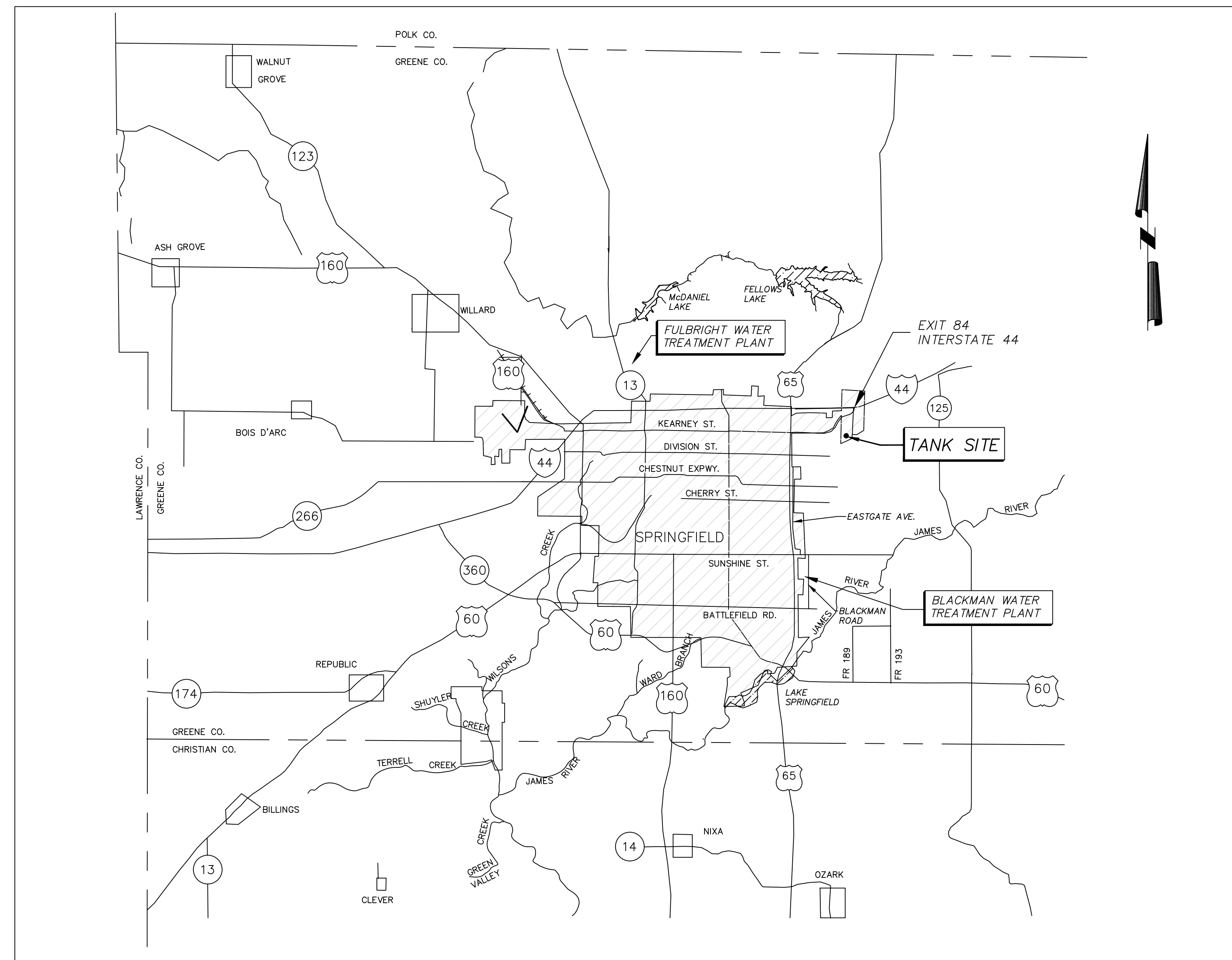


CITY UTILITIES OF SPRINGFIELD, MISSOURI



BOOSTER II 1,000,000 GALLON ELEVATED TANK



LIST OF DRAWINGS

SHEET	TITLE
C0	COVER SHEET
C1	CIVIL - SITE PLAN
C2	CIVIL - DETAILS
C3	CIVIL - TANK DETAILS
E0	ELECTRICAL - SYMBOL AND ABBREVIATIONS
E1	ELECTRICAL - SITE PLAN
E2	ELECTRICAL - POWER PLAN
E3	ELECTRICAL - POWER PLANS AND ELEVATION
E4	ELECTRICAL - LIGHTING PLAN
E5	ELECTRICAL - LIGHTING PLANS AND ELEVATION
E6	ELECTRICAL - GROUNDING PLAN
E7	ELECTRICAL - ONE-LINE AND SCHEDULE
E8	ELECTRICAL - DETAILS
E9	ELECTRICAL - DETAIL

REQUEST FOR PROPOSAL # 52882



		WATER TREATMENT AND SUPPLY BOOSTER II ELEVATED TANK COVER SHEET SEC. 01, T 29 N, R 21 W	
		DESIGNER: CLARK McLEMORE PLOT DATE: 8/16/2017	APPROVED BY: (Signature) APPLICATION NO.: N/A
CONSTRUCTION BY: CONTRACTOR	CONSTRUCTION COMPLETE DATE:	SHEET: C0	DRAWING NO.: 76329-D

CONTROL POINT
(5/8" IRON PIN)
N: 513020.48
E: 1440519.10
ELEV. 1457.11

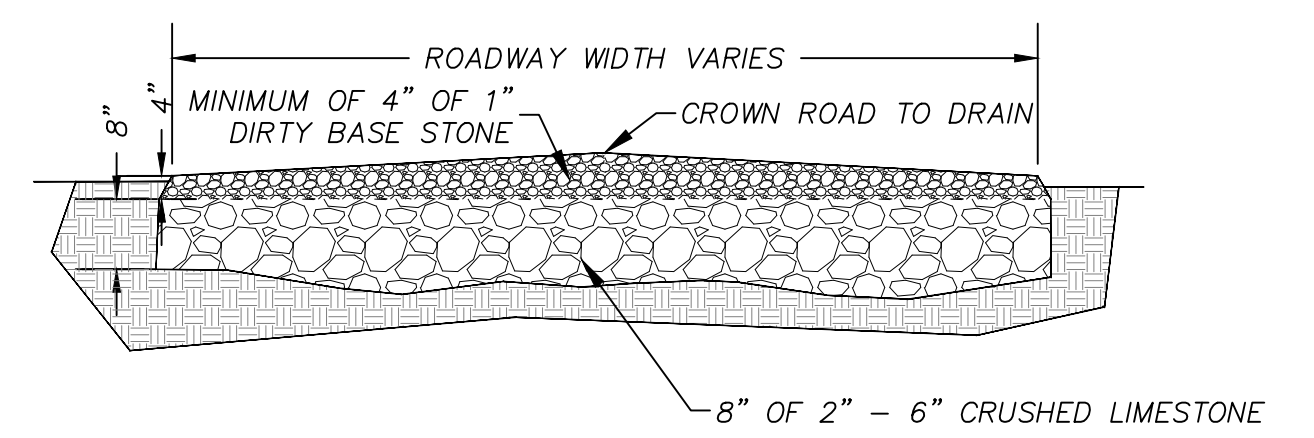
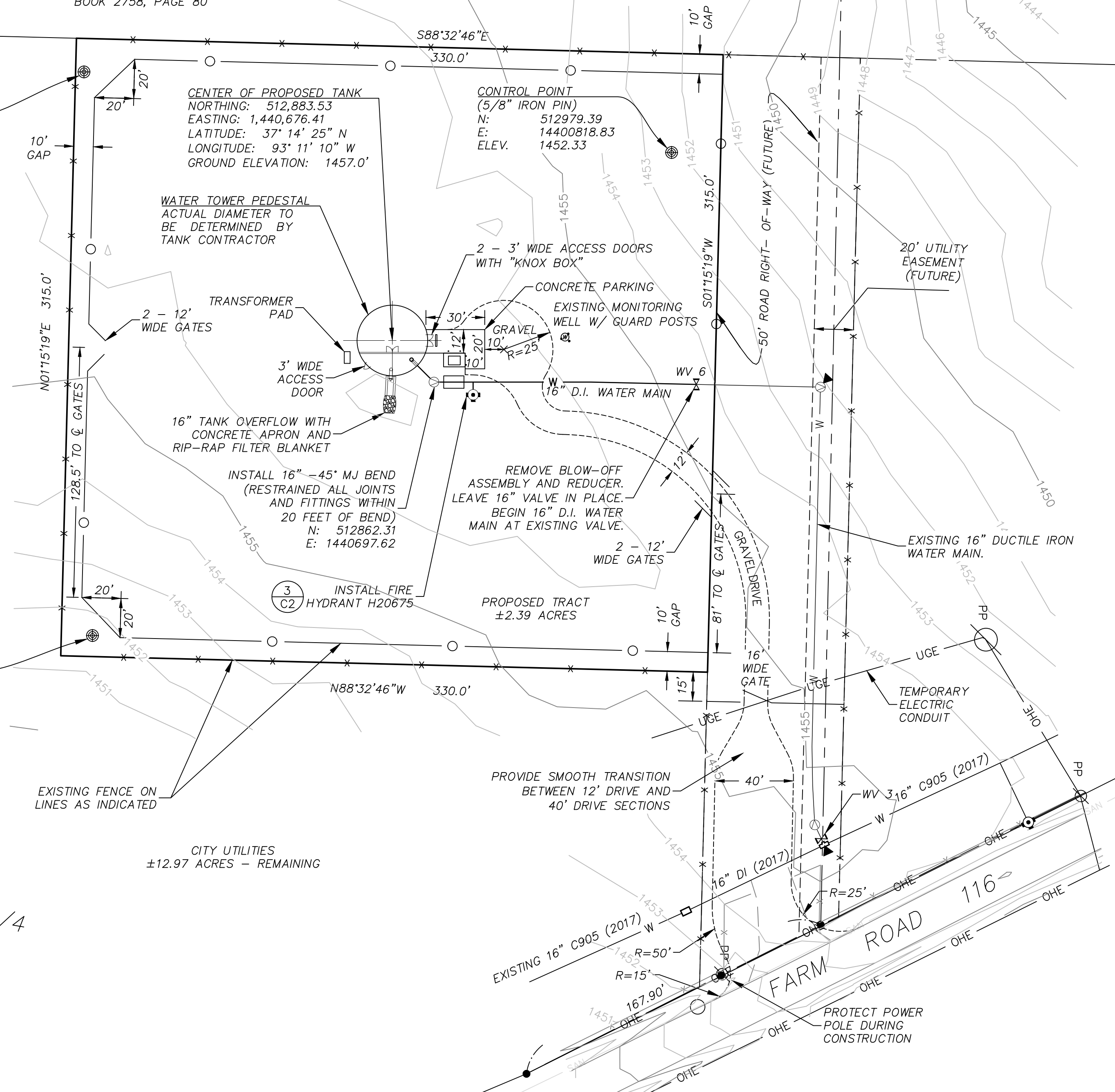
CENTER OF PROPOSED TANK
NORTHING: 512,883.53
EASTING: 1,440,676.41
LATITUDE: 37° 14' 25" N
LONGITUDE: 93° 11' 10" W
GROUND ELEVATION: 1457.0'

CONTROL POINT
(5/8" IRON PIN)
N: 512979.39
E: 14400818.83
ELEV. 1452.33

CONTROL POINT
(5/8" IRON PIN)
N: 512733.07
E: 1440523.44
ELEV. 1451.68

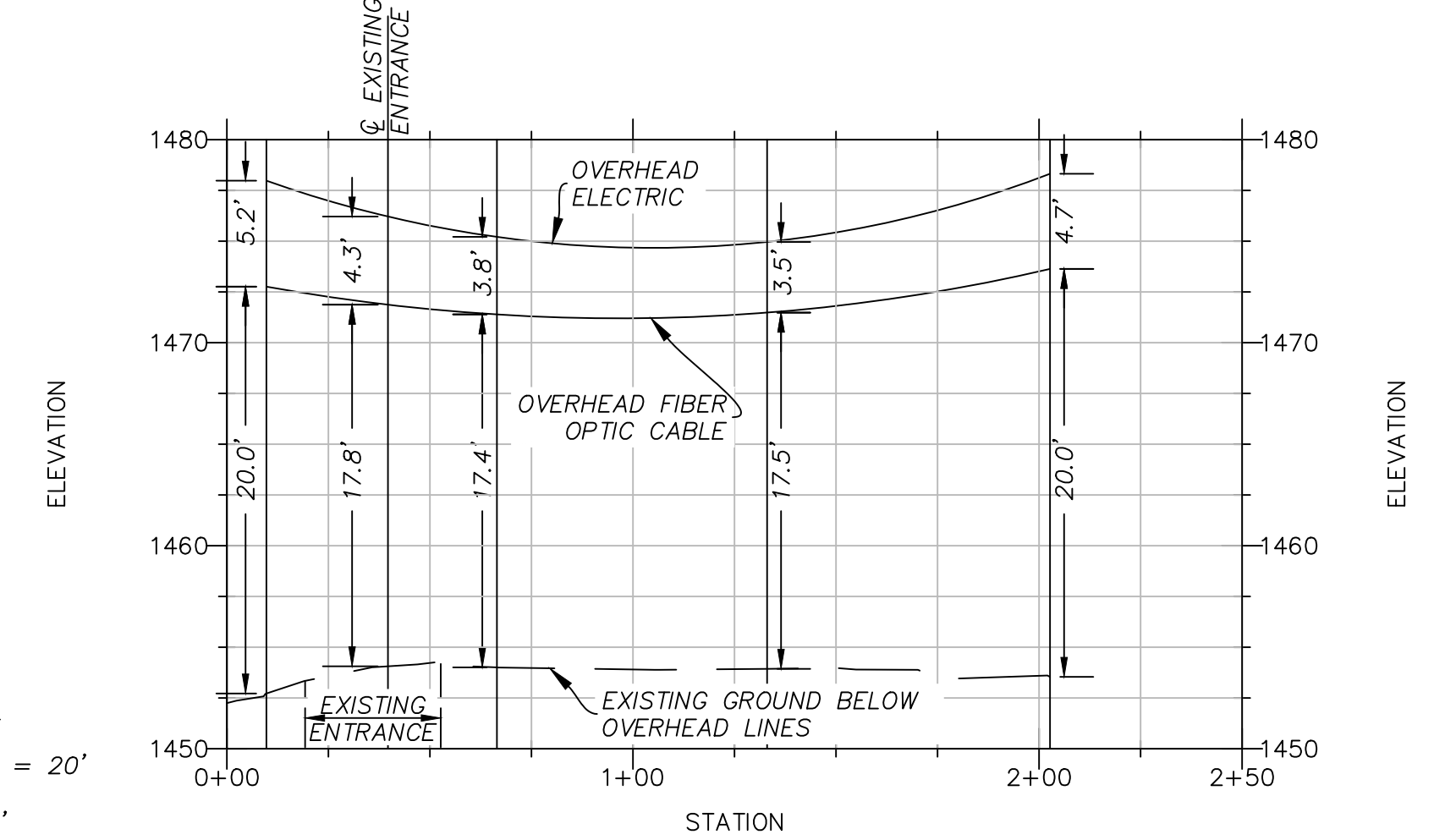
SW 1/4 SW 1/4
SEC. 1-29-21

NE-F11
NE-E11



ROADWAY INSTALLATION DETAIL (1)
NOT TO SCALE

PROFILE OF OVERHEAD LINES
ALONG RIGHT-OF-WAY



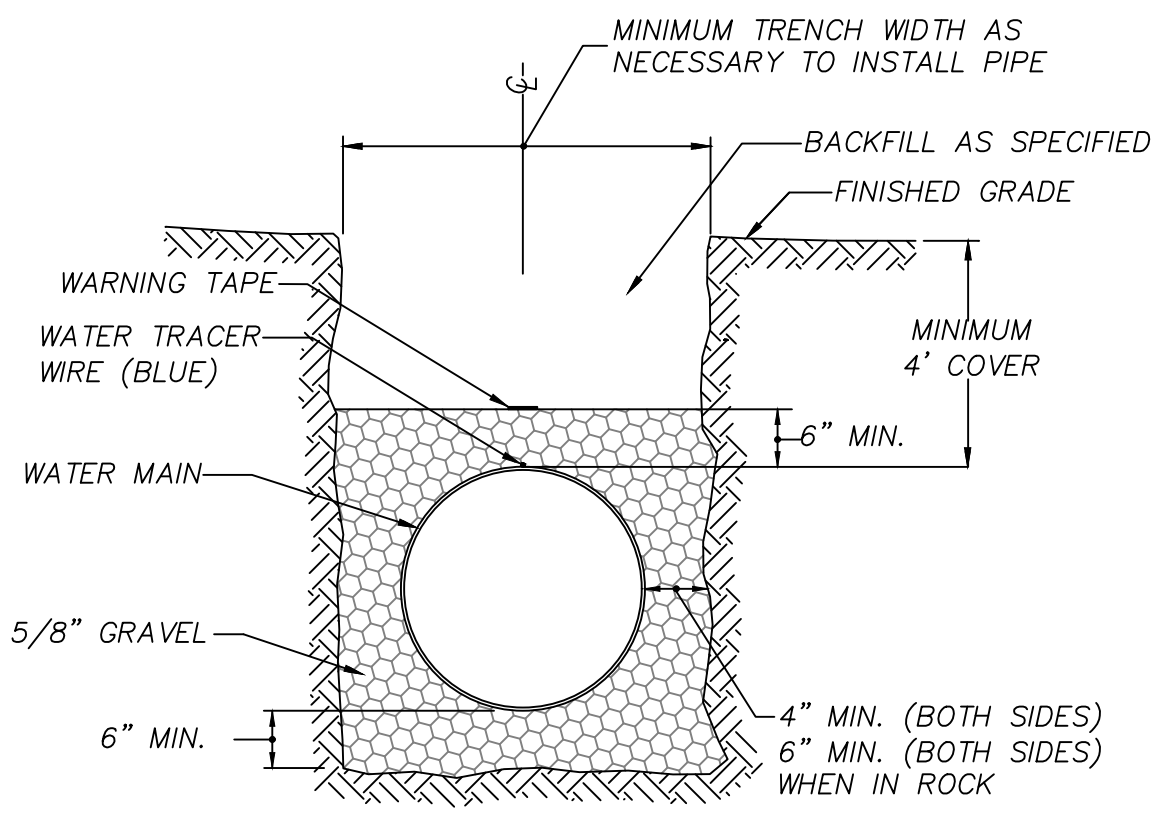
PROFILE SCALES:
HORIZONTAL: 1" = 20'
VERTICAL: 1" = 4'

- NOTES:
- CONTRACTOR SHALL OBTAIN LAND DISTURBANCE PERMIT.
 - CONTRACTOR SHALL PROVIDE STORM WATER POLLUTION PREVENTION PLAN (SWPPP). CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTION AND MAINTENANCE OF SWPPP DURING CONSTRUCTION.

		WATER TREATMENT AND SUPPLY BOOSTER II ELEVATED TANK CIVIL SITE PLAN SEC. 01, T 29 N, R 21 W	
DESIGNER: CLARK McLEMORE DATE: 8/16/2017	APPROVED BY: JAMES NYIKAL OKUMU MO. PE-2013019090	APPLICATION NO.: N/A	MAP NO.: NE-F11
CONTRACTOR:	CONSTRUCTION COMPLETE DATE:	SHEET: C1	SCALE: 1" = 40' DRAWING NO.: 76329-D

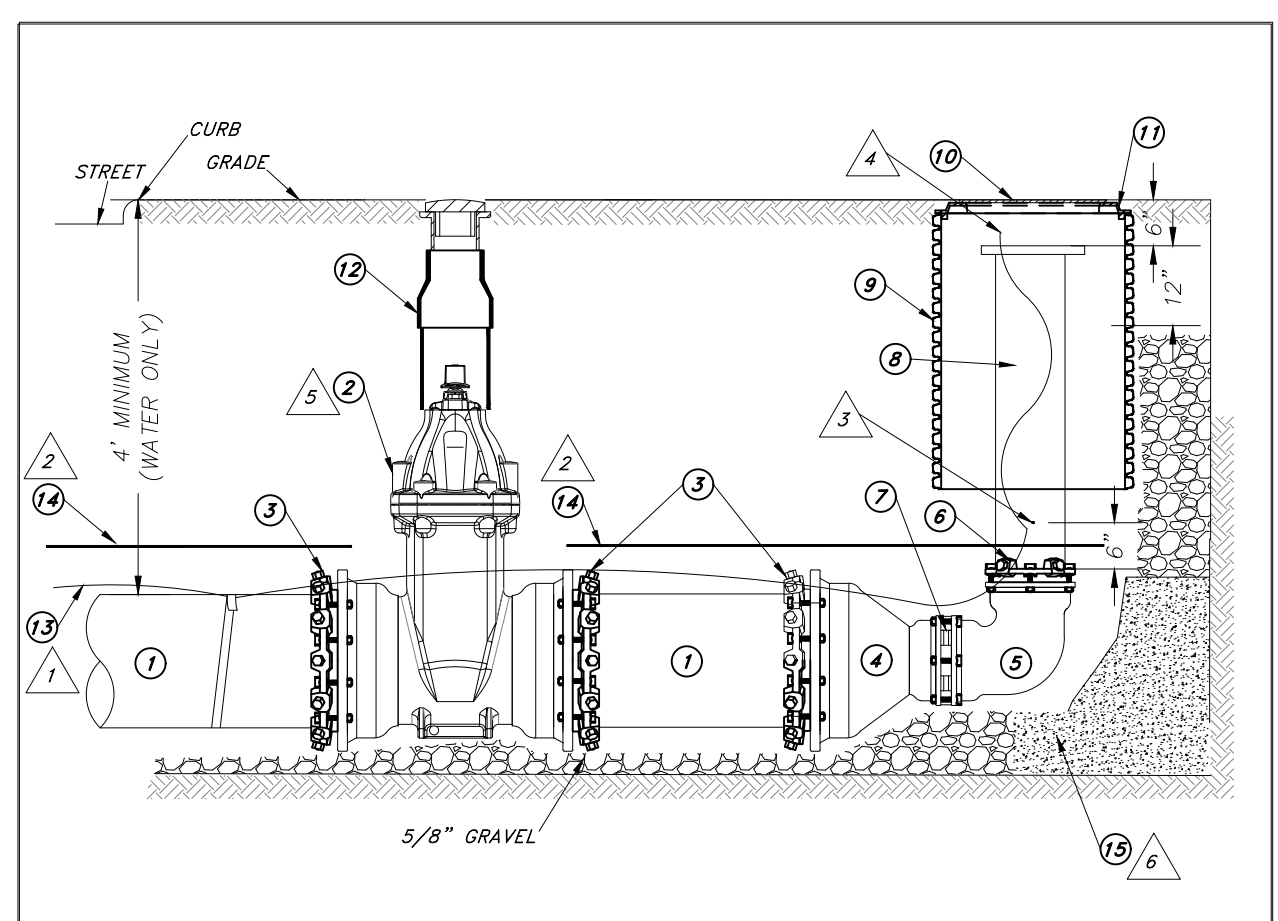
- LEGEND**
- CP CONTROL POINT
 - IP FOUND IRON PIN
 - IP SET IRON PIN
 - P.O.B POINT OF BEGINNING
 - P.O.C POINT OF COMMENCEMENT
 - RWM RIGHT-OF-WAY MARKER
 - GP POWER POLE W/ GUY
 - MH MANHOLE
 - SCO SEWER CLEANOUT
 - GM GAS METER
 - LP LIGHT POLE
 - WM WATER METER
 - WV WATER VALVE
 - FH FIRE HYDRANT
 - GV GAS VALVE
 - TR TELEPHONE RISER
 - BP BUMPER POST (BOLLARD)
 - GI GRATE INLET
 - ER ELECTRICAL RISER
 - TS TRAFFIC SIGNAL BOX
 - MB MAIL BOX
- LIST OF ABBREVIATIONS**
- BO - WATER BLOW-OFF
 - CI - CAST IRON
 - CL - CENTER LINE
 - CS - COATED STEEL
 - DI - DUCTILE IRON
 - EOG - EDGE OF GRAVEL
 - EOP - EDGE OF PAVEMENT
 - ESM - EASEMENT
 - GM - GAS METER
 - JT - JOINT TRENCH
 - MJ - MECHANICAL JOINT
 - PE - PLAIN END
 - PP - POWER POLE
 - PVC - POLYVINYL CHLORIDE (WATER PIPE)
 - R/W - RIGHT-OF-WAY
 - SW - SIDEWALK
 - WI - WROUGHT IRON
 - WM - WATER METER
 - WS - WELDED STEEL
 - PCC - POINT OF COMPOUND CURVATURE
 - PRC - POINT OF REVERSE CURVATURE
 - PC - POINT OF CURVATURE
 - PT - POINT OF TANGENCY

