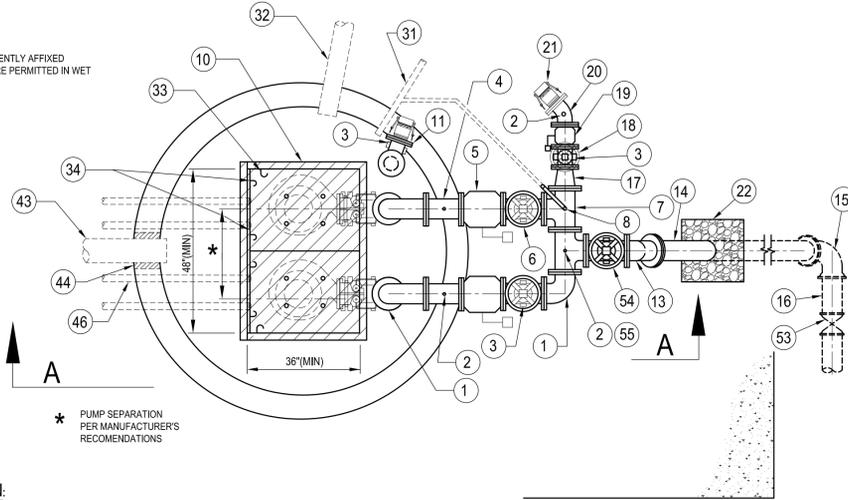


NOTE:
NO PERMANENTLY AFFIXED
LADDERS ARE PERMITTED IN WET
WELL.



PLAN VIEW
NOT TO SCALE

CAUTION:
COORDINATE PUMP MINIMUM
SPACING W/ DISCHARGE PIPING
LAYOUT

ABBREVIATIONS:

- BFP - BACK-FLOW PREVENTER
- DI - DUCTILE IRON
- FG - FLANGED
- MJ - MECHANICAL JOINT
- PE - PLAIN END
- PS - PUMP STATION
- RJ - RESTRAINED JOINT
- SS - STAINLESS STEEL

KEY:

1. 1/2" TAP W/ 1/2" x 2" 316 SS NIPPLE & 1/2" LOCKABLE BALL VALVE W/ SS BALL (4 REQ.)
2. ADJUSTABLE PIPE SUPPORT, SIZED AS REQUIRED (5 REQ.) - SEE DETAIL DRAWING M3
3. 1/2" FG DI SPOOL PIECE, LENGTH AS REQUIRED (6" MIN)
4. 1/2" FG DI SWING CHECK VALVE (2 REQ) PER APP. B
5. 1/2" FG IRON BODY RESILIENT SEAT GATE VALVE (2 REQ.)
6. 1/2" FG DI TEE W/ BOSS FOR 1" TAP (2 REQ.)
7. AIR RELEASE ASSEMBLY TO INCLUDE 1" TAP W/ 1/2" x 2" 316 SS NIPPLE, 1" SS THREADED TEE, 1" x 1/2" SS REDUCING BUSHING, 1/2" SS BALL VALVE W/ 1/2" PVC THREADED PLUG, AND 1" SS BALL VALVE W/ 1" PVC UNDER-SLAB DRAIN TIED INTO 2" PVC DRAIN FOR FUTURE ODOR CONTROL - SEE DETAIL DRAWING M3
8. COMPOUND PRESSURE GAUGE (STAINLESS STEEL, SILICONE FILLED, W/ SILICONE FILLED DIAPHRAGM SEAL), PROVIDE ONE PER STATION
9. ALUMINUM FRAME & DOUBLE ACCESS HATCHES, HINGED ON DISCHARGE PIPING SIDE CAPABLE OF BEING SECURED IN THE OPEN POSITION. CONTRACTOR SHALL DRILL FOUR 1/2" DIA. HOLES IN EACH HATCH COVER. AUXILIARY SUCTION PIPE ASSEMBLY - SEE DETAIL DRAWING M2
10. NOTE: FOR PUMP STATIONS W/ 6" AND LARGER DISCHARGE PIPING, THE AUX. SUCTION PIPE ASSEMBLY SHALL UTILIZE 6" DIA. PIPE AND FITTINGS. IN ADDITION, ALL FITTINGS FOR BYPASS/ PUMP-IN ASSEMBLY SHALL BE UPSIZED TO 6" (I.E., ITEMS 18, 19, 20, & 21 ON THIS SHEET). FOR PUMP STATIONS W/ 6" DIA. WETWELLS, AUX. SUCTION PIPE MAY NEED TO BE LOCATED BETWEEN THE DISCHARGE PIPES.
11. 1/2" FG DIP, LENGTH AS REQUIRED
12. 1/2" FG 45° BEND
13. 1/2" FG x PE DIP, LENGTH AS REQUIRED
14. 1/2" MJ 90° BEND W/ RESTRAINED JOINTS
15. 1/2" PVC C900 W/ RESTRAINED JOINTS AS REQUIRED (MIN DEPTH OF 48" TO CROWN OF PIPE)
16. 1/2" x 6" FG REDUCER, AS NEEDED - ONLY FOR PUMP STATIONS W/ 6" OR LARGER DISCHARGE PIPING
17. 1/2" FG RESILIENT SEAT GATE VALVE
18. 1/2" FG SWING CHECK VALVE PER APP. B
19. 1/2" FG 45° BEND
20. 1/2" EMERGENCY BYPASS/ PUMP-IN CAMLOCK MALE COUPLER W/ CAP, THREADED NIPPLE AND FLANGE. SEE DETAIL DRAWING M2.
21. OPENING IN CONCRETE SLAB, GRAVEL FILLED - MINIMUM 6" CLEARANCE AROUND PIPE
22. 3/4" DIA. SS ANCHOR BOLTS & NUTS (DOUBLE NUTS) PER PUMP MANUFACTURER'S RECOMMENDATIONS, EPOXIED INTO BASE SLAB
23. PUMP - HYDROMATIC NON-CLOG OR APPROVED EQUAL W/ FRONT LOAD RAIL SYSTEM (2 REQ)
24. BASE ELBOW TO BE PROVIDED BY PUMP SUPPLIER (2 REQ)
25. 1/2" FG 45° BEND, AS REQUIRED FOR DISCHARGE PIPING OFFSET
26. 1/2" x 1/2" FG REDUCER, AS REQUIRED
27. 1/2" 316L SS FLANGED DISCHARGE PIPING, LENGTH AS REQUIRED
28. PUMP POWER CABLE
29. PUMP LIFTING CABLE (3/8" 316 SS) W/ 4" 316 SS RINGS LOCATED @ 5 FT INTERVALS
30. 2" SCH 40 PVC DRAIN PIPE FOR FUTURE ODOR CONTROL - SEE DETAIL DRAWING M3
31. 6" SCH 40 PVC VENT PIPE FOR FUTURE ODOR CONTROL - SEE DETAIL DRAWING M3
32. 316 SS POWER AND TRANSDUCER CABLE HOOKS - SEE DETAIL DRAWING M2 (2 TYP)
33. 316 SS LEVEL CABLE HANGER FOR LEVEL FLOAT SWITCH CABLES - SEE DETAIL DRAWING M2
34. LEVEL FLOAT SWITCHES (3 REQ'D), TO SERVE AS BACK-UP TO PRESSURE TRANSDUCER
35. PRESSURE TRANSDUCER FOR WATER LEVEL CONTROL, SUSPENDED FROM CABLE HOOK, SET AT 18 INCHES ABOVE BOTTOM
36. 2" (O.D.) 316 SS GUIDE RAILS, FRONT MOUNT (2 PER PUMP), OR PER PUMP MANUFACTURER'S RECOMMENDATION
37. 316 SS INTERIOR PIPE SUPPORT - SEE DETAIL DRAWING M3
38. ELASTOMERIC GASKET MATERIAL
39. NON-SHRINK GROUT FILLET ALL AROUND, 4000 PSI CONCRETE W/ MAX AGGREGATE SIZE OF 3/8" & MIN. SLOPE OF 1:1 (MAX WIDTHHT. OF 2-FT.) TO BE COATED W/ INTERIOR WETWELL PROTECTIVE COATING (SEE #45)
40. FIRST WETWELL RISER SECTION & BASE SLAB SHALL BE MONOLITHICALLY OR INTEGRALLY CAST PER ASTM C478 - REFER TO STRUCTURAL DRAWING S1 & S2
41. LEVEL COURSE OF CRUSHED STONE - 6" MIN. THICKNESS
42. PVC, C900, INFLUENT GRAVITY MAIN, TO EXTEND 4" INSIDE WETWELL
43. FLEXIBLE SEAL
44. WETWELL INTERIOR PROTECTIVE COATING
45. ELECTRICAL CONDUITS (SCH 80 PVC, 2" MIN.), INSTALLED UNDER GRADE SLAB AND CENTERED IN WETWELL TOP SLAB
46. FOUR TOTAL - SEE ELECTRICAL DETAILS AND STRUCTURAL DRAWING S2
47. GRADE SLAB - REFER TO STRUCTURAL DRAWING S4
48. WETWELL TOP SLAB - REFER TO STRUCTURAL DRAWING S2
49. LINK SEAL
50. 1" BRASS WATER SERVICE W/ APPROVED BFP AND METER - TO BE INCREASED TO 2" SERVICE FOR ALL MASTER PUMP STATIONS AND/OR FOR PUMP STATIONS WITH WETWELLS DEEPER THAN 20-FT OR GREATER THAN 8-FT IN DIAMETER - SEE DETAIL DRAWING M2
51. 1" PE WATER SERVICE FOR FUTURE ODOR CONTROL - SEE DETAIL DRAWING M2
52. WRAP APPLIED AT EXTERIOR OF WETWELL JOINTS
53. 1/2" MJ PLUG VALVE W/ RJ - ISOLATION VALVE, TO BE LOCATED ON PUMP STATION PROPERTY AT RIGHT OF WAY
54. 1/2" FG IRON BODY RESILIENT SEATED GATE VALVE
55. ELECTRONIC PRESSURE TRANSMITTER WITH DIAPHRAGM SEAL (SILICONE FILLED)

