

U.S. 60 WATER DISTRICT

2021 WATER SYSTEM IMPROVEMENTS

CONTRACT NO. 1

SHELBY & SPENCER COUNTIES, KENTUCKY

TABLE OF CONTENTS

COVER	
GENERAL NOTES	GN-1
GRAEFENBURG PUMP STATION REPLACEMENT	
SITE PLAN	BPS-1
DETAIL DRAWINGS	BPS-2 - BPS-3
DRISCOLL TANK YARD PIPING MODIFICATIONS	
SITE PIPING PLAN	T-1
MISCELLANEOUS DETAIL DRAWINGS	T-2
HIGHWAY 395 CHECK VALVE VAULT	UV-1
STANDARD DETAIL DRAWINGS	SD-1 - SD-2

BOARD OF COMMISSIONERS

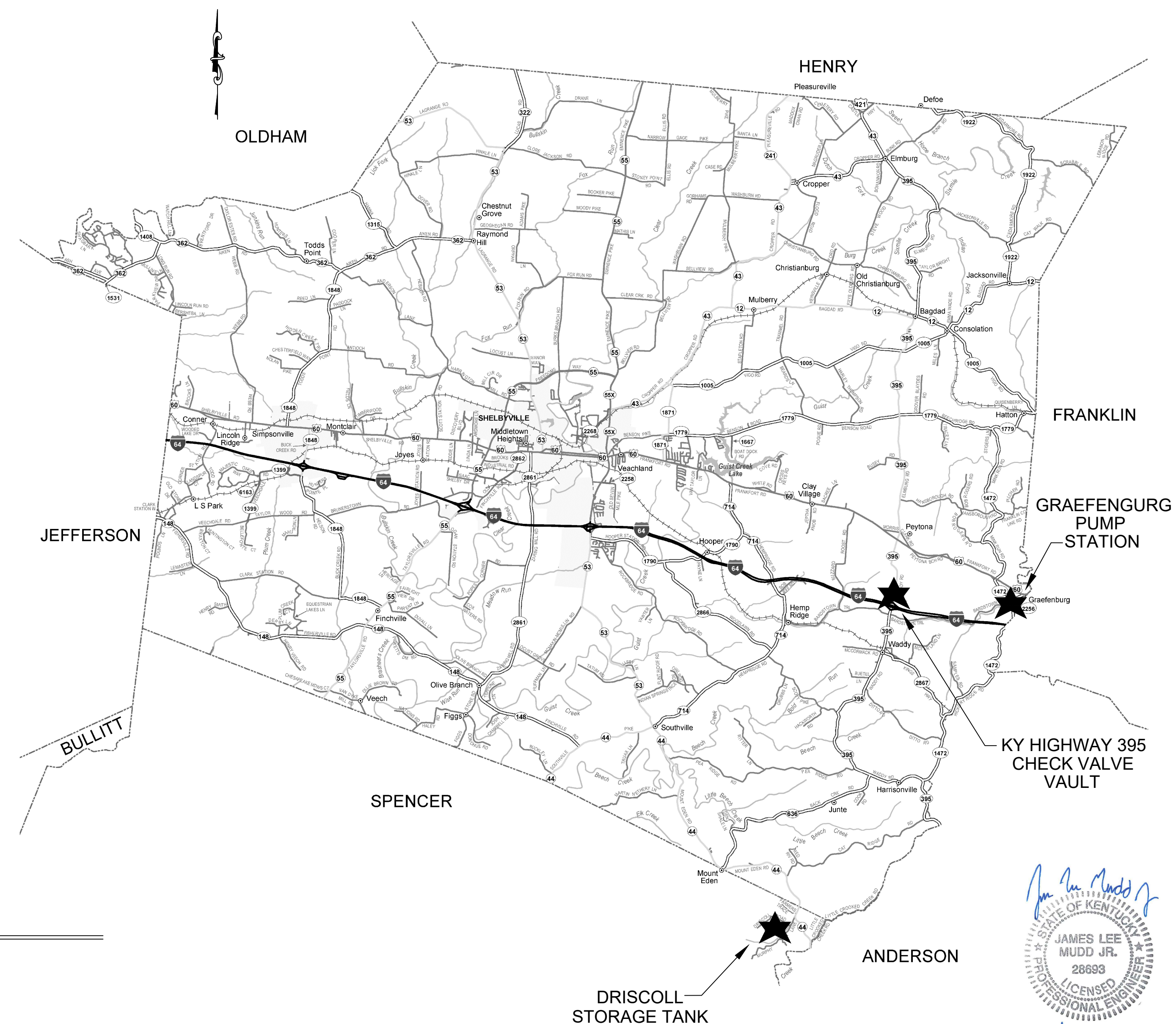
PAT HARGADON, CHAIRMAN
 ROBIN HILL
 STEVE MILLER
 WAYNE MORRIS
 JAMES RIDDLE

MANAGER
 PETE HEDGES

LOCAL COUNSEL
 DAVE BULLOCK

JANUARY 2023

LOCATION MAP



PROJECT FUNDED BY:
 U.S.D.A. RURAL DEVELOPMNET

M
 Monarch Engineering, Inc.
 556 CARLTON DRIVE
 LAWRENCEBURG, KY 40342

James Lee Mudd Jr.
 STATE OF KENTUCKY
 JAMES LEE MUDD JR.
 28693
 LICENSED PROFESSIONAL ENGINEER
 1-13-23

LOCATION AND SCOPE OF PROJECT

THE PROJECT AREA IS GENERALLY DEFINED AS SOUTHEASTERN SHELBY COUNTY AND NORTHEASTERN SPENCER COUNTY, KENTUCKY. THE WORK TO BE DONE UNDER THIS CONTRACT INCLUDES FURNISHING ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO CONSTRUCT THE 2022 WATER SYSTEM IMPROVEMENTS - CONTRACT NO. 1 IN ACCORDANCE WITH THE PLANS, SPECIFICATIONS AND CONTRACT DOCUMENTS.

GENERAL NOTES

- IT IS THE INTENTION OF THESE PLANS TO CONSTRUCT ALL WORK IN ACCORDANCE WITH ALL APPLICABLE REQUIREMENTS OF SHELBY COUNTY, SPENCER COUNTY, THE KENTUCKY TRANSPORTATION CABINET, THE KENTUCKY DEPARTMENT FOR ENVIRONMENTAL PROTECTION, AND THE U.S. ARMY CORPS OF ENGINEERS. WHERE THERE IS A CONFLICT BETWEEN THE CONTRACT DOCUMENTS, PLANS, AND SPECIFICATIONS AND THE PERMIT REQUIREMENTS OF THE AGENCY CONTROLLING THE UTILITY OR RESPECTIVE RIGHTS-OF-WAY, THE MORE RESTRICTIVE SHALL GOVERN.
- THE CONTRACTOR AND ANY APPLICABLE SUBCONTRACTORS SHALL ATTEND A PRE-CONSTRUCTION MEETING AT A TIME AND PLACE ARRANGED BY THE ENGINEER, IN WHICH THE AFFECTED PARTIES WILL BE PRESENT. ALSO, A PRE-EXCAVATION WALK THROUGH WILL NEED TO BE ATTENDED BY THE CONTRACTOR.
- FOLLOWING THE PRE-CONSTRUCTION MEETING, THE CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF THREE (3) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION FOR INSPECTION COORDINATION. NO WORK CAN COMMENCE UNTIL ALL PERMITS HAVE BEEN OBTAINED AND THE CONTRACTOR HAS BEEN GIVEN THE AUTHORITY TO PROCEED.
- THE CONTRACTOR SHALL NOTIFY KENTUCKY 811 AT LEAST 72 HOURS IN ADVANCE OF CONSTRUCTION, FOR LOCATION AND MARKING OF ALL EXISTING UTILITIES.
- LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING AND VERIFYING THE LOCATION, DEPTH, AND ELEVATION OF THE EXISTING UTILITIES WITHIN THE CONSTRUCTION AREA PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY CONFLICTS ARE APPARENT OR IF LOCATIONS AND DEPTHS DIFFER SIGNIFICANTLY FROM THE PLANS.
- ALL ELEVATIONS REFER TO THE CURRENT NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD '88).
- THE ENGINEER HAS NOT PERFORMED PROPERTY OR RIGHT-OF-WAY SURVEYS FOR ANY OF THE AREAS INCLUDED IN THIS PROJECT. RIGHT-OF-WAY OR PROPERTY LINES SHOWN ON THE PLANS ARE APPROXIMATE AND ARE SHOWN FOR GENERAL ORIENTATION ONLY. PROPERTY CORNERS OR OTHER SURVEY MARKERS HAVE NOT BEEN LOCATED, UNLESS SPECIFICALLY CALLED OUT ON THE PLANS.
- ALL PROPERTIES OR FACILITIES IN THE SURROUNDING AREAS, PUBLIC OR PRIVATE, DESTROYED OR OTHERWISE DAMAGED BY THE CONTRACTORS OPERATIONS SHALL BE REPLACED OR REPAIRED TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION OF THE PROPERTY OR FACILITY BY THE CONTRACTOR AT THEIR OWN EXPENSE.
- IF, IN THE OPINION OF THE ENGINEER, WORK HAS NOT PROGRESSED IN A REASONABLE AND TIMELY MANNER, THE ENGINEER SHALL HAVE THE RIGHT, WITH THE APPROVAL OF THE OWNER, TO DIRECT THE CONTRACTOR TO PROCEED WITH THE WORK OR ANY PORTION THEREOF IMMEDIATELY IN THE EVENT THAT THE CONTRACTOR DOES NOT PROCEED WITH THE WORK IMMEDIATELY, AS DIRECTED BY THE ENGINEER. THE ENGINEER, UNDER THE DIRECTION OF THE OWNER, MAY ORDER ANY OR ALL OTHER OPERATIONS OF THE CONTRACTOR, UNDER THIS CONTRACT, TO CEASE UNTIL THE CLEANUP AND RESTORATION WORK IS PROCEEDING IN AN ACCEPTABLE MANNER. SHOULD THE CONTRACTOR FAIL TO COMPLY WITH THESE PROVISIONS, THE OWNER MAY, WITH OR WITHOUT NOTICE, CAUSE THE REQUIRED RESTORATION AND CLEANUP TO BE DONE BY THE OWNER OR OTHERS AND WILL DEDUCT THE COST OF SAID WORK FROM ANY FUNDS DUE OR TO BECOME DUE TO THE CONTRACTOR UNDER THIS CONTRACT. THE PERFORMANCE OF SUCH WORK BY THE OWNER OR OTHERS SHALL SERVE IN NO WAY TO RELEASE THE CONTRACTOR FROM HIS GENERAL OF PARTICULAR LIABILITY FOR THE SAFETY OF THE PUBLIC OR COMPLETION OF THE WORK.
- ACTIONS MUST BE TAKEN TO MINIMIZE THE TRACKING OF MUD AND SOIL FROM CONSTRUCTION AREAS ONTO PUBLIC ROADWAYS. SOIL TRACKED ONTO THE ROADWAY SHALL BE REMOVED DAILY.
- ALL WORK SHALL BE INCORPORATED IN TO THOSE UNIT PRICES LISTED IN THE CONTRACT DOCUMENTS. ANY ITEMS NOT SPECIFICALLY LISTED IN THE UNIT PRICES SHALL BE CONSIDERED INCIDENTAL TO THE WORK AND SHALL NOT BE ELIGIBLE FOR SEPARATE PAYMENT OR COMPENSATION.

EROSION AND SEDIMENTATION CONTROL NOTES

- THE CONTRACTOR SHALL COMPLY WITH ALL EROSION AND SEDIMENTATION CONTROL REQUIREMENTS OF THE BOTH THE STATE OF KENTUCKY AND THE U.S. ARMY CORPS OF ENGINEERS FOR ALL DISTURBED AREAS INCLUDED IN THE PROJECT.
- THE CONTRACTOR SHALL CONDUCT CONSTRUCTION OPERATIONS IN A MANNER THAT WILL REDUCE ACCELERATED EROSION TO THE PRACTICAL MINIMUM AND PREVENT DAMAGING SILTATION TO EXISTING SEWERS AND WATER COURSES LEADING FROM THE PROJECT AREA.
- THE CONTRACTOR SHALL CONDUCT WORK IN SUCH A MANNER AS TO PREVENT THE ENTRY OF FUELS, OILS, BITUMINOUS MATERIALS, CHEMICALS, SEWERAGE, OR OTHER HARMFUL MATERIALS INTO NEARBY LAKES AND STREAMS.
- WASTE DISPOSAL AREAS SHALL BE SELECTED BY THE CONTRACTOR WITH FULL CONSIDERATION OF EROSION AND SEDIMENT CONTROL, SELECTION OF DISPOSAL SITE(S), AND CONTROL OF OPERATIONS, AND THE RESTORATION OF SAID AREAS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.
- EXCAVATIONS FROM THE PROJECT AREA INCLUDING CHANNELS AND WATERCOURSES SHALL NOT BE DEPOSITED IN OR NEAR RIVERS, STREAMS, OR PONDS WHERE IT MAY ENTER THE WATERWAY.
- AT THE COMPLETION OF EACH DAYS CONSTRUCTION, CARE SHOULD BE TAKEN TO ENSURE THAT MINIMAL EROSION WILL OCCUR IN TRENCHES AND TO STOCKPILED MATERIALS UNTIL RESUMPTION OF WORK.
- THE CONTRACTOR SHALL CONFINE CONSTRUCTION OPERATIONS TO THE MINIMUM AMOUNT OF WORKING SPACE PRACTICAL TO AID IN THE MINIMIZATION OF SOIL EROSION.
- THE PROJECT WILL BE CONTINUALLY OBSERVED BY VARIOUS STATE & LOCAL REGULATORY AGENCIES FOR EROSION CONTROL COMPLIANCE. DEFICIENCIES WILL BE CORRECTED BY THE CONTRACTOR IMMEDIATELY UPON NOTICE OF SUCH DEFICIENCIES. FAILURE TO CORRECT THE DEFICIENCIES MAY RESULT IN THE ISSUANCE OF A STOP WORK ORDER AND THERE WILL BE NO CONTRACT TIME EXTENSION GRANTED FOR THIS TYPE OF STOPPAGE.
- TEMPORARY SOIL EROSION CONTROL MEASURES CONSISTING OF SILT FENCE, MULCHING, AND TARPING SHALL BE IMPLEMENTED THROUGHOUT THE ENTIRE CONSTRUCTION PHASE OF THE PROJECT, AND SHALL BE REMOVED BY THE CONTRACTOR AFTER THE PERMANENT SOIL EROSION MEASURES HAVE BEEN ESTABLISHED.
- PERMANENT SOIL EROSION MEASURES CONSISTING OF AN APPROVED SEED MIXTURE AND MULCH BLANKET SHALL BE COMPLETED WITHIN FIVE (5) CALENDAR DAYS OF FINAL GRADING. IN THE EVENT IT IS NOT POSSIBLE TO PERMANENTLY STABILIZE THE AREA DUE TO SITE CONDITIONS OR SEASONAL LIMITATIONS, THE TEMPORARY MEASURES SHALL REMAIN IN FORCE AND SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL SUCH TIME IT IS PRACTICAL TO COMPLETE THE PERMANENT SOIL EROSION CONTROL MEASURES.
- THE ENGINEER SHALL HAVE FULL AUTHORITY TO TEMPORARILY SUSPEND WORK IN THE EVENT THAT ANY OF THE ABOVE REQUIREMENTS ARE NOT BEING MET BY THE CONTRACTOR, OR IF CONDITIONS INDICATE THAT ADDITIONAL TEMPORARY MEASURES ARE WARRANTED, IN THE OPINION OF THE ENGINEER OR REGULATORY AGENCIES.
- PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL INSTALL INLET FILTERS AT ALL INLETS IN THE CONSTRUCTION AREA.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ANY REQUIRED ACCESS ROAD SURFACES AND SOIL EROSION CONTROL MEASURES WITHIN THE CONSTRUCTION AREA UNTIL THE FULL COMPLETION OF THE PROJECT.
- ALL NON-PAVED DISTURBED AREAS SHALL BE RESTORED AS INDICATED ON THE PLANS. IF NOT SPECIFICALLY STATED ON THE PLANS, RESTORATION SHALL CONSIST OF 4-INCHES OF TOPSOIL, FERTILIZER, SEED AND MULCH. UNLESS OTHERWISE STATED, ALL DISTURBED AREAS SHALL BE SEEDED WITH A SEED MIX APPROVED BY THE ENGINEER.

WORK LIMITS

IF INDICATED ON THE PLANS, THE CONTRACTOR SHALL KEEP ALL OPERATIONS WITHIN THE WORK LIMITS SHOWN. OTHERWISE, THE CONTRACTOR SHALL ESTABLISH CONSTRUCTION LIMITS WITHIN THE EXISTING AND/OR PROPOSED RIGHTS-OF-WAY AND EASEMENTS AS DIRECTED BY THE ENGINEER. THIS REQUIREMENT SHALL INCLUDE MATERIAL STOCKPILING AND EQUIPMENT STORAGE. THE CONTRACTOR MAY NOT EXIT THE ESTABLISHED PROJECT WORK LIMITS WITHOUT EXPLICIT PERMISSION FROM THE OWNER AND THE ENGINEER.

UTILITIES

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH KENTUCKY LAW, THE CONTRACTOR SHALL SHALL DIAL KENTUCKY 811 A MINIMUM OF THREE (3) FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING WORK IN EACH EXCAVATION AREA WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE PART OF THE 'KY 811' ALERT SYSTEM. UTILITY LOCATIONS SHOWN ON THE PLANS ARE ONLY APPROXIMATE AND SHOULD BE LOCATED IN THE FIELD PRIOR TO ANY EXCAVATION.

DISRUPTION OF SERVICE

THE CONTRACTOR SHALL COORDINATE ALL DISRUPTIONS OF SERVICE WITH THE OWNER AND ENGINEER. PRIOR TO ANY DISRUPTION, THE CONTRACTOR SHALL INFORM BOTH PARTIES OF HIS INTENTIONS, METHODS AND PROJECTED DURATION OF DISTURBANCE AND RECEIVE THEIR APPROVAL PRIOR TO INITIATING THE SPECIFIC WORK.

