

PENNSYLVANIA AMERICAN WATER

WYOMISSING HIGH GRADIENT IMPROVEMENTS

SPRING TOWNSHIP/SINKING
SPRING BOROUGH, BERKS
COUNTY, PENNSYLVANIA

PROJECT NO. I24-630009

PERMIT SUBMITTAL
DECEMBER 2023

CERTIFIED CORRECT PLANS

Dennis J. Moody
Professional Engineer
Approved by Bureau of Technical Utility Services

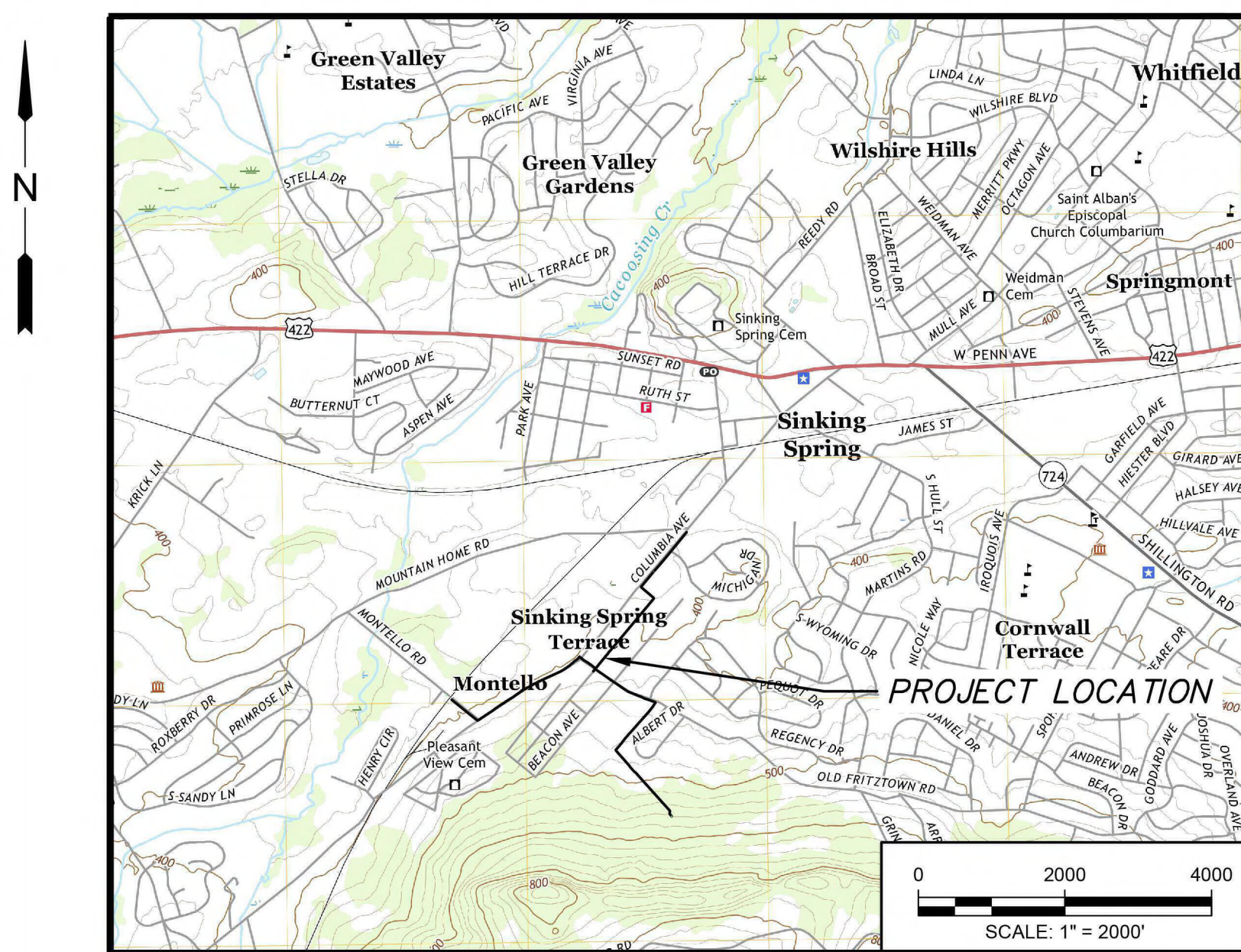
PA PUBLIC UTILITY COMMISSION

ATTEST *Matthew L. Hunsicker* **12/05/2025**
Secretary **Docket: A-2025-3058186**

M M
MOTT
MACDONALD



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Professional Engineer - PA Lic. No.: PE-087746



SOURCE: USGS SCRANTON QUADRANGLE

LOCATION PLAN

DRAWING INDEX

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28	C-27	EROSION & SEDIMENT CONTROL PLAN - NOTES AND SEQUENCE

LEGEND:

	UNDERGROUND WATER LINE		SANITARY SEWER MANHOLE		STORM MANHOLE
	UNDERGROUND SEWER LINE		LIGHT POLE		INLET
	UNDERGROUND STORM LINE		ELECTRIC JUNCTION BOX		OPEN MOUTH GRATE INLET
	UNDERGROUND GAS LINE		UTILITY POLE		UNKNOWN MANHOLE
	UNDERGROUND TELECOMMUNICATIONS LINE		UTILITY POLE W/ LIGHT		UNKNOWN VALVE
	OVERHEAD WIRE LINE		GUY POLE		BOLLARD
	RIGHT-OF-WAY LINE		ELECTRIC CURB BOX		SIGN
	PROPERTY ADJOINER LINE		TELECOMMUNICATIONS JUNCTION BOX		CONIFEROUS TREE W/ SIZE
	BUSH/SHRUB ROW		TRAFFIC CONTROL BOX		DECIDUOUS TREE W/ SIZE
	MAJOR CONTOUR LINE		GAS LINE MARKER		POST
	MINOR CONTOUR LINE		WATER VALVE		FLAG POLE
	CHAINLINK FENCE LINE (TEMPORARY)		FIRE HYDRANT		MAILBOX
	BUILDING		RIPRAP		CONCRETE
	CURB LINE				
	DEPRESSED CURB				