NOTE: REFER TO TECHNICAL SPECIFICATIONS AS APPLICABLE FOR MATERIALS REQUIREMENTS AND THE LIST OF APPROVED PRODUCTS

PUMP STATION DESIGN NOTES (TYP):

1. IN ORDER TO COORDINATE THE MECHANICAL, ELECTRICAL AND STRUCTURAL INSTALLATION, THE DESIGN ENGINEER SHALL REFER TO HILLSBOROUGH COUNTY'S MECHANICAL DRAWINGS (M1-M3), ELECTRICAL DRAWINGS (E 0.0-E 5.0), STRUCTURAL DRAWINGS (S1-S4); AND THE "HC WATER, WASTEWATER & RECLAIMED WATER TECHNICAL MANUAL FOR SUBDIVISION AND SITE DEVELOPMENT" (LATEST EDITION), AND THE "HC WATER, WASTEWATER & RECLAIMED WATER TECHNICAL SPECIFICATIONS" (LATEST EDITION).
2. THE DESIGN ENGINEER SHALL NOT USE THESE DRAWINGS FOR A SPECIFIC SITE INSTALLATION. A DETAILED SITE PLAN SHALL BE SHOWN IN THE BOX PROVIDED ON THIS SHEET, OR ON A SEPARATE SHEET AS NEEDED. THE SITE PLAN SHALL BE DRAWN TO SCALE AND INCLUDE CRITICAL SITE ELEVATIONS (SUCH AS ROAD, SLAB, DRIVEWAY, AND SURROUNDING AREAS - INCLUDING FINISHED FLOOR OF ADJACENT LOTS), DIMENSIONS, HARDSCAPE ELEMENTS, AND THE PUMP STATION'S RELATIONSHIP TO THE SURROUNDING AREA.
3. THESE DRAWINGS REPRESENT THE STANDARD DESIGN FOR ALL HILLSBOROUGH COUNTY WASTEWATER PUMPING STATIONS. IT WAS DEVELOPED TO IMPROVE RELIABILITY AND MAINTAINABILITY, MINIMIZE SPARE PARTS AND INCREASE SERVICE LIFE. ALL REQUESTS FOR DEVIATIONS FROM THIS STANDARD MUST BE MADE IN WRITING TO THE DEVELOPMENT SERVICES DEPARTMENT FOR SUBDIVISION AND SITE DEVELOPMENT; AND TO THE PUBLIC UTILITIES DEPARTMENT (PUD) PROJECT MANAGER FOR ALL CAPITAL IMPROVEMENT PROJECTS. WRITTEN APPROVAL FROM PUD UTILITY DESIGN SECTION MGR. IS REQUIRED BEFORE MODIFICATIONS ARE MADE.
4. THE ENGINEER IS RESPONSIBLE FOR COORDINATING WITH THE PUMP SUPPLIER TO ENSURE THAT PROPER PUMP AND PIPE SPACING IS ACCOMMODATED.
5. PUMP STATION SLAB DIMENSIONS SHALL MEET OR EXCEED MINIMUM SHOWN.
6. THE ENGINEER IS ADVISED THAT COUNTY APPROVAL OF THE PUMP STATION DESIGN DOES NOT CONSTITUTE A RELEASE FROM PROFESSIONAL LIABILITY BY THE ENGINEER NOR SHIFT RESPONSIBILITY FOR ANY DESIGN DECISIONS REPRESENTED HEREIN TO THE COUNTY OR OTHER REGULATORY AGENCY. THE ENGINEER IS RESPONSIBLE FOR THE FINAL ELECTRICAL, MECHANICAL, AND STRUCTURAL DESIGNS.
7. DISCHARGE PIPE SUPPORTS ARE REQUIRED FOR WET WELL DEPTHS GREATER THAN 10 FEET.
8. IF THE INFLUENT INVERT ELEVATION IS GREATER THAN 2-FEET ABOVE LOW WATER LEVEL (LWL), A DROP INVERT CONNECTION SHALL BE REQUIRED. THE DROP INVERT TO BE SET AT THE LEAD-ON ELEVATION (SEE DROP CONNECTION DETAIL, DRAWINGS S2, S4 & M3).
9. LOW WATER LEVEL MUST BE AT LEAST 3' ABOVE TOP OF PUMP. FILL IN THE FOLLOWING INFORMATION: (INSTALLED HEIGHT (PER PUMP MFR.) + 3' = FT.) = (LWL - BOTTOM EL. = FT.)
10. DUCTILE IRON IN THE WETWELL MUST BE BELOW THE LOW WATER LEVEL.

