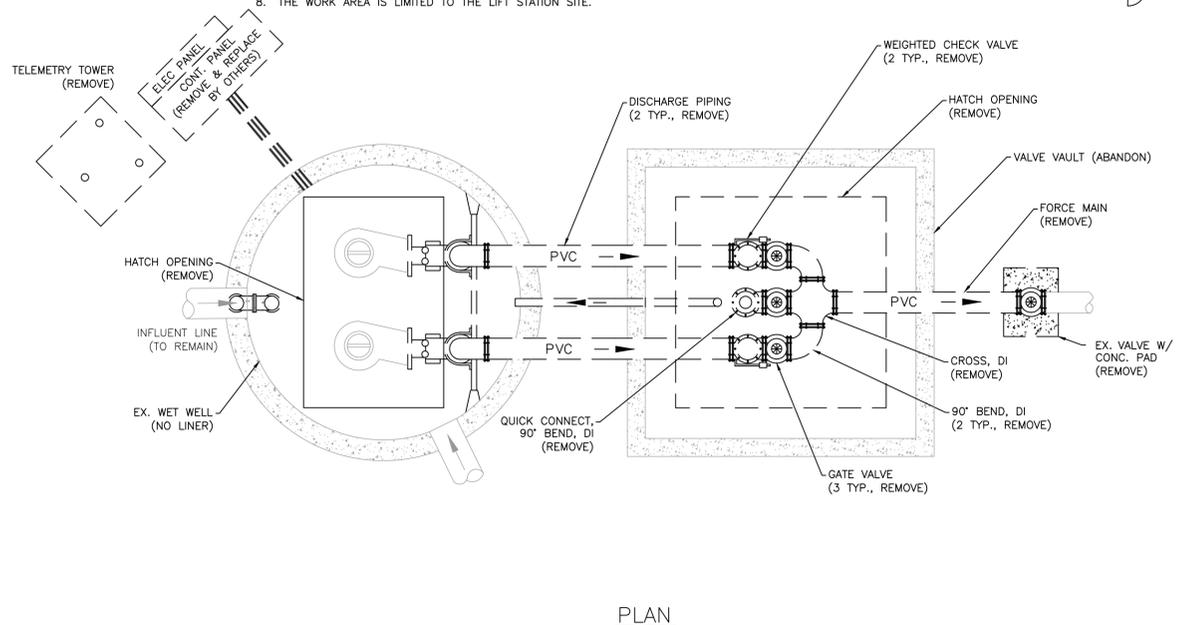


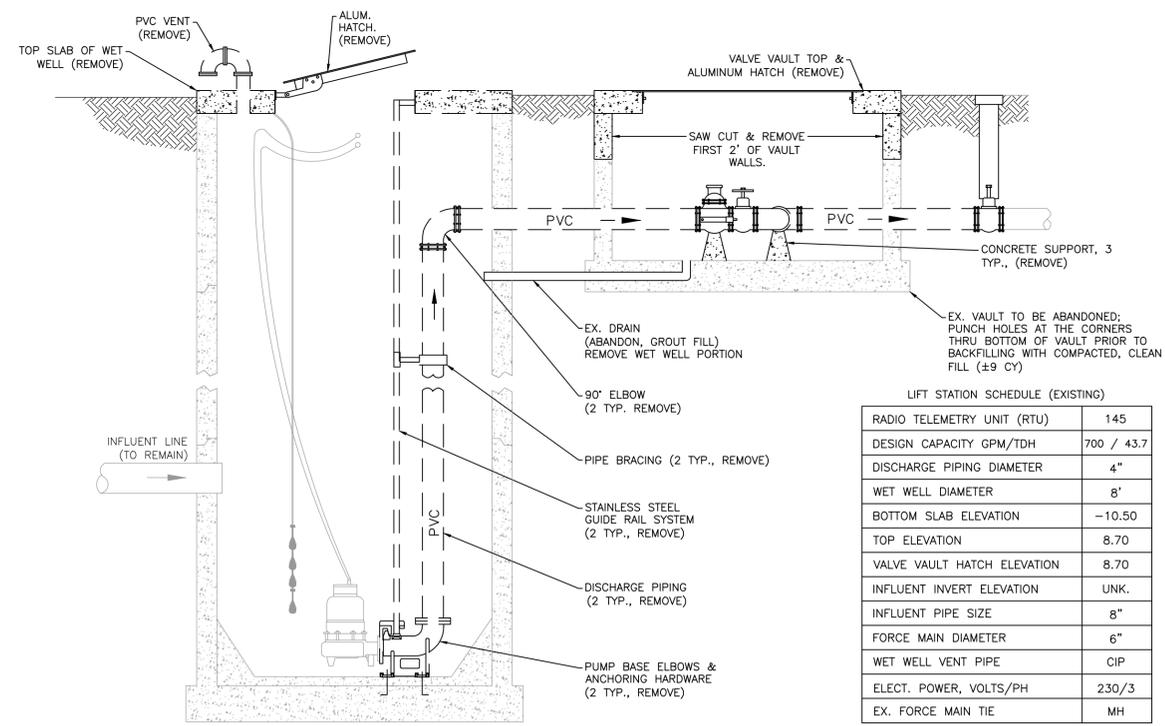
EXISTING

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. THE CONTRACTOR/BIDDER SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS.
3. THE CONTRACTOR/BIDDER 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



ELEVATION

EX. 2 PUMP LIFT STATION

LIFT STATION SCHEDULE (EXISTING)

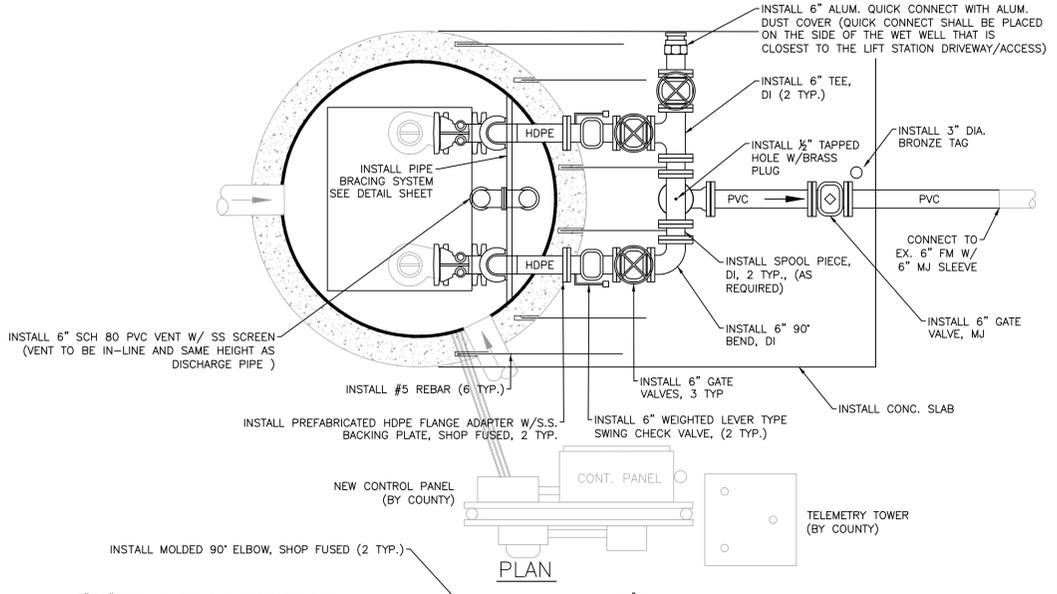
RADIO TELEMETRY UNIT (RTU)	145
DESIGN CAPACITY GPM/TDH	700 / 43.7
DISCHARGE PIPING DIAMETER	4"
WET WELL DIAMETER	8'
BOTTOM SLAB ELEVATION	-10.50
TOP ELEVATION	8.70
VALVE VAULT HATCH ELEVATION	8.70
INFLUENT INVERT ELEVATION	UNK.
INFLUENT PIPE SIZE	8"
FORCE MAIN DIAMETER	6"
WET WELL VENT PIPE	CIP
ELECT. POWER, VOLTS/PH	230/3
EX. FORCE MAIN TIE	MH

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

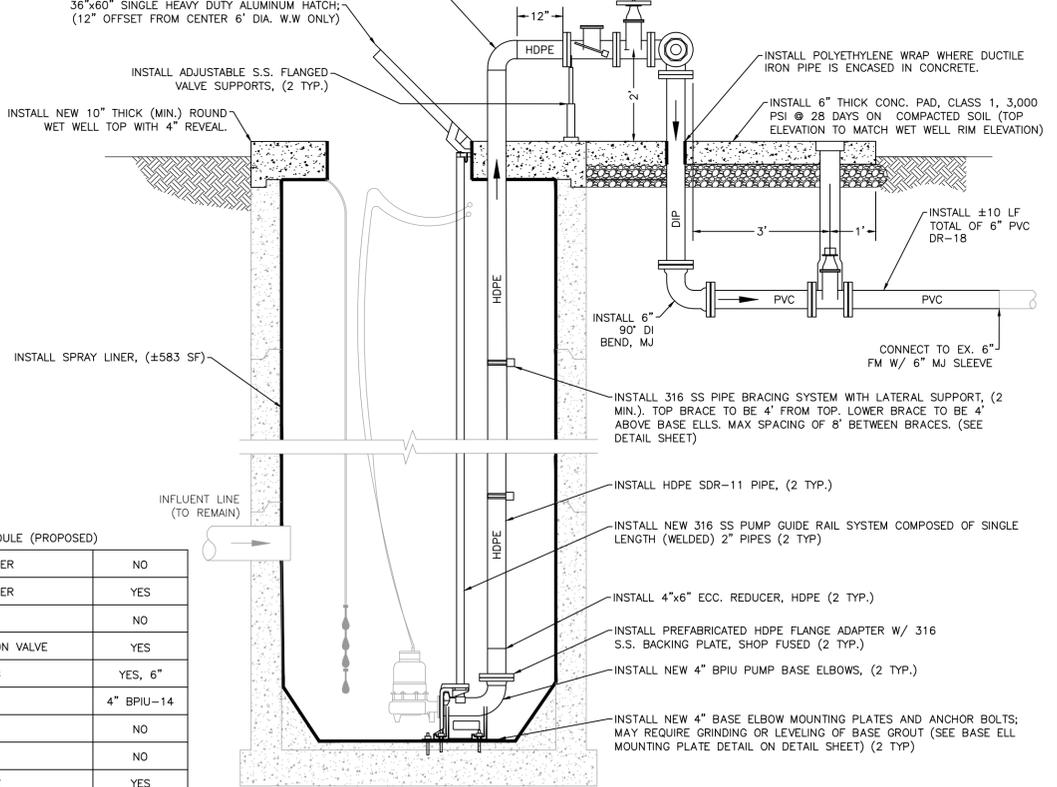
PROPOSED

GENERAL NOTES:

1. ALL MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST MANATEE COUNTY PUBLIC WORKS UTILITY STANDARDS.
2. THE CONCRETE SHALL BE GIVEN A BROOM FINISH. THE SURFACE VARIATIONS SHALL BE NOT MORE THAN 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



ELEVATION

EX. 2 PUMP LIFT STATION

LIFT STATION SCHEDULE (PROPOSED)

INSTALL FIBERGLASS W.W. LINER	NO
APPLY SPRAY LINER W.W. LINER	YES
INSTALL STILLING WELL	NO
INSTALL FORCE MAIN ISOLATION VALVE	YES
NEW HDPE DISCHARGE PIPING	YES, 6"
NEW BASE ELL	4" BPIU-14
RAISE TOP OF WET WELL:	NO
RAISE TOP OF VALVE VAULT:	NO
INSTALL WET WELL VENT PIPE	YES
INSTALL NEW WATER SERVICE ASSEMBLY, US-15	NO
UPGRADE / RELOCATE EX. WATER SERVICE ASSEMBLY	YES

CONSTRUCTION NOTES:

1. INSTALL #5 REBAR (6 TYP.) EPOXY EMBEDDED INTO THE WET WELL TOP 3-4 INCHES DEEP AND CAST 3-4 FEET INTO THE VALVE VAULT ASSEMBLY CONCRETE PAD TO ENSURE THE TOPS OF THE WET WELL AND VALVE ASSEMBLY PAD WILL REMAIN FLUSH.
2. REPAIR CONCRETE WALLS, AS NEEDED, IN WET WELL, 2-INCH MIN. THICK OVER EXISTING REBAR, (±292 SF). ALL REPAIRS TO BE VERIFIED W/ COUNTY PERSONNEL PRIOR TO WORK.
3. WET WELL CONCRETE WALLS SHALL BE INSPECTED BY COUNTY PERSONNEL PRIOR TO INSTALLATION OF NEW SPRAY LINER AND/OR LINER REPAIR.
4. UPGRADE AND RELOCATE METER, BPA, & HOSE BIBB ASSEMBLY. FIELD LOCATE WITH MANATEE COUNTY PERSONNEL, (±10 LF). THE METER AND BPA SHALL BE LOCATED AS CLOSE AS POSSIBLE TO THE FENCE OR RIGHT-OF-WAY LINE.
5. INSTALL A 12-FOOT WIDE 6-INCH THICK CONCRETE DRIVEWAY (±200 SY). REMOVE ±45 LF F-CURB; REPLACE WITH MIAMI CURB WITH 5' TRANSITIONS. EXACT LOCATION AND LAYOUT SHALL BE DETERMINED IN THE FIELD WITH COUNTY PERSONNEL. DRIVEWAY SLOPE SHALL NOT EXCEED 2% SLOPE, WHERE PEDESTRIAN TRAFFIC WILL UTILIZE DRIVEWAY AS SIDEWALK, PREFER DRIVEWAY TO NOT EXCEED 2% SLOPE TO ROADWAY.

QUESTIONS:

NOTES:

1. WATER DISTRIBUTION IS PUBLIC.
2. SEWER COLLECTION IS PUBLIC.
3. LIFT STATION WITHIN ITS OWN AREA.

NO.	REVISION DESCRIPTION	BY	DATE

**SATELLITE LIFT STATION R&R
2021 GROUP 2
PALM COURT RTU 145**



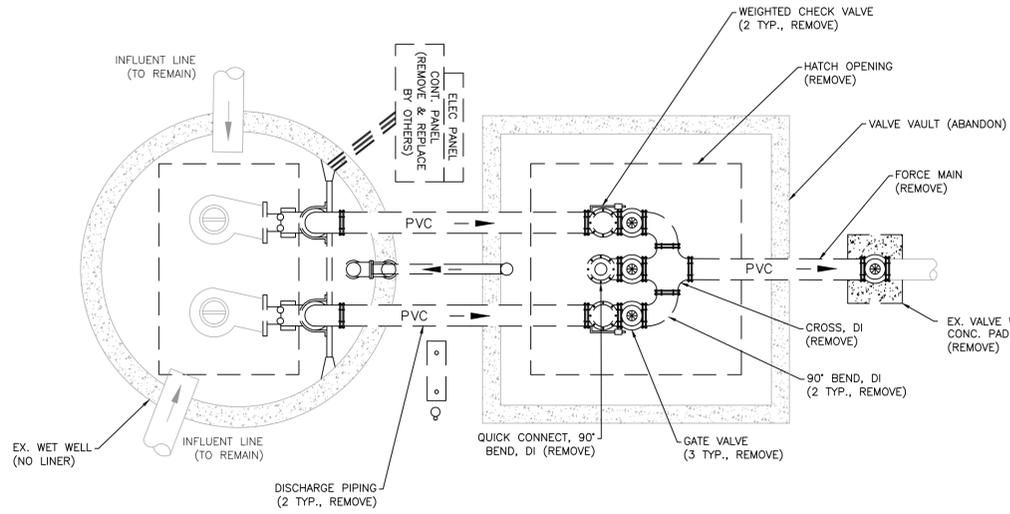
PROJECT #	402.5158480
SURVEY #	-
SEC./TWN./RGE	21/35/17
SCALE	N.T.S.
BY	DATE
SURVEYED	-
DESIGNED	JSS 08/2020
DRAWN	JSS 08/2020
CHECKED	JSS 09/2020



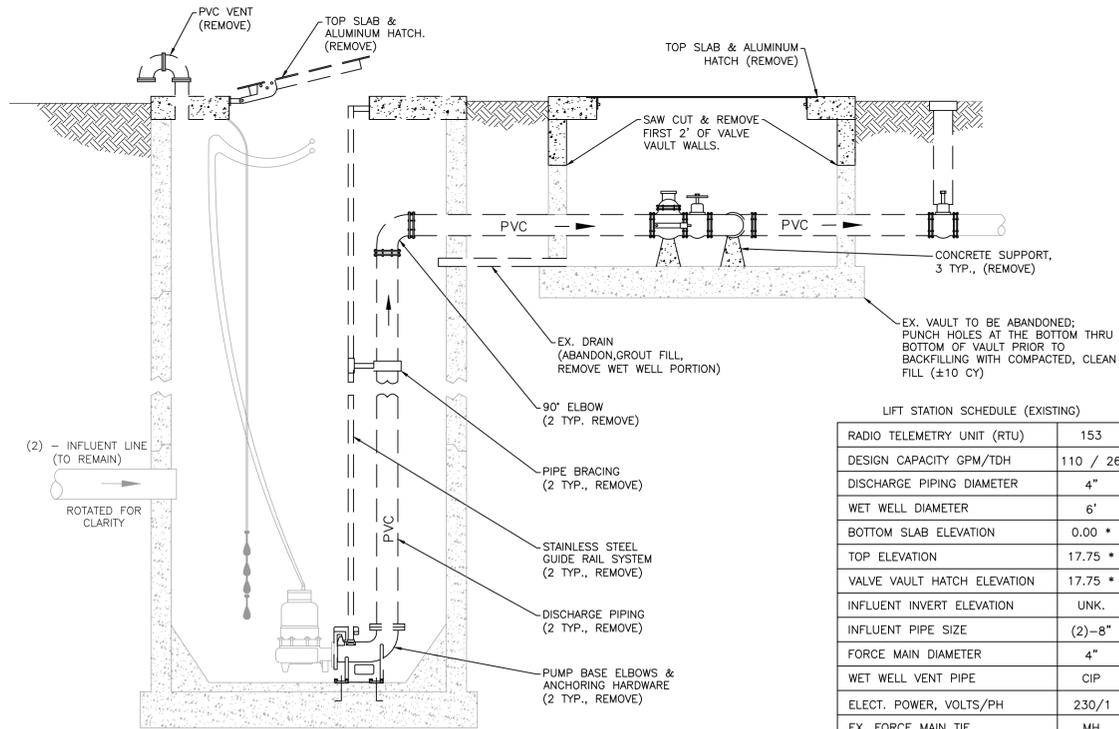
EXISTING

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. THE CONTRACTOR/BIDDER SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS.
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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



ELEVATION

EX. 2 PUMP LIFT STATION
NTS

LIFT STATION SCHEDULE (EXISTING)