- DETAIL DESIGNATION**
- DIRECTION OF SECTION VIEW
- SECTION DESIGNATION
- SHEET WHERE SECTION APPEARS (WHERE SECTION APPEARS ON SAME SHEET, -)
- SHORT SECTION**
- SECTION DESIGNATION
- SHEET(S) WHERE SECTION IS CUT.
- SECTION TITLE**
- SECTION DESIGNATION
- SHEET WHERE SECTION APPEARS (WHERE SECTION APPEARS ON SAME SHEET, -)
- DETAIL CALL OUT**
- PROPERTY LINE
- SANITARY SEWER
- STORM SEWER
- TELEPHONE LINE
- UNDERGROUND TELEPHONE
- GAS LINE
- WATER LINE
- ELECTRIC LINE
- UNDERGROUND ELECTRIC
- BARBED WIRE FENCE
- CHAIN LINK FENCE
- WOOD FENCE
- RETAINING WALL



- GENERAL NOTES**
- TAPE TRACER WIRE EVERY 20' TO TOP OF WATER MAIN WITH POLY TAPE.
 - TRACER WIRE SHALL CONFORM TO #10 SOLID COPPER SOFT TEMPER INSULATED TRACER WIRE-30 MILS LDPE, ASTM B-3, ASTM D-1248, BLUE INSULATION. SUPPLY IN 500 FT. SPOOLS.

WATER MAIN CROSS SECTION (1) (C2)
NOT TO SCALE

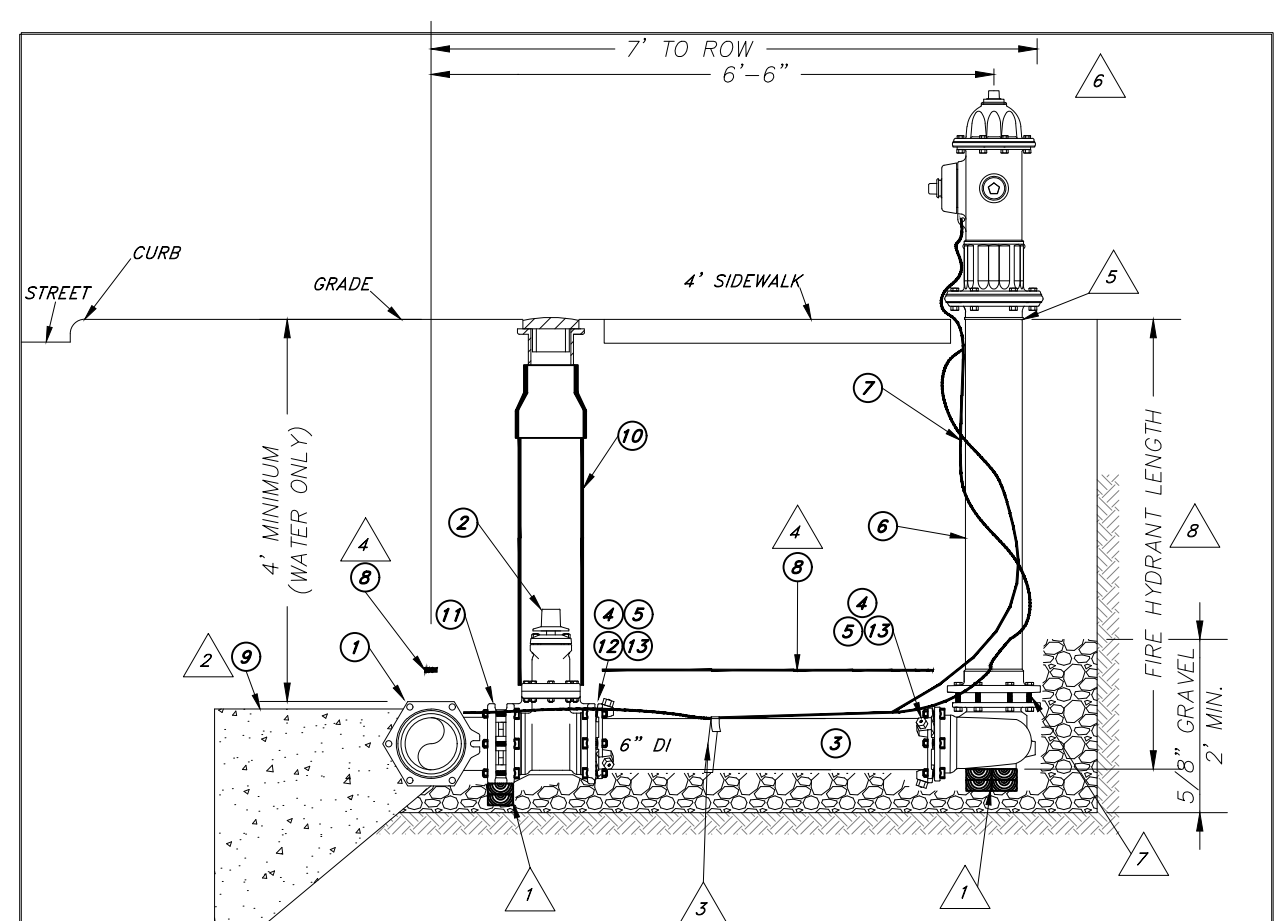


MATERIAL LIST

QTY	DESCRIPTION	STOCK NO.	QTY	DESCRIPTION	STOCK NO.
1	16" DI PIPE	301104	13	WATER TRACER WIRE	2504423
2	16" GATE VALVE	303416	14	WATER WARNING TAPE	2501346
3	16" DI RETAINER GLAND	303193	15	THRUST BLOCK AS PER WS-400	-----
4	16" MJ x 8" MJ REDUCER	303280			
5	8" MJ 90 DEGREE BEND	303077			
6	8" DI RETAINER GLAND	303187			
7	8" MJ x MJ ADAPTER KIT	2507774			
8	8" FLANGE x PE NIPPLE, 60" LONG	2500447			
9	24" METER TILE	310058			
10	BLOWOFF LID	301801			
11	24" x 18" ADAPTER FLANGE	310126			
12	VALVE BOX ASSEMBLY AS PER WS-110	-----			

- GENERAL NOTES**
- TRACER WIRE SHALL BE INSTALLED DIRECTLY ABOVE THE WATER MAIN AND TAPPED EVERY 20' WITH POLY TAPE (EPA # 111208).
 - WATER WARNING TAPE SHALL BE PLACED 6" MINIMUM ABOVE WATER MAIN UNLESS IT IS JOINT TRENCH IN WHICH THE WATER WARNING TAPE SHALL BE PLACED SIDE-BY-SIDE WITH THE GAS WARNING TAPE 6" ABOVE THE GAS MAIN.
 - 1/4" DRINK HOLE DRILLED APPROXIMATELY 6" ABOVE 90 DEGREE BEND.
 - TRACER WIRE TO BE INSTALLED INSIDE METER TILE FOR THE BLOWOFF RISER.
 - IF INDICATED JOINT TRENCH WITH GAS MAIN THE GAS TRACER WIRE INTO THE BLOWOFF RISER METER TILE ON THE UPSTREAM SIDE OF THE VALVE. INSTALL WATER SAMPLE ASSEMBLY AS PER WS-725.
 - DO NOT OBTURATE DRINK HOLES IN THE DRINK RING ABOVE THE HYDRANT SHADE.
 - PROTECT ALL JOINTS AND BOLTS FROM CONCRETE.
- CONSTRUCTION STANDARD**
CITY UTILITIES OF SPRINGFIELD, MISSOURI
- 16" PERMANENT BLOWOFF
- 03/16/2016 WS-108D

16" BLOW-OFF (2) (C2)
NOT TO SCALE

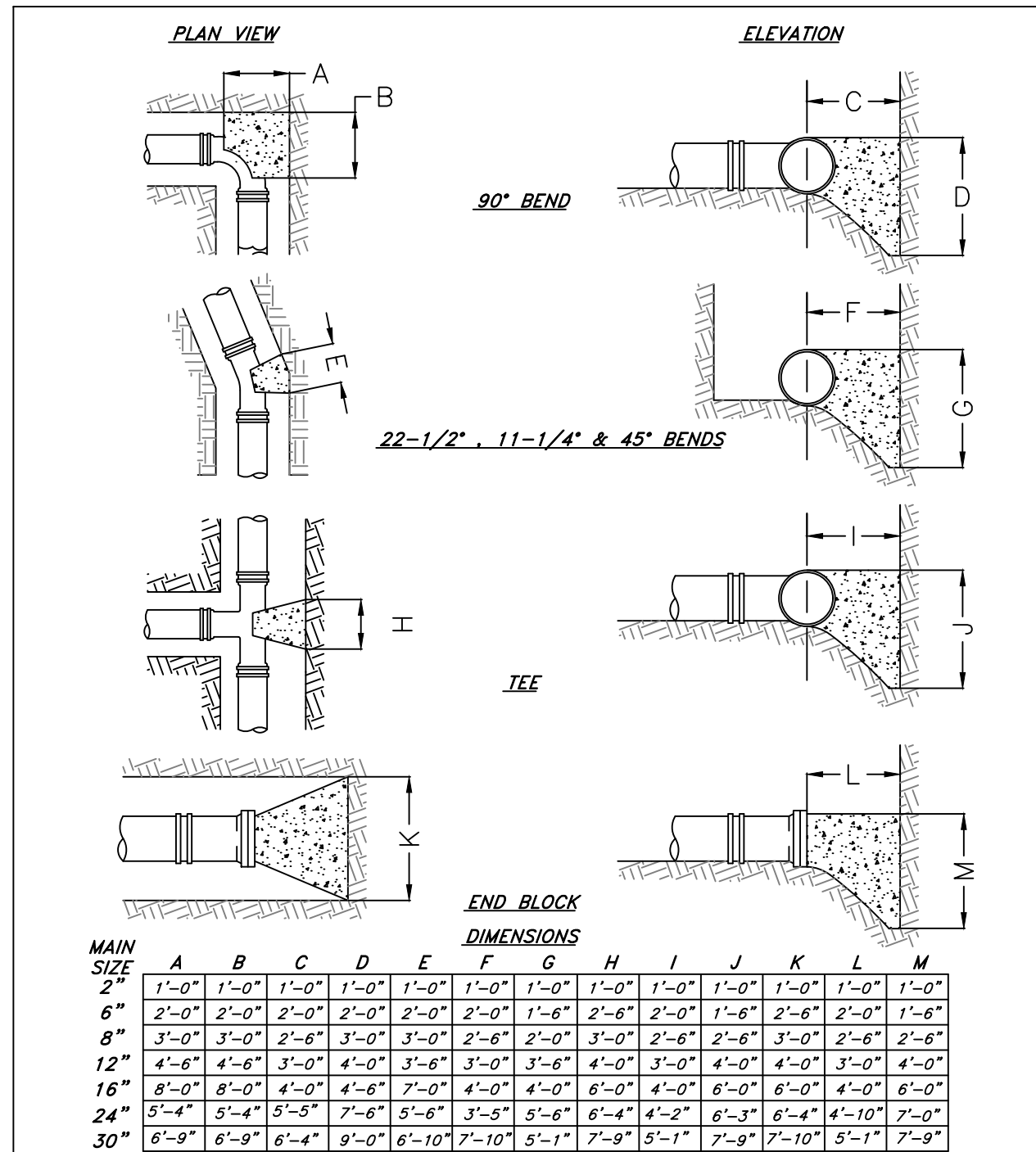


MATERIAL LIST

QTY	DESCRIPTION	STOCK NO.	QTY	DESCRIPTION	STOCK NO.
1	MAIN SIZE MJ X 6" MJ TEE	303518	7	AS REQ WATER TRACER WIRE	2504423
2	1/2" FIRE HYDRANT ASSEMBLY	303558	8	AS REQ WATER WARNING TAPE	2501346
3	3/4" X 3/4" MJ ANTI ROTATION BOLT W/ NUT	303559	9	THRUST BLOCK AS PER WS-400	-----
4	3/4" X 3/4" MJ BOLT W/ NUT	303560	10	VALVE BOX ASSEMBLY AS PER WS-110	-----
5	6" DI PIPE	303193	11	6" MJ X MJ ADAPTER KIT	2507773
6	6" DI RETAINER GLAND	303184	12	3/4" X 3/4" MJ ANTI ROTATION BOLT W/ NUT	312121
7	6" MJ GASKET (NOT SHOWN FOR CLARITY)	312276	13	3/4" X 3/4" MJ BOLT W/ NUT	312120
8	FIRE HYDRANT (LENGTH AS REQUIRED)	2506570			
9	1/2" FIRE HYDRANT ASSEMBLY	2506571			
10	3/4" X 3/4" MJ ANTI ROTATION BOLT W/ NUT	2506572			
11	3/4" X 3/4" MJ BOLT W/ NUT	2506573			
12	6" DI PIPE	2506574			
13	6" DI RETAINER GLAND	2506575			
14	6" MJ GASKET (NOT SHOWN FOR CLARITY)	2506576			

- GENERAL NOTES**
- WOOD BLOTTING USED TO LEVEL OUT VALVE AND FIRE HYDRANT ASSEMBLY.
 - PROTECT JOINTS AND BOLTS FROM CONCRETE.
 - TRACER WIRE SHALL BE INSTALLED DIRECTLY ABOVE THE WATER MAIN AND TAPPED EVERY 20' WITH POLY TAPE (EPA # 111208).
 - WATER WARNING TAPE SHALL BE PLACED 6" MINIMUM ABOVE WATER MAIN.
 - INDICATES THE BURRY LINE MARKING ON THE FIRE HYDRANT ASSEMBLY.
 - 1'-0" MIN. DISTANCE TO ANY OBSTRUCTION.
 - IF FENCE, VERIFY FENCE BEARING -10' FROM FIRE HYDRANT ASSEMBLY.
 - DO NOT OBTURATE DRINK HOLES IN THE DRINK RING ABOVE THE HYDRANT SHADE.
 - THE FIRE HYDRANT LENGTH IS THE MEASUREMENT FROM THE BOTTOM OF THE HYDRANT SHADE TO THE BURRY LINE.
- CONSTRUCTION STANDARD**
CITY UTILITIES OF SPRINGFIELD, MISSOURI
- FIRE HYDRANT ASSEMBLY INSTALLATION USING MAIN SIZE MJ X 6" MJ TEE
- 11/16/2016 WS-200

FIRE HYDRANT (3) (C2)
NOT TO SCALE



GENERAL NOTES

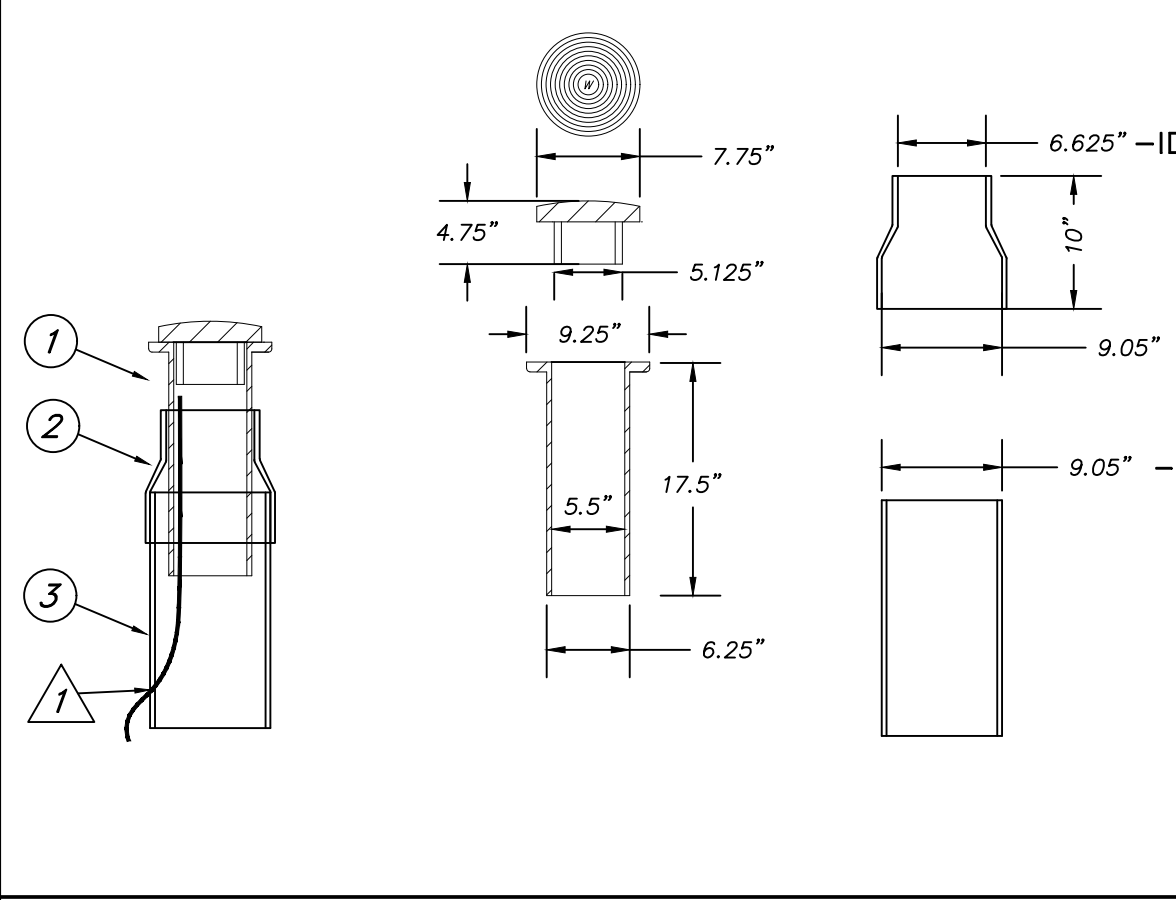
- DESIGNED FOR 150 PSI WORKING PRESSURE WITH 1500 PSI SOIL RESISTANCE FOR SIZES 2"-16". 2000 PSI SOIL RESISTANCE FOR SIZES 24" AND 30".
- BLOCK TO BE POURED AGAINST UNDISTURBED EARTH.
- PROTECT JOINTS & BOLTS FROM CONCRETE.

