

From: Taylor White <twhite@mce.us.com>
Sent: Friday, June 16, 2023 8:58 AM
To: Zachary Carroll (adpce.ad) <Zachary.Carroll@adeq.state.ar.us>
Cc: Adam Triche <atriche@mce.us.com>
Subject: Plans for ADC Bar Screen

Zachary,

Please see the attached drawings for the bar screen in the system at the Arkansas Department of Correction's North Central Unit that I believe you discussed with Adam Triche yesterday. We received approval from the Health Department this week, and the letter mentioned a submittal to you guys.

As you can see in the drawings and based on your conversation with Adam yesterday, the new mechanical bar screen is located upstream from the flow meter at the WWTP, putting the new screen ahead of the treatment plant process. Since we are upstream of the treatment plant processes, we do not anticipate the need to any permit modification. The drawings are attached for your reference of this condition.

If you need any more information, please feel free to reach out.

Thanks and have a great weekend!

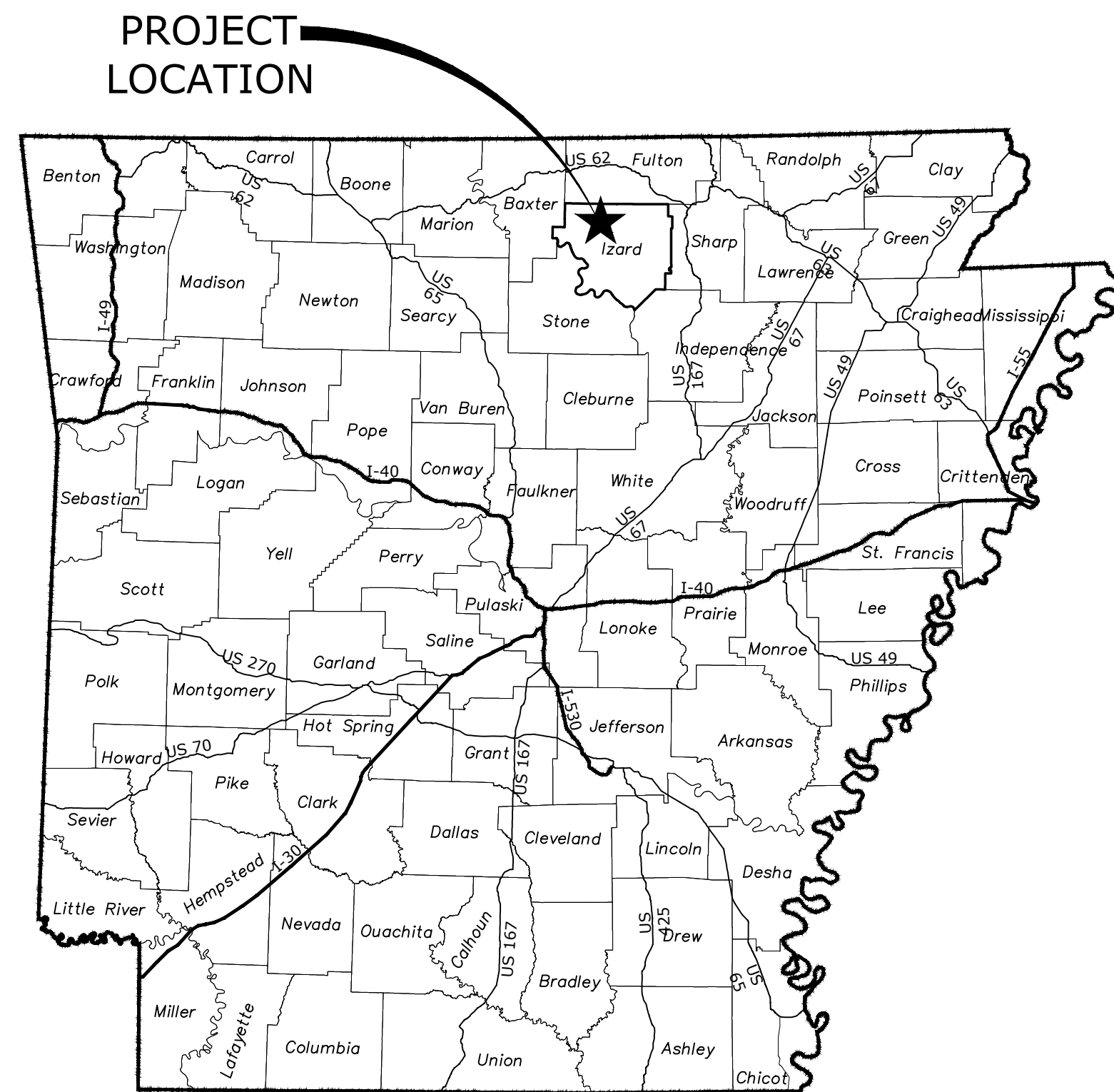
Taylor White
Project Designer



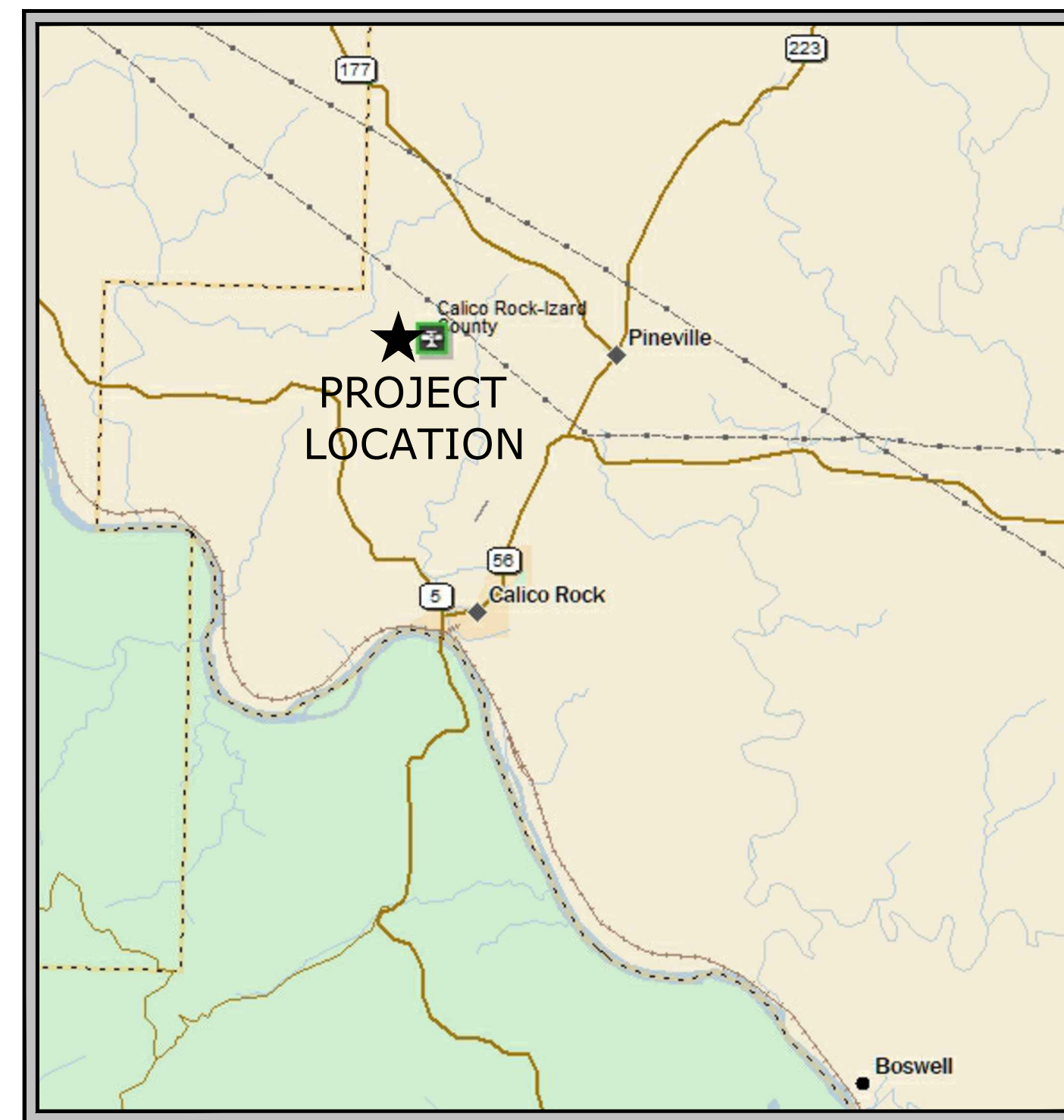
7302 Kanis Road | Little Rock, AR 72204
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ADC NORTH CENTRAL UNIT BAR SCREEN

CALICO ROCK, ARKANSAS



LOCATION MAP

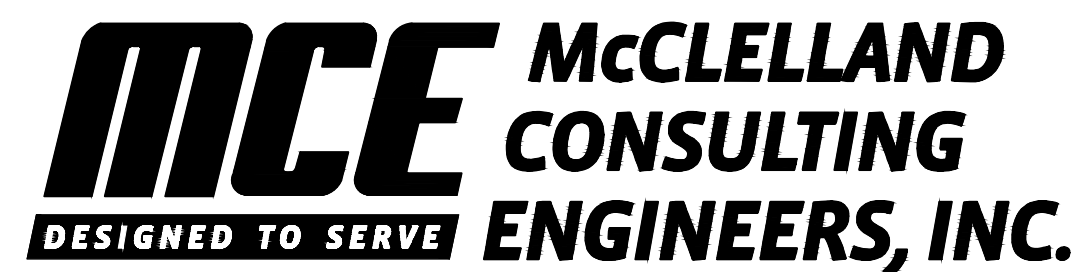


VICINITY MAP

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JUNE 7, 2023
MCE PROJECT NUMBER 23-5738



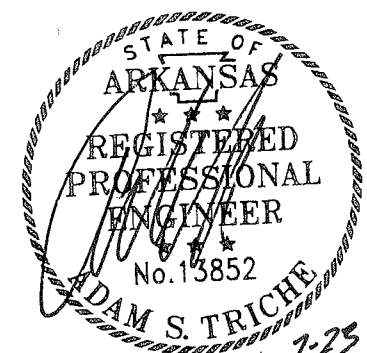
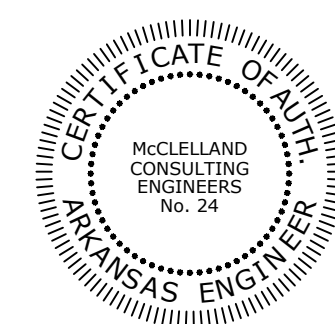
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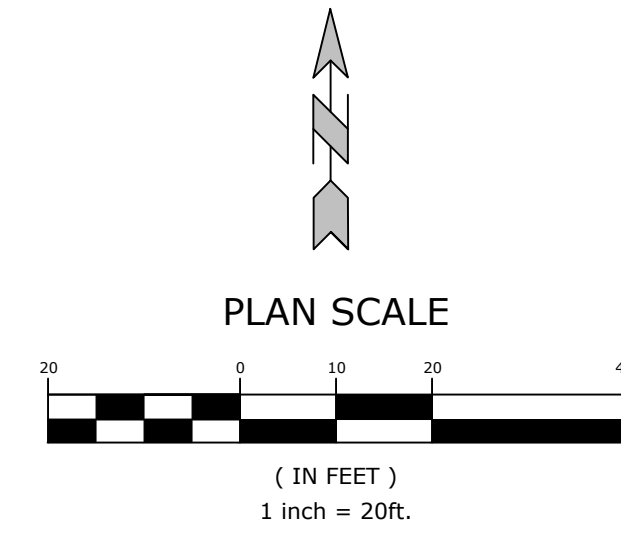
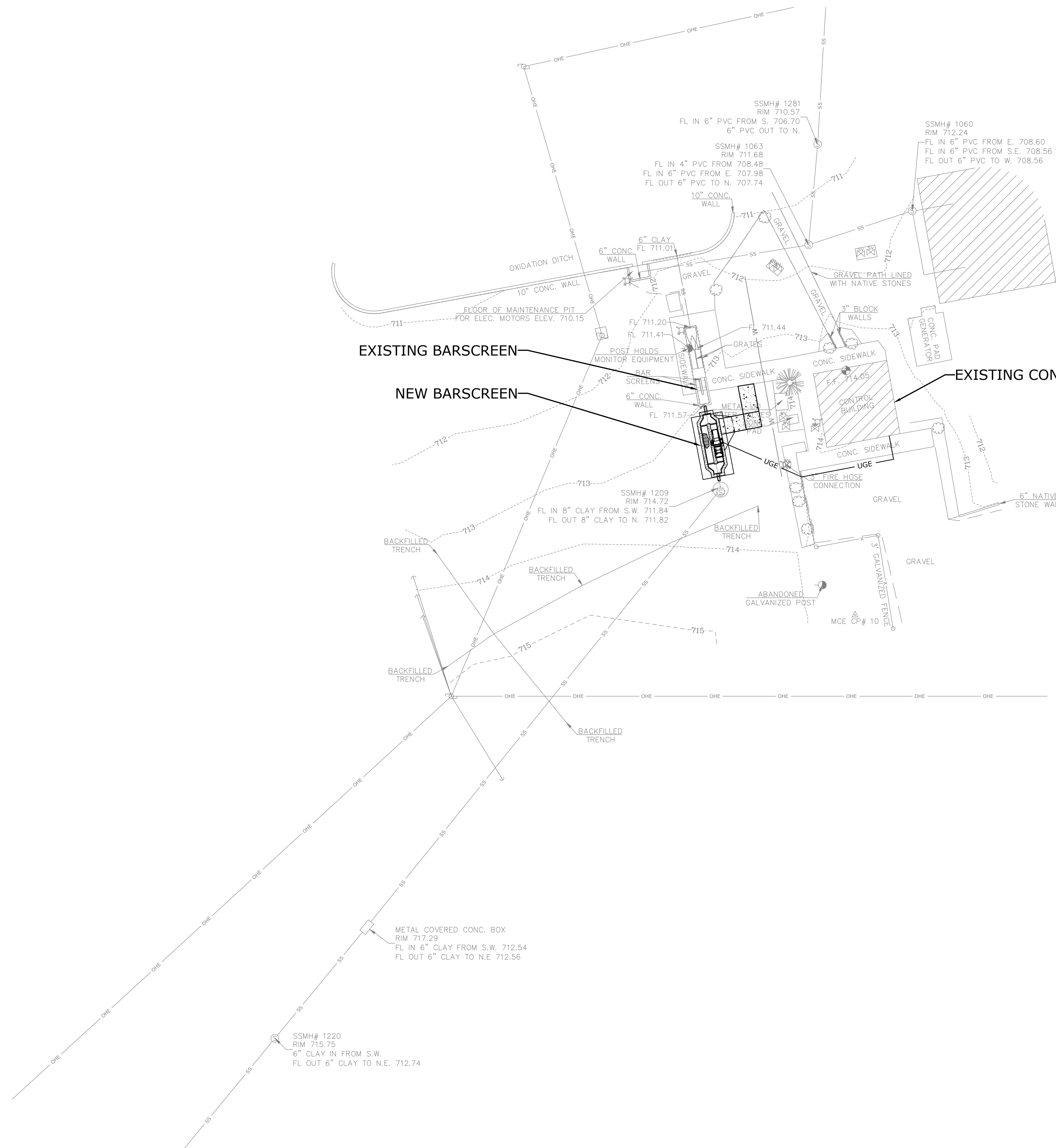


