651-92, SECTION 9.2, AND PRESSURE TESTED ON-LINE WITH TRENCH OPEN IN THE PRESENCE OF A CITY REPRESENTATIVE.
- THRUST RESTRAINING DEVICES AND/OR MEASURES REQUIRED IN ADDITION TO THE MEASURES AND INSTRUCTIONS CALLED FOR, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. AND ALL COSTS THERE OF SHALL BE INCLUDED IN THE APPLICABLE LINE ITEM.

PIPELINE SEPARATION DETAILS AND NOTES

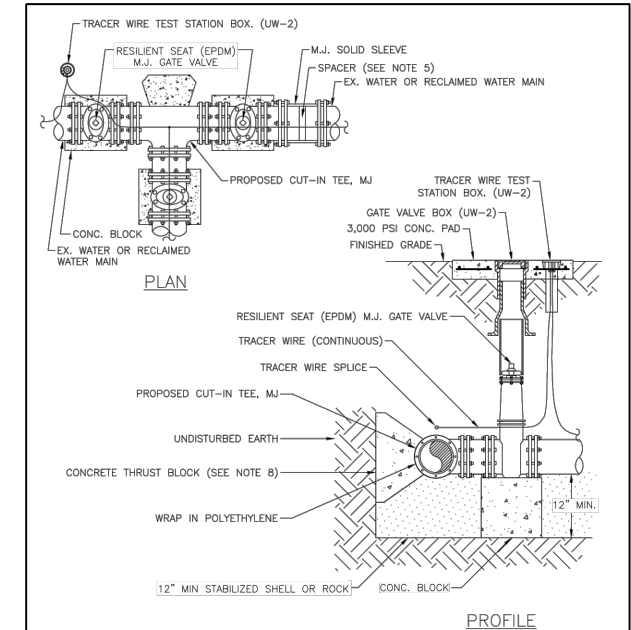
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NOTES:

- "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" x 1" GALVANIZED STEEL SCREW IN THE EDGE OF PAVEMENT WITH THE FOOTAGE FROM THE DISC TO THE VALVE.
- ALL EXISTING AND PROPOSED VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRADES AS DETERMINED IN THE FIELD.
- VALVES SHALL NOT BE PLACED IN HANDICAPPED RAMPS, CURBS, OR GUTTERS.
- PREFAB CONCRETE PADS SHALL NOT BE USED.
- ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1/2".
- PIPELINE DIRECTION TO BE IMPRESSED INTO NEWLY POURED CONCRETE PAD.
- TRACER WIRE TEST STATION BOX IS NOT REQUIRED IN VALVE BOX PAD IF THE GATE VALVE IS LOCATED WITHIN 200 FEET OF A WATER SERVICE, BLOW-OFF, BACKFLOW PREVENTER OR FIRE HYDRANT THAT HAS A TRACER WIRE BOX.
- WHERE THRUST BLOCK NOT USED, RESTRAINED JOINTS MUST EXTEND FROM TEE FULL LENGTH SPECIFIED FOR "TEES".
- USE NON-TRAFFIC RATED BOXES FOR NORMAL YARD SERVICE, WHERE VALVE WILL BE IN STREET OR PARKING UNDER VEHICLE TRAFFIC, USE TRAFFIC RATED BOXES WHERE POSSIBLE. LOCATE TRACER WIRE TESTING STATION OUTSIDE OF TRAVEL LANE OR IN MEDIAN, CENTERED IN SEPARATE CONCRETE PAD SIMILAR TO STANDARD VALVE BOX PAD.
- THE BRASS TAG SHALL HAVE A PLANT VALVE ID# WHEN VALVES ARE INSTALLED WITHIN THE COUNTY TREATMENT PLANT LIMITS. THE PLANT VALVE ID# SHALL BE SHOWN ON THE CONSTRUCTION PLANS AND RECORD DRAWINGS.
- REFER TO SECTION 1.11 GATE VALVES IN THE PUBLIC WORKS UTILITIES STANDARDS MANUAL FOR FURTHER DETAILS.

