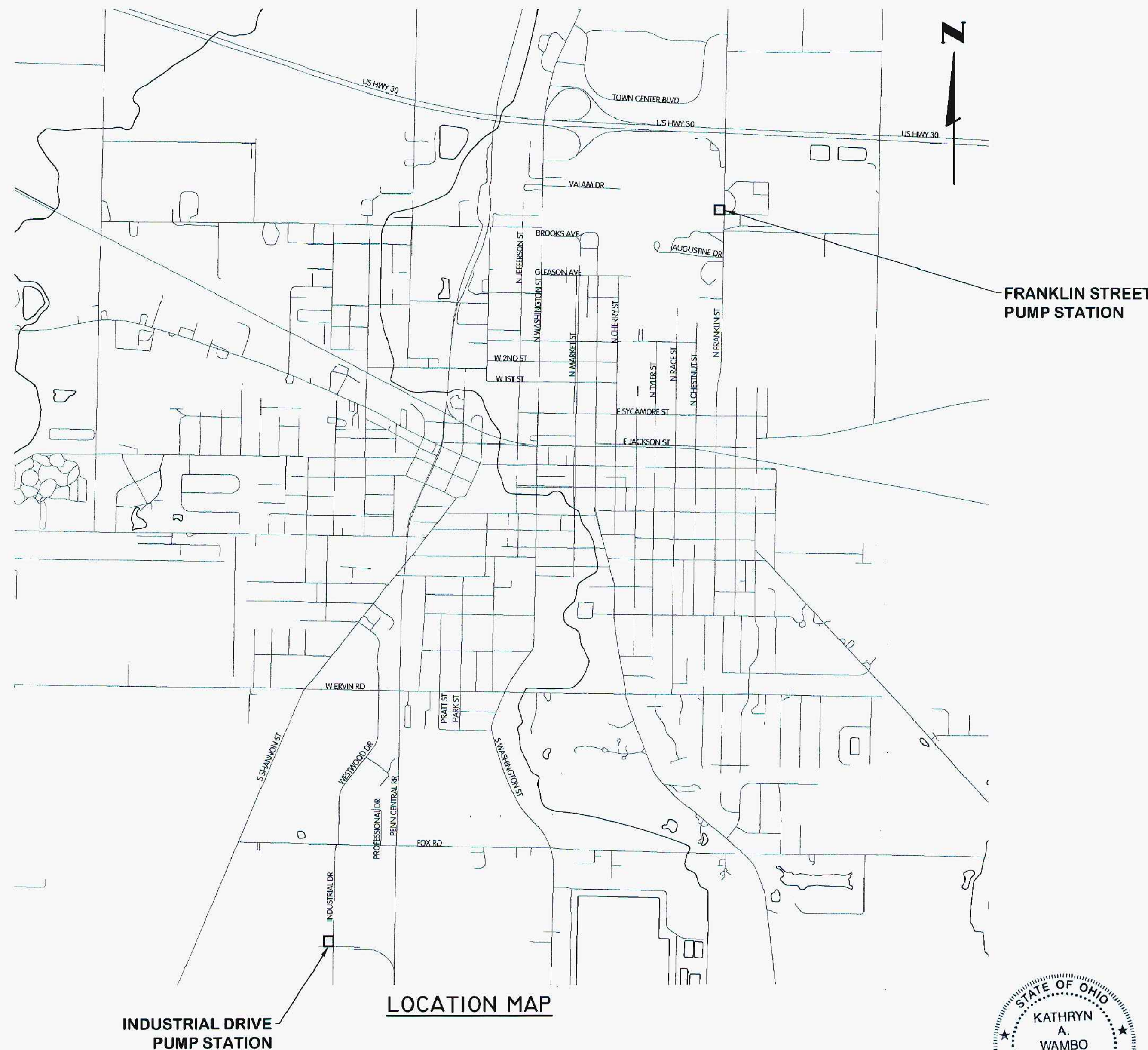
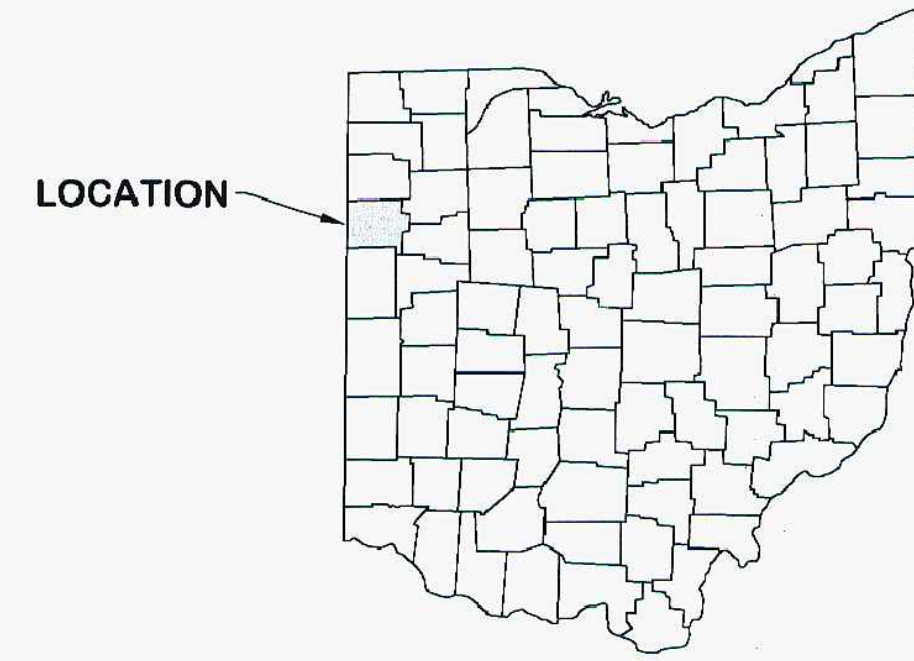




CITY OF VAN WERT, OHIO

# FRANKLIN STREET AND INDUSTRIAL DRIVE PUMP STATION RENOVATIONS



2020

INDUSTRIAL DRIVE  
PUMP STATION

LOCATION MAP

APPROVED BY:

*Joe C. Flannery*  
SAFETY SERVICE DIRECTOR

2-10-20  
DATE



*Kathryn A. Wambo*  
2/6/2020



*Theodore A. Bennett*  
2/6/2020

JONES & HENRY ENGINEERS, LTD.  
3103 EXECUTIVE PARKWAY  
SUITE 300  
TOLEDO, OHIO 43606

NOTE:  
ROOF DRAINS, FOUNDATION DRAINS, AND ALL OTHER  
CLEAN WATER CONNECTIONS TO THE SANITARY  
SEWER ARE PROHIBITED.

Ohio Utilities Protection Service  
**Call 811**  
before you dig

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Engineers, Ltd.

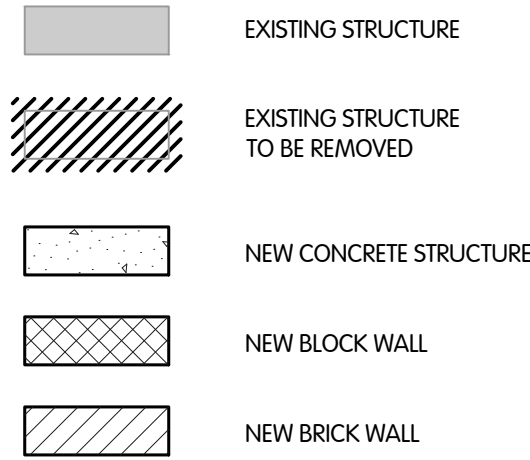


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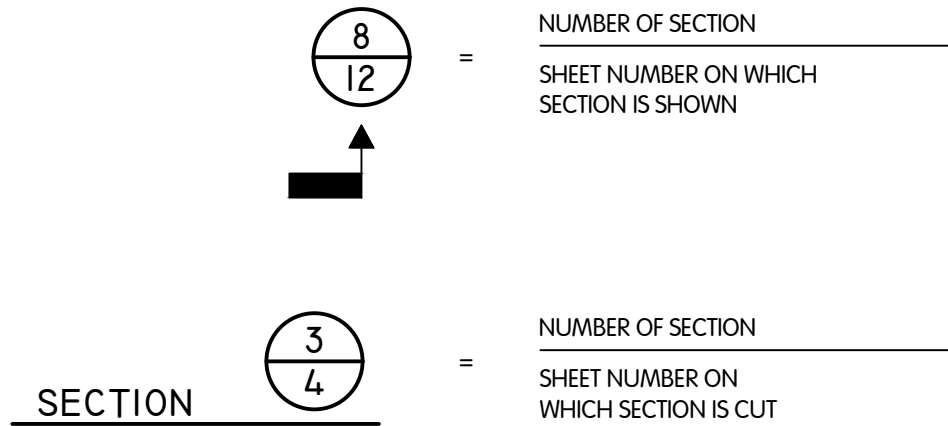
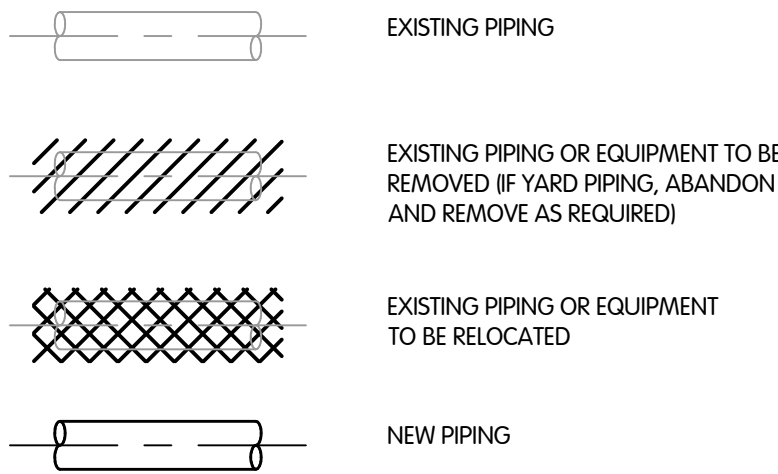
STATUS: ISSUED FOR BID  
DATE: MARCH 2019

TOL-759600LEG-LEGEND AND INDEX  
2/25/2020 8:49 AM - CLENDER  
3/2/2020 8:20 AM  
REVISED FILES

### STRUCTURAL LEGEND

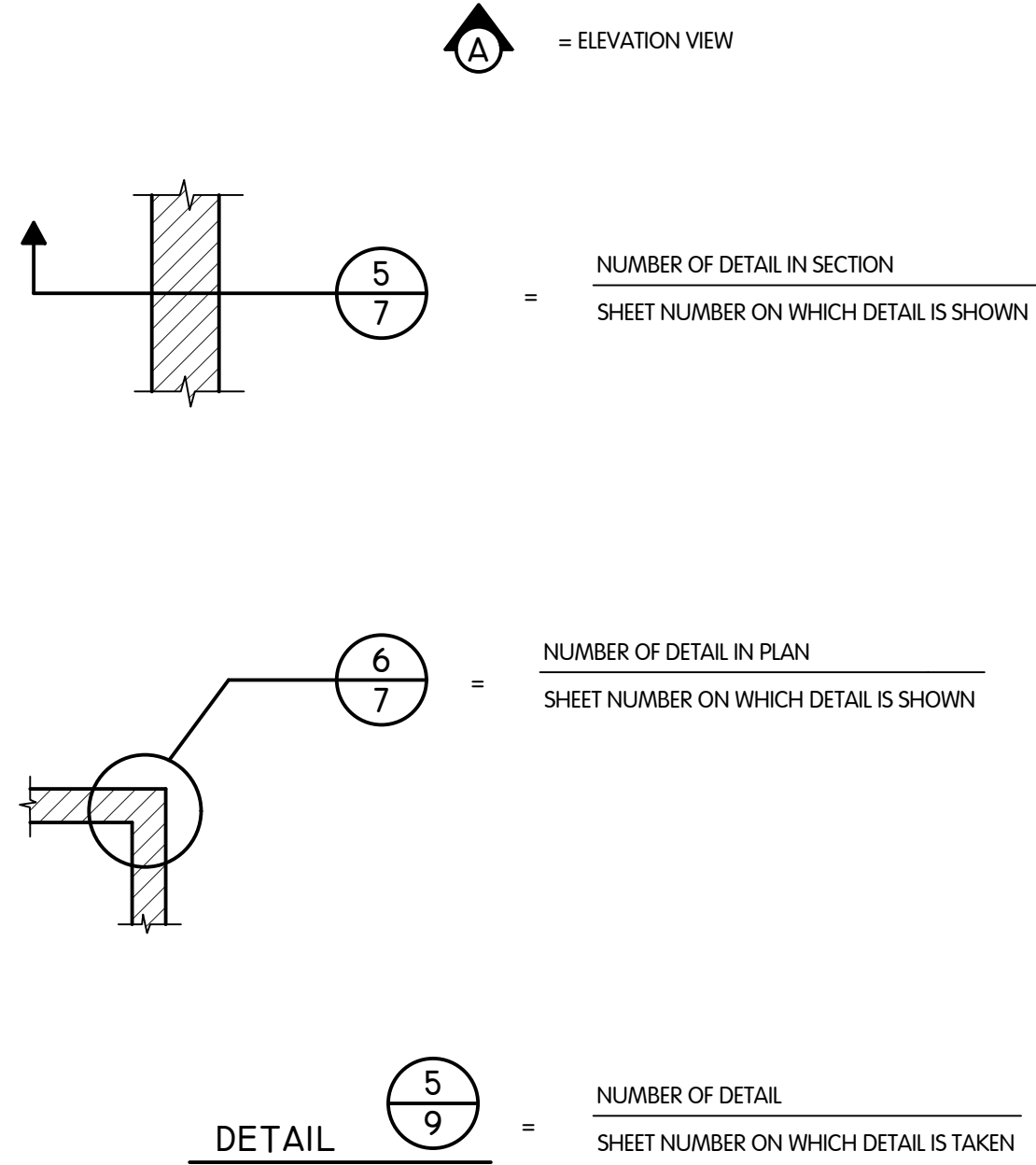


### PIPING AND EQUIPMENT LEGEND



### DELINEATION OF SECTIONS

(SECTIONS LETTERED ARE SHOWN ON SAME SHEET)



### DELINEATION OF BLOW - UP DETAILS

(DETAILS LETTERED ARE SHOWN ON SAME SHEET)

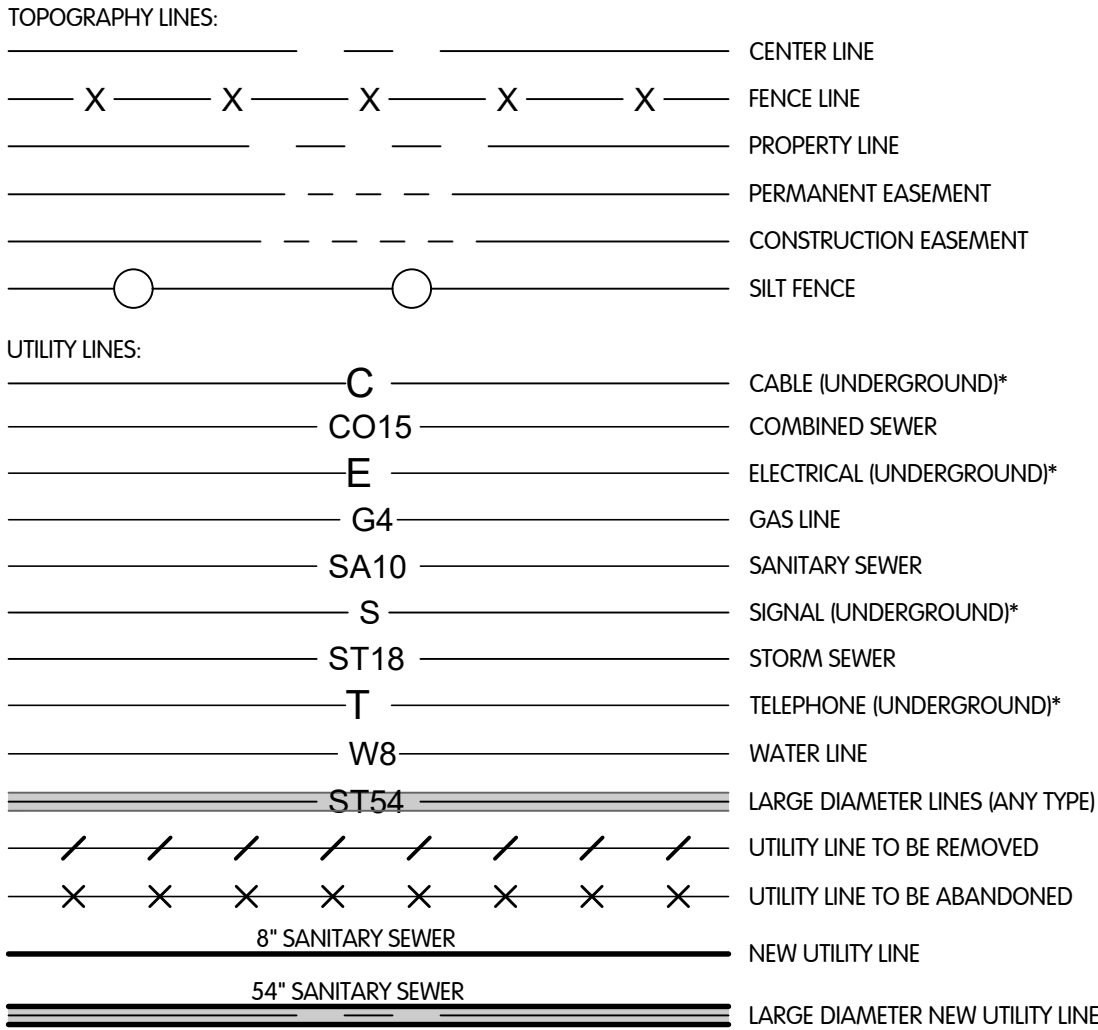
### STANDARD ABBREVIATIONS

ALUM.	ALUMINUM	MAX.	MAXIMUM
AVE.	AVENUE	MH	MANHOLE
BM	BENCH MARK	MJ	MECHANICAL JOINT
BF	BLIND FLANGE	MIN.	MINIMUM
BLDG.	BUILDING	N	NORTH
C/C	CENTER TO CENTER	NTS	NOT TO SCALE
CK'D PL.	CHECKERED PLATE	OC	ON CENTER
CONC.	CONCRETE	OD	OUTSIDE DIAMETER
DIA.	DIAMETER	PE	PLAIN END
DWG.	DRAWING	R	RADIUS
EW	EACH WAY	RR	RAILROAD
EF	EACH FACE	S	SOUTH
ECC.	ECCENTRIC	SCH.	SCHEDULE
EL	ELEVATION	SH.	SHEET
E	EAST	SS	STAINLESS STEEL
EXIST.	EXISTING	ST.	STREET
F	FLANGE	STA.	STATION
*OR FT.	FEET OR FOOT	T&B	TOP AND BOTTOM
GAL.	GALLON	TYP.	TYPICAL
GR.	GRADE	VERT.	VERTICAL
HOR.	HORIZONTAL	W	WEST
*OR IN.	INCH	W/	WITH
ID	INSIDE DIAMETER		
INV. EL.	INVERT ELEVATION		

### DRAWING INDEX

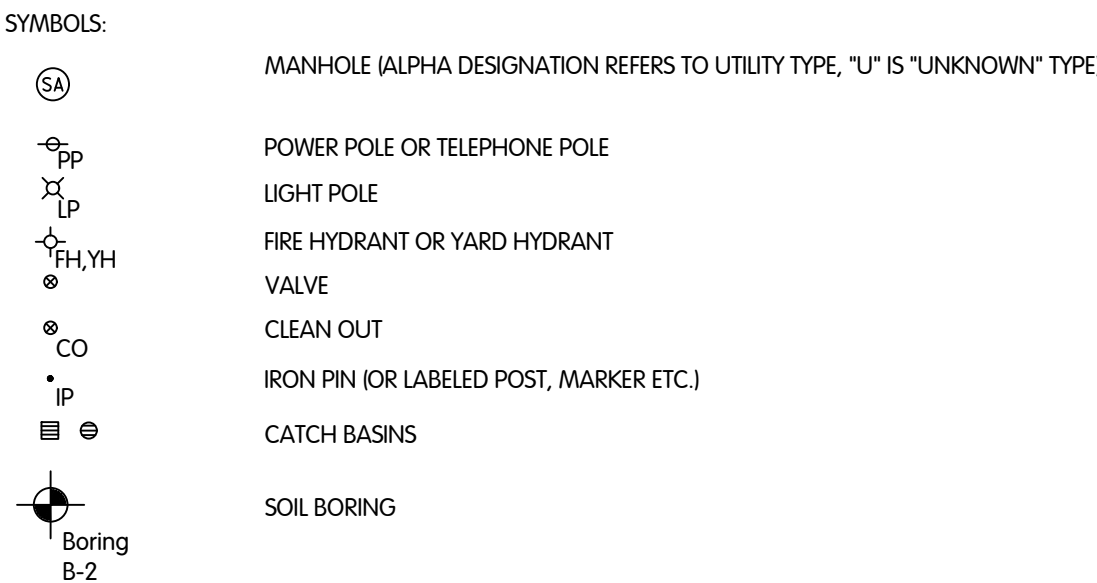
CONST. No.	SHEET No.	DESCRIPTION
<b>GENERAL</b>		
1	G-1	LEGEND AND INDEX
<b>PUMP STATION</b>		
2	PS-1	FRANKLIN STREET PUMP STATION - SITE PLAN
3	PS-2	INDUSTRIAL DRIVE PUMP STATION - SITE PLAN
<b>REMOVALS</b>		
4	R-1	FRANKLIN STREET PUMP STATION - PIPING AND EQUIPMENT - PLANS AND SECTION - REMOVALS
5	R-2	INDUSTRIAL DRIVE PUMP STATION - PIPING AND EQUIPMENT - PLANS AND SECTION - REMOVALS
<b>PIPING AND EQUIPMENT</b>		
6	PE-1	FRANKLIN STREET PUMP STATION - PIPING AND EQUIPMENT - PLANS AND SECTIONS
7	PE-2	FRANKLIN STREET PUMP STATION - PIPING AND EQUIPMENT - PLANS AND SECTIONS
8	PE-3	FRANKLIN STREET PUMP STATION - PIPING AND EQUIPMENT - PLANS AND SECTIONS
9	PE-4	INDUSTRIAL DRIVE PUMP STATION - PIPING AND EQUIPMENT - PLANS AND SECTIONS
10	PE-5	INDUSTRIAL DRIVE PUMP STATION - PIPING AND EQUIPMENT - PLANS AND SECTIONS
11	PE-6	PUMP STATION - PIPING AND EQUIPMENT - DETAILS
12	PE-7	BURIED PIPE AND MANHOLES - PIPING AND EQUIPMENT - DETAILS
<b>ELECTRICAL</b>		
13	E-1	ELECTRICAL LEGEND
14	E-2	FRANKLIN STREET - ELECTRICAL SITE PLAN - AND EQUIPMENT RACK DETAILS
15	E-3	INDUSTRIAL DRIVE - ELECTRICAL SITE PLAN - AND EQUIPMENT RACK DETAILS
16	E-4	FRANKLIN STREET - ONE-LINE AND CABLING DIAGRAMS
17	E-5	INDUSTRIAL DRIVE - ONE-LINE AND CABLING DIAGRAMS
<b>CIVIL</b>		
18	EC-1	EROSION CONTROL - DETAILS

### TOPOGRAPHY LEGEND



ALPHA DESIGNATION REFERS TO UTILITY TYPE, NUMERICAL DESIGNATION REFERS TO PIPE NOMINAL DIAMETER. LINES WITH NO NUMERICAL DESIGNATION ARE OF UNKNOWN SIZE.

\* AERIAL LINES, IF SHOWN, ARE DESIGNATED WITH LOWER CASE LETTERS



NOTE:  
ACCURACY OF EXISTING ELEVATIONS AND DIMENSIONS IS NOT  
GUARANTEED. FIELD VERIFY BEFORE CONSTRUCTION.



LEGEND AND INDEX  
FRANKLIN STREET AND INDUSTRIAL DRIVE PUMP STATION RENOVATIONS  
CITY OF VAN WERT, OHIO

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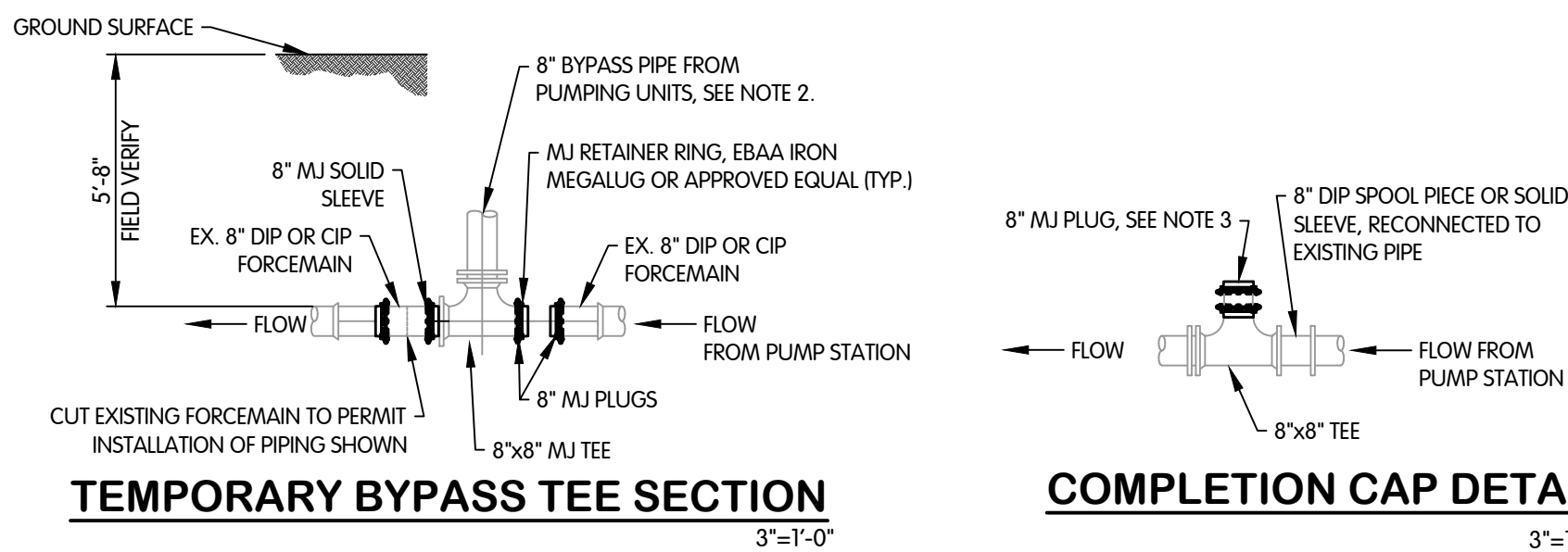
DATE MARCH 2020

SHEET NO.

G-1

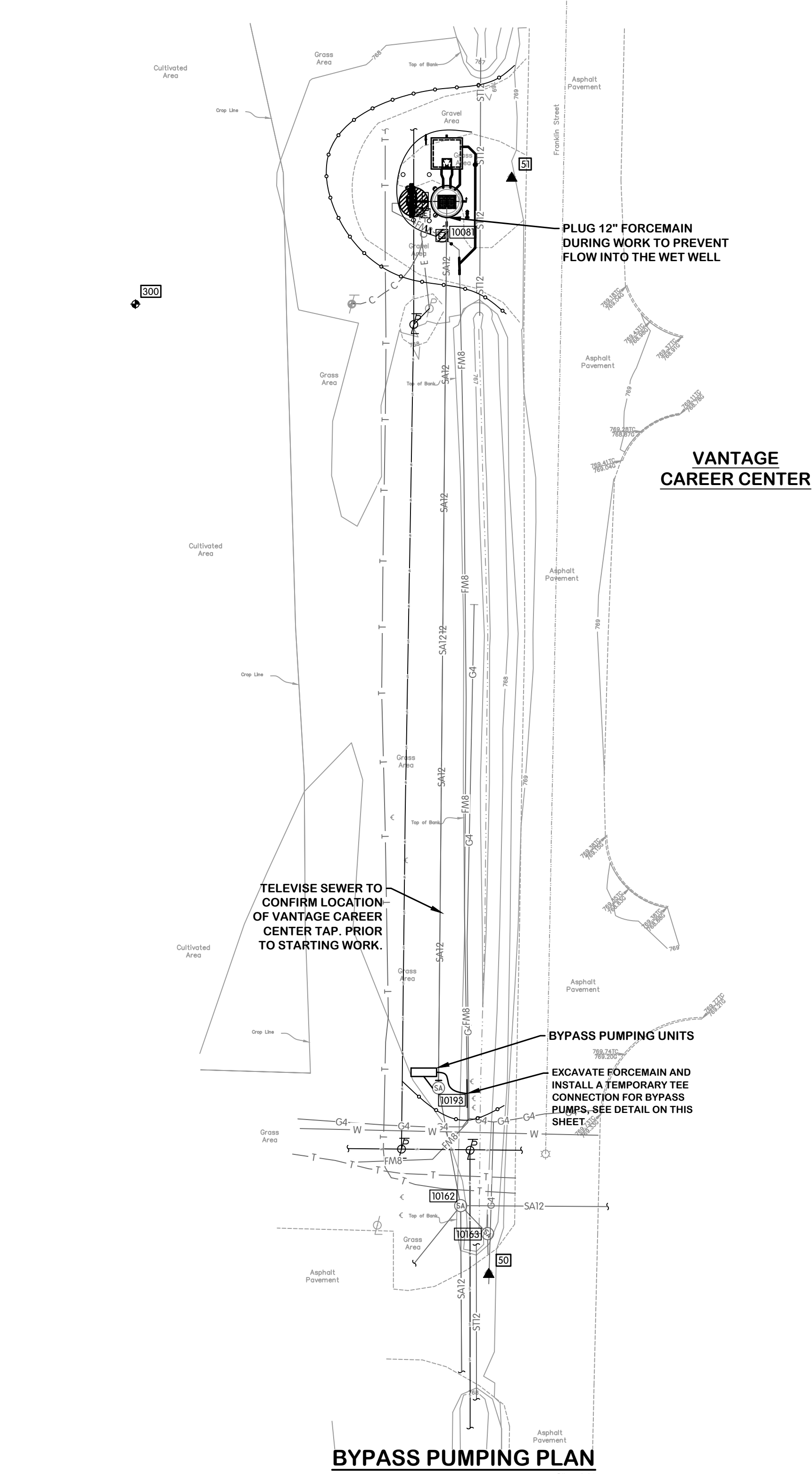
1 OF 18

TOL-759600PS-YARD PIPING  
2/25/2020 8:57 AM - CLENDER  
3/2/2020 8:26 AM



NOTES:

1. CONTRACTOR MAY MODIFY THE TEMPORARY BYPASS TEE PIPING WITH THE APPROVAL OF THE ENGINEER.
2. CONTRACTOR TO SUPPLY A TRANSITION FITTING AS REQUIRED TO CONNECT TO THE PIPE MATERIAL USED FOR THE 8" BYPASS PIPE. AIR RELIEF SHALL BE PROVIDED.
3. AT THE COMPLETION OF THE WORK, THE CONTRACTOR'S BYPASS PIPING SHALL BE REMOVED AND THE TEE SHALL BE CAPPED AS SHOWN IN THE COMPLETION CAP DETAIL.
4. THE TOTAL LENGTH OF 8" FORCEMAIN IS 3000'. THE CONTRACTOR SHOULD BE PREPARED TO REMOVE 8000 GALLONS OF SEWAGE WHEN CUTTING THE FORCEMAIN.
5. GRAVEL DRIVE AREAS TO BE RESTORED IN ACCORDANCE WITH DETAIL ON SHEET PE-7.



PLUG 12" FORCEMAIN  
DURING WORK TO PREVENT  
FLOW INTO THE WET WELL

VANTAGE  
CAREER CENTER

TELEVIEW SEWER TO  
CONFIRM LOCATION  
OF VANTAGE CAREER  
CENTER TAP, PRIOR  
TO STARTING WORK.

