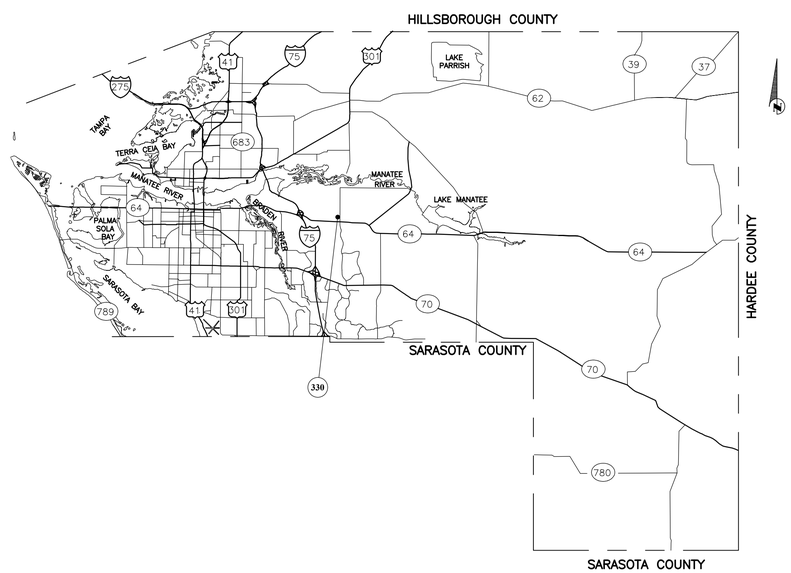
SATELLITE LIFT STATION R&R
SLS UPPER MANATEE RIVER ROAD (UMRR)
6117680

October 2023

BID PLANS

L.S. NAME	RTU	ADDRESS	INFLUENT MH
UPPER MANATEE RIVER ROAD	330	1010 UPPER MANATEE RIVER RD., BRADENTON	PUBLIC



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PROJECT DESCRIPTION

REHABILITATE SEWAGE LIFT STATIONS (AND/OR MANHOLES) TO REDUCE RISK TO PUBLIC HEALTH AND ENVIRONMENTAL POLLUTION. THE WORK SHALL CONSIST OF, BUT NOT LIMITED TO, UPGRADE OR FULL REPLACEMENT OF THE ELECTRICAL CONTROL EQUIPMENT, WET WELL CLEANING, THE REPLACEMENT OF DISCHARGE PIPING, FITTINGS, VALVES, SWING CHECK VALVES, GUIDE RAILS, PIPE BRACINGS, BASE ELLS, AND/OR MOUNTING PLATES. EXISTING WET WELL LINER SHALL BE REMOVED AND REPLACED.

PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

SLS UPPER MANATEE RIVER ROAD
1010 UPPER MANATEE RIVER ROAD
COVER

NO.	REVISION DESCRIPTION	BY	DATE

PROJECT #	6117680
SURVEY #	NA
SEC./TWN./RGE	30/34/19
SCALE	N.T.S.

	BY	DATE
SURVEYED	NA	NA
DESIGNED	JSS	2/22
DRAWN	JKW	2/22
CHECKED	JSS	–

J. SHERRIBOUN, P.E.
JOHN S. SHOUN
LICENSE
No. 60923
STATE OF FLORIDA
PROFESSIONAL ENGINEER
10/20/2023
NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED ENGINEER

SHEET 01 OF 10

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GENERAL

1. ALL CONSTRUCTION ACTIVITIES SHALL BE COORDINATED WITH THE PROJECT MANAGEMENT DIVISION. THE PROJECT MANAGER IS: ANTHONY BENITEZ, P.E. AND CAN BE REACHED AT 941.708.7450 x7333.
2. SITE VISITS ARE MANDATORY FOR ALL BIDDERS.
3. ALL CONSTRUCTION ON THIS PROJECT SHALL BE IN ACCORDANCE WITH **THE LATEST EDITION OF MANATEE COUNTY UTILITY AND TRANSPORTATION STANDARDS** AND/OR FDOT "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" UNLESS OTHERWISE INDICATED ON THE PLANS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL CONDITIONS AND REQUIREMENTS OF ALL PERMITS AND ALL GOVERNING FEDERAL, STATE, AND LOCAL AGENCIES. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS THAT ARE NOT PROVIDED IN THE BID DOCUMENTS, AT NO ADDITIONAL COST TO THE OWNER.
5. THE INFORMATION PROVIDED IN THESE PLANS IS SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF THE CONDITIONS WHICH MAY BE ENCOUNTERED DURING THE COURSE OF WORK. ALL CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT WHATEVER INVESTIGATION THEY MAY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSIONS REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH THEIR BIDS WILL BE BASED.
6. THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS ON THE PLANS AND REVIEW ALL FIELD CONDITIONS THAT MAY AFFECT CONSTRUCTION. SHOULD DISCREPANCIES OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO OBTAIN THE ENGINEER'S CLARIFICATION BEFORE COMMENCING WITH CONSTRUCTION.
7. AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CONTACT SUNSHINE STATE ONE CALL OF FLORIDA AT 1–800–432–4770 OR THE NATIONAL 811 ONE CALL NUMBER WHEN APPLICABLE FOR UTILITY LOCATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ALL UTILITIES FOR THE POSSIBLE RELOCATION OR THE TEMPORARY MOVEMENT OF ANY EXISTING UTILITIES WITHIN THE RIGHTS–OF–WAY.
8. NO WORK, EXCEPT FOR EMERGENCY TYPE, SHALL BE PERFORMED AFTER 7:00 PM AND BEFORE 7:00 AM. FOR ADDITIONAL PROJECT RESTRAINTS, REFER TO SECTION 01310 OF THE SPECIFICATIONS.

SAFETY

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE FLORIDA TRENCH SAFETY ACT, 90–96, LAWS OF FLORIDA EFFECTIVE OCTOBER 1, 1990 AND THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION EXCAVATION SAFETY STANDARDS, 29 CFR 1926.650, SUBPART P, AS AMENDED. THE CONTRACTOR SHALL INCLUDE IN THE TOTAL BID PRICE ALL COSTS FOR COMPLIANCE WITH THESE REGULATIONS.
10. THE CONTRACTOR SHALL USE SHEET PILING, SHEETING, BRACING, ETC., AS REQUIRED IN ALL EXCAVATION AREAS AND CONFORM TO ALL OSHA REQUIREMENTS.
11. THE CONTRACTOR SHALL USE ALL NECESSARY SAFETY PRECAUTIONS TO AVOID CONTACT WITH OVERHEAD AND UNDERGROUND UTILITIES, POWER LINES, ETC.
12. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. THIS EXCLUSION DOES NOT ALLEVIATE THE CONTRACTOR FOR PROVIDING A CONTINUOUS SAFE WORKSPACE.

ENVIRONMENTAL

13. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL NECESSARY STORM WATER, EROSION, AND SEDIMENTATION CONTROL MEASURES IN ACCORDANCE WITH THE FDEP "FLORIDA STORM WATER, EROSION AND SEDIMENTATION CONTROL INSPECTOR'S MANUAL". IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTROL AND PREVENT EROSION AND TRANSPORT OF SEDIMENT TO SURFACE DRAINS AND TO DITCHES DURING CONSTRUCTION.
14. STOCKPILES SHALL BE PROTECTED AT ALL TIMES BY ON–SITE DRAINAGE CONTROLS WHICH PREVENT EROSION OF THE STOCKPILED MATERIAL. CONTROL OF DUST FROM SUCH STOCKPILES IS REQUIRED, DEPENDING UPON THEIR LOCATION AND THE EXPECTED LENGTH OF TIME THE STOCKPILES WILL BE PRESENT. IN NO CASE SHALL ANY STOCKPILED MATERIAL REMAIN AFTER THIRTY (30) CALENDAR DAYS.
15. STORM WATER INLETS IN THE VICINITY OF THE PROJECT SHALL BE PROTECTED BY SEDIMENT TRAPS SUCH AS SECURED HAY BALES, SOD, STONE, ETC., WHICH SHALL BE MAINTAINED AND MODIFIED AS REQUIRED BY CONSTRUCTION PROGRESS, AND WHICH MUST BE APPROVED BY THE ENGINEER BEFORE INSTALLATION. THIS WILL BE MAINTAINED TO PREVENT DEGRADATION OF THE WATERS OF THE COUNTY AND STATE.
16. SEDIMENT BASINS AND TRAPS, PERIMETER BERMS, SEDIMENT BARRIERS, VEGETATIVE BUFFERS, AND OTHER MEASURES INTENDED TO TRAP SEDIMENT AND/OR PREVENT THE TRANSPORT OF SEDIMENT ONTO ADJACENT PROPERTIES, OR INTO EXISTING BODIES OF WATER, MUST BE INSTALLED, CONSTRUCTED, OR IN THE CASE OF VEGETATIVE BUFFERS, PROTECTED FROM DISTURBANCE, AS A FIRST STEP IN THE LAND ALTERATION PROCESS. SUCH SYSTEMS SHALL BE FULLY OPERATIVE BEFORE ANY OTHER DISTURBANCE OF THE SITE BEGINS. EARTHEN STRUCTURES INCLUDING BUT NOT LIMITED TO BERMS, EARTH FILTERS, DAMS OR DIKES SHALL BE STABILIZED AND PROTECTED FROM DRAINAGE DAMAGE OR EROSION WITHIN ONE (1) WEEK OF INSTALLATION.
17. ALL SWALES, DITCHES, AND CHANNELS LEADING FROM THE SITE SHALL BE PROTECTED FROM SILTATION AND EROSION DURING CONSTRUCTION AND BE SODDED WITHIN THREE (3) DAYS OF EXCAVATION.
18. SOIL DISPLACED BY CONSTRUCTION WILL BE REMOVED. EROSION CONTROL SHALL BE IMPLEMENTED IN AREAS WHICH ARE CONSIDERED ENVIRONMENTALLY SENSITIVE. EROSION CONTROL SYSTEMS SHALL BE REQUIRED FOR ALL WORK WITHIN JURISDICTIONAL AREAS. THESE SYSTEMS MAY INCLUDE STAKED HAY BALES, SILT SCREENS, FILTER FABRIC, AND TURBIDITY SCREENS.
19. ALL EROSION AND POLLUTION CONTROL DEVICES SHALL BE CHECKED REGULARLY, ESPECIALLY AFTER EACH RAINFALL AND SHALL BE CLEANED OUT AND/OR REPAIRED AS REQUIRED.
20. THE CONTRACTOR SHALL NOT ENTER UPON OR IN ANY WAY ALTER WETLAND AREAS THAT MAY BE ON OR NEAR THE CONSTRUCTION SITE. ALL WORK IN THE VICINITY OF OPEN WATER AND/OR WETLANDS IS TO BE PERFORMED IN COMPLIANCE WITH THE ENVIRONMENTAL REGULATIONS AND/OR PERMITS FOR THE SITE. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY FINES RESULTING FROM HIS VIOLATION OF ANY REGULATIONS OR PERMIT CONDITIONS.
21. FOR MORE INFORMATION, SEE THE EROSION CONTROL DETAIL SHEET INCLUDED IN THE PLANS.

RIGHT–OF–WAY

22. ALL CONSTRUCTION ACTIVITIES SHALL BE LIMITED TO WITHIN THE MANATEE COUNTY/FDOT RIGHT–OF–WAY AND/OR EASEMENTS SHOWN ON THE DRAWINGS.
23. THE CONTRACTOR SHALL EMPLOY A LAND SURVEYOR REGISTERED IN THE STATE OF FLORIDA TO REFERENCE AND RESTORE PROPERTY CORNER MONUMENTS, PINS, AND LANDMARKS THAT MAY BE DISTURBED BY CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.
24. THE CONTRACTOR, PRIOR TO CONSTRUCTION AND RESTRICTING ANY TRAFFIC, MUST OBTAIN A RIGHTS–OF–WAY USE PERMIT AND A TRAFFIC CONTROL PLAN. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS FROM OTHER GOVERNMENTAL AGENCIES HAVING RELEVANT JURISDICTION. ALL MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF THE CURRENT FLORIDA DEPARTMENT OF TRANSPORTATION "MANUAL OF TRAFFIC CONTROL AND SAFE PRACTICES". A TRAFFIC CONTROL PLAN SHALL BE SUPPLIED BY THE CONTRACTOR AT THE PRE–CONSTRUCTION MEETING.
25. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ALL DAMAGED STORM WATER STRUCTURES, PIPING, ENTRANCE PIPE AND HEADWALLS WHETHER SHOWN ON THE PLANS OR NOT. THE HEADWALLS SHALL BE REPLACED IN ACCORDANCE WITH F.D.O.T. STANDARDS.
26. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH IN THE FIELD THE RIGHT–OF–WAY LINES, BASE LINES, BENCH MARKS (ELEV.), CENTER LINES, AND STATIONING AS REQUIRED TO CONSTRUCT THIS PROJECT.
27. THE CONTRACTOR SHALL COORDINATE THE CUTTING OF DRIVEWAYS WITH THE PROPERTY OWNER PRIOR TO CUT. ALL DRIVEWAYS WILL BE IN PASSABLE CONDITION AT THE END OF THE WORK DAY AND FULLY RESTORED PER SECTION 02575.
28. A RIGHT OF ENTRY AGREEMENT SHALL BE OBTAINED BY THE PROJECT MANAGER FROM THE PROPERTY OWNER BEFORE ANY DRIVEWAY CONSTRUCTION WORK IS DONE OUTSIDE OF THE RIGHT–OF–WAY OR EASEMENT.

UTILITIES

29. ALL EXISTING FACILITIES IN THE PROJECT AREA SHALL REMAIN OPERATIONAL AND ACCESSIBLE BY COUNTY PERSONNEL AT ALL TIMES, I.E. VALVES, MANHOLE COVERS, ETC.
30. LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES ARE SHOWN TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS BUT DO NOT PURPORT TO BE ABSOLUTELY CORRECT. THERE MAY BE OTHER IMPROVEMENTS, UTILITIES, ETC. WHICH ARE WITHIN THE PROJECT AREA AND WHICH HAVE NOT BEEN LOCATED OR IDENTIFIED, MAY NOT BE IN THE EXACT LOCATION SHOWN OR RELOCATED SINCE THE PREPARATION OF THESE PLANS. THE CONTRACTOR SHALL VERIFY, PRIOR TO CONSTRUCTION, THE LOCATIONS, ELEVATIONS AND DIMENSIONS OF ALL EXISTING UTILITIES STRUCTURES AND OTHER FEATURES (WHETHER OR NOT SHOWN ON THE PLANS) THAT MAY EFFECT HIS WORK. ALL EXISTING UTILITIES TO BE EXTENDED, CROSSED OR CONNECTION POINTS SHALL BE EXPOSED PRIOR TO CONSTRUCTION TO VERIFY LOCATION AND ELEVATION. ANY DISCREPANCIES OR CONFLICTS FOUND SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR RESOLUTION.
31. THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, WATER/RECLAIM/SEWER LINES, STORM DRAINS, OTHER UTILITIES, DRIVEWAYS, SIDEWALKS, SIGNS, MAIL BOXES, FENCES, TREES, LANDSCAPING, AND ANY OTHER IMPROVEMENT OR FACILITY IN THE CONSTRUCTION AREA. THE CONTRACTOR SHALL REPAIR AND/OR REPLACE ANY DAMAGED ITEM DUE TO HIS CONSTRUCTION ACTIVITIES TO EQUAL OR BETTER THAN PRE–CONSTRUCTION CONDITIONS AT NO ADDITIONAL COST TO THE COUNTY. ALL EXISTING AND PROPOSED VALVE COVERS, RIMS, ETC, SHALL BE BROUGHT TO FINAL GRADE OF THE PROJECT AREA.
32. THE CONTRACTOR SHALL USE APPROPRIATE TECHNIQUES, AS APPROVED, RECOMMENDED, OR OFFERED BY AN EXISTING UTILITY, (I.E. FLORIDA POWER AND LIGHT) TO PREVENT UNDERMINING OF POWER POLES DURING CONSTRUCTION. IF HOLDING OF POWER POLES IS RECOMMENDED OR REQUIRED BY THE UTILITY, THE CONTRACTOR SHALL COORDINATE THIS ACTIVITY WITH THE UTILITY AND BEAR ANY RELATED COSTS.
33. ANY TEMPORARY SHUTDOWNS FOR MODIFICATIONS OF EXISTING UTILITY SYSTEMS THAT MUST REMAIN IN SERVICE DURING CONSTRUCTIONS SHALL BE KEPT TO A MINIMUM AND SHALL BE COORDINATED WITH AND APPROVED BY THE MANATEE COUNTY UTILITY OPERATIONS DEPARTMENT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. IT IS NOTED THAT TEMPORARY SHUTDOWNS MAY BE RESTRICTED TO CERTAIN HOURS AT ANY TIME OF THE DAY OR NIGHT AND WILL BE COMPLETED AT NO ADDITIONAL COST TO THE OWNER.
34. FOR WORK BEING DONE ON EXISTING SANITARY SEWER LINES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE FLOW OF ALL SEWAGE DURING CONSTRUCTION, WHICH MAY REQUIRE BY–PASS PUMPING AND/OR PUMPER TRUCKS. THE CONTRACTOR SHALL SUBMIT A DETAILED BY–PASS PUMPING PLAN PER SECTION 02720.
35. ALL WATER SERVICES TO BE INSTALLED OR MODIFIED ON PRIVATE PROPERTY SHALL REQUIRE A PLUMBING PERMIT;
    - A. THE CONTRACTOR'S PLUMBER SHALL INSTALL A REDUCED PRESSURE (RP) TYPE BACKFLOW PREVENTION ASSEMBLIES (BPA'S) EQUIPPED WITH A PRESSURE RELIEF VALVE AT THE POTABLE WATER METER WHENEVER ANY OF THE FOLLOWING CONDITIONS EXIST AT A PROPERTY:
      - SWIMMING POOL,
      - IN–GROUND IRRIGATION SYSTEM OR UNDERGROUND SPRINKLERS,
      - SECONDARY SOURCE OF WATER (I.E. RECLAIMED WATER OR WELL),
      - PROPERTY THAT ABUTS A BODY OF WATER, INCLUDING RIVER, BAY, LAKE OR POND ON THE PROPERTY OR BORDERING THE PROPERTY,
      - FLOOD ZONE DESIGNATION, (IF ONLY FLOOD ZONE, INSTALL A DOUBLE CHECK BPA),
      - SOLAR WATER HEATING SYSTEM,
      - COMMERCIAL, INDUSTRIAL, MULTISTORY OR MULTIFAMILY RESIDENTIAL FACILITY,
      - CROSS CONNECTION IS FOUND,
      - FOUNTAIN WITH A DEDICATED FILL PIPE,
      - FIRE SPRINKLER SYSTEM.
    - B. A LICENSED PLUMBER SHALL INSTALL THE BPA'S IN ACCORDANCE WITH THE CURRENT FLORIDA PLUMBING CODE AND MANATEE COUNTY CODE OF ORDINANCES, AND SHALL SELECT A PRESSURE RELIEF VALVE WITH AN APPROPRIATE PRESSURE SET POINT TO PROTECT THE CUSTOMERS' PLUMBING AND NOT ALLOW EXCESSIVE LEAKAGE DUE TO SYSTEM SUPPLY PRESSURE. A PRESSURE REDUCING VALVE MAY BE NECESSARY UPSTREAM OF THE PRESSURE RELIEF VALVE, WHERE NORMAL SUPPLY PRESSURE EXCEEDS 80 PSI. CONTRACTOR SHALL COORDINATE WITH COUNTY CROSS CONNECTION CONTROL STAFF AS REQUIRED.
    - C. IF IN–GROUND IRRIGATION SYSTEM IS CONNECTED TO THE POTABLE WATER LINE, AN ADDITIONAL REDUCED PRESSURE (RP) BPA SHALL BE INSTALLED AT THE POINT OF CONNECTION.
    - D. ALL BPA SHALL BE INSTALLED 4–5 FEET FROM THE EDGE OF DRIVEWAYS OR ANY OTHER ITEMS/FEATURES THE BPA MAY CREATE AN OBSTRUCTION.
    - E. VACUUM BREAKERS SHALL BE INSTALLED ON ALL EXTERNAL HOSE BIBBS.
    - F. CONTRACTOR SHALL COORDINATE WITH COUNTY CROSS CONNECTION STAFF & PRIVATE PROPERTY OWNER AS REQUIRED. CROSS CONNECTION STAFF SHALL DETERMINE WHICH PROPERTIES REQUIRE A BPA AND TYPE OF BPA TO BE INSTALLED.