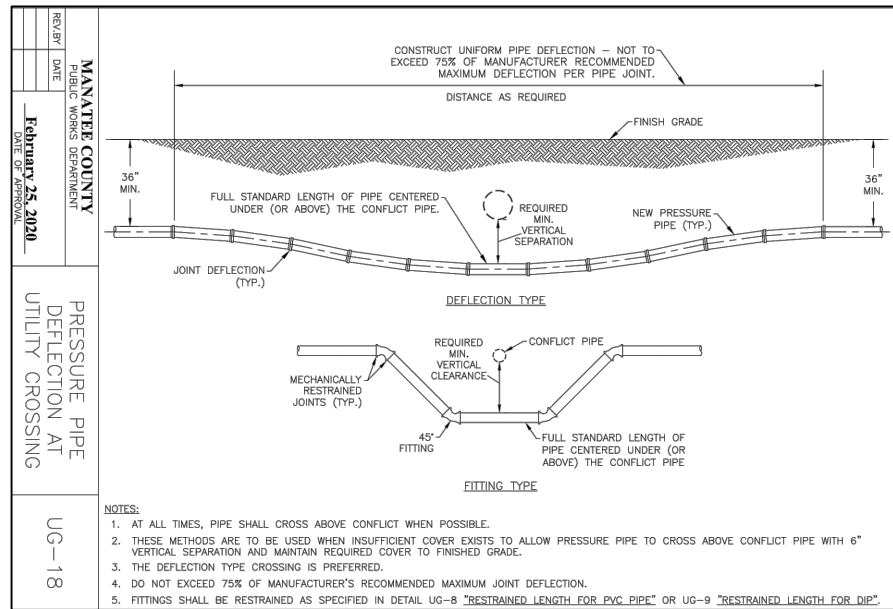
MANATEE COUNTY PUBLIC WORKS DEPARTMENT		GATE VALVE, BOX, LID AND TAG	UW-2
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		



NOTES:

- ALL FITTINGS TO BE WRAPPED WITH 20 MIL POLYETHYLENE WRAP AT THRUST BLOCK.
- TRACER WIRE TEST STATION BOX IS REQUIRED AT CONNECTIONS TO EXISTING MAINS.
- VALVE VALVES SHALL BE INSTALLED ON ALL SIDES OF TEES AND CROSSES, UNLESS INLINE VALVES ON THAT LEG WITHIN 200 FEET.
- RESTRAINED JOINTS MUST EXTEND FROM TEE FULL LENGTH SPECIFIED FOR VALVES.
- SPACER IS REQUIRED IF A GAP EXISTS. SPACER NOT TO EXCEED OVER 30% OF SLEEVE WIDTH.
- IN ASBESTOS CONCRETE PIPE (AC) APPLICATIONS, TWO COUPLINGS ARE REQUIRED. ALL FITTINGS INCLUDING COUPLINGS SHALL BE SUPPORTED WITH CONCRETE BLOCKING TO PREVENT SETTLEMENT.
- ALL EXISTING RESTRAINING SHALL BE MODIFIED AND/OR RE-INSTATED AS NECESSARY, TO MEET THE RESTRAINT REQUIREMENT FOR VALVES.
- WHERE THRUST BLOCK NOT USED, RESTRAINED JOINTS MUST THEN EXTEND FROM TEE FULL LENGTH SPECIFIED FOR "TEES".

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		CUT-IN TEE	UW-4
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		



NOTES:

- AT ALL TIMES, PIPE SHALL CROSS ABOVE CONFLICT WHEN POSSIBLE.
- THESE METHODS ARE TO BE USED WHEN INSUFFICIENT COVER EXISTS TO ALLOW PRESSURE PIPE TO CROSS ABOVE CONFLICT PIPE WITH 6" VERTICAL SEPARATION AND MAINTAIN REQUIRED COVER TO FINISHED GRADE.
- THE DEFLECTION TYPE CROSSING IS PREFERRED.
- DO NOT EXCEED 75% OF MANUFACTURER'S RECOMMENDED MAXIMUM JOINT DEFLECTION.
- FITTINGS SHALL BE RESTRAINED AS SPECIFIED IN DETAIL UG-8 "RESTRAINED LENGTH FOR PVC PIPE" OR UG-9 "RESTRAINED LENGTH FOR DIP".

REVISIONS

DATE	DESCRIPTION	DATE	DESCRIPTION
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THOMAS M. NOGAJ, PHD, P.E.
P.E. LICENSE NUMBER 42854
CARDNO
380 PARK PLACE BLVD, SUITE 300
CLEARWATER, FLORIDA 33759
CERTIFICATE OF AUTHORIZATION 29915

