

SCOTTSBORO WATER SEWER & GAS BOARD

SCOTTSBORO, ALABAMA

RUDOLPH JONES (HIGHWAY 35) WATER TREATMENT PLANT

INTAKE PUMP STATION IMPROVEMENTS SRF PROJECT No. FSO10198-03

The PDF digital Contract Documents for this project consist of the Drawings and Specifications and are being released by the Engineer solely as a convenience to the Bidders. Actual hard copies of Contract Documents bearing a stamp and signature of a professional engineer shall be used for the purpose of providing a bid proposal for this project.

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Please note that it is the Bidder's responsibility to obtain all documents including any addenda.



11-3-23

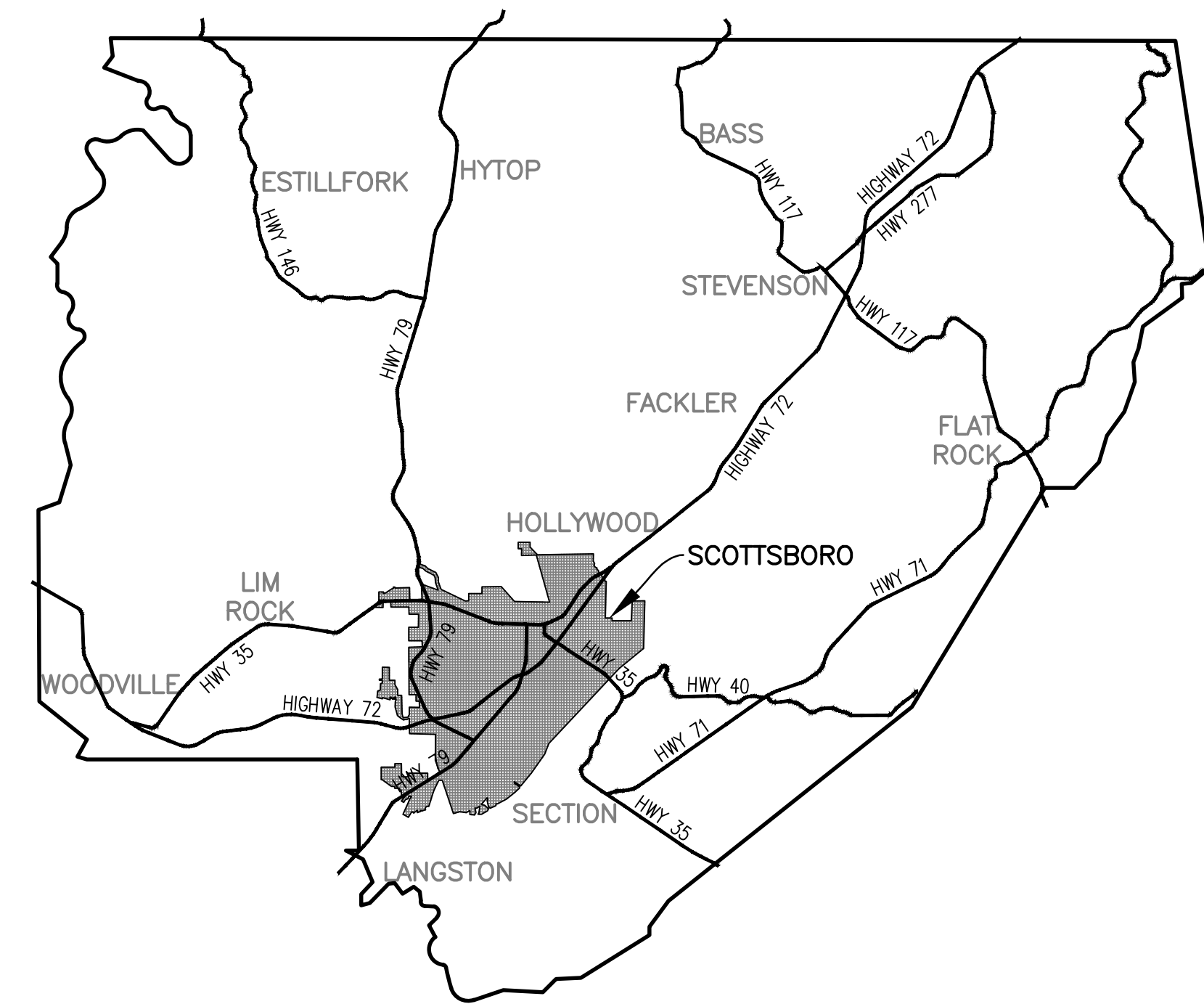
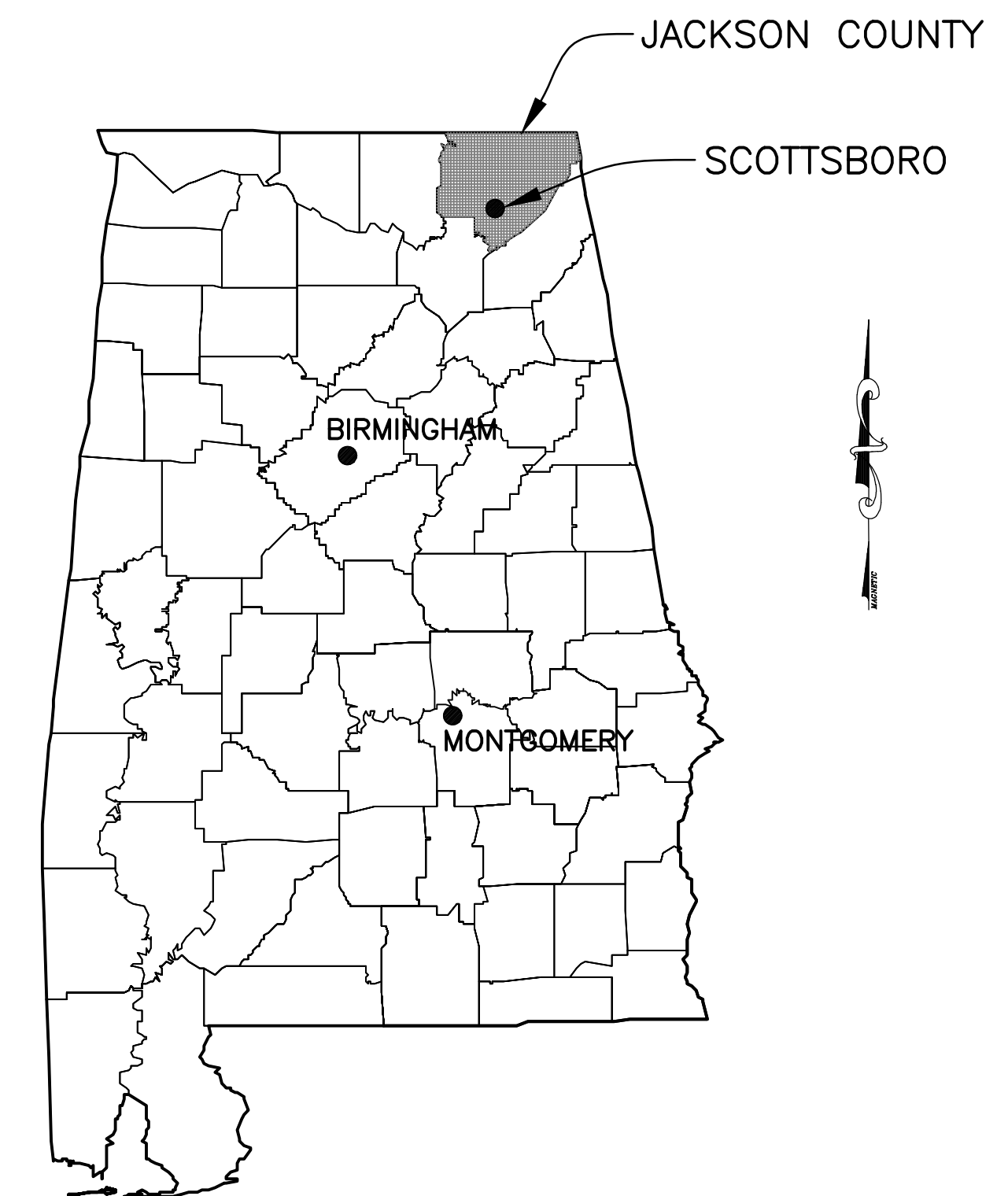
BID SET

NOVEMBER 2023

Municipal
Consultants,
Inc. Birmingham, Alabama

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JACKSON COUNTY

TENNESSEE RIVER / GUNTERVILLE LAKE
 WATER ELEVATIONS PER TVA:
 WINTER = ELEVATION 593.00
 SUMMER = ELEVATION 595.00
 FULL POOL = ELEVATION 595.44
 HIGHEST LEVEL = ELEVATION 596.29

Municipal Consultants, Inc. <small>200 Cahaba Park South, Suite 212 Birmingham, Alabama 35208 (205) 827-0887</small>		SCOTTSBORO WSG BOARD RUDOLPH JONES WTP INTAKE PUMP STATION IMPROVEMENTS 2023	
Drawing Project No. 11-2023 Date AS SHOWN Scale 1 Sheet 1		Title LOCATION MAP BID SET	

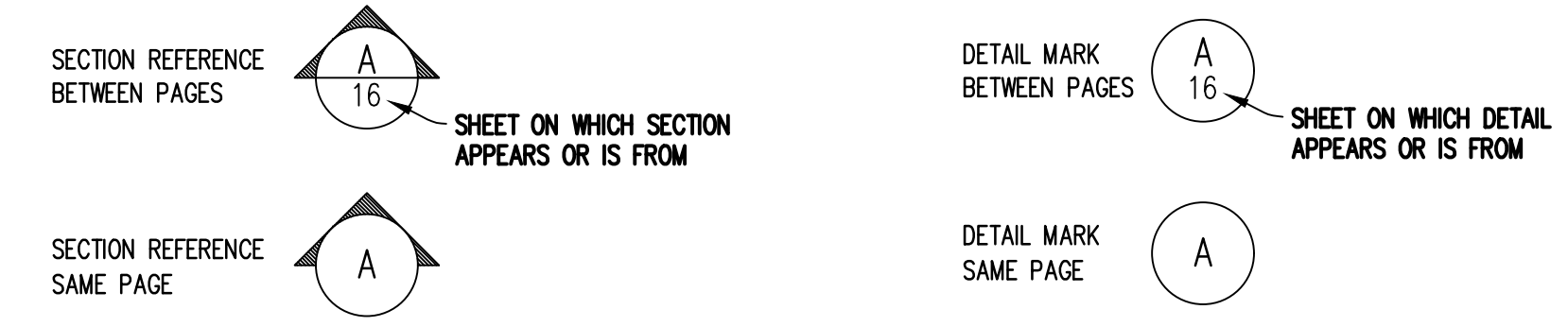
ABBREVIATIONS

●	AT	FCA	FLANGED COUPLING ADAPTER	N	NORTH	T&B	TOP AND BOTTOM
ADMIN	ADMINISTRATION	FH	FIRE HYDRANT	NIC	NOT IN CONTRACT	TBM	TEMPORARY BENCHMARK
ADOT	ALABAMA DEPT. OF TRANSPORTATION	FIG	FIGURE	NO., #	NUMBER	TC	THRUST COLLAR
AFF	ABOVE FINISHED FLOOR	FIN GR	FINISH GRADE	NOM	NOMINAL	TEMP	TEMPORARY, TEMPERED
AL, ALUM	ALUMINUM	FL	FLOW LINE	NORM	NORMAL	THK	THICKNESS
APPROX	APPROXIMATE	FLG	FLANGED	NPW	NON POTABLE WATER	TL	TRANSFER LINE
ASP, ASPH	ASHPALT	FM	FORCE MAIN	NTS	NOT TO SCALE	TOC	TOP OF CURB
ASSY	ASSEMBLY	FPM	FEET PER MINUTE	NWL	NORMAL WATER LEVEL	TOW	TOP OF WALL
AVG	AVERAGE	FT	FOOT			TYP	TYPICAL
AWWA	AMERICAN WATER WORKS ASSOCIATION	FTG	FOOTING	OC	ON CENTER	UH	UNIT HEATER
				OD	OUTSIDE DIAMETER	UNO	UNLESS NOTED OTHERWISE UNDERGROUND ELECTRIC
BFV	BUTTERFLY VALVE	GAL	GALLON(S)	OF	OUTSIDE FACE	UE	
BLDG	BUILDING	GALV	GALVANIZED	OHP	OVERHEAD POWER		
BLK	BLOCK	GL	GAS LINE	OZ	OUNCE	V	VALVE, VENTILATOR, VOLTS
BM	BENCHMARK	GPD	GALLONS PER DAY	PE	PLAIN END	VC	VITRIFIED CLAY
BOD	BIOCHEMICAL OXYGEN DEMAND	GPM	GALLONS PER MINUTE	PEJ	PIPE EXPANSION JOINT	VERT	VERTICAL
BOT, BTM	BOTTOM	GR	GRADE	PH	PHASE	VCT	VICTAULIC
BS	BOTH SIDES	GV	GATE VALVE	PI	POINT OF INTERSECTION	VT	VENTILATOR
				PL, PLS	PLACES		
				PL	PLATE	W	WEST, WIDTH, WINDOW, WATER
CB	CATCH BASIN	H,HT,HT	HEIGHT	PM	PROCESS MAIN	W/	WITH
CCP	CONCRETE CULVERT PIPE	HD	HOT DIPPED	PO	PUSH ON	W/O	WITHOUT
CI	CAST IRON	HORIZ	HORIZONTAL	PP	POWER POLE	WAS	WASTE ACTIVATED SLUDGE
CIP	CAST IRON PIPE	HP	HORSEPOWER	PPD	POUNDS PER DAY	WC	WATER COLLAR
CJ	CONSTRUCTION JOINT	HR	HOUR	PRESS	PRESSURE	WL	WATER LINE, WATER LEVEL
CL	CENTER LINE	HW	HOT WATER	PRV	PRESSURE REDUCING VALVE	WS	WATERSTOP
CL2, C	CHLORINE	HWL	HIGH WATER LEVEL	PSI	POUNDS PER SQUARE INCH	WTM	WATER TRANSMISSION MAIN
CL	CLASS	HWY	HIGHWAY	PV	PLUG VALVE	WVF	WELDED WIRE FABRIC
CLR	CLEAR	HZ	HERTZ	PVC	POLYVINYL CHLORIDE	WTP	WATER TREATMENT PLANT
CMU	CONCRETE MASONRY UNIT					WWTP	WASTEWATER TREATMENT PLANT
COL	COLUMN	ID	INSIDE DIAMETER	RAS	RETURN ACTIVATED SLUDGE	X	BY
CONC	CONCRETE	IF	INSIDE FACE	R, RAD	RADIUS		
CONN	CONNECTION	IN	INCHES	RCP	REINFORCED CONCRETE PIPE		
CONT	CONTINUOUS	INV	INVERT	RED	REDUCER		
CTSIF	OUT TO SUIT IN FIELD	JT	JOINT	REINF	REINFORCING		
CU YD	CUBIC YARD	KCF	THOUSAND CUBIC FEET	REQD	REQUIRED		
CV	CHECK VALVE			RJ	RESTRAINED JOINT		
CW	COLD WATER	L	LOUVER	ROW, R/W	RIGHT-OF-WAY		
		LAR	LENGTH AS REQUIRED	RS	RESILIENT SEAT		
D	DOOR	LB	POUND	RT	RIGHT		
DIA	DIAMETER	LEN	LENGTH	S	SOUTH, SLUDGE		
DI	DUCTILE IRON	LIN	LINEAL, LINEAR	SCFM	STANDARD CUBIC FEET PER MINUTE		
DIP	DUCTILE IRON PIPE	LG	LONG	SCH	SCHEDULE		
DIFF	DIFFUSER	LOC	LOCATION	SECT	SECTION		
DWN	DOWN	LT	LEFT	SF	SQUARE FEET		
DWG	DRAWING	LWL	LOW WATER LEVEL	SHT	SHEET		
		MANUF	MANUFACTURER	SIM	SIMILAR		
E	EAST, EXHAUSTER	MAX	MAXIMUM	SL	SURVEY LINE		
EA	EACH	MC	MOTOR CONTROL CENTER	SP	STATIC PRESSURE		
EF	EACH FACE	MGD	MILLION GALLONS PER DAY	SPD	STANDARD PROCTOR DENSITY		
ELEC	ELECTRICAL	MH	MANHOLE	SPECS	SPECIFICATIONS		
EL, ELEV	ELEVATION	MIN	MINIMUM	SQ	SQUARE		
EQ	EQUAL	MISC	MISCELLANEOUS	SRT	SOLIDS RETENTION TIME		
EW	EACH WAY, EFFLUENT WATER	MJ	MECHANICAL JOINT	SS	SANITARY SEWER		
EX, EXIST	EXISTING	ML	MIXED LIQUOR	ST	STREET, STORMWATER		
EXP	EXPANSION	MLSS	MIXED LIQUOR SUSPENDED SOLIDS	STA	STATION		
EXT	EXTINGUISHER			STD	STANDARD		
				ST STL,SS	STAINLESS STEEL		
				SS	SANITARY SEWER		
				SWD	SIDE WATER DEPTH		

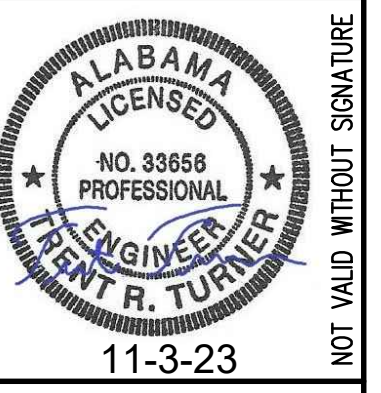
LEGEND

	EXISTING ASPHALT PAVING		PROPOSED GROUND CONTOUR MINOR
	PROPOSED ASPHALT PAVING		PROPOSED GROUND CONTOUR MAJOR
	EXISTING CONCRETE		STEEL ENCASED PIPE
	PROPOSED 6" CONCRETE PAVING		BLOW-OFF VALVE
	PROPOSED CONCRETE PAVING FOR SIDEWALKS, MOW STRIPS, ETC.		CLEANOUT
	PROPOSED GRAVEL LANDSCAPED AREAS		RAILROAD CROSSING
	GRAVEL ROAD OR DRIVE		SEWER MANHOLE
	RIP RAP		PROPOSED AIR RELIEF ASSEMBLY, TYPE DENOTED
	DEMOLITION AND DISPOSAL		VALVE
	PROPOSED SEWER FORCE MAIN		FIRE HYDRANT
	EXISTING SANITARY SEWER		WATER METER
	EXISTING WATER MAIN		BORE HOLE LOCATION
	EXISTING SANITARY SEWER FORCE MAIN		TREE OR SHRUB
	EXIST. UNDERGROUND FIBER OPTIC CABLE		SURVEY CONTROL POINT
	EXIST. UNDERGROUND TELEPHONE		BENCHMARK
	EXIST. UNDERGROUND GAS MAIN		11.25° BEND
	EXIST. UNDERGROUND CABLE TV		22.5° BEND
	CHEMICAL LINE		45° BEND
	PROPOSED UNDERGROUND ELECTRIC		90° BEND
	EXISTING OVERHEAD POWER		TEE
	PROCESS MAIN		WYE
	RAW WATER		CAP OR PLUG
	PROPERTY LINE		REDUCER
	RIGHT OF WAY		PROPERTY PIN
	SLOPE DIRECTION INDICATOR		MAILBOX
	TREE LINE		HEAD WALL
	CLEARING AND GRUBBING LIMITS		EXISTING STORM SEWER INLET
	PROPOSED FENCE		CATCH BASIN
	EXISTING STORM SEWER		GUIDE WIRE ANCHOR
	RAILROAD		UTILITY POLE
	EX. GROUND CONTOUR MINOR		TELEPHONE OR FOC PEDESTAL
	EX. GROUND CONTOUR MAJOR		SIGN
			UTILITY MANHOLE (TYPE T = TELEPHONE) (TYPE E = ELECTRICAL)
			EXISTING YARD LIGHT

SECTION AND DETAIL MARKS



NOTE: DETAILS ALSO REFERENCED BY NAME OR IDENTIFYING MARK SUCH AS "TYPICAL" OR "TYP"



11-3-23

BAR = 1"

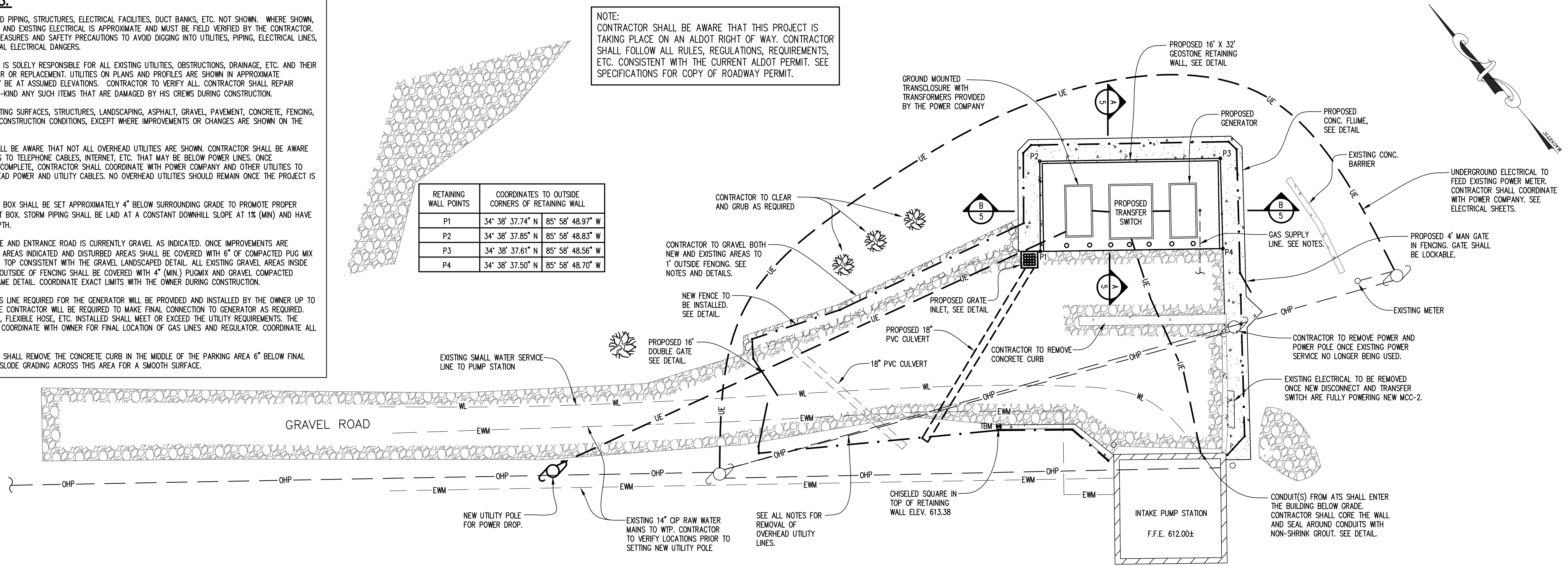
Drawing Title	LEGEND AND ABBREVIATIONS
Project No.	11-2023
Date	NONE
Scale	2
Sheet	

SITE NOTES:

1. ALL EXISTING YARD PIPING, STRUCTURES, ELECTRICAL FACILITIES, DUCT BANKS, ETC. NOT SHOWN. WHERE SHOWN, ALL EXISTING PIPING AND EXISTING ELECTRICAL IS APPROXIMATE AND MUST BE FIELD VERIFIED BY THE CONTRACTOR. USE APPROPRIATE MEASURES AND SAFETY PRECAUTIONS TO AVOID DIGGING INTO UTILITIES, PIPING, ELECTRICAL LINES, AND OTHER POTENTIAL ELECTRICAL DANGERS.
2. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL EXISTING UTILITIES, OBSTRUCTIONS, DRAINAGE, ETC. AND THEIR SATISFACTORY REPAIR OR REPLACEMENT. UTILITIES ON PLANS AND PROFILES ARE SHOWN IN APPROXIMATE LOCATIONS AND MAY BE AT ASSUMED ELEVATIONS. CONTRACTOR TO VERIFY ALL. CONTRACTOR SHALL REPAIR AND/OR REPLACE IN-KIND ANY SUCH ITEMS THAT ARE DAMAGED BY HIS CREWS DURING CONSTRUCTION.
3. RETURN ALL EXISTING SURFACES, STRUCTURES, LANDSCAPING, ASPHALT, GRAVEL, PAVEMENT, CONCRETE, FENCING, ETC. TO THEIR PRE-CONSTRUCTION CONDITIONS, EXCEPT WHERE IMPROVEMENTS OR CHANGES ARE SHOWN ON THE DRAWINGS.
4. CONTRACTOR SHALL BE AWARE THAT NOT ALL OVERHEAD UTILITIES ARE SHOWN. CONTRACTOR SHALL BE AWARE OF LOW CLEARANCES TO TELEPHONE CABLES, INTERNET, ETC. THAT MAY BE BELOW POWER LINES. ONCE IMPROVEMENTS ARE COMPLETE, CONTRACTOR SHALL COORDINATE WITH POWER COMPANY AND OTHER UTILITIES TO REMOVE ALL OVERHEAD POWER AND UTILITY CABLES. NO OVERHEAD UTILITIES SHOULD REMAIN ONCE THE PROJECT IS COMPLETE.
5. THE STORM INLET BOX SHALL BE SET APPROXIMATELY 4" BELOW SURROUNDING GRADE TO PROMOTE PROPER DRAINAGE INTO INLET BOX. STORM PIPING SHALL BE LAID AT A CONSTANT DOWNHILL SLOPE AT 1% (MIN) AND HAVE 24" (MIN.) BURY DEPTH.
6. THE CURRENT SITE AND ENTRANCE ROAD IS CURRENTLY GRAVEL AS INDICATED. ONCE IMPROVEMENTS ARE COMPLETE, ALL NEW AREAS INDICATED AND DISTURBED AREAS SHALL BE COVERED WITH 6" OF COMPACTED PUG MIX WITH #57 GRAVEL IN TOP CONSISTENT WITH THE GRAVEL LANDSCAPED DETAIL. ALL EXISTING GRAVEL AREAS INSIDE FENCING AND TO 1' OUTSIDE OF FENCING SHALL BE COVERED WITH 4" (MIN.) PUGMIX AND GRAVEL COMPACTED CONSISTENT WITH SAME DETAIL. COORDINATE EXACT LIMITS WITH THE OWNER DURING CONSTRUCTION.
7. THE NATURAL GAS LINE REQUIRED FOR THE GENERATOR WILL BE PROVIDED AND INSTALLED BY THE OWNER UP TO THE GENERATOR. THE CONTRACTOR WILL BE REQUIRED TO MAKE FINAL CONNECTION TO GENERATOR AS REQUIRED. ALL PIPING, FITTINGS, FLEXIBLE HOSE, ETC. INSTALLED SHALL MEET OR EXCEED THE UTILITY REQUIREMENTS. THE CONTRACTOR SHALL COORDINATE WITH OWNER FOR FINAL LOCATION OF GAS LINES AND REGULATOR. COORDINATE ALL WITH THE OWNER.
8. THE CONTRACTOR SHALL REMOVE THE CONCRETE CURB IN THE MIDDLE OF THE PARKING AREA 6" BELOW FINAL GRADE. GRADUALLY SLODE GRADING ACROSS THIS AREA FOR A SMOOTH SURFACE.

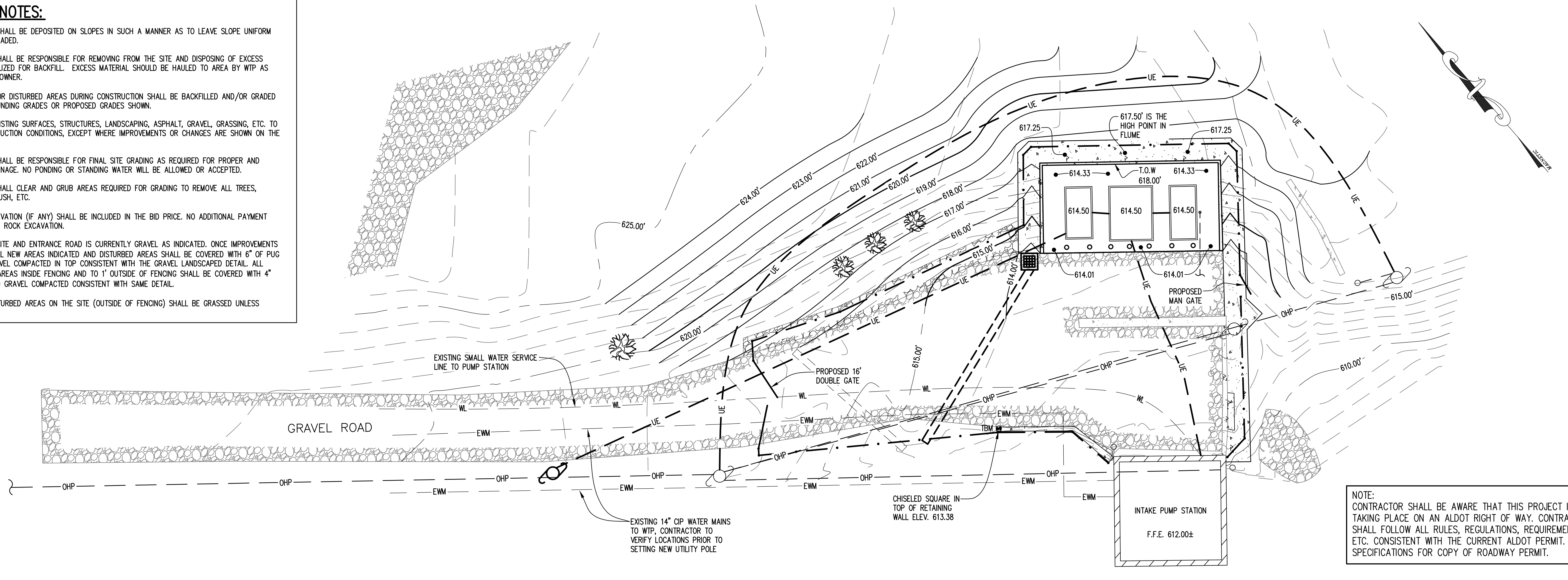
RETAINING WALL POINTS	COORDINATES TO OUTSIDE CORNERS OF RETAINING WALL	
P1	34° 38' 37.74" N	85° 58' 48.97" W
P2	34° 38' 37.85" N	85° 58' 48.83" W
P3	34° 38' 37.61" N	85° 58' 48.56" W
P4	34° 38' 37.50" N	85° 58' 48.70" W

NOTE:
CONTRACTOR SHALL BE AWARE THAT THIS PROJECT IS TAKING PLACE ON AN ALDOT RIGHT OF WAY. CONTRACTOR SHALL FOLLOW ALL RULES, REGULATIONS, REQUIREMENTS, ETC. CONSISTENT WITH THE CURRENT ALDOT PERMIT. SEE SPECIFICATIONS FOR COPY OF ROADWAY PERMIT.



GRADING NOTES:

1. ALL MATERIAL SHALL BE DEPOSITED ON SLOPES IN SUCH A MANNER AS TO LEAVE SLOPE UNIFORM AND SMOOTHLY GRADED.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING FROM THE SITE AND DISPOSING OF EXCESS MATERIAL NOT UTILIZED FOR BACKFILL. EXCESS MATERIAL SHOULD BE HAULED TO AREA BY WTP AS DIRECTED BY THE OWNER.
3. ALL DAMAGED OR DISTURBED AREAS DURING CONSTRUCTION SHALL BE BACKFILLED AND/OR GRADED TO MATCH SURROUNDING GRADES OR PROPOSED GRADES SHOWN.
4. RETURN ALL EXISTING SURFACES, STRUCTURES, LANDSCAPING, ASPHALT, GRAVEL, GRASSING, ETC. TO THEIR PRE-CONSTRUCTION CONDITIONS, EXCEPT WHERE IMPROVEMENTS OR CHANGES ARE SHOWN ON THE DRAWINGS.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL SITE GRADING AS REQUIRED FOR PROPER AND POSITIVE SITE DRAINAGE. NO PONDING OR STANDING WATER WILL BE ALLOWED OR ACCEPTED.
6. CONTRACTOR SHALL CLEAR AND GRUB AREAS REQUIRED FOR GRADING TO REMOVE ALL TREES, STUMPS, UNDERBRUSH, ETC.
7. ALL ROCK EXCAVATION (IF ANY) SHALL BE INCLUDED IN THE BID PRICE. NO ADDITIONAL PAYMENT WILL BE MADE FOR ROCK EXCAVATION.
8. THE CURRENT SITE AND ENTRANCE ROAD IS CURRENTLY GRAVEL AS INDICATED. ONCE IMPROVEMENTS ARE COMPLETE, ALL NEW AREAS INDICATED AND DISTURBED AREAS SHALL BE COVERED WITH 6" OF PUG MIX WITH #57 GRAVEL COMPACTED IN TOP CONSISTENT WITH THE GRAVEL LANDSCAPED DETAIL. ALL EXISTING GRAVEL AREAS INSIDE FENCING AND TO 1' OUTSIDE OF FENCING SHALL BE COVERED WITH 4" (MIN.) PUGMIX AND GRAVEL COMPACTED CONSISTENT WITH SAME DETAIL.
9. ALL OTHER DISTURBED AREAS ON THE SITE (OUTSIDE OF FENCING) SHALL BE GRASSED UNLESS NOTED OTHERWISE.