BYPASS PUMPING UNITS

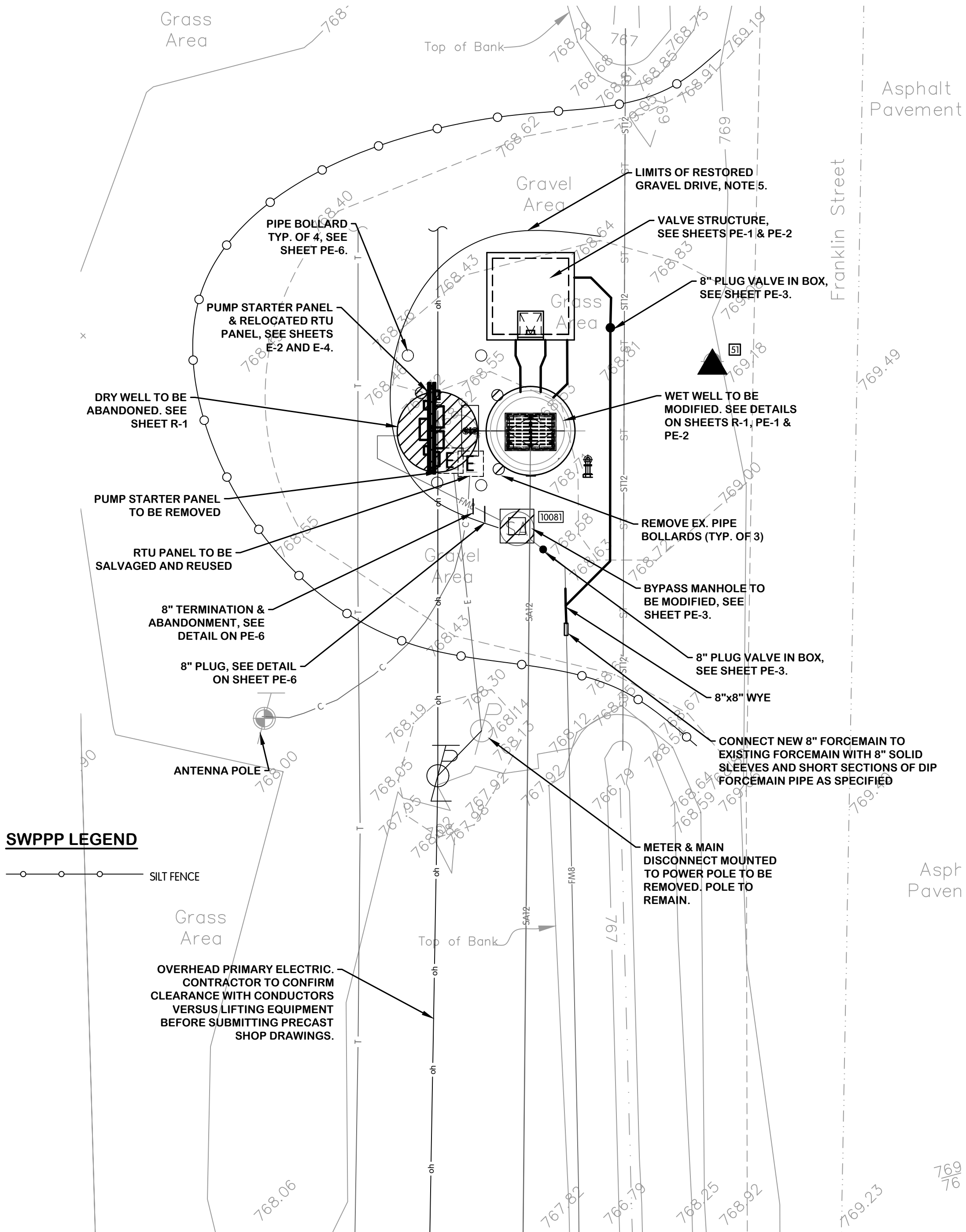
EXCAVATE FORCEMAIN AND  
INSTALL A TEMPORARY TEE  
CONNECTION FOR BYPASS  
PUMPS, SEE DETAIL ON THIS  
SHEET

EXISTING STRUCTURE DATA		
NAME	TYPE	DATA
10081	SANITARY MANHOLE	CASTING EL. 772.34 8" SE INV. EL. 768.79 8" NW INV. EL. 768.79
10162	SANITARY MANHOLE	CASTING EL. 768.81 18" S INV. EL. 761.01 12" SE INV. EL. 762.31 6" SW INV. EL. 763.81 12" E INV. EL. 754.21 12" N INV. EL. 753.91 12" S INV. EL. 754.21
10163	SANITARY MANHOLE	CASTING EL. 768.39 12" NW INV. EL. 763.89 18" S INV. EL. 763.39 18" N INV. EL. 763.59 8" W INV. EL. 763.39
10193	SANITARY MANHOLE	CASTING EL. 768.30 12" S INV. EL. 754.10 12" N INV. EL. 757.80 12" N INV. EL. 745.80

CONTROL POINTS				
POINT #	RAW DESCRIPTION	ELEVATION	NORTHING	EASTING
50	SET MAG NAIL	768.95	449,133.47	1,395,636.41
51	SET CAPPED IRON REBAR	786.96	449,496.82	1,395,644.02

BENCHMARKS				
POINT #	RAW DESCRIPTION	NORTHING	EASTING	ELEVATION
300	BENCH TIE SET IN TELEPHONE POLE	449,454.62	1,395,519.29	769.03

NOTE:  
1. ALL BURIED PRESSURE PIPES  
SHALL BE PROVIDED WITH  
RESTRAINED JOINTS.



SWPPP LEGEND

SILT FENCE

OVERHEAD PRIMARY ELECTRIC.  
CONTRACTOR TO CONFIRM  
CLEARANCE WITH CONDUCTORS  
VERSUS LIFTING EQUIPMENT  
BEFORE SUBMITTING PRECAST  
SHOP DRAWINGS.



FRANKLIN STREET PUMP STATION  
SITE PLAN  
FRANKLIN STREET AND INDUSTRIAL DRIVE PUMP STATION RENOVATIONS  
CITY OF VAN WERT, OHIO

Jones & Henry  
Engineers, Ltd.



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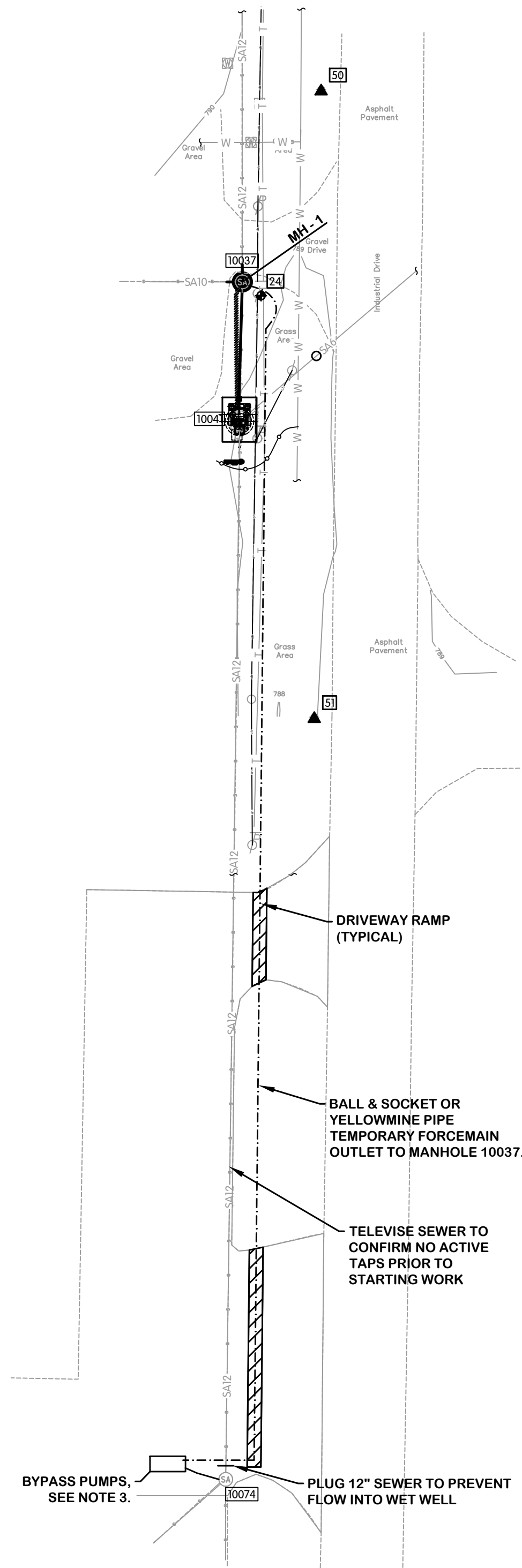
DATE MARCH 2020

SHEET NO.

PS-1

2 OF 18

TOL-759600PS2-INDUSTRIAL STREET SITE PLAN  
2/25/2020 7:40 AM - CLENDER  
3/2/2020 8:27 AM



**BYPASS PUMPING PLAN**  
1" = 30'

EXISTING STRUCTURE DATA		
NAME	TYPE	DATA
10037	SANITARY MANHOLE TO BE REMOVED	CASTING EL. 789.75 10" W INV. EL. 785.95 12" N INV. EL. 785.67 4" SW INV. EL. 785.55 12" S INV. EL. 785.67
10041	WET WELL	CASTING EL. 790.13 6" NE INV. EL. 788.47 12" S INV. EL. 787.97
10074	SANITARY MANHOLE	CASTING EL. 788.86 12" S INV. EL. 779.46 12" SW INV. EL. 781.76 12" N INV. EL. 779.46

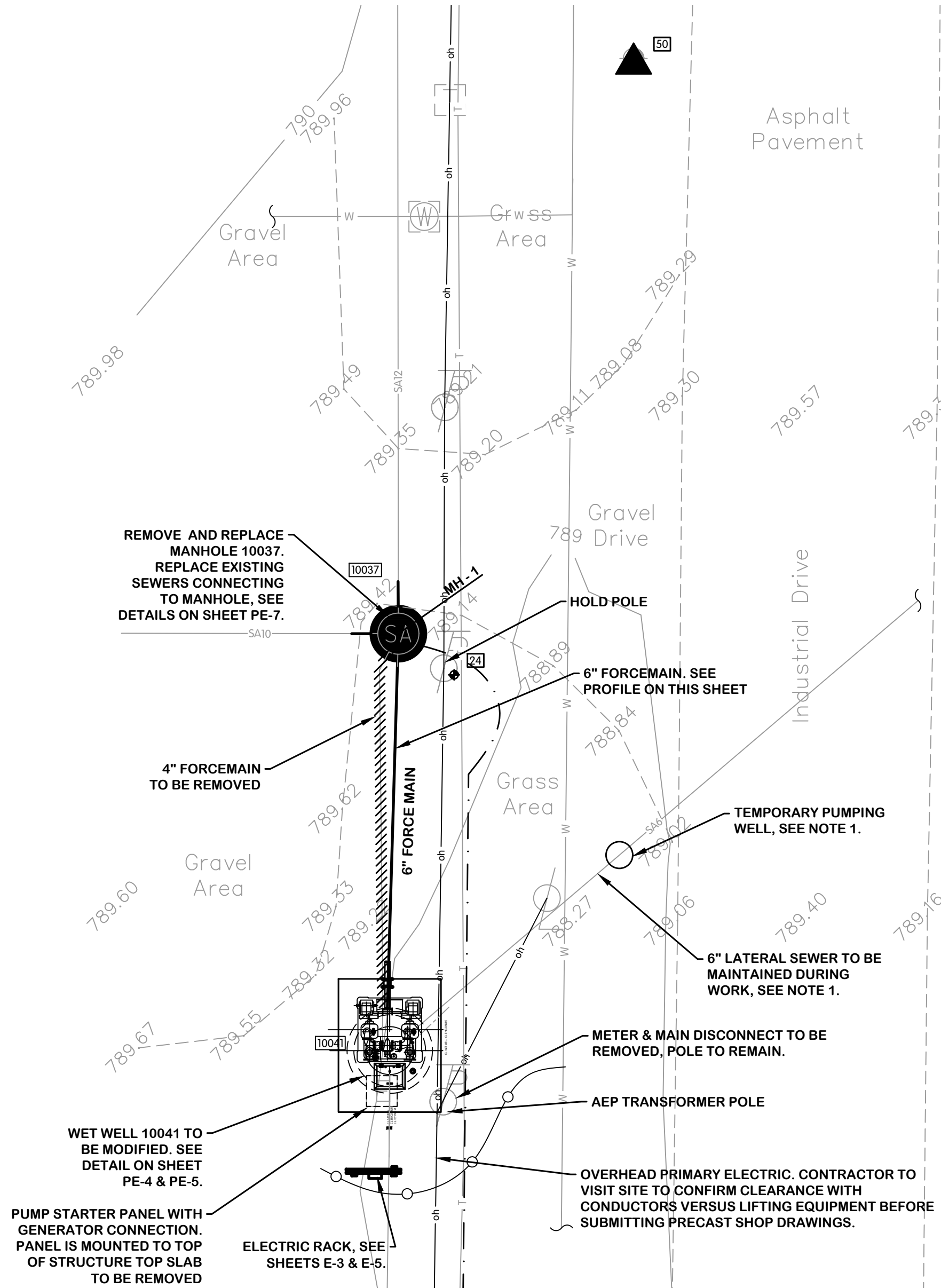
MANHOLE SCHEDULE				
NO.	NORTHING	EASTING	TYPE	PIPE DATA
MH - 1	437,562.77	1,388,973.53	TYPE IS 4" DIA.	789.17 10" W INV. EL. 785.67 6" S INV. EL. 785.67 12" N INV. EL. 785.67

CONTROL POINTS				
POINT #	RAW DESCRIPTION	ELEVATION	NORTHING	EASTING
50	SET IRON PIN	789.07	437,618.88	1,388,996.49
51	SET IRON PIN	788.85	437,435.80	1,388,994.49

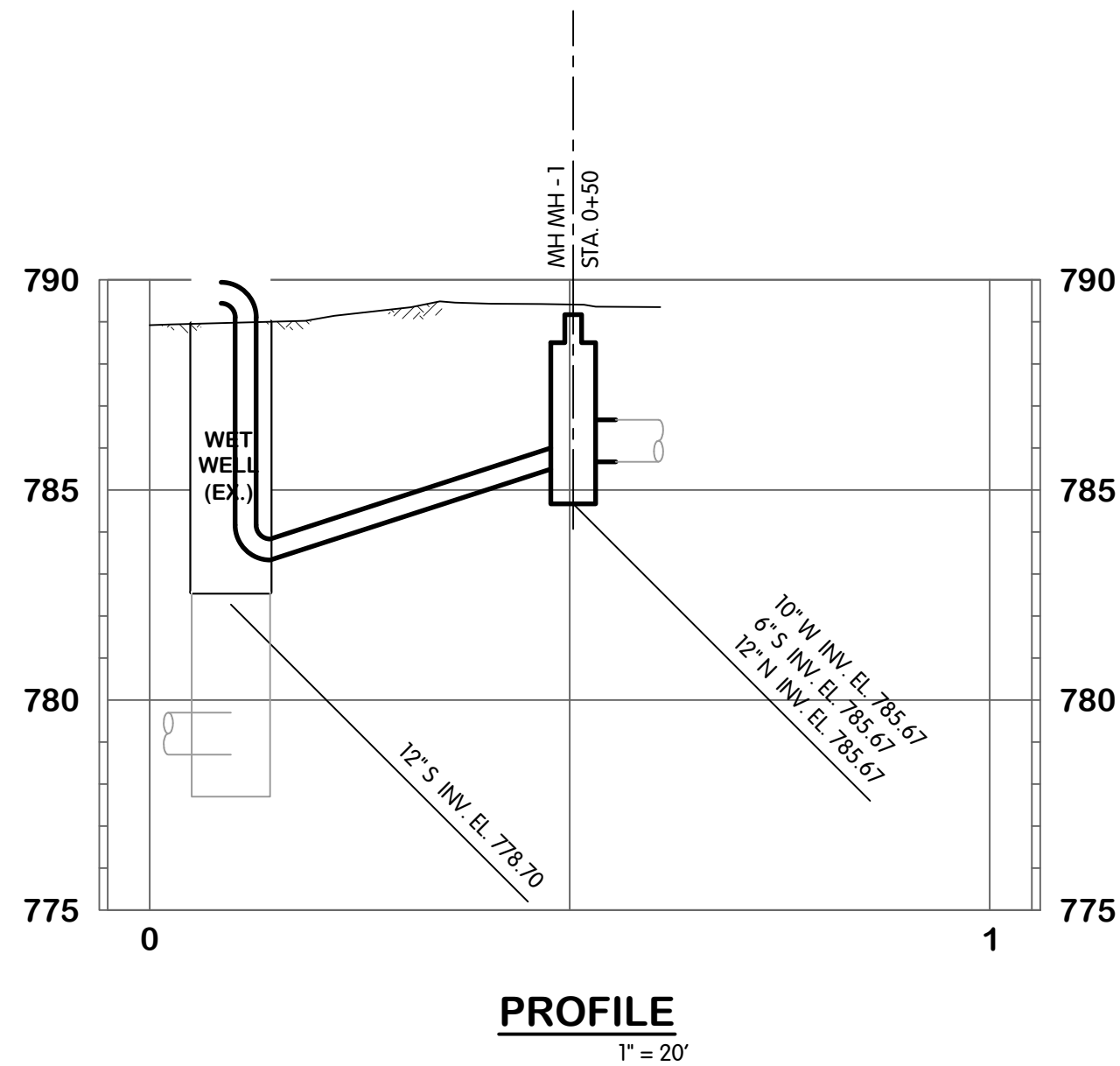
BENCHMARKS				
POINT #	RAW DESCRIPTION	NORTHING	EASTING	ELEVATION
24	BENCH TIE SET IN POWER AND TELEPHONE POLE	437,558.75	1,388,978.97	789.84

CONTRACTOR MAY NEED TO SET A TEMPORARY BENCHMARK.

- NOTES:
- CONTRACTOR SHALL EXCAVATE EXISTING 6" LATERAL WITHIN 10' OF EXISTING ASPHALT PAVEMENT AND PROVIDE A TEMPORARY WELL USING A 55 GALLON PLASTIC DRUM. THE TEMPORARY WELL SHALL BE USED AS A PUMPING WELL FOR 2 SUBMERSIBLE PUMPS. THE PUMPS SHALL BE CONNECTED TO LAY FLAT HOSE OUTLET TO MANHOLE 10037. THE SECOND PUMP SHALL BE PLACED ABOVE THE PRIMARY PUMP TO FUNCTION AS A BACKUP UNIT.
  - ALL BURIED PRESSURE PIPE SHALL BE PROVIDED WITH RESTRAINTS AT ALL JOINTS.
  - THE OWNER SHALL OBTAIN PERMISSION FROM PROPERTY OWNER FOR BYPASS PUMPING EQUIPMENT TO BE STAGED IN THE EXISTING PARKING LOT.



**SWPPP LEGEND**  
○ — ○ SILT FENCE



**INDUSTRIAL DRIVE PUMP STATION  
SITE PLAN**  
FRANKLIN STREET AND INDUSTRIAL DRIVE PUMP STATION RENOVATIONS  
CITY OF VAN WERT, OHIO

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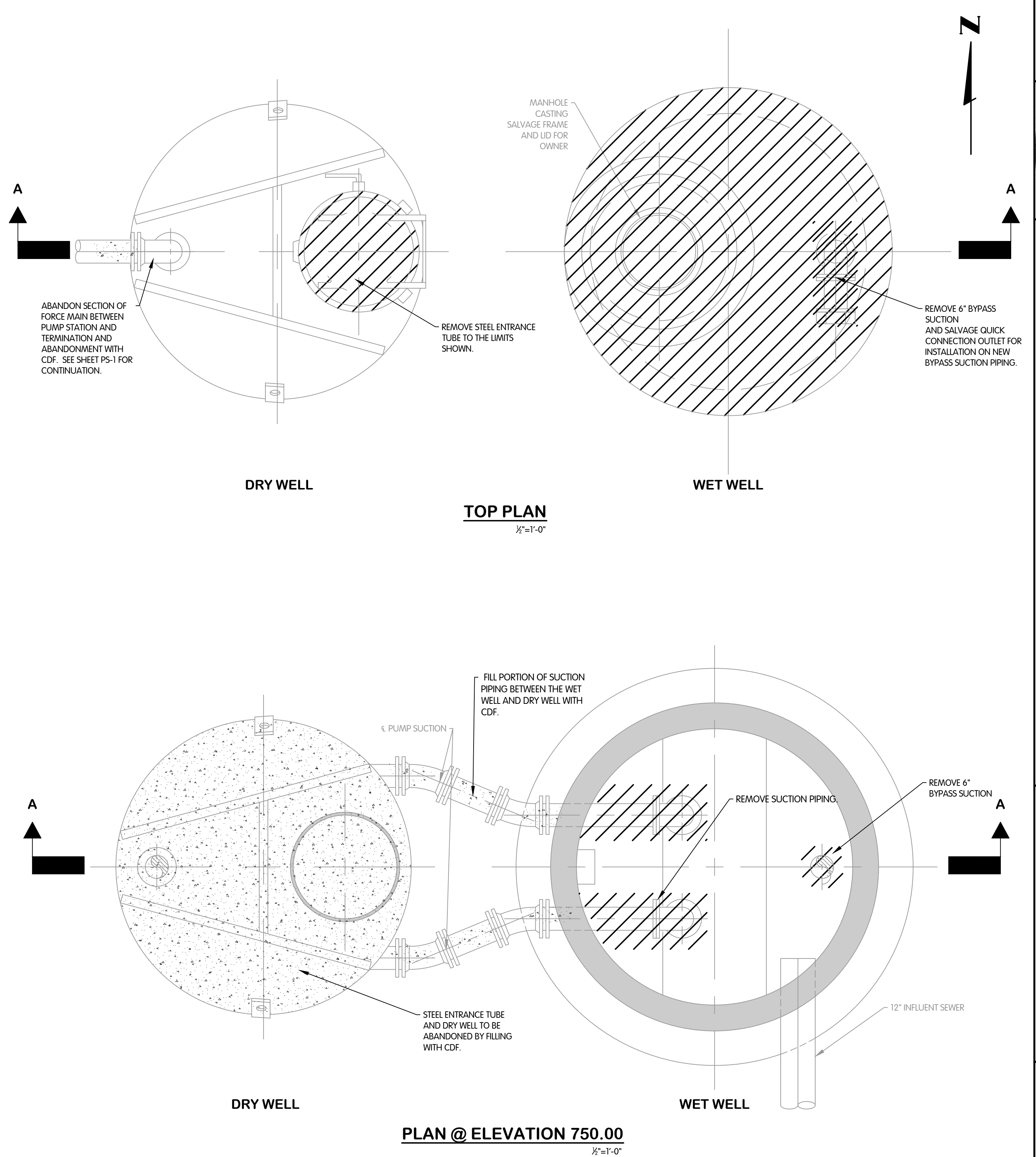
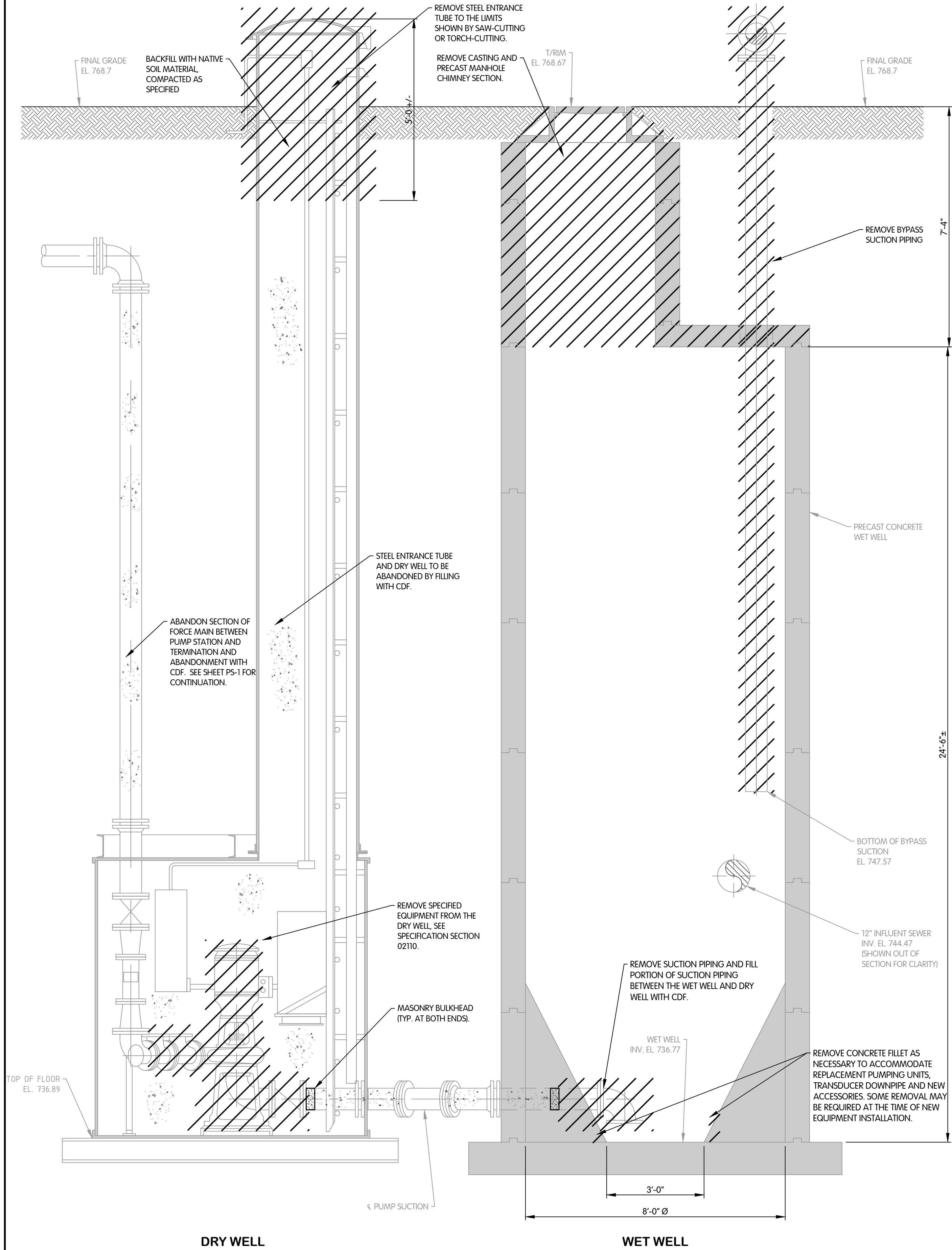
DATE MARCH 2020

SHEET NO.

PS-2

3 OF 18

TOL-759600R0-4, FRANKLIN ST PS REMOVALS  
2/2/2020 11:43 AM - CLENDER  
3/2/2020 8:27 AM



- NOTES:
1. THE DIMENSIONS OF THE EXISTING PRECAST SHOULDER JOINT IS UNKNOWN. THE PRECAST MANUFACTURER WILL PROVIDE A TRANSITION RING IF NEEDED TO MATCH THE EXISTING SHOULDER DIMENSIONS.
  2. THE CONTRACTOR SHALL REMOVE ALL SPECIFIED EQUIPMENT FROM THE INTERIOR OF THE DRY WELL AND DELIVER TO THE OWNER THE ITEMS IDENTIFIED FOR SALVAGE.



FRANKLIN STREET PUMP STATION  
PIPING AND EQUIPMENT  
PLANS AND SECTION  
REMOVALS  
FRANKLIN STREET AND INDUSTRIAL DRIVE PUMP STATION RENOVATIONS  
CITY OF VAN WERT, OHIO

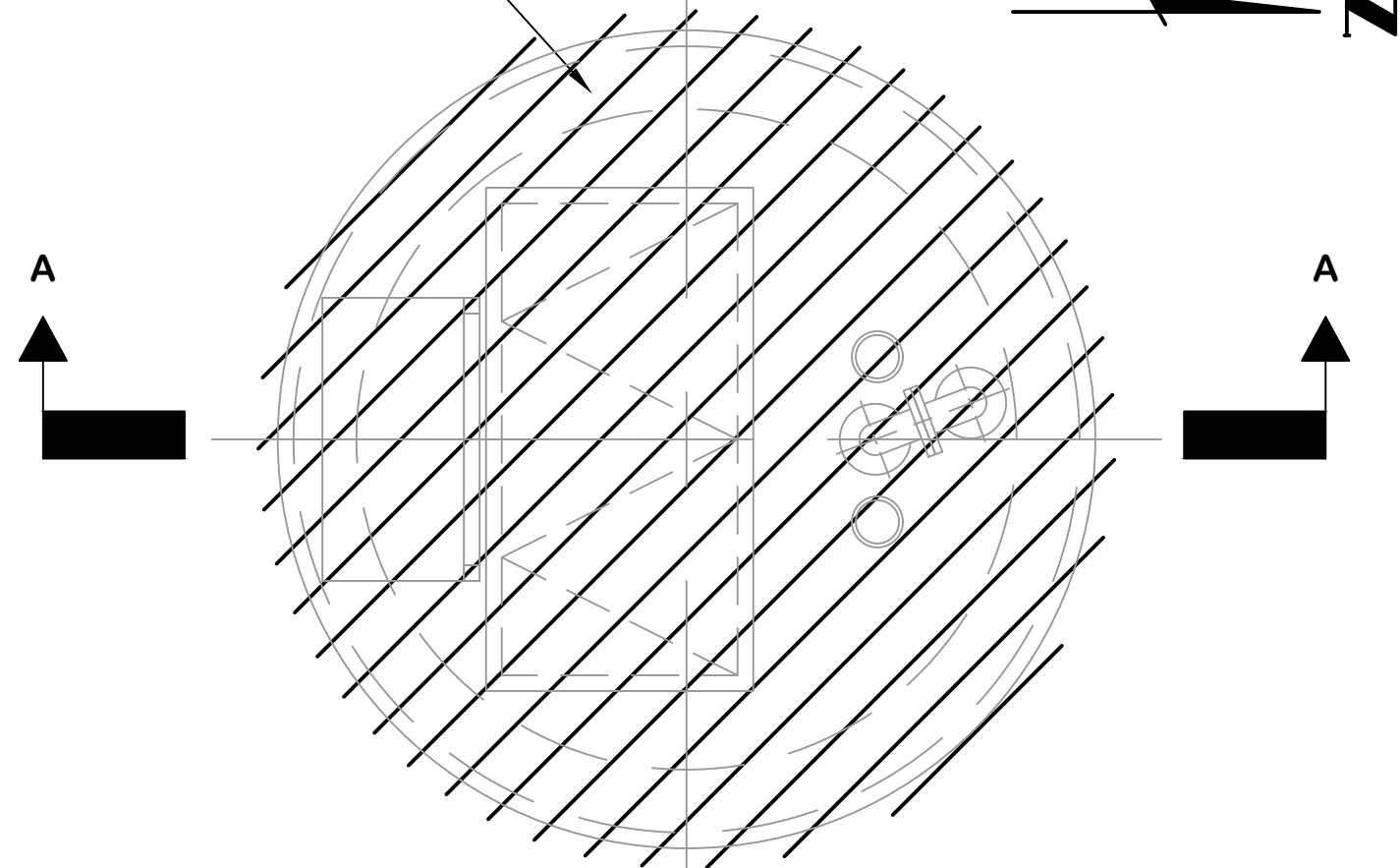
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NO.  
DATE

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SCALE 1/2"=1'-0"  
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DESIGNED TAB DRAWN TAB CHECKED TAB  
STATUS ISSUED FOR BID  
DATE MARCH 2020  
SHEET NO.  
R-1  
4 OF 18

