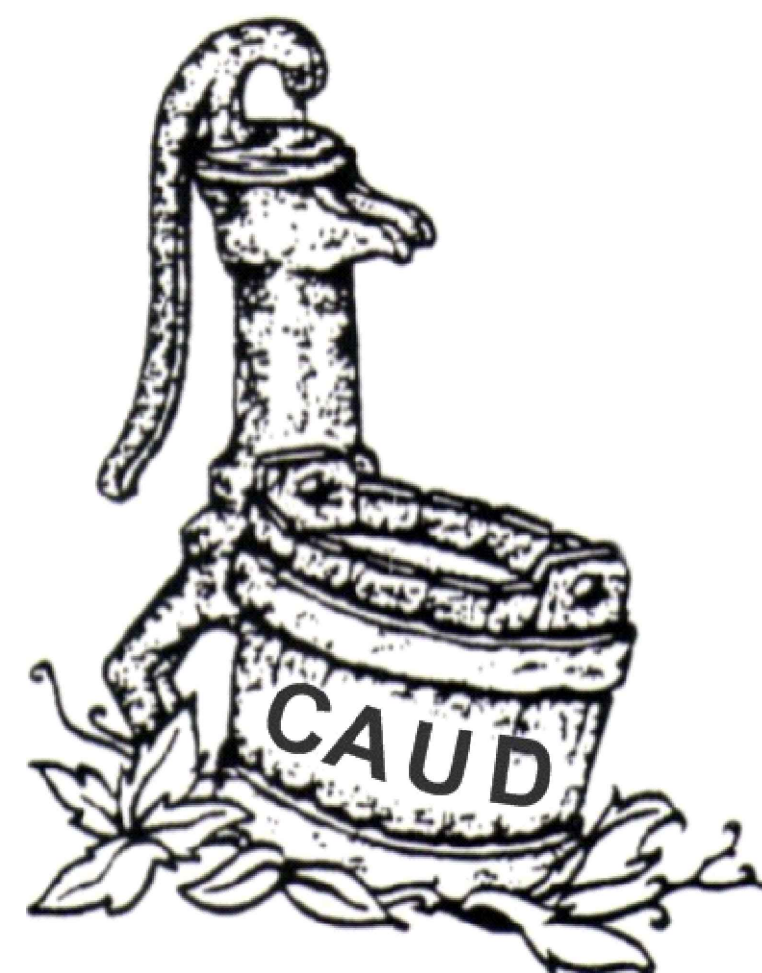


CONTRACT No. 4

Phase 20 Water System Improvements Water Main Replacement Project

FOR THE

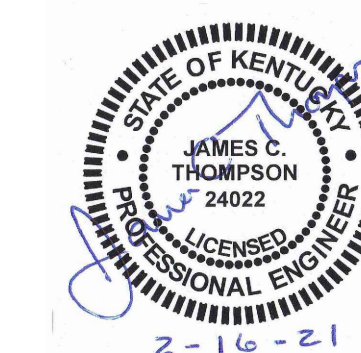
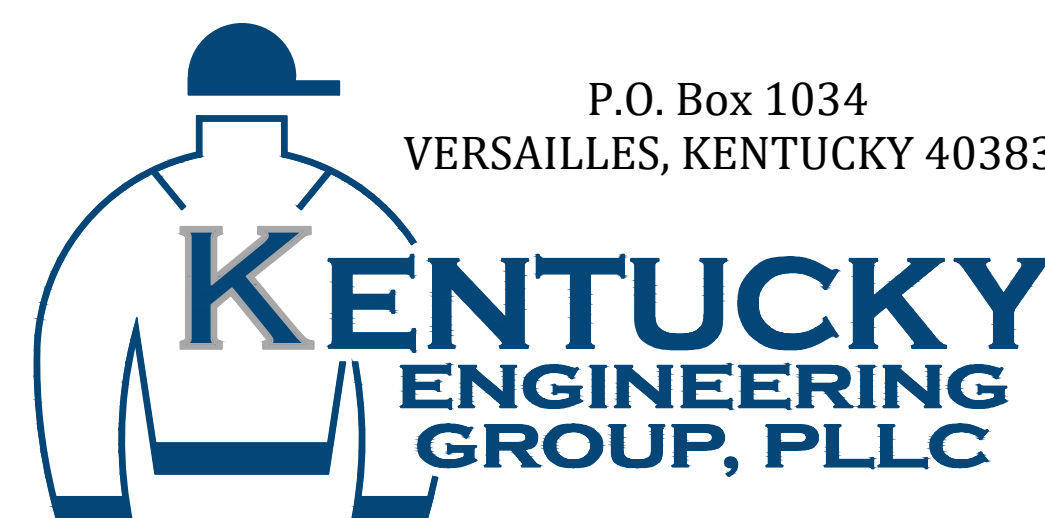


SRF PROJECT NO. - WX21001029

SRF LOAN NO. - F20-009

Columbia-Adair Utilities District Adair County, Kentucky

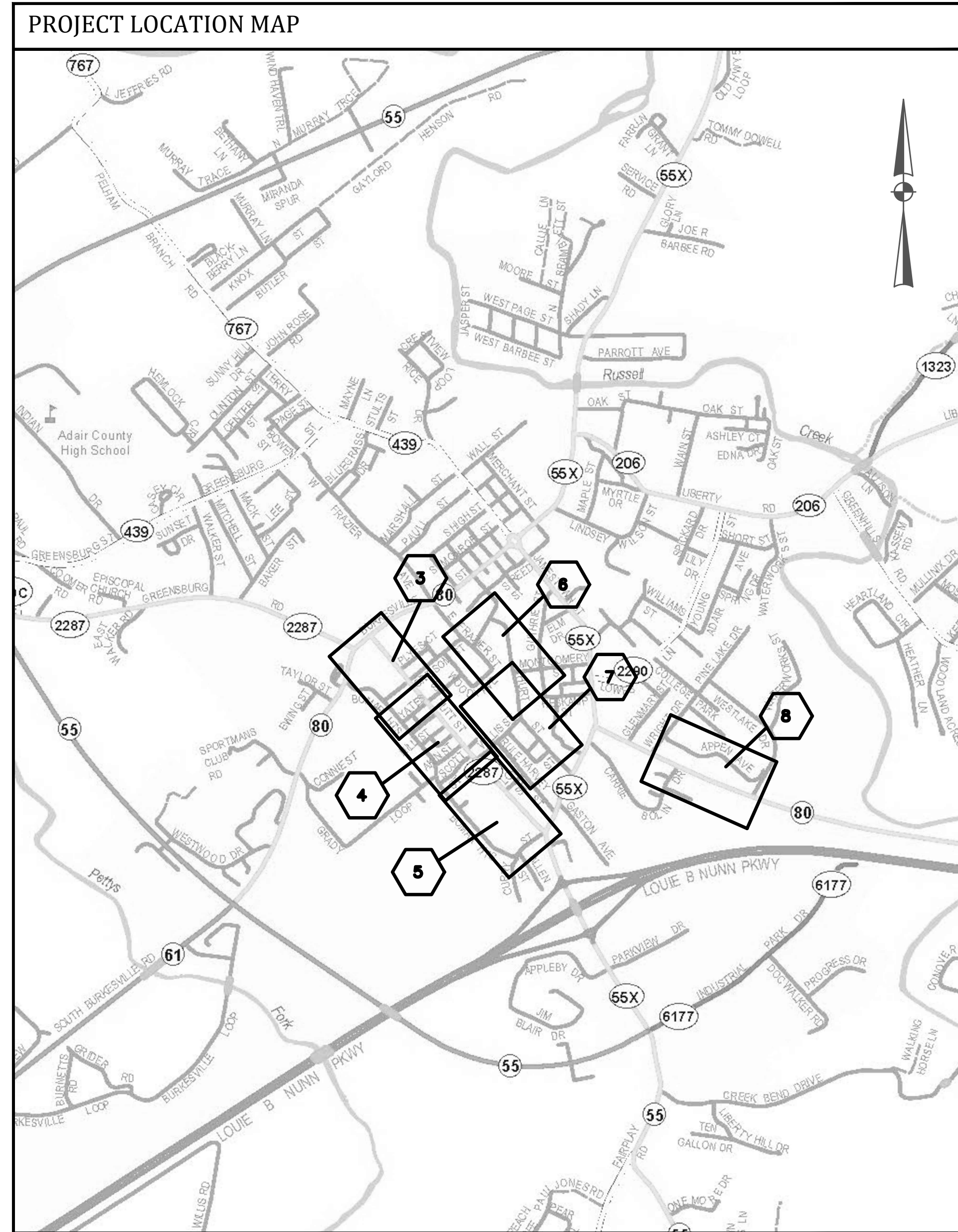
MARCH 2021



PROJECT NO. 20002

BID DOCUMENTS

P:\PROJECTS\Columbia-Adair Utility District\20002 - Phase 20-Water System Improvements\DWG\20002-4-G-1.dwg REG 2/22/21



COLUMBIA
NOT TO SCALE

EXISTING	PROPOSED	DESCRIPTION
PVC	PVC	POLYVINYL CHLORIDE
DIP	DIP	DUCTILE IRON PIPE
WM	WM	WATER MAIN
⊕	⬆	HYDRANT ASSEMBLY
⊕	⬆	FLUSHING/BLOWOFF ASSEMBLY
△	▲	AIR RELEASE VALVE (ARV)
⊗	⊗	GATE VALVE (GV)
---	---	WATER MAIN (WM)
---	---	SPECIAL CROSSING OR CASING PIPE
---	---	WATER MAIN TO BE ABANDONED
R/W	R/W	RIGHT-OF-WAY LINE
---	---	CENTERLINE
---	---	PROPERTY LINE
⊙	⊙	CUSTOMER SERVICE METER
OWNER	OWNER	EDGE OF PAVEMENT (WHITE LINE)
	OWNER	EASEMENT ACQUIRED

UTILITIES	
<p>BUD - Before You Dig 1-800-752-6007 or DIAL 811</p>	<p>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.</p>