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REV	DATE	DESCRIPTION



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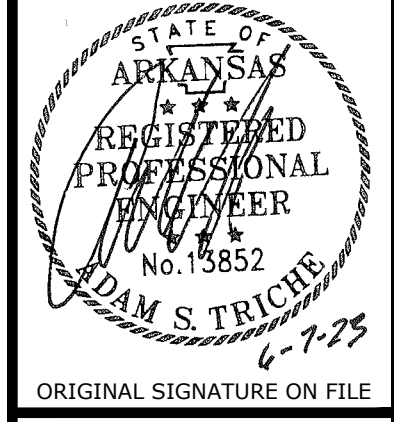
GENERAL SITE NOTES

- ALL OSHA REGULATIONS SHALL BE STRICTLY FOLLOWED AND SPECIAL CARE TAKEN TO PREVENT INTERACTION W/ OVERHEAD OR UNDERGROUND POWER SOURCES.
- CONTRACTOR SHALL RETAIN A FULL SET OF LATEST APPROVED CONSTRUCTION PLANS ON SITE DURING CONSTRUCTION ACTIVITIES.
- CONSTRUCTION METHODS AND MATERIALS NOT SPECIFIED IN THESE PLANS ARE TO MEET OR EXCEED THE SITE WORK SPECIFICATIONS PROVIDED BY McCLELLAND CONSULTING ENGINEERS, INC. OR AS SPECIFIED BY THE OWNER'S RESIDENT REPRESENTATIVE.
- ALL CONSTRUCTION WORK AND UTILITY WORK OUTSIDE OF PROPERTY BOUNDARIES SHALL BE PERFORMED IN COOPERATION WITH AND IN ACCORDANCE WITH REGULATIONS OF THE AUTHORITIES CONCERNED.
- UNLESS OTHERWISE NOTED, ANY CURBING DISTURBED SHALL MATCH EXISTING CONCRETE CURB AND GUTTER.
- CONTRACTOR SHALL REFER TO PROJECT SPECIFICATIONS AND DETAILS FOR PAVING DESIGN AND PROPER MATERIALS.
- GENERAL CONTRACTOR SHALL COORDINATE AND COMPLY WITH ALL UTILITY COMPANIES INVOLVED IN PROJECT AND PAY ALL REQUIRED FEES AND COSTS.

GENERAL UTILITY NOTES

- ALL GRAVITY SEWER PIPE SHALL BE DUCTILE IRON, UNLESS OTHERWISE SPECIFIED ON THE PLANS. SIZE AS NOTED ON THE PLANS AND TO MAINTAIN 30" OF COVER (MINIMUM).
- EXISTING UTILITIES SHOWN ON PLANS HAVE BEEN SHOWN IN THEIR APPROXIMATE LOCATIONS PER AVAILABLE INFORMATION.
- ALL STREETS, DRIVES, SIGNS, DRAINAGE STRUCTURES, FENCES, MAILBOXES, ETC. THAT ARE DISTURBED SHALL BE RESTORED TO THEIR ORIGINAL OR BETTER CONDITION USING LIKE MATERIALS. COST OF SUCH REPAIRS SHALL BE BORNE BY THE CONTRACTOR UNLESS PROVISION FOR PAYMENT IS MADE IN THE PROPOSAL. STUMP HOLES SHALL BE FILLED TO GRADE AND COMPACTED.
- CONTRACTOR SHALL NOT OPEN, TURN OFF, INTERFERE WITH, OR ATTACH ANY PIPE OR HOSE TO OR TAP ANY WATER MAIN UNLESS DULY AUTHORIZED TO DO SO BY THE ARKANSAS DEPARTMENT OF CORRECTIONS. ANY ADVERSE CONSEQUENCES OF ANY SCHEDULED OR UNSCHEDULED DISRUPTIONS OF SERVICE ARE TO BE THE LIABILITY OF THE CONTRACTOR. McCLELLAND CONSULTING ENGINEERS, INC. AND THE OWNER ARE TO BE HELD HARMLESS.
- ALL TRENCHING, BACKFILLING AND PIPE LAYING IS TO MEET ALL OSHA REQUIREMENTS.
- THE LOCATION, DESCRIPTION AND SIZE OF ALL ABOVE-GROUND AND UNDER-GROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN DETERMINED WITH DUE CARE AND DILIGENCE, USING CURRENT TECHNIQUES, EQUIPMENT AND PROPER ACCURACY CONTROL PROCEDURES. HOWEVER, INFORMATION SHOWN HEREON IS NOT WARRANTED TO BE CORRECT IN EVERY DETAIL BECAUSE OF INACCURACIES IN OR LACK OF EXISTING DATA OR MAPS AND THE INABILITY TO VERIFY IN THE FIELD. PERSONS USING INFORMATION CONTAINED HEREON ARE HEREBY CAUTIONED ACCORDINGLY.
- CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS AND LAYOUT COORDINATES IN THE FIELD. REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER FOR DIRECTION PRIOR TO COMMENCING CONSTRUCTION.
- GENERAL CONTRACTOR IS RESPONSIBLE FOR LAYOUT, STAKING, GRADING CONTROLS, AND SHALL COORDINATE SUCH WITH ALL TRADES.
- ALL UNDERGROUND LINES SHALL BE INSPECTED BY THE ENGINEER, OR HIS REPRESENTATIVE, PRIOR TO BACK FILLING.
- TESTING OF SEWER LINES SHALL BE AT THE CONTRACTOR'S EXPENSE.
- MAINTAIN A MINIMUM OF 10' HORIZONTAL AND 18" VERTICAL SEPARATION BETWEEN WATER AND SEWER MAINS AND 5' BETWEEN OTHER UNDERGROUND UTILITIES SUCH AS STORM SEWER, ELECTRICAL, GAS, DOMESTIC WATER / SEWER SERVICE LINES, AND CONDUITS TO COMPLY WITH ADH RULES PERTAINING TO PUBLIC WATER SYSTEMS, SECTION XIV A.
- DISPOSE OF ALL EXCAVATED ASPHALT, CONCRETE, REMOVED PIPE, UNSUITABLE BACKFILL MATERIAL, AND EXCESS EXCAVATED MATERIAL IN AN APPROVED OFF-SITE LOCATION.
- CONTRACTOR SHALL FIELD VERIFY DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION OF PROPOSED UTILITIES.
- ALL DUCTILE IRON PIPE SHALL BE POLYWRAPPED PER AWWA / ANSI.
- ALL AREAS WHERE TRENCH BACKFILL IS COMPLETED SHALL BE RESTORED WITHIN 20 DAYS. PROVISIONS SHALL BE MADE AS NECESSARY FOR FINAL TESTING. NO TRENCHES SHALL BE LEFT OPEN WITHOUT FENCING.

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ADC NORTH CENTRAL UNIT
 BAR SCREEN
 CALICO ROCK, ARKANSAS

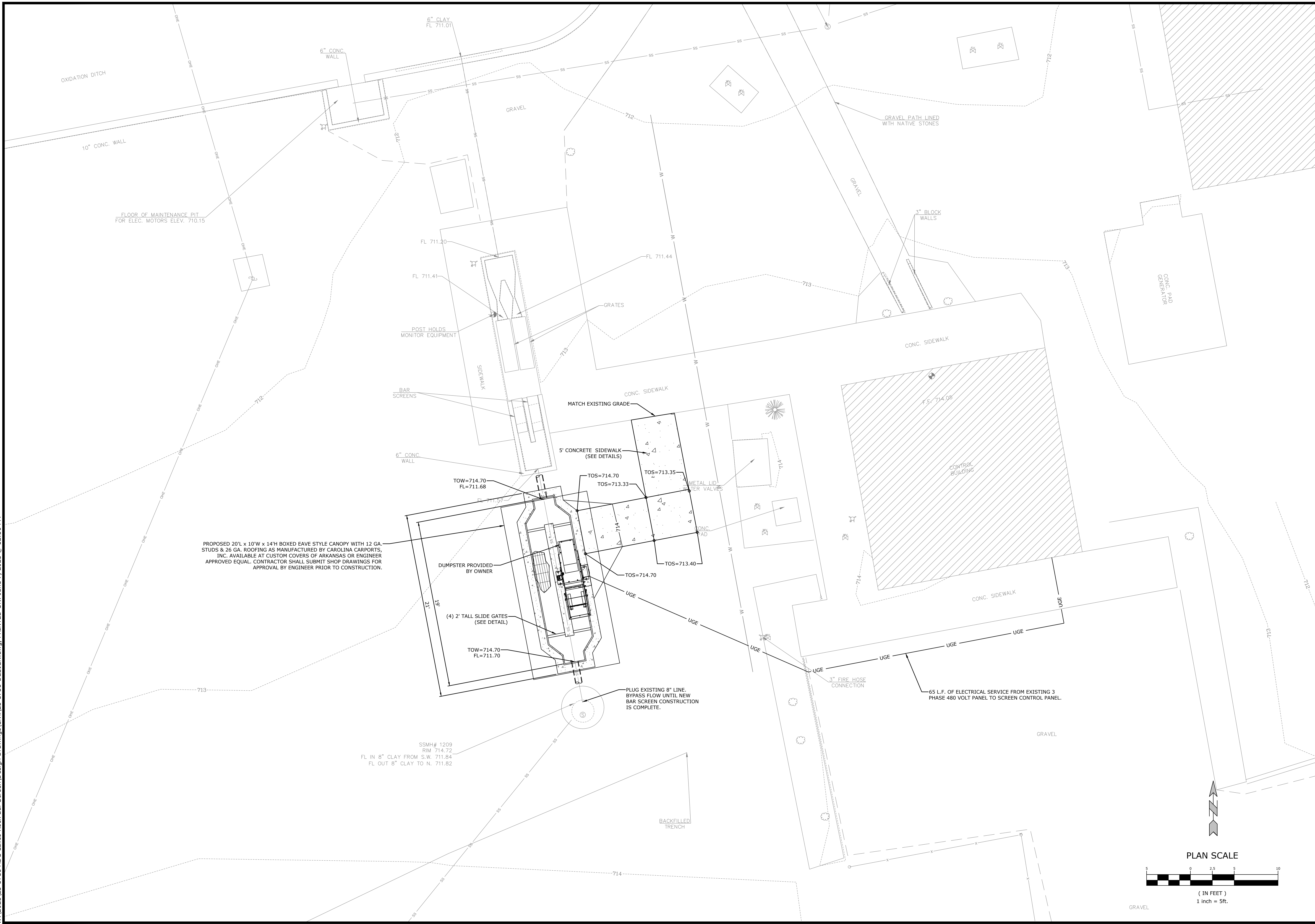


REVISIONS		DESCRIPTION
REV	DATE	

PROJECT OVERVIEW

DESIGNED BY: AST	DRAWN BY: BRIN SR.
DATE: JUNE 7, 2023	REVISION: ----
SCALE: AS SHOWN	JOB NUMBER: 23-5738

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PROPOSED 20'L x 10'W x 14'H BOXED EAVE STYLE CANOPY WITH 12 GA. STUDS & 26 GA. ROOFING AS MANUFACTURED BY CAROLINA CARPORTS, INC. AVAILABLE AT CUSTOM COVERS OF ARKANSAS OR ENGINEER APPROVED EQUAL. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL BY ENGINEER PRIOR TO CONSTRUCTION.