TOL-759600R02-5 INDUSTRIAL DRIVE PUMP STATION REMOVAL  
2/13/2020 9:40 AM - CLENDER  
3/2/2020 8:27 AM

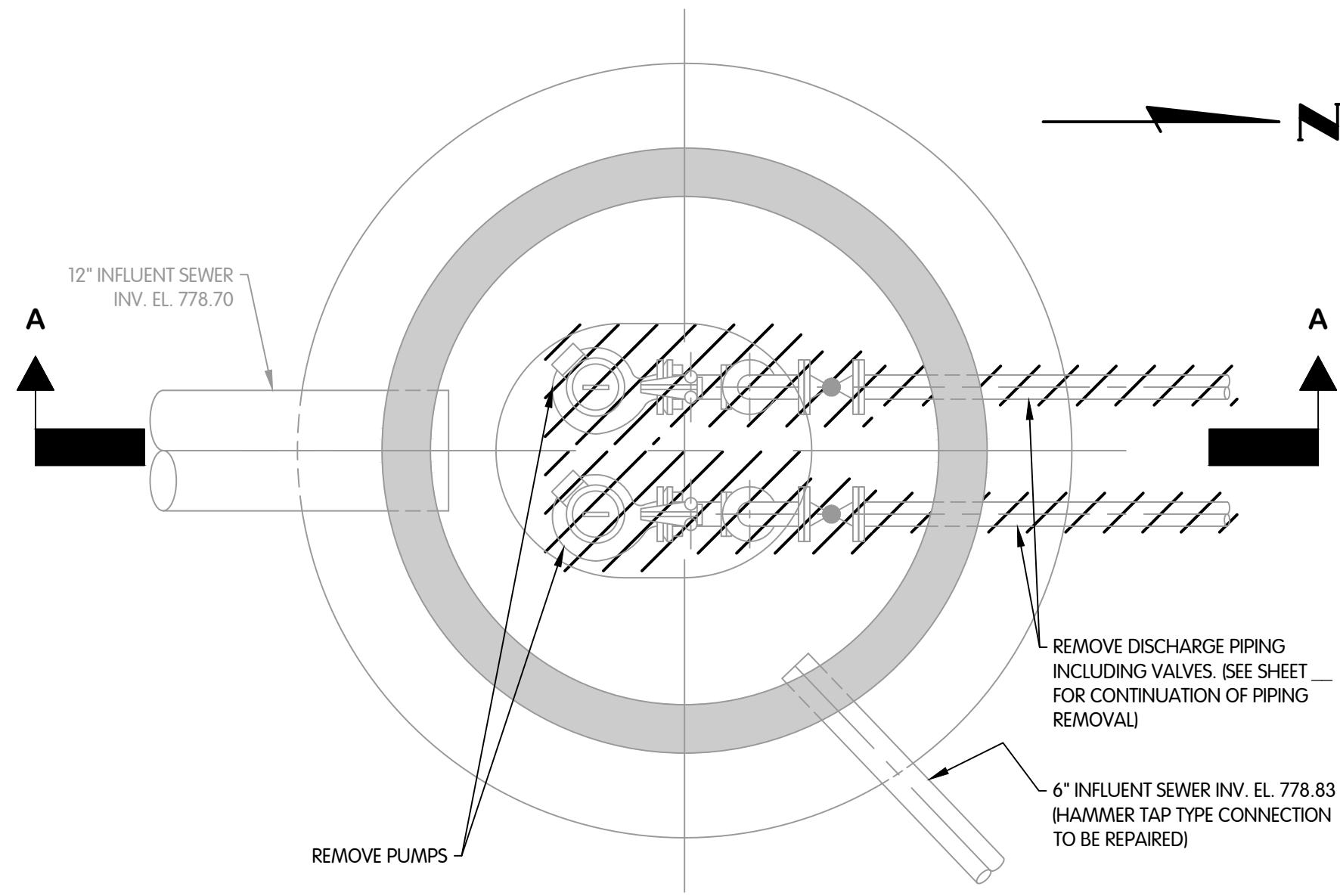
REMOVE TOP SLAB AND CAST-IN  
ACCESSORIES; FLOOR DOOR, VENT  
AND VALVE BOXES



**TOP PLAN**

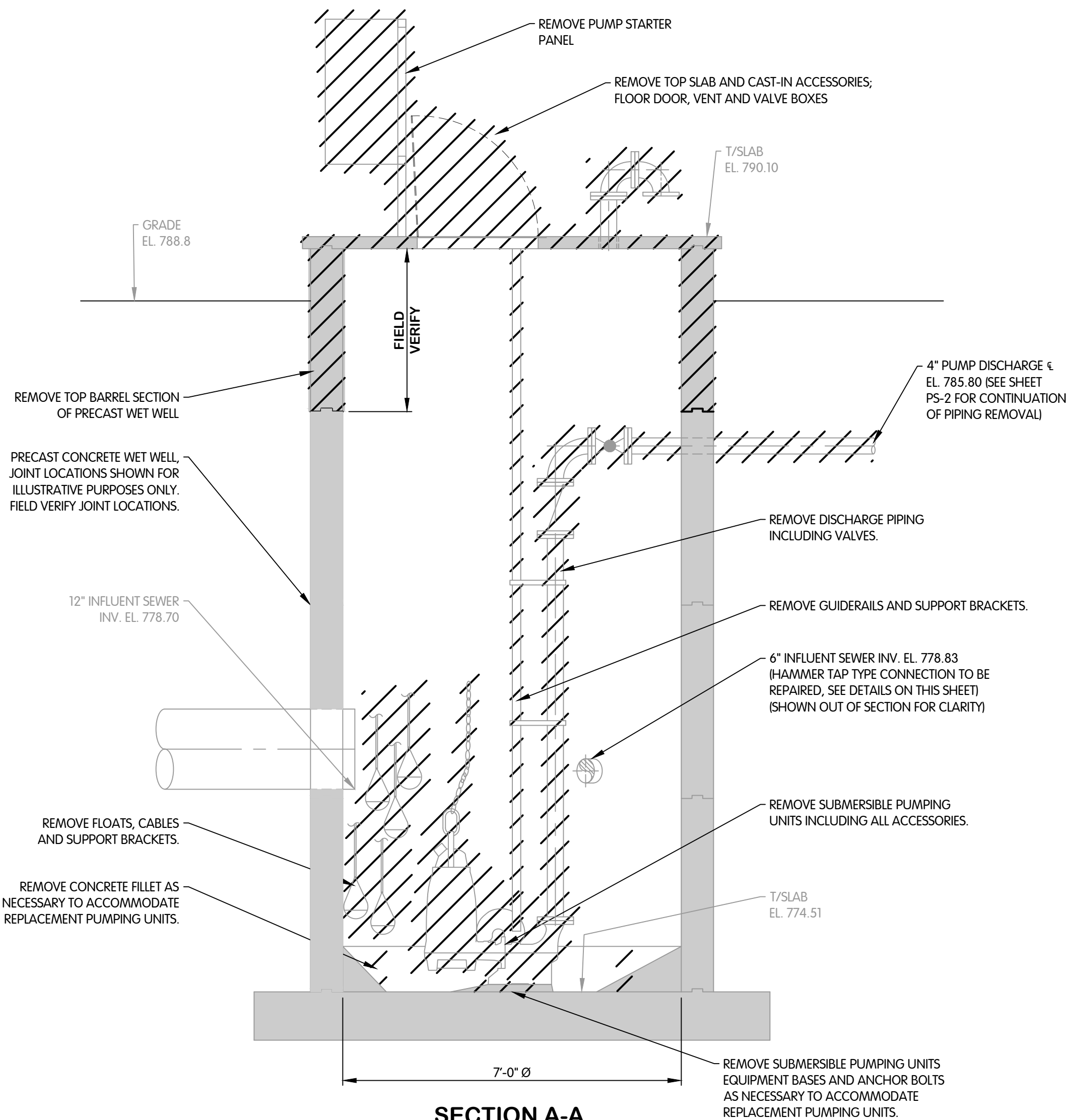
1/4"=1'-0"

12" INFLUENT SEWER  
INV. EL. 778.70



**PLAN @ ELEVATION 786.00**

1/4"=1'-0"



**SECTION A-A**

1/2"=1'-0"

**NOTES:**

1. IF WET WELL IS TO BE OPEN WITHOUT THE TOP SLAB FOR A PERIOD OF TIME, THE ENGINEER MAY REQUIRE THE STRUCTURE BE FILLED WITH WATER FOR FLOATATION PROTECTION.
2. THE DIMENSIONS OF THE EXISTING PRECAST SHOULDER JOINT IS UNKNOWN. THE PRECAST MANUFACTURER WILL PROVIDE A TRANSITION RING IF NEEDED TO MATCH THE EXISTING SHOULDER DIMENSIONS.
3. THE CONTRACTOR SHALL REMOVE ALL SPECIFIED EQUIPMENT FROM THE INTERIOR OF THE WET WELL AND DELIVERY TO THE OWNER THE ITEMS IDENTIFIED FOR SALVAGE.



**INDUSTRIAL DRIVE PUMP STATION  
PIPING AND EQUIPMENT  
PLANS AND SECTION  
REMOVALS**

FRANKLIN STREET AND INDUSTRIAL DRIVE PUMP STATION RENOVATIONS  
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SCALE 1/2"=1'-0"

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TAB	TAB	TAB

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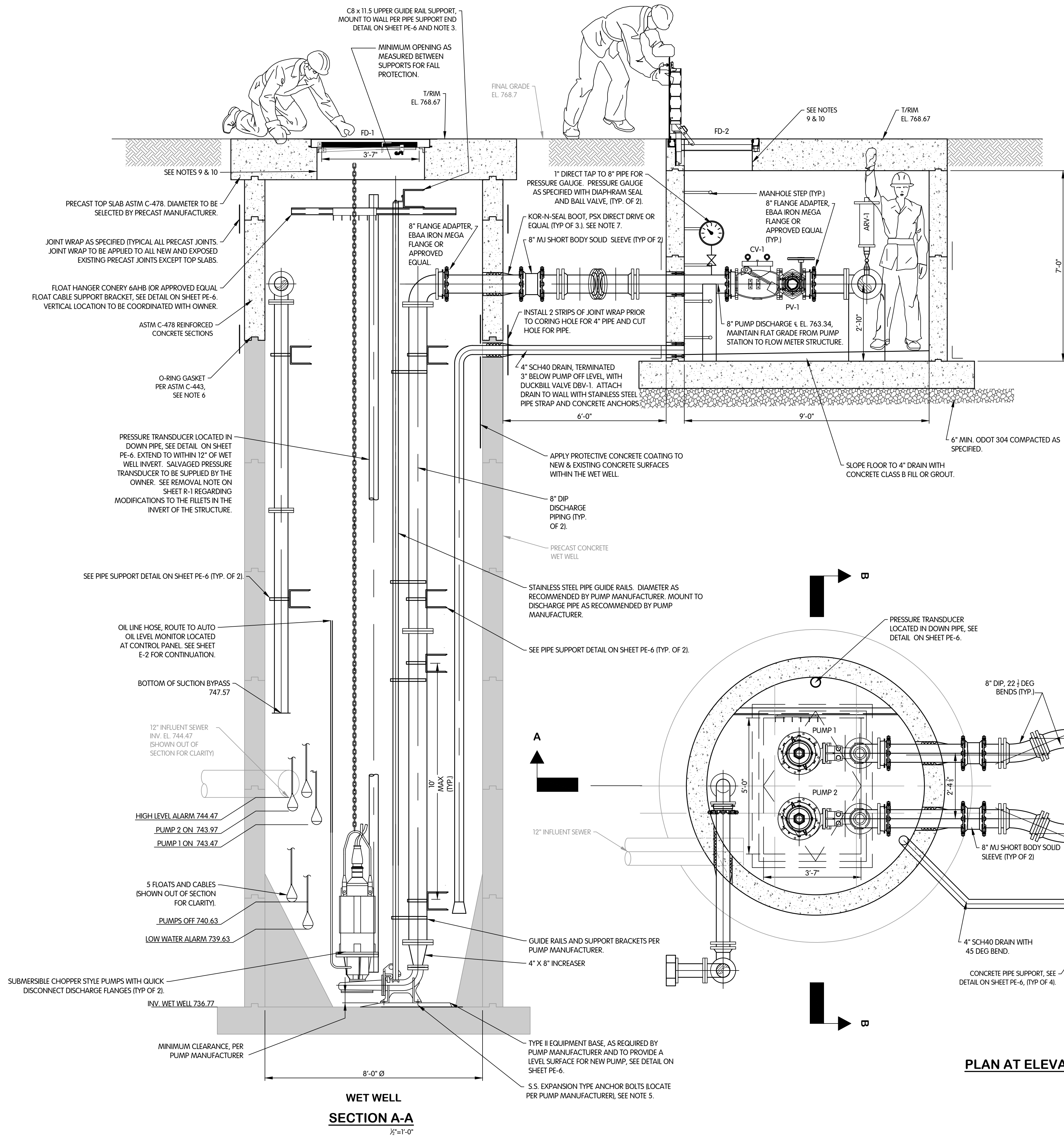
DATE: MARCH 2020

SHEET NO.

R-2

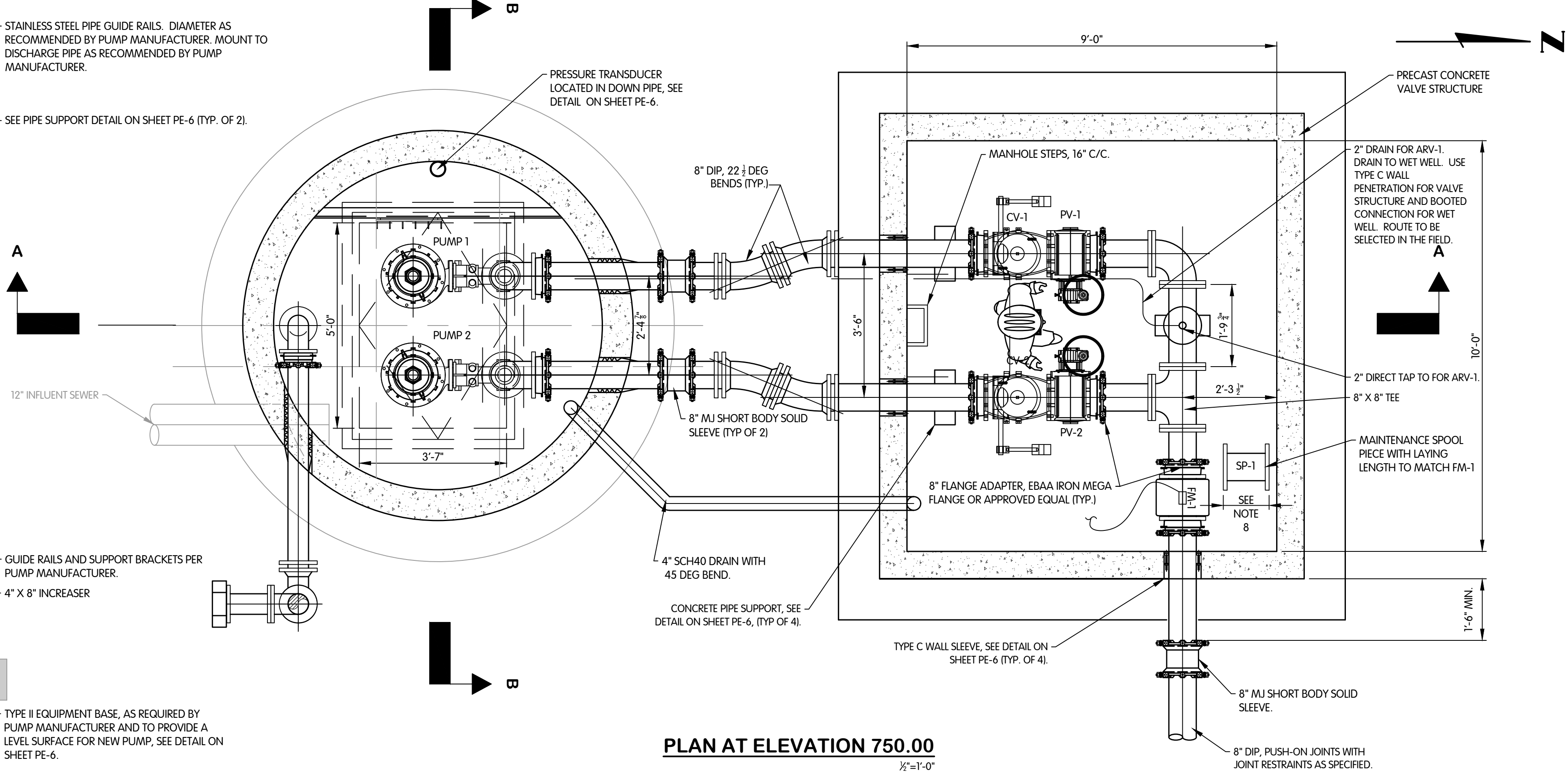
5 OF 18

TOL-759600PE06-7 FRANKLIN STREET PUMP STATION  
2/25/2020 8:56 AM - CLENDER  
3/2/2020 8:27 AM



NOTES:

1. IF WET WELL IS TO BE OPEN WITHOUT THE TOP SLAB FOR A PERIOD OF TIME, THE ENGINEER MAY REQUIRE THE STRUCTURE BE FILLED WITH WATER FOR FLOATATION PROTECTION.
2. DIMENSION SHOWN WITH "\*" INDICATE THE ACCESS HATCH TO BE LOCATED TO PERMIT PUMP REMOVAL. FINAL LOCATION TO BE POSITIONED BASED UPON APPROVED SUBMITTAL.
3. MOUNT UPPER END OF PUMP GUIDERAIL TO STRUCTURE / FLOOR DOOR IN ACCORDANCE WITH THE PUMP MANUFACTURER'S RECOMMENDATIONS.
4. GUIDE RAIL CONSTRUCTION SHALL BE COMPATIBLE WITH THE PUMP MANUFACTURER'S RECOMMENDATIONS.
5. ACCESS OPENING AND ANCHOR BOLTS TO BE LOCATED BASED UPON PUMP MANUFACTURER'S STANDARD DRAWINGS FOR LAYOUT AND GUIDE RAIL DIAMETER SELECTED.
6. THE DIMENSIONS OF THE EXISTING PRECAST SHOULDER JOINT IS UNKNOWN. THE PRECAST MANUFACTURER WILL PROVIDE A TRANSITION RING IF NEEDED TO MATCH THE EXISTING SHOULDER DIMENSIONS.
7. THE CONTRACTOR MAY CHOOSE TO CORE THE WET WELL PENETRATIONS IN THE FIELD TO ENSURE ALIGNMENT WITH THE PIPES CONNECTING TO THE VALVE STRUCTURE.
8. FLOW METER TO BE PROVIDED WITH SPECIFIED GROUNDING RINGS. LAYING LENGTH OF SPOOL PIECE TO MATCH FLOW METER WITH GROUNDING RINGS INSTALLED TO PERMIT COMPLETE REMOVAL OF THE FLOW METER AND GROUNDING RINGS FOR MAINTENANCE.
9. ACCESS HATCHES AND FLOOR DOORS ARE INTENDED TO BE CAST INTO NEW PRE-CAST SECTIONS.
10. FLOOR DOOR DRAINS SHALL BE ROUTED TO THE WET WELL.



PLAN AT ELEVATION 750.00  
1/2"=1'-0"



FRANKLIN STREET PUMP STATION  
PIPING AND EQUIPMENT  
PLANS AND SECTIONS  
CITY OF VAN WERT, OHIO

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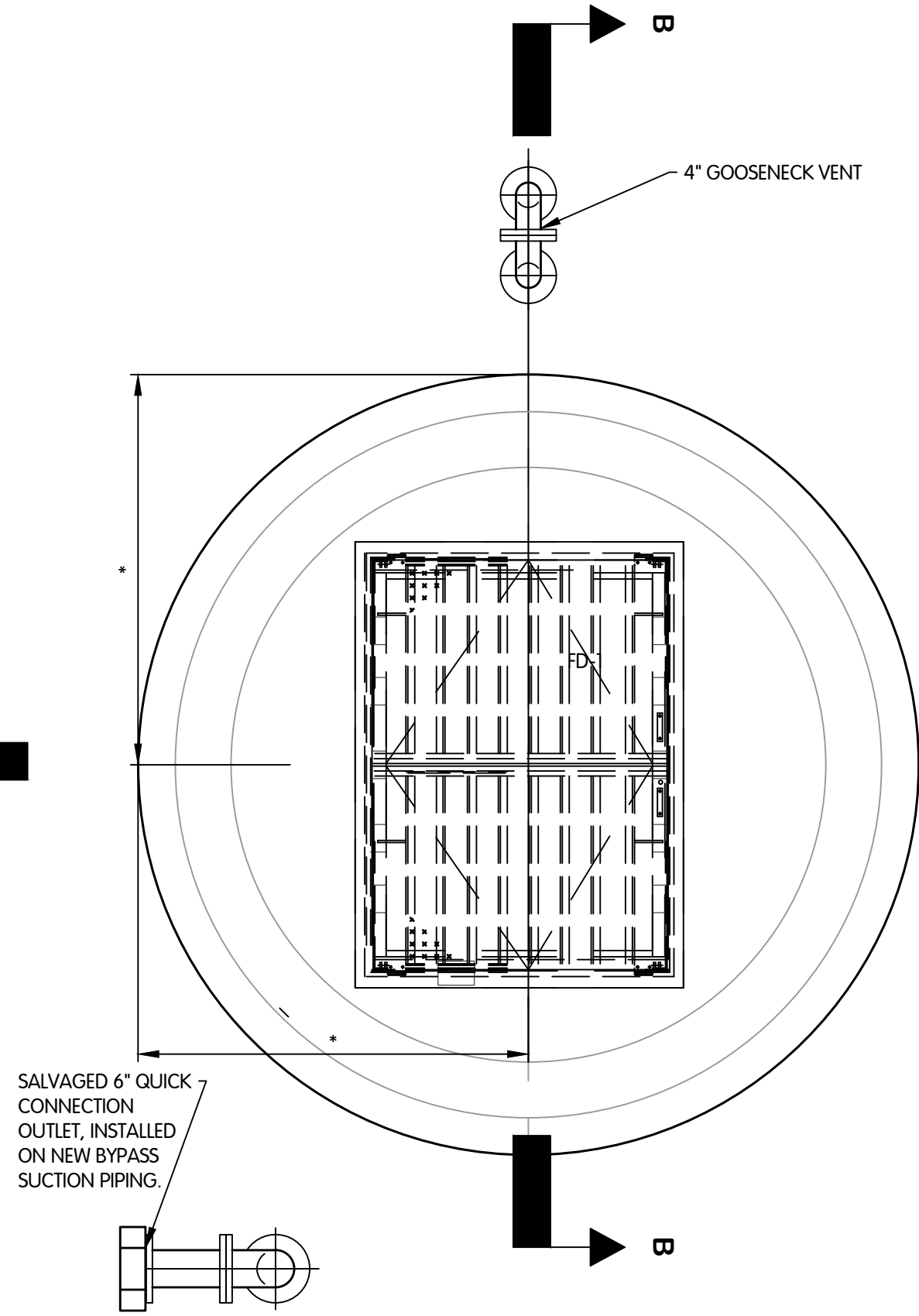
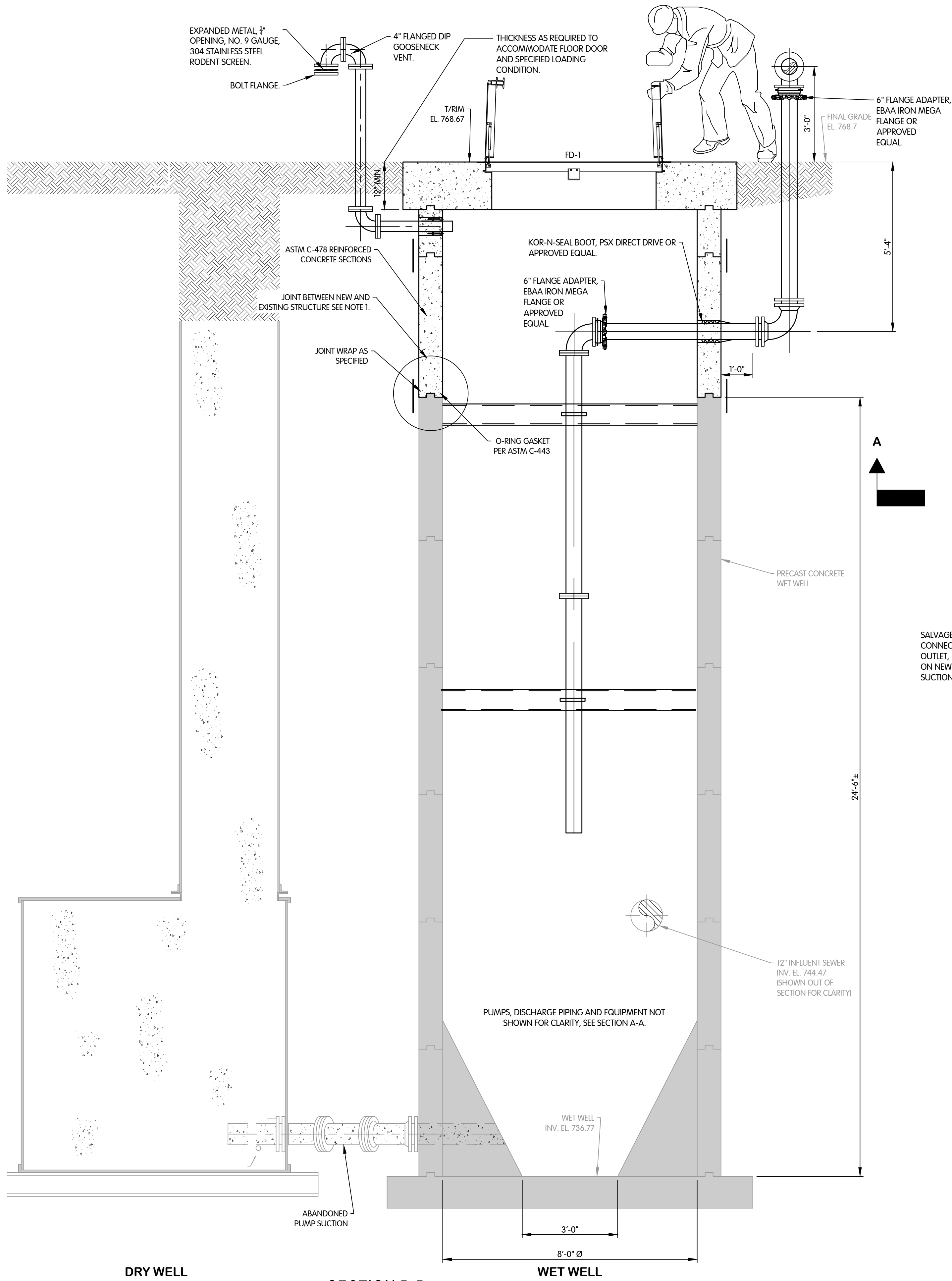
Jones & Henry  
Engineers, Ltd.



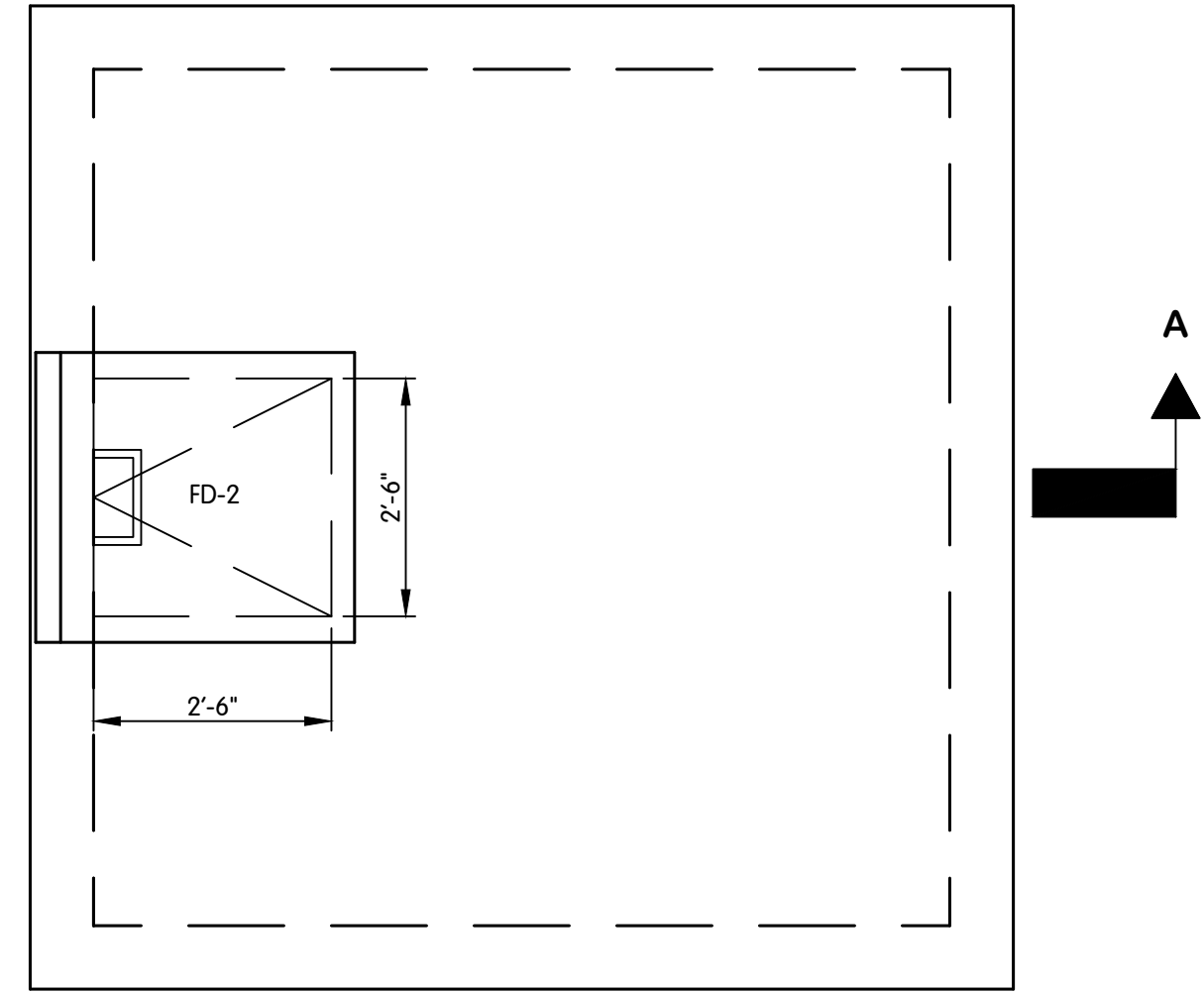
Fluid thinking®  
www.jheng.com

JOB NO.	261-7596.001	
SCALE	1/2"=1'-0"	
THIS LINE SCALES 1" WHEN PLOTTED TO NOTED SCALE		
DESIGNED	DRAWN	CHECKED
TAB	TAB	TAB
STATUS:	ISSUED FOR BID	
DATE:	MARCH 2020	
SHEET NO.		
PE-1		
6 OF 18		

TOL-759600PE01-7 FRANKLIN STREET PUMP STATION  
2/13/2020 1:26 PM - CLENDER  
3/2/2020 8:27 AM



**TOP PLAN**  
1/2"=1'-0"



- NOTES:**
1. THE DIMENSIONS OF THE EXISTING PRECAST SHOULDER JOINT IS UNKNOWN. THE PRECAST MANUFACTURER WILL PROVIDE A TRANSITION RING IF NEEDED TO MATCH THE EXISTING SHOULDER DIMENSIONS.
  2. DIMENSION SHOWN WITH "\*" INDICATE THE ACCESS HATCH TO BE LOCATED TO PERMIT PUMP REMOVAL. FINAL LOCATION TO BE POSITIONED BASED UPON APPROVED SUBMITTAL.



**FRANKLIN STREET PUMP STATION  
PIPING AND EQUIPMENT  
PLANS AND SECTIONS**  
FRANKLIN STREET AND INDUSTRIAL DRIVE PUMP STATION RENOVATIONS  
CITY OF VAN WERT, OHIO

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JOB NO. 261-7596.001

SCALE 1/2"=1'-0"