RESTORATION

34. ALL RESTORATION WORK PERFORMED THROUGHOUT THE PROJECT SHALL CONFORM TO EXISTING LINES AND GRADES UNLESS SHOWN OTHERWISE.
35. ALL DISTURBED GRASSED AREAS SHALL BE SODDED OR SEEDED UNLESS OTHERWISE INDICATED. THE TYPE OF SOD USED TO REPLACE OWNER MAINTAINED AREAS IN RIGHT–OF–WAY SHALL BE COORDINATED WITH THE PROPERTY OWNER.
36. ALL CONCRETE THRUST BLOCKS INSTALLED FOR TESTING PURPOSES AND NOT REQUIRED FOR THE OPERATION OF THE PIPELINE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR, PRIOR TO FINAL ACCEPTANCE, AT NO ADDITIONAL COST TO THE OWNER.
37. ASPHALT DRIVES THAT ARE CUT SHALL BE RESTORED PER SECTION 02513 OF THE INFRASTRUCTURE ENGINEERING STANDARD SPECIFICATION.
38. CONCRETE DRIVEWAYS OR SIDEWALKS THAT ARE CUT SHALL BE RESTORED TO MATCH EXISTING ACCORDING TO THE CURRENT EDITIONS OF THE MANATEE COUNTY PUBLIC WORKS STANDARDS PART 3. HIGHWAY & TRAFFIC STANDARDS MANUAL DATED JUNE 2015, SECTION 3.7 DRIVEWAYS AND SECTION 3.8 SIDEWALKS AND/OR THE F.D.O.T. SPECIFICATIONS FOR ROAD AND BRIDGE DESIGN AND THE F.D.O.T. DESIGN STANDARDS. CONCRETE WITH A 3,000 PSI @ 28 DAYS SHALL BE USED.
39. WHENEVER A PERMANENT ROADWAY SURFACE IS NOT PLACED IMMEDIATELY AFTER BACKFILLING AND COMPACTION OF THE NEWLY INSTALLED PIPE LINE IN AREAS WHERE TRAFFIC MUST PASS, THE CONTRACTOR SHALL INSTALL A TEMPORARY SURFACE CONSISTING OF NINE INCHES OF COMPACTED LIME ROCK BASE AND A COAT OF ASPHALT EMULSION. PERMANENT ROADWAY REPAIR SHALL BE PERFORMED A MAXIMUM OF TWENTY–ONE CALENDAR DAYS AFTER THE INITIAL OPEN CUTTING. LIME ROCK BASE SHALL COME FROM AN APPROVED FDOT PIT.
40. ALL EXISTING SIGNING, THERMOPLASTIC PAVEMENT MARKINGS, ETC... SHALL BE RESTORED/PROVIDED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE MUTCD, FDOT DESIGN STANDARDS AND THE MANATEE COUNTY PUBLIC WORKS DEPARTMENT HIGHWAY, TRAFFIC AND STORMWATER STANDARDS, AND/OR AS DIRECTED BY THE COUNTY.
41. RESTORATION OF CURBS, DRIVEWAYS, SIDEWALKS, AND PLACEMENT OF SOD SHALL BE COMPLETED WITHIN FORTY–FIVE CALENDAR DAYS OF INITIAL DISTURBANCE, OR TWENTY–ONE CALENDAR DAYS OF SUBSTANTIAL COMPLETION, WHICHEVER OCCURS FIRST. RESTORATION EFFORTS SHALL BE INCLUDED IN THE PROJECT SCHEDULING AND PHASING PLAN TO DEMONSTRATE HOW THE RESTORATION WILL BE ACHIEVED.

CONSTRUCTION

42. THE EXHAUST SYSTEM OF ALL GASOLINE AND DIESEL ENGINES SHALL BE EQUIPPED WITH MUFFLERS THAT MEET THE EQUIPMENT MANUFACTURER'S REQUIREMENTS FOR NOISE SUPPRESSION. THE CONTRACTOR SHALL INSTALL NOISE ABATEMENT BAFFLES POSITIONED TO BREAK LINE–OF–SITE FROM THE NOISE SOURCE TO AFFECTED RESIDENCES, AS APPROVED BY THE ENGINEER.
43. NO MATERIAL SHALL BE STOCKPILED IN ROADWAYS. ALL DIRT AND DEBRIS SHALL BE REMOVED FROM THE JOB SITE DAILY. ROADS SHALL BE SWEPT DAILY AS PART OF DAILY CLEAN UP.
44. THE CONTRACTOR IS TO CONTROL ALL FUGITIVE DUST ORIGINATING ON THIS PROJECT BY WATERING OR OTHER METHODS AS REQUIRED.
45. INGRESS AND EGRESS TO ALL THE PROPERTIES IN THE CONSTRUCTION AREA SHALL BE MAINTAINED AT ALL TIMES.
46. PRIOR APPROVAL WILL BE REQUIRED FOR REMOVAL OF ANY TREE WITHIN THE CONSTRUCTION AREA.
47. THE CONTRACTOR SHALL PROVIDE ALL DEWATERING EQUIPMENT NECESSARY TO KEEP ALL EXCAVATIONS DRY. DEWATERING IS REQUIRED TO 18" BELOW TRENCH BOTTOM.
48. ALL PIPING AND FITTINGS USED ON THIS PROJECT SHALL BE AS NOTED ON THE PLANS AND IN THE CONTRACT DOCUMENT AND SHALL BE INSTALLED TO THE LINES AND GRADES SHOWN ON THE PLANS AND PROFILES. MODIFICATIONS MUST BE APPROVED BY THE ENGINEER OF RECORD.
49. ALL PIPE SHALL BE COLOR CODED TO CONFORM TO MANATEE COUNTY STANDARDS.
50. ALL PIPE AND FITTINGS SHALL BE INSTALLED AS RECOMMENDED BY THE MANUFACTURER AND ALL PIPE JOINTS SHALL BE RESTRAINED WHERE REQUIRED.
51. ALL FITTINGS FOR PRESSURE CLASS–RATED PIPE SHALL BE RESTRAINED DUCTILE IRON. RESTRAINED LENGTHS OF PIPE SHALL ADHERE TO THE REQUIREMENTS AS SHOWN ON THE DETAIL SHEETS.
52. WHERE IT IS NECESSARY TO DEFLECT PIPE EITHER HORIZONTALLY OR VERTICALLY, PIPE DEFLECTION SHALL NOT EXCEED 75% OF THE MANUFACTURER'S MAXIMUM ALLOWABLE RECOMMENDED DEFLECTION.
53. ALL PIPE LENGTHS ARE PLUS OR MINUS AND MAY BE ADJUSTED IN THE FIELD AS REQUIRED. PIPE MEASUREMENTS ARE TO CENTER OF STRUCTURES OR FITTINGS.
54. ALL ROCKS OR STONES LARGER THAN SIX INCH DIAMETER SHALL BE REMOVED FROM THE BACKFILL MATERIAL. BACKFILL MATERIAL PLACED WITHIN ONE FOOT OF PIPING AND APPURTENANCES SHALL NOT CONTAIN ANY STONES LARGER THAN TWO INCH DIAMETER.
55. ONLY MANATEE COUNTY UTILITY OPERATIONS STAFF ARE AUTHORIZED TO OPERATE VALVES ON COUNTY OWNED AND MAINTAINED UTILITY SYSTEMS.
56. ALL PENETRATIONS OF EXISTING STRUCTURES SHALL BE BY MECHANICAL ROTARY CORE DRILLING METHOD. ALL CONCRETE PENETRATED OR DISTURBED SHALL BE COATED WITH TWO COATS OF EPOXY.
57. THE CONTRACTOR, PRIOR TO ANY TEMPORARY WATER SHUT–OFFS DURING WATER MAIN TIE–IN, ETC., SHALL NOTIFY THE AFFECTED RESIDENTS BY POSTING INFORMATIONAL SIGNS IN THE NEIGHBORHOOD AT LEAST TWO DAYS (48 HRS) PRIOR TO THE WATER SHUT–OFF. REFERENCE SECTION 01580, PARAGRAPH 1.03 OF THE SPECIFICATIONS. WHEN FEASIBLE, "DOOR HANGERS" SHALL BE DELIVERED TO AFFECTED RESIDENCES AT LEAST TWO DAYS (48 HRS) PRIOR TO WATER SHUT–OFF. FOR LARGE PROJECTS WITH HUNDREDS OF HOMES AFFECTED, THE CONTRACTOR SHALL ALSO MAKE EXTENSIVE USE OF THE MEDIA AND SHALL HAVE PRIOR CONTACT WITH HOMEOWNER'S ASSOCIATIONS. WRITTEN NOTIFICATIONS SHALL ALSO BE FAXED TO THE TAMPA TRIBUNE, BRADENTON HERALD, SARASOTA HERALD TRIBUNE, WBRD RADIO, EMERGENCY COMMUNITY CENTERS, INSPECTIONS, WATER TREATMENT PLANT, WATER MANAGER, HELPLINE, CUSTOMER SERVICE, AND THE MANATEE COUNTY UTILITY OPERATIONS DEPARTMENT.
58. ALL NEW PIPE LINES SHALL BE PIG CLEANED (4" AND LARGER), FLUSHED, PRESSURE TESTED, DISINFECTED AND CERTIFIED PRIOR TO TIE–INS TO EXISTING FACILITIES. THE CONTRACTOR WILL BE ALLOWED TO USE TEMPORARY PLUGS FOR PIG CLEANING AND PRESSURE TESTING.
59. ALL TEST POINT PIPING SHALL BE CUT LOOSE FROM THE CORPORATION STOP AND COMPLETELY REMOVED AND DISPOSED OF BY THE CONTRACTOR PRIOR TO FINAL ACCEPTANCE. A CORPORATION STOP PLUG SHALL BE INSTALLED AND THE CORPORATION STOP SHALL REMAIN IN PLACE.
60. WATER MAINS CROSSING OVER OR UNDER SANITARY SEWERS, FORCE MAINS, AND RECLAIMED WATER LINES SHALL BE LAID PER CURRENT EDITION OF "10 STATE STANDARDS" AND MANATEE COUNTY UTILITY STANDARDS UNLESS NOTED OTHERWISE ON THE PLANS.
61. FIELD CONDITIONS MAY NECESSITATE MINOR ALIGNMENT AND GRADE DEVIATION OF THE PROPOSED UTILITIES TO AVOID OBSTACLES, AS ORDERED BY THE ENGINEER.
62. CONTRACTOR SHALL PROVIDE RECORD DRAWINGS IN ACCORDANCE WITH SECTION 1.15 IN THE CURRENT MANATEE COUNTY UTILITY STANDARDS AT NO COST TO THE OWNER. RECORD DRAWINGS SHALL BE SIGNED & SEALED BY A SURVEYOR CURRENTLY LICENSED BY THE STATE OF FLORIDA. ALL RECORD DRAWING INFORMATION REQUIREMENTS IN SECTION 1.15 SHALL BE <u>STRICTL</u>Y ENFORCED. A COPY OF SECTION 1.15 CAN BE PROVIDED UPON REQUEST.
63. THE CONTRACTOR SHALL MAINTAIN AS–BUILT DRAWINGS OF THE WORK AS CONSTRUCTED. AS–BUILT DRAWINGS SHALL INCLUDE THE LOCATION OF ABANDONED MAINS CUT AND PLUG POINTS. AS–BUILT DRAWINGS SHALL BE ANNOTATED EACH DAY AS THE WORK PROCEEDS AND SHALL BE AVAILABLE TO THE COUNTY PROJECT MANAGER AND/OR FIELD INSPECTOR FOR REVIEW ON AN ONGOING BASIS. AS–BUILT DRAWINGS SHALL PROVIDE THE HORIZONTAL AND VERTICAL INSTALLED LOCATION OF ALL NEW PIPELINE, FITTINGS, VALVES AND APPURTENANCES REFERENCED TO FIXED SURFACE FEATURES THAT ARE SHOWN ON THE CONSTRUCTION DRAWINGS AND/OR RIGHT–OF–WAY LINES, PROPERTY CORNERS OR OTHER SURVEYED POINTS. THE CONTRACTOR SHALL BE ABLE TO PRESENT THE RECORD DRAWINGS TO THE COUNTY PROJECT MANAGER AND/OR INSPECTOR ON DEMAND AS THE WORK PROGRESSES.

EXISTING UTILITY LOCATIONS

64. THE FOLLOWING IDENTIFIES THE QUALITY LEVEL OF EXISTING UTILITY LINEWORK ON PLANS.
    LEVEL "A" –VISUALLY LOCATED OR SOFT DIGS (HORIZONTAL AND VERTICAL)
    LEVEL "B" –DESIGNATED BY GPR OR FLAGGING (HORIZONTAL)
    LEVEL "C" –SURFACE VISIBLE FEATURES SURVEY
    LEVEL "D" –EXISTING RECORDS OR GIS
    REFERENCE 2010 EDITION OF FDOT UTILITY ACCOMMODATION MANUAL (UAM)

FIBER

65. INSTALL A FIBER OPTIC ROUTE MARKER AT THE PROPOSED PULL BOX AND RESTORE THE FIBER OPTIC LOCATION SYSTEM (I.E., ROUTE MARKERS AND TRACER WIRE).
66. ALL MATERIAL REMOVED SHALL BE REPLACED WITH LIKE KIND TYPE AND SPECIFICATION.
67. NEW ADVANCED TRAFFIC MANAGEMENT SYSTEM (ATMS) INFRASTRUCTURE SHOULD BE PLACED WHILE LEAVING EXISTING ATMS INFRASTRUCTURE IN PLACE AND INTACT AS LONG AS FEASIBLE TO LIMIT THE DURATION OF SYSTEM DOWN TIME.
68. THE DEVELOPER WILL NEED TO HIRE A CERTIFIED CONTRACTOR THAT IS LICENSED TO PERFORM THIS WORK TO RELOCATE THE ATMS INFRASTRUCTURE AT THEIR COST.
69. AT LEAST FIVE (5) WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL CONTACT MUKUNDA GOPALAKRISHNA, P.E., PTOE OF THE MANATEE COUNTY TRAFFIC ENGINEERING DIVISION AT (941) 749–3500, EXT. 7813 TO INFORM HIM OF CONSTRUCTION OPERATIONS.
70. THE CONTRACTOR MUST PROVIDE A SPLICE DIAGRAM FOR THE PROPOSED SPLICE ENCLOSURE AT THIS TIME.
71. THE CONTRACTOR SHALL NOTIFY UTILITY OWNERS OF ANY EXCAVATION OR DEMOLITION ACTIVITY THROUGH SUNSHINE ONE CALL OF FLORIDA INC. (811) AND SHALL ALSO NOTIFY THOSE UTILITY OWNERS/AGENCIES LISTED WITHIN OR IMPACTED BY THESE PLANS, NOT LESS THAN TWO (2) FULL BUSINESS DAYS IN ADVANCE OF BEGINNING CONSTRUCTION ON THE JOB SITE.
72. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING RIGHT–OF–WAY USE PERMITS WITH MATT MERUCCI, MANATEE COUNTY PUBLIC WORKS INFRASTRUCTURE INSPECTION OFFICER, AT (941) 708–7450, EXT. 7342.
73. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING BOND REQUIREMENTS WITH BRANDY WILKINS, MANATEE COUNTY PUBLIC WORKS SENIOR ADMINISTRATIVE SPECIALIST, AT (941) 708–7450, EXT. 7215.
74. DELIVER THREE HARD–COPY SETS OF AS–BUILT RECORDS DRAWINGS THAT ARE SIGNED AND SEALED BY THE ENGINEER OF RECORD, AND ONE COMPACT DISC OF RECORD DRAWINGS IN ADOBE ACROBAT (.PDF) AND AUTOCAD (.DWG) FORMAT TO THE MANATEE COUNTY TRAFFIC ENGINEERING DIVISION (ATTN: MR. MUKUNDA GOPALAKRISHNA, P.E., PTOE) AT 2101 47TH TERRACE EAST BRADENTON, FL 34203. RECORD DRAWINGS MUST BE DELIVERED TO THE COUNTY AT LEAST TWO (2) BUSINESS DAYS PRIOR TO SCHEDULING THE FINAL INSPECTION.
75. UPON PASSING THE FINAL INSPECTION, THE CONTRACTOR SHALL SEND A WRITTEN REQUEST TO THE MANATEE COUNTY TRAFFIC OPERATIONS DIVISION, 2904 12TH STREET COURT EAST, BRADENTON, FLORIDA 34208 (ATTN: MR. AARON BURKETT) REQUESTING TO TRANSFER MAINTENANCE FROM THE CONTRACTOR TO MANATEE COUNTY. MANATEE COUNTY WILL RESPOND WITHIN 5 WORKING DAYS TO ESTABLISH A TIME TABLE FOR THE TRANSFER OF MAINTENANCE RESPONSIBILITY.