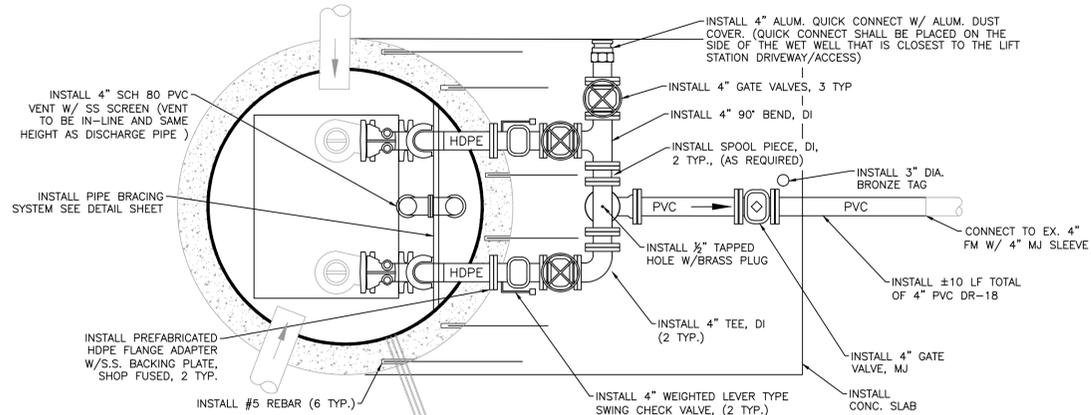
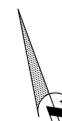
RADIO TELEMETRY UNIT (RTU)	153
DESIGN CAPACITY GPM/TDH	110 / 26
DISCHARGE PIPING DIAMETER	4"
WET WELL DIAMETER	6"
BOTTOM SLAB ELEVATION	0.00 *
TOP ELEVATION	17.75 *
VALVE VAULT HATCH ELEVATION	17.75 *
INFLUENT INVERT ELEVATION	UNK.
INFLUENT PIPE SIZE	(2)-8"
FORCE MAIN DIAMETER	4"
WET WELL VENT PIPE	CIP
ELECT. POWER, VOLTS/PH	230/1
EX. FORCE MAIN TIE	MH

* INFORMATION TAKEN FROM LIFT STATION SITE OBSERVATIONS AND MEASUREMENTS. DATUM OF ELEVATIONS IS UNKNOWN.

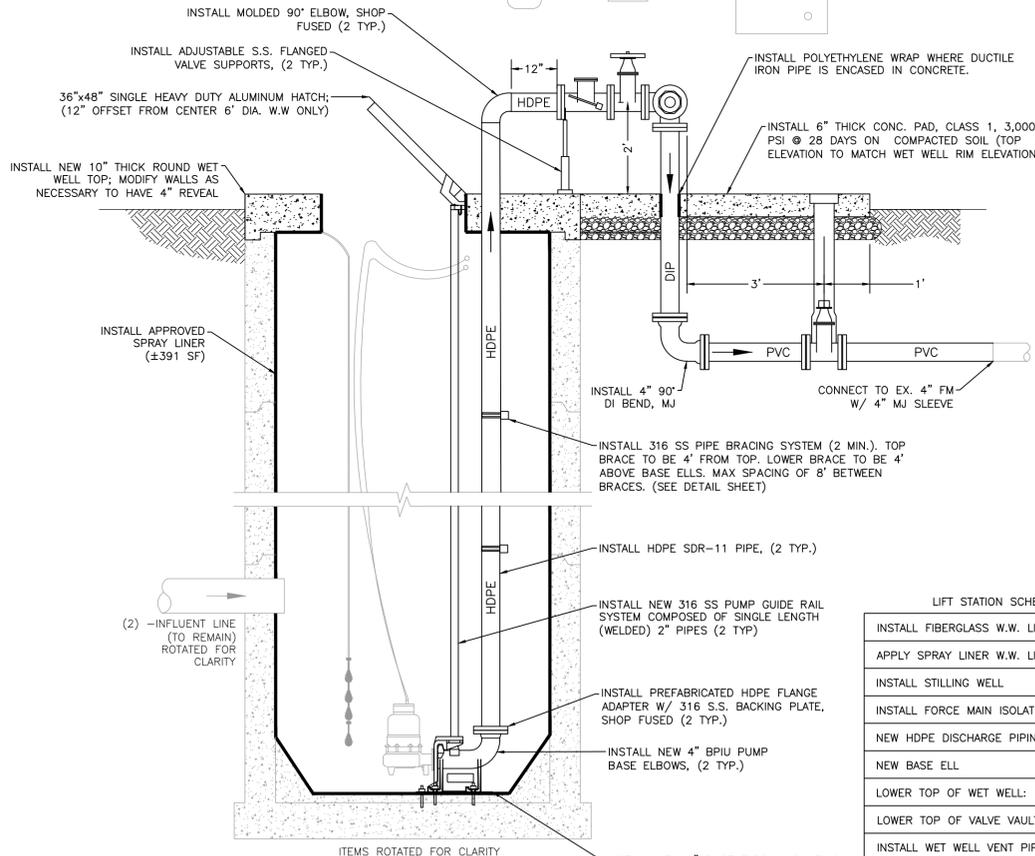
PROPOSED

GENERAL NOTES:

1. ALL MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST MANATEE COUNTY PUBLIC WORKS UTILITY STANDARDS.
2. THE CONCRETE SHALL BE GIVEN A BROOM FINISH. THE SURFACE VARIATIONS SHALL BE NOT MORE THAN 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



ELEVATION

EX. 2 PUMP LIFT STATION
NTS

LIFT STATION SCHEDULE (PROPOSED)

INSTALL FIBERGLASS W.W. LINER	NO
APPLY SPRAY LINER W.W. LINER	YES
INSTALL STILLING WELL	NO
INSTALL FORCE MAIN ISOLATION VALVE	YES
NEW HDPE DISCHARGE PIPING	YES, 4"
NEW BASE ELL	4" BPIU-14
LOWER TOP OF WET WELL:	NO
LOWER TOP OF VALVE VAULT:	N/A
INSTALL WET WELL VENT PIPE	YES, PVC
INSTALL NEW WATER SERVICE ASSEMBLY, US-15	NO
UPGRADE / RELOCATE EX. WATER SERVICE ASSEMBLY	YES

QUESTIONS:

1. WATER DISTRIBUTION IS PRIVATE.
2. SEWER COLLECTION IS PRIVATE.
3. LIFT STATION WITHIN FRONT YARD EASEMENT.

NO.	REVISION DESCRIPTION	BY	DATE

**SATELLITE LIFT STATION R&R
2021 GROUP 2
HARBOUR LANDINGS RTU 153**



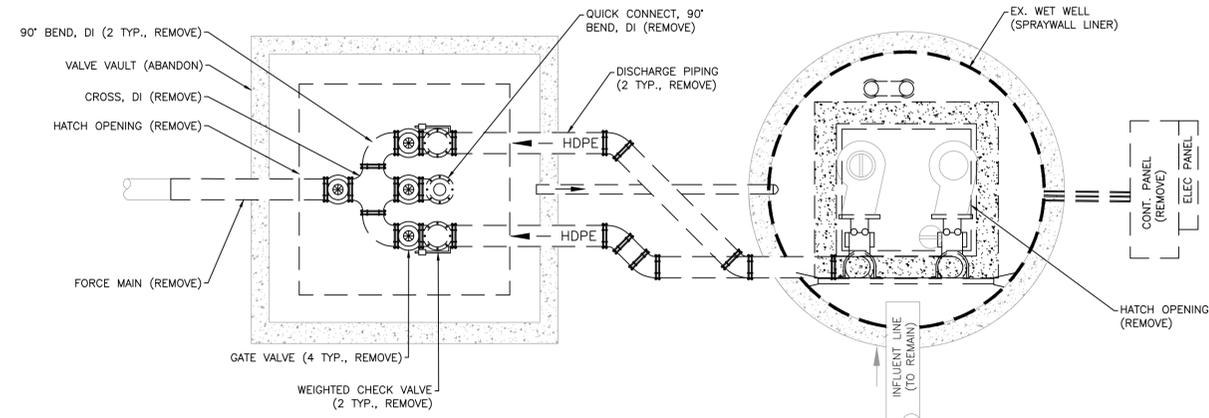
PROJECT #	402.5158580
SURVEY #	-
SEC./TWN./RGE	3/35/19
SCALE	N.T.S.
SURVEYED	-
DESIGNED	JSS 08/2020
DRAWN	JSS 08/2020
CHECKED	JSS 09/2020

JOHN S. SHOUN, P.E.
Professional Engineer License No. 60923
STATE OF FLORIDA
10/21/2020
SHEET 06 OF 09

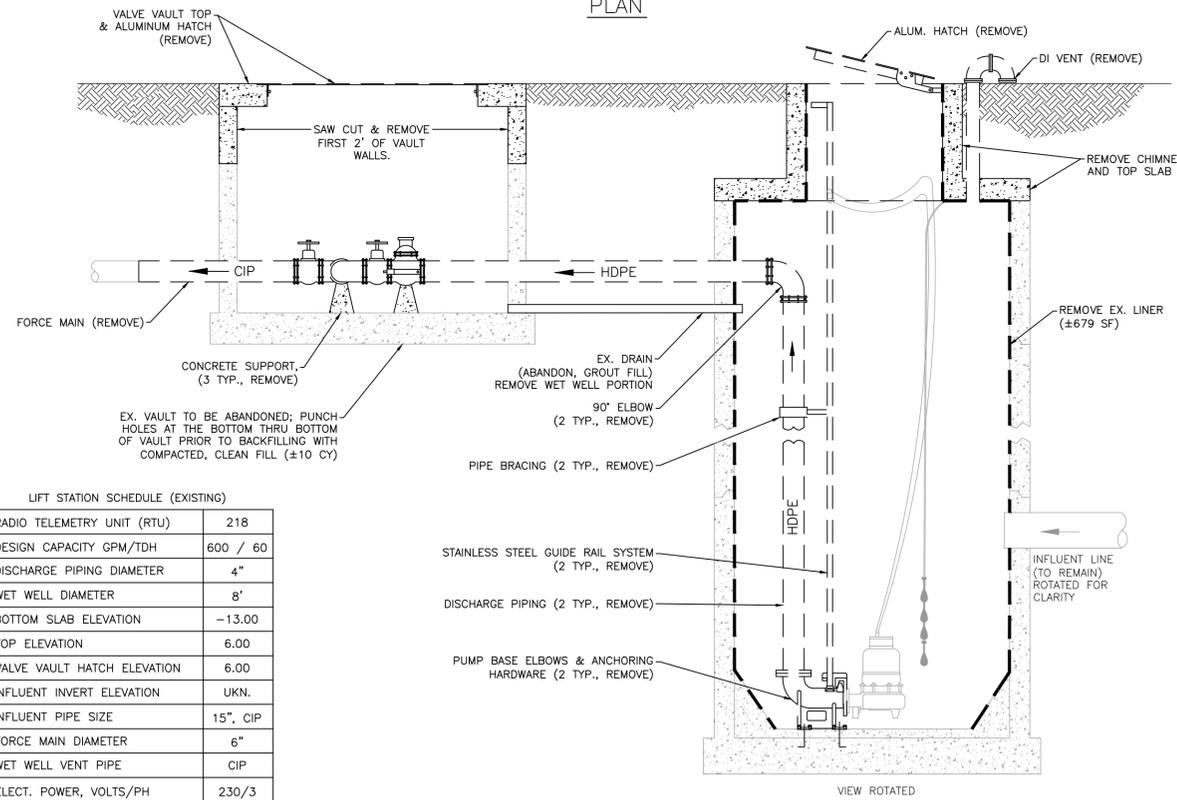
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EXISTING