PUMP STATION DATA:	
1. ADDRESS	_____
2. POWER CO. METER NO.	_____
3. POWER CO. POLEPAD NO.	_____
4. SERVICE AREA	_____
5. DESIGN CAPACITY	_____ GPM
6. WET WELL VOLUME	_____ GALLONS _____ FT. DIA.
7. CONTROL ELEVATIONS:	
TOP EL.	_____
INVERT EL.	_____
* ALARM EL.	_____
* AUTO DIALER EL.	_____
LAG ON EL.	_____
DROP INVERT EL.	_____ (IF REQUIRED)
LEAD ON EL.	_____
* OVERRIDE OFF EL.	_____
PUMPS OFF EL.	_____
BOTTOM EL.	_____
8. STATIC HEAD	_____ FT.
9. PUMP MODEL	_____
10. PUMP SERIAL NO.	_____
11. PUMP DESIGN POINT	_____ GPM @ _____ TDH
12. PUMP H.P.	_____ PHASE
13. PUMP IMP. NO./DIA.	_____
14. PUMP VOLTS	_____ AMPS
15. PUMP SHUT-OFF HEAD	_____ FT.
16. PUMP SPEED	_____ RPM

* LEVEL FLOAT SWITCHES

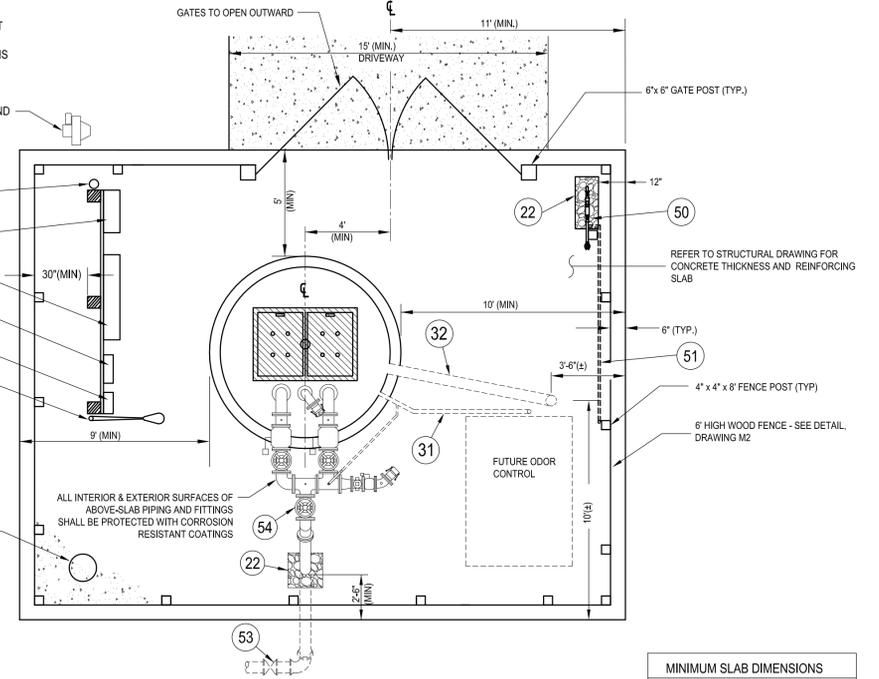
- ALARM EL.
(TRANSDUCER/FLOAT)
- AUTO DIALER &
OVERRIDE ON EL.
(TRANSDUCER/FLOAT)
- LAG ON EL.
(TRANSDUCER)
- LEAD ON EL.
(TRANSDUCER)
- OVERRIDE OFF EL.
(TRANSDUCER/FLOAT)
- ALL PUMPS OFF EL.
(TRANSDUCER)

BOTTOM EL.
NOTE: 25' MAX. DEPTH

SECTION A-A
NOT TO SCALE

* REFER TO ELECTRICAL DRAWINGS FOR
STANDARD ELECTRICAL DETAILS, EQUIPMENT
REQUIRED AND FOR COORDINATION OF
MECHANICAL AND ELECTRICAL INSTALLATIONS

- * ELECTRIC METER AND
ALARM SILENCER
- * ALARM HORN
& BEACON
- * JB1 & JB4
- * RTU/CONTROL
PANEL
- * MAIN DISCONNECT
- * AUTO DIALER
- * AREA LIGHT
- * SCADA ANTENNA
SEE M3 FOR FOUNDATION



STANDARD FOOTPRINT - MIN. DIMENSIONS
NOT TO SCALE

MINIMUM SLAB DIMENSIONS
6" INSIDE DIA. WETWELL ... 21' x 26'6"
8" INSIDE DIA. WETWELL ... 22' x 28'6"
10" INSIDE DIA. WETWELL ... 24' x 31'

SHOW TO SCALE AND INCLUDE ELEVATIONS AS TO ROAD, SLAB, DRIVEWAY AND SURROUNDING AREAS.

DETAILED SITE PLAN
(BY ENGINEER) SCALE: 1"=

SCALE	REVISIONS
As Shown	
No.	DATE DESCRIPTION APP'VD.