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STATE OF ARKANSAS
 REGISTERED PROFESSIONAL ENGINEER
 No. 13852
 ADAM S. TRICHE
 6-7-23
 ORIGINAL SIGNATURE ON FILE

ADC NORTH CENTRAL UNIT
 BAR SCREEN
 CALICO ROCK, ARKANSAS



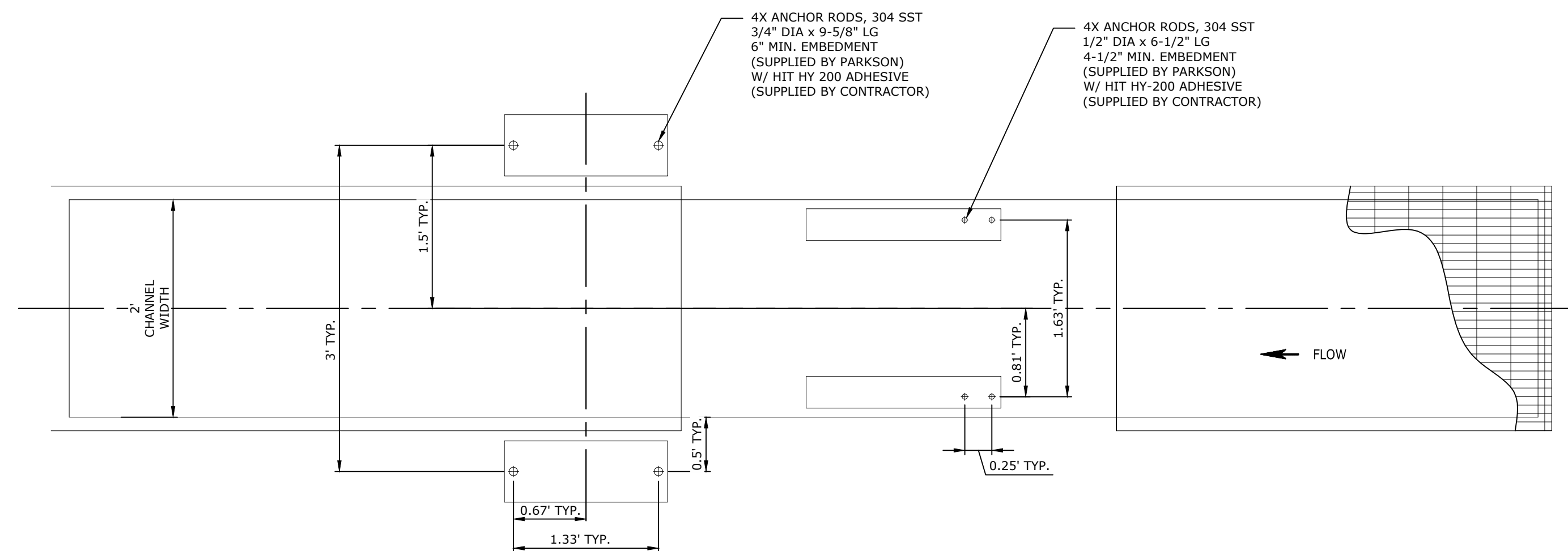
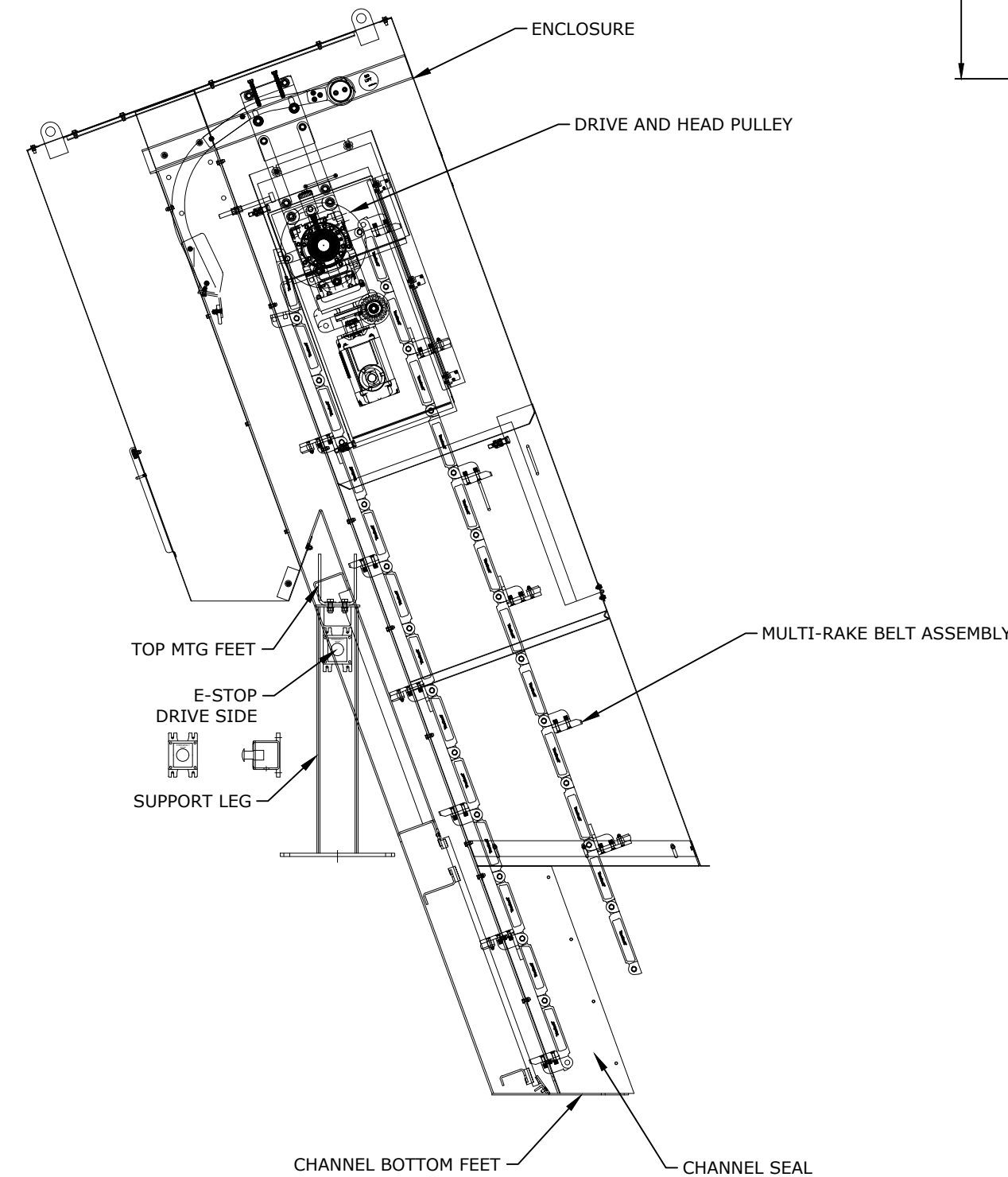
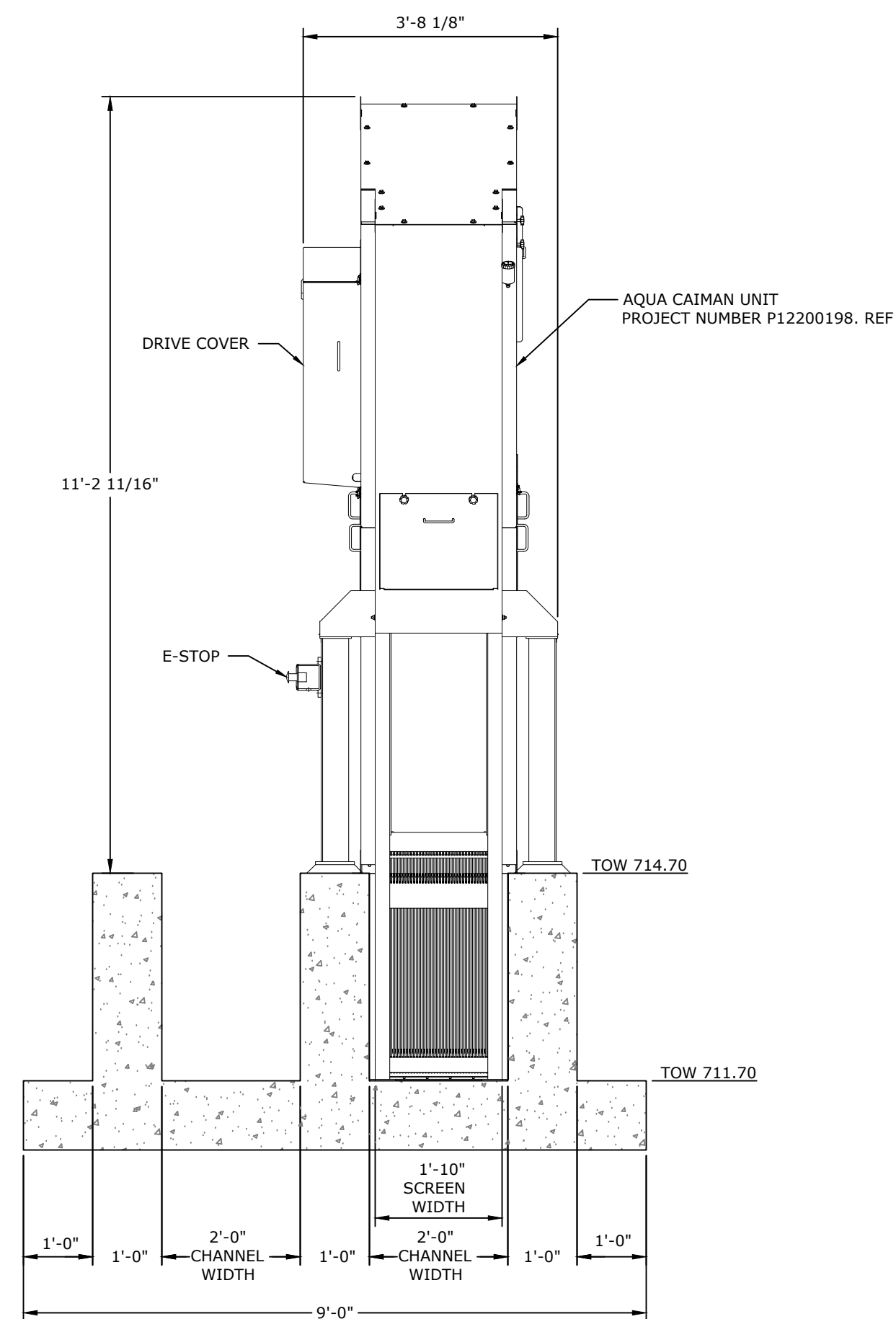
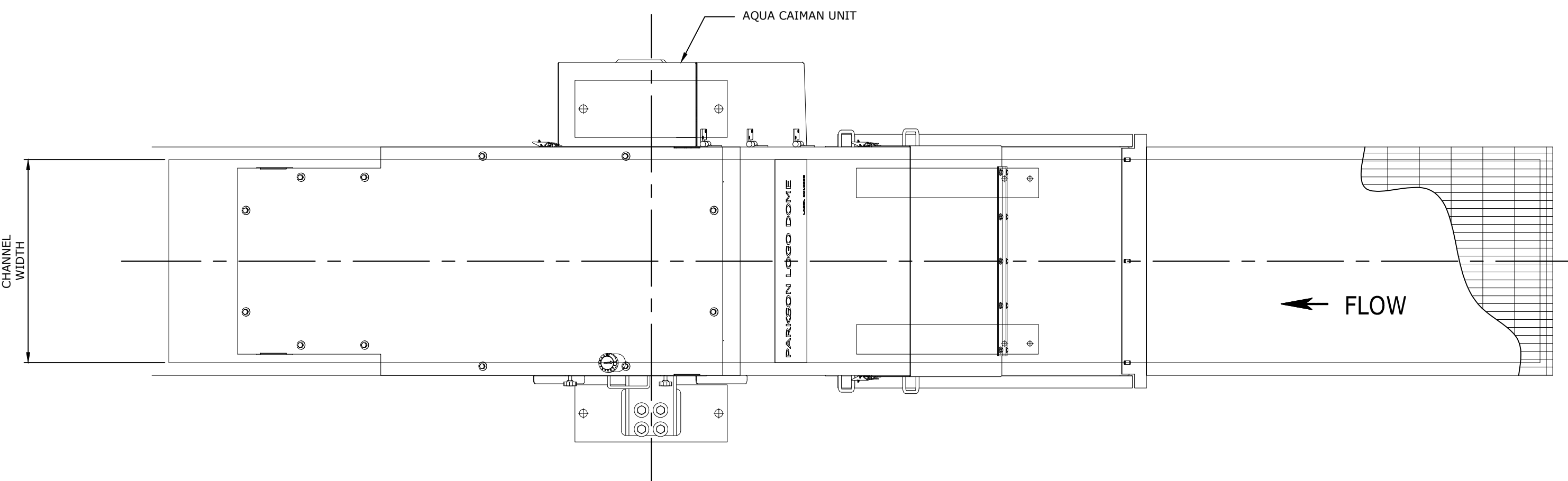
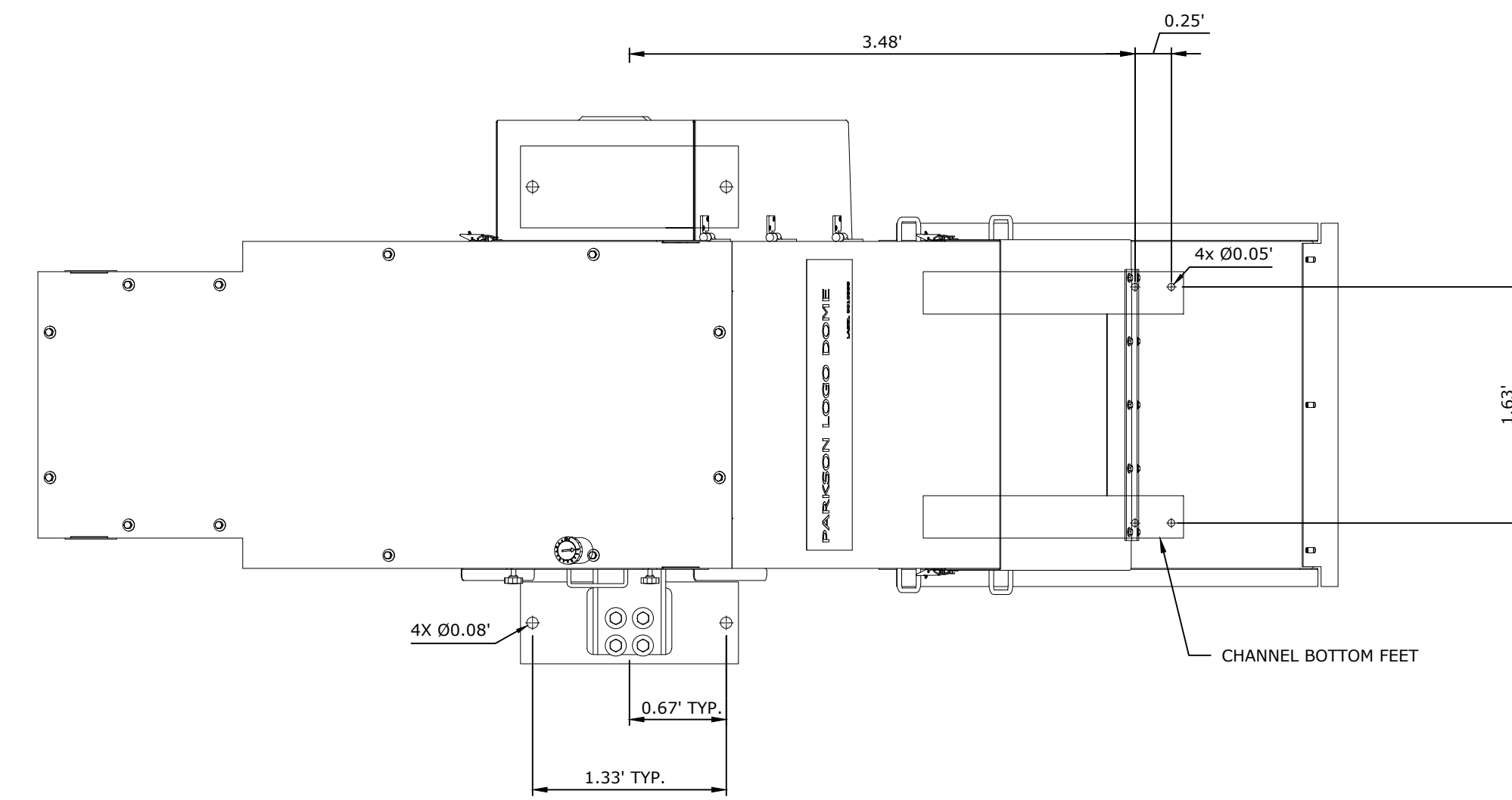
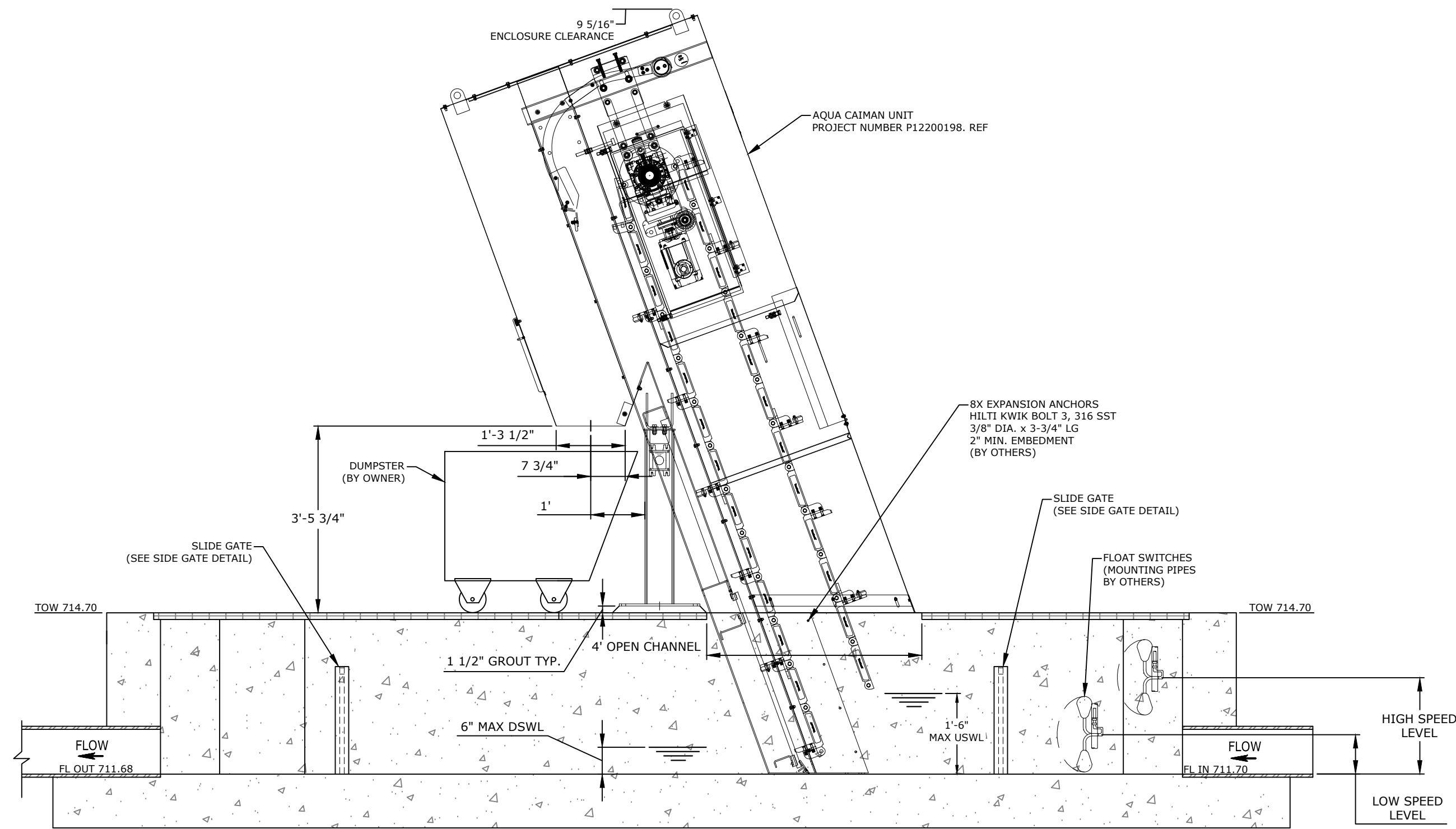
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BAR SCREEN SITE PLAN