CONSTRUCTION STANDARD
CITY UTILITIES OF SPRINGFIELD, MISSOURI

CONCRETE THRUST BLOCK DIMENSIONS

DRAWING NO. 12/19/2008 WS-400

THRUST BLOCKS (4) (C2)
NOT TO SCALE

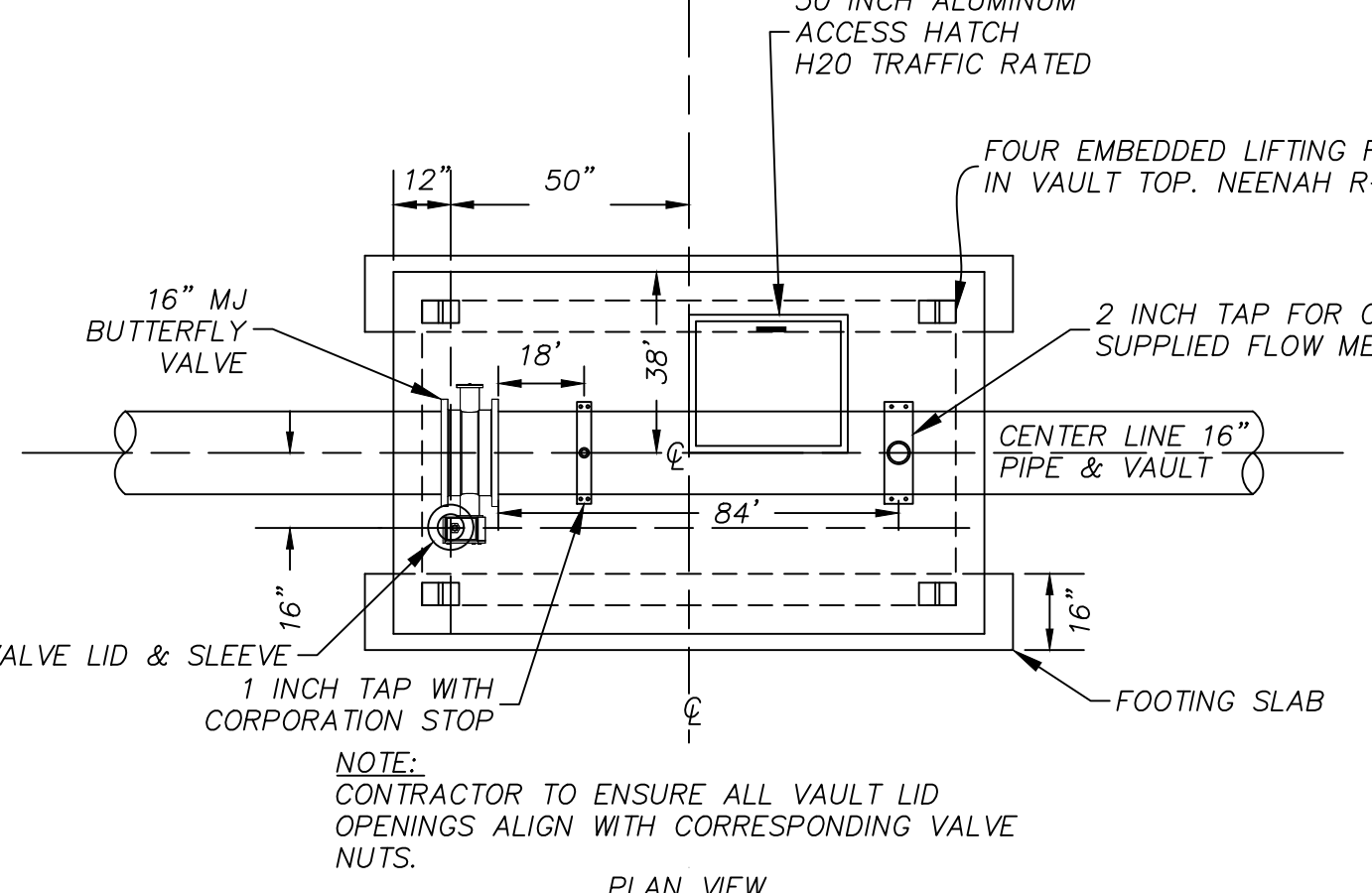


MATERIAL LIST

QTY	DESCRIPTION	STOCK NO.	QTY	DESCRIPTION	STOCK NO.
1	TOP PIECE AND LID	02504436			
2	PVC ADAPTER, 8" DIPS X 6" IFS	02504438			
3	8" C900 PIPE (AMOUNT AS NEEDED)	302022			

- GENERAL NOTES**
- FOR VALVE BOXES THAT ARE TO BE INSTALLED IN PAVEMENT CUT A HOLE BELOW THE TOP PIECE TO ROUTE THE TRACER WIRE TO THE INSIDE OF THE VALVE BOX.
- CONSTRUCTION STANDARD**
CITY UTILITIES OF SPRINGFIELD, MISSOURI
- WATER VALVE BOX
- 07/08/2014 WS-110

WATER VALVE BOX (5) (C2)
NOT TO SCALE



GENERAL NOTES

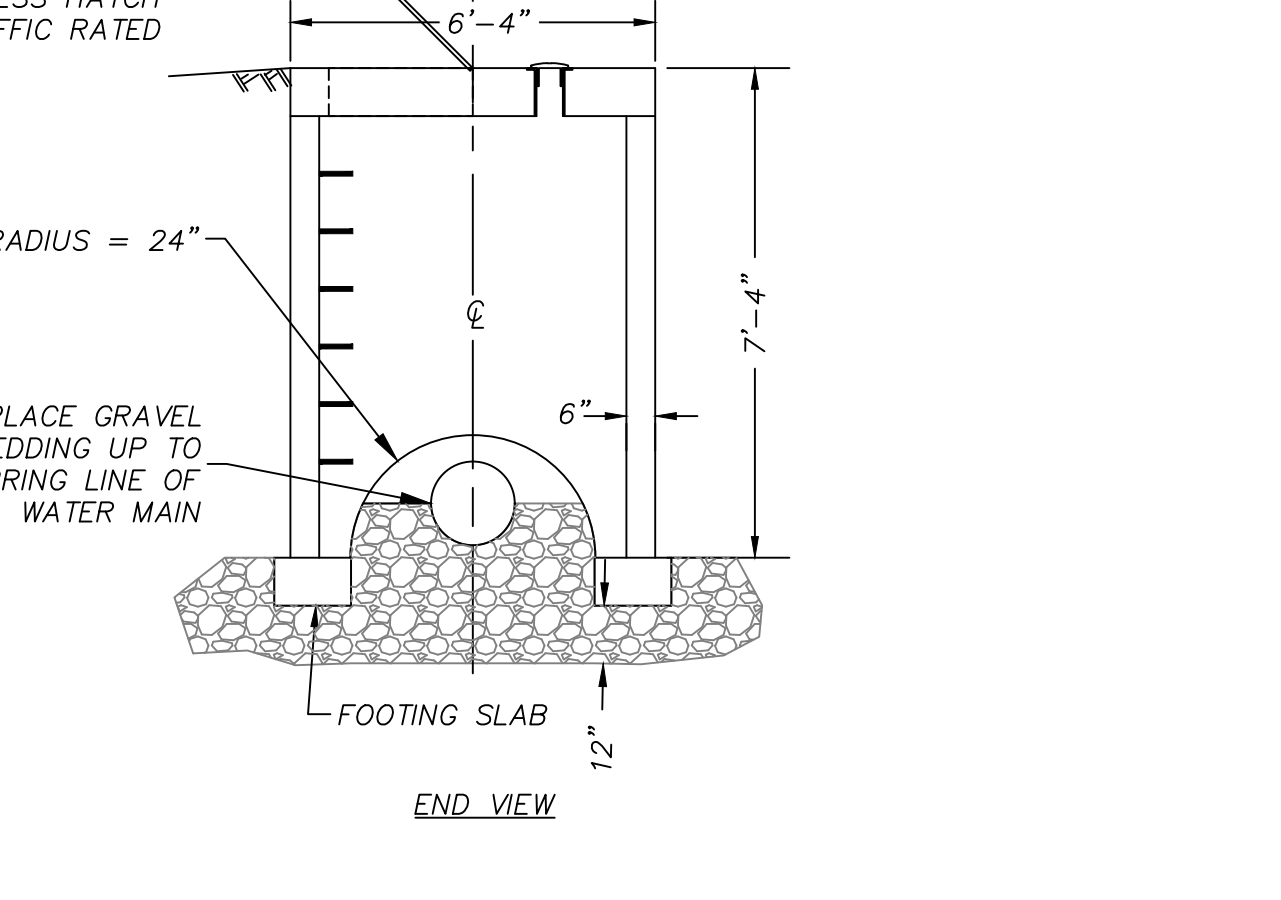
- CONTRACTOR TO ENSURE ALL VAULT LID OPENINGS ALIGN WITH CORRESPONDING VALVE NUTS.

CONSTRUCTION STANDARD
CITY UTILITIES OF SPRINGFIELD, MISSOURI

CONCRETE VAULT

07/08/2014 WS-110

CONCRETE VAULT (6) (C2)
NOT TO SCALE



GENERAL NOTES

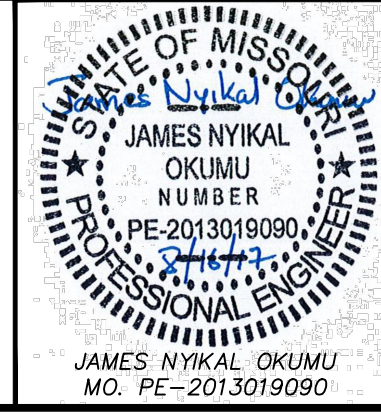
- 1'-0" MIN. DISTANCE TO ANY OBSTRUCTION.
- IF FENCE, VERIFY FENCE BEARING -10' FROM FIRE HYDRANT ASSEMBLY.
- DO NOT OBTURATE DRINK HOLES IN THE DRINK RING ABOVE THE HYDRANT SHADE.
- THE FIRE HYDRANT LENGTH IS THE MEASUREMENT FROM THE BOTTOM OF THE HYDRANT SHADE TO THE BURRY LINE.

CONSTRUCTION STANDARD
CITY UTILITIES OF SPRINGFIELD, MISSOURI

FIRE HYDRANT ASSEMBLY INSTALLATION USING MAIN SIZE MJ X 6" MJ TEE

11/16/2016 WS-200

FIRE HYDRANT (3) (C2)
NOT TO SCALE



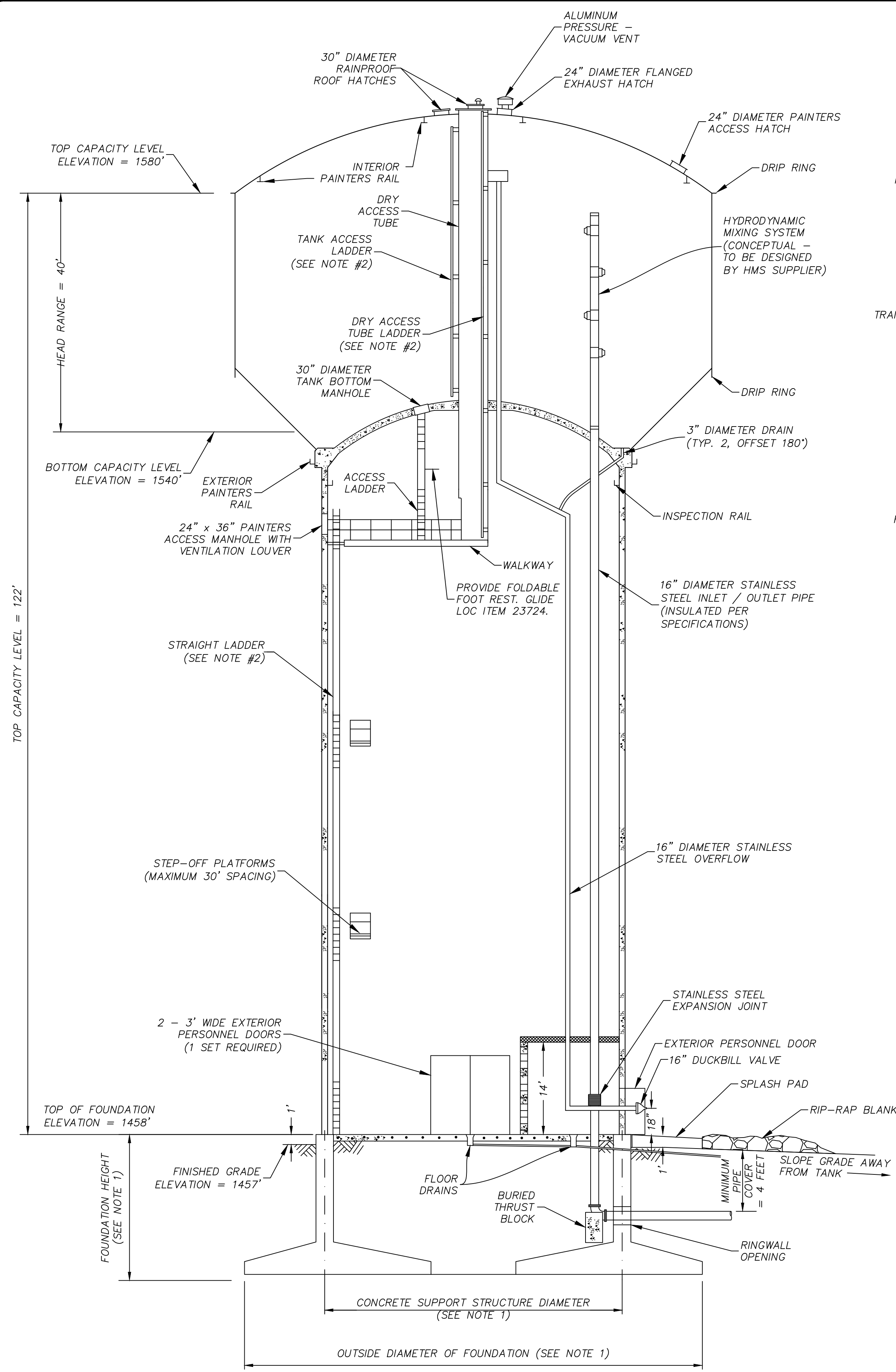
WATER TREATMENT AND SUPPLY

City Utilities
Connecting Our Community

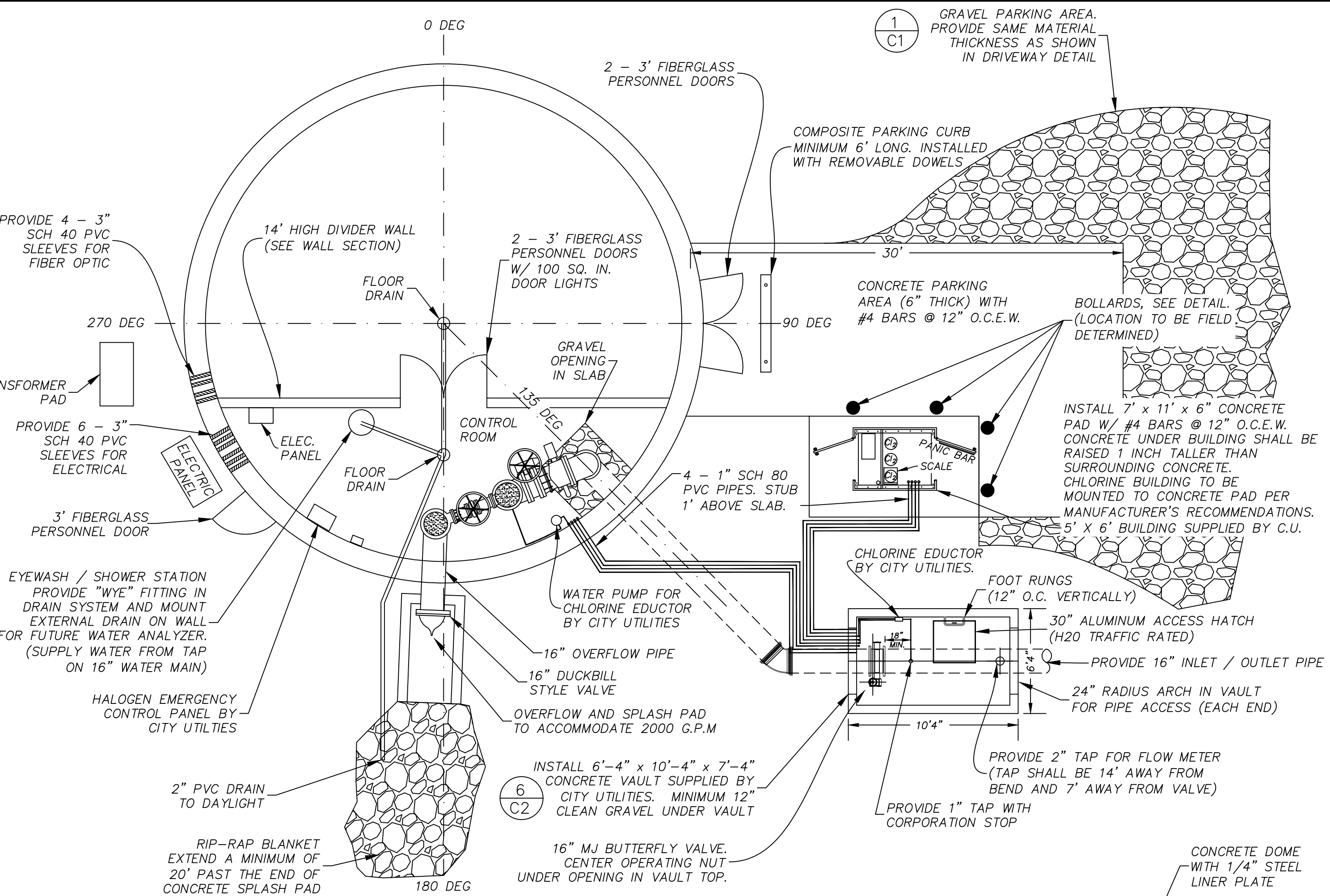
BOOSTER II ELEVATED TANK DETAILS
SEC. 01, T 29 N, R 21 W

DESIGNER: CLARK McLEMORE
PLOT DATE: 8/16/2017
CONTRACTOR: CONSTRUCTION COMPLETE DATE: SHEET C2

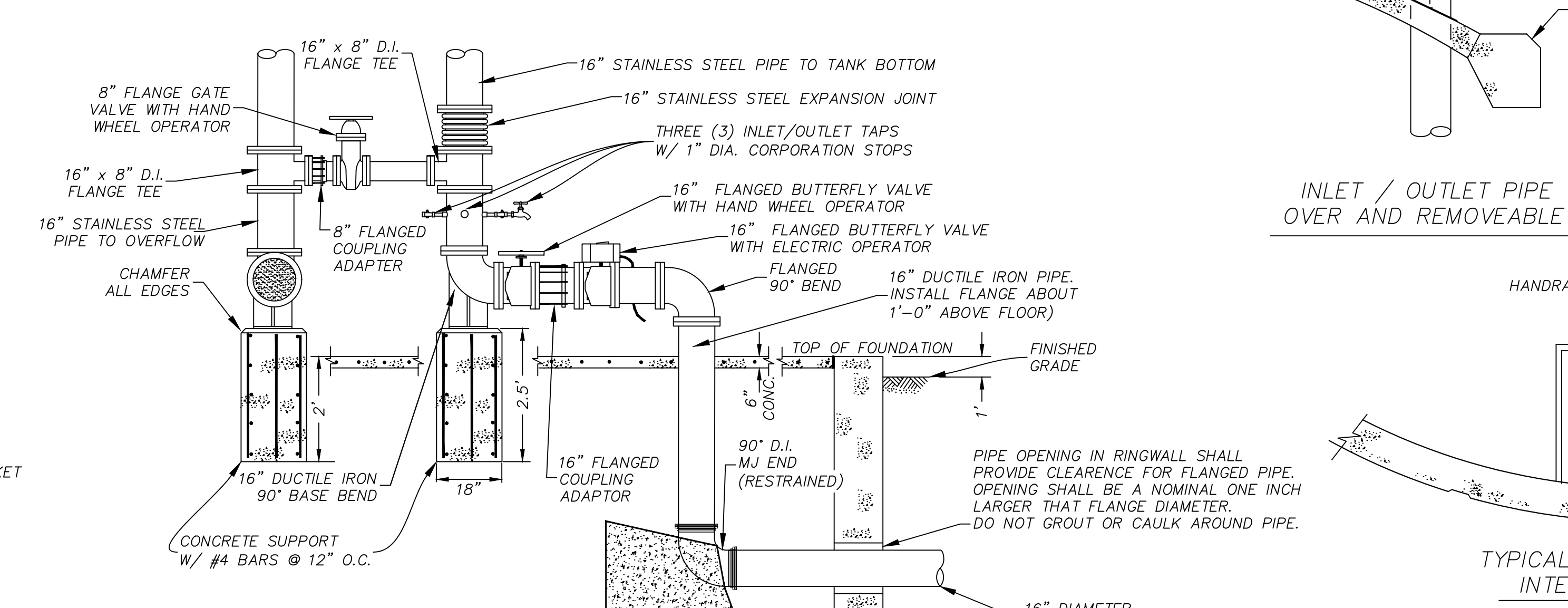
APPROVED BY: MAP NO.: NE-F11
APPLICATION NO.: N/A
SCALE: AS SHOWN
SHEET: 76329-D