GENERAL NOTES

- INTENDED USE FOR DRAWINGS**
THE CONTRACT DRAWINGS ARE INTENDED TO EXPLAIN THE VARIOUS TYPES OF WORK AND AS SUCH ARE INTERRELATED. WHILE IT IS INTENDED THAT DISCREPANCIES BETWEEN THE VARIOUS DISCIPLINE'S DRAWINGS WILL BE NON-EXISTENT, THERE IS A LIKELIHOOD THAT FIELD ADJUSTMENTS AND CORRECTIONS WILL BE REQUIRED IN THE INTERPRETATION OF THE DOCUMENTS FROM TIME TO TIME.
THE CONTRACTOR SHALL REFER TO THE DRAWINGS OF THE APPROPRIATE DISCIPLINE WHEN UNDERTAKING THE WORK OF THE DISCIPLINE. HOWEVER HE IS NOT TO DISREGARD OTHER RELATED DRAWINGS IN ORDER TO INSURE PROPER COORDINATION BETWEEN DISCIPLINES. IN THE EVENT OF DISCREPANCIES BETWEEN VARIOUS DISCIPLINE'S DRAWINGS, THE CONTRACTOR IS TO IMMEDIATELY CONTACT THE ENGINEER FOR CLARIFICATION. IN GENERAL, THE DRAWINGS OF ONE DISCIPLINE SHALL NOT BE USED TO CONSTRUCT THE WORK OF ANOTHER DISCIPLINE UNLESS THE WORK TO BE CONSTRUCTED UNDER THAT DISCIPLINE IS NOT CLEARLY DEFINED. THE CONTRACTOR SHALL BRING THE MATTER TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION AND THE ENGINEER MAY DIRECT THE CONTRACTOR TO USE THOSE CONTRACT DRAWINGS WHICH MOST CLEARLY DEPICT THE WORK.
- EXISTING FACILITIES**
IT IS THE INTENT OF THE CONTRACT DRAWINGS TO PROVIDE DETAILED GUIDANCE AS TO WHAT MUST BE CONSTRUCTED, HOWEVER THE METHOD OF CONSTRUCTION IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR IS ADVISED TO REVIEW THE CONTRACT DRAWINGS OF ALL DISCIPLINES PRIOR TO UNDERTAKING CONSTRUCTION IN ANY AREA SO AS TO ASSURE HIMSELF TO THE COMPLETENESS AND CORRELATION OF THE WORK TO BE BUILT.
THE CONTRACTOR SHALL BE REQUIRED TO VISIT THE SITE OF THE WORK PRIOR TO PREPARING HIS BID IN ORDER TO COMPLETELY FAMILIARIZE HIMSELF WITH THE PROJECT FROM THE STANDPOINT OF IMPACTS TO ADJACENT PROPERTIES AND MAINTAINING ACCESS DURING CONSTRUCTION; PUBLIC SAFETY RELATED TO ON AND OFF-SITE TRAFFIC; EXISTING STRUCTURES; AND UNDER GROUND UTILITIES AND STRUCTURES.
CERTAIN UNFORESEEN CONDITIONS SHOULD BE EXPECTED TO OCCUR AND SUCH CONDITION WILL REQUIRE CLOSE INTERACTION BETWEEN THE OWNER, THEIR ENGINEER, THE CONTRACTOR AND THE VARIOUS REGULATORY AGENCIES IN ORDER TO RESOLVE PROBLEMS. EVERY EFFORT IS TO BE MADE TO RESOLVE SUCH PROBLEMS IN A TIMELY MANNER CONSISTENT WITH GOOD ENGINEERING PRACTICE AND ECONOMIES OF BOTH TIME AND MONEY TO THE SATISFACTION OF ALL PARTIES CONCERNED.
- HORIZONTAL DATUM IS NAD83 AND VERTICAL DATUM IS NAVD OF 1988. SURVEY INFORMATION HAS BEEN OBTAINED FROM A FIELD SURVEY CONDUCTED IN JANUARY, FEBRUARY, MARCH OF 2023 BY HUNT ENGINEERING COMPANY. SURVEY BY HUNT ENGINEERING COMPANY WAS SUPPLEMENTED BY AN AERIAL SURVEY BY COOPER AERIAL SURVEY.**
- EXCAVATIONS OR TRENCHING WITHIN CLOSE PROXIMITY TO UNDERGROUND FACILITIES OR UTILITY POLES WILL REQUIRE PROTECTION TO PREVENT DAMAGE OR INTERRUPTION OF SERVICE TO UNDERGROUND FACILITIES. THE COST TO PROVIDE THIS PROTECTION WILL BE BORNE BY THE CONTRACTOR.**
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF EXISTING THRUST BLOCKS WHICH ARE RESTRAINING EXISTING UTILITIES. EXISTING THRUST BLOCKS SHALL NOT BE UNDERMINED OR DISTURBED.**
- PRIOR TO ANY CONNECTION TO EXISTING FACILITIES, THE CONTRACTOR SHALL NOTIFY THE OWNER. ALL CONNECTIONS TO EXISTING FACILITIES WILL BE DONE AT THE CONVENIENCE OF THE OWNER.**
- IN ALL AREAS WHERE THE WORK IS OUTSIDE OF PAVED ROADS, THE CONTRACTOR SHALL INSTALL AND MAINTAIN APPROPRIATE SOIL EROSION CONTROL MEASURES IN ACCORDANCE WITH THE DETAILS ON THE DRAWINGS, REGARDLESS OF WHETHER OR NOT THE LOCATION OF SUCH MEASURES ARE SPECIFICALLY SHOWN ON THE PLANS. SUCH MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO, COMPOST FILTER SOCK ALONG THE PERIMETER OF DISTURBED AREAS AND AROUND MATERIAL STOCKPILES, AND STONE CONSTRUCTION ENTRANCE PADS AT POINTS OF MAJOR INGRESS AND EGRESS FROM PAVED ROADS TO UNPAVED AREAS.**
- WHERE WORK IS IN PAVED ROADS, EROSION CONTROL MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO STORM DRAIN INLET PROTECTION, KEEPING ROADS CLEAN AND CONTROLLING DUST.**
- THE CONTRACTOR SHALL ESTABLISH PERMANENT BASE LINES IN THE FIELD AND PLACE MONUMENTS PRIOR TO START OF CONSTRUCTION FOR LAYOUT PURPOSES.**
- THE CONTRACTOR SHALL SUBMIT A PLAN OF THE TRAILER LOCATION AND STORAGE AREAS TO THE ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL MAINTAIN THIS LOCATION AND ALL ACCESS LOCATIONS IN A NEAT MANNER AT ALL TIMES.**
- ANY EXISTING EQUIPMENT, PIPING, ETC. TO BE REMOVED SHALL BE INSPECTED BY THE OWNER WHO MAY THEN DECIDE WHETHER OR NOT TO KEEP REMOVED EQUIPMENT. THE CONTRACTOR SHALL DELIVER SUCH EQUIPMENT TO A LOCATION DESIGNATED BY THE OWNER AND IF THE OWNER DECIDES SUCH REMOVED EQUIPMENT IS NOT SALVAGEABLE, THE CONTRACTOR SHALL DISPOSE OF SUCH EQUIPMENT, OFF-SITE, AT NO ADDITIONAL COST TO THE OWNER.**