DESIGNED BY: AST	DRAWN BY: BRIN SR.
DATE: JUNE 7, 2023	REVISION: ----
SCALE: AS SHOWN	JOB NUMBER: 23-5738

3

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STATE OF ARKANSAS
 REGISTERED PROFESSIONAL ENGINEER
 No. 13852
 ADAM S. TRICHE
 6-7-23
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 BAR SCREEN
 CALICO ROCK, ARKANSAS

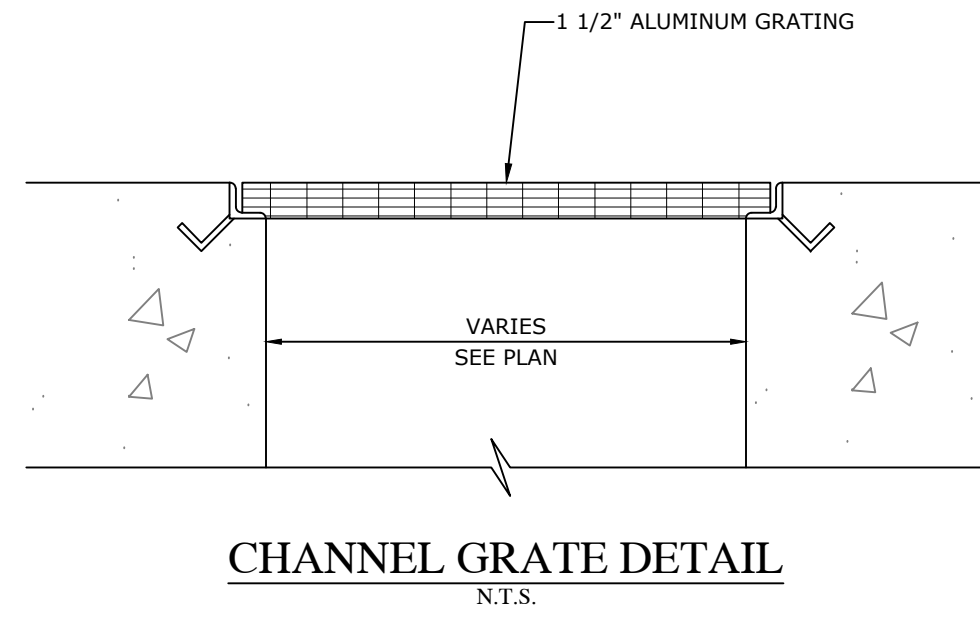
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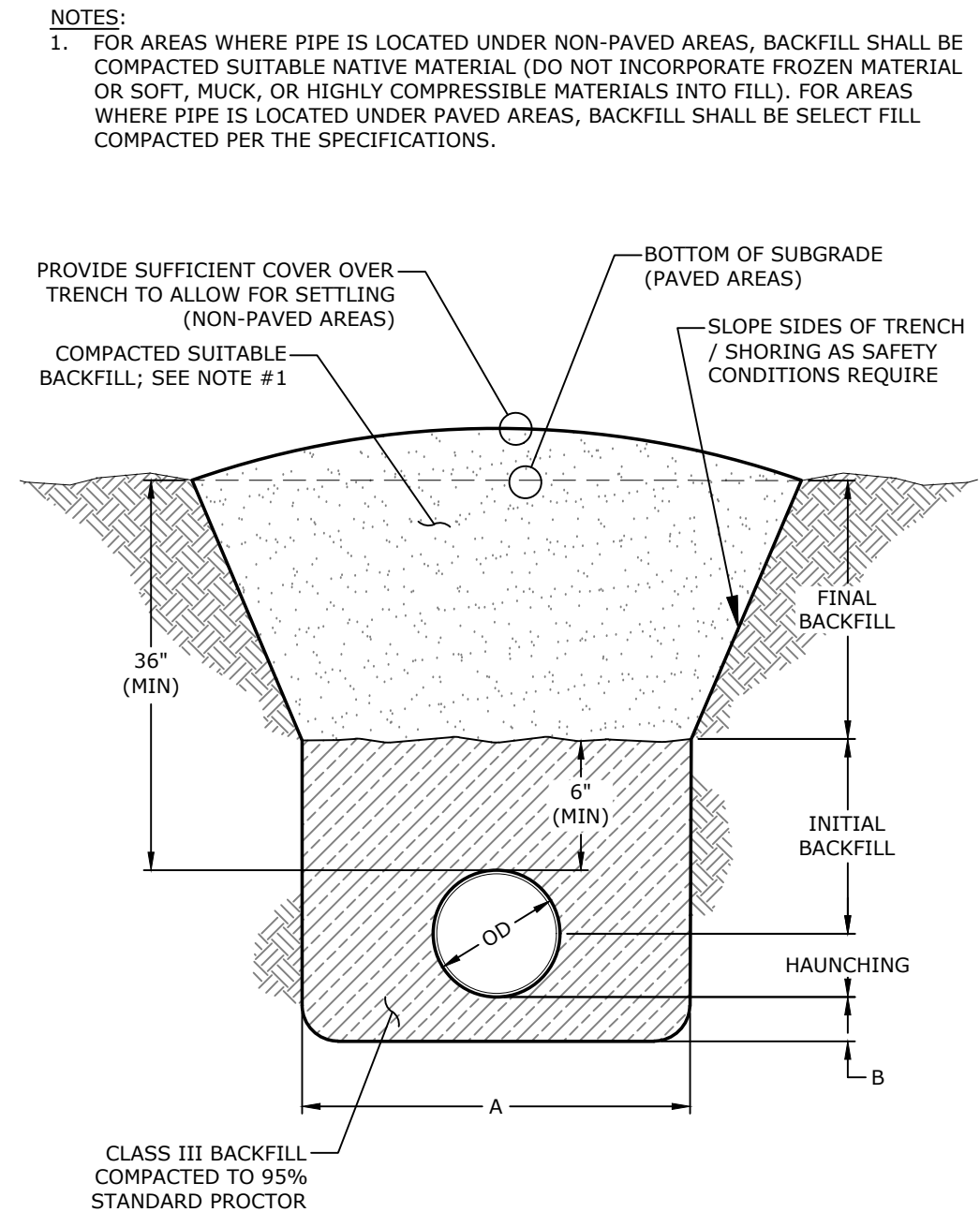
BAR SCREEN DETAILS

DESIGNED BY: AST
 DRAWN BY: BRIN SR.
 DATE: JUNE 7, 2023
 REVISION: ----
 SCALE: NTS
 JOB NUMBER: 23-5738

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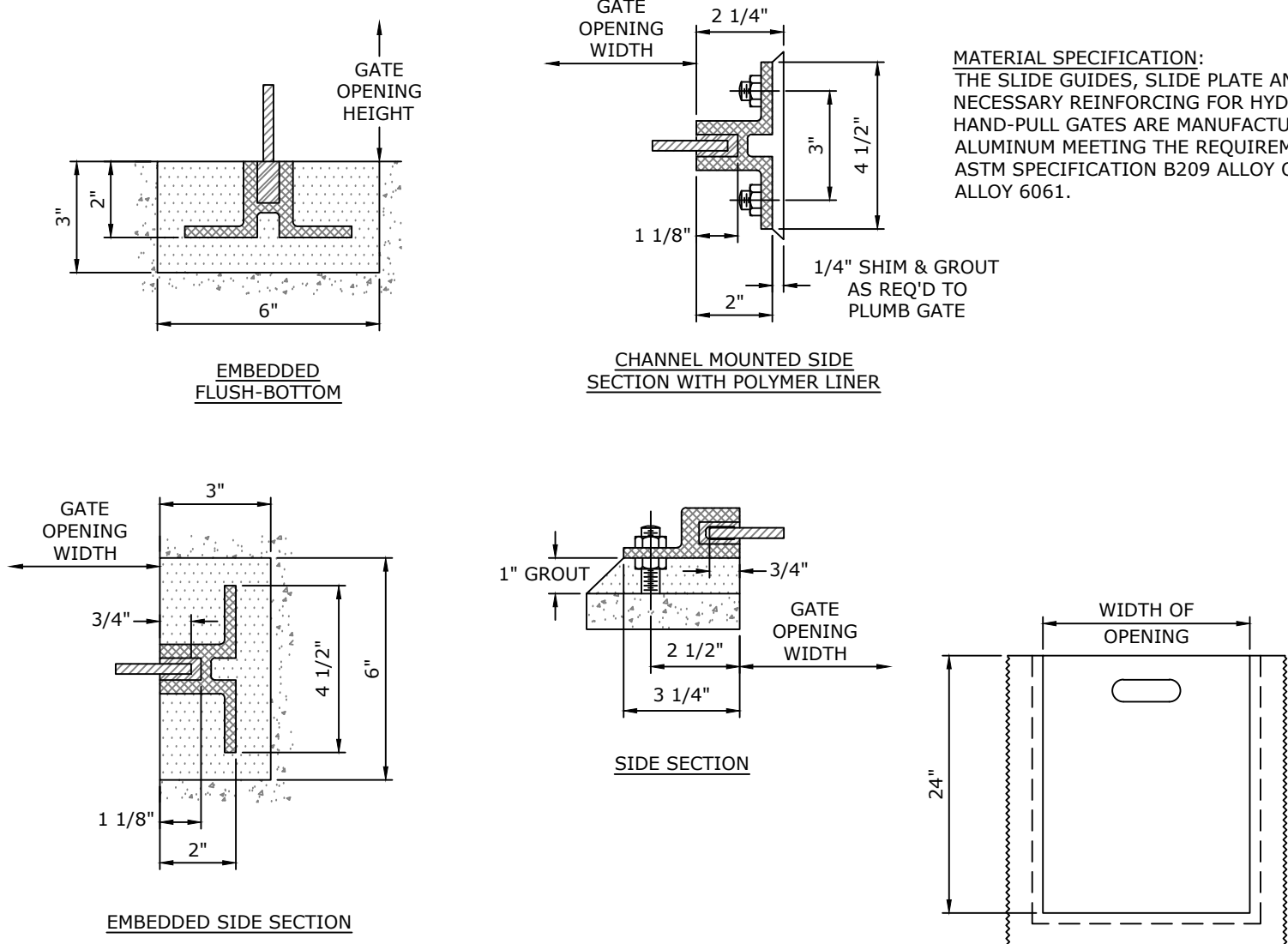
CHANNEL GRATE DETAIL
N.T.S.