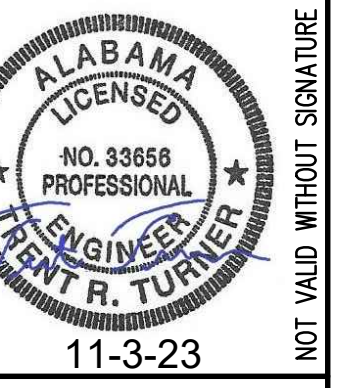
NOTE:
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Municipal Consultants, Inc.
200 Oakley Park South, Suite 212
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(205) 827-0387

SCOTTSBORO WSG BOARD

RUDOLPH JONES WTP
INTAKE PUMP STATION IMPROVEMENTS

2023



11-3-23

BAR = 1"

Title

SITE AND GRADING PLAN

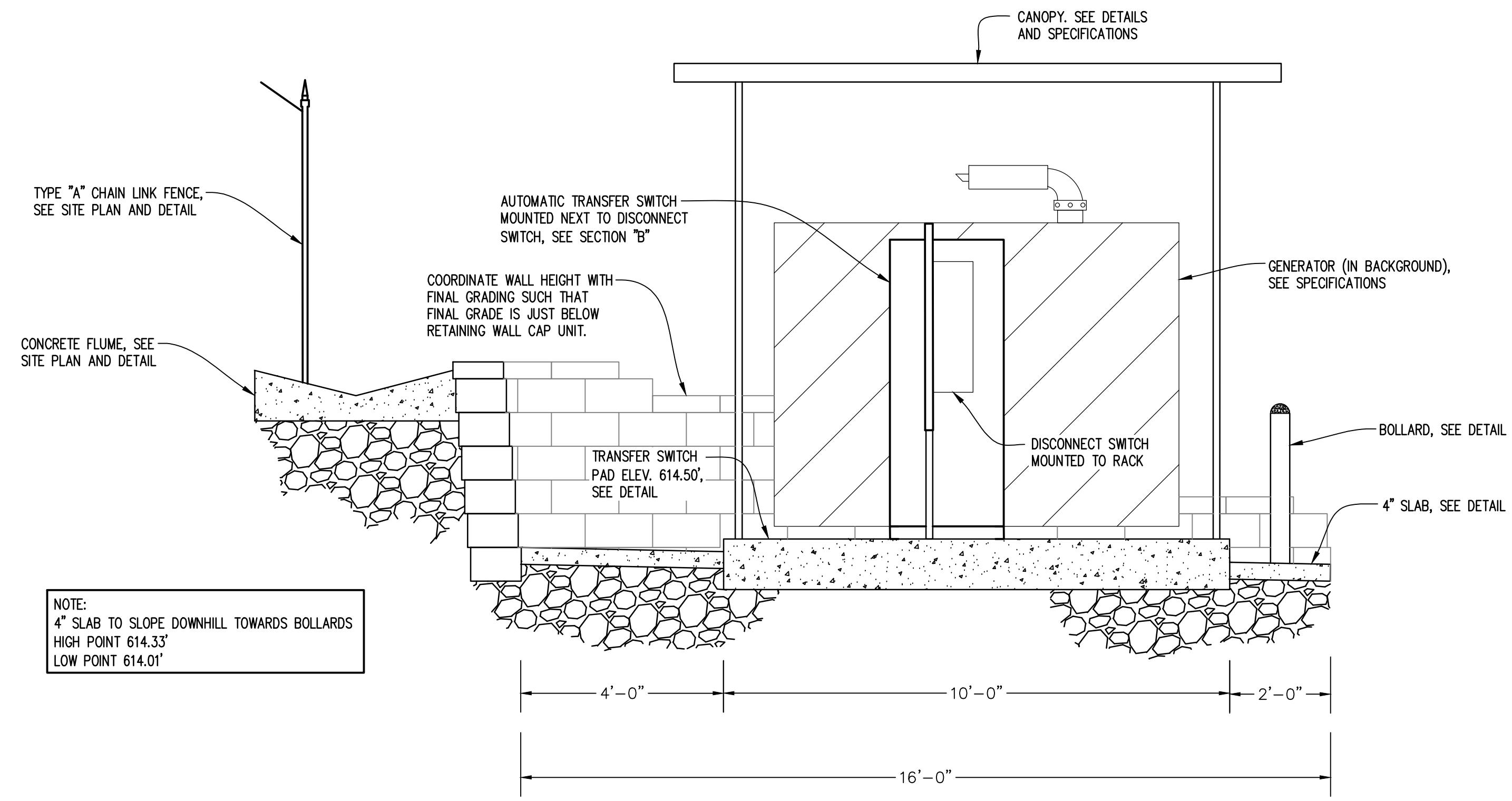
BID SET

Drawing

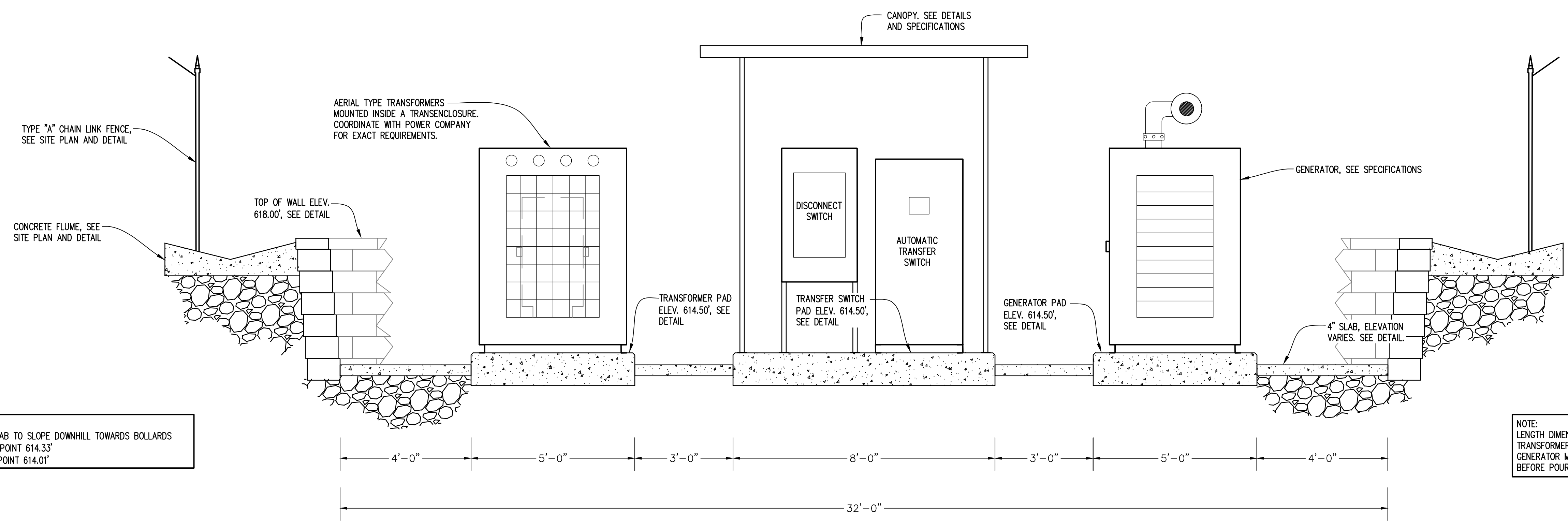
Project No. 11-2023

Date 1" = 10'

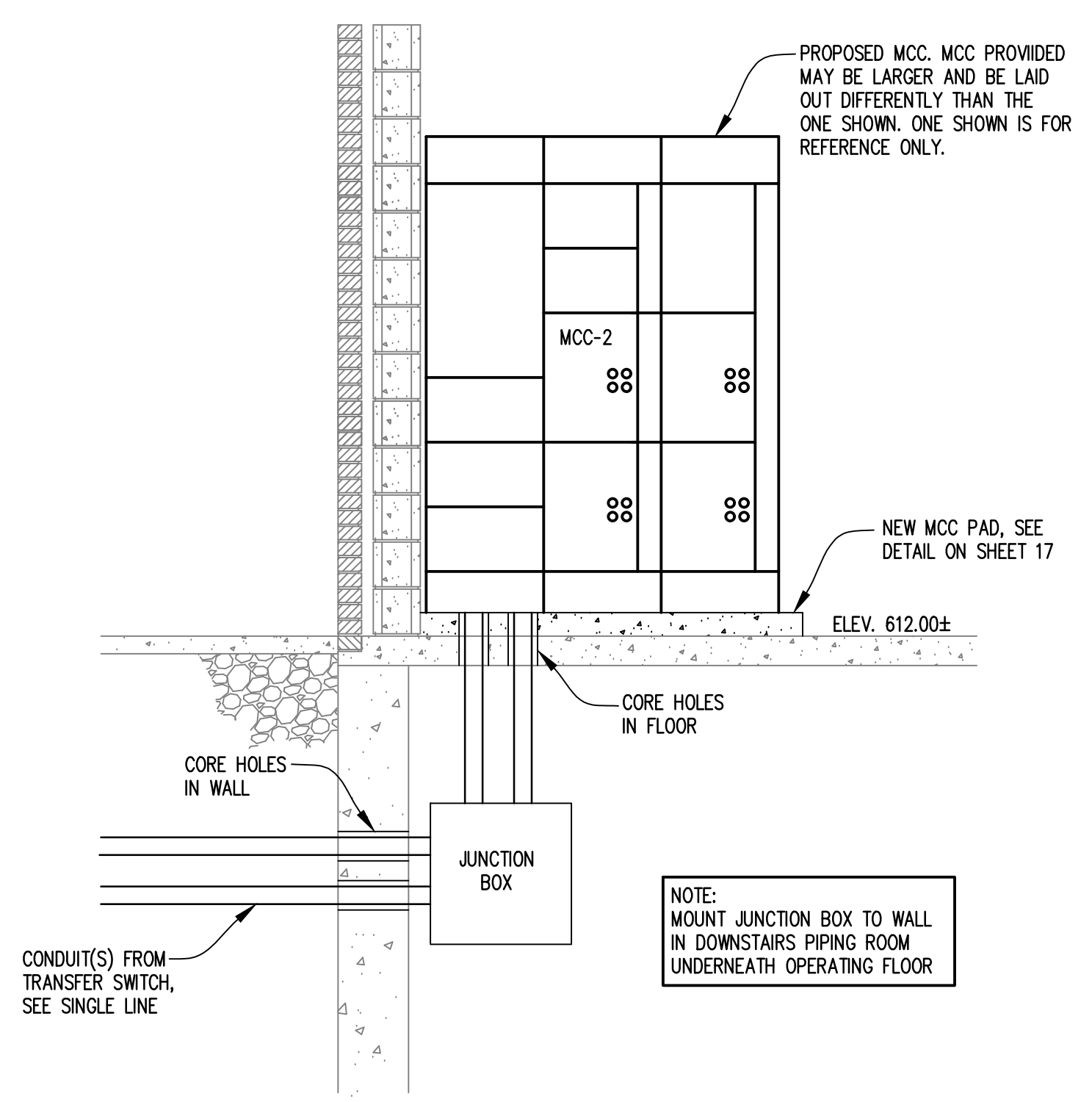
Sheet 4



SECTION "A"



SECTION "B"



CONDUIT ENTRY DETAIL
SCALE: N.T.S.

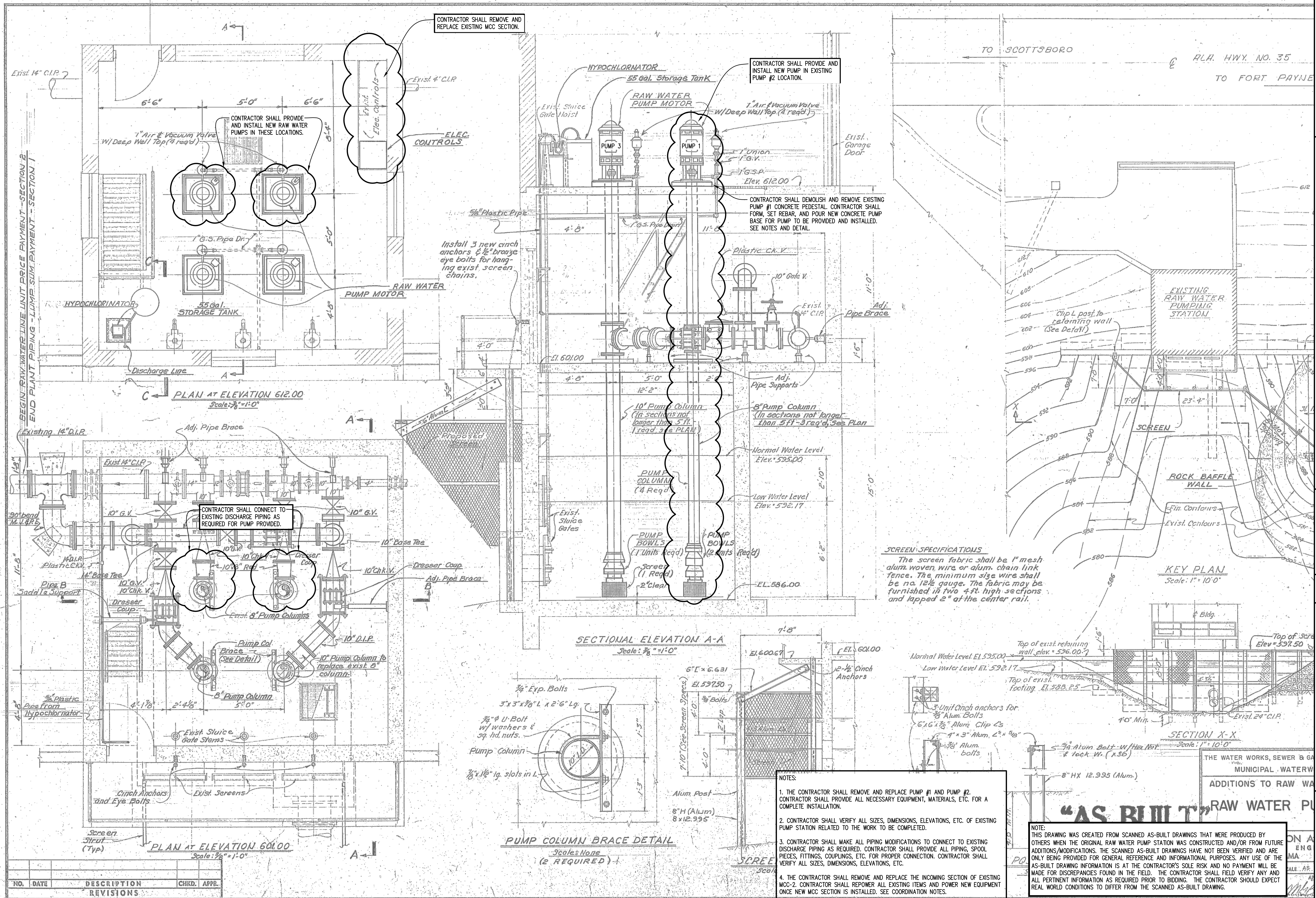
- DETAIL NOTES:**
1. THE CONTRACTOR SHALL SEAL WALL AND FLOOR CONDUIT PENETRATIONS DETAIL NON-SHRINK GROUT.
 2. ALL EXPOSED CONDUIT SHALL BE ALUMINUM UNLESS INDICATED OTHERWISE. SEE ELECTRICAL DRAWINGS.
 3. THIS DETAIL IS CONCEPTUAL IN NATURE AND IS REPRESENTATIVE OF ITEMS THAT WILL BE REQUIRED TO BE COMPLETED. COORDINATE WITH OWNER/ENGINEER.

- GENERAL NOTES:**
1. THE CONTRACTOR SHALL BE AWARE THAT GENERATOR DIMENSIONS VARY BY MANUFACTURER. CONTRACTOR SHALL VERIFY ALL DIMENSIONS WITH APPROVED GENERATOR SHOP DRAWINGS BEFORE ORDERING STEEL REINFORCING OR PLACING ANY CONCRETE. SEE GENERATOR SLAB DETAIL.
 2. AS NOTED ON SITE PLAN, THE NATURAL GAS LINE REQUIRED FOR THE GENERATOR WILL BE PROVIDED AND INSTALLED BY THE OWNER UP TO THE GENERATOR. THE CONTRACTOR WILL BE REQUIRED TO MAKE FINAL CONNECTION TO GENERATOR AS REQUIRED. ALL PIPING, FITTINGS, FLEXIBLE HOSE, ETC. FOR CONNECTION INSTALLED SHALL MEET OR EXCEED THE UTILITY REQUIREMENTS. THE CONTRACTOR SHALL COORDINATE WITH OWNER FOR FINAL LOCATION OF GAS LINES AND REGULATOR. COORDINATE ALL WITH THE OWNER IN A TIMELY MANNER SO AS NOT TO DELAY CONSTRUCTION.

NOTE:
4" SLAB TO SLOPE DOWNHILL TOWARDS BOLLARDS
HIGH POINT 614.33'
LOW POINT 614.01'

NOTE:
LENGTH DIMENSION OF GENERATOR PAD AND TRANSFORMER PAD NOT SHOWN, COORDINATE WITH GENERATOR MANUFACTURER AND POWER COMPANY BEFORE POURING PADS

<p>Municipal Consultants, Inc. 200 Cahery Park South, Suite 212 Birmingham, Alabama 35208 (205) 827-0387</p>	
<p>SCOTTSBORO WSG BOARD RUDOPHL JONES WTP INTAKE PUMP STATION IMPROVEMENTS</p>	
<p>2023</p>	
<p>ALABAMA LICENSED PROFESSIONAL ENGINEER TREAT R. TURNER NO. 33658 11-3-23</p>	
<p>BAR = 1"</p>	
<p>Title</p>	<p>ELECTRICAL PAD SECTIONS</p>
<p>Drawing</p>	<p>BID SET</p>
<p>Project No.</p>	<p>11-2023</p>
<p>Date</p>	<p>1/2" = 1'</p>
<p>Scale</p>	<p>5</p>
<p>Sheet</p>	<p>5</p>



NO.	DATE	DESCRIPTION	CHKD.	APPL.
REVISIONS				

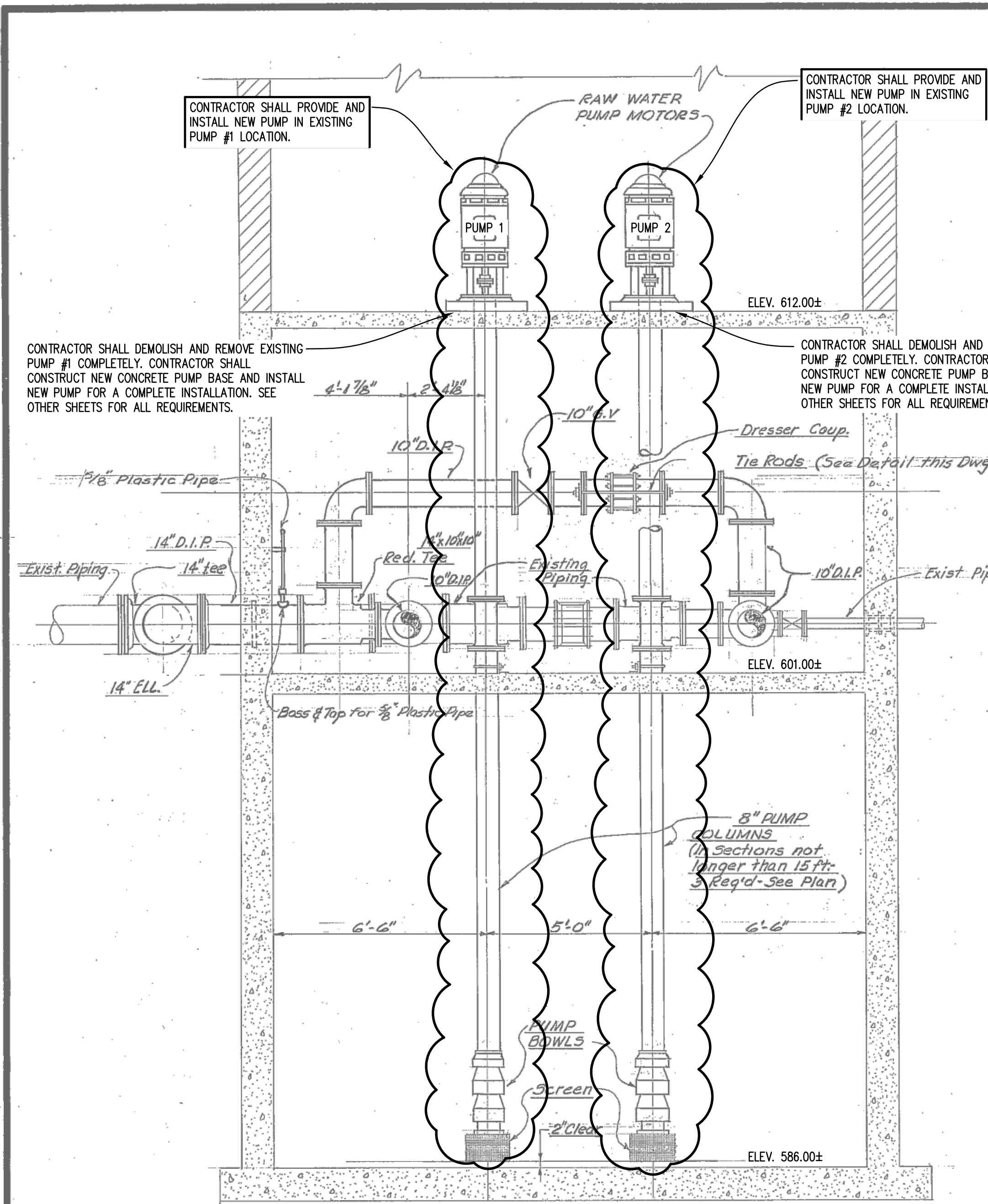
- NOTES:
1. THE CONTRACTOR SHALL REMOVE AND REPLACE PUMP #1 AND PUMP #2. CONTRACTOR SHALL PROVIDE ALL NECESSARY EQUIPMENT, MATERIALS, ETC. FOR A COMPLETE INSTALLATION.
 2. CONTRACTOR SHALL VERIFY ALL SIZES, DIMENSIONS, ELEVATIONS, ETC. OF EXISTING PUMP STATION RELATED TO THE WORK TO BE COMPLETED.
 3. CONTRACTOR SHALL MAKE ALL PIPING MODIFICATIONS TO CONNECT TO EXISTING DISCHARGE PIPING AS REQUIRED. CONTRACTOR SHALL PROVIDE ALL PIPING, SPOOL PIECES, FITTINGS, COUPLINGS, ETC. FOR PROPER CONNECTION. CONTRACTOR SHALL VERIFY ALL SIZES, DIMENSIONS, ELEVATIONS, ETC.
 4. THE CONTRACTOR SHALL REMOVE AND REPLACE THE INCOMING SECTION OF EXISTING MCC-2. CONTRACTOR SHALL REPOWER ALL EXISTING ITEMS AND POWER NEW EQUIPMENT ONCE NEW MCC SECTION IS INSTALLED. SEE COORDINATION NOTES.

NOTE:
THIS DRAWING WAS CREATED FROM SCANNED AS-BUILT DRAWINGS THAT WERE PRODUCED BY OTHERS WHEN THE ORIGINAL RAW WATER PUMP STATION WAS CONSTRUCTED AND/OR FROM FUTURE ADDITIONS/MODIFICATIONS. THE SCANNED AS-BUILT DRAWINGS HAVE NOT BEEN VERIFIED AND ARE ONLY BEING PROVIDED FOR GENERAL REFERENCE AND INFORMATIONAL PURPOSES. ANY USE OF THE AS-BUILT DRAWING INFORMATION IS AT THE CONTRACTOR'S SOLE RISK AND NO PAYMENT WILL BE MADE FOR DISCREPANCIES FOUND IN THE FIELD. THE CONTRACTOR SHALL FIELD VERIFY ANY AND ALL PERTINENT INFORMATION AS REQUIRED PRIOR TO BIDDING. THE CONTRACTOR SHOULD EXPECT REAL WORLD CONDITIONS TO DIFFER FROM THE SCANNED AS-BUILT DRAWING.

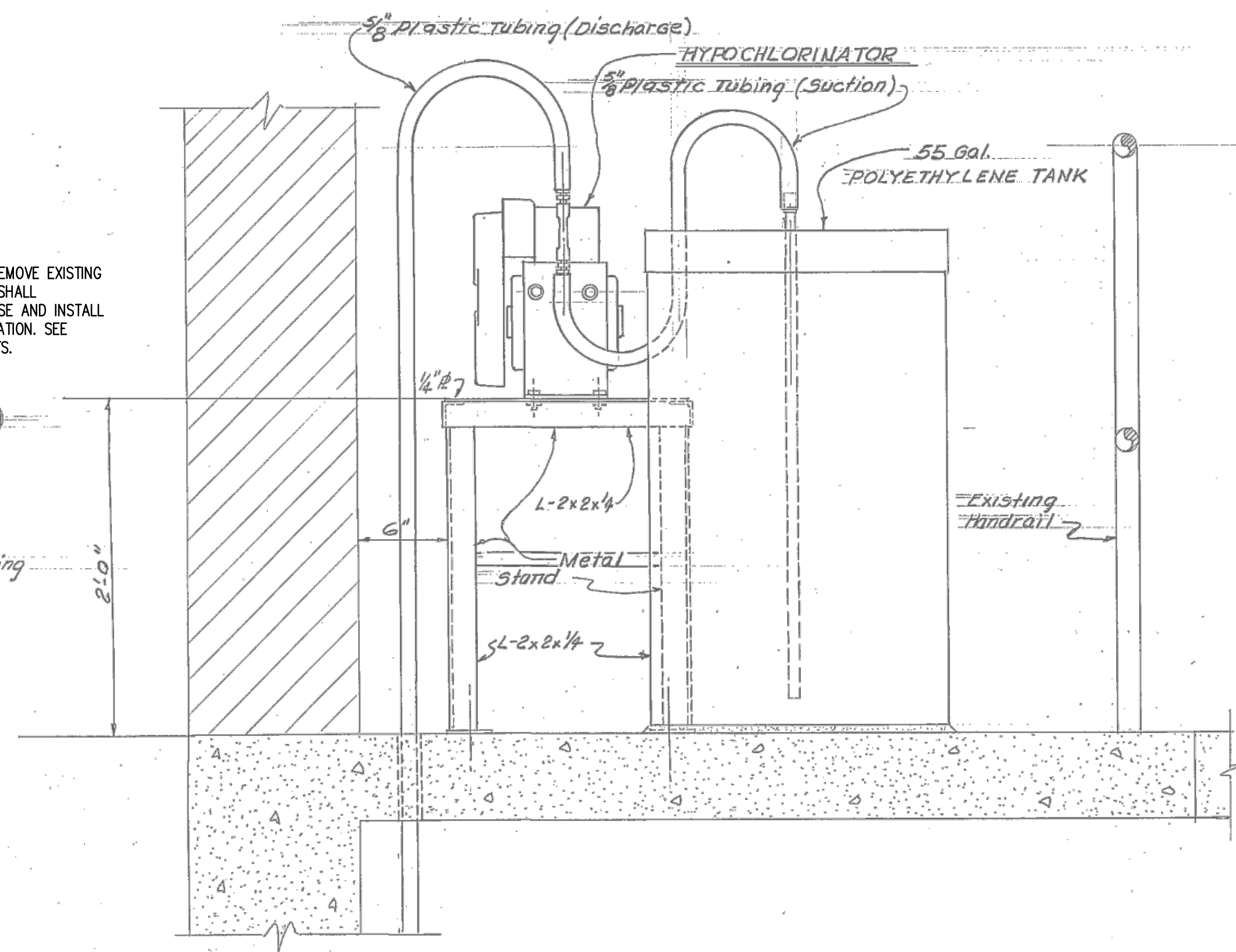


11-3-23
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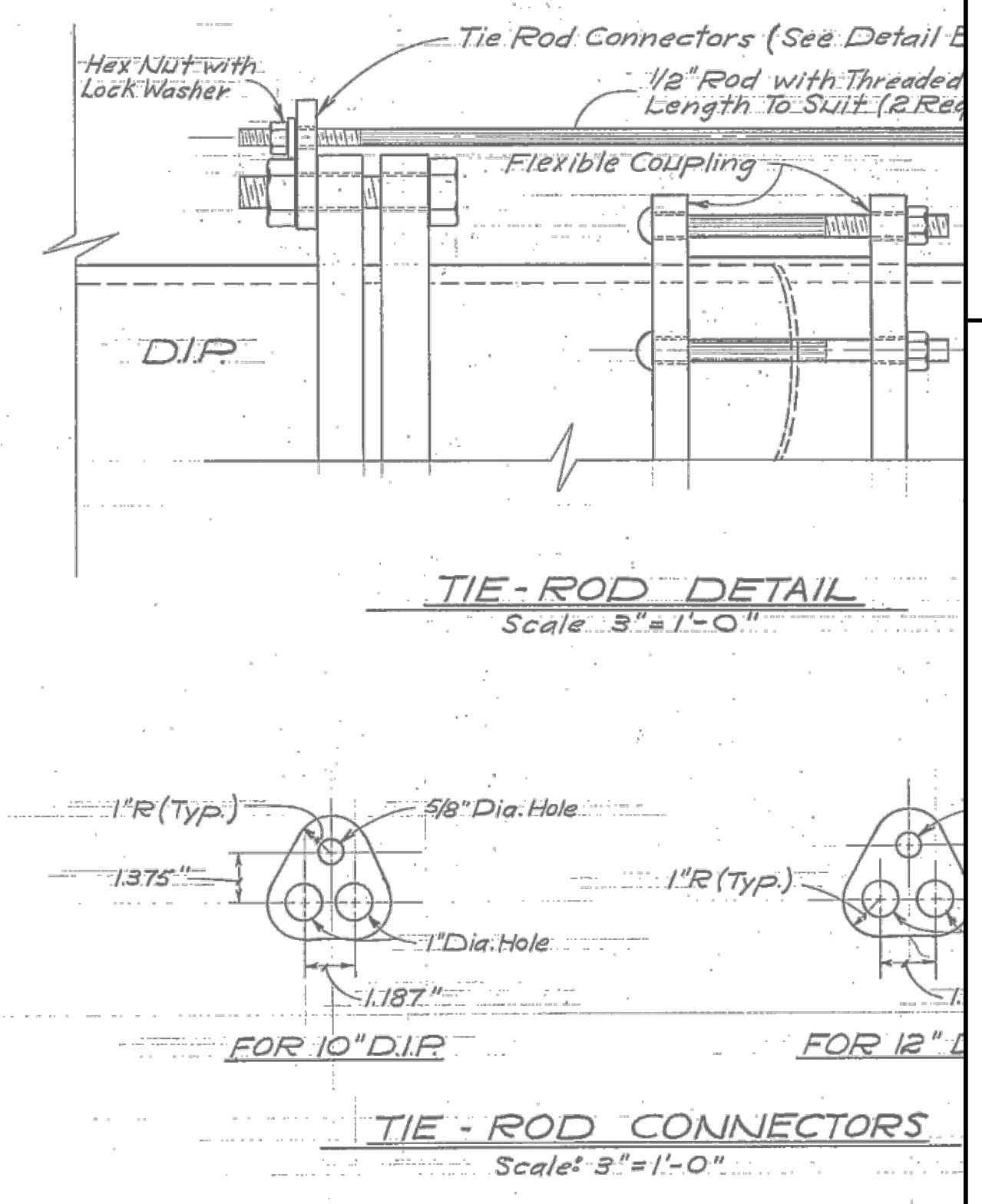
Title		ORIGINAL BUILDING PLAN AND SECTION	BID SET
Drawing	Project No.		
Date	11-2023		
Scale	N.T.S		
Sheet	6		



SECTIONAL ELEVATION B-B
Scale: 3/8"=1'-0"



SECTIONAL ELEVATION C-C
Scale: 1/8"=1'-0"



NO.	DATE	DESCRIPTION	CHKD.	APPR.
REVISIONS				

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THE WATER WORKS, SEWER & GAS
MUNICIPAL WATERWORKS
ADDITIONS TO WATERWORKS
RAW WATER PUMP STATION IMPROVEMENTS

HARRY HENDON
ENGINEER
BIRMINGHAM, ALABAMA

DRAWN: Jack Whisenant SCALE: As Shown
CHECKED: M.G.B.
DATE: 8-28-18

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SCOTTSBORO WSG BOARD
RUDOLPH JONES WTP
INTAKE PUMP STATION IMPROVEMENTS