- 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.
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 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



ELEVATION

EX. 2 PUMP LIFT STATION

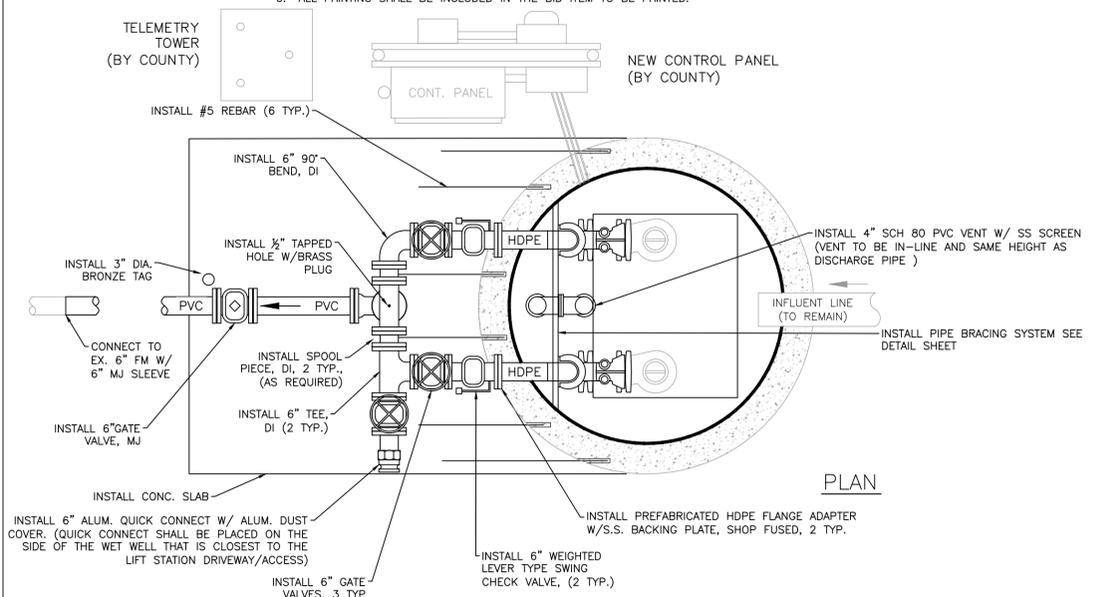
LIFT STATION SCHEDULE (EXISTING)

RADIO TELEMETRY UNIT (RTU)	218
DESIGN CAPACITY GPM/TD	600 / 60
DISCHARGE PIPING DIAMETER	4"
WET WELL DIAMETER	8"
BOTTOM SLAB ELEVATION	-13.00
TOP ELEVATION	6.00
VALVE VAULT HATCH ELEVATION	6.00
INFLUENT INVERT ELEVATION	UKN.
INFLUENT PIPE SIZE	15", CIP
FORCE MAIN DIAMETER	6"
WET WELL VENT PIPE	CIP
ELECT. POWER, VOLTS/PH	230/3
EX. FORCE MAIN TIE	FM

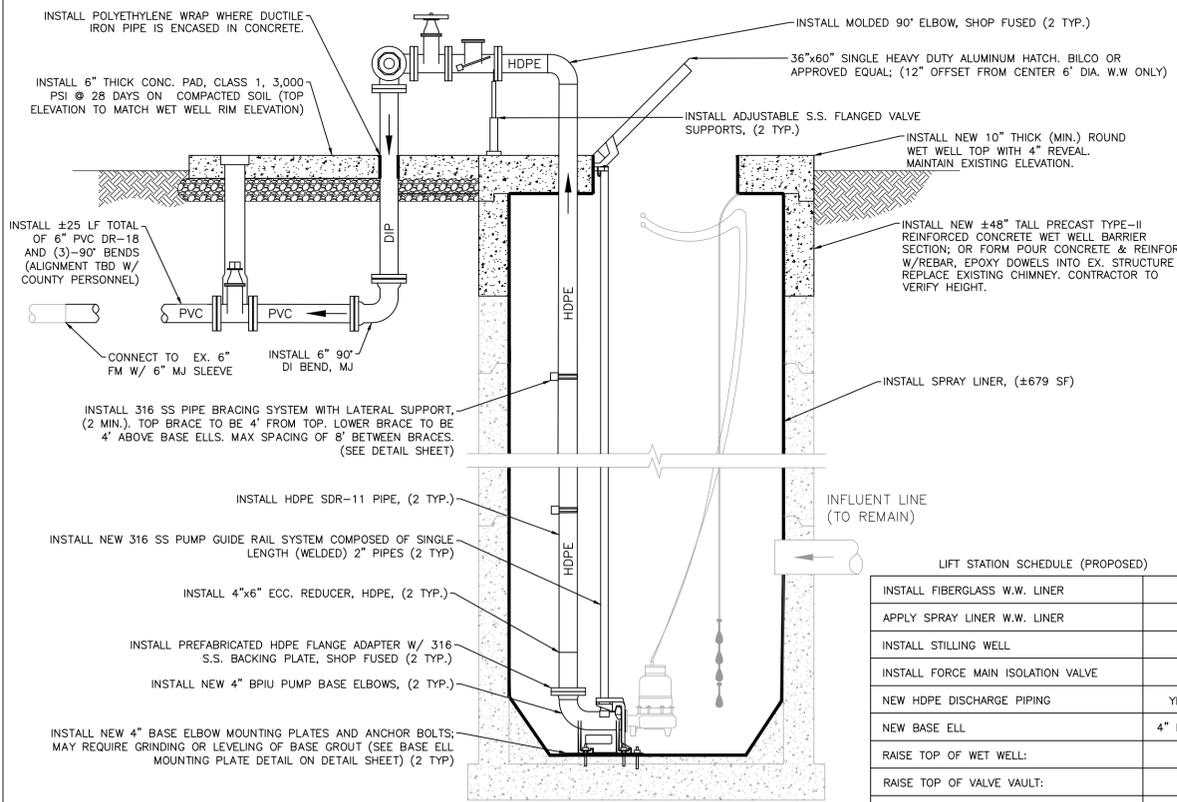
* INFORMATION TAKEN FROM LIFT STATION DATA FILE (LSINFO.XLS 2020) & RECORD DRAWINGS. DATUM OF ELEVATIONS IS UNKNOWN.

PROPOSED

- GENERAL NOTES:**
1. CONTRACTOR SHALL NOT BACKFILL OVER THE DISCHARGE PIPING UNTIL INSPECTOR HAS VISUALLY CHECKED IT FOR LEAKS DURING PUMP STARTUP OR PRESSURE TEST AS DIRECTED BY THE ENGINEER.
 2. ALL MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST MANATEE COUNTY PUBLIC WORKS UTILITY STANDARDS.
 3. THE EXTERIOR SURFACES OF THE CONCRETE WET WELL AND VALVE VAULT EXPOSED ABOVE GRADE SHALL BE COATED WITH AT LEAST TWO COATS OF H & C SILICONE ACRYLIC CONCRETE STAIN PATIO GREEN, MANUFACTURED BY FLR PAINTS, INC.
 4. ALL EXISTING DUCTILE IRON PIPE AND/OR FITTINGS LABELED TO REMAIN IN THE VALVE VAULT SHALL BE COATED WITH A BITUMINOUS COATING.
 5. COAT THE EXTERIOR AND INTERIOR OF THE VALVE VAULT WALLS WITH TWO (2) COATS OF COAL TAR EPOXY.
 6. ALL PAINTING SHALL BE INCLUDED IN THE BID ITEM TO BE PAINTED.



