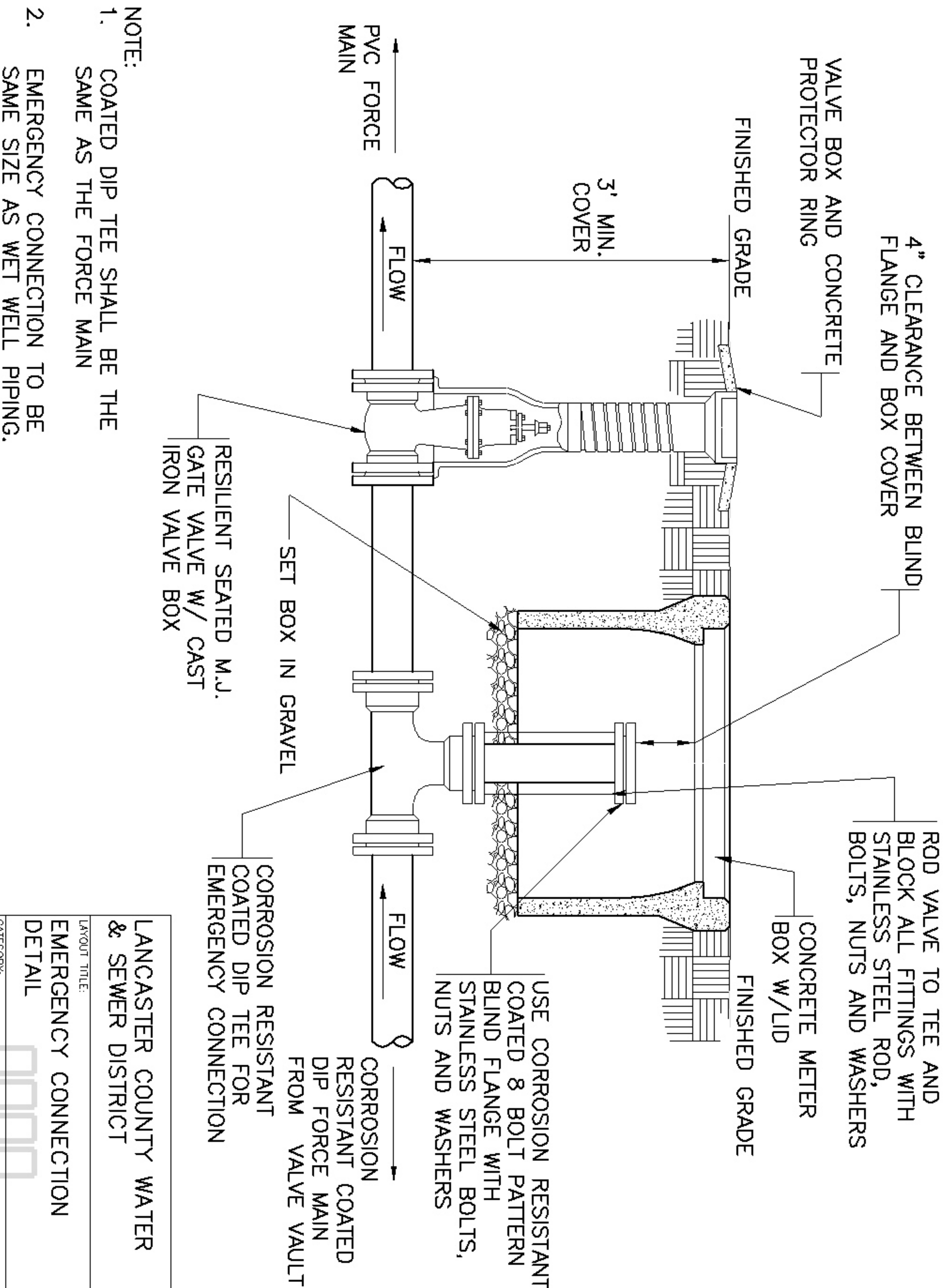
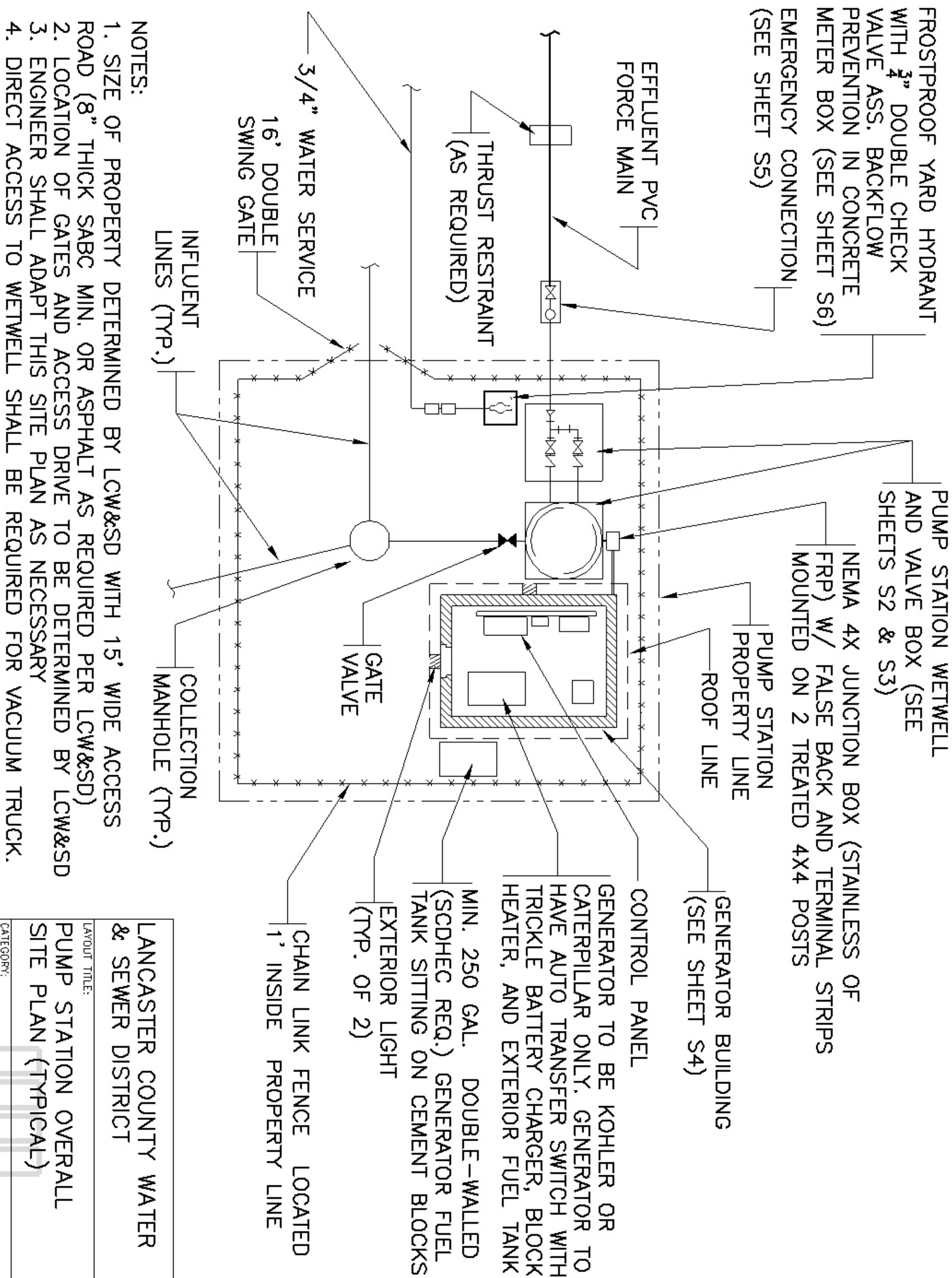




EMERGENCY CONNECTION N.T.S.

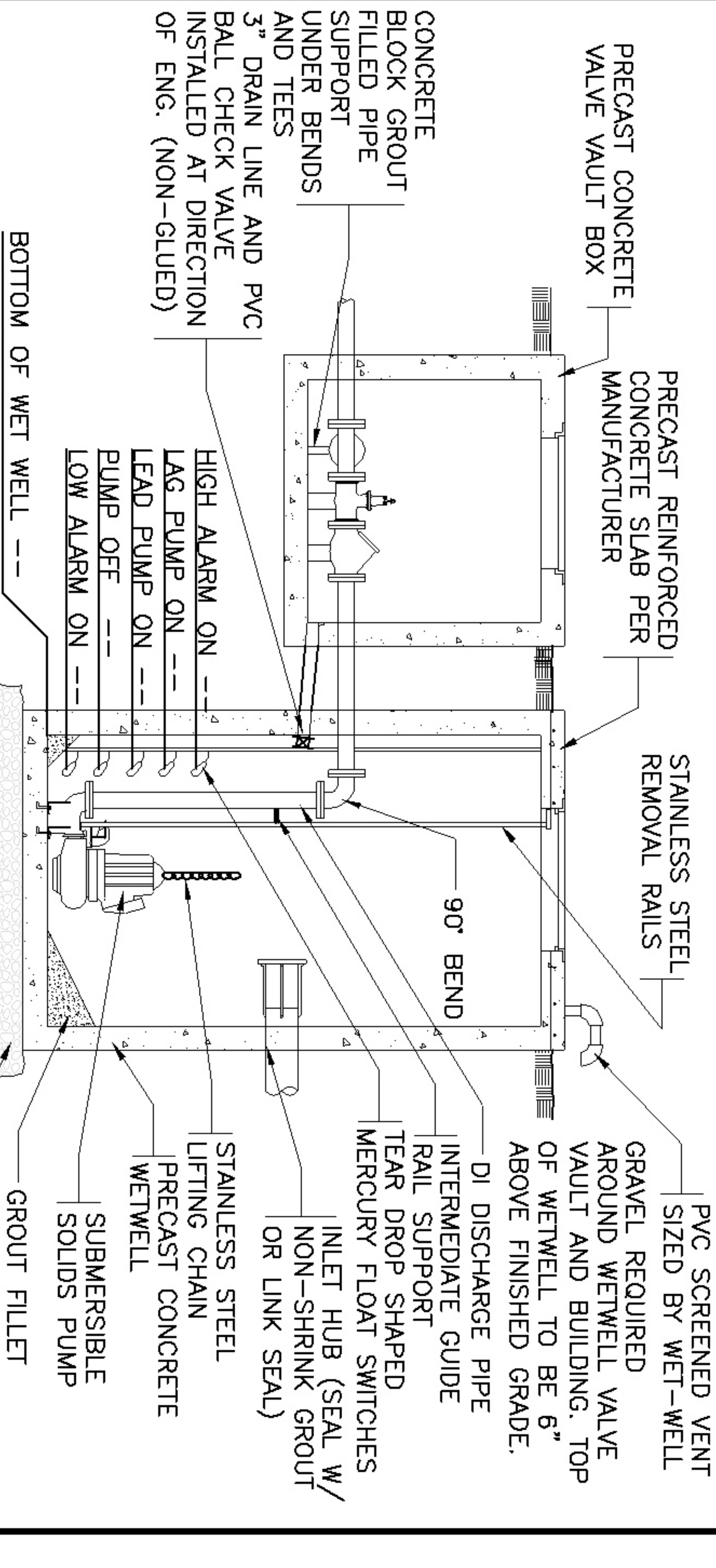
LANCASTER COUNTY WATER & SEWER DISTRICT	
LAYOUT TITLE:	
EMERGENCY CONNECTION DETAIL	
CATEGORY:	SEWER
DATE:	01/06
SCALE:	NONE
DETAIL SHORTNAME:	EMCON
SHEET	S5



PUMP STATION OVERALL SITE PLAN

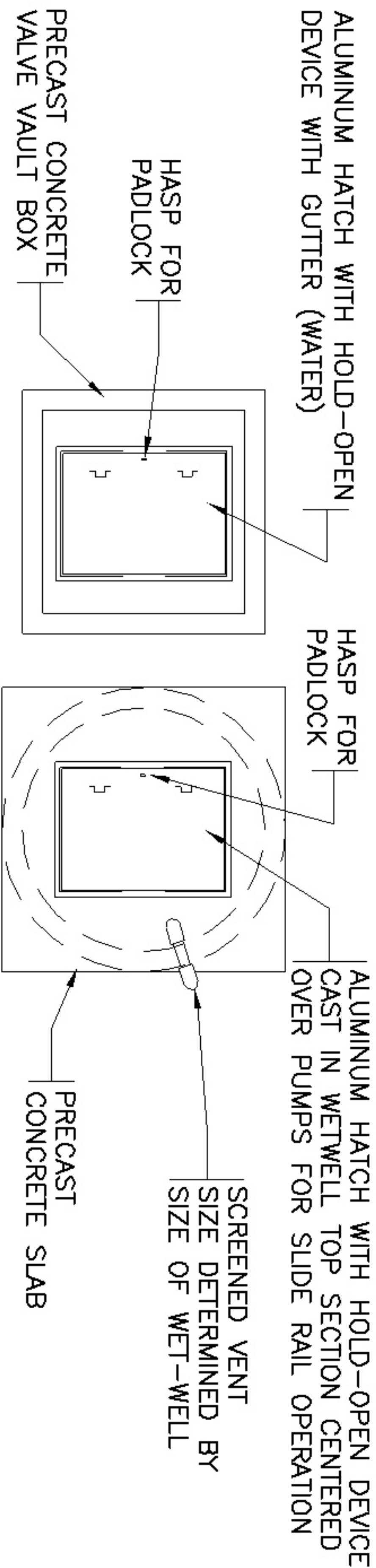
N.T.S.