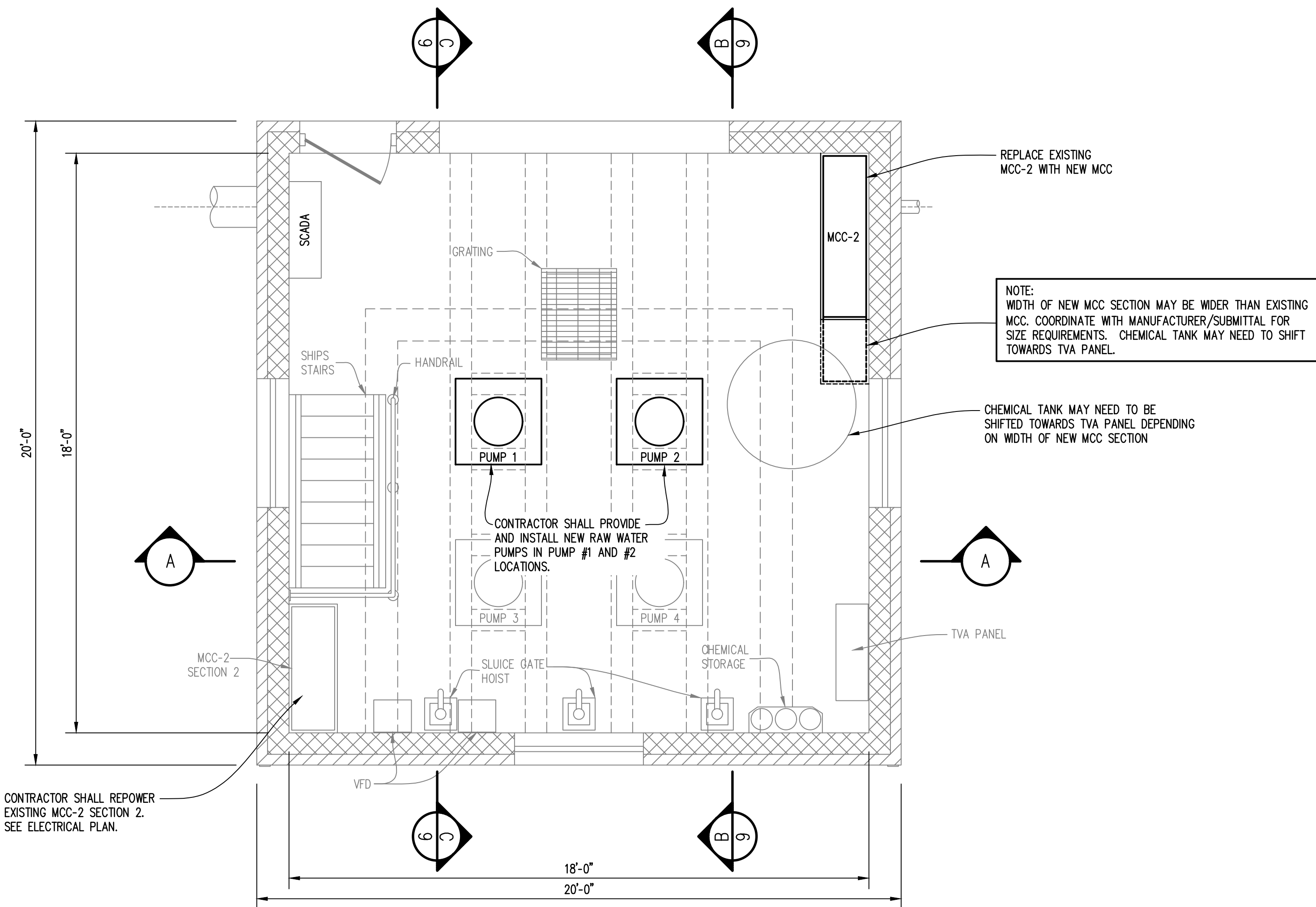
2023

AS

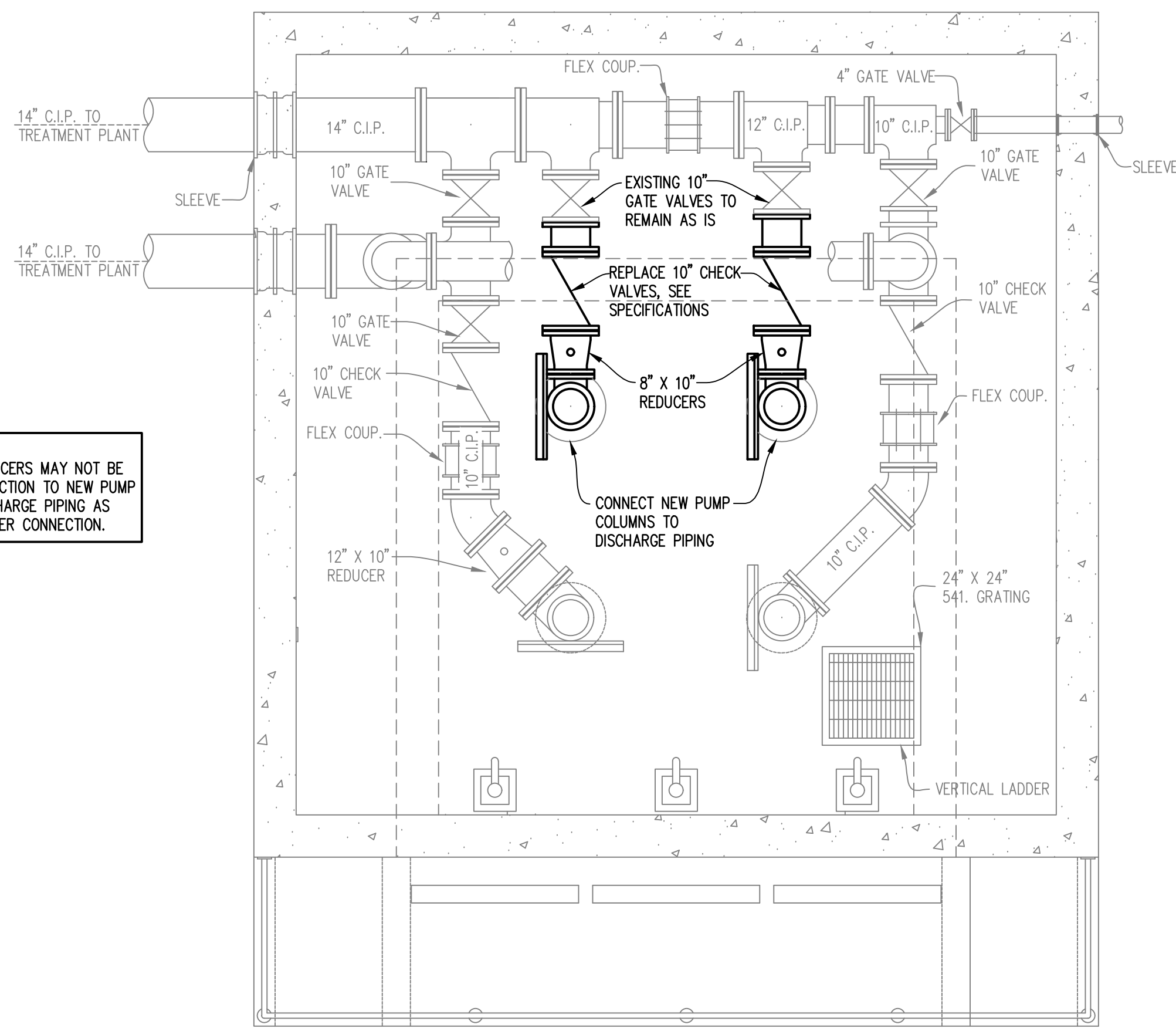
ALABAMA LICENSED PROFESSIONAL ENGINEER
TERRY R. TURNER
11-3-23
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Project No.	11-2023
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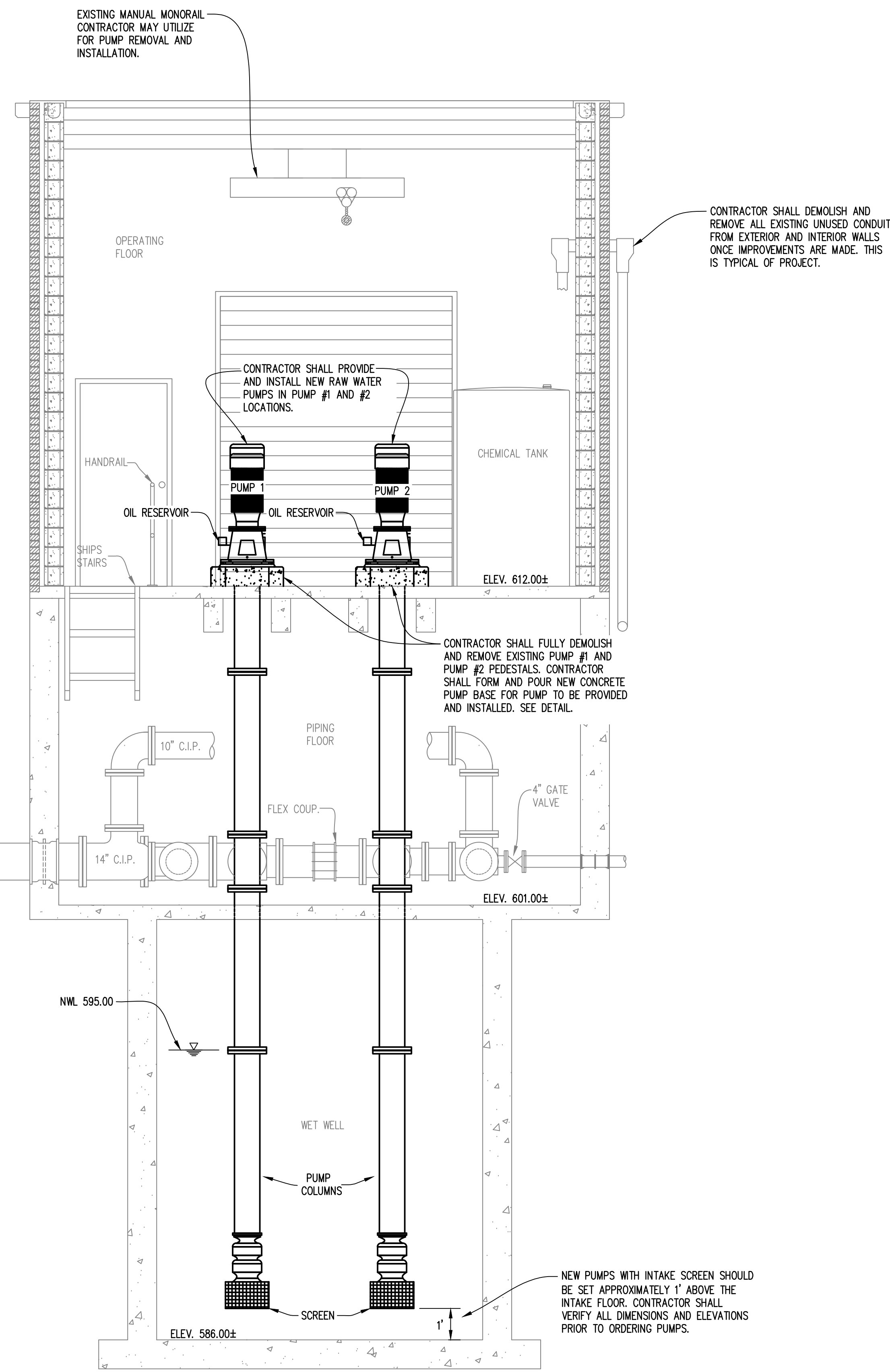


OPERATING FLOOR PLAN



PIPING FLOOR PLAN

- NOTES: (THESE NOTES APPLY TO ALL PLANS AND SECTIONS OF BUILDING)
1. THE CONTRACTOR SHALL PROVIDE AND INSTALL NEW RAW WATER PUMPS #1 AND #2 FOR A COMPLETE AND FUNCTIONAL PUMPING SYSTEM. CONTRACTOR SHALL PROVIDE ALL NECESSARY EQUIPMENT, MATERIALS, ETC. FOR A COMPLETE INSTALLATION.
 2. CONTRACTOR SHALL VERIFY ALL SIZES, DIMENSIONS, ELEVATIONS, ETC. RELATED TO THE WORK TO BE COMPLETED.
 3. CONTRACTOR SHALL MAKE ALL PIPING MODIFICATIONS TO CONNECT TO EXISTING DISCHARGE PIPING AS REQUIRED. CONTRACTOR SHALL PROVIDE ALL PIPING, SPOOL PIECES, FITTINGS, COUPLINGS, ETC. FOR PROPER CONNECTION. CONTRACTOR SHALL VERIFY ALL SIZES, DIMENSIONS, ELEVATIONS, ETC.
 4. CONTRACTOR SHALL BE AWARE THAT THE EXISTING PUMP PEDESTAL IS REMAINING. CONTRACTOR SHALL FULLY DEMOLISH AND REMOVE EXISTING CONCRETE PEDESTAL. EXISTING REBAR IN CONCRETE SHOULD BE REUSED. CONTRACTOR SHALL FORM, SET NEW REBAR, AND POUR NEW CONCRETE PUMP BASE FOR PUMP TO BE PROVIDED AND INSTALLED. NEW PUMP BASE SHALL HAVE SAME SIZE OPENING AS EXISTING FLOOR OPENING. CONTRACTOR SHALL VERIFY DIAMETER. SEE DETAIL.
 5. ONCE PIPING IS CONNECTED TO, CONTRACTOR SHALL PAINT NEW AND EXISTING PIPING (TO FLANGE OF TEE) WITH INEMEC COATINGS. NEW PUMP SHOULD BE PAINTED WITH MATCHING COLOR.
 6. CONTRACTOR SHALL BE AWARE THAT BOTH PUMPS SHALL HAVE AN OIL RESERVOIR AND AN AIR RELEASE VALVE AT THE OPERATING FLOOR LEVEL. THE CONTRACTOR MAY USE THE EXISTING AIR RELEASE PIPING EXTENDING THROUGH THE FLOOR TO THE SECOND LEVEL. MATCH ALL EXISTING MATERIALS. MODIFY AND PAINT AS REQUIRED TO MATCH.
 7. CONTRACTOR SHALL DEMOLISH AND REMOVE ALL EXISTING UNUSED CONDUIT AND WIRE FROM EXTERIOR AND INTERIOR WALLS ONCE IMPROVEMENTS ARE MADE. PROPERLY SEAL ALL WALL AND FLOOR PENETRATIONS FROM REMOVED CONDUITS. THIS IS TYPICAL OF PROJECT.
 8. FOR PUMPS, ELECTRICAL EQUIPMENT AND COMPONENTS REMOVED, THE OWNER RETAINS THE OPTION TO KEEP ALL ITEMS REMOVED. SEE DEMOLITION NOTES.

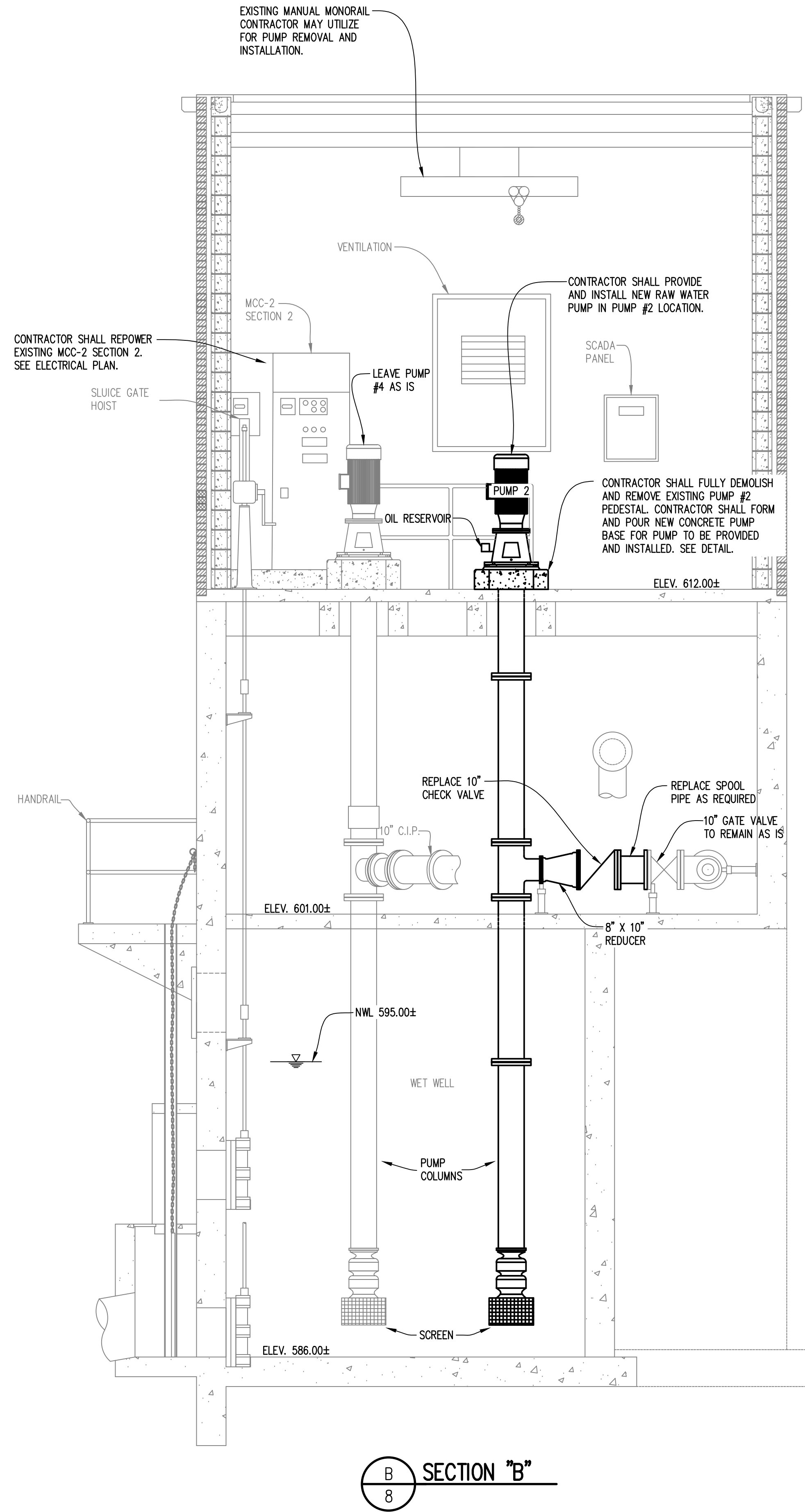


SECTION "A"

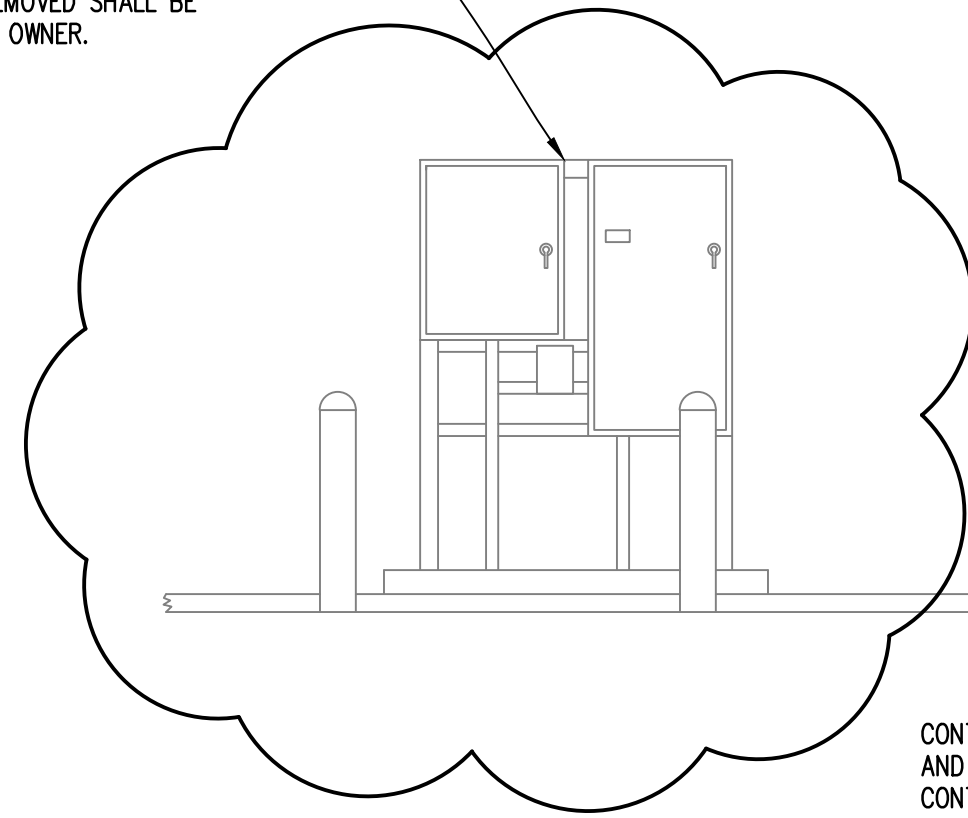


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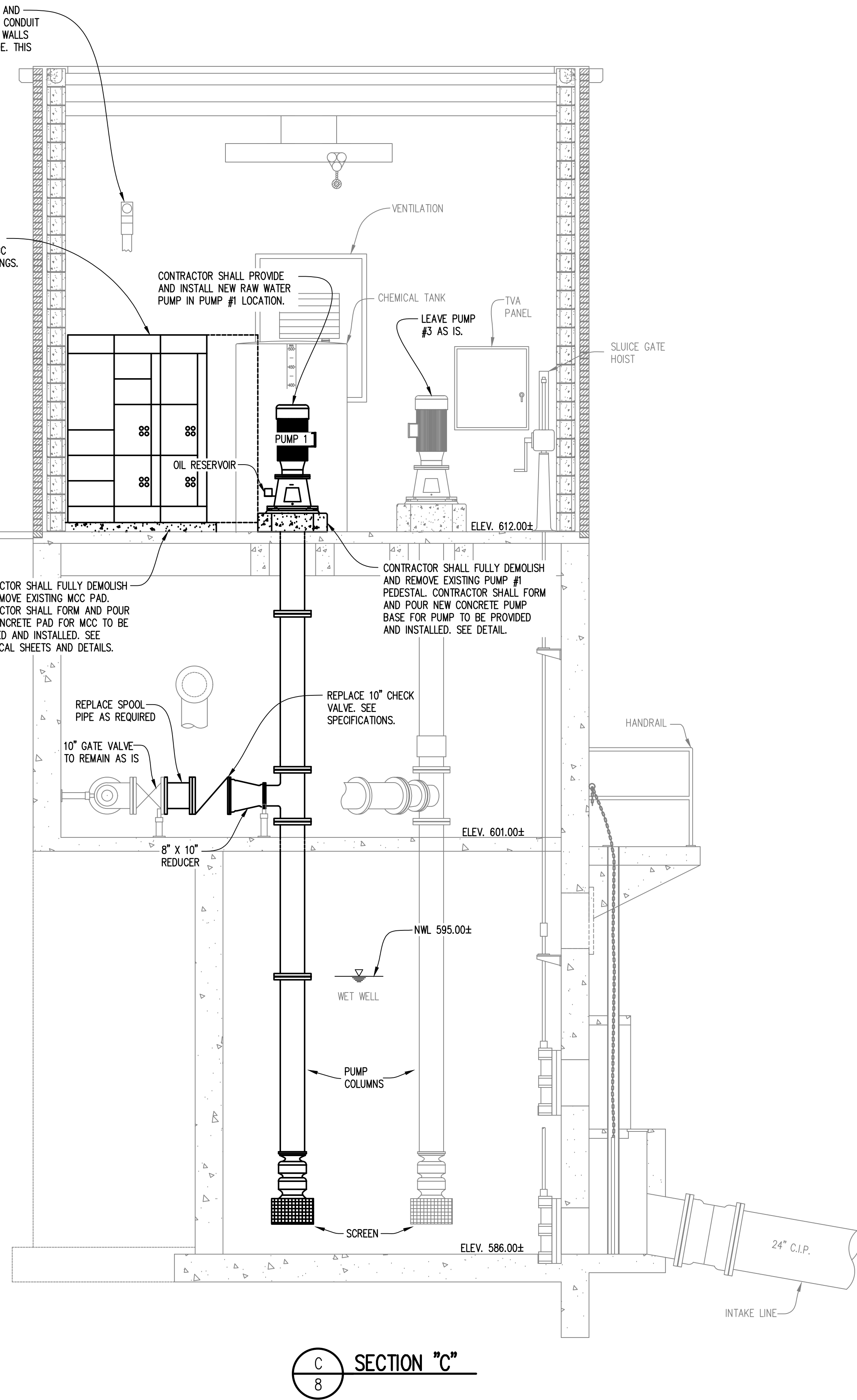
CONTRACTOR SHALL DEMOLISH AND REMOVE EXISTING SERVICE EQUIPMENT ONCE NEW SERVICE AND EQUIPMENT IS FULLY OPERATIONAL. ELECTRICAL EQUIPMENT REMOVED SHALL BE RETURNED TO OWNER.



NOTE: WIDTH OF NEW MCC SECTION MAY BE WIDER THAN EXISTING MCC. COORDINATE WITH MANUFACTURER/SUBMITTAL FOR SIZE REQUIREMENTS. CHEMICAL TANK MAY NEED TO SHIFT TOWARDS TVA PANEL.

CONTRACTOR SHALL DEMOLISH AND REMOVE ALL EXISTING UNUSED CONDUIT FROM EXTERIOR AND INTERIOR WALLS ONCE IMPROVEMENTS ARE MADE. THIS IS TYPICAL OF PROJECT.

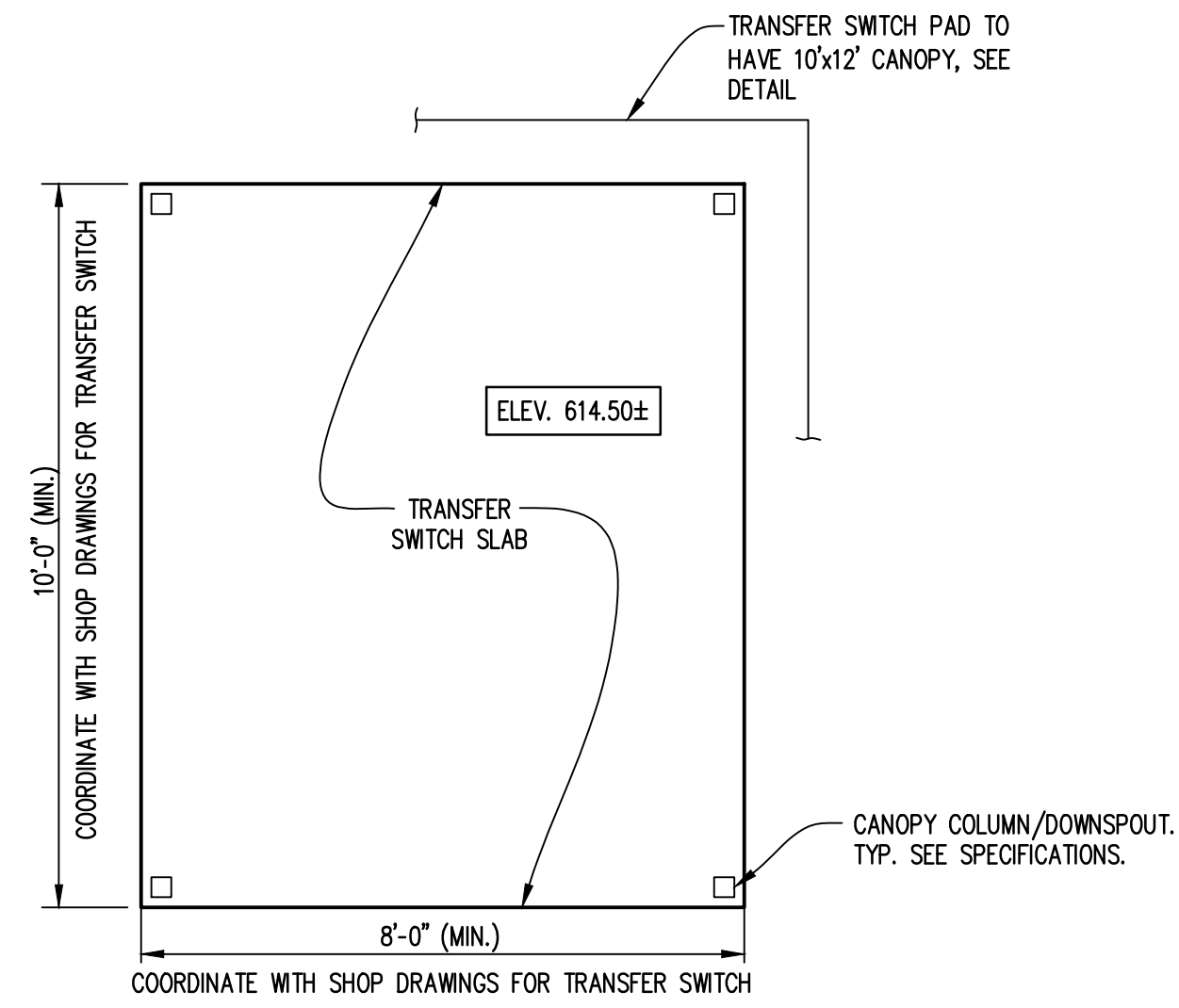
NOTE: EXISTING 8" X 10" REDUCERS MAY NOT BE NECESSARY FOR CONNECTION TO NEW PUMP COLUMNS. MODIFY DISCHARGE PIPING AS NEEDED TO MAKE PROPER CONNECTION.



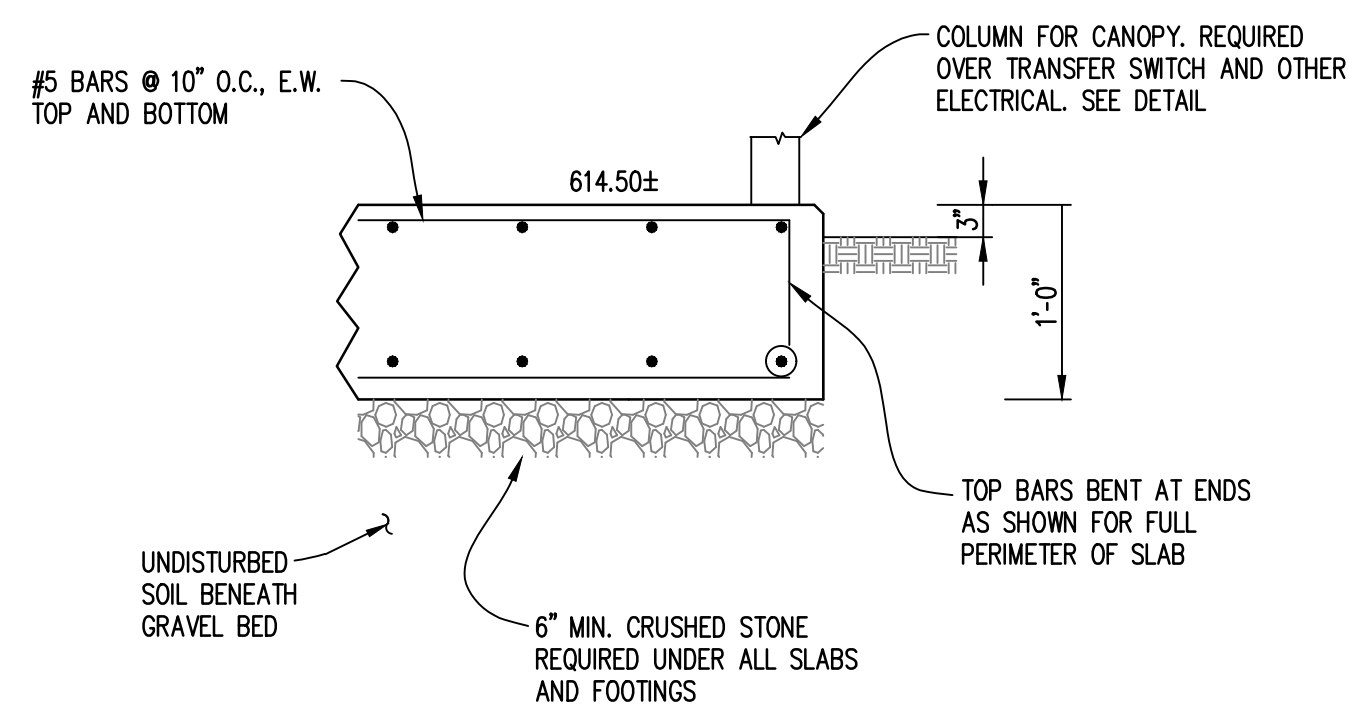
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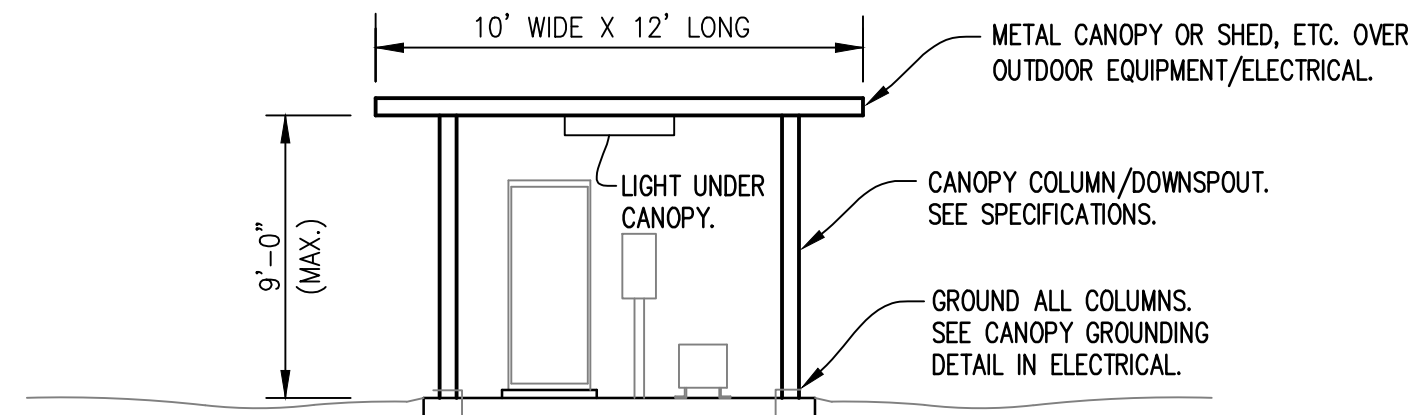
PLAN



PARTIAL SECTION

TRANSFER SWITCH SLAB

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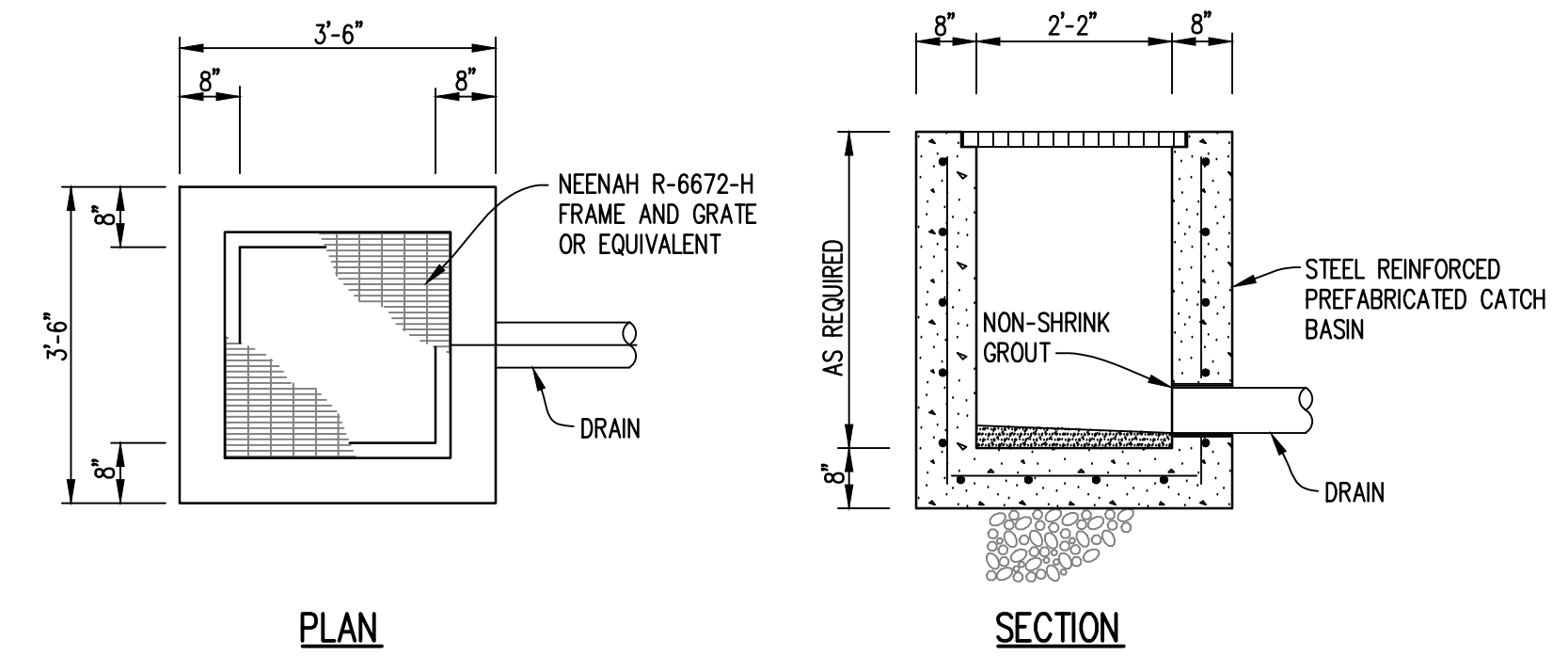


CANOPY NOTES:

1. CANOPY SHALL BE DARK BRONZE ANODIZED ALUMINUM, AS MANUFACTURED BY TENNESSEE VALLEY METALS OR EQUAL. SEE SPECIFICATIONS.
2. PROVIDE CANOPY COMPLETE WITH GUTTERS AND DOWNSPOUTS.
3. CONTRACTOR SHALL PROVIDE 48" LED WEATHERPROOF LIGHTS UNDER CANOPY WITH SWITCH MOUNTED ON COLUMN. POWER LIGHT AS REQUIRED.
4. COORDINATE HEIGHT WITH ELECTRICAL GEAR. HEIGHT SHALL BE 1'± ABOVE GEAR.