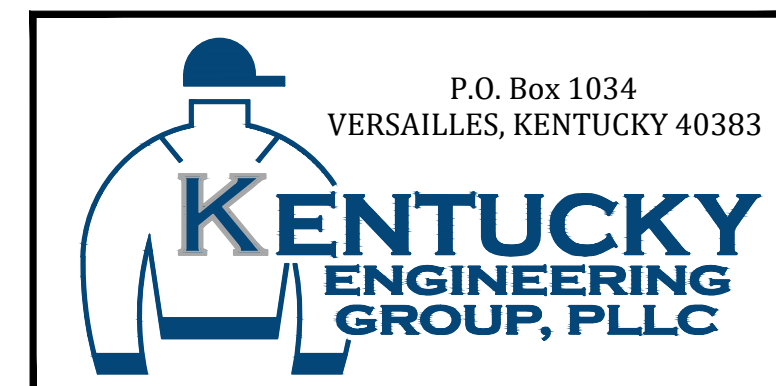
INDEX OF DRAWINGS	
SHT. NO.	DESCRIPTION:
--	COVER
G-1	LOCATION MAP, LEGEND, UTILITY OWNERS and INDEX OF DRAWINGS
G-2	GENERAL NOTES
3	AERIAL PLAN - TUTT STREET/BOMAR HEIGHTS
4	AERIAL PLAN - TUTT STREET/BOMAR HEIGHTS
5	AERIAL PLAN - TUTT STREET/BOMAR HEIGHTS
6	AERIAL PLAN - HURT STREET
7	AERIAL PLAN - HURT STREET
8	AERIAL PLAN - APPEN AVENUE
SD-1	STANDARD DETAILS
SD-2	STANDARD DETAILS

IT IS A VIOLATION OF LAW FOR ANY PERSON TO ALTER THIS DRAWING WITHOUT WRITTEN PERMISSION FROM KENTUCKY ENGINEERING GROUP, PLLC AND ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER.

THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR IN THE DRAWING OR TITLE BLOCK TO DETERMINE THE ACTUAL SCALE.

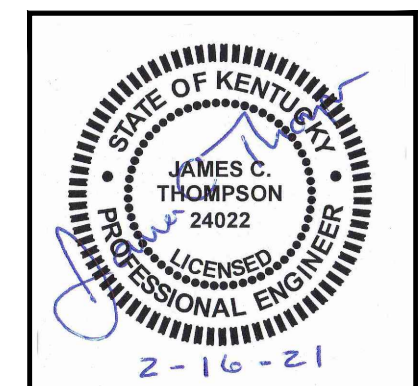
NO.	DATE	REVISIONS	BY

DATE:	MARCH 2021
PROJECT MGR:	JCT
DRAWN BY:	JAB
CHECKED BY:	JCT
SCALE:	AS NOTED
2021 © Kentucky Engineering Group, PLLC	



CONTRACT NO. 4
PHASE 20 WATER SYSTEM
IMPROVEMENTS
WATER MAIN REPLACEMENT PROJECT
COLUMBIA-ADAIR UTILITIES DISTRICT

PROJECT LOCATION MAP,
UTILITIES,
LEGEND and INDEX OF
DRAWINGS



PROJECT NO.	20002
SHEET NO.	G-1

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 PRECLUDE 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 SHALL NOT USE TRENCHING FOR EXCAVATION UNLESS APPROVED BY THE ENGINEER AND OWNER. IF TRENCHING IS APPROVED THE FINAL TRENCH SHALL HAVE A MINIMUM OF 6 INCHES ON EACH SIDE OF THE WATER MAIN BEING INSTALLED.
- CONTRACTOR TO DIG/EXPOSE EXISTING WATER MAIN AT A MINIMUM OF 40' INTERVALS AHEAD OF NEW WATER MAIN CONSTRUCTION TO AVOID DAMAGE TO EXISTING WATER MAIN AND/OR INTERRUPTION OF EXISTING CUSTOMER SERVICES.
- THE MAXIMUM ALLOWABLE LENGTH OF SERVICE LINE FROM THE WATER MAIN TO THE CUSTOMER'S METER SERVICE SHALL BE AS FOLLOWS:

<u>SERVICE LINE DIAMETER</u>	<u>MAXIMUM LENGTH</u>
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.

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 OWNER'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 FOR WATER LINE EXTENSIONS.
 - 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 WATER 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 IN THE RIGHT-OF-WAY SHALL BE INSTALLED WITH A MINIMUM DEPTH OF COVER OF 42 INCHES.
- 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 #8, SOMERSET, KY AT (606) 677-4017 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.

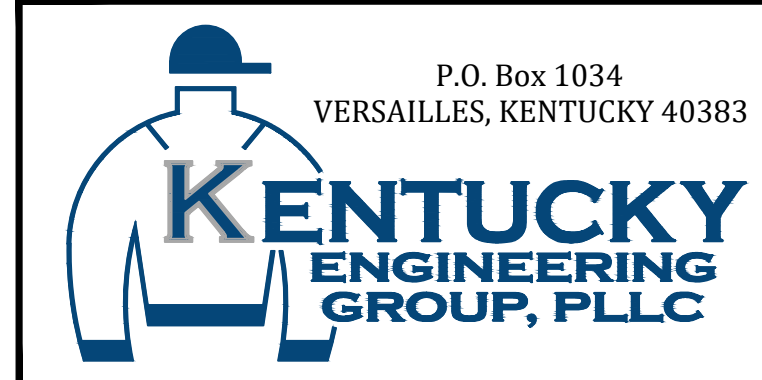
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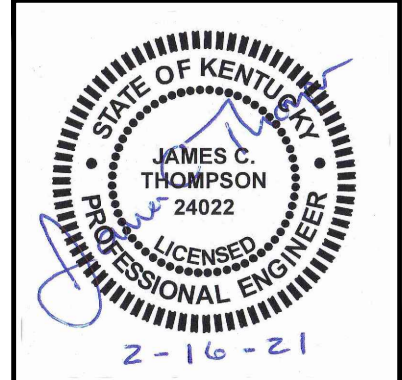
NO.	DATE	REVISIONS	BY

DATE:	MARCH 2021
PROJECT MGR:	JCT
DRAWN BY:	JAB
CHECKED BY:	JCT
SCALE:	AS NOTED
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CONTRACT NO. 4
PHASE 20 WATER SYSTEM IMPROVEMENTS
WATER MAIN REPLACEMENT PROJECT
 COLUMBIA-ADAIR UTILITIES DISTRICT

GENERAL NOTES



PROJECT NO.	20002
SHEET NO.	G-2

BID DOCUMENTS

P:\PROJECTS\Columbia-Air Utility District\20002 - Phase 20-Water System Improvements\DWG\Aerial Shts 3-6.dwg KEG 2/23/21

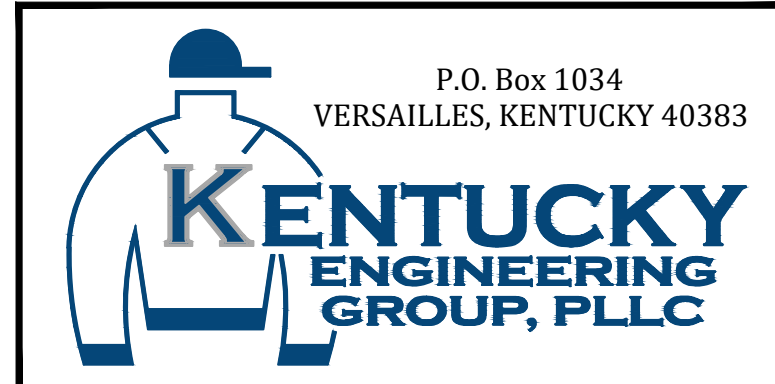


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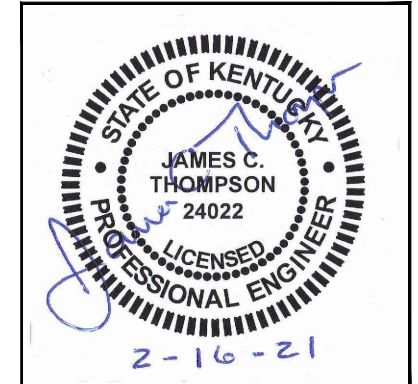
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CONTRACT NO. 4
 PHASE 20 WATER SYSTEM
 IMPROVEMENTS
 WATER MAIN REPLACEMENT PROJECT
 COLUMBIA-AIR UTILITIES DISTRICT

AERIAL PLAN
 TUTT ST./BOMAR HEIGHTS



PROJECT NO.
 20002

SHEET NO.
 3

ALL WATER MAIN THIS SHEET SHALL BE PVC CLASS 250 SDR-17

SCALE: 1"=50'

BID DOCUMENTS

P:\PROJECTS\Columbia-Adair\Utility District\20002 - Phase 20-Water System Improvements\DWG\Aerial Shts 3-6.dwg KEG 2/23/21

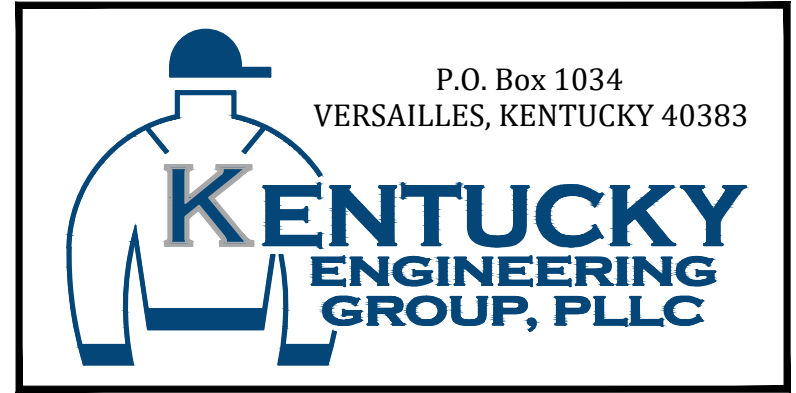


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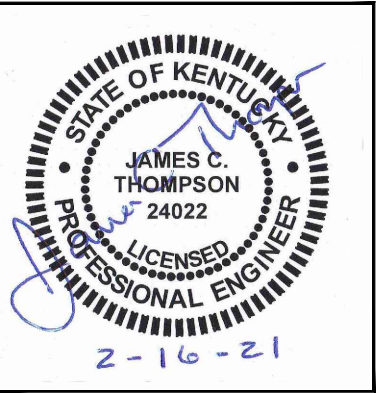
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 PHASE 20 WATER SYSTEM
 IMPROVEMENTS
 WATER MAIN REPLACEMENT PROJECT
 COLUMBIA-ADAIR UTILITIES DISTRICT