PLAN



ELEVATION

EX. 2 PUMP LIFT STATION

LIFT STATION SCHEDULE (PROPOSED)

INSTALL FIBERGLASS W.W. LINER	NO
APPLY SPRAY LINER W.W. LINER	YES
INSTALL STILLING WELL	NO
INSTALL FORCE MAIN ISOLATION VALVE	YES
NEW HDPE DISCHARGE PIPING	YES, 6"
NEW BASE ELL	4" BPIU-14
RAISE TOP OF WET WELL:	NO
RAISE TOP OF VALVE VAULT:	N/A
INSTALL WET WELL VENT PIPE	YES
INSTALL NEW WATER SERVICE ASSEMBLY, US-15	YES
UPGRADE / RELOCATE EX. WATER SERVICE ASSEMBLY	NO

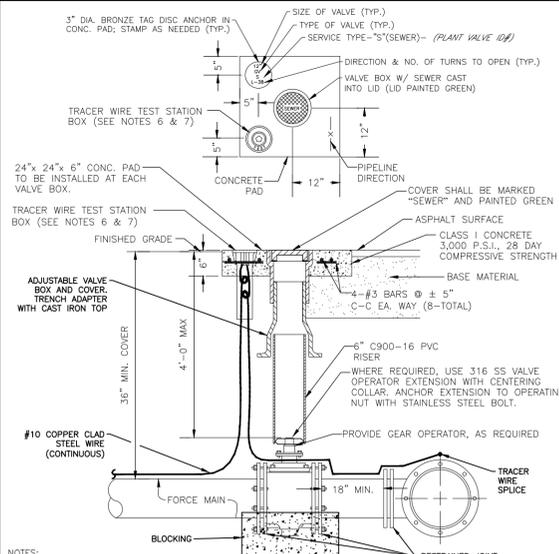
- CONSTRUCTION NOTES:**
1. INSTALL #5 REBAR (6 TYP.) EPOXY EMBEDDED INTO THE WET WELL TOP 3-4 INCHES DEEP AND CAST 3-4 FEET INTO THE VALVE VAULT ASSEMBLY CONCRETE PAD TO ENSURE THE TOPS OF THE WET WELL AND VALVE ASSEMBLY PAD WILL REMAIN FLUSH.
 2. REPAIR CONCRETE WALLS, AS NEEDED, IN WET WELL, 2-INCH MIN. THICK OVER EXISTING REBAR, (±340 SF). ALL REPAIRS TO BE VERIFIED W/ COUNTY PERSONNEL PRIOR TO WORK.
 3. WET WELL CONCRETE WALLS SHALL BE INSPECTED BY COUNTY PERSONNEL PRIOR TO INSTALLATION OF NEW SPRAY LINER AND/OR LINER REPAIR.
 4. UPGRADE AND RELOCATE THE EXISTING METER, BPA, & HOSE BIBB ASSEMBLY WITH A NEW 2" WATER SERVICE AND TAPPING SADDLE. FIELD LOCATE WITH MANATEE COUNTY PERSONNEL, (±40 LF). THE METER AND BPA SHALL BE LOCATED AS CLOSE AS POSSIBLE TO THE FENCE OR RIGHT-OF-WAY LINE.
 5. REPLACE EXISTING WATER SERVICE SADDLE AND CORPORATION AND INSTALL A BRASS PLUG IN NEW CORPORATION. REUSE EXISTING HOLE IN MAIN, IF ADEQUATE VALVING EXISTS.
 6. THE ORIENTATION OF THE WET WELL SHALL BE ROTATED 90°; FIELD VERIFY WITH COUNTY PERSONNEL.

- NOTES:**
1. WATER DISTRIBUTION IS PUBLIC.
 2. SEWER COLLECTION IS PUBLIC.
 3. LIFT STATION WITHIN ITS OWN AREA.

**SATELLITE LIFT STATION R&R
2021 GROUP 2
15D RTU 218**

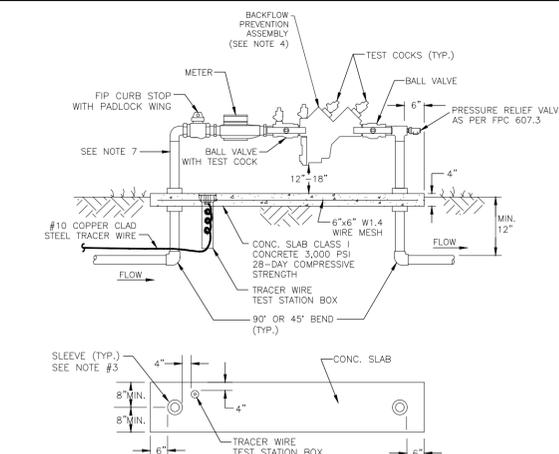


PROJECT #	402.5121081	JOHN S. SHOUN, P.E.
SURVEY #	-	FLORIDA LICENSE No. 60923
SEC./TWN./RGE	31/34/17	STATE OF FLORIDA PROFESSIONAL ENGINEER
SCALE	N.T.S.	DATE 10/21/2020
SURVEYED	-	DESIGNED JSS 08/2020
DRAWN	JSS 08/2020	CHECKED JSS 09/2020
CHECKED	JSS 09/2020	SHEET 07 OF 09



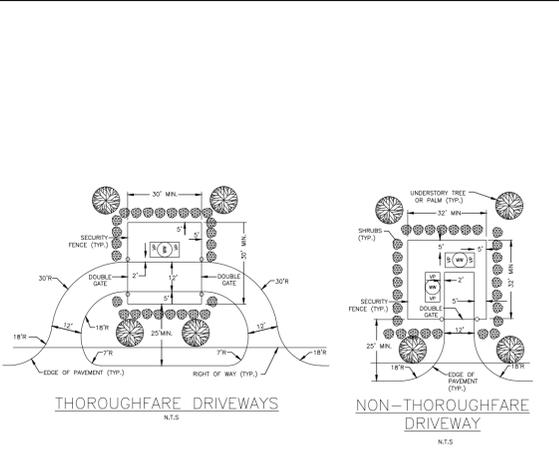
- NOTES:
- "SV" TO BE IMPRESSED INTO THE NEWLY-POURED CONCRETE CURB, ALONG WITH DISTANCE IN FEET TO THE VALVE. IF NO CURB, INSTALL A GREEN DISC WITH "SV" AND A 1/8" x 1" GALVANIZED STEEL SCREW IN THE EDGE OF PAVEMENT WITH THE FOOTAGE FROM THE DISC TO THE VALVE.
 - ALL EXISTING AND PROPOSED VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRADES AS DETERMINED IN THE FIELD.
 - VALVES SHALL NOT BE PLACED IN HANDICAPPED RAMPS, CURBS OR GUTTERS.
 - PRECAST CONCRETE PADS AND THRUST BLOCKS SHALL NOT BE USED.
 - ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1/2".
 - 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.
 - TRACER WIRE BOX SHALL BE LOCATED OUTSIDE THE ROADWAY ON THOROUGHFARES, LOCAL ARTERIAL AND STATE ROADWAYS.
 - 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 1.1.1 IN THE PUBLIC WORKS UTILITY STANDARDS MANUAL FOR FURTHER DETAILS.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		VALVE, BOX, COVER AND TAG	US-11
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		



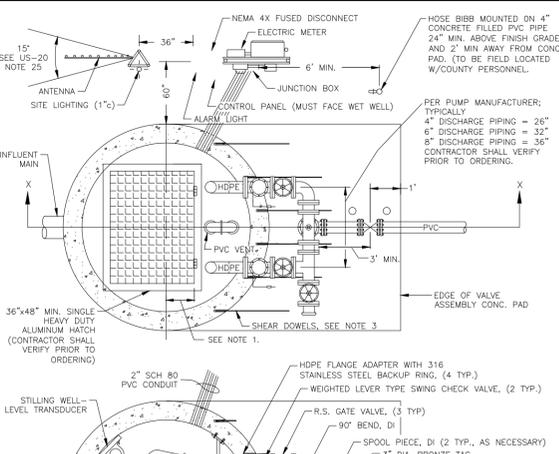
- NOTES:
- BACKFLOW PREVENTION ASSEMBLY MUST BE INSTALLED DOWNSTREAM OF METER, AS CLOSE TO METER AS POSSIBLE.
 - COPPER PIPE TYPE (1/2" OR 1") OR BRASS PIPE MINIMUM SCHEDULE 40 SHALL BE USED TO A MINIMUM DEPTH OF 12" BELOW GRADE.
 - PIPES PASSING THROUGH OR ENCASED IN CONCRETE MUST BE PROPERLY PROTECTED AND SLEAVED.
 - 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.
 - ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1/2".
 - BACKFLOW PREVENTER SHALL BE TESTED AT THE TIME OF INSTALLATION.
 - PRESSURE REDUCING VALVE REQUIRED UPSTREAM OF BACKFLOW PREVENTION ASSEMBLY, IF SYSTEM PRESSURE EXCEEDS 80 PSI.
 - 3' MIN. CLEARANCE FROM LANDSCAPING PLANTS AND 10' MIN. CLEARANCE FROM TREES TO EDGE OF CONCRETE SLAB AND CLEAR OPENING FOR ACCESS FROM STREET.
 - 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.
 - SATELLITE LIFT STATIONS SHALL HAVE A 5/8-INCH WATER METER WITH A 3/4-INCH REDUCED PRESSURE (RPZ) BACKFLOW PREVENTION ASSEMBLY WITH WET WELL DIAMETERS 12 FEET AND LARGER TO HAVE A 2-INCH METER AND RPZ BACKFLOW PREVENTION ASSEMBLY.
 - BACKFLOW PREVENTION ASSEMBLY 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		WATER METER & BACKFLOW PREVENTION ASSEMBLY FOR LIFT STATIONS	US-15
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		