CANOPY DETAIL

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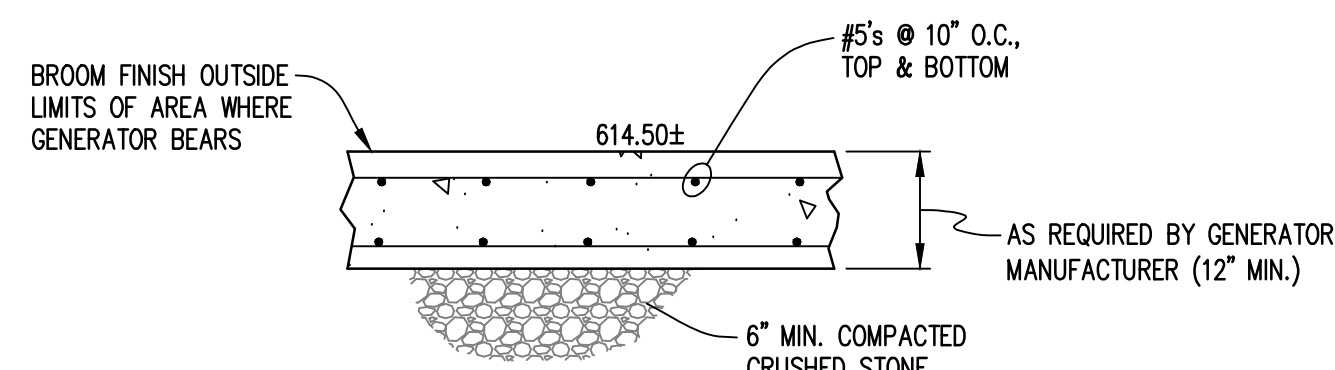
PLAN

SECTION

TYPICAL YARD INLET - SMALL

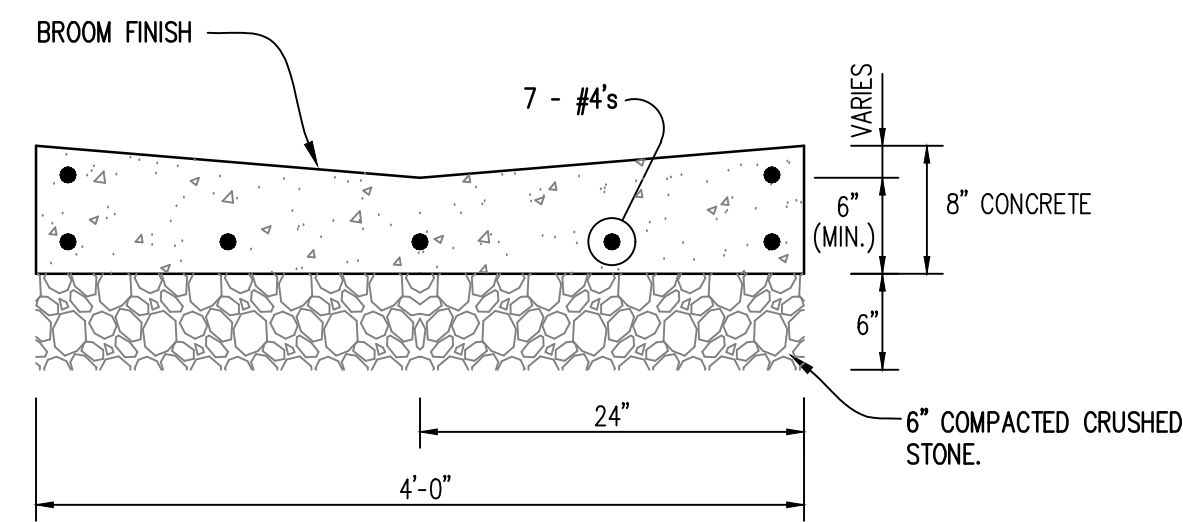
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- NOTES:
1. ANCHOR GENERATOR TO CONCRETE PAD PER GENERATOR MANUFACTURER'S RECOMMENDATIONS
 2. GENERATOR PAD SHALL EXTEND 4" OUTSIDE OF LIMITS OF GENERATOR ON ALL SIDES AND ENDS.



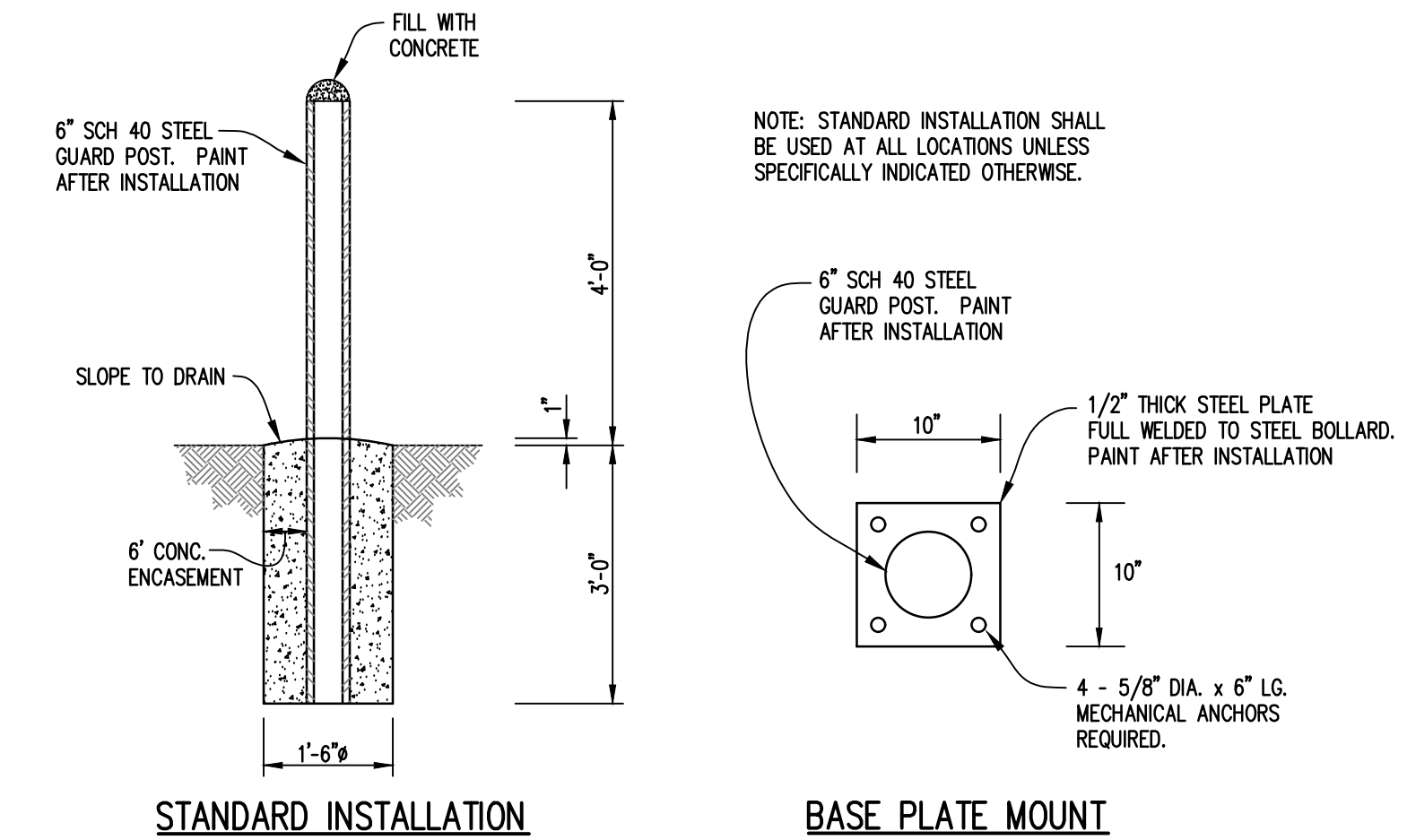
GENERATOR/TRANSFORMER PAD

SCALE: N.T.S.



CONCRETE DRAINAGE FLUME DETAIL

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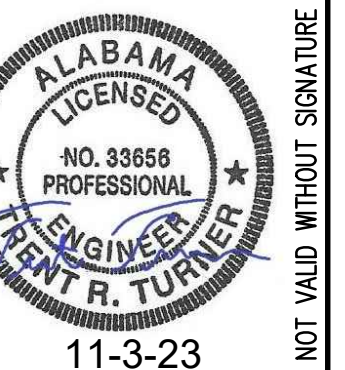


STANDARD INSTALLATION

BASE PLATE MOUNT

BOLLARD OR GUARD POST DETAIL

SCALE: N.T.S.



11-3-23

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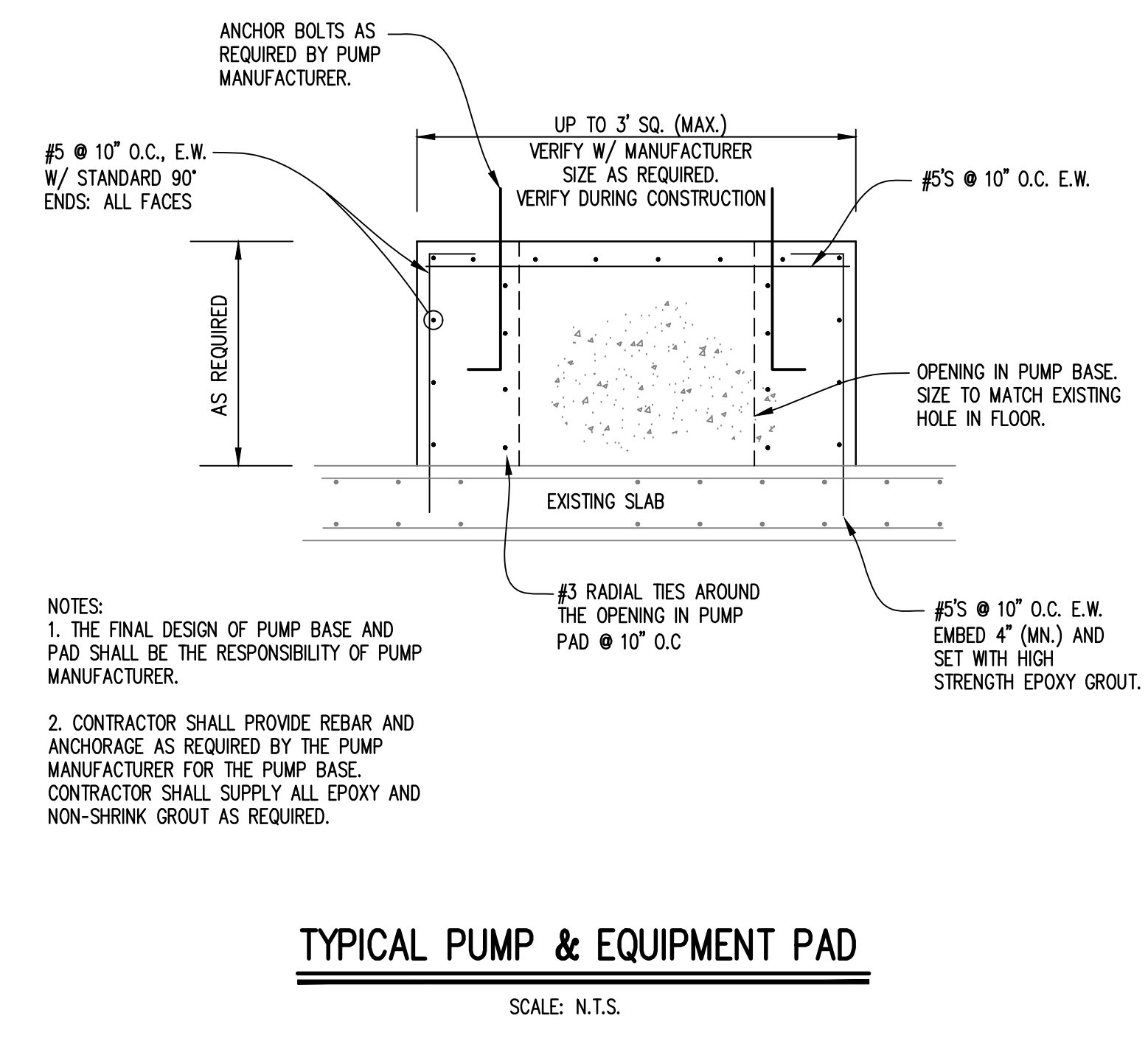
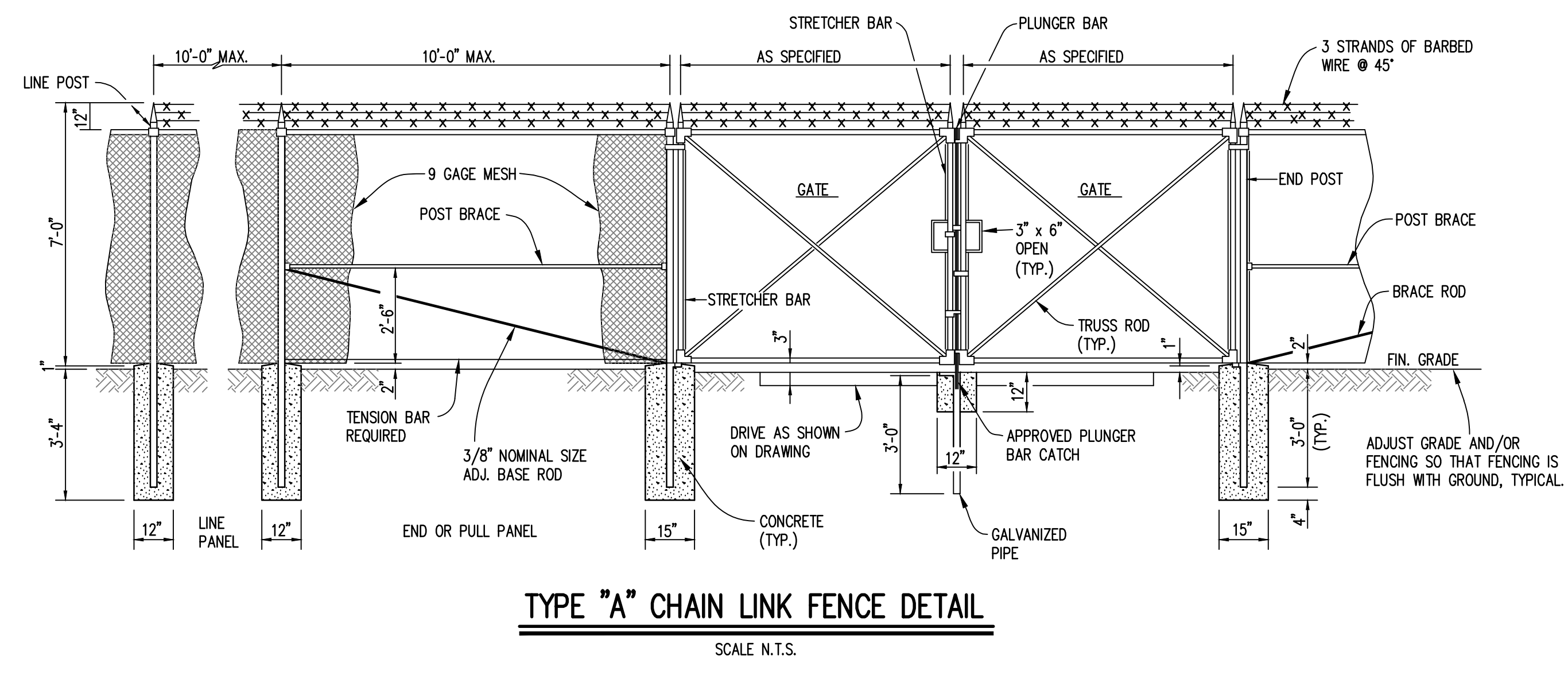
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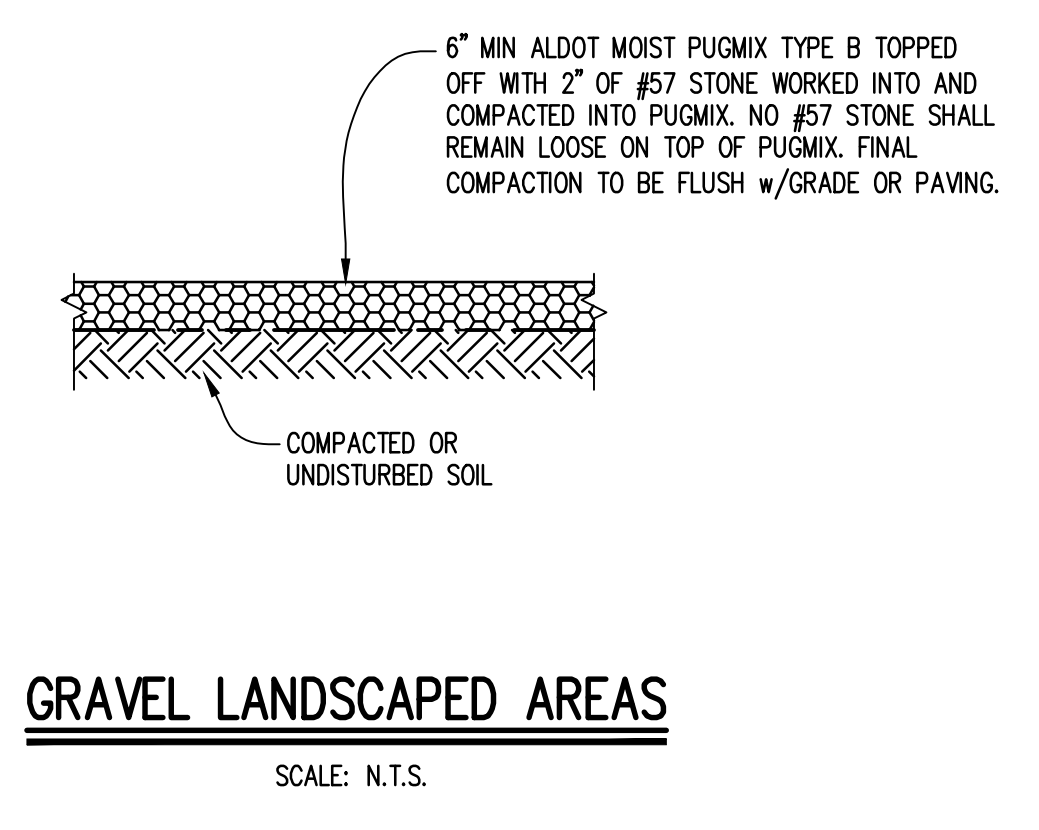
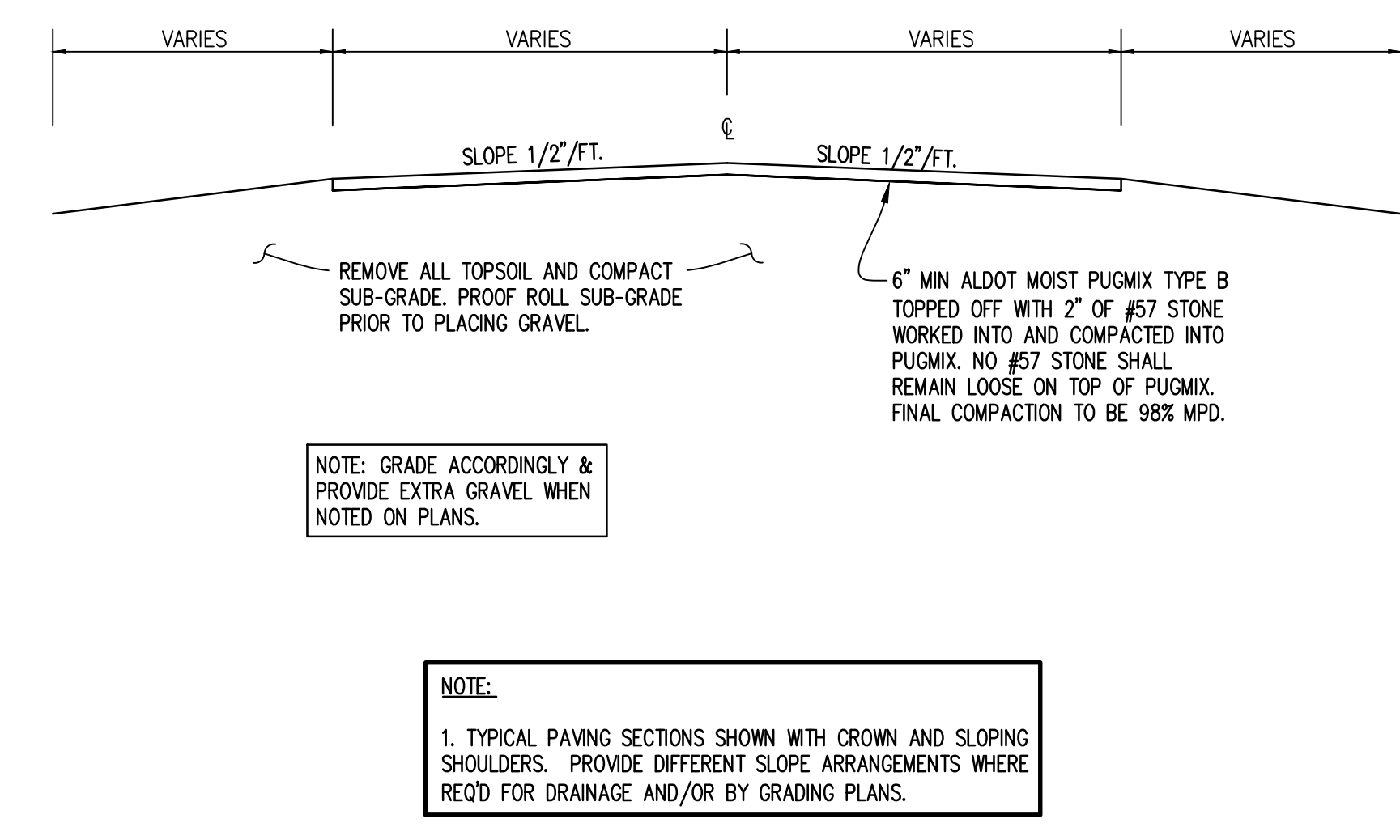
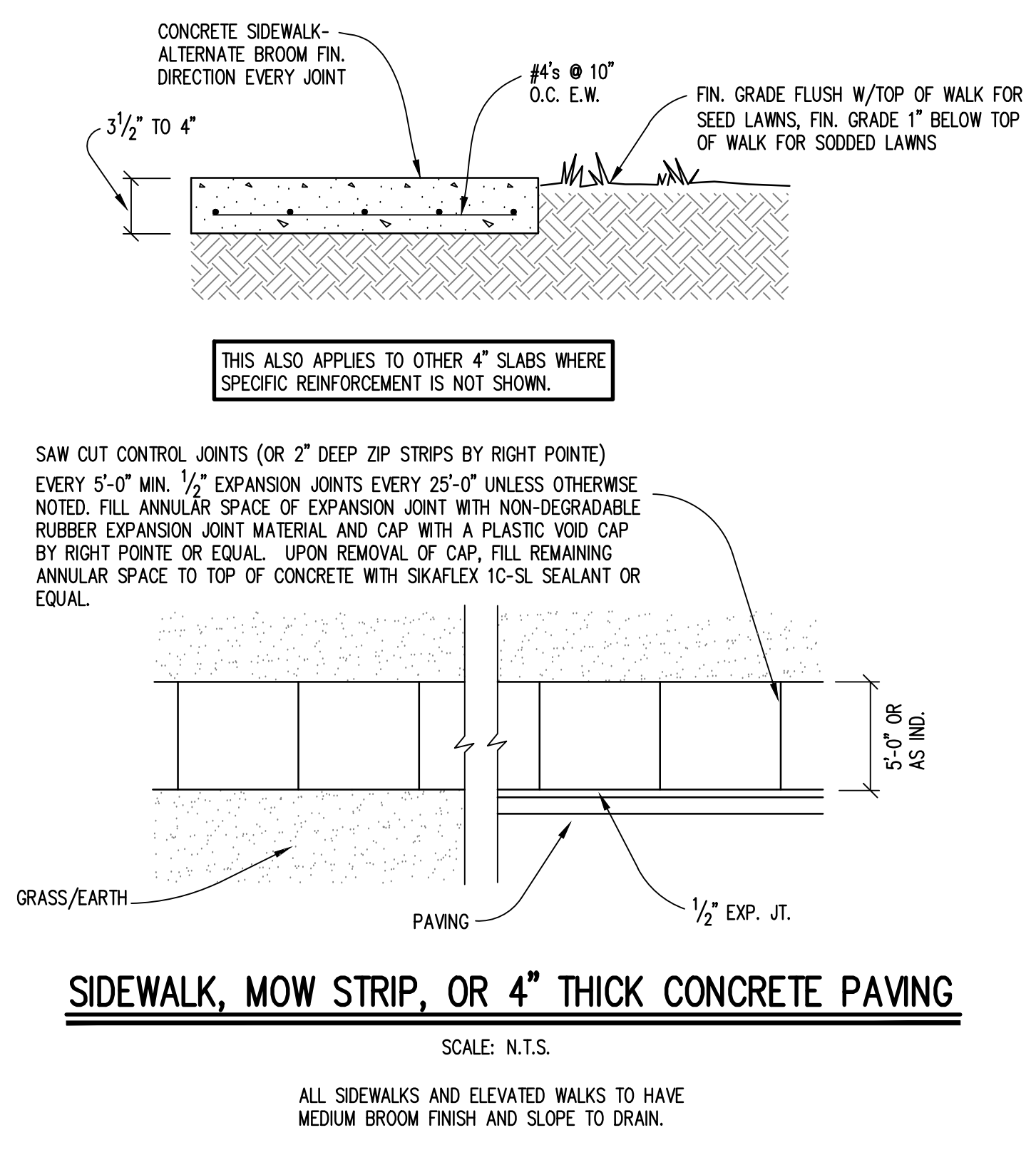
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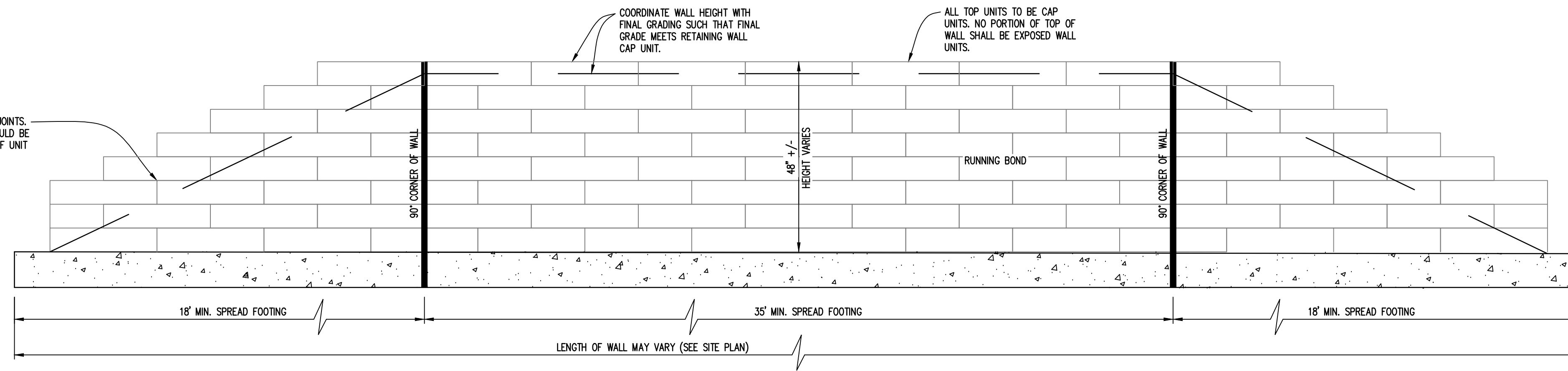


- NOTES:
1. THE FINAL DESIGN OF PUMP BASE AND PAD SHALL BE THE RESPONSIBILITY OF PUMP MANUFACTURER.
 2. CONTRACTOR SHALL PROVIDE REBAR AND ANCHORAGE AS REQUIRED BY THE PUMP MANUFACTURER FOR THE PUMP BASE. CONTRACTOR SHALL SUPPLY ALL EPOXY AND NON-SHRINK GROUT AS REQUIRED.

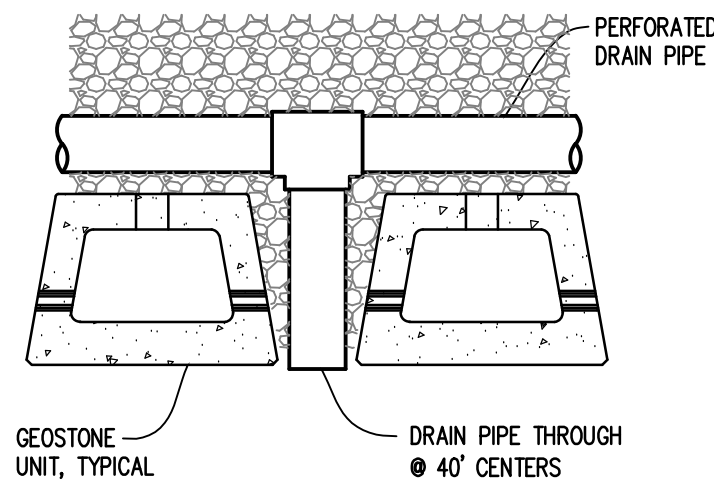


SEGMENTAL RETAINING WALL USING GEOSTONE WALL UNITS SHALL NOT EXCEED 6'-0" IN HEIGHT.

STAGER ALL VERTICAL JOINTS. END OF ALL UNITS SHOULD BE IN LINE WITH MIDPOINT OF UNIT BELOW.