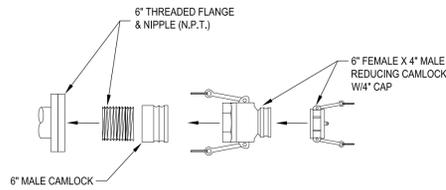


**HILLSBOROUGH COUNTY
PUBLIC UTILITIES DEPARTMENT**
925 E. TWIGGS STREET / TAMPA, FLORIDA 33602

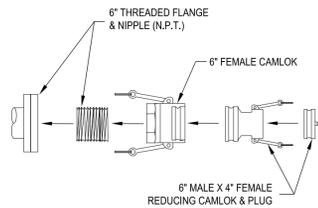
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FILE No.:	
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
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SCALE:	

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I hereby certify that the work contained herein was prepared under my direct
supervision and complies with the requirements of Chapter 471, Florida
Statutes and Chapter 61G15, F.A.C.
Florida Professional Engineer's Registration Number _____
Date _____

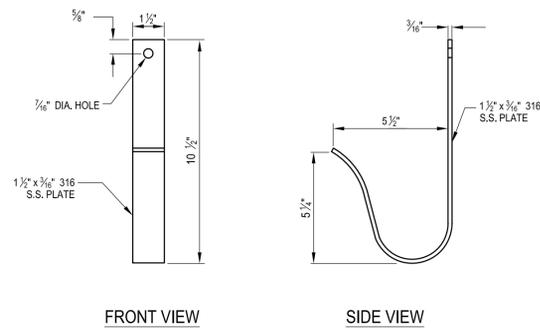
MECHANICAL LAYOUT AND SITE PLAN	OCT 2015
STANDARD WASTEWATER DUPLIX PUMP STATION	SHEET OF DRAWING M1



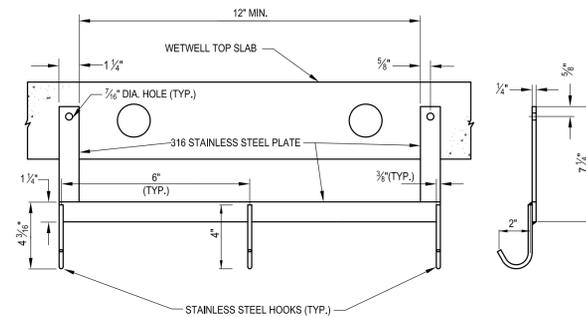
6" EMERGENCY BYPASS/ PUMP-IN CAMLOCK DETAIL
NOT TO SCALE



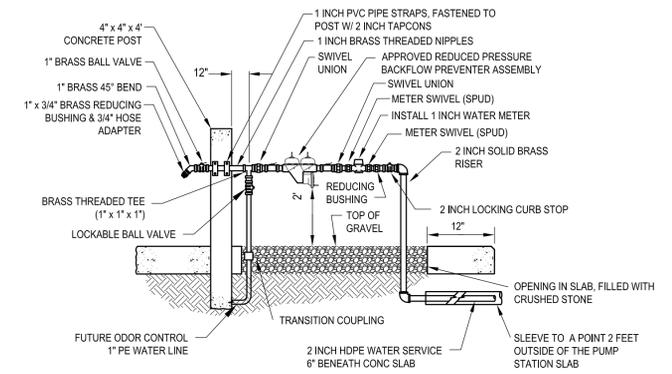
6" AUX. SUCTION CAMLOCK DETAIL
NOT TO SCALE