AERIAL PLAN
 TUTT ST./BOMAR HEIGHTS



PROJECT NO.	20002
SHEET NO.	4

BID DOCUMENTS



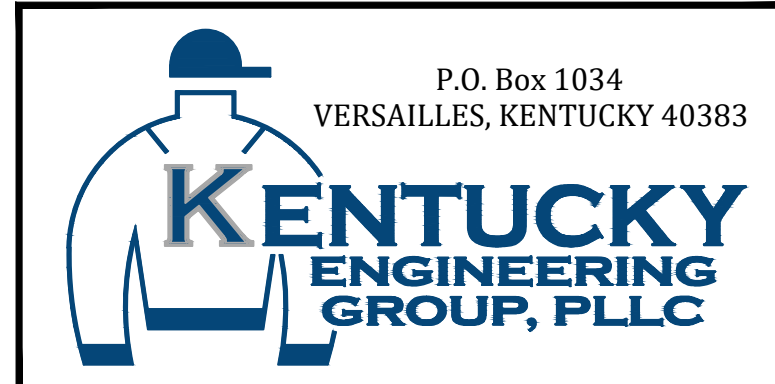
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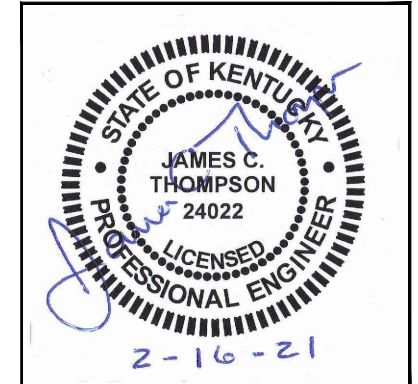
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 IMPROVEMENTS
 WATER MAIN REPLACEMENT PROJECT
 COLUMBIA-ADAIR UTILITIES DISTRICT

AERIAL PLAN
 TUTT ST./BOMAR HEIGHTS



PROJECT NO.
20002

SHEET NO.
5

ALL WATER MAIN THIS SHEET SHALL BE PVC CLASS 250 SDR-17

50 0 50 100
 SCALE: 1"=50'

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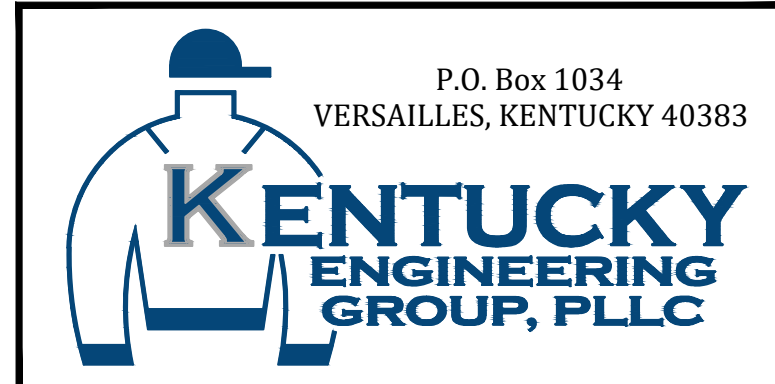
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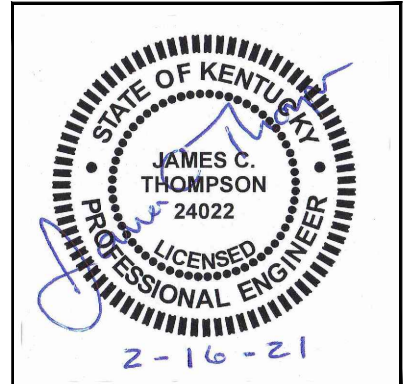
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 WATER MAIN REPLACEMENT PROJECT
 COLUMBIA-ADAIR UTILITIES DISTRICT

AERIAL PLAN
 HURT STREET



PROJECT NO. 20002
SHEET NO. 6

BID DOCUMENTS

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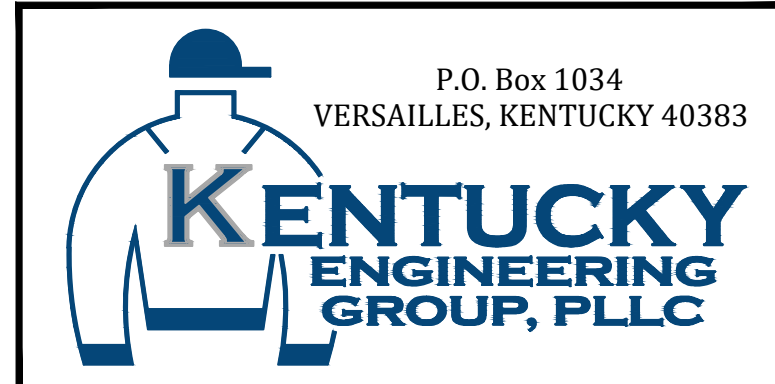


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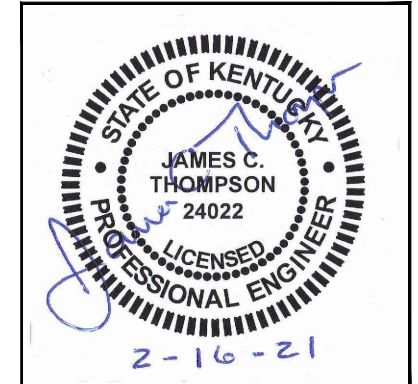
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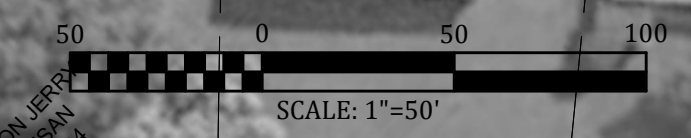
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PHASE 20 WATER SYSTEM
IMPROVEMENTS
WATER MAIN REPLACEMENT PROJECT
COLUMBIA-ADAIR UTILITIES DISTRICT

AERIAL PLAN
HURT STREET



PROJECT NO.	20002
SHEET NO.	7

ALL WATER MAIN THIS SHEET SHALL BE PVC CLASS 250 SDR-17



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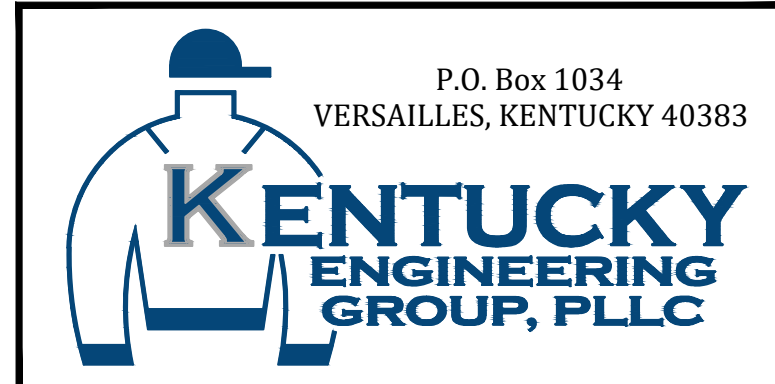


ALL WATER MAIN THIS SHEET SHALL BE PVC CLASS 250 SDR-17
 SCALE: 1"=50'

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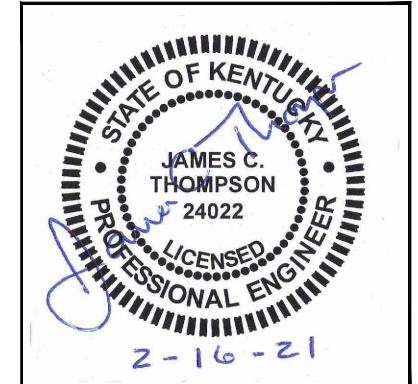
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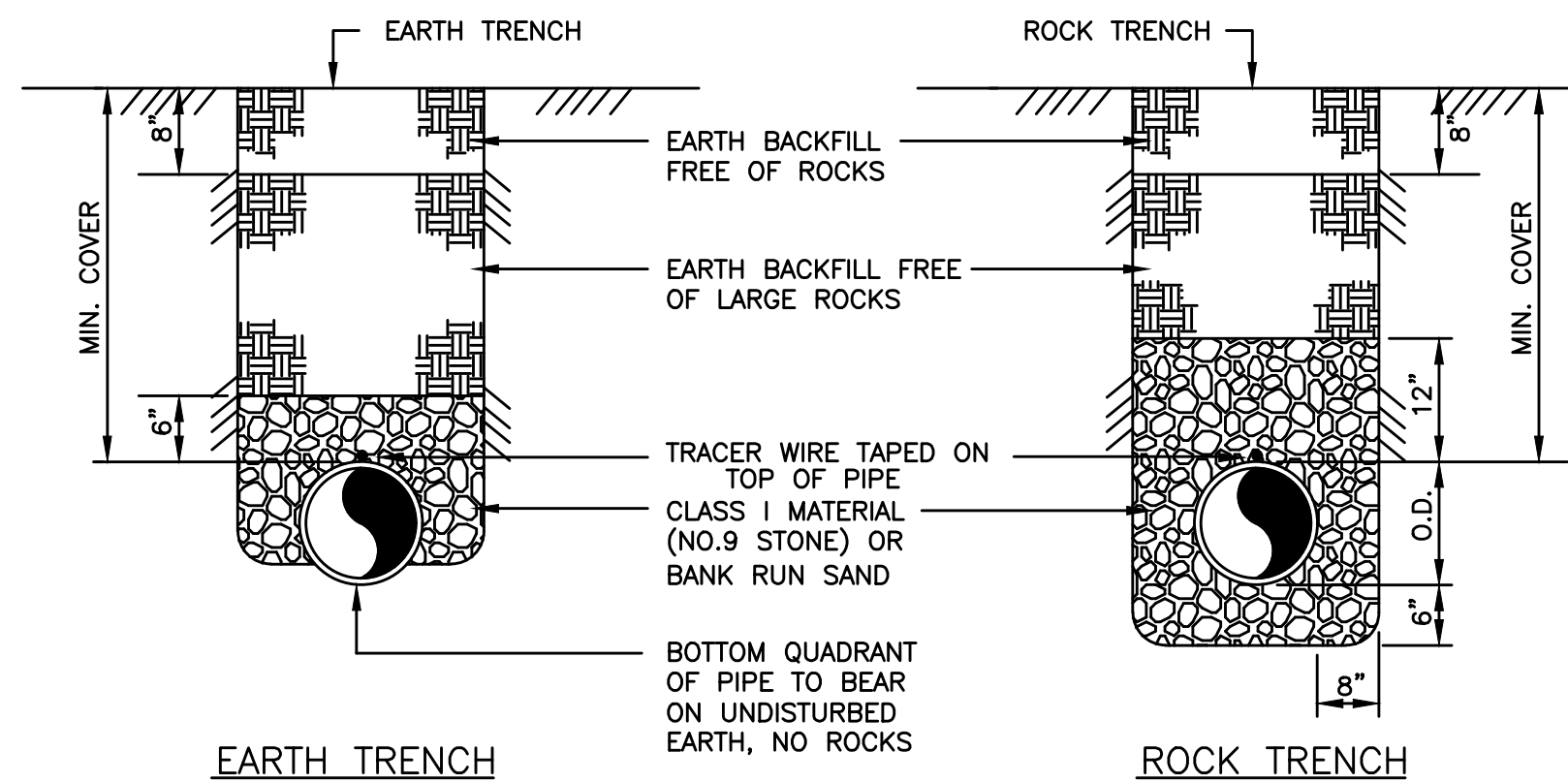
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 PHASE 20 WATER SYSTEM IMPROVEMENTS
 WATER MAIN REPLACEMENT PROJECT
 COLUMBIA-ADAIR UTILITIES DISTRICT