MANATEE COUNTY

ROAD NO.	PROJECT ID
MOCCASIN WALLOW RD	6092560

Andrew Olivias

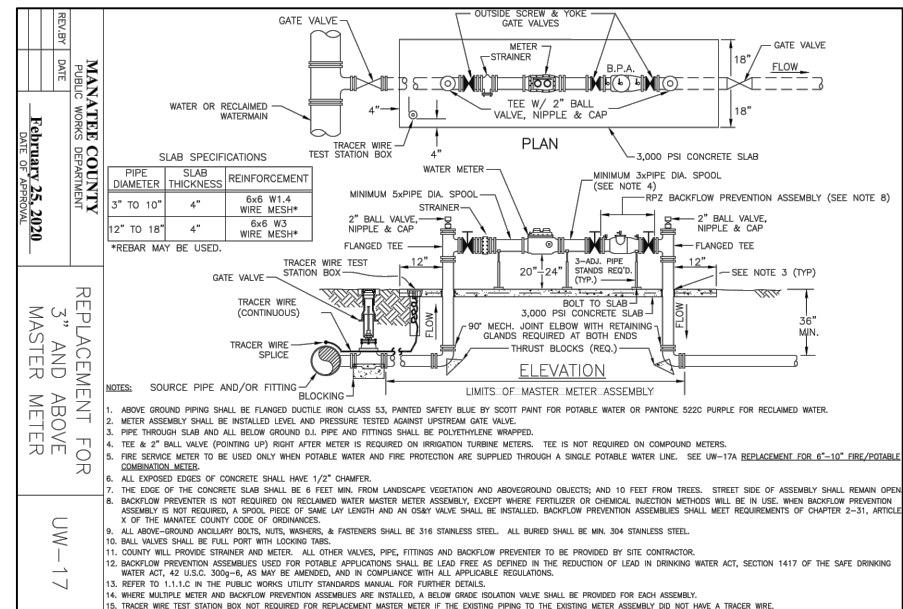
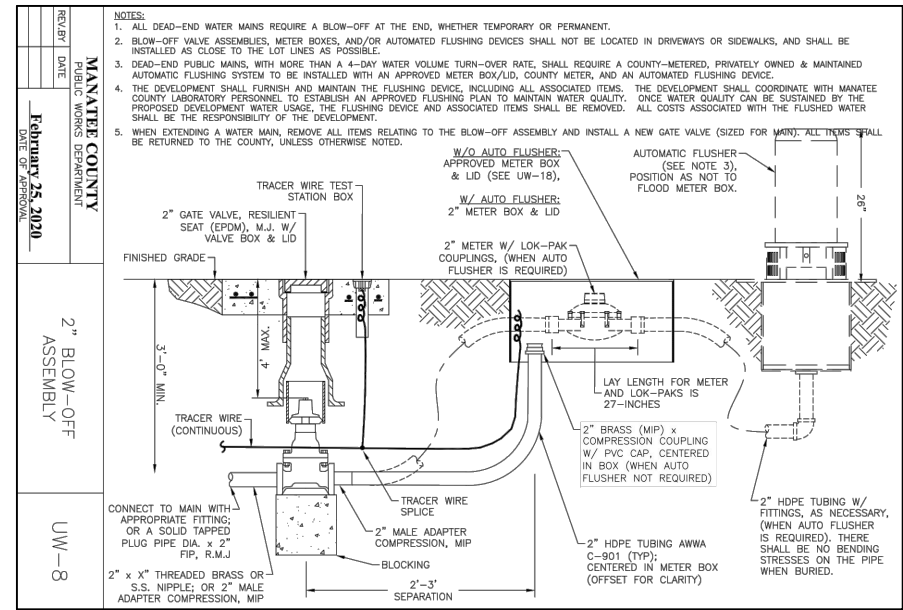