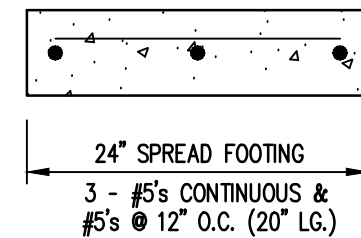
GEOSTONE RETAINING WALL ELEVATION
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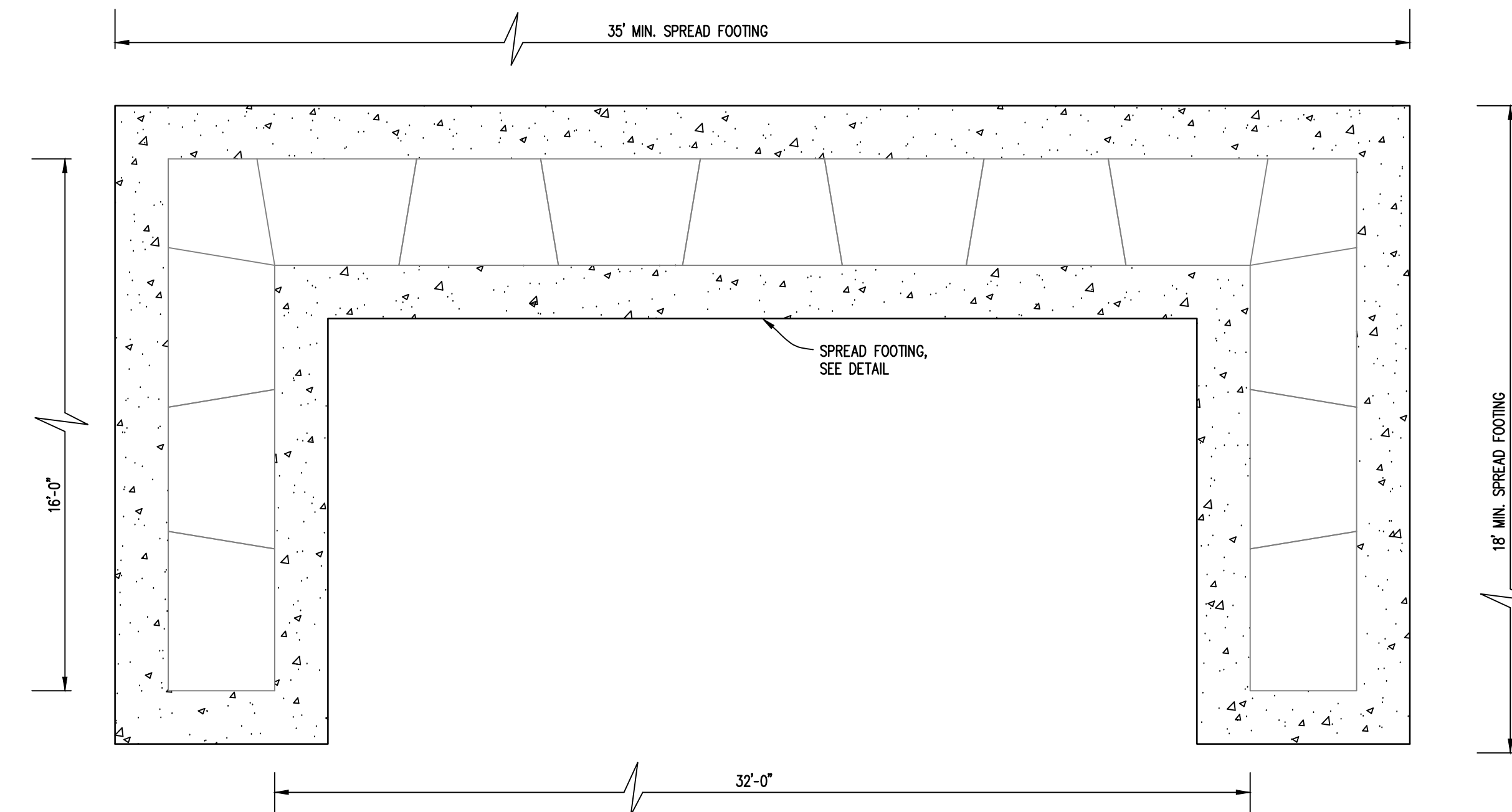
GEOSTONE RETAINING WALL DRAIN DETAIL
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GENERAL NOTES:

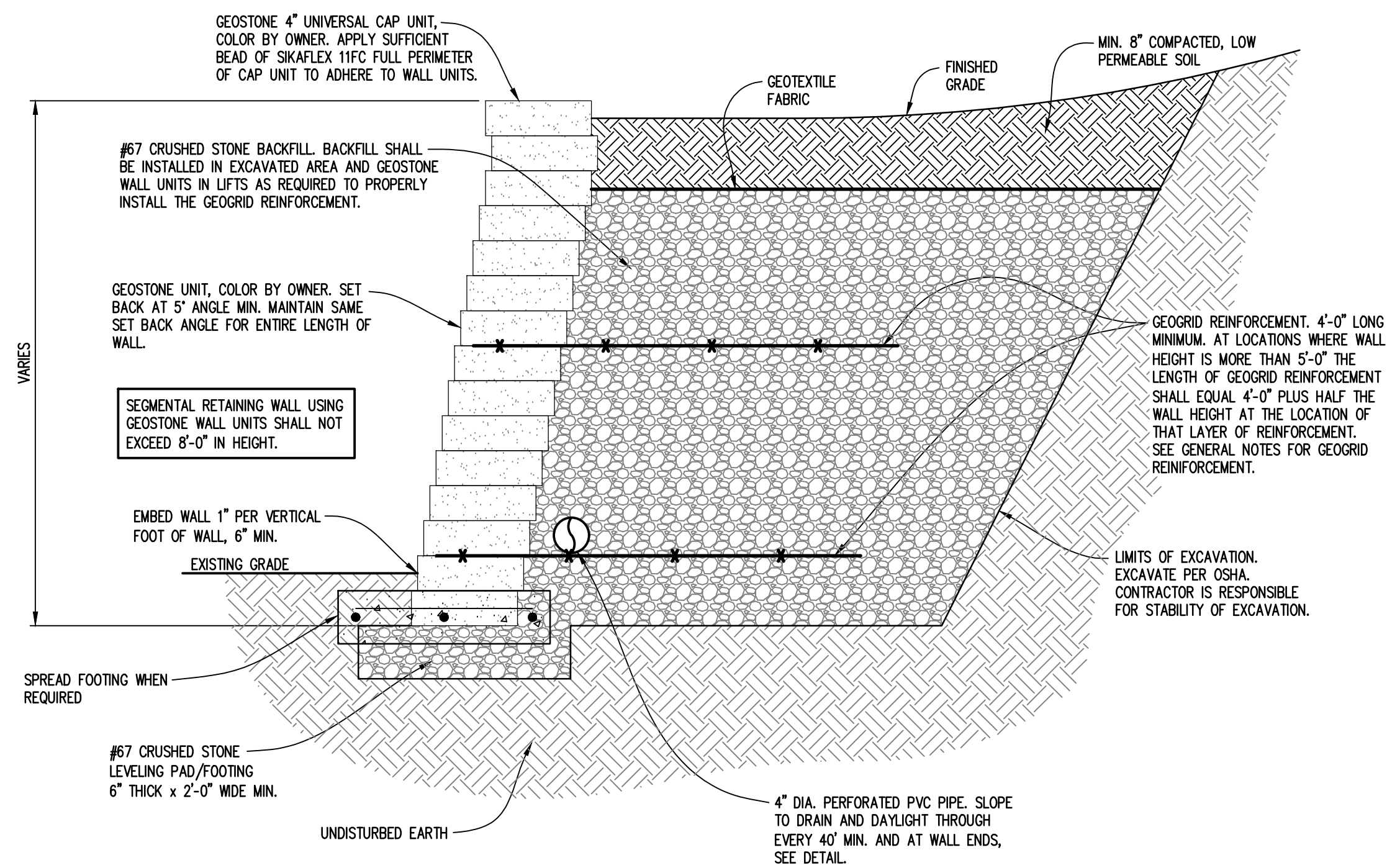
1. DETAILS SHOWN ARE INFORMATIONAL IN NATURE. CONTRACTOR SHALL FOLLOW MANUFACTURER'S INSTRUCTIONS WHEN INSTALLING WALL SYSTEM.
2. WALL SYSTEM MANUFACTURER SHALL PROVIDE A COMPLETE DESIGN FOR ALL WALLS FOR USE AS INTENDED AND CONDITIONS SPECIFIC TO THIS SITE.
3. CONCRETE SPREAD FOOTING IF REQUIRED BY RETAINING WALL DESIGN COMPANY. SEE DETAIL BELOW.



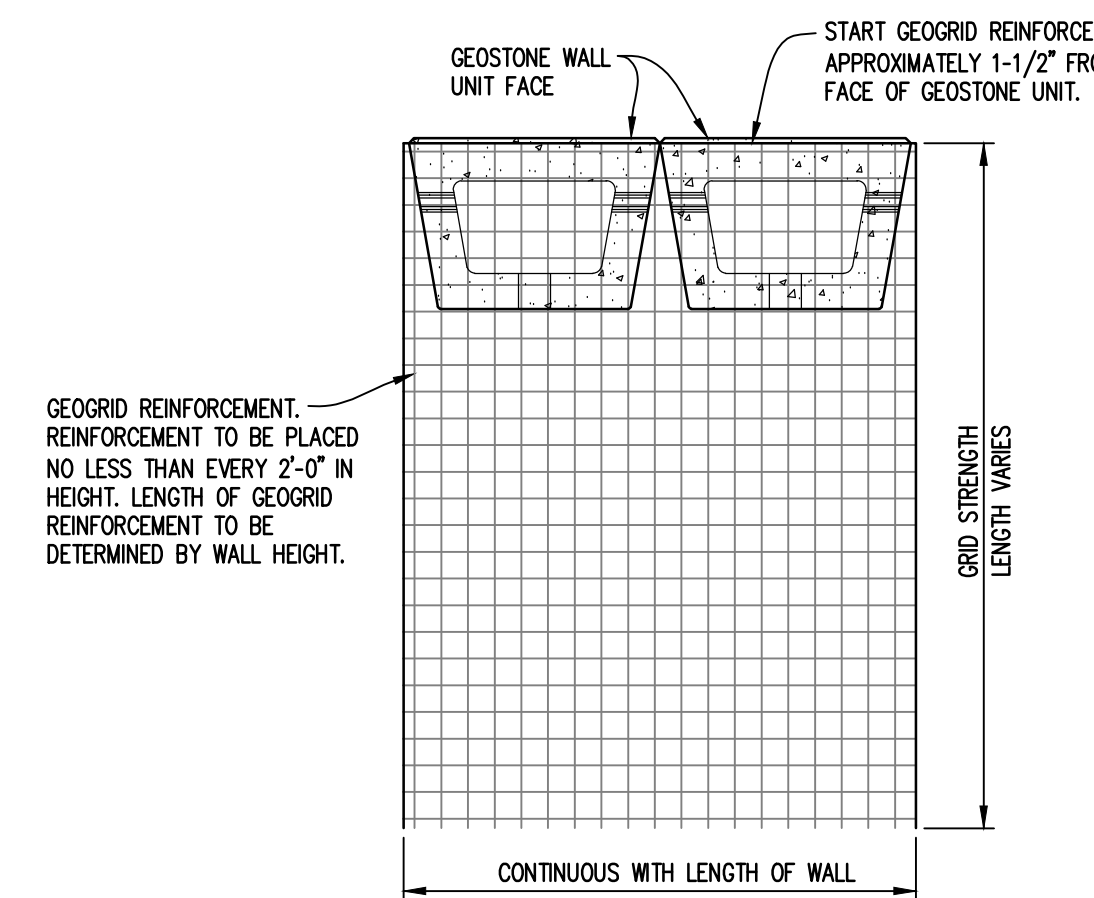
SPREAD FOOTING SECTION



GEOSTONE RETAINING WALL PLAN
SCALE N.T.S.



GEOSTONE RETAINING WALL - TYPICAL SECTION
SCALE N.T.S.



GEOGRID REINFORCEMENT DETAIL
SCALE N.T.S.

GENERAL NOTES FOR GEOGRID REINFORCEMENT:

1. AT THE ELEVATIONS SHOWN ON THE DRAWINGS, THE GEOGRID REINFORCEMENT SHALL BE LAID HORIZONTALLY ON COMPACTED #67 STONE BACKFILL AND PLACED ON THE GEOSTONE BLOCKS.
2. CORRECT ORIENTATION (ROLL DIRECTION) OF THE GEOGRID REINFORCEMENT SHALL BE VERIFIED BY THE CONTRACTOR TO BE IN ACCORDANCE WITH THE GEOGRID MANUFACTURER'S RECOMMENDATIONS.
3. THE GEOGRID REINFORCEMENT SHALL BE IN TENSION AND FREE OF WRINKLES PRIOR TO PLACEMENT OF SOIL FILL.
4. NOMINAL TENSION SHALL BE APPLIED TO THE GEOGRID REINFORCEMENT AND SECURED IN PLACE WITH STAPLES, STAKES, OR BY HAND TENSIONING UNTIL THE GEOGRID REINFORCEMENT IS COVERED BY SIX INCHES OF BACKFILL.
5. IF IN ANY CASE DURING CONSTRUCTION THE GEOGRID REINFORCEMENT SHALL OVERLAP DUE TO WALL CURVATURE THE GEOGRID REINFORCEMENT SHALL HAVE 3" OF BACKFILL SEPARATION AT THE OVERLAP.
6. GEOGRID REINFORCEMENT SHALL START AFTER SECOND WALL UNIT COARSE AND BE SPACED AT 2'-0" VERTICALLY.
7. NO GEOGRID REINFORCEMENT SHALL BE PLACED LESS THAN 18" BELOW FINISHED GRADE.

BMP GENERAL NOTES:

THE FOLLOWING REQUIREMENTS ARE TO BE CONSIDERED MINIMUM STANDARDS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR PROVIDING EROSION AND SEDIMENT CONTROL IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL LAWS, CODES AND REGULATIONS. THE CONTRACTOR SHALL OBTAIN AND MAINTAIN AN NPDES PERMIT FOR THE PROPOSED WORK AS REQUIRED BY THE ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (ADEM). BY BIDDING THE PROJECT, THE CONTRACTOR IS CERTIFYING THAT IF AWARDED THE CONTRACT, HE WILL BE THE SOLE PERMITEE ON THIS PERMIT AND THAT HE SHALL INDEMNIFY THE OWNER AGAINST AND SHALL BE SOLELY RESPONSIBLE FOR ANY FINES OR MONETARY DAMAGES ASSOCIATED WITH STORMWATER RUNOFF AND CONTROL.

1. THE CONTRACTOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES (BMP'S) FOR THE PREVENTION AND CONTROL OF NONPOINT SOURCES OF POLLUTANTS DURING AND AFTER PROJECT IMPLEMENTATION. THE CONTRACTOR, AT A MINIMUM, MUST IMPLEMENT BMP'S AS PROVIDED IN THE ALABAMA HANDBOOK FOR EROSION CONTROL, SEDIMENT CONTROL & STORMWATER MANAGEMENT ON CONSTRUCTION SITES & URBAN AREAS, AS AMENDED, AND THE EPA STORMWATER POLLUTION PREVENTION FOR CONSTRUCTION ACTIVITIES-DEVELOPING POLLUTION PREVENTION PLANS AND BEST MANAGEMENT PRACTICES, AS AMENDED. THE EROSION CONTROL DEVICES SHOWN ON THIS PLAN ARE A MINIMUM. ALL REQUIRED EROSION CONTROL DEVICES SHALL BE INSTALLED AT NO ADDITIONAL COST TO THE OWNER AS REQD TO PREVENT SILTATION, EROSION, & OTHER DEGRADATION OR POLLUTION TO SITE OR ADJACENT PROPERTIES, STREAMS, DITCHES, PUBLIC ROADWAYS, ETC.
2. SITE GRADING SHALL BE MAINTAINED SO THAT NO UPSLOPE DRAINAGE ENTERS EXCAVATED OR DISTURBED AREAS.
3. TO THE EXTENT PRACTICAL, THE CONTRACTOR SHALL SCHEDULE HIS ACTIVITIES TO MINIMIZE THE AMOUNT OF AREA DISTURBED AT ANY ONE TIME.
4. ALL STOCKPILE EXCAVATED MATERIAL SHALL BE GRASSED OR COVERED WITHIN 72 HOURS OF STOCKPILING. GRASSING AND FERTILIZATION OF STOCKPILED SOILS SHALL BE AS PER THE ALABAMA HANDBOOK FOR EROSION CONTROL, SEDIMENT CONTROL & STORMWATER MANAGEMENT ON CONSTRUCTION SITES & URBAN AREAS. SEED RATES SPECIFIED IN THE MANUAL SHALL BE DOUBLED.

5. CONTRACTOR SHALL AS A MINIMUM INSPECT STORMWATER CONTROLS ONCE EVERY TWO WEEKS AND FOLLOWING A 1/2" OR GREATER RAINFALL IN ANY 24 HOUR PERIOD. SILT FENCING SHALL ALSO BE CHECKED WHEN WIND GUSTS EXCEED 25 MPH. DEFICIENCIES FOUND IN STORMWATER CONTROLS SHALL BE CORRECTED IMMEDIATELY. THE CONTRACTOR SHALL MAINTAIN A LOG OF ALL INSPECTION ACTIVITIES.

6. THE CONTRACTOR SHALL INSTALL SILT FENCING AS REQUIRED AROUND THE PROJECT PERIMETER PRIOR TO COMMENCING PROJECT. IN THE EVENT THAT THE PROJECT REQUIRES TEMPORARY CHANNELIZATION OF STORMWATER RUNOFF, THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN APPROPRIATE BMP CONTROLS (SETTLING BASINS, CHECK DAMS, ETC.)

7. PERMANENT VEGETATION OF ALL DISTURBED AREAS IS REQUIRED. ONCE ALL LAND DISTURBANCES HAVE CEASED & ALL DISTURBED AREAS ARE PERMANENTLY STABILIZED, EROSION CONTROL DEVICES SHALL BE REMOVED.

8. THE CONTRACTOR SHALL REMOVE ANY SEDIMENT TRACKED ON PUBLIC ROADWAYS/HIGHWAYS IMMEDIATELY. NO TRACKING OF MUD, ETC. ONTO PUBLIC STREETS OR HIGHWAYS WILL BE ALLOWED. WASH DOWN CONSTRUCTION TRAFFIC AS REQUIRED.

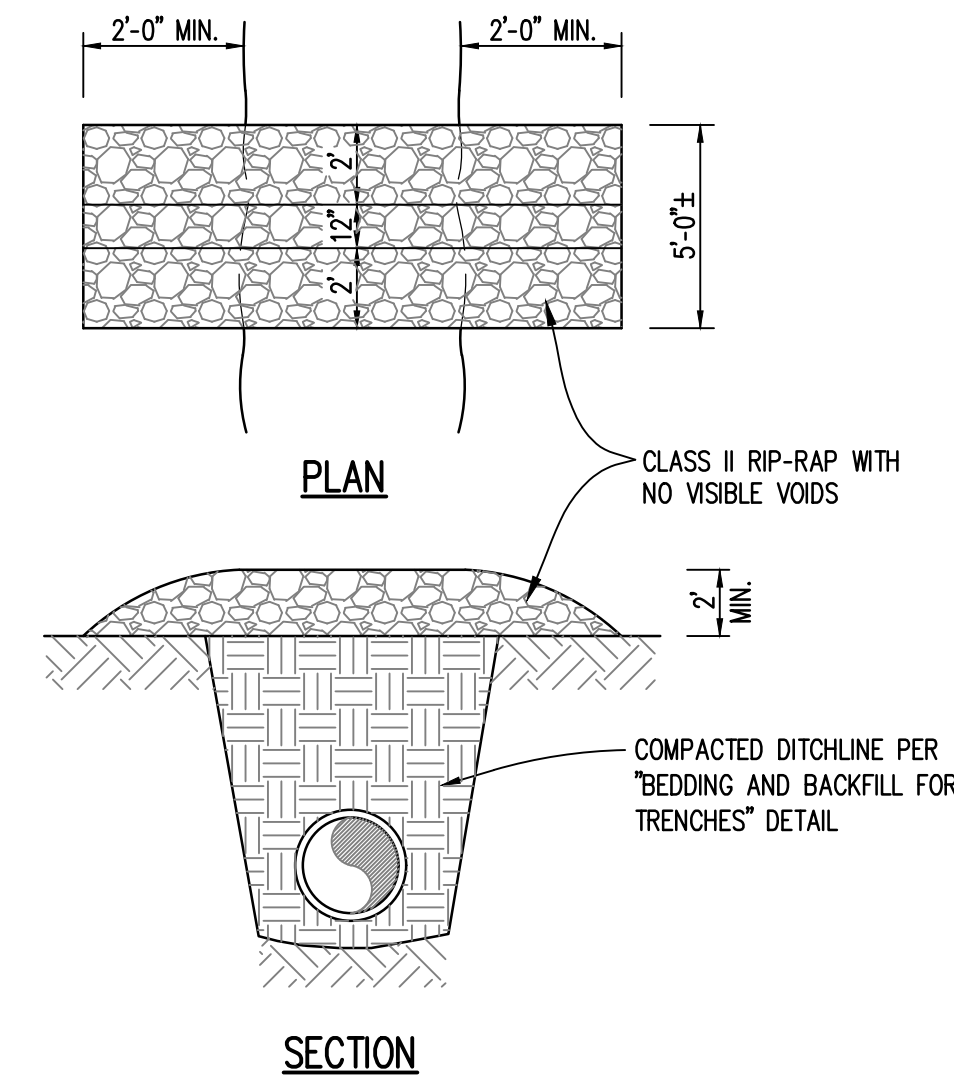
9. ALL DISTURBED AREAS LEFT INACTIVE FOR LONGER THAN 13 DAYS SHALL BE TEMPORARILY GRASSED OR COVERED TO PREVENT EROSION.

10. PERMANENT TURF REINFORCEMENT MATS ARE REQUIRED ON ALL SLOPES 2:1 OR STEEPER, AS WELL AS ALL DITCH LINES & SIDES.

11. BMP MEASURES MAY BE REQUIRED OUTSIDE OF CONSTRUCTION LIMITS AND/OR RIGHTS OF WAY. CONTRACTOR SHALL NOT INSTALL BMP'S BEYOND PROJECT BOUNDARIES.

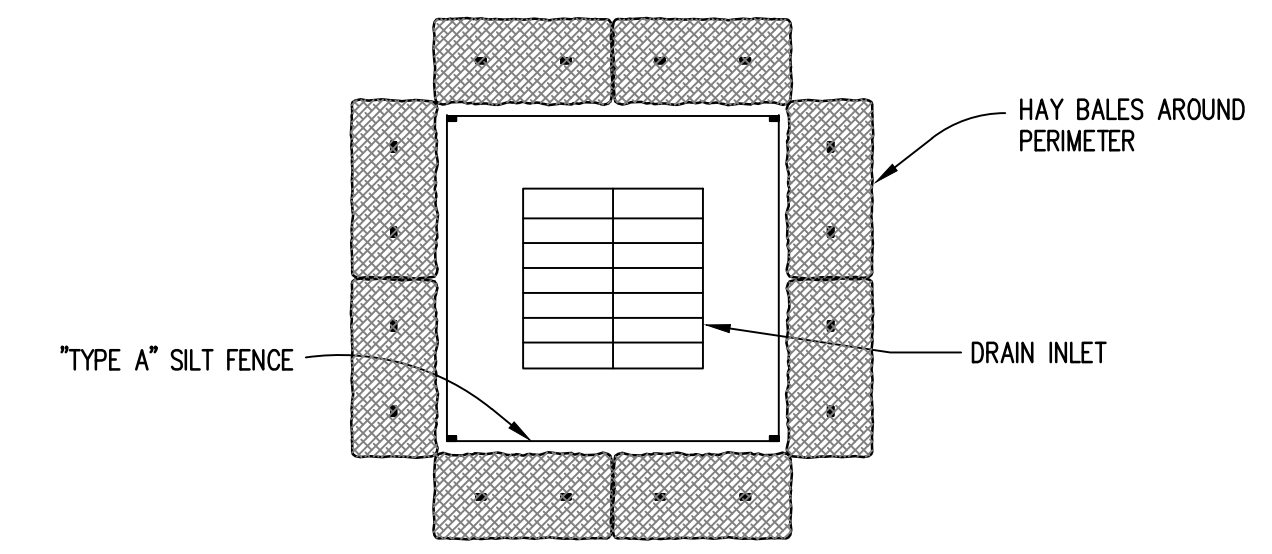
12. CONTRACTOR IS RESPONSIBLE FOR THE RENEWAL OF ALL NPDES PERMITS AS REQUIRED FOR THE PROJECT.

13. THE CONTRACTOR SHALL PERIODICALLY REMOVE ACCUMULATED SEDIMENT AWAY FROM SILT FENCING, HAY BALES, AND ALL OTHER BMP'S AS REQUIRED.



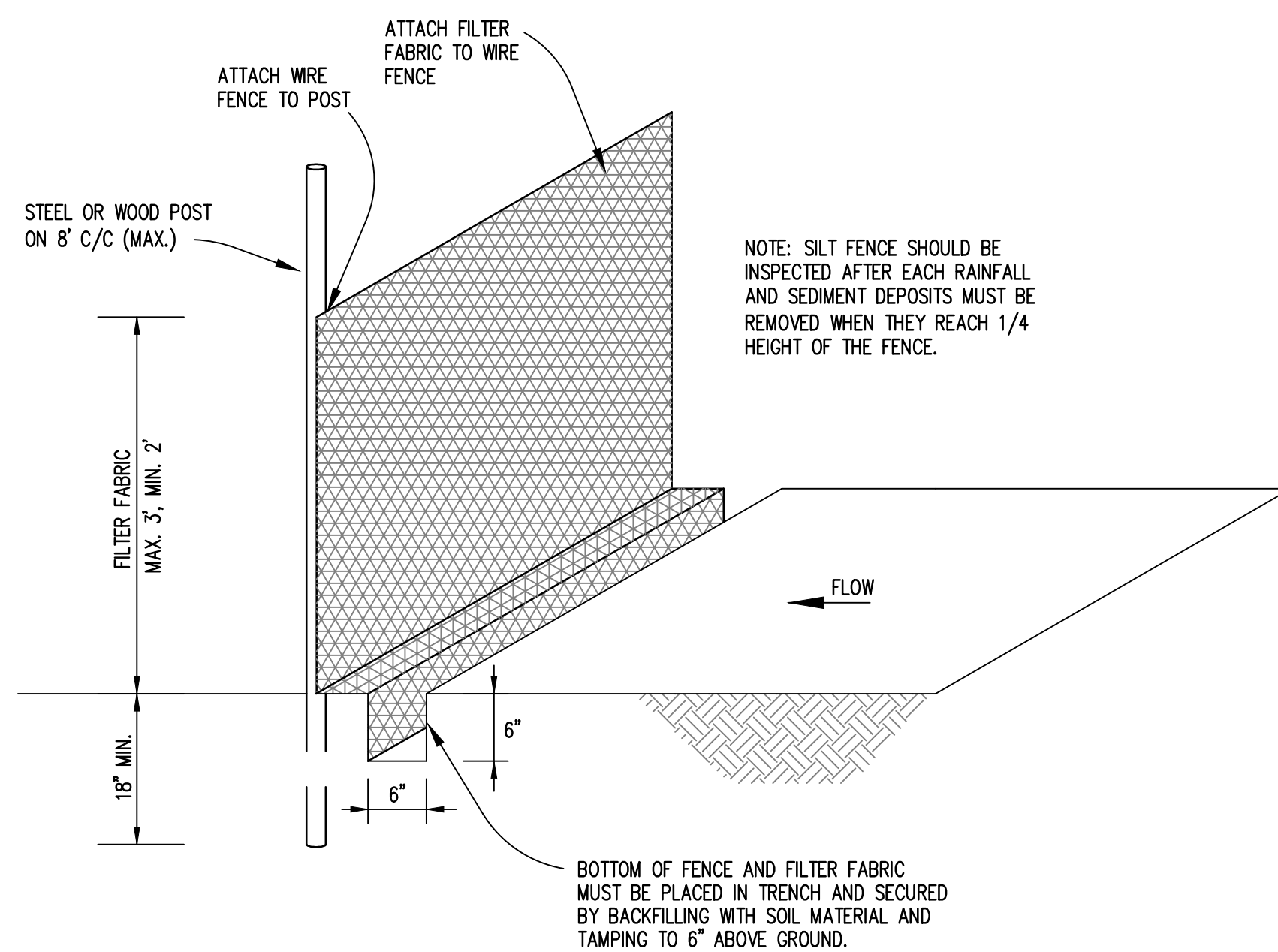
RIP-RAP DITCH CHECK DETAIL

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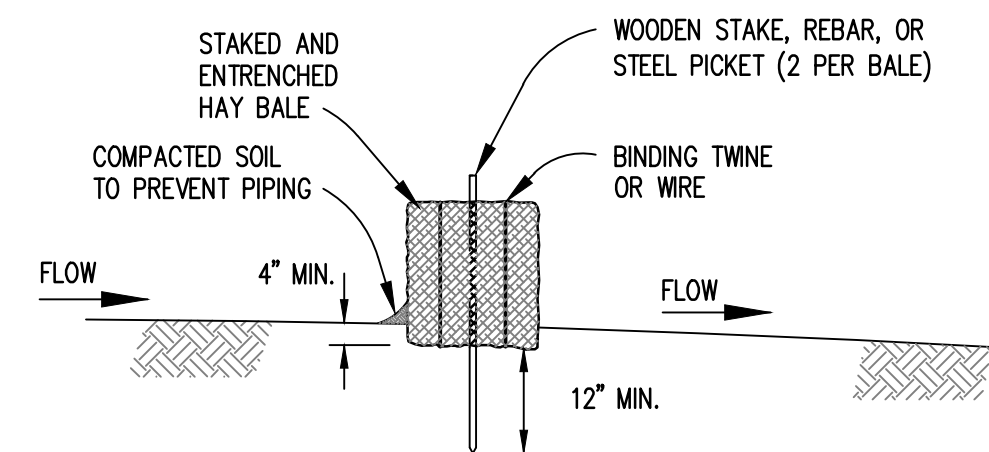
INLET PROTECTION DETAIL

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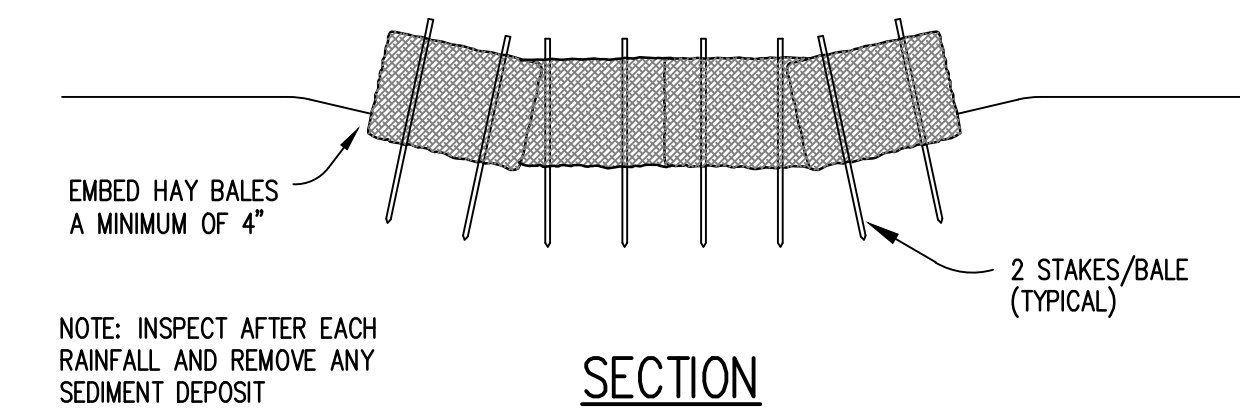
SILT FENCE DETAIL

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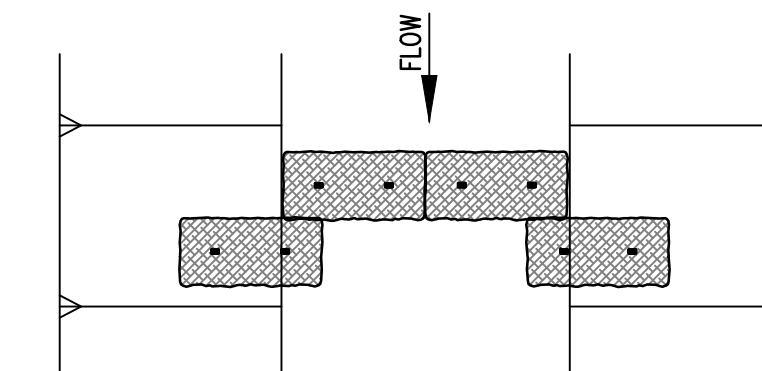
HAY BALE STAKING DETAIL

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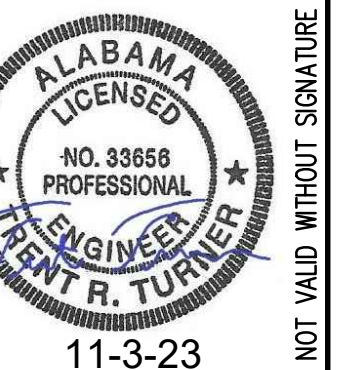
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HAY BALE DITCH CHECK DETAIL

