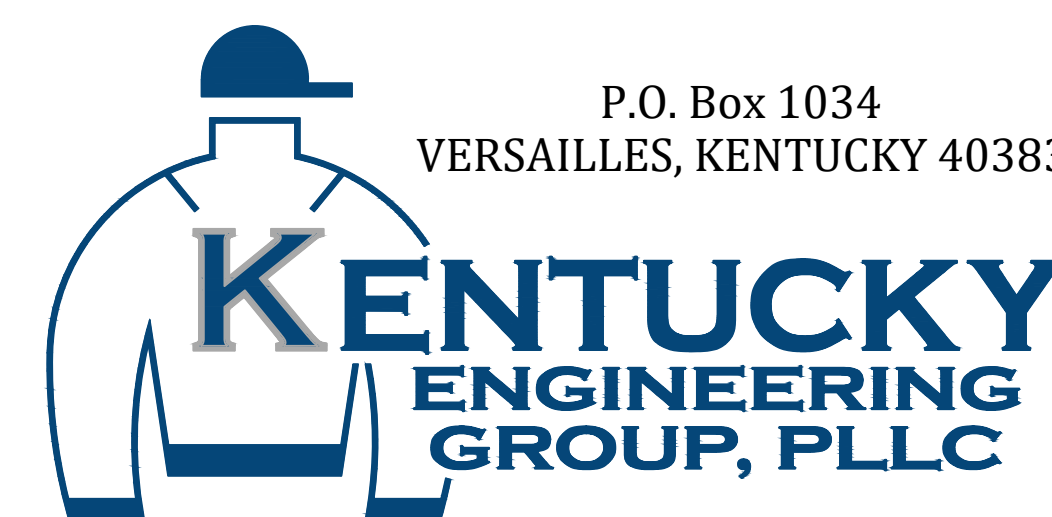


# 2022 WATER SYSTEM IMPROVEMENTS ORE MINES AND MIDLAND PUMP STATIONS

For The

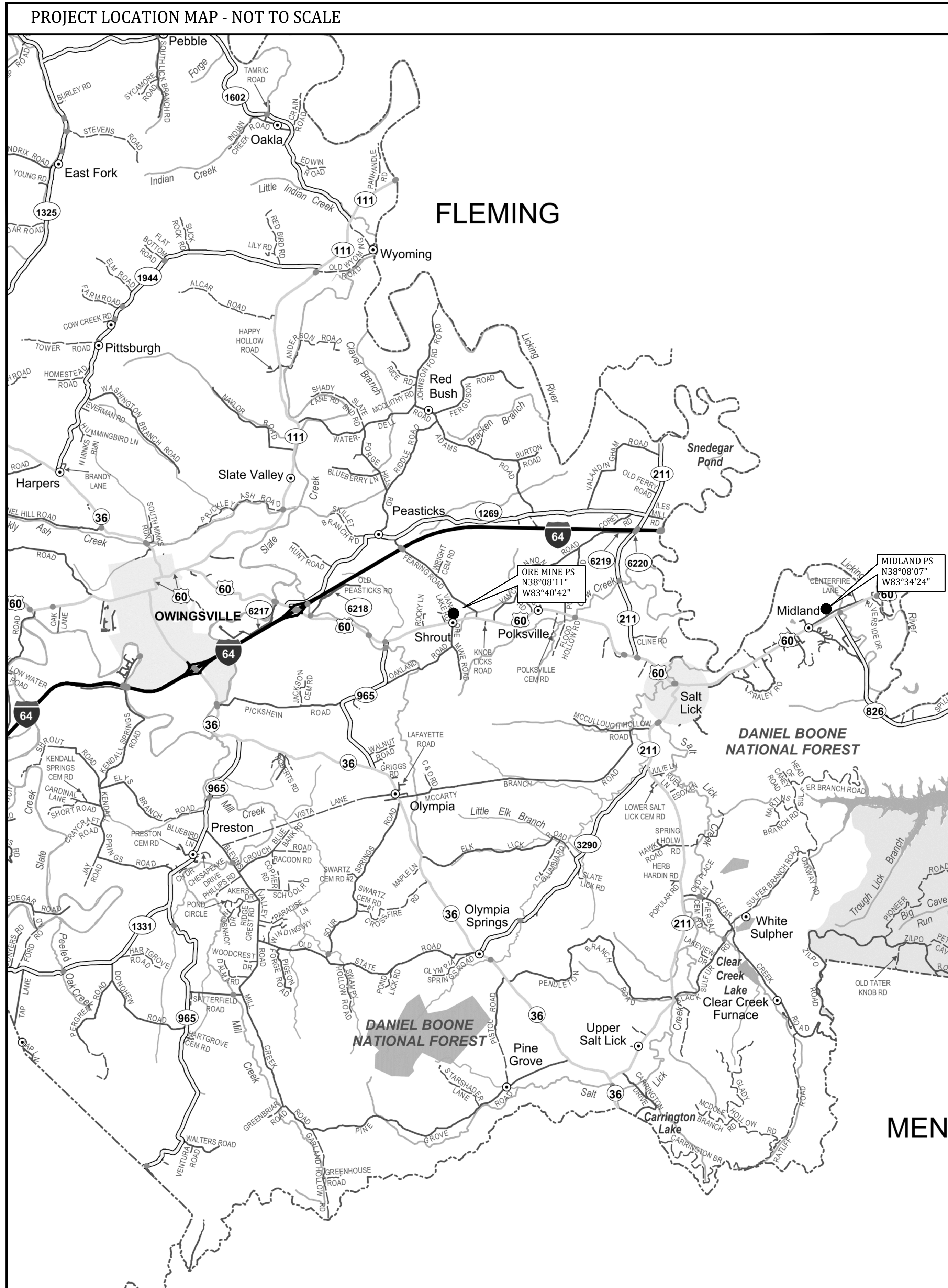
Bath County Water District  
Bath County, Kentucky

JANUARY, 2023



PROJECT NO. 22015

BID DOCUMENTS



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**UTILITIES**

**BUD - Before You Dig**  
**1-800-752-6007**  
**or DIAL 811**

**NOTE:**  
 IN ACCORDANCE WITH KENTUCKY STATE LAW, ANY ACTIVITY THAT RESULTS IN MOVEMENT, PLACEMENT, BORING, PROBING OR DIGGING IN OR ON THE GROUND SHALL CONTACT THE ONE CALL CENTER FOR UNDERGROUND UTILITY LOCATIONS.

**LEGEND**

EXISTING	PROPOSED	DESCRIPTION
PVC	PVC	POLYVINYL CHLORIDE
DIP	DIP	DUCTILE IRON PIPE
WM	WM	WATER MAIN
⊕	⊕	FLUSHING HYDRANT ASSEMBLY (YELLOW)
⊕	⊕	BLOWOFF ASSEMBLY
△	△	AIR RELEASE VALVE (ARV)
⊗	⊗	GATE VALVE (GV)
---	---	WATER MAIN (WM)
---	---	SPECIAL CROSSING OR CASING PIPE
---	---	WATER MAIN TO BE ABANDONED
---	---	RIGHT-OF-WAY LINE
---	---	CENTERLINE
---	---	PROPERTY LINE
---	---	EASEMENT ACQUIRED
●	●	EXISTING METERS TO BE REPLACED

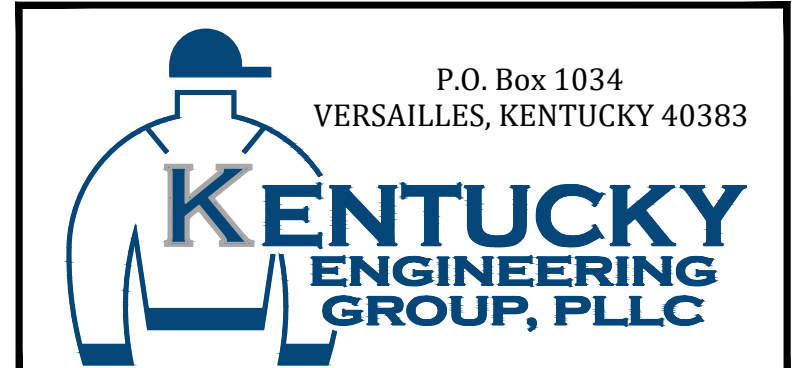
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NO.	DATE	REVISIONS	BY

DATE:	JANUARY, 2023
PROJECT MGR:	JCT
DRAWN BY:	JAB
CHECKED BY:	JCT
SCALE:	AS NOTED
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**2022 WATER SYSTEM IMPROVEMENTS PROJECT**  
 ORE MINES AND MIDLAND PUMP STATIONS  
 FOR THE  
 BATH COUNTY WATER DISTRICT

**PROJECT LOCATION MAP, INDEX OF DRAWINGS, LEGEND and UTILITIES**

PROJECT NO.  
22015

SHEET NO.  
G-1

PROJECT NO.  
22015

SHEET NO.  
G-1

BID DOCUMENTS

**WATER MAIN NOTES**

- CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND THE ENGINEER TWO WORKING DAYS (MINIMUM) BEFORE BEGINNING CONSTRUCTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF TRAFFIC IN ACCORDANCE WITH CITY, COUNTY AND STATE REQUIREMENTS.
- THE CONTRACTOR SHALL MAINTAIN A CURRENT SET OF CONSTRUCTION PLANS ON THE JOB SITE DURING ALL PHASES OF CONSTRUCTION.
- EXISTING UTILITIES, ESPECIALLY GAS LINES AND OIL LINES, MAY BE CATHODICALLY PROTECTED. THEREFORE, DUCTILE IRON PIPE, FITTINGS, GATE VALVES, AND/OR BOXES LAID WITHIN 100' OF LINES WITH CATHODIC PROTECTION SHALL BE WRAPPED IN POLYETHYLENE ENCASEMENT. MATERIALS AND INSTALLATION SHALL MEET THE REQUIREMENTS OF AWWA'S LATEST REVISION.
- ALL CONSTRUCTION AND INSTALLATION OF MATERIALS BEING USED SHALL BE IN CONFORMANCE WITH THE PLANS AND SPECIFICATIONS. SUBSTITUTIONS AND DEVIATION SHALL BE PERMITTED ONLY WHEN WRITTEN APPROVAL HAS BEEN ISSUED BY THE ENGINEER.
- SHOP DRAWINGS OF ALL MATERIALS BEING USED SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
- EXISTING UTILITIES HAVE NOT BEEN SHOWN. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES. THE CONTRACTOR SHALL COORDINATE WITH A REPRESENTATIVE WHEN WORKING NEAR EXISTING UTILITIES.
- THE CONTRACTOR SHALL PROTECT ALL UTILITIES AND OTHER IMPROVEMENTS SHOWN ON THESE PLANS AND ALL OTHER UTILITIES AND OTHER IMPROVEMENTS NOT SHOWN. THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR REPAIRS OF UTILITIES AND OTHER IMPROVEMENTS DAMAGED DURING CONSTRUCTION.
- UNLESS OTHERWISE NOTED, A SEPARATE BID ITEM HAS NOT BEEN ESTABLISHED FOR FITTINGS. THE FITTINGS INCLUDED BUT NOT LIMITED TO ARE: TEES, BENDS, PLUGS, REDUCERS, CROSSES, COUPLINGS, ETC. CONTRACTORS SHALL INCLUDE THE COST OF THESE ITEMS IN THE BID PRICE FOR THE PIPE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE TEMPORARY REMOVAL/RELOCATION OF TRAILERS, BUILDINGS, FENCES, TREES, SHRUBS, ETC. AND REPLACEMENT OF SAID ITEMS AFTER CONSTRUCTION ACTIVITIES.
- CONTRACTOR IS TO COORDINATE WITH THE PROPERTY OWNERS AS TO WHETHER OR NOT TEMPORARY FENCING IS REQUIRED AND CONSTRUCT IF NECESSARY.
- ALL PIPING SHALL HAVE 36" MINIMUM COVER.
- WHERE UNSTABLE MATERIAL IS ENCOUNTERED OR WHERE THE DEPTH OF EXCAVATION IN EARTH EXCEEDS FIVE (5) FEET, THE SIDES OF THE TRENCH OR EXCAVATION SHALL BE SUPPORTED BY SUBSTANTIAL SHEETING, BRACING, SHORING OR THE TRENCH SIDES SLOPED. SLOPING THE SIDES OF THE DITCH WILL NOT BE PERMITTED IN STREETS, ROADS, NARROW RIGHTS-OF-WAY OR OTHER CONSTRICTED AREAS UNLESS OTHERWISE SPECIFIED. THE STANDARDS OF THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT AND THE KENTUCKY LABOR CABINET SHALL BE FOLLOWED.
- ALL EXCAVATION IS UNCLASSIFIED. COMPENSATION FOR ALL EXCAVATION SHALL BE INCLUDED IN LUMP SUM BID.
- REGRADE OF SITE SHALL BE SUCH THAT DRAINAGE IS AWAY FROM ALL STRUCTURES.
- BACKFILL AROUND ALL STRUCTURES SHALL BE SUFFICIENTLY COMPACTED TO PREVENT SETTLEMENT AND PONDING OF WATER AROUND STRUCTURES AND GRADED TO DIVERT RUNOFF AWAY FROM THE STRUCTURES.
- DIMENSIONS, DETAILS AND REINFORCEMENT MAY VARY WITH MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL OBTAIN AND MAINTAIN ON SITE, APPROVED SHOP DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.
- ALL VALVES & HYDRANTS SHALL BE LOCATED AT THE BACKSIDE OF THE DITCHLINE.
- FINAL LOCATION OF SERVICES, VALVES, & HYDRANT ORIENTATION ARE TO BE FIELD LOCATED DURING CONSTRUCTION & APPROVED BY THE ENGINEER.
- AT THE CONTRACTORS OPTION, CLASS 350 DUCTILE IRON PIPE MAY BE SUBSTITUTED FOR ANY PIPE PARTICULARLY SPECIFIED, BUT AT NO ADDITIONAL COST TO THE OWNER.
- NO PAY ITEM FOR EXTRA TRENCH DEPTH HAS BEEN SET UP. CONTRACTOR SHALL INCLUDE THE COST OF THE ADDITIONAL DEPTH IN HIS BID PRICE.
- ROCK SOUNDINGS WERE NOT PERFORMED BY THE ENGINEER, THE CONTRACTOR SHALL TAKE APPROPRIATE ACTION TO DETERMINE SUBSURFACE CONDITIONS.
- CONTRACTOR TO DIG/EXPOSE EXISTING WATER MAIN FAR ENOUGH AHEAD OF NEW WATER MAIN CONSTRUCTION TO AVOID DAMAGE TO EXISTING WATER MAIN AND/OR INTERRUPTION OF EXISTING CUSTOMER SERVICES. THIS SHALL BE INCIDENTAL TO THE WATER MAIN INSTALLATION.
- THE MAXIMUM ALLOWABLE LENGTH OF SERVICE LINE FROM THE WATER MAIN TO THE CUSTOMER'S METER SERVICE SHALL BE AS FOLLOWS:

SERVICE LINE DIAMETER	MAXIMUM LENGTH
3/4 INCH	125 FEET
1 INCH	150 FEET
1-1/2 INCH	200 FEET
2 INCH	250 FEET

- CONNECTIONS TO EXISTING DISTRIBUTION SYSTEM SHALL BE MADE AS FOLLOWS:
  - CONNECT TO EXISTING (SIZE) W.M. (WET TAP) - CONTRACTOR SHALL PROVIDE, FURNISH AND INSTALL ALL FITTINGS, VALVES AND APPURTENANCES TO CONNECT THE PROPOSED WATER MAIN TO THE EXISTING WATER MAIN UNDER PRESSURE.
  - CONNECT TO EXISTING (SIZE) W.M. - CONTRACTOR SHALL PROVIDE, FURNISH AND INSTALL ALL FITTINGS AND APPURTENANCES TO CONNECT THE PROPOSED WATER MAIN TO THE EXISTING WATER MAIN. VALVES ARE A SEPARATE PAY ITEM.
- DRIVEWAYS WITH ASPHALT PAVING OR CONCRETE SHALL BE BORED AND PVC CASING SHALL BE INSTALLED. GRAVEL DRIVEWAYS SHALL BE OPEN CUT WITH PVC CASING INSTALLED WITH CRUSHED STONE BACKFILL. THIS SHALL BE INCIDENTAL TO THE WATER MAIN INSTALLATION.

**FINAL CLEANUP AND RESTORATION**

UNLESS SPECIFICALLY APPROVED BY THE OWNER AND ENGINEER, CLEANUP OF DISTURBED AREAS SHALL BE KEPT CURRENT WITH CONSTRUCTION AND RESTORATION EFFORTS BY THE CONTRACTOR INITIATED NO LONGER THAN SEVEN (7) DAYS AFTER THE TRENCH EXCAVATION WORK HAS STARTED. ALL EXCAVATED MATERIAL NOT REQUIRED FOR BACKFILLING OF THE TRENCH AND ANY LARGE ROCKS, STONES OR DEBRIS SHALL BE REMOVED FROM THE SITE, AND SHALL NOT BE A BURDEN TO THE PROPERTY OWNER(S) AND/OR ADJACENT PROPERTIES. THE CONTRACTOR MAY WINDROW OR TRACK-IN THE EXCAVATED MATERIAL OVER THE TRENCH PRIOR TO FINAL CLEANUP TO ALLOW FOR AND TO ASSIST IN THE INITIAL SETTLEMENT OF THE TRENCH. ALL DISTURBED AREAS MUST BE SEEDED AT LEAST WITH A TEMPORARY SEED MIX IF FOR SOME REASON THE AREA CANNOT BE PERMANENTLY SEEDED WITHIN TWO (2) WEEKS.

**GENERAL NOTES**

- GENERAL PROJECT REQUIREMENTS - IN THE EVENT OF A CONFLICT BETWEEN ANY PORTION OF THE CONTRACT DOCUMENTS, THE MORE STRINGENT REQUIREMENT SHALL GOVERN.
- PROJECT COMMUNICATIONS / INSPECTION - THE ENGINEER SHALL BE THE CONTRACTOR'S DESIGNATED SITE REPRESENTATIVE. ALL COMMUNICATION FROM THE CONTRACTOR AND TO THE CONTRACTOR, SHALL BE THROUGH THE ENGINEER.
- SAFETY - THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR SHALL SELECT THE MEANS, METHODS, SEQUENCES, AND TECHNIQUES OF CONSTRUCTION HE DEEMS APPROPRIATE FOR ACCOMPLISHING THE WORK IN A SAFE MANNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE TO PERSONS AND PROPERTY RESULTING FROM HIS ACTIVITIES.
- EMERGENCY SHUTOFF - THE CONTRACTOR SHALL LOCATE EXISTING WATER AND GAS VALVES PRIOR TO STARTING WORK SO THAT IN THE EVENT OF AN EMERGENCY THE UTILITY SERVICE MAY BE QUICKLY SHUT OFF.
- EASEMENTS AND RIGHT-OF-WAY - THE OWNER IS RESPONSIBLE FOR THE PROCUREMENT OF ALL PERMANENT EASEMENTS NECESSARY OR REQUIRED FOR THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY EASEMENTS FOR HIS STAGING AREAS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBSERVE THE CONDITIONS OF THESE AGREEMENTS AND CONFINE HIS ACTIVITIES TO THE LIMITS OF THE EASEMENTS. CONTRACTOR TO OBTAIN COPIES OF EASEMENTS OBTAINED BY OWNER AND ABIDE BY THE CONDITIONS OF THESE EASEMENTS DURING CONSTRUCTION.
- EXCAVATION - IT SHALL BE DISTINCTLY UNDERSTOOD THAT ANY REFERENCE TO ROCK, EARTH, OR ANY OTHER MATERIALS ON THE PLANS WHETHER IN NUMBERS, WORDS, LETTERS, OR LINES, IS SOLELY FOR THE OWNER'S INFORMATION AND SHALL NOT BE TAKEN AS AN INDICATION OF CLASSIFIED EXCAVATION OR THE QUANTITY OF EITHER ROCK, EARTH OR ANY OTHER MATERIAL INVOLVED. THE BIDDER MUST DRAW HIS OWN CONCLUSIONS AS TO THE CONDITIONS TO BE ENCOUNTERED. THE CONTRACTOR SHALL PERFORM ALL EXCAVATION NECESSARY OR REQUIRED FOR COMPLETION OF THE PROJECT. THIS WORK SHALL INCLUDE THE REMOVAL AND PROPER DISPOSAL OF ALL MATERIALS OF WHATEVER NATURE ENCOUNTERED. EXCAVATION FOR UTILITIES SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE WORK AND SHALL NOT BE MEASURED FOR PAYMENT.
- TOTAL SITE RESPONSIBILITY - IN OCCUPYING THE SITE AND COMMENCING WORK IN ACCORDANCE WITH THE NOTICE TO PROCEED, THE CONTRACTOR ASSUMES TOTAL AND COMPLETE RESPONSIBILITY FOR THE WORK UNTIL FINAL PAYMENT AND RELEASE OF CLAIMS. ANY PORTION OF THE WORK DAMAGED IN THIS TIME PERIOD BY ACTS OF GOD, OR THE PUBLIC ENEMY, ACTS OF THE OWNER, ACTS OF OTHER CONTRACTORS, FIRES, FLOODS, EPIDEMICS, QUARANTINE, STRIKES, FREIGHT EMBARGOS, VANDALISM AND ABNORMAL WEATHER SHALL BE CORRECTED, REPAIRED, OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- ACCESS TO WORK - THE ENGINEER, HIS REPRESENTATIVES, AND REPRESENTATIVES OF THE OWNER SHALL HAVE FULL ACCESS TO THE WORK AT ALL TIMES.
- BLASTING - NO BLASTING SHALL BE ALLOWED ON THIS PROJECT.
- BURNING - BURNING SHALL CONFORM TO ALL APPLICABLE LOCAL, STATE, AND FEDERAL ORDINANCES.
- WASTE AREAS - THE CONTRACTOR WILL NECESSARILY GENERATE WASTE MATERIALS IN THE FORM OF BRUSH CLIPPINGS, OVERSIZE BOULDERS, MUCK, ETC. THE CONTRACTOR SHALL SUBMIT A WRITTEN PLAN DETAILING THE MANNER IN WHICH WASTE MATERIALS WILL BE HANDLED. THE CONTRACTOR SHALL STRICTLY COMPLY WITH ALL LOCAL, STATE, AND FEDERAL LAWS AND REGULATIONS PERTAINING TO THE DISPOSITION OF CONSTRUCTION RELATED WASTE PRODUCTS. IN NO EVENT SHALL WASTE MATERIALS BE PLACED IN A REGULATORY FLOODWAY (OR FLOODPLAIN) WITHOUT A DOW PERMIT TO CONSTRUCT ALONG OR ACROSS A STREAM. OWNER WILL NOT ASSUME RESPONSIBILITY FOR WASTE AREAS.
- SILT CONTROL - THE CONTRACTOR SHALL CONDUCT HIS WORK IN AN ENVIRONMENTALLY SOUND MANNER AND SHALL UTILIZE "BEST MANAGEMENT PRACTICES" TO MINIMIZE EROSION. THE CONTRACTOR SHALL HOLD HARMLESS THE OWNER FROM ANY VIOLATIONS ASSOCIATED WITH THE CLEAN WATER ACT.
- DRAINAGE - CONTRACTOR SHALL MAINTAIN DRAINAGE WORK AREAS DURING ALL PHASES OF CONSTRUCTION. THE OWNER MAY DIRECT THE CONTRACTOR TO CONSTRUCT DITCHES OR BERMS TO ALLEVIATE SITE DRAINAGE PROBLEMS. CONSTRUCTION AND MAINTENANCE OF MINOR DRAINAGE WORKS SHALL BE CONSIDERED AN INTEGRAL PART OF THE OVERALL ACCOMPLISHMENTS OF THE PROJECT AND SHALL NOT BE MEASURED FOR SEPARATE PAYMENT.
- ADHERENCE TO PERMITS - PERMITS REQUIRED BY THE OWNER ARE:
  - DIVISION OF WATER CONSTRUCTION PERMIT.
  - DEPARTMENT OF HIGHWAYS ENCROACHMENT PERMIT.

THE CONTRACTOR SHALL CONDUCT HIS ACTIVITIES IN STRICT ACCORDANCE WITH THESE PERMITS AT ALL TIMES. IN PARTICULAR, THE CONTRACTOR SHALL STRICTLY OBSERVE THE 401 WATER QUALITIES CERTIFICATION KEY REQUIREMENTS OF THE 401 CERTIFICATION WHICH INCLUDE:

- RE-VEGETATION AND CLEANUP OF AREA ADJACENT TO STREAMS SHALL OCCUR CONCURRENTLY WITH THE PROGRESS OF THE WORK. CONCURRENTLY IS HEREIN DEFINED TO MEAN THAT RE-VEGETATION AND CLEANUP.
- BEST MANAGEMENT PRACTICES SHALL BE EMPLOYED. TO MINIMIZE SEDIMENT RUNOFF AND SOIL EROSION TO THE WATER COURSE.
- EXTREME CARE SHALL BE TAKEN TO PREVENT SPILLS OF FUELS AND LUBRICANT INTO WATERCOURSES. EQUIPMENT WORKS FROM THE STREAM BANK.