THIS LINE SCALES IF WHEN  
PLOTTED TO NOTED SCALE

DESIGNED TAB DRAWN TAB CHECKED TAB

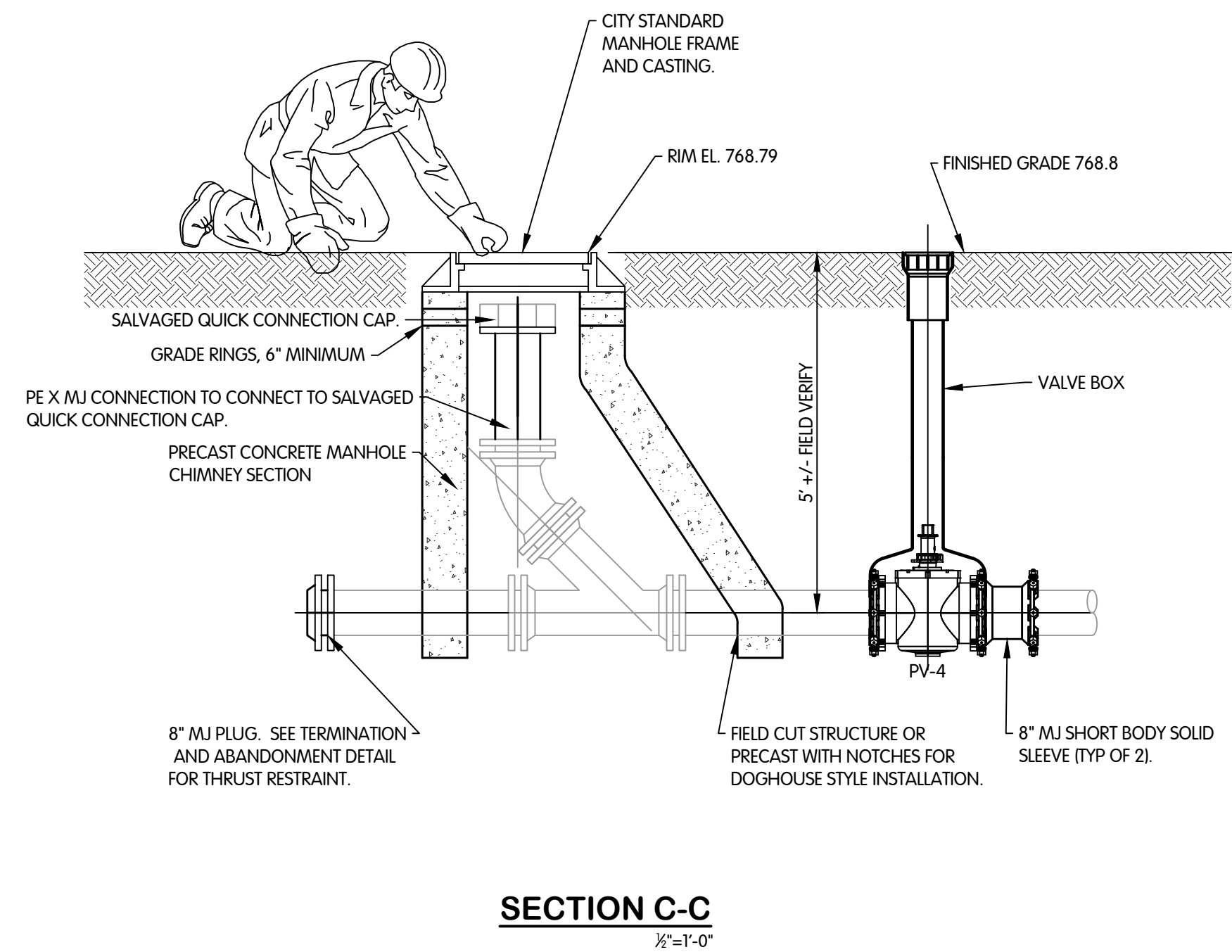
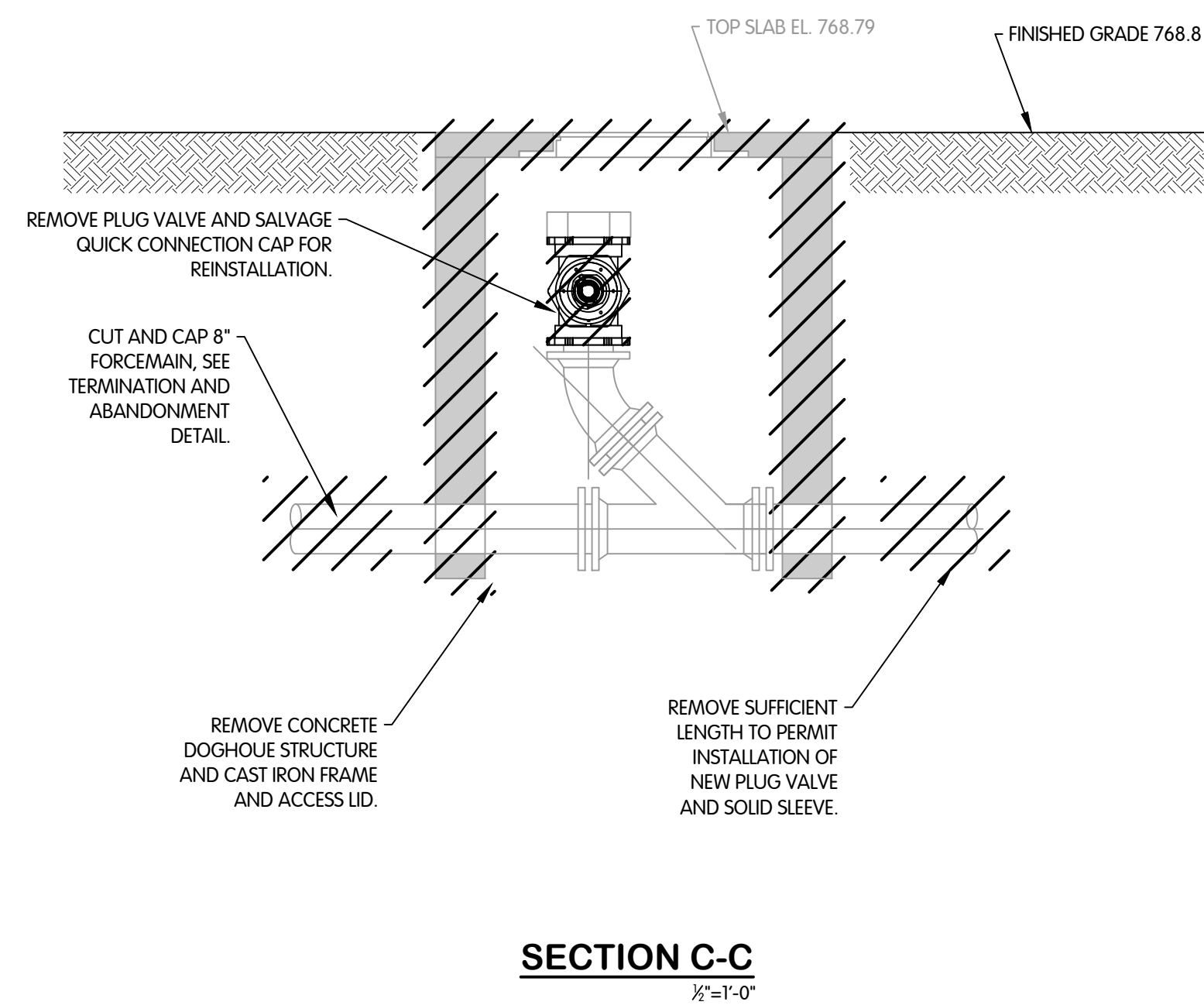
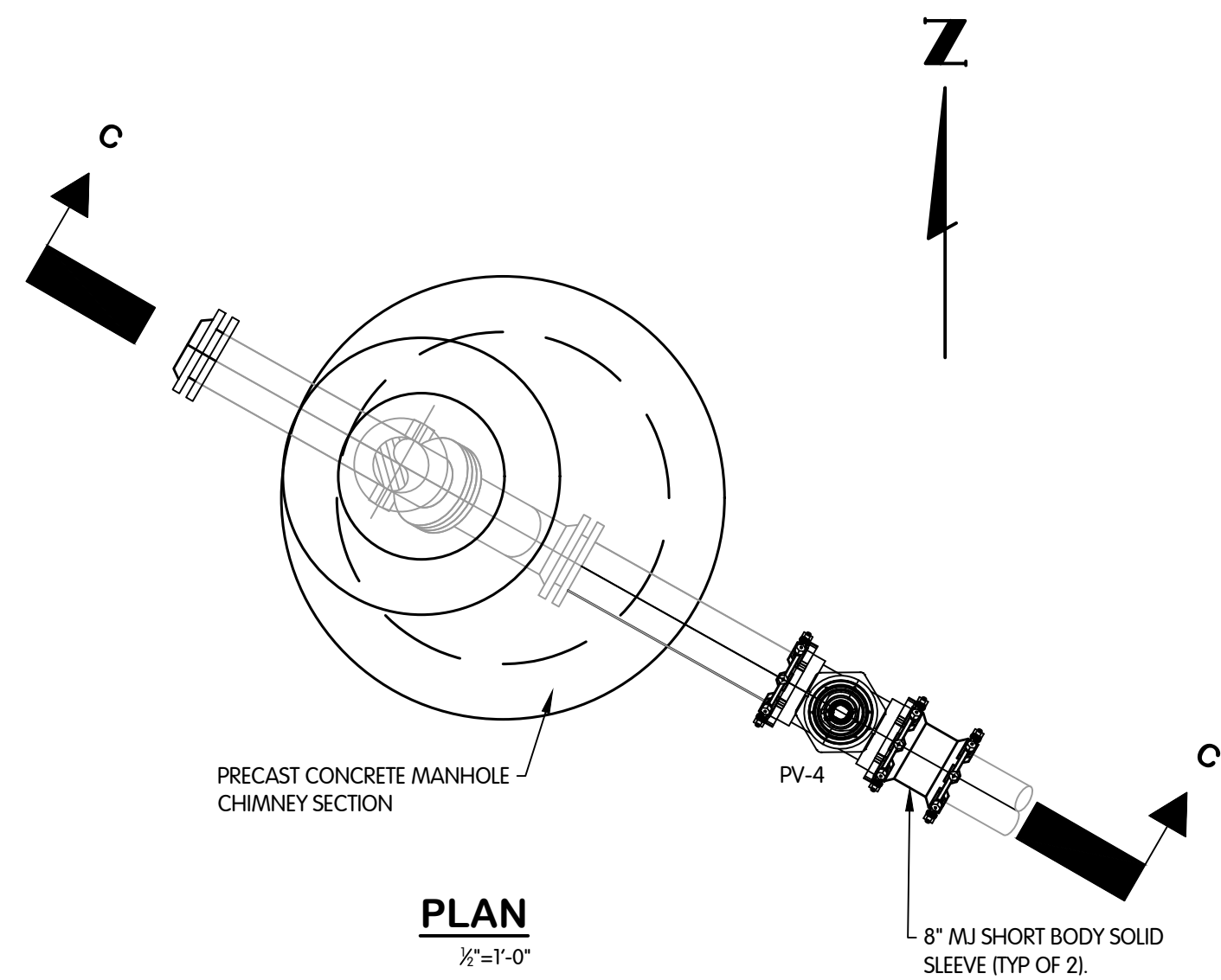
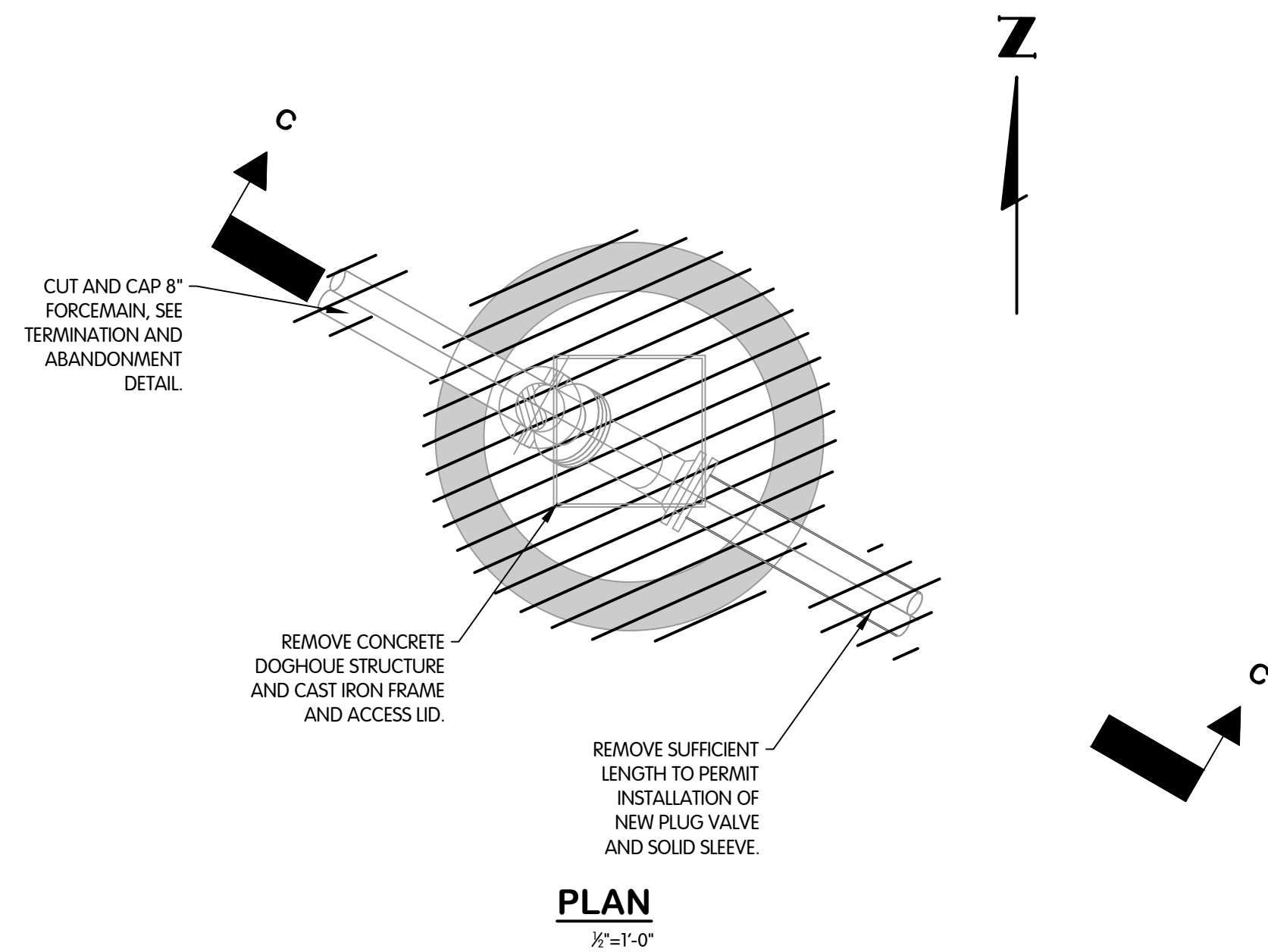
STATUS ISSUED FOR BID

DATE MARCH 2020

SHEET NO.

PE-2

7 OF 18



## BYPASS MANHOLE MODIFICATIONS

- NOTES:
1. FLOW METER GROUNDING RINGS TO BE PROVIDED AND LAYING LENGTH OF SPOOL PIECE TO MATCH FLOW METER WITH GROUNDING RINGS INSTALLED.



FRANKLIN STREET PUMP STATION  
PIPING AND EQUIPMENT  
PLANS AND SECTIONS

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FRANKLIN STREET AND INDUSTRIAL DRIVE PUMP STATION RENOVATIONS  
CITY OF VAN WERT, OHIO

NO.	DATE	REVISIONS AFTER ISSUED FOR BID	BY
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4			
3			
2			
1			

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NO. 261-7596.001

$$1/2'' = 1' - 0''$$

THIS LINE SCALES 1" WHEN  
PLOTTED TO NOTED SCALE

DESIGNED BY	DRAWN TAB	CHECKED TAB
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ISSUED FOR BID
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MARCH 2020

SHEET NO.

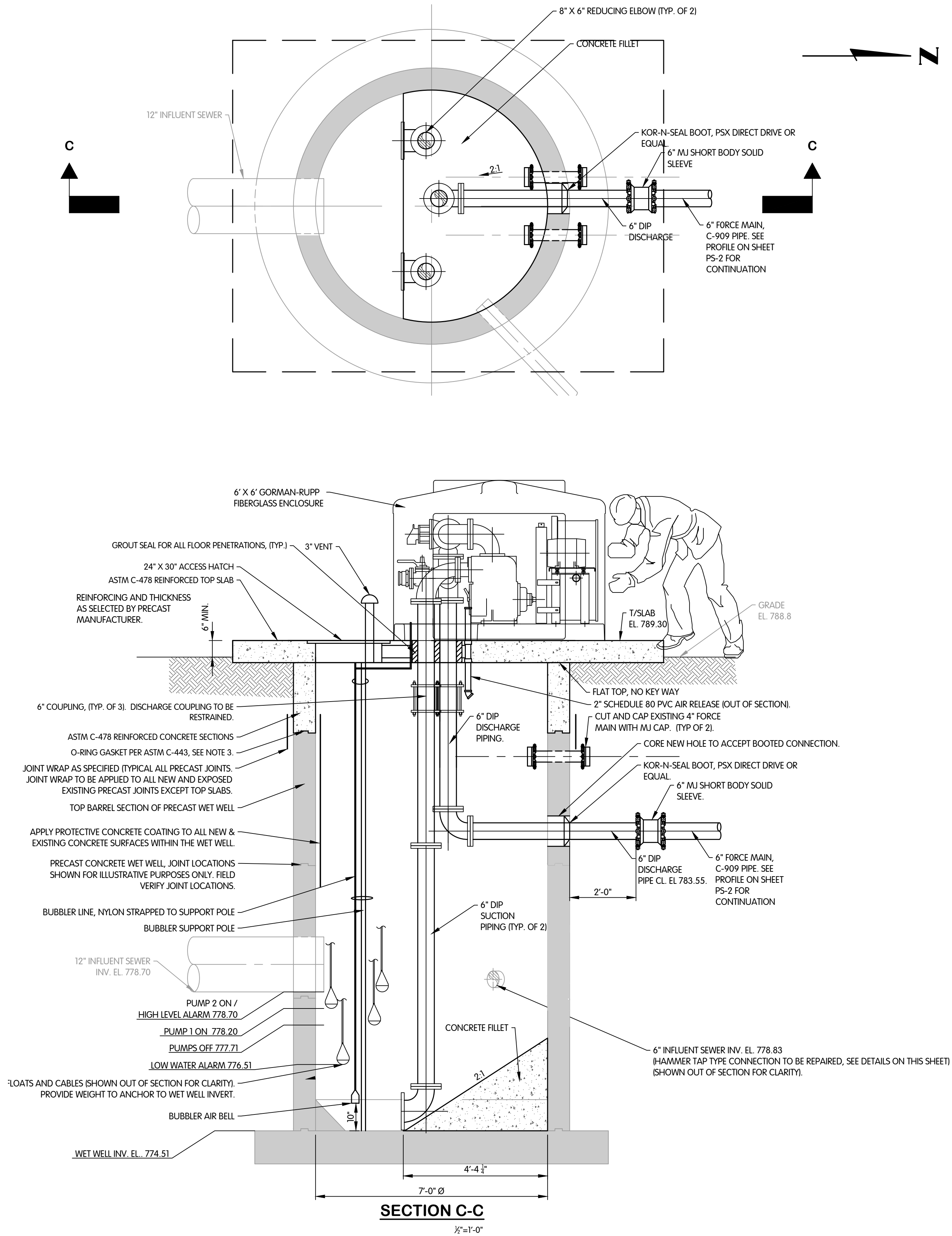
PE-3

8 OF 18

TOL-759600PE02-INDUSTRIAL DRIVE PUMP STATION  
2/17/2020 3:17 PM - CLENDER  
3/2/2020 8:28 AM

#### NOTES

- IF WET WELL IS TO BE OPEN WITHOUT THE TOP SLAB FOR A PERIOD OF TIME, THE ENGINEER MAY REQUIRE THE STRUCTURE BE FILLED WITH WATER FOR FLOTATION PROTECTION.
- DIMENSION SHOWN WITH \*\*\* INDICATE THE ACCESS TO BE POSITIONED BASED UPON APPROVED SUBMITTAL.
- THE DIMENSIONS OF THE EXISTING PRECAST SHOULDER JOINT IS UNKNOWN. THE PRECAST MANUFACTURER WILL PROVIDE A TRANSITION RING IF NEEDED TO MATCH THE EXISTING SHOULDER DIMENSIONS.
- ACCESS HATCHES & FLOOR DOORS ARE INTENDED TO BE CAST INTO NEW PRECAST SECTIONS.



## INDUSTRIAL DRIVE PUMP STATION PIPING AND EQUIPMENT PLANS AND SECTIONS

FRANKLIN STREET AND INDUSTRIAL DRIVE PUMP STATION RENOVATIONS  
CITY OF VAN WERT, OHIO

Jones & Henry  
Engineers, Ltd.



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SCALE 1/2"=1'-0"

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PLOTTED TO NOTED SCALE

DESIGNED TAB DRAWN TAB CHECKED TAB

STATUS ISSUED FOR BID

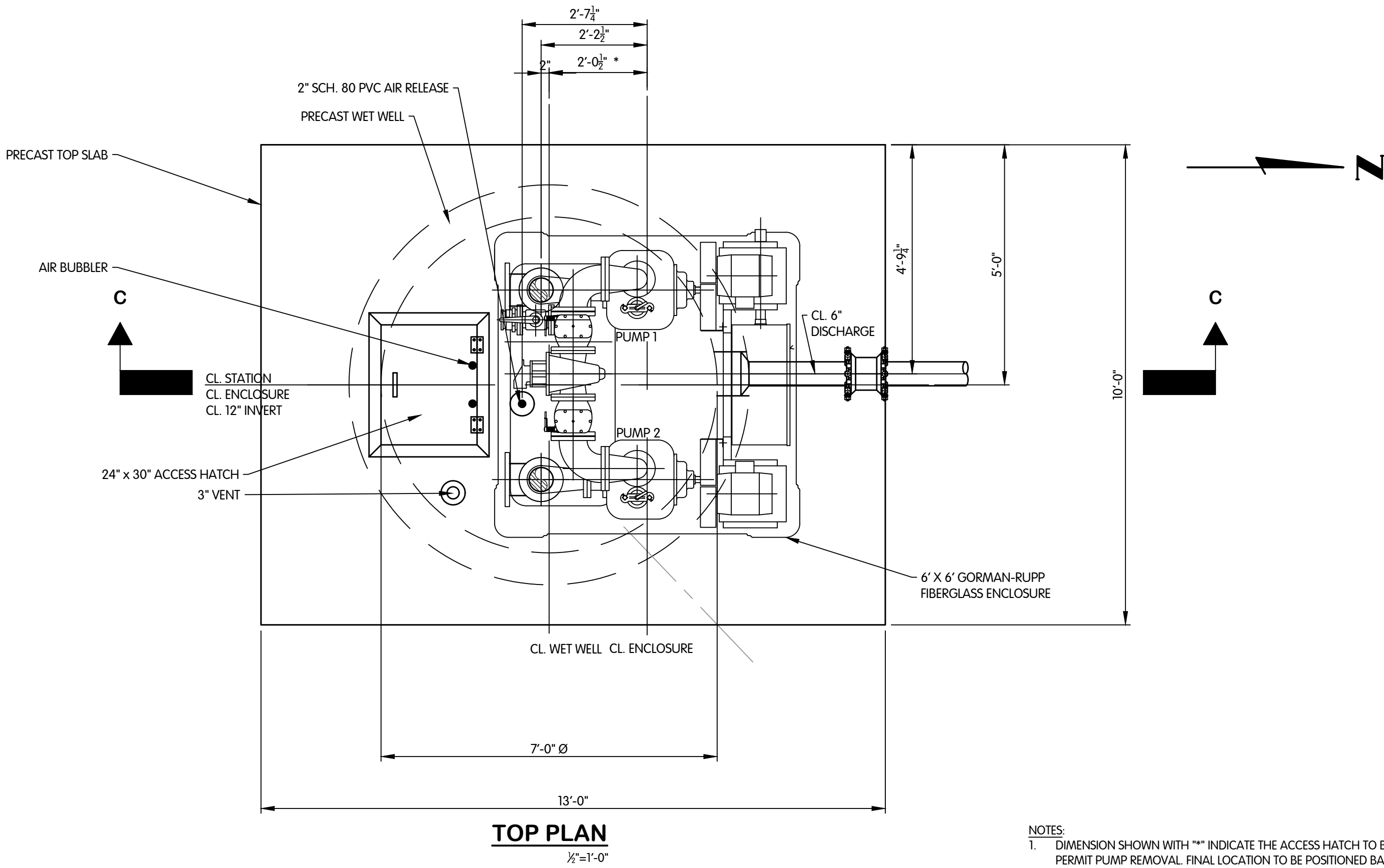
DATE MARCH 2020

SHEET NO.

PE-4

9 OF 18

TOL-759600PE07--INDUSTRIAL DRIVE PUMP STATION  
2/17/2020 1:47 PM - CLENDER  
3/2/2020 8:28 AM



INDUSTRIAL DRIVE PUMP STATION  
PIPING AND EQUIPMENT  
PLANS AND SECTIONS  
FRANKLIN STREET AND INDUSTRIAL DRIVE PUMP STATION RENOVATIONS  
CITY OF VAN WERT, OHIO

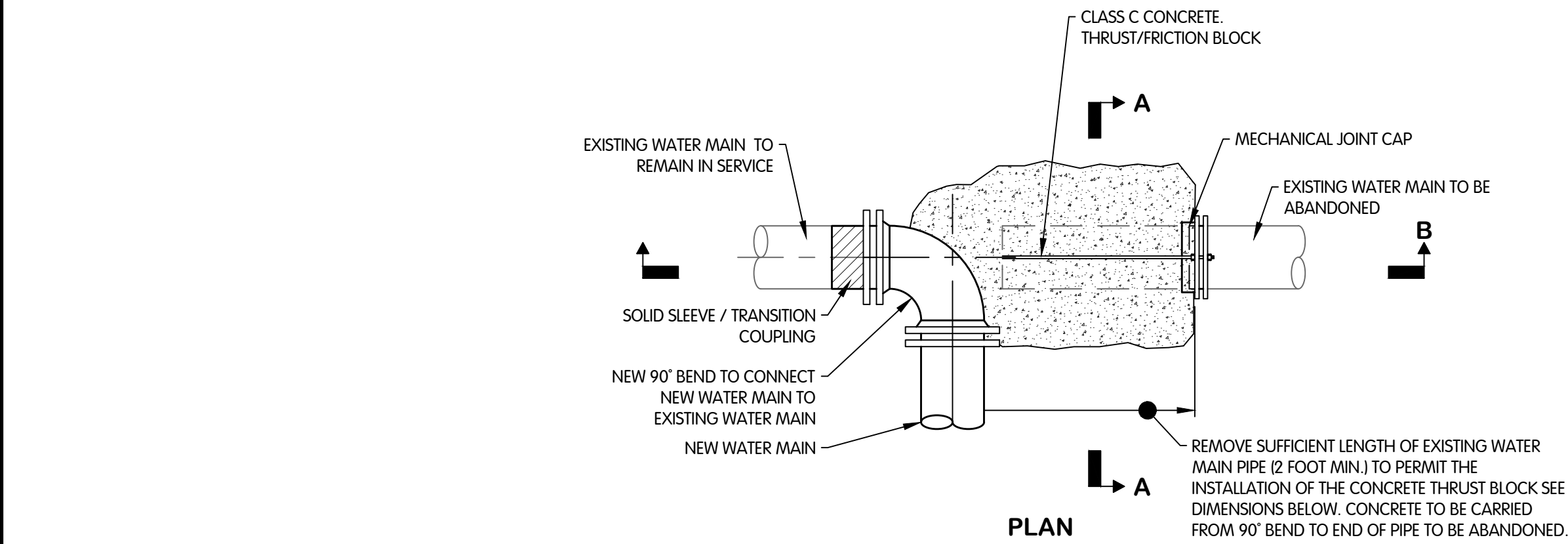
NO.	DATE	REVISIONS AFTER ISSUED FOR BID	BY
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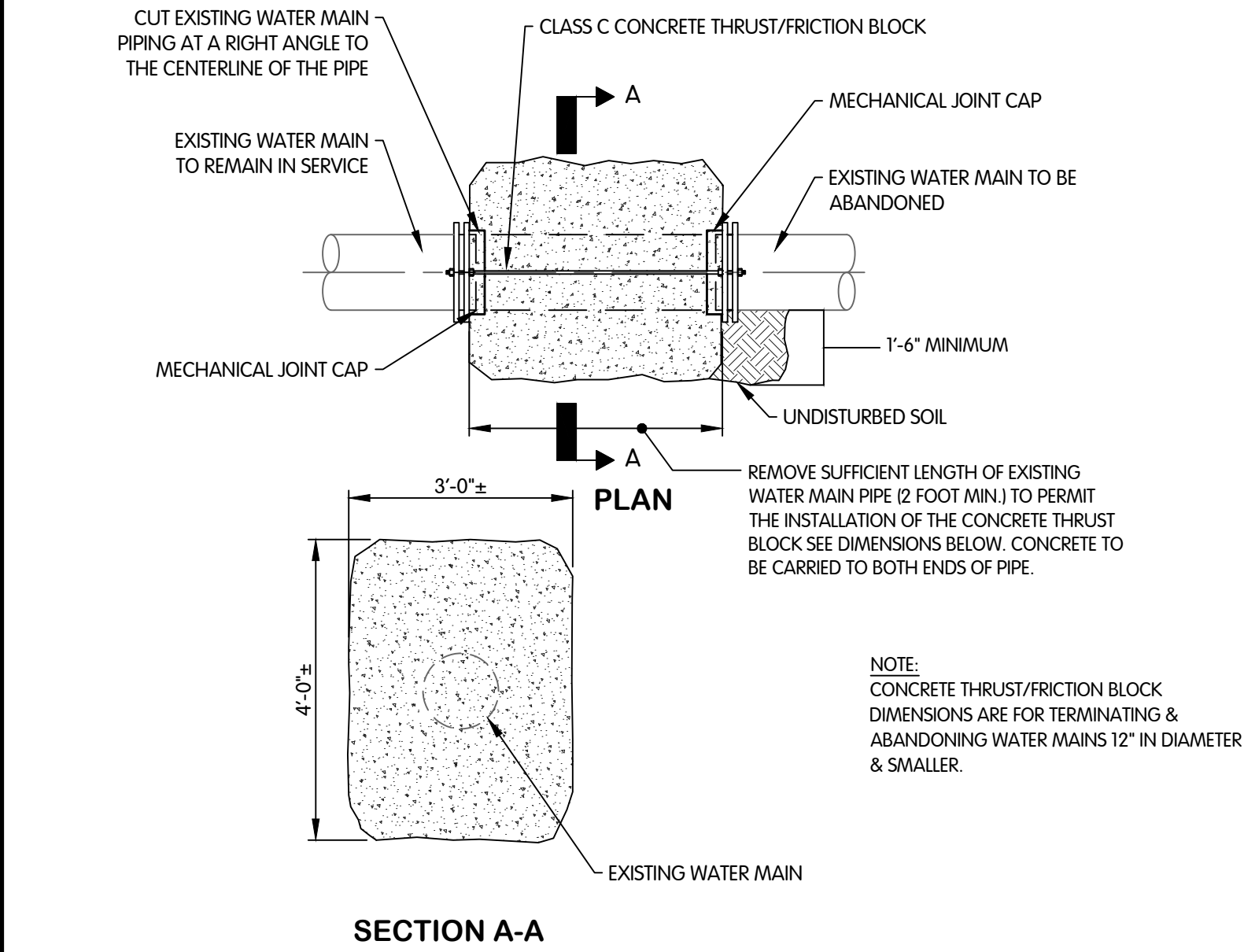
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SCALE	1/2"=1'-0"	
THIS LINE SCALES IF WHEN PLOTTED TO NOTED SCALE		
DESIGNED TAB	DRAWN TAB	CHECKED TAB
STATUS: ISSUED FOR BID		
DATE: MARCH 2020		
SHEET NO.		
PE-5		
10 OF 18		

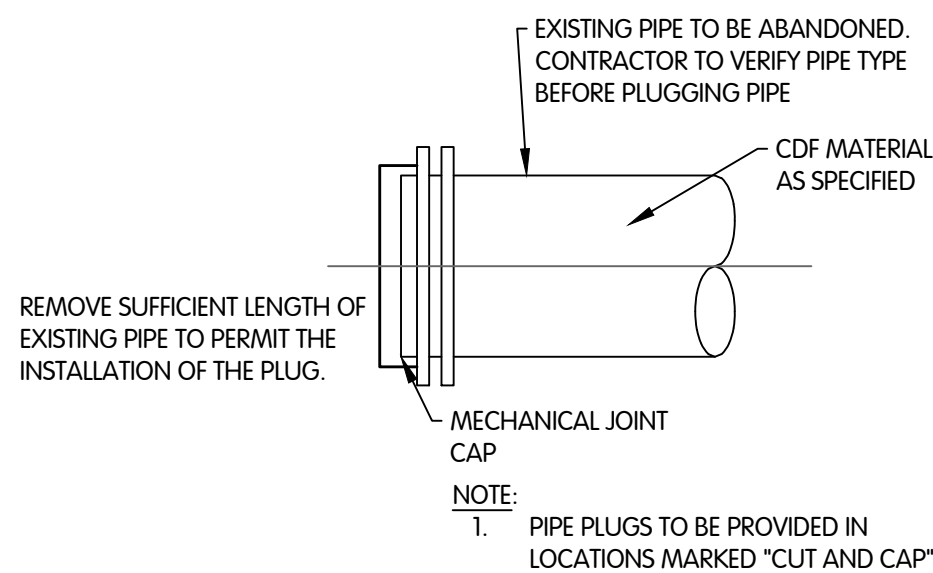
TOL-759400PE03-9 PUMP STATION PIPING & EQUIPMENT DETAILS  
2/16/2020 3:23 PM - CLENDER  
3/12/2020 8:28 AM