LEGEND

EXISTING

Abbr.	Description
	BENCH MARK
CM	CONCRETE MONUMENT
	IRON PIPE
	IRON ROD
	HUB
	NAIL & DISK
	ELEVATION
	PARCEL ID NO.
	PARCEL ID NO.
	LOT NO.
	GUY WIRE
PP	POWER POLE
	LIGHT POLE
	MAIL BOX
	SIGN
REF	REFLECTOR
	SPRINKLER
	GAS MARKER
	BACKFLOW PREVENTER
	BLOW OFF VALVE
FH	FIRE HYDRANT
WV	WATER VALVE
ARV	AIR RELEASE VALVE
WM	WATER METER
	SANITARY SEWER MANHOLE
	SANITARY SEWER CLEAN OUT
SB#1	SOIL BORING LOCATION
TEL	TELEPHONE SERVICE BOX
	UTILITY BOX
	UTILITY RISER
	FLOW DIRECTION
GI	GRATE INLET
	MITERED END SECTION
	STORM SEWER MANHOLE

BUSH
TREE
OAK TREE
PALM TREE
PINE TREE

Line label	Description
	EDGE OF VEGETATION
	CHAIN LINK FENCE
	WOOD FENCE
	BARBED WIRE FENCE
FM	FORCE MAIN
PW	POTABLE WATER
RCW	RECLAIMED WATER
SS	SANITARY SEWER
S	STORM DRAIN
GAS	GAS LINE
OCHR	OVERHEAD CHARTER
CHR	UNDERGROUND CHARTER
OE	OVERHEAD ELECTRIC
BE	UNDERGROUND ELECTRIC
OH FTR	OVERHEAD FRONTIER
FTR	UNDERGROUND FRONTIER
PCO	UNDERGROUND PRECO
FPL	UNDERGROUND FPL
OH	OVERHEAD UTILITY
	RAIL ROAD TRACKS
	EDGE OF CONCRETE
	EDGE OF ROAD
	TOE OF SLOPE
	TOP OF BANK
	PROPERTY LINE
	RIGHT OF WAY

ABBREVIATIONS

Abbr.	Meaning
R/W	RIGHT OF WAY
CONC	CONCRETE
ASPH	ASPHALT
DRWY	DRIVEWAY
SWK	SIDEWALK
EP	EDGE OF PAVEMENT
BOC	BACK OF CURB
	FLOW ARROW

EMERGENCY CONTACTS

MANATEE COUNTY PUBLIC WORKS DEPT.
1022 26TH AVENUE EAST
BRADENTON, FL. 34208
J. SHEA SHOUN, P.E.
(941) 708–7450 EXT. 7661
FAX: (941) 708–7415

TECO/PEOPLES GAS CO.
8261 VICO COURT
SARASOTA, FL. 34240
(941) 342–4030
DAN SHANAHAN
FAX: (941) 342–4011
EMERGENCY: 1–877–832–6911

ATMS
2101 47TH TERRACE EAST
BRADENTON, FL 34203
VISHAL KAKKAD, P.E.
(941) 749–3500 EXT. 7812
FAX: (941) 749–3571
vishal.kakkad@mymanatee.org.

FRONTIER
1701 RINGLING BLVD.
SARASOTA, FL. 34236
JOHN PLOTT
(941) 906–6707
FAX: (941) 906–6706
John.Plott@ftr.com

FLORIDA POWER & LIGHT
1253 12TH AVENUE EAST
PALMETTO, FL 34221
TODD BOLKEMA
(941) 927–4262
EMERGENCY: 1–800–4–OUTAGE
TODD.BOLKEMA@FPL.COM

MANATEE COUNTY HEALTH DEPT.
410 6th AVENUE EAST
BRADENTON, FL. 34208
(941) 748–0747 EXT. 1355
FAX: (941) 750–9364

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT SARASOTA SERVICE OFFICE
STEVE LOPES
6750 FRUITVILLE ROAD
SARASOTA, FL. 34240
(941) 377–3722
FAX: (941) 373–7660

FLORIDA GAS TRANSMISSION
7804 ANDERSON RD.
TAMPA FL 33634
CHAD HARRELL
PHONE: (813) 466–3327
E–mail: chad.harrell@sug.com

PEACE RIVER ELECTRIC COOPERATIVE, INC.
P.O. BOX 1310
WACHULA, FL 33873
KENDELL COKER
(863) 767–4660
kendell.coker@preco.coop

DEPARTMENT OF ENVIRONMENTAL PROTECTION
13051 N. TELECOM PKWY
TEMPLE TERRACE, FL 33637
ED WATSON
PHONE: (813) 470–5875
FAX: (813) 470–5993

CHARTER COMMUNICATION
5413 E. STATE ROAD 64
BRADENTON, FL. 34208–5535
TOM WRIGHT
(941) 748–3816 EXT. 21348
Tom.Wright@charter.com

SUNSHINE STATE ONE CALL OF FLORIDA
1–(800) 432–4770

NO.	REVISION DESCRIPTION	BY	DATE

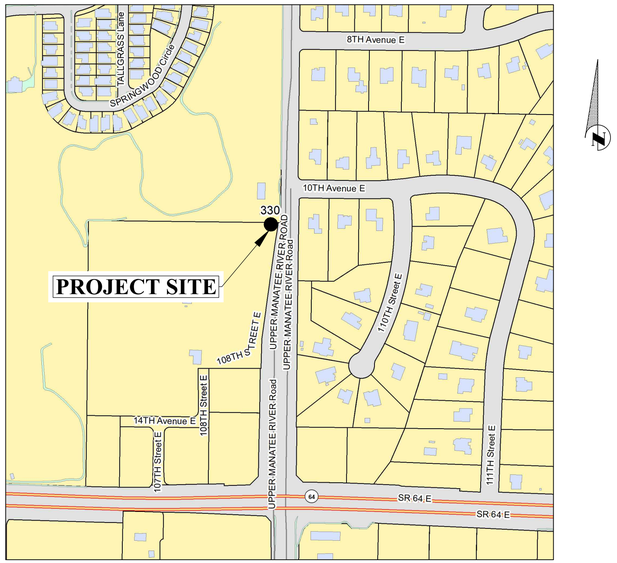
SATELLITE LIFT STATION R&R
SLS UPPER MANATEE RIVER ROAD
1010 UPPER MANATEE RIVER ROAD
GENERAL NOTES & LEGEND

Manatee County FLORIDA
PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

PROJECT #	6117680	
SURVEY #	NA	
SEC./TWN./RGE	30/34/19	
SCALE	N.T.S.	
	BY	DATE
SURVEYED	NA	NA
DESIGNED	JSS	2/22
DRAWN	JKW	2/22
CHECKED	JSS	–

J. SHEA SHOUN, P.E.
FLORIDA P.E. # 60923
JOHN S. SHOUN LICENSE No. 60923 STATE OF FLORIDA PROFESSIONAL ENGINEER
10/20/2023
Signature & Date

SHEET 02 OF 10



UPPER MANATEE RIVER ROAD, RTU 330
1010 UPPER MANATEE RIVER ROAD, BRADENTON
27.488927° N (LAT.)
82.433945° W (LONG.)

NOTE(S):

1. LIFT STATION SITE VISITS MAY BE COORDINATED WITH ERIK GIBSON, 941-792-8811 x5377.
2. DATA ON THE COUNTY'S UTILITY INFRASTRUCTURE MAY BE RESEARCHED AND VIEWED BY UTILIZING THE PUBLIC ACCESS TO THE COUNTY'S GIS SYSTEM. USE AN INTERNET BROWSER AND ENTER THE FOLLOWING URL, "https://www.mymanatee.org/gisapps/mobile/index.html?type=utilities-public".

NO.	REVISION DESCRIPTION	BY	DATE

SATELLITE LIFT STATION R&R
SLS UPPER MANATEE RIVER ROAD
1010 UPPER MANATEE RIVER ROAD
VICINITY MAP

Manatee County FLORIDA

PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

PROJECT #	6117680	
SURVEY #	NA	
SEC./TWN./RGE	30/34/19	
SCALE	N.T.S.	
	BY	DATE
SURVEYED	NA	NA
DESIGNED	JSS	2/22
DRAWN	JKW	2/22
CHECKED	JSS	–

J. SHEA SHOUN, P.E.
FLORIDA REG. No. 60923
JOHN S. SHOUN LICENSE No. 60923 STATE OF FLORIDA PROFESSIONAL ENGINEER
10/20/2023
Date

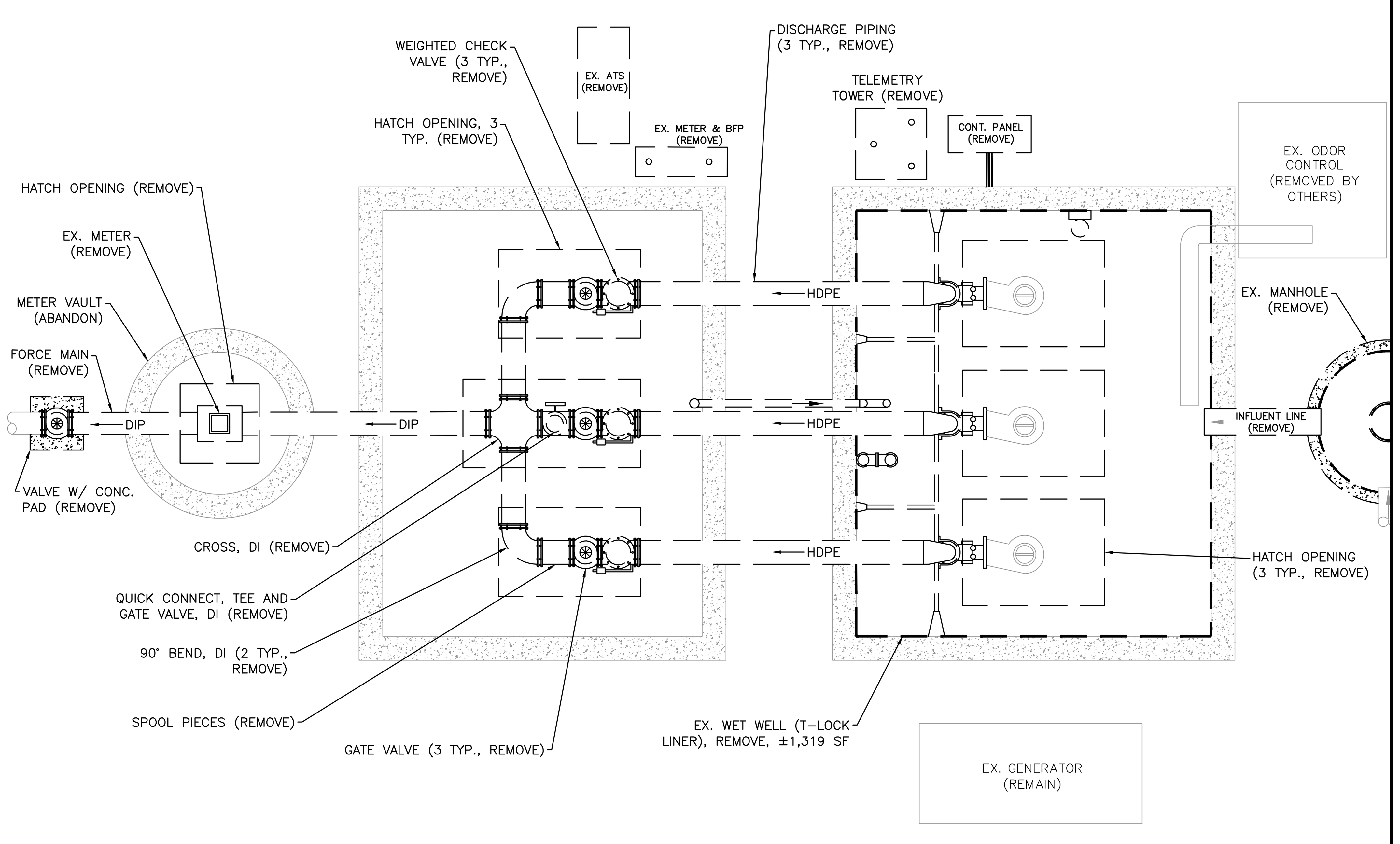
SHEET 03 OF 10

n:\civil eng design\PROJ\>sln swr pl\plan swr - ls upgrades\sls r&r umr\DWGS\SLS R&R UPPER MANATEE RIVER RD.dwg,VIC-MAP, 10/20/2023 7:56 AM Shea Shoun, 1:1, ANSI full bleed D (34.00 x 22.00 inches), VIC-2016.STB

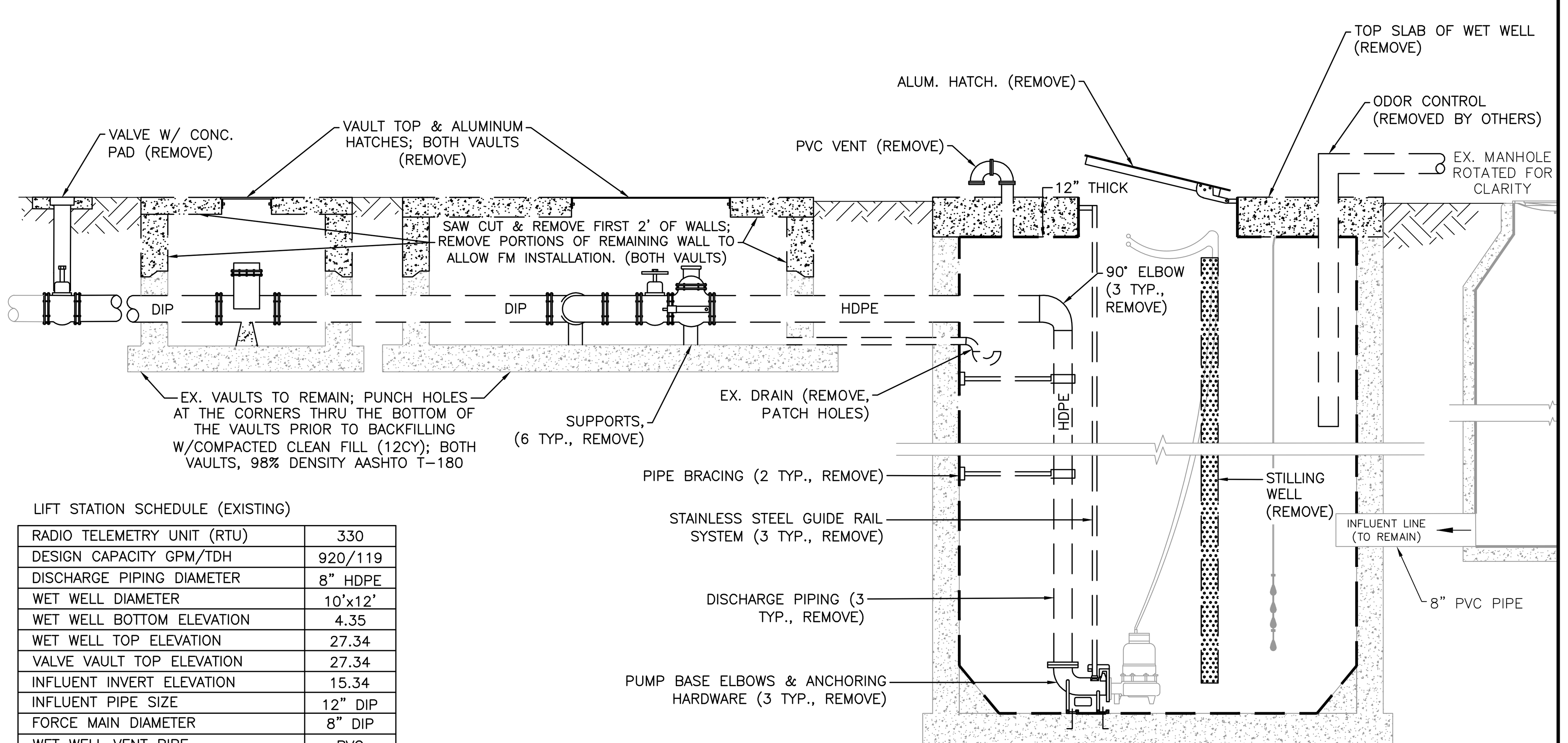
EXISTING

NOTES:

1. THE WET WELL AND VALVE VAULT CONFIGURATION SHOWN ON THESE GRAPHICS IS FOR IDENTIFICATION OF COMPONENTS TO BE REMOVED. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, ELEVATIONS, CONFIGURATION, ETC. FOR ACCURACY.
2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS.
3. THE CONTRACTOR SHALL DETERMINE THE DISCHARGE PIPING ELEVATIONS DURING THE SITE VISITS.
4. REMOVAL AND REINSTALLATION OF THE PUMPS DURING THE REHABILITATION SHALL BE DONE BY MANATEE COUNTY PERSONNEL IN COORDINATION WITH THE CONTRACTOR
5. BY-PASS PUMPING IS THE RESPONSIBILITY OF THE CONTRACTOR.
6. MANATEE COUNTY GOVERNMENT WILL PROVIDE ONE (1) LIFT STATION SHUT-DOWN AT NO COST TO THE CONTRACTOR. ADDITIONAL SHUT-DOWNS WILL COST THE CONTRACTOR $3,500 EACH, IF NEEDED.
7. THE CONTRACTOR IS RESPONSIBLE FOR RESTORING ANY DAMAGED LANDSCAPING TO EXISTING OR DESIGN CONDITIONS.
8. THE WORK AREA IS LIMITED TO THE LIFT STATION SITE.