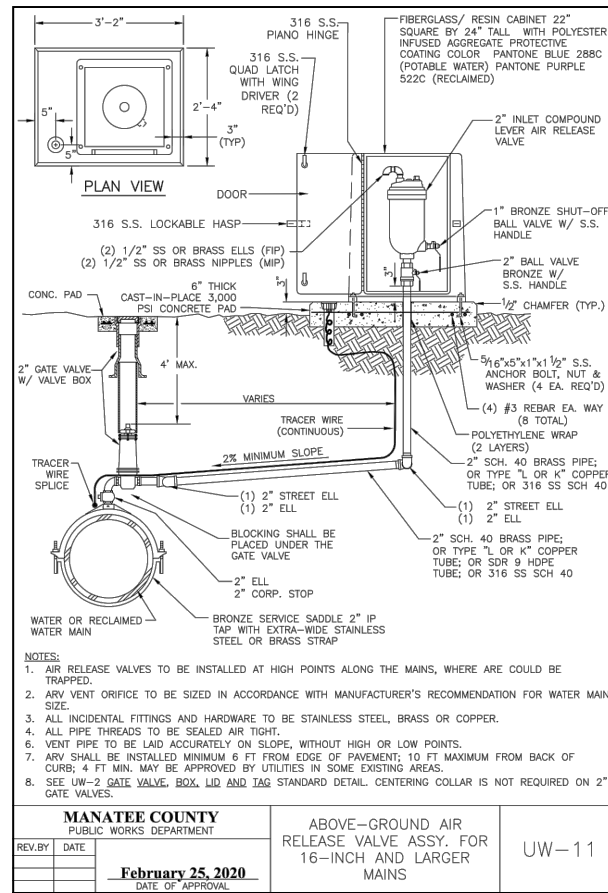
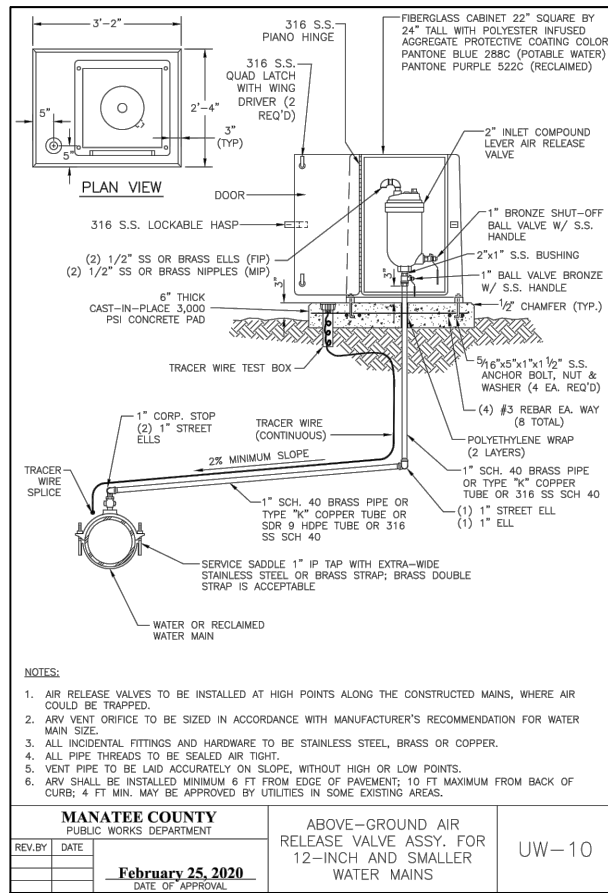
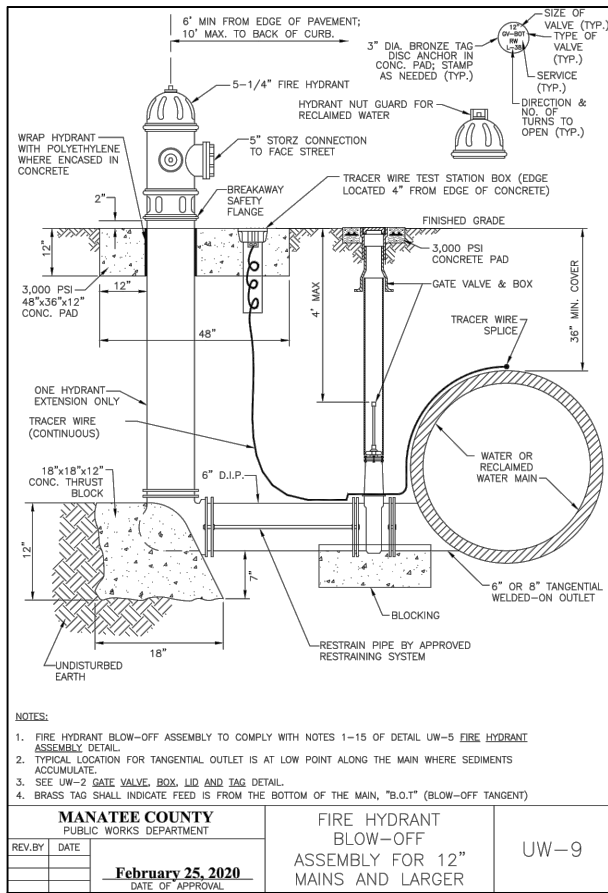
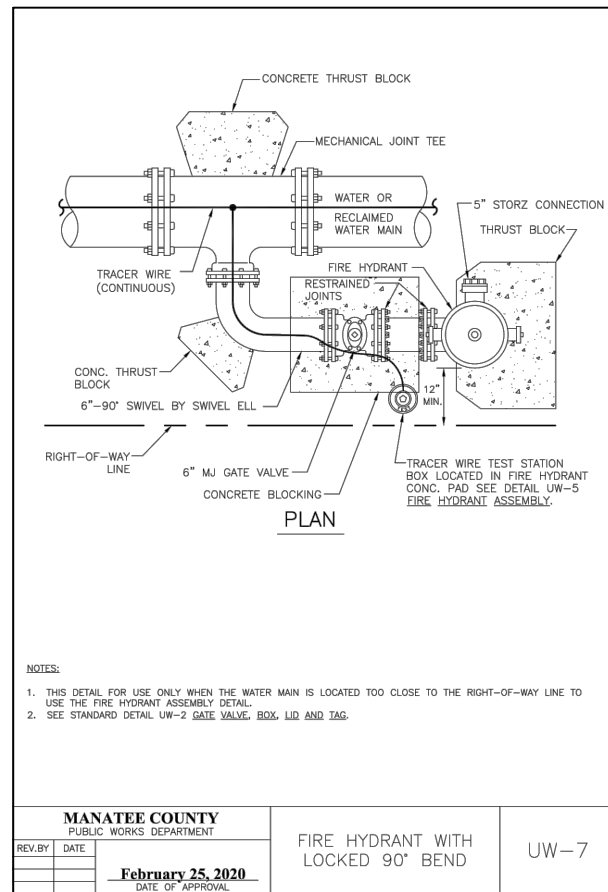