WORK WITHIN PUBLIC ROAD RIGHT-OF-WAYS

WHEN PERFORMING WORK ALONG OR ACROSS ANY PUBLIC ROADWAY, THE CONTRACTOR SHALL POST WARNING SIGNS PAINTED ORANGE AND THEY SHALL BE FOUR FEET BY FOUR FEET MOUNTED ON POSTS IN ACCORDANCE WITH THE KENTUCKY TRANSPORTATION DEPARTMENT'S MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. THE SIGNS SHALL BE AS FOLLOWS:

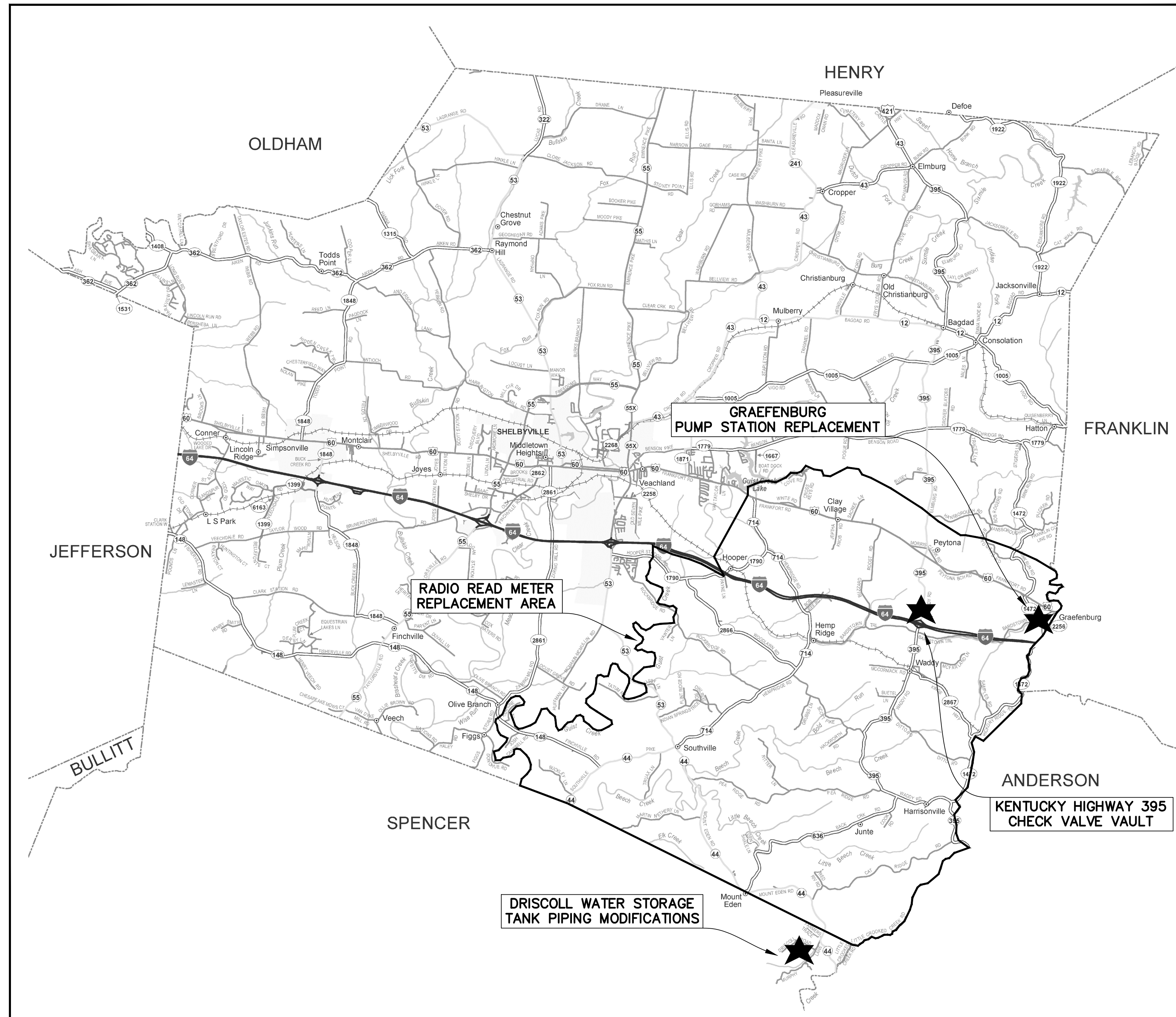
- CAUTION PIPELINE CONSTRUCTION 1500 FEET
- CAUTION PIPELINE CONSTRUCTION 1000 FEET
- CAUTION PIPELINE CONSTRUCTION 500 FEET

ALL SIGNS, BARRICADES, LIGHTS, AND TRAFFIC CONTROL SHALL BE INSTALLED IN ACCORDANCE WITH THE KENTUCKY TRANSPORTATION DEPARTMENT'S MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THE CONTRACTOR SHALL MAINTAIN TWO FLAG MEN AT ALL TIMES WHERE MACHINERY IS IN OPERATION WHERE THE FLOW OF TRAFFIC WILL BE DISTURBED. THERE IS NO EXCEPTION TO THIS REQUIREMENT. THE USE OF RADIOS WILL BE REQUIRED WHEN VISUAL CONTACT BETWEEN THE FLAGMEN DOES NOT EXIST.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ENTIRE ROADWAY FREE AND CLEAR AT THE END OF EACH WORKING DAY. NO EQUIPMENT SHALL BE LEFT ON OR PARKED ALONG THE ROAD RIGHT OF WAY. AT THE COMPLETION OF EACH WORK DAY, THE CONTRACTOR SHALL BACKFILL ALL OPEN TRENCHES AND INSTALL ALL TRAFFIC CONTROL SIGNS, BARRICADES, AND LIGHTS IN ACCORDANCE WITH THE KENTUCKY TRANSPORTATION DEPARTMENT'S MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

PROJECT LOCATION MAP



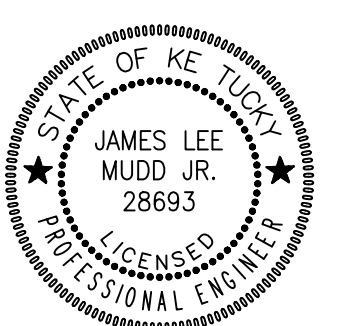
Monarch Engineering, Inc.
 556 CARLTON DRIVE
 LAWRENCEBURG, KY 40342

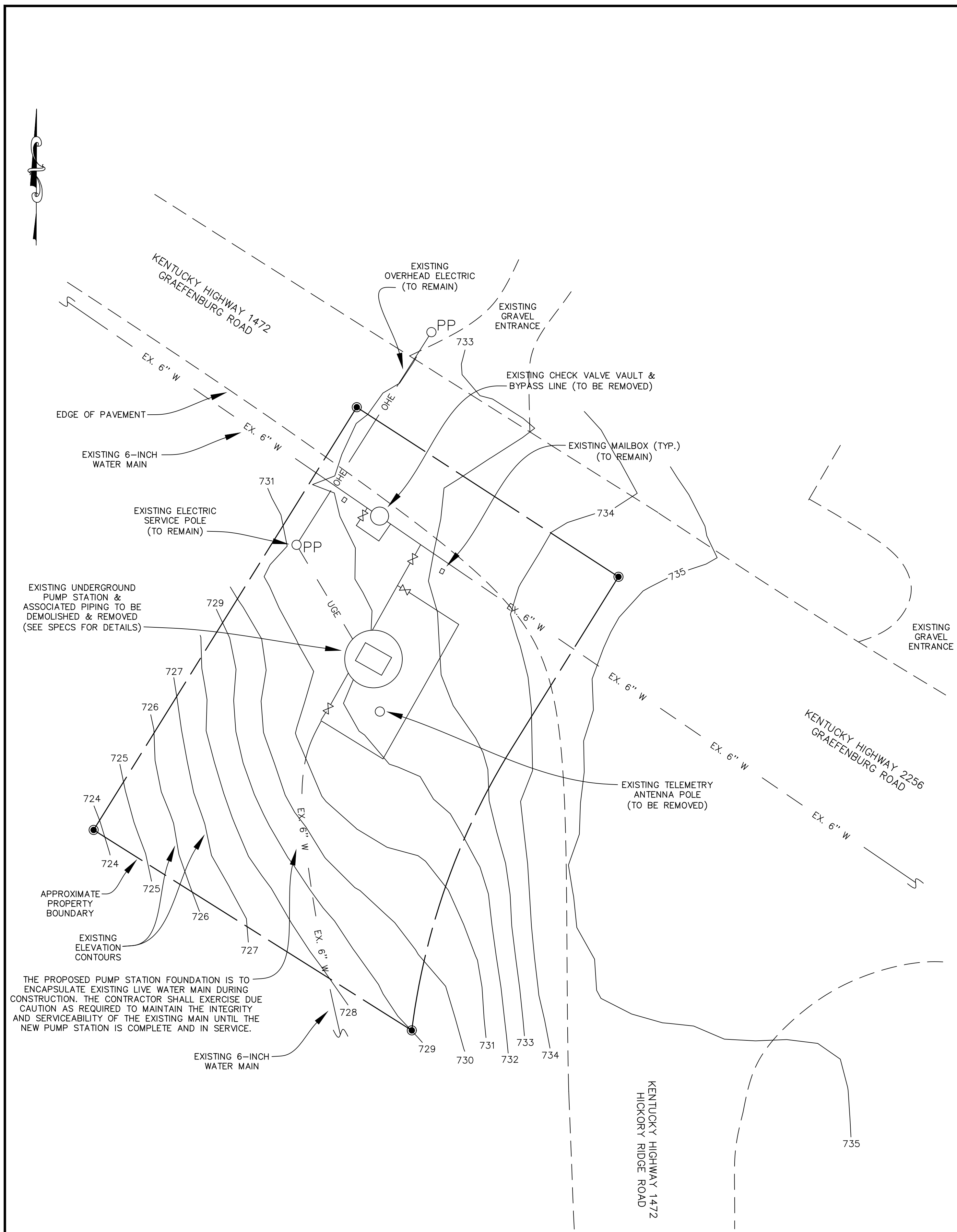
DESCRIPTION: **GENERAL NOTES**
2022 WATER SYSTEM IMPROVEMENTS
CONTRACT NO. 1

CUSTOMER: **US 60 WATER DISTRICT**
SHELBY & SPENCER COUNTIES, KENTUCKY

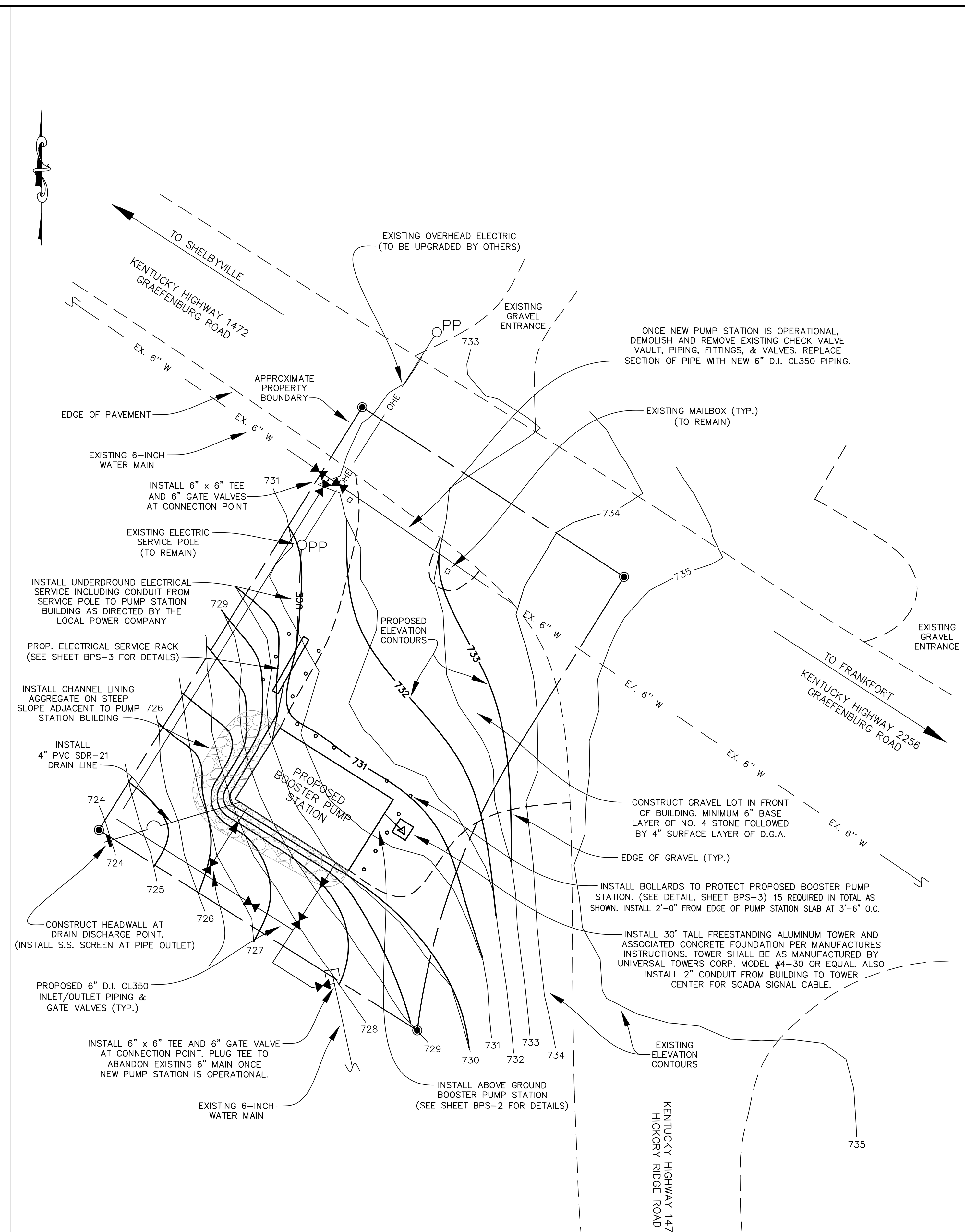
PROJECT NO. 2113
 DATE: JAN 2023
 DRAWN BY: JLM
 CHECKED BY: DSB
 CHECKED BY: DMB
 SCALE: AS NOTED

SHEET:
GN-1





EXISTING SITE LAYOUT
SCALE: 1"=10'



PROPOSED SITE LAYOUT
SCALE: 1"=10'

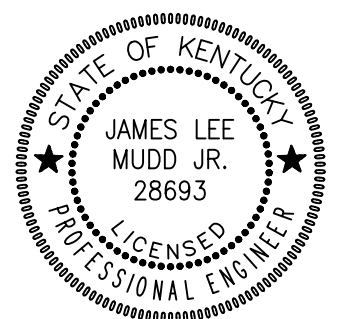
Monarch Engineering, Inc.
556 CARLTON DRIVE
LAWRENCEBURG, KY 40342

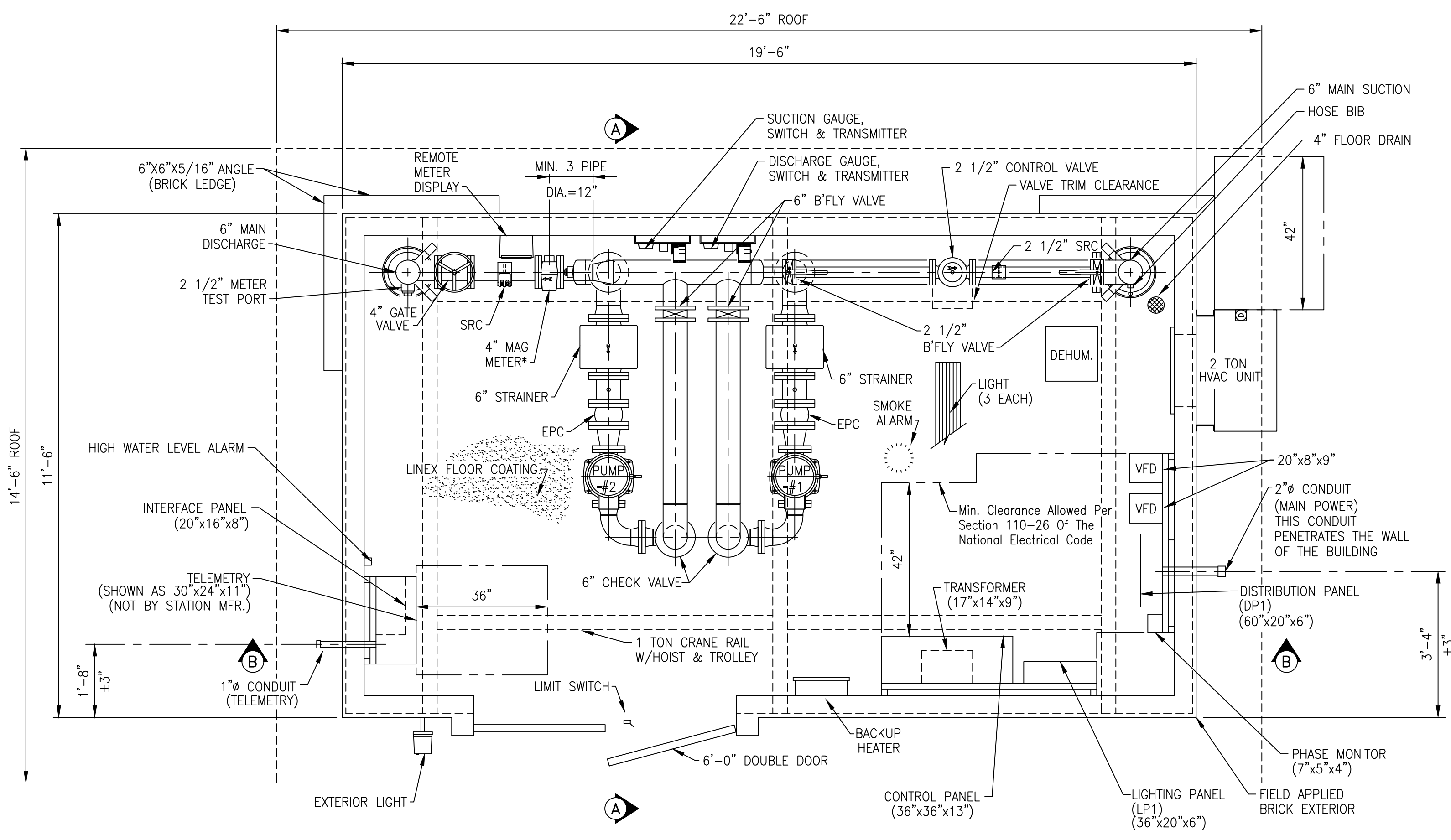
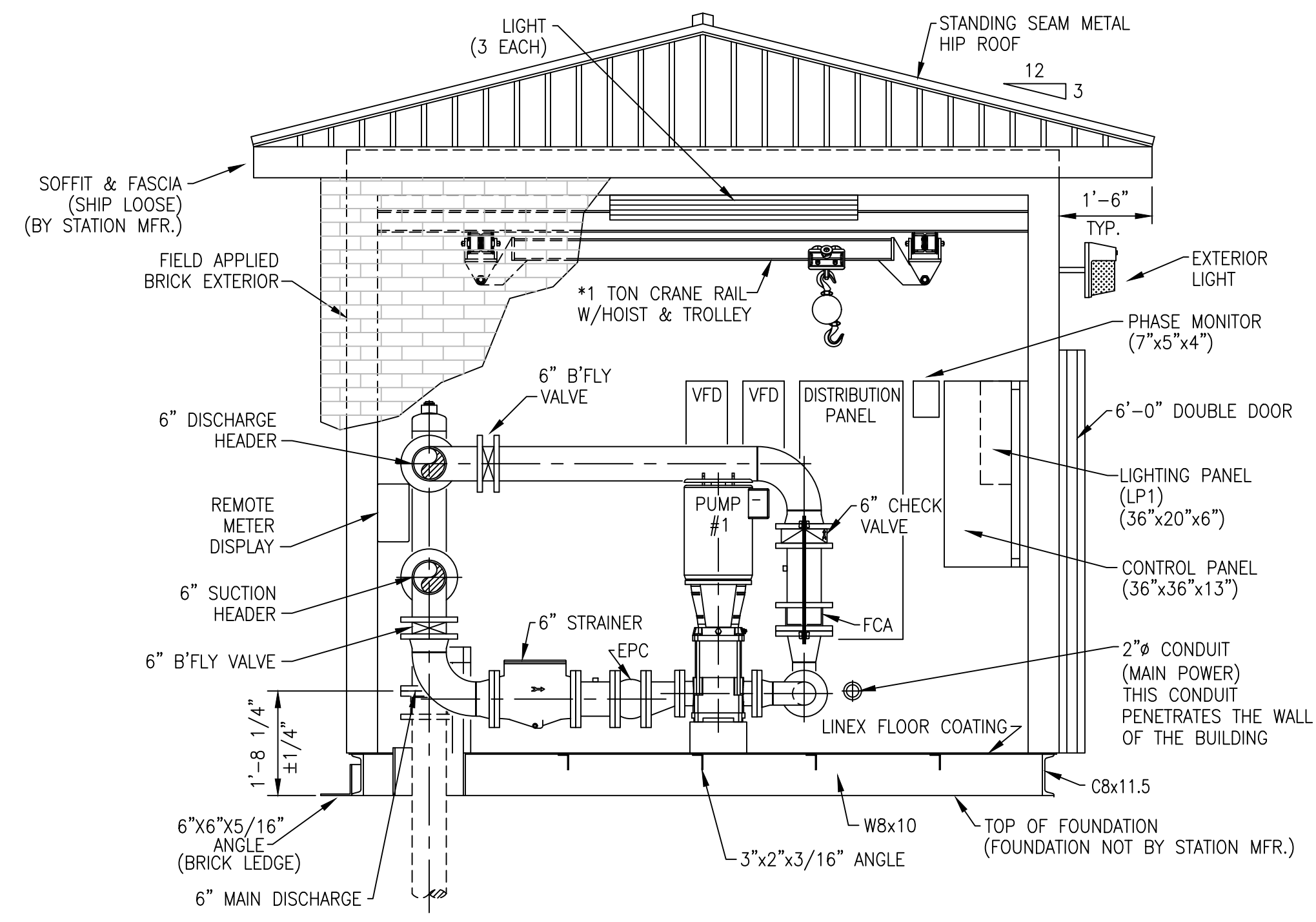
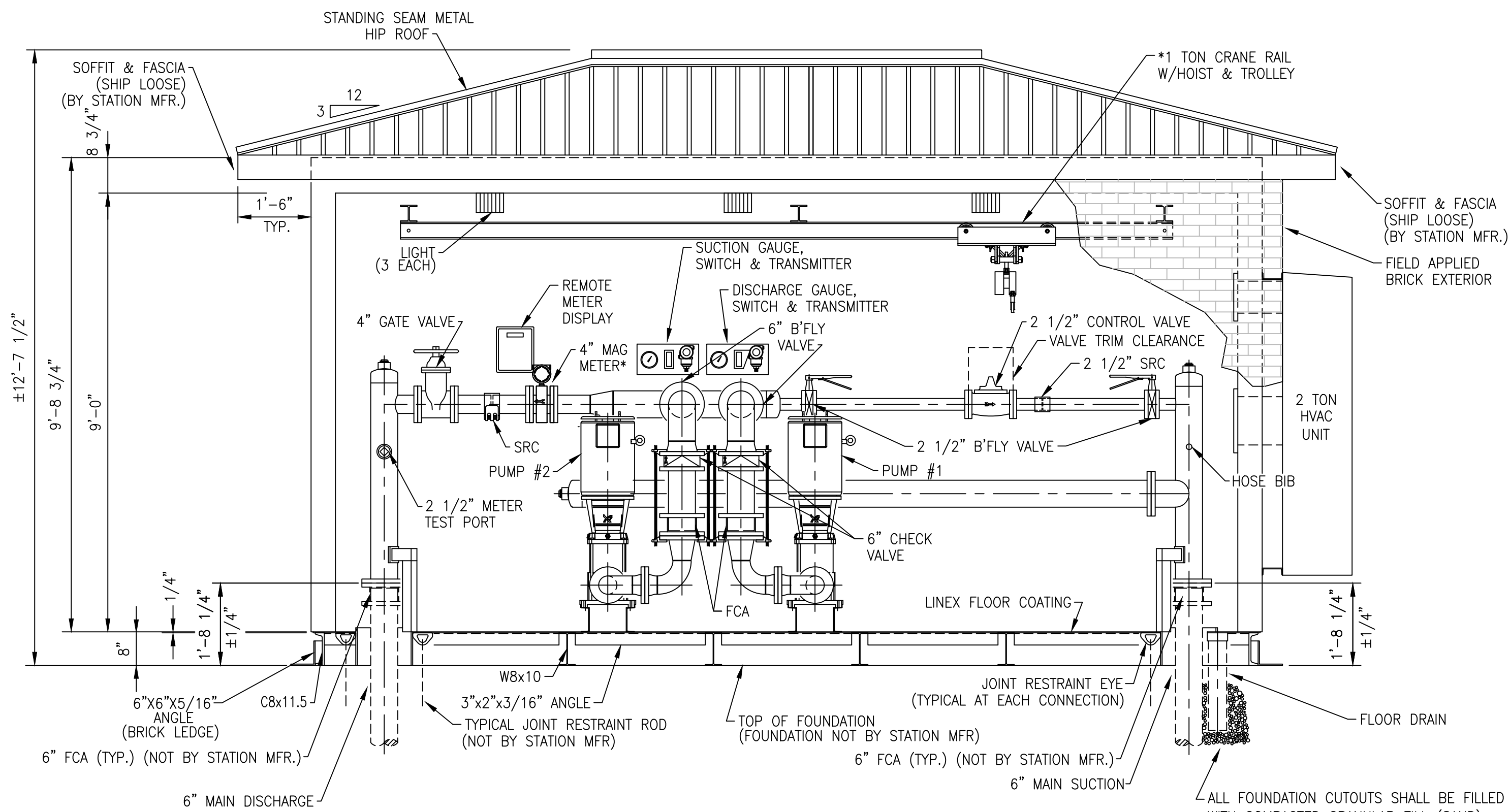
DESCRIPTION:
**GRAEFENBURG BOOSTER PUMP STATION
SITE PIPING MODIFICATIONS**