AERIAL PLAN
 APPEN AVENUE



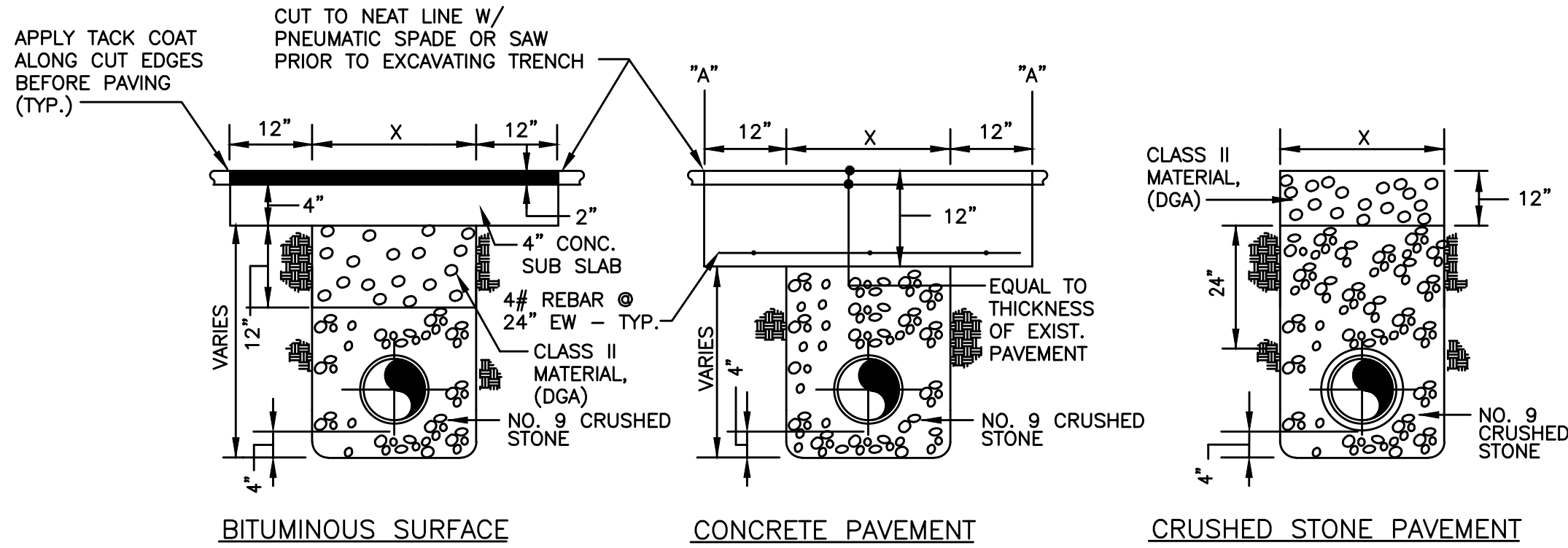
PROJECT NO.
 20002
 SHEET NO.
 8

BID DOCUMENTS



TYPICAL BEDDING and BACKFILL

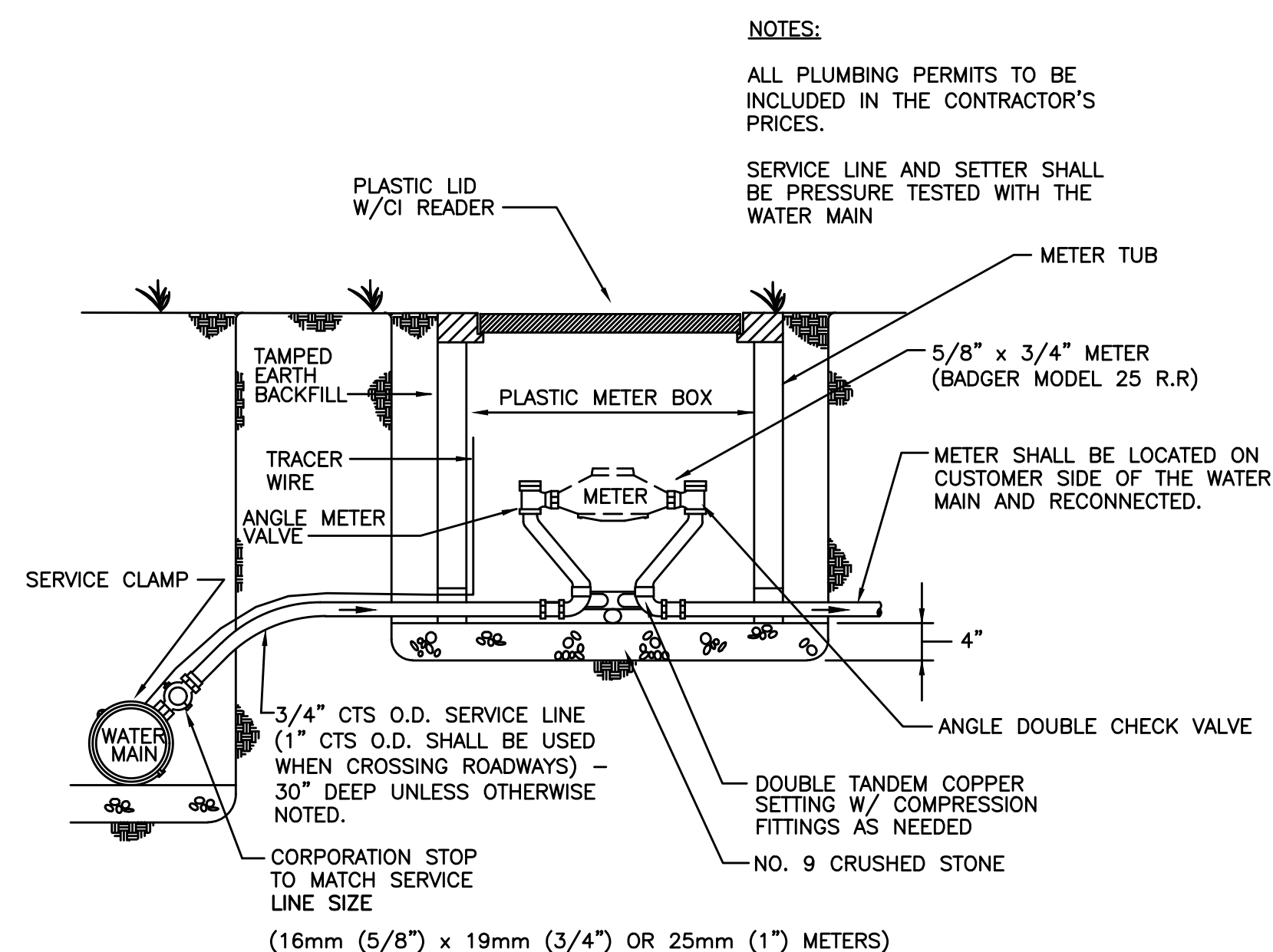
NOT TO SCALE



PAVEMENT REPLACEMENT

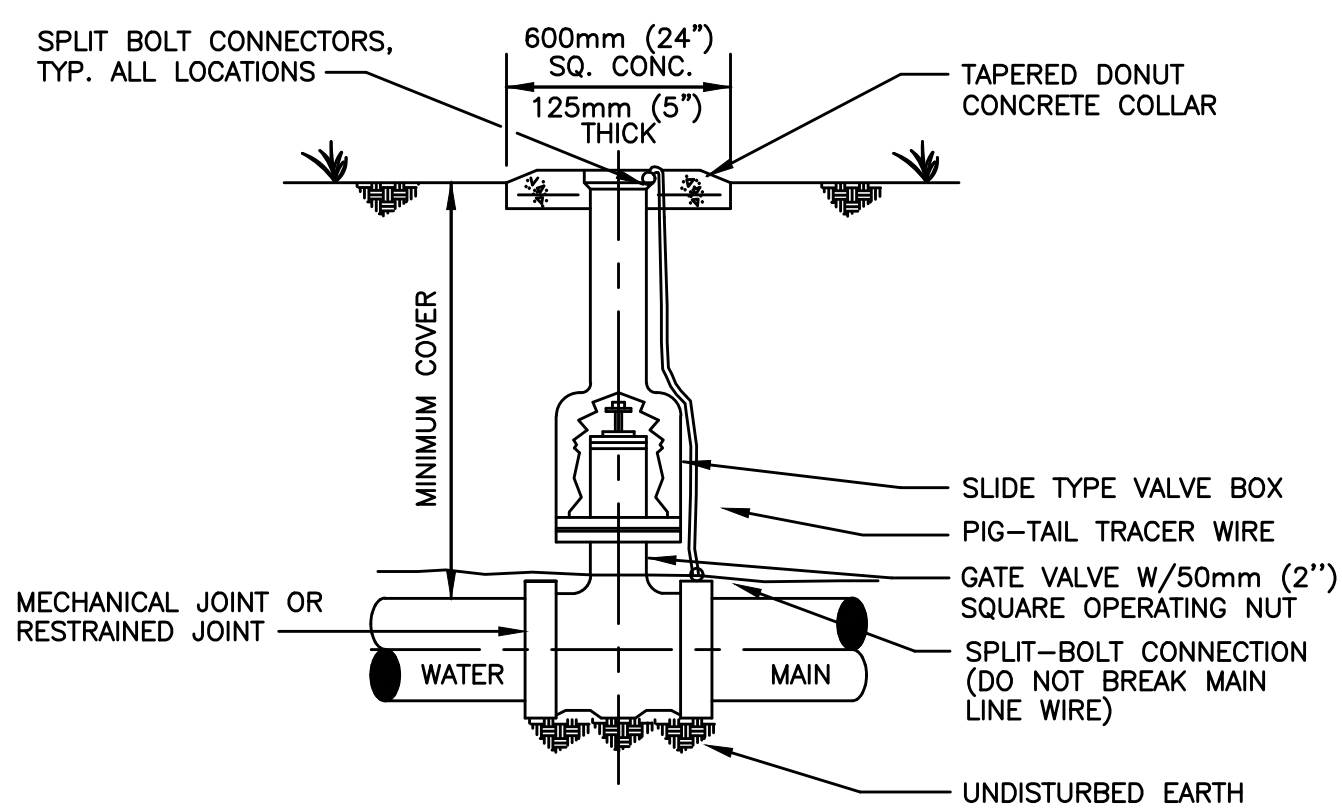
NOT TO SCALE

NOTES:
 WATER MAIN INSTALLED WHERE FUTURE PAVEMENT IS TO BE CONSTRUCTION SHALL BE BACKFILLED IN ACCORDANCE WITH CRUSHED STONE PAVEMENT REPLACEMENT
 BACKFILL MATERIAL SHALL BE INCIDENTAL TO THE WATER MAIN BID ITEM AND NOT INCLUDED IN PAVEMENT REPLACEMENT