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BMP DETAILS

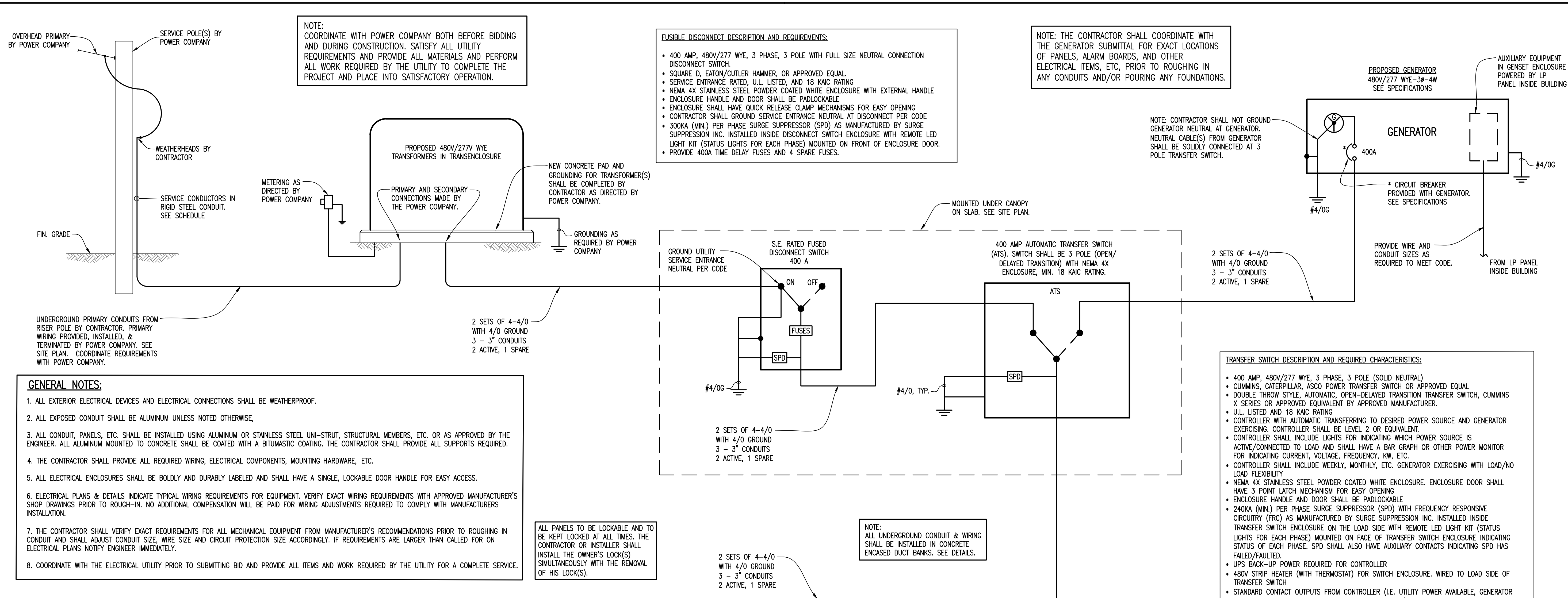
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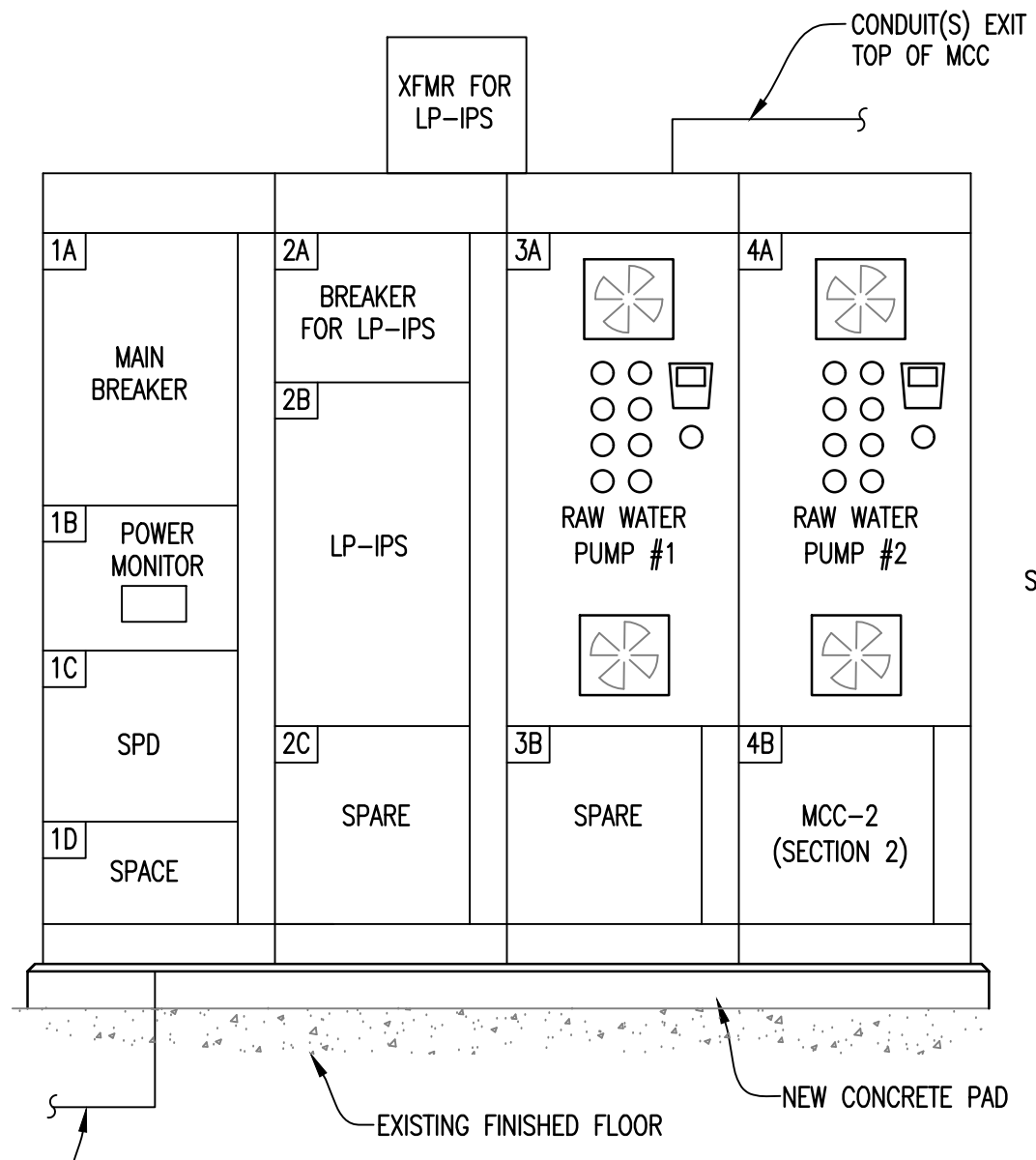
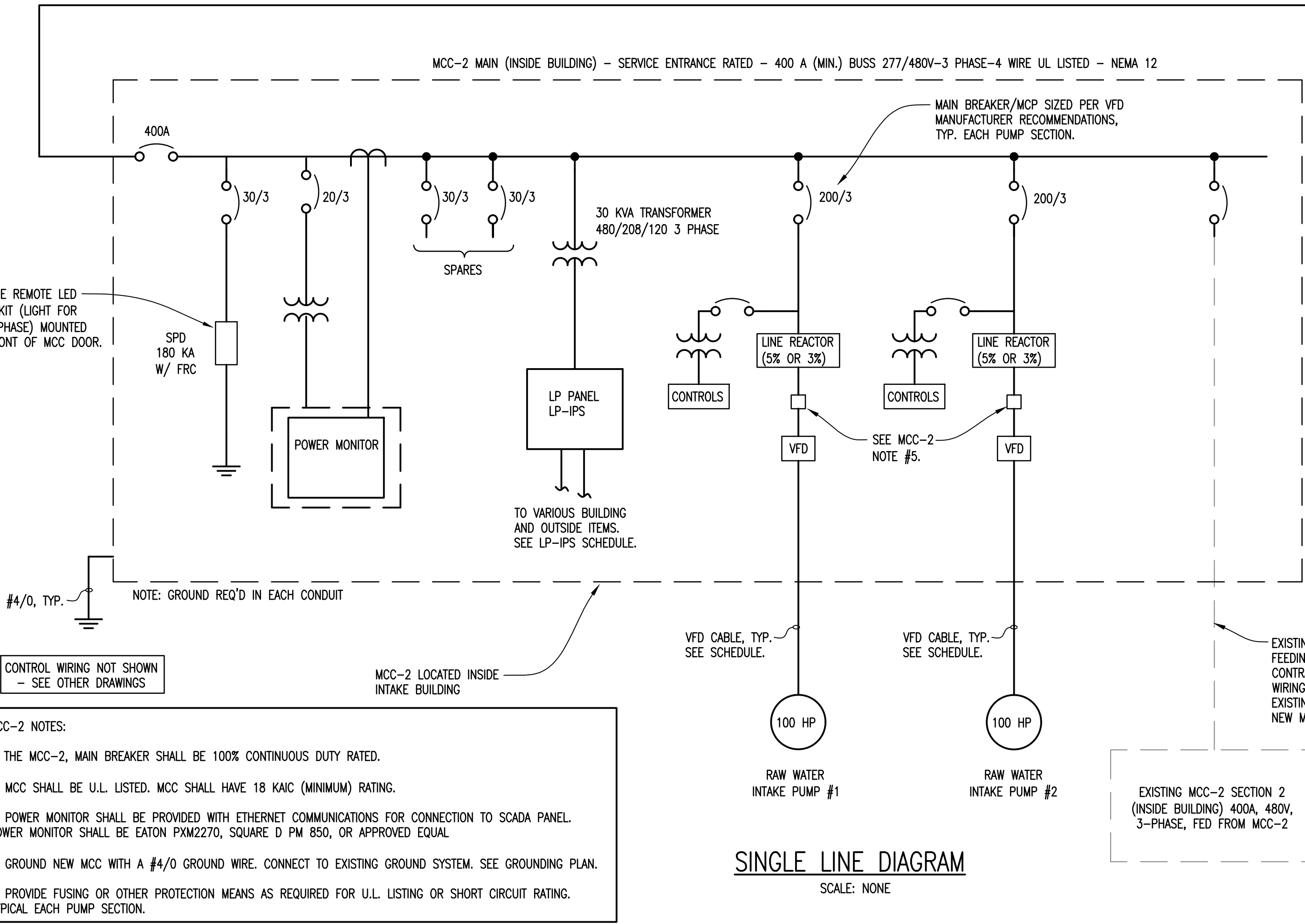
Project No. 11-2023

Date N.T.S.

Sheet 13



- GENERAL NOTES:**
1. ALL EXTERIOR ELECTRICAL DEVICES AND ELECTRICAL CONNECTIONS SHALL BE WEATHERPROOF.
 2. ALL EXPOSED CONDUIT SHALL BE ALUMINUM UNLESS NOTED OTHERWISE.
 3. ALL CONDUIT, PANELS, ETC. SHALL BE INSTALLED USING ALUMINUM OR STAINLESS STEEL UNI-STRUT, STRUCTURAL MEMBERS, ETC. OR AS APPROVED BY THE ENGINEER. ALL ALUMINUM MOUNTED TO CONCRETE SHALL BE COATED WITH A BITUMASTIC COATING. THE CONTRACTOR SHALL PROVIDE ALL SUPPORTS REQUIRED.
 4. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED WIRING, ELECTRICAL COMPONENTS, MOUNTING HARDWARE, ETC.
 5. ALL ELECTRICAL ENCLOSURES SHALL BE BOLDLY AND DURABLY LABELED AND SHALL HAVE A SINGLE, LOCKABLE DOOR HANDLE FOR EASY ACCESS.
 6. ELECTRICAL PLANS & DETAILS INDICATE TYPICAL WIRING REQUIREMENTS FOR EQUIPMENT. VERIFY EXACT WIRING REQUIREMENTS WITH APPROVED MANUFACTURER'S SHOP DRAWINGS PRIOR TO ROUGH-IN. NO ADDITIONAL COMPENSATION WILL BE PAID FOR WIRING ADJUSTMENTS REQUIRED TO COMPLY WITH MANUFACTURERS INSTALLATION.
 7. THE CONTRACTOR SHALL VERIFY EXACT REQUIREMENTS FOR ALL MECHANICAL EQUIPMENT FROM MANUFACTURER'S RECOMMENDATIONS PRIOR TO ROUGHING IN CONDUIT AND SHALL ADJUST CONDUIT SIZE, WIRE SIZE AND CIRCUIT PROTECTION SIZE ACCORDINGLY. IF REQUIREMENTS ARE LARGER THAN CALLED FOR ON ELECTRICAL PLANS NOTIFY ENGINEER IMMEDIATELY.
 8. COORDINATE WITH THE ELECTRICAL UTILITY PRIOR TO SUBMITTING BID AND PROVIDE ALL ITEMS AND WORK REQUIRED BY THE UTILITY FOR A COMPLETE SERVICE.



PANELBOARD SCHEDULE - LP-IPS

PANEL TYPE: SQUARE "D" TYPE NOOD		AIC RATING: 10KAIC (MINIMUM)				
VOLTAGE: 120/208V-3P-4W		MOUNTING: MCC-2 BUCKET				
AMPS & TYPE: 110/3 MAIN BREAKER		LOCATION: INTAKE PUMP STATION				
FED FROM: MCC-2		FEEDER: 4-#2'S & 1-#4G - 2" C				
CKT. NO.	BKR	DESCRIPTION	PHASE	DESCRIPTION	BKR	CKT. NO.
1	20/1	BLDG. LIGHTS	A	SCADA PANEL	20/1	2
3	20/1	BLDG. RECEPTACLES	B	CANOPY LIGHTS/REC.	20/1	4
5	20/1	EXHAUST FAN	C	SPARE	20/1	6
7	60/3	GENERATOR CONTROL/POWER PANEL	A	HEATER	40/2	8
9	-		B		-	10
11	-		C		-	12
13	30/3	SPD DEVICE	A	POWER MONITOR	20/3	14
15	-		B		-	16
17	-		C		-	18
19	30/3	SPARE	A	SPARE	30/3	20
21	-		B		-	22
23	-		C		-	24

- NOTES:**
1. CIRCUIT BREAKERS ARE TO BE PADLOCKABLE.
 2. BALANCE LOADS ACROSS ALL 3 PHASES.
 3. CONTRACTOR SHALL PROVIDE BREAKER SIZES AS REQUIRED FOR EQUIPMENT IT IS FEEDING PER THE NEC CODE. CONTRACTOR SHALL VERIFY ALL.
 4. VERIFY ALL CIRCUIT SIZES BEFORE INSTALLING BREAKERS.
 5. CONTRACTOR SHALL PROVIDE AND INSTALL AS MANY PROPERLY SIZED BREAKERS AS REQUIRED TO COMPLETE REQUIRED IMPROVEMENTS ALONG WITH 1-20A (SINGLE POLE) SPARES.
 6. SURGE PROTECTION DEVICE (SPD) SHALL BE EXTERNALLY MOUNTED ON THE SIDE OF THE PANEL. SPD SHALL BE PROVIDED BY SURGE SUPPRESSION INC.
 7. BREAKER PROVIDED FOR OUTSIDE RECEPTACLE(S) SHALL BE GFPE.
 8. CONTRACTOR SHALL COORDINATE WITH GENERATOR EQUIPMENT AND POWER REQUIRED. PROVIDE PROPERLY SIZED BREAKER AS REQUIRED TO FEED GENERATOR COMPONENTS.

Municipal Consultants, Inc.
200 Parkway Park South, Suite 212
Birmingham, Alabama 35208
(205) 827-0387

SCOTTSBORO WSG BOARD
RUDOLPH JONES WTP
INTAKE PUMP STATION IMPROVEMENTS
2023

LABA
No. 8068
FRANK M. CAIERS
PROFESSIONAL ENGINEER

Title
PROPOSED ELECTRICAL SINGLE LINE AND LAYOUT

Drawing Project No.
11-2023

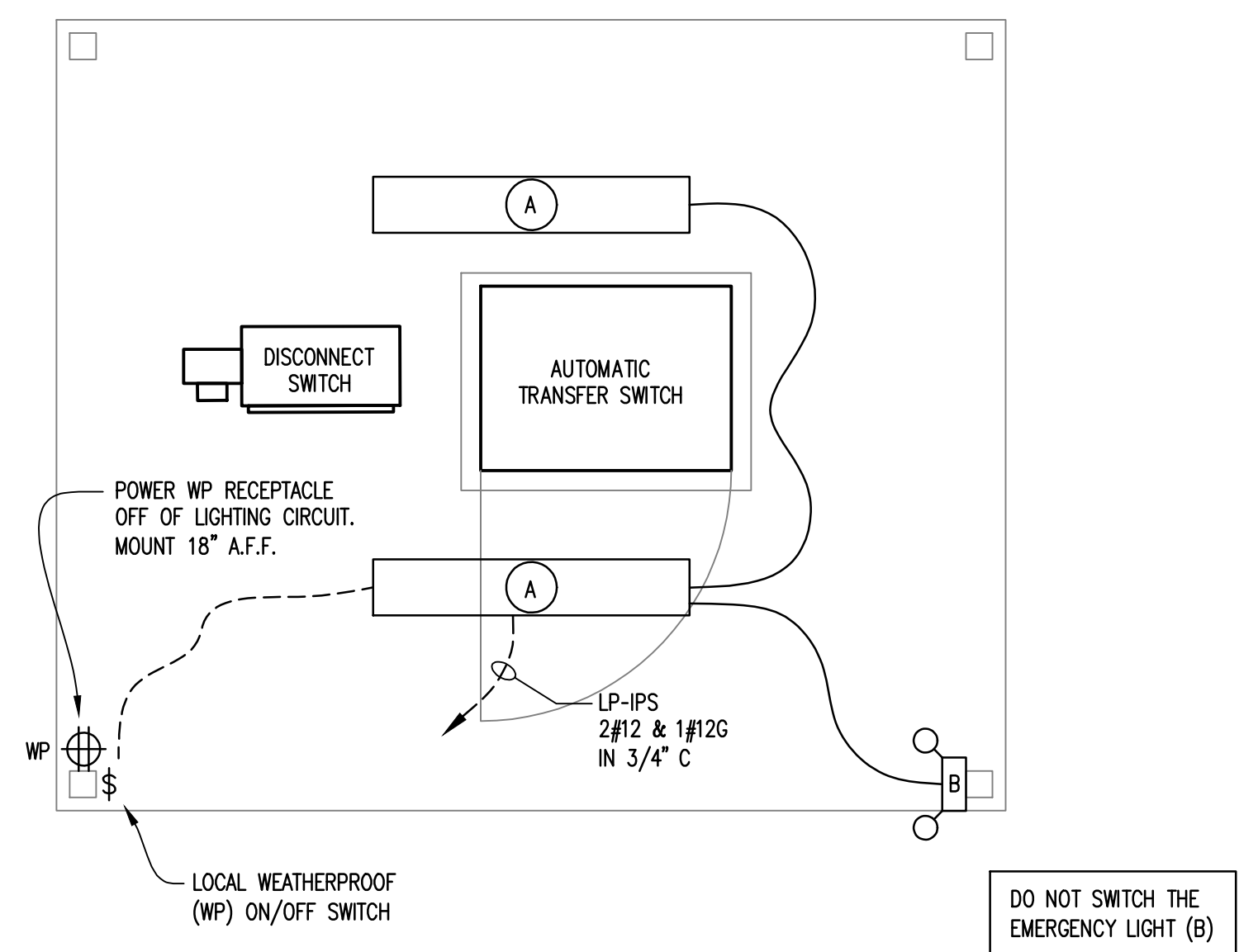
Scale
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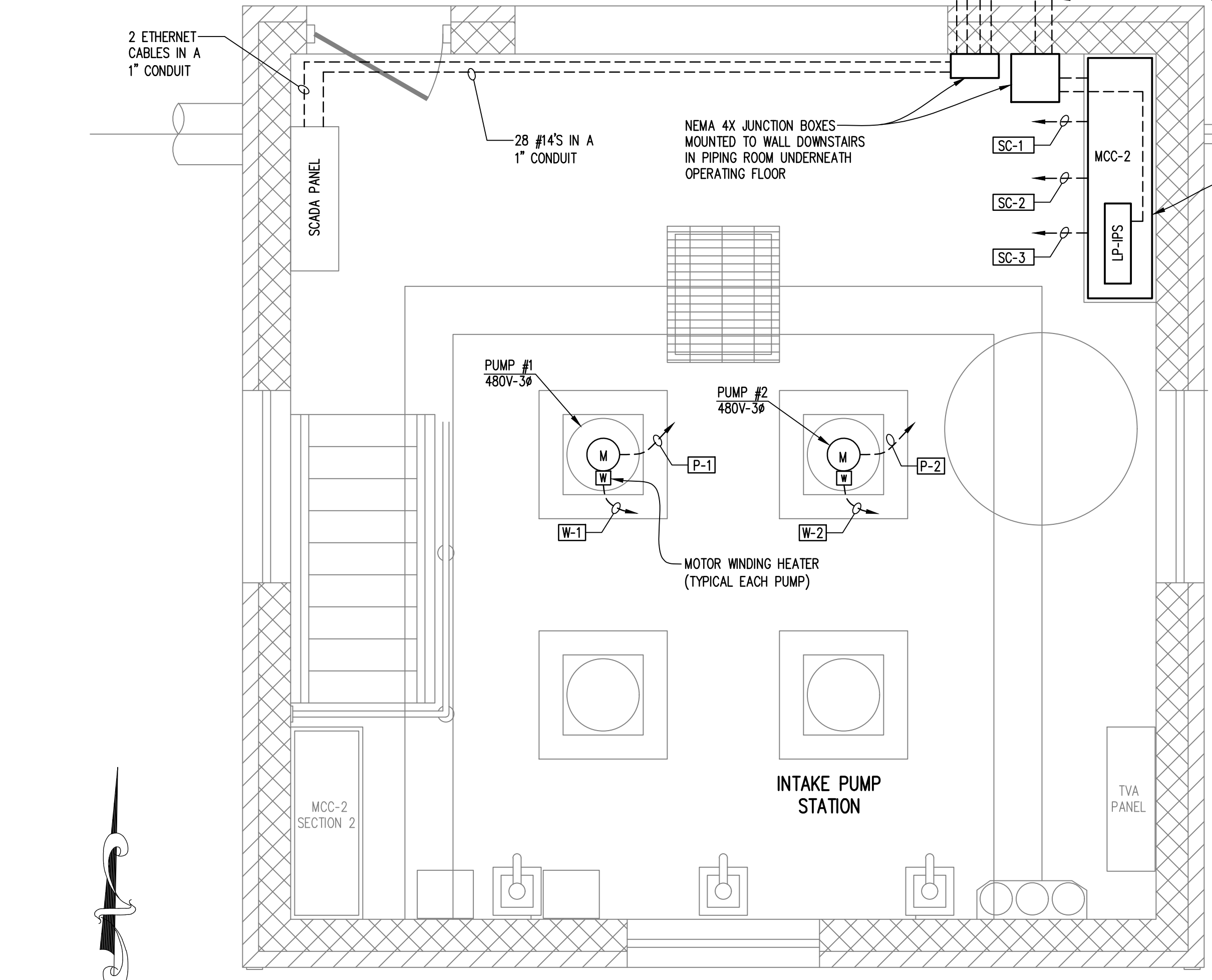
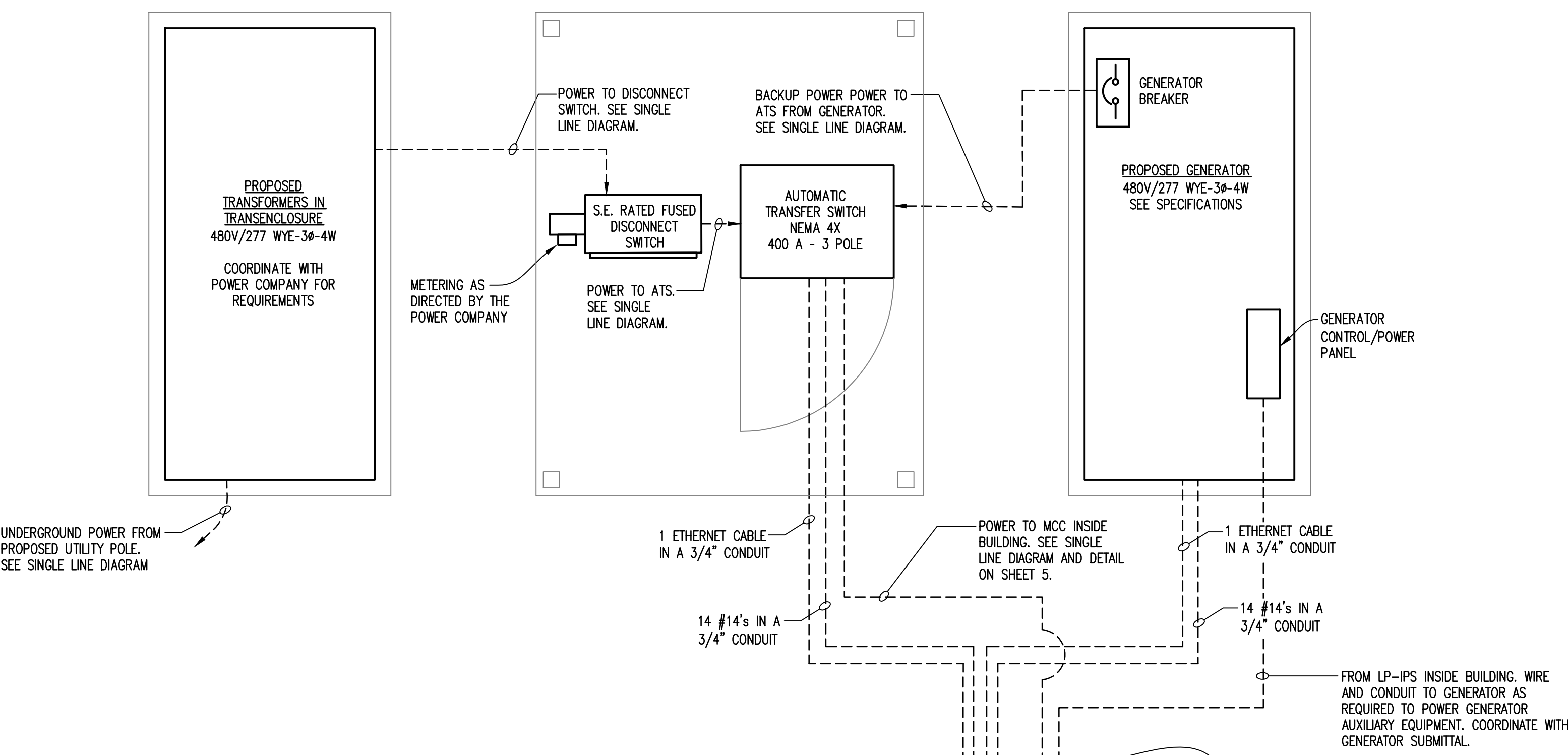
NOTE: COORDINATE WITH POWER COMPANY BOTH BEFORE BIDDING AND DURING CONSTRUCTION. SATISFY ALL UTILITY REQUIREMENTS AND PROVIDE ALL MATERIALS AND PERFORM ALL WORK REQUIRED BY THE UTILITY.

NOTE: THE CONTRACTOR SHALL COORDINATE WITH THE GENERATOR SUBMITTAL FOR EXACT LOCATIONS OF PANELS, ALARM BOARDS, AND OTHER ELECTRICAL ITEMS, ETC. PRIOR TO ROUGHING IN ANY CONDUITS AND/OR POURING ANY FOUNDATIONS.

- GENERAL NOTES:**
- ALL EXTERIOR ELECTRICAL DEVICES AND ELECTRICAL CONNECTIONS SHALL BE WEATHERPROOF.
 - DRAWINGS REFLECT GENERAL ELECTRICAL REQUIREMENTS. CONTRACTOR IS RESPONSIBLE FOR SUPPLYING, GROUNDING, AND INSULATING ALL CONDUITS, WIRING, AND APPURTENANCES NECESSARY FOR A COMPLETELY OPERATIONAL SYSTEM MEETING ALL CODE REQUIREMENTS.
 - COORDINATE LOCATIONS/ROUTES FOR ALL CONDUITS WITH FIELD ENGINEER DURING CONSTRUCTION.
 - ELECTRICAL PLANS & DETAILS INDICATE TYPICAL WIRING REQUIREMENTS FOR EQUIPMENT. VERIFY EXACT WIRING REQUIREMENTS WITH APPROVED MANUFACTURER'S SHOP DRAWINGS PRIOR TO ROUGH-IN. NO ADDITIONAL COMPENSATION WILL BE PAID FOR WIRING ADJUSTMENTS REQUIRED TO COMPLY WITH MANUFACTURER'S INSTALLATION.
 - ALL CONDUITS FOR FUTURE USE SHALL BE STUBBED UP PER THE "CONDUIT FOR FUTURE USE" STANDARD DETAIL.
 - NO CONDUIT OR ELECTRICAL FACILITY OR APPURTENANCE SHALL BE INSTALLED IN A MANNER THAT CREATES A POTENTIAL TRIPPING HAZARD OR AN OBSTRUCTION TO PASSAGE OR HEADROOM, ETC. ABSOLUTELY NO TRIPPING HAZARDS WILL BE ALLOWED.
 - ALL EXPOSED CONDUIT SHALL BE ALUMINUM UNLESS NOTED OTHERWISE. ALL CONDUITS SHALL BE INSTALLED NEAT, PLUMB, LEVEL, ETC. TO THE MAXIMUM EXTENT POSSIBLE. CONDUIT SHALL BE INSTALLED IN A CONCISE AND NEAT MANNER ACCEPTABLE TO OWNER.
 - ALL ATTACHMENT HARDWARE (I.E. BOLTS, NUTS, ANCHOR BOLTS, WASHERS, ETC.) SHALL BE STAINLESS STEEL.
 - NEW CONTROL PANELS, TRANSFORMERS, LIGHTS, SWITCHES, RECEPTACLES, ETC. ARE NOT SHOWN IN EXACT LOCATION. FIELD COORDINATE WITH OWNER AND ENGINEER FOR LOCATIONS.
 - THE CONTRACTOR SHALL VERIFY ALL OF THE INTAKE PUMP STATION DIMENSIONS, ELEVATIONS, ETC. PRIOR TO ORDERING MATERIALS.
 - PROVIDE GFCI RECEPTACLES FOR ALL RECEPTACLES THAT ARE OUTSIDE (INCLUDING THOSE UNDER SHEDS, CANOPY, OR PARTIALLY ENCLOSED AREAS, ETC.), IN WET AREAS, OR IN POTENTIALLY WET AREAS, ETC. ALL SUCH RECEPTACLES SHALL BE WATERPROOF.
 - THE NEW TRANSFER SWITCH SHALL BE INSTALLED ON RAISED CONCRETE PADS. SEE DETAIL. CHAMFER ALL EDGES.
 - THE CONTRACTOR SHALL PROVIDE ALL REQUIRED WIRING, ELECTRICAL COMPONENTS, MOUNTING HARDWARE, ETC.
 - PROVIDE VOLTAGE LABELS, ARC FLASH LABELS, NAMEPLATES, AND ALL OTHER SIGNAGE REQUIRED FOR ALL PANELS, EQUIPMENT, DISCONNECT SWITCHES, ETC. SEE ALL ELECTRICAL NOTES FOR ADDITIONAL SIGNAGE REQUIRED.



LIGHTING AND RECEPTACLE PLAN
SCALE: NTS



NOTE: THE CONTRACTOR SHALL REPOWER EXISTING ELECTRICAL EQUIPMENT USING EXISTING WIRING WHERE POSSIBLE.

ELECTRICAL PLAN
SCALE: 1/2"=1'-0"

- BUILDING ELECTRICAL NOTES:**
- THIS STRUCTURE IS EXISTING. THE CONTRACTOR SHALL BE AWARE THAT ALL PIPING, ELECTRICAL, ELECTRICAL CONDUIT, CONTROL PANELS, HANDRAIL, EQUIPMENT, ETC. MAY NOT BE SHOWN IN PLAN VIEW OR SECTIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY/IDENTIFY ANY CONFLICTS/PROBLEMS WITH THE PROPOSED IMPROVEMENTS AND THE EXISTING MATERIAL AND MAKE ANY ADJUSTMENTS NECESSARY FOR A COMPLETE AND FULLY FUNCTIONAL SYSTEM.
 - THIS DRAWING DOES NOT SHOW ALL OF THE ELECTRICAL, CONDUITS, LIGHTING, GRATING, SUPPORTS, PIPING, HVAC, MECHANICAL, EQUIPMENT, ETC. THROUGHOUT THE STRUCTURE OR BUILDING. CONTRACTOR SHALL REMOVE/REPLACE, REROUTE, ETC. ANY ITEMS THAT CONFLICT WITH THE PROPOSED ITEMS TO BE INSTALLED.
 - THE CONTRACTOR SHALL INSTALL ALL CONDUIT AS SHOWN AND REQUIRED. THE CONTRACTOR SHALL PENETRATE ALL WALLS, FLOORS, SLABS, ETC. REQUIRED TO INSTALL CONDUIT. CONTRACTOR SHALL SEAL FLOOR PENETRATIONS WITH LINK SEALS AND WALL PENETRATIONS WITH NON SHRINK GROUT OR CAULK MATCHING MORTAR AND CEMENT COLOR.
 - THE CONDUIT PATHS SHOWN ARE CONCEPTUAL ONLY. THE CONTRACTOR SHALL INSTALL CONDUITS AROUND ALL EXISTING UTILITIES, PIPING, ETC. THE CONTRACTOR SHALL ROUTE CONDUITS AS NECESSARY. COORDINATE WITH THE OWNER/ENGINEER.
 - ALL EXISTING ELECTRICAL ITEMS INSIDE AND OUTSIDE THE BUILDING ARE CURRENTLY POWERED FROM THE EXISTING MCC SECTIONS. ONCE NEW MCC-2 SECTION IS REPLACED, THE CONTRACTOR SHALL REPOWER ALL EXISTING ITEMS. THE CONTRACTOR WILL BE ALLOWED TO USE AND REUSE ALL EXISTING WIRING AND CONDUIT THROUGHOUT THE STRUCTURE AS PRACTICAL. CONTRACTOR SHALL PROVIDE NEW CONDUIT AND WIRING FOR ALL IMPROVEMENTS SHOWN.
 - THE JUNCTION BOXES PROVIDED FOR POWER AND SCADA SHALL BE STAINLESS STEEL NEMA 4X RATED. THE BOXES SHALL BE SIZED TO HANDLE ALL CABLES, WIRES, TERMINATIONS, ETC. WITHIN THE BOX WITH ADDITIONAL SPACE. COORDINATE BOX SIZE WITH ENGINEER DURING SUBMITTALS.
 - THE CONTRACTOR SHALL REMOVE AND REPLACE THE EXISTING MCC-2 (INCOMING SECTION) WITH NEW MCC SECTION AS REQUIRED HEREIN. SEE PROJECT COORDINATION REQUIREMENTS FOR REMOVAL AND INSTALLATION SEQUENCE.
 - CONDUIT FOR NEW PUMPS FROM MCC SHALL BE RUN BELOW OPERATING FLOOR AND EXTEND THROUGH SLAB AT PUMPS AND MCC. CONDUIT SHALL BE MOUNTED TO OR SUPPORTED FROM SLAB. CONTRACTOR SHALL COORDINATE EXACT LOCATION FOR PUMP CONDUIT AND FLOOR PENETRATIONS WITH ENGINEER. PROVIDE ALL HANGERS, SUPPORTS, ETC.
 - ALL EXPOSED CONDUIT SHALL BE ALUMINUM UNLESS NOTED OTHERWISE
 - THE CONTRACTOR SHALL GRIND ALL UNUSED ANCHOR BOLTS BELOW THE SURFACE OF THE CONCRETE TO PREVENT TRIPPING HAZARDS.
 - ALL CONDUIT, PANELS, ETC. SHALL BE INSTALLED USING ALUMINUM OR STAINLESS STEEL UNI-STRUT, STRUCTURAL MEMBERS, ETC. OR AS APPROVED BY THE ENGINEER. ALL ALUMINUM MOUNTED TO CONCRETE SHALL BE COATED WITH A BITUMASTIC COATING. THE CONTRACTOR SHALL PROVIDE ALL SUPPORTS REQUIRED.
 - CONTRACTOR SHALL DEMOLISH AND REMOVE ALL EXISTING UNUSED CONDUIT, BOXES, WIRE, ETC. FROM EXTERIOR AND INTERIOR BUILDING WALLS THAT ARE NO LONGER IN USE ONCE IMPROVEMENTS ARE COMPLETE. PROPERLY SEAL ALL WALL AND FLOOR PENETRATIONS FROM REMOVED CONDUITS.
 - FOR ALL ELECTRICAL EQUIPMENT AND COMPONENTS REMOVED, THE OWNER RETAINS THE OPTION TO KEEP ALL ITEMS REMOVED. SEE DEMOLITION NOTES.