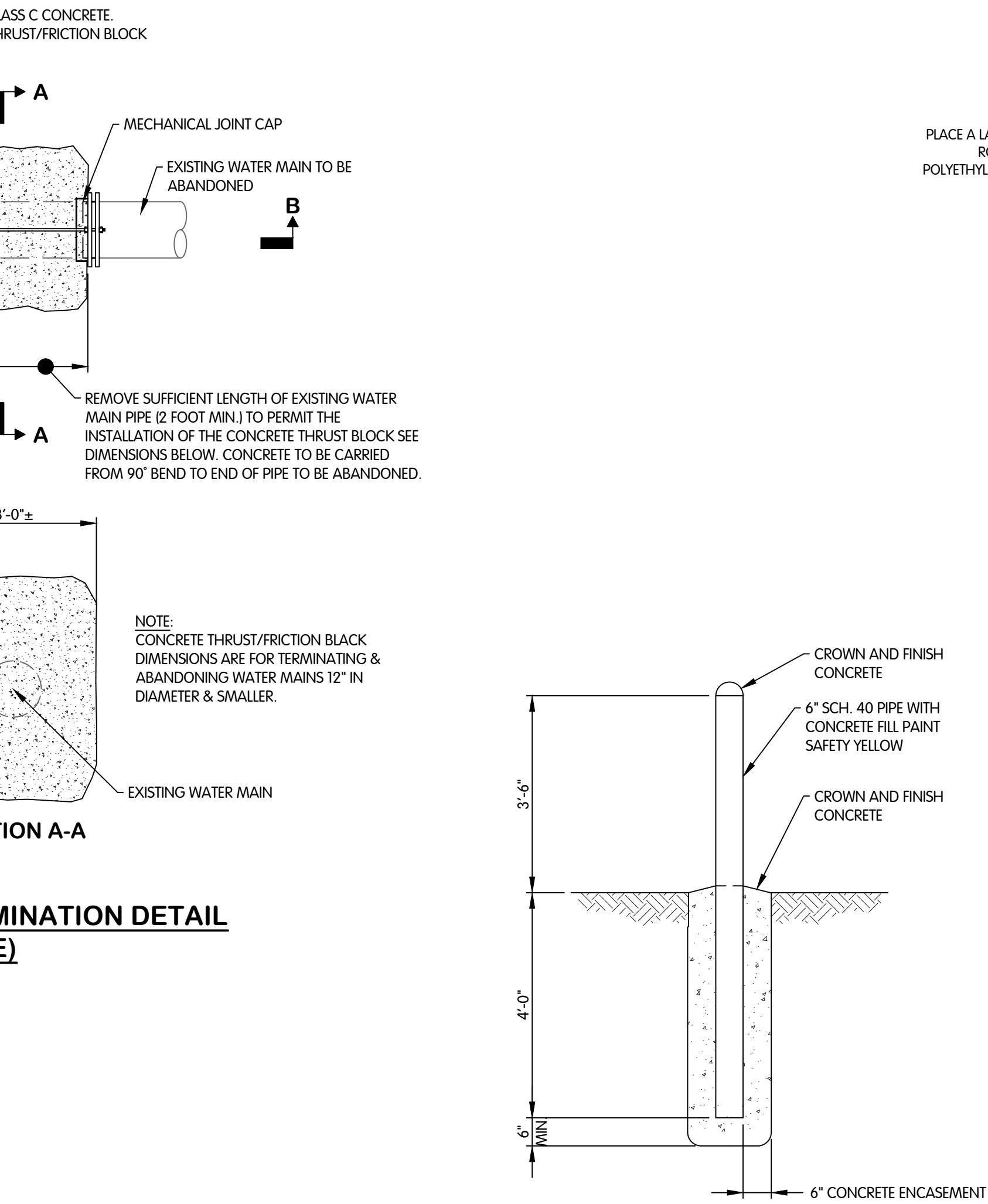
**PRESSURE PIPE ABANDONMENT & TERMINATION DETAIL  
(90° BEND ALTERNATIVE)**



**PRESSURE PIPE TERMINATION & ABANDONMENT DETAIL**

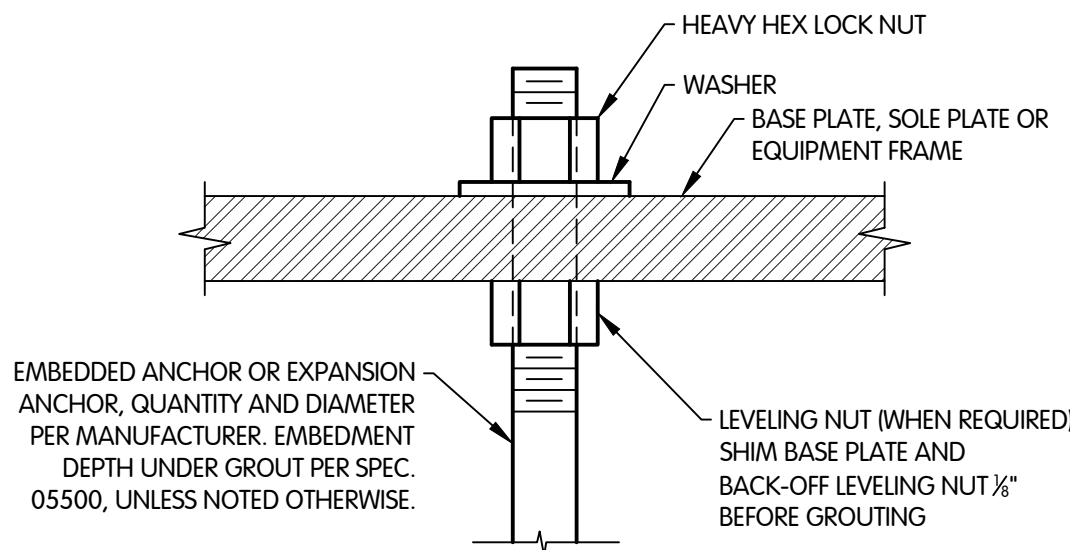


**PIPE PLUG DETAIL**



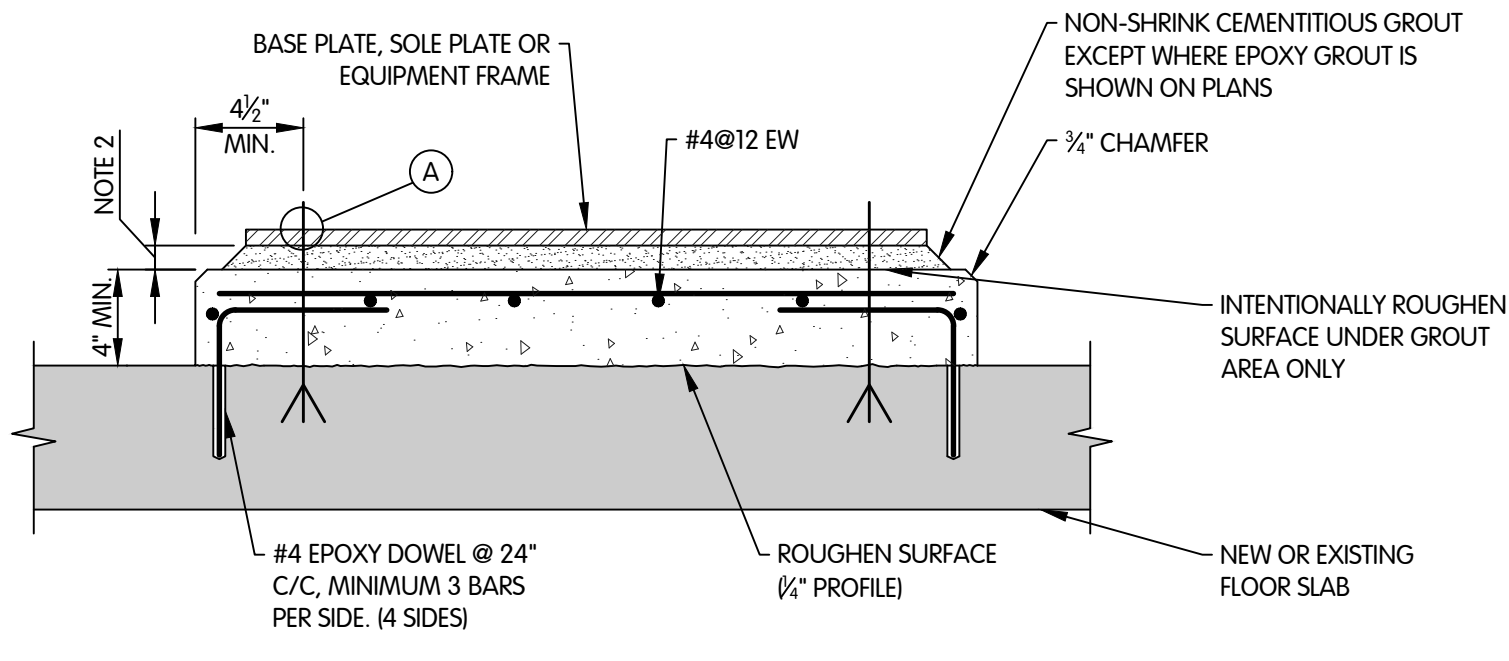
**CONCRETE SADDLE SUPPORT**

**BOLLARD DETAIL**

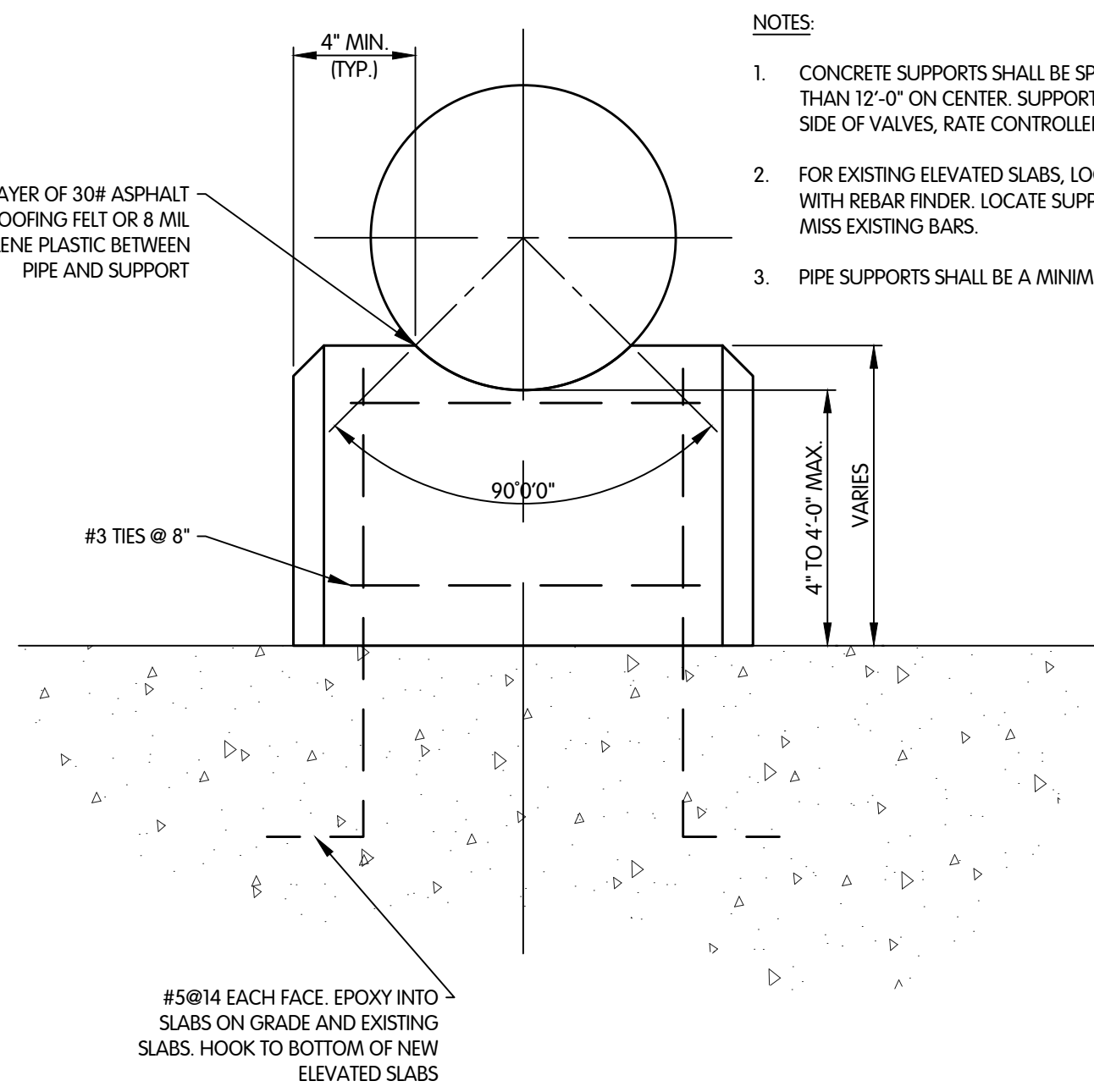


**EQUIPMENT BASE NOTES:**

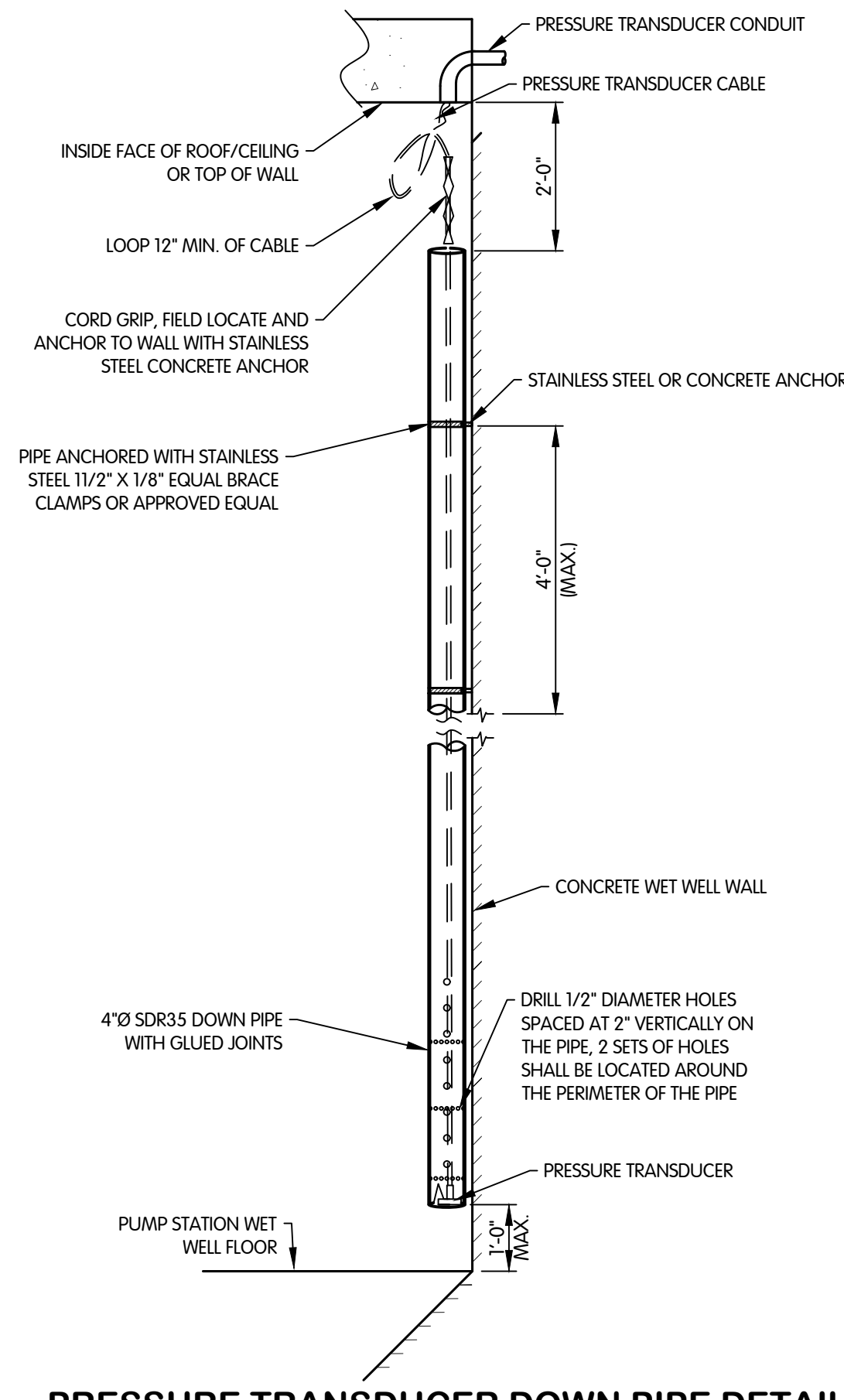
1. CONCRETE BASE PAD DIMENSIONS SHALL BE 4" LARGER THAN FURNISHED EQUIPMENT BASE ON ALL SIDES, UNLESS NOTED OTHERWISE.
2. GROUT THICKNESS UNDER EQUIPMENT BASES SHALL BE AS FOLLOWS:  
A.) 3" MAX. UNLESS NOTED OTHERWISE  
B.) 1" MIN. FOR NON-SHRINK CEMENTITIOUS GROUT, U.N.O.  
C.) 2" MIN. FOR EPOXY GROUT, U.N.O.
3. WHEN BASE IS ON ELEVATED SLAB THE SLAB BARS SHALL NOT BE CUT. USE REBAR FINDER EQUIPMENT TO LOCATE BARS AND ADJUST ANCHORAGE LOCATIONS TO MISS FLOOR BARS.



**TYPE II  
(WITH CONCRETE BASE PAD)**



**CONCRETE SADDLE SUPPORT**

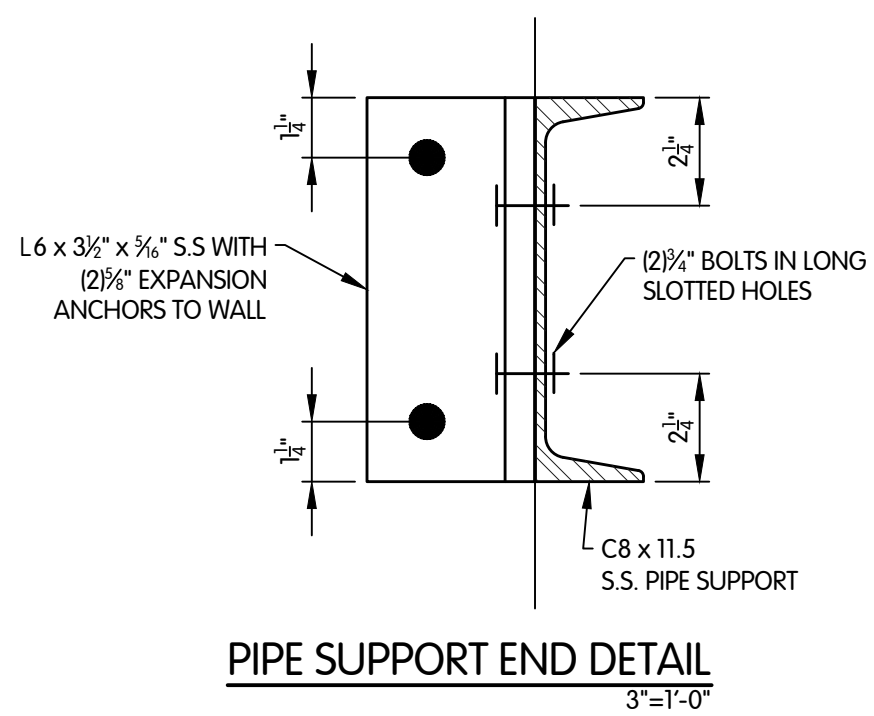


**PRESSURE TRANSDUCER DOWN PIPE DETAIL**

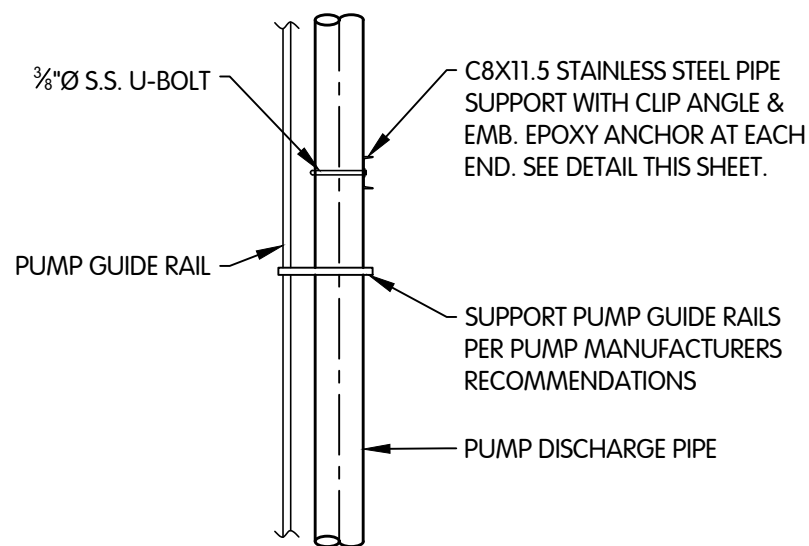
**TYPE C**

**PIPE SLEEVE**

- NOTES:
1. EXISTING WALLS SHALL BE CORE DRILLED.
  2. CONCRETE SHALL BE WORKED IN AND VIBRATED TO ELIMINATE ALL VOIDS IN CONCRETE - IF VOIDS DO REMAIN, FILL WITH GROUT BEFORE INSTALLING PIPE AND RUBBER SEALS.
  3. UNLESS OTHERWISE SHOWN ON THE DRAWINGS ALL INTERIOR WALL PENETRATIONS SHALL USE TYPE C PIPE SLEEVE.
  4. BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH THE SEAL MANUFACTURER'S RECOMMENDATIONS.

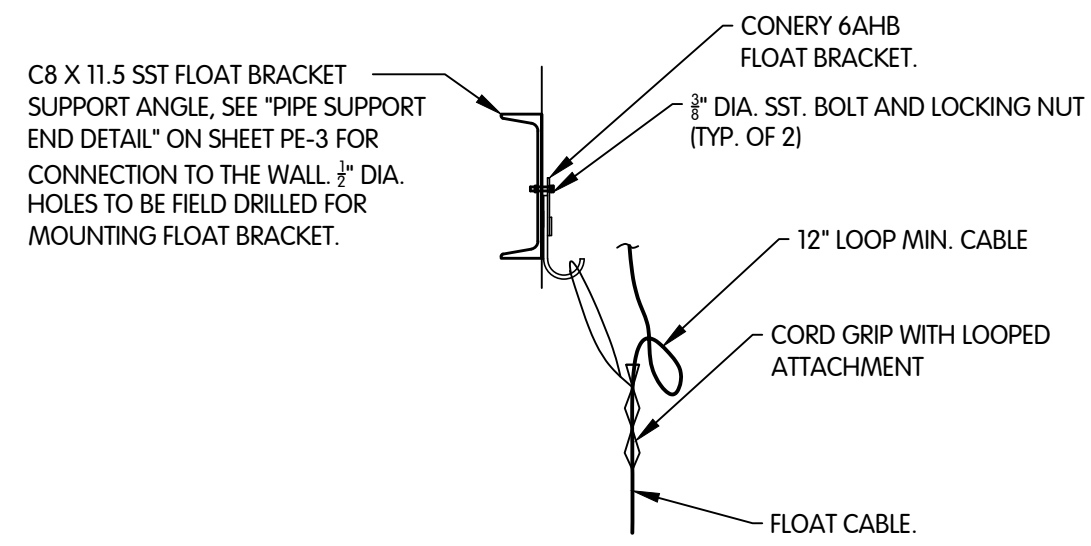


**PIPE SUPPORT END DETAIL**

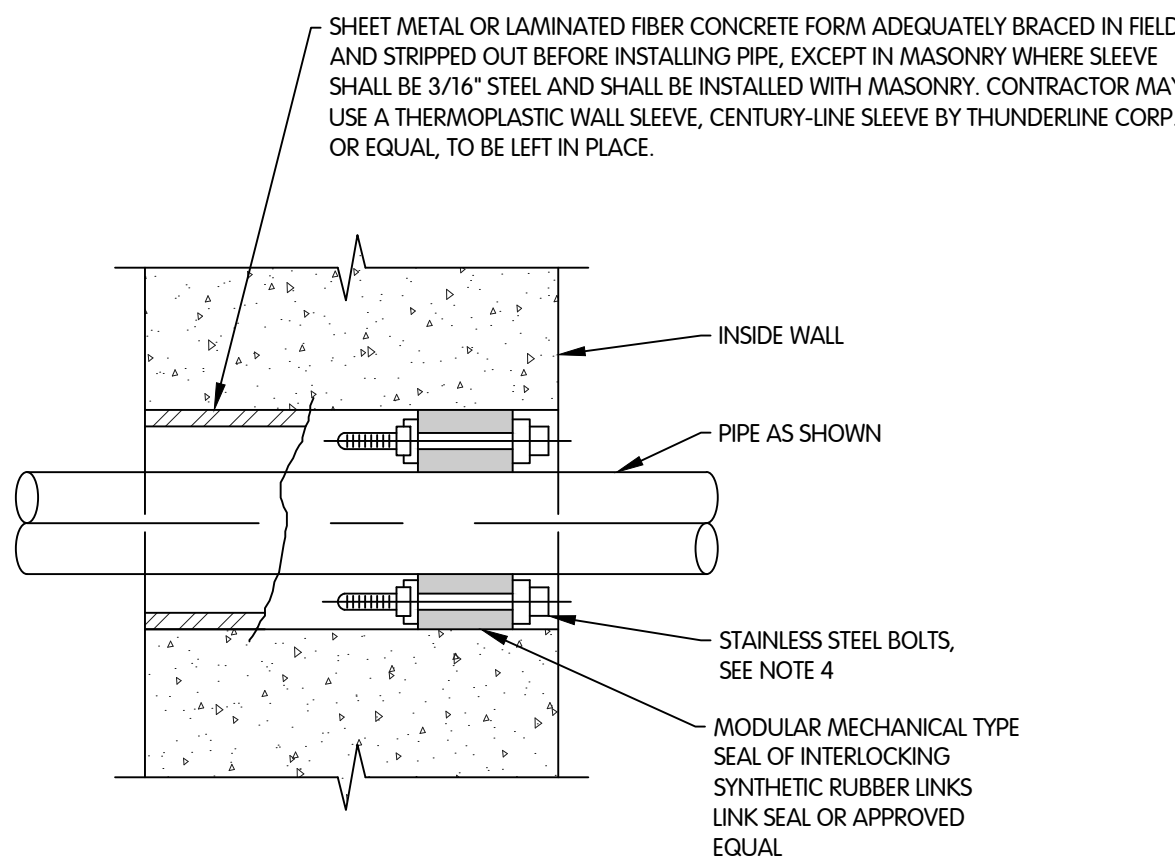


**PIPE SUPPORT DETAIL**

- NOTE:
1. PROVIDE PIPE SUPPORTS AT THE BOTTOM AND TOP OF THE PUMP DISCHARGE PIPE AND AT SPACING AS SPECIFIED.



**FLOAT CABLE ATTACHMENT DETAIL**



**TYPE C**

**PIPE SLEEVE**

- NOTES:
1. EXISTING WALLS SHALL BE CORE DRILLED.
  2. CONCRETE SHALL BE WORKED IN AND VIBRATED TO ELIMINATE ALL VOIDS IN CONCRETE - IF VOIDS DO REMAIN, FILL WITH GROUT BEFORE INSTALLING PIPE AND RUBBER SEALS.
  3. UNLESS OTHERWISE SHOWN ON THE DRAWINGS ALL INTERIOR WALL PENETRATIONS SHALL USE TYPE C PIPE SLEEVE.
  4. BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH THE SEAL MANUFACTURER'S RECOMMENDATIONS.



**PUMP STATION  
PIPING AND EQUIPMENT  
DETAILS**

FRANKLIN STREET AND INDUSTRIAL DRIVE PUMP STATION RENOVATIONS  
CITY OF VAN WERT, OHIO

BY  
REVISIONS AFTER ISSUED FOR BID  
NO.  
DATE

Jones & Henry  
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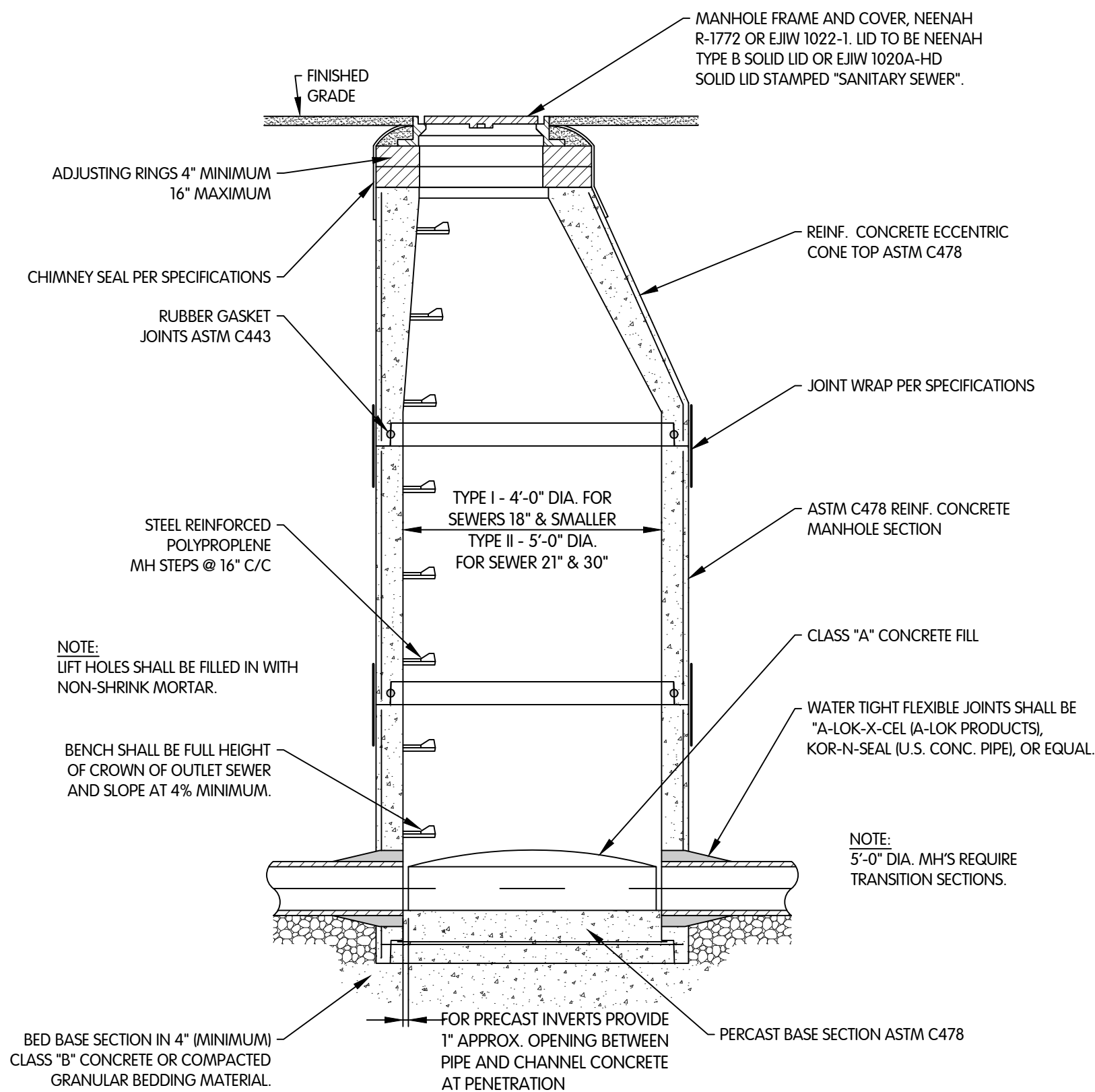
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STATUS ISSUED FOR BID  
DATE MARCH 2020

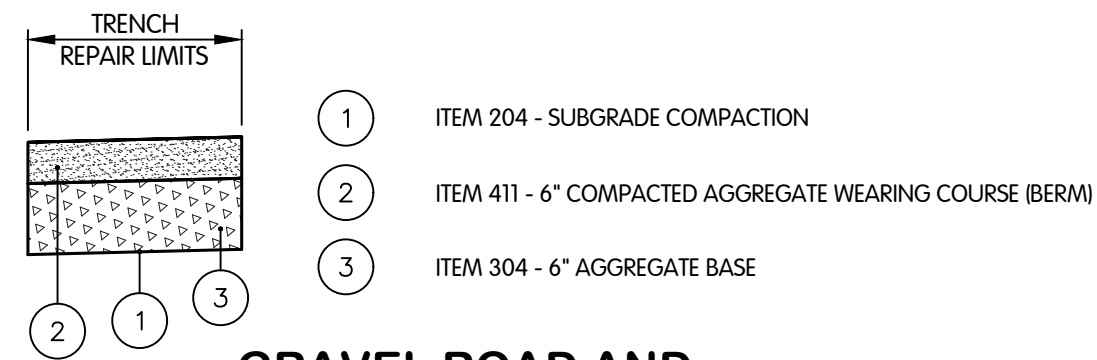
SHEET NO.  
PE-6

11 OF 18

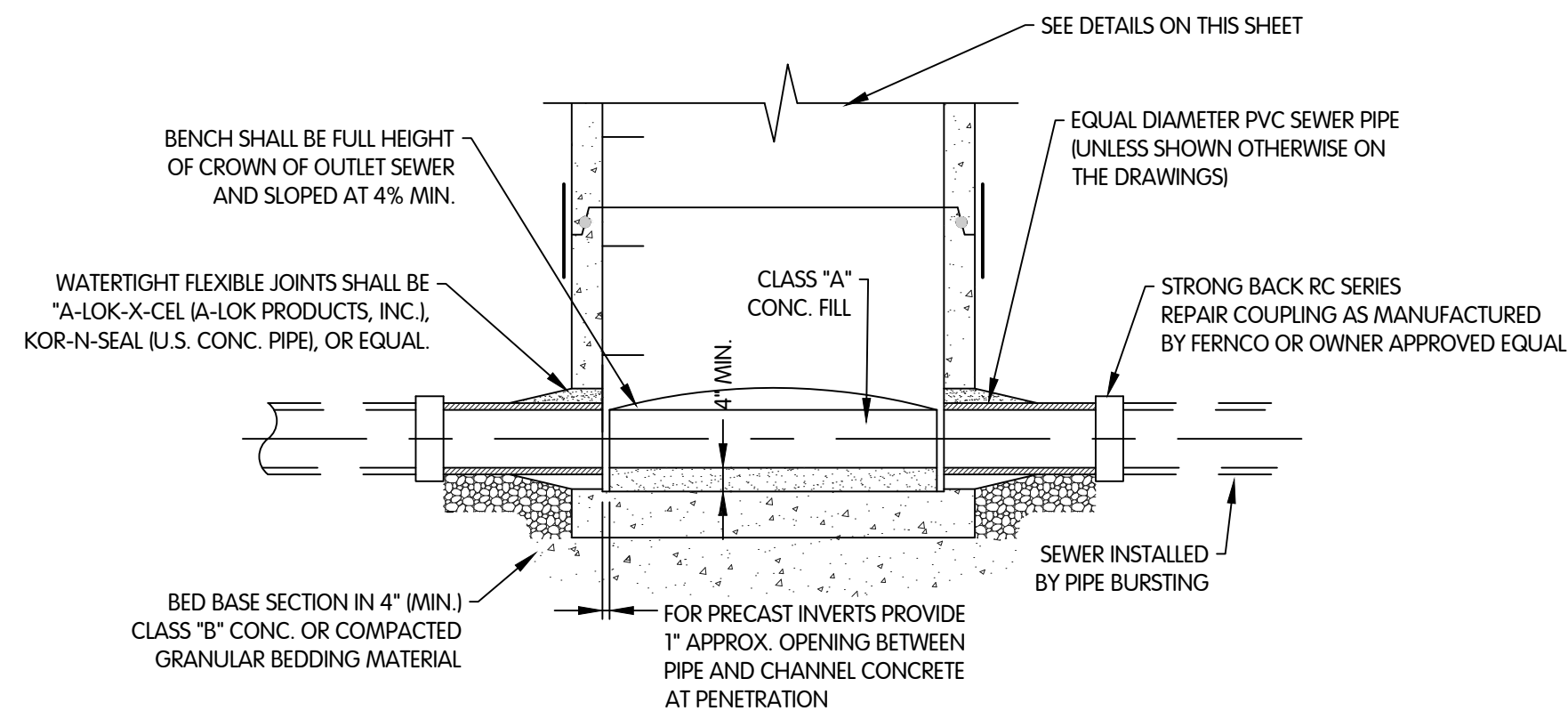
TOL-759600PE05-II BURIED PIPE AND MH PIPING & EQUIPMENT DETAILS  
2/6/2020 3:23 PM - CLENDER  
3/2/2020 8:28 AM