LANCASTER COUNTY WATER & SEWER DISTRICT	
LAYOUT TITLE:	
PUMP STATION OVERALL SITE PLAN (TYPICAL)	
CATEGORY:	SEWER
DATE:	01/06
SCALE:	NONE
DETAIL SHORTNAME:	SSITE
SHEET	S1



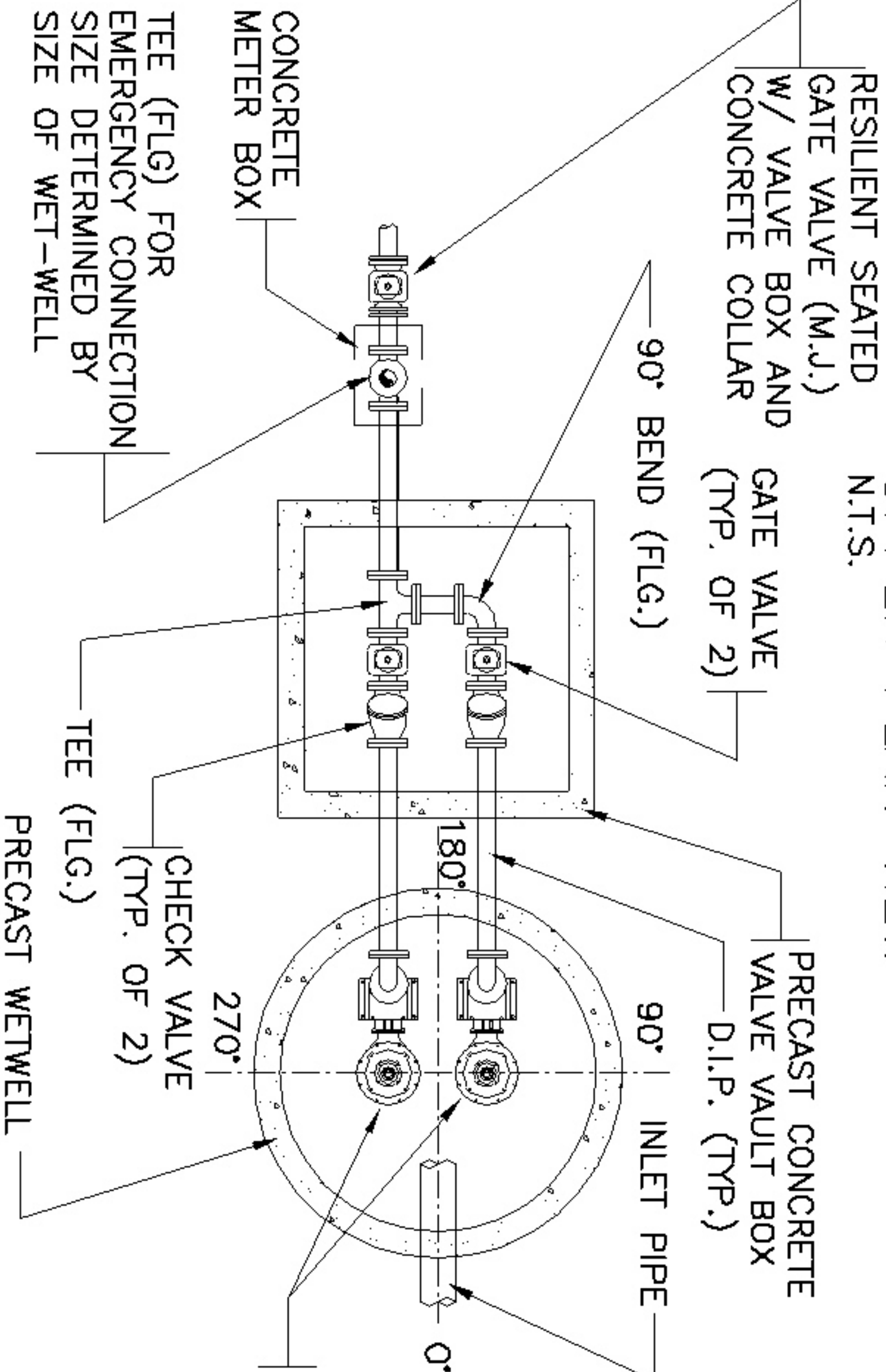
- NOTES:
1. ALL INTERNAL WETWELL PIPING AND VALVE VAULT PIPING SHALL BE CLASS 50 DIP. ALL PUMP GUIDE RAILS, GUIDE RAILS (MID-SECTION) AND TOP RAIL GUIDES ARE TO BE STAINLESS STEEL. ALL DUCTILE IRON PIPE TO BE SEWPER COATED. ALL NUTS, BOLTS AND WASHERS TO BE 316 STAINLESS STEEL.
 2. CONTRACTOR SHALL INSTALL PUMP DISCHARGE PIPING PUMP GUIDE RAILS PLUMB AND LEVEL FOR EASE OF PUMP REMOVAL. HOIST AND EACH PUMP SHALL BE REMOVED AND REINSTALLED IN THE PRESENCE OF THE ENGINEER, OWNER AND DISTRICT INSPECTOR TO DEMONSTRATE PERFORMANCE.
 3. WETWELL TO BE SEALED AT ALL JOINTS INSIDE AND OUTSIDE. WETWELL SHALL BE TESTED FOR LEAKAGE AND SHALL NOT EXCEED 1" OF WETWELL DEPTH IN 24 HOURS.
 4. AT CONTRACTOR'S EXPENSE, PUMP DRAWDOWN TEST SHALL BE CONDUCTED FOR EACH PUMP IN THE PRESENCE OF THE ENGINEER, OWNER AND THE DISTRICT INSPECTOR. AT CONTRACTOR'S EXPENSE, OPERATION OF ALL ELECTRICAL CONTROLS, INCLUDING STAND-BY GENERATOR, SHALL BE DEMONSTRATED IN THE PRESENCE OF THE ENGINEER, OWNER AND THE DISTRICT INSPECTOR.

PUMP STATION OVERALL SECTION VIEW (TYPICAL)	
LANCASTER COUNTY WATER & SEWER DISTRICT	
SUBMERSIBLE PUMP STATION ILLUSTRATIVE VIEW N.T.S.	
PUMP STATION OVERALL SECTION VIEW (TYPICAL)	
CATEGORY: SEWER	
DATE: 01/06	SCALE: NONE
DETAIL SHORTNAME: PSSEC	SHEET S2



SUBMERSIBLE PUMP STATION

UPPER PLAN VIEW N.T.S.

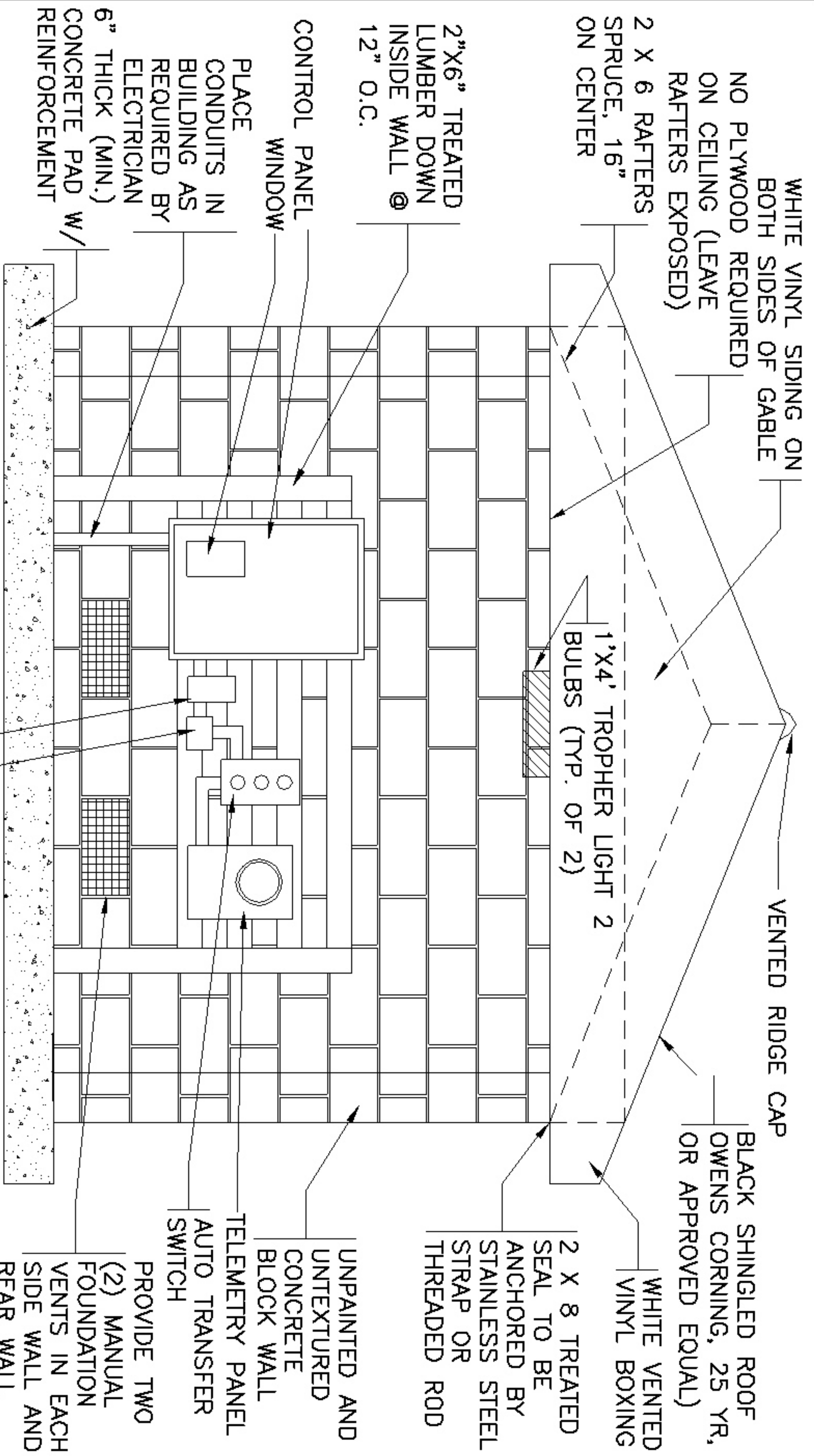


NOTES:

1. ALL PIPES, VALVES, BENDS AND TEES WILL BE SIZED ACCORDING TO THE SIZE OF THE PUMPS
2. SIZES FOR THE ALUMINUM HATCHES WILL BE DETERMINED BY PUMP SIZES
3. CHECK VALVE WILL BE MUELLER SWING CHECK VALVE WITH EXTERNAL LEVEL AND WEIGHT FOR SEWAGE SERVICE. TAP C/V UDS $\frac{1}{4}$ " NPT WITH $\frac{1}{4}$ " PETCOCK VALVE

SUBMERSIBLE PUMP STATION BOTTOM PLAN VIEW N.T.S.