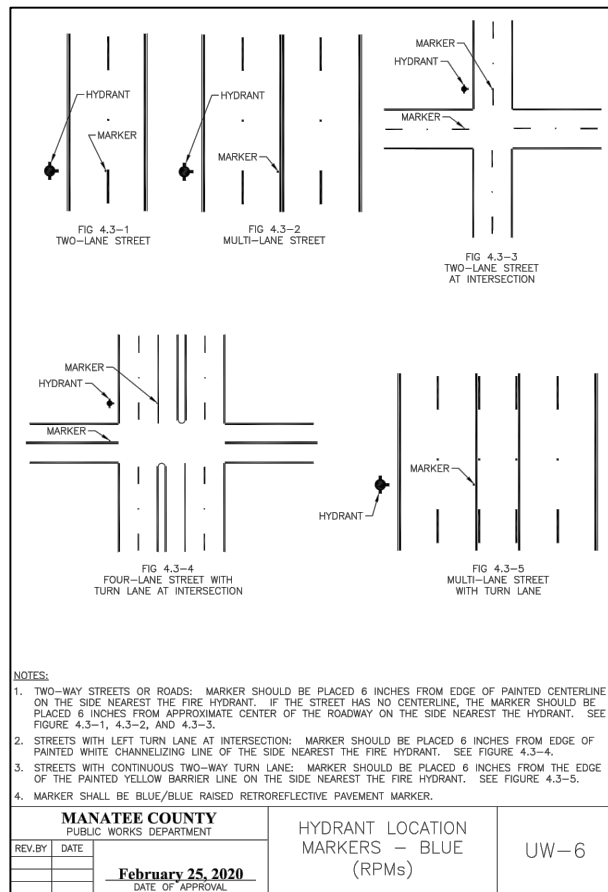
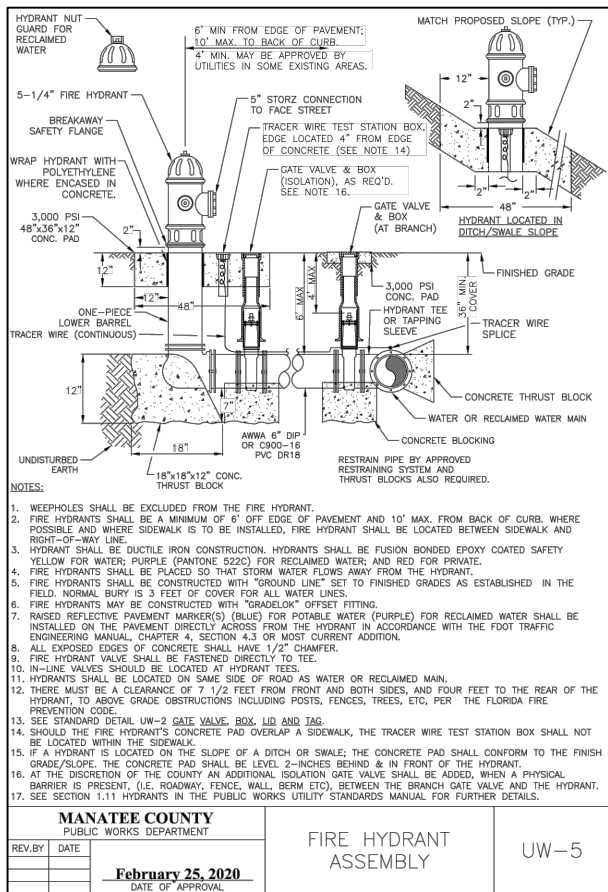
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DETAILS (2)