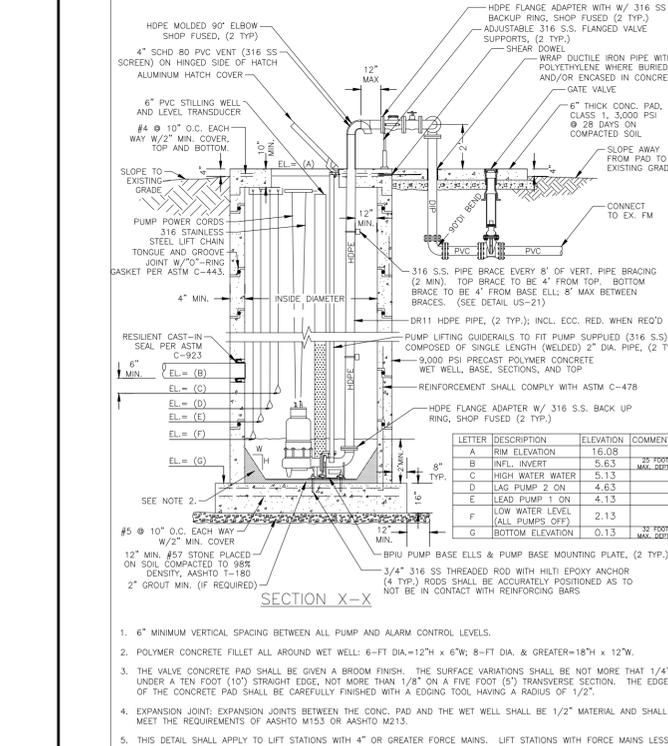
- NOTES:
- A MINIMUM SETBACK OF 5 FT SHALL BE PROVIDED BETWEEN LIFT STATION STRUCTURES/EQUIPMENT/VALVE ASSEMBLY AND THE FENCE.
 - DRIVEWAY SHALL EXTEND UP TO OR BE EVEN WITH THE FURTHEST POINT OF THE WET WELL OR VALVE PAD.
 - LIFT STATION EASEMENT SHALL EXTEND A MINIMUM OF 15 FT BEYOND ALL FOUR SIDES OF THE LIFT STATION SECURITY FENCE.
 - OPTIONS FOR PLACEMENT OF WM & VALVE ASSEMBLY (IF NEEDED) ARE INDICATED FOR CLARITY.
 - A MINIMUM SETBACK OF 5 FT SHALL BE PROVIDED BETWEEN THE SHRUBS/BASE STEM AND THE LIFT STATION SECURITY FENCE.
 - A MINIMUM SETBACK OF 10 FT SHALL BE PROVIDED BETWEEN THE TRUNK OF SMALL TREES AND THE LIFT STATION SECURITY FENCE.
 - SPECIFIC LANDSCAPING REQUIREMENTS SHALL BE IN ACCORDANCE WITH SECTION 1.1.3.11 IN THE PUBLIC WORKS UTILITY STANDARDS MANUAL.
 - DRIVEWAY MATERIAL SHALL BE CONCRETE AND SHALL BE IN ACCORDANCE WITH MANATEE COUNTY HIGHWAY & TRAFFIC STANDARDS MANUAL FOR THE ENTIRE LENGTH OF THE DRIVEWAY.
 - DRIVEWAY WILL BE INSTALLED AT GRADE OF SHELL SURROUNDING WET WELL & VALVE ASSEMBLY.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		MINIMUM ACCESS/EGRESS AND LANDSCAPING REQUIREMENTS FOR LIFT STATIONS	US-16
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		



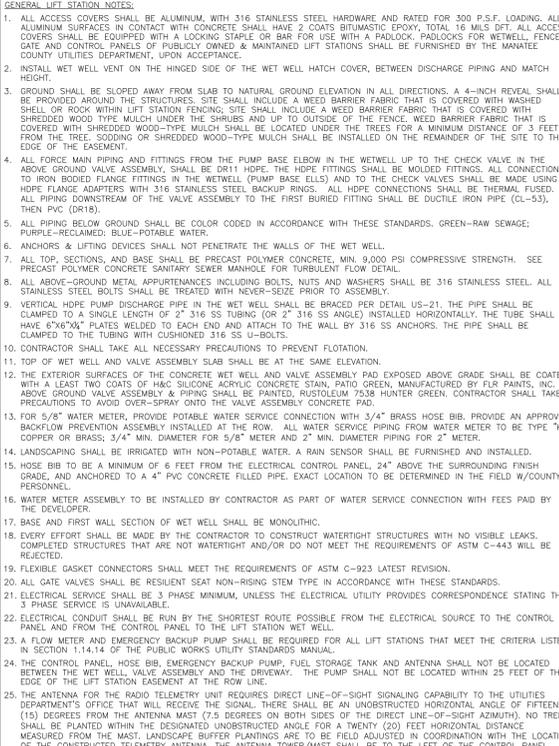
- NOTES:
- FOR 6" DIA. WET WELLS, THE HINGED SIDE OF THE HATCH OPENING SHALL BE OFFSET 12" FROM CENTERLINE.
 - A FLOW METER SHALL BE INSTALLED UPSTREAM OF ISOLATION GATE VALVE FOR ALL LIFT STATIONS THAT RE-PUMP SEWAGE FROM OTHER LIFT STATIONS.
 - #5 REBAR (6 TYP.) SHALL BE EPOXY EMBEDDED INTO THE WET 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.
 - QUICK COUPLE SHALL BE PLACED ON THE CURB SIDE OF THE LIFT STATION DRIVEWAY.
 - POLYMER CONCRETE W/ 9,000 PSI COMPRESSIVE STRENGTH SHALL BE USED IN THE WET WELL STRUCTURE. STANDARD PORTLAND CONCRETE MAY BE USED FOR THE VALVE ASSEMBLY PAD, 3,000 PSI 28-DAY COMPRESSIVE STRENGTH.
 - FOR SECTION X-X SEE SEWAGE LIFT STATION, SECTION VIEW ON DETAIL US-19.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		SEWAGE LIFT STATION PLAN VIEW	US-18
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		



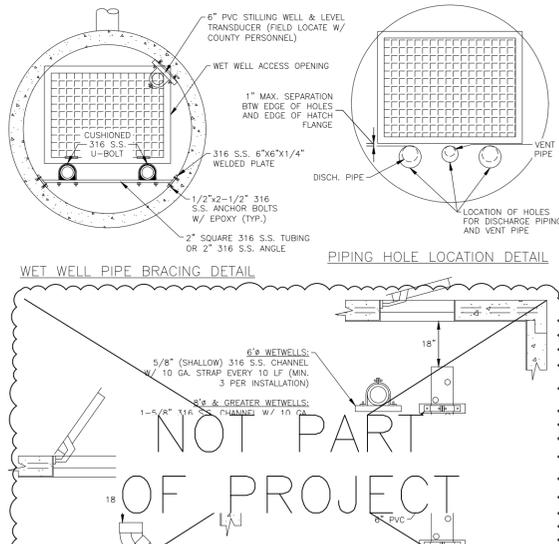
- GENERAL LIFT STATION NOTES:
- ALL ACCESS COVERS SHALL BE ALUMINUM, WITH 316 STAINLESS STEEL HARDWARE AND RATED FOR 300 P.S.F. LOADING. ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE SHALL HAVE 2 COATS BUTADIENIC EPOXY. TOTAL 16 MILS DFT. ALL ACCESS COVERS SHALL BE EQUIPPED WITH A LOCKING STAPLE OR BAR FOR USE WITH A PADLOCK. PADLOCKS FOR METAL, FENCE GATE AND CONTROL PANELS OF PUBLICLY OWNED & MAINTAINED LIFT STATIONS SHALL BE FURNISHED BY THE MANATEE COUNTY UTILITIES DEPARTMENT, UPON ACCEPTANCE.
 - INSTALL WET WELL VENT ON THE HINGED SIDE OF THE WET WELL HATCH COVER, BETWEEN DISCHARGE PIPING AND MATCH HEIGHT.
 - 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 0FT STATION NUMBER AND 1/2" TO THE EDGE OF THE REVEAL. THE REVEAL SHALL BE COVERED WITH SHREDDED WOOD TYPE MULCH UNDER THE SHRUBS AND UP TO OUTSIDE OF THE FENCE. WEED BARRIER FABRIC THAT IS COVERED WITH WASHED SHELL OR ROCK SHALL BE USED UNDER THE TRUNK OF TREES AND UNDER THE TRUNK OF 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.
 - 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 HOPE. THE 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 HOPE FLANGE ADAPTERS WITH 316 STAINLESS STEEL BACKUP RINGS. ALL HOPE CONNECTIONS SHALL BE THERMAL FUSED. ALL PIPING DOWNSTREAM OF THE VALVE ASSEMBLY TO THE FIRST BURIED FITTING SHALL BE DUCTILE IRON PIPE (CI-55), THEN PVC (DR18).
 - ALL PIPING BELOW GROUND SHALL BE COLOR CODED IN ACCORDANCE WITH THESE STANDARDS. GREEN-RAW SEWAGE; PURPLE-RECLAIMED; BLUE-POTABLE WATER.
 - ANCHORS & LIFTING DEVICES SHALL NOT PENETRATE THE WALLS OF THE WET WELL.
 - ALL TOP, SECTIONS, AND BASE SHALL BE PRECAST POLYMER CONCRETE, MIN. 8,000 PSI COMPRESSIVE STRENGTH. SEE PRECAST POLYMER CONCRETE SANITARY SEWER MANHOLE FOR TURBULENT FLOW DETAIL.
 - 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.
 - VERTICAL HOPE PUMP DISCHARGE PIPE IN THE WET WELL SHALL BE BRANDED PER DETAIL US-21. THE PIPE SHALL BE CLAMPED TO A SINGLE LENGTH OF 2" 316 SS TUBING (OR 2" 316 SS ANGLE) INSTALLED HORIZONTALY. THE TUBE SHALL HAVE 6"x6"x3/16" 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 ANCHOR BOLTS W/ EPOXY (TYP.).
 - CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT FLOTATION.
 - TOP OF WET WELL AND VALVE ASSEMBLY SLAB SHALL BE AT THE SAME ELEVATION.
 - THE EXTERIOR SURFACES OF THE CONCRETE WET WELL AND VALVE ASSEMBLY PAD EXPOSED ABOVE GRADE SHALL BE COATED WITH AT LEAST TWO COATS OF H46 SILICONE ACRYLIC CONCRETE STAIN, PATIO FINISH, 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 ON TO THE VALVE ASSEMBLY CONCRETE PAD.
 - FOR 5/8" WATER METER, PROVIDE POTABLE WATER SERVICE CONNECTION WITH 3/4" BRASS HOSE BIB. PROVIDE AN APPROVED BACKFLOW PREVENTION ASSEMBLY INSTALLED AT THE ROW. ALL WATER SERVICE PIPING FROM WATER METER TO BE TYPE "K" COPPER OR BRASS; 3/4" MIN. DIAMETER FOR 5/8" METER AND 2" MIN. DIAMETER PIPING FOR 2" METER.
 - LANDSCAPING SHALL BE IRRIGATED WITH NON-POTABLE WATER. A RAIN SENSOR SHALL BE FURNISHED AND INSTALLED.
 - 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 FLEED PIPE. EXACT LOCATION TO BE DETERMINED IN THE FIELD W/COUNTY PERSONNEL.
 - WATER METER ASSEMBLY TO BE INSTALLED BY CONTRACTOR AS PART OF WATER SERVICE CONNECTION WITH FEES PAID BY THE DEVELOPER.
 - BASE AND FIRST WALL SECTION OF WET WELL SHALL BE MONOLITHIC.
 - EVERY EFFORT SHALL BE MADE BY THE CONTRACTOR TO CONSTRUCT WATER TIGHT STRUCTURES WITH NO VISIBLE LEAKS. COMPLETED STRUCTURES THAT ARE NOT WATER TIGHT AND/OR DO NOT MEET THE REQUIREMENTS OF ASTM C-443 WILL BE REJECTED.
 - FLEXIBLE GASKET CONNECTORS SHALL MEET THE REQUIREMENTS OF ASTM C-923 LATEST REVISION.
 - ALL GATE VALVES SHALL BE RESILIENT SEAT NON-RISING STEM TYPE IN ACCORDANCE WITH THESE STANDARDS.
 - ELECTRICAL SERVICE SHALL BE 3 PHASE MINIMUM, UNLESS THE ELECTRICAL UTILITY PROVIDES CORRESPONDENCE STATING THAT 3 PHASE SERVICE IS UNAVAILABLE.
 - 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.
 - A FLOW METER AND EMERGENCY BACKUP PUMP SHALL BE REQUIRED FOR ALL LIFT STATIONS THAT MEET THE CRITERIA LISTED IN SECTION 1.1.4.4 OF THE PUBLIC WORKS UTILITY STANDARDS MANUAL.
 - THE CONTROL PANEL, HOSE BIB, EMERGENCY BACKUP PUMP, FUEL STORAGE TANK AND ANTENNA SHALL NOT BE LOCATED BETWEEN THE WET WELL AND 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.
 - 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		SEWAGE LIFT STATION SECTION VIEW	US-19
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		