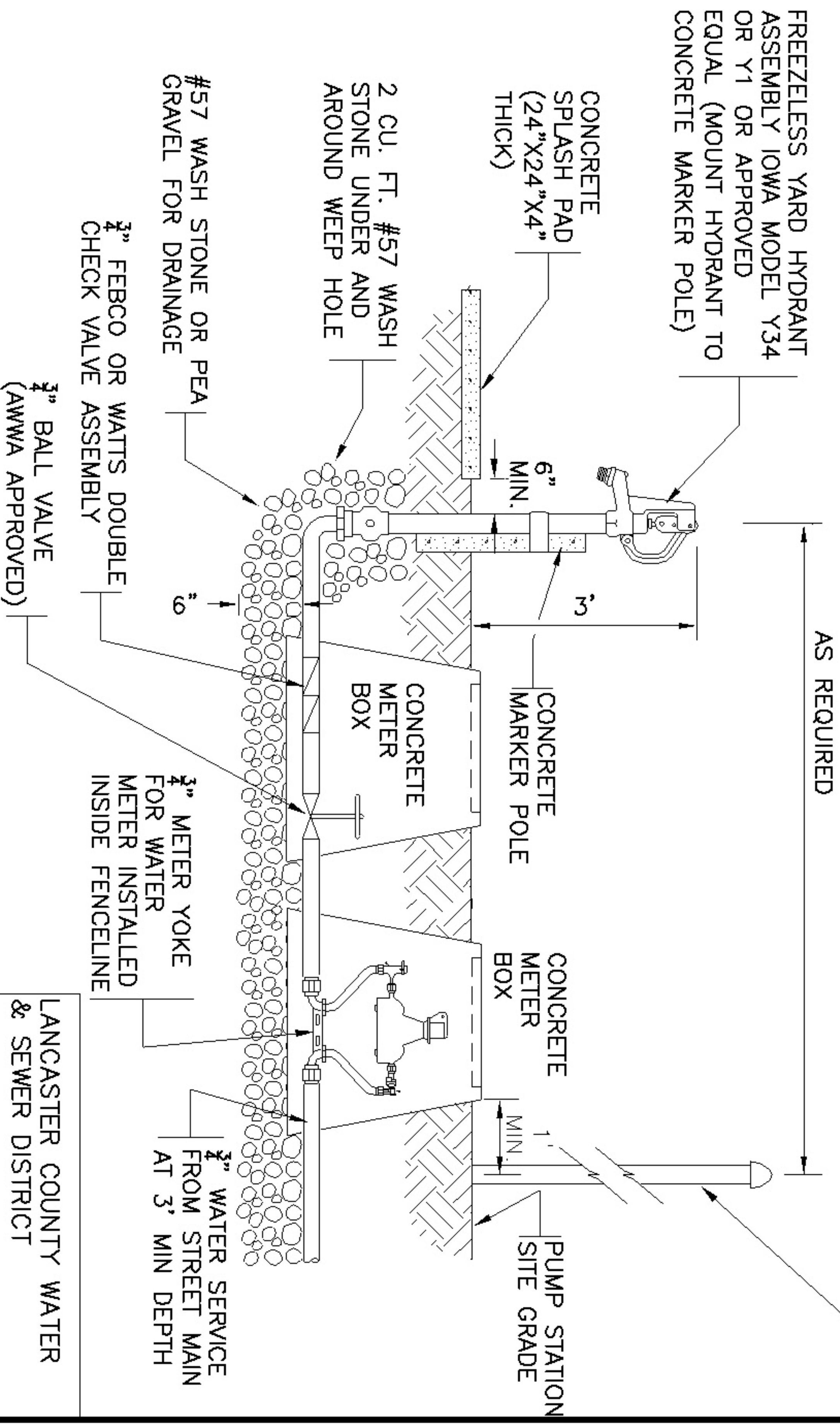
LANCASTER COUNTY WATER & SEWER DISTRICT	
PUMP STATION PLAN VIEW (TYPICAL)	
LAYOUT TITLE:	
CATEGORY:	
SEWER	
DATE:	SCALE:
01/06	NONE
DETAIL SHORTNAME:	SHEET
PSPLAN	S3



- NOTE:
1. BUILDING SIZE AND CONTROL PANEL SIZE TO BE DETERMINED BY GENERATOR SIZE AND ELECTRICAL CODE REQUIREMENTS (NOT TO EXCEED 400 SQ FT).
 2. DOUBLE DOORS TO BE 3' METAL, 6' TOTAL OPENING W/ 2 ALUMINUM LOUVERS IN EACH DOOR.
 3. INSIDE OF BUILDING TO HAVE 2 SETS OF 8" FLOOD LIGHTS AND ONE 110 RECEPTACLE ON EACH WALL (TYP. OF 2).
 4. ELECTRICAL CONTRACTOR TO DUCT SEAL INSIDE THE JUNCTION BOX TO PREVENT GASES FROM ENTERING THE CONTROL PANEL AND JUNCTION BOX.
 5. LIGHT PACK SHALL BE INSTALLED OVER ENTRANCE DOORS AND ONE INSTALLED TO ILLUMINATE OVER WETWELL AND VALVE VAULT.
 6. SOIL COMPACTION TESTS REQUIRED FOR BUILDING PAD.

GENERATOR BUILDING	
N.T.S.	
LANCASTER COUNTY WATER & SEWER DISTRICT	
LAYOUT TITLE:	
PUMP STATION GENERATOR BUILDING (TYPICAL)	
CATEGORY:	
SEWER	
DATE:	SCALE:
01/06	NONE
DETAIL SHORTNAME:	SHEET
PSBLDG	S4

PUMP STATION YARD HYDRANT DETAIL N.T.S.



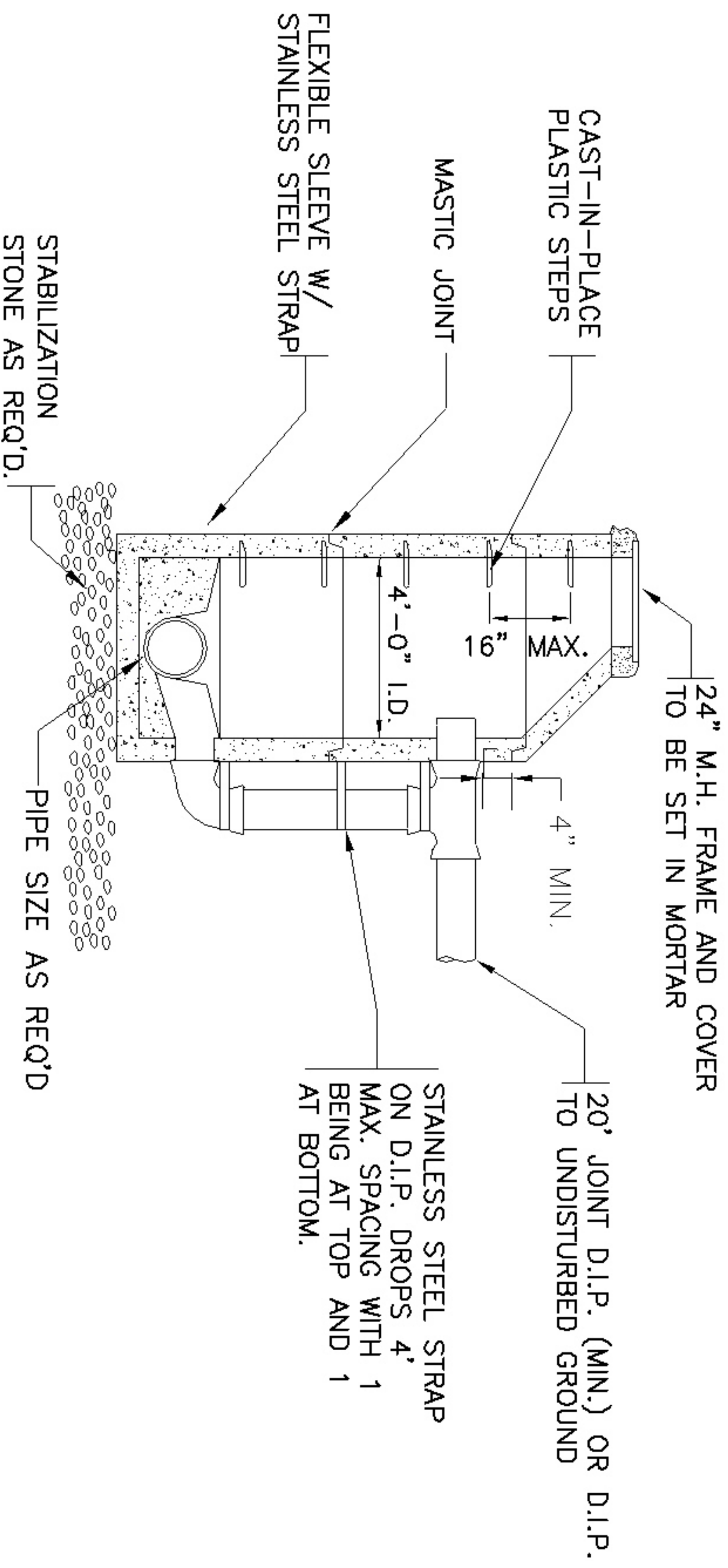
- NOTE:
1. DOUBLE CHECK VALVE TO BE INSPECTED BY A SC LICENSED CERTIFIED TESTER AT CONTRACTOR'S EXPENSE.
 2. WATTS OR FEBCO DOUBLE CHECK VALVE ASSEMBLY SHALL HAVE TEST PORTS FOR ALL FUTURE TESTING.

LANCASTER COUNTY WATER & SEWER DISTRICT	
LAYOUT TITLE: PUMP STATION YARD HYDRANT DETAIL	
CATEGORY: SEWER	SCALE: NONE
DATE: 01/06	SHEET S6
DETAIL SHORTNAME: YDHYD	