TYPE I & II MANHOLES

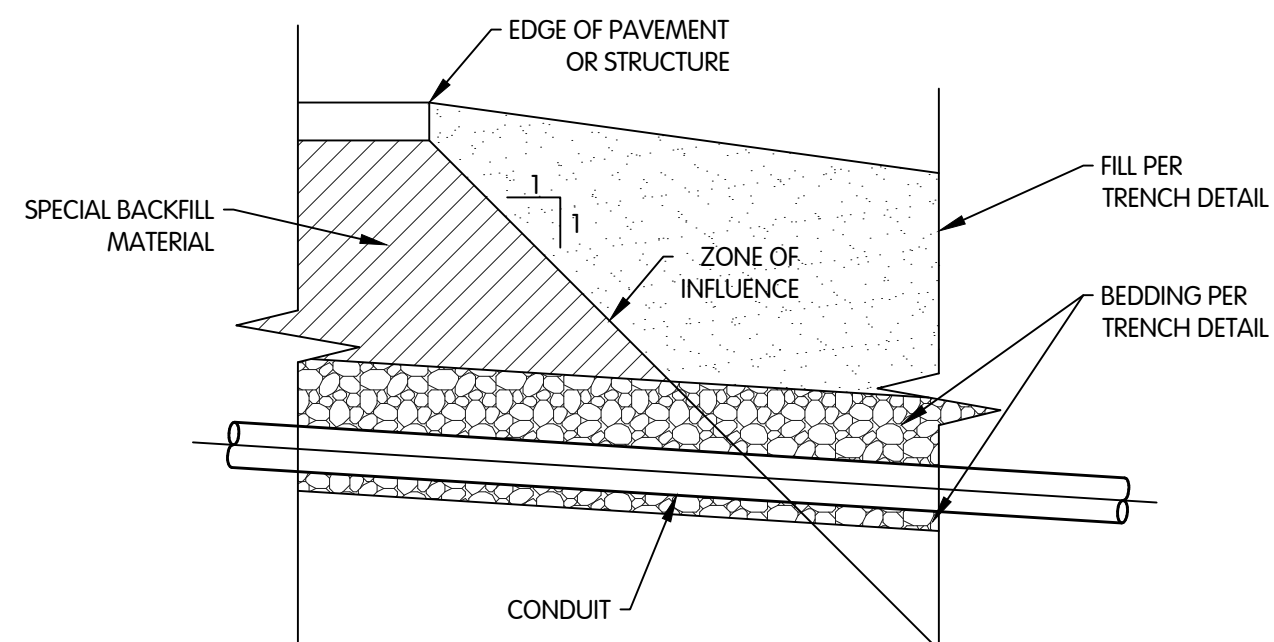


GRAVEL ROAD AND BERM REPAIR SECTION  
NTS



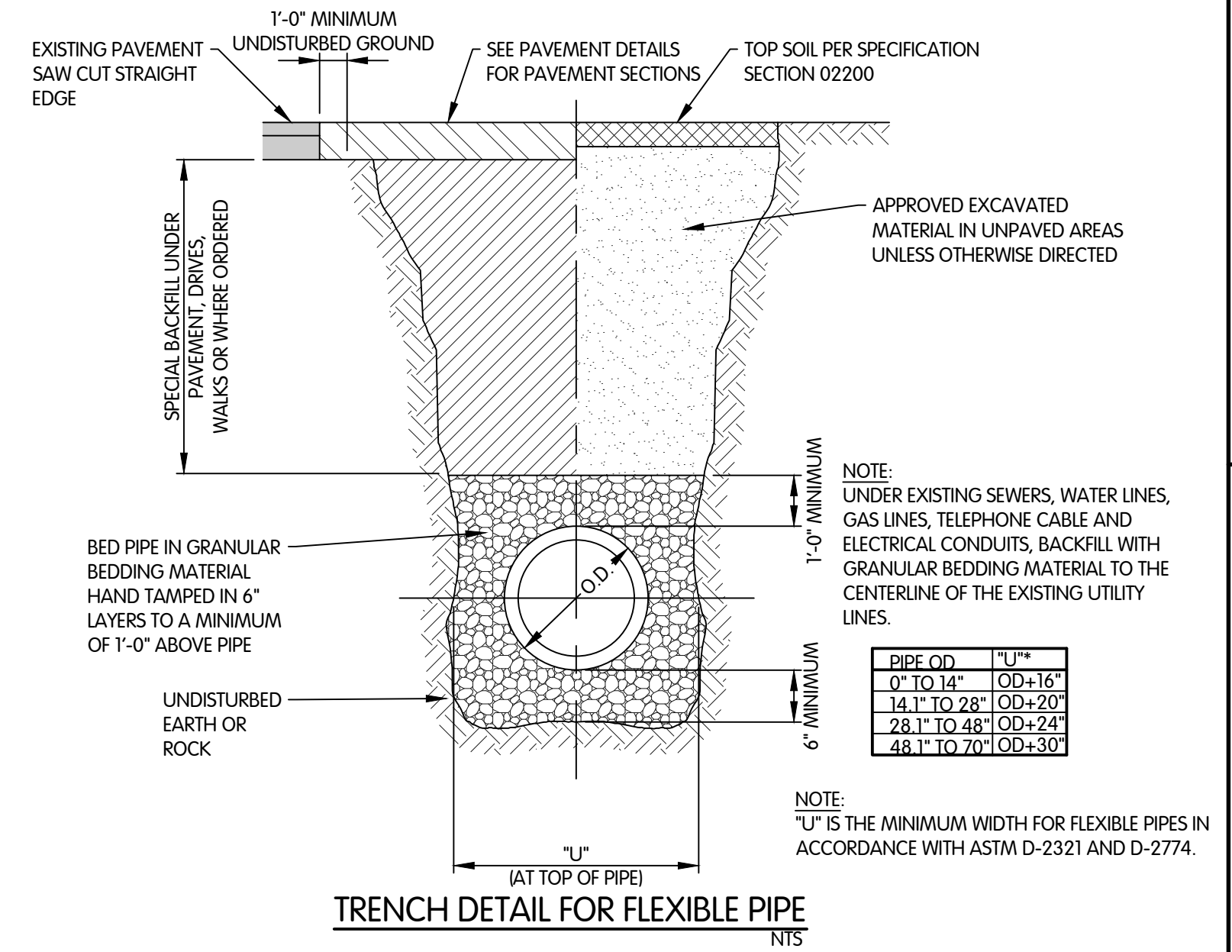
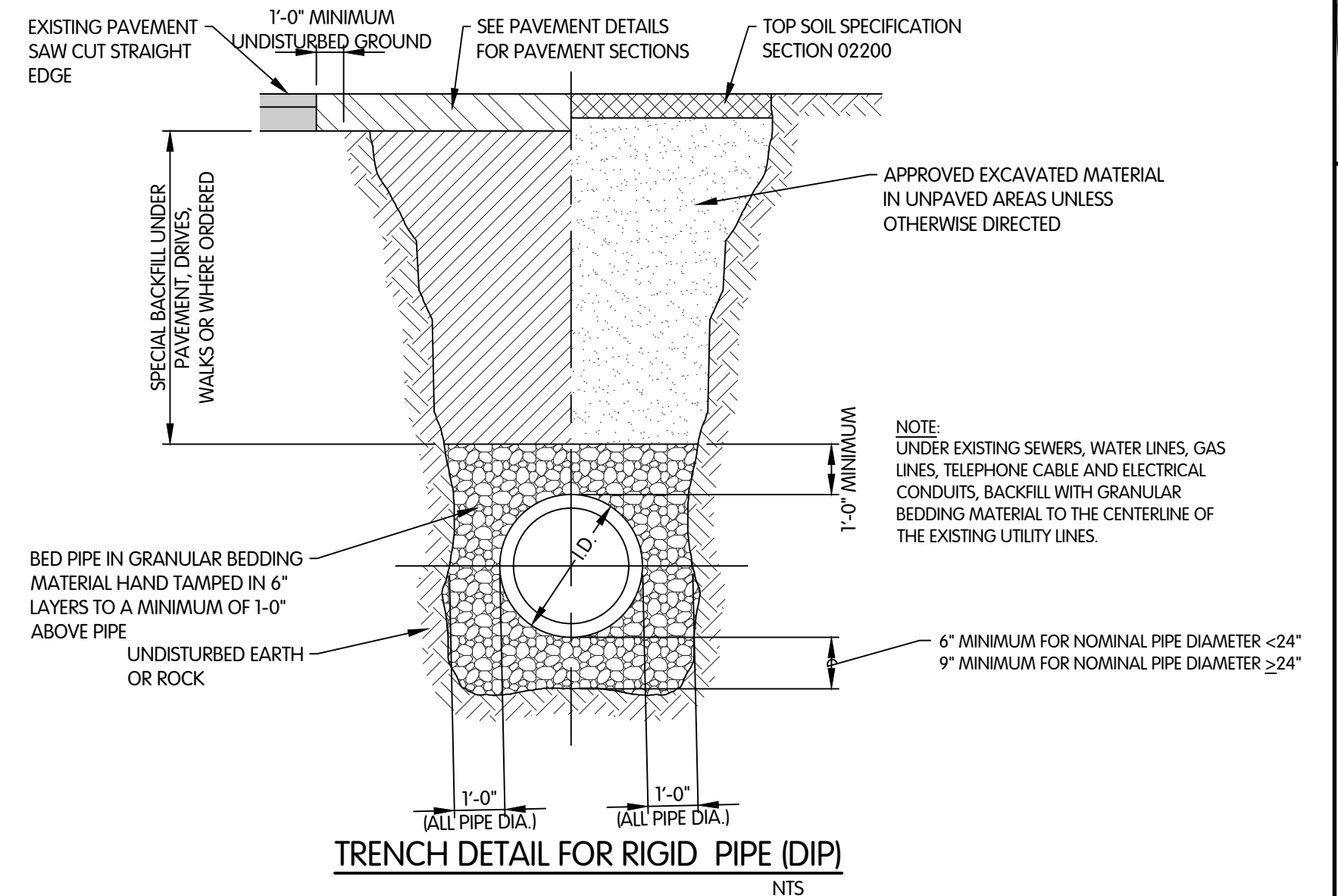
TYPE I & II MANHOLES REPLACED ON EXISTING SEWERS

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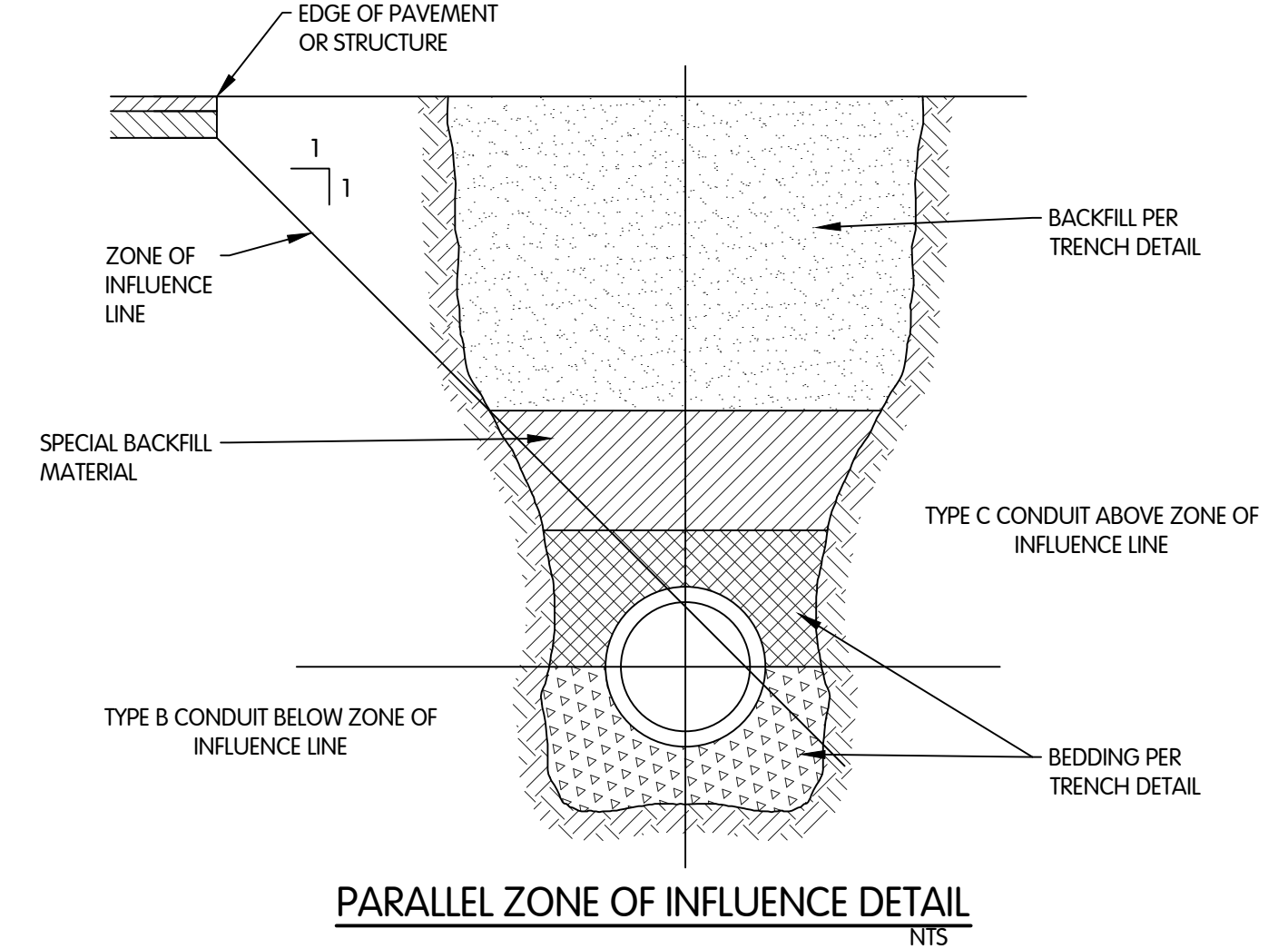


TRANSVERSE ZONE OF INFLUENCE

3/4" = 1'-0"



TRENCH DETAIL FOR FLEXIBLE PIPE  
NTS



BURIED PIPE AND MANHOLES  
PIPING AND EQUIPMENT  
DETAILS

FRANKLIN STREET AND INDUSTRIAL DRIVE PUMP STATION RENOVATIONS  
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DESIGNED TAB DRAWN RGW CHECKED TAB

STATUS ISSUED FOR BID

DATE MARCH 2020

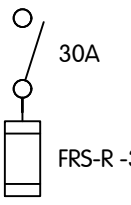
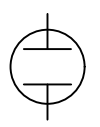

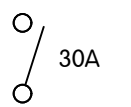
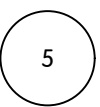
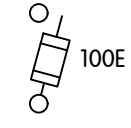
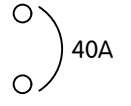
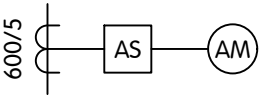
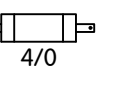
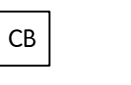
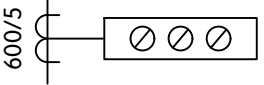
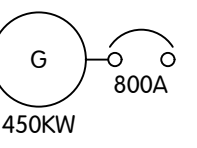
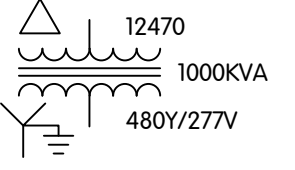
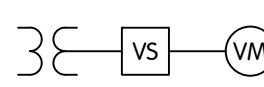
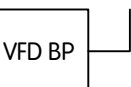
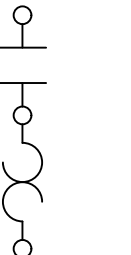
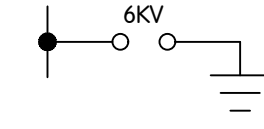
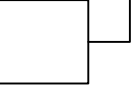
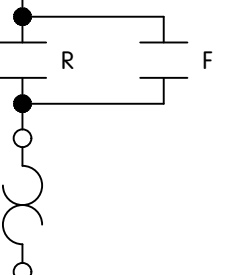
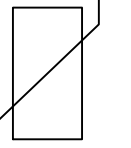
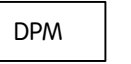
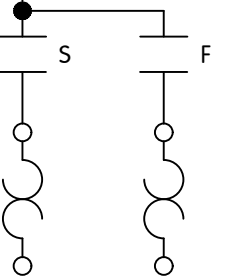
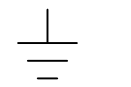


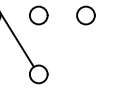
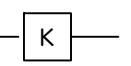
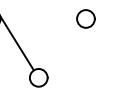

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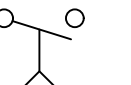

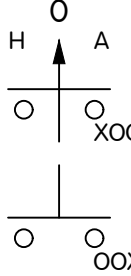
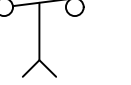
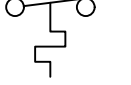
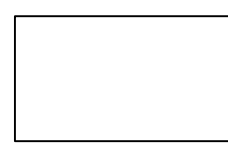
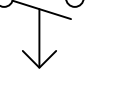
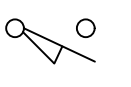
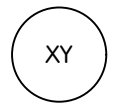

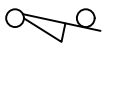
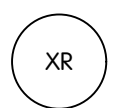
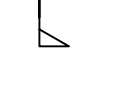
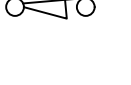

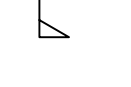
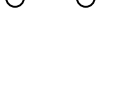
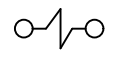





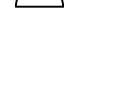

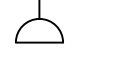
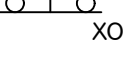
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TOL-759600E01-12 ELECTRICAL LEGEND  
1/28/2020 9:28 AM - EDRILL  
3/27/2020 8:58 AM  
REVISED FILES

### SINGLE-LINE DIAGRAM LEGEND

	30A FUSED DISCONNECT SWITCH (SWITCH SIZE, FUSE TYPE AND FUSE SIZE AS SHOWN)		VACUUM CONTACTOR		POWER FACTOR CORRECTION CAPACITOR - (PFCC) (SIZE PER MOTOR MANUFACTURER RECOMMENDATIONS.)
	30A UNFUSED DISCONNECT SWITCH (SWITCH SIZE AS SHOWN)		THREE PHASE AC MOTOR (HORSEPOWER AS SHOWN)		HIGH OR MEDIUM VOLTAGE FUSED CUTOUT (SIZE AS SHOWN)
	40A THERMAL-MAGNETIC CIRCUIT BREAKER OR MOTOR CIRCUIT PROTECTOR-MCP (TRIP SIZE AS SHOWN)		CURRENT TRANSFORMER WITH AMMETER SWITCH, AND AMMETER (RATIO AS SHOWN)		CABLE LIMITER (SIZE AS SHOWN)
	CB HIGH OR MEDIUM VOLTAGE CIRCUIT BREAKER		CURRENT TRANSFORMER WITH SHORTING BLOCK (RATIO AS SHOWN)		STAND-BY GENERATOR (SIZE AS SHOWN) WITH FIELD PROTECTION CIRCUIT BREAKER (TRIP SIZE AS SHOWN)
	12470 1000KVA 480Y/277V LIGHTING OR POWER TRANSFORMER, THREE PHASE UNLESS NOTED OTHERWISE (CONNECTION, SIZE & RATING AS SHOWN)		POTENTIAL TRANSFORMER WITH VOLTMETER SWITCH, AND VOLTMETER		VARIABLE FREQUENCY DRIVE WITH A BY-PASS OPTION (SHOWN WITH INTEGRAL EXTERNAL DISCONNECT HANDLE)
	FULL VOLTAGE NON-REVERSING MOTOR STARTER WITH OVERLOADS (FVNR)		LIGHTNING ARRESTER (VOLTAGE RATING AS SHOWN)		CP = CONTROL PANEL SSRVS = SOLID STATE REDUCED VOLTAGE STARTER (SHOWN WITH INTEGRAL EXTERNAL DISCONNECT HANDLE)
	FULL VOLTAGE REVERSING MOTOR STARTER WITH OVERLOADS (FVR)		TRANSIENT VOLTAGE SURGE SUPPRESSOR (TVSS)		DIGITAL POWER METER
	TWO SPEED MOTOR STARTER WITH OVERLOADS		GROUND CONNECTION		WATT-HOUR METER
			LINE OR LOAD REACTOR		AUTOMATIC TRANSFER SWITCH (ATS)
			KIRK KEY (DASHED LINES TO INTERLOCKED DEVICES)		MANUAL TRANSFER SWITCH (MTS)
			DRAWOUT FOR SWITCHGEAR OR MOTOR CONTROL CENTER		

### SCHEMATIC LEGEND

	OPEN CONTACTS WITH TIME-DELAY CLOSING		TEMPERATURE SWITCH CLOSES ON RISING TEMPERATURE		3 - POSITION, MAINTAINED ACTION SELECTOR SWITCH H - O - A: HAND-OFF-AUTOMATIC L - O - R: LOCAL-OFF-REMOTE PCS: PLANT CONTROL SYSTEM PLC: PROGRAMMABLE LOGIC CONTROLLER
	CLOSED CONTACTS WITH TIME-DELAY OPENING		TEMPERATURE SWITCH OPENS ON RISING TEMPERATURE		INDICATES ITEMS IN A SEPARATE COMMON ENCLOSURE
	OPEN CONTACTS WITH TIME-DELAY OPENING		LIMIT SWITCH NORMALLY OPEN		CONTACTOR COIL M - MOTOR STARTER CONTACTOR MF - MOTOR STARTER FORWARD CONTACTOR MR - MOTOR STARTER REVERSE CONTACTOR ML - MOTOR STARTER LOW SPEED CONTACTOR MH - MOTOR STARTER HIGH SPEED CONTACTOR SC - MOTOR STARTER STARTING CONTACTOR RC - MOTOR STARTER RUN CONTACTOR BP - BYPASS CONTACTOR CC - CAPACITOR CONTACTOR LC - LIGHTING CONTACTOR IC - ISOLATION CONTACTOR C - GENERAL CONTACTOR
	CLOSED CONTACTS WITH TIME-DELAY CLOSING		LIMIT SWITCH NORMALLY OPEN - HELD CLOSED		CONTROL RELAY COIL CR - INSTANTANEOUS CONTROL RELAY TR - TIME DELAY RELAY
	FLOW SWITCH CLOSES ON INCREASE IN FLOW		LIMIT SWITCH NORMALLY CLOSED		MOTOR STARTER OVERLOAD RELAY N.C. CONTACT
	FLOW SWITCH OPENS ON INCREASE IN FLOW		LIMIT SWITCH NORMALLY CLOSED - HELD OPEN		SOLENOID COIL SV - SOLENOID VALVE
	LIQUID LEVEL SWITCH CLOSES ON RISING LEVEL		FOOT SWITCH OPENS BY FOOT PRESSURE		ELAPSED TIME METER
	LIQUID LEVEL SWITCH OPENS ON RISING LEVEL		FOOT SWITCH CLOSES BY FOOT PRESSURE		
	PRESSURE OR VACUUM SWITCH CLOSES ON RISING PRESSURE		MUSH-ROOM HEAD, MAINTAINED ACTION (PUSH-PULL) PUSH BUTTON SWITCH (SHOWN WITH ONLY 1 CIRCUIT)		
	PRESSURE OR VACUUM SWITCH OPENS ON RISING PRESSURE		2 - POSITION, MAINTAINED ACTION SELECTOR SWITCH		

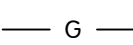
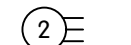
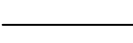

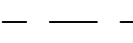

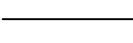
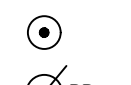


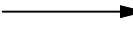
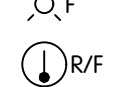
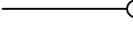
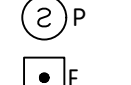
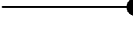
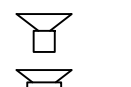
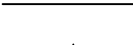
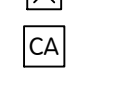
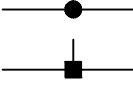
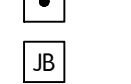
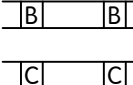

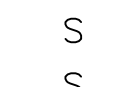
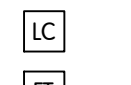
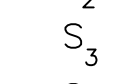
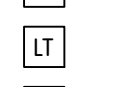
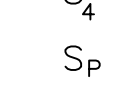
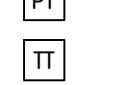
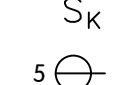

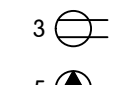

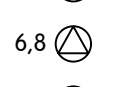
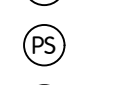

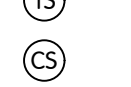
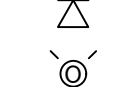

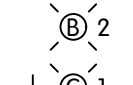
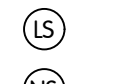
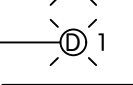
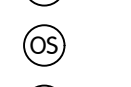
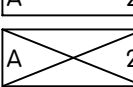

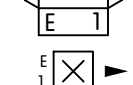
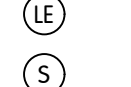

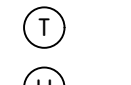

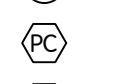
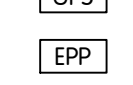
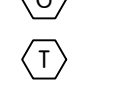
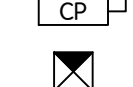
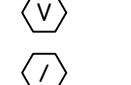


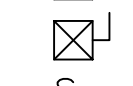

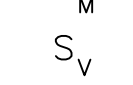
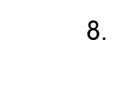
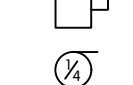
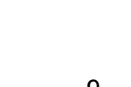

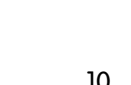







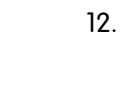






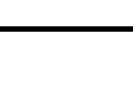

### GENERAL ELECTRICAL ABBREVIATIONS

PVC - POLYVINYL CHLORIDE  
RGS - RIGID GALVANIZED STEEL  
PVC/RGS - PVC COATED RGS

### MOTOR STARTER ABBREVIATIONS

FVNR - FULL VOLTAGE, NON-REVERSING  
FVR - FULL VOLTAGE REVERSING  
TS1W - TWO SPEED, ONE WINDING  
TS2W - TWO SPEED, TWO WINDING  
TSR1W - TWO SPEED REVERSING, ONE WINDING  
TSR2W - TWO SPEED REVERSING, TWO WINDING

### ELECTRICAL PLAN LEGEND

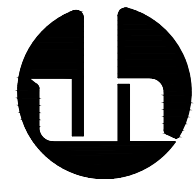
	GROUND WIRE		THREE PHASE AC MOTOR(HORSEPOWER AS SHOWN)
	DIRECT BURIAL CABLE		MOTOR OPERATED VALVE, 3 PHASE, WITH MAGNETIC STARTER AND CONTROLS
	CONDUIT CONCEALED		MOTOR OPERATED VALVE, 1 PHASE, WITH MAGNETIC STARTER AND CONTROLS
	CONDUIT EXPOSED		GROUND ROD WITH CADCWELD CONNECTION
	CONDUIT IN CONCRETE DUCT BANK		PP= POWER POLE, LP = LIGHT POLE
	HOMERUN		AIR TERMINAL (LIGHTNING PROTECTION)
	CONDUIT TURNS UP		STROBE LIGHT (F= FIRE ALARM, G= GAS ALARM)
	CONDUIT TURNS DOWN		HEAT DETECTOR - RATE OF RISE/FIXED TEMPERATURE
	CAPPED CONDUIT (FUTURE USE)		SMOKE DETECTOR - (P = PHOTOELECTRIC, I = IONIZATION)
	CONDUIT TEE		PULL STATION - FIRE ALARM
	CADWELD CONNECTION		HORN, BELL, OR SIREN
	B = BUSWAY		HORN/STROBE COMBINATION
	C = CABLE TRAY		CAPACITOR
	SINGLE POLE TOGGLE SWITCH		CONTROL STATION
	DOUBLE POLE TOGGLE SWITCH		BOX - JUNCTION, TERMINAL, PULL OR HAND HOLE
	THREE-WAY TOGGLE SWITCH		ELECTRIC MANHOLE
	FOUR-WAY TOGGLE SWITCH		TRANSFORMER (SEE SINGLE LINE FOR SIZE & TYPE)
	TOGGLE SWITCH WITH GREEN PILOT LIGHT		LIGHTING CONTACTOR
	KEY-OPERATED SWITCH		FLOW TRANSMITTER
	SINGLE RECEPTACLE		LEVEL TRANSMITTER
	DUPLEX RECEPTACLE		PRESSURE TRANSMITTER
	RECEPTACLE, (SINGLE) 120, 30A OR LARGER		TEMPERATURE TRANSMITTER
	RECEPTACLE, (SINGLE) 240V, 2 POLE		ANALYSIS TRANSMITTER (I.E. OXYGEN, TURBIDITY)
	POWER RECEPTACLE 480V, 3PH WITH DISCONNECT SWITCH (SIZE AS SHOWN)		INDICATOR - PRESSURE, FLOW, LEVEL, DENSITY, ANALYSIS
	TELEPHONE RECEPTACLE		DENSITY TRANSMITTER
	COMPUTER RECEPTACLE		LIMIT (POSITION) SWITCH
	BOLLARD LIGHT FIXTURE		PRESSURE SWITCH
	CEILING MOUNTED FIXTURE		TEMPERATURE SWITCH (I.E. MOTOR THERMO PROTECTOR)
	WALL MOUNTED FIXTURE		CONVEYOR CABLE SWITCH
	POLE MOUNTED FIXTURE		SPEED SWITCH
	FLUORESCENT FIXTURE		FLOW SWITCH
	FLUORESCENT TROFFER - GRID CEILING LAY IN		LEVEL SWITCH
	EMERGENCY LIGHTING FIXTURE, (2-HEAD SHOWN)		MOISTURE SWITCH
	EXIT FIXTURE (WITH DIRECTION ARROW WHERE INDICATED)		TORQUE SWITCH
	MOTOR CONTROL CENTER (MCC) OR SWITCHGEAR (SWG)		VIBRATION SWITCH
	DISTRIBUTION PANEL 480V OR 480Y/277V		LOAD CELL
	LIGHTING PANEL 120/208V OR 120/240V		TRANSMITTER SENSING ELEMENT - LEVEL, FLOW, DENSITY, PRESSURE, ANALYSIS
	UNINTERRUPTIBLE POWER SUPPLY		SOLENOID
	EMERGENCY POWER PACK		THERMOSTAT
	CONTROL PANEL (SHOWN WITH EXTERNAL DISCONNECT HANDLE)		HEATER IN MOTOR
	MAGNETIC MOTOR STARTER 480V, 3 PHASE		PHOTOELECTRIC CELL
	MAGNETIC MOTOR STARTER 120V, 1 PHASE		GAS DETECTOR WITH CONTROL PANEL (GAS TYPE AS SHOWN)
	COMBINATION MAGNETIC MOTOR STARTER 480V, 3 PHASE		THERMOCOUPLE
	COMBINATION MAGNETIC MOTOR STARTER 120V, 1 PHASE		PNEUMATIC VALVE OPERATOR
	MANUAL MOTOR STARTER 480V, 3 PHASE		CURRENT TO PRESSURE TRANSDUCER
	MANUAL MOTOR STARTER 120V, 1 PHASE		
	DISCONNECT SWITCH (SEE SINGLE LINE DIAGRAM FOR SIZE & TYPE)		
	SINGLE PHASE AC MOTOR(HORSEPOWER AS SHOWN, DC INDICATES DC MOTOR)		

### ELECTRICAL NOTES

- STRUCTURAL MATERIALS ARE NOT SHOWN ON ELECTRICAL DRAWINGS. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS.
- ALL ELECTRICAL EQUIPMENT ELEVATIONS SHOWN ARE TO BOTTOM OF DEVICE OR PANEL, UNLESS OTHERWISE NOTED.
- NUMBER SHOWN (I.E. 11735), INDICATES A SPECIFICATION REFERENCE FOR ITEMS OTHER THAN DIVISION 16. THE ELECTRICAL ITEM UNDER THIS REFERENCE IS SUPPLIED BY ANOTHER PART OF THE CONTRACT. UNLESS OTHERWISE NOTED IN THAT SPECIFICATION, THE CONTRACTOR SHALL INSTALL AND WIRE THE ITEM PER THE DRAWINGS AND DIVISION 16 SPECIFICATIONS.
- CONTROL WIRING SHALL CONFORM TO ALL REQUIREMENTS AS SHOWN ON THE P & ID DRAWINGS WHETHER SHOWN ON THE ELECTRICAL DRAWINGS OR NOT.
- WHERE LINES ARE SHOWN CONNECTING ELECTRICAL EQUIPMENT, THEY ARE NOT INTENDED AS CONDUIT ROUTING. CONTRACTOR SHALL ROUTE ALL CONDUIT RUNS (SHOWN OR NOT) PER DIVISION 16 SPECIFICATIONS.
- WP INDICATES WATERPROOF. LETTER ON OR NEXT TO LIGHT FIXTURE INDICATES TYPE, PER SECTION 16510. NUMBER WITH LIGHT FIXTURE OR RECEPTACLE INDICATES CIRCUIT NUMBER.
- GFCCI INDICATES A CIRCUIT BREAKER OR RECEPTACLE WITH A 6 MA GROUND FAULT CIRCUIT INTERRUPTER. GFEPD INDICATES A CIRCUIT BREAKER OR RECEPTACLE WITH A 30 MA GROUND FAULT EQUIPMENT PROTECTION DEVICE.
- FOR BELOW GRADE CONDUIT PENETRATIONS THROUGH EXISTING EXTERIOR CONCRETE WALLS, PROVIDE TYPE A CONDUIT SLEEVE FOR PVC CONDUIT. FOR RGS OR PVC-COATED RGS CONDUIT, PROVIDE TYPE B CONDUIT SLEEVE THROUGH CONCRETE WALLS, AND TYPE C CONDUIT SLEEVE THROUGH EXISTING CONCRETE WALLS.
- FOR ABOVE GRADE CONDUIT PENETRATIONS THROUGH EXTERIOR CONCRETE WALLS, PROVIDE TYPE C CONDUIT SLEEVE. FOR MASONRY WALLS PROVIDE TYPE F CONDUIT SLEEVE.
- FOR CONDUIT PENETRATIONS THROUGH EXISTING CONCRETE FLOORS AND WALLS BETWEEN ADJACENT NON-CLASSIFIED (NON-HAZARDOUS) AREAS, PROVIDE TYPE C CONDUIT SLEEVES FOR ALL CONDUIT TYPES. FOR SIMILAR PENETRATIONS THROUGH CONCRETE FLOORS AND WALLS, PROVIDE TYPE D CONDUIT SLEEVES FOR ALL CONDUIT TYPES.
- FOR CONDUIT PENETRATIONS THROUGH CONCRETE FLOORS AND WALLS SEPARATING CLASSIFIED (HAZARDOUS) AREAS FROM NON-CLASSIFIED (NON-HAZARDOUS) AREAS, PROVIDE TYPE G CONDUIT SLEEVES. FOR SIMILAR PENETRATIONS THROUGH MASONRY WALLS, PROVIDE TYPE H CONDUIT SLEEVE. FOLLOW MECHANICAL SEAL MANUFACTURER'S RECOMMENDATIONS TO MEET 3-HOUR FIRE RESISTANCE REQUIREMENTS.
- LEGENDS ARE FOR REFERENCE ONLY AND DOES NOT MEAN THAT ALL ITEMS ARE USED.