TRENCHING, BACKFILL, & BEDDING TABLE	
'A'	OD + 18" (MIN) OD + 30" (MAX)
'B'	6" MIN

SANITARY SEWER TRENCHING, BACKFILL, & BEDDING
N.T.S.

NOTES:
1. FOR AREAS WHERE PIPE IS LOCATED UNDER NON-PAVED AREAS, BACKFILL SHALL BE COMPACTED SUITABLE NATIVE MATERIAL (DO NOT INCORPORATE FROZEN MATERIAL OR SOFT, MUCK, OR HIGHLY COMPRESSIBLE MATERIALS INTO FILL). FOR AREAS WHERE PIPE IS LOCATED UNDER PAVED AREAS, BACKFILL SHALL BE SELECT FILL COMPACTED PER THE SPECIFICATIONS.

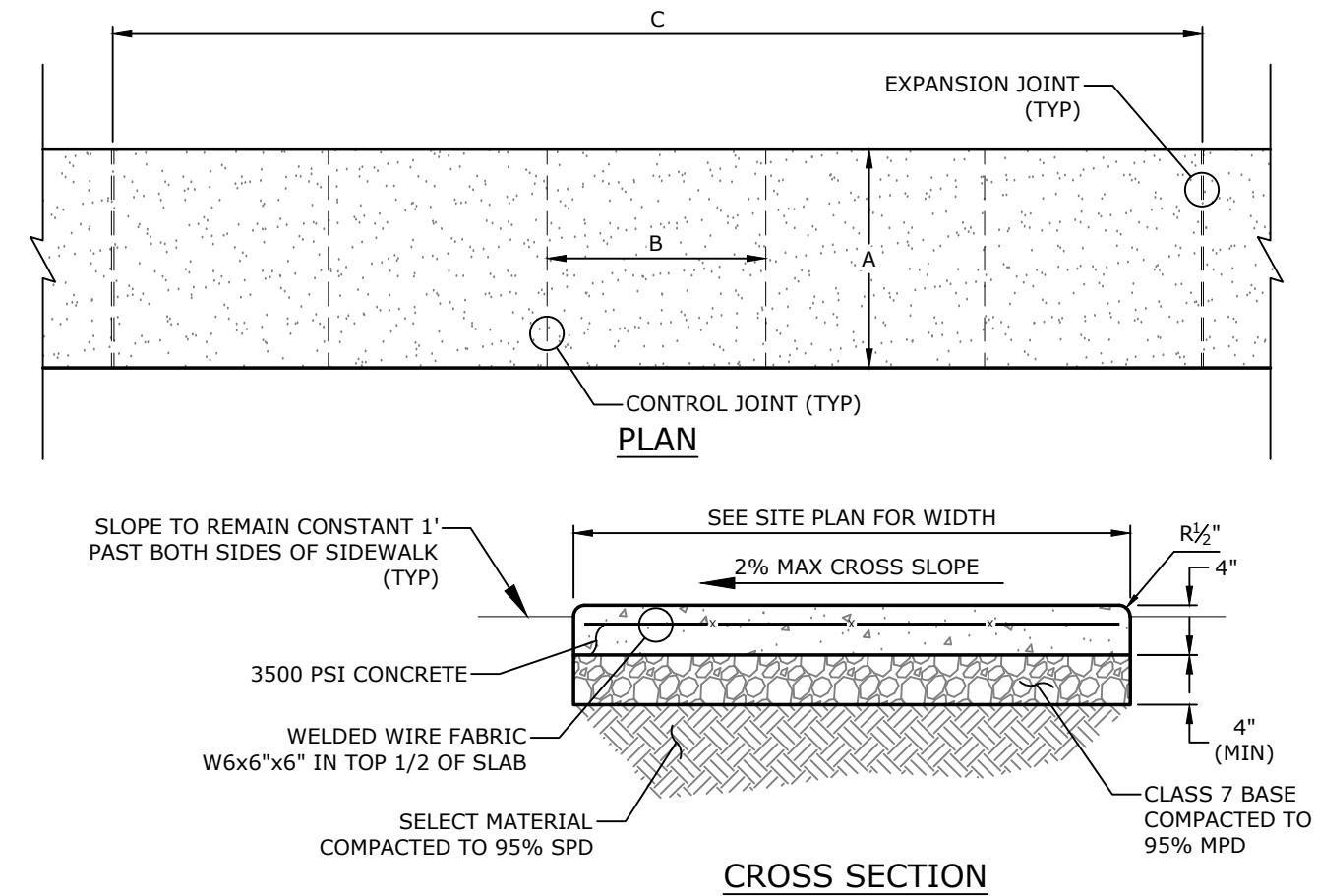


SLIDE GATE DETAIL
N.T.S.

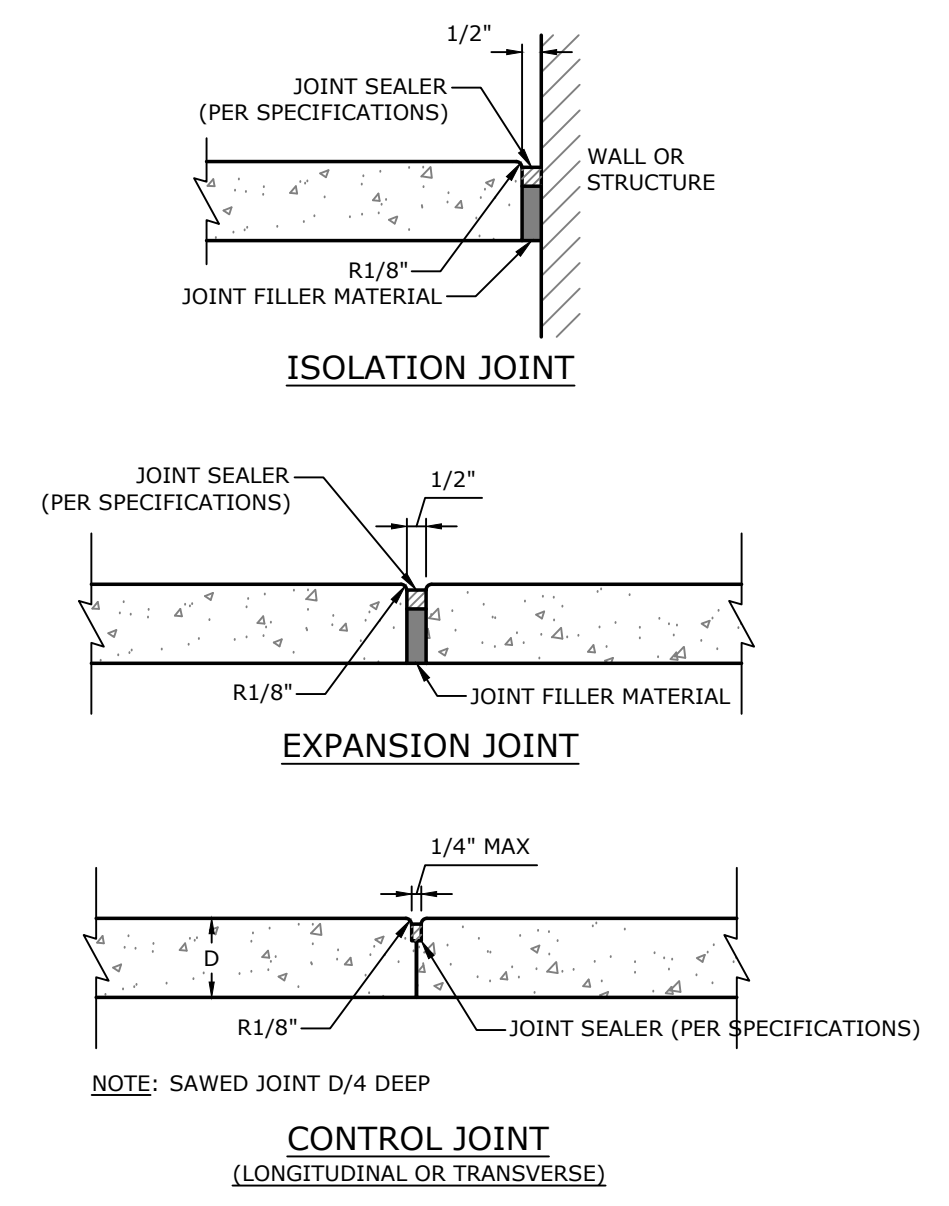
MATERIAL SPECIFICATION:
THE SLIDE GUIDES, SLIDE PLATE AND ANY NECESSARY REINFORCING FOR HYDRO GATE HAND-PULL GATES ARE MANUFACTURE FROM ALUMINUM MEETING THE REQUIREMENTS OF ASTM SPECIFICATION B209 ALLOY OR B308 ALLOY 6061.

- NOTES:**
1. CONCRETE FOR SIDEWALK SHALL HAVE A COMPRESSIVE STRENGTH OF 3,500 PSI AT 28 DAYS (MIN).
 2. ALL SIDEWALKS SHALL HAVE A BROOMED FINISHED UNLESS OTHERWISE SPECIFIED.
 3. ALL JOINTING TO BE LOCATED PER SIDEWALK JOINTING DETAILS.
 4. CURING COMPOUND IS REQUIRED UNLESS TEMPERATURES STAY BELOW 50° FAHRENHEIT FOR 7 DAYS. CURING COMPOUND MUST BE COLORED WHITE, RED, OR PINK. CLEAR CURING COMPOUND IS UNACCEPTABLE. IF CONCRETE IS NOT CURED WHEN REQUIRED, IT WILL BE CONSIDERED GROUNDS FOR REMOVAL AND REPLACEMENT.
 5. ALL CONTROL JOINTING TO BE SAWCUT OR TOOLED JOINTED PER SIDEWALK JOINTING (DETAIL 22C).

A	SEE SITE PLAN
B	A
C	Bx5



CONCRETE SIDEWALK
N.T.S.



SIDEWALK JOINTING DETAIL
N.T.S.