- EXISTING UTILITIES AND UNDERGROUND FACILITIES - THE CONTRACTOR'S ATTENTION IS CALLED TO THE PRESENCE OF EXISTING UTILITIES IN CLOSE PROXIMITY TO THE PROJECT SITE. THE CONTRACTOR IS ADVISED TO CAREFULLY REVIEW THE PROJECT REQUIREMENTS REGARDING UTILITY RELOCATIONS. THE CONTRACTOR CAN CALL 1-800-752-6007 A MINIMUM OF TWO AND NO MORE THAN TEN BUSINESS DAYS PRIOR TO EXCAVATION FOR INFORMATION ON THE LOCATION OF EXISTING UNDERGROUND UTILITIES WHICH SUBSCRIBE TO THE BEFORE-U-DIG (BUD) SERVICE. ALL UTILITY REPAIR AND RELOCATION WORK SHALL BE INCIDENTAL TO OTHER ITEMS OF WORK. THE EXISTING CONTRACTOR MUST MAKE DILIGENT EFFORT TO MAINTAIN THE SERVICE OF EXISTING UTILITIES. THE CONTRACTOR SHALL PROVIDE BY-PASS PUMPING OF WASTEWATER TO THE NEAREST PUBLIC SANITARY SEWER WHENEVER HIS ACTIVITIES INTERRUPT THE FLOW OF AN EXISTING SANITARY WASTEWATER DISPOSAL FACILITY (SEWER, SEPTIC TANK, LEACH FIELD, ETC.) BY-PASS PUMPING SHALL BE CONSIDERED AN INCIDENTAL PART OF THE PIPE LAYING ACTIVITY AND SHALL NOT BE MEASURED FOR SEPARATE PAYMENT.

**GENERAL NOTES (continued)**

- REPLACEMENT OF EXISTING FACILITIES - THE CONTRACTOR SHALL REPLACE EXISTING ENTRANCE PIPES, RETAINING WALLS, CATCH BASINS, FENCES AND OTHER PROPERTY IMPROVEMENTS, DITCHES, ETC., THAT ARE DAMAGED BY CONSTRUCTION UNLESS SAID FACILITIES ARE SPECIFICALLY SHOWN TO BE REMOVED. IN PARTICULAR, ALL DRAINAGE DITCHES SHALL BE RESTORED TO A CONDITION EQUAL OR BETTER THAN THAT WHICH EXISTED PRIOR TO CONSTRUCTION. UNLESS SAID FACILITY REPLACEMENT IS IDENTIFIED AS A PAY ITEM IN THE DESIGN DRAWINGS OR TECHNICAL SPECIFICATIONS, THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE COST OF LAYING PIPE AND SHALL NOT BE MEASURED FOR PAYMENT
- DAMAGE TO GUARDRAILS, SIGNS, FENCES, STORM DRAINS, ETC. - ALL GUARDRAIL, SIGNS, FENCES, STORM DRAINS, ETC., DAMAGED AS A RESULT OF THE CONSTRUCTION SHALL BE RESTORED IN LIKE KIND AND CHARACTER TO THE SATISFACTION OF THE OWNER. UNLESS SAID REPLACEMENT IS IDENTIFIED AS A PAY ITEM IN THE DESIGN DRAWINGS OR TECHNICAL SPECIFICATIONS, THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE COST OF LAYING PIPE AND SHALL NOT BE MEASURED FOR PAYMENT.
- STREAM CROSSING - THE LAST EIGHTEEN (18) INCHES OF BACKFILL IN ALL STREAM BEDS SHALL CONSIST OF KENTUCKY DEPARTMENT OF HIGHWAY CHANNEL LINING CLASS III.
- THRUST BLOCKS - CONCRETE THRUST BLOCKS OR 'KICKER' BLOCKS SHALL BE INSTALLED IN ALL PRESSURIZED LINES AT INTERSECTION AND CHANGES OF DIRECTION TO RESIST FORCES ACTING UPON THE PIPELINE. THRUST BLOCKS ARE CONSIDERED INCIDENTAL TO THE PIPELINE
- ANCHORS - CONCRETE ANCHORS SHALL BE PROVIDED WHEN THE PIPE SLOPE IS TWENTY (20) PERCENT OR GREATER. ANCHORS ARE CONSIDERED INCIDENTAL TO THE PIPELINE INSTALLATION.
- SEPARATION OF WATER AND SEWER - HORIZONTAL- SEWERS SHALL BE LAID AT LEAST TEN (10) FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN. THIS DISTANCE SHALL BE MEASURED EDGE TO EDGE. IF FIELD CONDITIONS DO NOT ALLOW THIS SEPARATION, THE SEWER SHALL BE LOCATED SUCH THAT THE CROWN OF THE SEWER PIPE IS EIGHTEEN (18) INCHES BELOW THE INVERT OF THE WATER LINE. IF FIELD CONDITIONS DO NOT ALLOW THIS CONDITION TO BE MET THEN THE SEWER SHALL BE CONSTRUCTED OF MECHANICAL JOINT DUCTILE IRON PIPE (PRESSURE TESTED TO 150 PSI) AND ENCASED IN CONCRETE.
- CROSSING - SEWERS SHALL CROSS UNDER WATER MAINS WITH A MINIMUM OF EIGHTEEN (18) INCHES OF SEPARATION BETWEEN THE CROWN OF THE SEWER AND THE INVERT OF THE WATER MAIN. IF FIELD CONDITIONS ARE SUCH THAT THIS SEPARATION CAN NOT BE MAINTAINED, THE SEWER SHALL BE CONSTRUCTED OF MECHANICAL JOINT DUCTILE IRON PIPE WHICH SHALL BE PRESSURE TESTED TO 150 PSI. THE DUCTILE IRON PIPE MUST BE CENTERED ON THE CROSSING SO THAT THE JOINTS ARE AT LEAST TEN (10) FEET ON EITHER SIDE OF THE CROSSING. NO SEPARATE PAYMENT SHALL BE MADE FOR WORK TO INSURE COMPLIANCE WITH THIS SEPARATION CRITERION. MAINTENANCE OF ADEQUATE SEPARATION SHALL BE CONSIDERED AN INTEGRAL PART OF THE UNIT PRICE BID FOR SEWER PIPE.
- TESTING - THE SEWER LINES SHALL BE TESTED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS IN THE PRESENCE OF THE ENGINEER AND THE OWNER.
- NOTICE - THE CONTRACTOR SHALL NOT MOVE EQUIPMENT OR MATERIAL TO THE WORK SITE, NOR BEGIN ANY CONSTRUCTION PRIOR TO THE DATE SPECIFIED IN THE 'NOTICE TO PROCEED.' THE CONTRACTOR MUST NOTIFY THE OWNER AND ENGINEER PRIOR TO OCCUPYING THE SITE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TECHNICAL SPECIFICATIONS.
- TRAFFIC CONTROL - THE CONTRACTOR'S WORK WILL DISTURB NUMEROUS PRIVATE DRIVEWAYS AND SUBSTANTIAL PORTIONS OF PUBLIC THOROUGHFARES. THE TERRAIN DOES NOT LEND ITSELF TO DETOURS. CONSEQUENTLY, THE CONTRACTOR MUST OBSERVE THE FOLLOWING TRAFFIC PRINCIPLES:
  - ACCESS TO RESIDENCE DRIVE MAY NOT BE INTERRUPTED FOR MORE THAN THREE (3) HOURS AT ANY ONE TIME
  - ACCESS TO ALL DRIVEWAYS AND PUBLIC THOROUGHFARES MUST BE RESTORED AT THE END OF EACH WORKDAY.
  - WORK WITHIN THE LIMITS OF PUBLIC THOROUGHFARE MAY ONLY BE CONDUCTED BETWEEN THE HOURS OF 8:30 A.M. AND 12:00 NOON, BETWEEN 12:30 P.M. AND 3:30 P.M., AND BETWEEN 6:00 P.M. AND 9:30 P.M. THE CONTRACTOR MUST POST SIGNS ADJACENT TO THE WORK STATING THE ROADWAY WILL BE CLOSED DURING THE POSTED HOURS AT LEAST ONE (1) DAY IN ADVANCE OF THE PROPOSED ROAD CLOSURE.
  - THE CONTRACTOR MUST MAKE SPECIAL PROVISIONS FOR ACCESS FOR EMERGENCY VEHICLES: POLICE, FIRE AND AMBULANCE.
  - THE CONTRACTOR SHALL PROVIDE ALL NECESSARY SAFETY DEVICES IN THE FORM OF SIGNS, FLASHERS, BARRICADES, ETC. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CLAIMS ARISING FROM THE PUBLIC WITH RESPECT TO HIS TRAFFIC CONTROL ACTIVITIES.
- SEEDING - ALL DISTURBED AREAS SHALL BE SEEDED IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS.
- PROTECTION OF TREES - CARE SHALL BE TAKEN DURING CONSTRUCTION TO AVOID DAMAGE TO VEGETATION. ORNAMENTAL SHRUBBERY AND TREE BRANCHES SHALL BE TEMPORARILY TIED BACK, WHERE APPROPRIATE, TO MINIMIZE DAMAGE. TREES WHICH RECEIVE DAMAGE TO THE BRANCHES SHALL BE TRIMMED OF THOSE BRANCHES TO IMPROVE THE APPEARANCE OF THE TREE. TREE TRUNKS RECEIVING DAMAGE FROM EQUIPMENT SHALL BE TREATED WITH A TREE DRESSING.
- TREE REMOVAL IN PROJECT AREA IS RESTRICTED TO LESS THAN 4" IN DIAMETER FROM APRIL 1st TO NOVEMBER 15th UNLESS APPROVAL IS GRANTED BY U.S. FISH AND WILDLIFE.

**KYDOH NOTES**

- ALL EFFECTED KYTC DITCHLINES SHALL REMAIN FREE OF EXCESS SILT OR EROSION AND CONSTRUCTED TO THE NORMAL TYPICAL SECTION OF THE ROADWAY WITH A MINIMUM DEPTH OF 18 INCHES FROM THE SHOULDER BREAK POINT.
- ALL NECESSARY STEPS SHALL BE TAKEN TO PREVENT EROSION OR SILTATION OF THE PUBLIC RIGHT-OF-WAY, ADJOINING PROPERTY AND WATERWAYS.
- ALL VALVES TO BE FLUSH W/ EXISTING GRADE.
- ALL WATER LINE LOCATED WITHIN STATE HIGHWAY R.O.W. SHALL BE CONSTRUCTED OUT AND AROUND THE END OF ALL EXISTING CULVERTS AND HEADWALLS.
- UNDERGROUND UTILITIES INSTALLED INSIDE STATE RIGHT-OF-WAY SHALL BE LOCATED WITHIN 3-5 FEET FROM THE EDGE OF THE RIGHT-OF-WAY UNLESS OTHERWISE SHOWN ON THE PLANS.
- UNDERGROUND UTILITIES SHOWN MORE THAN 5 FEET FROM THE EDGE OF THE RIGHT-OF-WAY SHALL BE INSTALLED WITH A MINIMUM DEPTH OF COVER OF 42 INCHES WITH PRIOR APPROVAL ON A CASE BY CASE BASIS.
- UNDERGROUND UTILITIES CROSSING ANY ENTRANCE OR CROSSROAD PAVED WITH CONCRETE OR ASPHALT SURFACE INSIDE STATE RIGHT-OF-WAY SHALL BE INSTALLED BY BORING UNLESS WRITTEN PERMISSION TO OPEN CUT IS OBTAINED FROM THE PROPERTY OWNER AND APPROVED BY THE KYTC DISTRICT PERMITS ENGINEER.
- UNDERGROUND UTILITIES SHALL NOT BE INSTALLED IN EMBANKMENT FILLS OR BETWEEN EDGE OF PAVEMENT AND DITCHLINE UNLESS SPECIFICALLY NOTED ON PERMITTED PLANS.
- FIRE HYDRANTS OR UTILITY SERVICE BOXES SHALL BE LOCATED WITHIN 2 FEET FROM THE EDGE OF RIGHT-OF-WAY LINE, OR OFF RIGHT-OF-WAY.
- CONTACT THE DISTRICT PERMITS ENGINEER AT KYC-DOH #9, FLEMINGSBURG, KY AT (606) 845-2551 OR 1-800-817-2551 PRIOR TO BEGINNING WORK.

**CONTAMINATION PREVENTION REQUIREMENTS**

- ALL PIPING, VALVES, FITTINGS, ETC. DELIVERED TO THE JOB SITE SHALL BE STORED ELEVATED ABOVE THE GROUND AND SHALL BE COVERED WITH PLASTIC, TARPS OR SIMILAR MEANS TO PROTECT FROM EXPOSURE TO DUST AND DEBRIS.
- ALL PIPING, FITTINGS AND VALVES SHALL BE THOROUGHLY CLEANED OF DUST, DIRT AND DEPOSITS BY SWABBING OR OTHER MEANS ACCEPTABLE. EACH COMPONENT SHALL BE CLEANED ON THE SAME DAY IT IS TO BE INSTALLED.
- ALL OPENINGS IN THE PIPELINE SHALL BE CLOSED WITH AN APPROVED WATERTIGHT PLUG AT THE END OF EACH DAY WHEN PIPE LAYING HAS STOPPED, OR FOR OTHER REASONS SUCH AS REST OR MEAL BREAKS.

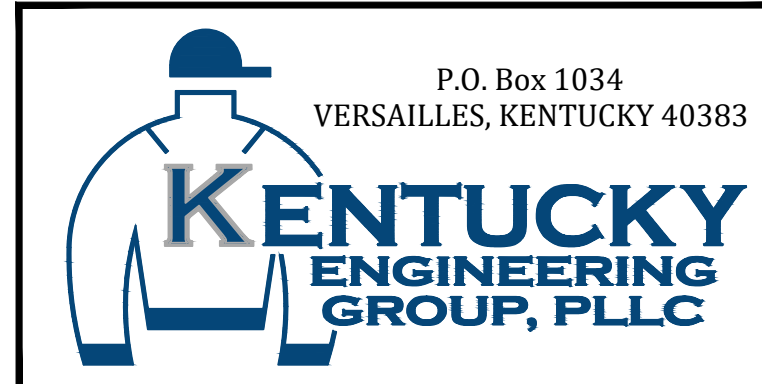
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SCALE:	AS NOTED
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**2022 WATER SYSTEM  
IMPROVEMENTS PROJECT**  
 ORE MINES AND MIDLAND PUMP STATIONS  
 FOR THE  
 BATH COUNTY WATER DISTRICT

**GENERAL NOTES**

PROJECT NO.  
22015

SHEET NO.  
G-2

PROJECT NO.  
22015

SHEET NO.  
G-2

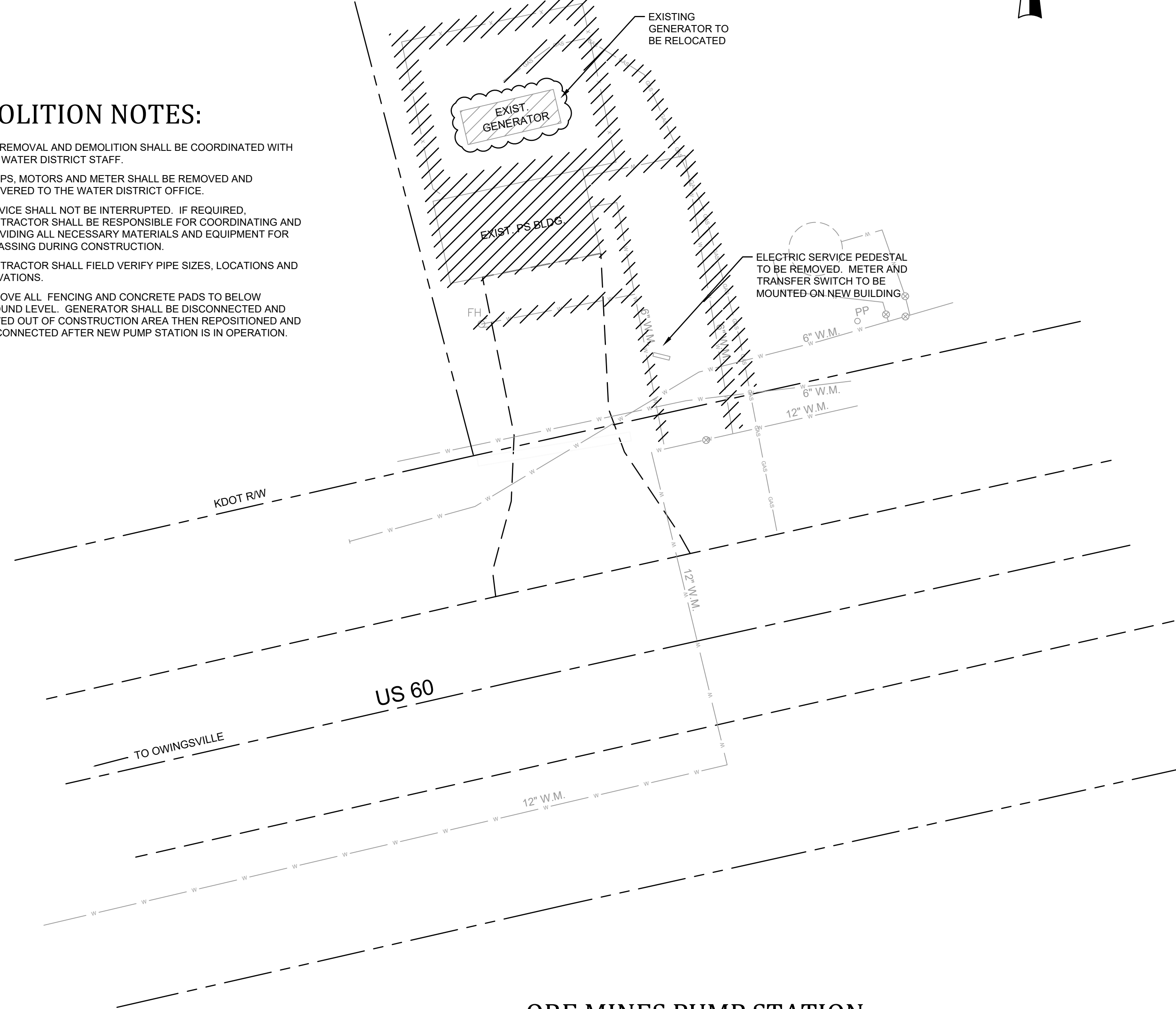
BID DOCUMENTS

**DEMOLITION LEGEND**

 AREA TO BE DEMOLISHED

**DEMOLITION NOTES:**

1. ALL REMOVAL AND DEMOLITION SHALL BE COORDINATED WITH THE WATER DISTRICT STAFF.
2. PUMPS, MOTORS AND METER SHALL BE REMOVED AND DELIVERED TO THE WATER DISTRICT OFFICE.
3. SERVICE SHALL NOT BE INTERRUPTED. IF REQUIRED, CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND PROVIDING ALL NECESSARY MATERIALS AND EQUIPMENT FOR BYPASSING DURING CONSTRUCTION.
4. CONTRACTOR SHALL FIELD VERIFY PIPE SIZES, LOCATIONS AND ELEVATIONS.
5. REMOVE ALL FENCING AND CONCRETE PADS TO BELOW GROUND LEVEL. GENERATOR SHALL BE DISCONNECTED AND MOVED OUT OF CONSTRUCTION AREA THEN REPOSITIONED AND RE-CONNECTED AFTER NEW PUMP STATION IS IN OPERATION.

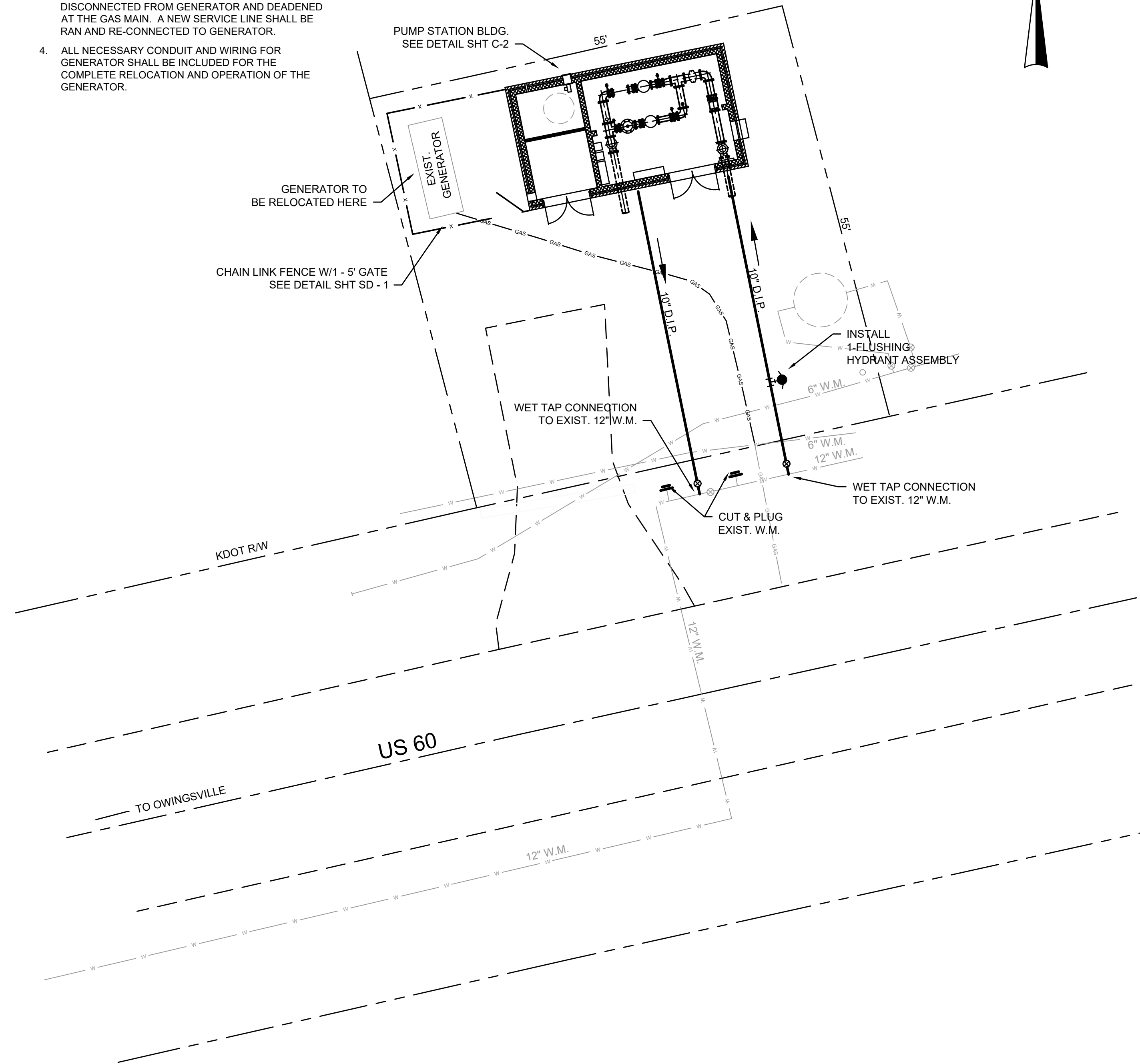


**ORE MINES PUMP STATION -  
DEMOLITION PLAN**

SCALE: 1" = 10'

**GENERAL NOTES:**

1. EXISTING PUMP STATION SHALL REMAIN IN SERVICE UNTIL NEW STATION HAS BEEN TESTED AND READY TO PUT INTO SERVICE.
2. AREAS INSIDE OF FENCING AND OUTSIDE OF ACCESS DRIVE SHALL BE GRADED SMOOTH, COVERED WITH FILTER FABRIC, AND 4" OF #9 CRUSHED STONE.
3. NATURAL GAS SERVICE LINE SHALL BE DISCONNECTED FROM GENERATOR AND DEADENED AT THE GAS MAIN. A NEW SERVICE LINE SHALL BE RAN AND RE-CONNECTED TO GENERATOR.
4. ALL NECESSARY CONDUIT AND WIRING FOR GENERATOR SHALL BE INCLUDED FOR THE COMPLETE RELOCATION AND OPERATION OF THE GENERATOR.