1. SCADA TELEMETRY SYSTEM TO BE INSTALLED BY LCW&SD AT THE CONTRACTOR'S EXPENSE. ENTIRE SYSTEM TO BE SUPPLIED AND CONSTRUCTED BY LANCASTER COUNTY WATER & SEWER DISTRICT (LCW&SD). ELECTRICIAN TO SUPPLY LCW&SD WITH 1-20 AMP BREAKER IN BREAKER BOX LABELED SOLELY FOR SCADA SYSTEM. CONTRACTOR TO INSTALL FIRST 10' SECTION OF TOWER SECTION BY LCW&SD'S SPECIFICATIONS. THIS INSTALLATION IS TO BE MADE A PART OF THE CONSTRUCTION PROCESS FOR THE STATION.
2. DESIGN SHOWN IS INTENDED AS A TYPICAL LAYOUT. ACTUAL LAYOUT MAY VARY IN DIMENSION BUT SHALL REMAIN OTHERWISE SIMILAR. ACTUAL SITE PLAN SHALL BE SUBMITTED TO LANCASTER COUNTY WATER AND SEWER FOR APPROVAL.
3. ALL FITTINGS IN WET WELL AND VALVE VAULT SHALL BE INTERIORLY COATED FOR HYDROGEN SULFIDE PROTECTION AND SHALL BE FLANGED AND SECURED WITH STAINLESS BOLTS, NUTS, & WASHERS.
4. PUMP STATION SHALL MEET ALL LCW&SD SPECS.
5. CONTRACTOR TO SUPPLY MANUFACTURER WITH ALL LCW&SD SPECS FOR ORDERING.
6. OUTSIDE LIGHT(S) SHALL BE INSTALLED ACCORDING TO LCW&SD SPECS.
7. STAND BY GENERATOR SHALL MEET LANCASTER COUNTY STANDARDS.
8. THE ELECTRICAL SERVICE SHALL BE IN ACCORDANCE WITH LCW&SD STANDARD SPECIFICATIONS. SHOP DRAWINGS SHALL BE PROPERLY SUBMITTED FOR APPROVAL.
9. THE ACCESS DRIVE TO THE PUMP STATION SHALL BE ALL WEATHER AND ACCESSIBLE BY THE LCW&SD CRANE TRUCK. THE EASEMENT FOR DRIVEWAY TO BE A MINIMUM OF 25' IN WIDTH. THE ACCESS DRIVE MAY BE REQUIRED TO BE ASPHALT PER LCW&SD DUE TO PROPOSED CONDITIONS
10. 2" CONDUIT SHALL EXTEND FROM WET WELL TO JUNCTION BOX AND CONTROL PANEL FOR ALL PUMPS AND FLOAT SWITCHES.
11. ALL EXTERIOR CONDUIT AND CONNECTORS/HARDWARE TO BE RIGID PVC COATED.
12. ALL CONCRETE ANCHORS SHALL BE 316 STAINLESS STEEL.
13. CONTROL PANEL TO BE BOUGHT FROM PUMP SUPPLIER.
14. LCW&SD USES AN S FLOAT SYSTEM. THE LOW FLOAT SHALL TURN OFF ALL PUMPS IN AUTOMATIC ONCE ACTIVATED. THERE SHALL BE A LOW AND HIGH CONTACT FOR THE SCADA SYSTEM TO BE ABLE TO MONITOR FOR EACH.
15. PROVIDE CONTROL PANEL WIRING DETAILS FOR REVIEW INCLUDING INTER-CONNECTION DIAGRAM OF ELECTRICAL DRAWINGS.
16. WET WELL AND VALVE VAULT SHALL HAVE SOLID ALUMINUM DIAMOND PLATE LIDS WITH SPRING ASSIST IF MORE THAN 50 LBS. LIFTING WEIGHT. LIDS SHALL INCLUDE RECESSED LIFTING HANDLE AND SECURITY LATCH/LOCK AND FACTORY INSTALLED SAFETY SLIDE BARS TO HOLD LIDS VERTICALLY OPEN, LIDS TO BE COMPLETE WITH ALUMINUM FRAME TO BE MOUNTED IN CONCRETE TOP SLABS OF WET WELL AND VALVE VAULT.
17. ALL SETS OF LIDS ARE TO BE LARGE ENOUGH TO PULL PUMPS STRAIGHT OUT OF WET WELL AND HAVE FULL VERTICAL ACCESS TO CHECK AND GATE VALVES.
18. TOP SLABS OF WET WELL AND VAULT TO BE 6 INCHES ABOVE GRADE.
19. CHECK VALVES ARE TO BE ARM WITH WEIGHT TYPE. THE TEE IN VALVE VAULT IS TO BE 12 X 12 X 12 INCH WITH THE 12 INCH AT THE DISCHARGE POINT OF THE TEE TO CONNECT TO THE FORCE MAIN.
20. THE VALVE VAULT IS TO BE ONE PIECE (WALLS AND FLOOR) PREFABRICATED OR POURED IN PLACE. THE VAULT IS TO BE LARGE ENOUGH TO PROVIDE 12 INCH MINIMUM CLEARANCE BETWEEN THE VALVES AND WALLS AND 30 INCH CLEARANCE BETWEEN VALVES.
21. THE DISCHARGE PIPES ARE TO BE SOLID (ONE PIECE) FROM THE 90 DEGREE ELBOW IN THE WET WELL TO INSIDE OF VALVE (6 FOOT FLANGED SPOOL SHOULD BE LONG ENOUGH). USE A MEG-A-FLANGE CONNECTOR IN THE VALVE VAULT TO CONNECT THE PIPE END OF THE SPOOL TO THE CHECK VALVES. PIPES INSIDE AND OUTSIDE OF THE WET WELL AND VAULT SHALL BE SEALED WITH NON-SHRINK GROUT OR LINK SEAL.
22. LIGHT PACKS SHALL BE INSTALLED AT OUTSIDE DOOR AND AT WET WELL AND WIRED TO ONE PHOTOCCELL.
23. PROVIDE 2" WATERLINE GUARD VALVE WITH SQUARE HEAD FITTINGS AT TAP. REDUCE LINE TO 3/4" AT BACKSIDE OF VALVE. (FOR YARD HYDRANT SUPPLY). ALL YARD HYDRANTS SHALL BE METERED WITH A STANDARD LCW&SD METER SERVICE AS A NORMAL RESIDENTIAL CUSTOMER AT CONTRACTOR'S EXPENSE.

(NOTE FOR ENGINEER)- TYPICAL PUMP PERFORMANCE CURVE SHALL BE SHOWN ON THE DRAWINGS AND SHALL INCLUDE PROPOSED GPM, TDH, AND HP.

LANCASTER COUNTY WATER & SEWER DISTRICT	
LAYOUT TITLE:	
PUMP STATION NOTES	
CATEGORY:	
SEWER	
DATE:	SCALE:
01/06	NONE
DETAIL SHORTNAME:	SHEET
PSNOTES	S7

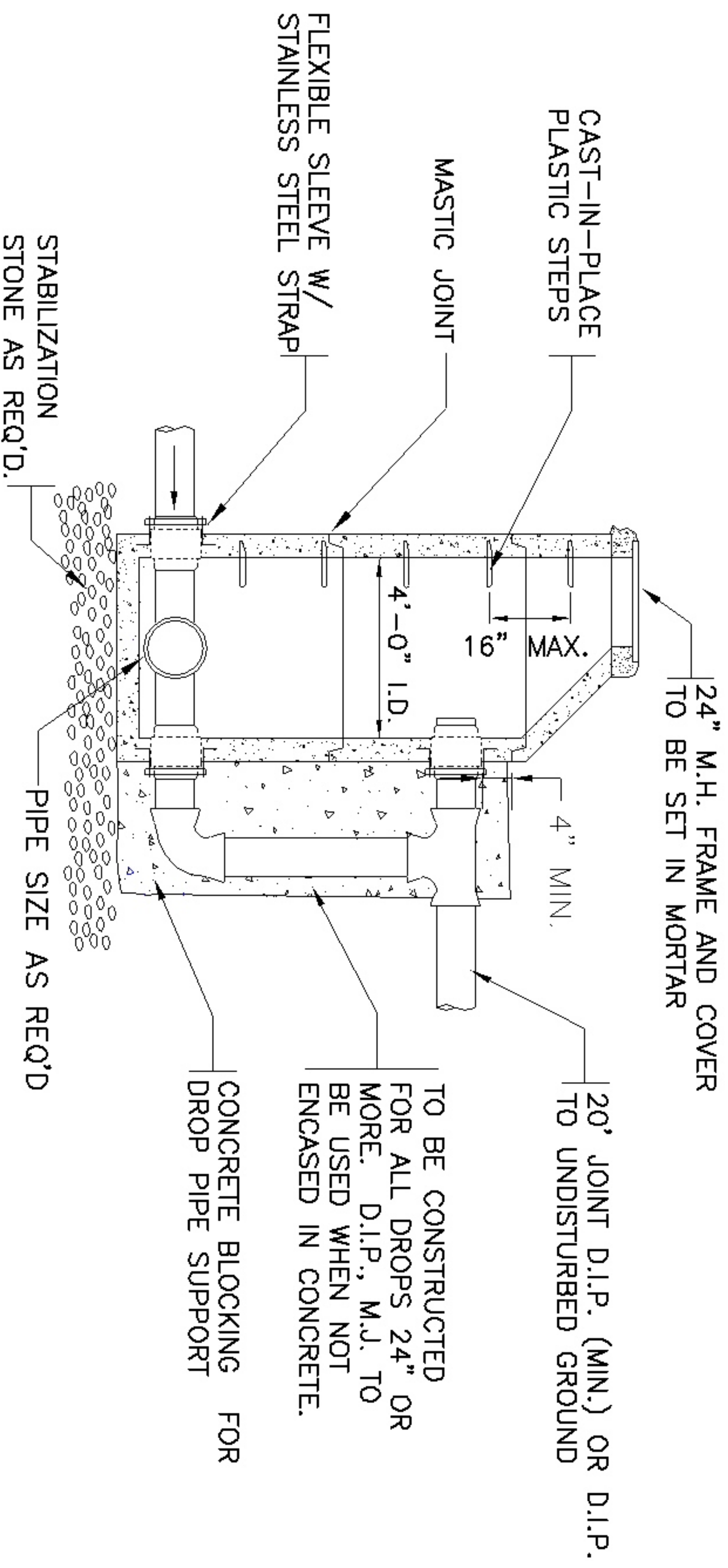


TYPICAL SECTION OF PRECAST SANITARY SEWER DROP MANHOLE N.T.S.

NOTES:

1. CARE MUST BE TAKEN TO FORM A SMOOTH FINISHED TROUGH FROM ENTRANCE PIPES TO EXIT PIPE, AND IN CURVED MANHOLES, THE TROUGH MUST BE A SMOOTH, CIRCULAR ARC TANGENT TO THE INSIDE WALLS OF THE PIPES AT THEIR ENDS.
2. THE SLOPE OF THE OUTSIDE DROP TROUGH SHALL BE $\frac{1}{4}$ " PER FOOT.
3. ALL PIPE OPENINGS TO BE NO GREATER THAN 3" LARGER THAN O.D. OF PIPE AND ADDITIONALLY REINFORCED WITH A MINIMUM OF 0.20 SQ. IN. OF STEEL AT 90 DEGREES. PIPE TO BE CENTERED IN OPENINGS. ADDITIONAL REINFORCING NOT REQUIRED FOR CORED OPENINGS.
4. OUTSIDE DROP SHALL NOT ENTER MANHOLE IN CONE SECTION.
5. MATCH DROP INFLUENT CROWN TO CROWN WITH EFFLUENT PIPE.
6. ALL PRECAST MANHOLES TO INCLUDE STEPS.
7. MAXIMUM HEIGHT FROM TOP OF MANHOLE CONE TO TOP OF MANHOLE TO BE 18".
8. ALL DIP PIPE AND FITTINGS TO BE COATED.

LANCASTER COUNTY WATER & SEWER DISTRICT	
LAYOUT TITLE: DROP MANHOLE DETAIL 1	
CATEGORY: SEWER	
DATE: 01/06	SCALE: NONE
DETAIL SHORTNAME: DROPMH	SHEET S8

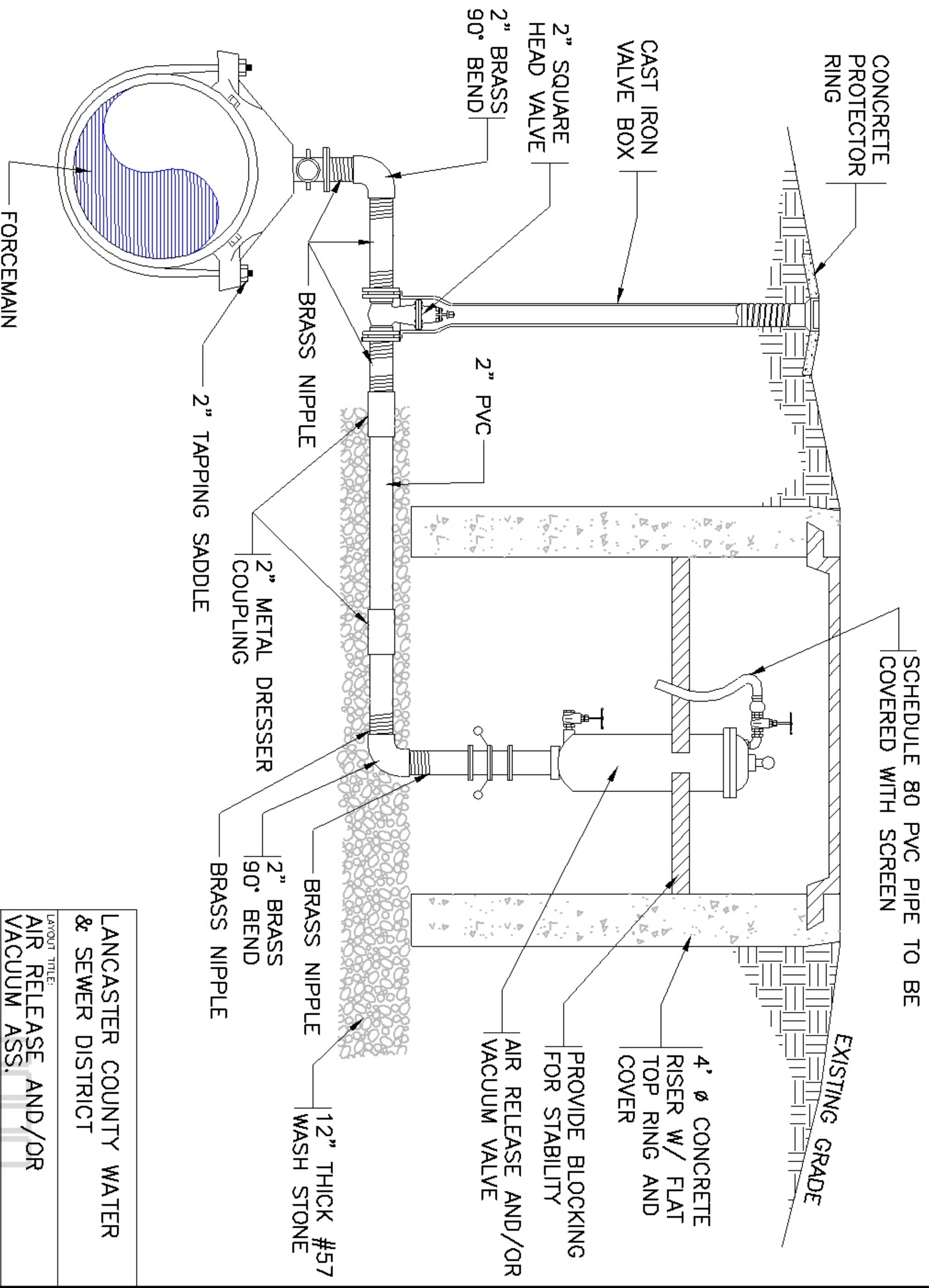


TYPICAL SECTION OF PRECAST
SANITARY SEWER DROP MANHOLE
N.T.S.