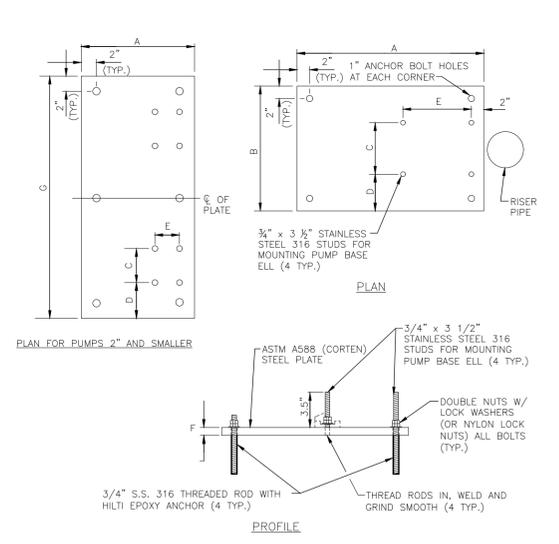
- NOTES:
- FOR LARGER LIFT STATIONS, PROVISIONS SHALL BE MADE TO MAKE THE TOP OF THE STILLING WELL VISIBLE AND ACCESSIBLE FROM THE HATCH OPENINGS, I.E. 45° FITTINGS, ETC.
 - REFER TO STANDARD DETAILS US-18, US-19 & US-20 FOR LIFT STATION DETAILS.
 - NYLON LOCK NUTS SHALL NOT BE USED ON WEDGE ANCHORS.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		LIFT STATION PIPE BRACING, & STILLING WELL DETAILS	US-20
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		



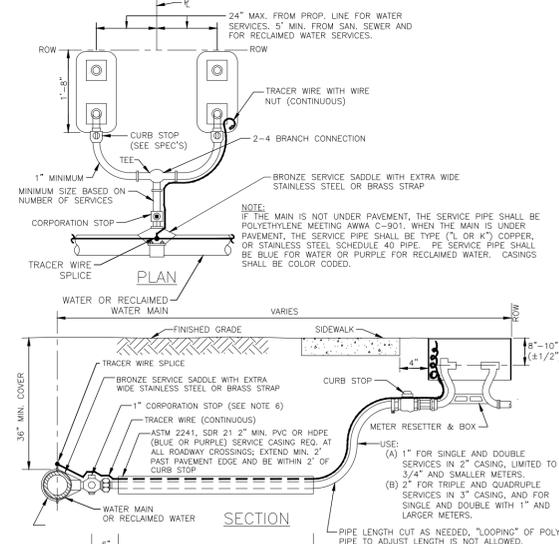
- NOTES:
- INSTALL 2-1/2" 316 S.S. BOLTS ACROSS THE CENTER OF THE STILLING WELL AT THE BOTTOM

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		LIFT STATION PIPE BRACING, & STILLING WELL DETAILS	US-21
REV. BY	DATE		
	February 25, 2020		
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- NOTES:
- INSTALL DOUBLE NUTS (OR NYLON LOCK NUTS) ON ALL EIGHT (8) THREADED RODS.
 - THE PLATE EDGES AND ALL HOLES SHALL BE GRIND SMOOTH TO REMOVE ALL BURRS.
 - DIMENSIONS "C" & "E" ARE FOR BARNY'S PUMPS, INC. BASE ELLS.
 - 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		PUMP BASE ELL MOUNTING PLATE	US-22
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		



- NOTES:
- ALL SERVICE TAPS TO BE LOCATED IN THE FIELD. TAPS SHALL BE NO CLOSER THAN 2'-0" STAGGERED INTERVALS OR WITHIN 2'-0" FROM BELL OR SPOOT ENDS.
 - METER BOXES & RESISTERS ARE TO BE INSTALLED BY THE INFRASTRUCTURE CONTRACTOR AND SHALL NOT BE SET IN DRAINAGE SWALES, SIDEWALKS OR DRIVEWAYS, WITH PRIOR APPROVAL BY COUNTY. METER BOXES WITH LOCKABLE LIDS MAY BE LOCATED IN SIDEWALKS.
 - "W" OR "TW" TO BE IMPRESSED INTO THE NEWLY POURED CONCRETE CURB ALONG WITH DISTANCE IN FEET TO THE METER. IF NO CURB, INSTALL A BLUE DISC WITH "W" OR A PURPLE DISC WITH "TW" AND A 1/8" x 1" GALVANIZED STEEL SCREW IN THE EDGE OF PAVEMENT WITH THE DISTANCE (IN FEET) FROM THE DISC TO THE METER.
 - COLOR CODED TRACER WIRE SHALL BE INSTALLED WITH WATER AND RECLAIMED MAIN AND ALL SERVICES. SERVICE WIRE SHALL BE CONNECTED TO THE TRACER WIRE ALONG THE MAIN ON DOUBLE SERVICES, WHEN SECOND SERVICE IS OVER 8 FT APART, TWO TRACER WIRES SHALL BE INSTALLED, ONE FOR EACH METER.
 - WATER AND RECLAIMED WATER SERVICE LINES TO BE 5" MINIMUM FROM SEWER SERVICE PIPES.
 - FOR 2" SERVICES REPLACE CORPORATION STOP WITH 2" RESILIENT WEDGE FIT GATE VALVE W/BOX, LID & TAG.
 - WHEN THE DISTANCE BETWEEN THE EDGE OF THE SIDEWALK AND THE ROW IS ONE FOOT (CUL-DE-SAC W/MEDIAN) A 10-FOOT-WIDE PUBLIC UTILITY EASEMENT SHALL BE LOCATED IN THE FRONT OF THE LOTS, ADJACENT TO THE ROW.
 - TEMPORARY RESIDENTIAL USE CAN BE PROVIDED BY CONTACTING THE UTILITY CUSTOMER SERVICE. SEE DETAIL US-19.
 - SERVICE TUBING SHALL NOT BE CRIMPED OR KINKED TO RE-ADJUST CURB STOP LOCATION.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TYPICAL SERVICE CONNECTION	US-23
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		

NO.	REVISION DESCRIPTION	BY	DATE

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		LIFT STATION NOTES	US-20
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		LIFT STATION PIPE BRACING, & STILLING WELL DETAILS	US-21
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		

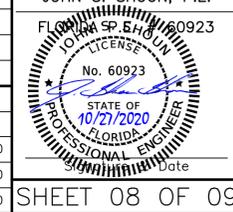
MANATEE COUNTY PUBLIC WORKS DEPARTMENT		PUMP BASE ELL MOUNTING PLATE	US-22
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		

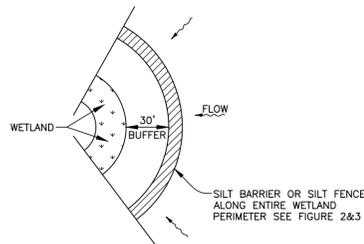
MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TYPICAL SERVICE CONNECTION	US-23
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		