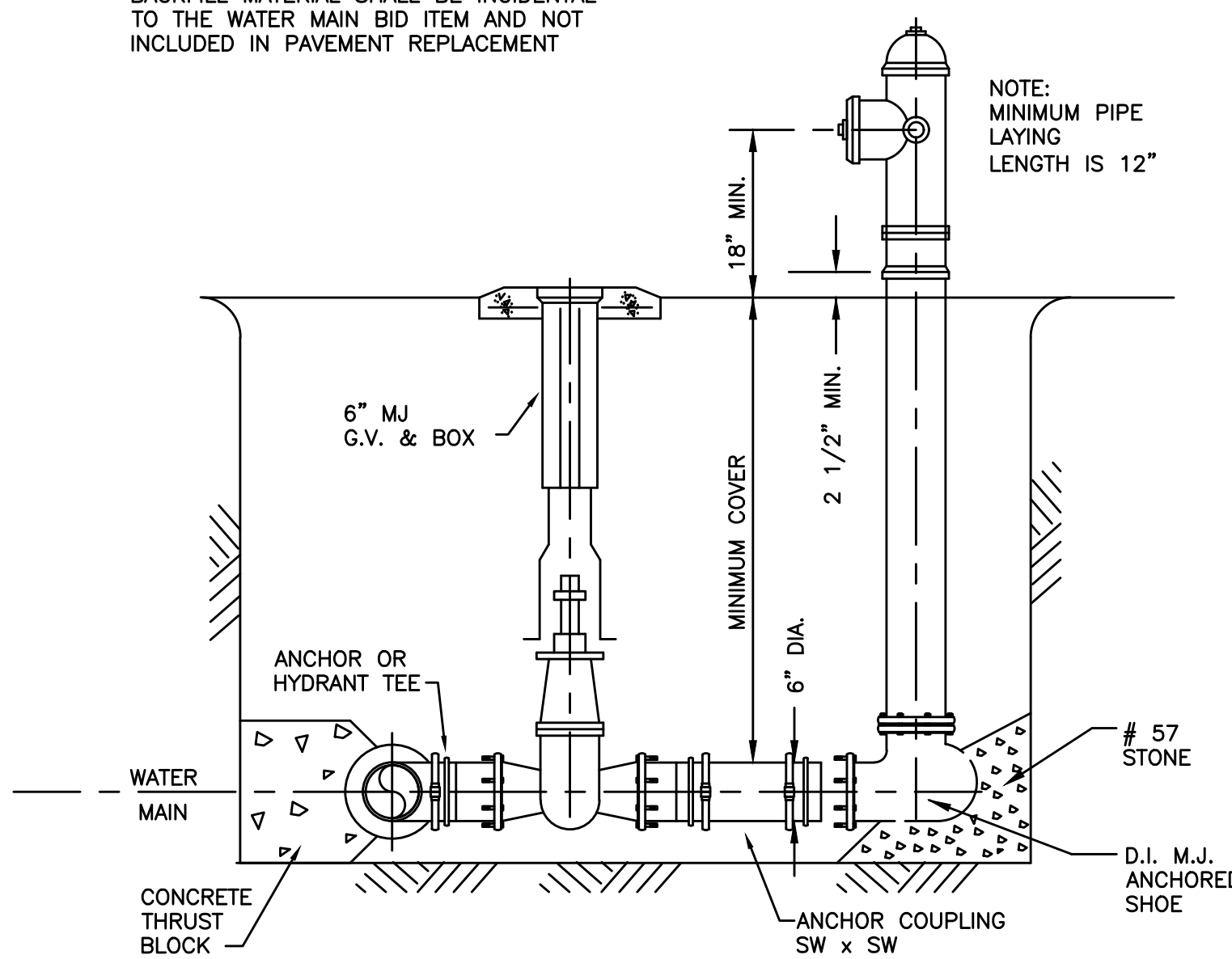
TYPICAL SERVICE CONNECTION

NOT TO SCALE



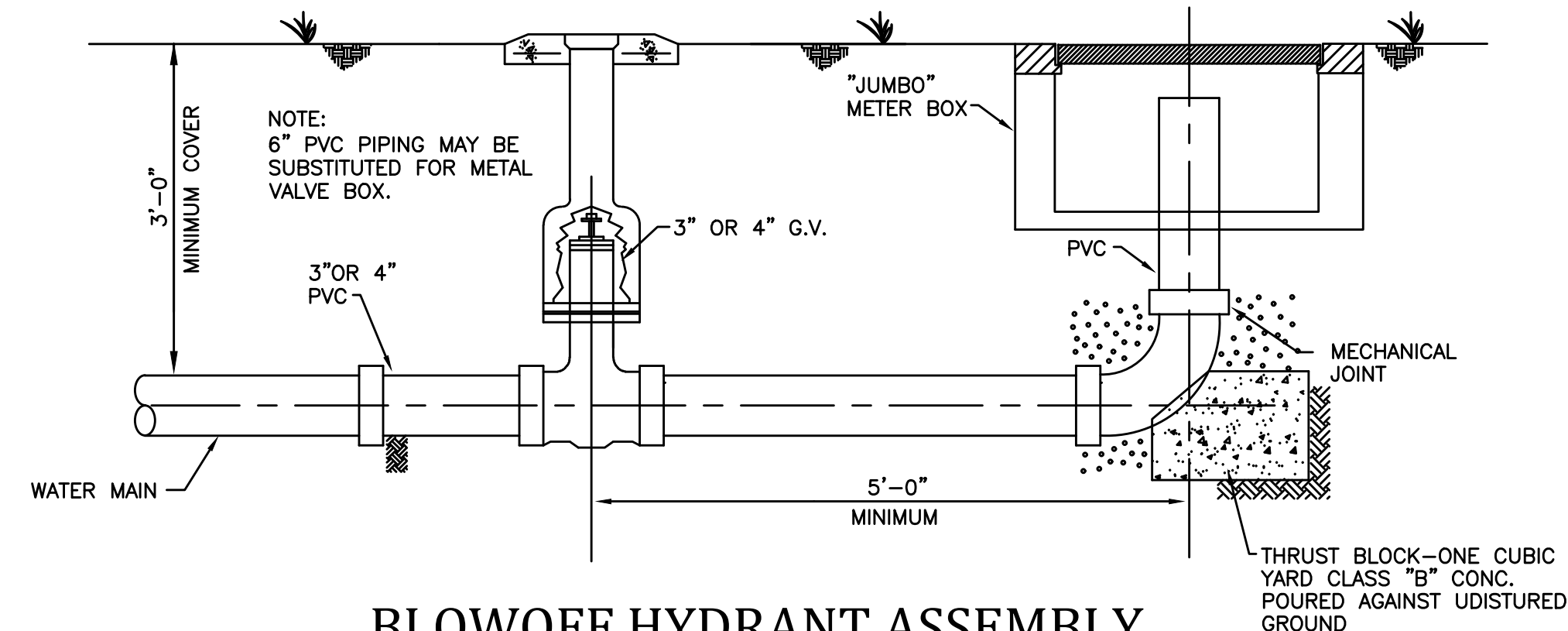
GATE VALVE INSTALLATION

NOT TO SCALE



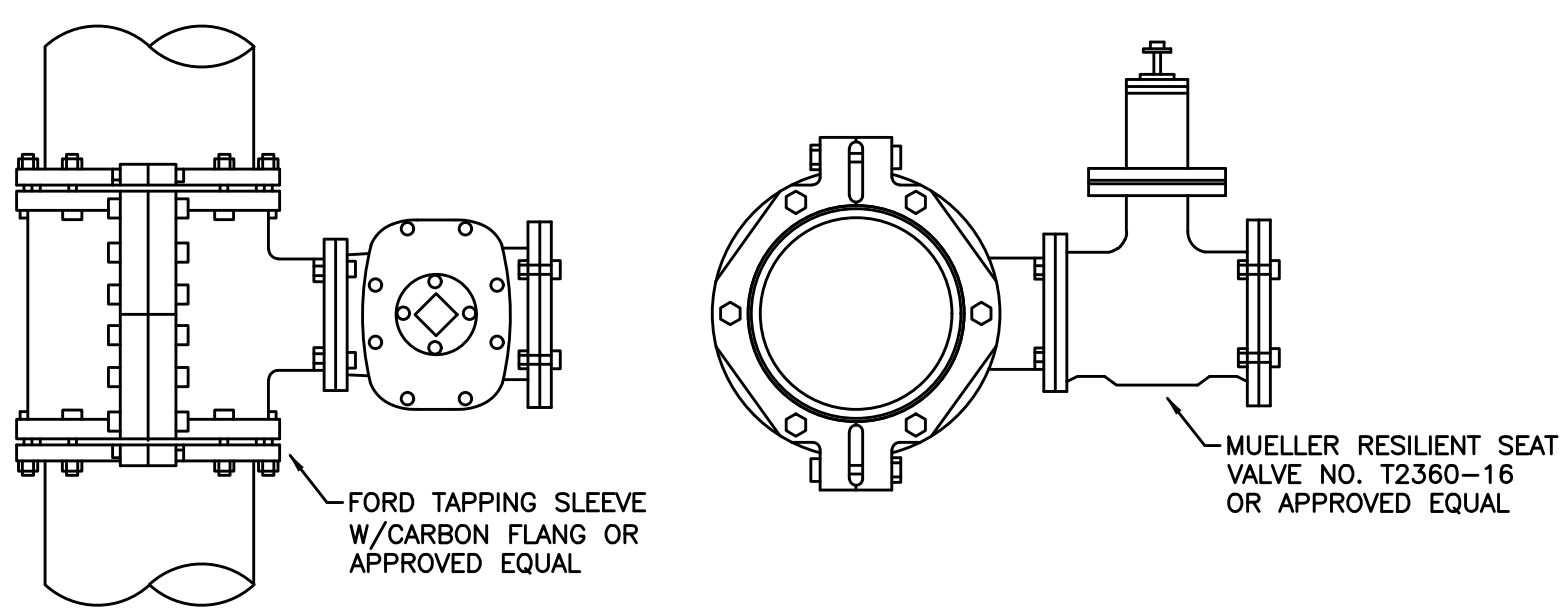
FLUSHING HYDRANT ASSEMBLY

NOT TO SCALE



BLOWOFF HYDRANT ASSEMBLY

NOT TO SCALE

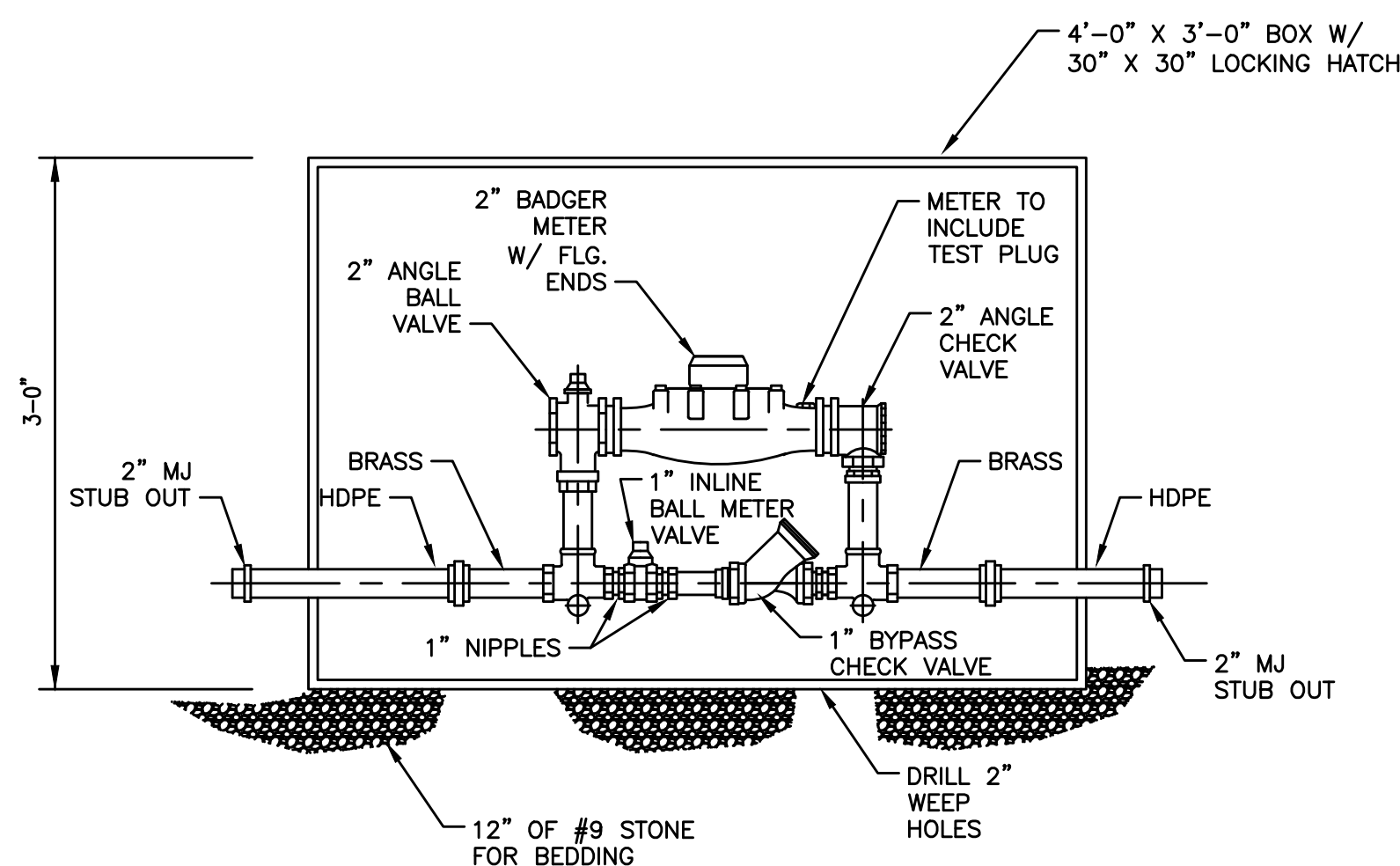


TOP VIEW

SIDE VIEW

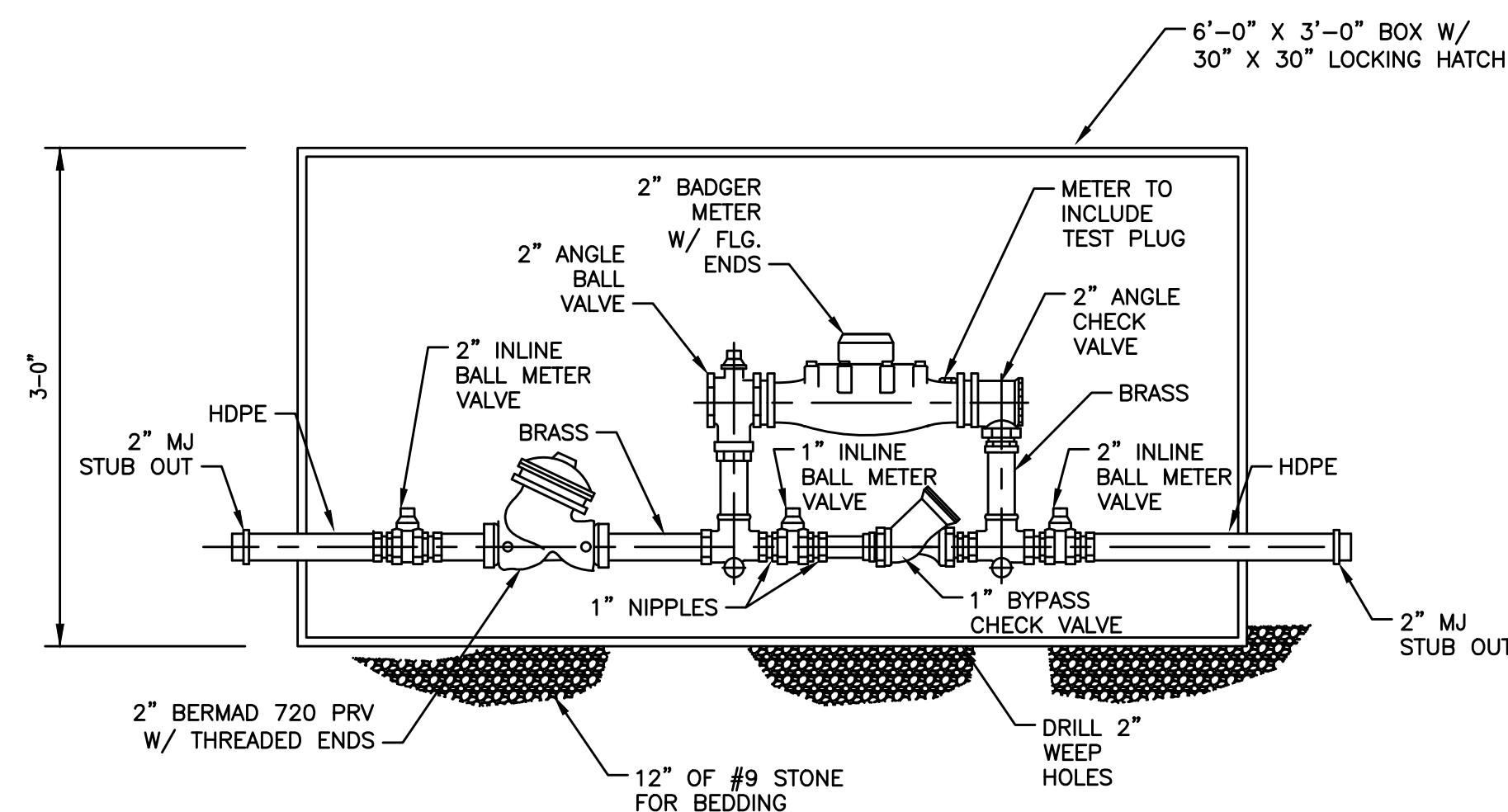
TYPICAL - WET TAP