- ALL EARTHWORK ACTIVITIES SHALL COMPLY WITH THE BERKS COUNTY SOIL CONSERVATION DISTRICT'S RULES AND REGULATIONS GOVERNING EROSION CONTROL.**
- ONSITE SPACE FOR TRAILER, EQUIPMENT STORAGE, STOCKPILING AND OTHER TEMPORARY CONSTRUCTION ACTIVITIES IS AVAILABLE UPON APPROVAL OF OWNER. EXISTING WOODED AREAS SHALL BE UNDISTURBED. ADDITIONAL SPACE REQUIRED FOR TEMPORARY CONSTRUCTION ACTIVITIES SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER AND SUCH AREAS SHALL BE RESTORED AND CLEANED UP TO THE SATISFACTION OF THE ENGINEER.**
- THE CONTRACTOR SHALL ADEQUATELY PROTECT ALL EXISTING PIPELINES AND STRUCTURES DURING THE INSTALLATION OF NEW WORK.**
- ALL NECESSARY FITTINGS AND BENDS FOR SITE PIPING SHALL BE PROVIDED TO MAINTAIN THE ALIGNMENTS SHOWN WHETHER OR NOT SPECIFICALLY LABELED ON THE SITE PIPING PLAN.**
- WHERE PIPING IS LAID IN FILL OR DISTURBED EARTH AS A RESULT OF EXCAVATION FOR STRUCTURES, BROKEN STONE BASE OR APPROVED COMPACTED MATERIAL SHALL BE PROVIDED AND CARRIED TO UNDISTURBED EARTH.**
- ALL LOCATIONS, DIMENSIONS AND ANGLES OF NEW FACILITIES TO BE VERIFIED IN FIELD. MINOR ADJUSTMENTS MAY BE REQUIRED TO AVOID POSSIBLE CONFLICTS WITH EXISTING FACILITIES. THIS WORK TO BE INCLUDED IN THE LUMP SUM OR UNIT PRICE BID UNDER THE APPROPRIATE SCOPE OF CONTRACT ITEM.**
- THE CONTRACTOR SHALL USE STABILIZED FILL MATERIALS (SAME AS IN ROAD AREAS) IN ALL AREAS DESIGNATED AS ACCESS ROUTES TO NEW INSTALLATIONS.**
- THE PLANS INDICATE THE APPROXIMATE LOCATION OF EXISTING PIPING. AVAILABLE INFORMATION AS TO THE LOCATIONS OF EXISTING STRUCTURES AND UTILITIES HAS BEEN COLLECTED FROM VARIOUS SOURCES. ATTENTION IS PARTICULARLY DIRECTED TO THE FACT THAT THE LOCATIONS, ELEVATIONS AND SIZES OF UTILITIES AND OTHER SUBSURFACE STRUCTURES SHOWN ARE NOT WARRANTED TO BE EVEN APPROXIMATELY CORRECT, NOR CAN THESE BE ASSUMED TO BE THE ONLY SUBSURFACE PIPING AND STRUCTURES THAT MAY BE ENCOUNTERED IN THIS WORK. THE CONTRACTOR SHALL LOCATE ALL EXISTING PIPING BY TEST PIT AND/OR TEST TRENCH IN ORDER TO AVOID POSSIBLE CONFLICTS WITH NEW PIPING. SUCH WORK IS TO BE DONE WELL IN ADVANCE OF THE INSTALLATION OF THE NEW PIPES SO THAT MINOR ADJUSTMENTS CAN BE MADE PRIOR TO THE ACTUAL CROSSING. THE COST OF ALL TEST PITS SHALL BE INCLUDED IN THE LUMP SUM OR UNIT PRICE BID UNDER THE APPROPRIATE SCOPE OF CONTRACT ITEM.**
- DISTANCES AND CENTERLINE STATIONING ARE APPROXIMATE.**
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE OSHA REQUIREMENTS FOR CONFINED SPACE SAFETY.**
- ALL TRAFFIC CONTROL ISSUES, INCLUDING TEMPORARY DETOURS AND TEMPORARY ROAD CLOSURES, SHALL BE COORDINATED WITH THE LOCAL OFFICIALS AND POLICE DEPARTMENT.**
- A COMBINATION OF SMALL BACKHOE AND HAND EXCAVATION SHALL BE REQUIRED NEAR UTILITIES AND UTILITY CHAMBERS.**
- THE CONTRACTOR SHALL CALL PENNSYLVANIA ONE-CALL FOR AN UNDERGROUND UTILITY LOCATION MARK OUT NOT LESS THAN THREE (3) FULL BUSINESS DAYS OR MORE THAN TEN (10) FULL BUSINESS DAYS PRIOR TO ANY DIGGING. THE CONTRACTOR SHALL ALSO NOTIFY ALL UTILITY COMPANIES A MINIMUM OF 72 HOURS PRIOR TO EXCAVATION.**
- CONTRACTOR IS RESPONSIBLE FOR ALL PEDESTRIAN PROTECTION. AS REQUIRED, SURROUND ALL OPEN TRENCHES WITH CONSTRUCTION FENCING DURING CONSTRUCTION AND PLATE OR BACKFILL THE TRENCHES AT COMPLETION OF DAY'S WORK.**
- EXCAVATIONS, TRENCHING OR CONSTRUCTION IN CLOSE PROXIMITY TO EXISTING UTILITIES OR STRUCTURES SHALL INCLUDE PROVIDING ANY PROTECTION REQUIRED, INCLUDING SHEETING AND BRACING OF TRENCH AND SUPPORTING AND PROTECTING EXISTING UTILITIES TO PREVENT DAMAGE OR INTERRUPTION OF SERVICE. THIS WORK SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER. SHEETING AND BRACING DETAILS SHALL BE SIGNED AND SEALED BY A PENNSYLVANIA LICENSED PROFESSIONAL ENGINEER.**
- CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY AND ALL DAMAGE TO EXISTING FACILITIES AT HIS OWN EXPENSE AND TO THE SATISFACTION OF THE FACILITY OWNER.**
- CONTRACTOR SHALL NOT DISCHARGE GROUNDWATER TO THE STORM SEWER SYSTEM (IF PRESENT) UNLESS IT FIRST PASSES THROUGH AN APPROVED SETTLING OR FILTRATION DEVICE.**
- THE CONTRACTOR SHALL OBTAIN AND COMPLY WITH ALL LOCAL ROAD OPENING PERMITS.**
- THE CONTRACTOR SHALL PROTECT ALL STRUCTURES, ROADS, PIPELINES, TREES, SHRUBBERY, GRASS AREAS, ETC. DURING THE PROGRESS OF THE WORK AND SHALL REMOVE DAILY FROM THE SITE ALL DEBRIS AND UNUSED MATERIALS. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL RESTORE THE SITE TO ITS ORIGINAL CONDITION.**