NOTES:

1. CARE MUST BE TAKEN TO FORM A SMOOTH FINISHED TROUGH FROM ENTRANCE PIPES TO EXIT PIPE, AND IN CURVED MANHOLES, THE TROUGH MUST BE A SMOOTH, CIRCULAR ARC TANGENT TO THE INSIDE WALLS OF THE PIPES AT THEIR ENDS.
2. THE SLOPE OF THE OUTSIDE DROP TROUGH SHALL BE $\frac{1}{4}$ " PER FOOT.
3. ALL PIPE OPENINGS TO BE NO GREATER THAN 3" LARGER THAN O.D. OF PIPE AND ADDITIONALLY REINFORCED WITH A MINIMUM OF 0.20 SQ. IN. OF STEEL AT 90 DEGREES. PIPE TO BE CENTERED IN OPENINGS. ADDITIONAL REINFORCING NOT REQUIRED FOR CORED OPENINGS.
4. OUTSIDE DROP SHALL NOT ENTER MANHOLE IN CONE SECTION.
5. MATCH DROP INFLUENT CROWN TO CROWN WITH EFFLUENT PIPE.
6. ALL PRECAST MANHOLES TO INCLUDE STEPS.
7. MAXIMUM HEIGHT FROM TOP OF MANHOLE CONE TO TOP OF MANHOLE TO BE 18".
8. ALL DIP PIPE AND FITTINGS TO BE COATED.

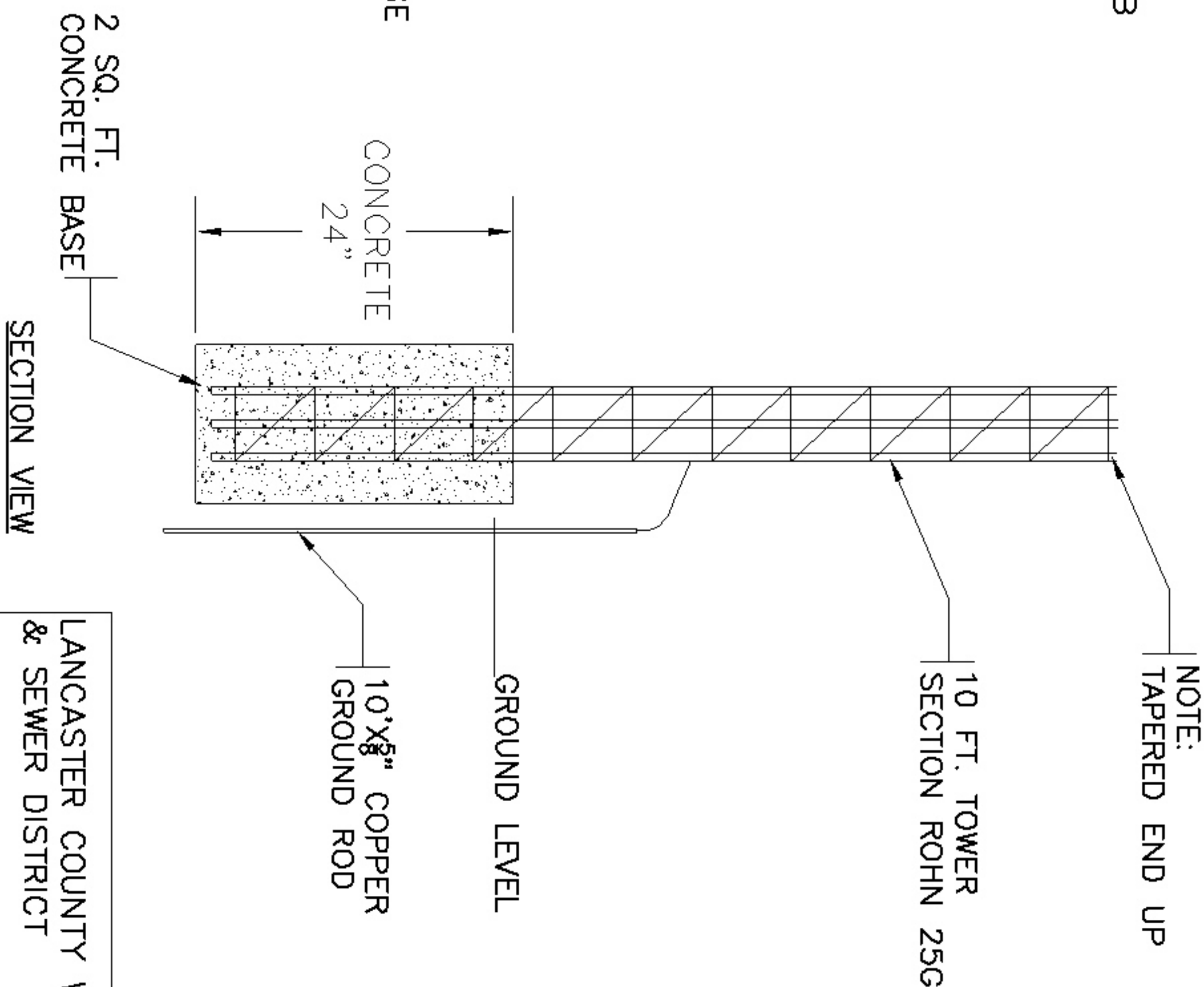
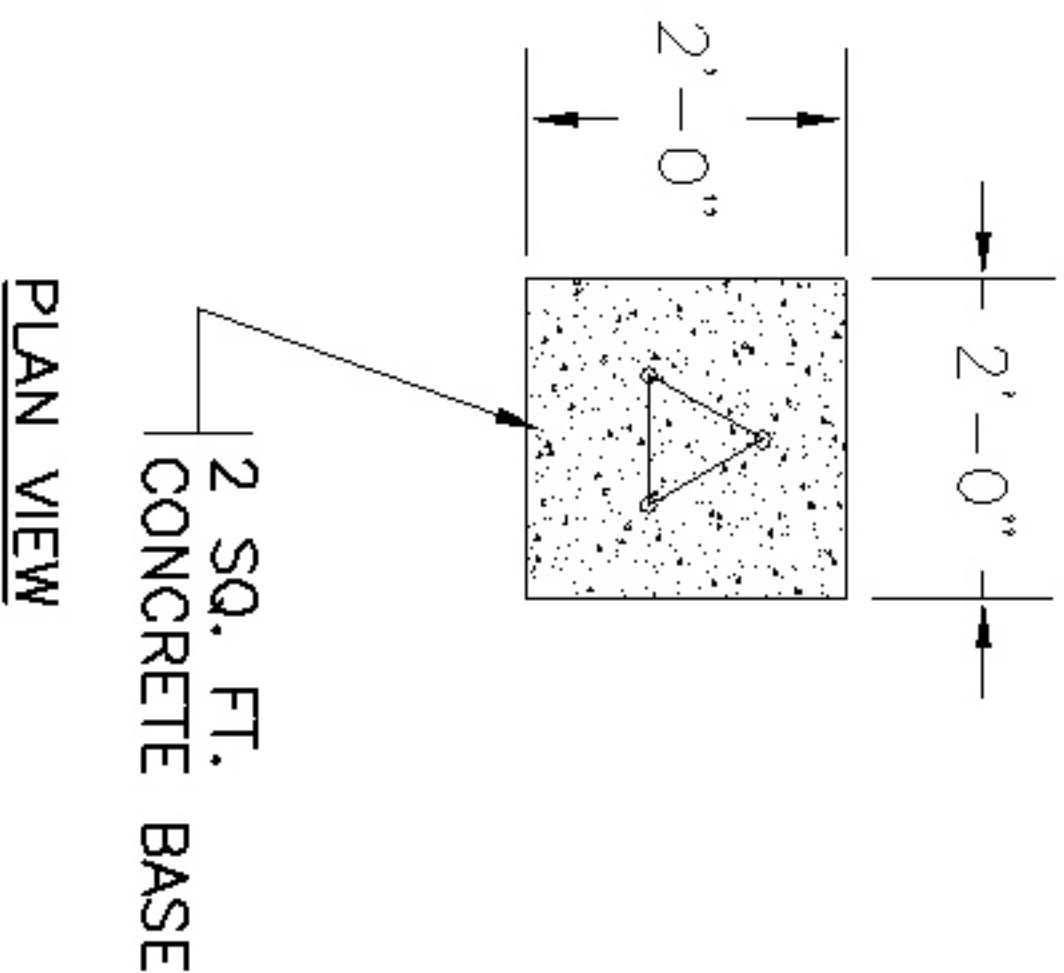
LANCASTER COUNTY WATER & SEWER DISTRICT	
LAYOUT TITLE: DROP MANHOLE DETAIL 2	
CATEGORY: SEWER	
DATE: 01/06	SCALE: NONE
DETAIL SHORTNAME: DROPMH	SHEET S9



AIR RELEASE AND/OR
VACUUM VALVE ASSEMBLY
N.T.S.