**ORE MINES PUMP STATION - SITE PLAN**

SCALE: 1" = 10'

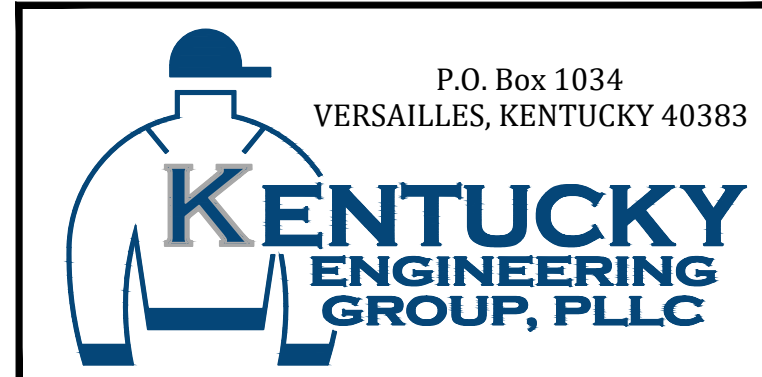
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2022 WATER SYSTEM  
IMPROVEMENTS PROJECT  
ORE MINES AND MIDLAND PUMP STATIONS  
FOR THE  
BATH COUNTY WATER DISTRICT

**ORE MINES PUMP STATION  
DEMOLITION & SITE PLANS**

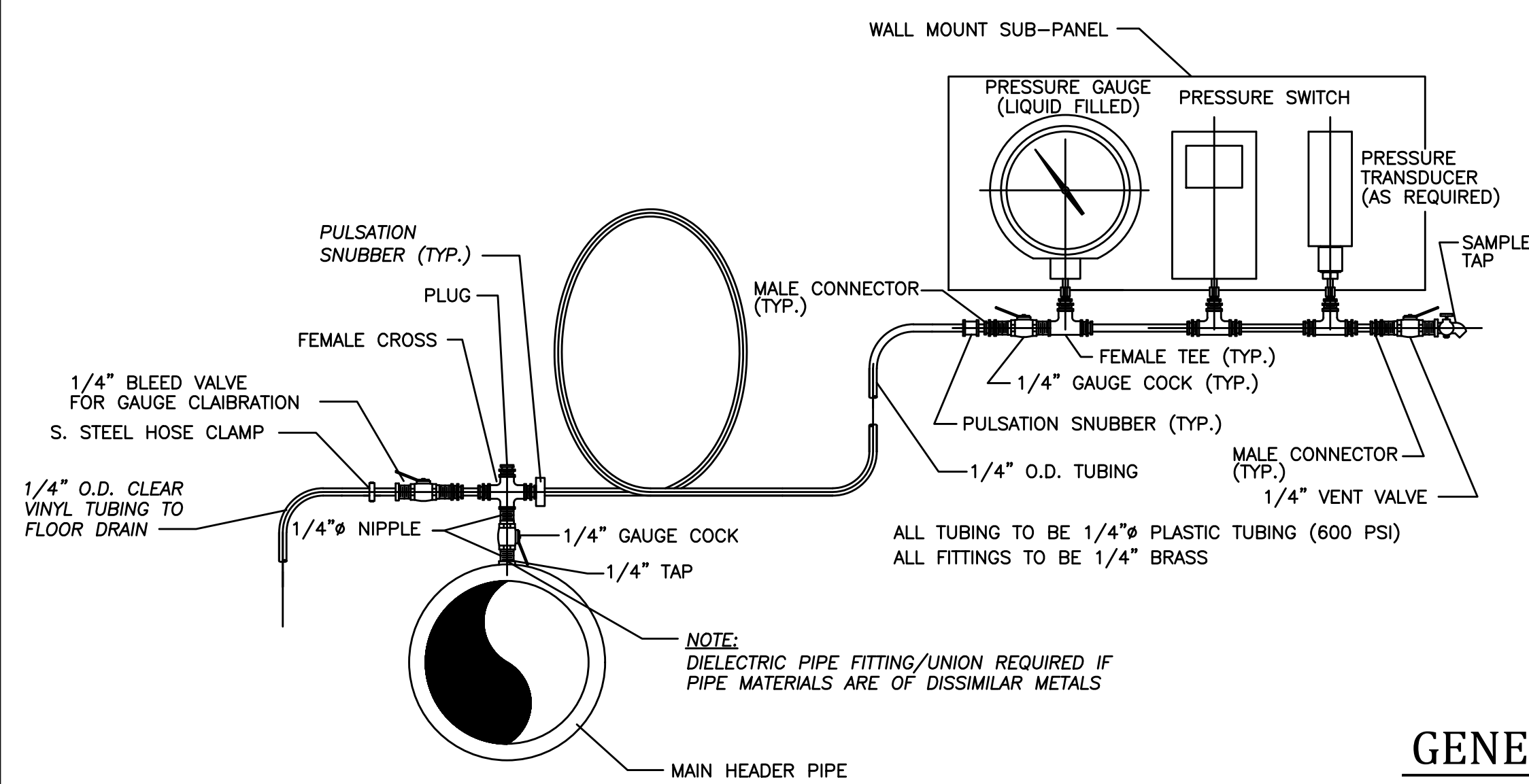
PROJECT NO.  
22015

SHEET NO.  
C-1

PROJECT NO.  
22015

SHEET NO.  
C-1

BID DOCUMENTS



- NOTES:**
- GAUGE PANEL REQUIRED FOR COMMON SUCTION (BEFORE STRAINER), EACH PUMP SUCTION (AFTER STRAINER), EACH PUMP DISCHARGE, AND COMMON DISCHARGE AND PRESSURE TRANSDUCER (AS REQUIRED). (SIX TOTAL PANELS)
  - PRESSURE SWITCH REQUIRED FOR HIGH DISCHARGE AND LOW SUCTION LOCKOUT. PRESSURE TRANSDUCER REQUIRED FOR TELEMETRY CONTROL. (FOUR PRESSURE SWITCHES - TOTAL - TWO PRESSURE TRANSDUCERS - TOTAL)
  - ROUTE TUBING FOR GAUGE PANEL FROM TAPPED LOCATIONS ALONG THE PIPING AND TO THE WALL MOUNTED LOCATION. TUBING ROUTED ALONG THE FLOOR MUST BE INSTALLED IN PVC CONDUIT. ALL TUBING SHALL BE INSTALLED IN AN ORGANIZED MANNER.

**SUCTION/DISCHARGE GAUGE PANEL**

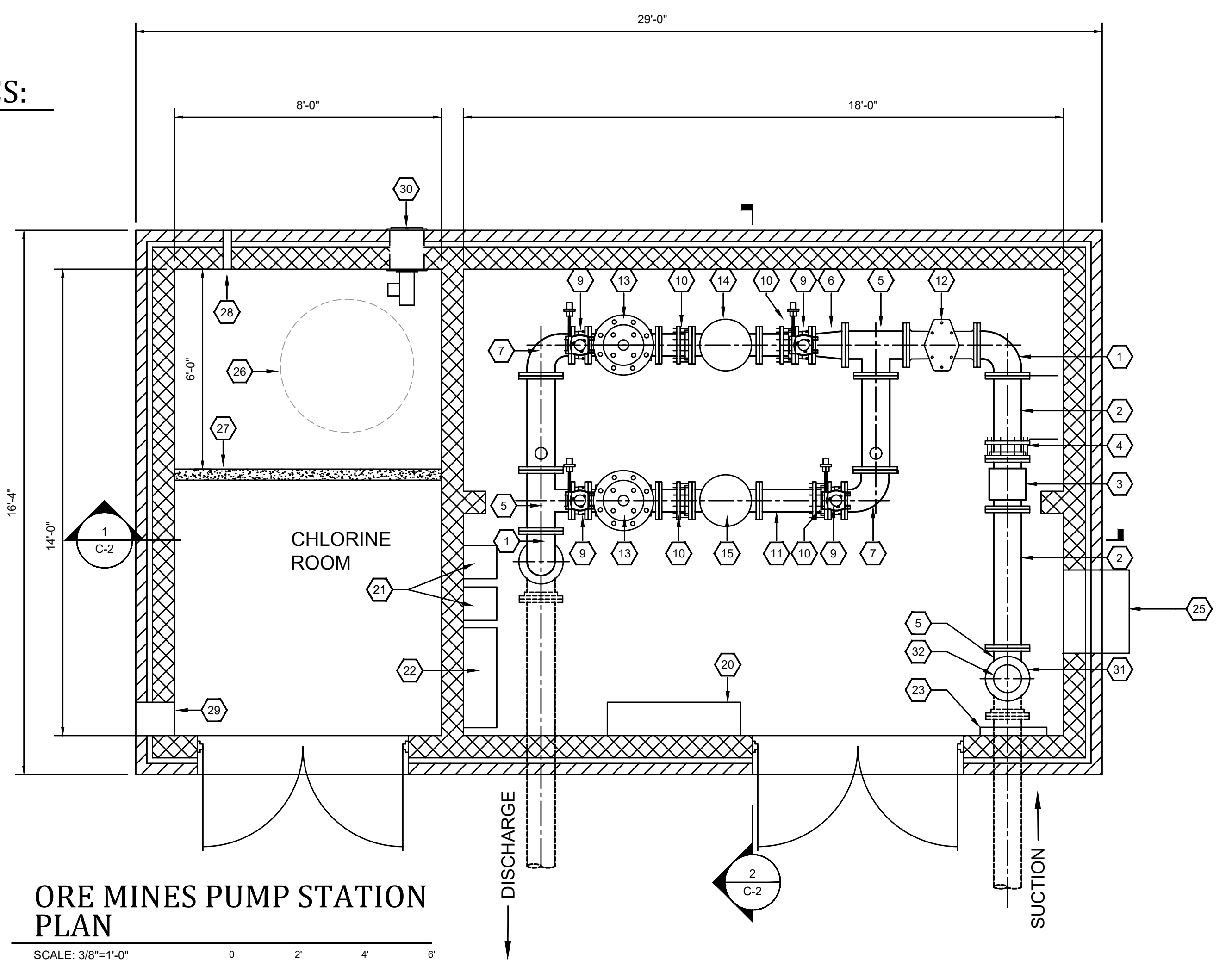
NOT TO SCALE

**REFERENCE NOTES:**

- 10" DI 90° ELBOW
- 12" DI PIPE
- 10" MAGNETIC FLOW METER
- 10" FLEXIBLE COUPLING ADAPTER
- 10" DI TEE
- 10" X 8" DI REDUCER
- 10" X 8" DI REDUCING 90° ELBOW
- 10" X 4" DI TEE
- 8" BUTTERFLY VALVE
- 8" FLANGE COUPLING ADAPTER
- 8" DI PIPE
- 10" STRAINER
- HYDRAULIC CHECK VALVE
- PUMP No. 1
- PUMP No. 2
- 4" DI PIPE
- 4" FLANGE COUPLING ADAPTER
- 4" BUTTERFLY VALVE
- 4" SURGE VALVE
- CONTROL PANEL
- VFD
- TELEMETRY INTERFACE PANEL
- GAUGE PANEL
- BRIDGE CRANE/HOIST
- HVAC UNIT
- 500 GAL CHLORINE TANK (PROVIDED/INSTALLED BY OTHERS)
- 18" POURED CONCRETE KNEE WALL
- 3" SLEEVE FOR FUTURE CHLORINE VENT
- 12" X 24" INTAKE 16" FROM FLOOR
- LOUVERED OUTLET W/ EXHAUST FAN
- 10 DI BLIND FLANGE W/ 2" THREADED NIPPLE
- AIR RELEASE VALVE

**GENERAL NOTES:**

- LAYOUT AND DIMENSIONS SHOWN ARE FOR ILLUSTRATIVE PURPOSES AND ARE NOT INTENDED TO LIMIT AN INNOVATIVE DESIGN.
- PUMP STATION SHALL BE CAPABLE OF RUNNING BOTH PUMPS SIMULTANEOUSLY.
- NEW STATION SHALL BE IN OPERATION PRIOR TO DEMOLITION OF EXISTING STATION.
- ALL PIPING SHALL BE DUCTILE IRON CLASS 350.
- ALL INTERIOR PIPING SHALL BE COATED PER SPECIFICATIONS.
- INTERIOR WALLS SHALL BE COATED PER SPECIFICATIONS.
- STATION FLOOR SHALL BE COATED PER SPECIFICATIONS.
- EXISTING WATER MAIN ELEVATIONS SHALL BE VERIFIED FOR BETTER ALIGNMENT OF NEW PIPING, MINIMIZING FITTINGS REQUIRED.
- ALL CHLORINE PUMPING EQUIPMENT SHALL BE REMOVED FROM THE EXISTING STATION AND INSTALLED IN NEW STATION.
- ALL TELEMETRY EQUIPMENT SHALL BE REMOVED FROM EXISTING STATION AND INSTALLED IN THE NEW STATION, INCLUDING ANY PROGRAMMING THAT MAY BE REQUIRED FOR PROPER OPERATION.



**ORE MINES PUMP STATION PLAN**

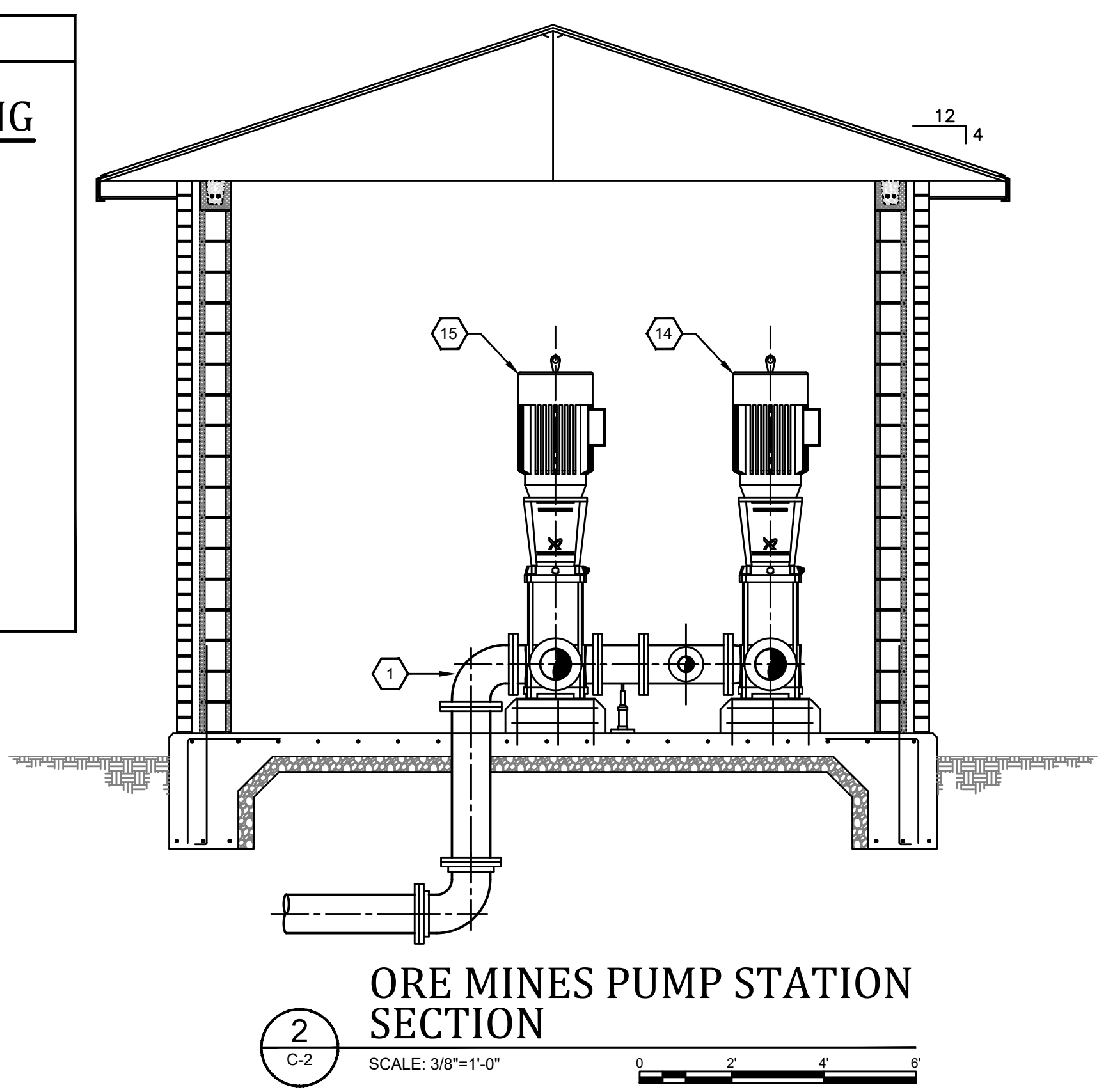
SCALE: 3/8"=1'-0"

**BOOSTER PUMP STATION SPECIFICATIONS**

**DESIGN CRITERIA**  
 CONTROLS: TELEMETRY (EXISTING EQUIPMENT SHALL BE MOVED AND INSTALLED INTO NEW STATION)  
 POWER SERVICE: 400A/480V - 3Ø - 4W W/150 KW BACKUP  
 GENERATOR (EXIST.)

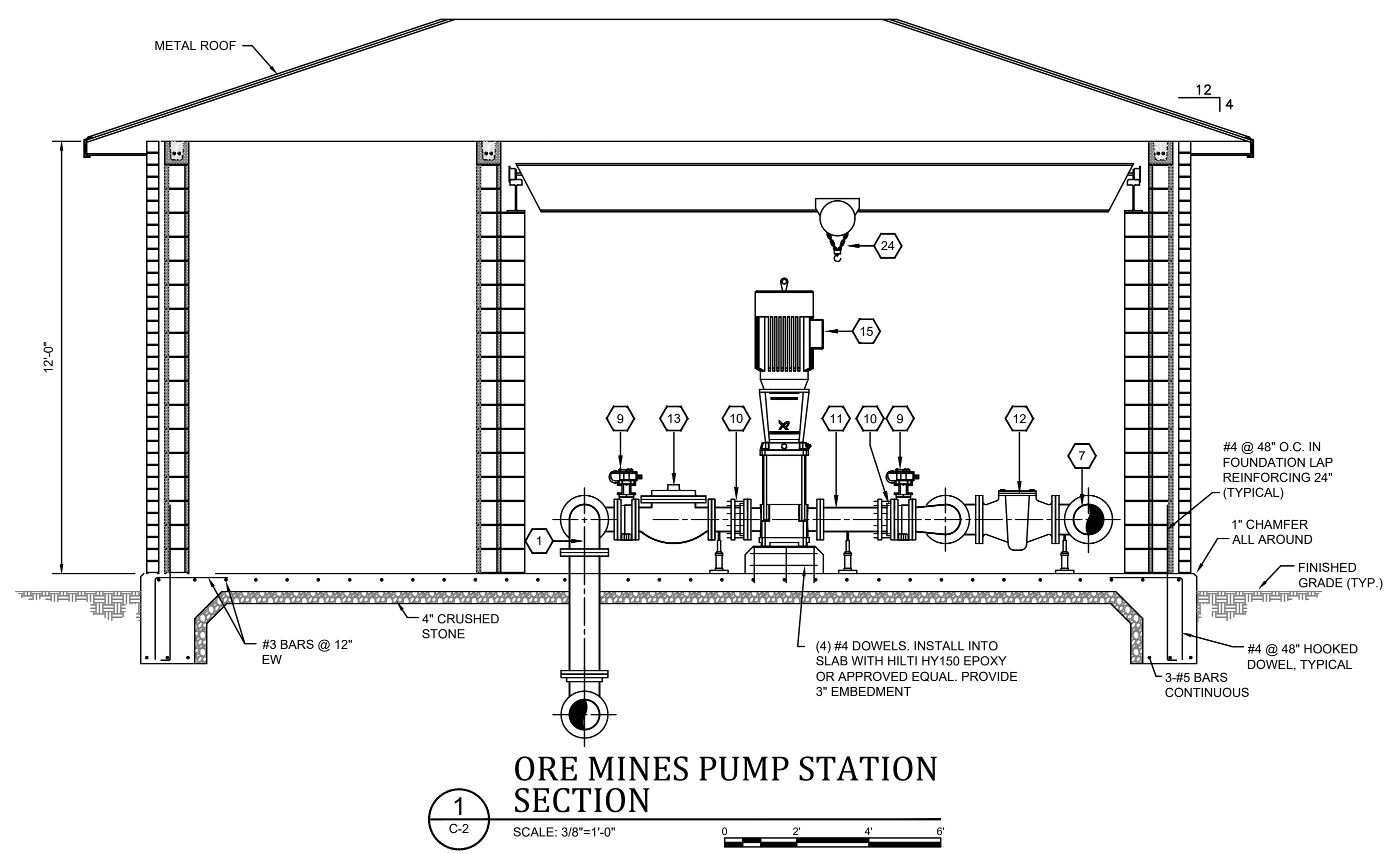
**PUMP DATA**  
 TYPE: MULTI-STAGE VERTICAL PUMP (2)  
**PUMP 1 & 2**  
 CAPACITY: 1500 G.P.M. AT 240 FEET  
 T.D.H. SIZE: 7.72" DIA. IMPELLER, 8" SUCTION, 8" DISCHARGE, 125 HP MOTOR, 3500 R.P.M.

**PUMP STATION PIPING SHALL INCLUDE:**  
 10" DIA. MAIN INLET  
 10" SUCTION HEADER  
 8" ISOLATING VALVES  
 10" DISCHARGE HEADER  
 10" DIA. MAIN OUTLET



**ORE MINES PUMP STATION SECTION 2**

SCALE: 3/8"=1'-0"



**ORE MINES PUMP STATION SECTION 1**

SCALE: 3/8"=1'-0"

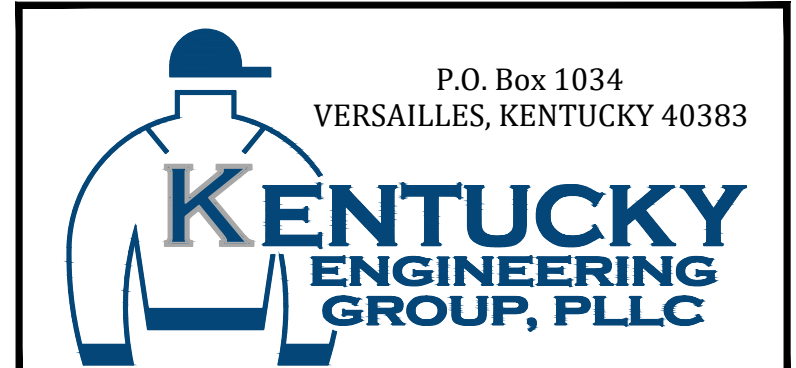
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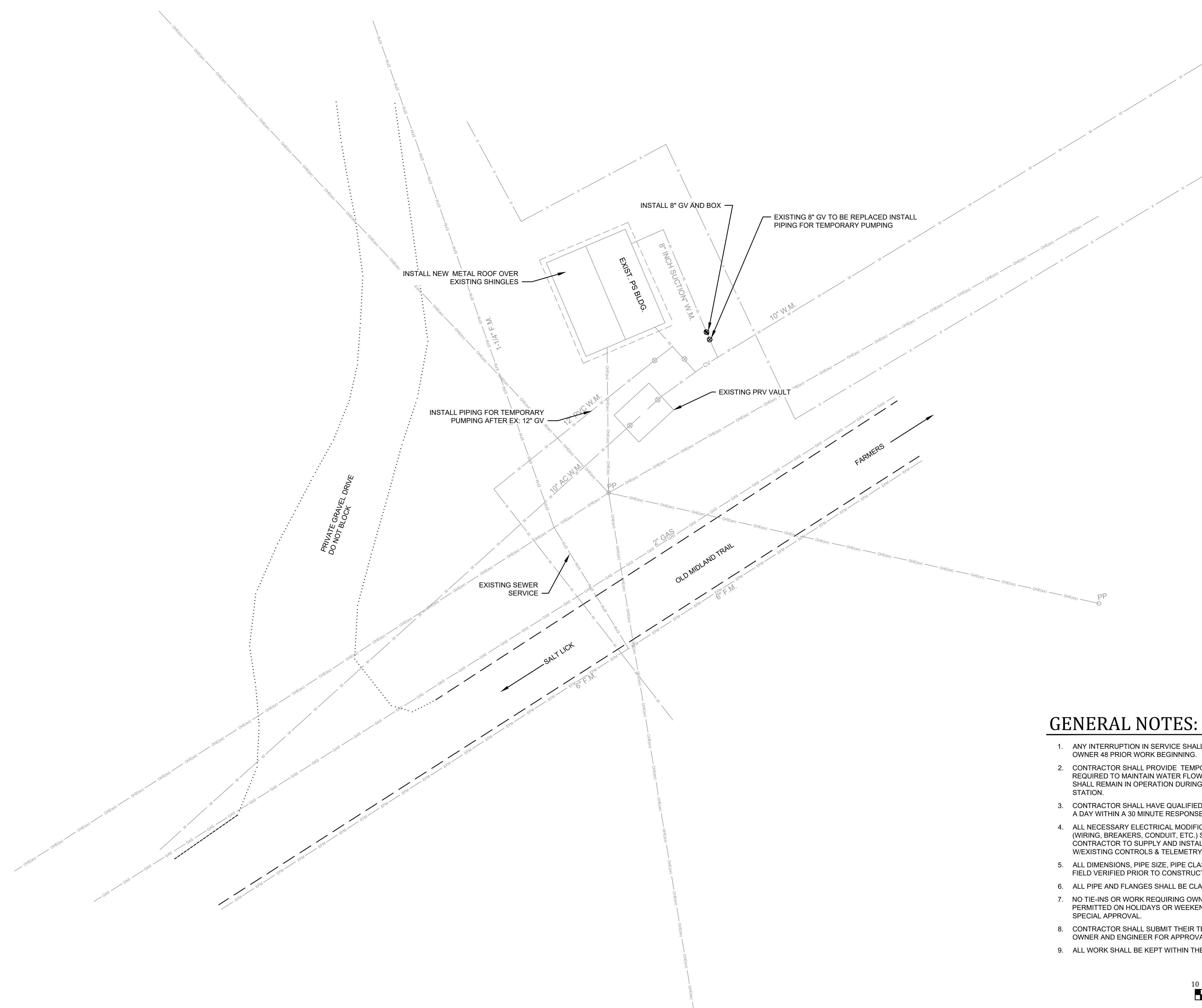
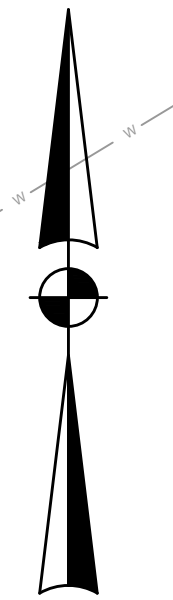
2022 WATER SYSTEM IMPROVEMENTS PROJECT  
 ORE MINES AND MIDLAND PUMP STATIONS FOR THE BATH COUNTY WATER DISTRICT

**ORE MINES PUMP STATION PLAN & SECTIONS**

PROJECT NO.  
22015

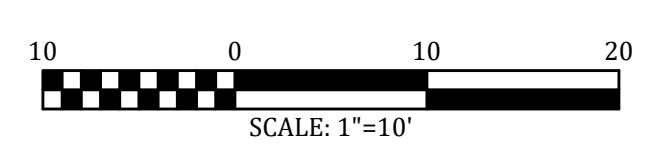
SHEET NO.  
C-2

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**GENERAL NOTES:**

1. ANY INTERRUPTION IN SERVICE SHALL BE COORDINATED WITH THE OWNER 48 PRIOR WORK BEGINNING.
2. CONTRACTOR SHALL PROVIDE TEMPORARY PUMPING/PIPING AS REQUIRED TO MAINTAIN WATER FLOW AND PRESSURE. TEMPORARY PUMP SHALL REMAIN IN OPERATION DURING MODIFICATIONS OF EXISTING STATION.
3. CONTRACTOR SHALL HAVE QUALIFIED PERSONNEL AVAILABLE 24 HOURS A DAY WITHIN A 30 MINUTE RESPONSE TIME TO THE SITE.
4. ALL NECESSARY ELECTRICAL MODIFICATIONS FOR TEMPORARY PUMPING (WIRING, BREAKERS, CONDUIT, ETC.) SHALL BE RESPONSIBILITY OF THE CONTRACTOR TO SUPPLY AND INSTALL AND SHALL INTERFACE W/EXISTING CONTROLS & TELEMTRY.
5. ALL DIMENSIONS, PIPE SIZE, PIPE CLASS AND PIPE MATERIAL SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
6. ALL PIPE AND FLANGES SHALL BE CLASS 250 PSI.
7. NO TIE-INS OR WORK REQUIRING OWNER COORDINATION SHALL BE PERMITTED ON HOLIDAYS OR WEEKENDS WITH OUT ADVANCED AND SPECIAL APPROVAL.
8. CONTRACTOR SHALL SUBMIT THEIR TEMPORARY PUMPING PLAN TO THE OWNER AND ENGINEER FOR APPROVAL PRIOR TO COMMENCING WORK.
9. ALL WORK SHALL BE KEPT WITHIN THE PUMP STATION PROPERTY.