CUSTOMER:
**U.S. 60 WATER DISTRICT
SHELBY COUNTY, KENTUCKY**

PROJECT NO. 2113
DATE: JAN 2023
DRAWN BY: JLM
CHECKED BY: DSB
CHECKED BY: DMB
SCALE: AS NOTED

SHEET:
BPS-1





DESIGN CRITERIA:

Controls TELEMETRY (BY OTHERS) / LOCAL PRESSURE
 Power Service: 480 Volts, 3 Phase, 60 Cycle

PUMP DATA

Type: VERTICAL, MULTI-STAGE, CENTRIFUGAL
 Pump 1 & 2
 Capacity: 400 G.P.M. AT 120 FEET T.D.H.
 Size: 4" x 4"
 Motor: 20 H.P., 3600 R.P.M.

- * THIS DESIGN IS BASED ON THE SPARLING MODEL 656 MAGNETIC FLOW METER, REQUIRING 3 UPSTREAM AND ZERO DOWNSTREAM STRAIGHT PIPE DIAMETER LENGTHS FOR MAINTAINING STATED ACCURACY LIMITS. SPECIFICATION OR USE OF ANY OTHER MANUFACTURERS FLOW METER WILL NOT KEEP THIS DESIGN WITHIN THE ACCURACY LIMITS OF THAT FLOW METER.
- * EXCEPT FOR PIPE END SUPPORTS, WHICH ARE SHOWN, VERTICAL AND ANGLE PIPE BRACES ARE NOT SHOWN FOR DRAWING CLARITY
- * STATION MANUFACTURER SHALL ENSURE THAT CRANE RAIL HOIST ALLOWS CLEARANCE TO REMOVE PUMP MOTORS WHILE LEAVING PUMP IN PLACE

GENERAL NOTES:

ALL STATION PIPING SHALL BE STANDARD WIEGHT (.375" WALL) STEEL PIPE
 MAIN SUCTION & DISCHARGE SHALL BE ANSI STNADARD B16.5, CLASS 150 FLANGE
 ALL PIPING AND EQUIPMENT SHALL BE ADEQUATELY SUPPORTED AND BRACED
 PLATE AND STRUCTURAL STEEL SHALL BE ASTM A-36
 STRUCTURAL TUBING SHALL BE A500, GRADE B
 FCA - FLANGED COUPLING ADAPTER
 EPC - ELASTOMER PIPE CONNECTOR
 SRC - SELF RESTRAINED COUPLING

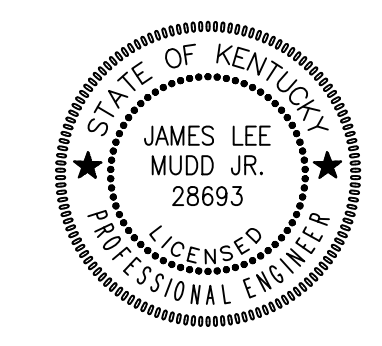
CONTRACTOR NOTES:

DEHUMIDIFIER MUST BE POWERED UP AND TURNED ON IMMEDIATELY AFTER THIS STATION IS SET IN PLACE.
 SHIMS MAY BE REQUIRED AROUND PERIMETER OF THE STATION TO ENSURE PROPER LEVEL.
 THIS IS CRITICAL FOR PROPER DOOR OPERATION.
 PLEASE NOTE ORIENTATION OF THE INLET AND OUTLET PIPE AND ELECTRICAL/TELEMETRY LOCATIONS IN REFERENCE TO THE JOBSITE LAYOUT.
 THE STATION IS NOT DESIGNED TO ACCEPT PIPELINE FORCES THRUST BLOCKING MUST BE PROVIDED EXTERNAL TO THE STATION. THRUST BLOCKING TO BE INSTALLED AS DIRECTED BY THE ENGINEER.
 CONNECTION BETWEEN STATION PIPING AND MAIN PIPING MUST BE RESTRAINED.

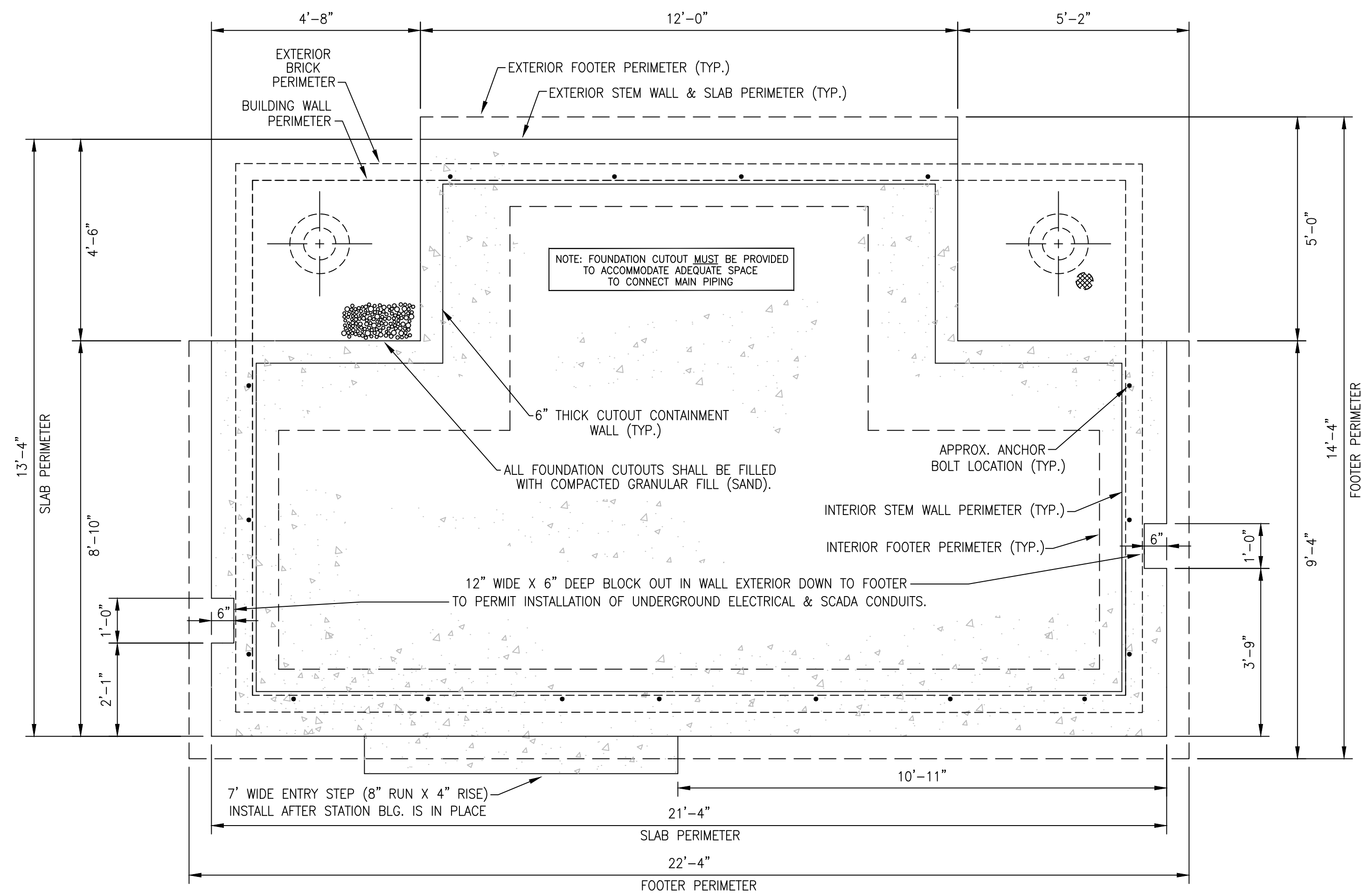
DESCRIPTION:
DETAIL DRAWINGS
GRAEFENBURG BOOSTER PUMP STATION
 CUSTOMER:
U.S. 60 WATER DISTRICT
SHELBY COUNTY, KENTUCKY

PROJECT NO. 2113
 DATE: JAN 2023
 DRAWN BY: JLM
 CHECKED BY: DSB
 CHECKED BY: DMB
 SCALE: 1/2" = 1'-0"