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REGISTERED PROFESSIONAL ENGINEER
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BAR SCREEN
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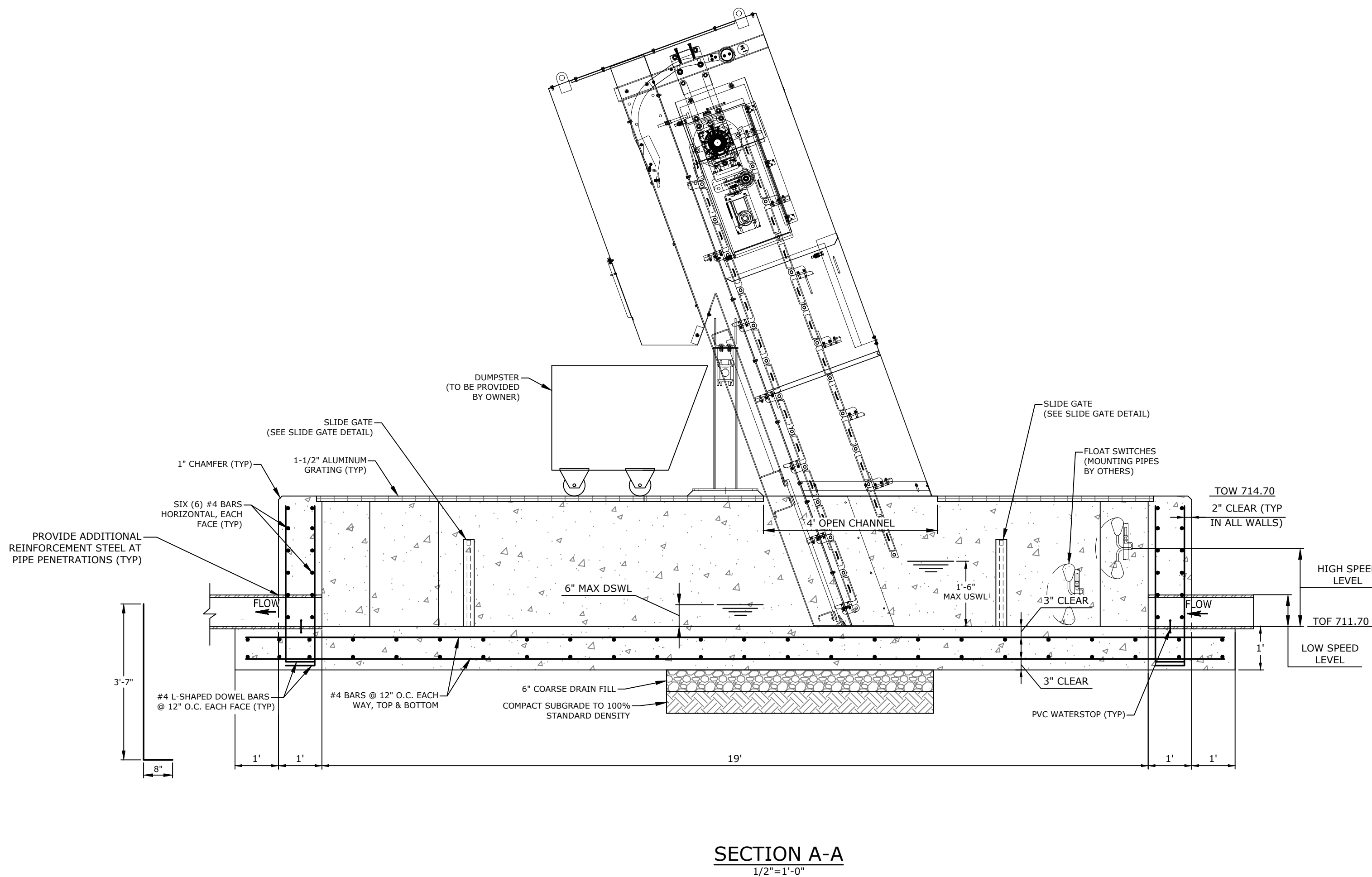
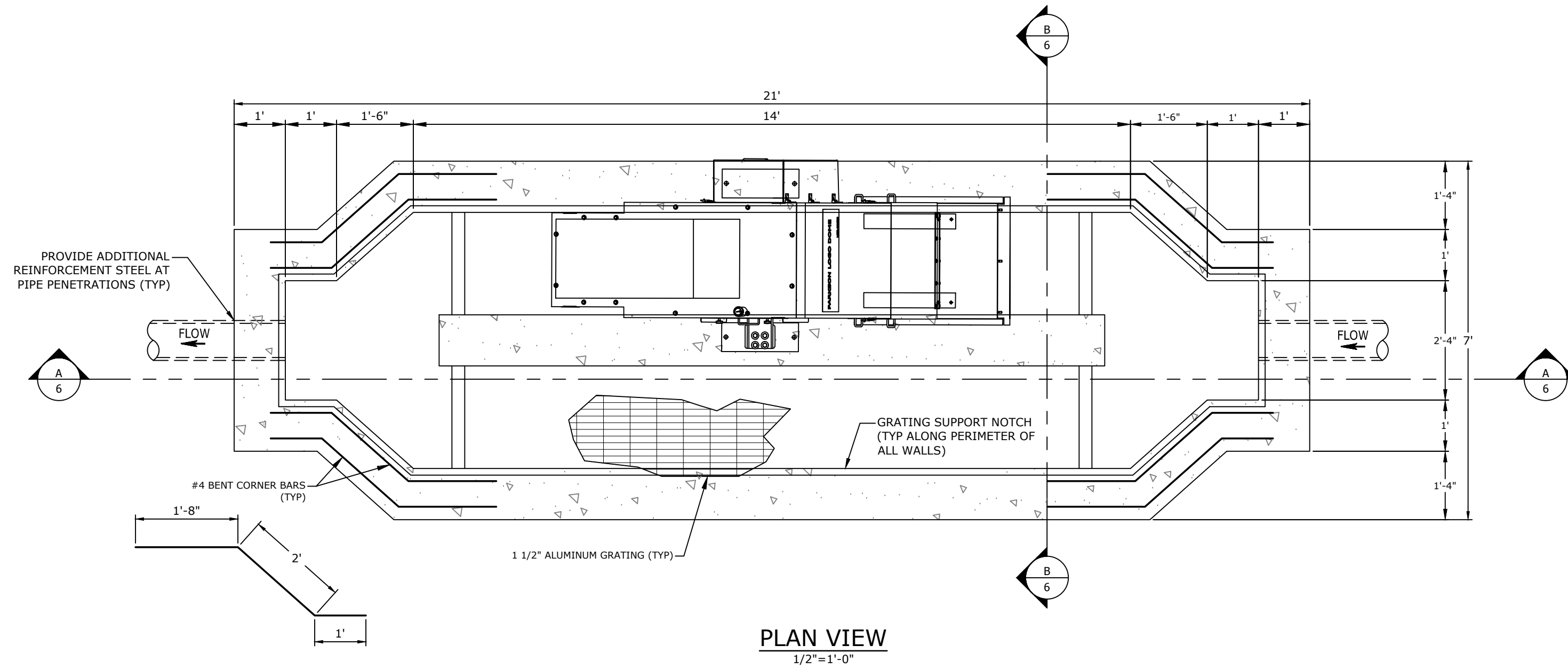
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MISCELLANEOUS DETAILS

DESIGNED BY: AST
DATE: JUNE 7, 2023
SCALE: NTS

DRAWN BY: BRIN SR.
REVISION:
JOB NUMBER: 23-5738

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GENERAL NOTES

1. THE STRUCTURAL PLANS AND SPECIFICATIONS, TO THE BEST OF OUR KNOWLEDGE, COMPLY WITH THE APPLICABLE REQUIREMENTS OF THE 2021 ARKANSAS FIRE PREVENTION CODE, VOLUME II (2021 INTERNATIONAL BUILDING CODE).
2. ALL STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH AND COORDINATED WITH THE OTHER PROJECT DRAWINGS AND SPECIFICATIONS. REFER TO THE MECHANICAL, AND ELECTRICAL DRAWINGS FOR ANCHORS, PIPE SLEEVES, CONDUITS OR OTHER ITEMS TO BE EMBEDDED IN OR PASS THROUGH CONCRETE. IN GENERAL, EMBEDMENTS AND PENETRATIONS LESS THAN 10" IN DIAMETER ARE NOT SHOWN ON THE STRUCTURAL DRAWINGS.
3. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED SIZES.
4. EXISTING STRUCTURE DIMENSIONS SHALL BE FIELD VERIFY PRIOR TO CONSTRUCTION.

ALUMINUM GRATING NOTES

1. ALUMINUM GRATING SHALL BE RECTANGULAR GRATING BY OHIO GRATINGS, OR APPROVED EQUAL. SERIES SHALL BE 19-SG-4, UNLESS NOTED OTHERWISE ON THE DRAWINGS OR REQUIRED BY SPAN REQUIREMENTS.
2. MINIMUM GRATING DEPTH SHALL BE AS INDICATED ON THE DRAWINGS.
3. ALLOWABLE GRATING DEFLECTION SHALL BE 1/4", MAXIMUM, OVER THE SPAN LENGTH.
4. GRATING SHALL BE DESIGNED TO RESIST A UNIFORM LOAD OF 100 PSF, AND A MAXIMUM CONCENTRATED LOAD OF 300 POUNDS APPLIED AT MID-SPAN. THE UNIFORM AND CONCENTRATED LOADS ARE NOT REQUIRED TO BE APPLIED CONCURRENTLY.
5. ALUMINUM GRATING IN CONTACT WITH CONCRETE OR DISSIMILAR METALS SHALL BE COATED WITH ONE (1) COAT OF COAL TAR EPOXY.
6. CONTRACTOR SHALL SUBMIT ON THE PROPOSED GRATING PANEL LAYOUT.
7. ALUMINUM GRATING SHALL BE BANDED ALONG ALL EDGES AND OPENINGS WITH A CONTINUOUS BAR EQUAL TO THE DEPTH OF THE BEARING BARS. PENETRATIONS IN THE GRATING GREATER THAT 2-INCHES IN DIAMETER SHALL BE BANDED.

ADHESIVE ANCHOR NOTES

1. ADHESIVE ANCHOR SHALL BE HILTI HIT HY-200 BY HILTI CORPORATION, SET 3G BY SIMPSON STRONG-TIE COMPANY, AC 200+ BY DEWALT, OR APPROVED EQUAL.
2. CONTRACTOR SHALL ADHERE TO THE ADHESIVE ANCHOR MANUFACTURERS INSTALLATION INSTRUCTIONS.
3. ADHESIVE ANCHOR SHALL BE STORED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

REINFORCED CONCRETE NOTES

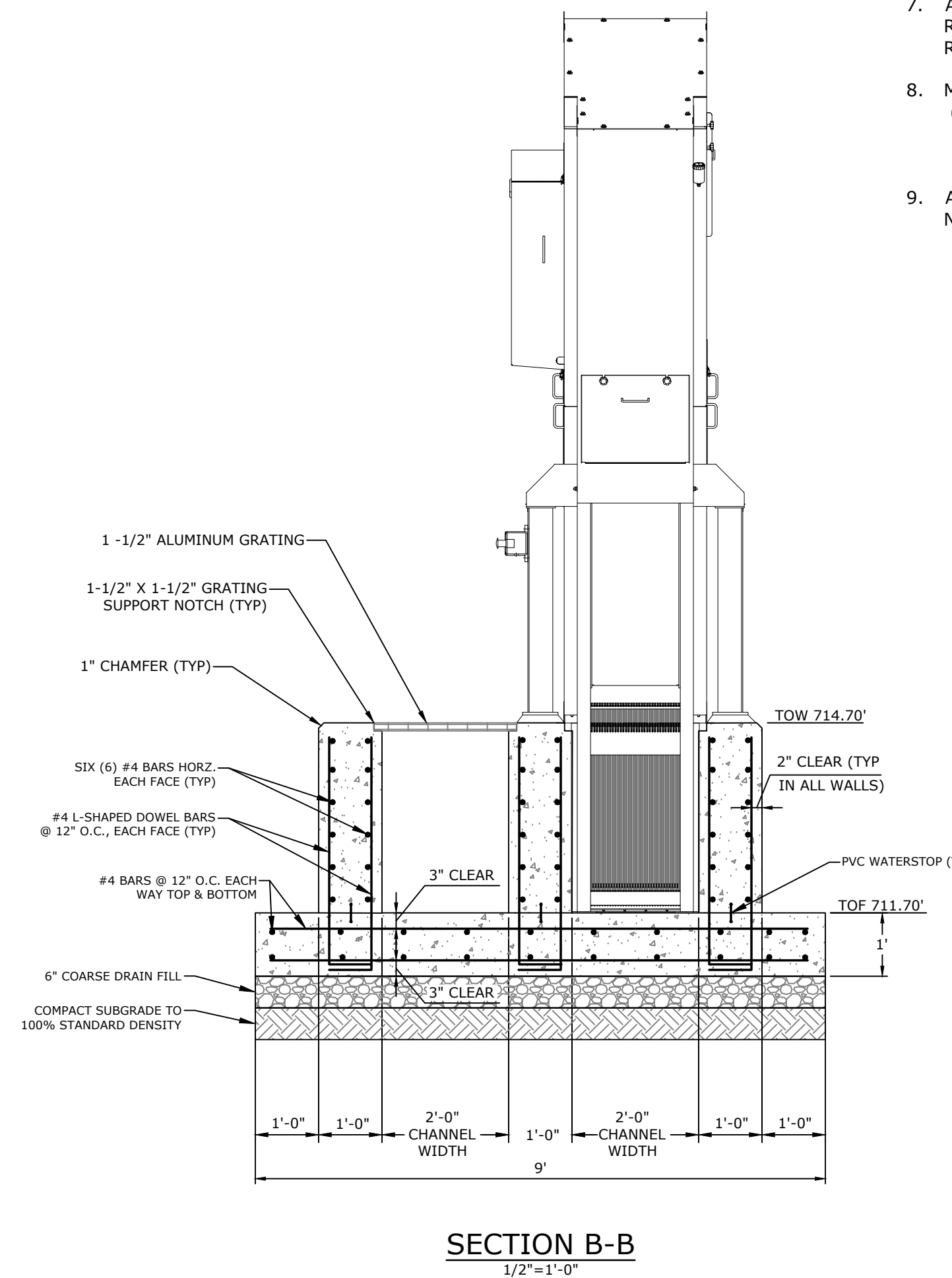
1. REINFORCED CONCRETE AND CONCRETING PRACTICES SHALL CONFORM TO THE FOLLOWING AMERICAN CONCRETE INSTITUTE (ACI) DOCUMENTS:
 - A. ACI 117 SPECIFICATION FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS AND COMMENTARY
 - B. ACI 315 DETAILS AND DETAILING OF CONCRETE REINFORCEMENT
 - C. ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY, LATEST EDITION
 - D. ACI 350 CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES AND COMMENTARY
2. ALL EXPOSED CONCRETE SHALL BE AIR ENTRAINED.
3. REINFORCEMENT STEEL SHALL CONFORM TO ASTM A615, GRADE 60. REINFORCING BARS SPECIFIED TO BE WELDED SHALL CONFORM TO ASTM A706 GRADE 60.
4. REINFORCING STEEL FABRICATION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CRSI MANUAL OF STANDARD PRACTICE.
5. DEVELOPMENT LENGTH SHALL BE AND LAP SPLICE LENGTH SHALL BE AS SHOWN IN THE LAP SPLICE SCHEDULE SHOWN IN THE STRUCTURAL DETAILS.

BAR Ø	VERTICAL BAR ORIENTATION			HORIZONTAL BAR ORIENTATION		
	CONCRETE COVER	CONCRETE COVER	CONCRETE COVER	CONCRETE COVER	CONCRETE COVER	CONCRETE COVER
3	1 1/2"	2"	3"	1 1/2"	2"	3"
4	16	16	16	16	16	16

- a. TABLE IS BASED ON ACI 318-19 AND ASSUMES GRADE 60 REINFORCEMENT STEEL, $F_c = 4,000$ PSI, NORMAL-WEIGHT CONCRETE, AND UNCOATED REINFORCEMENT STEEL.
- b. MINIMUM REINFORCEMENT STEEL BAR SPACING IS 6" O.C.
- c. CONSULT WITH ENGINEER FOR LAP SPLICE LENGTHS IN CONCRETE WITH A COMPRESSIVE STRENGTH LESS THAN 4,000 PSI.

LAP SPLICE LENGTH TABLE

6. MINIMUM CONCRETE COVER SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:
 - A. CONCRETE CAST AGAINST AND PERMANENTLY IN CONTACT WITH GROUND: 3 INCHES
 - B. CONCRETE EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND: 2 INCHES
 - C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND: 1-1/2 INCHES
6. COORDINATE CONCRETE PENETRATIONS WITH OTHER DISCIPLINES. REINFORCEMENT STEEL INTERRUPTED BY PENETRATIONS SHALL BE REPLACED.
7. ADJOINING CONCRETE SURFACES NOT PLACED MONOLITHICALLY SHALL BE ROUGHENED TO 1/4-INCH AMPLITUDE. A BONDING AGENT SHALL BE APPLIED AS REQUIRED.
8. MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS: (SEE SPECIFICATIONS FOR CLASSES OF CONCRETE)
 - A. CLASS B (SIDEWALKS/PAVEMENTS) $F_c = 3,500$ PSI
 - B. CLASS C (STRUCTURAL CONCRETE) $F_c = 4,000$ PSI
9. ALL EXPOSED CORNERS OF CONCRETE SHALL HAVE 1-INCH CHAMFER, UNLESS NOTED OTHERWISE.