PLAN



LIFT STATION SCHEDULE (EXISTING)

RADIO TELEMETRY UNIT (RTU)	330
DESIGN CAPACITY GPM/TDH	920/119
DISCHARGE PIPING DIAMETER	8" HDPE
WET WELL DIAMETER	10'x12'
WET WELL BOTTOM ELEVATION	4.35
WET WELL TOP ELEVATION	27.34
VALVE VAULT TOP ELEVATION	27.34
INFLUENT INVERT ELEVATION	15.34
INFLUENT PIPE SIZE	12" DIP
FORCE MAIN DIAMETER	8" DIP
WET WELL VENT PIPE	PVC
ELECT. POWER, VOLTS/PH	480/3
ELECT. SERVICE SIZE, AMPS	200
PUMP TYPE, HORSE POWER	HYDROMATIC/30
EX. FORCE MAN TIE-IN	FM
FLOOD ZONE	X

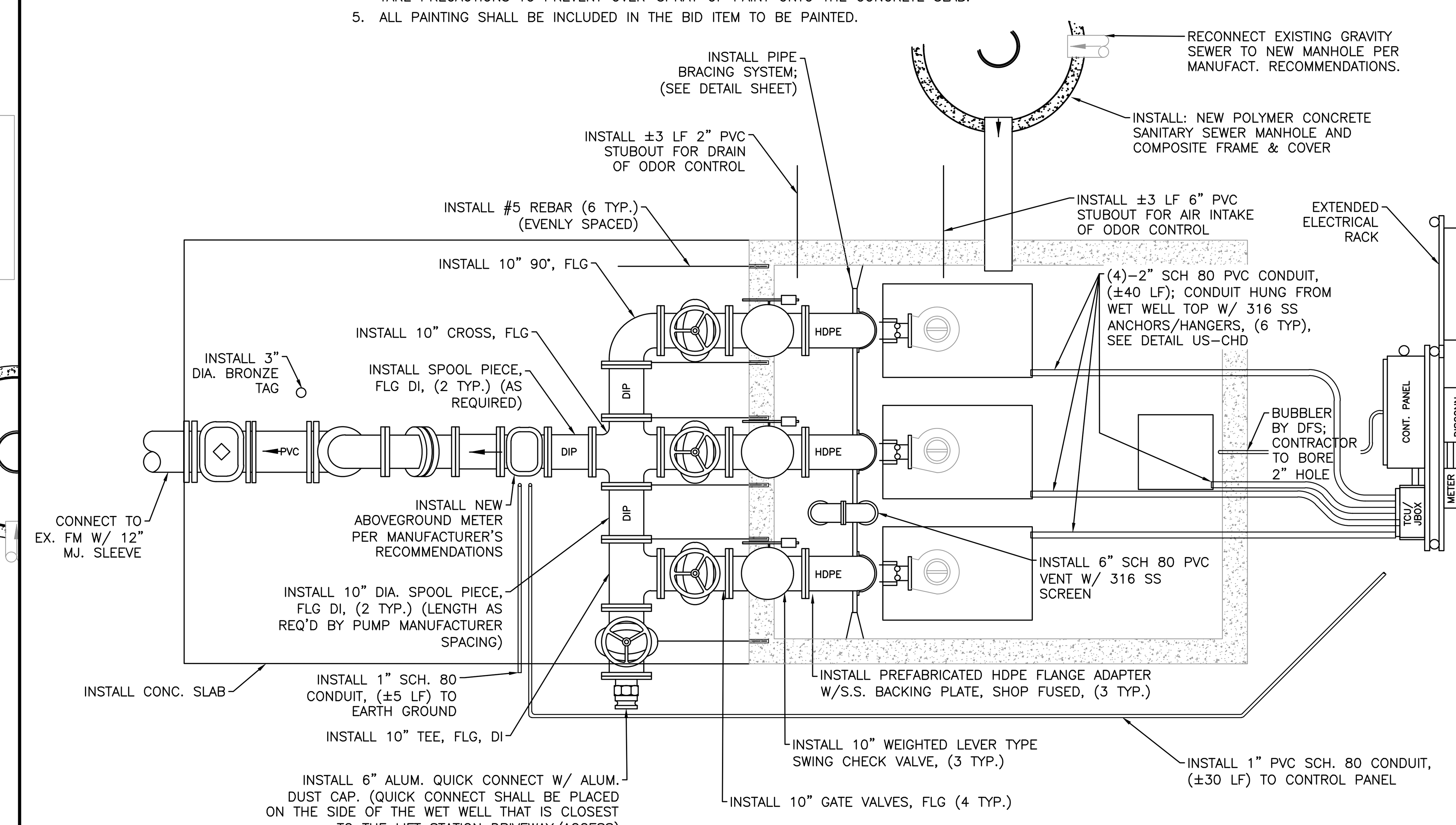
* INFORMATION TAKEN FROM LIFT STATION DATA FILE (LSINFO.XLS 2020) & RECORD DRAWINGS. DATUM OF ELEVATIONS IS UNKNOWN.

ELEVATION
EX. 2 PUMP LIFT STATION
NTS
ITEMS MAY BE ROTATED FOR CLARITY

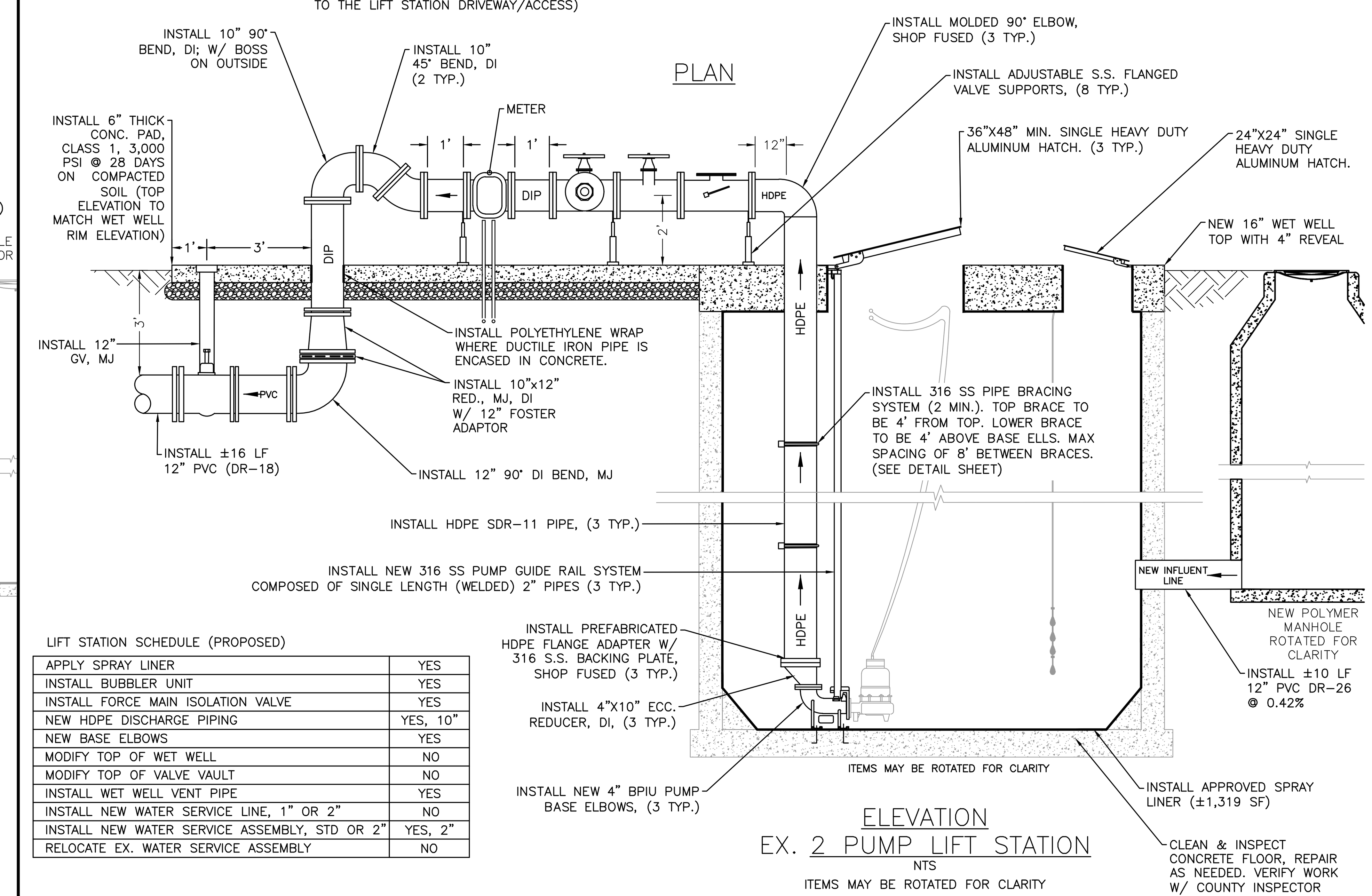
PROPOSED

GENERAL NOTES:

1. ALL MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST MANATEE COUNTY PUBLIC WORKS UTILITY STANDARDS. ALL HORIZONTAL AND VERTICAL DISTANCES AND MEASUREMENTS SHALL BE FIELD VERIFIED PRIOR TO ORDERING MATERIALS AND COMMENCING WORK. ALL MEASUREMENTS AND CALCULATIONS SHALL BE THE RESPONSIBILITY OF THE AWARDED CONTRACTOR.
2. THE CONCRETE SHALL BE GIVEN A BROOM FINISH. THE SURFACE VARIATIONS SHALL BE NOT MORE THAT 1/4" UNDER A TEN FOOT (10') STRAIGHTEDGE, NOT MORE THAN 1/8" ON A FIVE FOOT (5') TRANSVERSE SECTION. THE EDGE OF THE CONCRETE PAD SHALL BE CAREFULLY FINISHED WITH AN EDGING TOOL HAVING A RADIUS OF 1/2".
3. EXPANSION JOINT: EXPANSION JOINTS BETWEEN THE CONC. PAD AND THE WET WELL SHALL BE 1/2" MATERIAL AND SHALL MEET THE REQUIREMENTS OF AASHTO M153 OR AASHTO M213.
4. THE EXTERIOR SURFACES OF THE CONCRETE WET WELL AND VALVE PAD EXPOSED ABOVE GRADE SHALL BE COATED WITH AT LEAST TWO COATS OF H & C SILICONE ACRYLIC CONCRETE STAIN, PATIO GREEN, MANUFACTURED BY FLR PAINTS. THE ABOVE GROUND VALVE ASSEMBLY & PIPING SHALL BE PAINTED, RUSTOLEUM 7538 HUNTER GREEN. CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT OVER-SPRAY OF PAINT ONTO THE CONCRETE SLAB.
5. ALL PAINTING SHALL BE INCLUDED IN THE BID ITEM TO BE PAINTED.



PLAN



LIFT STATION SCHEDULE (PROPOSED)

APPLY SPRAY LINER	YES
INSTALL BUBBLER UNIT	YES
INSTALL FORCE MAIN ISOLATION VALVE	YES
NEW HDPE DISCHARGE PIPING	YES, 10"
NEW BASE ELBOWS	YES
MODIFY TOP OF WET WELL	NO
MODIFY TOP OF VALVE VAULT	NO
INSTALL WET WELL VENT PIPE	YES
INSTALL NEW WATER SERVICE LINE, 1" OR 2"	NO
INSTALL NEW WATER SERVICE ASSEMBLY, STD OR 2"	YES, 2"
RELOCATE EX. WATER SERVICE ASSEMBLY	NO

ELEVATION
EX. 2 PUMP LIFT STATION
NTS
ITEMS MAY BE ROTATED FOR CLARITY

CONSTRUCTION NOTES:

1. ALL INTERNAL/ EXTERNAL PUMPS AND DISCHARGE PIPING SHALL BE ORIENTED TO THE SOUTH. DISCHARGE SHALL POINT SOUTH.
2. INSTALL ±10 LF NEW ELECTRICAL SERVICE WITH CONDUIT. THE COUNTY WILL SUPPLY ANY REQUIRED HANDHOLES.
3. REMOVE AND INSTALL ALL NEW ELECTRICAL STRUCTURE (RACK), A CONTROL PANEL, TCU ENCLOSURE, JUNCTION BOX ENCLOSURE, A METER CAN, AND A SAFETY SWITCH (DISCONNECT). ALL EXISTING ELECTRICAL EQUIPMENT CONNECTED TO THE EXISTING CONTROL PANEL SHALL BE RE-ESTABLISHED TO THE NEW PANEL. THE NEW ELECTRICAL STRUCTURE SHALL BE FIELD LOCATED WITH MANATEE COUNTY PERSONNEL.

   A TCU BUBBLER UNIT (RPT-001) SYSTEM PROVIDED AND INSTALLED BY DATA FLOW SYSTEMS (DFS) FOR WET WELL LEVEL CONTROL SHALL BE INCLUDED WITH THE CONTROL PANEL.

   THE LIFT STATION SITE HAS AUXILIARY BACKUP EQUIPMENT. INSTALL TWO ADDITIONAL 20 AMP BREAKERS IN THE CONTROL PANEL TO POWER A BATTERY CHARGER AND WATER JACKET HEATER.
4. AN ELECTRICAL SYSTEM STUDY, ELECTRICAL STUDY ANALYSIS, AND PROPER LABELING IN COMPLIANCE WITH NFPA 70E "STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE" AND IEEE 1584 2018 "GUIDE FOR PERFORMING ARC FLASH HAZARDS CALCULATIONS" SHALL BE PROVIDED.
5. SEPARATE THE TELEMETRY TOWER FROM CONCRETE BASE AND SET TO SIDE OF LIFT STATION SITE. CONTRACTOR SHALL REMOVE AND DISPOSE OF CONCRETE BASE AND ALL GROUNDING ROD. COUNTY SHALL INSTALL NEW TELEMETRY ANTENNA
6. INSTALL #5 REBAR (6 TYP.) EPOXY EMBEDDED INTO THE WET WELL TOP 3-4 INCHES DEEP AND CAST 3-4 FEET INTO THE VALVE ASSEMBLY CONCRETE PAD TO ENSURE THE TOPS OF THE WET WELL AND VALVE ASSEMBLY PAD WILL REMAIN FLUSH.
7. REPAIR CONCRETE WALLS, AS NEEDED, IN WET WELL, 2-INCH MIN. THICK OVER EXISTING REBAR, (±660 SF). ALL REPAIRS TO BE VERIFIED W/ COUNTY PERSONNEL PRIOR TO WORK.
8. DAMAGED EXISTING PROTECTIVE LINER(S) AND DETERIORATED WET WELL CONCRETE WALLS SHALL BE INSPECTED BY COUNTY PERSONNEL PRIOR TO REMOVAL AND INSTALLATION OF CONCRETE REPAIR AND/OR INSTALLATION OF NEW PROTECTIVE LINER(S) AND/OR LINER REPAIR.
9. INSTALL WASHED SHELL & WEED BARRIER (±120 SY); GRADE THE AREA AROUND WET WELL TO ALLOW FOR POSITIVE DRAINAGE AWAY FROM LIFT STATION AND TO HAVE A 4" REVEAL ON THE WET WELL/VALVE ASSEMBLY PAD. COORDINATE WITH MANATEE COUNTY PERSONNEL.
10. INSTALL A 16-FT WIDE 6-INCH THICK REINFORCE CONCRETE THOROUGHFARE DRIVEWAY. EXACT LOCATION AND LAYOUT SHALL BE DETERMINED IN THE FIELD WITH COUNTY PERSONNEL, (±114 SY).
11. REGRADE SITE TO ALLOW FOR A POSITIVE DRAINAGE SLOPE AWAY FROM THE LIFT STATION AREA TOWARDS THE SURROUNDING DITCHES. MAXIMUM OF 1% SLOPE.
12. ALL ODOR CONTROL EQUIPMENT SHALL BE REMOVED AND REINSTALLED BY OTHERS. CONTRACTOR SHALL COORDINATE WITH OTHERS.
13. INSTALL A NEW ABOVE-GROUND FLOW METER PER DETAIL US-27 IN THE DETAIL SHEETS. SITE SPECIFIC CONFIGURATION MAY VARY FROM DETAIL. COORDINATE WITH COUNTY PERSONNEL.
14. INSTALL BY ROTARY CORE BORING, A 6 INCH PVC AND A 2 INCH PVC DIAMETER PIPES THROUGH THE WET WALL WITH HYDRAULIC NON-SHRINK GROUT TO ACCOMMODATE THE ODOR CONTROL EQUIPMENT CONNECTIONS. BOTH SHALL BE CAPPED AT EACH END; BOTH TO BE APPROX. 3 LF LONG. FIELD VERIFY LOCATION AND DEPTH WITH COUNTY PERSONNEL.
15. THE COUNTY SHALL RETAIN OWNERSHIP OF THE EXISTING VALVE ASSEMBLY, ALL VALVES AND FITTINGS.
16. THIS POLYMER MANHOLE IS A REPLACEMENT OF AN EXISTING PRECAST PORTLAND MANHOLE. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND MEASUREMENTS PRIOR TO ORDERING WITH THE COUNTY TO ENSURE THIS REPLACEMENT MANHOLE SHALL FUNCTION PROPERLY PER THE CURRENT COUNTY STANDARDS.

QUESTIONS / COMMENTS:
1. WATER DISTRIBUTION IS PUBLIC.
2. SEWER COLLECTION IS PUBLIC.

NO.	REVISION DESCRIPTION	BY	DATE

SATELLITE LIFT STATION R&R
SLS UPPER MANATEE RIVER ROAD
1010 UPPER MANATEE RIVER ROAD
UMRR REHABILITION PLAN

Manatee County FLORIDA
PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

PROJECT #	6117680	
SURVEY #	NA	
SEC./TWN./RGE	30/34/19	
SCALE	N.T.S.	
	BY	DATE
SURVEYED	NA	NA
DESIGNED	JSS	2/22
DRAWN	JKW	2/22
CHECKED	JSS	-

J. SHEA SHOUN, P.E.
FLORIDA P.E. # 60923
JOHN S. SHOUN LICENSE No. 60923 STATE OF FLORIDA PROFESSIONAL ENGINEER
10/20/2023
Signature & Date

SHEET 04 OF 10

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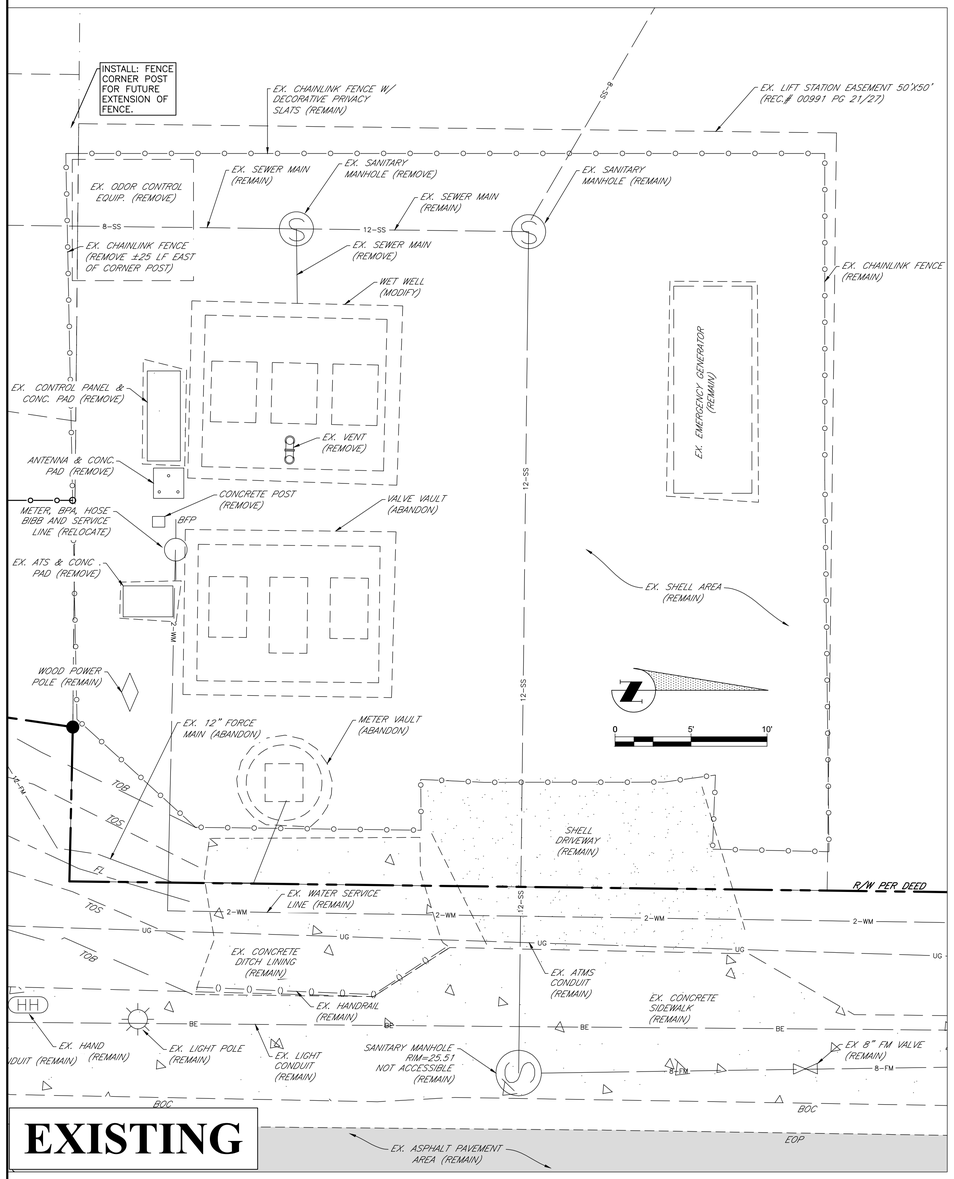