LIGHTING FIXTURE SCHEDULE									
MARK	FIXTURE MFG	CATALOG NO.	LAMPS			MOUNTING HEIGHT	MOUNTING TYPE	REMARKS	
			NO./FIX	WATTS-LUMENS	TYPE				
A	LITHONIA	VAP-4000LM-PCL-WD-120-50K-STSL	MULTI	4000 LUMENS	LED	CANOPY OR AS DIR.	OUTLET BOX	120V	
B	LITHONIA	INDX1254-LT24LED	2	5 WATTS	LED	CANOPY POLE (9' A.F.F.)	POLE MOUNT	EMERGENCY LIGHT	

PARTIAL CONDUIT AND WIRING SCHEDULE						
MARK	FROM	TO	CONDUIT	WIRING	REMARKS	
	SERVICE POLE	TRANSFORMER			POWER, SEE SINGLE LINE	
	TRANSFORMER	DISCONNECT SWITCH			POWER, SEE SINGLE LINE	
	DISCONNECT SWITCH	AUTOMATIC TRANSFER SWITCH			POWER, SEE SINGLE LINE	
	GENERATOR BREAKER	AUTOMATIC TRANSFER SWITCH			POWER, SEE SINGLE LINE	
	AUTOMATIC TRANSFER SWITCH	MCC			POWER, SEE SINGLE LINE	
	LP-IPS	GENERATOR CONTROL/POWER PANEL			POWER, SEE ELECTRICAL PLAN	
	LP-IPS	CANOPY LIGHTS/RECEPTACLES			POWER, SEE LIGHTING AND RECEPTACLE PLAN	
P-1	MCC-2	PUMP #1	2 1/2"	3C #1 W/G SHD VFD CABLE	POWER	
W-1	MCC-2	PUMP #1	2 1/2"	2 #12S & 1-#12 GROUND	MOTOR WINDING HEATER	
P-2	MCC-2	PUMP #2	2 1/2"	3C #1 W/G SHD VFD CABLE	POWER	
W-2	MCC-2	PUMP #2	2 1/2"	2 #12S & 1-#12 GROUND	MOTOR WINDING HEATER	
SC-1	MCC-2	SCADA PANEL	3/4"	12 #14'S	PUMP #1 & #2 I/O AND CONTROLS	
SC-2	MCC-2	SCADA PANEL	3/4"	12 #14'S	PUMP #1 & #2 I/O AND CONTROLS	
SC-3	MCC-2	SCADA PANEL	1"	2 - #16 TSP CABLES	PUMP #1 AND #2 SPEED CONTROLS	
	GENERATOR	SCADA PANEL			SCADA I/O CONTROLS, SEE ELECTRICAL PLAN	
	AUTOMATIC TRANSFER SWITCH	SCADA PANEL			SCADA I/O CONTROLS, SEE ELECTRICAL PLAN	
	GENERATOR	AUTOMATIC TRANSFER SWITCH	3/4"	10 #14'S	CONTROLS	

- NOTES:**
- ALL MARKS INDICATE HOMERUN REQUIRED TO RESPECTIVE PANELS, SEE SCHEDULE. NOT ALL MARKS OR CIRCUITS ARE SHOWN.
 - THE SCADA PANEL IS EXISTING. CONTRACTOR TO MODIFY SCADA PANEL AND PROGRAMMING AS REQUIRED. SEE SCADA REQUIREMENTS.
 - THE SPARE CONDUIT FROM THE ATS/GENERATOR SHALL PENETRATE THE INTAKE BUILDING WALL BELOW THE OPERATING FLOOR AND TERMINATE IN BOX. PROPERLY LABEL CONDUIT.
 - CONDUCTORS TO SCADA PANEL MAY BE COMBINED AS ALLOWED BY NEC CODE TO LOWER CONDUIT RUNS. COORDINATE WITH THE ENGINEER.
 - CONTRACTOR SHALL COORDINATE EXACT LOCATION FOR PUMP CONDUIT AND FLOOR PENETRATIONS WITH ENGINEER. CONDUIT FOR PUMPS FROM MCC SHALL BE RUN BELOW OPERATING FLOOR AND EXTEND THROUGH SLAB AT PUMPS. CONDUIT AND/OR BOXES SHALL NOT INTERFERE WITH THE EXISTING MONORAIL SYSTEM. PROVIDE ALL HANGERS, SUPPORTS, ETC.
 - NOT ALL CONDUIT AND CONDUCTORS ARE SHOWN. PROVIDE CONDUCTORS, CONDUITS, TERMINATIONS, JUNCTION BOXES, ETC. AS REQUIRED BY NEC, THE EQUIPMENT SUPPLIED, AND AS REQUIRED FOR A COMPLETE INSTALLATION.
 - COORDINATE WITH EQUIPMENT I/O REQUIREMENT.

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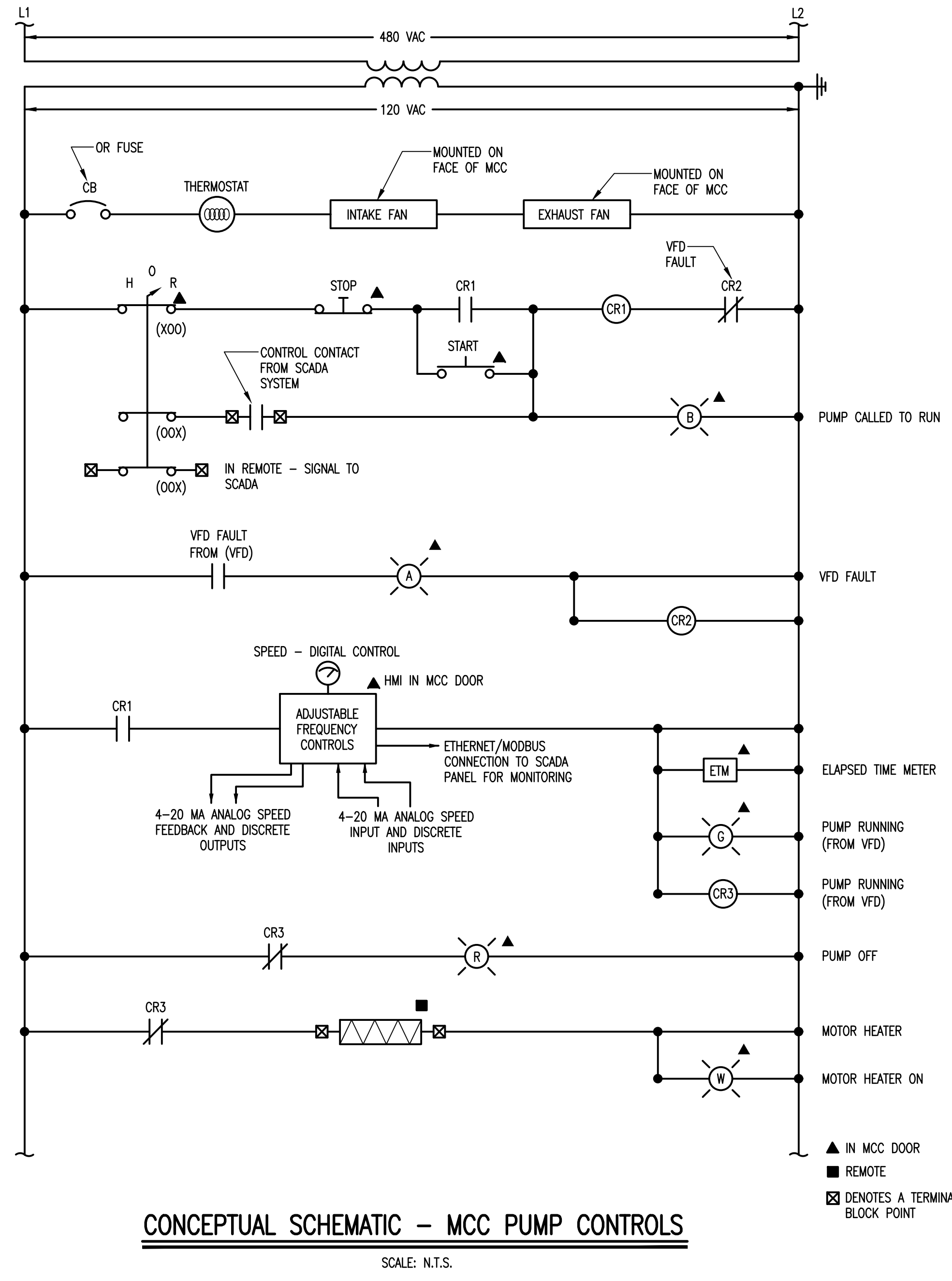
SCOTTSBORO WSG BOARD
RUDOLPH JONES WTP
INTAKE PUMP STATION IMPROVEMENTS

2023



BAR = 1"

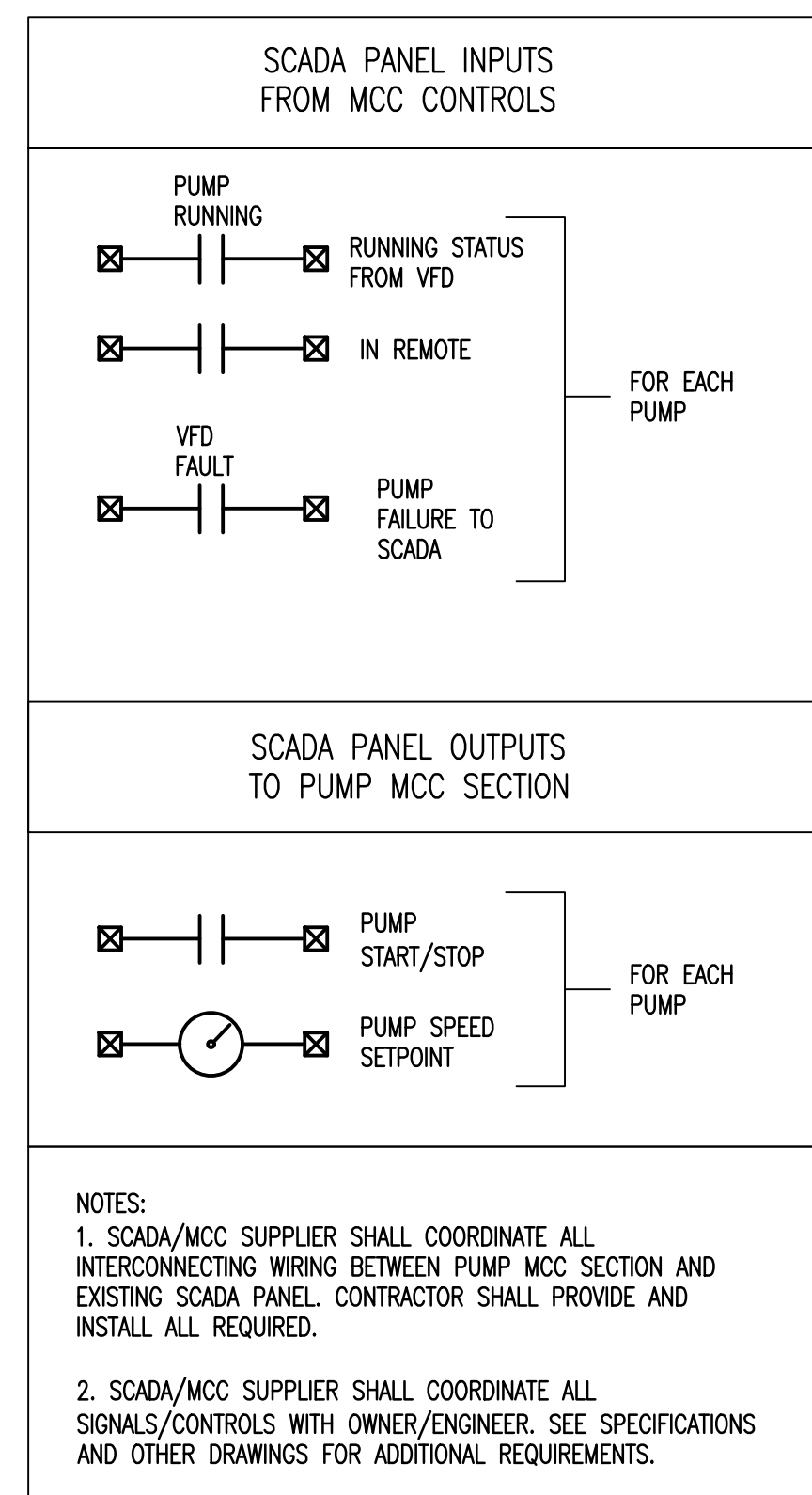
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Project No.	11-2023		
Date	1/2"=1'		
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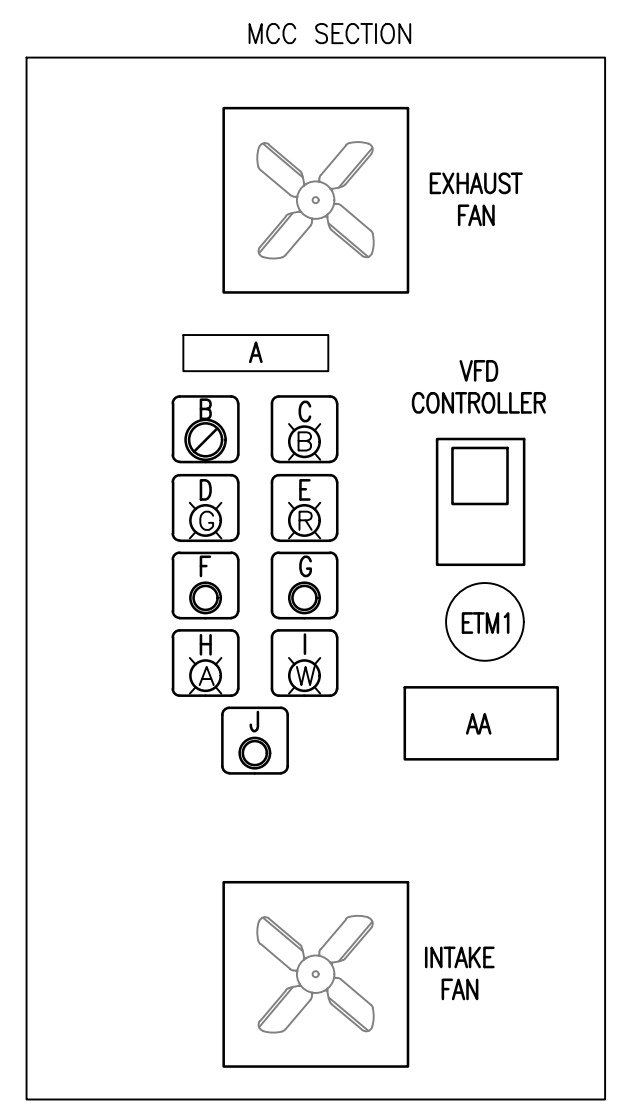
CONCEPTUAL SCHEMATIC - MCC PUMP CONTROLS
SCALE: N.T.S.

EACH MCC BUCKET DOOR SHALL HAVE A SINGLE LAMP TEST BUTTON FOR TESTING ALL INDICATOR LIGHTS SIMULTANEOUSLY.

- NOTES:**
- THE FINAL DESIGN OF THE PUMP CONTROL MCC SECTION IS SOLELY THE RESPONSIBILITY OF THE MANUFACTURER. MODIFY THE SCHEMATIC AND ASSOCIATED WIRING AS REQUIRED TO COMPLY WITH ALL APPLICABLE CODES AND UL REQUIREMENTS AND FOR THE PROPER OPERATION AND CONTROL OF THE SPECIFIC EQUIPMENT PROVIDED TO AVOID NUISANCE ALARMS, TRIPS, ETC.
 - MCC MANUFACTURER SHALL REFERENCE ALL OTHER ELECTRICAL SHEETS ASSOCIATED WITH THE PUMPING STATION FOR PERTINENT INFORMATION AFFECTING THE DESIGN OF THE PUMP CONTROLS.
 - TIMERS (AS REQUIRED) SHOULD BE OMRON MULTIRANGED.
 - MOTORS AND VFD'S SHALL BE CONNECTED PER MANUFACTURER'S RECOMMENDATIONS.
 - ALL WIRING AND COMPONENTS TO MEET THE NATIONAL ELECTRIC CODE AND INDUSTRY STANDARD.
 - ALL POWER WIRING-BLACK. ALL CONTROL WIRING-RED. NO POWER WIRE LESS THAN #12 GAUGE.
 - ALL WIRES TO BE NUMBERED AND SAME NUMBER TO BE ON BOTH ENDS OF SAME WIRE. ALL COMPONENTS ON PANEL FRONT TO HAVE ENGRAVED NAME PLATE AS TO FUNCTION. NO REFERENCE NUMBERS WILL BE ALLOWED.
 - ALL MOTOR CONTROL CENTERS TO BE UL APPROVED.
 - SHOP DRAWINGS SHALL BE APPROVED BEFORE MCC/PANEL MANUFACTURE.
 - LAMINATED CONTROL SCHEMATIC TO BE PROVIDED AND STORED IN DOOR.
 - DRAWINGS REFLECT GENERAL ELECTRICAL AND CONTROL REQUIREMENTS. CONTRACTOR AND MCC/PANEL MANUFACTURER ARE RESPONSIBLE FOR SUPPLYING AND INSTALLING ALL CONDUITS, WIRING, AND APPURTENANCES NECESSARY FOR A COMPLETELY OPERATIONAL SYSTEM.



- NOTES:**
- SCADA/MCC SUPPLIER SHALL COORDINATE ALL INTERCONNECTING WIRING BETWEEN PUMP MCC SECTION AND EXISTING SCADA PANEL. CONTRACTOR SHALL PROVIDE AND INSTALL ALL REQUIRED.
 - SCADA/MCC SUPPLIER SHALL COORDINATE ALL SIGNALS/CONTROLS WITH OWNER/ENGINEER. SEE SPECIFICATIONS AND OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS.

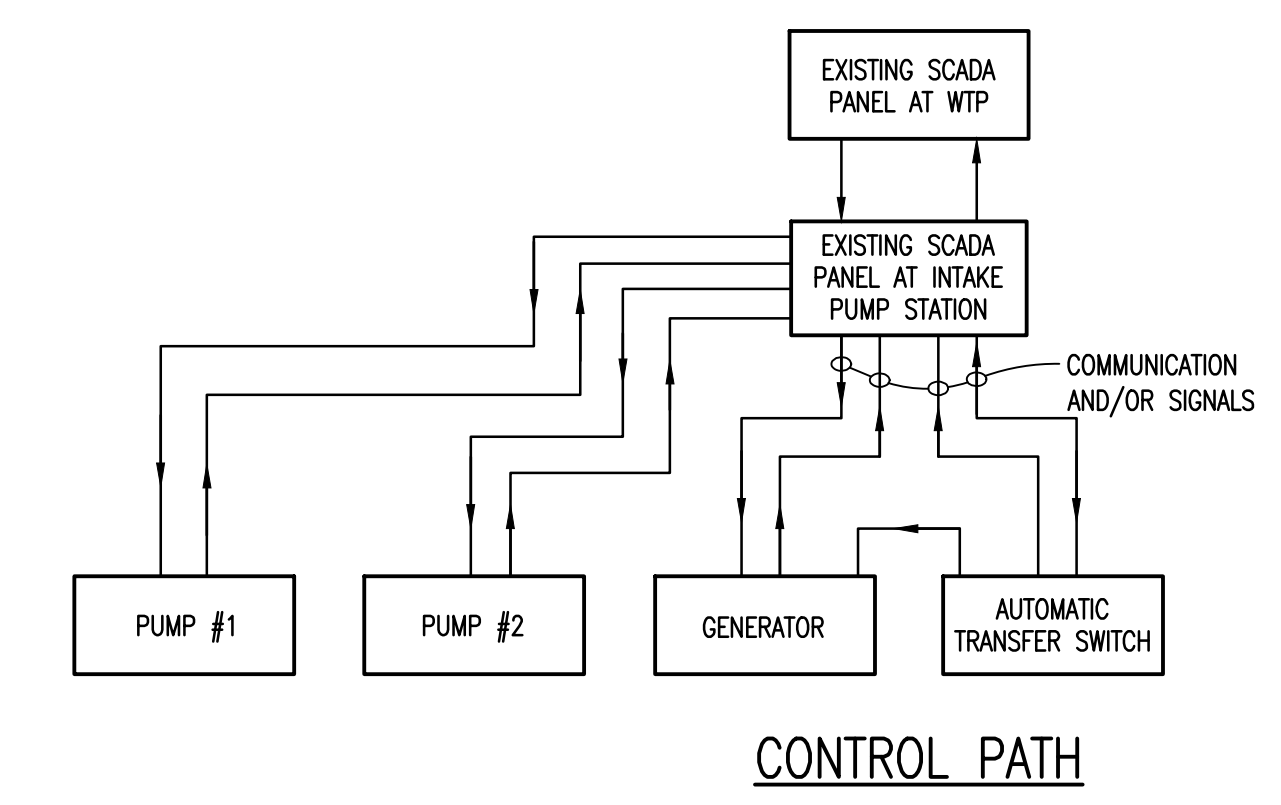


MCC - PUMP CONTROL LAYOUT
SCALE: N.T.S.

ENGRAVING SCHEDULE	
I.D.	WORDING
A	PUMP NO. 1 OR PUMP NO. 2
B	HAND - OFF - REMOTE
C	PUMP CALLED TO RUN
D	RUNNING
E	OFF
F	START
G	STOP
H	VFD FAULT
I	MOTOR HEATER ON
J	TEST
AA	WARNING: EQUIPMENT STARTS AUTOMATICALLY. DISABLE REMOTE CAPABILITY PRIOR TO SERVICING EQUIPMENT

SCADA AND CONTROL NOTES AND REQUIREMENTS:

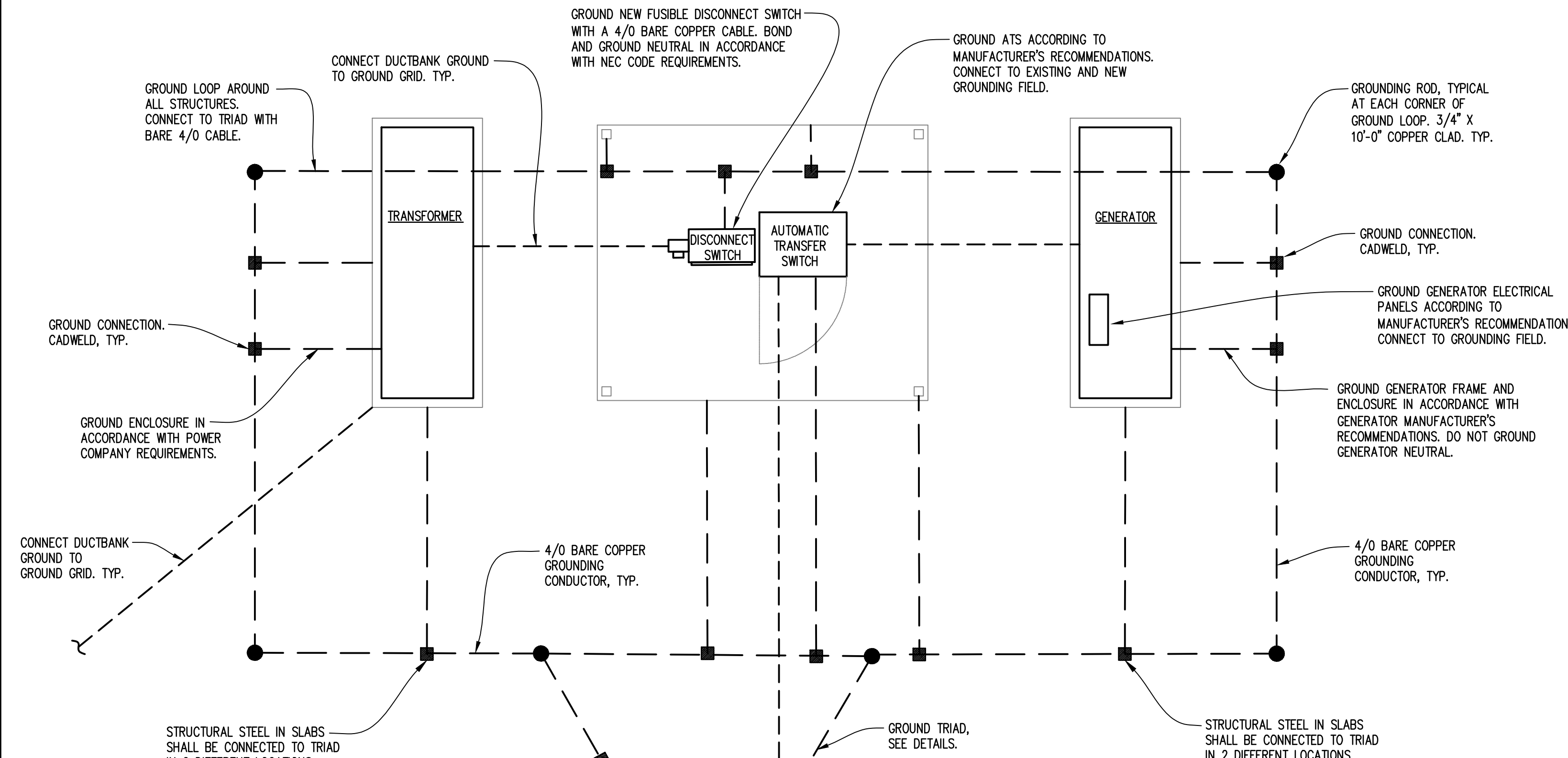
- THE CURRENT SCADA SUPPLIER IS DEXTER FORTSON ASSOCIATES (DFA). THE CONTRACTOR SHALL CONTRACT WITH DFA TO PROVIDE ALL NECESSARY COMPONENTS, PROGRAMMING, ANTENNAS, ETC. TO FULLY INCORPORATE ALL REQUIRED SIGNALS/ALARMS INTO EXISTING SCADA SYSTEM. THE SCADA SUPPLIER SHALL PROVIDE NEW DISPLAY SCREENS, ALARM TAGS, PROGRAM BUTTONS, ETC. AS REQUIRED BY THE OWNER DURING CONSTRUCTION.
- SEE SCADA AND CONTROLS I/O TABLE FOR REQUIRED CONTACT INPUTS/OUTPUTS TO BE TERMINATED INSIDE GENERATOR AND/OR TRANSFER SWITCH.
- THE CONTRACTOR/SCADA SUPPLIER SHALL INCORPORATE ALL OF THE SIGNALS SHOWN IN THE SCADA AND CONTROL I/O TABLE INTO THE EXISTING SCADA PANEL AND SYSTEM UNDER THIS CONTRACT. THE CONTRACTOR/SCADA SUPPLIER SHALL MODIFY THE EXISTING SCADA PANEL AND PROGRAMMING AS REQUIRED TO INCORPORATE NEW SCADA I/O INDICATED. CONTRACTOR SHALL PROVIDE ALL SCADA COMPONENTS, EQUIPMENT, ETC. REQUIRED TO COMPLETE THE WORK REQUIRED.
- THE CONTRACTOR/SCADA SUPPLIER SHALL INCORPORATE AND TERMINATE THE COMMUNICATION CABLES EXTENDING FROM THE ATS AND THE GENERATOR IN THE SCADA PANEL. THE SCADA SUPPLIER SHALL TRANSMIT ALL INFORMATION FROM COMMUNICATIONS TO THE WTP. CONTRACTOR SHALL COORDINATE WITH THE OWNER/ENGINEER TO DETERMINE WHAT INFORMATION WILL BE DISPLAYED FROM ATS AND GENERATOR DURING CONSTRUCTION.
- THE SCADA PANEL AND/OR GENERATOR AND/OR ATS SHALL SUPPLY POWER TO REMOTE DRY CONTACTS AS REQUIRED. CONTRACTOR SHALL VERIFY POWER SOURCES FOR ALL DRY CONTACTS AND OTHER SIGNALS SHALL BE PROPERLY COORDINATED DURING SUBMITTALS.
- CONTRACTOR SHALL VERIFY ALL NEEDED INFORMATION REGARDING EXISTING SCADA PANEL REQUIRED TO COMPLETE IMPROVEMENTS AND REQUIRED WORK. THIS SHALL BE DONE PRIOR TO BIDDING. THE CONTRACTOR SHALL INCLUDE ANY AND ALL COSTS FOR ADDITIONAL EQUIPMENT, WIRES, BOXES, PROGRAMMING, ETC. INTO BID PRICE FOR A COMPLETE PROJECT. NO ADDITIONAL MONEY WILL BE GRANTED DURING CONSTRUCTION FOR FAILING TO DO THIS.
- CONTRACTOR/SCADA SUPPLIER SHALL PROVIDE ALL NECESSARY SCADA COMPONENTS, EQUIPMENT, BOXES, WIRES, ANTENNAS, I/O TERMINAL CARDS, PLC'S, ETC. REQUIRED TO FULLY INCORPORATE ALL SIGNALS/ALARMS INTO EXISTING SCADA SYSTEM AND COMPLETE THE WORK REQUIRED.
- THE SCADA SUPPLIER SHALL PERFORM ALL PROGRAMMING FOR SCADA OPERATIONS AT THE WTP EXISTING CONTROL COMPUTER AS REQUIRED. ALL ALARMS SHALL BE INCORPORATED/DISPLAYED INTO THE EXISTING ALARM SYSTEM TO DISPLAY ON SCREENS AND ANNUNCIATE AS REQUIRED. COORDINATE WITH THE OWNER/ENGINEER DURING CONSTRUCTION FOR PREFERENCES/REQUIREMENTS.
- CHANGES TO SCADA SYSTEM SHOULD BE COORDINATED WITH THE OWNER/ENGINEER FOR SEQUENCING.
- THE NEW AUTOMATIC TRANSFER SWITCH SHALL BE CONNECTED TO THE GENERATOR SUCH THAT THE ATS WILL START THE GENERATOR DURING A POWER OUTAGE AND ITS WEEKLY EXERCISING. THE CONTRACTOR SHALL MAKE ALL WIRE CONNECTIONS AND PROVIDE ALL REQUIRED COMPONENTS AS REQUIRED.
- THERE ARE SPARE WIRES REQUIRED THAT EXTEND FROM THE GENERATOR AND/OR THE ATS TO THE EXISTING SCADA PANEL. DURING CONSTRUCTION, THE OWNER MAY ADD ADDITIONAL SIGNALS/ALARMS (UP TO 8) USING THE SPARE WIRES. THE CONTRACTOR AND/OR SCADA SUPPLIER SHALL PROVIDE TERMINATIONS, CONNECTIONS, PROGRAMMING, ETC. TO INCORPORATE THESE ADDITIONAL SIGNALS/ALARMS (IF ANY) IDENTIFIED BY THE OWNER INTO THE SCADA SYSTEM AT NO ADDITIONAL COST OR TIME TO THE OWNER. COORDINATE DURING CONSTRUCTION.



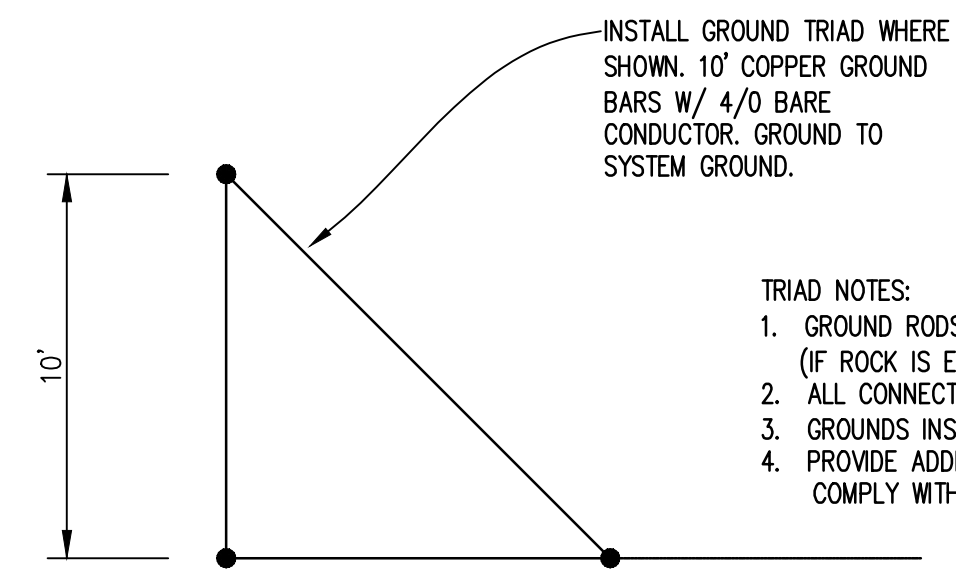
- LEGEND**
- DI = DISCRETE INPUT
 - DO = DISCRETE OUTPUT
 - AI = ANALOG INPUT
 - AO = ANALOG OUTPUT
 - DC = DIGITAL CONTROL/COMMUNICATIONS

SCADA AND CONTROL I/O								
#	DESCRIPTION	DI	DO	AI	AO	DC	FUTURE	COMMENTS
1	ATS NORMAL POSITION	1						FROM ATS
2	ATS GENERATOR POSITION	1						FROM ATS
3	UTILITY POWER AVAILABLE	1						FROM ATS
4	LOAD SIDE SPD FAULT	1						FROM ATS
5	GENERATOR START COMMAND		1					FROM ATS
6	COMMUNICATIONS					1		FROM ATS
7	GENERATOR BREAKER TRIPPED	1						FROM GENERATOR
8	GENERATOR RUNNING	1						FROM GENERATOR
9	GENERATOR FAIL	1						FROM GENERATOR
10	BATTERY CHARGER ALARM	1						FROM GENERATOR
11	MAJOR COMMON ALARM	1						FROM GENERATOR
12	MINOR COMMON ALARM	1						FROM GENERATOR
13	COMMUNICATIONS					1		FROM GENERATOR
14	PUMP #1 START/STOP		1					FROM SCADA
15	PUMP #2 START/STOP		1					FROM SCADA
16	PUMP #1 RUN INDICATION	1						FROM PUMP CONTROL PANEL/VFD
17	PUMP #2 RUN INDICATION	1						FROM PUMP CONTROL PANEL/VFD
18	PUMP #1 FAULT	1						COMMON FAILURE FROM PUMP CONTROL PANEL
19	PUMP #2 FAULT	1						COMMON FAILURE FROM PUMP CONTROL PANEL
20	PUMP #1 IN REMOTE	1						FROM PUMP CONTROL PANEL
21	PUMP #2 IN REMOTE	1						FROM PUMP CONTROL PANEL
22	PUMP #1 SPEED SETTING				1			FROM SCADA
23	PUMP #2 SPEED SETTING				1			FROM SCADA

SCADA REQUIREMENTS



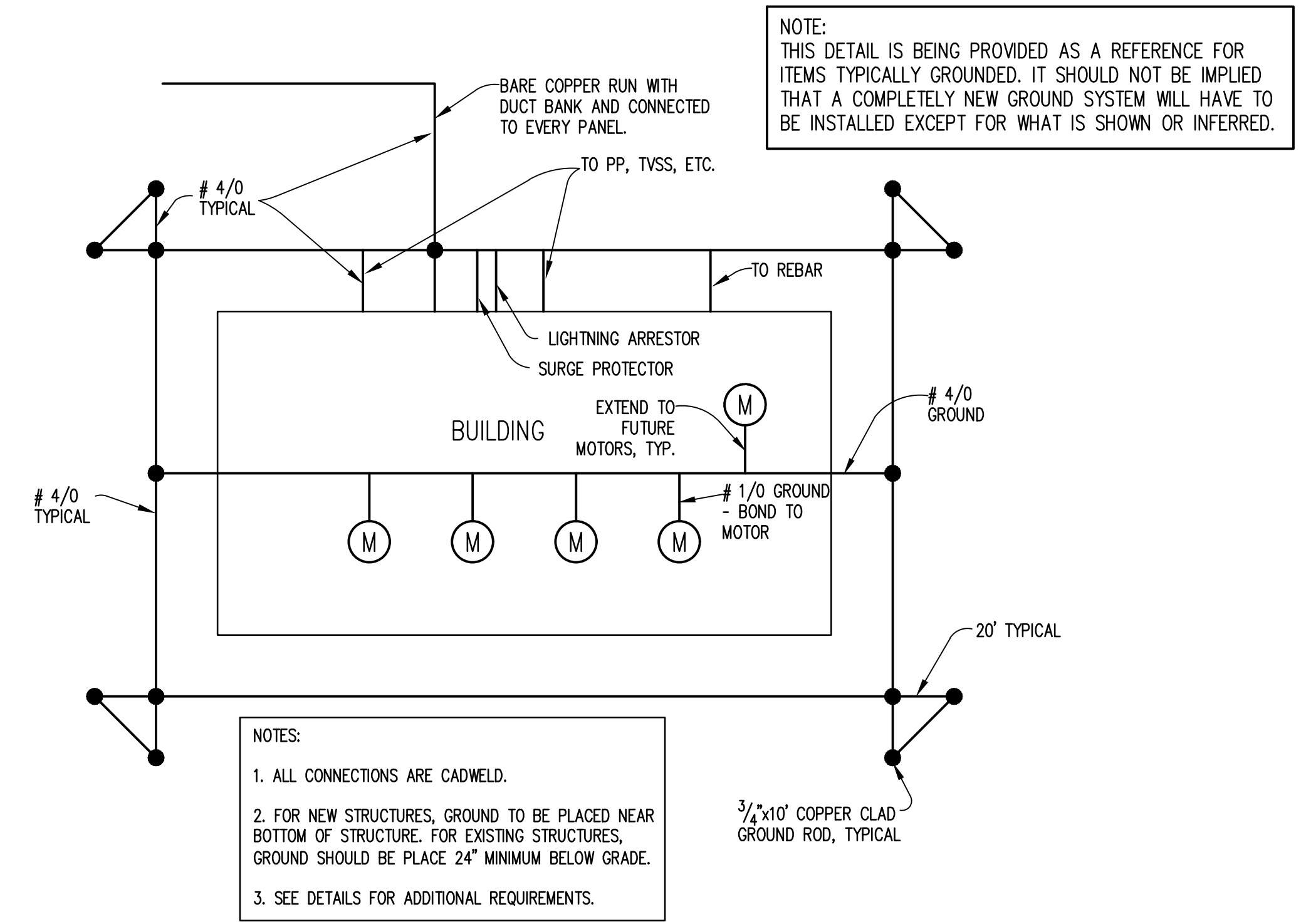
THERE SHOULD BE AN EXISTING GROUNDING SYSTEM AROUND THE EXISTING INTAKE PUMP STATION. THE CONTRACTOR SHALL CONNECT/CADWELD TO THE EXISTING GROUNDING SYSTEM WHENEVER IT IS CROSSED/LOCATED WITH A BARE 4/0 GROUND CABLE. CONTRACTOR SHALL SPOT DIG IN A FEW LOCATIONS AS DIRECTED BY OWNER/ENGINEER TO LOCATE EXISTING GROUND SYSTEM IF NOT LOCATED.