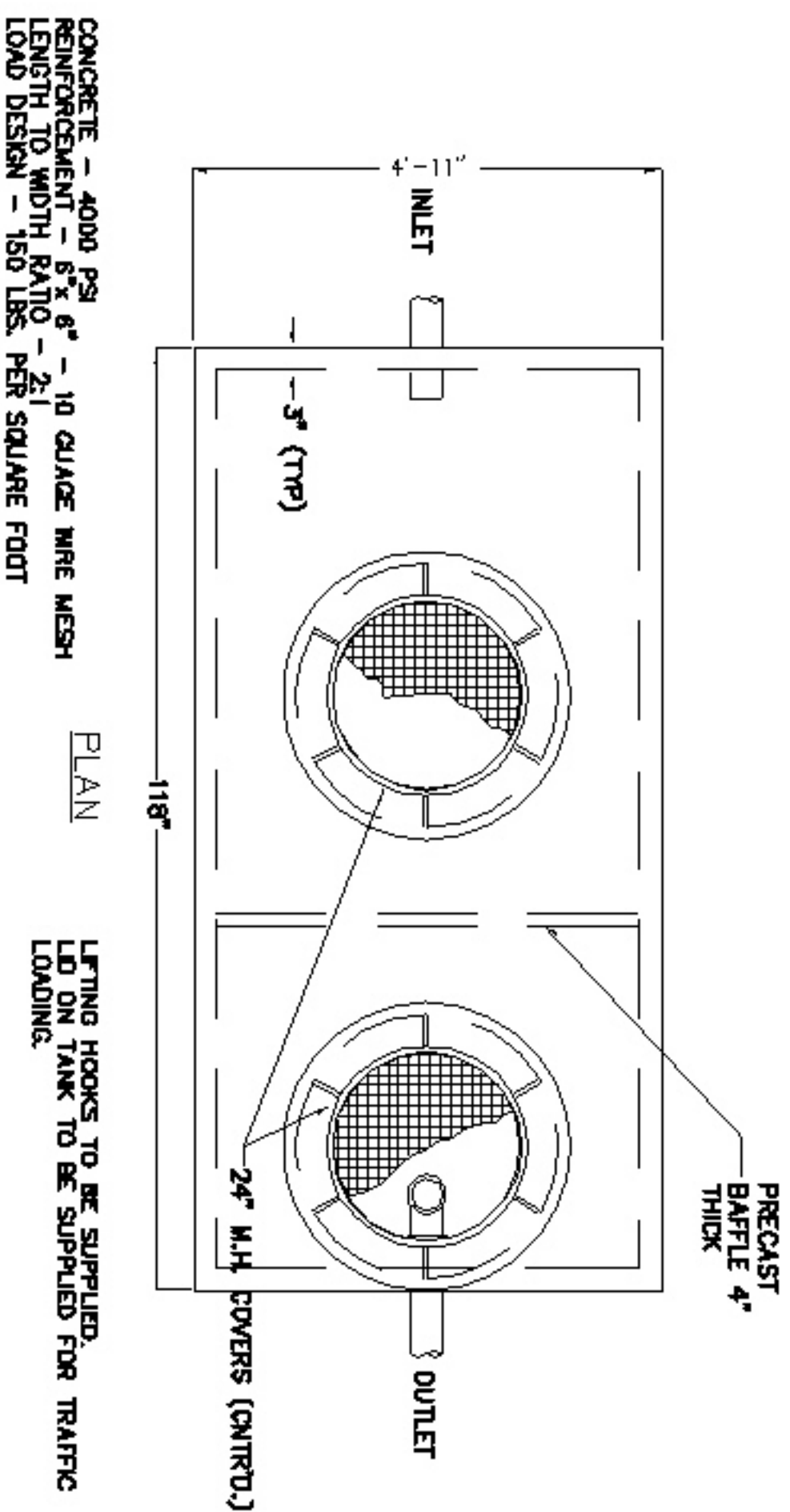
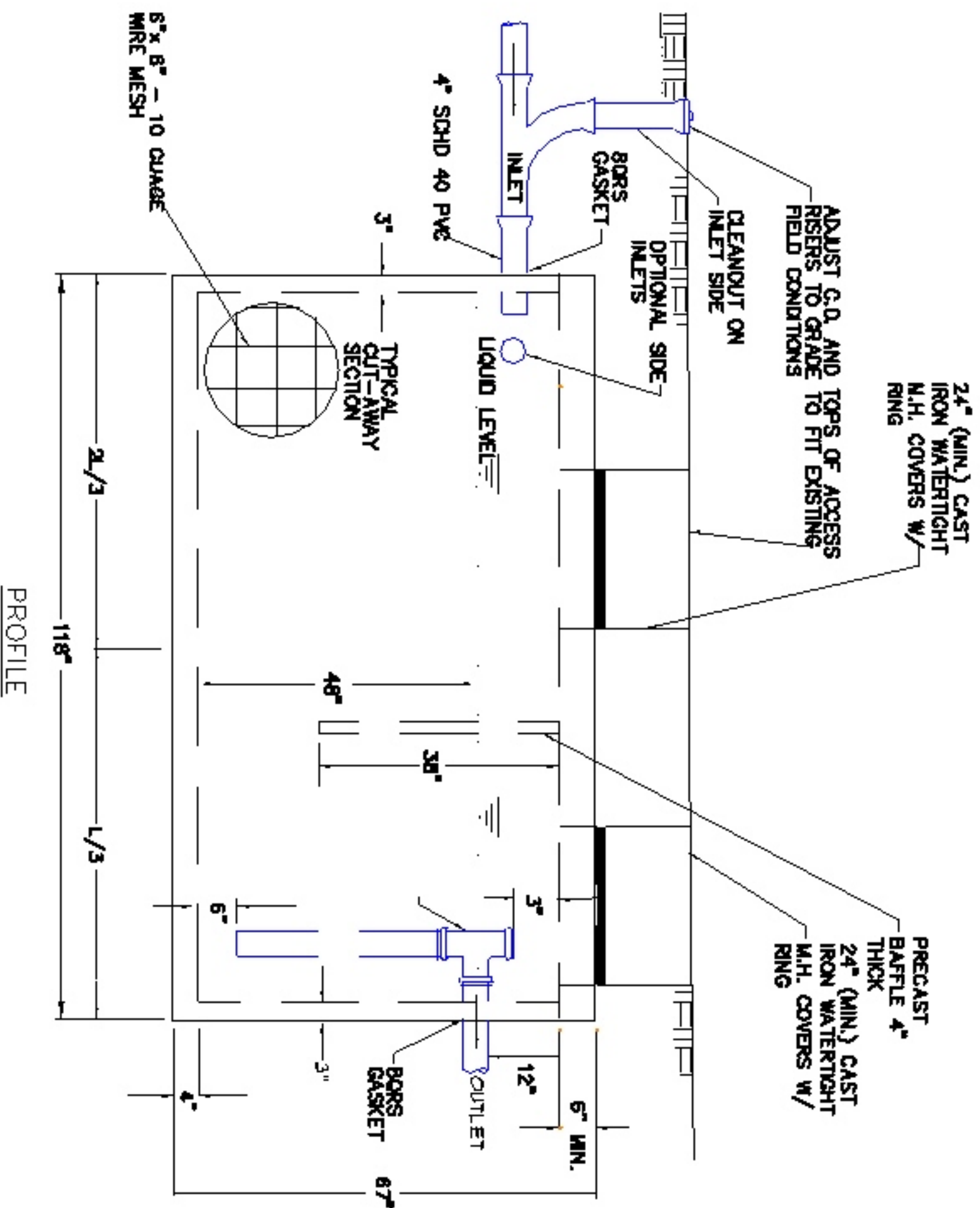
LANCASTER COUNTY WATER & SEWER DISTRICT			
LAYOUT TITLE: AIR RELEASE AND/OR VACUUM ASS.			
CATEGORY: SEWER			
DATE: 01/06	SCALE: NONE		
DETAIL SHORTNAME: ARVASS	SHEET S10		

- NOTE:
- 1. THIS SECTION MUST BE PLUMB
 - 2. BURY TOWER 24" DEEP IN CONCRETE



LANCASTER COUNTY WATER & SEWER DISTRICT			
LAYOUT TITLE:			
SCADA SYSTEM TOWER			
CATEGORY:			
SEWER			
DATE:		SCALE:	
01/06		NONE	
DETAIL SHORTNAME:		SHEET	
SCADA		S11	

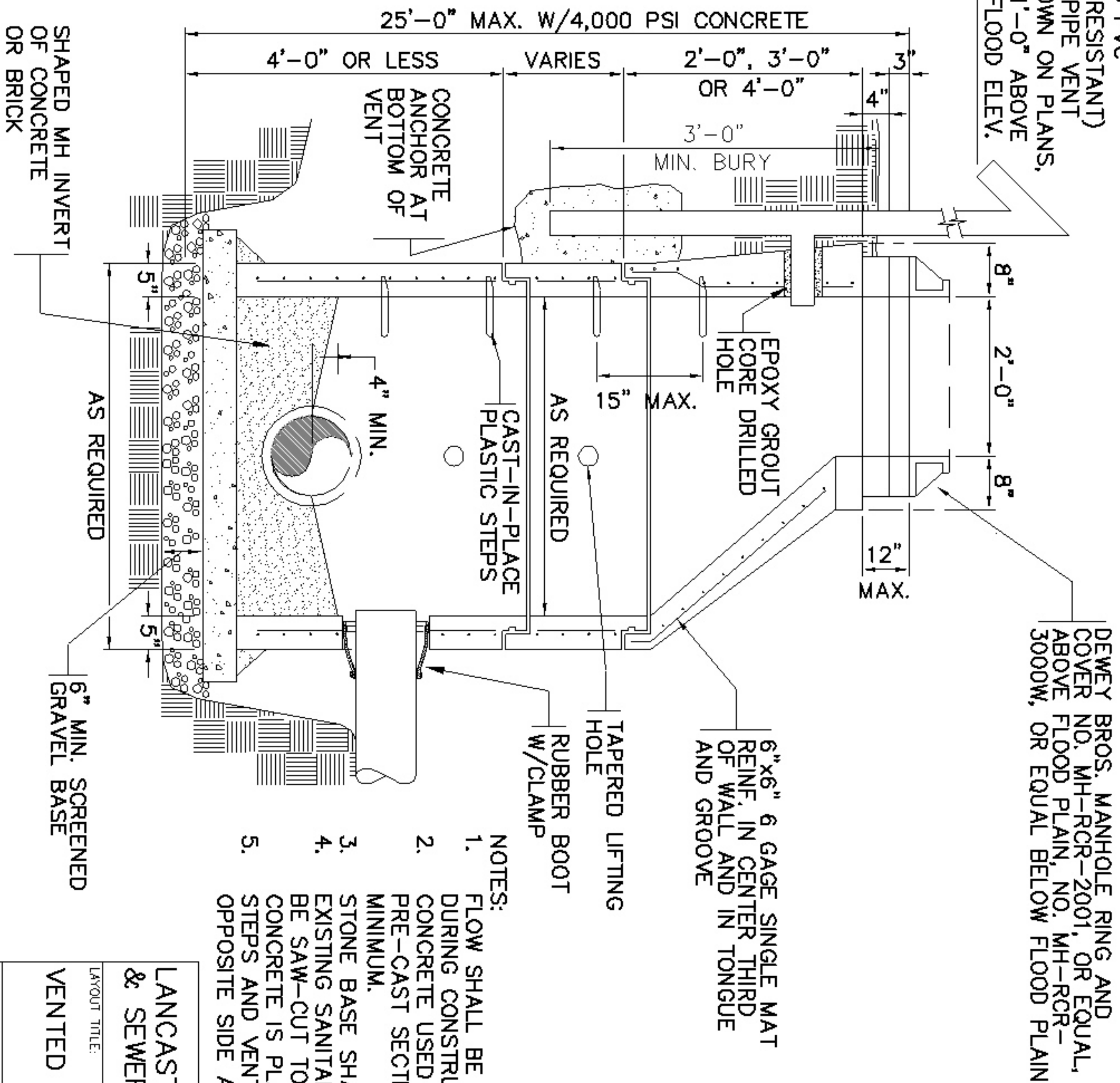
SCADA SYSTEM TOWER
N.T.S.



GREASE TRAP (1,000 GAL. CAP.)
(N.T.S.)

LANCASTER COUNTY WATER & SEWER DISTRICT	
LAYOUT TITLE:	
GREASE TRAP (1,000 GALLON CAPACITY)	
CATEGORY:	
SEWER	
DATE:	SCALE:
3/22/04	NONE
DETAIL SHORTNAME:	SHEET
GRSTR	S27

4" SCH. 80 PVC
(SUNLIGHT RESISTANT)
SCREENED PIPE VENT
WHERE SHOWN ON PLANS,
SET VENT 1'-0" ABOVE
100 YEAR FLOOD ELEV.