ELEVATION

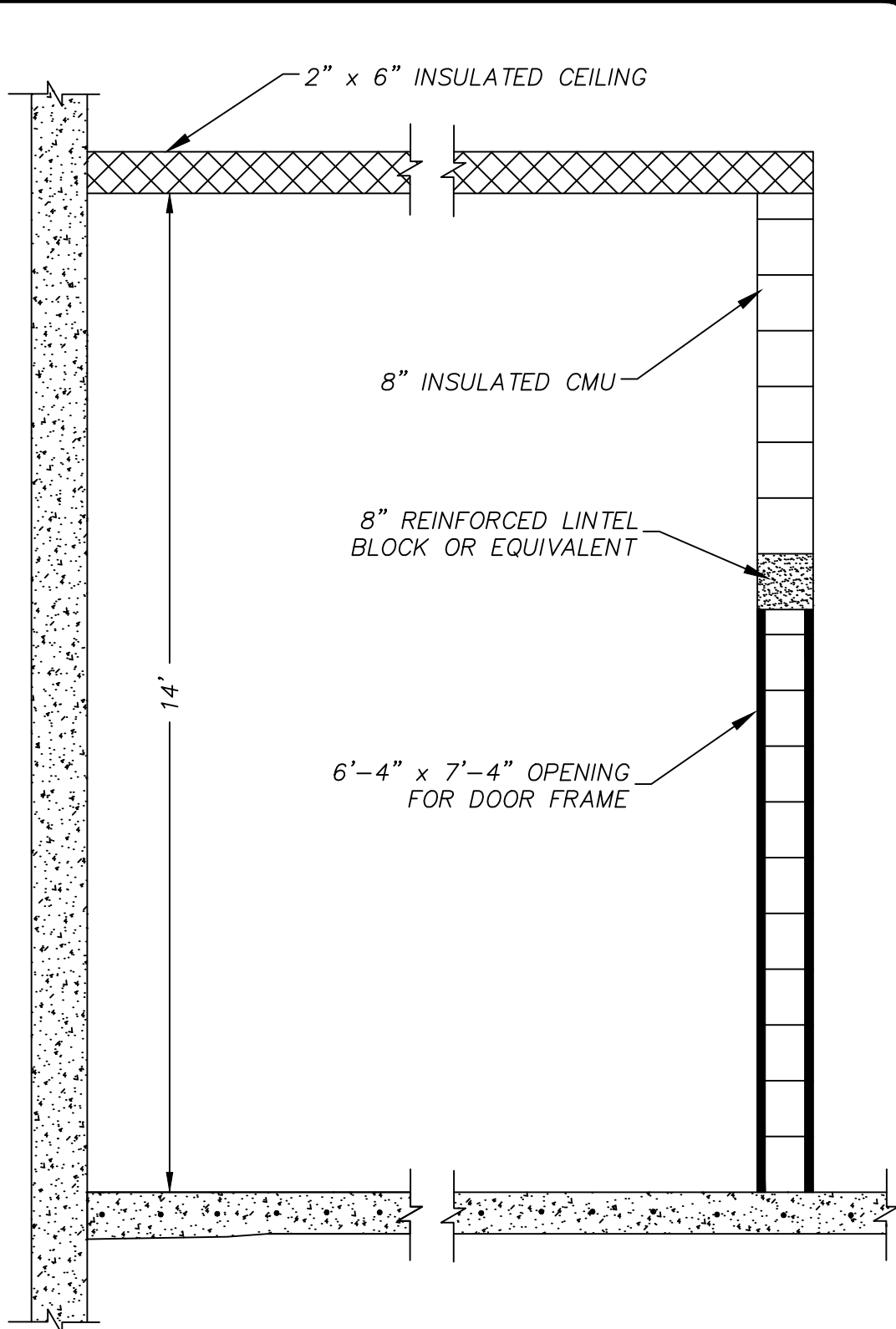


ORIENTATION PLAN

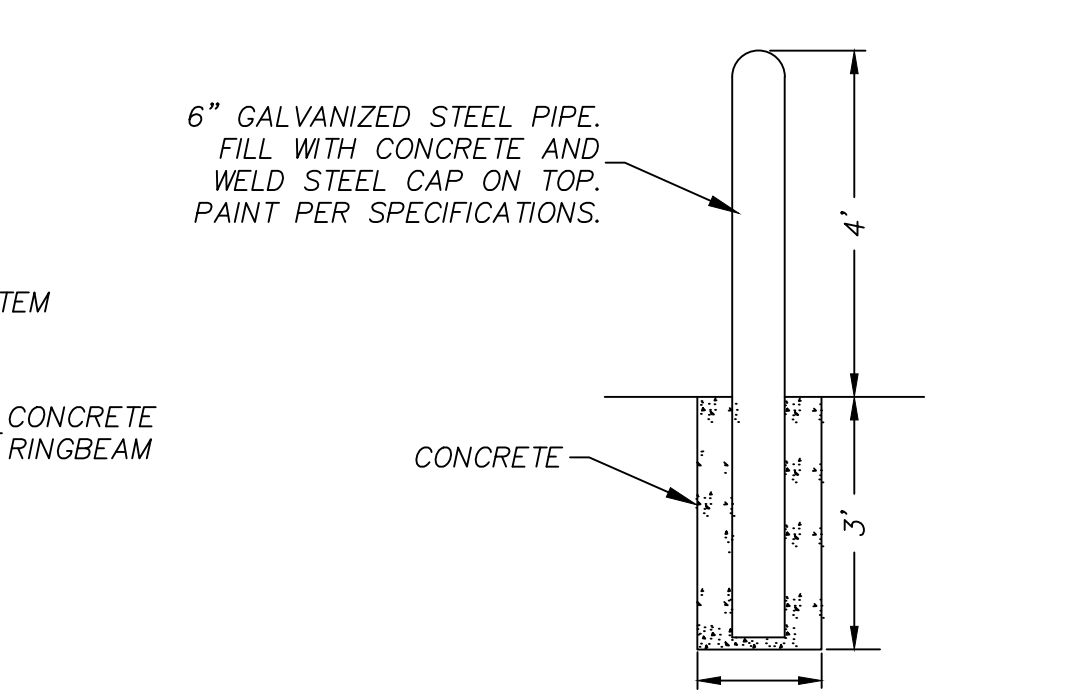


ENTRANCE / EXIT PIPING DETAIL

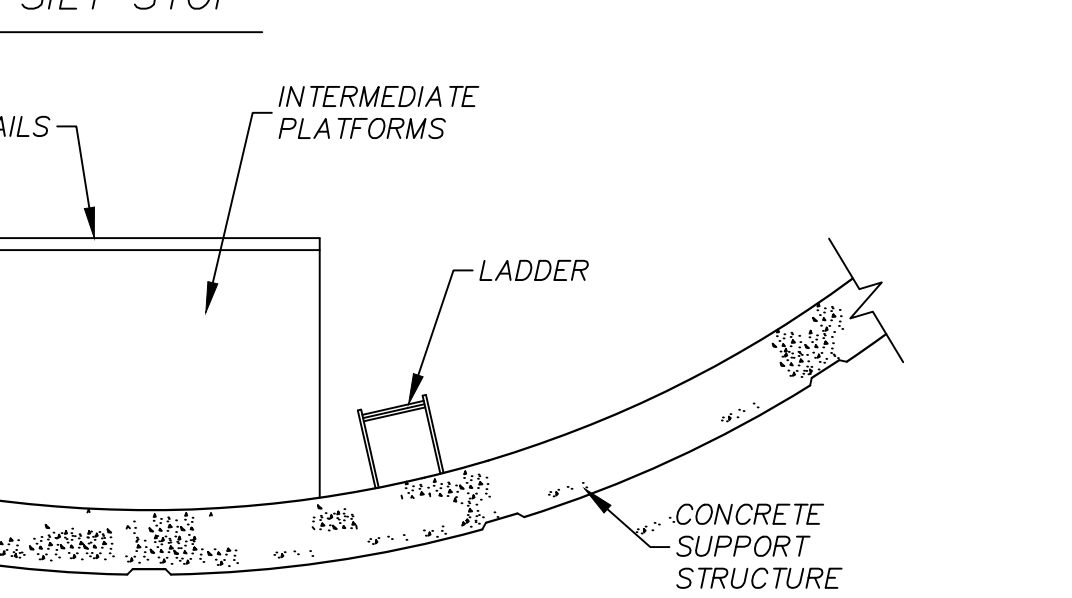
- GENERAL NOTES**
1. CONCRETE SUPPORT STRUCTURE DIAMETER AND DIMENSIONS OF FOUNDATION SHALL BE DETERMINED BY THE TANK CONTRACTOR BASED ON THE SOIL BEARING SPECIFIED AND THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT.
 2. AN ALUMINUM LADDER SAFETY DEVICE MEETING OSHA STANDARDS SHALL BE PROVIDED.
 3. SEE SPECIFICATIONS FOR OPTIONAL ACCESSORIES AND ALTERNATE ITEMS.
 4. ALL LADDERS, LANDINGS, AND ASSOCIATED COMPONENTS INSTALLED INSIDE THE CONCRETE SUPPORT STRUCTURE SHALL BE GALVANIZED.
 5. SLOPE FLOOR TO FLOOR DRAINS.



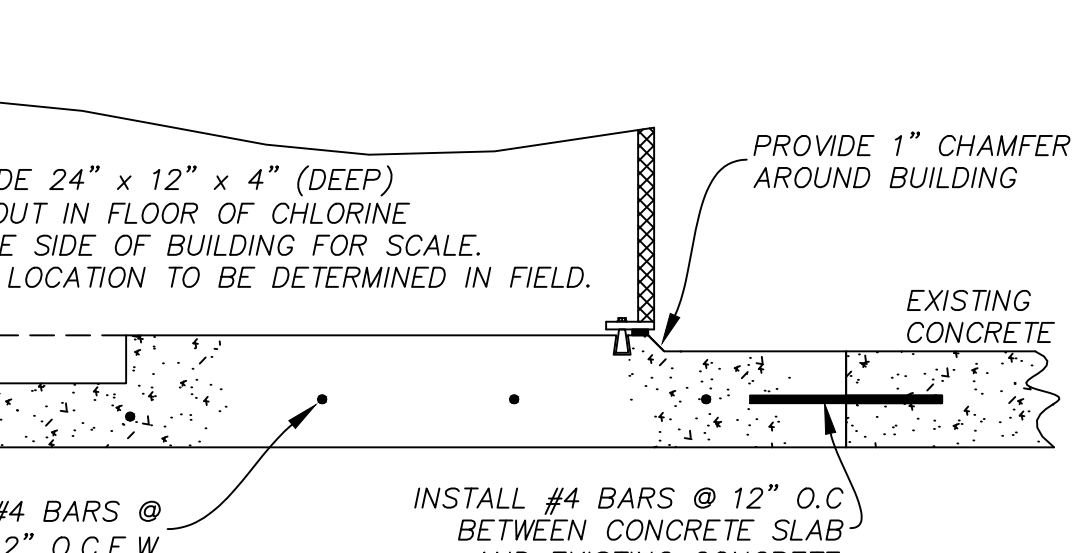
CONTROL ROOM WALL SECTION



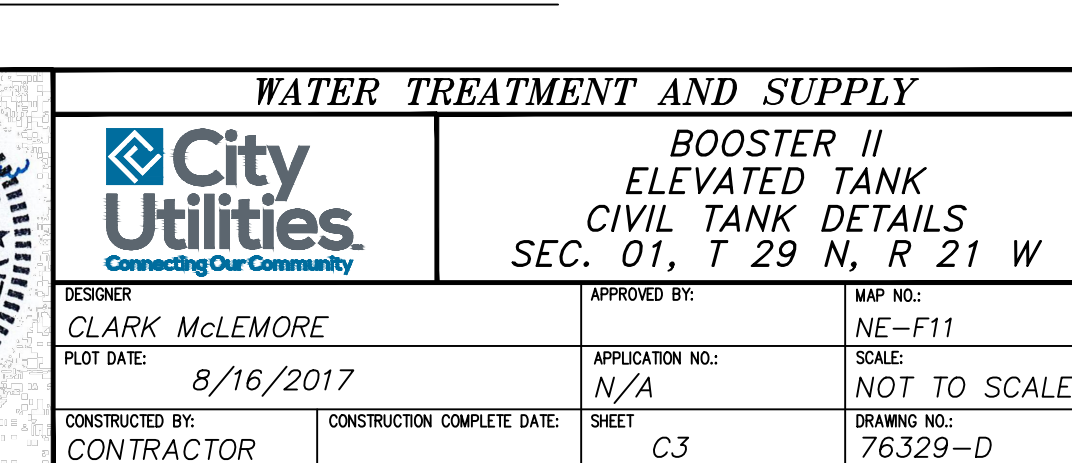
INLET / OUTLET PIPE WITH BAR OVER AND REMOVABLE SILT STOP



BOLLARD DETAIL



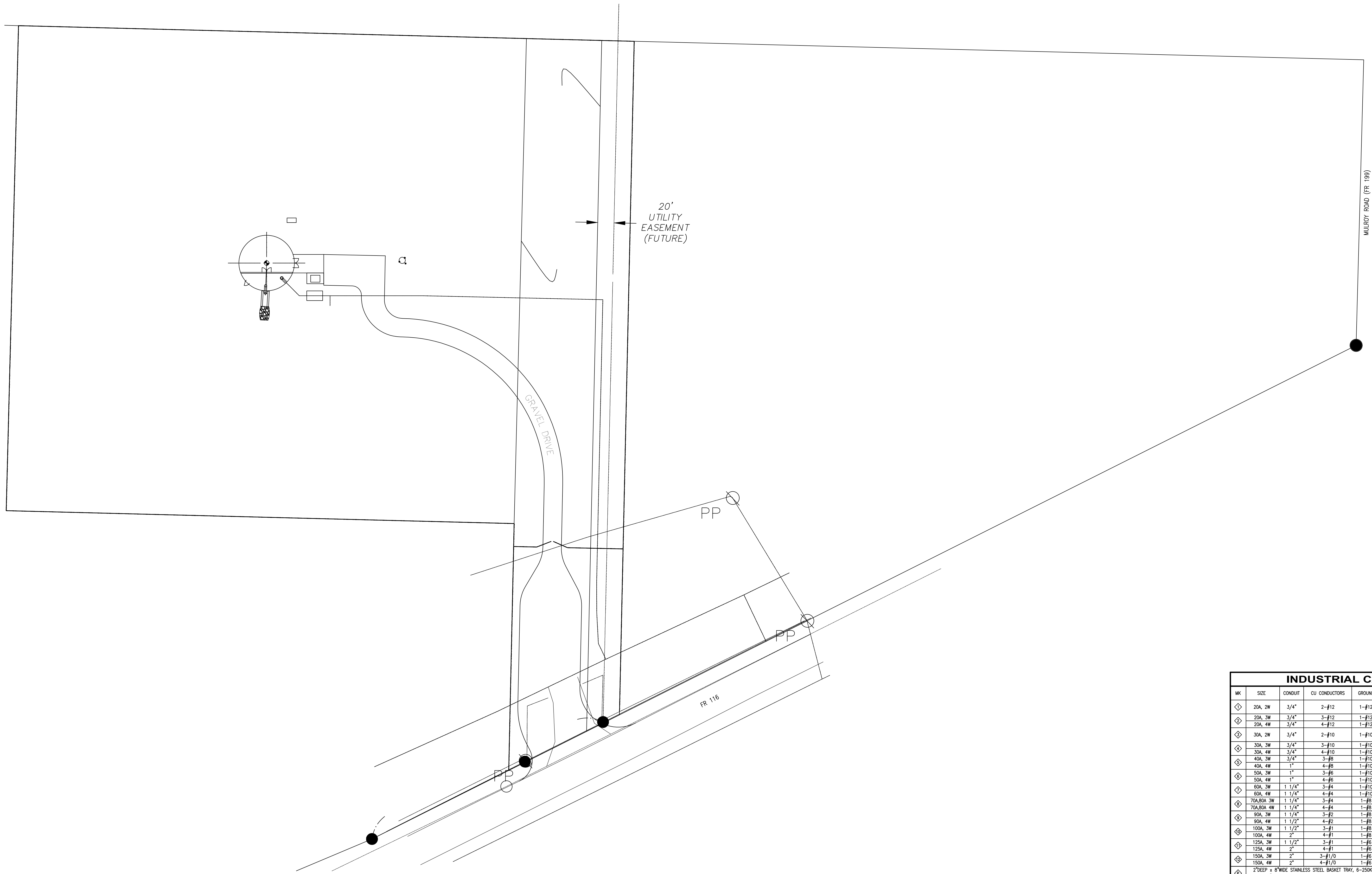
TYPICAL PLAN OF LADDER AND INTERMEDIATE PLATFORM



TYPICAL SECTION OF CONCRETE PAD UNDER CHLORINE BUILDING



WATER TREATMENT AND SUPPLY	
City Utilities <i>Connecting Our Community</i>	
BOOSTER II ELEVATED TANK CIVIL TANK DETAILS	
SEC. 01, T 29 N, R 21 W	
DESIGNER: CLARK McLEMORE	APPROVED BY: NE-F11
DATE: 8/16/2017	SCALE: NOT TO SCALE
CONTRACTOR:	SHEET: C3
CONSTRUCTION COMPLETE DATE:	DRAWING NO.: 76329-D



A
E1
SCALE: 1" = 30'-0"
N

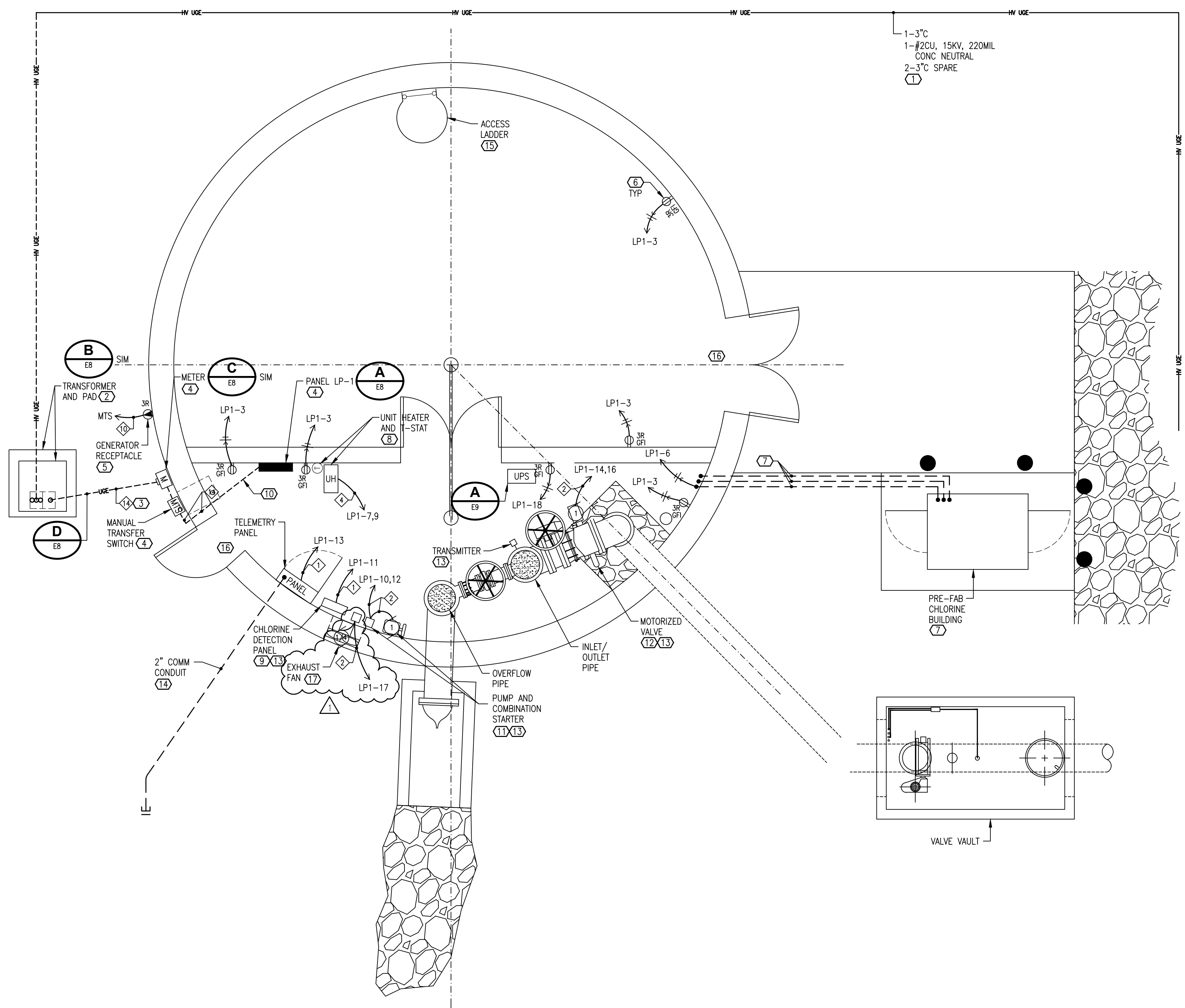
INDUSTRIAL CABLE SCHEDULE									
MK	SIZE	CONDUIT	CU CONDUCTORS	GROUND	MK	SIZE	CONDUIT	CU CONDUCTORS	GROUND
◇	20A, 2W	3/4"	2-#12	1-#12	◇	175A, 3W	2"	3-#2/0	1-#6
◇	20A, 4W	3/4"	4-#12	1-#12	◇	175A, 4W	2"	4-#2/0	1-#6
◇	20A, 3W	3/4"	3-#12	1-#12	◇	200A, 3W	2"	3-#3/0	1-#6
◇	30A, 2W	3/4"	2-#10	1-#10	◇	200A, 4W	2 1/2"	4-#3/0	1-#6
◇	30A, 4W	3/4"	4-#10	1-#10	◇	225A, 3W	2 1/2"	3-#4/0	1-#4
◇	30A, 3W	3/4"	3-#10	1-#10	◇	225A, 4W	2 1/2"	4-#4/0	1-#4
◇	40A, 3W	3/4"	3-#8	1-#10	◇	250A, 3W	2 1/2"	3-250KCMIL	1-#4
◇	40A, 4W	1"	4-#8	1-#10	◇	250A, 4W	2 1/2"	4-250KCMIL	1-#4
◇	50A, 3W	1"	3-#6	1-#10	◇	400A, 3W	2-2"	6-#3/0	2-#3
◇	50A, 4W	1"	4-#6	1-#10	◇	400A, 4W	2-2 1/2"	8-#3/0	2-#3
◇	60A, 3W	1 1/4"	3-#4	1-#10	◇	400A, 3W	1-4"	3-500KCMIL	1-#3
◇	60A, 4W	1 1/4"	4-#4	1-#10	◇	400A, 4W	1-4"	4-500KCMIL	1-#3
◇	70A, 80A, 3W	1 1/4"	3-#4	1-#8	◇	600A, 3W	2-3"	6-350KCMIL	2-#1
◇	70A, 80A, 4W	1 1/4"	4-#4	1-#8	◇	600A, 4W	2-3"	8-350KCMIL	2-#1
◇	90A, 3W	1 1/4"	3-#2	1-#8	◇	800A, 3W	3-3"	9-350KCMIL	3-#1/0
◇	90A, 4W	1 1/2"	4-#2	1-#8	◇	800A, 4W	3-3"	12-350KCMIL	3-#1/0
◇	100A, 3W	1 1/2"	3-#1	1-#8	◇	800A, 3W	2-4"	8-500KCMIL	2-#1/0
◇	100A, 4W	2"	4-#1	1-#8	◇	800A, 4W	2-4"	8-500KCMIL	2-#1/0
◇	125A, 3W	1 1/2"	3-#1	1-#6	◇	1200A, 3W	4-3"	12-350KCMIL	4-#3/0
◇	125A, 4W	2"	4-#1	1-#6	◇	1200A, 4W	4-3"	16-350KCMIL	4-#3/0
◇	150A, 3W	2"	3-#1/0	1-#6	◇	1600A, 3W	5-4"	15-500KCMIL	5-#4/0
◇	150A, 4W	2"	4-#1/0	1-#6	◇	1600A, 4W	5-4"	20-500KCMIL	5-#4/0
◇	200A, 3W	6-4"	18-500KCMIL	6-250KCMIL	◇	2000A, 3W	6-4"	18-500KCMIL	6-250KCMIL
◇	200A, 4W	6-4"	24-500KCMIL	6-250KCMIL	◇	2000A, 4W	6-4"	24-500KCMIL	6-250KCMIL

◇ 2" DEEP x 8" WIDE STAINLESS STEEL BASKET TRAY, 6-250KCMIL, CU, ORNGITE 112-24-2431 OKOGLUARD-OKOLON TS-CPE, USE-2 AND 1-#1 GROUND. ROUTED UNDER PLATFORM.
◇ INDICATES UNKNOWN CONDUIT AND WIRE SIZE OR EQUIPMENT RATING.