GROUNDING TRIAD

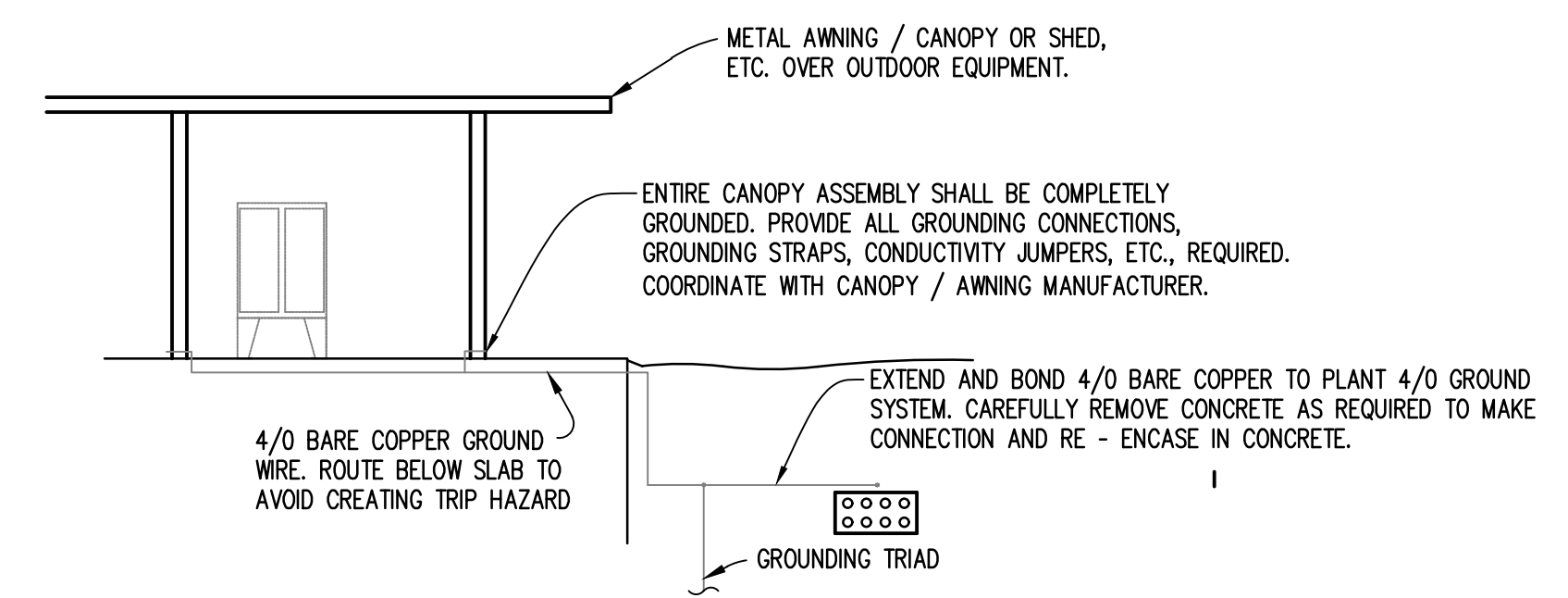
SCALE: N.T.S.

- TRIAD NOTES:
- GROUND RODS 3/4" X 10' SECTIONAL GROUND RODS. (IF ROCK IS ENCOUNTERED, CHEMICAL ROD EQUIVALENT REQ'D)
 - ALL CONNECTIONS TO BE CADWELD.
 - GROUND RODS INSTALLED 24" BELOW GRADE, MIN.
 - PROVIDE ADDITIONAL GROUNDING AS REQUIRED TO COMPLY WITH NEC ARTICLE 250.



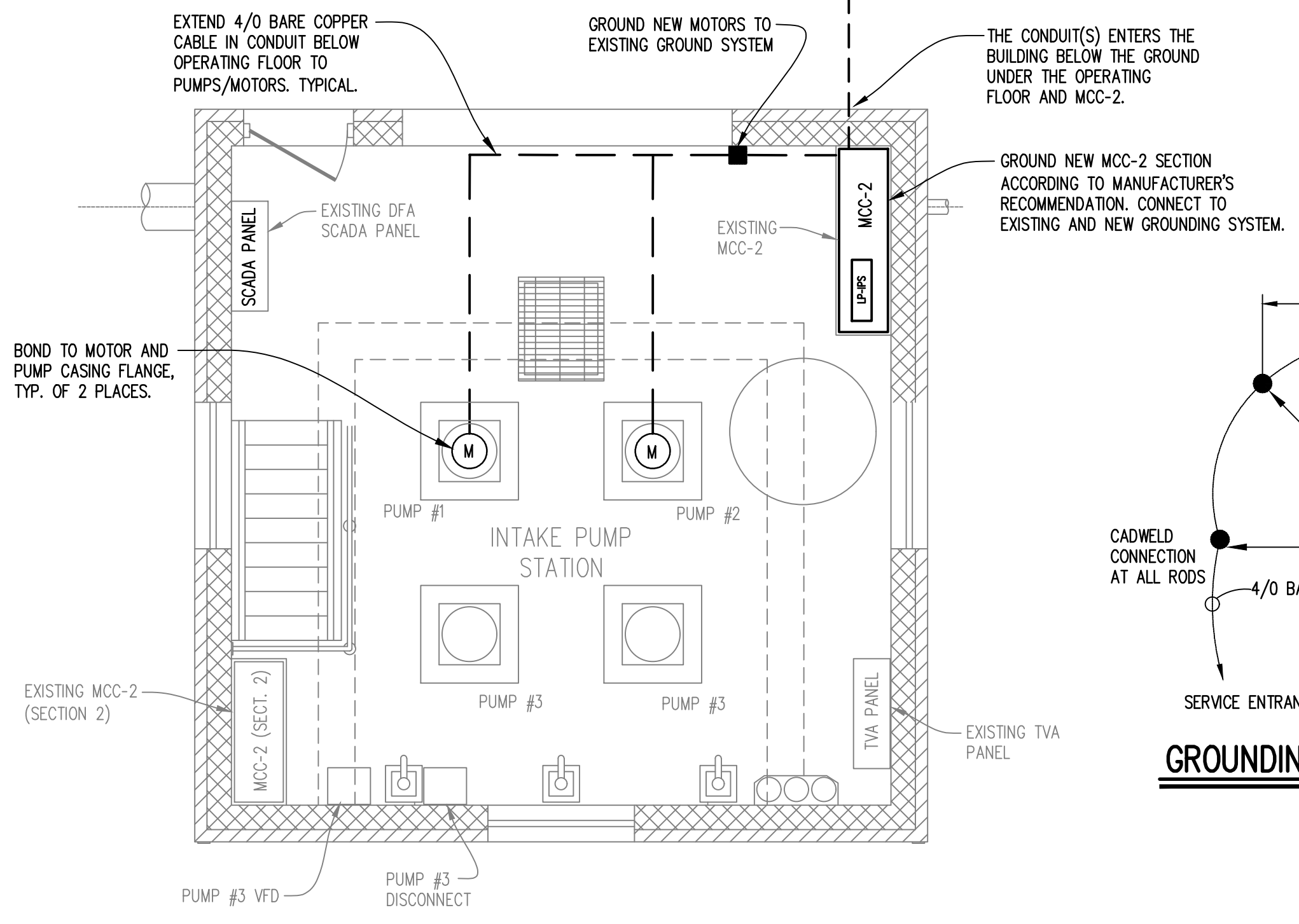
TYPICAL ELECTRICAL GROUNDING PLAN FOR STRUCTURES

SCALE: N.T.S.



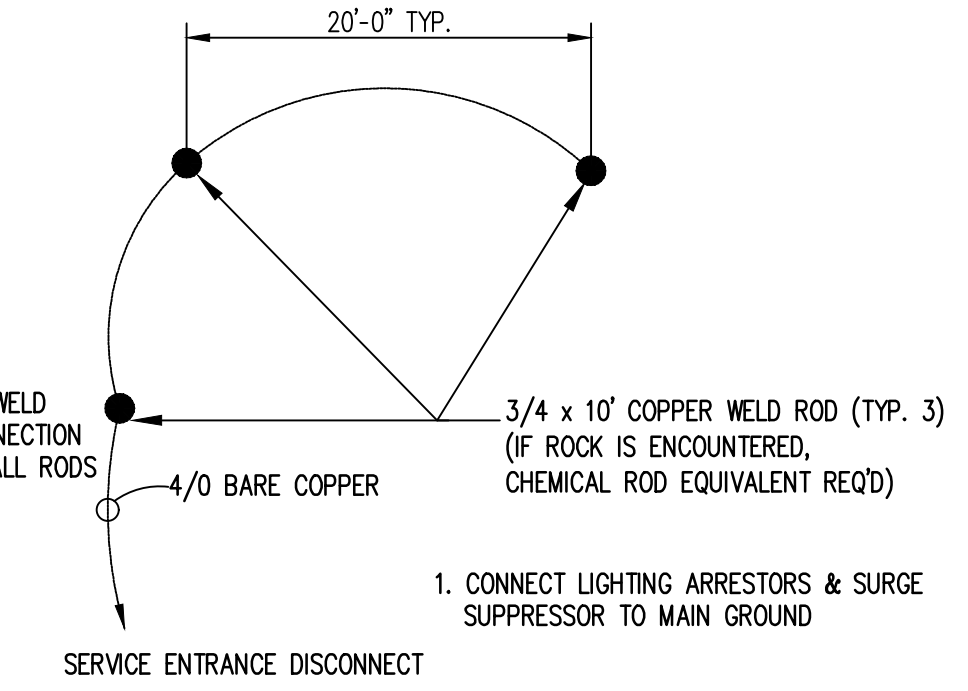
CANOPY GROUNDING DETAIL

SCALE: N.T.S.



GROUNDING PLAN

SCALE: NONE



GROUNDING DETAIL AT SERVICE POLE

SCALE: N.T.S.

GROUNDING NOTES:

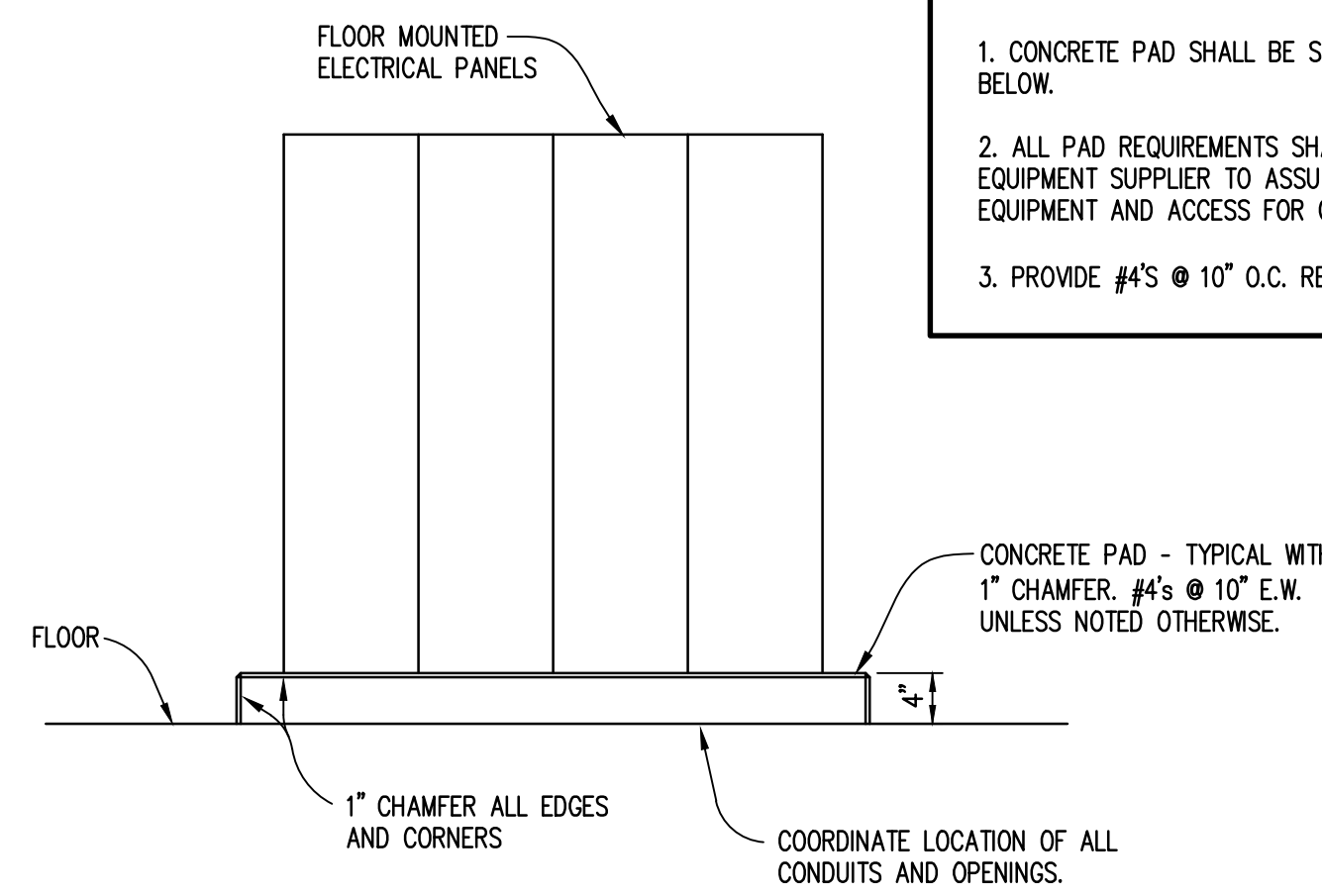
- THERE SHOULD BE AN EXISTING GROUNDING SYSTEM AROUND THE EXISTING PUMP STATION. THE CONTRACTOR SHALL CONNECT/CADWELD TO THE EXISTING GROUNDING SYSTEM WHENEVER IT IS CROSSED/LOCATED WITH A BARE 4/0 GROUND CABLE. CONTRACTOR SHALL SPOT DIG IN A FEW LOCATIONS AS DIRECTED BY OWNER/ENGINEER TO LOCATE EXISTING GROUND SYSTEM IF NOT LOCATED. CONTRACTOR SHALL TIE TO EXISTING GROUNDING SYSTEM A MINIMUM OF 2 TIMES.
- THE NEW ATS IS A 3 POLE SWITCH WITH A SOLID NEUTRAL. THE CONTRACTOR SHALL PROPERLY BOND AND GROUND THE NEW UTILITY SERVICE NEUTRAL AT THE NEW FUSIBLE DISCONNECT SWITCH TO BE INSTALLED. THE NEUTRAL CABLE SHALL BE EXTENDED FROM THE FUSIBLE DISCONNECT SWITCH TO THE ATS AND THROUGHOUT THE PROJECT AS SHOWN. THE CONTRACTOR SHALL NOT GROUND THE NEUTRAL AT THE GENERATOR. THE NEUTRAL CABLE WILL BE EXTENDED FROM THE GENERATOR TO THE ATS. THE CONTRACTOR SHALL PROPERLY GROUND AND BOND THE NEUTRAL IN ACCORDANCE WITH NEC 250 AND MANUFACTURER'S RECOMMENDATIONS.
- ALL EQUIPMENT, COMPONENTS, PANELS, TRANSFORMERS, ETC. SHALL BE GROUNDING AND BONDED IN ACCORDANCE WITH NEC. COORDINATE ALL REQUIREMENTS WITH MANUFACTURERS OF EQUIPMENT.
- ALL GROUND CABLES/WIRES SHALL BE INSTALLED A MINIMUM OF 24" BELOW GRADE AND 3'-0" MINIMUM FROM STRUCTURES.
- IN ADDITION TO THE GROUNDING CONDUCTORS THAT RUN WITH ALL CIRCUITS, GROUND EACH POWER PANEL, LIGHTING PANEL, CONTROL PANEL, PULLBOX, TRANSFORMER, ENCLOSED BREAKERS, AND ALL OTHER ELECTRICAL PANELS (IF REQUIRED BY CODE) DIRECTLY TO THE NEW GROUND LOOP.
- EACH NEW PANEL, ENCLOSED BREAKER, TRANSFORMER (IF REQUIRED BY CODE) SHALL BE GROUNDING WITH A BARE 4/0 CABLE UNLESS INDICATED OTHERWISE. THIS GROUND CABLE SHOULD BE CONNECTED TO THE NEW GROUND SYSTEM TO BE INSTALLED. SEE GROUNDING DETAILS.
- THE CONTRACTOR SHALL GROUND THE CANOPY TO THE NEW GROUNDING SYSTEM. SEE DETAIL.
- THE CONTRACTOR SHALL PROPERLY GROUND THE GENERATOR ENCLOSURE IN OPPOSITE CORNERS OF THE ENCLOSURE. PROVIDE ALL REQUIRED LUGS, CONNECTION KITS, ETC. TO CONNECT AND GROUND THE GENERATOR ENCLOSURE. THE CONTRACTOR SHALL ALSO PROPERLY GROUND THE GENERATOR ELECTRICALLY.
- THE CONTRACTOR SHALL PROPERLY GROUND THE PUMPS, PANELS, MCC, AND OTHER ITEMS THROUGHOUT THE SITE AND STRUCTURES AS REQUIRED.
- THE CONTRACTOR SHALL GROUND THE NEW TRANSENCLOSURE, ATS, GENERATOR, ETC. SLAB STRUCTURAL STEEL. THE GROUND CONDUCTORS SHALL BE PROPERLY CLAMPED TO THE REBAR AND EXTENDED OUT TO AND CONNECTED TO THE GROUNDING SYSTEM. PROVIDE ALL REQUIRED LUGS, CONNECTION KITS, ETC.
- ALL EXPOSED CONDUIT INSIDE THE BUILDING INSTALLED FOR GROUNDING CONDUCTORS SHALL BE GALVANIZED STEEL CONDUIT. ALL EXTERIOR EXPOSED CONDUIT INSTALLED FOR GROUNDING CONDUCTORS SHALL BE RIGID, PVC COATED EXTENDED TO JUST BELOW GRADE. CONDUITS TO BE RUN NEAT, PLUMB, LEVEL, ETC. TO THE MAXIMUM EXTENT POSSIBLE.
- ADDITIONAL GROUND RODS SHALL BE INSTALLED A MINIMUM OF SIX (6) FEET APART AND CONNECTED BY GROUNDING ELECTRODE CONDUCTORS AS REQUIRED UNTIL THE GROUND RESISTANCE DOES NOT EXCEED FIVE (5) OHMS.
- REFER TO ALL ELECTRICAL SPECIFICATIONS, GROUNDING DETAILS, AND OTHER DRAWINGS FOR ADDITIONAL GROUNDING AND TESTING REQUIREMENTS.

2023



BAR = 1"

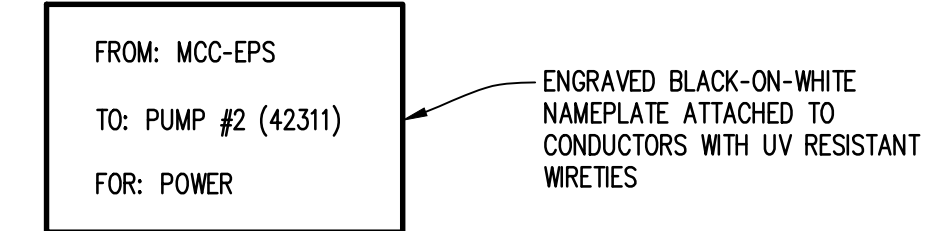
Drawing	Title		
	GROUNDING PLAN		
Project No.	11-2023	Sheet	
Date	N.T.S.	18	
Scale	BID SET		



- NOTES:
1. CONCRETE PAD SHALL BE SECURELY ANCHORED TO SLAB BELOW.
 2. ALL PAD REQUIREMENTS SHALL BE COORDINATED WITH EQUIPMENT SUPPLIER TO ASSURE PROPER SUPPORT OF EQUIPMENT AND ACCESS FOR CABLES.
 3. PROVIDE #4'S @ 10" O.C. REBAR EACH DIRECTION.

TYPICAL CONCRETE PAD UNDER MISC. ELECTRICAL GEAR

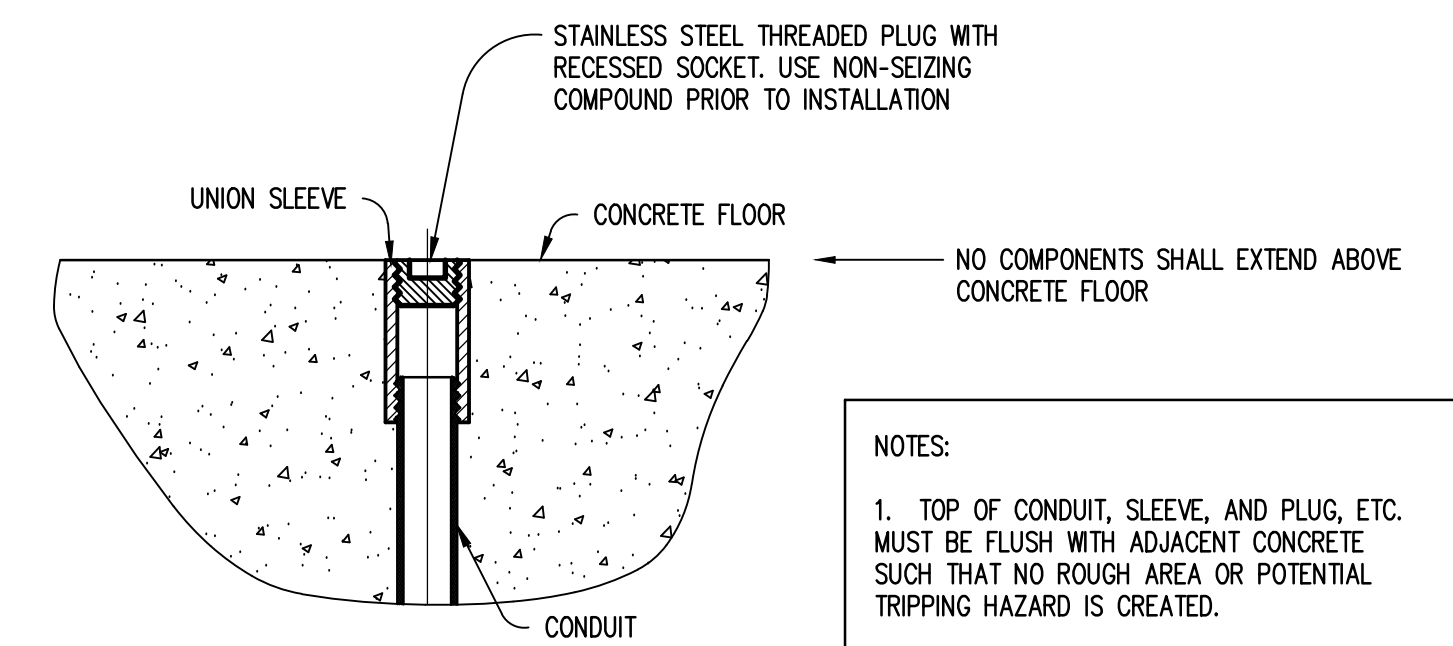
N.T.S.



- NOTES:
1. CIRCUIT LABELS SHALL BE USED TO IDENTIFY ALL CIRCUITS WITHIN PULLBOXES, HANDHOLES, JUNCTION BOXES, (NOT CONDULETS), DISCONNECT SWITCHES, HORIZONTAL MCC WIREWAYS, ETC. AND EVERY 30 FEET WITHIN CABLE TRAYS.
 2. CIRCUIT NUMBERS SHALL BE IDENTIFIED FOR ALL CIRCUITS FED FROM LIGHTING OR POWER PANELBOARDS.

TYPICAL CIRCUIT LABEL

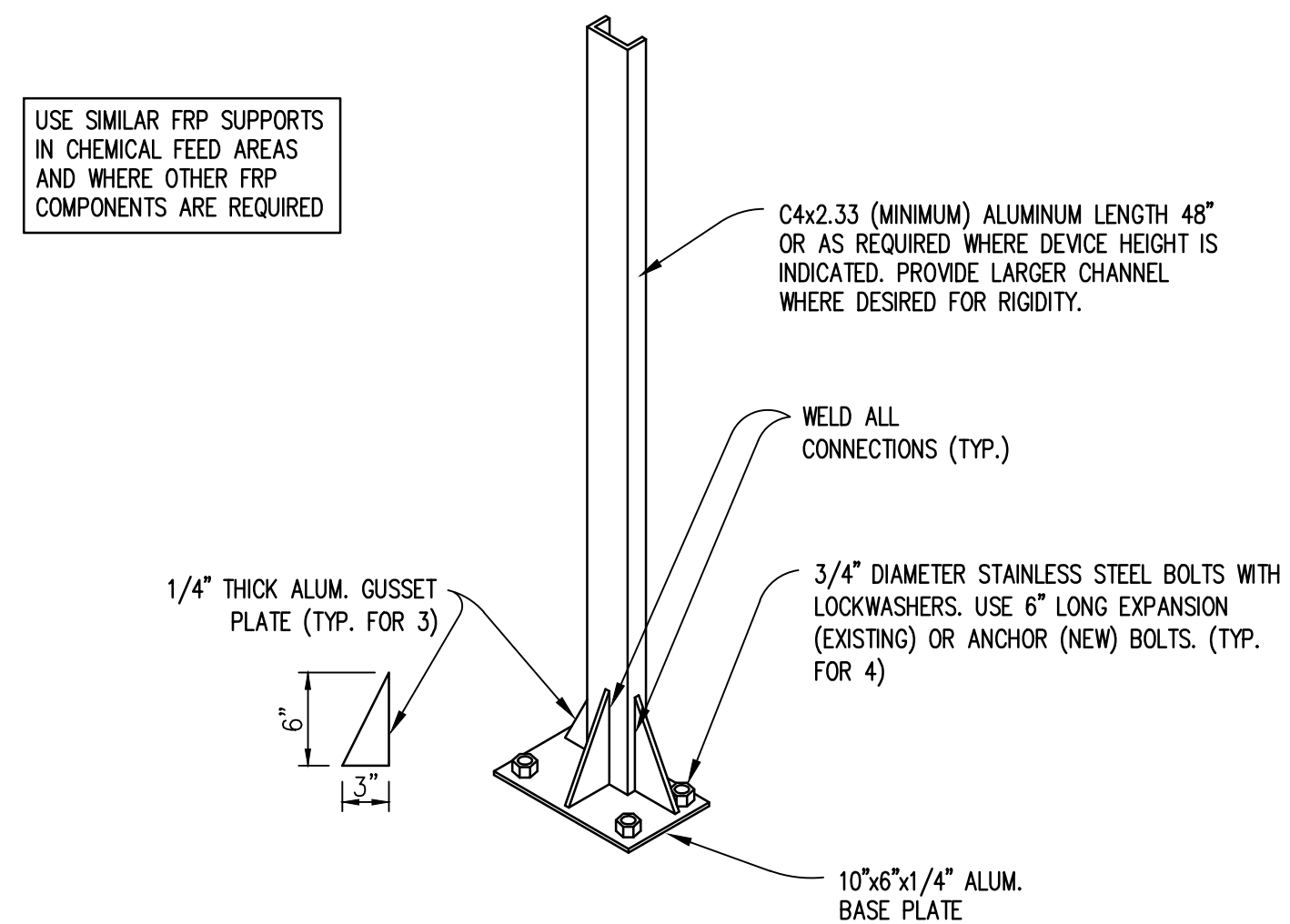
SCALE: N.T.S.



- NOTES:
1. TOP OF CONDUIT, SLEEVE, AND PLUG, ETC. MUST BE FLUSH WITH ADJACENT CONCRETE SUCH THAT NO ROUGH AREA OR POTENTIAL TRIPPING HAZARD IS CREATED.
 2. DETAIL TYPICAL FOR ALL CONDUIT PROVIDED FOR FUTURE EQUIPMENT, SPARES, OR FUTURE USE, ETC.

CONDUIT FOR FUTURE USE

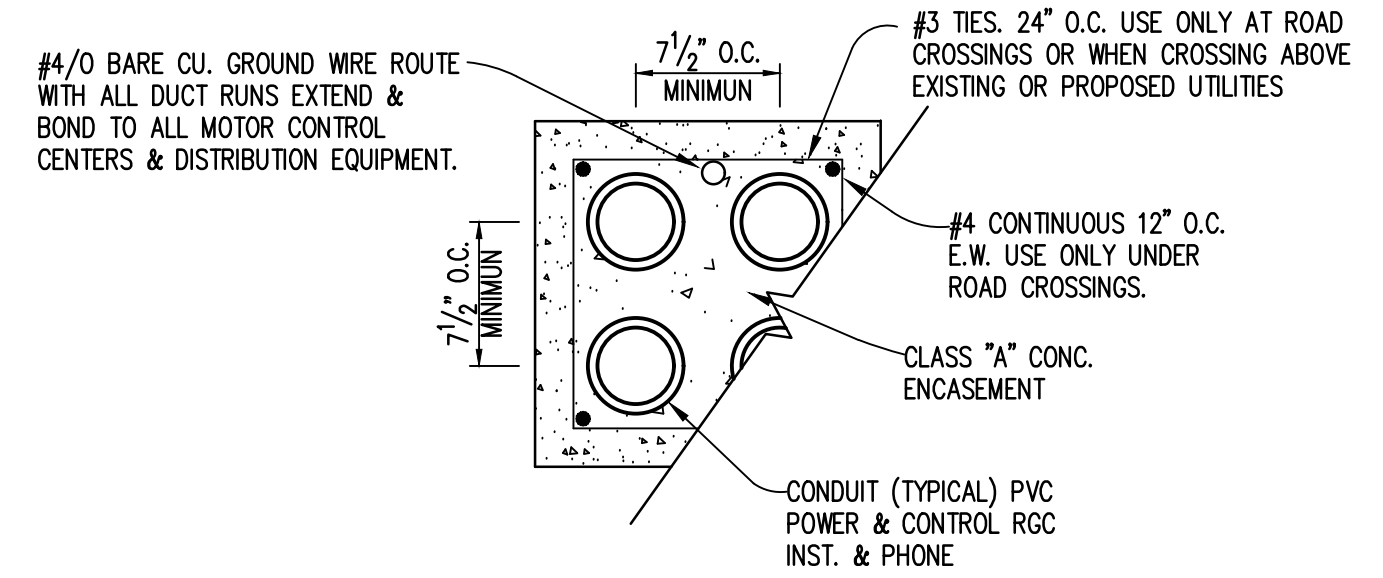
SCALE: N.T.S.



- NOTE:
1. DETAIL FOR LOCAL OPERATOR STATIONS, FLOWMETERS, SMALL DISCONNECT SWITCHES, AND OTHER SIMILAR SMALL DEVICES.
 2. PROVIDE DUAL SUPPORT STANDS WITH FRAME FOR INSTRUMENTS WHERE LARGER PANELS OR TWO OR MORE DEVICES OR COMPONENTS ARE MOUNTED AT A SINGLE LOCATION, OR WHERE DESIRED FOR RIGIDITY.
 3. COORDINATE AND INSTALL CONDUITS AND STANDS, ETC., SUCH THAT NO POTENTIAL TRIPPING HAZARD IS CREATED.
 4. NEATLY GRIND SHARP EDGES AND CORNERS OF STANDS AND FRAMES, ETC.

SUPPORT STAND DETAIL

SCALE: N.T.S.



PARTIAL DUCTBANK DETAIL

SCALE: N.T.S.

1. SEE PLANS FOR NUMBER OF CONDUITS IN DUCTBANKS.
2. ALL BURIED CONDUIT SHALL BE CONCRETE ENCASED AND MARKED WITH BURIED MARKER TAPE.
3. PROVIDE A MINIMUM OF 3" CONCRETE COVER AROUND ALL REINFORCING STEEL.
4. SEE STANDARD CIVIL DETAIL FOR "BEDDING AND BACKFILL FOR TRENCHES DETAIL" FOR BACKFILL REQUIREMENTS OVER DUCTBANKS LOCATED UNDER STRUCTURES AND PAVED AREAS. COORDINATE BACKFILL REQUIREMENTS NEAR/AROUND STRUCTURES WITH THE EARTHWORK REQUIREMENTS/DETAILS SHEET.



BAR = 1"

Title		ELECTRICAL DETAILS		BID SET	
Drawing	Project No.	Date	Scale	Sheet	
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