SHEET:
BPS-2

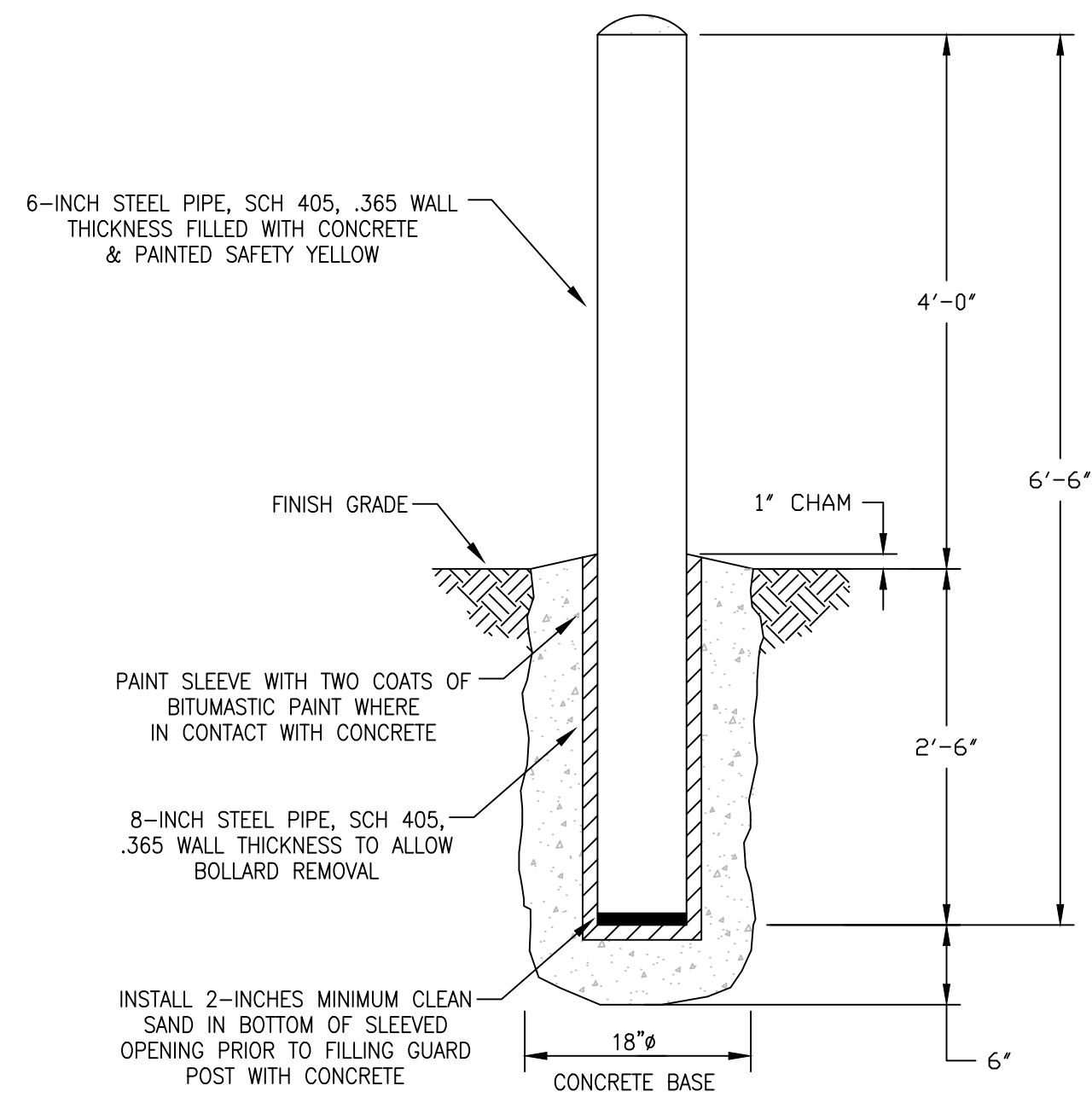


Monarch Engineering, Inc.
 556 CARLTON DRIVE
 LAWRENCEBURG, KY 40342



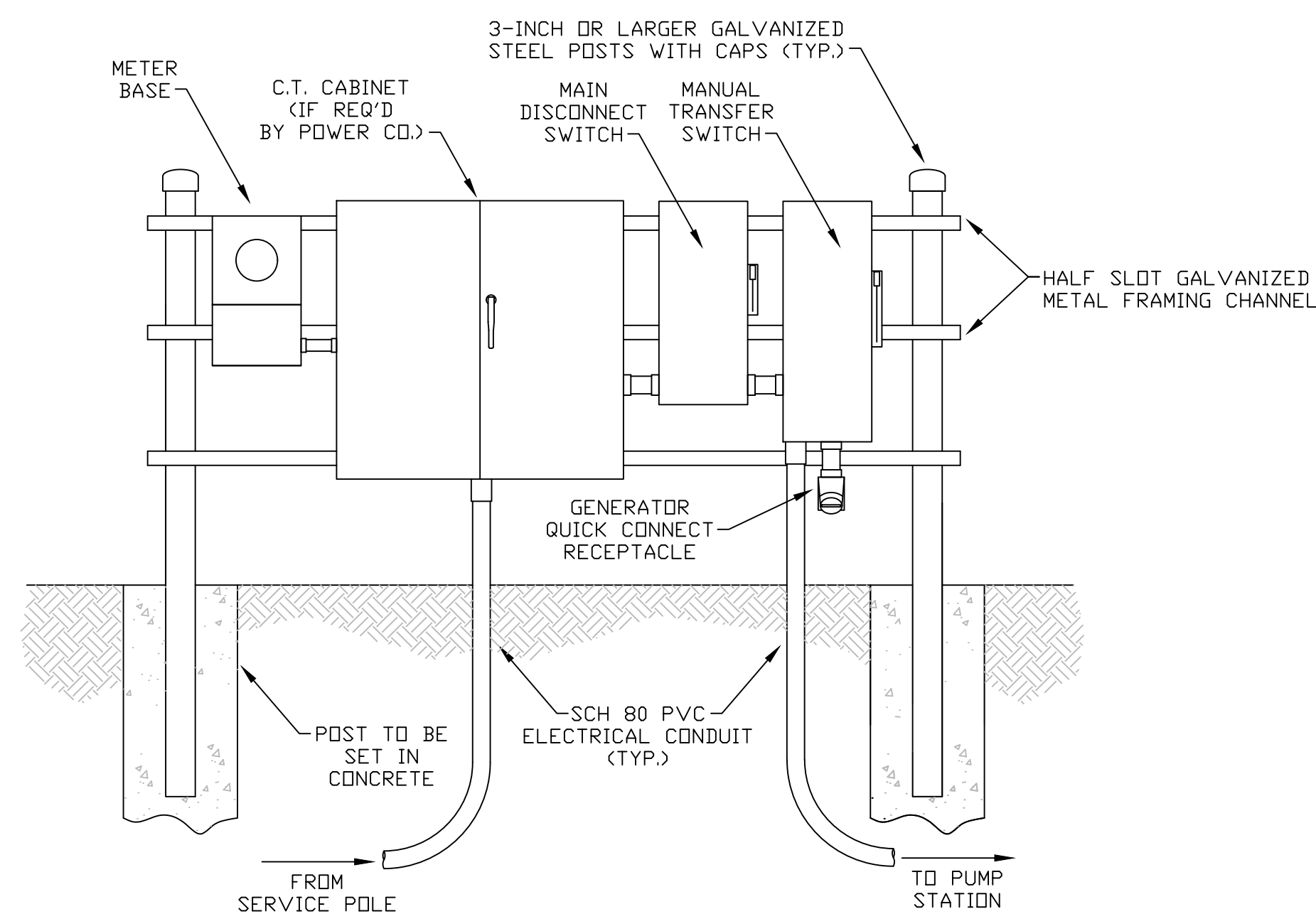
FOUNDATION LAYOUT

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



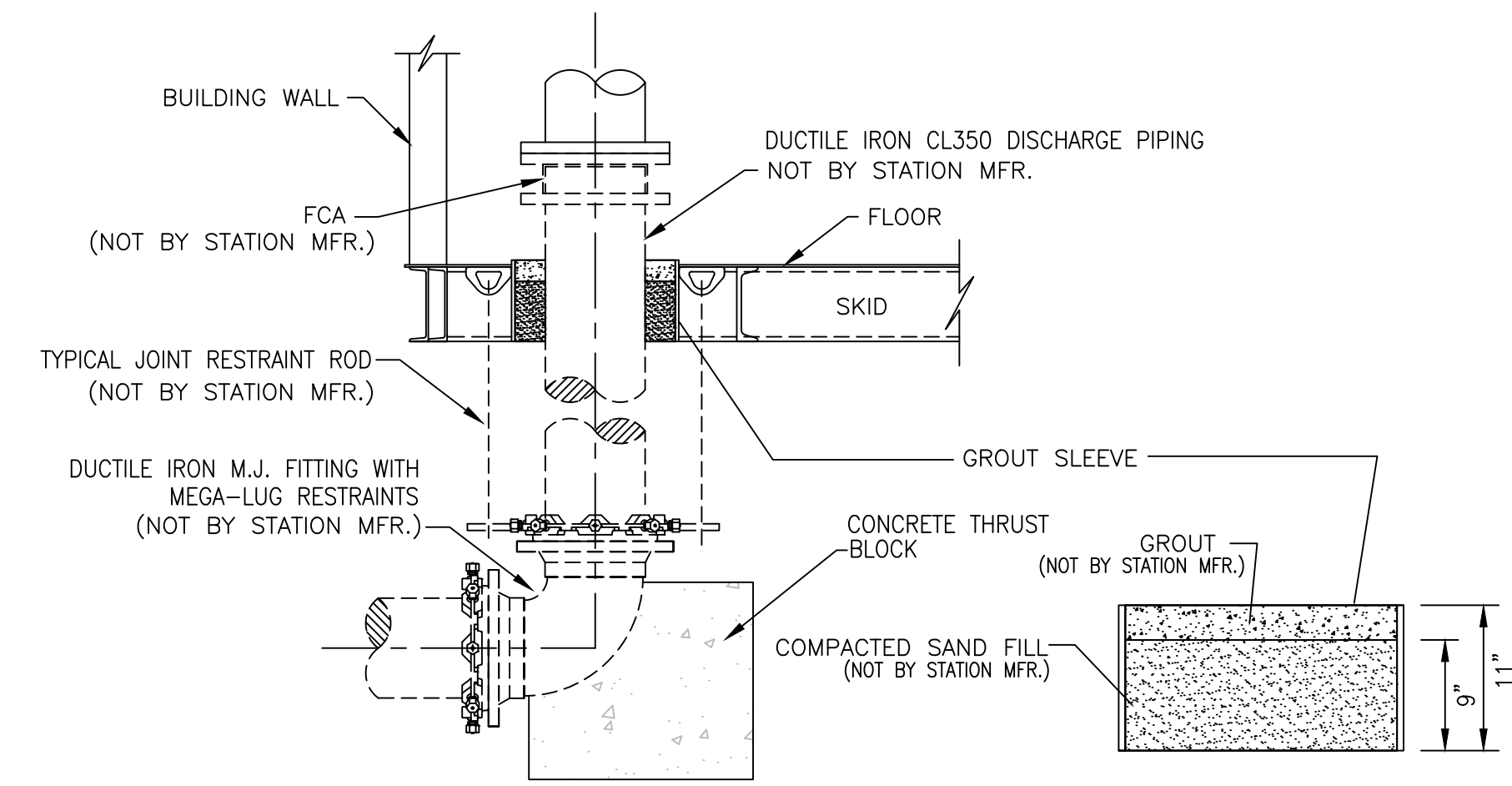
BOLLARD (GUARD POST) DETAIL

NOT TO SCALE



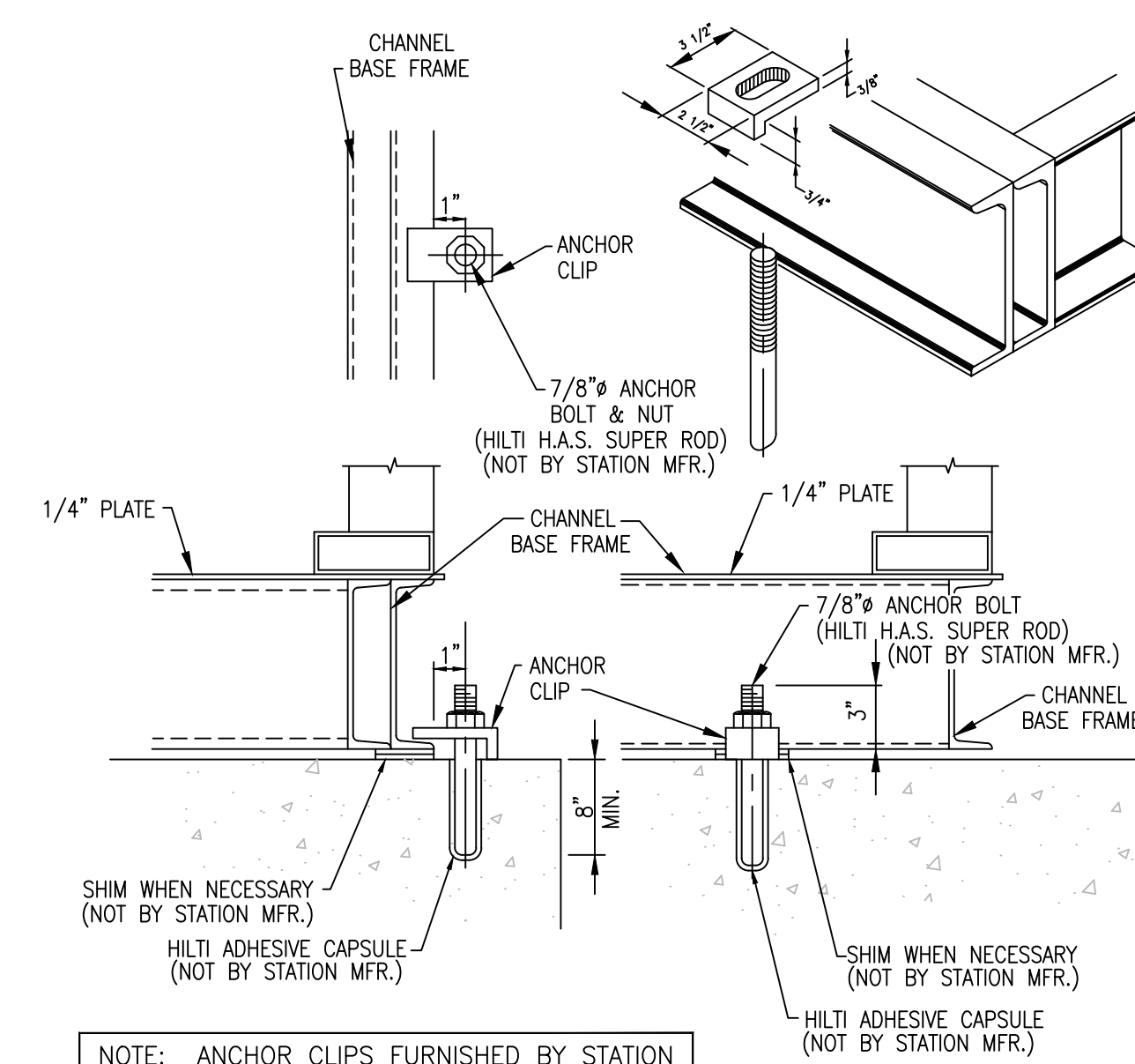
ELECTRICAL SERVICE RACK

NOT TO SCALE



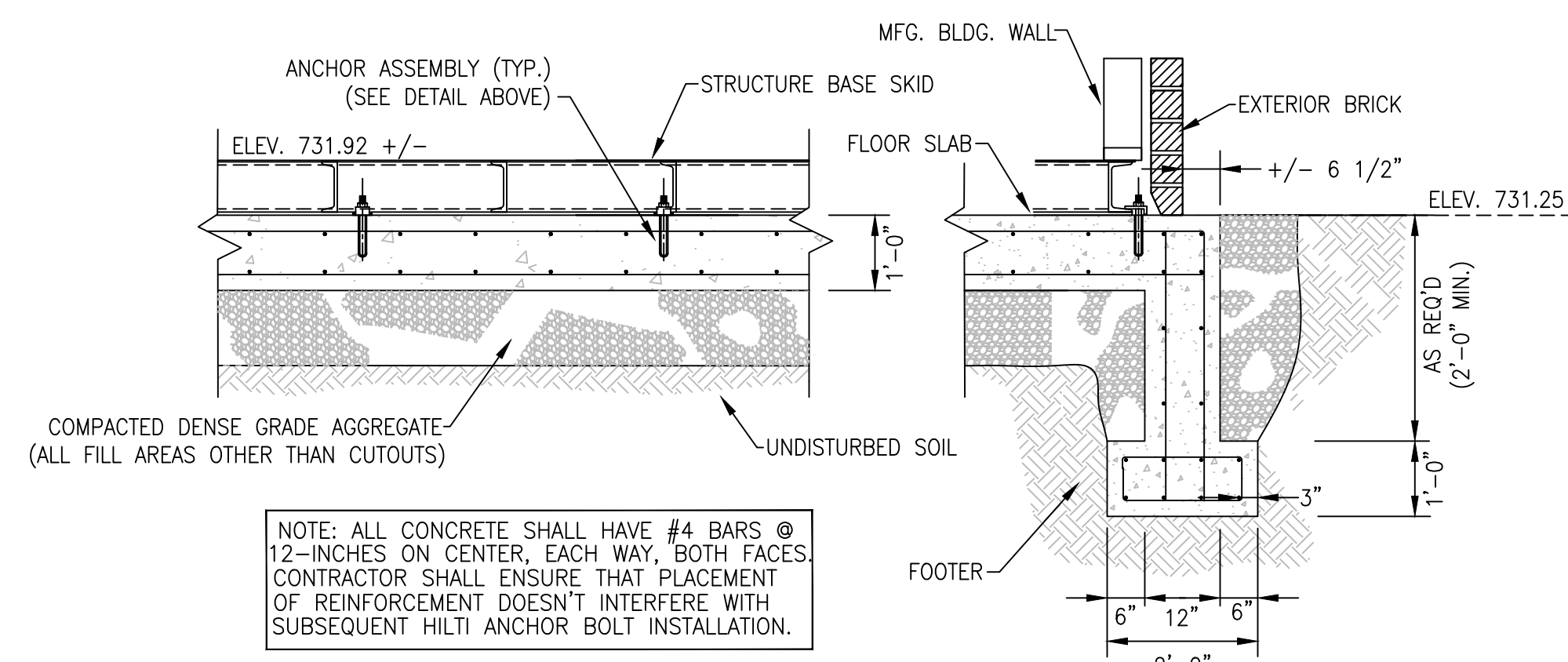
TYPICAL PIPING CONNECTION DETAIL

NOT TO SCALE



TYPICAL ANCHOR DETAIL

NOT TO SCALE



TYPICAL SECTION FOUNDATION & REINFORCING DETAIL

NOT TO SCALE

Monarch Engineering, Inc.

556 CARLTON DRIVE
LAWRENCEBURG, KY 40342

DESCRIPTION:
**FOUNDATIONS & MISCELLANEOUS DETAILS
BOOSTER PUMP STATIONS**

CUSTOMER:
**U.S. 60 WATER DISTRICT
SHELBY COUNTY, KENTUCKY**

PROJECT NO. 2113

DATE: JAN 2023

DRAWN BY: JLM

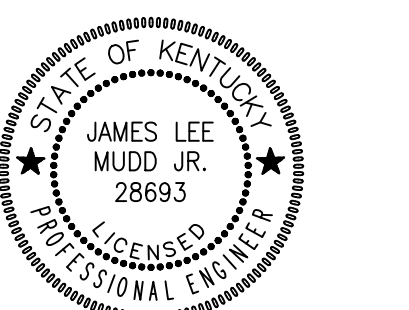
CHECKED BY: DSB

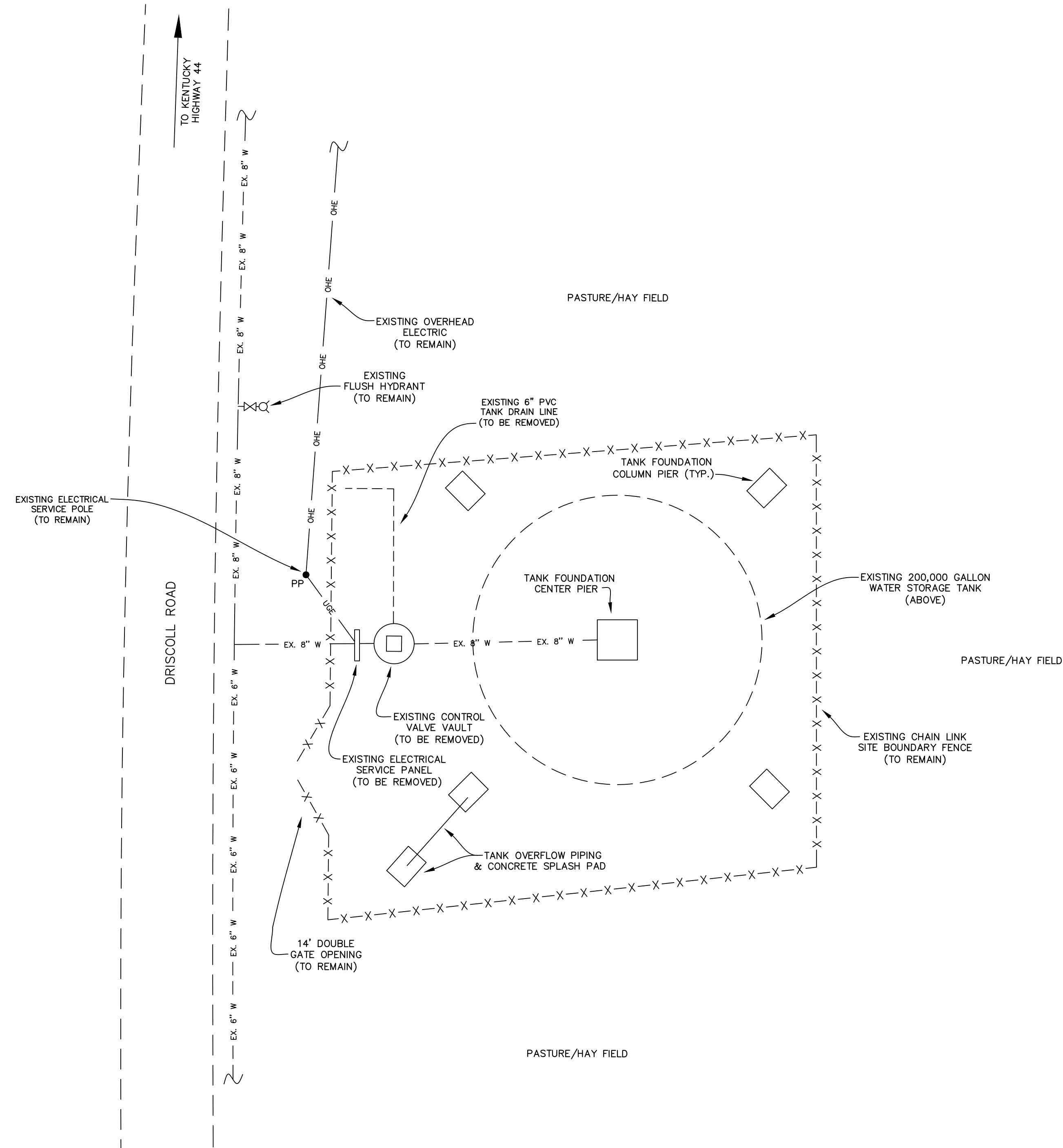
CHECKED BY: DMB

SCALE: AS NOTED

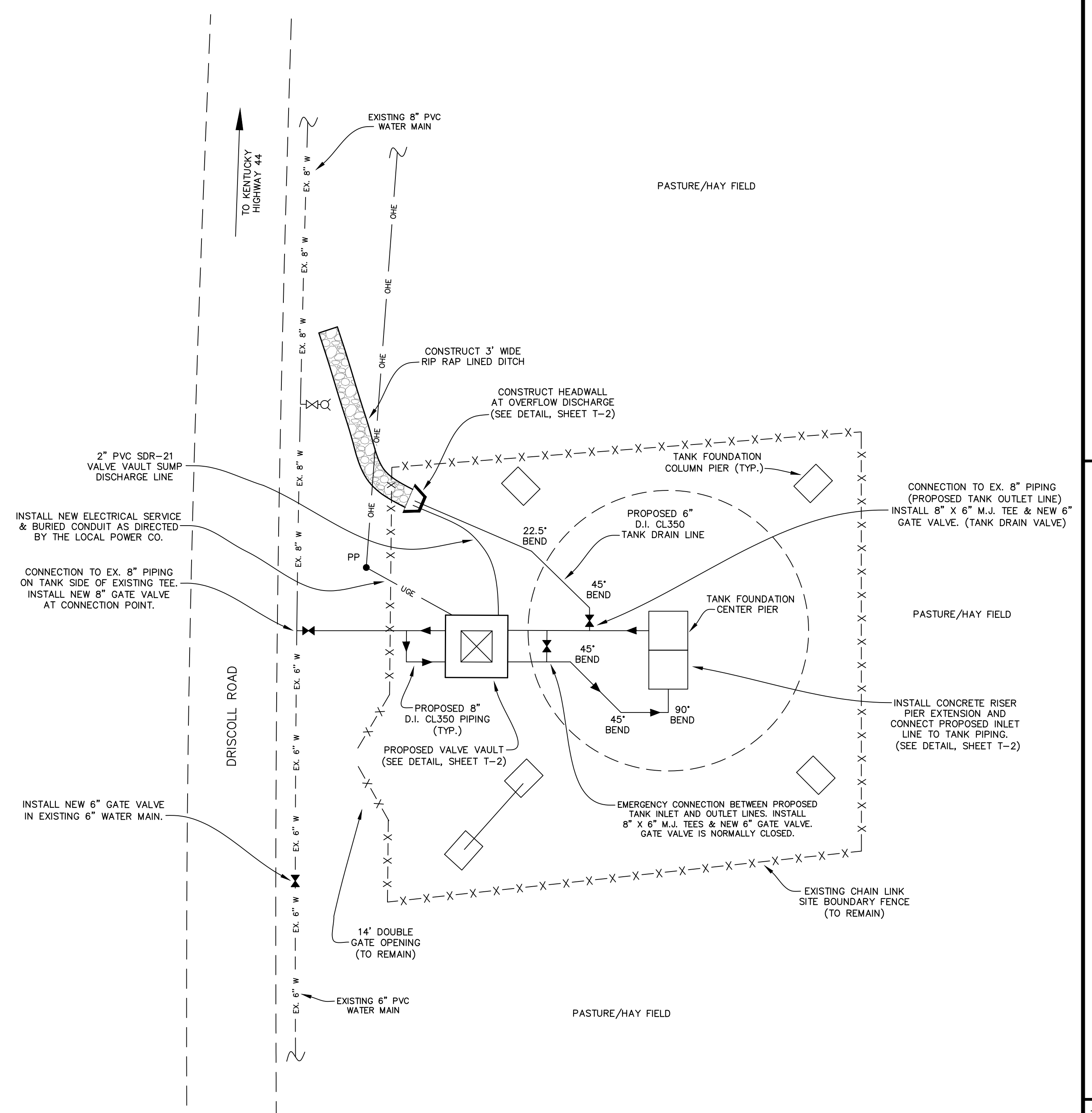
SHEET:

BPS-3





EXISTING SITE PIPING
SCALE: 1"=10'



PROPOSED SITE PIPING
SCALE: 1"=10'

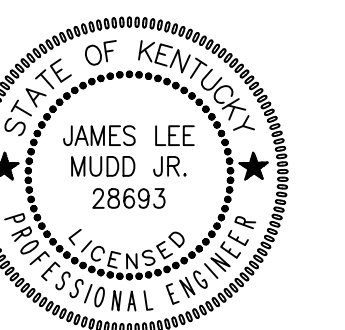
Monarch Engineering, Inc.
556 CARLTON DRIVE
LAWRENCEBURG, KY 40342

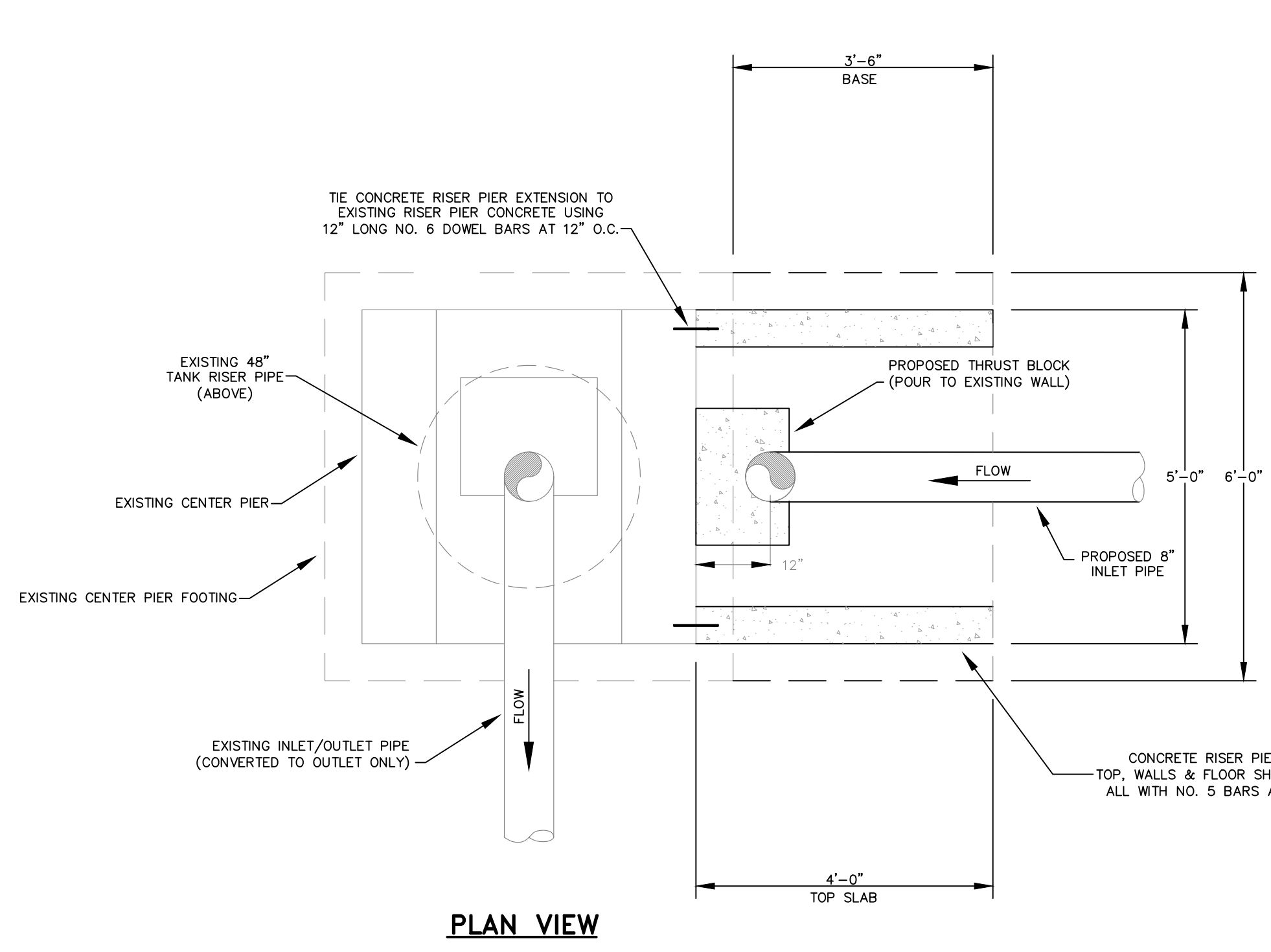
DESCRIPTION:
**DRISCOLL WATER STORAGE TANK
SITE PIPING MODIFICATIONS**

CUSTOMER:
**U.S. 60 WATER DISTRICT
SPENCER COUNTY, KENTUCKY**

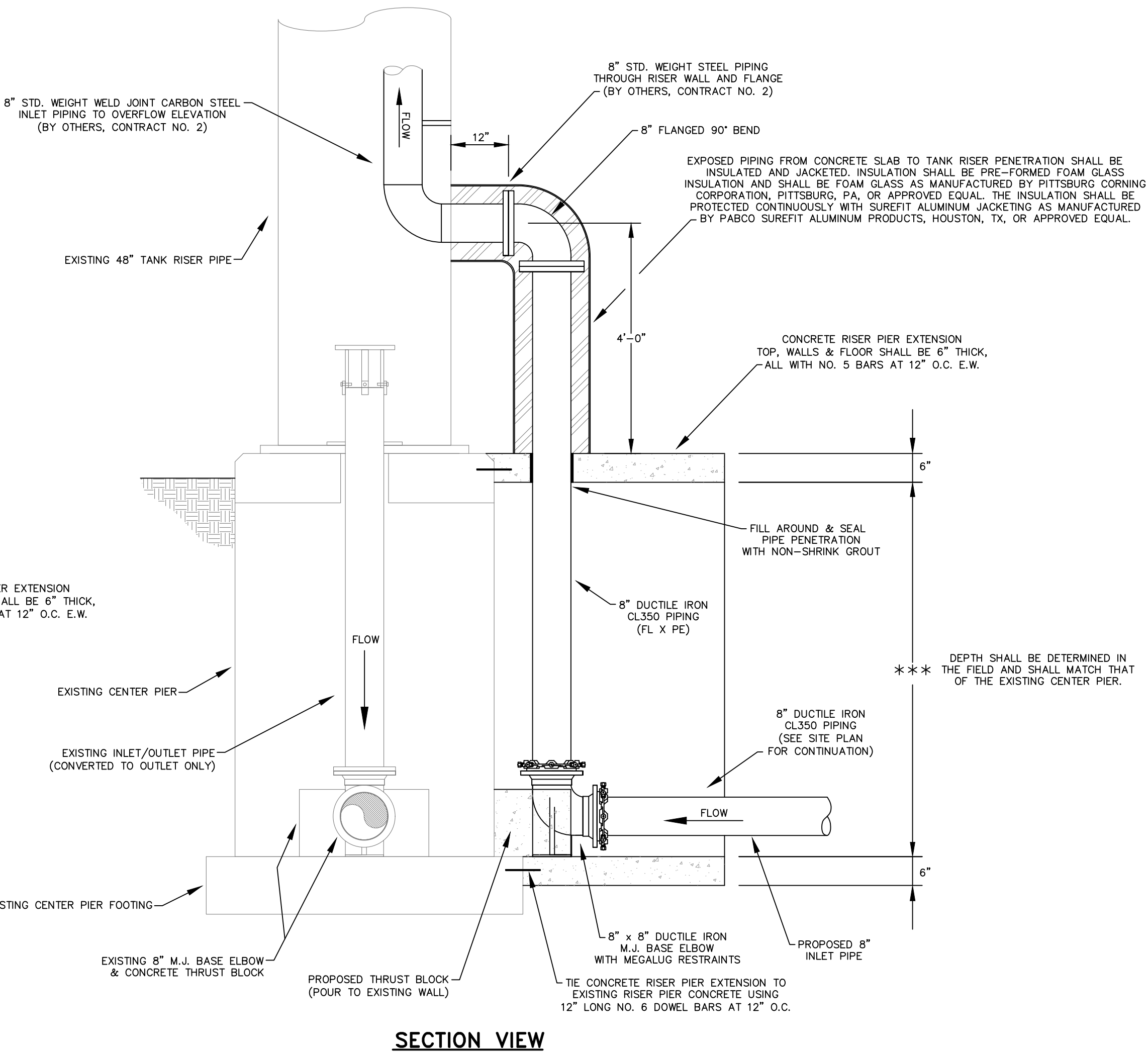
PROJECT NO. 2113
DATE: JAN 2023
DRAWN BY: JLM
CHECKED BY: DSB
CHECKED BY: DMB
SCALE: AS NOTED

SHEET:
T-1

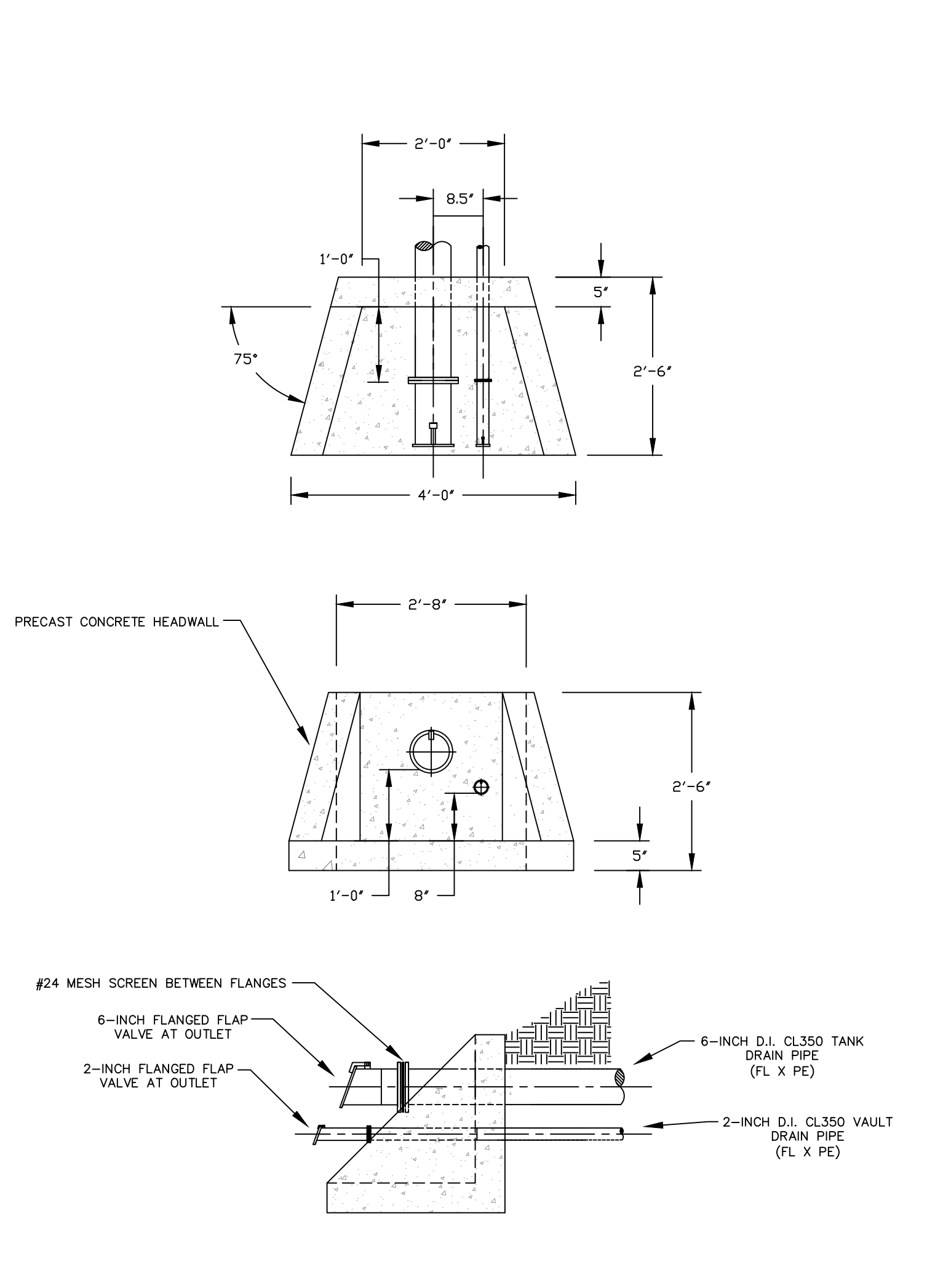




PLAN VIEW



SECTION VIEW



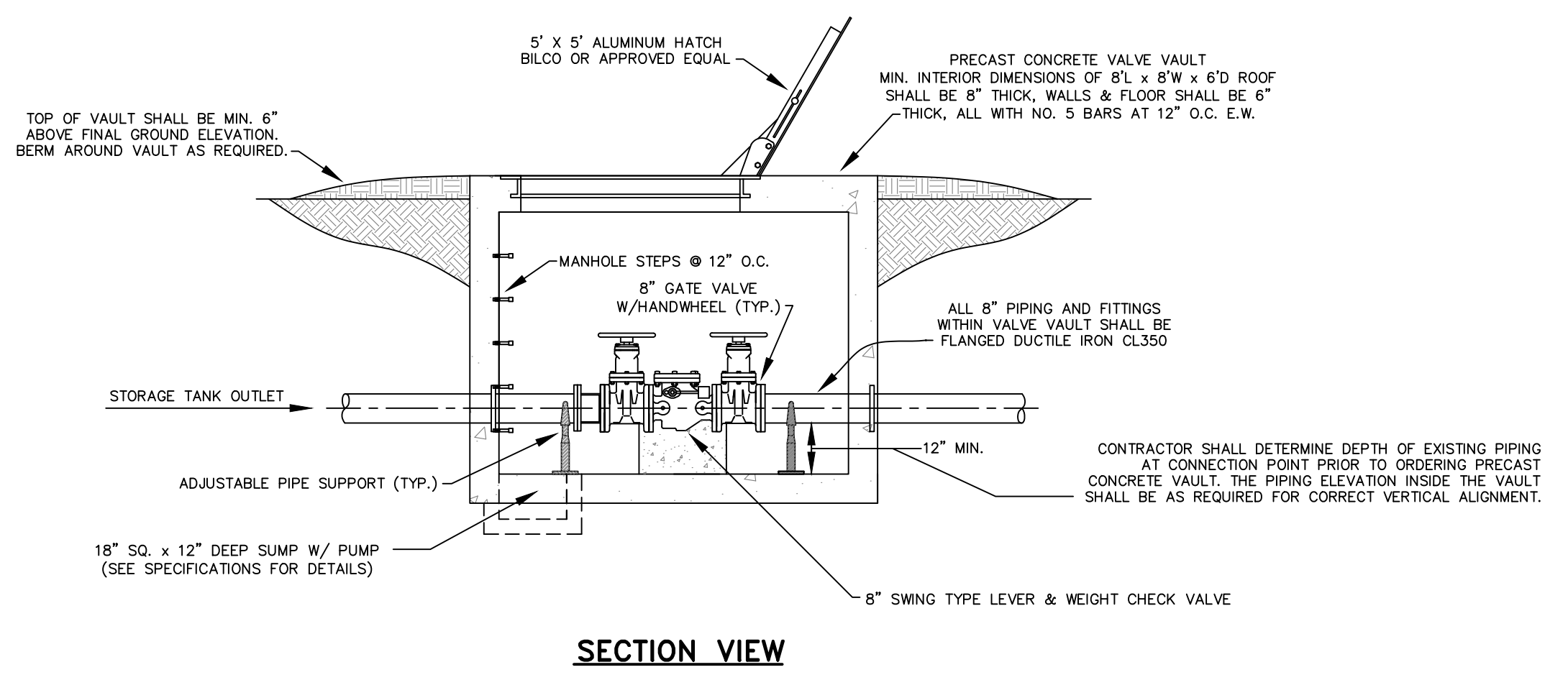
OVERFLOW HEADWALL DETAILS

HEADWALL DETAILS

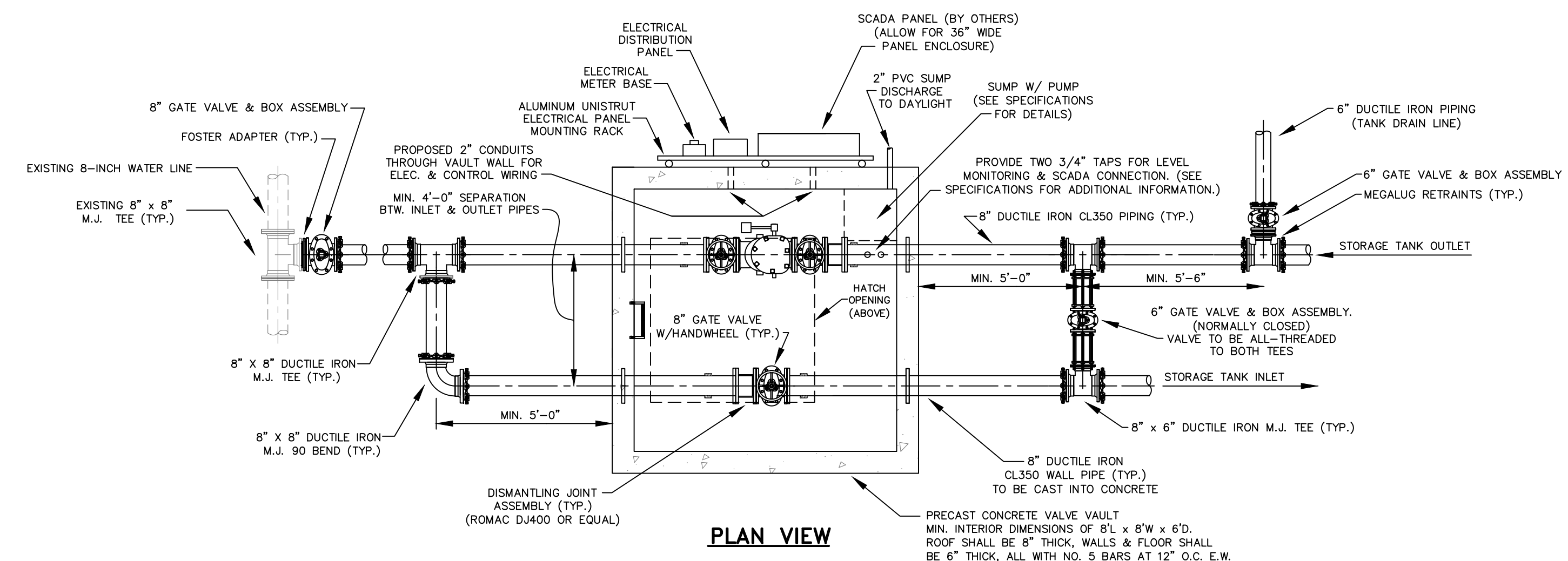
SCALE: N.T.S.