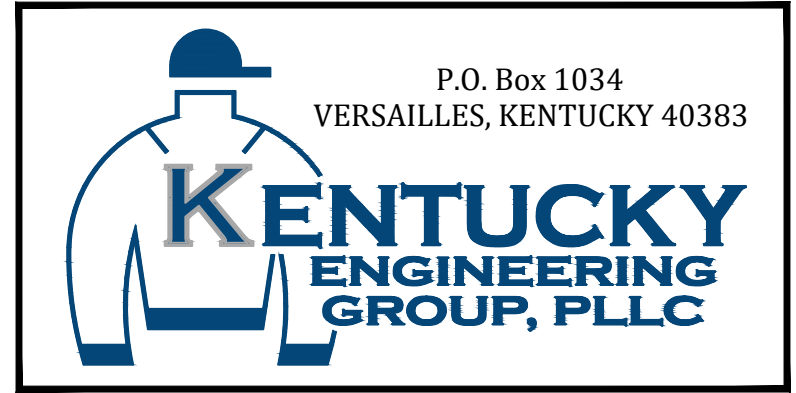
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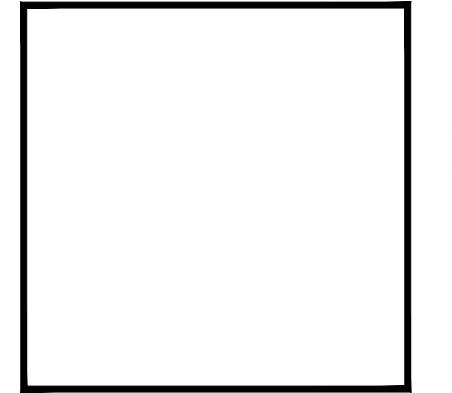
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**2022 WATER SYSTEM  
IMPROVEMENTS PROJECT**  
 ORE MINES AND MIDLAND PUMP STATIONS  
 FOR THE  
 BATH COUNTY WATER DISTRICT

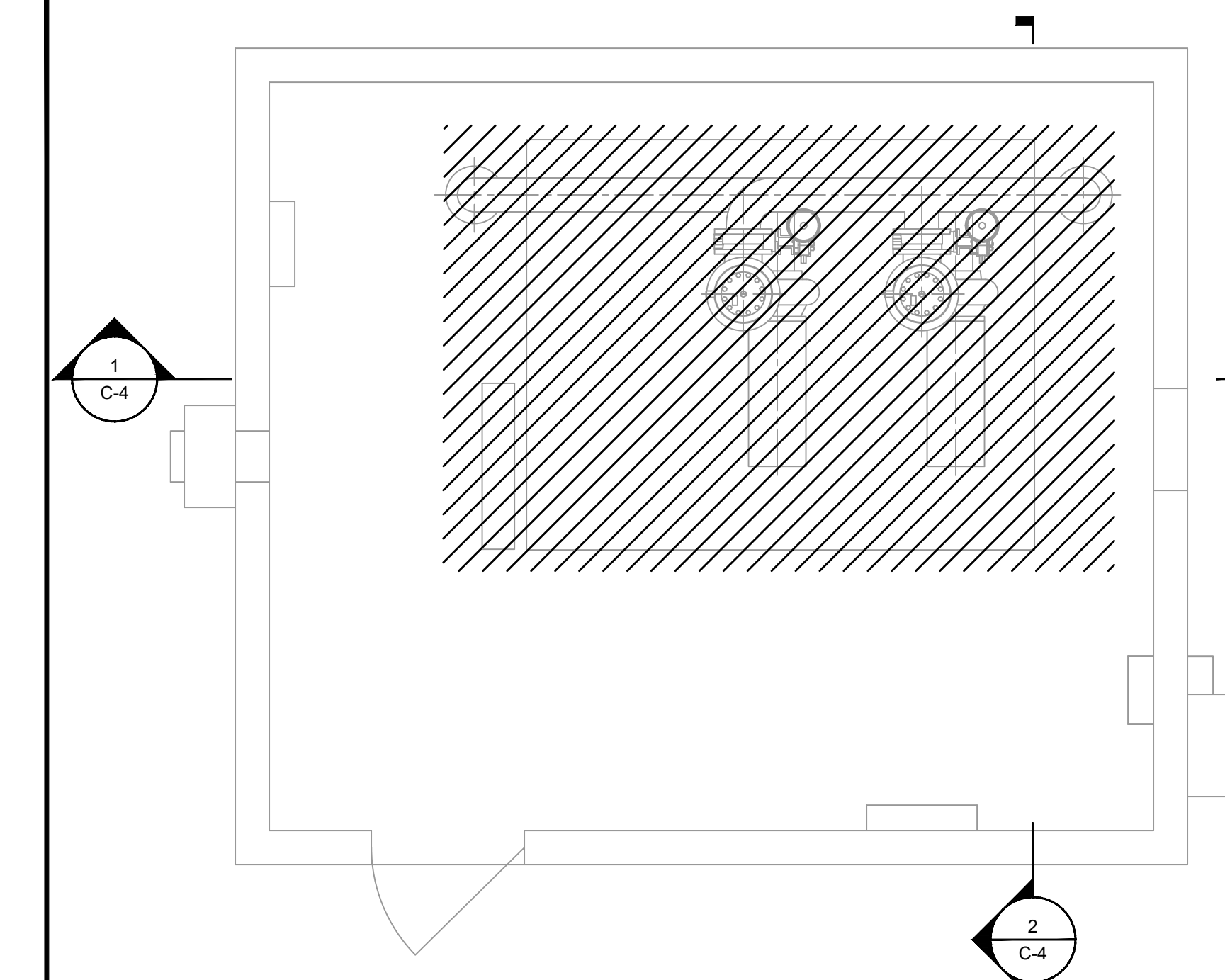
**MIDLAND PUMP STATION  
SITE PLAN**



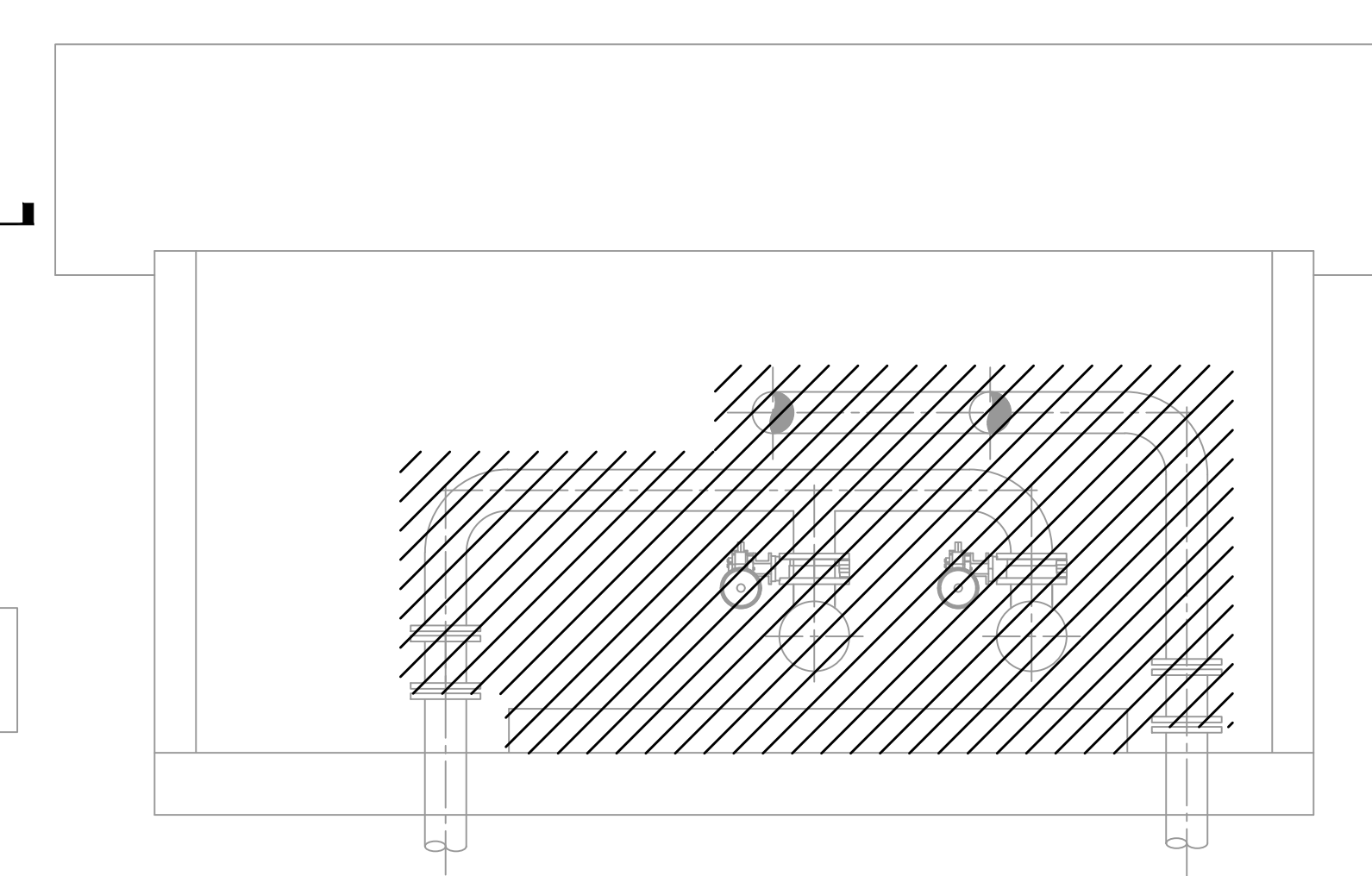
PROJECT NO. 22015
SHEET NO. C-3

BID DOCUMENTS

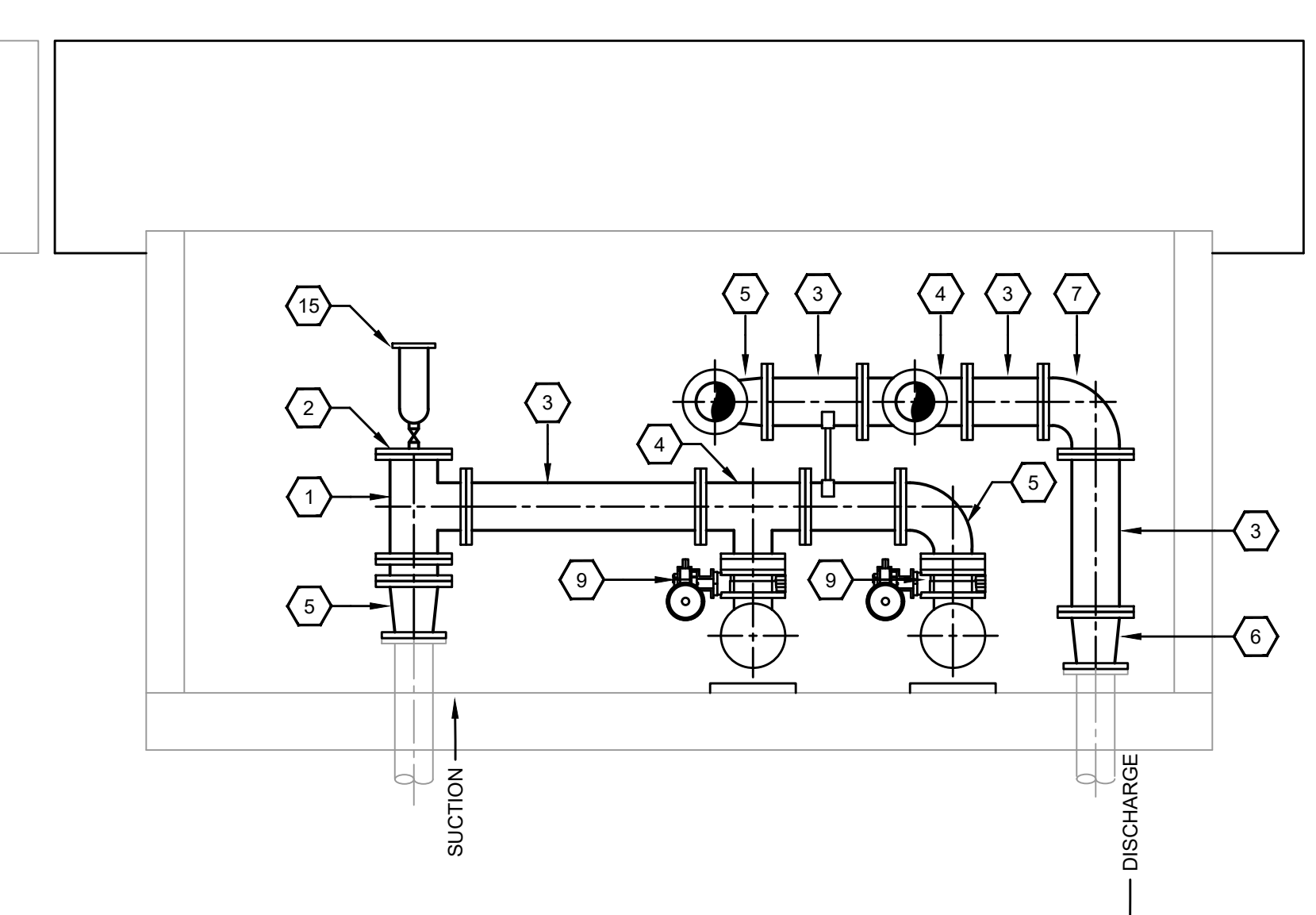
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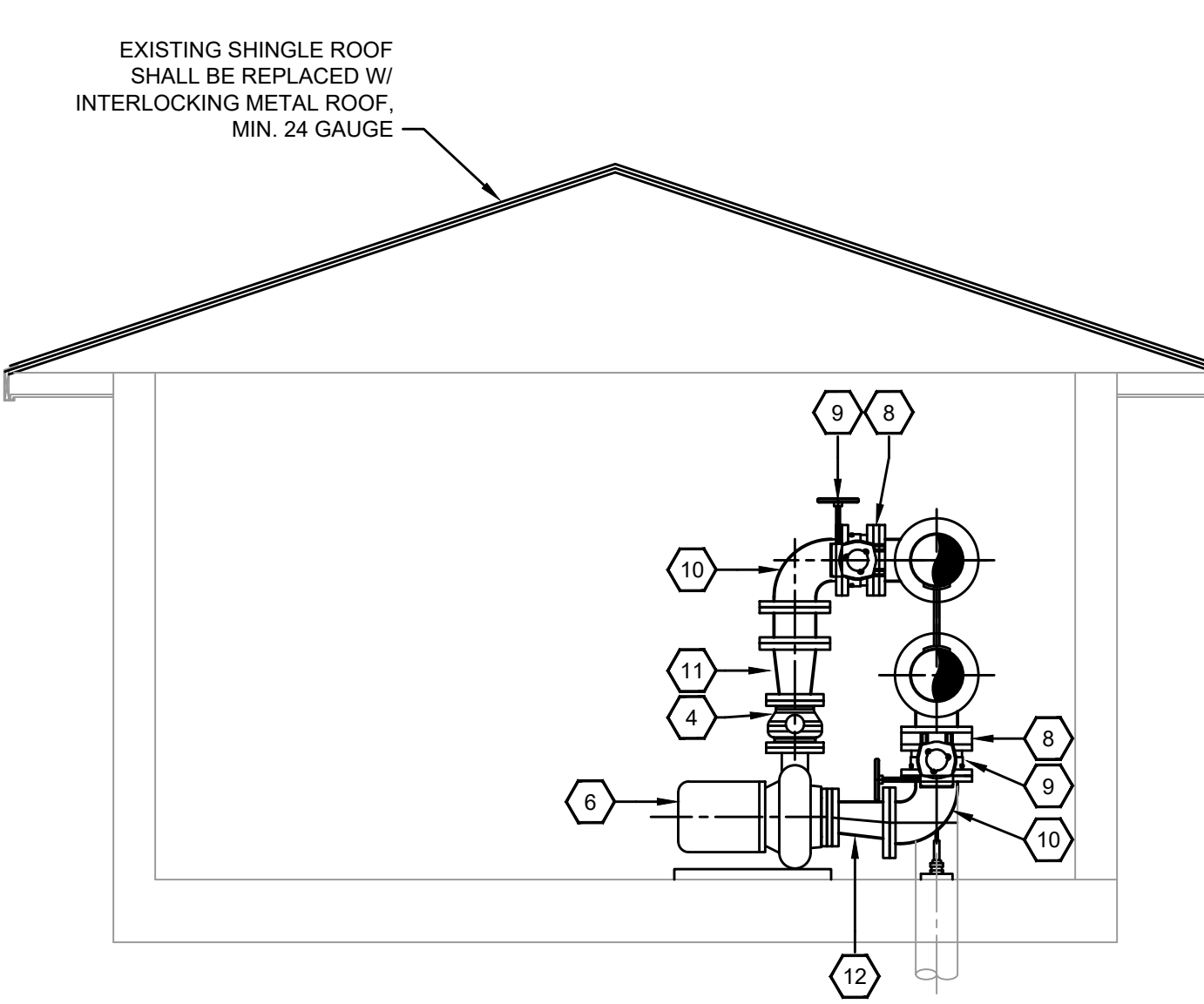
**MIDLAND PUMP STATION DEMOLITION PLAN**  
SCALE: 3/8"=1'-0"  
0 2 4 6



**MIDLAND PUMP STATION DEMOLITION SECTION**  
SCALE: 3/8"=1'-0"  
0 2 4 6



**MIDLAND PUMP STATION MODIFICATION SECTION**  
SCALE: 3/8"=1'-0"  
0 2 4 6



**MIDLAND PUMP STATION MODIFICATION SECTION**  
SCALE: 3/8"=1'-0"  
0 2 4 6

**DEMOLITION LEGEND**

ITEMS TO BE DEMOLISHED

**GENERAL NOTES:**

1. TEMPORARY PUMPING SHALL BE IN OPERATION PRIOR TO ANY COMPONENTS / EQUIPMENT REMOVED FROM EXISTING STATION.
2. EXISTING PUMPS / MOTORS SHALL BE RETURNED TO DISTRICT OFFICE FOR STORAGE.
3. EXISTING TELEMETRY SHALL BE INSTALLED TO OPERATE NEW PUMPS / MOTORS AND DRIVES, INCLUDING ANY PROGRAMMING THAT MAY BE REQUIRED FOR PROPER OPERATION.

**BOOSTER PUMP STATION SPECIFICATIONS**

**DESIGN CRITERIA**

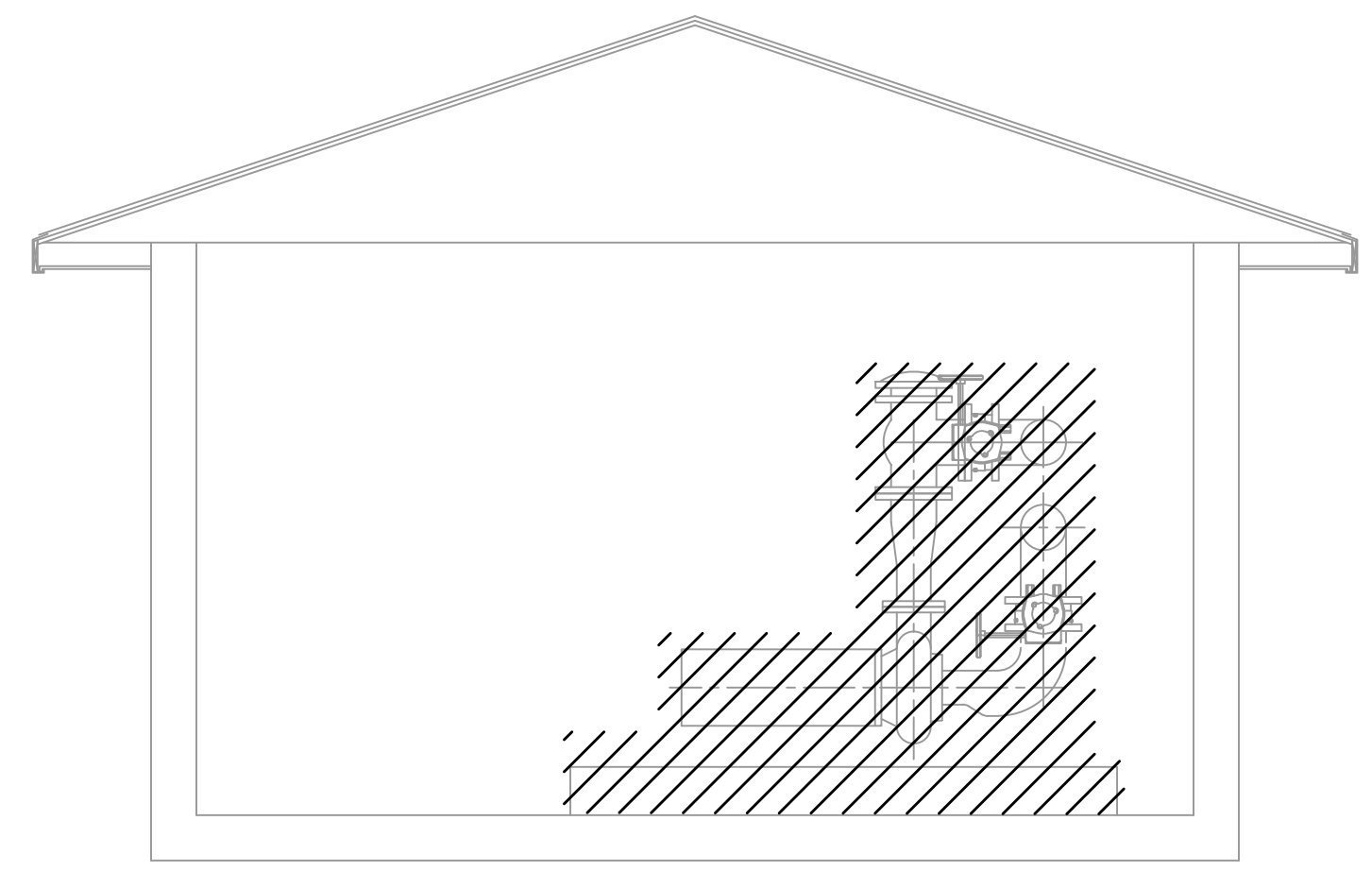
CONTROLS: TELEMETRY (EXISTING)  
POWER SERVICE: 200A/480V - 3Ø - 4W

**PUMP DATA**

TYPE: END SUCTION CENTRIFUGAL,  
CLOSE COUPLED

**PUMP 1 & 2**

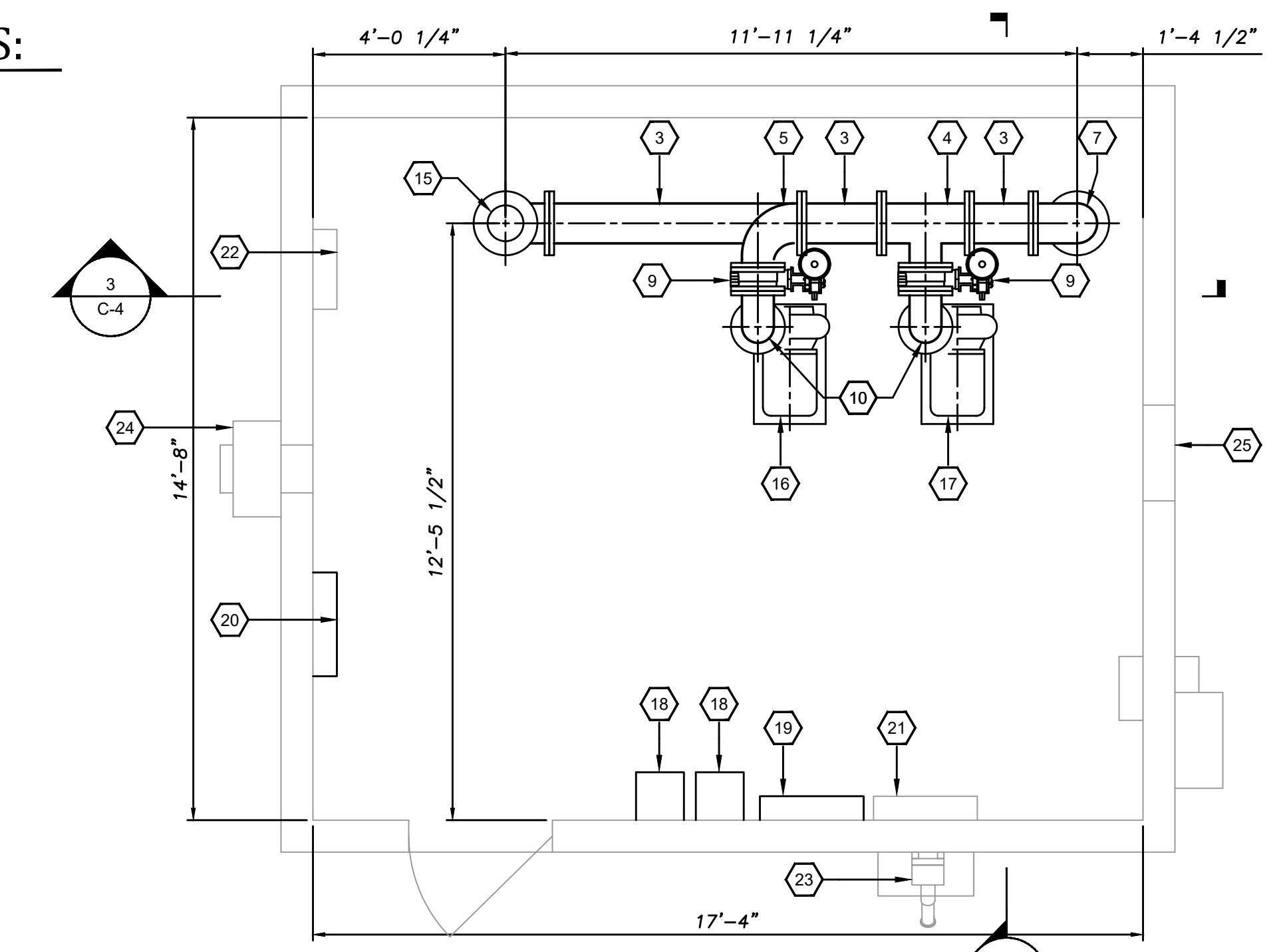
CAPACITY: 1500 G.P.M. AT 160 FEET  
T.D.H. SIZE: 13.5" DIA. IMPELLER, 6"  
SUCTION, 5" DISCHARGE, 100 HP  
MOTOR, 1800 R.P.M.