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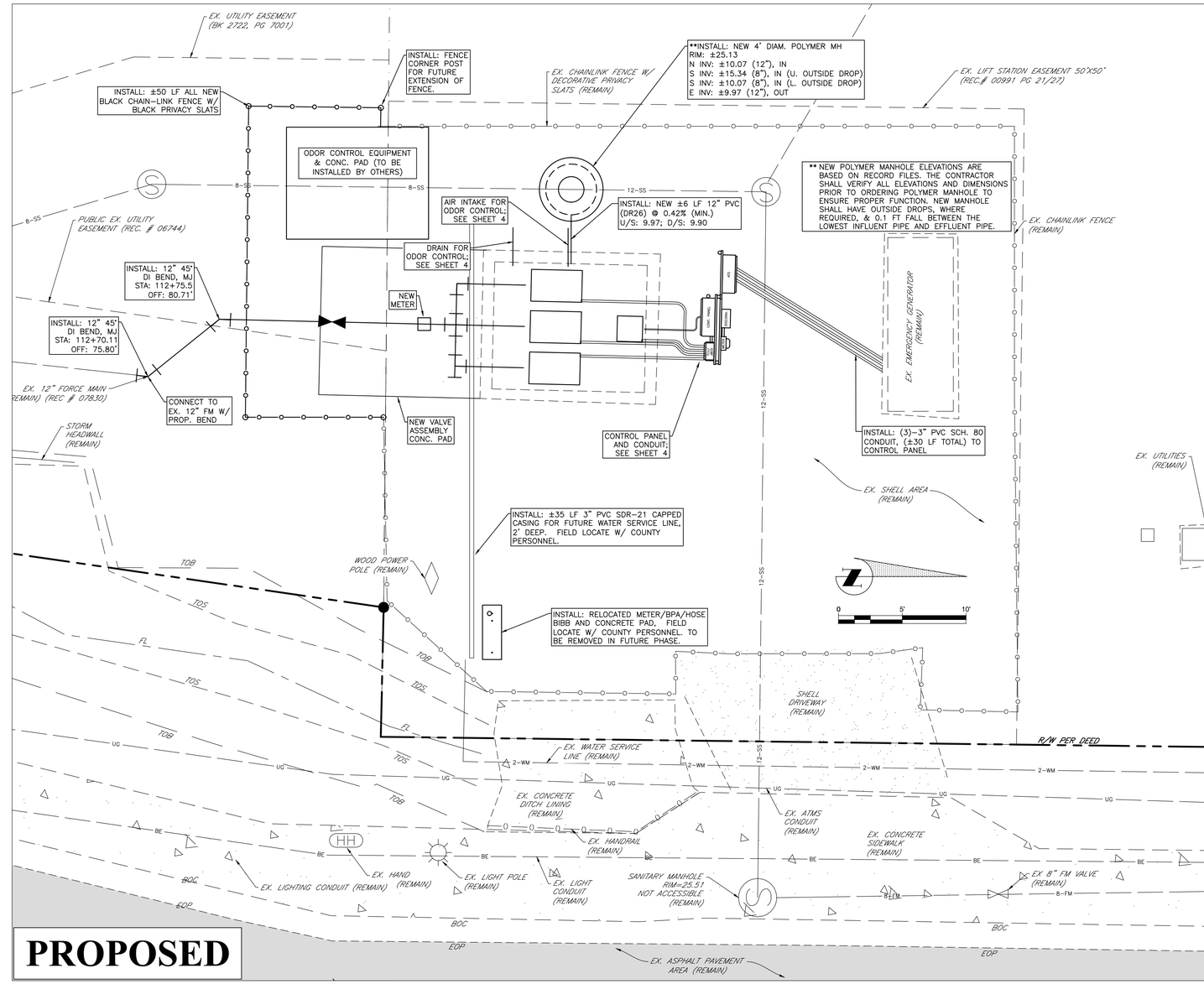


PROPOSED

SITE PLAN CONSTRUCTION NOTES:

GENERAL:

1. ALL EQUIPMENT, PIPING, ETC. SHALL BE WITHIN THE COUNTY RIGHT-OF-WAY AND/OR IN THE UTILITY EASEMENTS. NO WORK SHALL BE PERFORMED ON PRIVATE PROPERTY WITHOUT WRITTEN AUTHORIZATION FROM THE OWNER & MANATEE COUNTY. IF NECESSARY, THE CONTRACTOR SHALL HIRE A LICENSED SURVEYOR TO STAKE OUT EXISTING EASEMENTS BOUNDARIES PRIOR TO COMMENCING WORK.
2. THESE SITE PLANS ARE FOR REFERENCE ONLY. ALL ITEMS ARE CONSIDERED APPROXIMATE. CONTRACTOR SHALL CONSULT WITH AND COORDINATE WITH THE COUNTY INSPECTOR PRIOR TO ALL INSTALLATIONS.
3. ALL NEW STRUCTURES, PIPING, FITTINGS, CONDUIT, ETC. INSTALLED SHALL BE PROPERLY MARKED AND LOCATED PER THE COUNTY'S RECORD DRAWING REQUIREMENTS. CONTRACTOR SHALL COORDINATE WITH COUNTY STAFF IN ACQUIRING ALL THE NECESSARY AS-BUILT INFORMATION TO CREATE THE RECORD DRAWING PLANS. ANY ASSOCIATED COSTS SHALL BE INCLUDED IN THE APPROPRIATE BID ITEMS.
4. ODOR CONTROL UNIT TO BE HANDLED BY OTHERS.
5. CONTRACTOR TO UTILIZE EXISTING FENCE/GATE OR INSTALL AND MAINTAIN 6-FT HIGH TEMPORARY SECURITY FENCE AND GATE(S) AROUND THE SITE AT THE CONTRACTOR EXPENSE. THE LIFT STATION SITE SHALL BE SECURED AT ALL TIMES EACH DAY.

GENERATOR REHAB. NOTES:

6. INSTALL ALL NEW 3-INCH CONDUIT FROM THE EXISTING GENERATOR TO THE NEW AUTOMATIC TRANSFER SWITCH, (±45 LF).
7. PULL NEW WIRING FROM GENERATOR TO NEW ATS AND CONNECT ALL WIRING, EXCEPT THOSE TO THE DATA FLOW SYSTEMS (DFS) TELEMETRY CONTROL UNIT (TCU) SYSTEMS, COUNTY TO CONNECT.
8. CONTRACTOR SHALL ENSURE THE EXISTING GENERATOR IS FULLY FUNCTIONAL AND OPERATING AS EXPECTED. COORDINATE WITH COUNTY TO ENSURE PROPER FUNCTION.
9. SEE SHEET 4 FOR MORE DETAILED REHABILITATION DESIGNS.

NO.	REVISION DESCRIPTION	BY	DATE

SATELLITE LIFT STATION R&R
SLS UPPER MANATEE RIVER ROAD
1010 UPPER MANATEE RIVER ROAD
UMRR SITE PLAN (REHAB)

Manatee County FLORIDA

PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

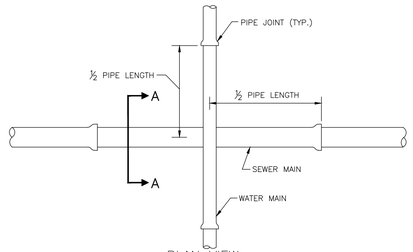
PROJECT #	6117680	
SURVEY #	NA	
SEC./TWN./RGE	30/34/19	
SCALE	SEE SCALE BAR	
	BY	DATE
SURVEYED	NA	NA
DESIGNED	JSS	2/22
DRAWN	JKW	2/22
CHECKED	JSS	-

J. SHEA SHOUN, P.E.

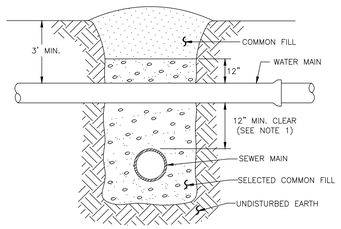
FLORIDA LICENSE No. 60923
JOHN SHEA SHOUN
STATE OF FLORIDA
PROFESSIONAL ENGINEER
10/20/2023
Signature Date

SHEET 05 OF 10

H:\util\eng design\AutoCAD\=sun swr pl\plan swr - 1 - upgrades\sls r&r umrr\DWGS\SLS R&R Upper Manatee River Rd.dwg,UMRR Site (Rehab-PH1), 10/20/2023 7:58 AM Shea Shoun, 1:1, ANSI full bleed D (34.00 x 22.00 inches), NC-2016.51B



PLAN VIEW

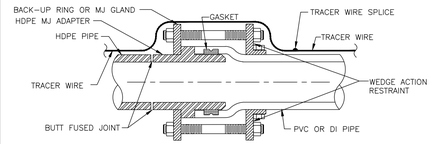


SECTION A–A

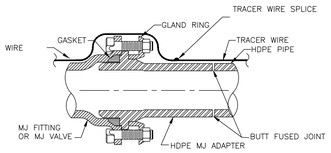
NOTES:

1. CLEARANCE MAY BE REDUCED TO 6" FOR GRAVITY SEWER WHERE WATER MAIN IS DUCTILE IRON.
2. PIPE SECTIONS SHALL BE FULL–LENGTH AND SHALL BE ADJUSTED HORIZONTALLY, SO THAT THE CROSSING IS AT EACH PIPE SECTION'S MIDPOINT REGARDLESS OF THE VERTICAL CLEARANCE.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT | REV.BY | DATE | SEPT 12, 2023 DATE OF APPROVAL | TYPICAL NEW WATER & SEWER LINE CROSSING | UG–2

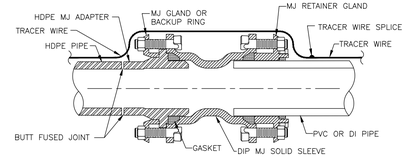


HDPE PIPE TO PVC PIPE / SPIGOT TO BELL CONNECTION



NOTE: SCHEMATIC SHOWN FOR STANDARD MJ FITTINGS AND GATE VALVES.

HDPE PIPE TO MJ FITTING TRANSITION



HDPE PIPE TO PVC PIPE SPIGOT TO SPIGOT CONNECTION

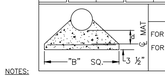
NOTES:

1. ONE TRACER WIRE SHALL BE SECURED TO THE PIPE FOR ALL TYPES OF PIPELINE INSTALLATIONS.
2. CONTRACTOR SHALL NOT USE MECHANICAL MEANS TO ALIGN PIPE AND FITTINGS FOR ATTACHMENT. THE PIPE SHALL NOT BE "SPRING" LOADED.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT | REV.BY | DATE | SEPT 12, 2023 DATE OF APPROVAL | HDPE TO PVC OR DI PIPE ADAPTER | UG–6

THRUST BLOCK DIMENSIONS B ft. x d inches

PIPE SIZE	90°BEND		45°BEND		22.5°BEND		11.25°BEND		DEAD END & TEE		45° WYE	
(IN.)	B	d	B	d	B	d	B	d	B	d	B	d
4	1.5	3 ½	1.1	3 ½	0.8	3 ½	0.6	3 ½	1.3	3 ½	1.1	3 ½
6	2.2	5 ¼	1.6	3 ¾	1.2	3 ½	0.8	3 ½	1.9	4 ½	1.6	3 ¾
8	2.9	7	2.1	5	1.5	3 ½	1.1	3 ½	2.4	5 ¾	2.0	4 ¾
10	3.5	8 ½	2.6	6 ¼	1.9	4 ½	1.3	3 ½	3.0	7 ¼	2.5	6
12	4.2	10	3.1	7 ½	2.2	5 ¼	1.6	3 ¾	3.5	8 ¼	3.0	7 ¼
14	4.9	11 ¾	3.6	8 ¾	2.6	6 ¼	1.8	4 ¼	4.1	9 ¾	3.4	8 ¼
16	5.5	13 ¼	4.1	9 ¾	2.9	7	2.1	5	4.7	11 ¼	3.9	9 ¼
18	6.2	15	4.6	11	3.3	8	2.3	5 ½	5.2	12 ½	4.4	10 ½
20	6.9	16 ½	5.0	12	3.6	8 ¾	2.6	6 ¼	5.8	14	4.9	11 ¾
24	8.2	19 ¾	6.0	14 ½	4.3	10 ¼	3.1	7 ½	6.9	16 ½	5.8	14
30	10.1	24 ¼	7.5	18	5.3	12 ¾	3.8	9	8.5	20 ½	7.2	17 ¼
36	12.1	29	8.9	21 ¼	6.4	15 ¼	4.5	10 ¾	10.2	24 ½	8.6	20 ¾



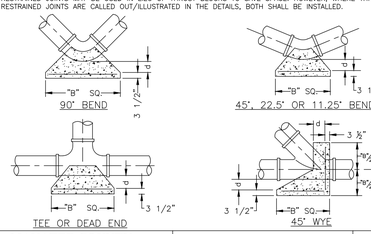
REINFORCEMENT MAT SCHEDULE

FOR DIM. "B" BETWEEN 5.75' & 12.5' USE #4 @ 8" EACH WAY

FOR DIM. "B" LESS THAN 5.75' USE #3 @ 8" EACH WAY

NOTES:

1. ALL THRUST BLOCKS SHALL BE CAST IN PLACE. FITTINGS ADJACENT TO THRUST BLOCKS SHALL BE WRAPPED IN POLYETHYLENE.
2. THIS TABLE IS BASED ON WATER PRESSURE=180 PSI WITH AN ALLOWABLE SOIL BEARING PRESSURE=2000 PSF, CONCRETE STRENGTH f_c =3000 PSI, REINFORCEMENT f_y =60.0 KSI. THRUST BLOCK SHALL BE CAST AGAINST FIRM UNDISTURBED SOIL.
3. FOR LARGER "B" DIMENSIONS IT IS NECESSARY TO CHECK THAT PIPE IS SUFFICIENTLY DEEP TO ALLOW 15" MIN. SOIL COVER OVER TOP EDGE OF THRUST BLOCK.
4. RESTRAINED JOINTS MAY BE USED IN LIEU OF THRUST BLOCKS TO SAVE SPACE. HOWEVER, WHERE THRUST BLOCKS AND RESTRAINED JOINTS ARE CALLED OUT/ILLUSTRATED IN THE DETAILS, BOTH SHALL BE INSTALLED.



MANATEE COUNTY PUBLIC WORKS DEPARTMENT | REV.BY | DATE | SEPT 12, 2023 DATE OF APPROVAL | CONCRETE THRUST BLOCKS | UG–7

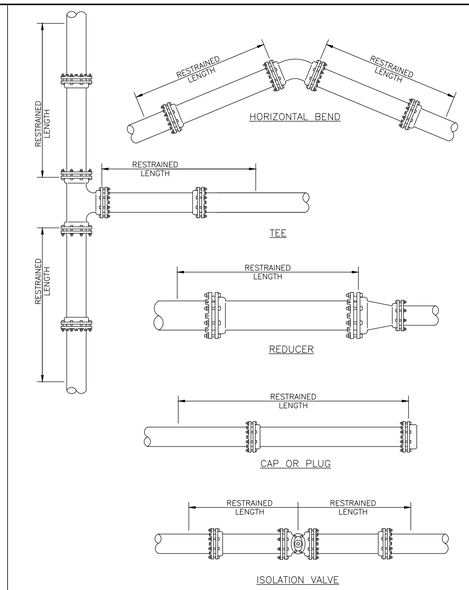
REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR C900-16 PVC PIPE (DR-18)

MAIN PIPE SIZE	HORIZ. BENDS			TEES					REDUCERS			PLUGS & VALVES
	90°	45°	22.5°	SIZE / LENGTH					SIZE / LENGTH			
24	90	38	18	X24 / 169	X20 / 132	X16 / 90	X12 / 38	X10 / 6	X20 / 64	X16 / 117	X12 / 158	214
20	78	32	16	X20 / 141	X16 / 101	X12 / 53	X10 / 24	X8 / 1	X16 / 65	X12 / 115	X10 / 149	184
16	66	27	13	X16 / 111	X12 / 67	X10 / 41	X8 / 12		X12 / 64	X10 / 107	X8 / 111	151
12	52	22	10	X12 / 80	X10 / 56	X8 / 31	X6 / 1		X10 / 58	X8 / 82	X6 / 86	118
10	44	18	9	X10 / 63	X8 / 40	X6 / 1			X8 / 33	X6 / 61	X4 / 81	100
8	37	15	7	X8 / 49	X6 / 18	X4 / 1			X6 / 35	X4 / 60		83
6	29	12	6	X6 / 29	X4 /				X4 / 33			63
4	21	8	4	X4 / 12								45

NOTES:

1. RESTRAIN 11.25° BENDS 50% OF LENGTH FOR 22.5° BENDS.
2. ALL VALVES AND FITTINGS SHALL BE RESTRAINED TO THE CONNECTING SECTIONS OF PIPE.
3. ALL ISOLATION VALVES MUST BE PROPERLY ANCHORED OR RESTRAINED TO RESIST A 180 PSI TEST PRESSURE IN EITHER DIRECTION.
4. PIPE SIZES ARE GIVEN IN INCHES.
5. RESTRAINED PIPE LENGTHS ARE GIVEN IN FEET.
6. LENGTHS SHOWN ARE FOR A TEST PRESSURE OF 180 PSI.
7. 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.
8. RESTRAINED LENGTHS TO BE APPLIED TO PIPELINES PER DETAIL UG–10 RESTRAINED LENGTHS FOR PIPE.
9. ALL RESTRAINED JOINT HARDWARE SHALL CONFORM TO 1.11.17 OF THE PUBLIC WORKS UTILITIES STANDARDS MANUAL.
10. ALL THREE "LEGS" OF TEES SHALL BE RESTRAINED PER THE STATED LENGTH IN THE TABLE.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT | REV.BY | DATE | SEPT 12, 2023 DATE OF APPROVAL | RESTRAINED LENGTHS FOR PVC PIPE | UG–8



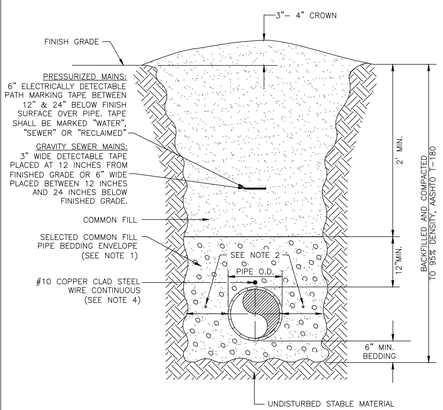
NOTE:

1. SEE DETAIL UG–8 RESTRAINED LENGTHS FOR PVC PIPE FOR NOTES 1 THROUGH 10 THAT ARE ALSO APPLICABLE TO RESTRAINED LENGTHS FOR PIPE.