DEWEY BROS. MANHOLE RING AND
COVER NO. MH-RCR-2001, OR EQUAL,
ABOVE FLOOD PLAIN, NO. MH-RCR-
3000W, OR EQUAL BELOW FLOOD PLAIN

6"x6" 6 GAGE SINGLE MAT
REINF. IN CENTER THIRD
OF WALL AND IN TONGUE
AND GROOVE

TAPERED LIFTING
HOLE

RUBBER BOOT
W/CLAMP

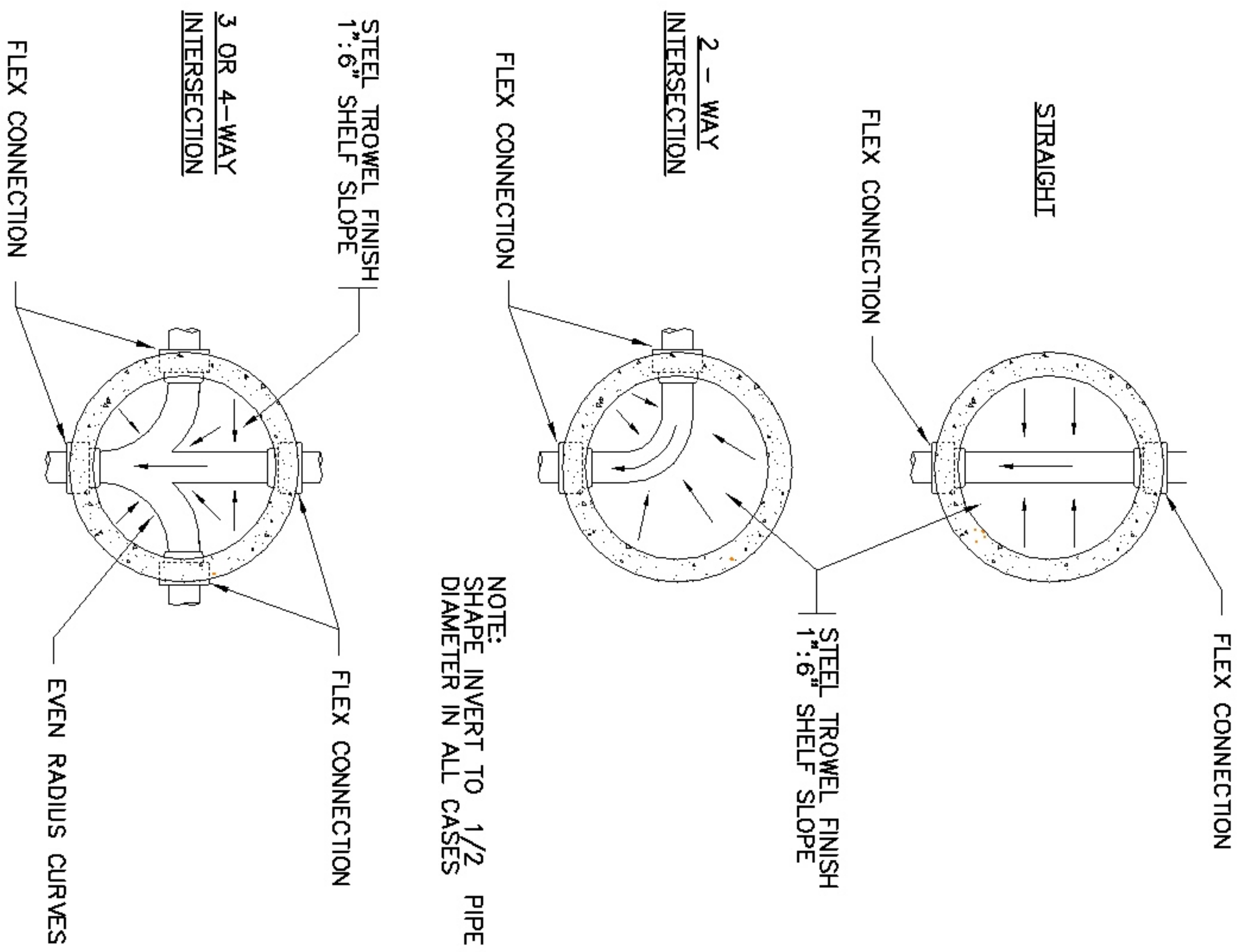
- NOTES:
1. FLOW SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
 2. CONCRETE USED FOR BASE SLAB AND PRE-CAST SECTIONS SHALL BE 3000 P.S.I. MINIMUM.
 3. STONE BASE SHALL BE 6" MINIMUM
 4. EXISTING SANITARY SEWER MAIN SHALL BE SAW-CUT TO SPRING LINE AFTER BASE CONCRETE IS PLACED AND SET.
 5. STEPS AND VENT SHALL BE PLACED ON OPPOSITE SIDE AWAY FROM THE CREEK.

TYPICAL SECTION OF

VENTED AIR-TIGHT MANHOLE

(N.T.S.)

LANCASTER COUNTY WATER & SEWER DISTRICT	
LAYOUT TITLE:	
VENTED AIR-TIGHT MANHOLE	
CATEGORY:	SEWER
DATE:	3/22/04
SCALE:	NONE
DETAIL SHORTNAME:	VENTMH
SHEET	S28

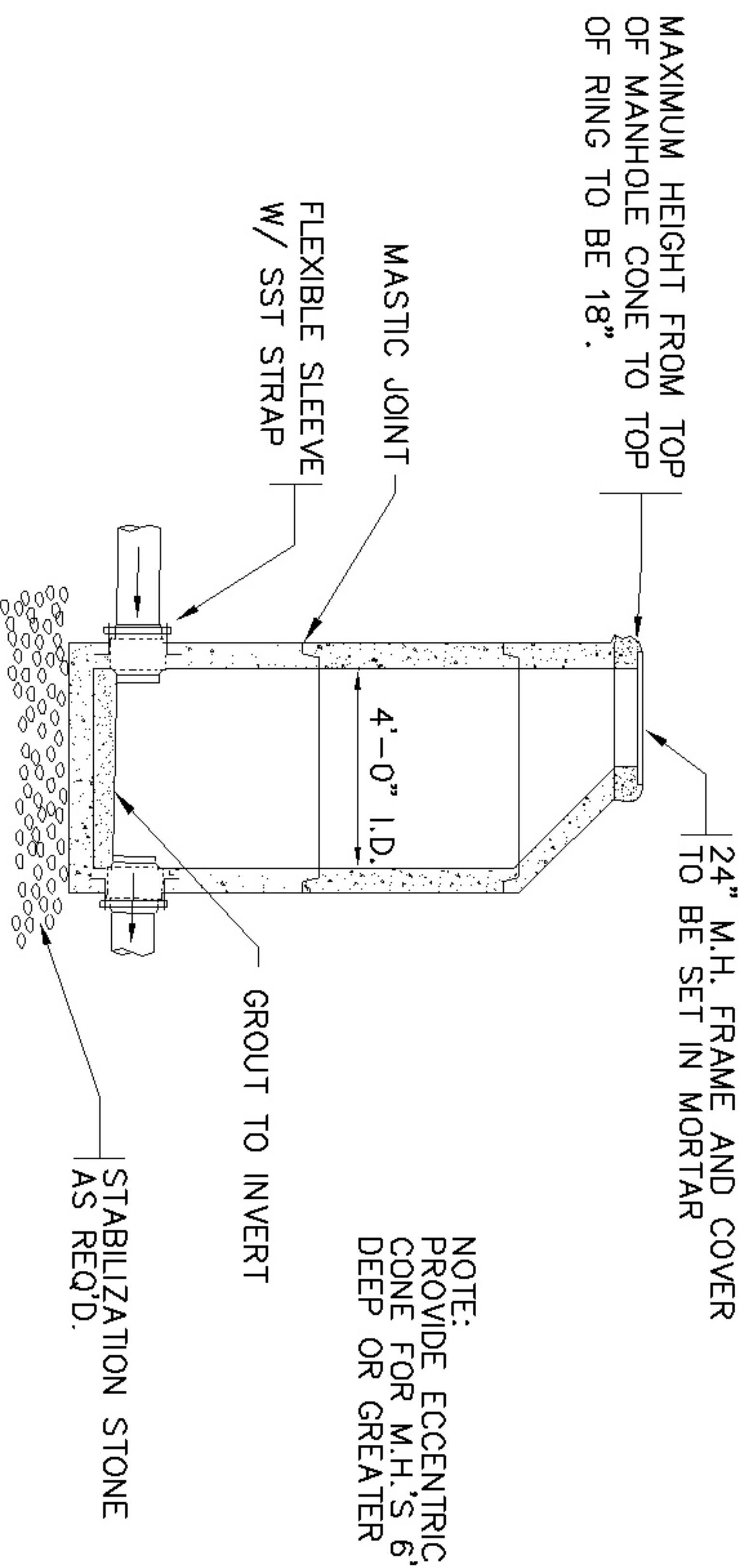


NOTE:
SHAPE INVERT TO 1/2 PIPE
DIAMETER IN ALL CASES

NOTE:
SEE TYPICAL MANHOLE SECTION
DETAIL FOR CONTINUATION OF
MANHOLE CONSTRUCTION

TYPICAL MANHOLE INVERTS
N.T.S.

LANCASTER COUNTY WATER & SEWER DISTRICT			
LAYOUT TITLE: TYPICAL MANHOLE INVERTS			
CATEGORY:	SEWER		
DATE:	01/06	SCALE:	NONE
DETAIL SHORTNAME:	MHINV	SHEET	S29



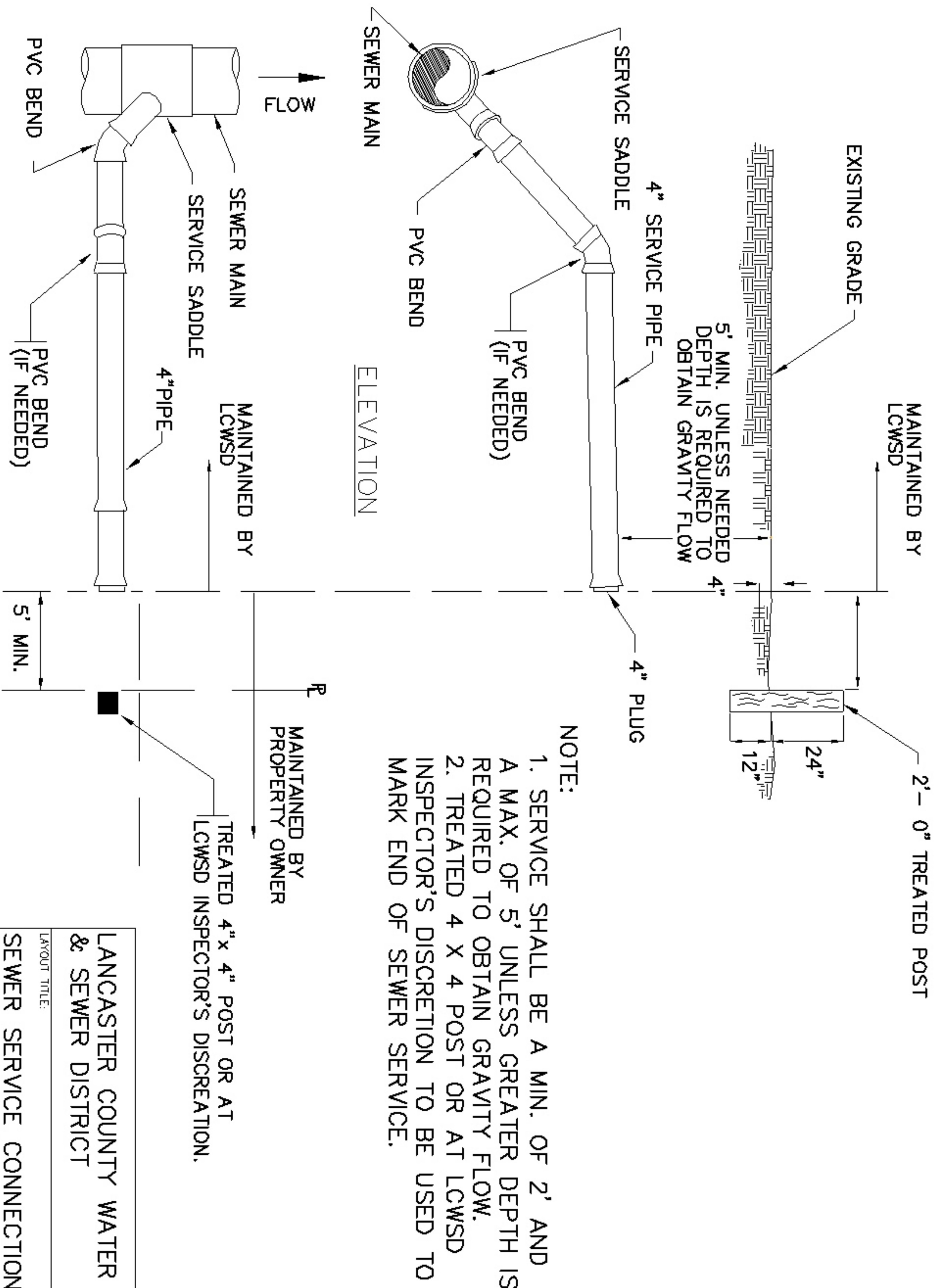
TYPICAL SECTION OF PRECAST SANITARY MANHOLE

N.T.S.

NOTE:

1. ALL PRECAST MANHOLE'S TO INCLUDE STEPS.
2. MAXIMUM OF 18" FROM TOP OF CONE TO TOP OF RING.
3. CARE MUST BE TAKEN TO FORM A SMOOTH FINISHED TROUGH FROM ENTRANCE PIPES TO EXIT PIPE, AND IN CURVED MANHOLES, THE TROUGH MUST BE A SMOOTH, CIRCULAR ARC TANGENT TO THE INSIDE WALLS OF THE PIPES AT THEIR ENDS.
4. THE SLOPE OF THE OUTSIDE DROP TROUGH SHALL BE $\frac{1}{4}$ " PER FOOT.
5. ALL PIPE OPENINGS TO BE NO GREATER THAN 3" LARGER THAN O.D. OF PIPE AND ADDITIONALLY REINFORCED WITH A MINIMUM OF 0.20 SQ. IN. OF REINFORCING NOT REQUIRED FOR CORED OPENINGS.
6. OUTSIDE DROP SHALL NOT ENTER MANHOLE IN CONE SECTION. MATCH DROP INFLUENT CROWN TO CROWN WITH EFFLUENT PIPE.