NOT TO SCALE



2" METER VALUT

NOT TO SCALE



2" METER VALUT WITH PRV

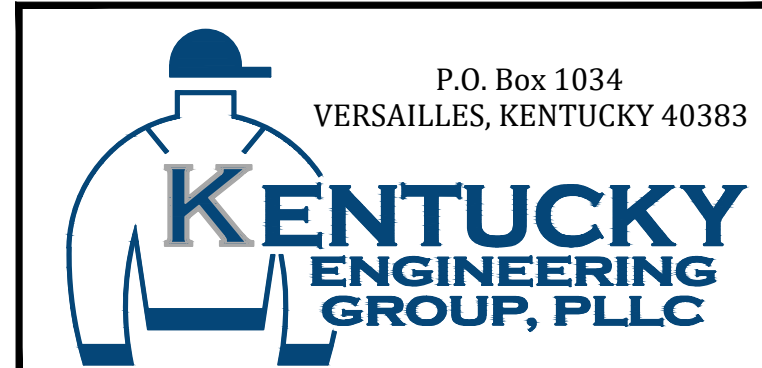
NOT TO SCALE

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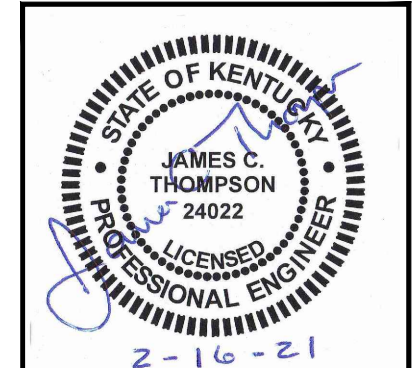
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KENTUCKY ENGINEERING GROUP, PLLC
 CONTRACT NO. 4
 PHASE 20 WATER SYSTEM IMPROVEMENTS
 WATER MAIN REPLACEMENT PROJECT
 COLUMBIA-ADAIR UTILITIES DISTRICT