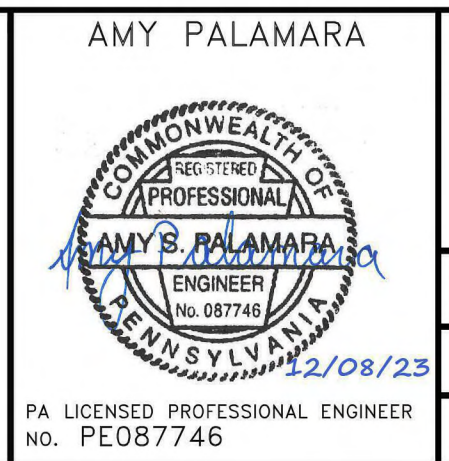
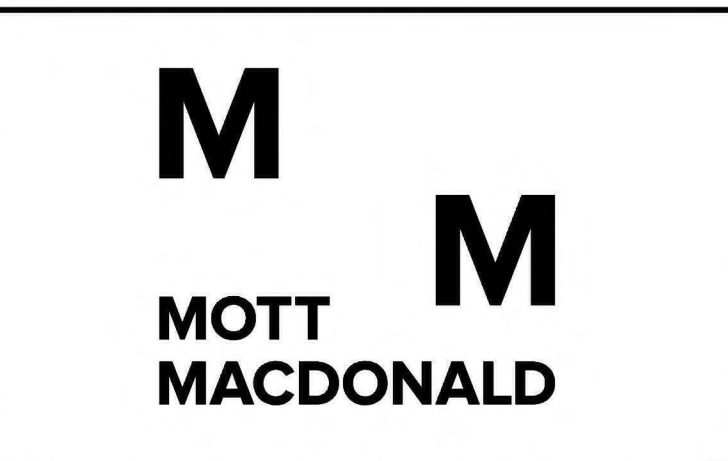
- REPAIR WORK SHALL BE PERFORMED TO THE SATISFACTION OF THE GOVERNING AGENCY.**
- TRAFFIC STRIPING AND MARKINGS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED IN-KIND AND TO THEIR ORIGINAL LAYOUT.**
- RESTORATION, INCLUDING THE REMOVAL OF EXCESS EXCAVATED MATERIAL AND PLACEMENT OF TEMPORARY PAVEMENT, SHALL BE PERFORMED AND COMPLETED ON A DAILY BASIS. EXCEPT AS OTHERWISE INDICATED, ALL ROADS SHALL BE PASSABLE TO VEHICULAR TRAFFIC AT THE END OF EACH WORK DAY.**
- CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE DRIVEWAYS AT ALL TIMES.**
- THE CONTRACTOR SHALL IDENTIFY THE LOCATIONS OF SITES TO BE USED FOR DISPOSAL OF TRENCH EXCAVATION MATERIALS PRIOR TO THE PRECONSTRUCTION MEETING AND IN ACCORDANCE WITH THE SOIL EROSION AND SEDIMENT CONTROL STANDARDS.**
- ALL COSTS ASSOCIATED WITH THE WORK OF PAVEMENT CUTTING SHALL BE INCLUDED IN THE UNIT PRICES BID. THE CONTRACTOR SHALL MAINTAIN THE APPROPRIATE SAWS ON-SITE FOR CUTTING ALL PAVEMENT AND SIDEWALK TO PROVIDE A NEAT EDGE. THE CONTRACTOR IS ADVISED THAT SOME ROADS MAY CONTAIN CONCRETE BENEATH THE ASPHALT OVERLAY.**
- NO EXCAVATED SOILS SHALL BE STORED ON SITE. ALL SOILS SHALL BE REMOVED AS EXCAVATED. THIS DOES NOT APPLY TO WETLANDS OR WETLAND TRANSITION AREAS. SEE SPECIFICATIONS FOR DETAILS OF EXCAVATION IN WETLANDS AND WETLANDS TRANSITION AREAS, IF APPLICABLE.**
- ALL TRENCHES SHALL BE BACKFILLED WITHOUT DELAY TO KEEP OPEN TRENCHES TO A MINIMUM AND AS DIRECTED BY THE ENGINEER. OPEN TRENCHES SHALL BE STEEL PLATED AND BARRICADED. THE CONTRACTOR SHALL SUBMIT STEEL PLATE CALCULATIONS SIGNED AND SEALED BY A PA LICENSED P.E. UPON REQUEST. OPEN TRENCHES SHALL BE BACKFILLED BY THE END OF EACH WORK DAY, EXCEPT AT OPEN END OF WATER MAIN. ALL TRENCHES SHALL BE COMPACTED BY APPROVED METHODS. ALL TRENCH SETTLEMENT SHALL BE PROMPTLY BROUGHT TO GRADE AND TEMPORARY PAVING SHALL BE INSTALLED AS SPECIFIED. UPON BACKFILLING, THE CONTRACTOR SHALL BROOM SWEEP STREETS AND USE APPROPRIATE METHODS OF DUST CONTROL.**
- THE CONTRACTOR SHALL BROOM SWEEP OR MECHANICALLY SWEEP ALL STREETS IN THE AREA DISTURBED BY CONSTRUCTION ON A DAILY BASIS, OR AS DIRECTED BY THE ENGINEER.**
- THE CONTRACTOR IS TO CONFINE ALL CONSTRUCTION OPERATIONS TO WITHIN THE RIGHT-OF-WAY LIMITS. THE CONTRACTOR SHALL BE ADVISED OF TIGHT WORKING CONDITIONS, AND SHALL UTILIZE SUCH EQUIPMENT TO PROTECT TREES AND SHRUBS WHENEVER POSSIBLE.**
- THE CONTRACTOR SHALL INSTALL THE WATER MAIN AS PER THE ALIGNMENT ON THE CONTRACT DRAWINGS. ANY DEVIATIONS SHALL BE APPROVED BY THE ENGINEER.**
- IF AN EXCAVATION UNDERMINES THE ROADWAY, THE ROADWAY SHALL EITHER BE SAW-CUT TO 6-INCHES OUTSIDE OF THE EXTENTS OF THE UNDERMINING OR BACKFILLED WITH FLOWABLE FILL. ALL UNDERMINING SHALL BE REMEDIED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.**
- THE LOCATION OF UTILITY PIPELINES AND UTILITY LATERALS/SERVICES HAVE GENERALLY BEEN INDICATED ON THE PLAN SHEETS AND NO GUARANTEE IS MADE TO THEIR ACCURACY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE LOCATION OF ANY POTENTIAL UTILITY CONFLICTS.**
- THE FLOOD INSURANCE RATE MAPS FOR THE PROJECT AREA IS PANEL NUMBER 42011C04940D EFFECTIVE DATE JULY 3, 2012 & PANEL NUMBER 42011C04926 EFFECTIVE DATE JULY 3, 2012. THE AREA IS CLASSIFIED AS ZONE X-AREA OF MINIMAL FLOOD HAZARD.**
- ALL STATIONING SHOWN ON PLANS AND PROFILES IS APPROXIMATE.**
- THE CONTRACTOR SHALL PROVIDE AND INSTALL A COMPLETE SYSTEM FOR DEWATERING THE CONSTRUCTION SITE AS REQUIRED TO PROPERLY CONSTRUCT ALL STRUCTURES IN THE DRY. THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN SAFE, ADEQUATE TEMPORARY RELIEF MEASURES AGAINST HYDROSTATIC UPLIFT DUE TO A HIGH WATER LEVEL, IF ENCOUNTERED, FOR THE DURATION OF THE WORK UNTIL THE NECESSARY CONSTRUCTION IS COMPLETE.**
- TO MAINTAIN THE HORIZONTAL AND VERTICAL ALIGNMENT SHOWN ON THE PLANS, PIPE JOINTS MUST BE DEFLECTED IN ACCORDANCE WITH THE PIPE MANUFACTURER'S REQUIREMENTS. IF NECESSARY, EITHER TO MAINTAIN THE ALIGNMENT SHOWN OR TO ADJUST THE ALIGNMENT TO MEET ACTUAL FIELD CONDITIONS, ADDITIONAL FITTINGS SHALL BE INSTALLED AT NO ADDITIONAL COST TO THE OWNER OTHER THAN THE PRICES BID.**
- THE WATER MAIN SHALL BE INSTALLED WITH FOUR (4.0) FEET MINIMUM COVER.**
- DURING FLUSHING AND PRESSURE TESTING OF THE MAIN, CONTRACTOR SHALL NOT OPERATE ANY VALVES UNLESS UNDER THE DIRECT SUPERVISION OF THE WATER COMPANY, INCLUDING THE NEW VALVES INSTALLED ON THE TRANSMISSION MAIN.**
- CASING PIPES SHALL BE INSTALLED BY JACKING METHOD AS DESCRIBED IN THE JACKING NOTES.**