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ADC NORTH CENTRAL UNIT
BAR SCREEN
CALICO ROCK, ARKANSAS



REV	DATE	DESCRIPTION

BAR SCREEN STRUCTURAL DETAILS

DESIGNED BY: CPM
DRAWN BY: BRIN SR.
DATE: 6/7/2023
REVISION: ---
SCALE: AS SHOWN
JOB NUMBER: 23-5738

POWER, LIGHTING & SYSTEM LEGEND

	STREET LIGHT		3/4" PLYWOOD TELEPHONE BACKBOARD, SIZE AS NOTED, MTD. 5'-6" TO TOP
	1x4 FLUORESCENT LIGHT		JUNCTION BOX 42 CUBIC INCH MINIMUM CAPACITY
	2x4 FLUORESCENT LIGHT		SMOKE DETECTOR, WALL MTD.
	FLUORESCENT LIGHT WITH EMERGENCY LIGHT (EL) BATTERY 1400 LUMENS MINIMUM FOR 2 LAMPS		SMOKE DETECTOR, CEILING MTD.
	2x2 FLUORESCENT LIGHT		FIRE ALARM PULL STATION MTD. 4'-0" A.F.F.
	RECESSED LIGHT, UNLESS OTHERWISE SHOWN		FIRE ALARM PULL STATION MTD. 4'-0" A.F.F. AND HORN MTD. 7'-0" A.F.F.
	WALL MOUNTED LIGHT—MOUNTING HEIGHT AS INDICATED		SMOKE DETECTOR, HVAC DUCT MTD.
	LED EXIT LIGHT CEILING MOUNTED, DARKENED AREA INDICATES FACE, ARROWS INDICATE DIRECTION OF EGRESS		FIRE ALARM CHIME 7'-0" A.F.F.
	4 FT. STRIP FLUORESCENT LIGHT		SPRINKLER FLOW SWITCH
S	LIGHT SWITCH, MTD. 4'-0" A.F.F.		FLOOR TELEPHONE OUTLET, CAST JUNCTION—BOX
S ₂	LIGHT SWITCH, 2 POLE, MTD 4'-0" A.F.F.		WALL TELEPHONE OUTLET
S ₃	LIGHT SWITCH, 3-WAY, MTD. 4'-0" A.F.F.		DOOR SWITCH MOUNTED IN DOOR JAMB
S ₄	LIGHT SWITCH, 4-WAY, MTD. 4'-0" A.F.F.		DOOR BUTTON WEATHER PROOF, 50" A.F.F.
S _p	LIGHT SWITCH WITH PILOT LIGHT, MTD. 4'-0" A.F.F.		DOOR BUZZER MTD 7'-0" A.F.F.
	20 AMP DUPLEX RECEPTACLE MTD. HORIZ. 6" ABOVE COUNTER TOP UNLESS OTHERWISE SHOWN		JUNCTION BOX PER DETAIL
	20 AMP DUPLEX RECEPTACLE		CIRCUIT BREAKER, TRIP RATING SHOWN, 3-POLE UNLESS NOTED
	SINGLE RECEPTACLE, RATINGS AS NOTED		FUSE, CURRENT LIMITING, RATING AS SHOWN
	HP RATED TOGGLE SWITCH, 1 OR 2 POLES AS REQUIRED W/OVERLOADS		TRANSFORMER, RATINGS AS SHOWN
	NON-FUSED DISCONNECT SWITCH, SIZE AS NOTED		ELECTRIC MOTOR, HORSEPOWER SHOWN
	COMBINATION DISCONNECT AND MOTOR STARTER, SIZE AS NOTED. FUSED TYPE SHOWN.		MOTOR STARTER, SIZE AS SHOWN OR REQUIRED. FVNR UNLESS NOTED
	FUSED DISCONNECT SWITCH, SIZE AS NOTED		VARIABLE FREQUENCY DRIVE
	PUSHBUTTON STATION, NEMA 4X		DUCT BANK, IDENTIFIER SHOWN. REFER TO DUCT BANK SCHEDULE FOR SIZE AND CONFIGURATION.
	ELECTRICAL PANEL, SURFACE MOUNTED, 5'-6" TO TOP OF ENCLOSURE		3/4" x 10' COPPER CLAD GROUND ROD
	ELECTRICAL PANEL, RECESSED MOUNTED, 5'-6" TO TOP OT ENCLOSURE		SURGE ARRESTOR
	EQUIPMENT CABINET SIZE AS NOTED, RECESSED MOUNTED, 5'-6" TO TOP OF ENCLOSURE		GENERATOR
	EQUIPMENT CABINET SIZE AS NOTED, SURFACE MOUNTED, 5'-6" TO TOP OF ENCLOSURE		ATS
	HOME RUN TO PANEL, RECEPTACLES AND EQUIPMENT SHALL HAVE GREEN GROUND WIRE. NUMBER OF ARROWS INDICATES NUMBER OF PHASE CONDUCTORS, LETTER(S) INDICATE NAME OF PANEL, NUMBER(S) INDICATE CIRCUIT NUMBERS		WEATHERHEAD
	BRANCH CIRCUIT WITH PHASE, NEUTRAL, SWITCHED PHASE AND EQUIPMENT GROUNDING CONDUCTORS		CABLE CONNECTION
	TELEPHONE OUTLET, SINGLE GANG BOX MTD. 18" A.F.F. WITH 3/4"C STUB TO ABOVE LAY-IN CEILING. "W" INDICATES 4'-6" MTD. HEIGHT FOR WALL PHONE.		

LINE TYPES

	FURNISH + INSTALL
	EXISTING

2(3#8 + 1#8 + 1#10EG) 3/4" GRS

	CONDUIT TYPE (SEE ABBREVIATIONS) REFER TO SPECIFICATIONS IF NOT SHOWN
	CONDUIT SIZE
	GROUNDING (GROUND) CONDUCTOR, NUMBER AND SIZE
	GROUNDING (NEUTRAL) CONDUCTOR, NUMBER AND SIZE
	PHASE (HOT) CONDUCTOR, NUMBER AND SIZE
	NUMBER OF SETS

ABBREVIATIONS

A	AMP	TEL	TELEPHONE
ACU	AIR CONDITIONING UNIT	TD	TIME DELAY
AFF	ABOVE FINISHED FLOOR	TDD	TIME DELAY ON DE-ENERGIZATION
AIC	AMPS INTERRUPTING CAPACITY	TDE	TIME DELAY ON ENERGIZATION
AM	AMP-METER	TYP	TYPICAL
ANN	ANNUNCIATOR	TC	TIME CLOCK
AP	AERIAL PRIMARY	UG	UNDER GROUND
AS	AERIAL SECONDARY	UH	UNIT HEATER
AUX	AUXILIARY	UP	UNDERGROUND PRIMARY
BFI	BLOWN FUSE INDICATOR	US	UNDERGROUND SECONDARY
BKR	BREAKER	VA	VOLT-AMP
C	CONDUIT	VFD	VARIABLE FREQUENCY DRIVE
CGRS	PVC COATED GALVANIZED RIGID STEEL	VM	VOLT-METER
CKT	CIRCUIT	W	WATT OR WIRE
COM	COMMON	WH	WEATHER HEAD
CONT	CONTINUOUS	WM	WATT METER
CP	CONTROL PANEL	WP	WEATHERPROOF
CPT	CONTROL POWER TRANSFORMER	W/	WITH
CR	CONTROL RELAY	XMFR	TRANSFORMER
CS	CORD SET		
CU	COEFFICIENT OF UTILIZATION		
DEB	DIRECT EARTH BURIED		
EC	EMPTY OR EMBEDDED CONDUIT		
EF	EXHAUST FAN		
EG	EQUIPMENT GROUND		
EL	ELEVATION		
EMT	ELECTRICAL METALLIC TUBING		
ETM	ELAPSED TIME METER		
FA	FIRE ALARM		
FAP	FIRE ALARM PANEL		
FC	FAN COIL		
FLR	FLOOR		
FOC	FIBER OPTIC CABLE		
FS	FLOAT SWITCH		
FT	FEET		
FVNR	FULL VOLTAGE NON-REVERSING STARTER		
FVR	FULL VOLTAGE REVERSING STARTER		
GFCI	GROUND FAULT CIRCUIT INTERRUPTER		
GND	GROUND		
GRS	GALVANIZED RIGID STEEL		
HOA	HAND-OFF-AUTO		
HP	HORSEPOWER OR HEAT PUMP		
HR	HOUR		
JB	JUNCTION BOX		
KVA	KILOVOLT-AMPERE		
kVAR	KILOVOLT-AMPERE, REACTIVE		
KW	KILOWATT		
LA	LIGHTNING ARRESTOR		
L.O.	LUGS ONLY		
LV	LOW VOLTAGE		
MCB	MAIN CIRCUIT BREAKER		
MCC	MOTOR CONTROL CENTER		
MCP	MOTOR CIRCUIT PROTECTOR		
MFR	MANUFACTURER		
MIN	MINIMUM		
MS	MOTOR STARTER		
MTD	MOUNTED		
NFDS	NON-FUSED DISCONNECT SWITCH		
NTS	NOT TO SCALE		
OC	ON CENTER		
OH	OVERHEAD		
OL	OVERLOAD		
PB	PUSH BUTTON		
PEC	PHOTO ELECTRIC CELL		
PF	POWER FACTOR		
PL	PILOT LIGHT		
PMR	PHASE MONITOR RELAY		
PNL	PANEL		
PTT	PUSH-TO-TEST		
PVC	SCHEDULE 40 POLYVINYL CONDUIT		
RECPT	RECEPTACLE		
RM	ROOM		
RVAT	REDUCED VOLTAGE AUTO-TRANSFORMER STARTER		
S	SECOND		
SA	SURGE ARRESTER		
SDBC	SOFT DRAWN BARE COPPER		
SE	SERVICE ENTRANCE		
SHT	SHEET		
SN	SOLID NEUTRAL		
SS	STAINLESS STEEL		
STA	STATION		
SW	SWITCH		

CONTROL SCHEMATIC LEGEND

	WIRING WITHIN PANEL
	WIRING TO FIELD DEVICE
	PUSHBUTTON SWITCH, NORMALLY OPEN
	PUSHBUTTON SWITCH, NORMALLY CLOSED
	SELECTOR SWITCH, NUMBER OF POSITIONS AND CONTACTS AS SHOWN
	RELAY CONTACT, NORMALLY OPEN
	RELAY CONTACT, NORMALLY CLOSED
	TIME DELAY CONTACT, CLOSE ON ENERGIZATION
	TIME DELAY CONTACT, OPEN ON ENERGIZATION
	TIME DELAY CONTACT, OPEN ON DE-ENERGIZATION
	TIME DELAY CONTACT, CLOSE ON DE-ENERGIZATION
	LEVEL SWITCH
	PRESSURE SWITCH
	LIMIT SWITCH CONTACT, NORMALLY OPEN
	LIMIT SWITCH CONTACT, NORMALLY CLOSED
	LIMIT SWITCH CONTACT, HELD OPEN
	LIMIT SWITCH CONTACT, HELD CLOSED
	RELAY COIL, "TR" INDICATES "TIMING RELAY"
	PILOT LIGHT; "A" INDICATES "AMBER LENS", "G" INDICATES "GREEN LENS", "R" INDICATES "RED LENS"
	SOLENOID
	ELAPSED TIME METER
	TERMINAL BLOCK
	ELECTRICAL CONNECTION
	FUSE, AMPERE RATING AS SHOWN OR REQUIRED "BFI" INDICATES "BLOWN FUSE INDICATOR" TYPE
	GROUND CONNECTION TO ENCLOSURE GROUND BAR

GENERAL NOTES:

1. SOME SYMBOLS OR ABBREVIATIONS MAY APPEAR ON THIS SHEET AND NOT BE UTILIZED ON THE PROJECT.

P:\PRODUCTION\PROJECTS\MCCLELLAND CONSULTING ENGINEERS (MCE)\MCE-194 CALICO ROCK NORTH CENTRAL UNIT BAR SCREEN\DWG\E01_LEGEND.DWG 6/5/2023 12:33 PM

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NO.	DATE	DESCRIPTION	REVISIONS		
			BY	DATE	DESCRIPTION

ELECTRICAL LEGEND	
DESIGNED BY: BB	DRAWN BY: KK
DATE: JUNE, 2023	REVISION:
SCALE: AS SHOWN	JOB NUMBER: MCE-194
E 1	

MANUFACTURER-DESIGNED EQUIPMENT SYSTEM NOTES:

1. THIS PROJECT INCLUDES THE CONSTRUCTION OF MANUFACTURER-DESIGNED EQUIPMENT SYSTEMS.
2. POWER, SIGNAL AND CONTROL CIRCUITS ARE SHOWN ON THESE DRAWINGS BASED ON SIMILAR MANUFACTURER-DESIGNED EQUIPMENT SYSTEMS.
3. THE FINAL POWER, SIGNAL AND CONTROL CIRCUIT REQUIREMENTS SHALL BE DETERMINED BY THE APPROVED MANUFACTURER.
4. DRAWINGS, SPECIFICATIONS, INSTALLATION MANUALS, AND OTHER REQUIRED DOCUMENTATION SHALL BE PROVIDED BY THE APPROVED MANUFACTURERS AND MAY INCLUDE ADDITIONAL AND/OR ALTERED REQUIREMENTS THAN SHOWN ON THESE DRAWINGS.
5. THE CONTRACTOR SHALL COORDINATE WITH THOSE APPROVED SUBMITTAL DRAWINGS AND PROVIDE ALL REQUIRED LABOR AND MATERIALS NECESSARY FOR A COMPLETE AND ACCEPTED SYSTEM AT NO ADDITIONAL COST TO THE OWNER.