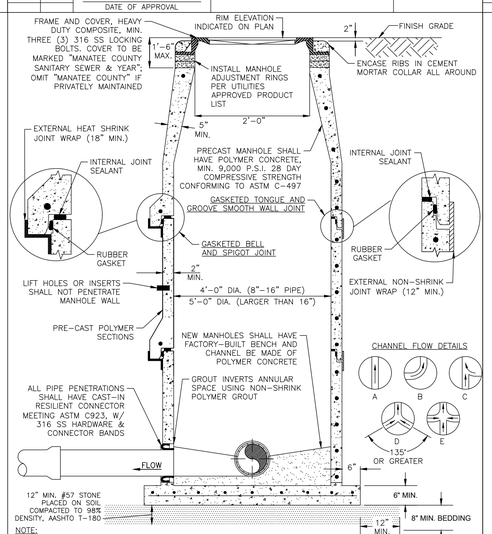
MANATEE COUNTY PUBLIC WORKS DEPARTMENT | REV.BY | DATE | SEPT 12, 2023 DATE OF APPROVAL | RESTRAINED LENGTHS FOR PIPE | UG–10

NOTES:

1. USE OF TYPE A–2 AND A–3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. 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.
3. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
4. TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.



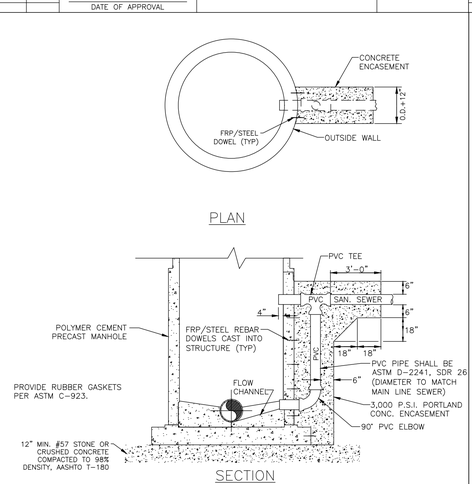
MANATEE COUNTY PUBLIC WORKS DEPARTMENT | REV.BY | DATE | SEPT 12, 2023 DATE OF APPROVAL | TRENCH WITH UNIMPROVED SURFACE TYPE A–1 PIPE BEDDING | UG–11



NOTE:

1. DROP MANHOLES, MANHOLES WITH OPPOSING TURBULENT FLOW (DETAILS D & E), MANHOLES UPSTREAM OF A LIFT STATION WET WELL (SEE US–25), MANHOLES WITH GRAVITY SEWERS GREATER THAN 12 INCHES IN DIAMETER, FORCE MAIN TERMINAL MANHOLE AND THE NEXT TWO DOWNSTREAM MANHOLES SHALL BE MADE OF POLYMER CONCRETE.
2. MANHOLES SHALL HAVE A GASKETED BELL & SPIGOT OR TONGUE & GROOVE SMOOTH WALL JOINT DESIGN.
3. ALL JOINTS SHALL MEET THE REQUIREMENTS OF ASTM C–443 AND ASTM C–990 FOR CONCRETE SEWER AND CULVERT PIPE USING RUBBER GASKETS AND FLEXIBLE JOINT SEALANTS.
4. ALL FRP/STEEL REINFORCEMENT, MANHOLE RISERS, CONES, BASES, AND FLAT LIDS SHALL BE DESIGNED BY MANUFACTURER TO MEET LOADING REQUIREMENTS OF ASTM C–478, ASTM C–857, ACI 350, AND ACI 440.1R AS MODIFIED FOR POLYMER CONCRETE MANHOLES.

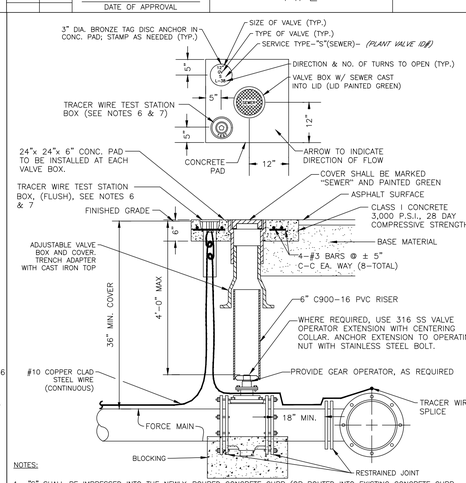
MANATEE COUNTY PUBLIC WORKS DEPARTMENT | REV.BY | DATE | SEPT 12, 2023 DATE OF APPROVAL | STANDARD PRECAST POLYMER CONCRETE SANITARY SEWER MANHOLE FOR TURBULENT FLOW | US–3



NOTES:

1. THIS MANHOLE SHALL BE MADE OF POLYMER CONCRETE, SEE US–3.
2. DROP MANHOLES ARE REQUIRED WHEN THE VERTICAL DISTANCE BETWEEN THE LOWEST EXISTING MANHOLE INVERT AND THE HIGHEST PIPE INVERT IS 2'–0" OR GREATER. INFLUENT SHALL CONNECT TO THE BOTTOM OF THE MANHOLE 0.1 FT ABOVE THE EXITING PIPE. BY A CONSTRUCTED U–CHANNEL.
3. BUILD FLOW CHANNEL PER DETAIL US–3, SEWER MANHOLE FOR TURBULENT FLOW, AND FINISH SMOOTH WITH GROUT.

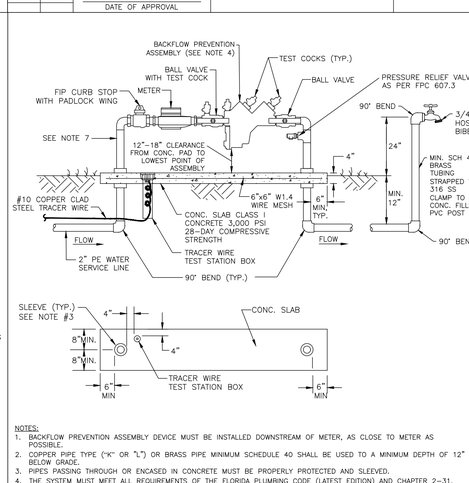
MANATEE COUNTY PUBLIC WORKS DEPARTMENT | REV.BY | DATE | SEPT 12, 2023 DATE OF APPROVAL | OUTSIDE DROP GRAVITY CONNECTION TO POLYMER CONCRETE MANHOLE | US–7



NOTES:

1. "S" SHALL BE IMPRESSED INTO THE NEWLY–POURED CONCRETE CURB (OR ROUTED INTO EXISTING CONCRETE CURB USING AN APPROVED TEMPLATE) AND INSTALL AN ALUMINUM GREEN DISC WITH "S" AND THE FOOTAGE FROM THE DISC TO THE VALVE USING A 1/8" x 1" GALVANIZED STEEL SCREW IN THE EDGE OF PAVEMENT. LETTERS SHALL COMPLY WITH TEMPLATE DETAIL UG–21.
2. ALL EXISTING AND PROPOSED VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRADES AS DETERMINED IN THE FIELD.
3. VALVES SHALL NOT BE PLACED IN HANDICAPPED RAMPS, CURBS OR GUTTERS.
4. PRECAST CONCRETE PADS AND THRUST BLOCKS SHALL NOT BE USED.
5. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1/2".
6. USE NON–TRAFFIC RATED BOXES. WHERE VALVE WILL BE IN STREET OR PARKING UNDER VEHICLE TRAFFIC, USE TRAFFIC RATED BOXES. WHERE POSSIBLE, LOCATE TRACE WIRE TESTING STATION OUTSIDE OF TRAVEL LANE OR IN MEDIAN, CENTERED IN SEPARATE CONCRETE PAD SIMILAR TO STANDARD VALVE BOX PAD.
7. TRACER WIRE BOX SHALL BE LOCATED OUTSIDE THE ROADWAY ON THOROUGHFARES (COLLECTORS & ARTERIAL) AND STATE ROADWAYS.
8. SHOULD THE TRACER WIRE STATION BOX CONCRETE PAD OVERLAP A SIDEWALK, THE TRACER WIRE TEST STATION BOX SHALL NOT BE LOCATED WITHIN THE SIDEWALK.
9. 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.
10. REFER TO SECTION 1.11 IN THE PUBLIC WORKS UTILITY STANDARDS MANUAL FOR FURTHER DETAILS.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT | REV.BY | DATE | SEPT 12, 2023 DATE OF APPROVAL | VALVE, BOX, COVER AND TAG | US–14



NOTES:

1. BACKFLOW PREVENTION ASSEMBLY DEVICE MUST BE INSTALLED DOWNSTREAM OF METER, AS CLOSE TO METER AS POSSIBLE.
2. COPPER PIPE TYPE ("K" OR "L") OR BRASS PIPE MINIMUM SCHEDULE 40 SHALL BE USED TO A MINIMUM DEPTH OF 12" BELOW GRADE.
3. PIPES PASSING THROUGH OR ENCASED IN CONCRETE MUST BE PROPERLY PROTECTED AND SLEEVED.
4. THE SYSTEM MUST MEET ALL REQUIREMENTS OF THE FLORIDA PLUMBING CODE (LATEST EDITION) AND CHAPTER 2–31, ARTICLE X OF THE MANATEE COUNTY CODE OF ORDINANCES.
5. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1/2".
6. BACKFLOW PREVENTER SHALL BE TESTED AT THE TIME OF INSTALLATION.
7. PRESSURE REDUCING VALVE REQUIRED UPSTREAM OF BACKFLOW PREVENTION ASSEMBLY, IF SYSTEM PRESSURE EXCEEDS 80 PSI.
8. 3' MIN. CLEARANCE FROM LANDSCAPING PLANTS AND 10' MIN. CLEARANCE FROM TREES TO EDGE OF CONCRETE SLAB AND CLEAR OPENING FOR ACCESS FROM STREET.
9. THE WATER METER AND BACKFLOW PREVENTION ASSEMBLY SHALL BE LOCATED AT THE ROW LINE. THE BACKFLOW PREVENTION ASSEMBLY FOR PRIVATE LIFT STATIONS SHALL BE LOCATED ADJACENT TO THE ROW LINE OR WITHIN AN EASEMENT OUTSIDE OF THE FENCING.
10. SATELLITE LIFT STATIONS SHALL HAVE A 2" WATER SERVICE LINE, A 5/8–INCH WATER METER, AND A 3/4–INCH REDUCED PRESSURE (RPZ) BACKFLOW PREVENTION ASSEMBLY, AND A SEPARATE POST MOUNTED HOSE BIBB. STATIONS WITH WET WELL DIAMETERS 10 FEET AND LARGER SHALL HAVE A 2–INCH METER AND RPZ BACKFLOW PREVENTION ASSEMBLY, AND AN ADDITIONAL 2" ALUMINUM QUICK CONNECT HOSE CONNECTION, SEE DETAILS US–22. ALL ITEMS SHALL BE FIELD LOCATED WITH COUNTY PERSONNEL.
11. BACKFLOW PREVENTION ASSEMBLIES USED FOR POTABLE APPLICATIONS SHALL BE LEAD FREE AS DEFINED IN THE REDUCTION OF LEAD IN DRINKING WATER ACT, SECTION 1417 OF THE SAFE DRINKING WATER ACT, 42 U.S.C. 300g–6, AS MAY BE AMENDED, AND IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS

MANATEE COUNTY PUBLIC WORKS DEPARTMENT | REV.BY | DATE | SEPT 12, 2023 DATE OF APPROVAL | 5/8" WATER METER & BACKFLOW PREVENTION ASSEMBLY FOR LIFT STATIONS | US–21

NO.	REVISION DESCRIPTION	BY	DATE

SATELLITE LIFT STATION R&R
SLS UPPER MANATEE RIVER ROAD
1010 UPPER MANATEE RIVER ROAD
DETAILS

Manatee County FLORIDA

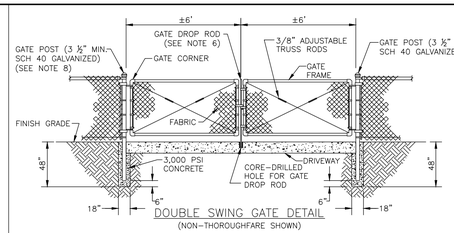
PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

PROJECT #	6117680	
SURVEY #	NA	
SEC./TWN./RGE	30/34/19	
SCALE	N.T.S	
	BY	DATE
SURVEYED	NA	NA
DESIGNED	JSS	2/22
DRAWN	JKW	2/22
CHECKED	JSS	–

J. SHEA SHOUN, P.E.
FLORIDA LICENSE No. 60923
JOHN S. SHOUN
STATE OF FLORIDA PROFESSIONAL ENGINEER
10/20/2023
Date

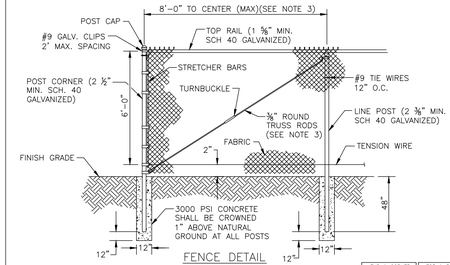
SHEET 06 OF 10

Shoun, 11:1, ANSI full bleed D (34.00 x 22.00 inches), MC–2016.STB
10/20/2023 7:51 AM Shea Shoun, jsheaseshoun – SLS R&R UPPER MANATEE RIVER RD\dwg\DETAILS1, 10/20/2023 7:51 AM Shea Shoun, jsheaseshoun – SLS R&R UPPER MANATEE RIVER RD\dwg\US\US\US



DOUBLE SWING GATE DETAIL

(NON-THOROUGHFARE SHOWN)



FENCE DETAIL

END & CORNER POST TOP OPTIONS		TOP & BOTTOM FABRIC OPTIONS	
STANDARD	DOME	TWIST	KNUCKLE

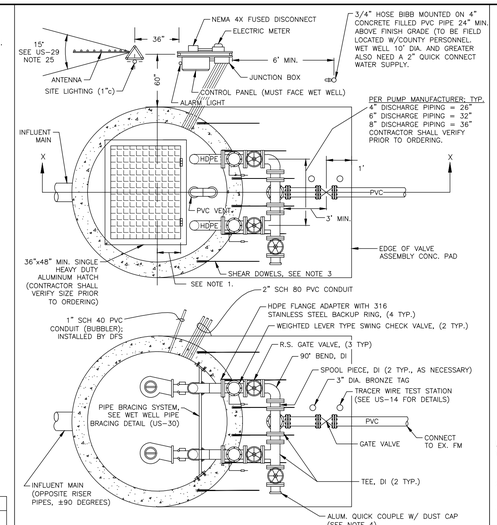
NOTES:

1. FENCING SHALL BE CHAIN LINK, W/ COLOR MATCHED PRIVACY DECORATIVE SLATS.
2. CHAIN LINK FENCING SHALL BE #9 GAUGE, GALVANIZED STEEL WITH VINYL COATING (BLACK OR GREEN).
3. TRUSS BARS ON CHAIN LINK FENCES ARE REQUIRED FOR THE FIRST SPAN ON EACH SIDE OF THE CORNER POST AND FOR EACH GATE SECTION.
4. LANDSCAPE SCREENING SHALL BE LOCATED ON THE EXTERIOR OF LIFT STATION FENCING.
5. SWING GATES SHALL BE CAPABLE OF SWINGING BOTH INWARDS AND OUTWARDS AND SHALL HAVE 1/2" DIA. CANE BOLT ASSEMBLY AND A RECEIVING GROUND RECESS TO SECURE THE GATES OPEN IN BOTH DIRECTIONS.
6. DOUBLE GATES SHALL HAVE A DROP ROD INSTALLED TO SECURE THE GATES CLOSED. THE CONCRETE DRIVEWAY SHALL HAVE A SMALL HOLE CORE-DRILLED OUT AND A SMALL PIECE OF PIPE SECURED INTO THE HOLE THAT THE DROP ROD WILL FIT INTO TO PREVENT CONCRETE CHIPPING AROUND THE HOLE.
7. THOROUGHFARE DRIVEWAYS SHALL HAVE CANTILEVER SLIDE GATES MEETING FDOT DESIGN STANDARDS. GATE POSTS AND TRACK LINE POSTS SHALL BE 4 INCH SCHEDULE 40 FOR CANTILEVER SLIDE GATES.

MANATEE COUNTY
PUBLIC WORKS DEPARTMENT

REV.BY	DATE	
		SEPT 12, 2023
		DATE OF APPROVAL

SECURITY FENCING — US-24



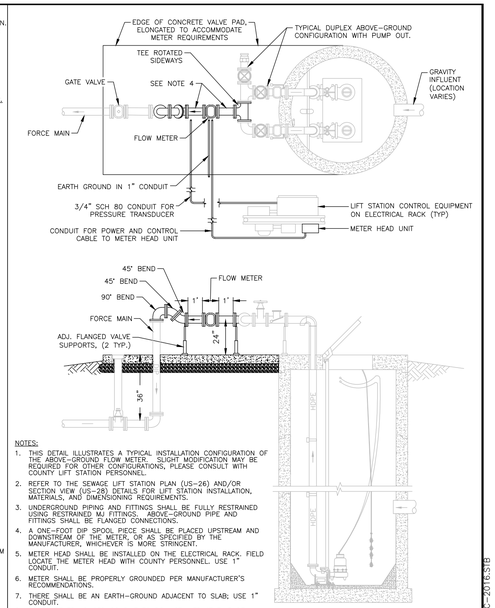
NOTES:

1. FOR 6' DIA. WET WELLS, THE HINGED SIDE OF THE HATCH OPENING SHALL BE OFFSET 12" FROM CENTERLINE.
2. A FLOW METER SHALL BE INSTALLED UPSTREAM OF ISOLATION GATE VALVE FOR ALL LIFT STATIONS THAT RE-PUMP SEWAGE FROM OTHER LIFT STATIONS.
3. #5 REBAR (6 TYP.) SHALL BE EPOXY EMBEDDED INTO THE WET WELL TOP 3-4 INCHES DEEP AND CAST 3-4 FEET INTO THE VALVE ASSEMBLY PAD TO ENSURE THE TOPS OF THE WET WELL AND VALVE ASSEMBLY PAD WILL REMAIN FLUSH.
4. QUICK COUPLE SHALL BE PLACED ON THE SIDE CLOSEST TO THE LIFT STATION DRIVEWAY.
5. POLYMER CONCRETE W/ 9,000 PSI COMPRESSIVE STRENGTH SHALL BE USED IN THE WET WELL CONSTRUCTION. STANDARD PORTLAND CONCRETE MAY BE USED FOR THE VALVE ASSEMBLY PAD, 3,000 PSI 28-DAY COMPRESSIVE STRENGTH.
6. FOR SECTION X-X SEE SEWAGE LIFT STATION, SECTION VIEW ON DETAIL US-28.