JACKING NOTES

- CASING PIPE SHALL BE INSTALLED BY THE FOLLOWING METHOD: JACKING SHALL BE IN ACCORDANCE WITH THE "SPECIFICATIONS FOR PIPELINE OCCUPATIONS OF RR PROPERTY" PROVIDED BY RELTEK.**
- E-80 FOR RAILROAD LOADING CRITERIA.**
- CONSTRUCTION ACTIVITIES SHALL NOT DISRUPT EAST PENN RAIL ROAD OPERATIONS.**
- ALL TEMPORARY TRACK SUPPORTING STRUCTURES AND JACKING PIT TO BE INSTALLED MUST BE DESIGNED AND STAMPED BY A STATE OF PA REGISTERED PROFESSIONAL ENGINEER AND SHALL BE DESIGNED IN ACCORDANCE WITH THE "SPECIFICATIONS FOR PIPELINE OCCUPATIONS OF RR PROPERTY" PROVIDED BY RELTEK.**
- GEOTECHNICAL BORINGS ARE THE RESPONSIBILITY OF THE CONTRACTOR PRIOR TO JACKING.**



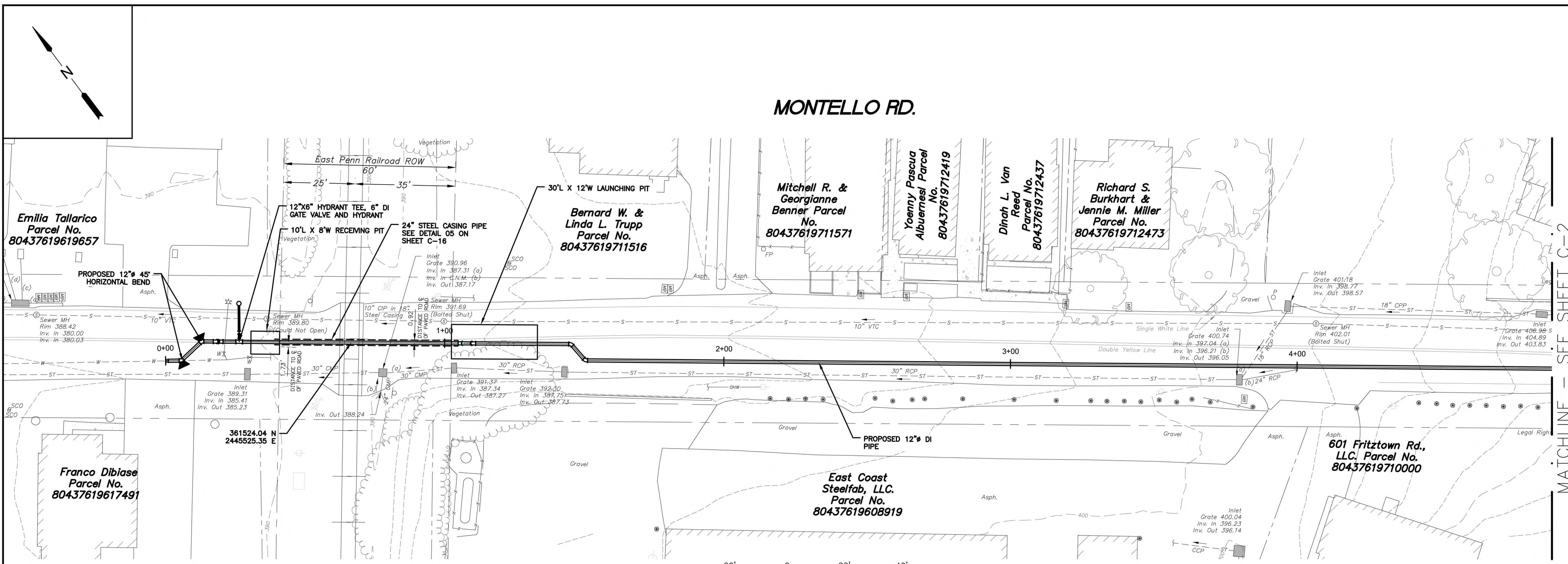
REVISIONS	REVISIONS
1 PERMIT SET ATE 11/3/2023	



AMY PALAMARA
AMERICAN WATER ENGINEERING
11 WATER STREET
CAMDEN, NJ 08102
AMERICAN WATER
DRAWN BY A. EDWINS
PROJECT ENGR A. PALAMARA
DATE NOVEMBER 2023
PROJECT

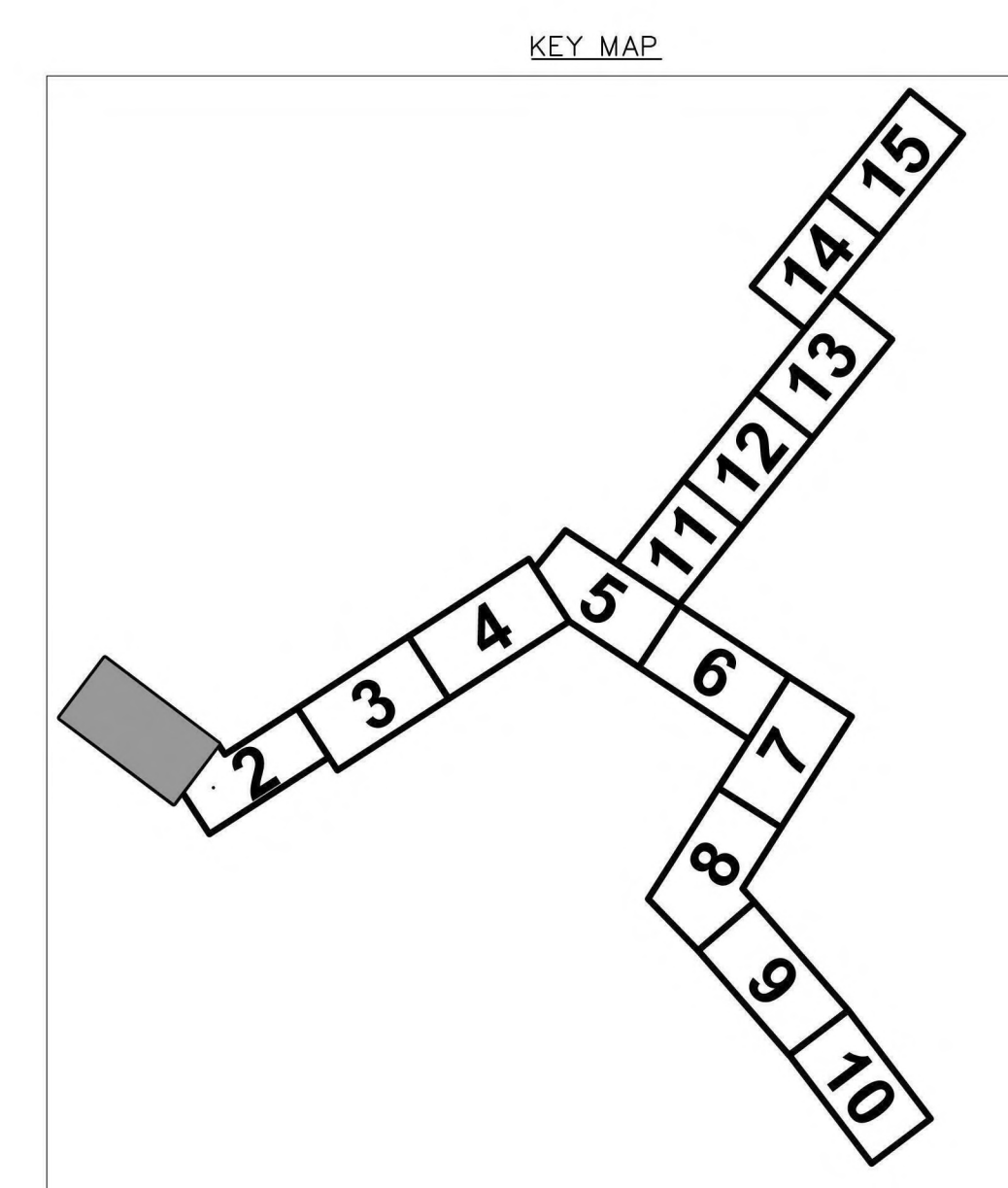
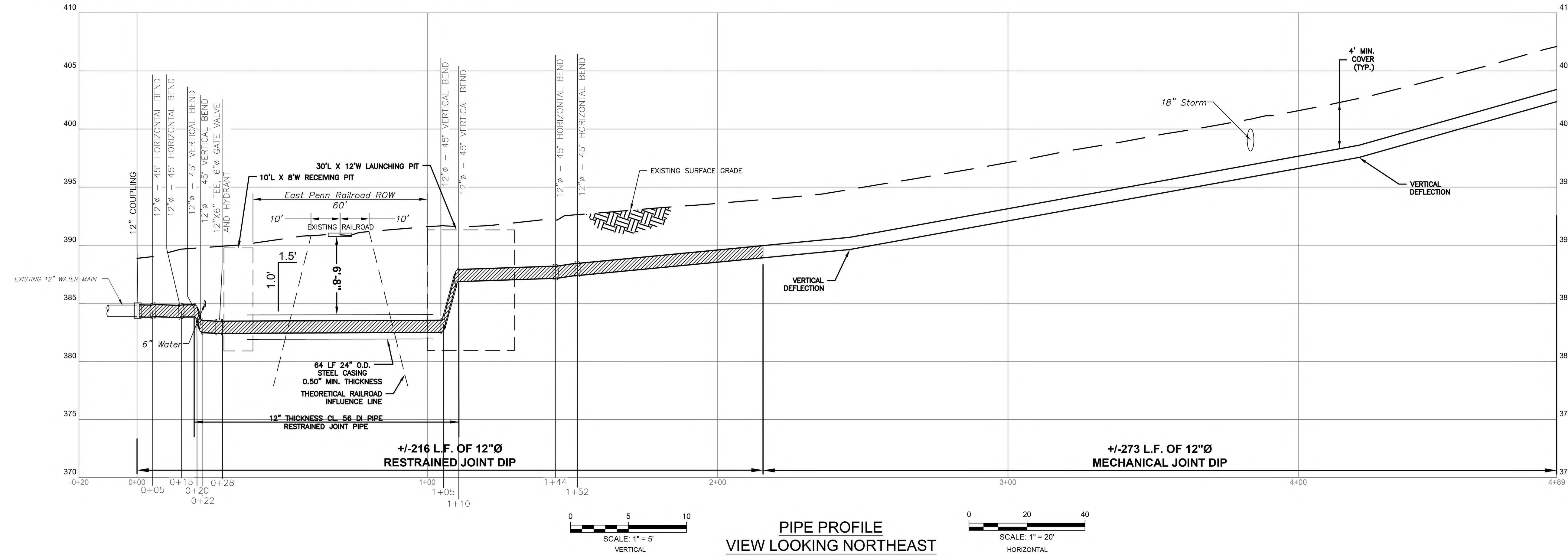
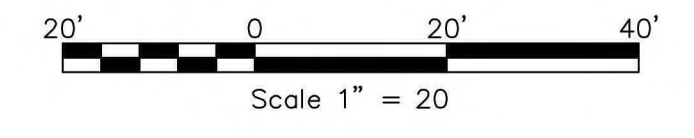
WYOMISSING HIGH GRADIENT IMPROVEMENTS
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USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES
PERMIT SUBMITTAL
USE DIMENSIONS ONLY SCALE AS SHOWN
124-63009-G2