**MIDLAND PUMP STATION DEMOLITION SECTION**  
SCALE: 3/8"=1'-0"  
0 2 4 6

**REFERENCE NOTES:**

1. 10" DI TEE
2. 10" DI BLIND FLANGE W/ 2" THREADED NIPPLE
3. 10" DI PIPE
4. 10" X 8" DI TEE
5. 10" X 8" REDUCING ELBOW
6. 10" X 8" REDUCER
7. 10" DI 90° ELBOW
8. 8" FLANGE FILLER
9. 8" BUTTERFLY VALVE
10. 8" DI 90° ELBOW
11. 8" X 6" DI REDUCER
12. 8" X 6" DI ECCENTRIC REDUCER
13. 6" SILENT SWING CHECK VALVE
14. 6"X5" FLANGE REDUCER
15. AIR RELEASE VALVE
16. PUMP No. 1
17. PUMP No. 2
18. VFD
19. CONTROL PANEL
20. EX. GAUGE PANEL RELOCATED
21. EX. TRANSFER SWITCH
22. EX. TELEMETRY PANEL
23. EX. GENERATOR RECEPTACLE
24. EX. EXHAUST
25. EX. LOUVER VENT



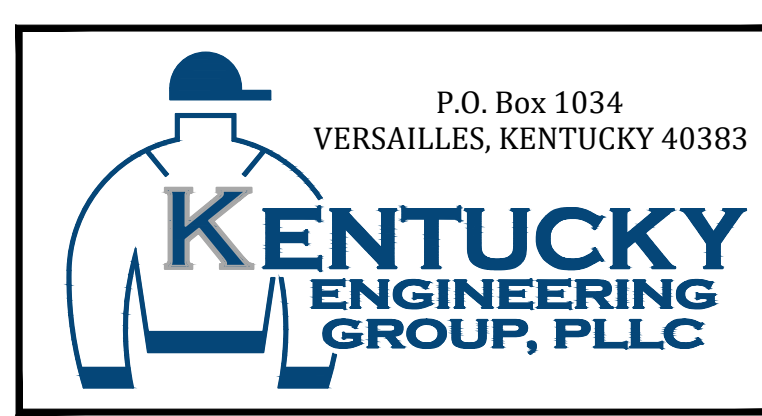
**MIDLAND PUMP STATION MODIFICATION PLAN**  
SCALE: 3/8"=1'-0"  
0 2 4 6

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2022 WATER SYSTEM IMPROVEMENTS PROJECT  
ORE MINES AND MIDLAND PUMP STATIONS  
FOR THE BATH COUNTY WATER DISTRICT

MIDLAND PUMP STATION PLANS & SECTIONS

PROJECT NO.	22015
SHEET NO.	C-4

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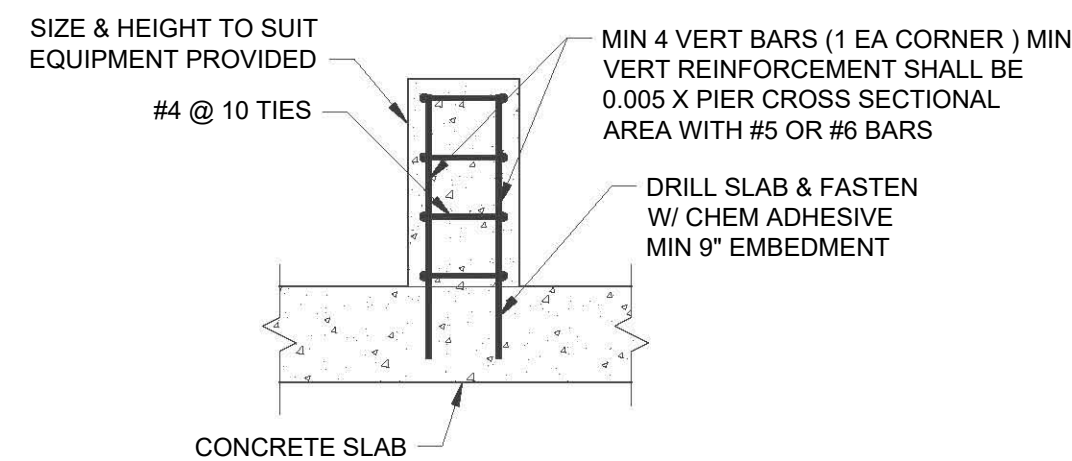
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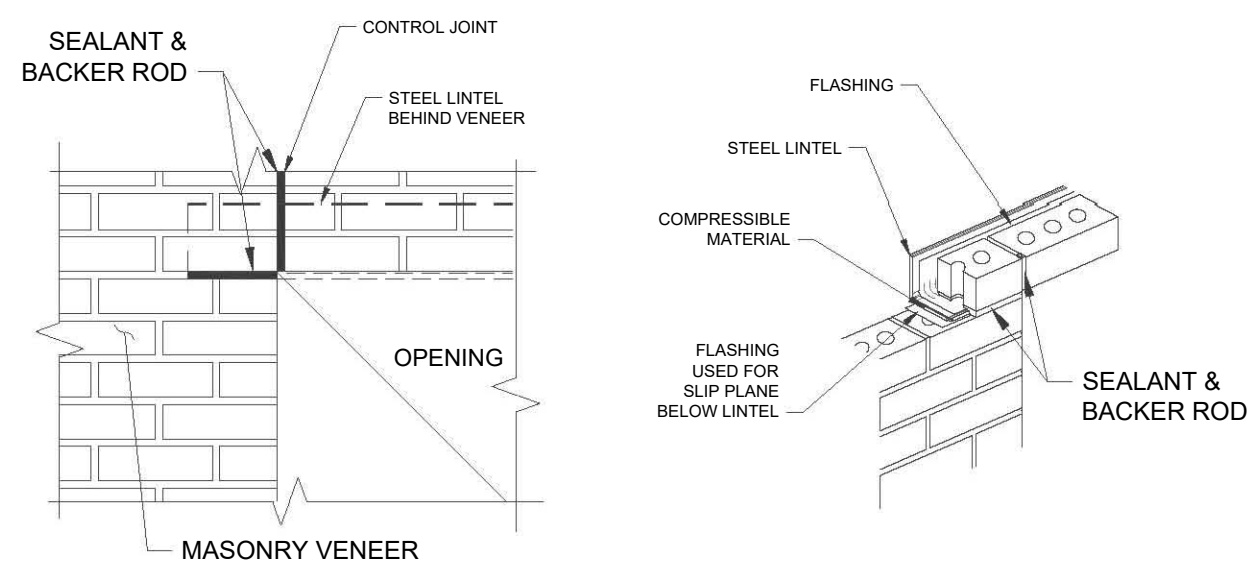
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### TYPICAL CONCRETE EQPT PAD / PEDESTAL

NOT TO SCALE



### LOOSE LINTEL SCHEDULE (FOR MASONRY VENEER)

THIS SCHEDULE IS FOR LINTELS OVER MASONRY OPENINGS NOT OTHERWISE SHOWN OR NOTED ON DRAWINGS.

SPAN	ANGLE SIZE	PLAN MARK
UP TO 4'-0"	L3x 3 1/2 x 3/16 LLV	AL-1
UP TO 5'-6"	L4x 3 1/2 x 3/16 LLV	AL-2
UP TO 7'-6"	L5x 3 1/2 x 3/16 LLV	AL-3
UP TO 9'-6"	L6x 3 1/2 x 3/16 LLV	AL-4

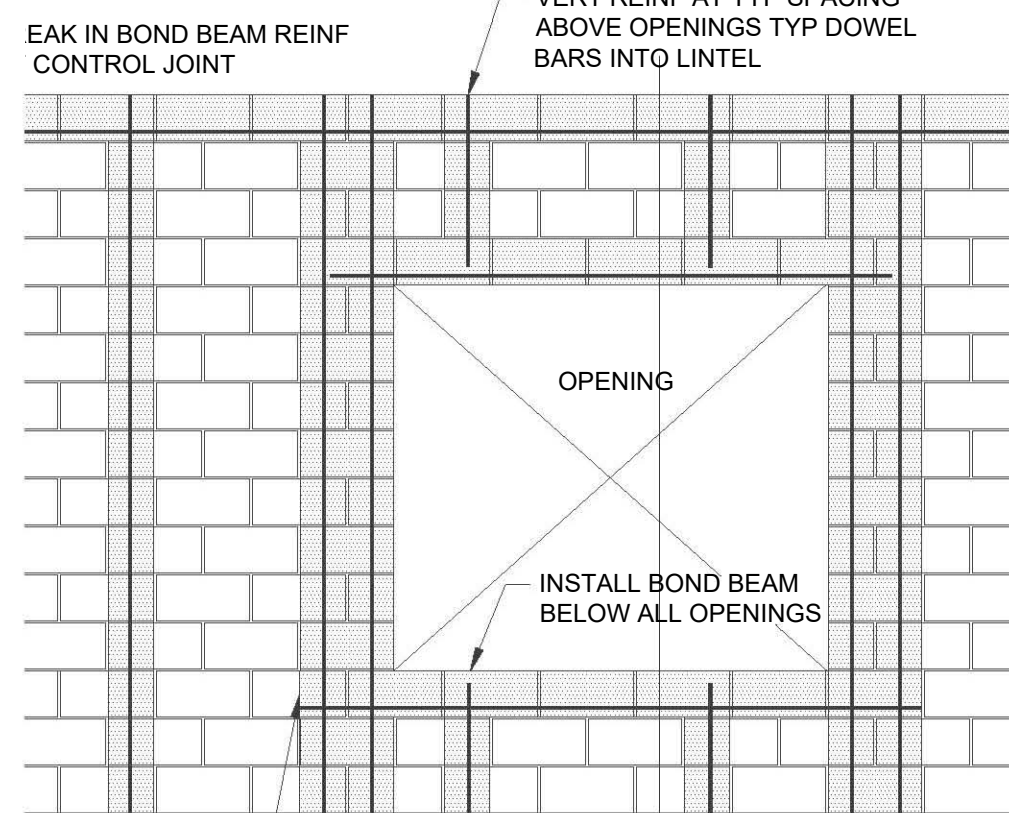
NOTES:

1. PROVIDE ONE ANGLE FOR EACH 4" OF MASONRY WALL
2. ANGLES EXPOSED TO WEATHER SHALL BE GALVANIZED.
3. MINIMUM BEARING LENGTH SHALL BE 4" EACH END.

### TYPICAL MASONRY VENEER LINTEL DETAIL

NOT TO SCALE

REQUIRED EACH SIDE  
JOINT TYP



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VTS  
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E OPENINGS  
INF AND  
LOOR

0"

7. CLEAN MORTAR FROM EDGES OF CELLS SO GROUT CAN FLOW SMOOTHLY AND FILL ENTIRE CELL.
8. USE LINTEL BLOCK OVER OPENINGS AND CONTINUE WITH OPEN-BOTTOM BOND BEAM FROM EDGE OF OPENING INTO WALL SO THAT VERTICAL REINFORCING AT JAMB CAN PASS.
9. CONTROL JOINTS SHALL EXTEND FULL HEIGHT OF WALL AND ALIGN FROM FLOOR TO FLOOR.
10. WHERE A CONTROL JOINT OCCURS THROUGH A BOND BEAM OR LINTEL BEARING, PROVIDE 2- 1/2" DOWELS ACROSS JOINT WITH GREASE ON ONE SIDE. DO NOT CONTINUE HORIZONTAL REINFORCING ACROSS CONTROL JOINT.

### REINFORCEMENT DETAILS

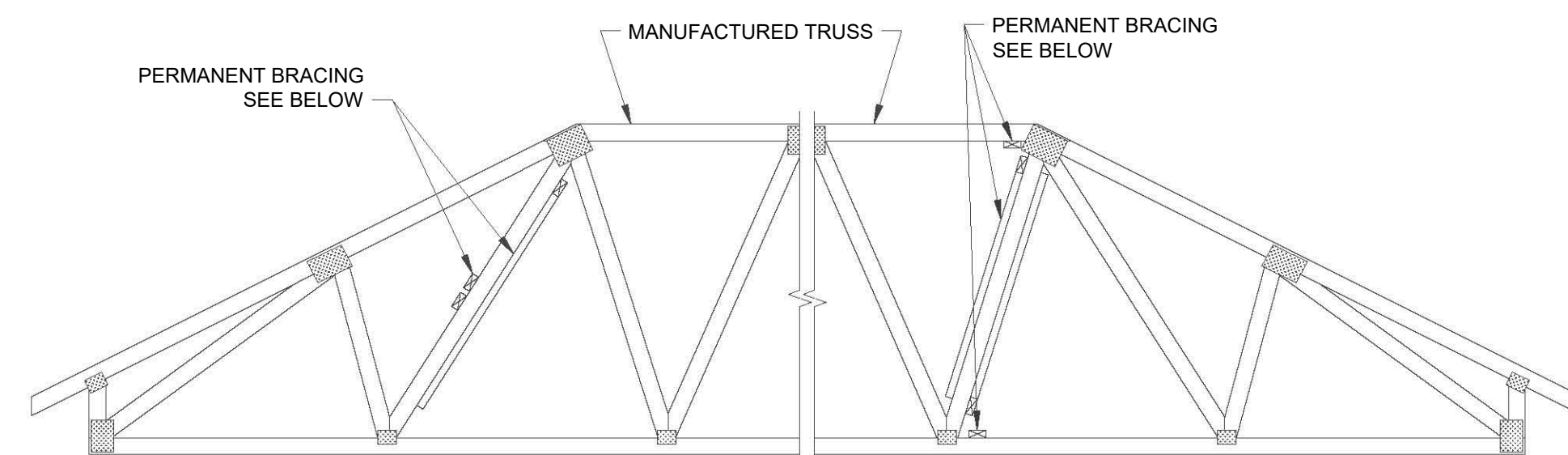
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SDG LLC  
306 W Main St Ste 410  
Frankfort, KY 40601  
(859) 351-9169

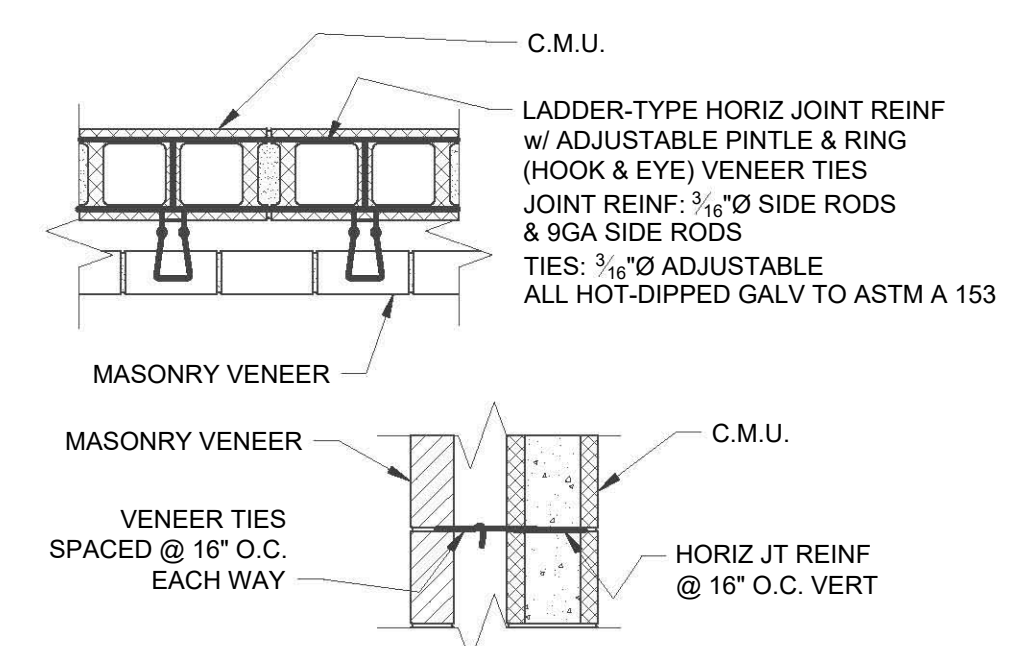
P.O. Box 1034  
VERSAILLES, KENTUCKY 40383

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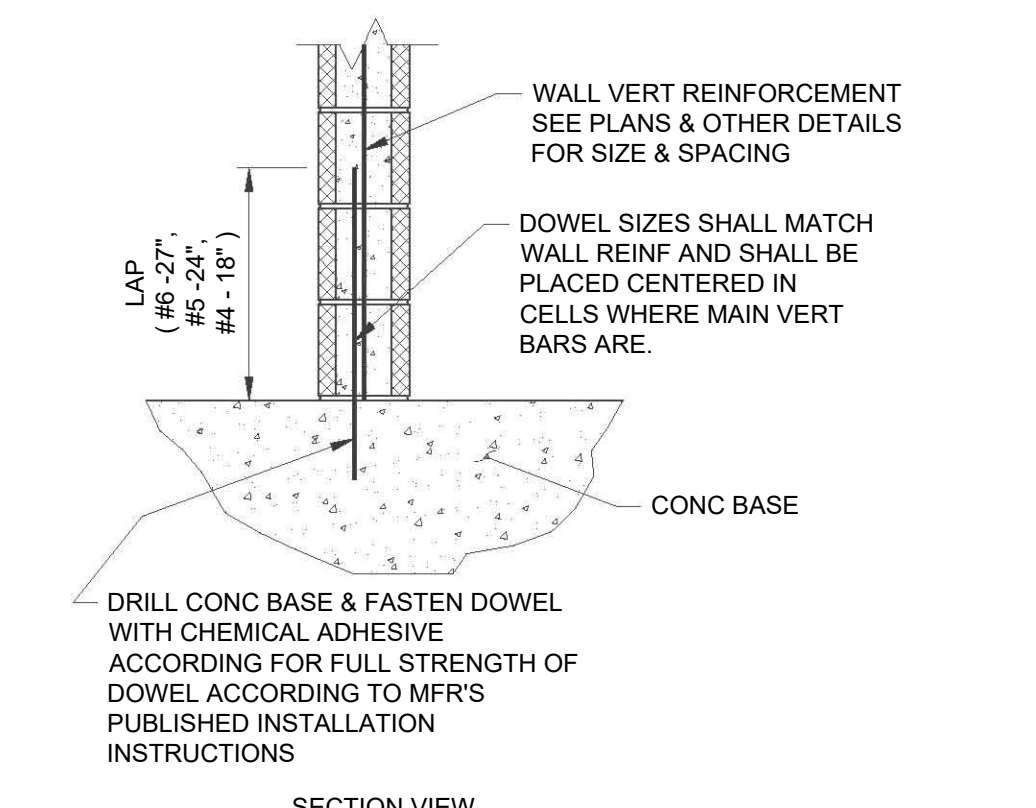
### TYPICAL TRUSS COMPRESSION WEB / BOTTOM CHORD PERMANENT BRACING DETAIL

NOT TO SCALE



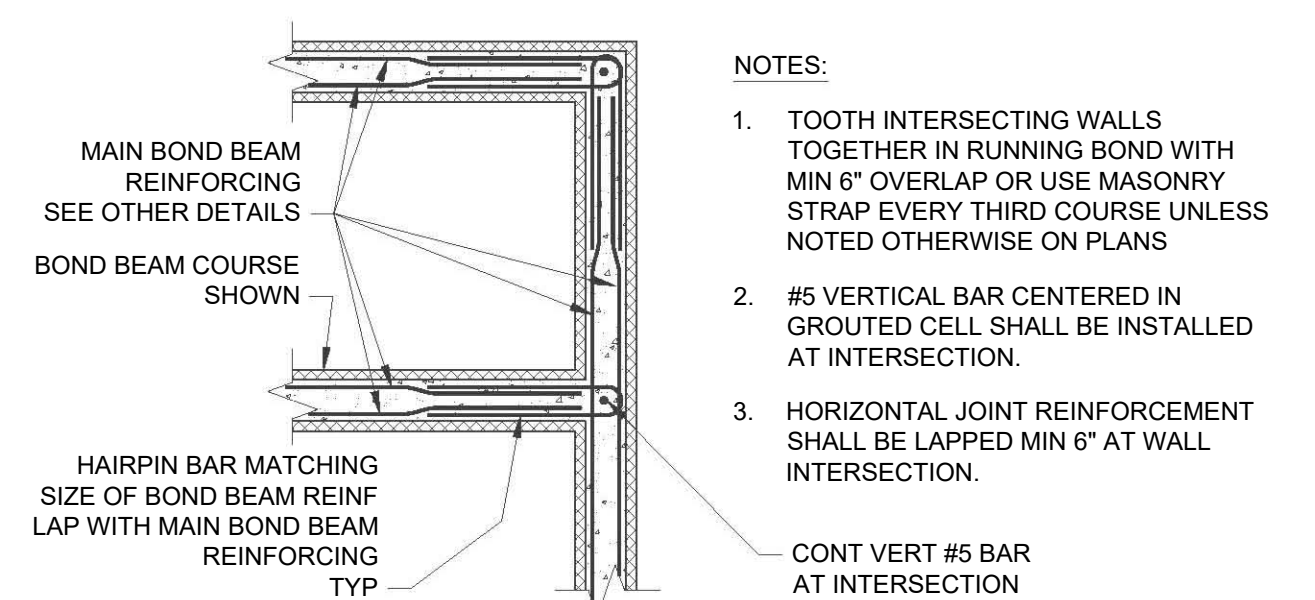
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NOT TO SCALE