SATELLITE LIFT STATION R&R 2021 GROUP 2 DETAILS1

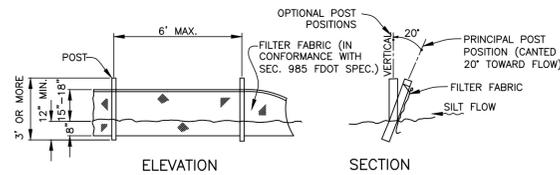


PROJECT #	402-0019707	JOHN S. SHOUN, P.E.
SURVEY #	-	FLORIDA PROFESSIONAL ENGINEER No. 60923
SEC./TWN./RGE	VARIES	STATE OF FLORIDA No. 60923
SCALE	N.T.S.	DATE 10/27/2020
SURVEYED	-	DATE
DESIGNED	JSS 08/2020	DATE
DRAWN	JSS 08/2020	DATE
CHECKED	JSS 09/2020	DATE

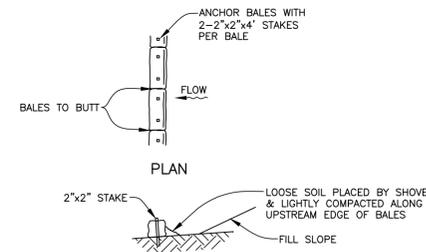




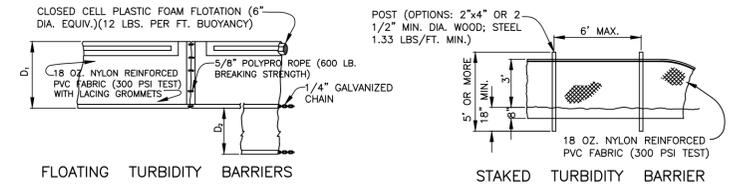
WETLAND BUFFER
FIGURE 1



TYPICAL SILT FENCE
FIGURE 2



TYPICAL BALE SILT BARRIER
FIGURE 3

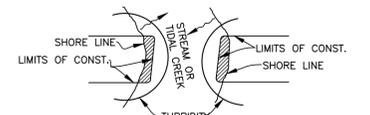


FLOATING TURBIDITY BARRIERS

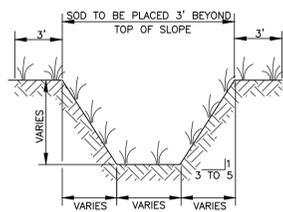
STAKED TURBIDITY BARRIER

$D_1 = 5'$ 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.

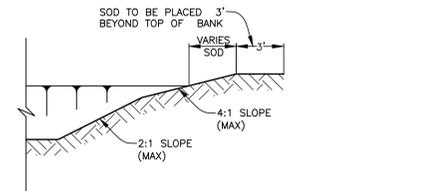
NOTICE: COMPONENTS OF TYPES I AND II MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES I AND II SHALL BE AS APPROVED BY THE ENGINEER.



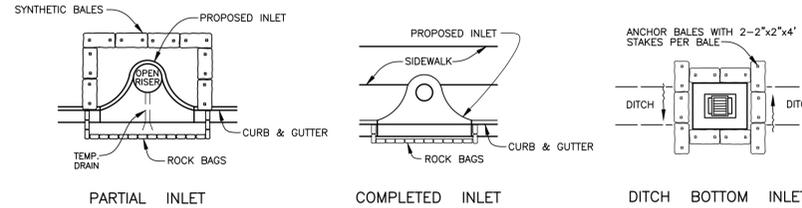
TURBIDITY BARRIERS
FIGURE 4



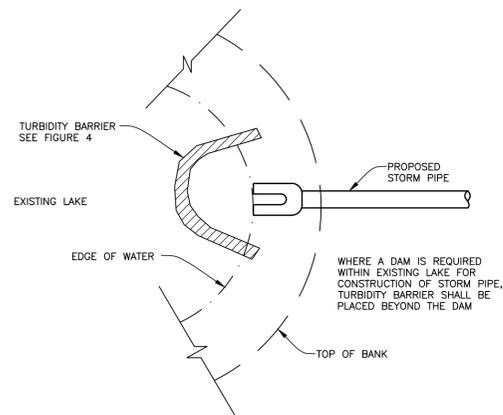
TYPICAL SWALE SECTION
FIGURE 5



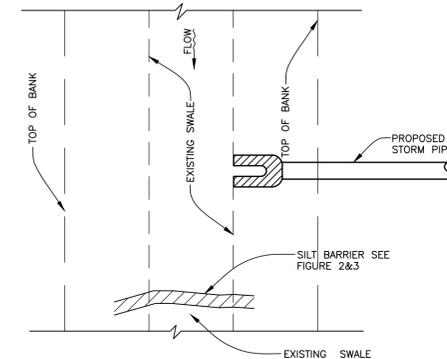
TYPICAL RETENTION/DETENTION POND SECTION
FIGURE 6



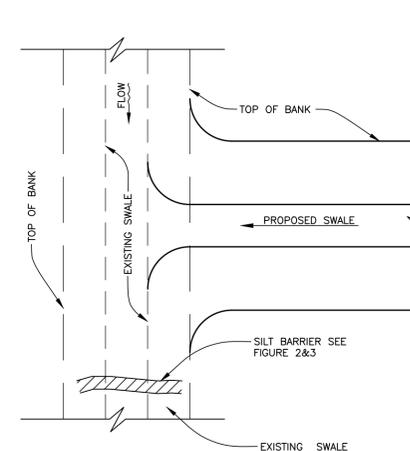
SYNTHETIC BALE PROTECTION AROUND
INLETS OR SIMILAR STRUCTURES
FIGURE 7



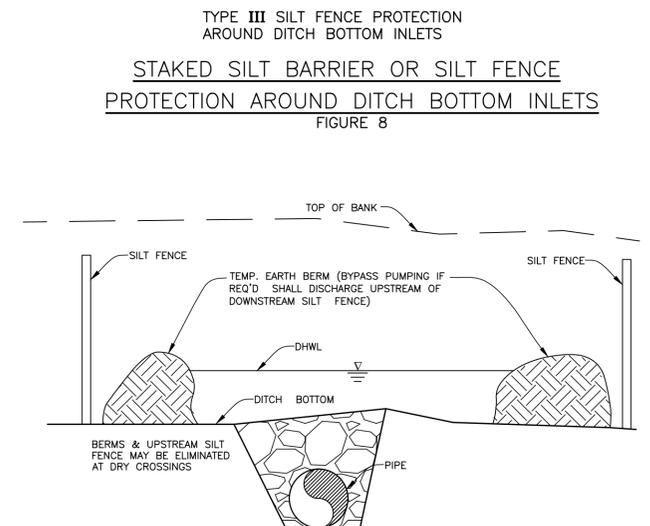
TURBIDITY BARRIER AT CONNECTION OF
STORM PIPE TO EXISTING LAKE
FIGURE 9



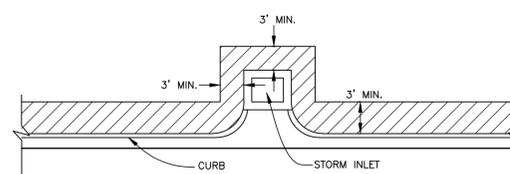
SILT BARRIER AT CONNECTION OF
STORM PIPE TO EXISTING SWALE
FIGURE 10



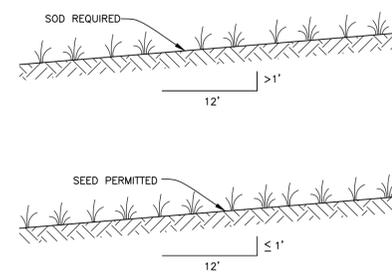
SILT BARRIER AT CONNECTION
OF SWALE TO EXISTING SWALE
FIGURE 11



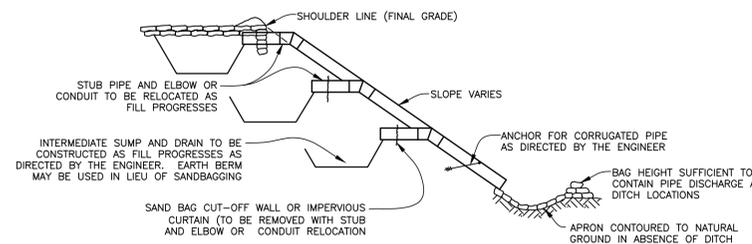
TYPE III SILT FENCE PROTECTION
AROUND DITCH BOTTOM INLETS
STAKED SILT BARRIER OR SILT FENCE
PROTECTION AROUND DITCH BOTTOM INLETS
FIGURE 8



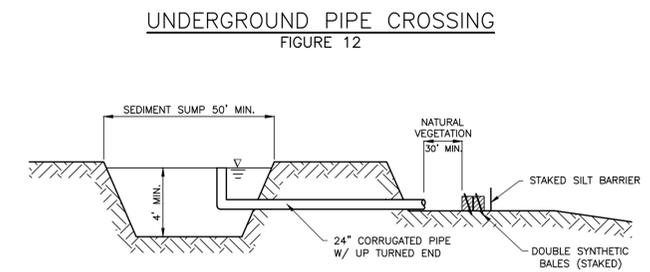
SOD ALONG CURB
AND AROUND INLET
FIGURE 14



GRASS SLOPES
FIGURE 13



SECTION AA
TEMPORARY SLOPE DRAIN
FIGURE 15



UNDERGROUND PIPE CROSSING
FIGURE 12

SEDIMENT SUMP SECTION
FIGURE 16

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

NO.	REVISION DESCRIPTION	BY	DATE

SATELLITE LIFT STATION R&R
2021 GROUP 2
EROSION CONTROL DETAILS



PROJECT #	402-0019707
SURVEY #	-
SEC./TWN./RGE	VARIES
SCALE	N.T.S.
SURVEYED	-
DESIGNED	JSS 08/2020
DRAWN	JSS 08/2020
CHECKED	JSS 09/2020

JOHN S. SHOUN, P.E.
FLORIDA PROFESSIONAL ENGINEER
No. 60923
STATE OF FLORIDA
10/27/2020
PROFESSIONAL ENGINEER