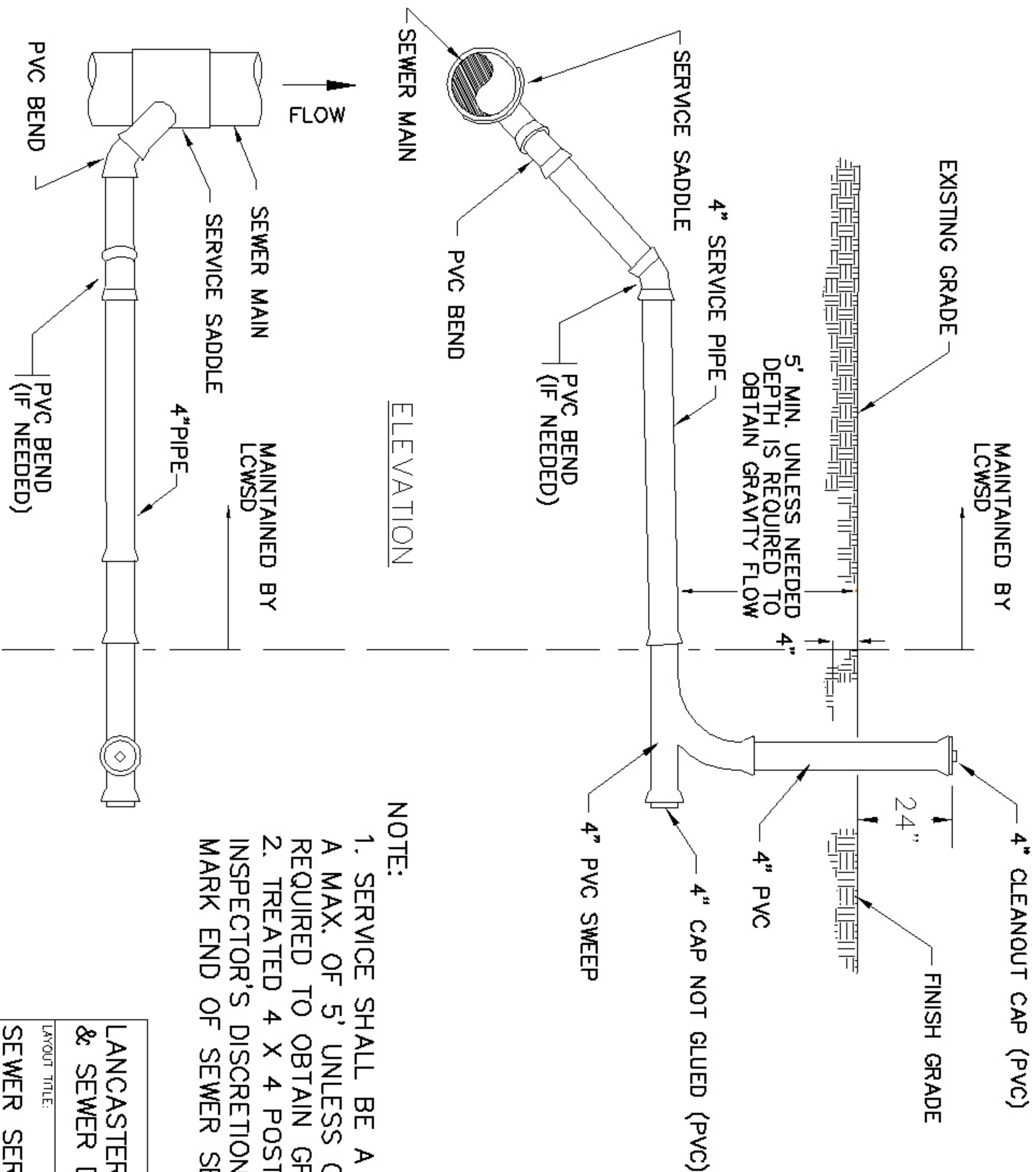
LANCASTER COUNTY WATER & SEWER DISTRICT			
LAYOUT TITLE:			
SEWER			
CATEGORY:			
SEWER			
DATE:		SCALE:	
4/05		NONE	
DETAIL SHORTNAME:		SHEET	
PCSMH		S30	



TYPICAL SEWER SERVICE CONNECTION

N.T.S.

LANCASTER COUNTY WATER & SEWER DISTRICT	
LAYOUT TITLE:	
SEWER SERVICE CONNECTION	
DETAIL 1	
CATEGORY:	SEWER
DATE:	4/05
SCALE:	NONE
DETAIL SHORTNAME:	PCSMH
SHEET	S31

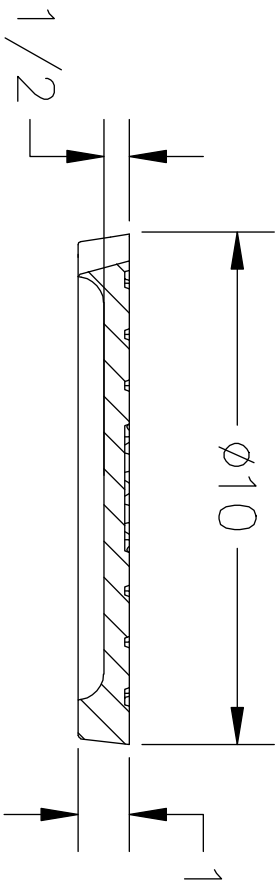


- NOTE:
1. SERVICE SHALL BE A MIN. OF 2' AND A MAX. OF 5' UNLESS GREATER DEPTH IS REQUIRED TO OBTAIN GRAVITY FLOW.
 2. TREATED 4 X 4 POST OR AT LCWSD INSPECTOR'S DISCRETION TO BE USED TO MARK END OF SEWER SERVICE.

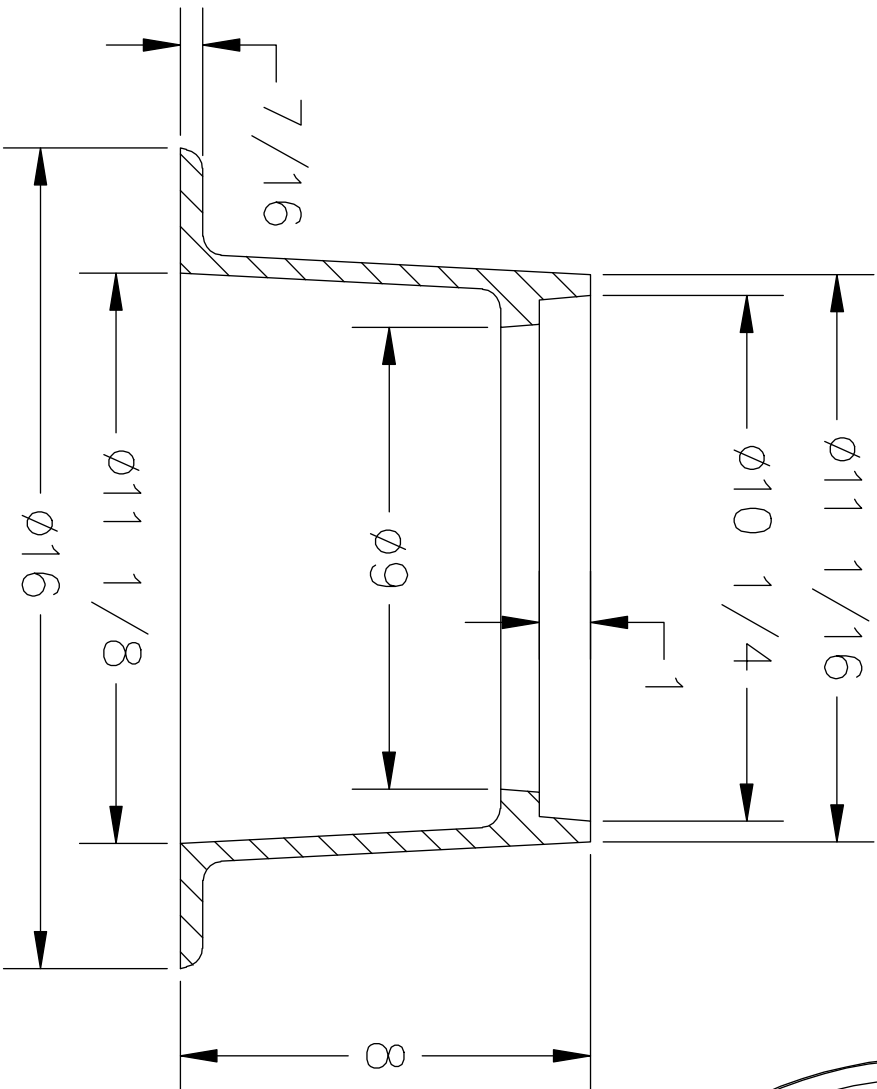
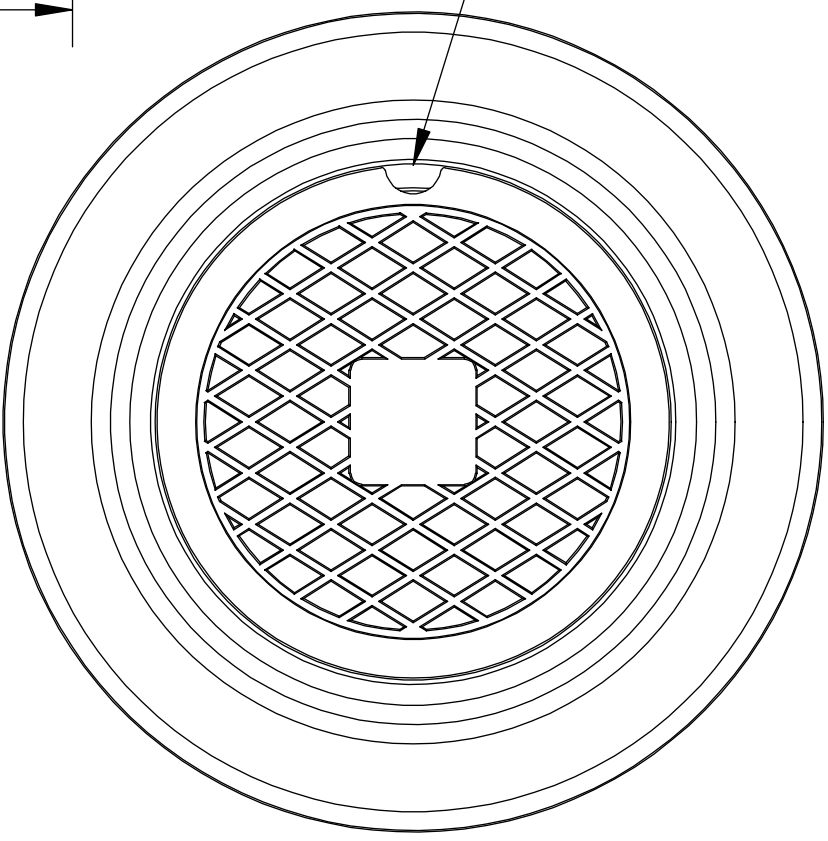
TYPICAL SEWER SERVICE CONNECTION

N.T.S.

LANCASTER COUNTY WATER & SEWER DISTRICT	
LAYOUT TITLE:	
SEWER SERVICE CONNECTION	
DETAIL 2	
CATEGORY:	
SEWER	
DATE:	SCALE:
4/05	NONE
DETAIL SHORTNAME:	SHEET
PCSMH	S32



(1) — PENETRATING
PICK HOLE



us FOUNDRY
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8351 NW 93rd Street
Medley, FL 33166-2025
PH: 1-800-432-8709
Fax: 305-887-9429
www.usfoundry.com

USF 7631 Ring & QF Cover
6" Cleanout

LOAD CLASSIFICATION: Heavy Duty

MATERIAL: ASTM-A48 GRAY IRON CLASS35B

Ring No: 8090167 SCALE: 1/4"=1"

Cover No: DATE: 8-23-11

OWN. BY: ULS

REV: 0 DATE: REV BY: QUOTE#