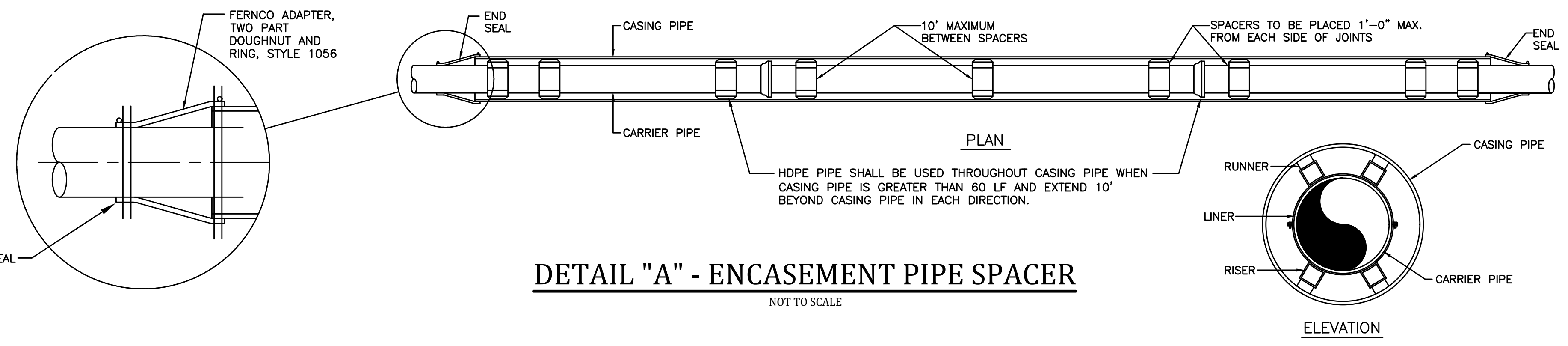
STANDARD DETAILS



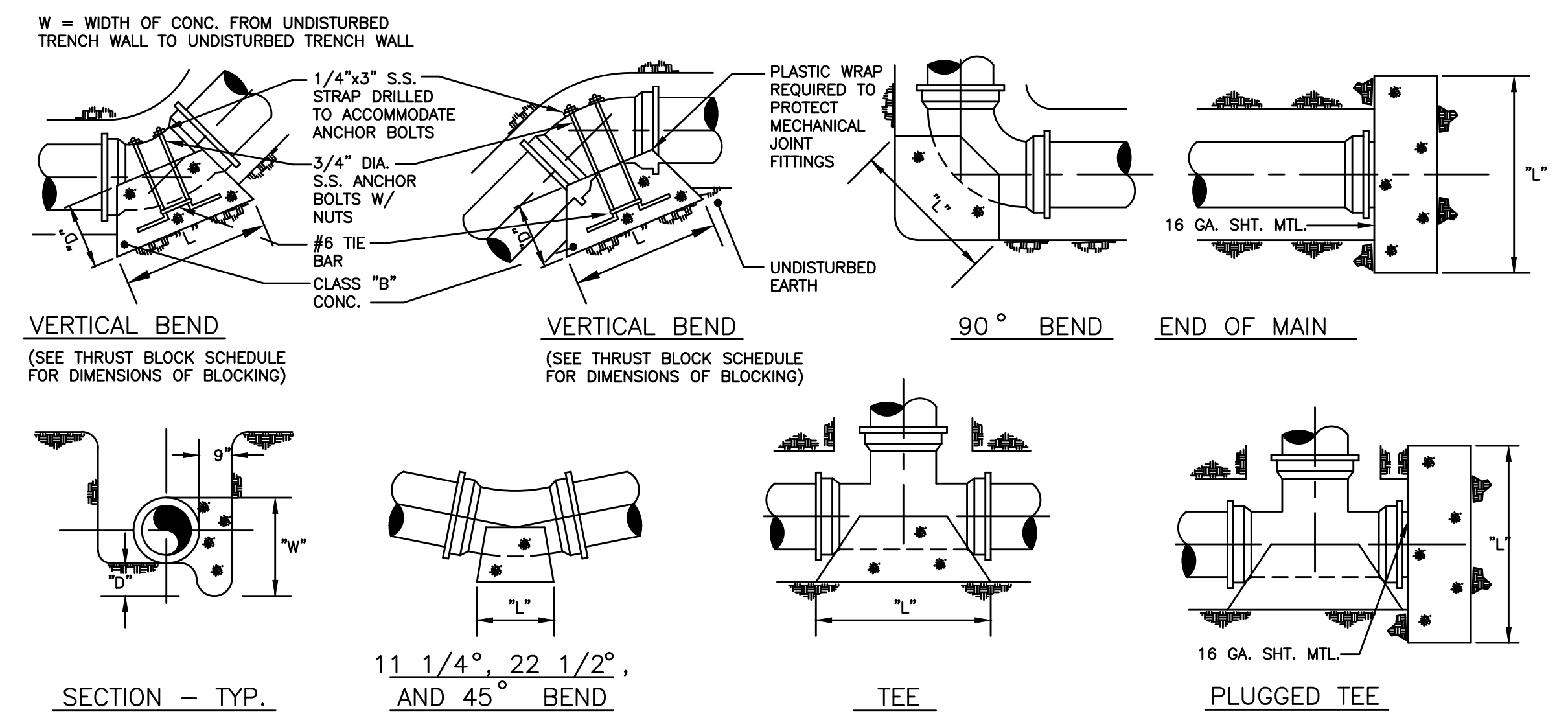
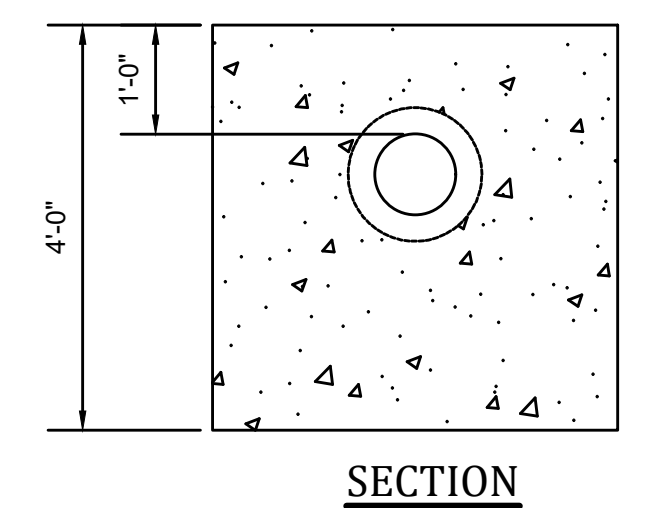
PROJECT NO.	20002
SHEET NO.	SD-1

BID DOCUMENTS

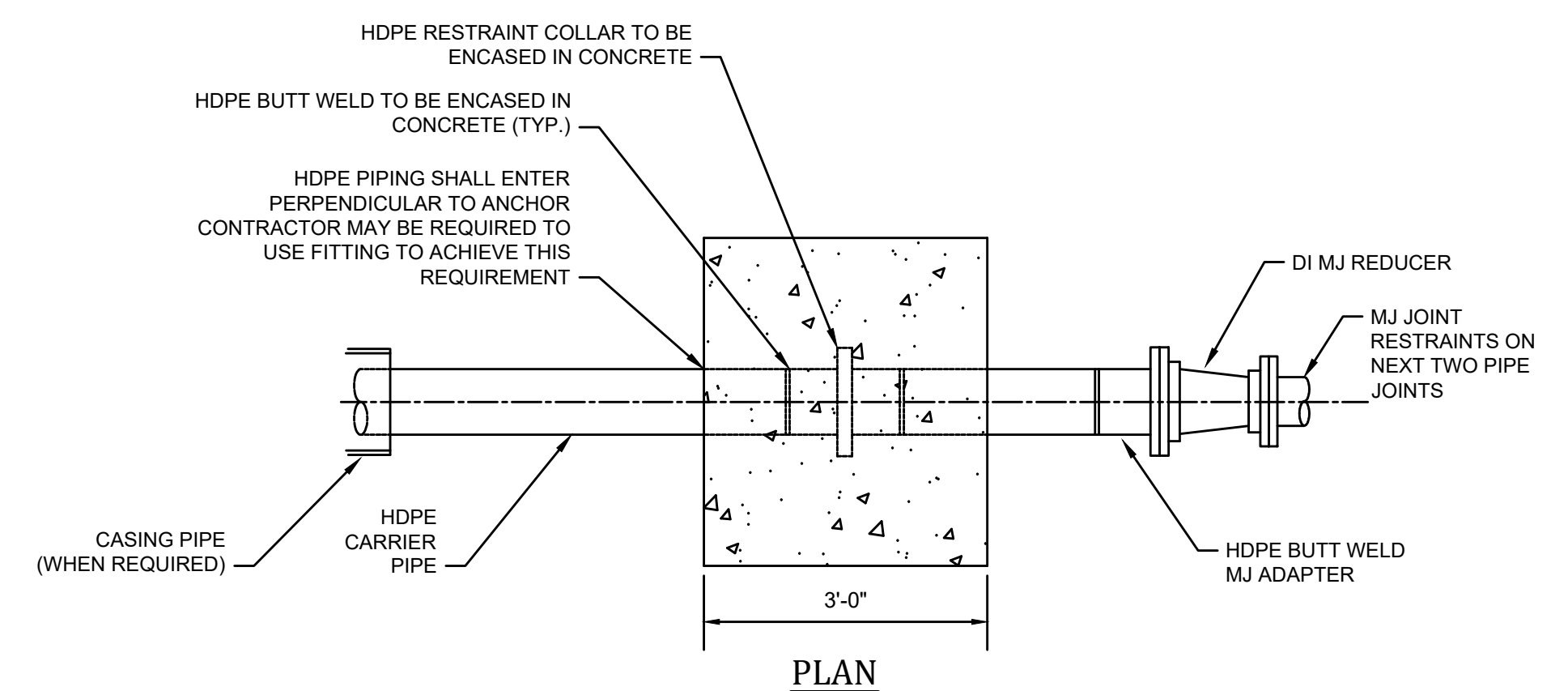
PLACE BITUMASTIC COMPOUND BETWEEN FERNCO ADAPTER & CASING/CARRIER PIPE FOR A WATERPROOF SEAL