<p>PRELIMINARY NOT FOR CONSTRUCTION</p> <p>MARK CLINTON BRAMER ELECTRICAL ENGINEER - E-2007000405</p>	DESIGN BY J. ROSENBAUM	1922 N. Broadway Avenue Springfield, MO 65803 Phone: 417-831-6500 MO Engineering Corporation 001251	ENGINEERED BY: JRR	APPROVED BY: JRR	DATE: 08/18/17	DATE ISSUED: 08/18/17	MAP NO.:
	CHECKED BY MCB	DATE: 08/08/17	DRAWN BY: WSS	AGENCY NO.:	PERMIT NO.:	PLOT DATE/TIME:	SCALE: NONE
	APPROVED BY MCB	DATE: 08/10/17	ESC, Inc. PROJECT NUMBER: 16191	APPLICATION NO.:	SHEET OF: E1	DRAWING NO.:	76329-D
	DESIGN BY WSS	DATE: 08/10/17	REV 1: REVISED - 16191E1	REV 0: ISSUE FOR BID - 16191E1	DATE: 08/10/17	DATE: 08/10/17	DATE: 08/10/17

City Utilities
Connecting Our Community

**BOOSTER II ELEVATED TANK
OVERALL FACILITY
ELECTRICAL
SITE PLAN**



A
E2
FIRST FLOOR POWER PLAN
SCALE: 1/4" = 1'-0"

- GENERAL NOTE:**
- A. ALL BELOW GRADE CONDUITS SHALL BE PVC. ALL BELOW GRADE ELLS SHALL BE RGS WITH A 2'-0" MINIMUM BEND RADIUS. ALL ABOVE GRADE CONDUIT SHALL BE RGS.
- NOTES:**
- 1 HIGH VOLTAGE CONDUIT, CABLE AND TERMINATIONS BY CITY UTILITIES.
 - 2 TRANSFORMER AND PAD FURNISHED AND INSTALLED BY CITY UTILITIES. FURNISH AND INSTALL THE SECONDARY CONDUIT, CABLE, AND TERMINATIONS.
 - 3 FURNISH AND INSTALL CONDUIT AND CABLE AS INDICATED.
 - 4 FURNISH AND INSTALL EQUIPMENT AS INDICATED.
 - 5 FURNISH AND INSTALL A GENERATOR RECEPTACLE, VERIFY CONFIGURATION WITH THE OWNER.
 - 6 FURNISH AND INSTALL A RECEPTACLE AS INDICATED.
 - 7 FURNISH AND INSTALL ONE (1) 1" AND TWO (2) 1 1/2" CONDUITS BETWEEN THE TANK AND THE CHLORINE BUILDING. ONE CONDUIT IS FOR POWER CIRCUITS AND THE OTHERS ARE FOR CONTROL CIRCUITS. WIRE THE CHLORINE BUILDING LIGHTING/RECEPTACLE CIRCUIT AS INDICATED. FURNISH AND INSTALL A NYLON PULL ROPE IN THE CONTROL CONDUITS FOR USE BY THE OWNER. THE ONE (1) CONTROL CONDUIT SHALL BE ROUTED TO THE TELEMETRY PANEL AND THE OTHER SHALL BE ROUTED TO THE CHLORINE DETECTION PANEL.
 - 8 WIRE THE OWNER FURNISHED UNIT HEATER AND THERMOSTAT PER THE MANUFACTURERS INSTRUCTIONS AND AS INDICATED.
 - 9 FURNISH AND INSTALL A POWER FEED TO THE OWNER FURNISHED AND INSTALLED PANEL.
 - 10 FURNISH A 1'-6"W x 1'-0"H OPENING IN THE FOUNDATION AND A 1'-6"W x 9"D OPENING IN THE FLOOR FOR CURRENT AND FUTURE POWER CONDUITS.
 - 11 WIRE THE CHLORINE/WATER PUMP AS INDICATED. FURNISH AND INSTALL A 230V, SINGLE PHASE, NEMA 4X, STAINLESS STEEL, FUSIBLE (6A FUSES), FULL VOLTAGE, NON-REVERSING, COMBINATION MOTOR STARTER WITH 120VAC COIL, SQUARE D CLASS 8538. FURNISH AND INSTALL OVERLOAD ELEMENTS PER THE MOTOR NAMEPLATE.
 - 12 WIRE THE OWNER FURNISHED MOTORIZED VALVE PER THE MANUFACTURERS INSTRUCTIONS AND AS INDICATED.
 - 13 FURNISH AND INSTALL A 3/4" CONTROL CONDUIT, WITH NYLON PULL ROPE, TO THE TELEMETRY PANEL FOR USE BY OWNER.
 - 14 FURNISH AND INSTALL ONE (1) 2" CONDUIT FOR FUTURE USE BY THE OWNER FOR COMMUNICATION CIRCUITS. FURNISH AND INSTALL A NYLON PULL ROPE FOR USE BY THE OWNER. EXTEND THE CONDUIT 4'-0" BEYOND THE PAVED AREA. MARK THE END OF THE CONDUIT WITH A METAL TEE POST DRIVEN FLUSH WITH THE FINISHED GRADE.
 - 15 ALL STAIRWAYS, LADDERS AND PLATFORMS SHOWN ARE PRELIMINARY, FINAL CONFIGURATION WILL BE DETERMINED BY THE ELEVATED TANK PROVIDER.
 - 16 FURNISH AND INSTALL A 1/2" CONDUIT FROM THE TELEMETRY PANEL AND EACH DOOR AS DIRECTED BY THE OWNER FOR SECURITY. FURNISH AND INSTALL A NYLON PULL ROPE FOR USE BY THE OWNER.
 - 17 FURNISH AND INSTALL AN EXHAUST FAN, GRANGER PART # 9FZKS. FURNISH AND INSTALL A T-STAT, VENTMATIC XX-FIRESTAT, FOR EXHAUST FAN CONTROL. CONFIRM LOCATION WITH THE OWNER.

INDUSTRIAL CABLE SCHEDULE									
WK	SIZE	CONDUIT	CU CONDUCTORS	GROUND	WK	SIZE	CONDUIT	CU CONDUCTORS	GROUND
◇	20A, 2W	3/4"	2-#12	1-#12	◇	175A, 3W	2"	3-#2/O	1-#6
◇	20A, 4W	3/4"	3-#12	1-#12	◇	175A, 4W	2"	4-#2/O	1-#6
◇	30A, 2W	3/4"	2-#10	1-#10	◇	200A, 3W	2"	3-#3/O	1-#6
◇	30A, 4W	3/4"	3-#10	1-#10	◇	200A, 4W	2 1/2"	4-#3/O	1-#6
◇	40A, 2W	3/4"	2-#8	1-#8	◇	225A, 3W	2 1/2"	3-#4/O	1-#4
◇	40A, 4W	3/4"	3-#8	1-#8	◇	225A, 4W	2 1/2"	4-#4/O	1-#4
◇	50A, 2W	1"	2-#6	1-#6	◇	250A, 3W	2 1/2"	3-#5/O	1-#4
◇	50A, 4W	1"	3-#6	1-#6	◇	250A, 4W	2 1/2"	4-#5/O	1-#4
◇	60A, 2W	1 1/4"	2-#4	1-#4	◇	400A, 3W	2-2"	3-#5/O	2-#3
◇	60A, 4W	1 1/4"	3-#4	1-#4	◇	400A, 4W	2-2"	4-#5/O	2-#3
◇	70A, 2W	1 1/2"	2-#3	1-#3	◇	400A, 3W	2-2 1/2"	3-#5/O	2-#3
◇	70A, 4W	1 1/2"	3-#3	1-#3	◇	400A, 4W	2-2 1/2"	4-#5/O	2-#3
◇	80A, 2W	1 1/2"	2-#2	1-#2	◇	600A, 3W	2-3"	3-#5/O	2-#1
◇	80A, 4W	1 1/2"	3-#2	1-#2	◇	600A, 4W	2-3"	4-#5/O	2-#1
◇	100A, 2W	2"	1-#1	1-#1	◇	800A, 3W	3-3"	3-#5/O	3-#1/O
◇	100A, 4W	2"	2-#1	1-#1	◇	800A, 4W	3-3"	4-#5/O	3-#1/O
◇	125A, 2W	2"	1-#1	1-#1	◇	800A, 3W	2-4"	3-#5/O	2-#1/O
◇	125A, 4W	2"	2-#1	1-#1	◇	800A, 4W	2-4"	4-#5/O	2-#1/O
◇	150A, 2W	2"	1-#1	1-#1	◇	1200A, 3W	4-3"	4-#5/O	4-#3/O
◇	150A, 4W	2"	2-#1	1-#1	◇	1200A, 4W	4-3"	5-#5/O	4-#3/O
◇	150A, 3W	2"	3-#1/O	1-#6	◇	1500A, 3W	5-4"	5-#5/O	5-#4/O
◇	150A, 4W	2"	4-#1/O	1-#6	◇	1500A, 4W	5-4"	6-#5/O	5-#4/O
◇	200A, 3W	2"	3-#1/O	1-#6	◇	2000A, 3W	6-4"	6-#5/O	6-#5/O
◇	200A, 4W	2"	4-#1/O	1-#6	◇	2000A, 4W	6-4"	7-#5/O	6-#5/O

◇ 2" DEEP x 8" WIDE STAINLESS STEEL BASKET TRAY, 6-250KCMIL, CU, ORGNITE 112-24-2431 OKOGLARD-OKOLON TS-CPE, USE-2 AND 1-#1 GROUND. ROUTED UNDER PLATFORM.

◇ INDICATES UNKNOWN CONDUIT AND WIRE SIZE OR EQUIPMENT RATING.

REV 1/17

PRELIMINARY
NOT FOR
CONSTRUCTION

MARK CLINTON BRAMER
ELECTRICAL ENGINEER - E-2007000405

DESIGN BY
K. HOLIDAY

CHECKED BY
MCB DATE
08/08/17

APPROVED BY
MCB DATE
08/10/17

DRAWN BY
WSS

E2C, Inc.
PROJECT NUMBER
16191

E2C consulting engineers

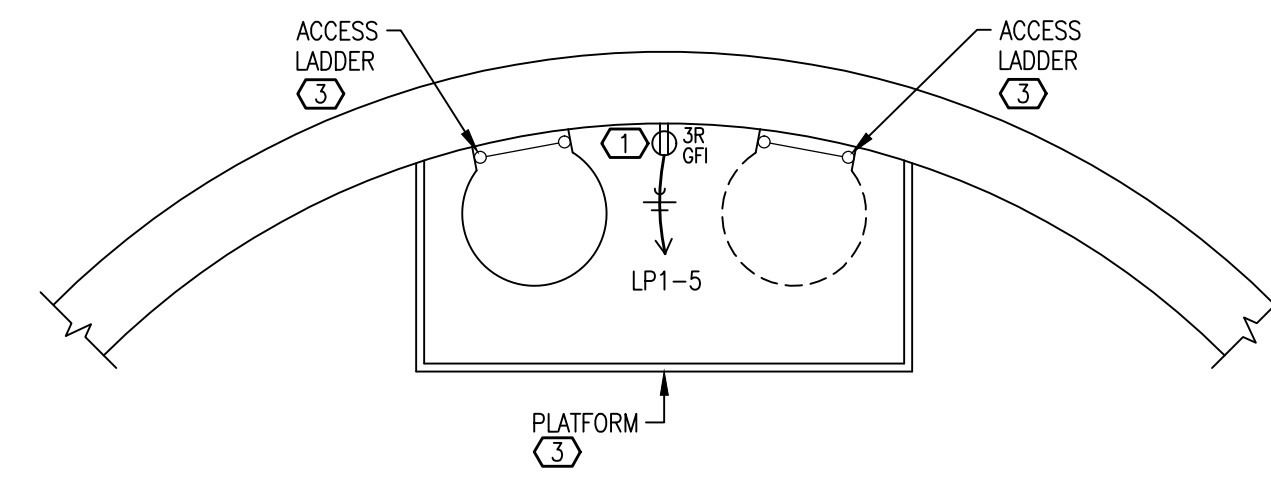
1922 N. Broadway Avenue
Springfield, MO 65803
Phone: 417-831-6500
MO Engineering Corporation 001251

1	REVISED - 16191E1	08/18/17	JRR
0	ISSUE FOR BID - 16191E1	08/10/17	JRR
REV	REVISION DESCRIPTION	DATE	BY

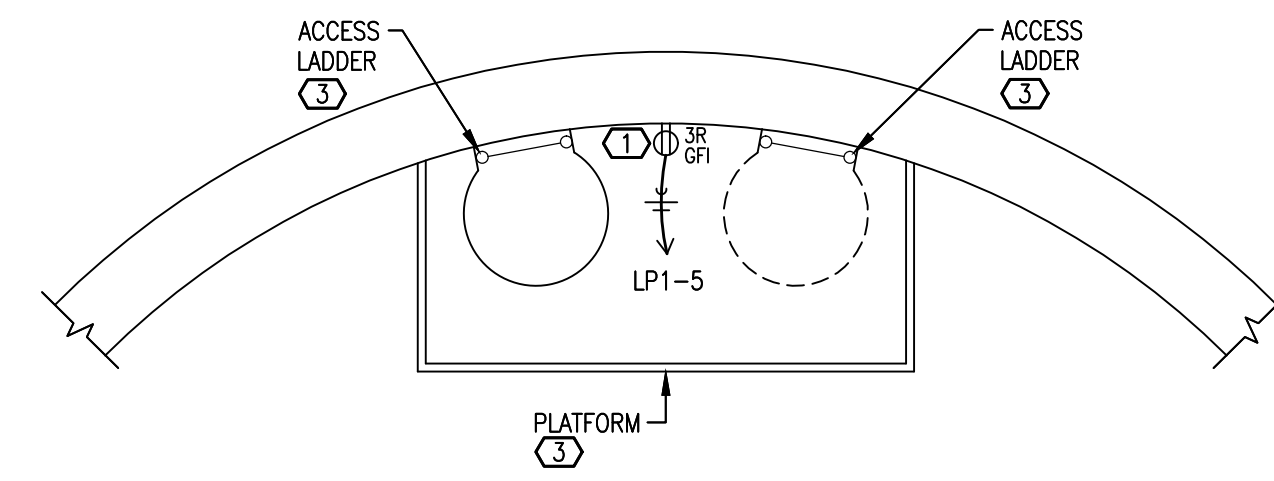
City Utilities
Connecting Our Community

**BOOSTER II ELEVATED TANK
TOWER AREA
ELECTRICAL
POWER PLAN**

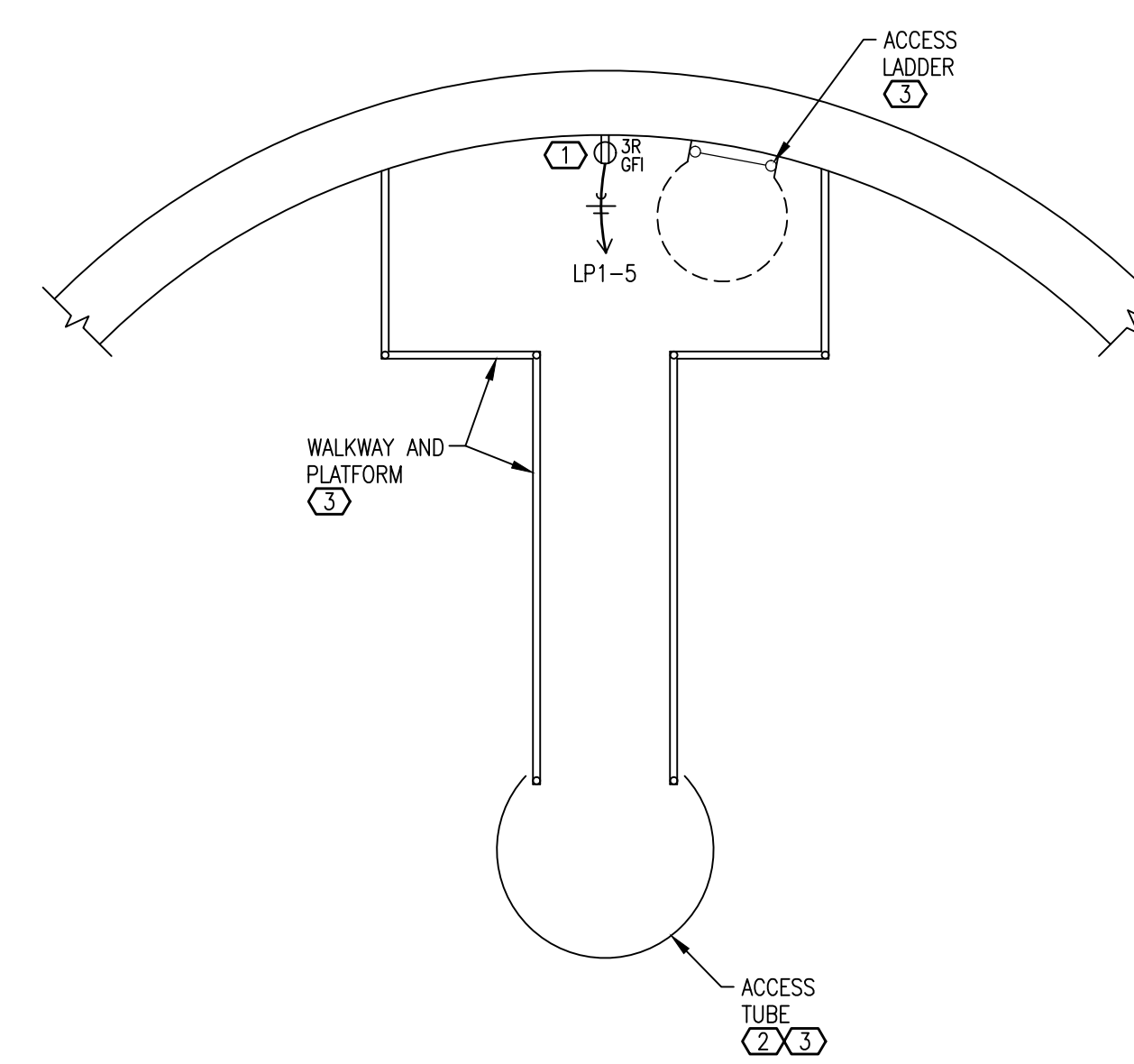
ENGINEERED BY: DATE: DATE ISSUED: MAP NO.:
DRAWN BY: AGENCY NO.: PLOT DATE/TIME: SCALE: AS NOTED
PERMIT NO.: SHEET OF DRAWING NO.:
E2 76329-D



A SECOND FLOOR POWER PLAN
 SCALE: 1" = 1'-0"
 E3

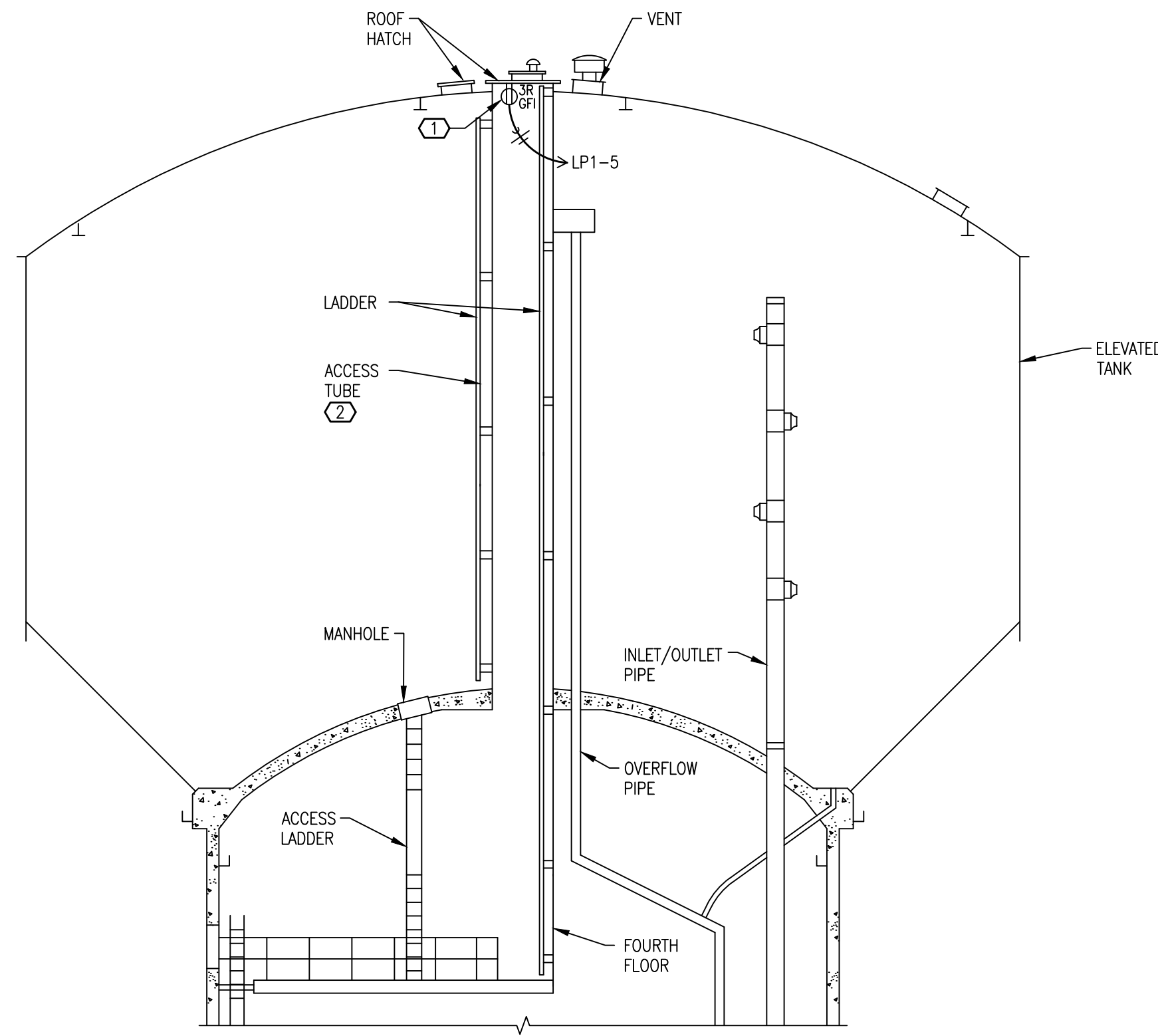


B THIRD FLOOR POWER PLAN
 SCALE: 1" = 1'-0"
 E3



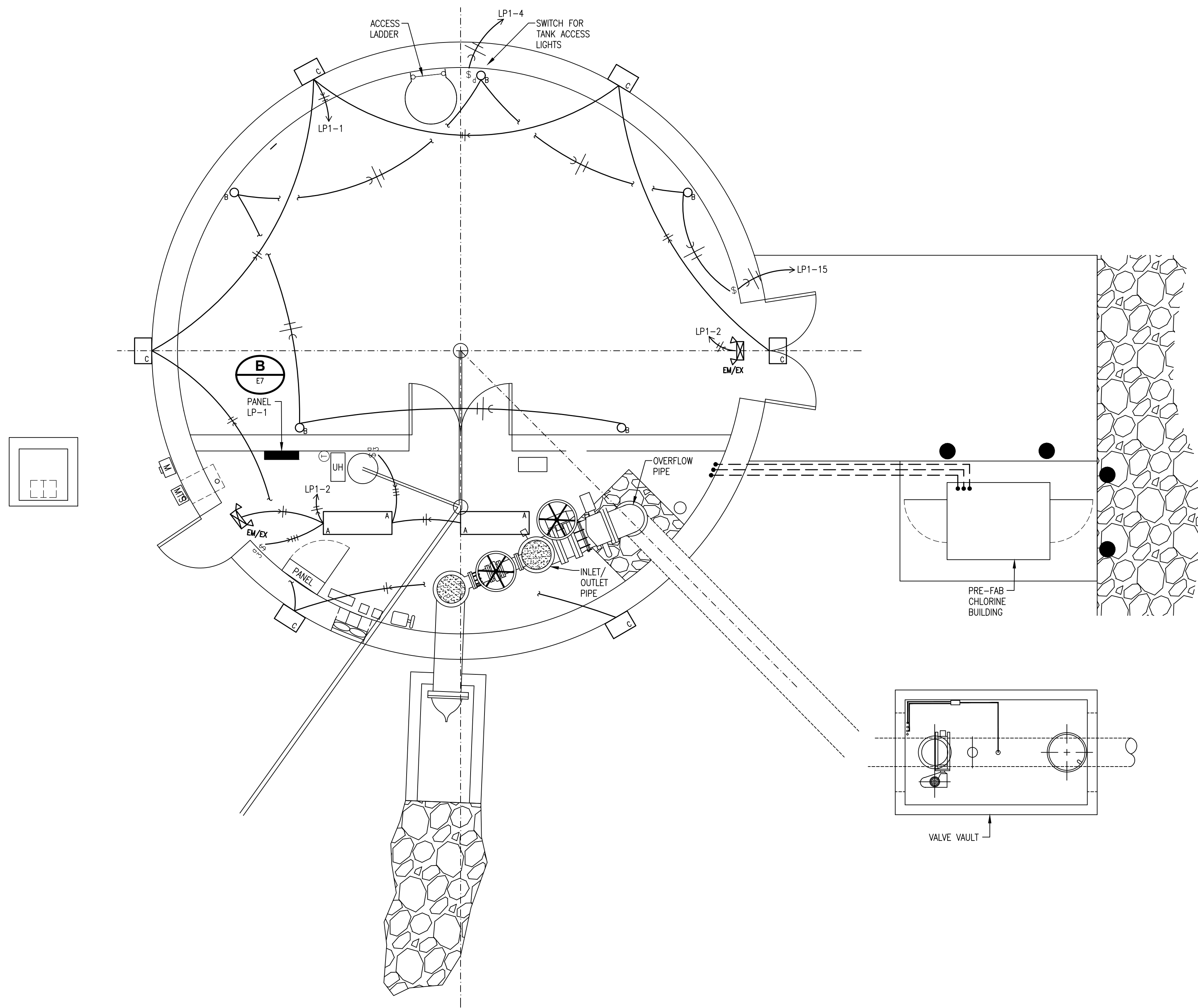
C FOURTH FLOOR POWER PLAN
 SCALE: 1" = 1'-0"
 E3