POWER & TRANSDUCER CABLE HOOK DETAIL
NOT TO SCALE

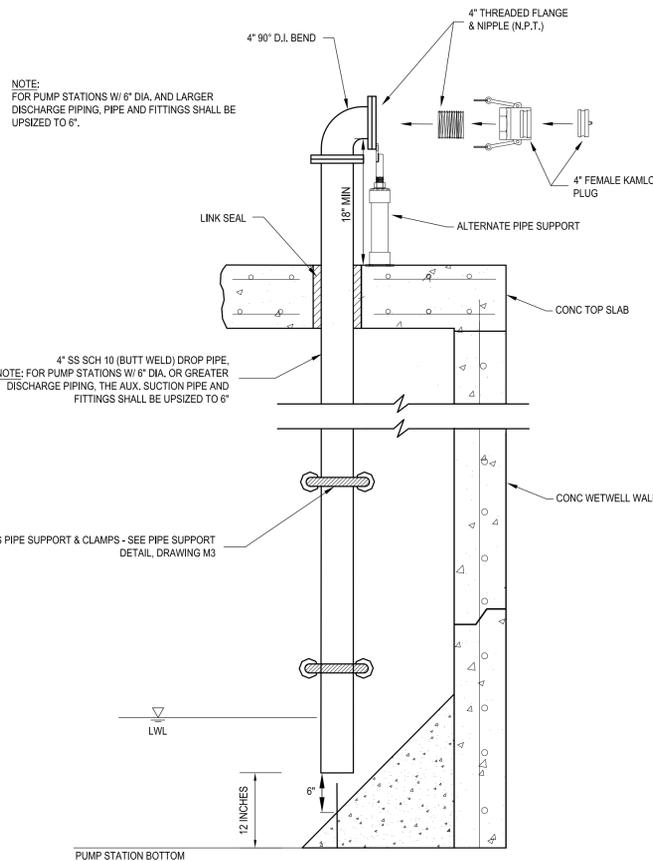


LEVEL CABLE HANGER DETAIL
NOT TO SCALE

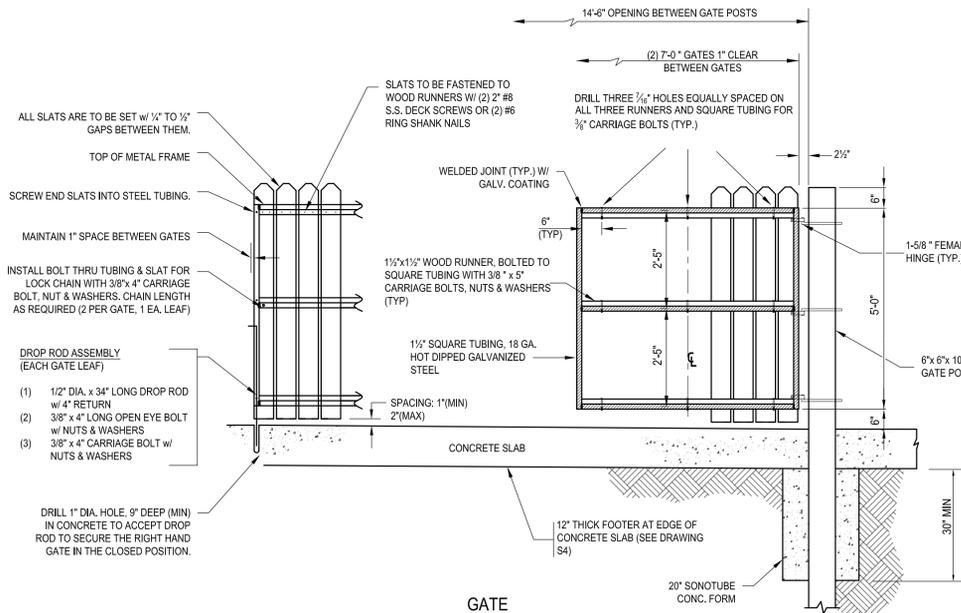


- NOTES:**
1. ALL PIPING TO BE 2-INCHES UP THROUGH THE LOCKING CURB STOP.
 2. 2 INCH SERVICE LINE SHALL USE A 2 INCH TAPPING SLEEVE & VALVE AT THE WATER MAIN CONNECTION.
 3. FOR LARGE PUMP STATIONS (WET WELLS 10 FT. DIA. OR GREATER, OR 20 FT. OR MORE DEPTH), A 2 INCH WATER METER AND SERVICE SHALL BE PROVIDED. HOSE CONNECTION TO BE 2 INCH MALE CAMLOCK CONNECTOR.

WATER SERVICE DETAIL
NOT TO SCALE

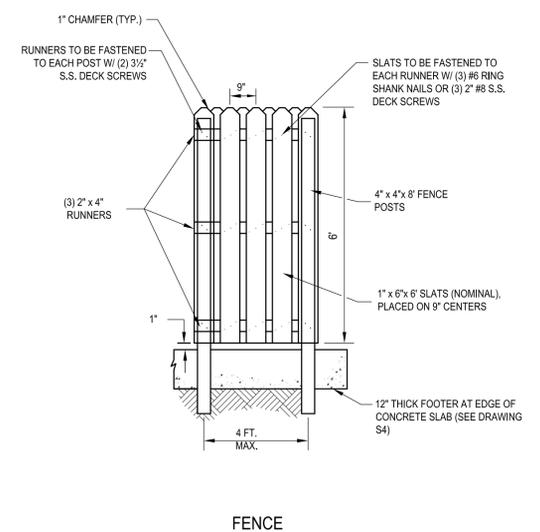


AUX. SUCTION PIPE DETAIL
NOT TO SCALE



- FENCE & GATE CONSTRUCTION NOTES**
1. ALL WOOD SHALL BE PRESSURE TREATED. POSTS SHALL BE RATED FOR BURIED WOOD.
 2. ALL STRUCTURAL MEMBERS AND CROSS BRACING AS SHOWN.
 3. CROSS BRACING SHALL BE ON INSIDE OF GATE.
 4. USE HOT DIP GALVANIZED OR STAINLESS STEEL HARDWARE, FASTENERS, DROP RODS, CABLES, ETC. FOR ALL FENCE AND GATE CONSTRUCTION.
 5. ALL NAIL & SCREW HEADS SHALL BE SET FLUSH W/ WOOD SURFACE (NOT COUNTER-SUNK).
 6. USE TAMPER PROOF HEAVY DUTY HINGES AND LATCHES ON GATE (MINIMUM OF THREE HINGES PER GATE LEAF).
 7. SOME PUMP STATION LOCATIONS MAY REQUIRE ARCHITECTURAL STYLE FENCING - CONSULT COUNTY.