**PROPOSED RISER PIER EXTENSION & STORAGE TANK CONNECTION
DRISCOLL WATER STORAGE TANK**

SCALE: N.T.S.



SECTION VIEW



PLAN VIEW

**PROPOSED RISER PIER EXTENSION & STORAGE TANK CONNECTION
DRISCOLL WATER STORAGE TANK**

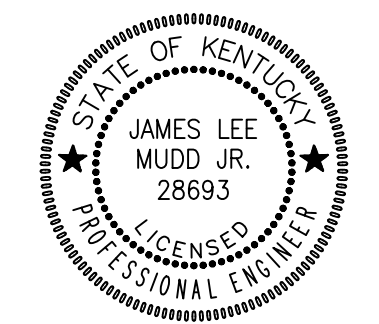
SCALE: N.T.S.

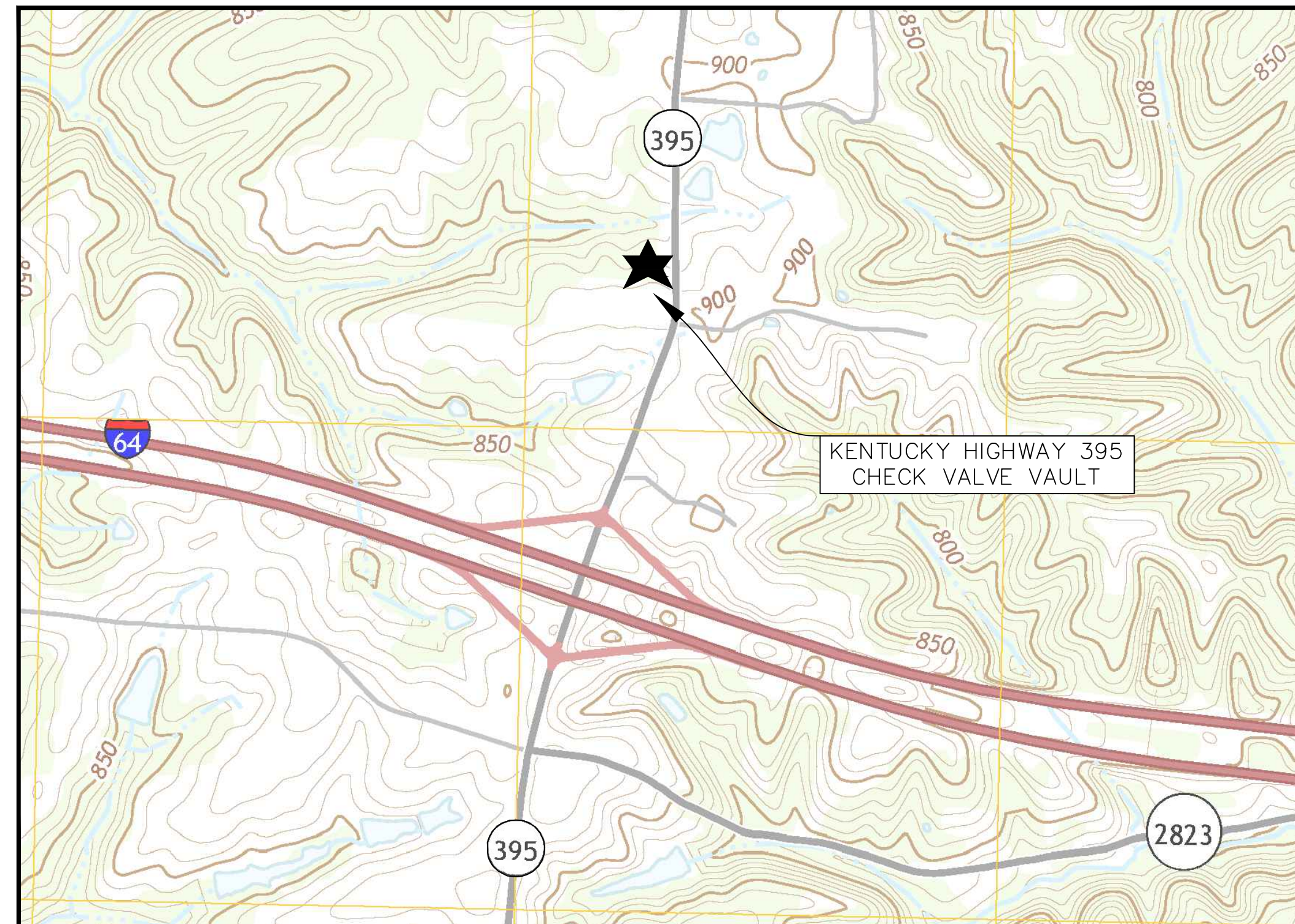
DESCRIPTION:
**MISCELLANEOUS DETAILS
STORAGE TANK PIPING MODIFICATIONS**

CUSTOMER:
**US 60 WATER DISTRICT
SPENCER COUNTY, KENTUCKY**

PROJECT NO. 2113
DATE: JAN 2023
DRAWN BY: JLM
CHECKED BY: DSB
CHECKED BY: DMB
SCALE: N.T.S.

SHEET:
T-2

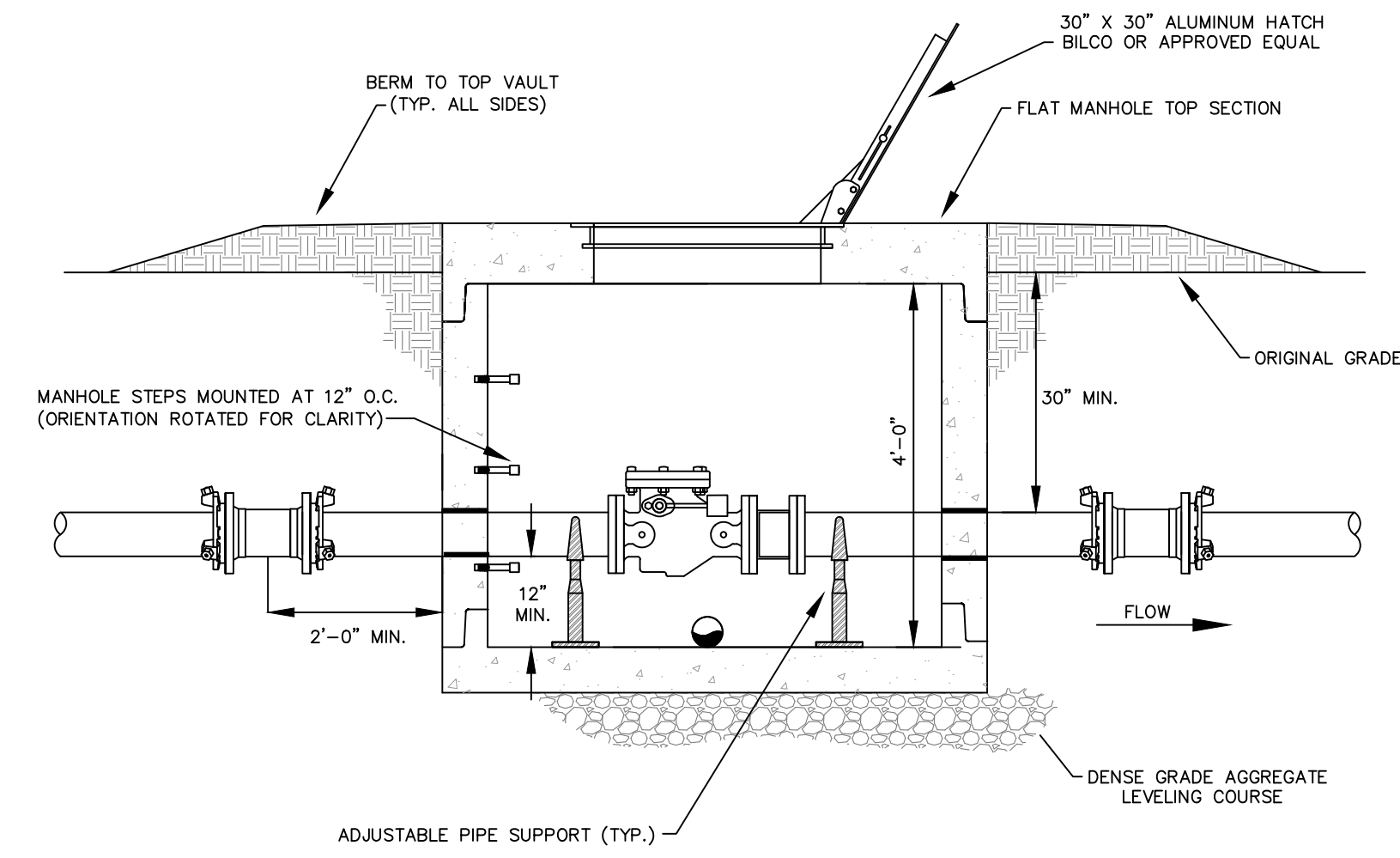




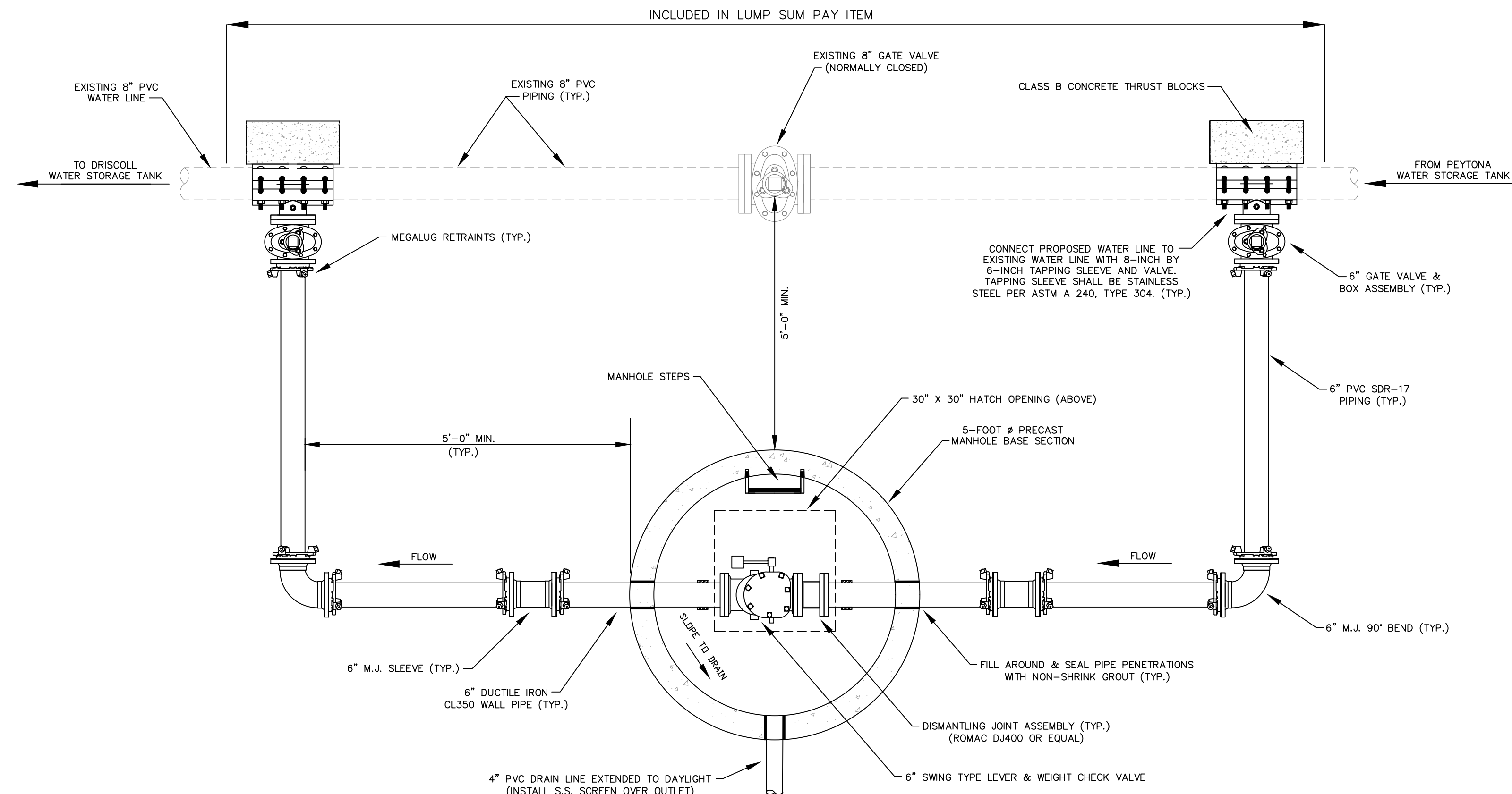
LOCATION MAP



SITE PLAN



SECTION VIEW



PLAN VIEW

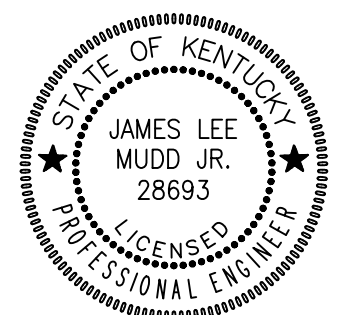
PROPOSED CHECK VALVE VAULT
KENTUCKY HIGHWAY 395
 SCALE: N.T.S.

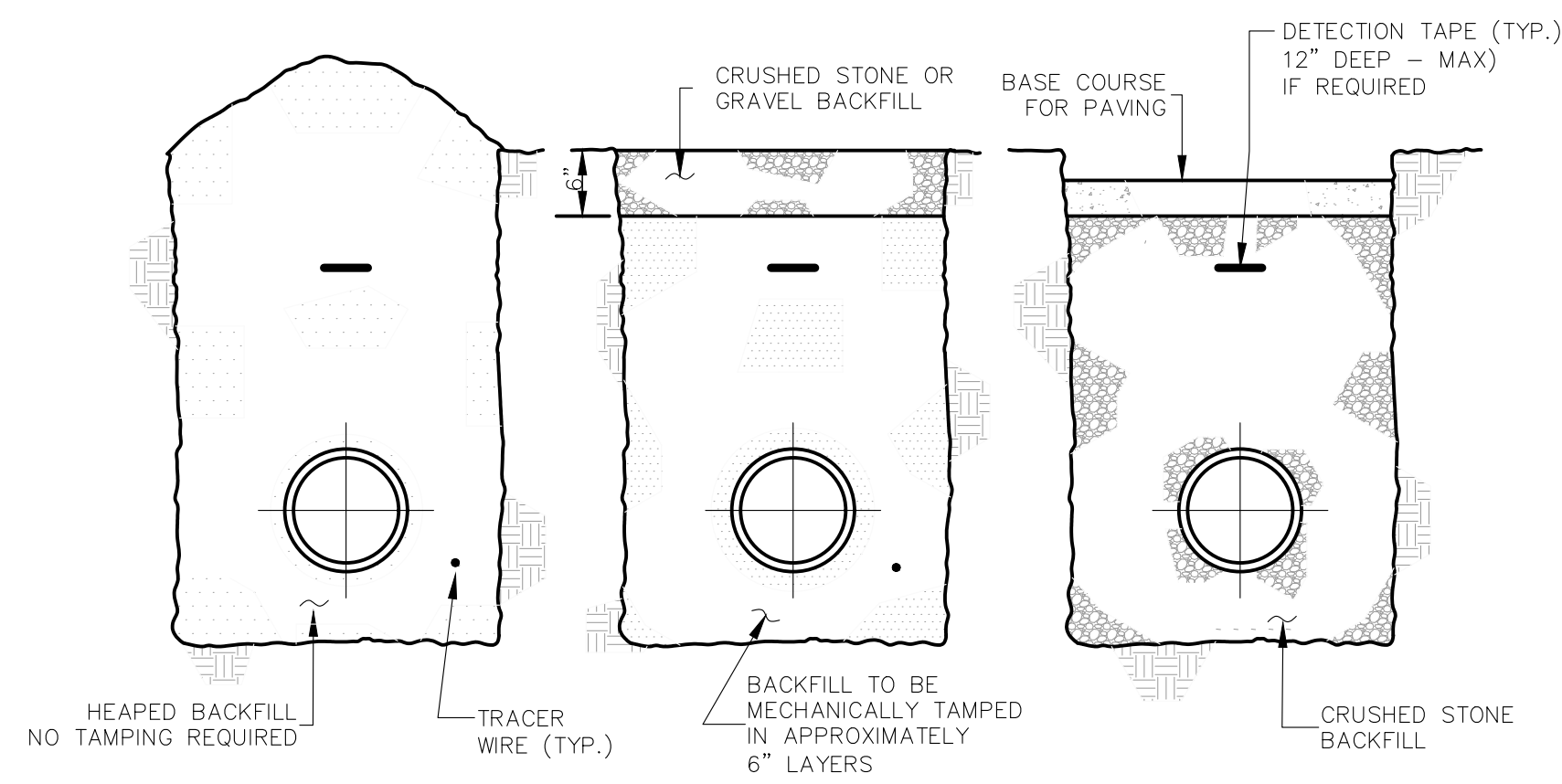
Monarch Engineering, Inc.
 556 CARLTON DRIVE
 LAWRENCEBURG, KY 40342

DESCRIPTION: KENTUCKY HIGHWAY 395 CHECK VALVE VAULT
CUSTOMER: US 60 WATER DISTRICT SPENCER COUNTY, KENTUCKY

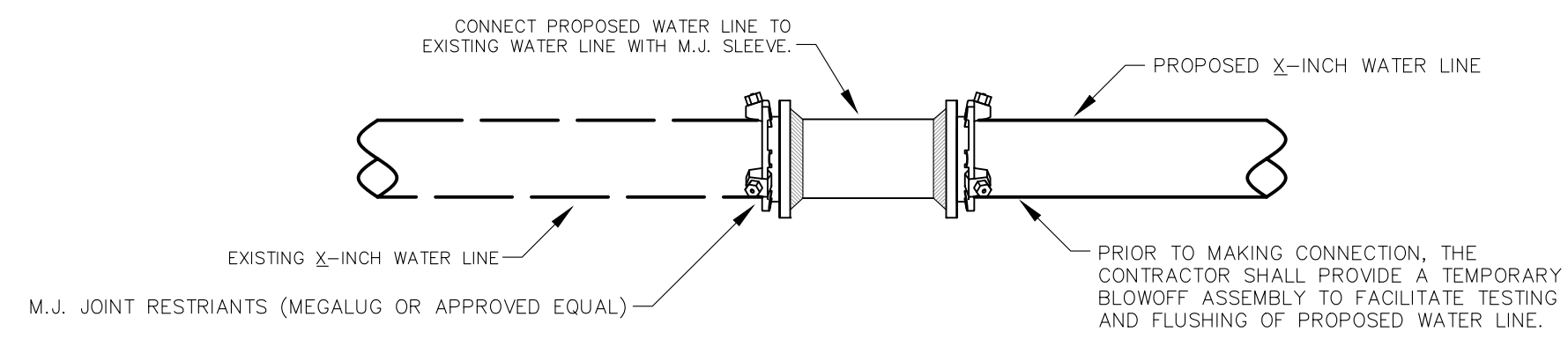
PROJECT NO. 2113
 DATE: JAN 2023
 DRAWN BY: JLM
 CHECKED BY: DSB
 CHECKED BY: DMB
 SCALE: N.T.S.