MANATEE COUNTY
PUBLIC WORKS DEPARTMENT

REV.BY	DATE	
		SEPT 12, 2023
		DATE OF APPROVAL

SEWAGE LIFT STATION PLAN VIEW — US-26



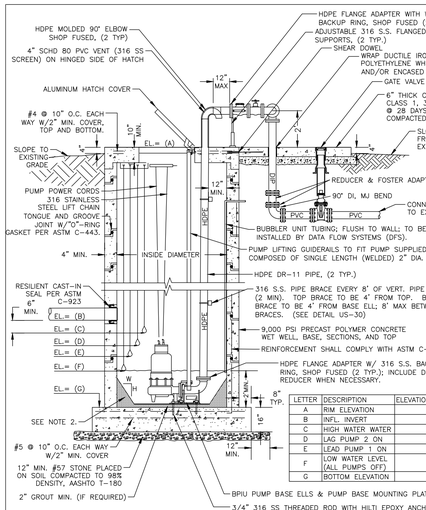
NOTES:

1. THIS DETAIL ILLUSTRATES A TYPICAL INSTALLATION CONFIGURATION OF THE ABOVE-GROUND FLOW METER. SLIGHT MODIFICATION MAY BE REQUIRED FOR OTHER CONFIGURATIONS, PLEASE CONSULT WITH COUNTY LIFT STATION PERSONNEL.
2. REFER TO THE SEWAGE LIFT STATION PLAN (US-26) AND/OR SECTION VIEW (US-28) DETAILS FOR LIFT STATION INSTALLATION, MATERIALS, AND DIMENSIONING REQUIREMENTS.
3. UNDERGROUND PIPING AND FITTINGS SHALL BE FULLY RESTRAINED USING RESTRAINED MJ FITTINGS. ABOVE-GROUND PIPE AND FITTINGS SHALL BE FLANGED CONNECTIONS.
4. A ONE-FOOT DIP SPOOL PIECE SHALL BE PLACED UPSTREAM AND DOWNSTREAM OF THE METER, OR AS SPECIFIED BY THE MANUFACTURER, WHICHEVER IS MORE STRINGENT.
5. METER HEAD SHALL BE INSTALLED ON THE ELECTRICAL RACK. FIELD LOCATE THE METER HEAD WITH COUNTY PERSONNEL. USE 1" CONDUIT.
6. METER SHALL BE PROPERLY GROUNDED PER MANUFACTURER'S RECOMMENDATIONS.
7. THERE SHALL BE AN EARTH-GROUND ADJACENT TO SLAB; USE 1" CONDUIT.
8. PRESSURE TRANDUCER CONDUIT TO BE INSTALLED AT TIME OF CONSTRUCTION. PRESSURE TRANSDUCER TO BE INSTALLED BY OTHERS.

MANATEE COUNTY
PUBLIC WORKS DEPARTMENT

REV.BY	DATE	
		SEPT 12, 2023
		DATE OF APPROVAL

ABOVE-GROUND FLOW METER — US-27



LETTER	DESCRIPTION	ELEVATION	COMMENTS
A	RIM ELEVATION		
B	INFL. INVERT		20 FOOT MAX. DEPTH
C	HIGH WATER WATER		
D	LAG PUMP 2 ON		
E	LEAD PUMP 1 ON		
F	LOW WATER LEVEL (ALL PUMPS OFF)		
G	BOTTOM ELEVATION		32 FOOT MAX. DEPTH

SECTION X-X

NOTES:

1. 6" MINIMUM VERTICAL SPACING BETWEEN ALL PUMP AND ALARM CONTROL LEVELS.
2. POLYMER CONCRETE FILLET ALL AROUND WET WELL: 6-FT DIA.=12"H x 6"W; 8-FT DIA. & GREATER=18"H x 12"W.
3. THE VALVE CONCRETE PAD SHALL BE GIVEN A BROOM FINISH. THE SURFACE VARIATIONS SHALL BE NOT MORE THAT 1/4" UNDER A TEN FOOT (10') STRAIGHT EDGE, NOT MORE THAN 1/8" ON A FIVE FOOT (5') TRANSVERSE SECTION. THE EDGE OF THE CONCRETE PAD SHALL BE CAREFULLY FINISHED WITH A EDGING TOOL HAVING A RADIUS OF 1/2".
4. EXPANSION JOINT: EXPANSION JOINTS BETWEEN THE CONC. PAD AND THE WET WELL SHALL BE 1/2" MATERIAL AND SHALL MEET THE REQUIREMENTS OF AASHTO M153 OR AASHTO M213.
5. THIS DETAIL SHALL APPLY TO LIFT STATIONS WITH 4" OR GREATER FORCE MAINS. LIFT STATIONS WITH FORCE MAINS LESS THAN 4" REFER TO DETAIL US-34.

MANATEE COUNTY
PUBLIC WORKS DEPARTMENT

REV.BY	DATE	
		SEPT 12, 2023
		DATE OF APPROVAL

SEWAGE LIFT STATION SECTION VIEW — US-28

GENERAL LIFT STATION NOTES:

1. ALL ACCESS COVERS SHALL BE ALUMINUM, WITH 316 STAINLESS STEEL HARDWARE AND RATED FOR 300 P.S.F. LOADING. ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE SHALL HAVE 2 COATS BITUMASTIC EPOXY, TOTAL 16 MILS DFT. ALL ACCESS COVERS SHALL BE EQUIPPED WITH A LOCKING STAPLE OR BAR FOR USE WITH A PADLOCK. PADLOCKS FOR WETWELL, FENCE GATE AND CONTROL PANELS OF PUBLICLY OWNED & MAINTAINED LIFT STATIONS SHALL BE FURNISHED BY THE MANATEE COUNTY UTILITIES DEPARTMENT, UPON ACCEPTANCE.
2. INSTALL WET WELL VENT ON THE HINGED SIDE OF THE WET WELL HATCH COVER, BETWEEN DISCHARGE PIPING AND MATCH HEIGHT.
3. GROUND SHALL BE SLOPED AWAY FROM SLAB TO NATURAL GROUND ELEVATION IN ALL DIRECTIONS. A 4-INCH REVEAL SHALL BE PROVIDED AROUND THE STRUCTURES. SITE SHALL INCLUDE A WEED BARRIER FABRIC THAT IS COVERED WITH WASHED SHELL OR ROCK WITHIN LIFT STATION FENCING; SITE SHALL INCLUDE A WEED BARRIER FABRIC THAT IS COVERED WITH SHREDDED WOOD TYPE MULCH UNDER THE SHRUBS AND UP TO OUTSIDE OF THE FENCE. WEED BARRIER FABRIC THAT IS COVERED WITH SHREDDED WOOD-TYPE MULCH SHALL BE LOCATED UNDER THE TREES FOR A MINIMUM DISTANCE OF 3 FEET FROM THE TREE. SODDING OR SHREDDED WOOD-TYPE MULCH SHALL BE INSTALLED ON THE REMAINDER OF THE SITE TO THE EDGE OF THE EASEMENT.
4. ALL FORCE MAIN PIPING AND FITTINGS FROM THE PUMP BASE ELBOW IN THE WETWELL UP TO THE CHECK VALVE IN THE ABOVE GROUND VALVE ASSEMBLY, SHALL BE DR11 HDPE. THE HDPE FITTINGS SHALL BE MOLDED FITTINGS. ALL CONNECTIONS TO IRON BODIED FLANGE FITTINGS IN THE WETWELL (PUMP BASE ELLS) AND TO THE CHECK VALVES SHALL BE MADE USING HDPE FLANGE ADAPTERS WITH 316 STAINLESS STEEL BACKUP RINGS. ALL HDPE CONNECTIONS SHALL BE THERMAL FUSED. ALL PIPING DOWNSTREAM OF THE VALVE ASSEMBLY TO THE FIRST BURIED FITTING SHALL BE DUCTILE IRON PIPE (CL-53), THEN PVC (DR18).
5. ALL PIPING BELOW GROUND SHALL BE COLOR CODED IN ACCORDANCE WITH THESE STANDARDS. GREEN-RAW SEWAGE; PURPLE-RECLAIMED; BLUE-POTABLE WATER.
6. ANCHORS & LIFTING DEVICES SHALL NOT PENETRATE THE WALLS OF THE WET WELL.
7. ALL TOP, SECTIONS, AND BASE SHALL BE PRECAST POLYMER CONCRETE, MIN. 9,000 PSI COMPRESSIVE STRENGTH. SEE PRECAST POLYMER CONCRETE SANITARY SEWER MANHOLE FOR TURBULENT FLOW DETAIL.
8. ALL ABOVE-GROUND METAL APPURTENANCES INCLUDING BOLTS, NUTS AND WASHERS SHALL BE 316 STAINLESS STEEL. ALL STAINLESS STEEL BOLTS SHALL BE TREATED WITH NEVER-SEIZE PRIOR TO ASSEMBLY. ALL FLANGED CONNECTIONS SHALL REQUIRE FLAT 316 STAINLESS STEEL WASHERS ON BOTH SIDES TO PROTECT COATINGS.
9. VERTICAL HDPE PUMP DISCHARGE PIPE IN THE WET WELL SHALL BE BRACED PER DETAIL US-28. THE PIPE SHALL BE CLAMPED TO A SINGLE LENGTH OF 2" 316 SS TUBING (OR 2" 316 SS ANGLE) INSTALLED HORIZONTALLY. THE TUBE SHALL HAVE 6"x6"x¼" PLATES WELDED TO EACH END AND ATTACH TO THE WALL BY 316 SS ANCHORS. THE PIPE SHALL BE CLAMPED TO THE TUBING WITH 316 SS 3/8" DIA. U-BOLTS.
10. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT FLOTATION.
11. TOP OF WET WELL AND VALVE ASSEMBLY SLAB SHALL BE AT THE SAME ELEVATION.
12. THE EXTERIOR SURFACES OF THE CONCRETE WET WELL AND VALVE ASSEMBLY PAD EXPOSED ABOVE GRADE SHALL BE COATED WITH A LEAST TWO COATS OF H&C SILICONE ACRYLIC CONCRETE STAIN, PATIO GREEN, MANUFACTURED BY FLR PAINTS, INC. ABOVE GROUND VALVE ASSEMBLY & PIPING SHALL BE PAINTED, RUSTOLEUM 7538 HUNTER GREEN. CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID OVER-SPRAY ONTO THE VALVE ASSEMBLY CONCRETE PAD.
13. SATELLITE LIFT STATIONS SHALL HAVE A 2" WATER SERVICE LINE, A 5/8-INCH WATER METER, AND A 3/4-INCH REDUCED PRESSURE (RPZ) BACKFLOW PREVENTION ASSEMBLY, AND A SEPARATE POST MOUNTED HOSE BIBB. STATIONS WITH WET WELL DIAMETERS 10 FEET AND LARGER SHALL HAVE A 2-INCH METER AND RPZ BACKFLOW PREVENTION ASSEMBLY, AND AN ADDITIONAL 2" ALUMINUM QUICK CONNECT HOSE CONNECTION, SEE DETAIL US-22. ALL ITEMS SHALL BE FIELD LOCATED WITH COUNTY PERSONNEL.
14. LANDSCAPING SHALL BE IRRIGATED WITH NON-POTABLE WATER. A RAIN SENSOR SHALL BE FURNISHED AND INSTALLED.
15. HOSE BIB TO BE A MINIMUM OF 6 FEET FROM THE ELECTRICAL CONTROL PANEL, 24" ABOVE THE SURROUNDING FINISH GRADE, AND ANCHORED TO A 4" PVC CONCRETE FILLED PIPE. EXACT LOCATION TO BE DETERMINED IN THE FIELD W/COUNTY PERSONNEL.
16. WATER METER ASSEMBLY TO BE INSTALLED BY CONTRACTOR AS PART OF WATER SERVICE CONNECTION WITH FEES PAID BY THE DEVELOPER.
17. BASE AND FIRST WALL SECTION OF WET WELL SHALL BE MONOLITHIC.
18. EVERY EFFORT SHALL BE MADE BY THE CONTRACTOR TO CONSTRUCT WATERTIGHT STRUCTURES WITH NO VISIBLE LEAKS. COMPLETED STRUCTURES THAT ARE NOT WATERTIGHT AND/OR DO NOT MEET THE REQUIREMENTS OF ASTM C-443 WILL BE REJECTED.
19. FLEXIBLE GASKET CONNECTORS SHALL MEET THE REQUIREMENTS OF ASTM C-923 LATEST REVISION.
20. ALL GATE VALVES SHALL BE RESILIENT SEAT NON-RISING STEM TYPE IN ACCORDANCE WITH THESE STANDARDS.
21. ELECTRICAL SERVICE SHALL BE 3 PHASE MINIMUM, UNLESS THE ELECTRICAL UTILITY PROVIDES CORRESPONDENCE STATING THAT 3 PHASE SERVICE IS UNAVAILABLE.
22. ELECTRICAL CONDUIT SHALL BE RUN BY THE SHORTEST ROUTE POSSIBLE FROM THE ELECTRICAL SOURCE TO THE CONTROL PANEL AND FROM THE CONTROL PANEL TO THE LIFT STATION WET WELL.
23. A FLOW METER AND DIESEL EMERGENCY BACKUP GENERATOR SHALL BE REQUIRED FOR ALL LIFT STATIONS THAT MEET THE CRITERIA LISTED IN SECTION 1.14 OF THE PUBLIC WORKS UTILITY STANDARDS MANUAL.
24. THE CONTROL PANEL, HOSE BIB, EMERGENCY BACKUP GENERATOR, FUEL STORAGE TANK AND ANTENNA SHALL NOT BE LOCATED BETWEEN THE WET WELL, VALVE ASSEMBLY AND THE DRIVEWAY. THE PUMP SHALL NOT BE LOCATED WITHIN 25 FEET OF THE EDGE OF THE LIFT STATION EASEMENT AT THE ROW LINE.
25. THE ANTENNA FOR THE RADIO TELEMETRY UNIT REQUIRES DIRECT LINE-OF-SIGHT SIGNALING CAPABILITY TO THE UTILITIES DEPARTMENT'S OFFICE THAT WILL RECEIVE THE SIGNAL. THERE SHALL BE AN UNOBSTRUCTED HORIZONTAL ANGLE OF FIFTEEN (15) DEGREES FROM THE ANTENNA MAST (7.5 DEGREES ON BOTH SIDES OF THE DIRECT LINE-OF-SIGHT AZIMUTH). NO TREE SHALL BE PLANTED WITHIN THE DESIGNATED UNOBSTRUCTED ANGLE FOR A TWENTY (20) FEET HORIZONTAL DISTANCE MEASURED FROM THE MAST. LANDSCAPE BUFFER PLANTINGS ARE TO BE FIELD ADJUSTED IN COORDINATION WITH THE LOCATION OF THE CONSTRUCTED TELEMETRY ANTENNA. THE ANTENNA TOWER/MAST SHALL BE TO THE LEFT OF THE CONTROL PANEL.

MANATEE COUNTY
PUBLIC WORKS DEPARTMENT

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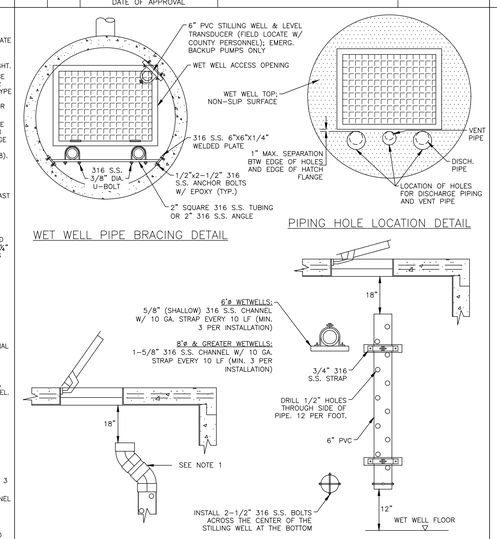
		SEPT 12, 2023
		DATE OF APPROVAL

LIFT STATION NOTES — US-29



STILLING WELL DETAILS

(EMERG. BACKUP PUMPS ONLY)

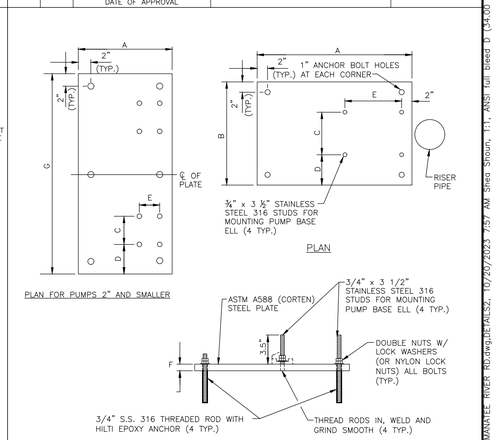
NOTES:

1. FOR LARGER LIFT STATIONS, PROVISIONS SHALL BE MADE TO MAKE THE TOP OF THE STILLING WELL VISIBLE AND ACCESSIBLE FROM THE HATCH OPENING, I.E. 45' FITTINGS, ETC.
2. NYLON LOCK NUTS SHALL NOT BE USED ON WEDGE ANCHORS.