PUMP STATION ENCLOSURE DETAIL
NOT TO SCALE



FENCE

INSTALLATION NOTE:
CONTRACTOR TO REFER TO DRAWINGS M1-M3, E 0.0-E 5.0 AND S1-S4 IN ORDER TO COORDINATE ALL MECHANICAL, ELECTRICAL AND STRUCTURAL INSTALLATIONS.

SCALE	REVISIONS			
As Shown	No.	DATE	DESCRIPTION	APPV'D.

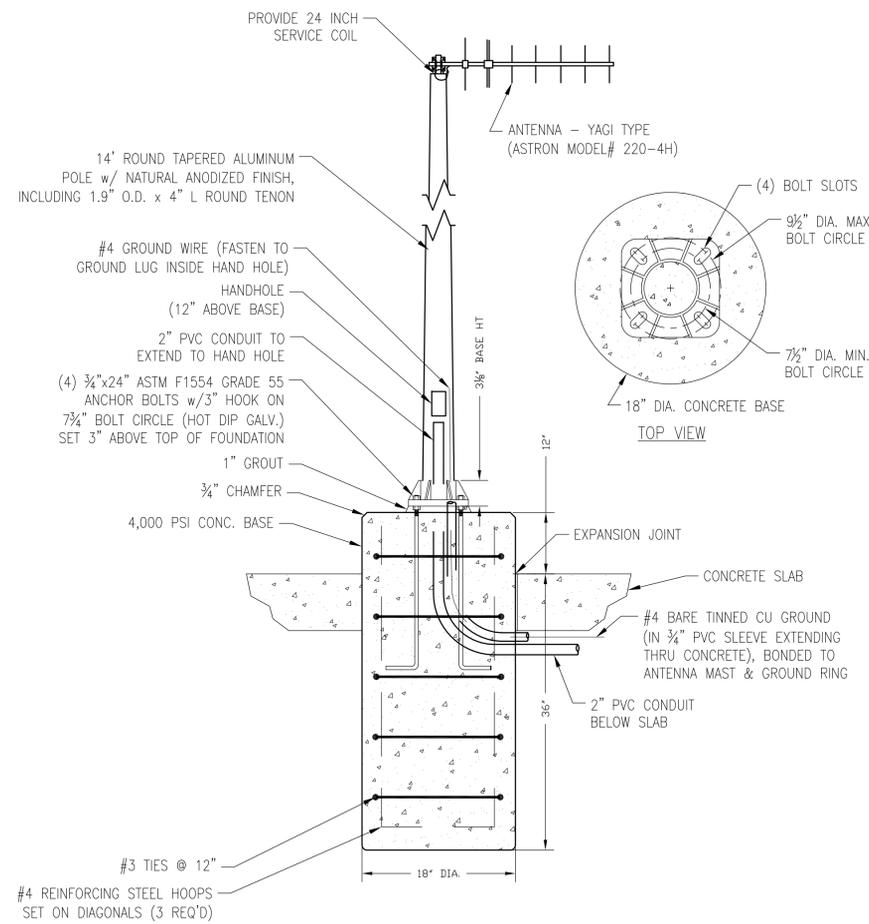


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FILE No.:	
DESIGNED BY:	
DRAWN BY:	
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DATE:	
SCALE:	

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Florida Professional Engineer's Registration Number _____
Date _____

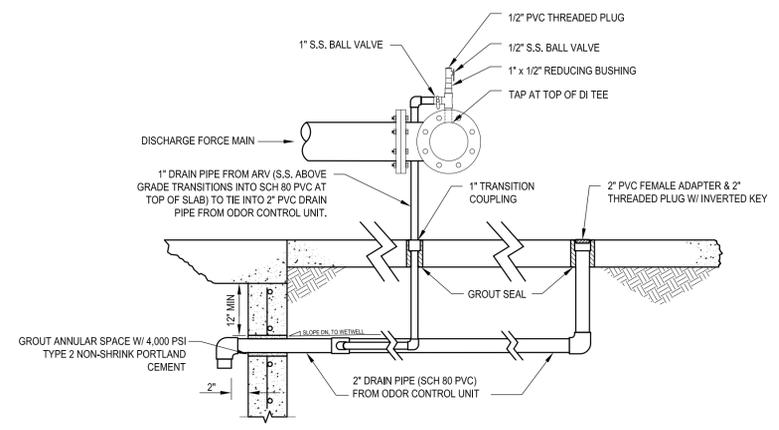
DETAILS
STANDARD WASTEWATER DUPLEX PUMP STATION

OCT 2015
SHEET
OF
DRAWING M2

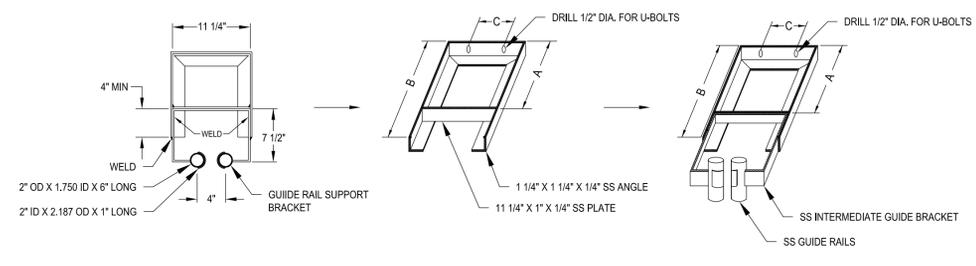


DETAIL NOTES:
 1. PROVIDE ANCHORS, HARDWARE, CONCRETE SUPPORTS, ETC., AS NEEDED TO SECURE ANTENNA POLE.
 2. REFER TO ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR CONDUIT AND GROUNDING DETAILS.