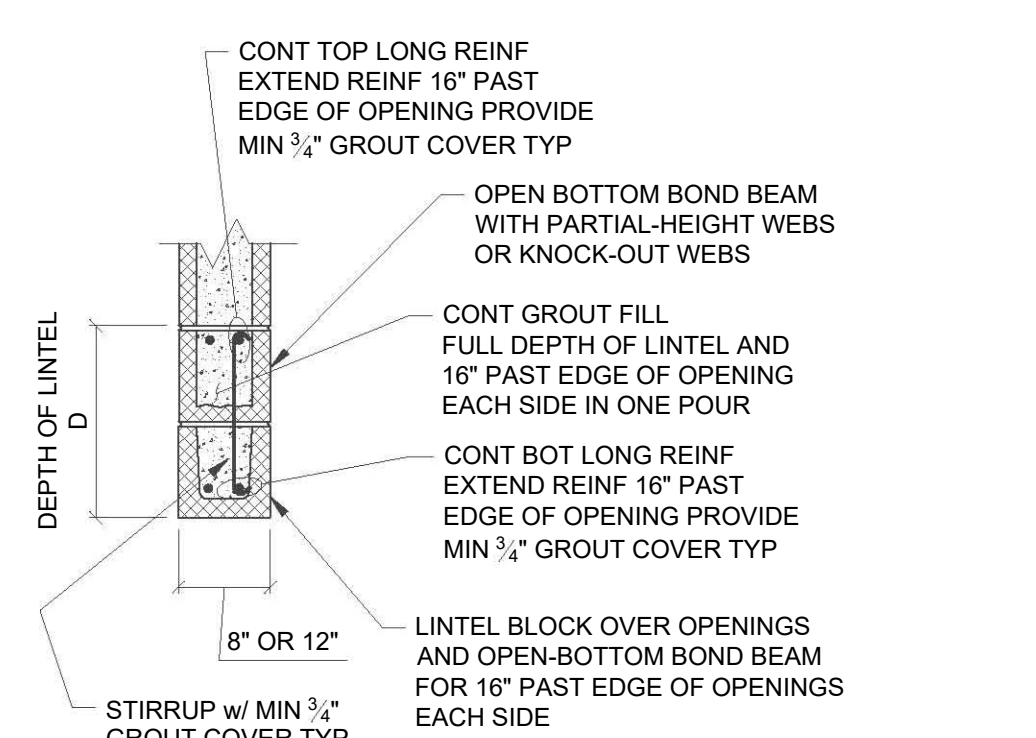
### TYPICAL C.M.U. WALL DOWEL DETAILS

NOT TO SCALE



### TYPICAL MASONRY WALL INTERSECTION DETAIL

NOT TO SCALE

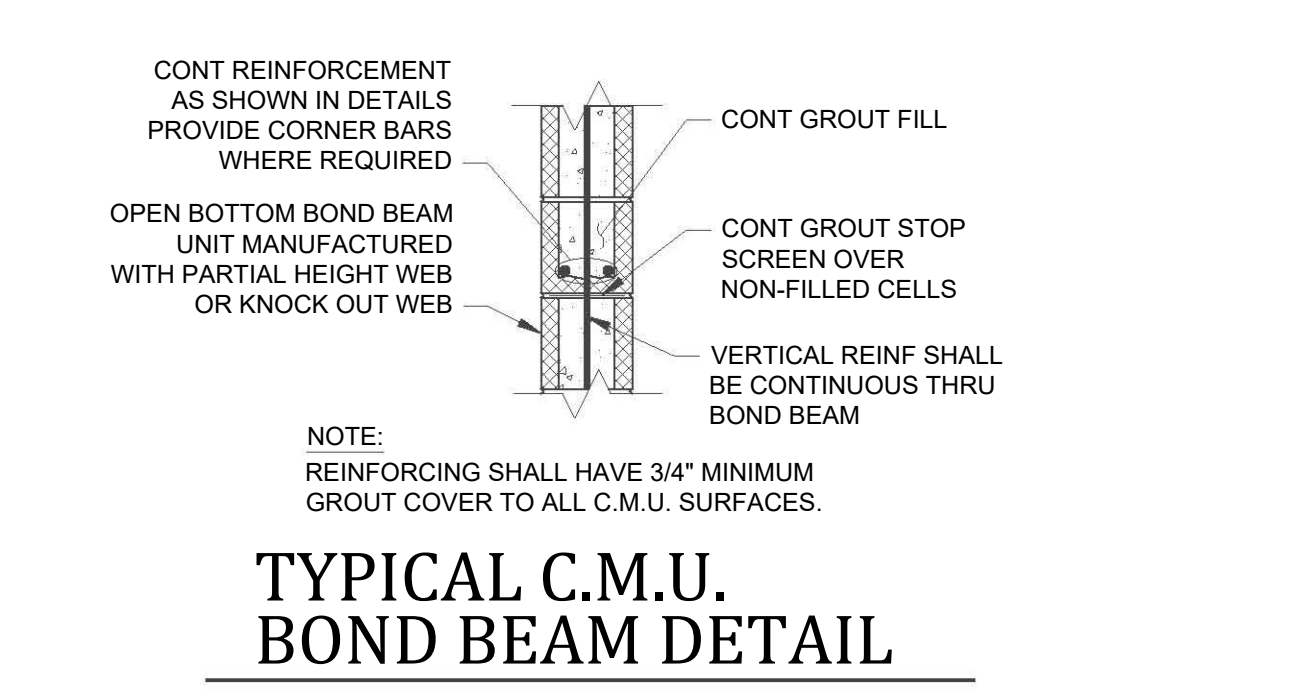


MASONRY LINTEL SCHEDULE					
MARK	MAX OPENING SIZE	D	BOTTOM REINF	TOP REINF	STIRRUPS
ML-1	5'-0"	8"	2-#5	NONE	NONE
ML-2	8'-0"	16"	2-#5	NONE	NONE
ML-3	11'-8"	24"	2-#5 (8" C.M.U.) 2-#6 (12" C.M.U.)	NONE	NONE
ML-4	18'-0"	24"	2-#5 (8" C.M.U.) 2-#6 (12" C.M.U.)	2-#5	#3@8"

- NOTES:
1. DO NOT USE THIS SCHEDULE IF CONCENTRATED LOAD IS APPLIED TO THE LINTEL AT A HEIGHT LESS THAN HALF THE SPAN ABOVE THE LINTEL OR IF STACK BOND IS SPECIFIED.
  2. IN LIEU OF USING LINTEL BLOCK ON THE BOTTOM OF LINTELS WHICH REQUIRES SHORING DURING CONSTRUCTION, CONTRACTOR MAY USE PRESTRESSED, PRECAST CONCRETE LINTELS BY "CAST-ORETE" (WWW.CASTORETE.COM) OR APPROVED EQUAL. SUBMIT PRODUCT DATA AND A PLAN AND SCHEDULE OF LINTEL LOCATIONS AND SIZES FOR APPROVAL FOR THIS OPTION.

### TYPICAL C.M.U. LINTEL DETAIL

NOT TO SCALE



### TYPICAL C.M.U. BOND BEAM DETAIL

NOT TO SCALE

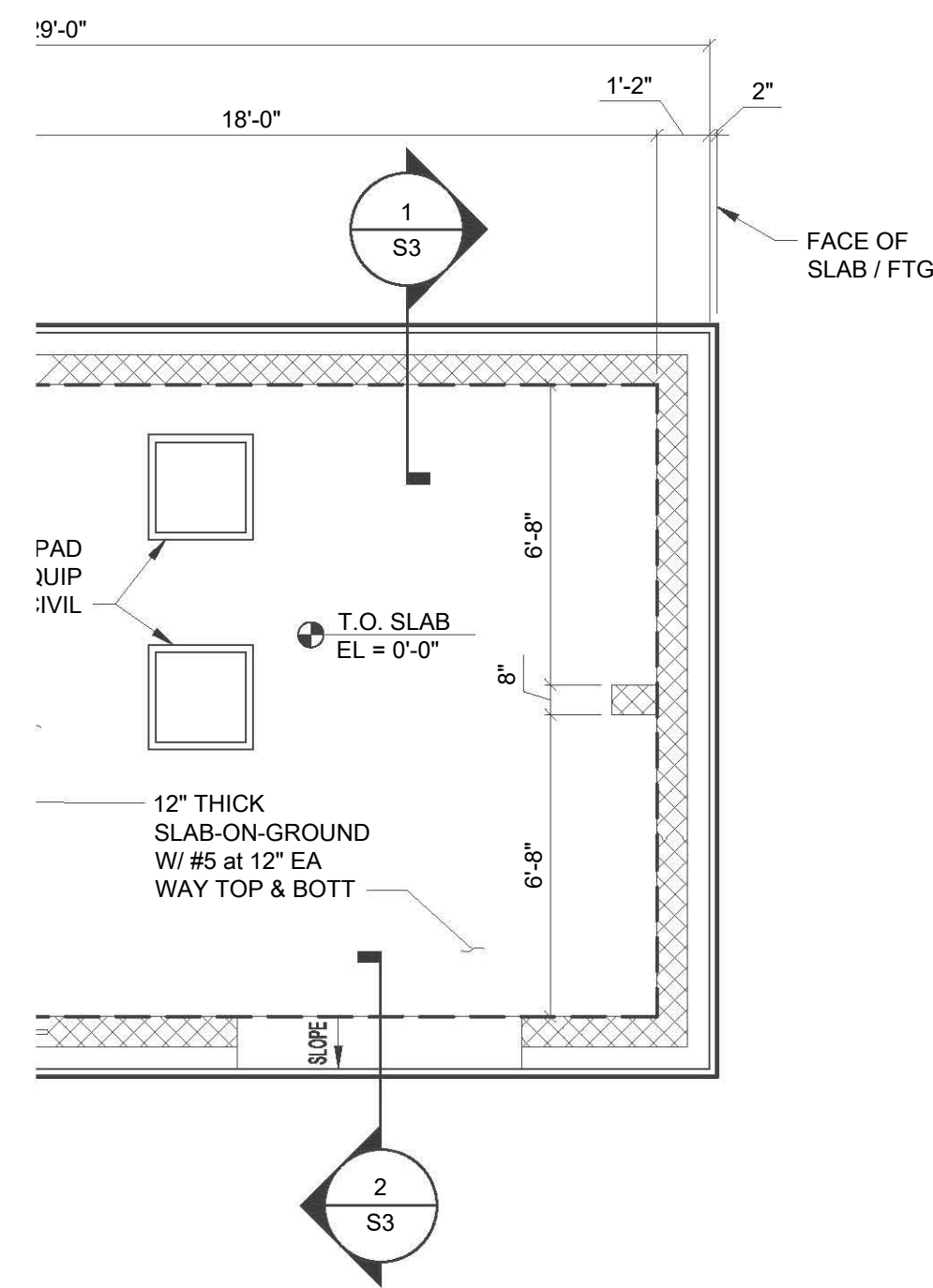
2022 WATER SYSTEM IMPROVEMENTS PROJECT FOR THE BATH COUNTY WATER DISTRICT

STRUCTURAL TYPICAL DETAILS

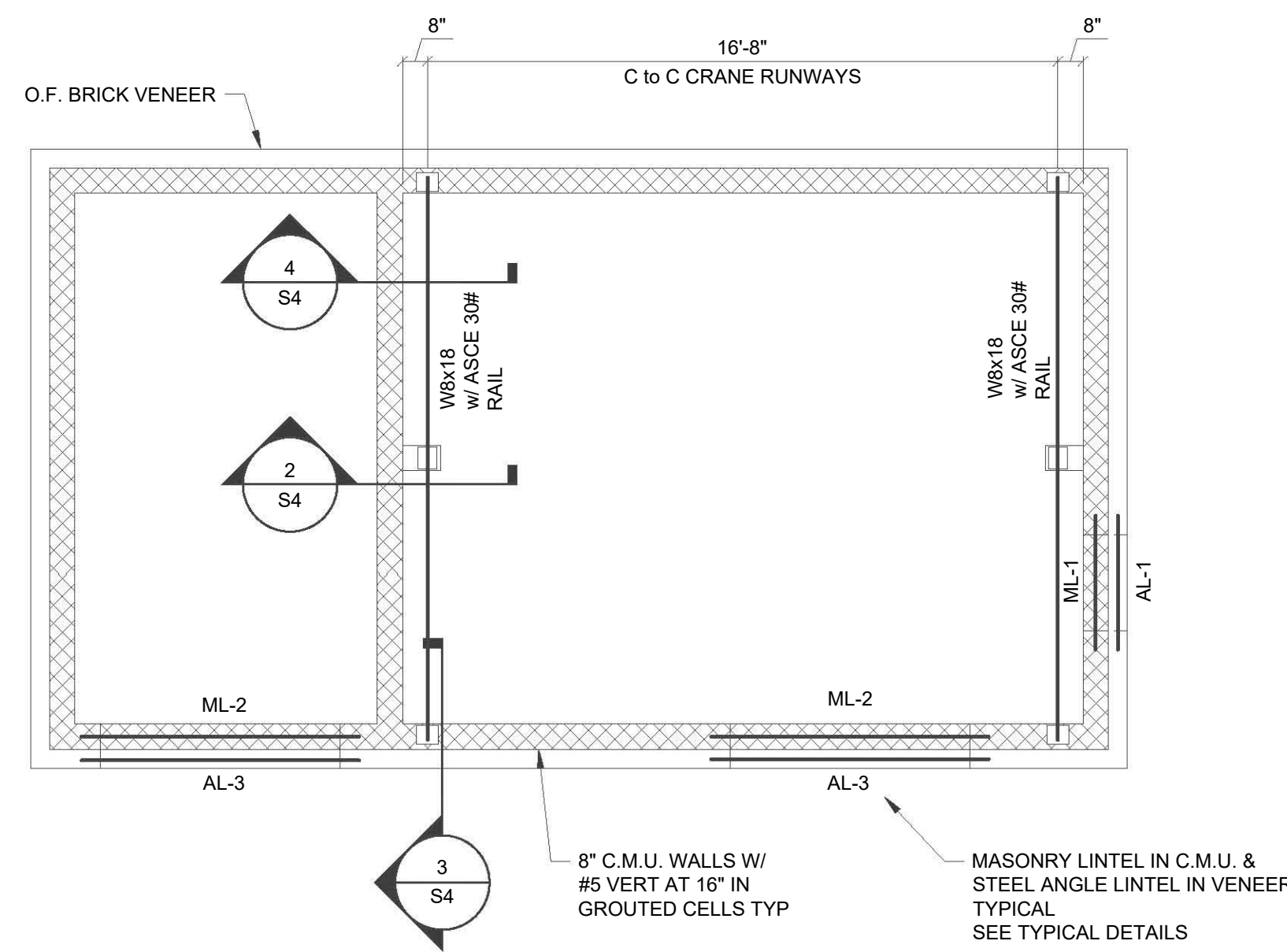
MATTHEW W. CRAIG  
24113  
LICENSED PROFESSIONAL ENGINEER

PROJECT NO. 22015
SHEET NO. S2

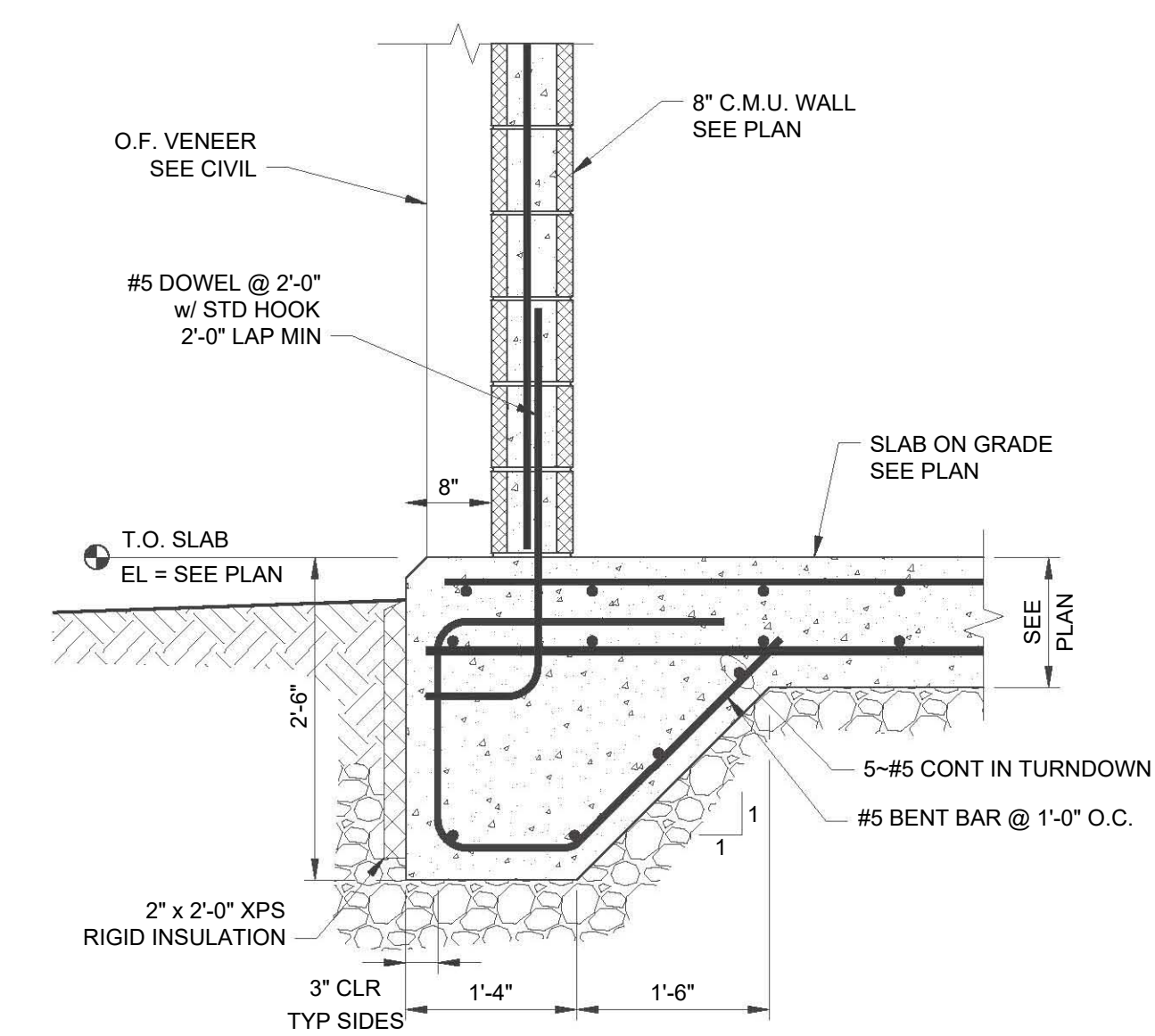
BID DOCUMENTS



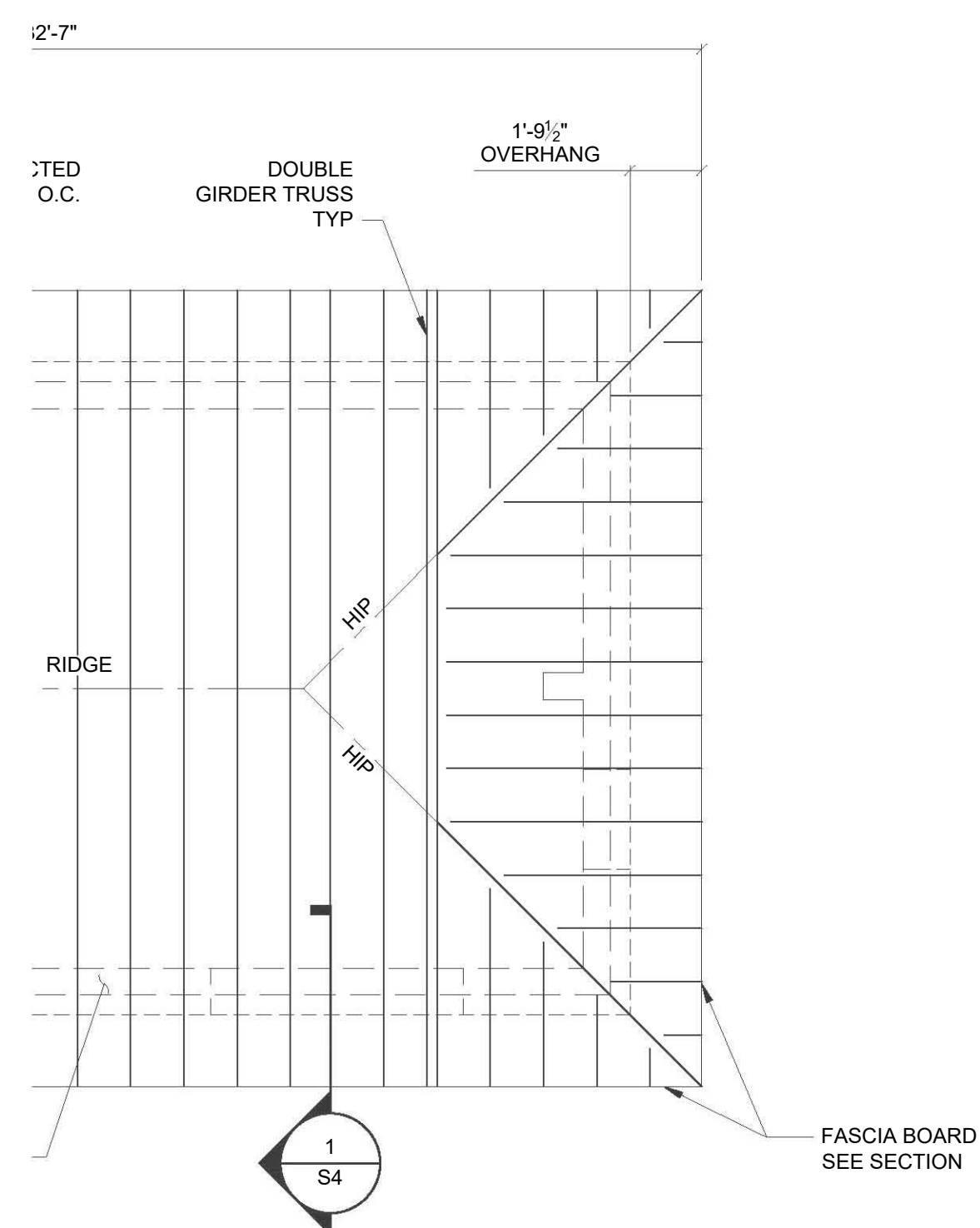
**FOUNDATION AND SLAB PLAN**



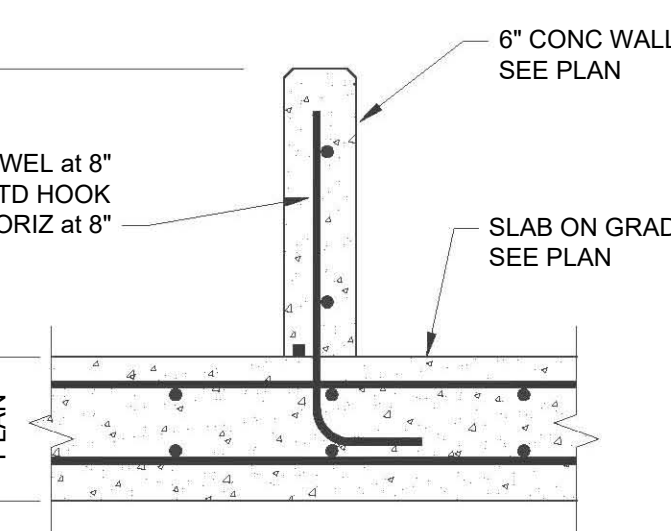
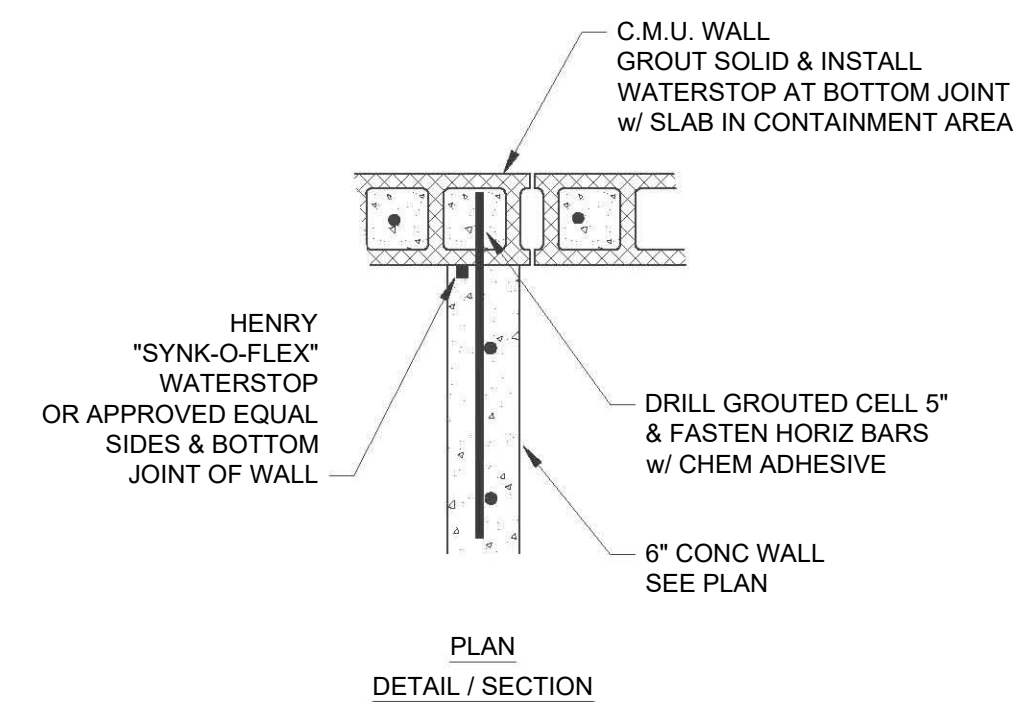
**HOIST BEAM FRAMING PLAN**