- NOTES:
- ① FURNISH AND INSTALL A RECEPTACLE AS INDICATED.
 - ② FURNISH AND INSTALL ONE (1) 1" CONDUIT FROM THE TOP OF THE TANK TO THE BOTTOM OF THE ACCESS TUBE FOR USE BY THE OWNER. THE TANK WILL PROVIDE A BULK HEAD PENETRATION AT THE TOP OF THE TANK. FURNISH AND INSTALL A NYLON PULL ROPE FOR USE BY THE OWNER.
 - ③ ALL STAIRWAYS, LADDERS AND PLATFORMS SHOWN ARE PRELIMINARY, FINAL CONFIGURATION WILL BE DETERMINED BY THE ELEVATED TANK PROVIDER.



D TANK AND ACCESS TUBE ELEVATION
 SCALE: 1/8" = 1'-0"
 E3

PRELIMINARY NOT FOR CONSTRUCTION <small>MARK CLINTON BRAMER ELECTRICAL ENGINEER - E-2007000405</small>	<small>DESIGN BY</small> J. ROSENBAUM	ESC consulting engineers <small>1922 N. Broadway Avenue Springfield, MO 65803 Phone: 417-831-6500 MO Engineering Corporation 001251</small>	---	---	---		BOOSTER II ELEVATED TANK TOWER AREA ELECTRICAL POWER PLANS AND ELEVATION
	<small>CHECKED BY</small> MCB		<small>DATE</small> 08/08/17	---	---		
	<small>APPROVED BY</small> MCB	<small>DATE</small> 08/10/17	---	---	---	<small>AGENCY NO.:</small>	<small>PLOT DATE/TIME:</small>
	<small>DRAWN BY</small> WSS		<small>1</small> REVISED - 16191E1	<small>DATE</small> 08/18/17	<small>BY</small> JRR	<small>PERMIT NO.:</small>	<small>SHEET OF:</small> E3
	<small>ESC, Inc. PROJECT NUMBER</small> 16191		<small>0</small> ISSUE FOR BID - 16191E1	<small>DATE</small> 08/10/17	<small>BY</small> JRR	<small>MAP NO.:</small>	<small>SCALE:</small> AS NOTED
			<small>REV</small>	<small>REVISION DESCRIPTION</small>		<small>APPLICATION NO.:</small>	<small>DRAWING NO.:</small> 76329-D

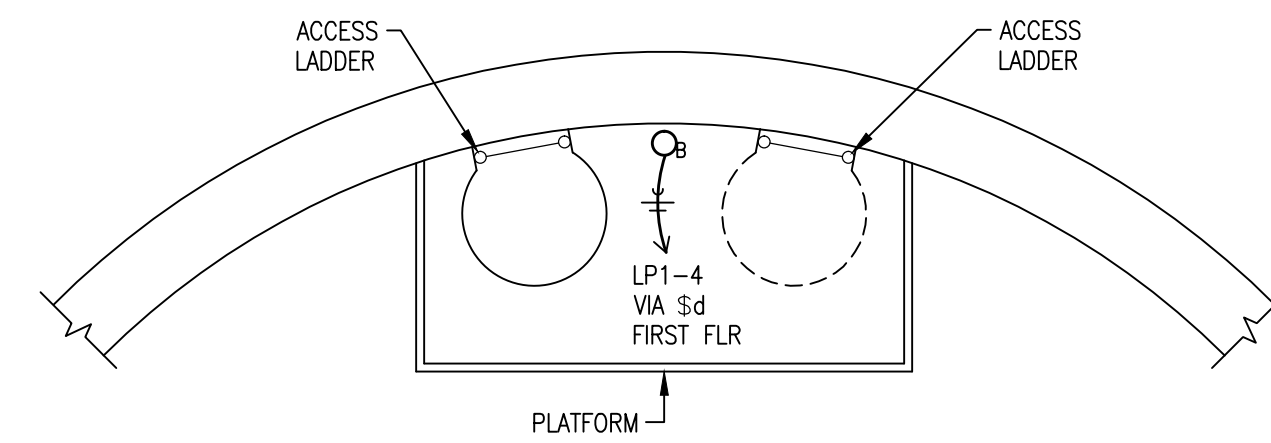


A FIRST FLOOR LIGHTING PLAN
 E4 SCALE: 1/4" = 1'-0"

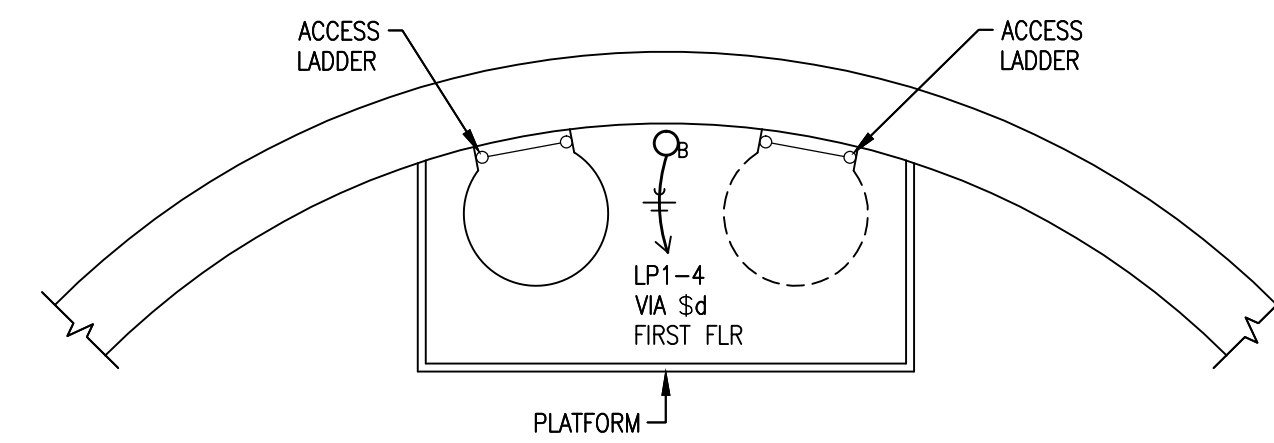
LIGHTING FIXTURE SCHEDULE

MARK	MANUFACTURER	CATALOG NUMBER	TYPE	MOUNTING	LAMP DATA					LOAD	NOTES
					NO	SIZE	TYPE	VOLTAGE	AMPS		
A	COLUMBIA LIGHTING	XFSW4-454-CA-MR-4EPU-F5841	SEVERE LOCATION LOW/HIGH BAY	SUSPENDED	4	54W	T5HO	120/277V	2.0	MOUNT AT 12'-0" AFF	
B	HUBBELL LIGHTING	VWX-152	DAMP LOCATION PENDANT	WALL	1	150W	INC	120	1.3	WIGUARD, MOUNT AT 7'-0" AFF EXCEPT FOR ACCESS TUBE	
C	HUBBELL LIGHTING	LMC-30LU-5K-3-1-PC(1)	PERIMETER	WALL	-	-	LED	120/277V	0.6	MOUNT AT 20'-0" AFG	
EM	DUAL-LITE	LZ300-03L	EMERGENCY	WALL	-	-	LED	120/277V	0.1	-	
EMEX	DUAL-LITE	HGXURW-03L	EMERGENCY/EXIT	WALL	-	-	LED	120/277V	0.1	-	

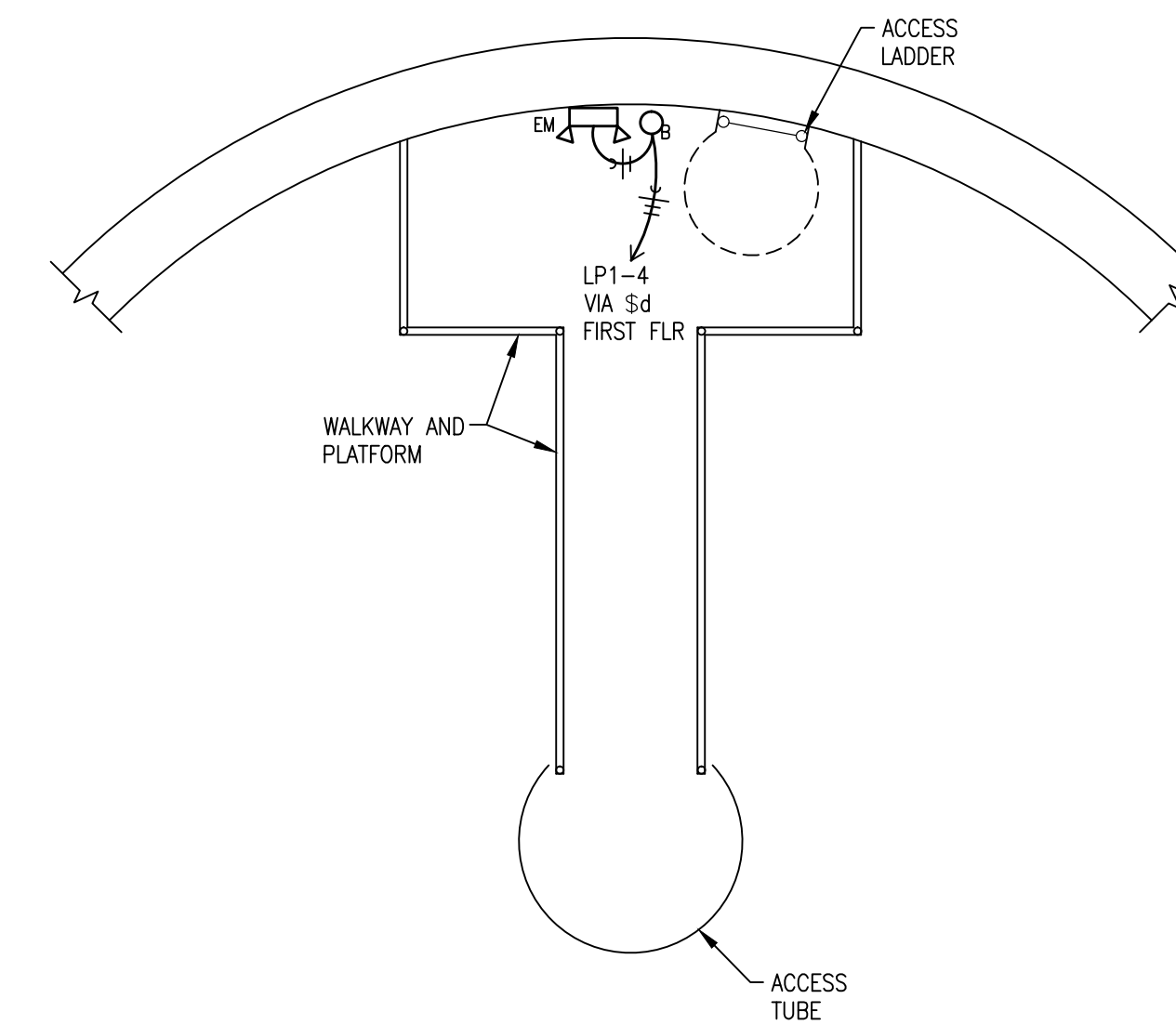
<p>PRELIMINARY NOT FOR CONSTRUCTION</p> <p>MARK CLINTON BRAMER ELECTRICAL ENGINEER - E-2007000405</p>	DESIGN BY J. ROSENBAUM	DATE 08/08/17	<p>ESC consulting engineers escctr.com 1922 N. Broadway Avenue Springfield, MO 65803 Phone: 417-831-6500 MO Engineering Corporation 001251</p>	1	REVISED - 16191E1	08/18/17	JRR	<p>City Utilities Connecting Our Community</p>	<p>BOOSTER II ELEVATED TANK TOWER AREA ELECTRICAL LIGHTING PLAN</p>						
	CHECKED BY MCB	DATE 08/08/17		0	ISSUE FOR BID - 16191E1	08/10/17	JRR					ENGINEERED BY:	APPROVED BY: DATE:	DATE ISSUED:	MAP NO.:
	APPROVED BY MCB	DATE 08/10/17		REV	REVISION DESCRIPTION	DATE	BY					DRIVEN BY:	AGENCY NO.:	PLOT DATE/TIME:	SCALE:
	DRAWN BY WSS	PROJECT NUMBER 16191										APPLICATION NO.:	PERMIT NO.:	SHEET OF E4	DRAWING NO. 76329-D



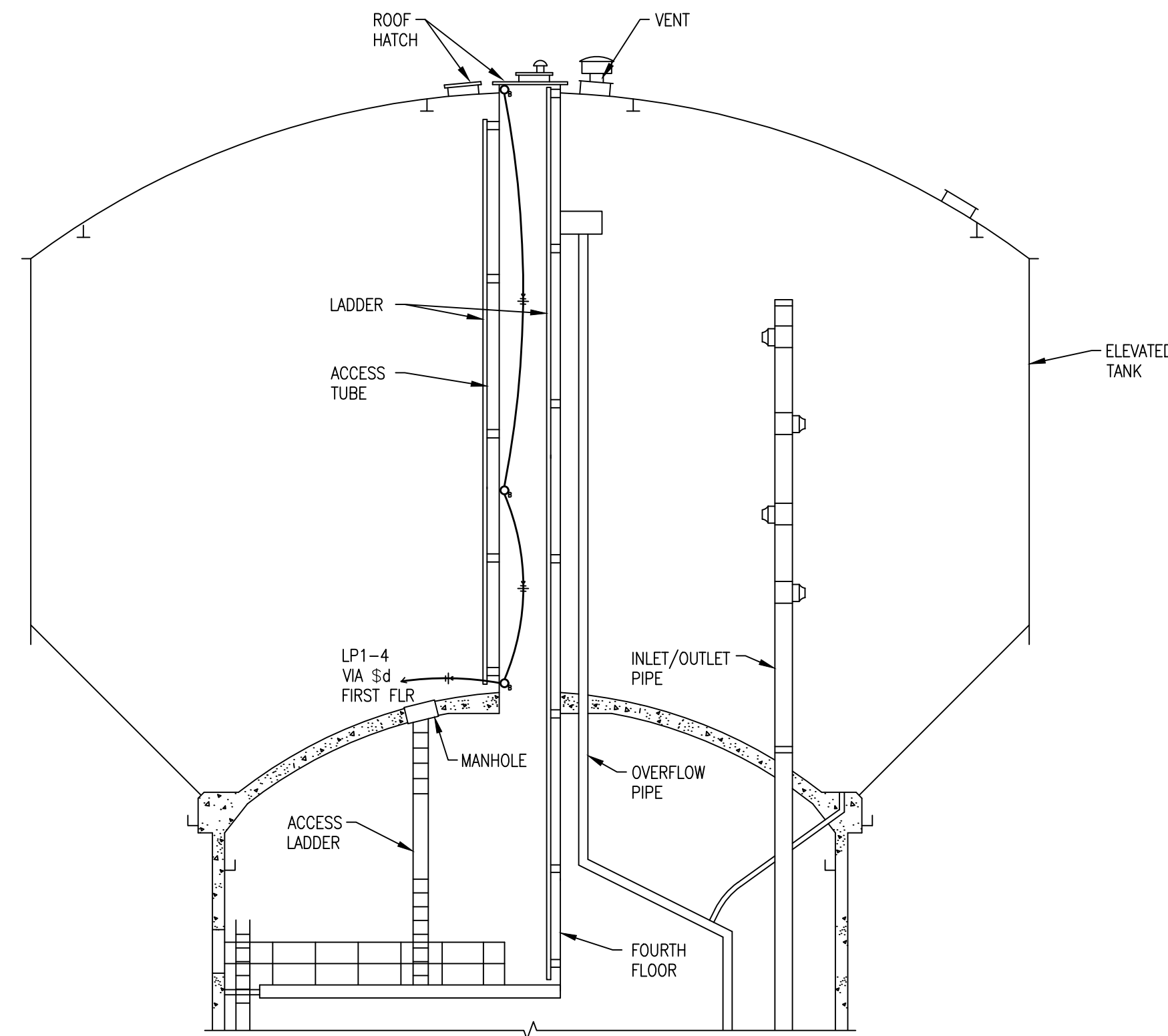
A SECOND FLOOR LIGHTING PLAN
 E5 SCALE: 1" = 1'-0"



B THIRD FLOOR LIGHTING PLAN
 E5 SCALE: 1" = 1'-0"



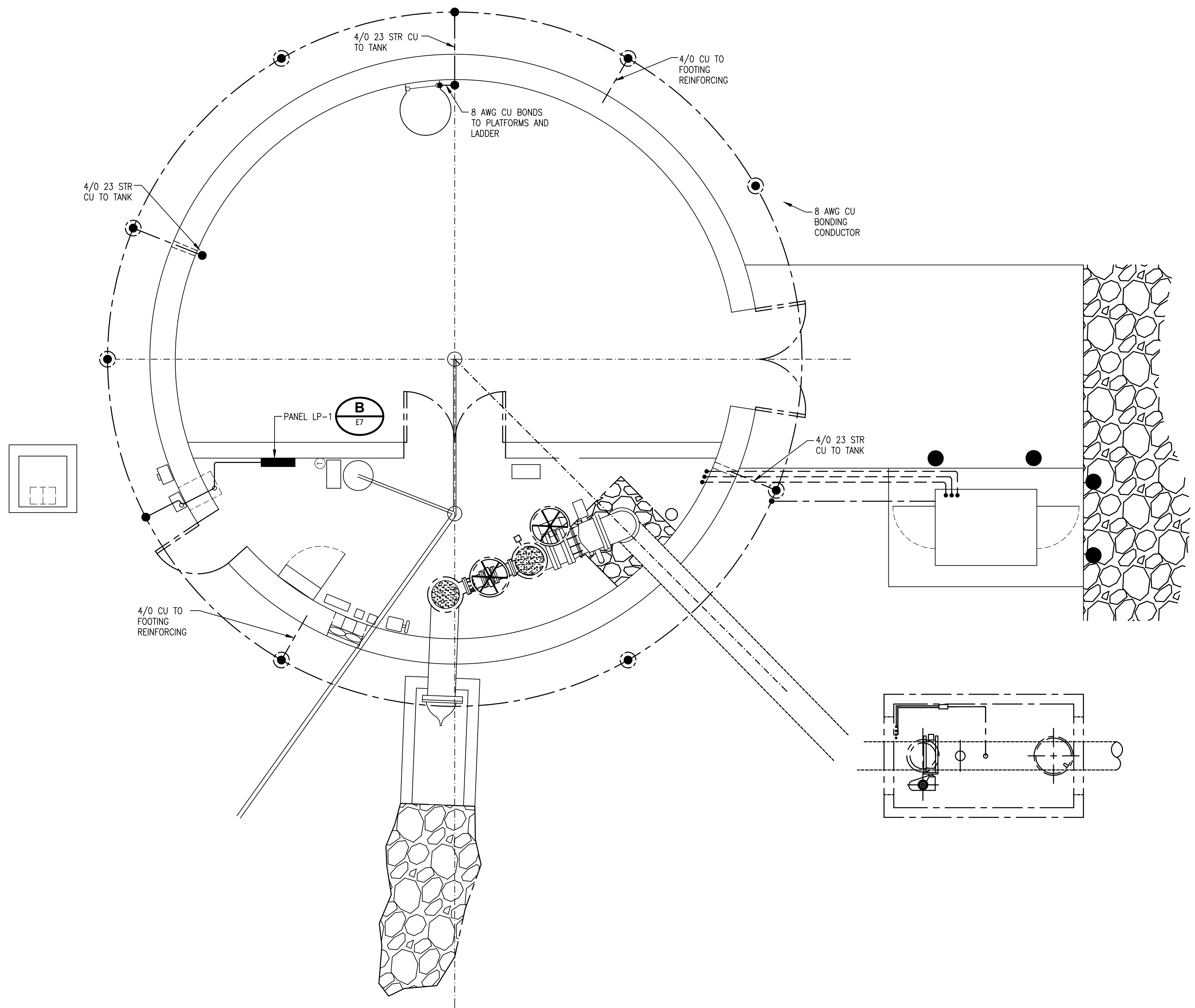
C FOURTH FLOOR LIGHTING PLAN
 E5 SCALE: 1" = 1'-0"