SCADA ANTENNA POLE SUPPORT
NOT TO SCALE

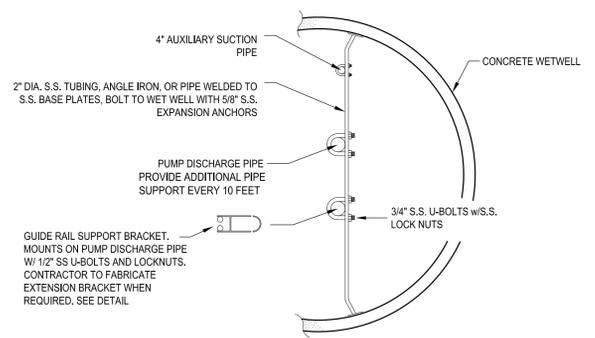


ARV & ODOR CONTROL DRAIN PIPE ASSY.
NOT TO SCALE

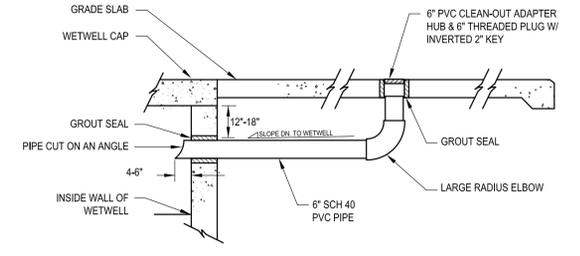


DISCHARGE PIPE DIA.	A	B	C
4"	5 5/8"	9 3/4"	5"
6"	7"	11 1/4"	7"
8"	7 3/4"	12"	9"

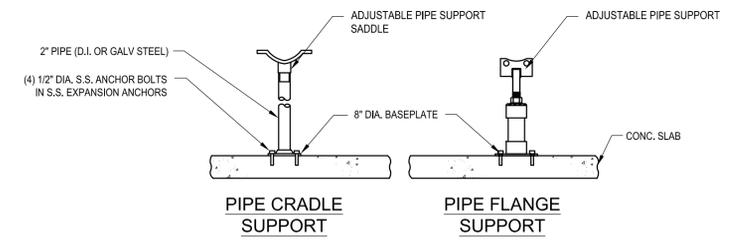
BRACKET EXTENSION DETAIL
NOT TO SCALE



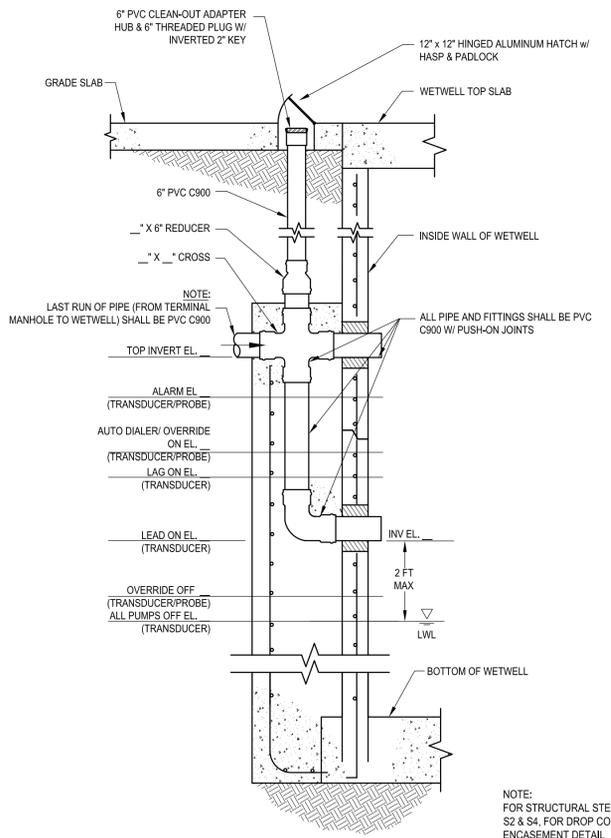
INTERIOR PIPE & GUIDE RAIL SUPPORTS - TOP VIEW
NOT TO SCALE



ODOR CONTROL PLENUM DETAIL
NOT TO SCALE



EXTERIOR PIPE SUPPORT DETAIL
NOT TO SCALE



DROP CONNECTION DETAIL
NOT TO SCALE

SCALE	REVISIONS			
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