MANATEE COUNTY
PUBLIC WORKS DEPARTMENT

REV.BY	DATE	
		SEPT 12, 2023
		DATE OF APPROVAL

LIFT STATION PIPE BRACING, & STILLING WELL DETAILS — US-30



PUMP BASE ELL MOUNTING PLATE DIMENSIONS							
DIMENSIONS	A	B	C	D	E	F	G
FOR 6" PUMPS	24"	20"	8.25"	5.875"	11"	¾"	N/A
FOR 4" PUMPS	20"	16"	6"	5"	10"	½"	N/A
2" PUMPS & SMALLER	15"	N/A	4.5"	4.75"	3.25"	½"	32"

NOTES:

1. INSTALL DOUBLE NUTS (OR NYLON LOCK NUTS) ON ALL EIGHT (8) THREADED RODS.
2. THE PLATE EDGES AND ALL HOLES SHALL BE GROUND SMOOTH TO REMOVE ALL BURRS.
3. DIMENSIONS "C" & "E" ARE FOR BARNEY'S PUMPS, INC. BASE ELLS.
4. FOR PUMPS WITH A 2-INCH DISCHARGE OR LESS, A SINGLE BASE PLATE SHALL BE INSTALLED UNDER BOTH GRINDER PUMPS.

MANATEE COUNTY
PUBLIC WORKS DEPARTMENT

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		SEPT 12, 2023
		DATE OF APPROVAL

PUMP BASE ELL MOUNTING PLATE — US-31

NO.	REVISION DESCRIPTION	BY	DATE

SATELLITE LIFT STATION R&R
SLS UPPER MANATEE RIVER ROAD
1010 UPPER MANATEE RIVER ROAD
DETAILS

Manatee County FLORIDA

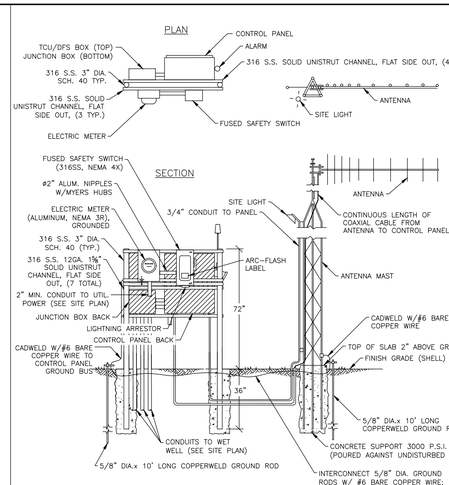
PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

PROJECT #	6117680	
SURVEY #	NA	
SEC./TWN./RGE	30/34/19	
SCALE	N.T.S	
	BY	DATE
SURVEYED	NA	NA
DESIGNED	JSS	2/22
DRAWN	JKW	2/22
CHECKED	JSS	-

J. SHEA SHOUN, P.E.
FLORIDA LICENSE No. 60923
STATE OF FLORIDA PROFESSIONAL ENGINEER
10/20/2023
Date

SHEET 07 OF 10

m:\0\eng design\0\sls r&r upper manatee river rd\dwg\dc1\sls2_10/20/2023 7:57 AM Shea Shoun, 1:1, ANSI full Bleed D (34.00 x 22.00 Inches), MC-2016.STB



TYPICAL SERVICE ENTRANCE STRUCTURE

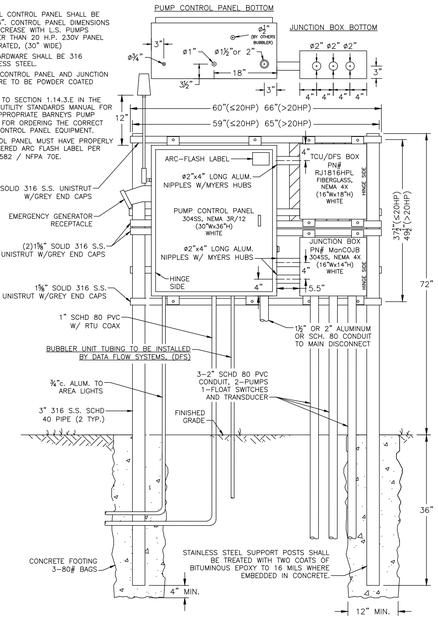
NOTES

1. ALL EQUIPMENT FURNISHED FOR THE LIFT STATION SHALL CONFORM TO MANATEE COUNTY PUBLIC WORKS UTILITY STANDARDS.
2. POWER TO BE SUPPLIED AS DIRECTED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH PROVIDING TEMPORARY AND PERMANENT ELECTRICAL SERVICE.
3. STAINLESS STEEL CONTROL PANEL SUPPORT POSTS SHALL BE TREATED WITH TWO COATS OF BITUMINOUS EPOXY TO 16 MILS WHERE EMBEDDED IN CONCRETE.
4. CONTROL AND FLOW METER ENCLOSURE TO BE NEMA 3R/12 304 STAINLESS STEEL WITH RAIN SHIELD. DISCONNECT ENCLOSURE TO BE NEMA 4X 304 STAINLESS. STEEL.
5. ALL P.V.C. CONDUIT SHALL BE SCHEDULE 80.
6. ANTENNA MAST SHALL BE RATED FOR 150 MPH WINDS.
7. IF ANTENNA MAST IS MORE THAN 18" FROM PANEL, RUN CONDUIT FOR SITE LIGHT UNDERGROUND.
8. DISCONNECT MUST HAVE PROPERLY ENGINEERED ARC FLASH LABEL PER IEEE 1582 / NFPA 70E.

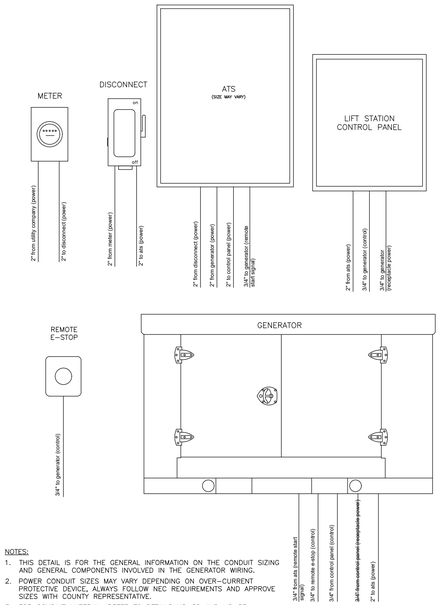
MANATEE COUNTY PUBLIC WORKS DEPARTMENT			SEWAGE LIFT STATION METER & ELECTRICAL DETAILS	US-32
REV.BY	DATE	SEPT 12, 2023 DATE OF APPROVAL		

NOTES

1. TYPICAL CONTROL PANEL SHALL BE 30"x36". CONTROL PANEL DIMENSIONS MAY INCREASE WITH L.S. PUMPS GREATER THAN 20 H.P. 230V PANEL ILLUSTRATED, (30" WIDE)
2. ALL HARDWARE SHALL BE 316 STAINLESS STEEL.
3. PUMP CONTROL PANEL AND JUNCTION BOX ARE TO BE POWDER COATED WHITE.
4. REFER TO SECTION 1.14.3.E IN THE MCPW UTILITY STANDARDS MANUAL FOR THE APPROPRIATE BARNEYS PUMP PART# FOR ORDERING THE CORRECT SIZE CONTROL PANEL EQUIPMENT.
5. CONTROL PANEL MUST HAVE PROPERLY ENGINEERED ARC FLASH LABEL PER IEEE 1582 / NFPA 70E.



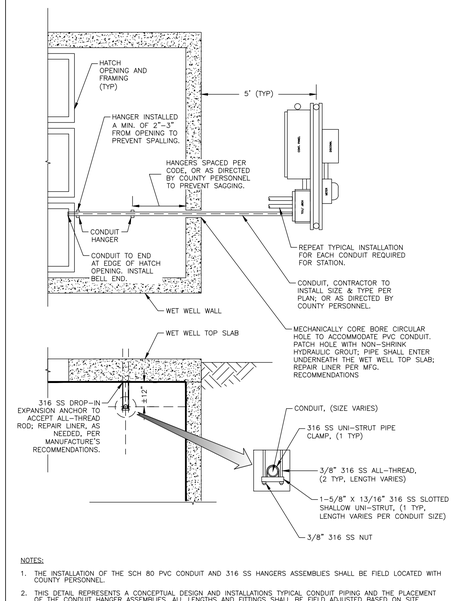
MANATEE COUNTY PUBLIC WORKS DEPARTMENT			SEWAGE LIFT STATION CONTROL PANEL	US-33
REV.BY	DATE	SEPT 12, 2023 DATE OF APPROVAL		



NOTES:

1. THIS DETAIL IS FOR THE GENERAL INFORMATION ON THE CONDUIT SIZING AND GENERAL COMPONENTS INVOLVED IN THE GENERATOR WIRING.
2. POWER CONDUIT SIZES MAY VARY DEPENDING ON OVER-CURRENT PROTECTIVE DEVICE, ALWAYS FOLLOW NEC REQUIREMENTS AND APPROVE SIZES WITH COUNTY REPRESENTATIVE.
3. FOR CONDUIT MATERIAL, REFER TO DETAILS US-32 AND US-33.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT			GENERATOR WIRING AND CONDUIT ROUTING SCHEMATIC FOR LIFT STATIONS	US-CRS
REV.BY	DATE	DATE OF APPROVAL		



NOTES:

1. THE INSTALLATION OF THE SCH 80 PVC CONDUIT AND 316 SS HANGERS ASSEMBLIES SHALL BE FIELD LOCATED WITH COUNTY PERSONNEL.
2. THIS DETAIL REPRESENTS A CONCEPTUAL DESIGN AND INSTALLATIONS TYPICAL CONDUIT PIPING AND THE PLACEMENT OF THE CONDUIT HANGER ASSEMBLIES. ALL LENGTHS AND FITTINGS SHALL BE FIELD ADJUSTED BASED ON SITE SPECIFIC CONSTRAINTS.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT			CONDUIT HANGING DETAIL	US-CHD
REV.BY	DATE	DATE OF APPROVAL		

NO.	REVISION DESCRIPTION	BY	DATE

SATELLITE LIFT STATION R&R
SLS UPPER MANATEE RIVER ROAD
1010 UPPER MANATEE RIVER ROAD
DETAILS

Manatee County FLORIDA

PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

PROJECT #	6117680	
SURVEY #	NA	
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CHECKED	JSS	–

J. SHEA SHOUN, P.E.
FLORIDA REG. No. 60923
JOHN S. SHOUN LICENSE No. 60923 STATE OF FLORIDA PROFESSIONAL ENGINEER
10/20/2023
Signature Date

SHEET 08 OF 10

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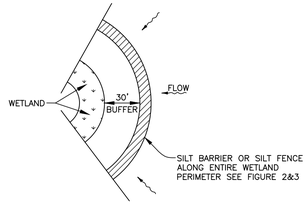
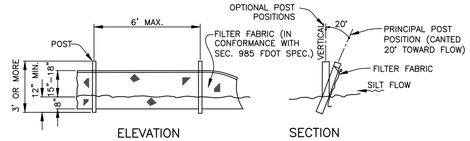
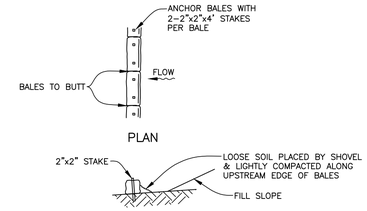


WETLAND BUFFER
FIGURE 1

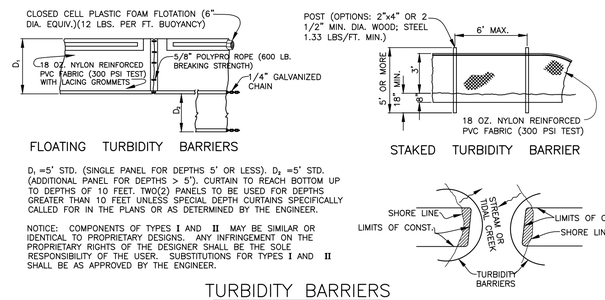


NOTE: SILT FENCE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR STAKED SILT FENCE (LF).

TYPICAL SILT FENCE
FIGURE 2



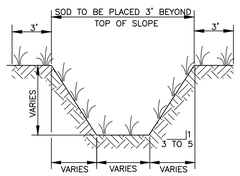
TYPICAL BALE SILT BARRIER
FIGURE 3



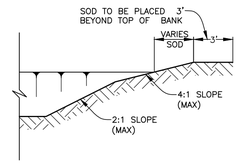
D_1 =5' STD. (SINGLE PANEL FOR DEPTHS 5' OR LESS). D_2 =5' STD. (ADDITIONAL PANEL FOR DEPTHS > 5'). CURTAIN TO REACH BOTTOM UP TO DEPTHS OF 10 FEET. TWO(2) PANELS TO BE USED FOR DEPTHS GREATER THAN 10 FEET UNLESS SPECIAL DEPTH CURTAINS SPECIFICALLY CALLED FOR IN THE PLANS OR AS DETERMINED BY THE ENGINEER.

NOTICE: COMPONENTS OF TYPES **I** AND **II** MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES **I** AND **II** SHALL BE AS APPROVED BY THE ENGINEER.

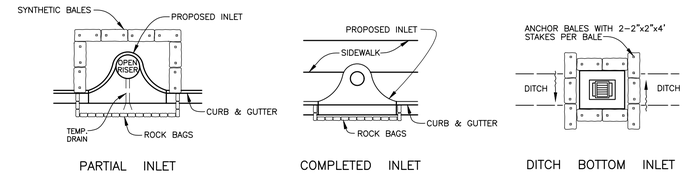
TURBIDITY BARRIERS
FIGURE 4



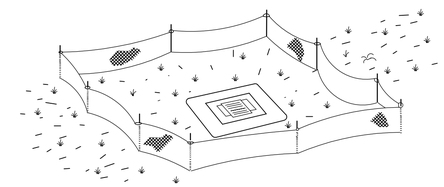
TYPICAL SWALE SECTION
FIGURE 5



TYPICAL RETENTION/DETENTION POND SECTION
FIGURE 6

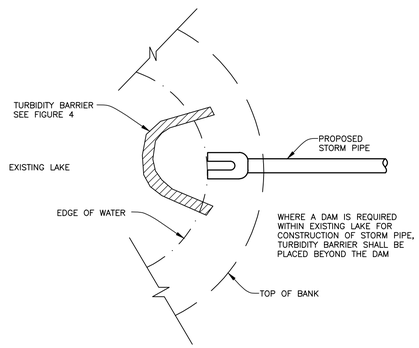


SYNTHETIC BALE PROTECTION AROUND INLETS OR SIMILAR STRUCTURES
FIGURE 7

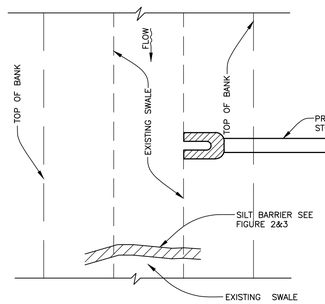


TYPE **III** SILT FENCE PROTECTION AROUND DITCH BOTTOM INLETS

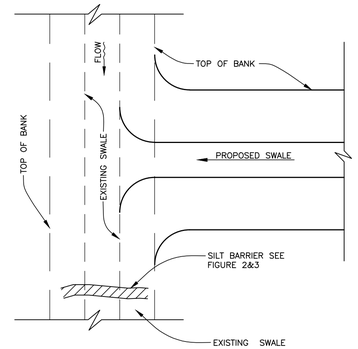
STAKED SILT BARRIER OR SILT FENCE PROTECTION AROUND DITCH BOTTOM INLETS
FIGURE 8



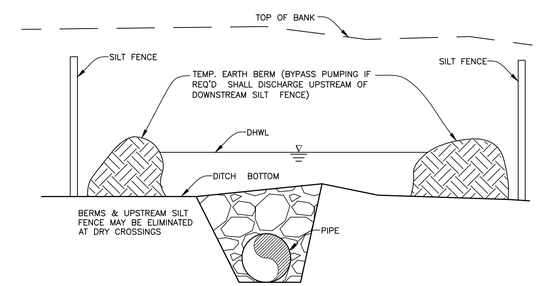
TURBIDITY BARRIER AT CONNECTION OF STORM PIPE TO EXISTING LAKE
FIGURE 9



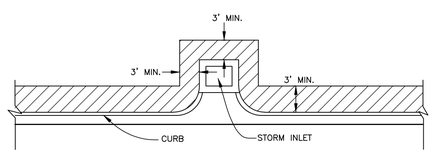
SILT BARRIER AT CONNECTION OF STORM PIPE TO EXISTING SWALE
FIGURE 10



SILT BARRIER AT CONNECTION OF SWALE TO EXISTING SWALE
FIGURE 11

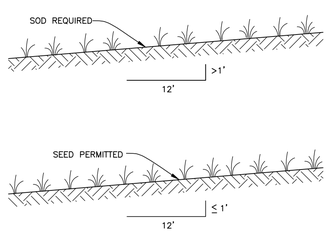


UNDERGROUND PIPE CROSSING
FIGURE 12

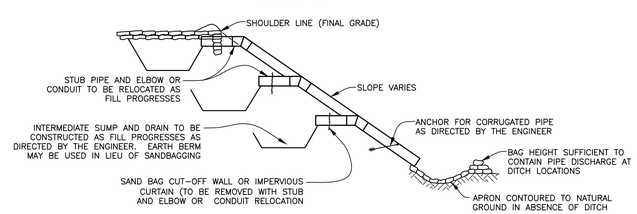


SOD ALONG CURB AND AROUND INLET
FIGURE 14

NOTE:
REFERENCE THE STATE OF FLORIDA EROSION AND SEDIMENT CONTROL DESIGNER AND REVIEWER MANUAL, LATEST EDITION, FOR ALL TEMPORARY EROSION CONTROL MEASURES

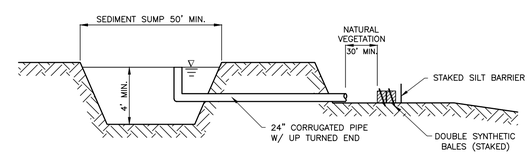


GRASS SLOPES
FIGURE 13



SECTION AA

TEMPORARY SLOPE DRAIN
FIGURE 15



SEDIMENT SUMP SECTION
FIGURE 16

NO.	REVISION DESCRIPTION	BY	DATE

SATELLITE LIFT STATION R&R
SLS UPPER MANATEE RIVER ROAD
1010 UPPER MANATEE RIVER ROAD
EROSION CONTROL DETAILS

Manatee County FLORIDA
PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

PROJECT #	6117680	
SURVEY #	NA	
SEC./TWN./RGE	30/34/19	
SCALE	N.T.S	
	BY	DATE
SURVEYED	NA	NA
DESIGNED	JSS	2/22
DRAWN	JKW	2/22
CHECKED	JSS	–

J. SHEA SHOUN, P.E.
FL LICENSE No. 60923
JOHN S. SHOUN LICENSE No. 60923 STATE OF FLORIDA PROFESSIONAL ENGINEER 10/20/2023
Signature Date

SHEET 09 OF 10

h:\cir eng design\PROJ\~sun swr pro\sun swr – is upgrades\sls r&r umr\DWGS\SLS R&R UPPER MANATEE RIVER RD.dwg,tc, 10/20/2023 7:58 AM Shea Shoun, 1:1, ANSI full bleed D (34.00 x 22.00 inches), MC-2016.STB