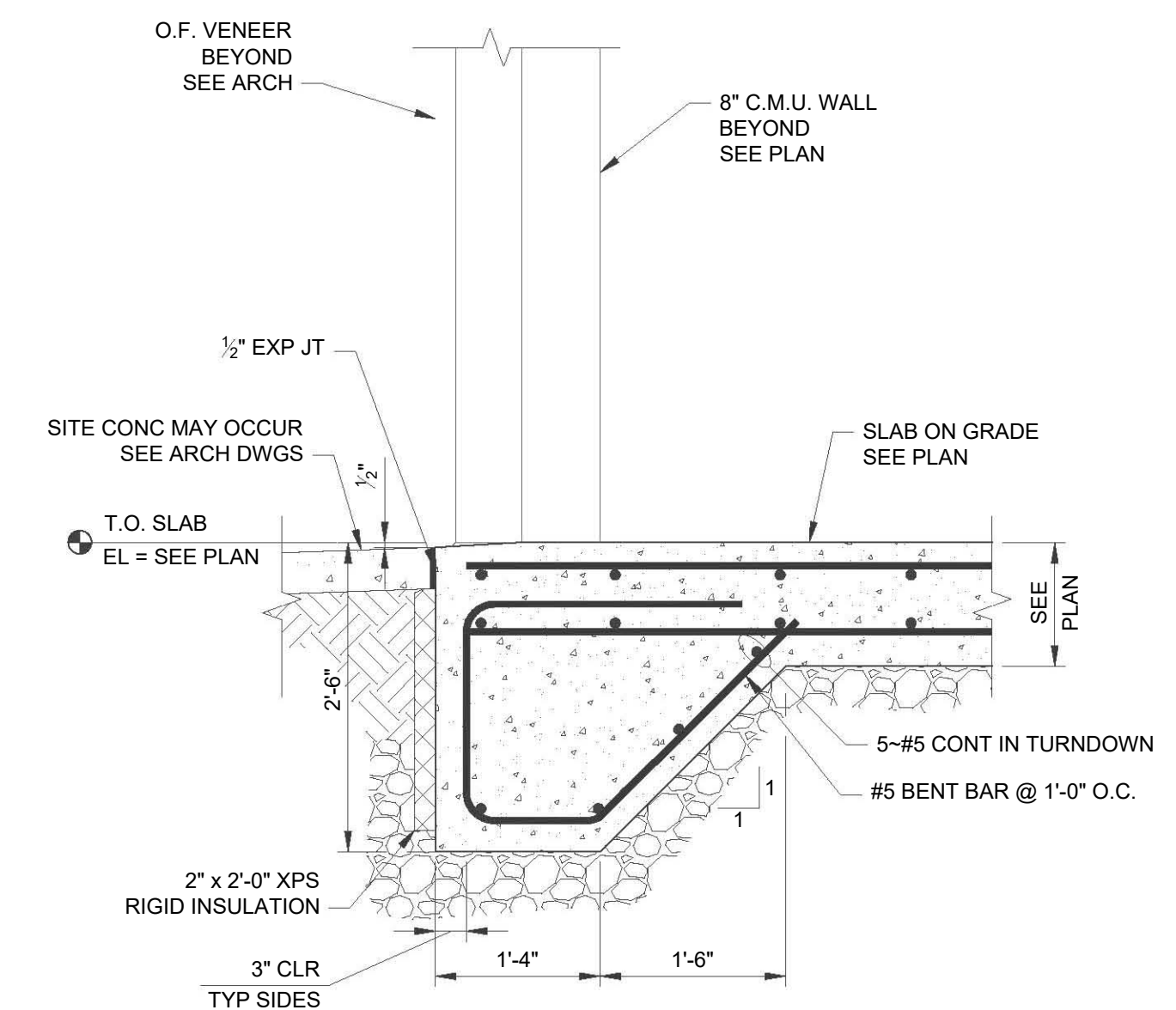
**1 SECTION**  
SCALE: 3/4"=1'-0"



**FASCIA BOARD PLAN**



**3 SECTION**  
SCALE: 3/4"=1'-0"



**2 SECTION**  
SCALE: 3/4"=1'-0"

REVISIONS	BY

DATE:	JANUARY, 2023
PROJECT MGR:	JCT
ENGINEER:	MWC
DRAWN BY:	MWC
SCALE:	AS NOTED
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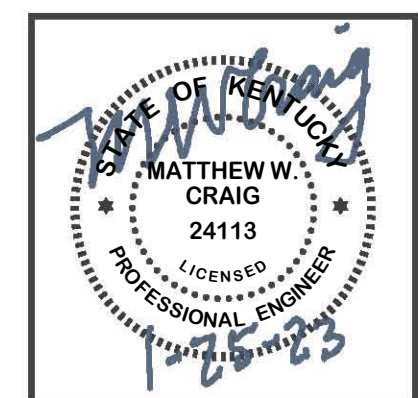
**SDG** LLC  
306 W Main St Ste 410  
Frankfort, KY 40601  
(859) 351-9169

P.O. Box 1034  
VERSAILLES, KENTUCKY 40383

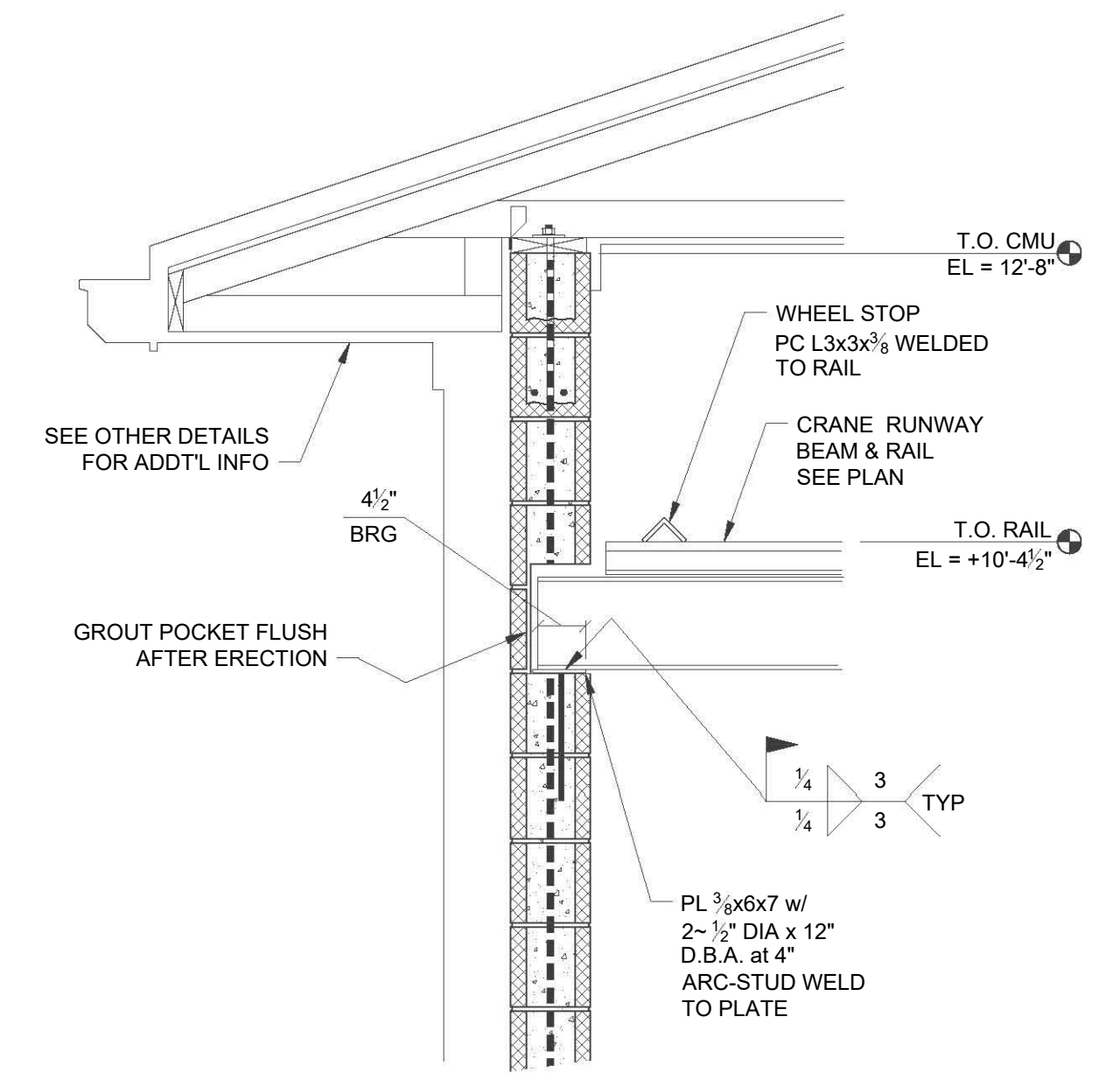
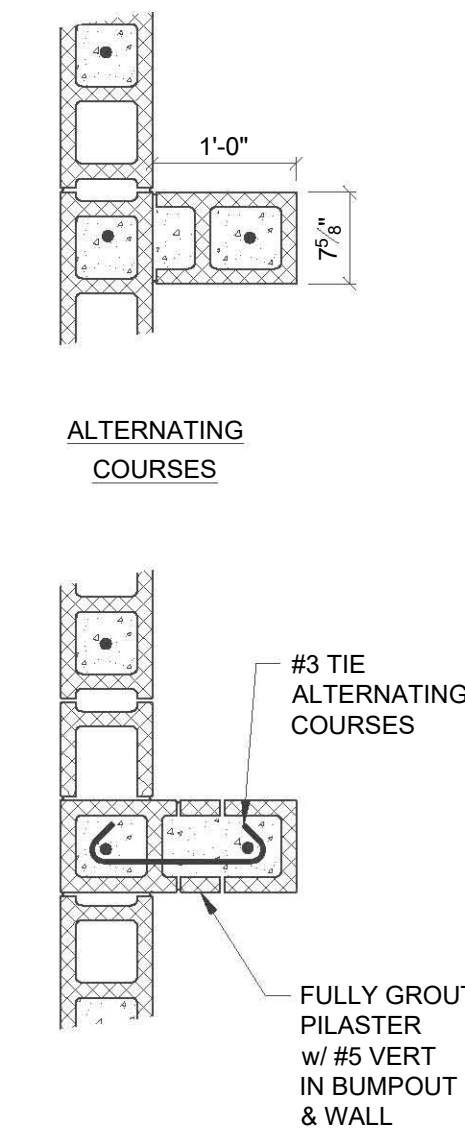
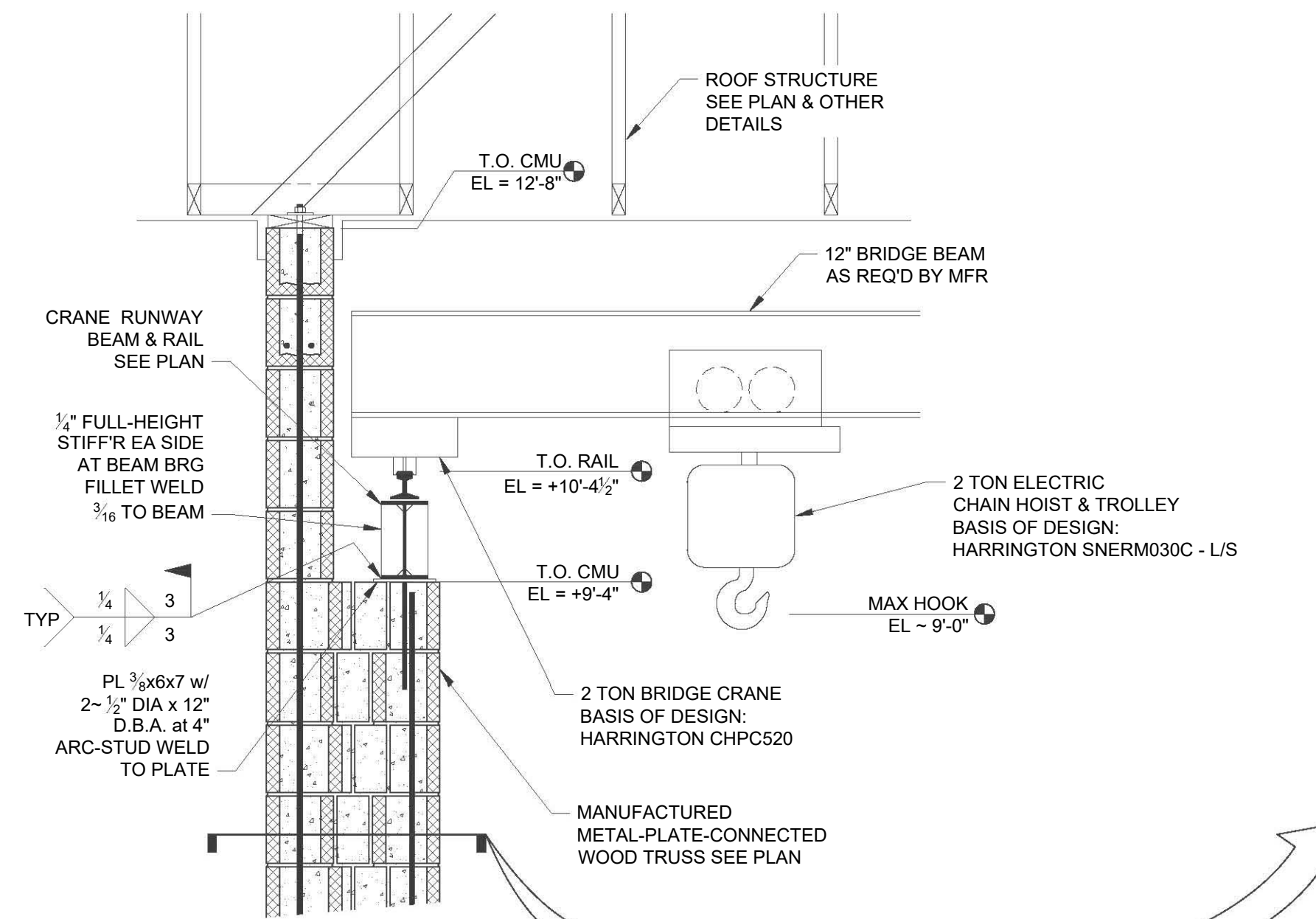
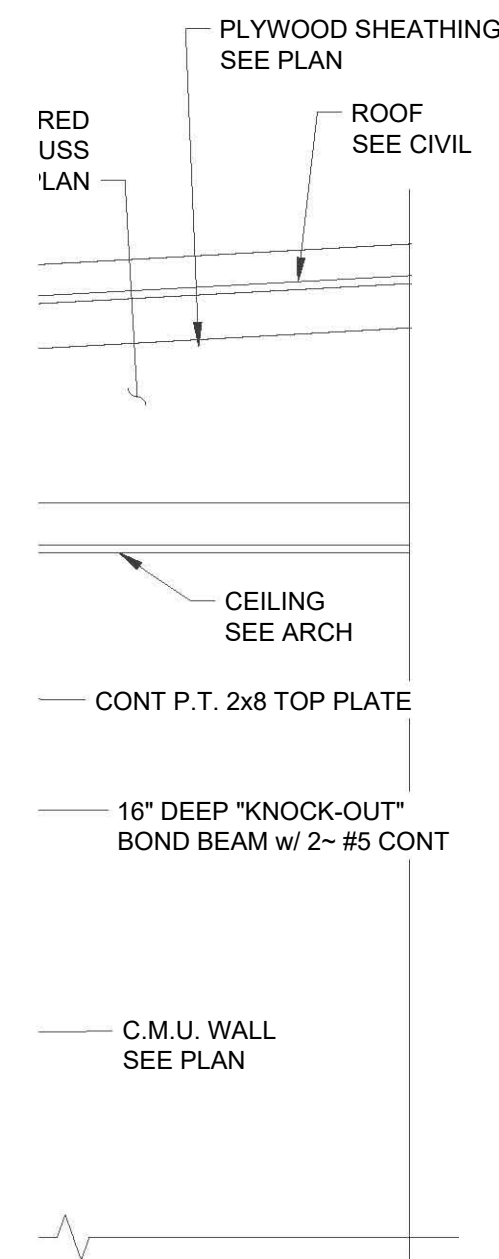
**KENTUCKY ENGINEERING GROUP, PLLC**

2022 WATER SYSTEM IMPROVEMENTS PROJECT  
FOR THE BATH COUNTY WATER DISTRICT

STRUCTURAL PLANS, SECTIONS & DETAILS



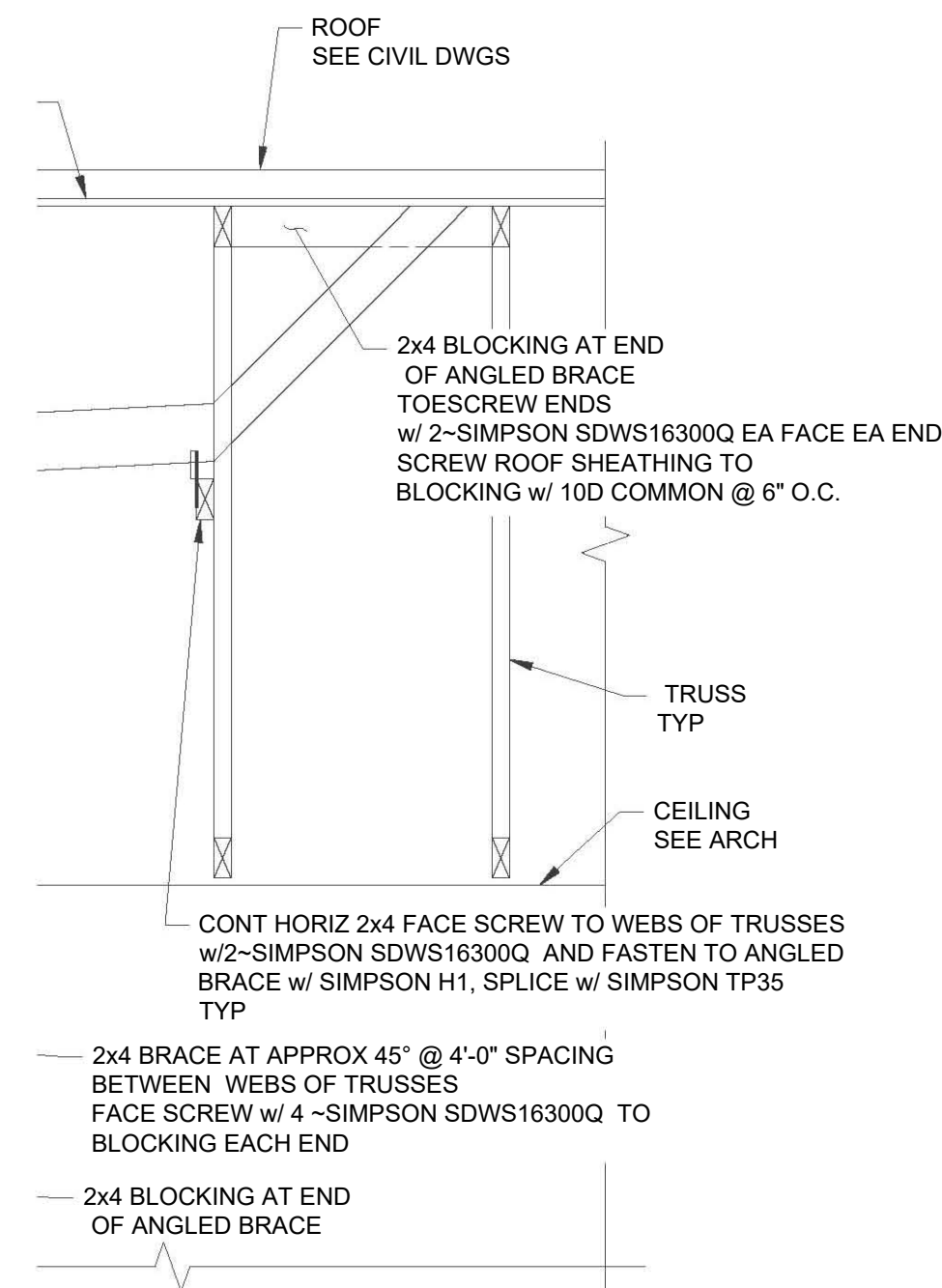
PROJECT NO.	22015
SHEET NO.	S3



**2** DETAIL  
SCALE: 3/4"=1'-0"

**3** DETAIL  
SCALE: 3/4"=1'-0"

NOTES:  
FASTEN RAIL TO RUNWAY WITH APPROVED PROPRIETARY FASTENING METHOD THAT ALLOWS FOR ADJUSTMENT & ALIGNMENT.  
OVERALL RUNWAY AND RAIL ALIGNMENT, ELEVATION, AND OTHER TOLERANCES SHALL CONFORM TO CMAA 70 AND / OR 74 AS APPLICABLE.



REVISIONS	BY

DATE:	JANUARY, 2023
PROJECT MGR:	JCT
ENGINEER:	MWC
DRAWN BY:	MWC
SCALE:	AS NOTED
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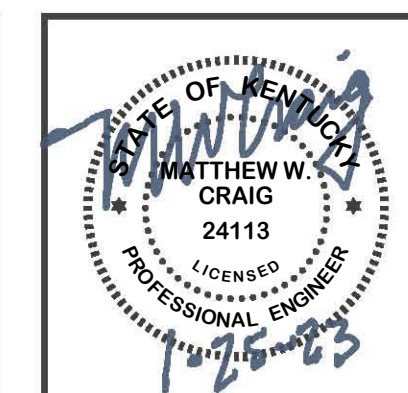
**SDG** LLC  
306 W Main St Ste 410  
Frankfort, KY 40601  
(859) 351-9169