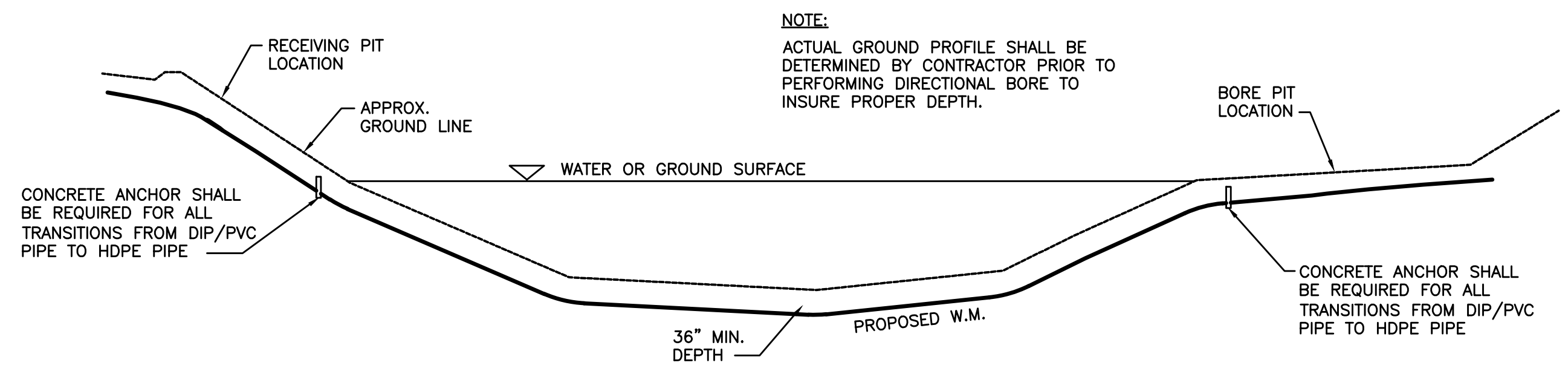
DETAIL "A" - ENCASEMENT PIPE SPACER
NOT TO SCALE



NOTE: ALL FITTINGS AND VALVES SHALL INCLUDE MEGA LUG GLAND



HDPE-PVC TRANSITION ANCHOR
NOT TO SCALE

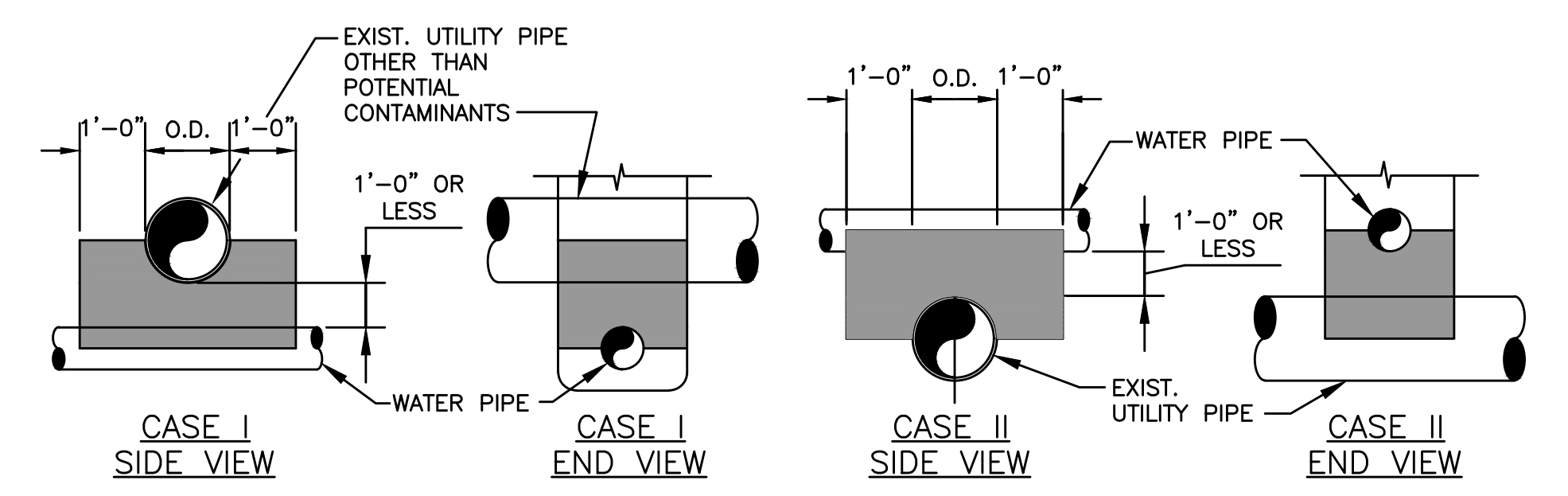


TYPICAL DIRECTIONAL BORE DETAIL
NOT TO SCALE

THRUST BLOCK SCHEDULE - CLASS 250 PVC															SOIL TYPE - SAND & GRAVEL BEARING STRENGTH = 3000 PSF														
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	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				

THRUST BLOCK SCHEDULE - CLASS 350 D.I.P.															SOIL TYPE - SAND & GRAVEL BEARING STRENGTH = 3000 PSF														
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	BEARING AREA	YDS OF CONCRETE	D	W	L				
4"	3.750	.21	18	30	18	1.750	.10	18	18	14	1.000	.06	18	12	12	.500	.02	12	12	6	2.250	.13	18	18	18				
6"	7.000	.39	18	42	24	3.750	.21	18	30	18	2.000	.11	18	24	12	1.000	.04	12	12	12	5.000	.28	18	30	24				
8"	12.250	.91	24	42	42	7.500	.56	24	36	30	4.000	.30	24	24	24	2.000	.11	18	24	12	9.000	.67	24	36	36				
10"	20.000	1.48	24	60	48	10.500	.78	24	42	36	6.000	.44	24	36	24	3.000	.17	18	24	18	14.000	1.04	24	48	42				
12"	30.000	2.78	30	72	60	15.750	1.46	30	54	42	7.500	.69	30	36	30	4.000	.30	24	24	24	20.000	1.85	30	60	48				
14"	39.000	4.33	36	78	72	20.000	2.22	36	60	48	10.500	1.17	36	42	36	6.000	.56	30	36	24	27.500	3.06	36	66	60				
16"	49.000	6.35	42	84	84	27.500	3.56	42	66	60	14.000	1.81	42	48	42	7.500	.83	36	36	30	37.750	4.63	42	78	66				

THRUST-BLOCKING SCHEDULE
NOT TO SCALE



NOTES:

- CONCRETE SEPARATOR SHALL BE USED WHEN CLEARANCE BETWEEN WATER LINE AND UTILITY PIPE IS 12" OR LESS.
- "UTILITY PIPE" INCLUDES UNDERGROUND WATER, NATURAL GAS, TELEPHONE, ELECTRICAL CONDUITS, STORM SEWER OR TYPICALLY NON-CONTAMINATING FACILITIES. WHEN CROSSING SANITARY SEWER OR POTENTIAL CONTAMINANTS SEE DETAIL "WATER/SANITARY SEWER CROSSING".
- STEEL ENCASEMENT PIPE MAY BE USED IN LIEU OF CONCRETE ENCASEMENT AS SHOWN IN WATER/SANITARY SEWER CROSSING - ENCASEMENT DETAIL.

W = WIDTH OF CONC. FROM UNDISTURBED

UTILITY CROSSING CONCRETE SEPARATOR
NOT TO SCALE

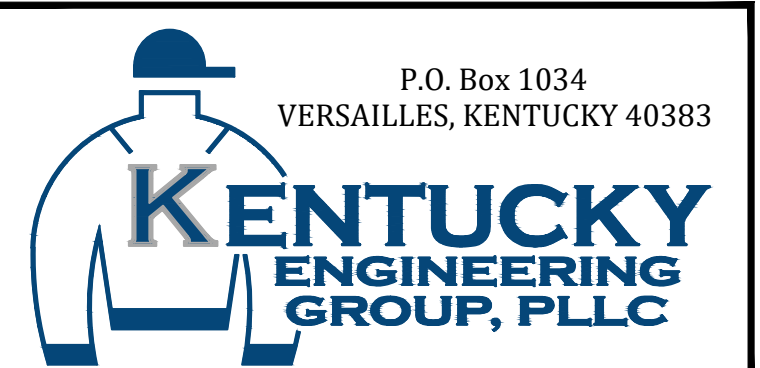
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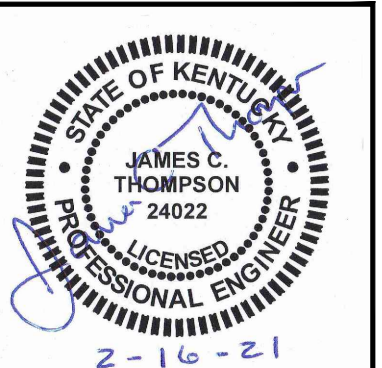
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SCALE:	AS NOTED
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CONTRACT NO. 4
PHASE 20 WATER SYSTEM IMPROVEMENTS
WATER MAIN REPLACEMENT PROJECT
COLUMBIA-ADAIR UTILITIES DISTRICT

STANDARD DETAILS



PROJECT NO.	20002
SHEET NO.	SD-2

BID DOCUMENTS