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SCALE NONE

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DESIGNED TAB DRAWN RGW CHECKED TAB

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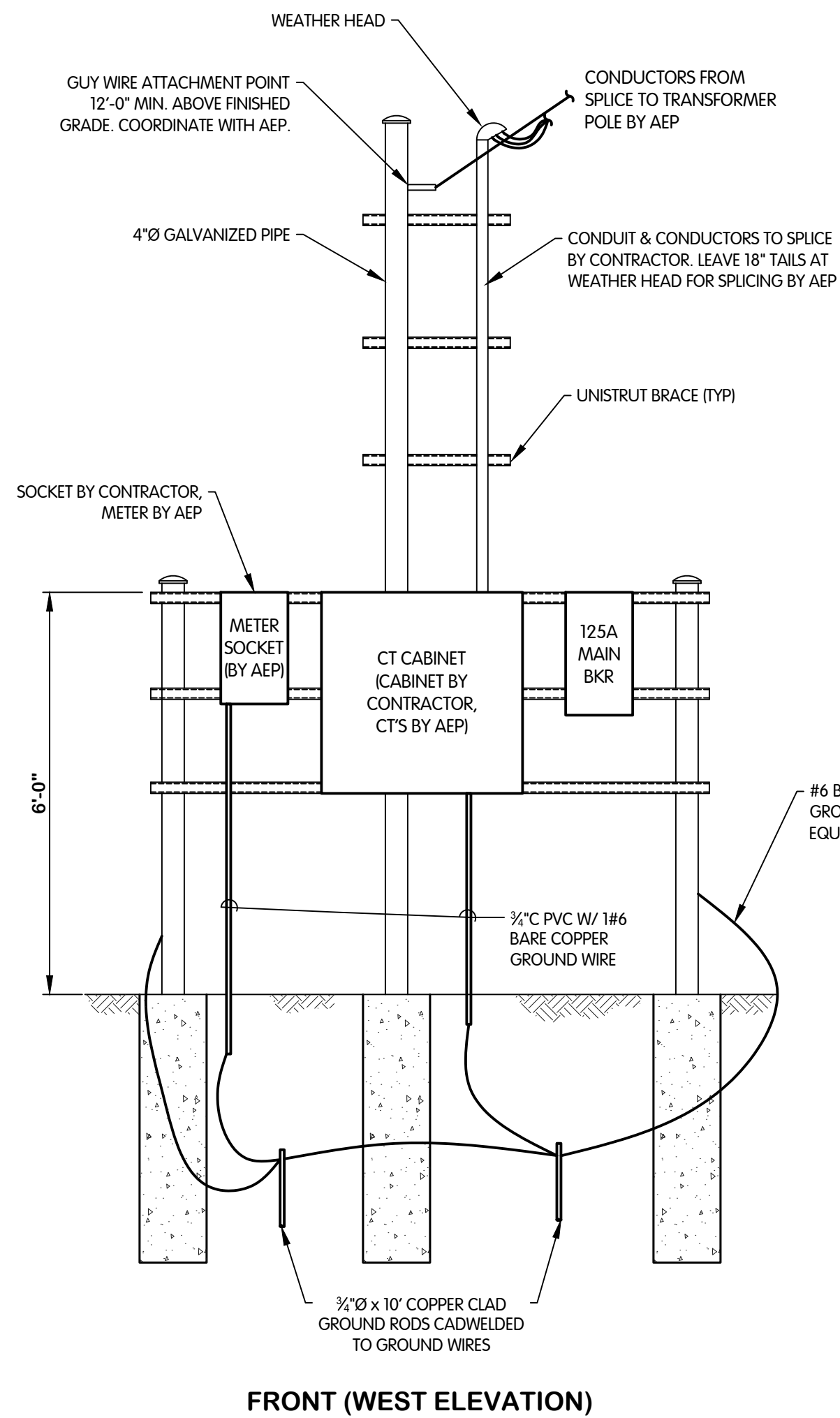
DATE MARCH 2020

SHEET NO.

E-1

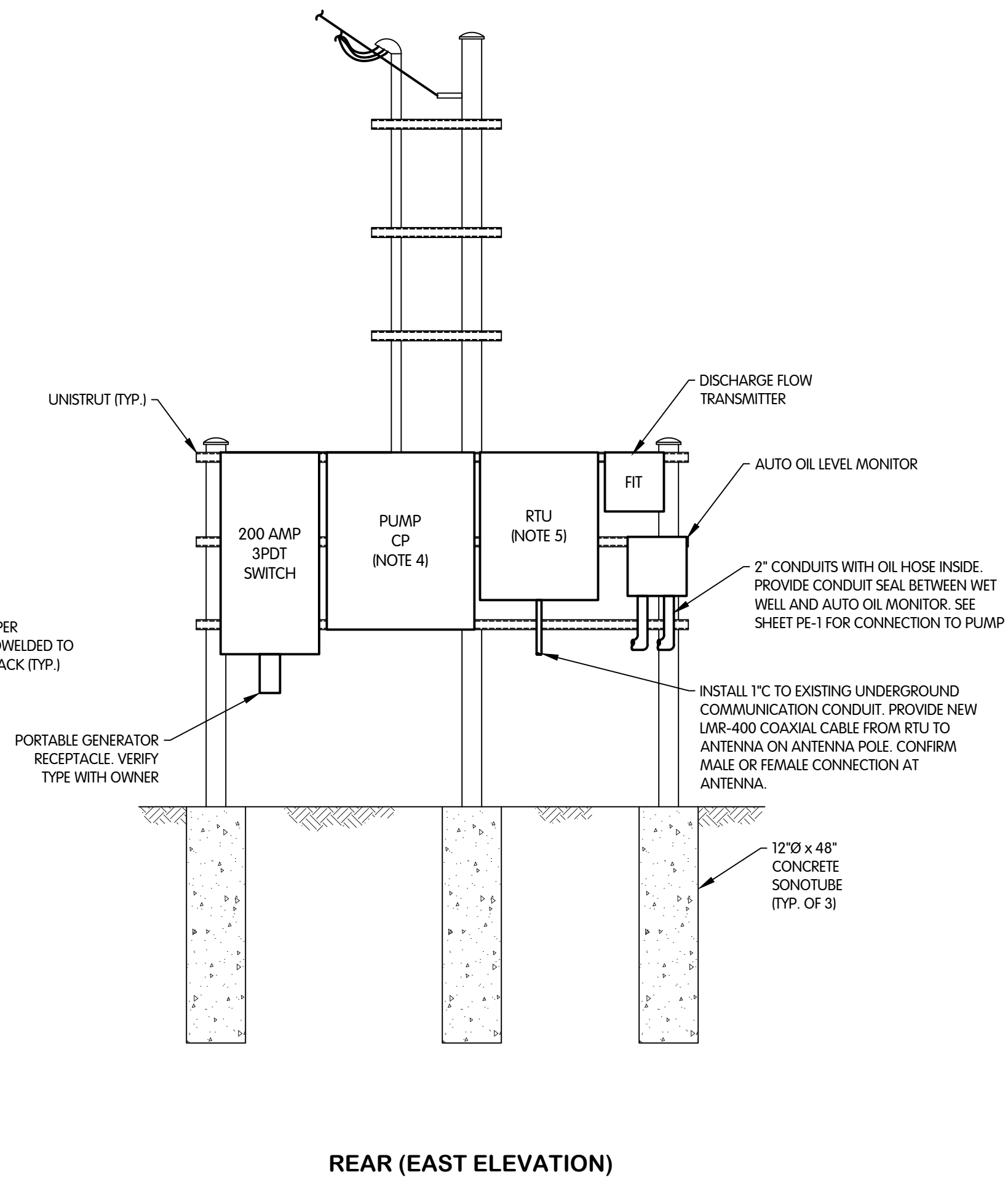
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3/2/2020 2:40 PM

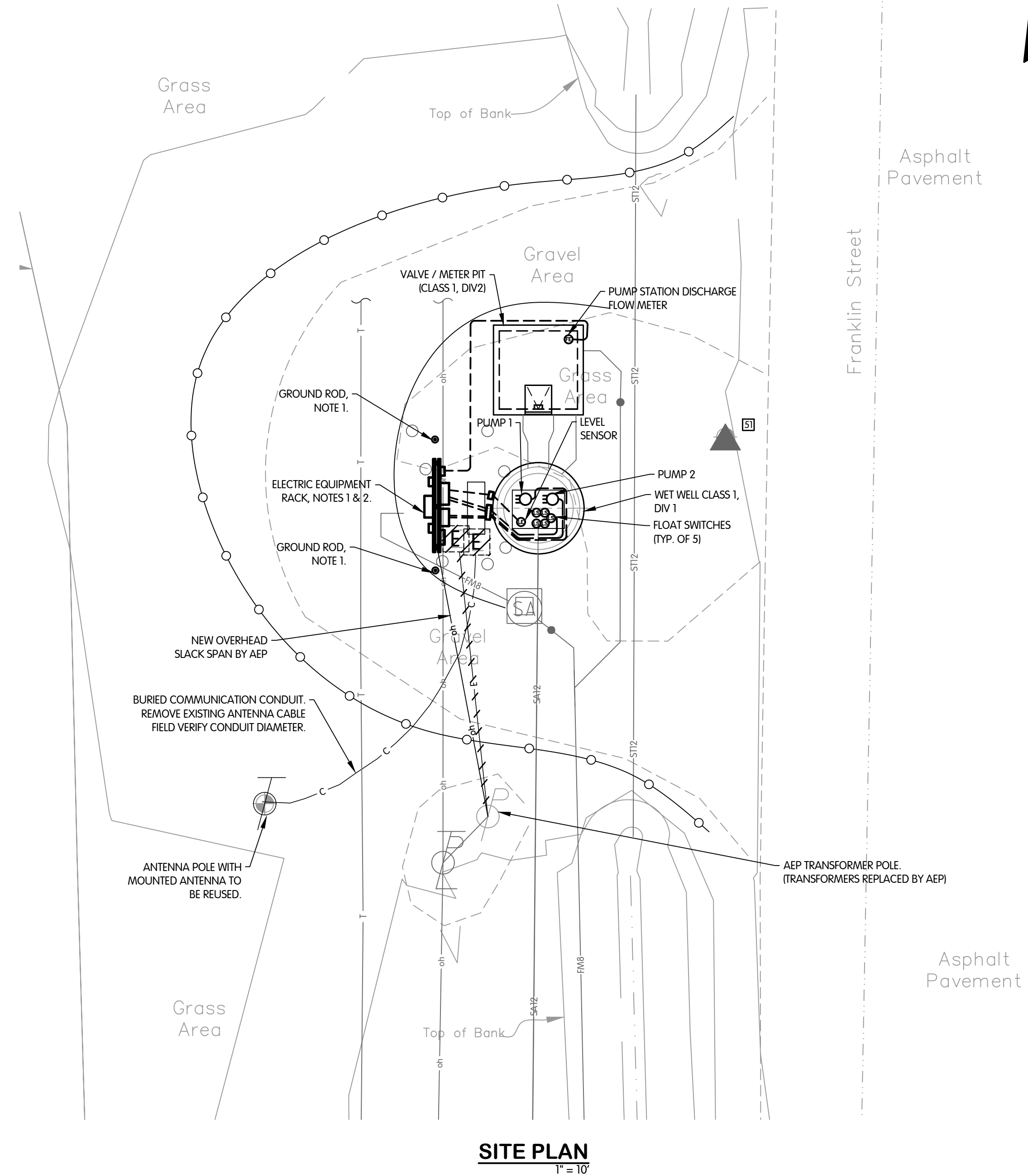


FRONT (WEST ELEVATION)

**ELECTRICAL EQUIPMENT RACK**  
SEE PUMP STATION ONE-LINE DIAGRAM SHEET E-4  
1/2\"/>



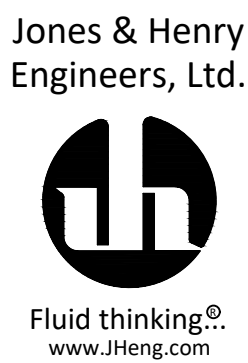
REAR (EAST ELEVATION)



- NOTES:
- SEE ELECTRIC EQUIPMENT RACK DETAIL THIS SHEET.
  - SEE ELECTRICAL ONE-LINE, RISER DIAGRAM AND PUMP/FLOAT SWITCH AND INSTRUMENTATION CABLING ON SHEET E-4. CONDUIT AND WIRE TO/FROM ELECTRIC EQUIPMENT RACK IS INDICATED ON THESE THREE DETAILS.
  - ALL WORK NOT DESIGNATED BY AEP OR BY ALLOWANCE SHALL BE PERFORMED BY CONTRACTOR.
  - PUMP CONTROL PANEL FABRICATED BY OTHERS, INSTALLED AND WIRED BY CONTRACTOR.
  - RTU PANEL RELOCATED TO NEW ELECTRICAL EQUIPMENT RACK. PROGRAMMING BY ALLOWANCE PER SPECIFICATION 01043.



FRANKLIN STREET  
ELECTRICAL SITE PLAN  
AND EQUIPMENT RACK DETAILS  
FRANKLIN STREET AND INDUSTRIAL DRIVE PUMP STATION RENOVATIONS  
CITY OF VAN WERT, OHIO



JOB NO. 261-7596.001

SCALE AS NOTED

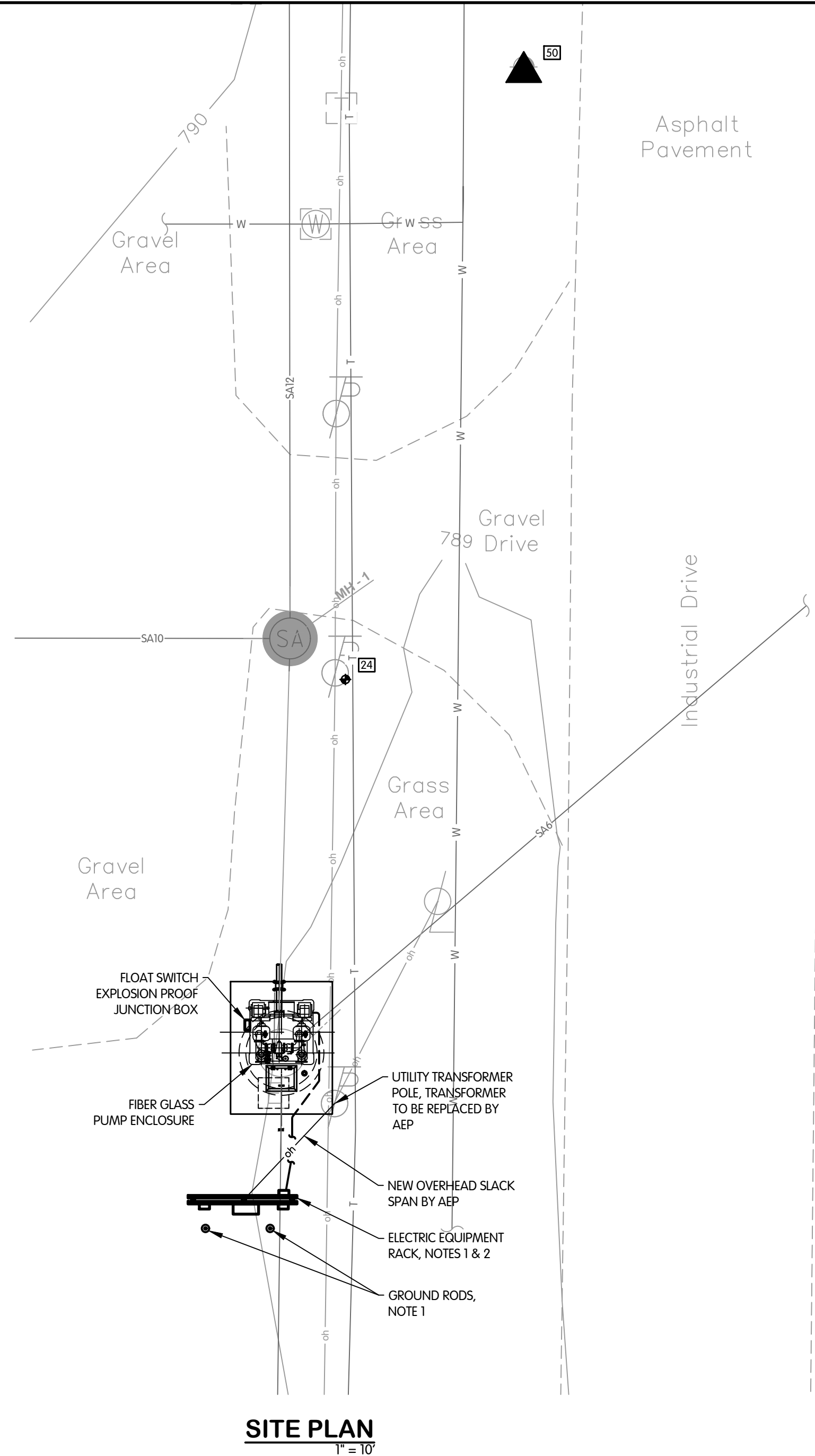
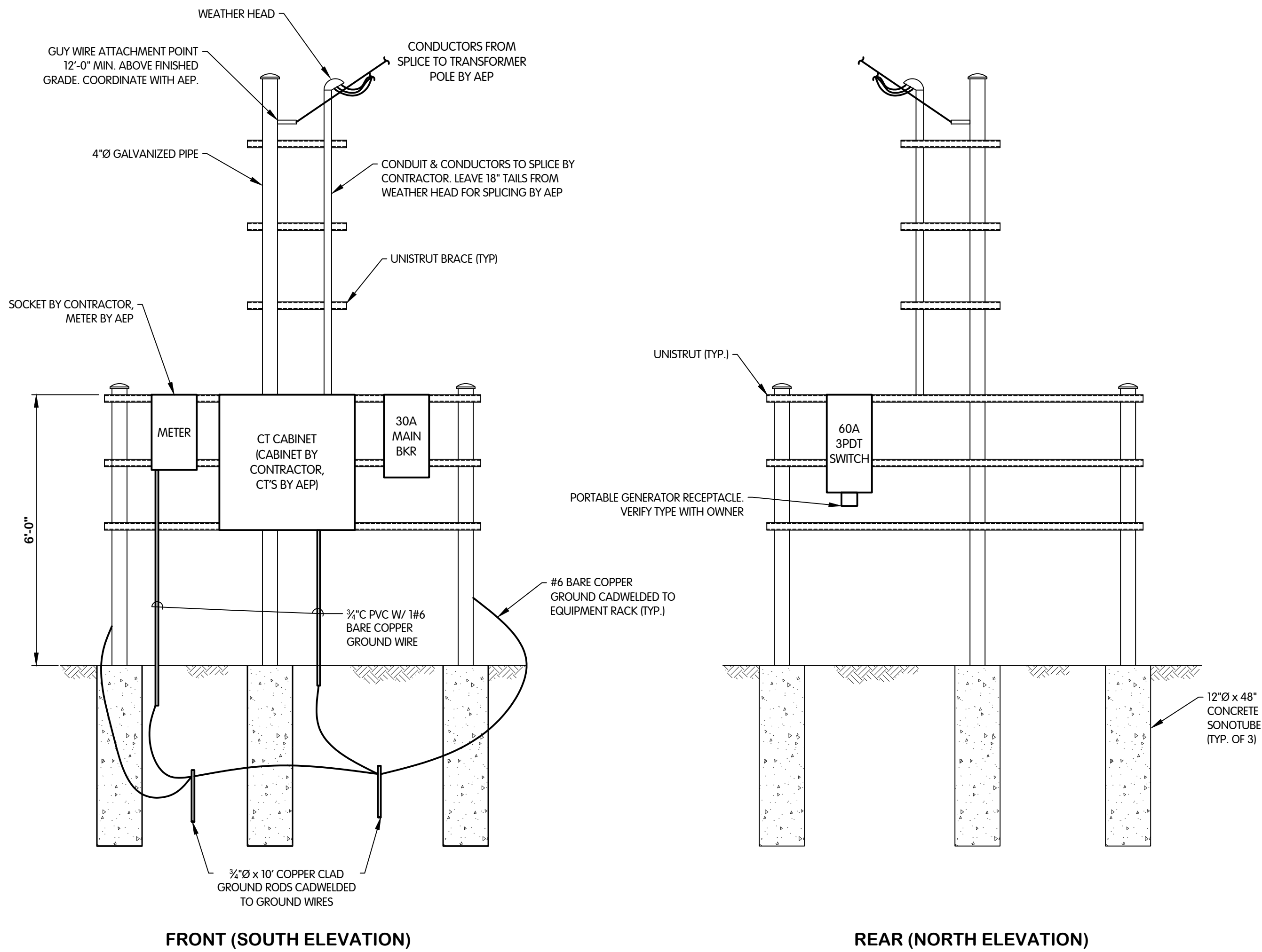
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STATUS ISSUED FOR BID  
DATE MARCH 2020

SHEET NO.  
E-2  
14 OF 18

TOL-759600E03-14 INDUSTRIAL ELECTRICAL SITE PLAN  
2/25/2020 8:26 AM - CLENDER  
3/2/2020 8:29 AM



- NOTES:**
1. SEE ELECTRIC EQUIPMENT RACK DETAIL THIS SHEET.
  2. SEE ELECTRICAL ONE-LINE, CONTROL RISER DIAGRAM AND PUMP / FLOAT SWITCH CABLING ON SHEET E-5.
  3. ALL WORK NOT DESIGNATED BY AEP OR BY ALLOWANCE SHALL BE PERFORMED BY THE CONTRACTOR.



**INDUSTRIAL DRIVE  
ELECTRICAL SITE PLAN,  
AND EQUIPMENT RACK DETAILS**  
FRANKLIN STREET AND INDUSTRIAL DRIVE PUMP STATION RENOVATIONS  
CITY OF VAN WERT, OHIO

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SCALE 1" = 10'

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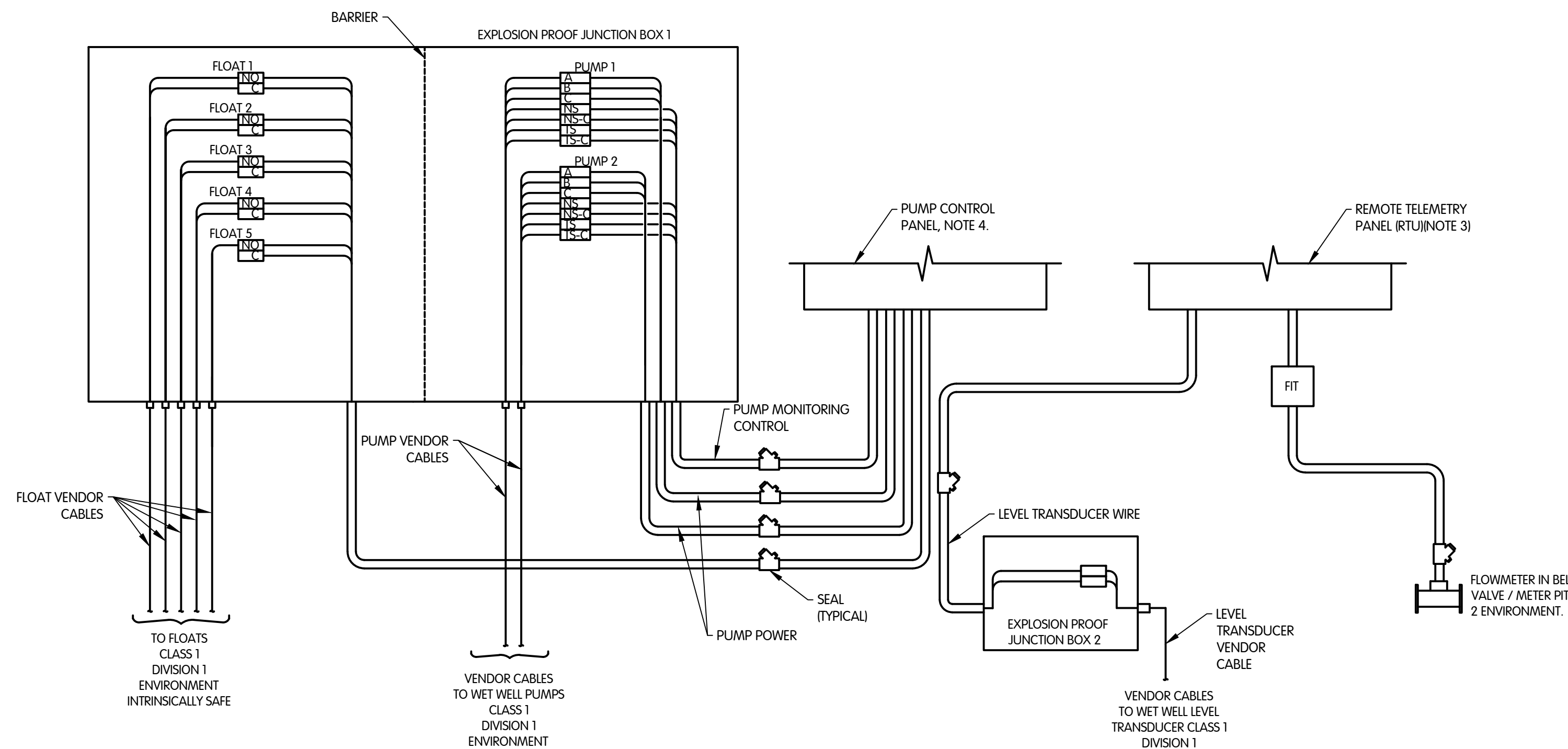
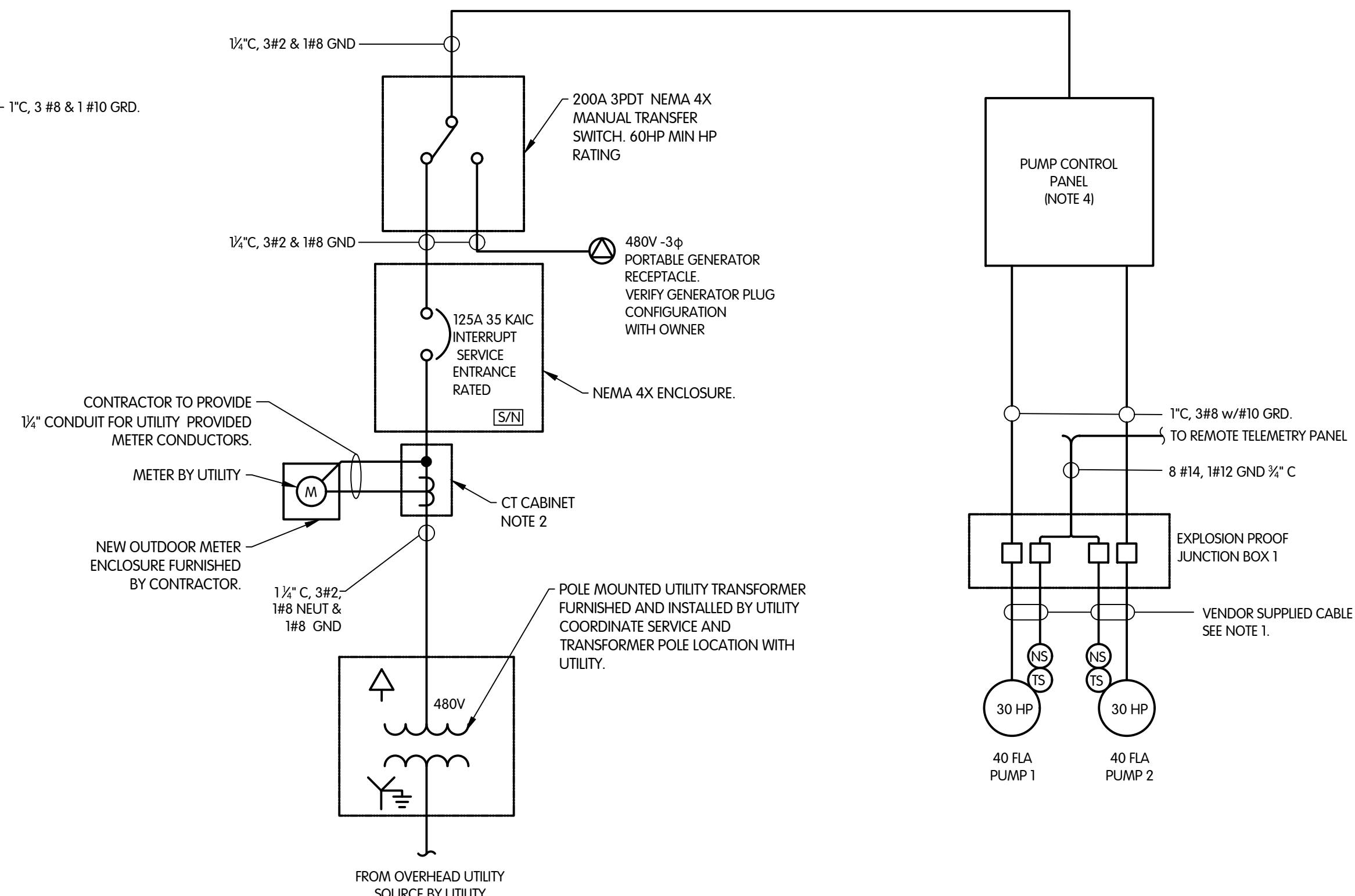
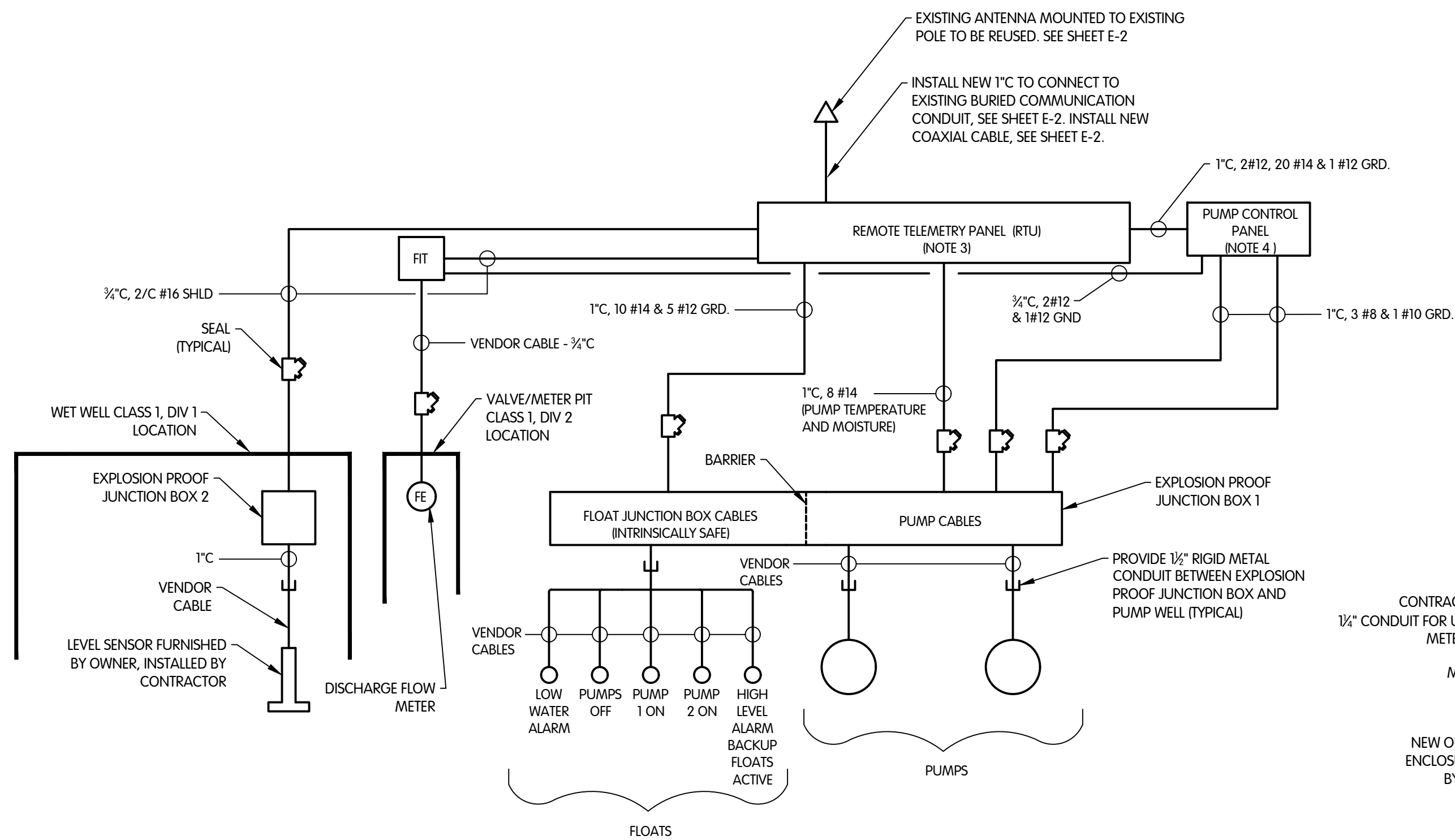
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DATE MARCH 2020

SHEET NO.