D TANK AND ACCESS TUBE ELEVATION
 E5 SCALE: 1/8" = 1'-0"

LIGHTING FIXTURE SCHEDULE										
MARK	MANUFACTURER	CATALOG NUMBER	TYPE	MOUNTING	LAMP DATA				LOAD	NOTES
					NO	SIZE	TYPE	VOLTAGE		
A	COLUMBIA LIGHTING	XFSW4-454-CA-M4R-4EPU-F5841	SEVERE LOCATION LOW/HIGH BAY	SUSPENDED	4	54W	T5HO	120/277V	2.0	MOUNT AT 12'-0" AFF
B	HUBBELL LIGHTING	VWX-152	DAMP LOCATION PENDANT	WALL	1	150W	INC	120	1.3	W/GUARD, MOUNT AT 7'-0" AFF EXCEPT FOR ACCESS TUBE
C	HUBBELL LIGHTING	LMC-30LU-5K-3-1-PC(1)	PERIMETER	WALL	-	-	LED	120/277V	0.6	MOUNT AT 20'-0" AFG
EM	DUAL-LITE	LZ30D-03L	EMERGENCY	WALL	-	-	LED	120/277V	0.1	-
EM/EX	DUAL-LITE	HXCURW-03L	EMERGENCY/EXIT	WALL	-	-	LED	120/277V	0.1	-

<p>PRELIMINARY NOT FOR CONSTRUCTION</p> <p>MARK CLINTON BRAMER ELECTRICAL ENGINEER - E-2007000405</p>	DESIGN BY J. ROSENBAUM	<p>EBC consulting engineers ELECTRICAL CONSULTING CORPORATION 1922 N. Broadway Avenue Springfield, MO 65803 Phone: 417-831-6500 MO Engineering Corporation 001251</p>	DATE: 08/08/17	DATE: 08/18/17	JRR	<p>City Utilities Connecting Our Community</p>	BOOSTER #1 ELEVATED TANK TOWER AREA ELECTRICAL LIGHTING PLANS AND ELEVATION			
	CHECKED BY MCB		DATE: 08/10/17	DATE: 08/10/17	JRR		ENGINEERED BY:	APPROVED BY: DATE:	DATE ISSUED:	MAP NO.:
	APPROVED BY MCB		DATE: 08/10/17	DATE: 08/10/17	JRR		DRAWN BY:	AGENCY NO.:	PLOT DATE/TIME:	SCALE: AS NOTED
	DRAWN BY WSS		PROJECT NUMBER: 16191	REV	REVISION DESCRIPTION		DATE	BY	APPLICATION NO.:	PERMIT NO.:

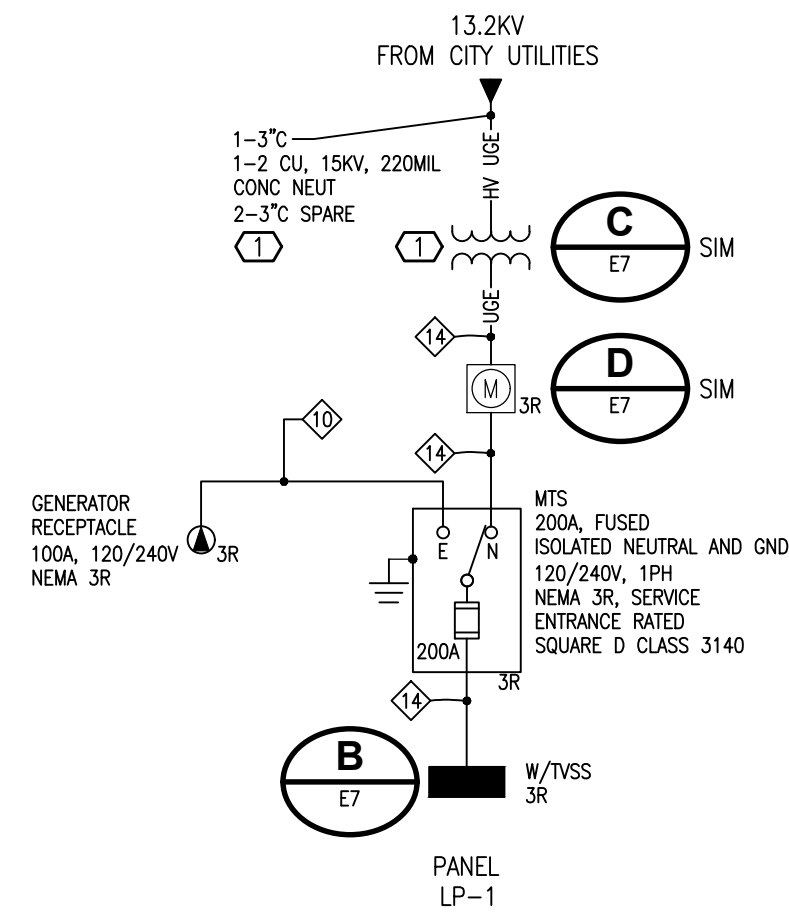


- GENERAL NOTES:
- A. FURNISH AND INSTALL THE GROUNDING SYSTEM PER THE NATIONAL ELECTRIC CODE AND AS INDICATED.
 - B. ALL GROUNDING CONDUCTOR SHALL HAVE A MINIMUM BEND RADIUS OF 8".
 - C. INSTALL GROUNDING RING OUT SIDE OF THE LIMITS OF THE FOOTING.
 - D. ALL BELOW GRADE GROUNDING CONNECTIONS SHALL BE EXOTHERMIC TYPE WELDS.
 - E. ALL ABOVE GRADE GROUNDING CONNECTIONS SHALL BE BOLTED.
 - F. FASTEN ALL EXPOSED GROUNDING CONDUCTORS EVERY 3'-0".
 - G. GROUNDING CONDUCTORS SHALL NOT BE ENCASED IN CONCRETE WITHOUT A PVC PROTECTIVE CONDUIT OR SLEEVE.

A
E6
GROUNDING PLAN
SCALE: 1/4" = 1'-0"

LEGEND	
	#4/0 STRANDED COPPER, 2'-0" BELOW GRADE (MIN)
	EXOTHERMIC CONNECTIONS, BELOW GRADE
	3/4"x10'-0" COPPER CLAD GROUND ROD WITH EXOTHERMIC CONNECTION

<p>PRELIMINARY NOT FOR CONSTRUCTION</p> <p>MARK CLINTON BRAMER ELECTRICAL ENGINEER - E-2007000405</p>	DESIGN BY J. ROSENBAUM	 ESC consulting engineers 1922 N. Broadway Avenue Springfield, MO 65803 Phone: 417-831-6500 MO Engineering Corporation 001251	CHECKED BY MCB	DATE 08/08/17	ENGINEERED BY JRR	DATE 08/18/17	CITY UTILITIES BOOSTER II ELEVATED TANK TOWER AREA ELECTRICAL GROUNDING PLAN
	APPROVED BY MCB		DATE 08/10/17	DRAWN BY WSS	PROJECT NUMBER 16191	SHEET OF E6	DRAWING NO. 76329-D
	ESC, Inc. ELECTRICAL ENGINEER - E-2007000405		1 REVISED - 16191E1 08/18/17 JRR	0 ISSUE FOR BID - 16191E1 08/10/17 JRR	AGENCY NO.: PERMIT NO.:	PLOT DATE/TIME: SCALE: AS NOTED	
	MARK CLINTON BRAMER ELECTRICAL ENGINEER - E-2007000405		REV REVISION DESCRIPTION DATE BY	APPLICATION NO.: PERMIT NO.:	SHEET OF E6	DRAWING NO. 76329-D	



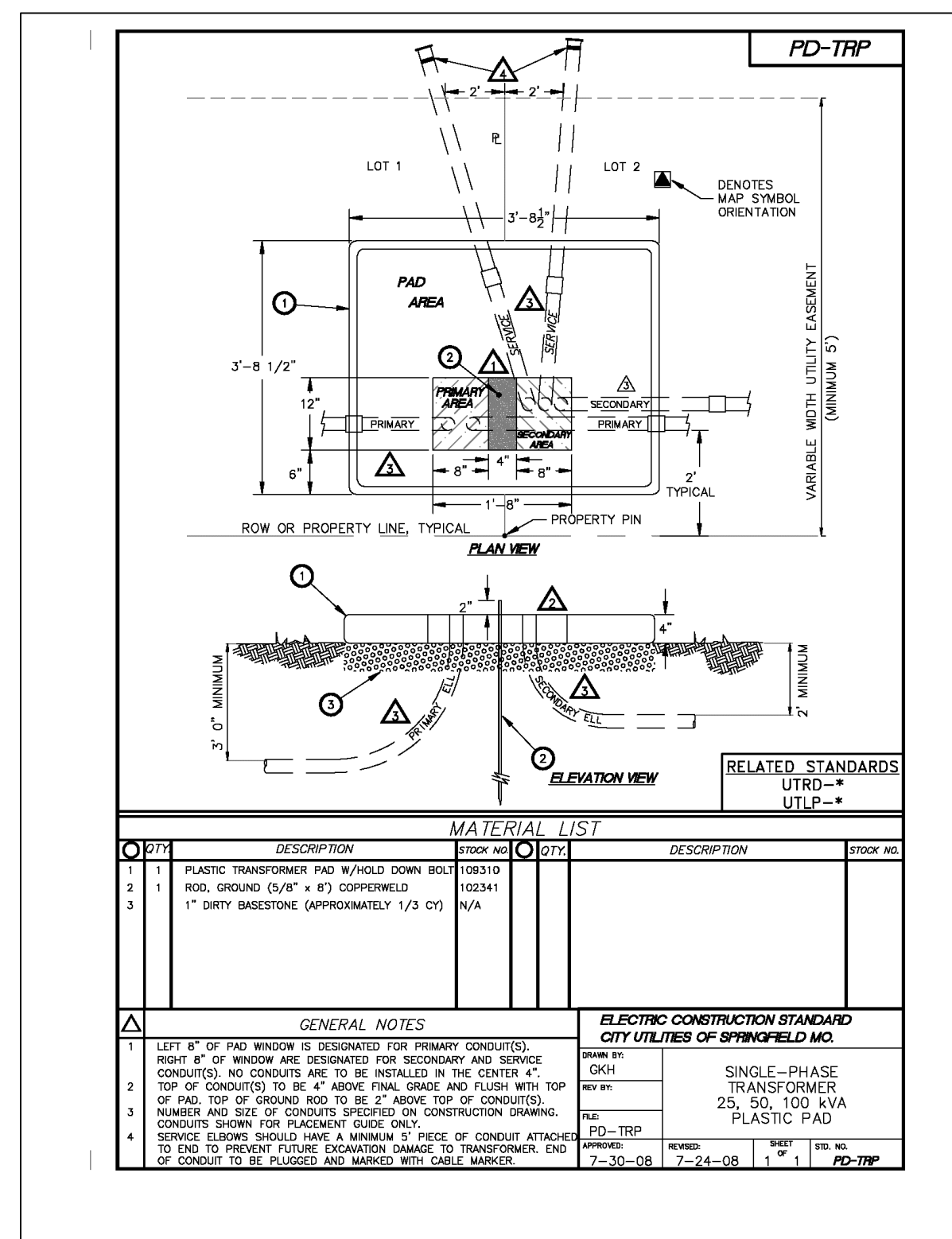
A ONE-LINE DIAGRAM
SCALE: NONE

PANELBOARD SCHEDULE						
PANEL LOCATION 1ST FLOOR		PANELBOARD RATING 200A		VOLTS 120/240V, 1PH, 3W		
		PANEL FEED RATING 200A		FED FROM CITY UTILITIES VIA MTS		
CKT NO	DESCRIPTION	LOAD AMPS	BKR AMP	XINY	LOAD AMPS	DESCRIPTION
1	EXTERIOR LIGHTING	3.6	20		4.2	LIGHTING - FIRST FLOOR
3	RECEPTACLES - FIRST FLOOR	9.0	20		6.3	LIGHTING - TANK ACCESS
5	RECEPTACLES - TANK ACCESS	4.5	20		5.0	CHLORINE BUILDING
7	UNIT HEATER	20.0	30		0.0	CATHODIC PROT. PANEL (FUT)
9	CHLORINE DETECT PANEL	20.0	30		3.6	CHLORINE/WATER PUMP
11	TELEMETRY PANEL	10.0	20		8.0	MOTORIZED VALVE
13	LIGHTING - FIRST FLOOR	6.5	20		8.0	
15	EXHAUST FAN	5.8	20		10.0	WIRELESS INTERNET POWER SUPPLY
19	SPARE	-	20		-	SPARE
21	SPARE	-	20		-	SPARE
23	SPARE	-	20		-	SPARE
25	SPARE	-	20		-	SPARE
27	BLANK	-	-		-	BLANK
29	BLANK	-	-		-	BLANK
31	BLANK	-	-		-	BLANK
33	BLANK	-	-		-	BLANK
35	BLANK	-	-		-	BLANK
37	BLANK	-	-		-	BLANK
39	BLANK	-	-		0.0	PANEL SURGE SUPPRESSOR
41	BLANK	-	-		0.0	

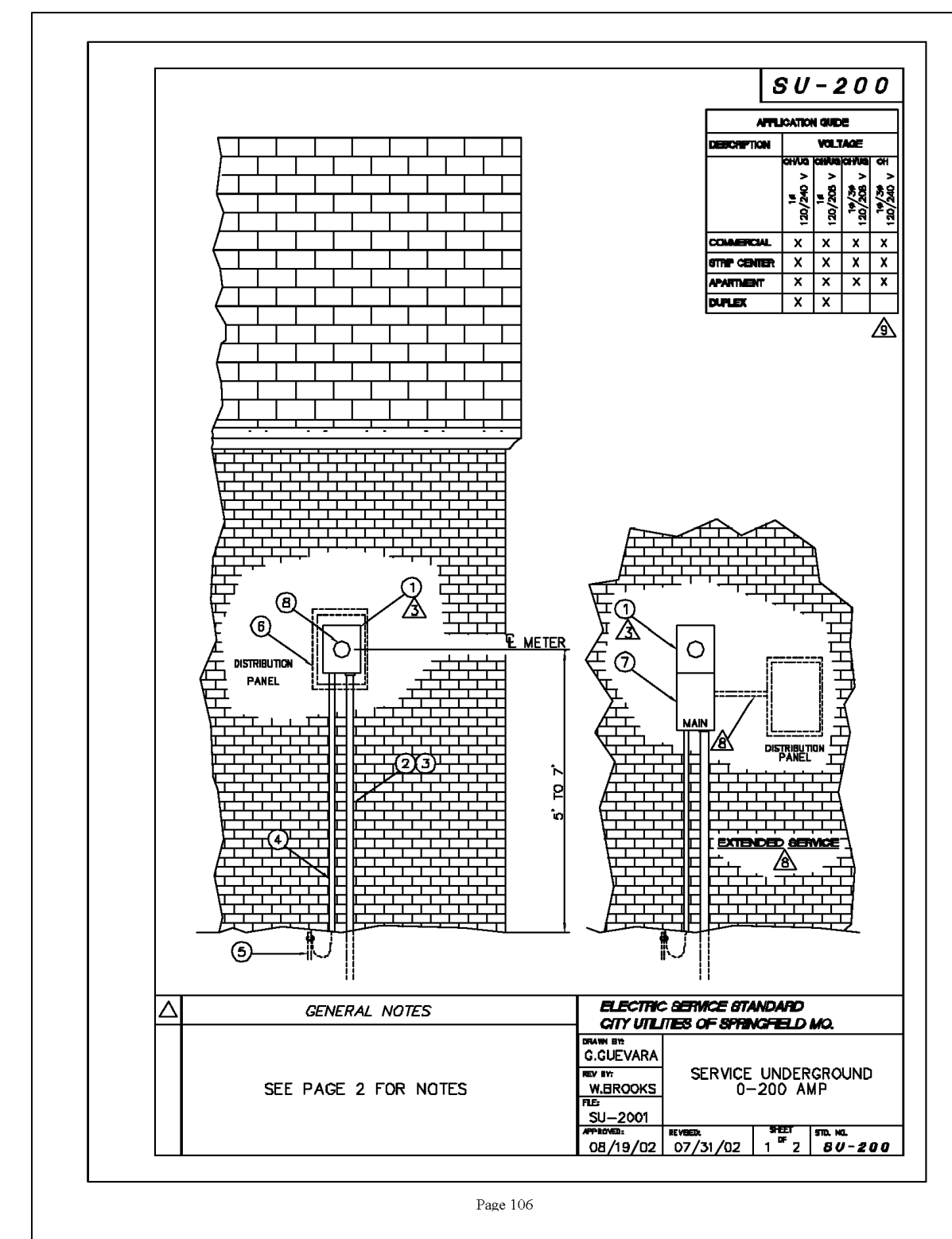
CONNECTED LOAD: PH X: 95.9A PH Y: 74.7A
 MANUFACTURER: SQUARE D NQDD
 AIC RATING: 22KAIC
 NEMA RATING: 3R
 NOTE: W/TVSS SQUARE D TVS120XR40S
 FAULT: -KA
 ENERGY: -CAL/CM2

B LP-1 PANEL SCHEDULE
SCALE: NONE

NOTE:
 (C) EQUIPMENT AND WIRING BY THE OWNER.



C TRANSFORMER PAD
SCALE: NONE



D 200AMP SINGLE PHASE SERVICE
SCALE: NONE

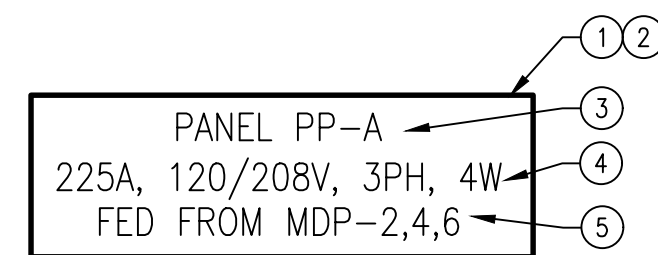
MATERIAL LIST			
QTY	DESCRIPTION	QTY	DESCRIPTION
1	METER PANEL	1	METER
1	TERMINAL BLOCK FOR 120/240V	1	TERMINAL BLOCK FOR 120/240V
1	TERMINAL BLOCK FOR 120/240V	1	TERMINAL BLOCK FOR 120/240V
1	TERMINAL BLOCK FOR 120/240V	1	TERMINAL BLOCK FOR 120/240V

GENERAL NOTES:
 1. ALL SERVICE EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CUSTOMER.
 2. OTHER APPLICABLE MATERIALS WILL BE NEEDED TO COMPLETE YOUR NEW SERVICE. CHECK WITH YOUR ELECTRICAL SUPPLIER OR CONTRACTOR FOR ITEMS NOT SHOWN.
 3. A COMMERCIAL METER BASE/MAIN DISCONNECT UNIT IS ACCEPTABLE.
 4. CALL CITY UTILITIES IF YOU HAVE ANY QUESTIONS CONCERNING YOUR NEW ELECTRICAL SERVICE.
 5. AFTER YOU HAVE COMPLETED CONSTRUCTION OF YOUR NEW SERVICE CALL THE CITY OF SPRINGFIELD ELECTRICAL INSPECTOR. THEY WILL INSPECT THE SERVICE AND NOTIFY CITY UTILITIES WHEN IT IS APPROVED.
 6. 100 AMP MINIMUM DISCONNECT IS REQUIRED FOR ALL RESIDENTIAL SERVICE.
 7. A MAIN SERVICE DISCONNECT IS REQUIRED FOR ALL SERVICES.
 8. IF A DISTRIBUTION PANEL IS NOT LOCATED ADJACENT TO THE METER BASE, AN EXTENDED SERVICE MAY BE REQUIRED. THE INSPECTOR AUTHORITY HAVING JURISDICTION WILL DETERMINE WHEN AN EXTENDED SERVICE IS REQUIRED.
 9. SEE 80-CM FOR PANEL CONDUCTOR DETAIL. WHEN INSTALLING A LOAD/PAK UNIT - A MAIN COMMERCIAL SERVICE.
 10. CHECK WITH LOCAL INSPECTOR AUTHORITY TO VERIFY REQUIREMENTS FOR BRANDING ELECTRICAL CONDUCTOR SIZE AND TYPE OF BRANDING ELECTRICAL TO BE USED. ALL BRANDING TO MEET 80-CM AND WIRE SIZE 100.
 11. CUSTOMER TO VERIFY SIZE AND LOCATION OF ALL SERVICE EQUIPMENT WITH THE APPROPRIATE INSPECTOR AUTHORITY BEFORE BEGINNING ANY WORK.