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- NOTES**
- CASING PIPE SHALL MAINTAIN A MINIMUM OF 6 FT. DEPTH OF COVER UNDER THE RAIL ROAD ZONE OF INFLUENCE.
 - DUCTILE IRON WATER MAIN INSIDE CASING SHALL BE CLASS 56 OR AS SHOWN IN THE PROFILE.
 - PROPERTY ROW IS FROM VARIOUS GIS SOURCES. RAIL ROAD ROW IS BASED ON AGREEMENTS FROM RELTEK.
 - THE RECEIVING PIT IS TO BE EXCAVATED TO AVOID A CONFLICT WITH THE EXTENTS OF THE EXISTING SEWER MANHOLE WEST OF THE RAILROAD TRACKS.

NOTE: CASING PIPE TO INTERSECT RAILROAD CROSSING AT A 90° ANGLE



PENNSYLVANIA
AMERICAN WATER

REVISIONS	REVISIONS
1 PERMIT SET ATE 11/3/2023	△
2 REVISIONS PER RELTEK ASP 12/8/2023	△
△	△
△	△
△	△

MOTT
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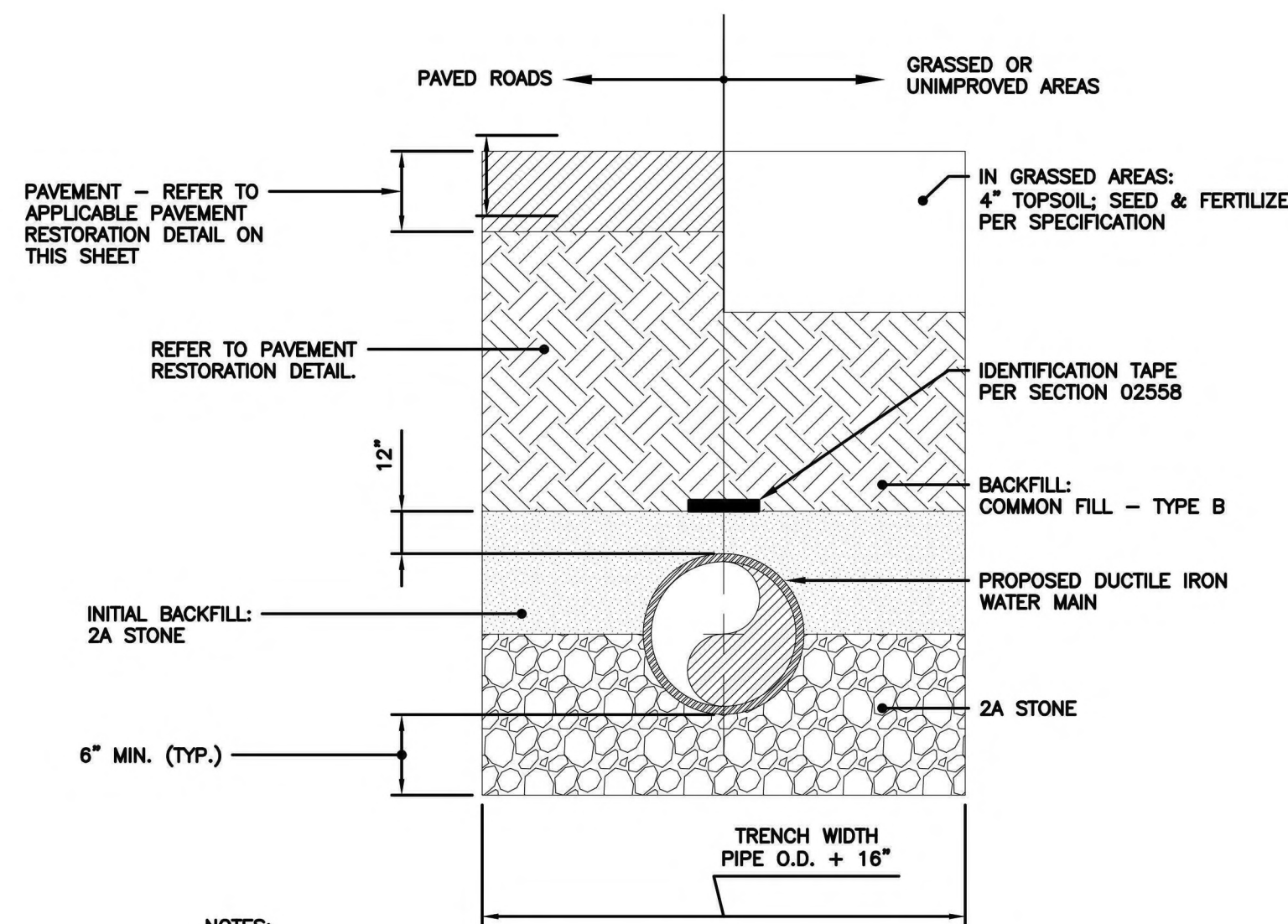
AMERICAN WATER
DRAWN BY A. EDWINS
PROJECT ENGR. A. PALAMARA
DATE NOVEMBER 2023