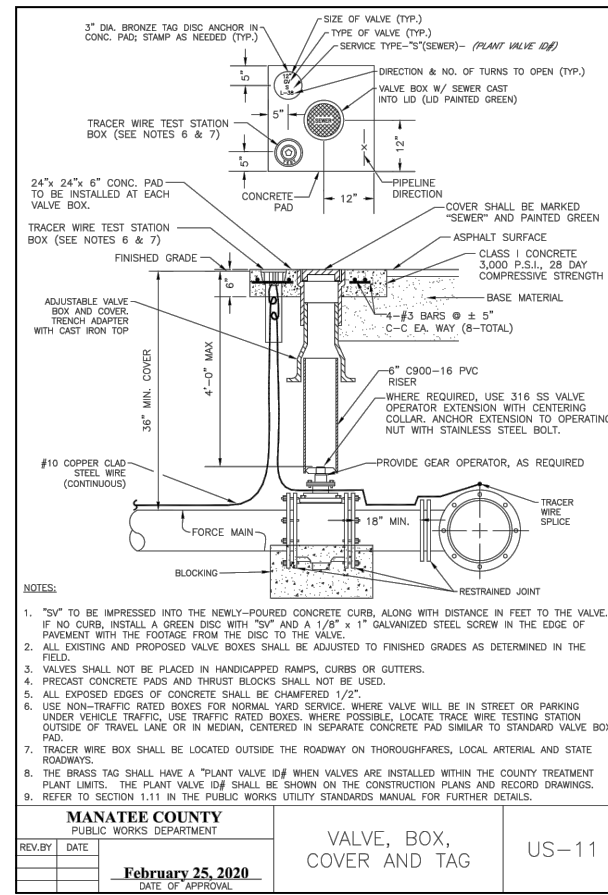
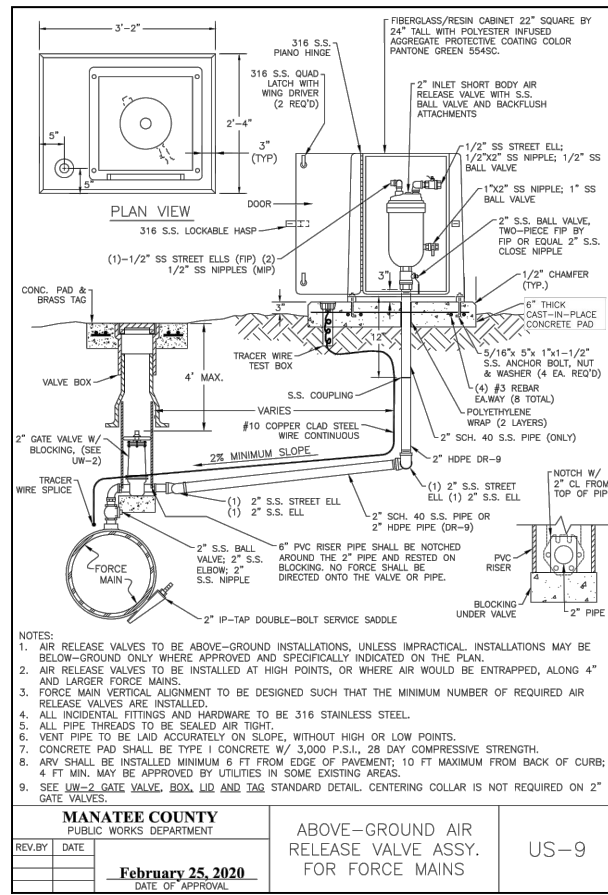
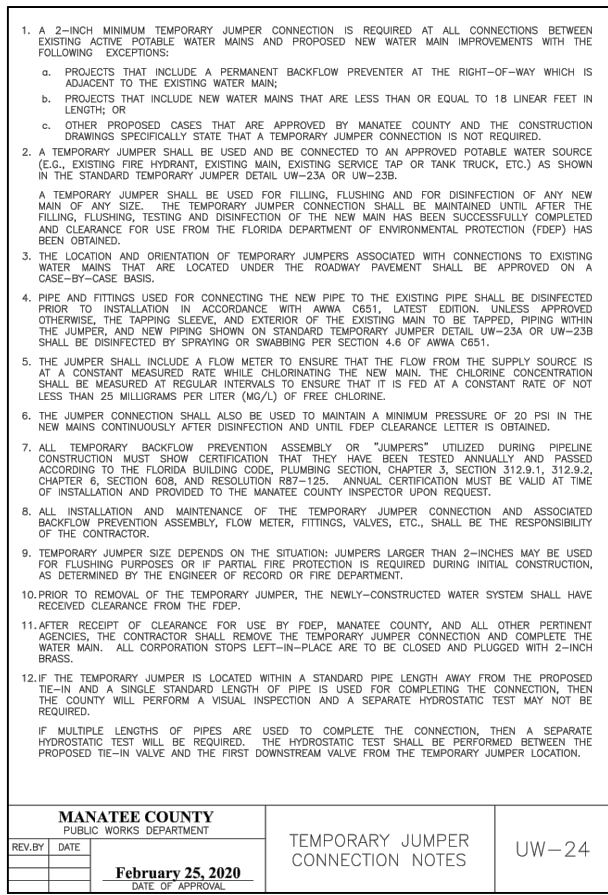
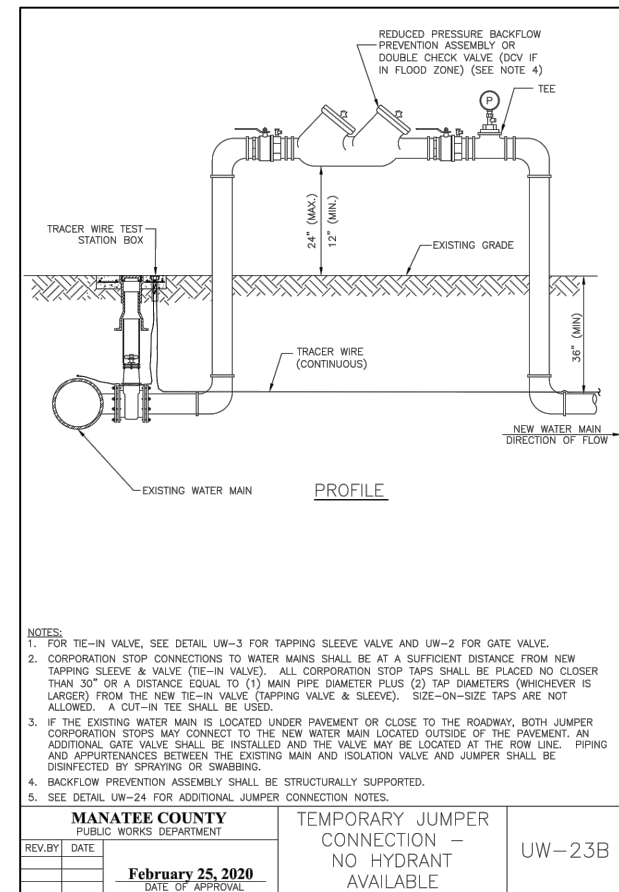
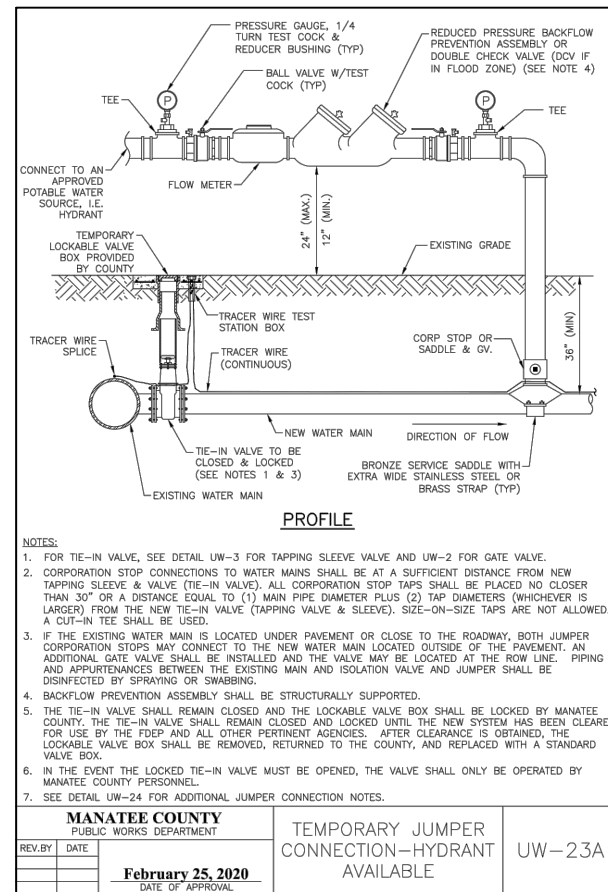
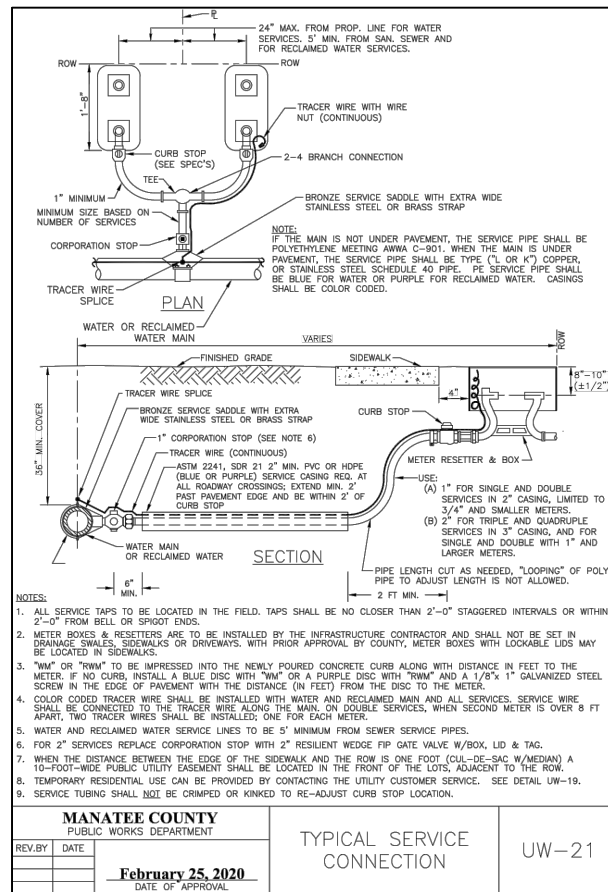
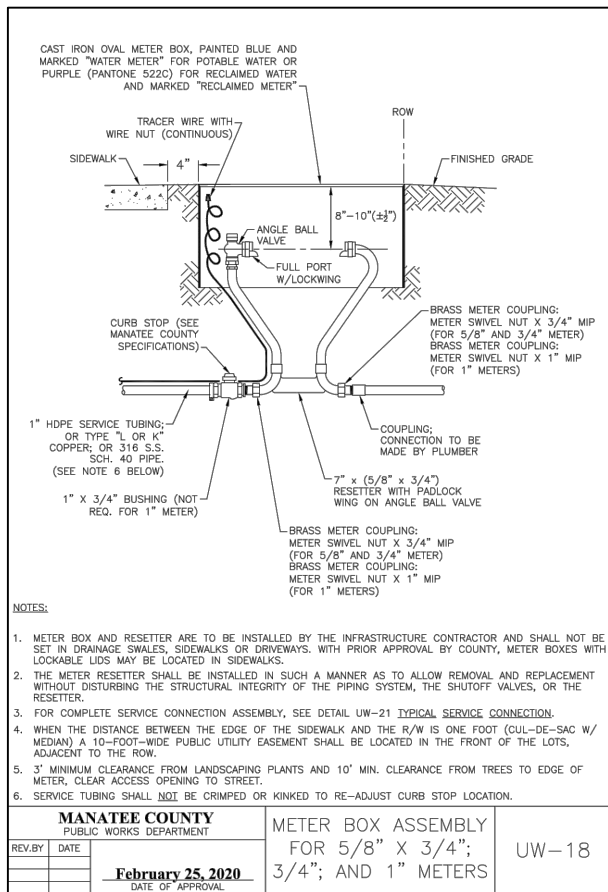
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REVISIONS		THOMAS M. NOGAJ, PHD, P.E. P.E. LICENSE NUMBER 42854 CARDNO 380 PARK PLACE BLVD, SUITE 300 CLEARWATER, FLORIDA 33759 CERTIFICATE OF AUTHORIZATION 29915	MANATEE COUNTY		SHEET NO.
DATE	DESCRIPTION	DESCRIPTION	ROAD NO.	PROJECT ID	
			MOCCASIN WALLOW RD	6092560	U-47



REVISIONS		DATE	DESCRIPTION

THOMAS M. NOGAJ, PHD, P.E. P.E. LICENSE NUMBER 42854 CARDNO 380 PARK PLACE BLVD, SUITE 300 CLEARWATER, FLORIDA 33759 CERTIFICATE OF AUTHORIZATION 29915		MANATEE COUNTY ROAD NO. MOCCASIN WALLOW RD PROJECT ID 6092560	SHEET NO. U-48
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