INDUSTRIAL CABLE SCHEDULE									
MK	SIZE	CONDUIT	CU CONDUCTORS	GROUND	MK	SIZE	CONDUIT	CU CONDUCTORS	GROUND
◇	20A, 2W	3/4"	2-#12	1-#12	◇	175A, 3W	2"	3-#2/0	1-#6
◇	20A, 3W	3/4"	3-#12	1-#12	◇	175A, 4W	2"	4-#2/0	1-#6
◇	20A, 4W	3/4"	4-#12	1-#12	◇	200A, 3W	2"	3-#3/0	1-#6
◇	30A, 2W	3/4"	2-#10	1-#10	◇	200A, 4W	2 1/2"	4-#3/0	1-#6
◇	30A, 3W	3/4"	3-#10	1-#10	◇	225A, 3W	2 1/2"	3-#4/0	1-#4
◇	30A, 4W	3/4"	4-#10	1-#10	◇	225A, 4W	2 1/2"	4-#4/0	1-#4
◇	40A, 3W	3/4"	3-#8	1-#10	◇	250A, 3W	2 1/2"	3-250KCMIL	1-#4
◇	40A, 4W	1"	4-#8	1-#10	◇	250A, 4W	2 1/2"	4-250KCMIL	1-#4
◇	50A, 3W	1"	3-#6	1-#10	◇	400A, 3W	2-2"	6-#3/0	2-#3
◇	50A, 4W	1"	4-#6	1-#10	◇	400A, 4W	2-2 1/2"	8-#3/0	2-#3
◇	60A, 3W	1 1/4"	3-#4	1-#10	◇	400A, 3W	1-4"	3-500KCMIL	1-#3
◇	60A, 4W	1 1/4"	4-#4	1-#10	◇	400A, 4W	1-4"	4-500KCMIL	1-#3
◇	70A, 3W	1 1/4"	3-#4	1-#8	◇	600A, 3W	2-3"	6-350KCMIL	2-#1
◇	70A, 4W	1 1/4"	4-#4	1-#8	◇	600A, 4W	2-3"	8-350KCMIL	2-#1
◇	90A, 3W	1 1/4"	3-#2	1-#8	◇	800A, 3W	3-3"	9-350KCMIL	3-#1/0
◇	90A, 4W	1 1/2"	4-#2	1-#8	◇	800A, 4W	3-3"	12-350KCMIL	3-#1/0
◇	100A, 3W	1 1/2"	3-#1	1-#8	◇	800A, 3W	2-4"	6-500KCMIL	2-#1/0
◇	100A, 4W	2"	4-#1	1-#8	◇	800A, 4W	2-4"	8-500KCMIL	2-#1/0
◇	125A, 3W	1 1/2"	3-#1	1-#6	◇	1200A, 3W	4-3"	12-350KCMIL	4-#3/0
◇	125A, 4W	2"	4-#1	1-#6	◇	1200A, 4W	4-3"	16-350KCMIL	4-#3/0
◇	150A, 3W	2"	3-#1/0	1-#6	◇	1600A, 3W	5-4"	15-500KCMIL	5-#4/0
◇	150A, 4W	2"	4-#1/0	1-#6	◇	1600A, 4W	5-4"	20-500KCMIL	5-#4/0
◇					◇	2000A, 3W	6-4"	18-500KCMIL	6-250KCMIL
◇					◇	2000A, 4W	6-4"	24-500KCMIL	6-250KCMIL

◇ INDICATES UNKNOWN CONDUIT AND WIRE SIZE OR EQUIPMENT RATING. REV 12/16

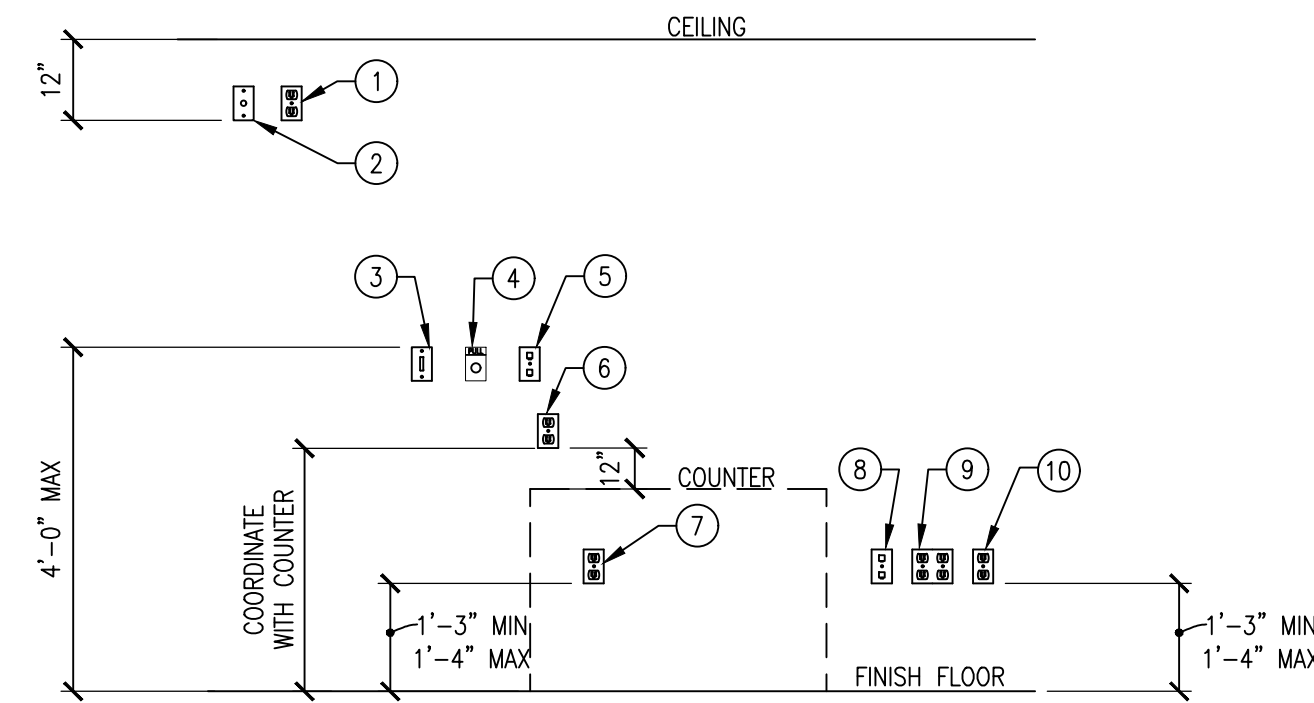
<p>PRELIMINARY NOT FOR CONSTRUCTION</p> <p>MARK CLINTON BRAMER ELECTRICAL ENGINEER - E-2007000405</p>	DESIGN BY J. ROSENBAUM	DATE 08/18/17	ENGINEER BY JRR	DATE 08/18/17	CITY UTILITIES Connecting Our Community	BOOSTER // ELEVATED TANK TOWER AREA ELECTRICAL ONE-LINE AND SCHEDULE	
	CHECKED BY MCB	DATE 08/08/17	DRAWN BY PJH	DATE 08/10/17	AGENCY NO.:	PLOT DATE/TIME:	
	APPROVED BY MCB	DATE 08/10/17	ESO, Inc. PROJECT NUMBER 16191	APPLICATION NO.:	SHEET OF DRAWING NO.:	SCALE: AS NOTED	MAP NO.:
	1 REVISED - 16191E1 0 ISSUE FOR BID - 16191E1	08/18/17 08/10/17	JRR JRR	DATE DATE	BY BY	REV 76329-D	



PANEL PP-A
 225A, 120/208V, 3PH, 4W
 FED FROM MDP-2,4,6

- NOTES:
- NAMEPLATES SHALL BE ENGRAVED, THREE LAYER LAMINATED PLASTIC, 1/4" BLACK LETTERS ON A WHITE BACKGROUND WITH BEVELED EDGES AND 1/16" MINIMUM, ADHESIVE BACKED.
 - NAMEPLATES SHALL BE INSTALLED ON ALL DISCONNECT SWITCHES, POWER PANELS, LIGHTING PANELS, CONTROL PANELS, CONTROL CABINETS, AND ELECTRICAL ENCLOSURES.
 - LINE 1 OF THE NAMEPLATE SHALL LIST THE DEVICE DESCRIPTION.
 - LINE 2 OF THE NAMEPLATE SHALL LIST THE AMPACITY, VOLTAGE, AND NUMBER OF PHASES AND WIRES.
 - LINE 3 OF THE NAMEPLATE SHALL LIST THE SOURCE DESIGNATION WITH CIRCUIT NUMBER(S).

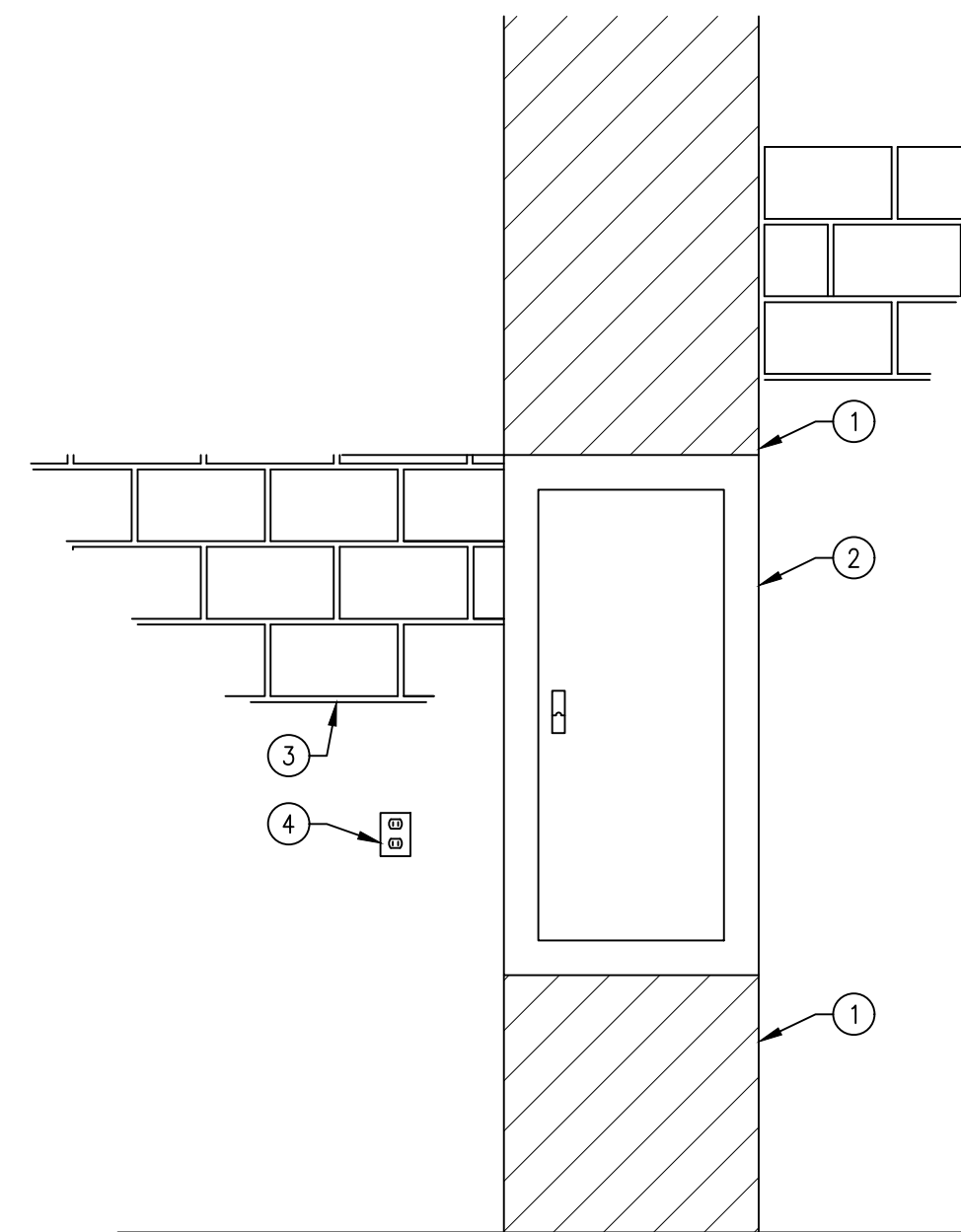
A TYPICAL IDENTIFICATION NAMEPLATE
 SCALE: NONE



GENERAL DETAIL NOTE:
 A. REFER TO ARCHITECTURAL PLANS FOR VERIFICATION OF MOUNTING HEIGHTS.

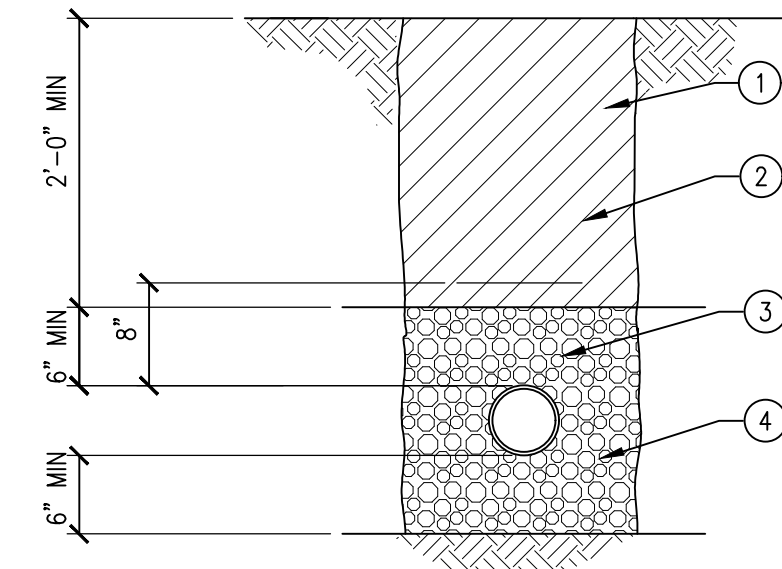
- DETAIL NOTES:
- TV OR CLOCK RECEPTACLE.
 - TV JACK OUTLET.
 - LIGHT SWITCH.
 - FIRE ALARM PULL STATION.
 - INTERCOM/COMMUNICATION OUTLET.
 - ABOVE COUNTER RECEPTACLE.
 - UNDER COUNTER RECEPTACLE.
 - TELEPHONE OR DATA OUTLET.
 - QUADPLEX RECEPTACLE. RECEPTACLE SHALL BE LABELED WITH THE CIRCUIT DESIGNATION (IE LPA-8).
 - DUPLEX RECEPTACLE. RECEPTACLE SHALL BE LABELED WITH THE CIRCUIT DESIGNATION (IE LPA-8).

B TYPICAL MOUNTING HEIGHTS
 SCALE: NONE



- NOTES:
- CLEAR SPACE ABOVE, BELOW, AND IN FRONT OF PANELBOARD IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. THE ELECTRICAL CONTRACTOR SHALL INSTALL YELLOW PAINT STRIPING 3'-0" IN FRONT OF THE PANELBOARD TO DESIGNATE NEC WORK ZONE. VERIFY WITH THE OWNER.
 - PANELBOARD WITH TOP MOUNTED 6'-6" ABOVE FLOOR FINISH. CONDUIT NOT SHOWN FOR CLARITY.
 - BUILDING WALL. SEE PLANS FOR EXACT TYPE OF CONSTRUCTION.
 - GFI RECEPTACLE MOUNTED NEXT TO THE PANEL.

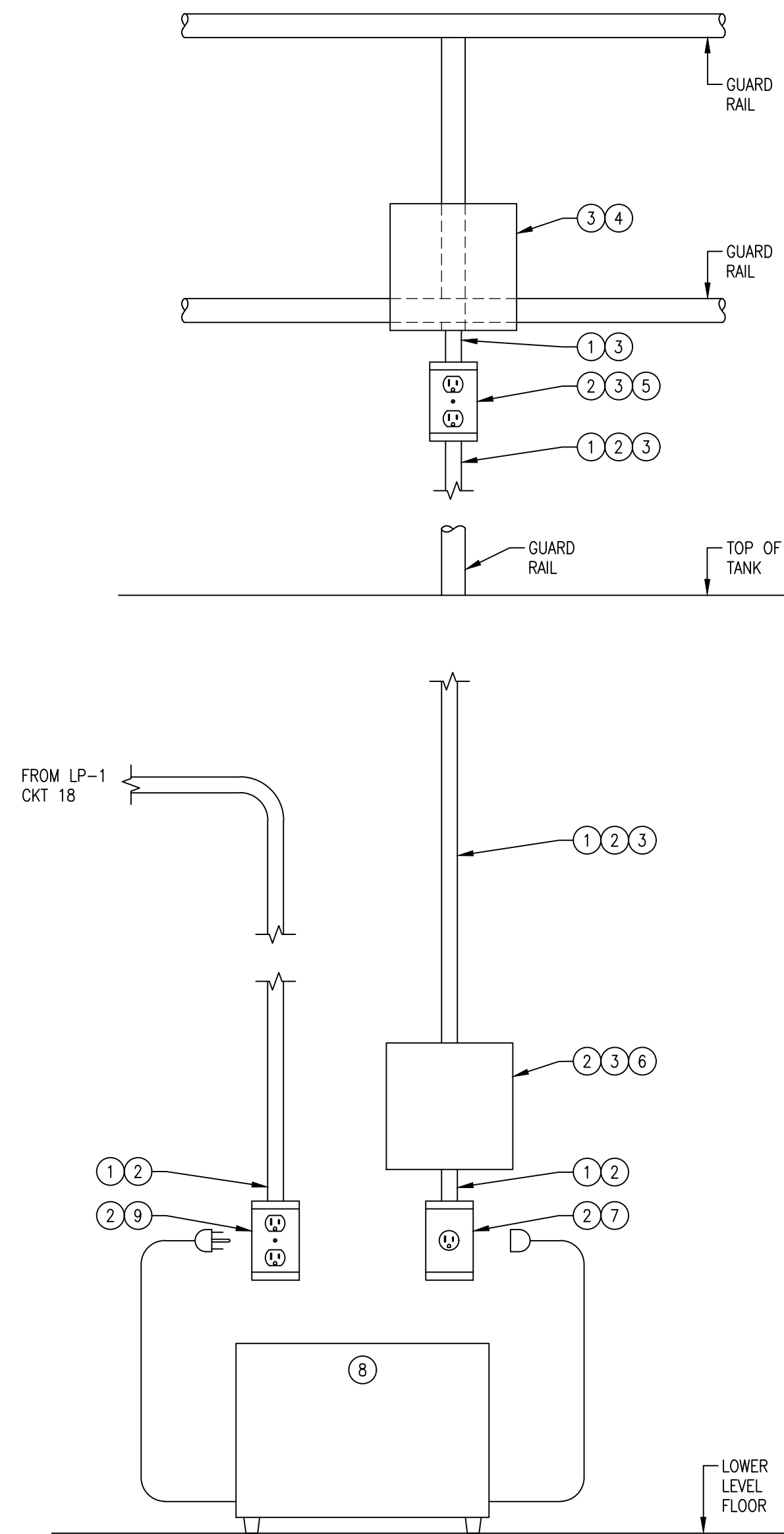
C TYPICAL PANEL MOUNTING
 SCALE: NONE



- NOTES:
- FILL TO GRADE AND COMPACT AS REQUIRED FOR THE SITE. COMPLY WITH OSHA AND OTHER REGULATORY GUIDELINES FOR DEEP TRENCHES. BACKFILL WITH SUBSOIL CONTAINING ROCK SIZE LESS THAN 3" DIAMETER.
 - WARNING TAPE 8" ABOVE CONDUIT FULL LENGTH, SETON OR EQUIVALENT.
 - TYPICAL CONDUIT(S) WITH 6" EMBEDMENT ALL AROUND. SEE DRAWINGS FOR EXACT SIZE AND QUANTITY.
 - GRANULAR FILL FOR BEDDING TO BE SAND, PEA GRAVEL, OR BASE ROCK.

D CONDUIT BELOW GRASS
 SCALE: NONE

<p>PRELIMINARY NOT FOR CONSTRUCTION</p> <p>MARK CLINTON BRAMER ELECTRICAL ENGINEER - E-2007000405</p>	<p>DESIGN BY J. ROSENBAUM</p>	<p>ESC consulting engineers <small>an electric.com</small> 1922 N. Broadway Avenue Springfield, MO 65803 Phone: 417-831-6500 MO Engineering Corporation 001251</p>	---	---	<p>City Utilities Connecting Our Community</p>	<p>BOOSTER #1 ELEVATED TANK TOWER AREA ELECTRICAL DETAILS</p>				
	<p>CHECKED BY MCB</p> <p>DATE 08/08/17</p>		<p>APPROVED BY MCB</p> <p>DATE 08/10/17</p>	---		---	<p>ENGINEERED BY:</p>	<p>APPROVED BY: DATE:</p>	<p>DATE ISSUED:</p>	<p>MAP NO.:</p>
<p>DRAWN BY P,JH</p>	<p>ESC, Inc. PROJECT NUMBER 16191</p>	---	---	<p>1 REVISED - 16191E1</p>	<p>08/18/17</p>	<p>JRR</p>	<p>AGENCY NO.:</p>	<p>PLOT DATE/TIME:</p>	<p>SCALE: AS NOTED</p>	
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GENERAL NOTE:

A. VERIFY THE LOCATON OF ALL EQUIPMENT WITH THE OWNER.

NOTES:

- ① 3/4" CONDUIT.
- ② TWO (2) 12AWG CONDUCTORS, ONE (1) 12AWG GROUND.
- ③ CAT 5 SHIELDED CABLE, PROVIDED BY OTHERS.
- ④ 8"x8"x4" DEEP NEMA 3R ENCLOSURE MOUNTED TO THE GUARD RAIL WITH U-BOLTS. COIL 8'-0" MINIMUM CAT 5 CABLE FOR USE BY OTHERS.
- ⑤ NEMA 3R DUPLEX RECEPTACLE MOUNTED TO THE GUARD RAIL WITH U-BOLTS(S) AND PAD LOCKABLE CAST ALUMINUM IN-USE COVER.
- ⑥ 8"x8"x4" DEEP NEMA 3R ENCLOSURE. COIL 8'-0" MINIMUM CAT 5 CABLE FOR USE BY OTHERS.
- ⑦ 15A, 125V, FLANGED INLET NEMA 5-15P WITH NEMA 3R BOX AND IN-USE COVER.
- ⑧ UPS AND CORD SETS FURNISHED AND INSTALLED BY OTHERS.
- ⑨ DUPLEX GFCI RECEPTACLE WITH NEMA 3R BOX AND IN-USE COVER.

A
E9

WIRELESS INTERNET PROVIDER WIRING

SCALE: NONE

<p>PRELIMINARY NOT FOR CONSTRUCTION</p> <p>MARK CLINTON BRAMER ELECTRICAL ENGINEER - E-2007000405</p>	DESIGN BY J. ROSENBAUM	<p>ESC consulting engineers electrical.com 1922 N. Broadway Avenue Springfield, MO 65803 Phone: 417-831-6500 MO Engineering Corporation 001251</p>	DATE 08/08/17	DATE 08/10/17	DATE 08/18/17	DATE 08/10/17	<p>City Utilities Connecting Our Community</p>	<p>BOOSTER #1 ELEVATED TANK TOWER AREA ELECTRICAL DETAIL</p>				
	CHECKED BY MCB		APPROVED BY MCB	DATE 08/10/17	DATE 08/10/17	DATE 08/18/17		DATE 08/10/17	ENGINEERED BY: JRR	APPROVED BY: DATE: JRR	DATE ISSUED: 08/18/17	MAP NO.:
	DRAWN BY P.J.H.		ESC, Inc. PROJECT NUMBER 16191	1 REVISED - 16191E1	0 ISSUE FOR BID - 16191E1	1		2	DRWN BY: JRR	AGENCY NO.:	PLOT DATE/TIME:	SCALE: AS NOTED
	APPLICATION NO.:		PERMIT NO.:	SHEET OF E9	OF	DRAWING NO.:		76329-D				