SHEET:
 UV-1

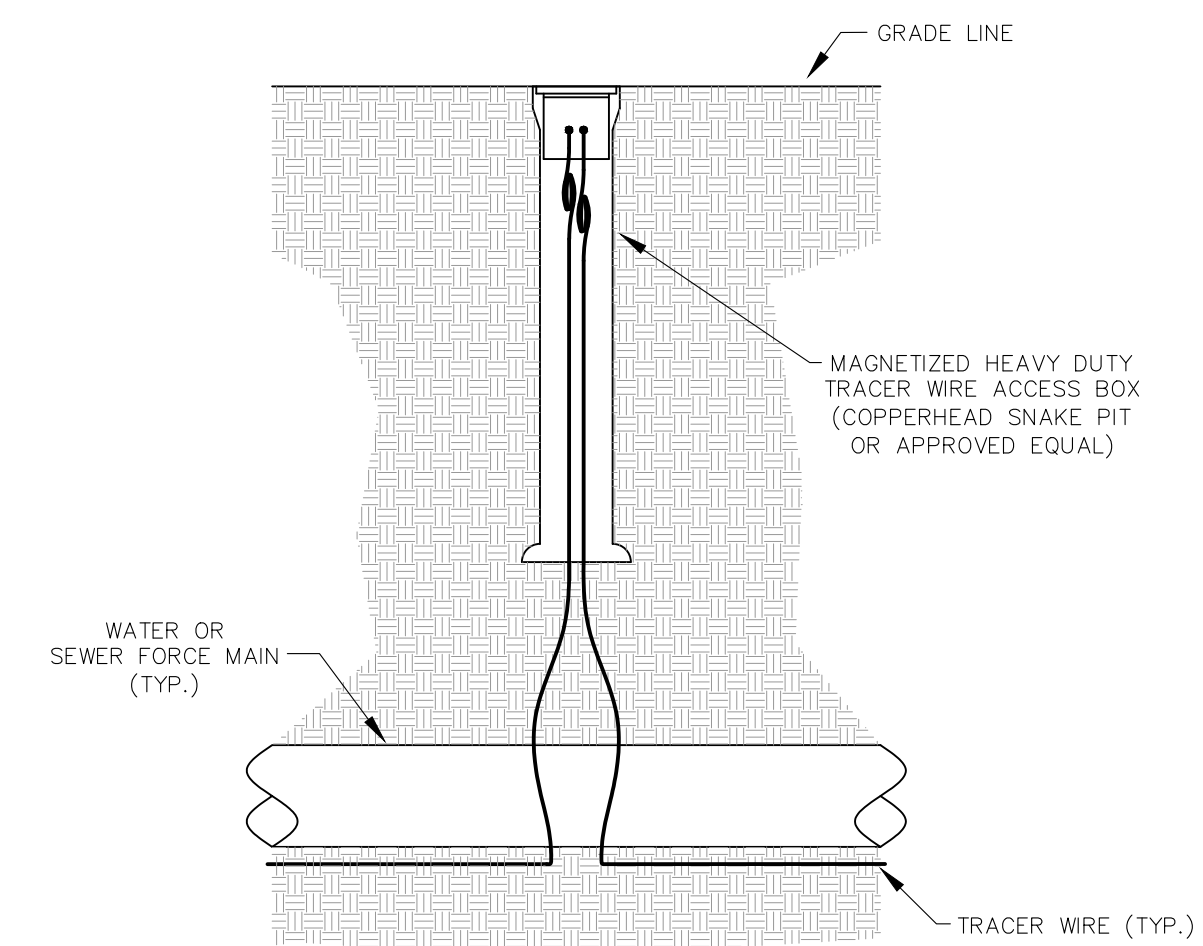




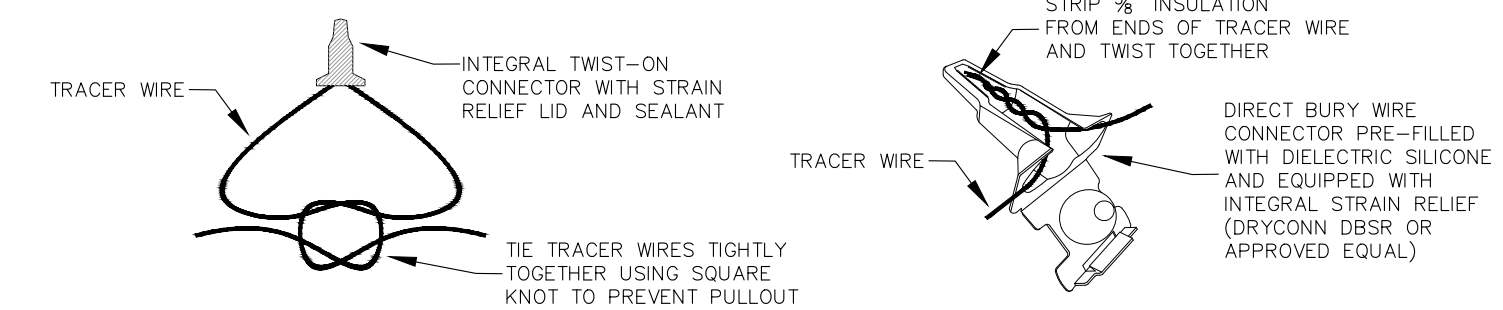
BACKFILLING



DIRECT CONNECTION



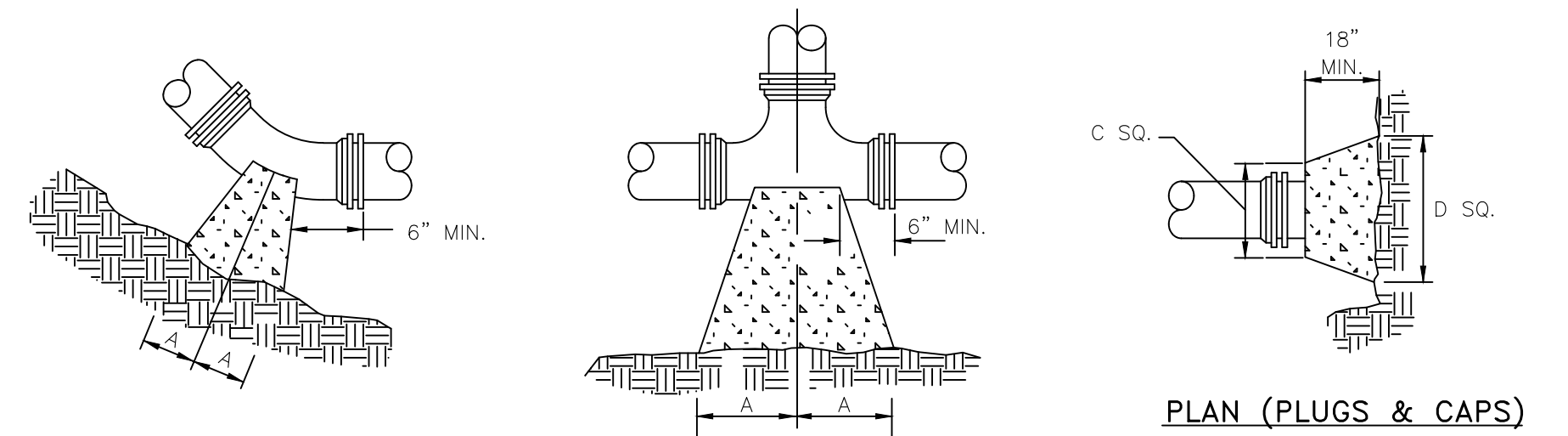
TRACER WIRE ACCESS BOX



TRACER WIRE CONNECTION

TRACER WIRE CONNECTOR DETAIL

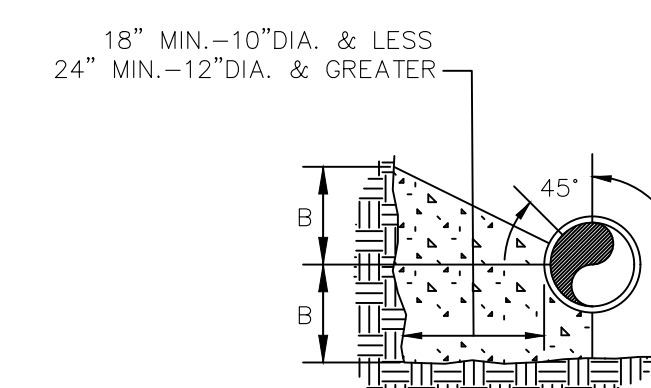
NOTES:
 FOR OPEN CUT INSTALLATION, TRACER WIRE IS TO BE #12 AWG SOLID COPPER WITH 30 MIL BLUE HMWPE INSULATION. FOR TRENCHLESS INSTALLATION, TRACER WIRE IS TO BE #12 AWG SOLID COPPER CLAD STEEL CORE WITH 45 MIL BLUE HDPE INSULATION.
 TRACER WIRE SHALL BE INSTALLED WITH THE PIPE AT THE TRENCH BOTTOM. ACCESS BOXES SHALL BE INSTALLED AT EACH VALVE, HYDRANT AND AIR RELEASE VALVE. TRACER WIRE ACCESS BOXES SHALL BE SPACED NO FURTHER THAN 1000' APART. A MINIMUM OF 3 FEET OF TRACER WIRE SHOULD BE COILED UP INSIDE OF EACH ACCESS BOX.



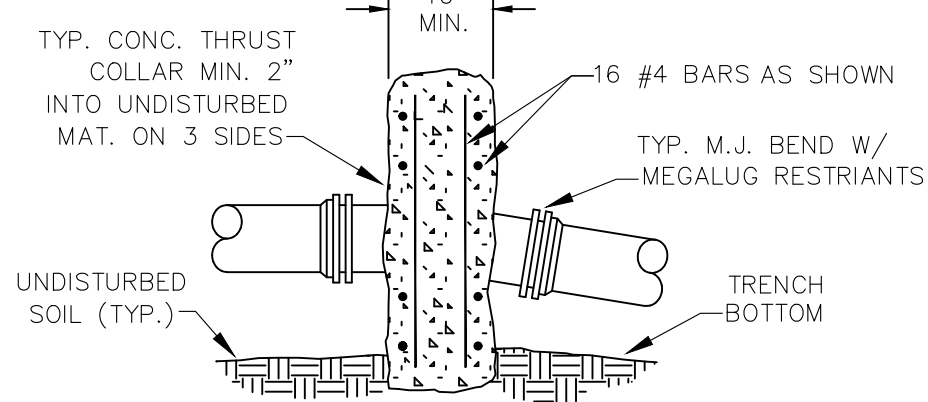
PLAN (HORIZONTAL BENDS)

PLAN (TEES)

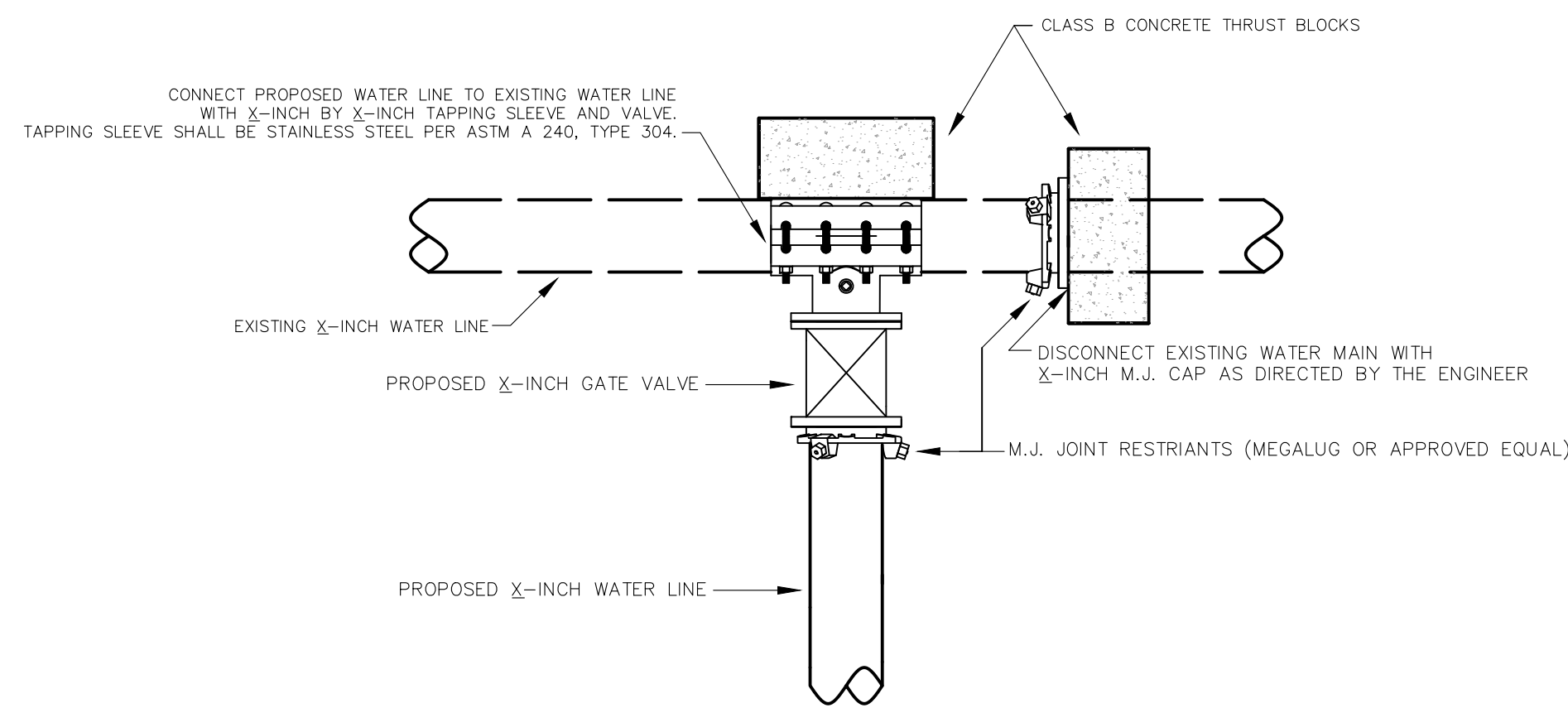
PLAN (PLUGS & CAPS)



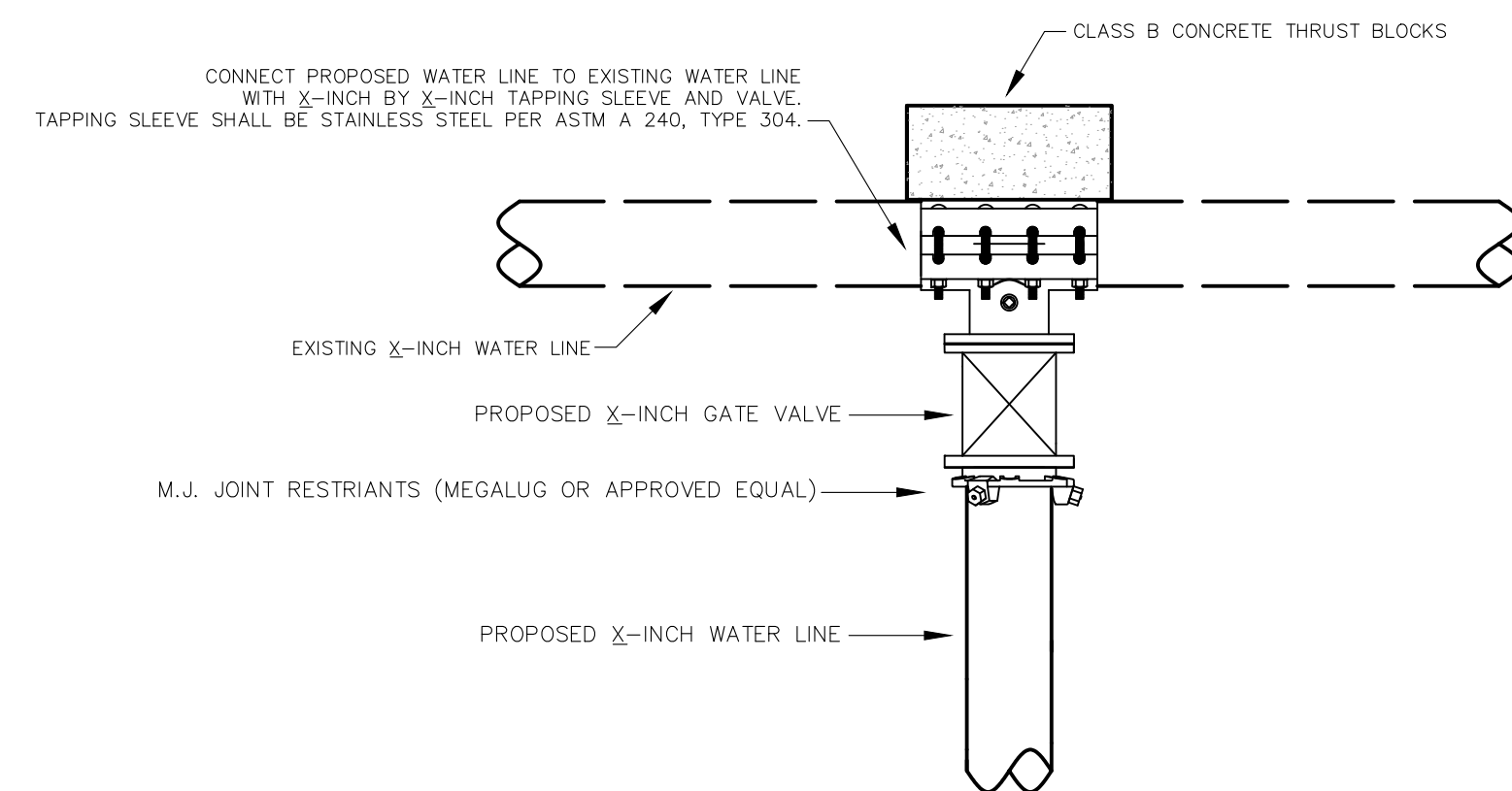
SECTION (HORIZONTAL BENDS & TEES)



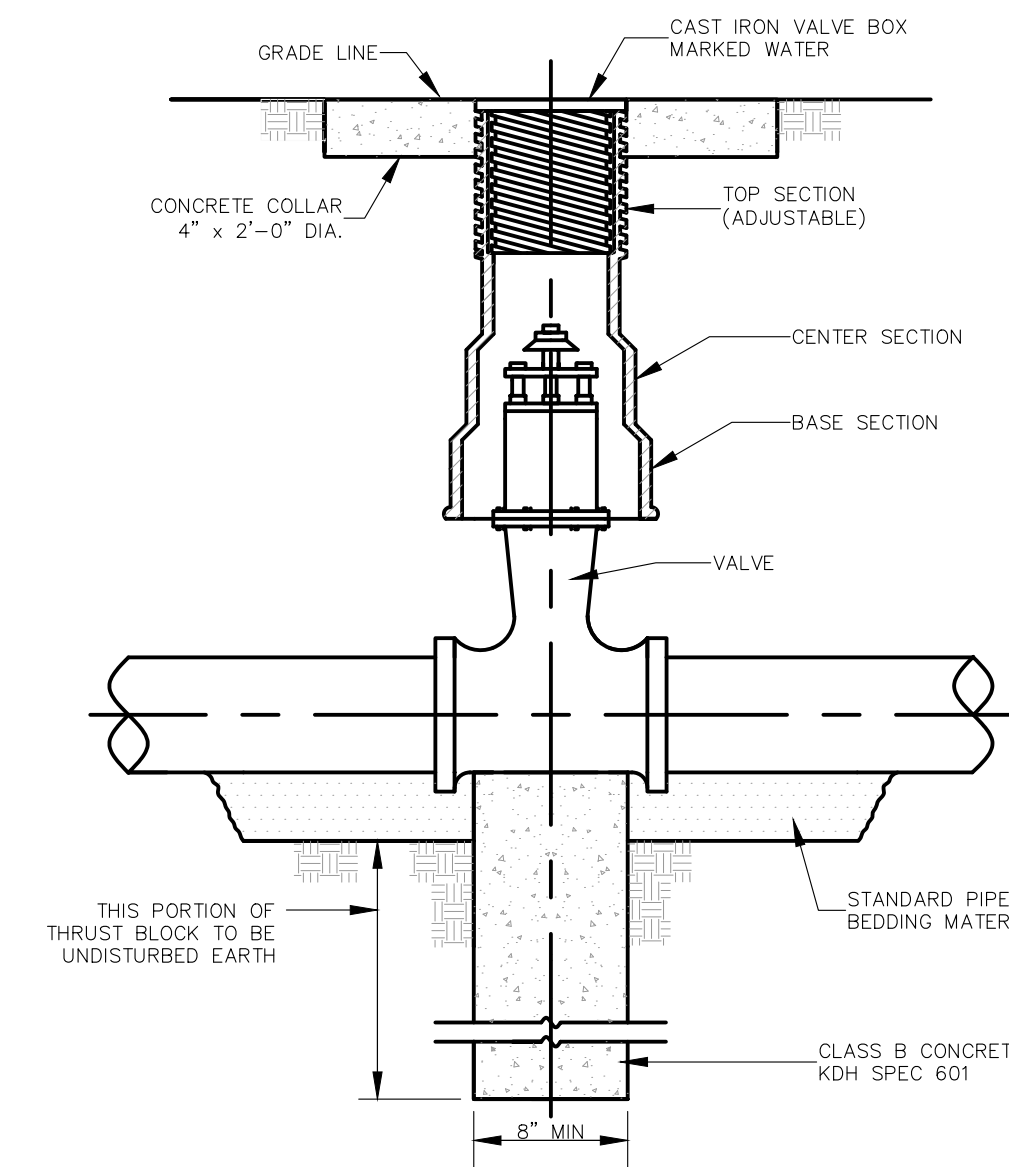
SECTION (VERTICAL BENDS)