E-3

15 OF 18



- NOTES:**
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  2. PROVIDE CT CABINET PER AEP STANDARDS. AEP SHALL PROVIDE CT'S TO CONTRACTOR FOR MOUNTING INSIDE OF CABINET. CONTRACTOR SHALL PROVIDE 3/4" PLYWOOD BACK PLATE INSIDE OF CABINET FOR CT MOUNTING.
  3. CONTRACTOR TO REMOVE EXISTING RTU PANEL FOR REUSE AND REINSTALLATION ON NEW ELECTRICAL EQUIPMENT RACK. SEE SPECIFICATION 01021 FOR PROGRAMMING ALLOWANCE.
  4. FABRICATED BY OTHERS, INSTALLED AND WIRED BY CONTRACTOR.



FRANKLIN STREET  
ONE-LINE AND CABLING DIAGRAMS  
FRANKLIN STREET AND INDUSTRIAL DRIVE PUMP STATION RENOVATIONS  
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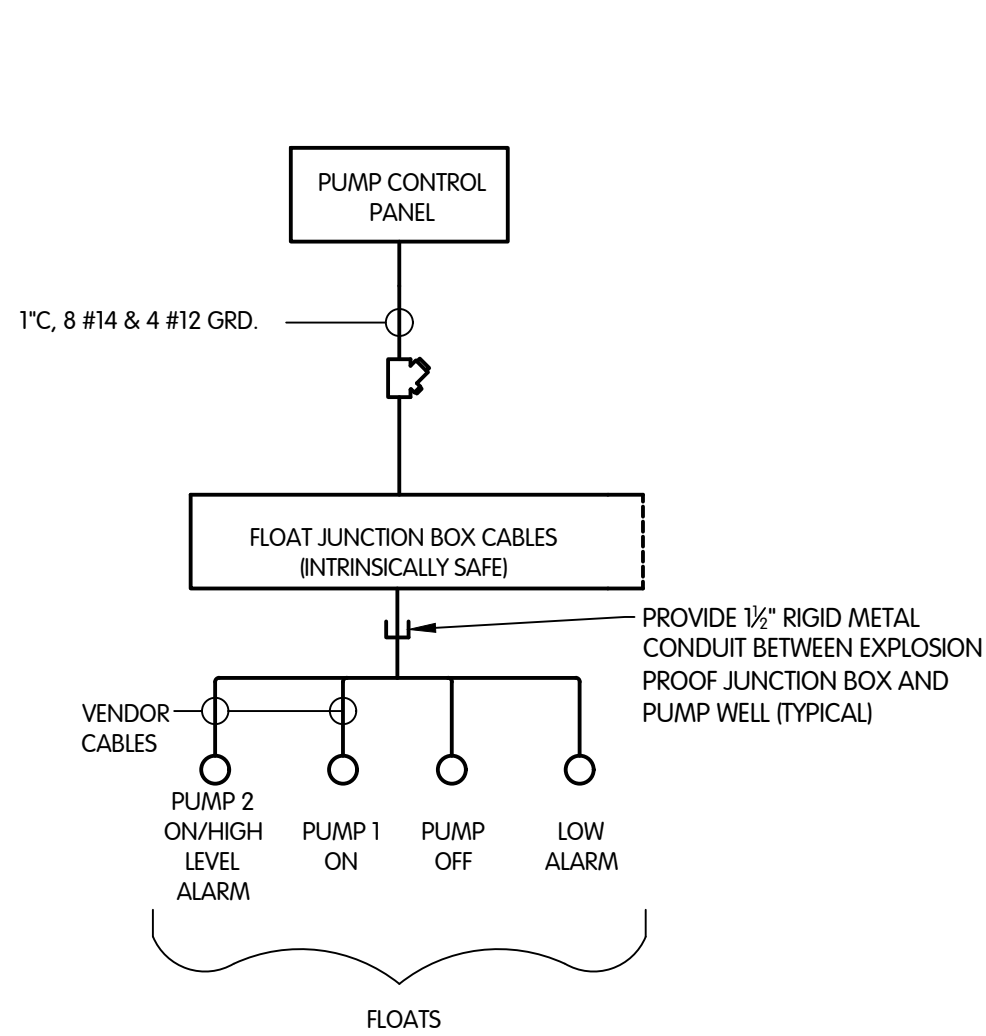
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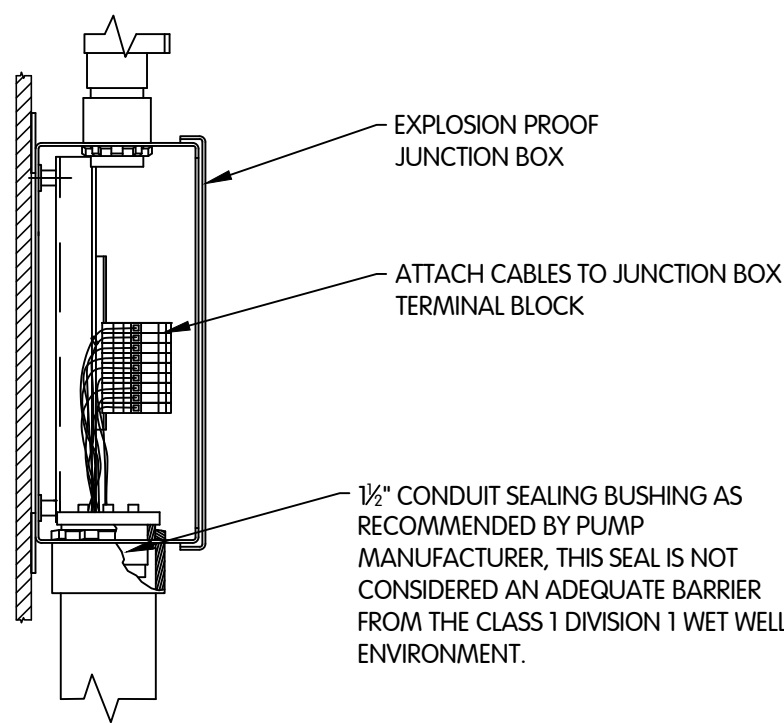
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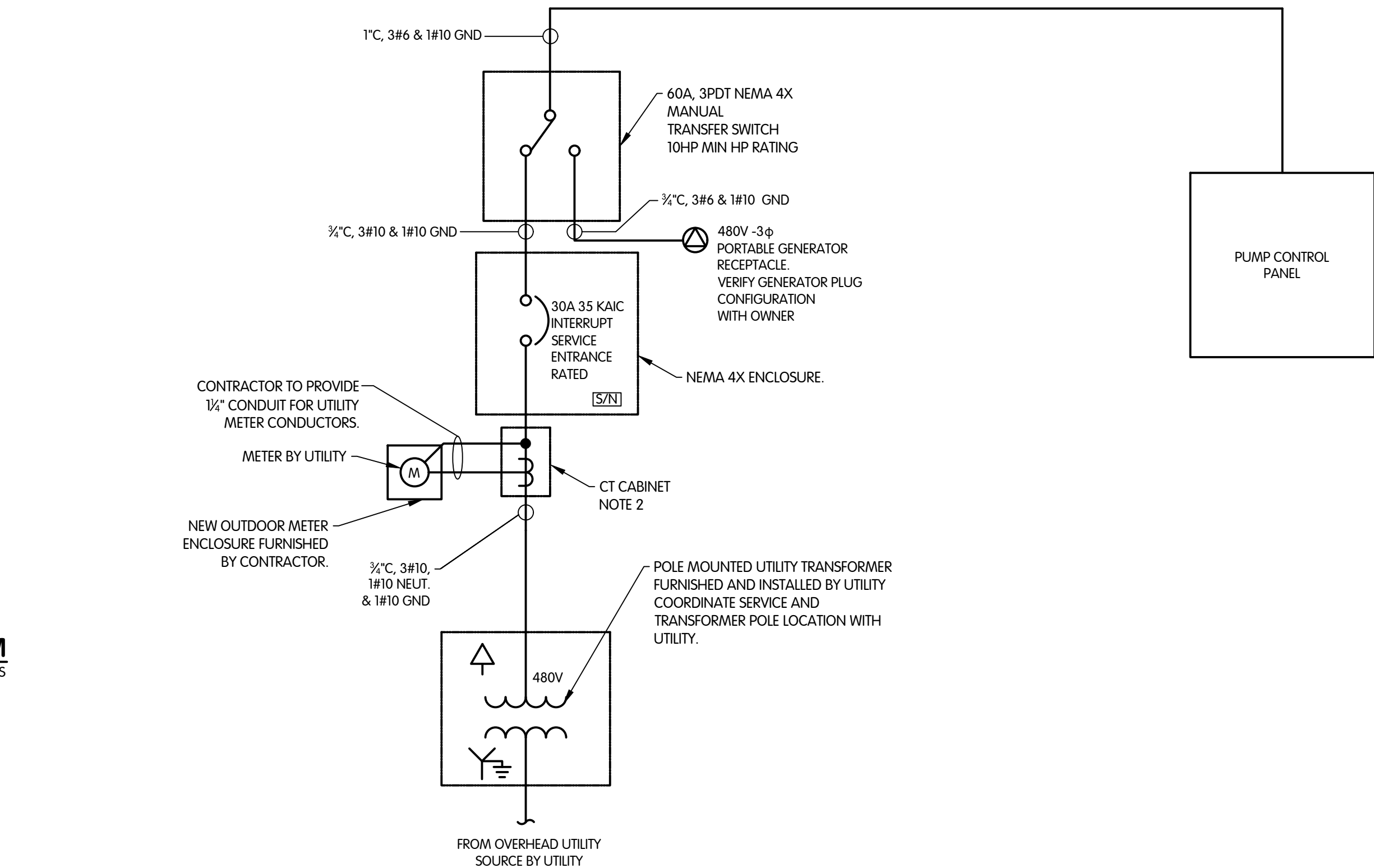


**PUMP STATION CONTROL RISER DIAGRAM**

NOTE:  
FOR PUMP CONDUCTORS AND  
CONDUIT, REFER TO SINGLE  
LINE DIAGRAM

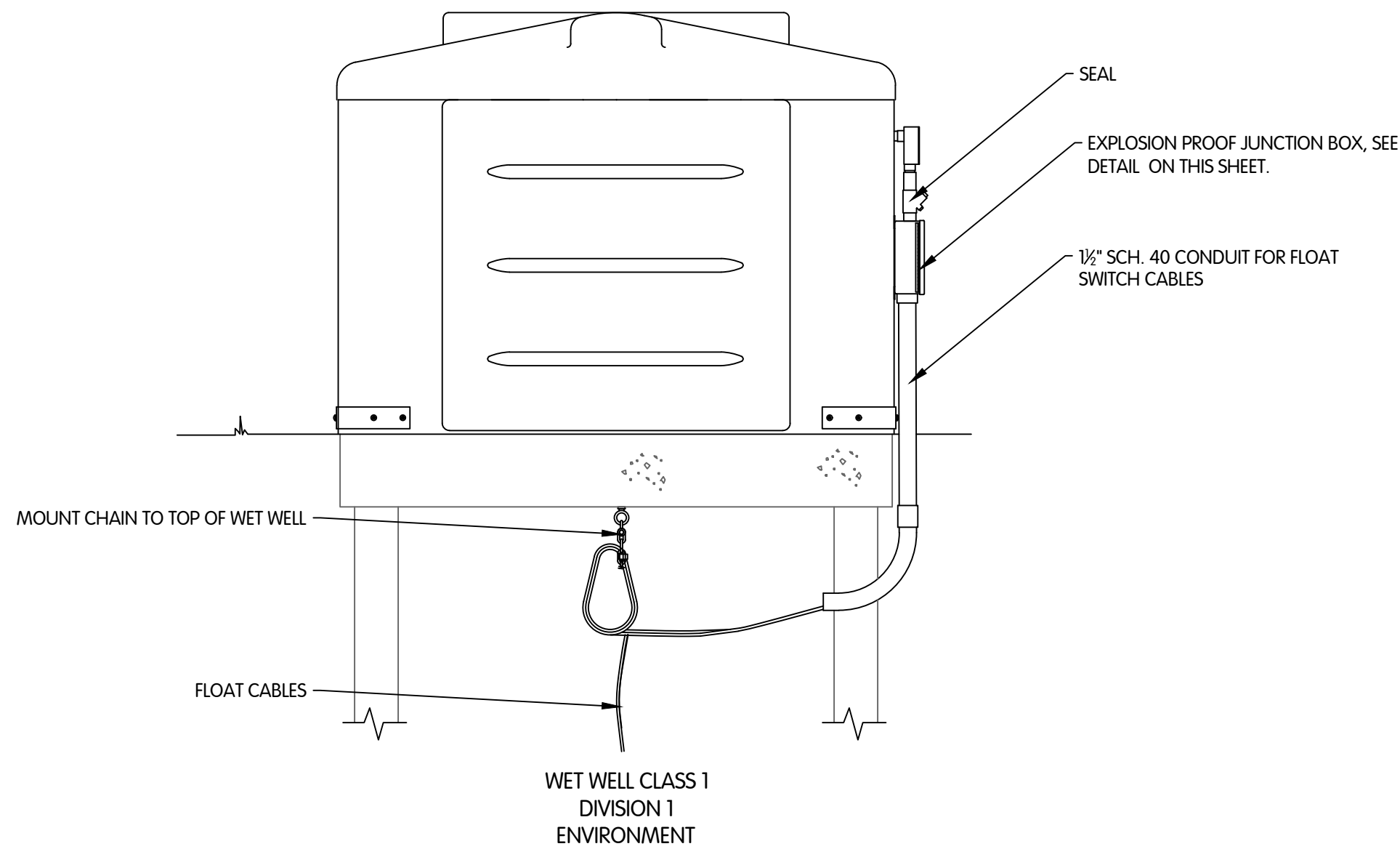


**EXPLOSION PROOF JUNCTION BOX DETAIL**



**PUMP STATION ONE-LINE DIAGRAM**

NTS



**PUMP/FLOAT SWITCH CABLING**

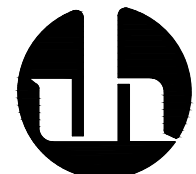
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- NOTES:
1. VERIFY QUANTITY OF CABLE PER PUMP. DRAWINGS INDICATE A SINGLE JACKETED CABLE WITH POWER AND CONTROL CABLES CONTAINED WITHIN THE JACKET. SOME MANUFACTURERS MAY PROVIDE SEPARATE CABLES FOR POWER AND CONTROL WIRING.
  2. PROVIDE CT CABINET PER AEP STANDARDS. AEP SHALL PROVIDE CTS TO CONTRACTOR FOR MOUNTING INSIDE OF CABINET. CONTRACTOR SHALL PROVIDE 3/4" PLYWOOD BACK PLATE INSIDE OF CABINET FOR CT MOUNTING.
  3. PUMP CONTROL PANEL IN EXISTING ABOVE GRADE HOUSING BY OTHERS. CONDUIT AND WIRE TO CONTROL PANEL FURNISHED AND INSTALLED BY CONTRACTOR



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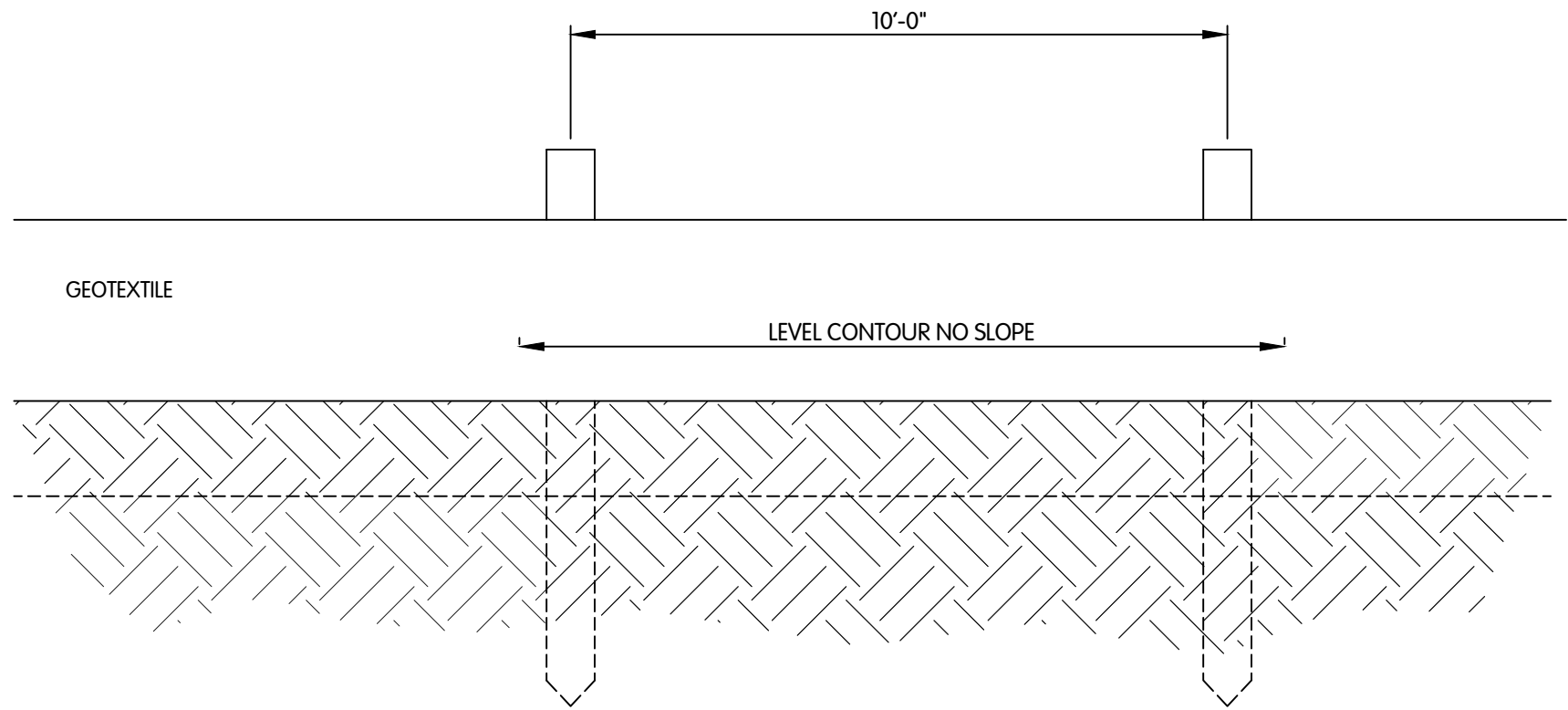
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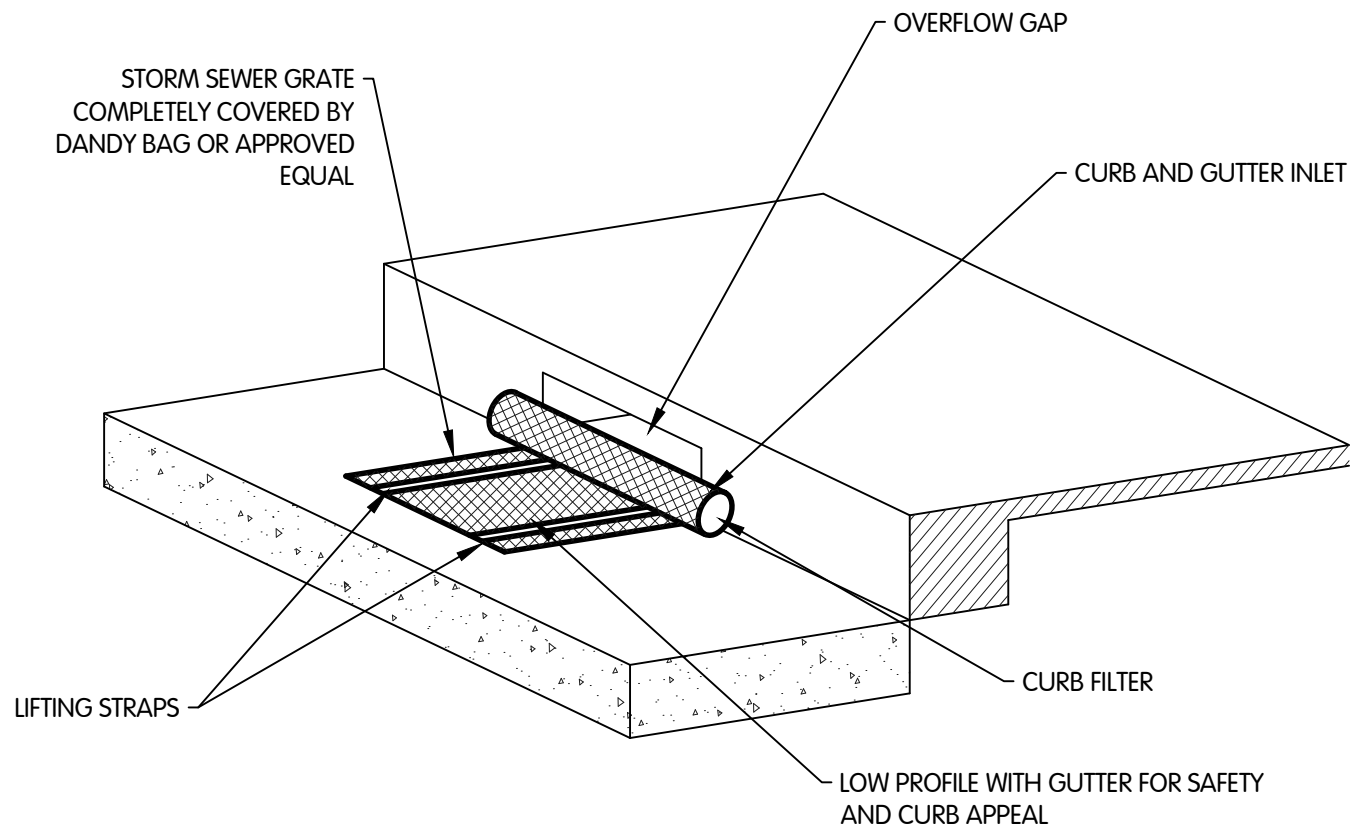
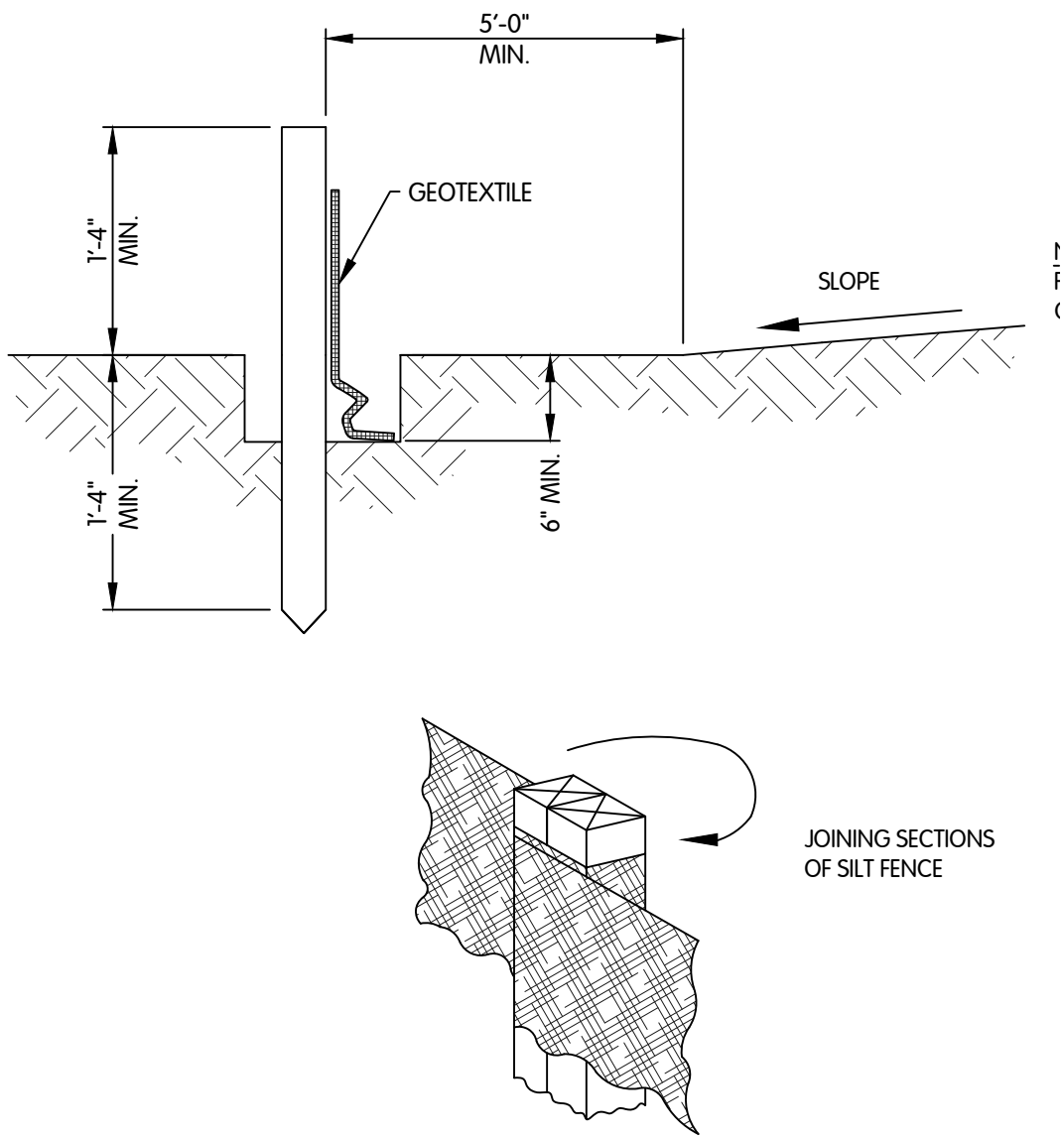
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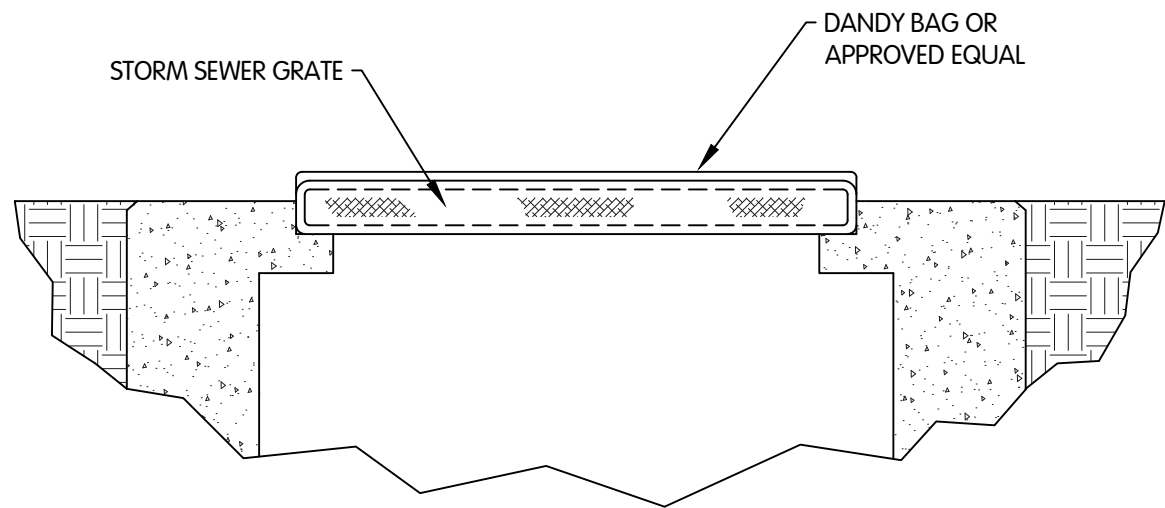
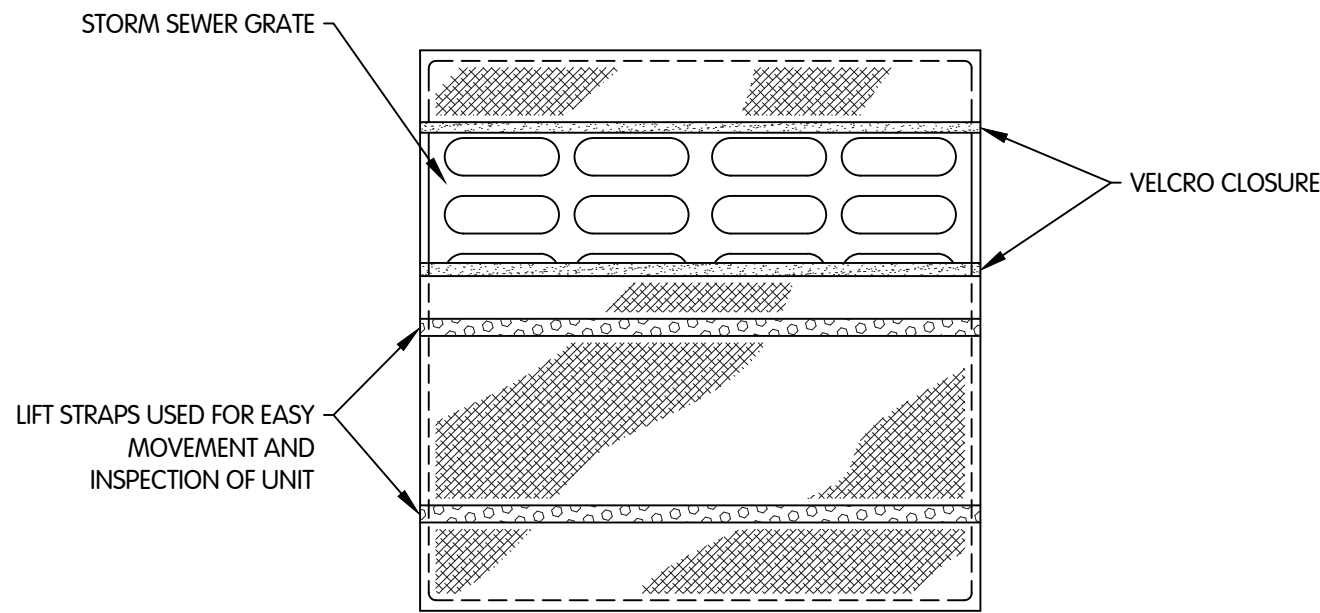
17 OF 18



ELEVATION



INLET PROTECTION FOR DRAINS WITH HOOD



INLET PROTECTION FOR DRAINS WITHOUT HOOD

INLET PROTECTION FOR DRAINS WITH DANDY BAGS  
NTS

NOTES:

1. SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPE LAND DISTURBANCE BEGINS.
2. ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE SO THAT WATER WILL NOT CONCENTRATE AT LOW POINTS IN THE FENCE AND SO THAT SMALL SWALES OR DEPRESSIONS WHICH MAY CARRY SMALL CONCENTRATED FLOWS TO THE SILT FENCE ARE DISSIPATED ALONG ITS LENGTH.
3. TO PREVENT WATER PONDED BY THE SILT FENCE FROM FLOWING AROUND THE ENDS, EACH END SHALL BE CONSTRUCTED UPSLOPE SO THAT THE ENDS ARE AT A HIGHER ELEVATION.
4. WHERE POSSIBLE, SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE.
5. WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR 5 FT. (OR AS MUCH AS POSSIBLE) UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE REESTABLISHED WITHIN 7 DAYS FROM THE INSTALLATION OF THE FENCE.
6. SOIL STOCKPILES OR OTHER SOURCES OF SEDIMENT SHALL HAVE SILT FENCE PROTECTION.
7. THE SILT FENCE SHALL BE PLACED IN A TRENCH CUT A MINIMUM OF 6" DEEP. THE TRENCH SHALL BE CUT WITH A TRENCHER, CABLE LAYING MACHINE, OR OTHER SUITABLE DEVICE WHICH WILL ENSURE AN ADEQUATELY UNIFORM TRENCH DEPTH.
8. THE SILT FENCE SHALL BE PLACED WITH THE STAKES ON THE DOWN SLOPE SIDE OF THE GEOTEXTILE AND SO THAT 8" OF CLOTH ARE BELOW THE GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 6" DEEP TRENCH. THE TRENCH SHALL BE BACK FILLED AND COMPACTED.
9. SEAMS BETWEEN SECTIONS OF SILT FENCE SHALL BE OVERLAPPED WITH THE END STAKES OF EACH SECTION WRAPPED TOGETHER BEFORE DRIVING INTO THE GROUND.
10. MAINTENANCE-- SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. IF RUNOFF OVER TOPS THE SILT FENCE, FLOWS UNDER OR AROUND THE ENDS, OR IN ANY OTHER WAY BECOMES A CONCENTRATED FLOW, ONE OF THE FOLLOWING SHALL BE PERFORMED, AS APPROPRIATE:
  - A. THE LAYOUT OF THE SILT FENCE SHALL BE CHANGED.
  - B. ACCUMULATED SEDIMENT SHALL BE REMOVED.
  - C. OTHER PRACTICES SHALL BE INSTALLED.

CRITERIA FOR SILT FENCE MATERIALS:

1. FENCE POSTS - THE LENGTH SHALL BE A MINIMUM OF 32" LONG. WOOD POST WILL BE 2" X 2" HARDWOOD OF SOUND QUALITY. THE MAXIMUM SPACING BETWEEN POSTS SHALL BE 10 FT.
2. SILT FENCE FABRIC (SEE CHART BELOW):

FABRIC PROPERTIES	VALUES	TEST METHOD
GRAB TENSILE STRENGTH	90 LB. MINIMUM	ASTM D 1682
MULLEN BURST STRENGTH	190 P.S.I. MINIMUM	ASTM D 3786
SLURRY FLOW RATE	0.3 GAL./MIN./FT. <sup>2</sup> MAX.	
EQUIVALENT OPENING SIZE	40-80	US STD. SIEVE CW-02215
ULTRAVIOLET RADIATION STABILITY	90% MINIMUM	ASTM-G-26

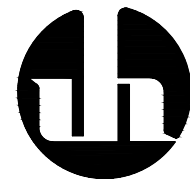
SILT FENCE  
NTS



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