WYOMISSING HIGH GRADIENT IMPROVEMENTS
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PLAN AND PROFILE
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SINKING SPRING, PA
USE APPROVED DRAWINGS ONLY
FOR CONSTRUCTION PURPOSES

PERMIT SUBMITTAL
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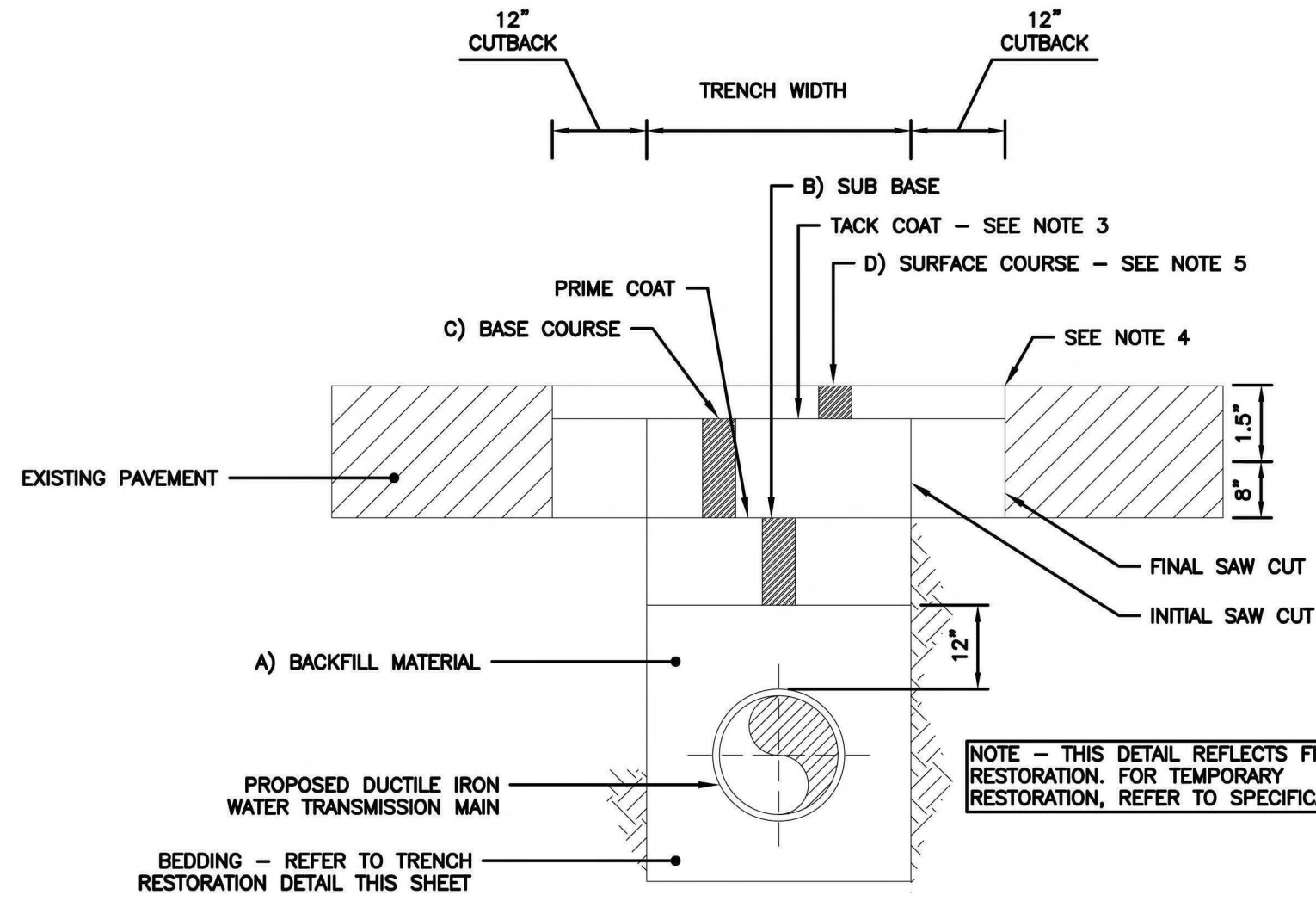
USE DIMENSIONS ONLY
SCALE AS SHOWN



- NOTES:**
- BACKFILL SHALL BE COMPACTED IN 4" LOOSE LIFTS WITH MECHANICAL TAMPER OR 8" LOOSE LIFTS IF VIBRATORY COMPACTION EQUIPMENT IS USED TO 95% OF ITS MAXIMUM DENSITY.
 - ALL DUCTILE IRON PIPE TO BE WRAPPED IN POLYETHYLENE.
 - INSTALL RESTRAINED JOINT MARKING TAPE ON THE PIPE AND IDENTIFICATION TAPE ONE FOOT ABOVE THE CROWN OF THE PIPE. REFER TO THE SPECIFICATIONS.

1 TRENCH RESTORATION DETAIL DUCTILE IRON PIPE
NTS

COMMON FILL - TYPE A: NO STONES OR ROCK LARGER THAN 1-INCH
COMMON FILL - TYPE B: NO STONES OR ROCK LARGER THAN 4-INCH



NOTE - THIS DETAIL REFLECTS FINAL RESTORATION. FOR TEMPORARY RESTORATION, REFER TO SPECIFICATIONS.

SINKING SPRING PAVEMENT RESTORATION	
A	2A SUBBASE
B	2A SUBBASE
C	HMA BASE COURSE, PG-64-22, 0.3 TO < 3 MILLION ESALS, 25 MM MIX, 4" DEPTH
D	HMA WEARING COURSE, PG-64-22, 0.3 TO < 3 MILLION ESALS, 9.5 MM MIX, 1.5" DEPTH