TYPE I CONNECTION



TYPE II CONNECTION



NOTE: SEE SPECIFICATION FOR PIPING MATERIALS AND PIPING JOINTS

GATE VALVE

PIPE SIZE	90° BEND		45° BEND		22 1/2° BEND		11 1/4° BEND		TEE		PLUG	
	A	B	A	B	A	B	A	B	A	B	C	D
4"	8"	12"	8"	8"	6"	6"	6"	6"	11"	9"	10"	6"
6"	18"	12"	8"	10"	8"	8"	8"	8"	11"	10"	12"	18"
8"	18"	13"	10"	10"	8"	8"	8"	8"	11"	12"	12"	24"
10"	20"	16"	12"	14"	8"	12"	8"	12"	14"	16"	16"	30"
12"	20"	16"	12"	14"	8"	12"	8"	12"	14"	16"	16"	30"
16"	26"	20"	16"	18"	11"	13"	11"	13"	18"	20"	20"	36"
24"	82"	42"	62"	30"	44"	22"	22"	16"	82"	42"	82"	42"
30"	185"	42"	100"	42"	52"	42"	40"	30"	185"	42"	185"	42"

NOTES:

- FOR VERT. BEND DOWN IN EXCESS OF 11 1/4° BEND, ANCHORAGE SHALL BE DESIGNED BY ENGINEER.
- FOR VERT. BEND UPWARD, BLOCKING TO BE SIMILAR TO THAT FOR HORIZ. BEND.
- GLANDS & BOLTS SHALL REMAIN ACCESSIBLE AND MUST BE PROTECTED FROM CONCRETE BY PLASTIC SHEETING OR OTHERWISE.
- ALL THRUST BLOCK & SUPPORT CONCRETE SHALL BE 3000 PSI READY MIX.
- THRUST BLOCKS WITH "B" DIMENSION GREATER THAN 30" SHALL HAVE THE RESTRAINED PIPE INSTALLED WITH A MINIMUM OF 4" OF COVER.
- DESIGN CRITERIA:
 LINE PRESSURE = 200 psi
 SOIL BEARING CAPACITY = 2000 psf
 FACTOR OF SAFETY = 1.5

THRUST BLOCK DETAILS

DESCRIPTION:

STANDARD DETAIL DRAWINGS

CUSTOMER:

**U.S. 60 WATER DISTRICT
 SHELBY & SPENCER COUNTIES, KENTUCKY**

PROJECT NO. 2113

DATE: JAN 2023

DRAWN BY: JLM

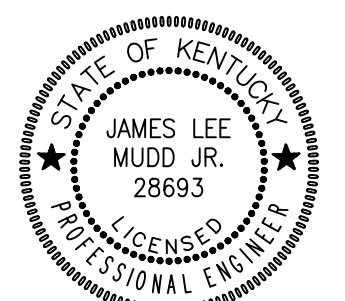
CHECKED BY: DSB

CHECKED BY: DMB

SCALE: N.T.S.

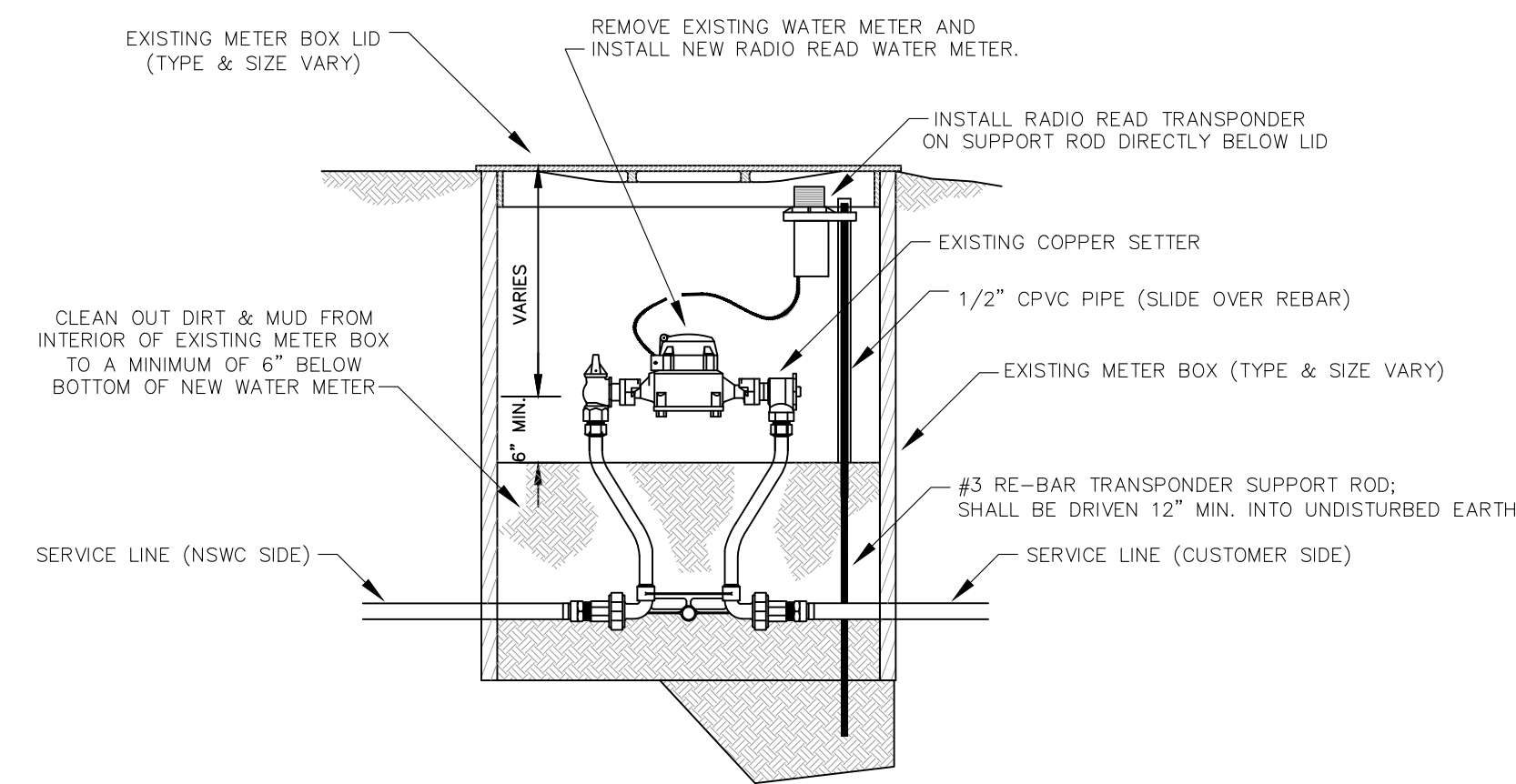
SHEET:

SD-1



Monarch Engineering, Inc.

556 CARLTON DRIVE
 LAWRENCEBURG, KY 40342



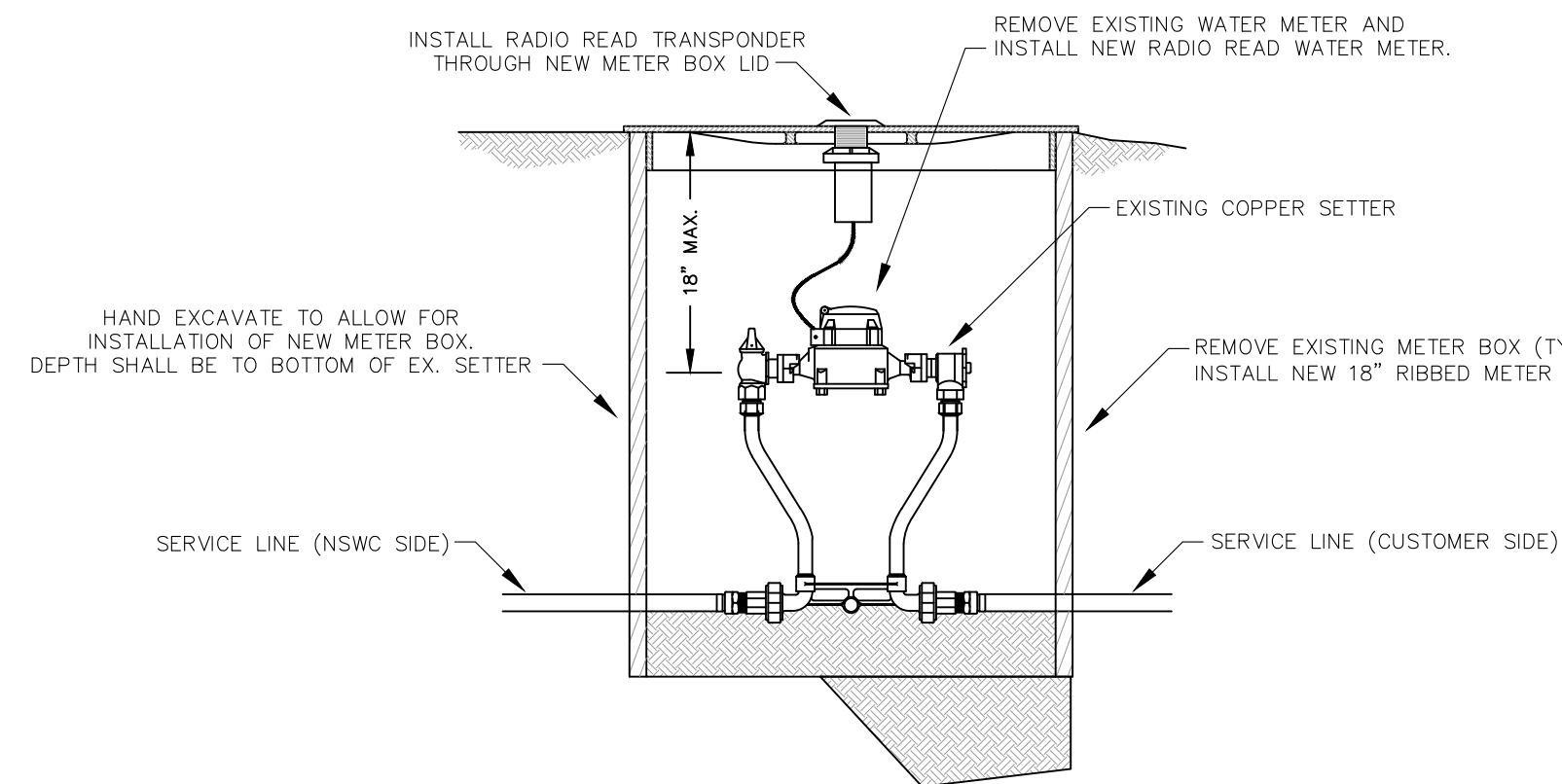
NOTES: NEW METER AND RADIO READ TRANSPONDER WILL BE SUPPLIED BY THE OWNER. ALL OTHER MATERIALS WILL BE SUPPLIED BY THE CONTRACTOR.

SETUP AND PROGRAMMING OF NEW METER SHALL BE COMPLETED BY OWNER.

FOLLOWING METER REPLACEMENT, THE CONTRACTOR SHALL LEAVE EXISTING METER INSIDE METER BOX FOR OWNER TO RETRIEVE AT A LATER DATE.

NEW METERS ARE EQUIPPED WITH MALE PLASTIC THREADED CONNECTION. CONTRACTOR SHALL TAKE CARE NOT TO CROSS THREAD THE CONNECTION DURING INSTALLATION. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REPLACEMENT COST OF ANY METER DAMAGED DURING INSTALLATION.

STANDARD METER REPLACEMENT DETAIL



NOTES: NEW METER AND RADIO READ TRANSPONDER WILL BE SUPPLIED BY THE OWNER. ALL OTHER MATERIALS WILL BE SUPPLIED BY THE CONTRACTOR.

SETUP AND PROGRAMMING OF NEW METER SHALL BE COMPLETED BY OWNER.

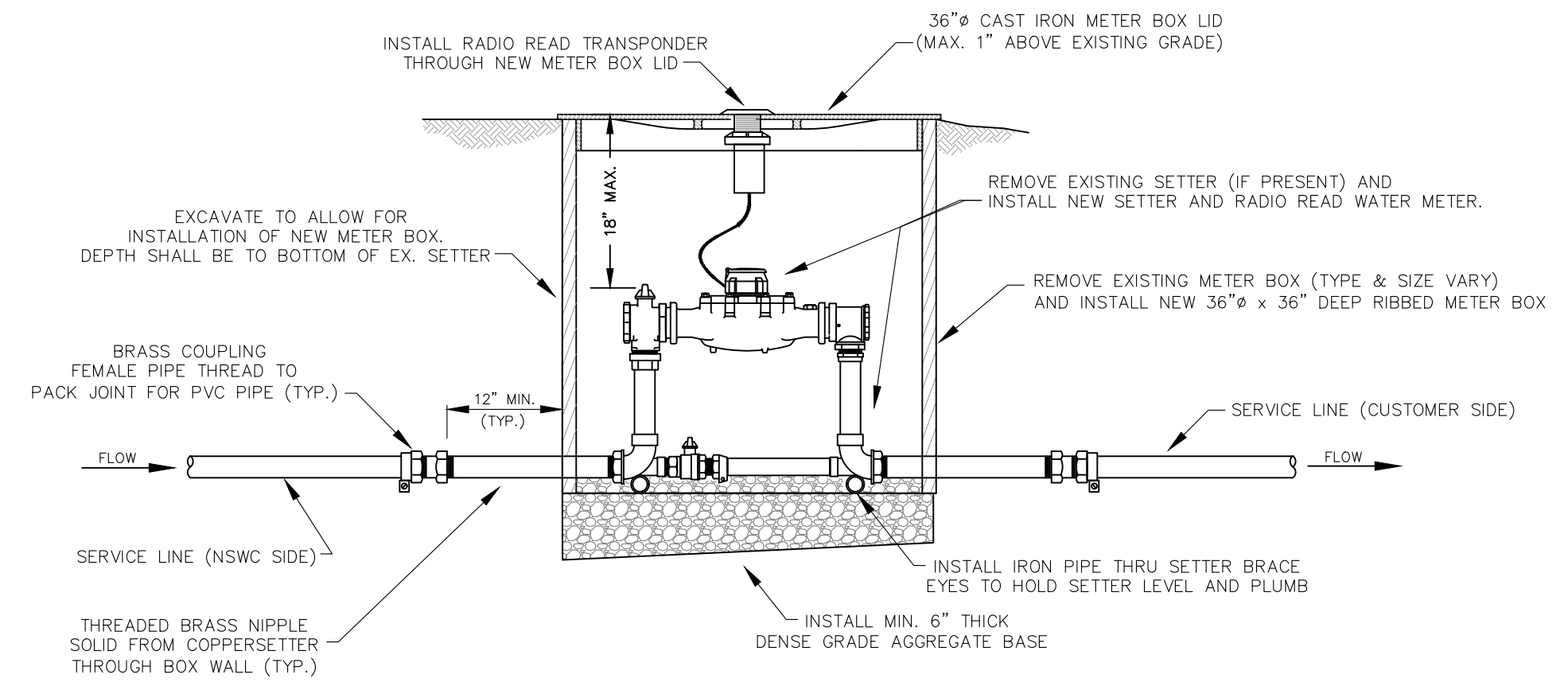
FOLLOWING METER REPLACEMENT, THE CONTRACTOR SHALL LEAVE EXISTING METER INSIDE METER BOX FOR OWNER TO RETRIEVE AT A LATER DATE.

NEW METERS ARE EQUIPPED WITH MALE PLASTIC THREADED CONNECTION. CONTRACTOR SHALL TAKE CARE NOT TO CROSS THREAD THE CONNECTION DURING INSTALLATION. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REPLACEMENT COST OF ANY METER DAMAGED DURING INSTALLATION.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF THE REMOVED METER BOX AND LID.

THE CONTRACTOR SHALL REMOVE ALL EXCESS DIRT RESULTING FROM METER BOX REPLACEMENT. AREA AROUND BOX SHALL BE NEATLY GRADED WITH ALL ROCKS REMOVED AND THEN SEEDED & STRAWED.

STANDARD METER & BOX REPLACEMENT DETAIL



NOTES: NEW METER AND RADIO READ TRANSPONDER WILL BE SUPPLIED BY THE OWNER. ALL OTHER MATERIALS WILL BE SUPPLIED BY THE CONTRACTOR.

THE CONTRACTOR IS RESPONSIBLE FOR SHUTTING OFF THE WATER SUPPLY TO THE EXISTING METER PRIOR TO THE START OF WORK. IT SHALL BE ASSUMED THAT THIS WILL INCLUDE EXPLORATION AS REQUIRED TO DETERMINE THE LOCATION OF THE EXISTING CORP. STOP AT THE MAIN. ALL RESULTING CLEANUP AND RESTORATION REQUIRED ARE INCIDENTAL TO THE METER REPLACEMENT.

SETUP AND PROGRAMMING OF NEW METER SHALL BE COMPLETED BY OWNER.

FOLLOWING METER REPLACEMENT, THE CONTRACTOR SHALL LEAVE EXISTING METER INSIDE METER BOX FOR OWNER TO RETRIEVE AT A LATER DATE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF THE REMOVED METER BOX AND LID.

THE CONTRACTOR SHALL REMOVE ALL EXCESS DIRT RESULTING FROM METER BOX REPLACEMENT. AREA AROUND BOX SHALL BE NEATLY GRADED WITH ALL ROCKS REMOVED AND THEN SEEDED & STRAWED.

NON-STANDARD METER, SETTER & BOX REPLACEMENT DETAIL
(LARGER THAN 1")

STANDARD DETAIL DRAWINGS

**U.S. 60 WATER DISTRICT
SHELBY & SPENCER COUNTIES, KENTUCKY**

DESCRIPTION:

CUSTOMER:

PROJECT NO. 2113

DATE: JAN 2023

DRAWN BY: JLM

CHECKED BY: DSB

CHECKED BY: DMB

SCALE: N.T.S.

SHEET:

SD-2