HAZARDOUS LOCATION NOTES:

1. THIS PROJECT INCLUDES THE INSTALLATION OF ELECTRICAL SYSTEMS IN LOCATIONS DEFINED BY THE NATIONAL FIRE PROTECTION AGENCY (NFPA) AS HAZARDOUS (CLASSIFIED) LOCATIONS. WASTEWATER COLLECTION SYSTEMS AND WASTEWATER TREATMENT PROCESSES ARE FIRE AND EXPLOSION HAZARDS DUE TO THE POSSIBLE IGNITION OF FLAMMABLE GASSES AND FLOATING FLAMMABLE LIQUIDS.
2. WIRING MATERIALS AND METHODS IN HAZARDOUS (CLASSIFIED) LOCATIONS SHALL MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC), ARTICLE 500, HAZARDOUS (CLASSIFIED) LOCATIONS. INSTALLATION SHALL BE DONE BY PERSONS TRAINED AND EXPERIENCED IN HAZARDOUS (CLASSIFIED) LOCATION WORK.
3. CONDUIT SEAL FITTINGS SHALL BE FURNISHED AND INSTALLED AT BOUNDARIES OF HAZARDOUS (CLASSIFIED) LOCATIONS. BOUNDARIES OF HAZARDOUS (CLASSIFIED) LOCATIONS ARE BETWEEN CLASS I AND UNCLASSIFIED LOCATIONS, CLASS I AND CLASS II LOCATIONS, CLASS II AND UNCLASSIFIED LOCATIONS. CONDUIT SEAL FITTINGS SHALL BE LOCATED AS REQUIRED BY THE NATIONAL ELECTRICAL CODE.
4. RIGID CONDUIT IN HAZARDOUS (CLASSIFIED) LOCATIONS SHALL BE RIGID METAL CONDUIT (RMC) OR CONCRETE-ENCASED PVC. FLEXIBLE CONDUIT IN HAZARDOUS (CLASSIFIED) LOCATIONS SHALL BE RATED FOR THE HAZARD CLASSIFICATION IN WHICH IT IS INSTALLED.

FURNISH AND INSTALL NEW 20A/3P FEEDER BUCKET FOR EXISTING SQUARE D MODEL 5 MCC

CLASS 1, DIV 1 WITHIN 10' ENVELOPE AROUND EQUIPMENT AND OPEN CHANNEL

EXISTING MCC 240 VOLT, 3 PHASE

CONTRACTOR SHALL FIELD VERIFY EXISTING SERVICE VOLTAGE AND COORDINATE NEW EQUIPMENT ELECTRICAL REQUIREMENTS

CONTROL BUILDING

(3#10+1#10EG)1" C

LOCATE SCREEN CONTROL PANEL OUTSIDE CLASSIFIED AREA

FURNISH AND INSTALL NEW FEEDER BUCKET



2 PHOTO 1
SCALE: NONE

1 ELECTRICAL SITE PLAN
SCALE: 1" = 5'



SCALE: 1" = 5'



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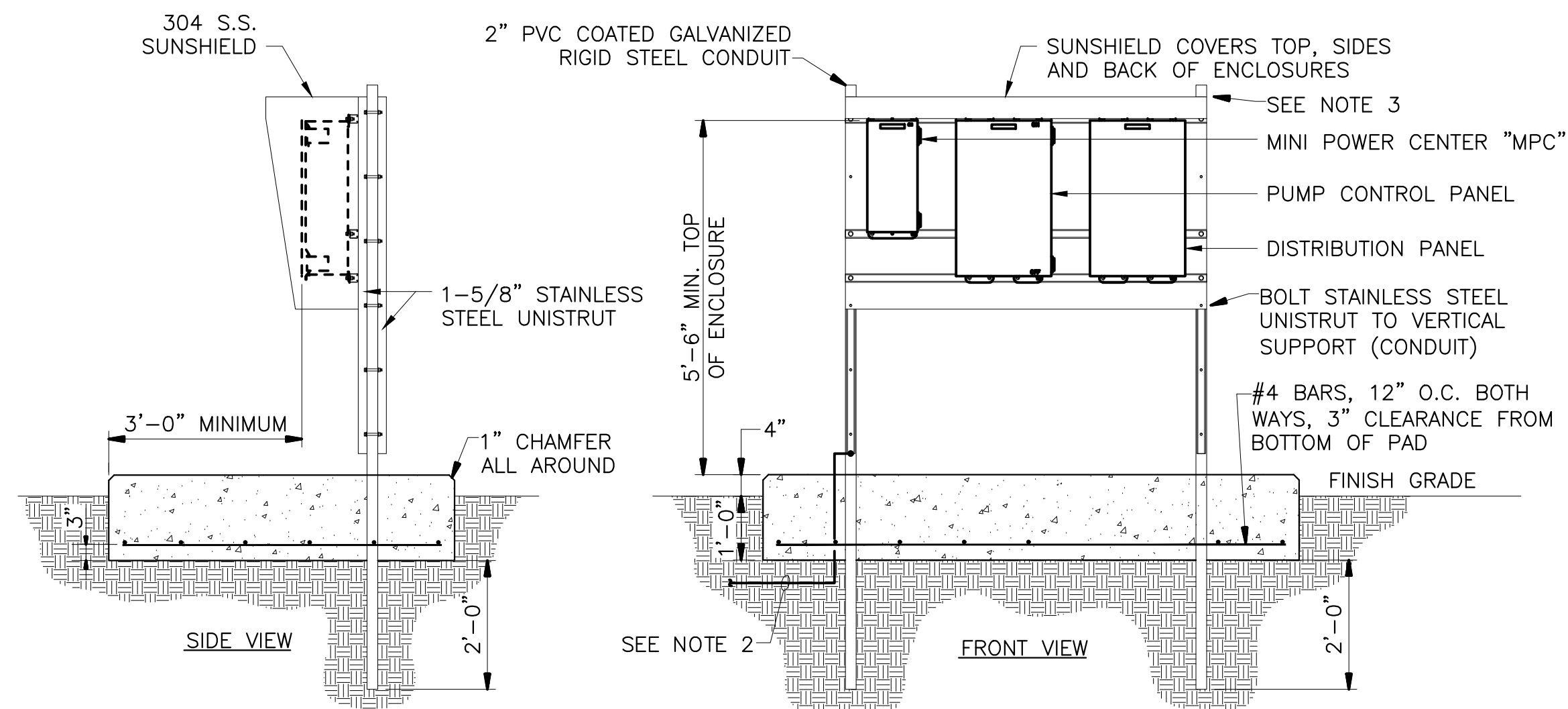
NO.	DATE	DESCRIPTION

ELECTRICAL SITE PLAN

DESIGNED BY: BB	DRAWN BY: KK
DATE: JUNE, 2023	REVISION:
SCALE: AS SHOWN	JOB NUMBER: MCE-194

E2

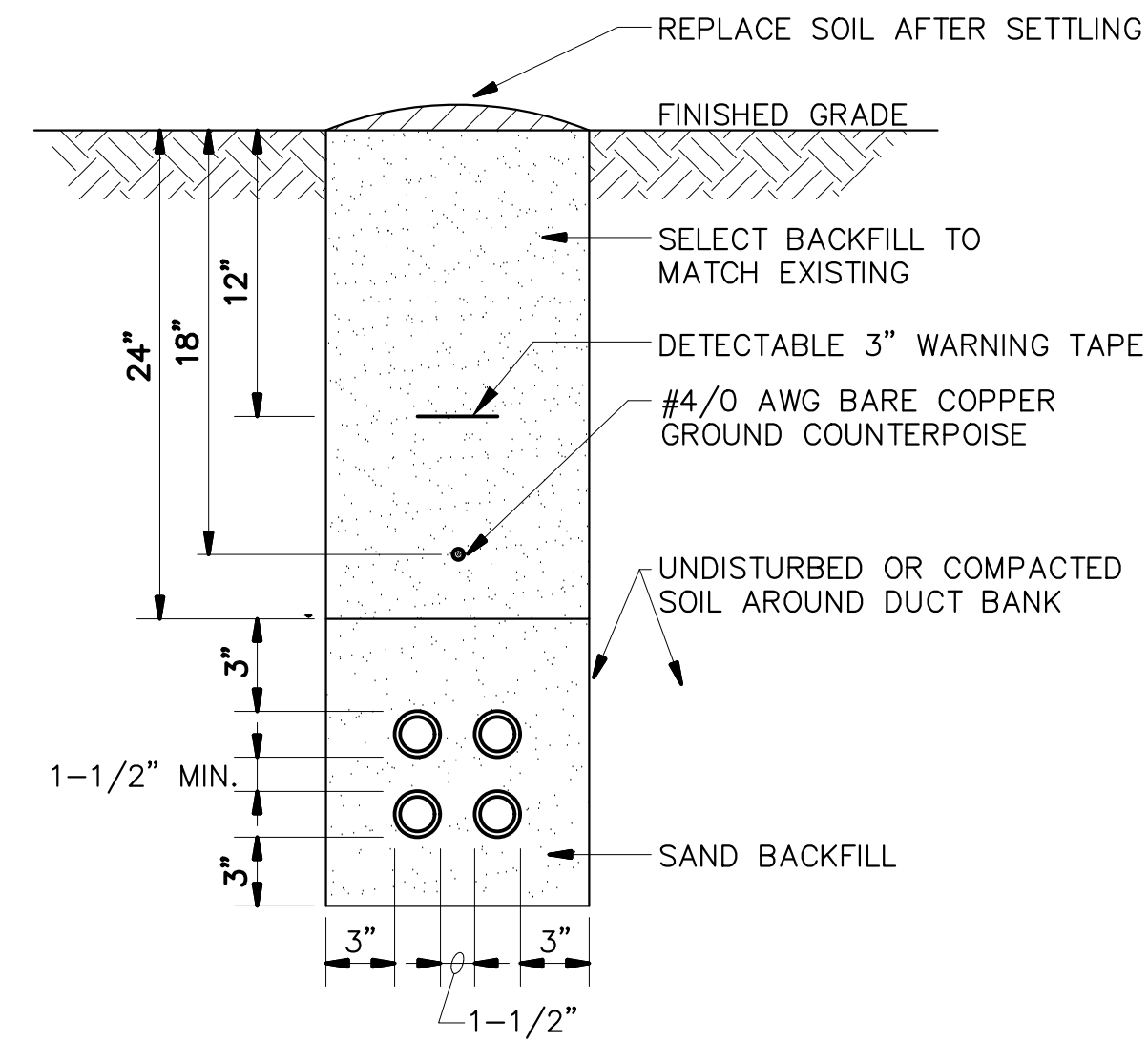
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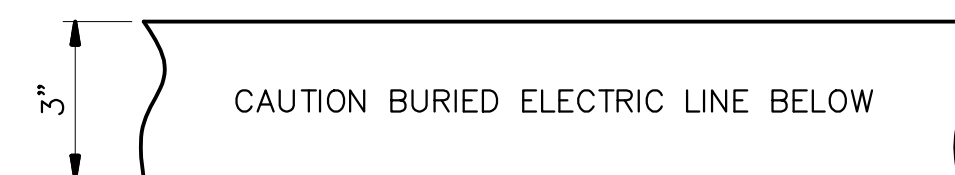
1 MISC. SUPPORT DETAIL
SCALE: NONE

NOTES:

1. ALL BOLTS, NUTS, WASHERS, ANCHORS, PLATES, AND OTHER MOUNTING STEMS SHALL BE CORROSION RESISTANT, STAINLESS STEEL.
2. BOND ELECTRICAL EQUIPMENT SUPPORT FRAME TO COUNTERPOISE AND GROUND RINGS USING 1#4/0 AND EXOTHERMIC WELDS.
3. PROVIDE VERTICAL SUPPORTS EVERY 3 FEET.



2 TRENCH DETAIL
SCALE: NONE



GENERAL NOTES:

1. POWER MARKING TAPES SHALL BE DETECTABLE TYPE CONSTRUCTION WITH RED BACKGROUND AND BLACK LETTERING.
2. COMMUNICATION MARKING TAPES SHALL BE DETECTABLE TYPE CONSTRUCTION WITH ORANGE BACKGROUND AND BLACK LETTERING, "TELEPHONE LINE" OR "FIBER OPTIC LINE" RESPECTIVELY.
3. TAPE SHALL BE DETECTABLE, DURABLE, HIGHLY VISIBLE, RESISTANT TO ELEMENTS, MEETING AND/OR EXCEEDING ALL INDUSTRY STANDARDS.

3 UNDERGROUND DETECTABLE WARNING TAPE
SCALE: NONE

ELECTRICAL DUCT NOTES:

1. CONTRACTOR SHALL STAKE THE DUCT INSTALLATION IN PLAN AND ELEVATION FOR NEW ELECTRICAL DUCTS TO AVOID EXISTING UTILITIES.
2. CONTRACTOR SHALL ADJUST THE DEPTH OF THE ELECTRICAL DUCTS AS REQUIRED TO MAINTAIN THE MINIMUM COVER REQUIREMENT INDICATED AND AVOID EXISTING UTILITIES.
3. SIMILAR CONSTRUCTION FOR OTHER DUCT SIZES. SEE DUCT BANK SCHEDULE FOR QUANTITY AND SIZES.
4. INSTALL DUCT CONDUIT SUPPORTS AT 5'-0" O.C. MAXIMUM SPACING (TYPICAL ALL DUCTS).
5. OFFSETS AND BENDS OVER 10 DEGREES AND ELBOWS IN PVC CONDUIT RUNS SHALL BE PVC COATED GALVANIZED RIGID STEEL CONDUIT PRIOR TO ITS EMERGENCE.
6. NO PVC SHALL EMERGE FROM THE GROUND OR CONCRETE SLAB OR ENCASEMENT, PVC SHALL CONVERT TO PVC COATED GALVANIZED RIGID STEEL CONDUIT PRIOR TO ITS EMERGENCE.
7. INSTALL GROUND RODS AT ENDS OF ELECTRICAL DUCT OR CONNECT TO GROUND RING.
8. INSTALL CONDUCTORS AND CABLES AS NOTED ON DRAWING. INSTALL PULLWIRE IN ALL SPARE DUCTS.
9. MINIMUM COVER REQUIREMENT FOR DUCT BANKS UNDER ROADS, DRIVEWAYS AND PARKING LOTS SHALL BE 24".
10. MINIMUM COVER REQUIREMENTS FOR ELECTRICAL SECONDARY SERVICE DUCT BANKS SHALL BE 30".
11. MINIMUM COVER REQUIREMENTS FOR ELECTRICAL PRIMARY SERVICE DUCT BANKS SHALL BE 36".

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