P.O. Box 1034  
VERSAILLES, KENTUCKY 40383

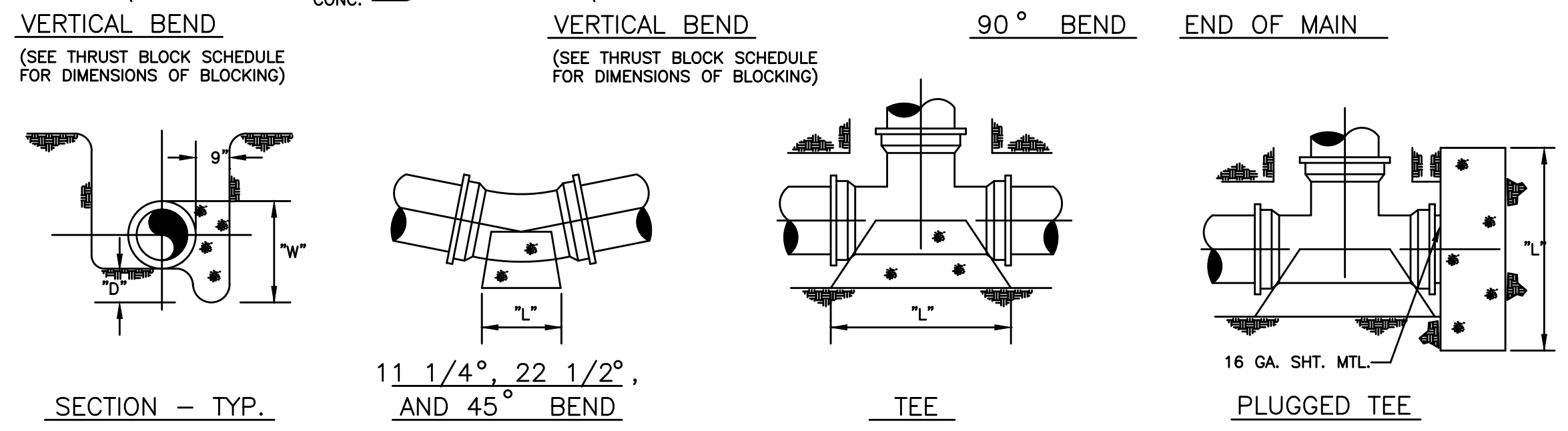
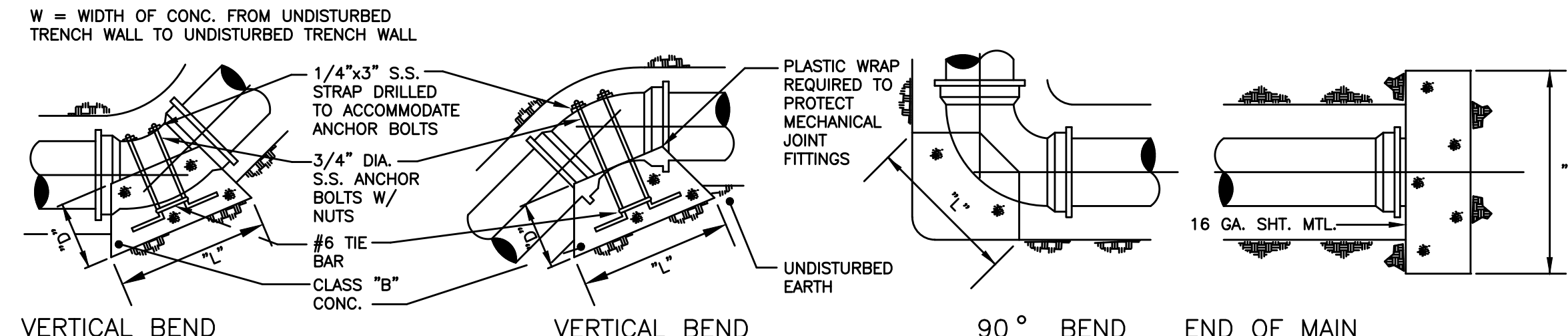
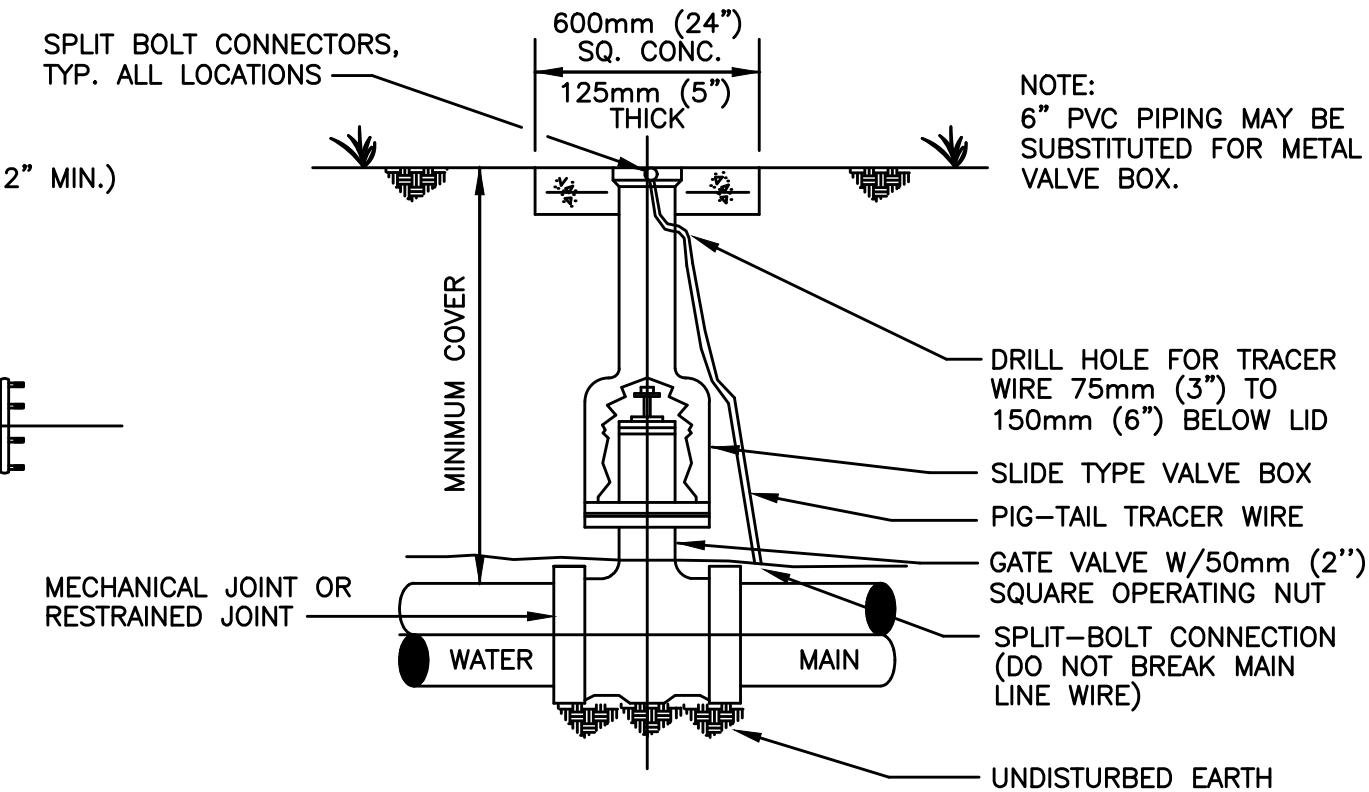
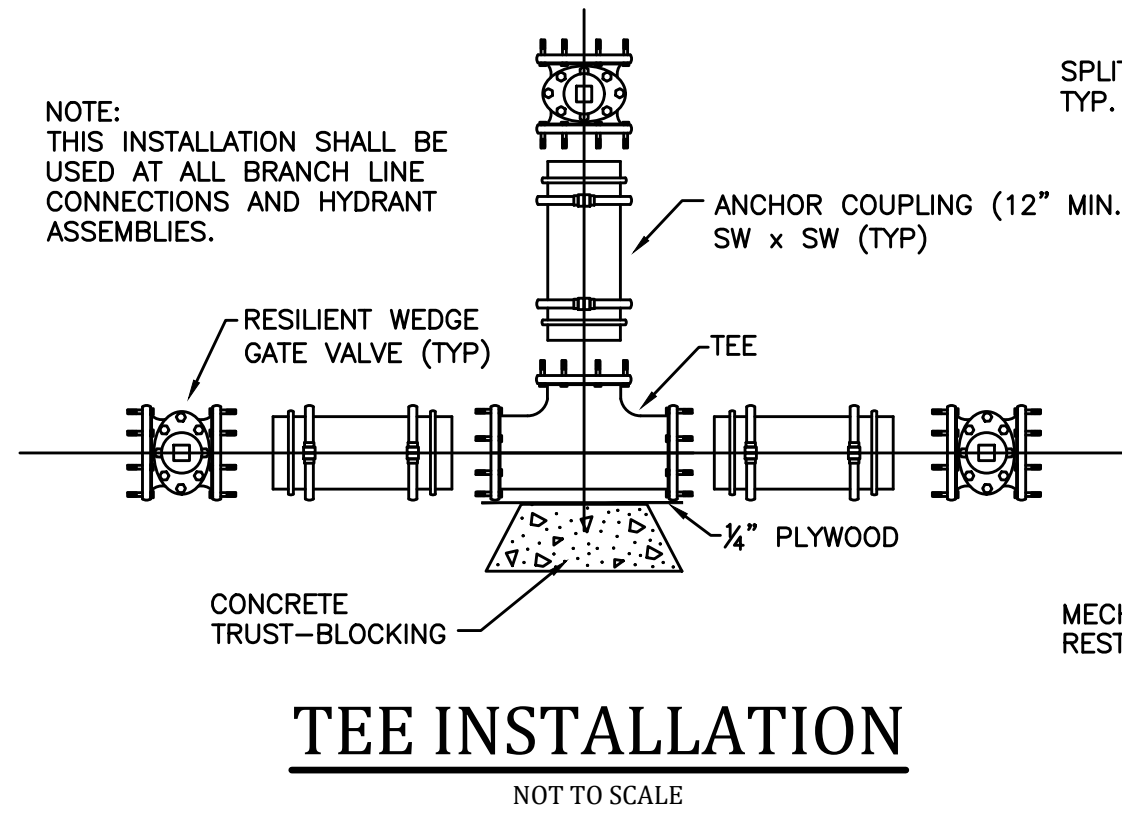
**KENTUCKY**  
ENGINEERING  
GROUP, PLLC

2022 WATER SYSTEM  
IMPROVEMENTS PROJECT  
FOR THE  
BATH COUNTY WATER DISTRICT

STRUCTURAL  
SECTIONS & DETAILS

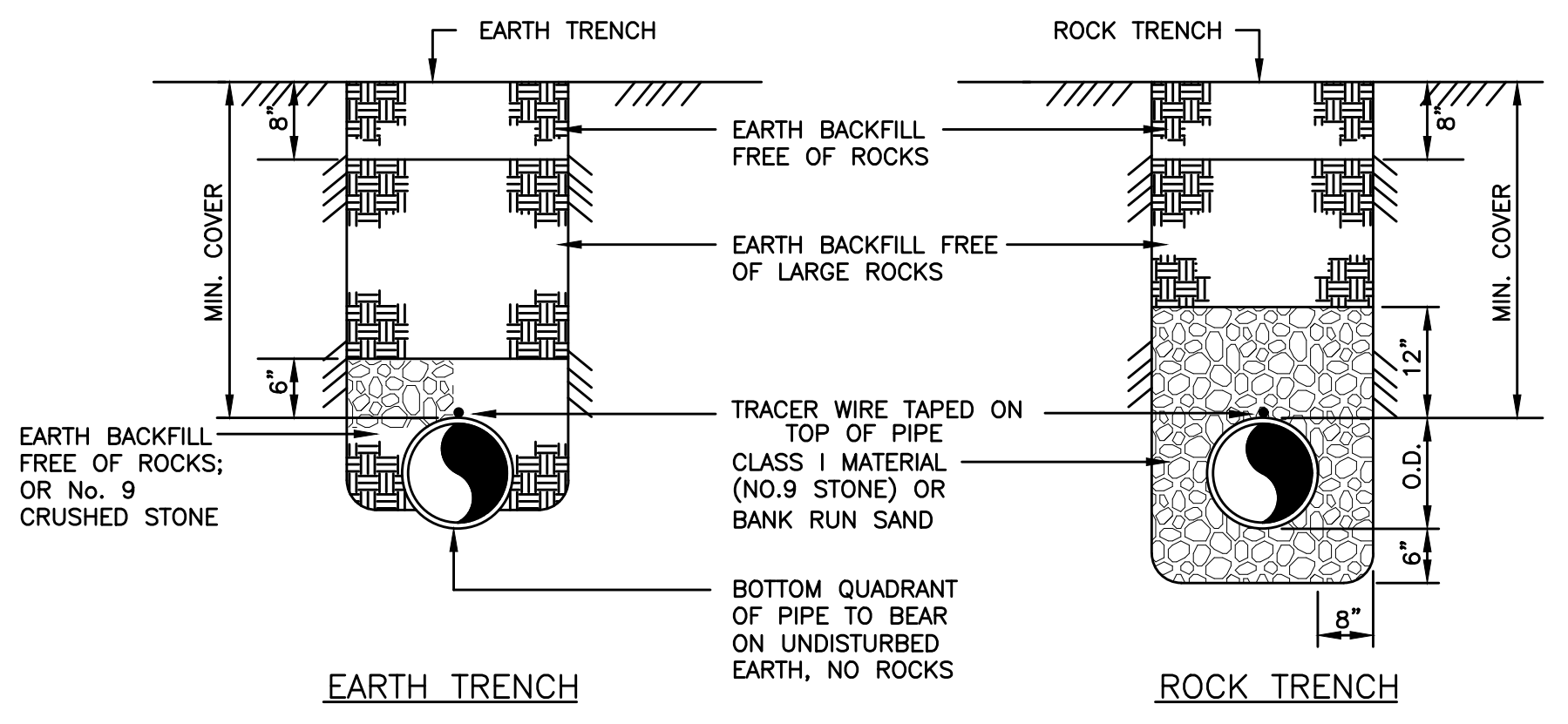


PROJECT NO.	22015
SHEET NO.	S4

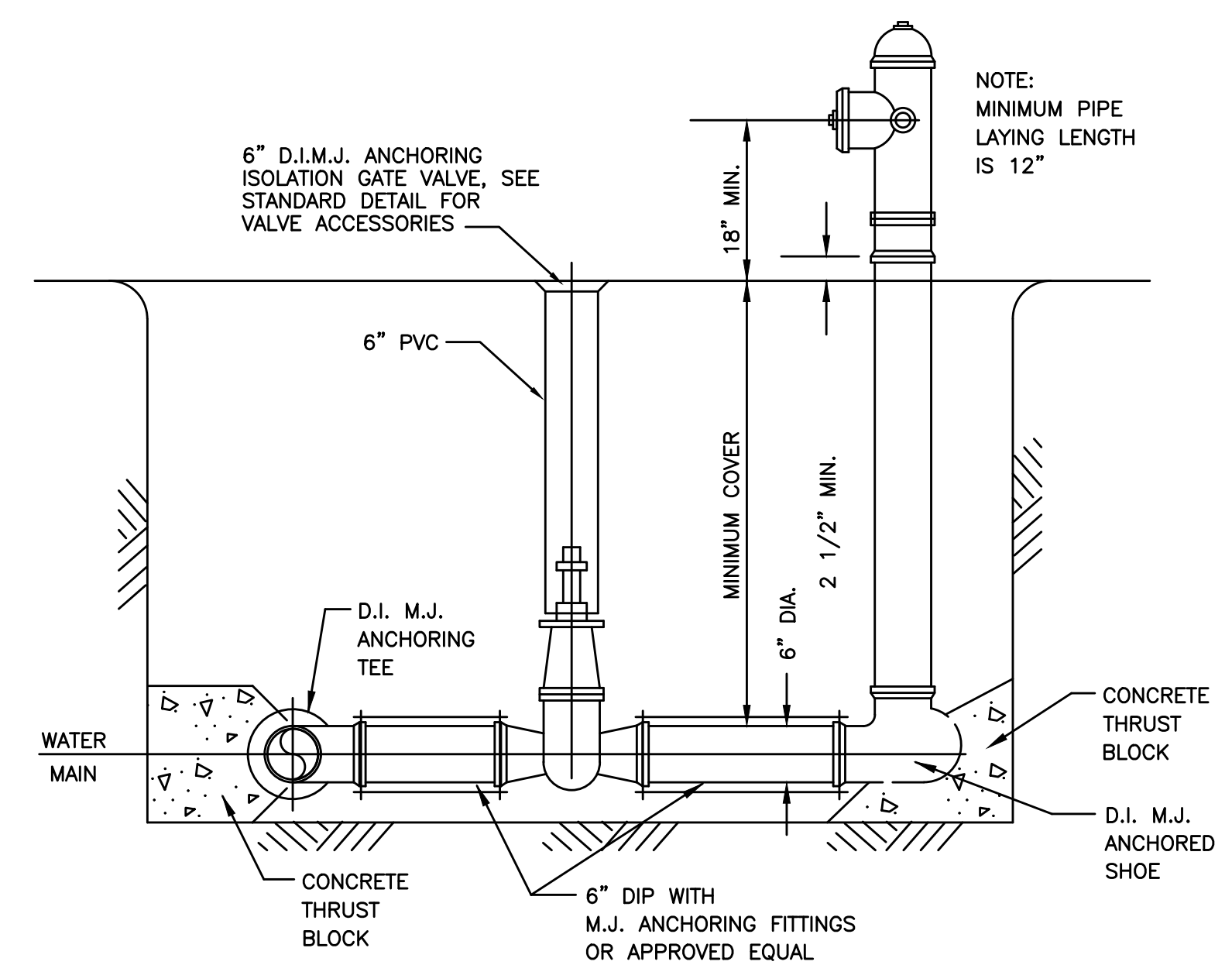
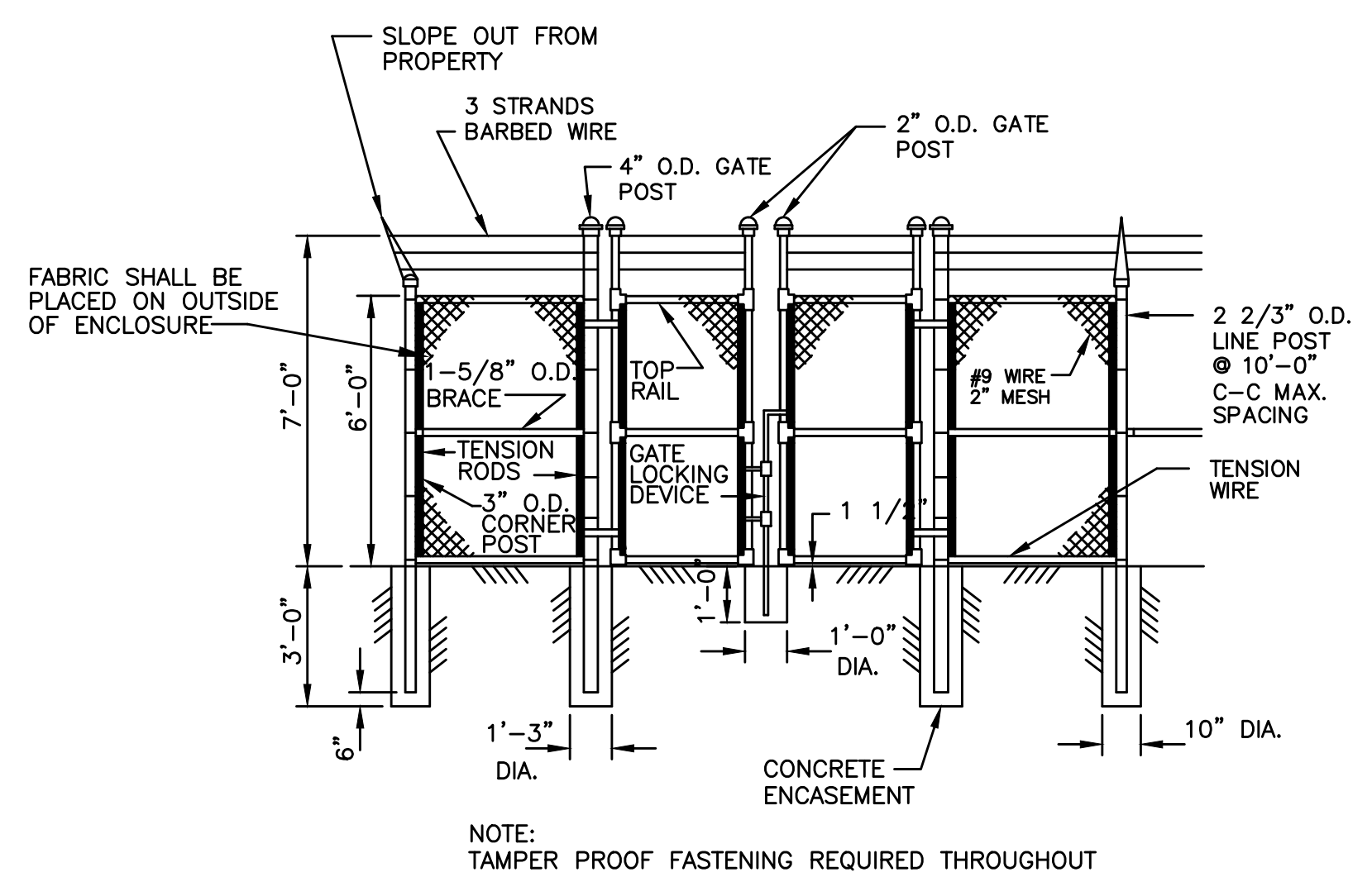
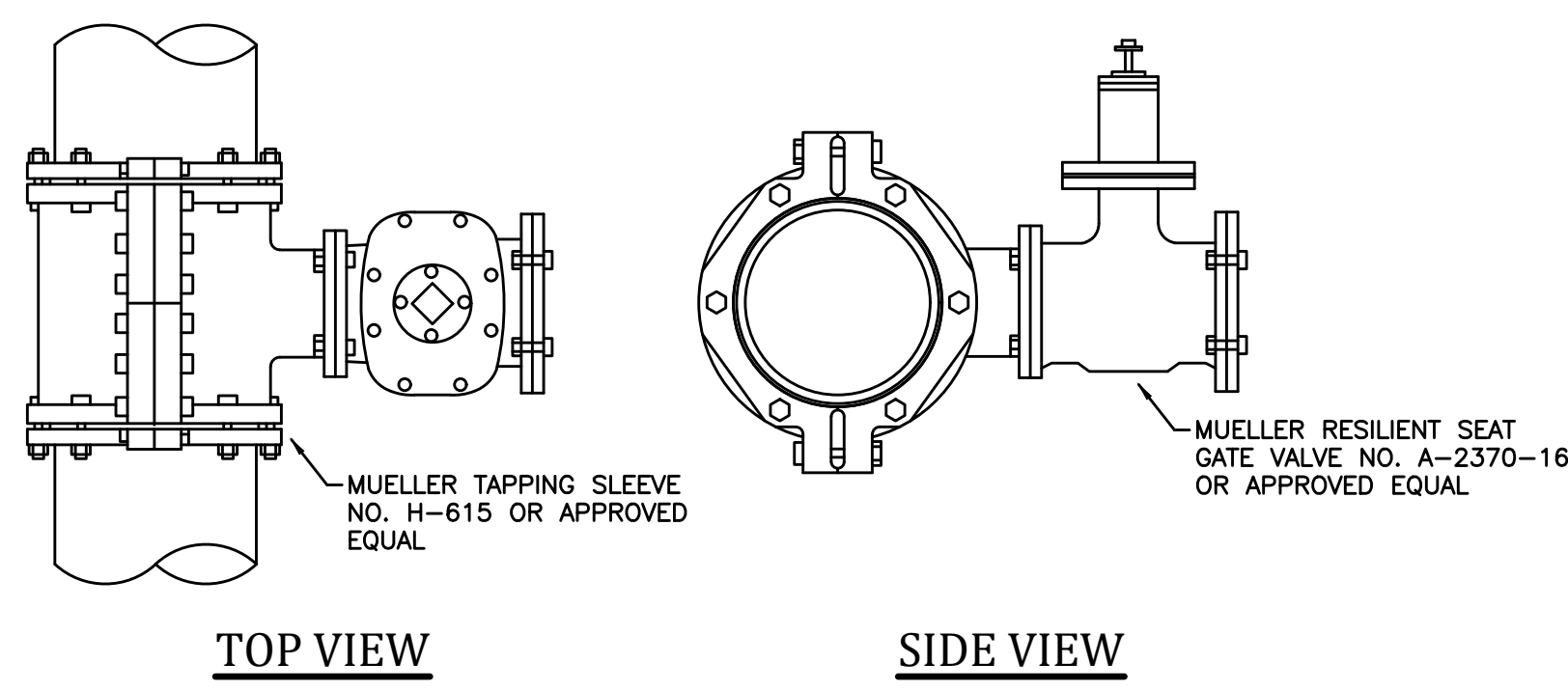


NOTE: ALL FITTINGS AND VALVES SHALL INCLUDE GRIP RING GLAND W/MIN. 10' PIPE PRIOR TO FITTINGS.

PIPE SIZE	90° BEND				45° BEND				22 1/2° BEND				11 1/4° BEND				TEE & DEAD ENDS								
	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L					
4"	2.667	.10	12	24	16	1.500	.06	12	18	12	.750	.03	12	12	9	.500	.01	6	12	6	1.667	.06	12	24	10
6"	5.000	.19	12	36	20	3.000	.11	12	24	18	1.500	.06	12	18	12	.750	.01	6	12	9	4.000	.15	12	24	24
8"	9.000	.50	18	36	36	5.000	.28	18	36	20	3.000	.17	18	24	18	1.500	.06	12	18	12	7.000	.39	18	42	24
10"	9.255	.78	18	48	42	7.500	.42	18	36	30	4.167	.23	18	30	20	2.250	.08	12	18	18	10.500	.58	18	42	36
12"	13.327	1.11	18	60	48	12.000	.67	18	48	36	6.000	.33	18	36	24	3.000	.11	12	24	18	14.000	.78	18	48	42
14"	18.139	2.00	24	72	54	15.750	1.17	24	54	42	7.500	.56	24	36	30	4.000	.22	18	24	24	20.000	1.48	24	60	48
16"	23.692	2.65	24	78	66	20.000	1.48	24	60	48	10.500	.78	24	42	36	5.000	.28	18	30	24	27.000	2.00	24	72	54



- NOTES:
1. REPLACE BITUMINOUS PAVEMENT WITH SAME TYPE AND THICKNESS (2" MIN.) AS EXISTING PAVEMENT.
  2. IF ROCK IS ENCOUNTERED, A MINIMUM OF 6" NO. 9 CRUSHED STONE MUST BE PLACED UNDER THE ENCASEMENT PIPE.
  3. X = MAX. WIDTH OF TRENCH AT SURFACE UNDER NORMAL CONDITIONS (36" + PIPE O.D.)
  4. FROM POINTS "A" TO NEAREST JOINT OR BREAK IN PAVEMENT MUST BE AT LEAST 6' OR MORE. IF LESS THAN 6' REMOVE PAVEMENT TO JOINT OR BREAK AND REPLACE ENTIRE SLAB.
  5. NO. 610 CRUSHED STONE MAY BE SUBSTITUTED FOR MECHANICALLY TAMPED EARTH BACKFILL WITH PRIOR APPROVAL OF THE ENGINEER.
  6. 1' SAW CUT OUTSIDE OF TRENCH LINES, BITUMINOUS PATCH PLACED IN 2" LIFTS WITH TACK COAT ON EACH SIDE, EACH LIFT COMPACTED WITH SMALL ROLLER.
- NOTE: ALL WATER LINES CONSTRUCTED WITHIN 3' OF A COUNTY ROAD SHALL BE BACKFILLED WITH DGA TO FULL DEPTH.



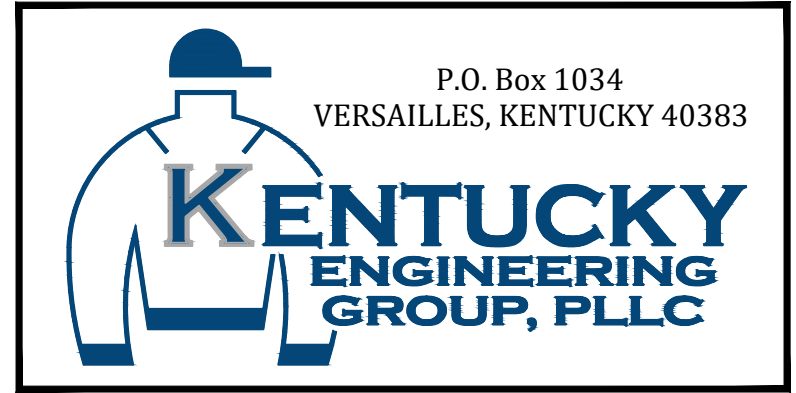
P:\PROJECTS\Bath County Water District\22015-2022 Improvements and Upgrades\DWG\PS Rehab\22015 SD1.dwg REG 2/01/23

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NO.	DATE	REVISIONS	BY

DATE: JANUARY, 2023  
 PROJECT MGR: JCT  
 DRAWN BY: JAB  
 CHECKED BY: JCT  
 SCALE: AS NOTED  
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2022 WATER SYSTEM IMPROVEMENTS PROJECT  
 ORE MINES AND MIDLAND PUMP STATIONS FOR THE BATH COUNTY WATER DISTRICT

STANDARD DETAILS

PROJECT NO. 22015  
 SHEET NO. SD-1

BID DOCUMENTS