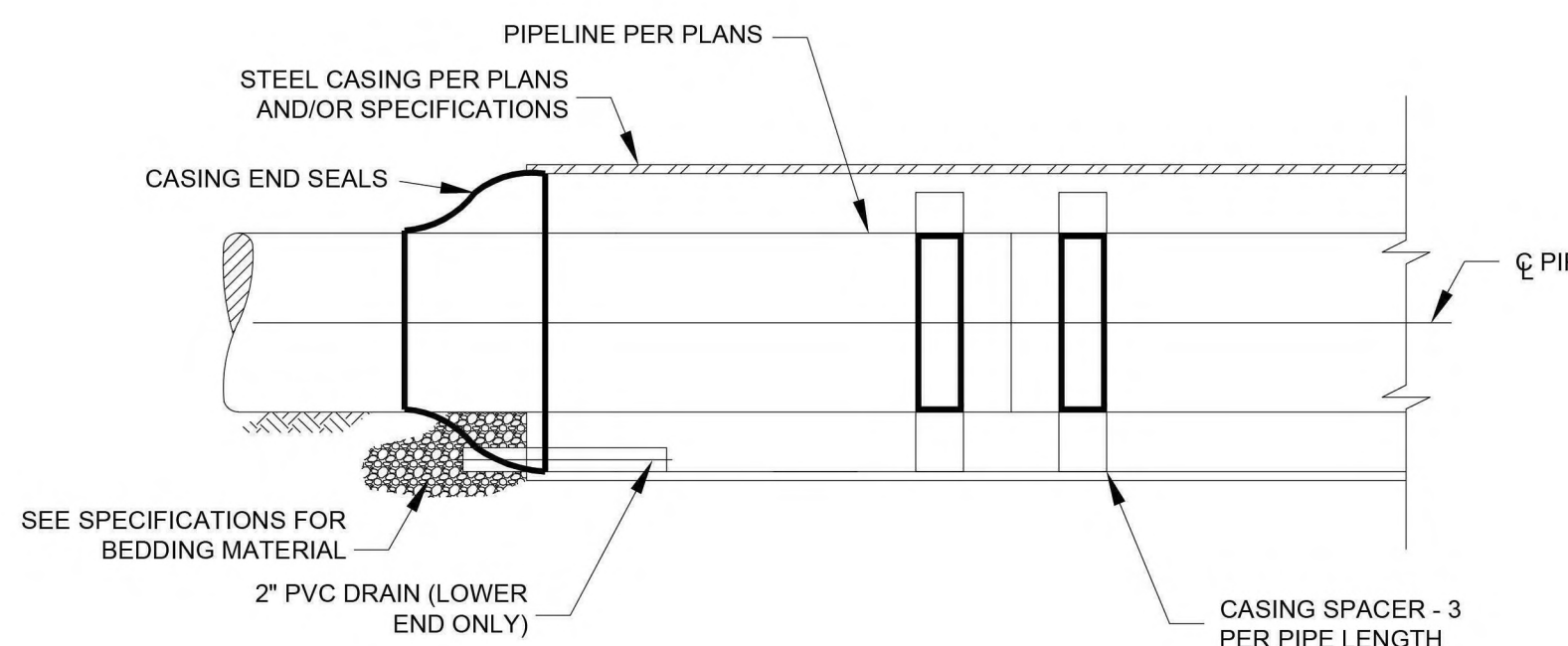
- NOTES:**
- SAW-CUT PERIMETER OF ALL TRENCHES A MINIMUM OF 2' OR AS REQUIRED TO MAINTAIN INTEGRITY OF EXISTING ADJACENT SURFACE.
 - DISTURBED TRAFFIC STRIPING AND MARKINGS SHALL BE REPLACED AS PER PENN DOT SPECIFICATIONS (REGULATION 459.8).
 - APPLY AE-T EMULSIFIED ASPHALT TACK COAT TO BASE COURSE SURFACE AND ALONG EXPOSED SIDES OF EXCAVATION PRIOR TO INSTALLATION OF WEARING COURSE.
 - AFTER PAVING SEAL JOINT BETWEEN NEW AND EXISTING PAVEMENT WITH PG-64-22 ASPHALT CEMENT.
 - SURFACE COURSE MILL AND OVERLAY AT ROAD CROSSINGS TO BE 100-FOOT WIDE.

4 PAVEMENT RESTORATION DETAIL
NTS

MINIMUM LENGTH OF RESTRAINED JOINTS ON EACH SIDE OF FITTING	
FITTING	12" DIP (150 PSI TEST PRESSURE)
90° BEND, VALVES, CAPS, PLUGS	166'
TEES (BRANCH)	166'
45° BENDS	63'
22 1/2° BENDS	32'
11 1/4° BENDS	16'

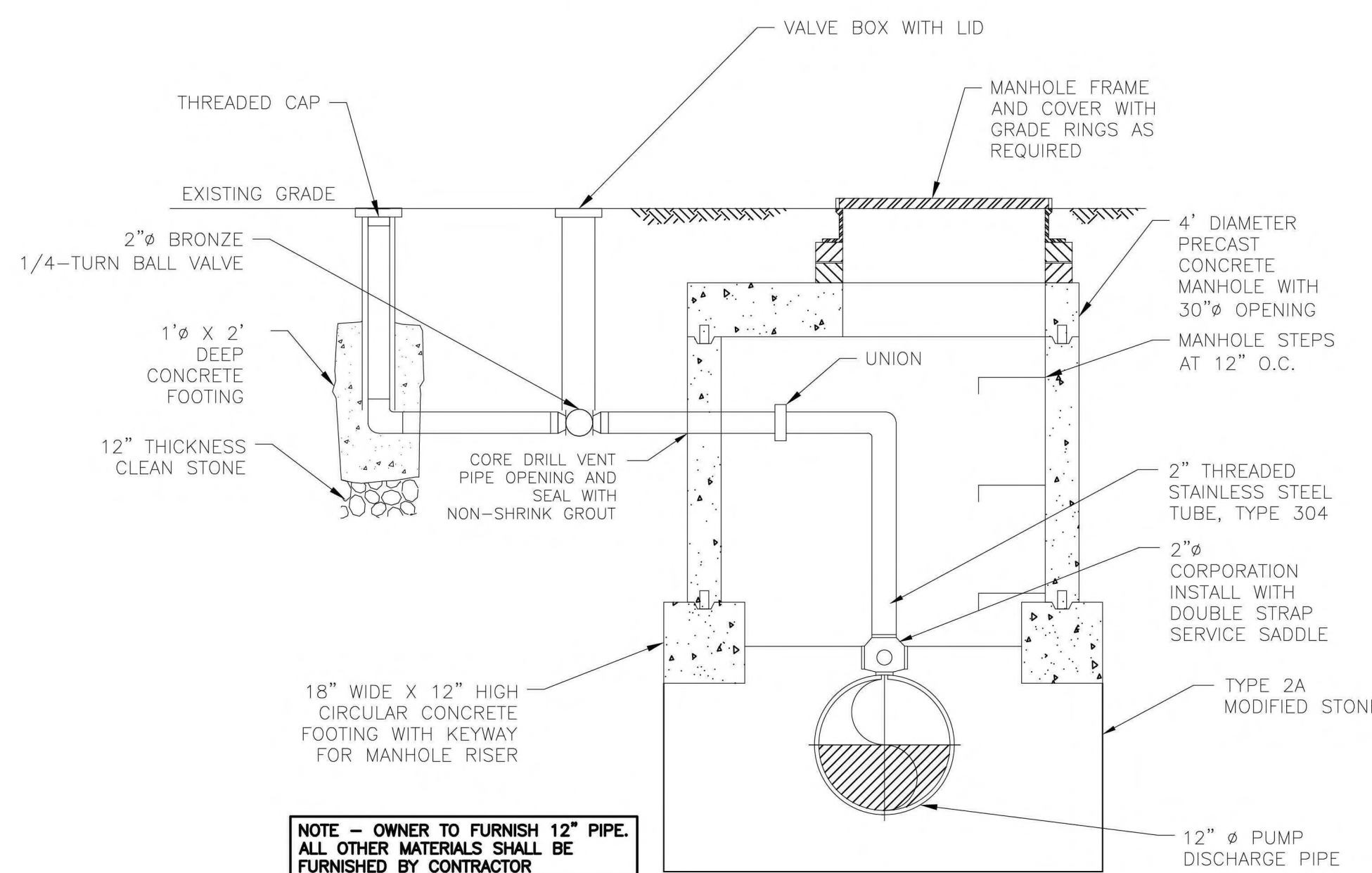
NOTE:
CONTRACTOR SHALL USE THE ABOVE SCHEDULE AND THE CONTRACT PLAN SHEETS TO DETERMINE ACTUAL RESTRAINED LENGTHS REQUIRED. FITTINGS IN CLOSE PROXIMITY TO ONE ANOTHER MAY REQUIRE ADDITIONAL RESTRAINT. FOR EXAMPLE, TWO (2) 22 1/2° BENDS LOCATED WITHIN SEVERAL FEET OF EACH OTHER WILL HAVE THE SAME REACTION AS A 45° BEND AND, AS SUCH, WILL REQUIRE THE LENGTHS OF RESTRAINT SHOWN FOR A 45° BEND.

2 RESTRAINING LENGTH SCHEDULE
NTS



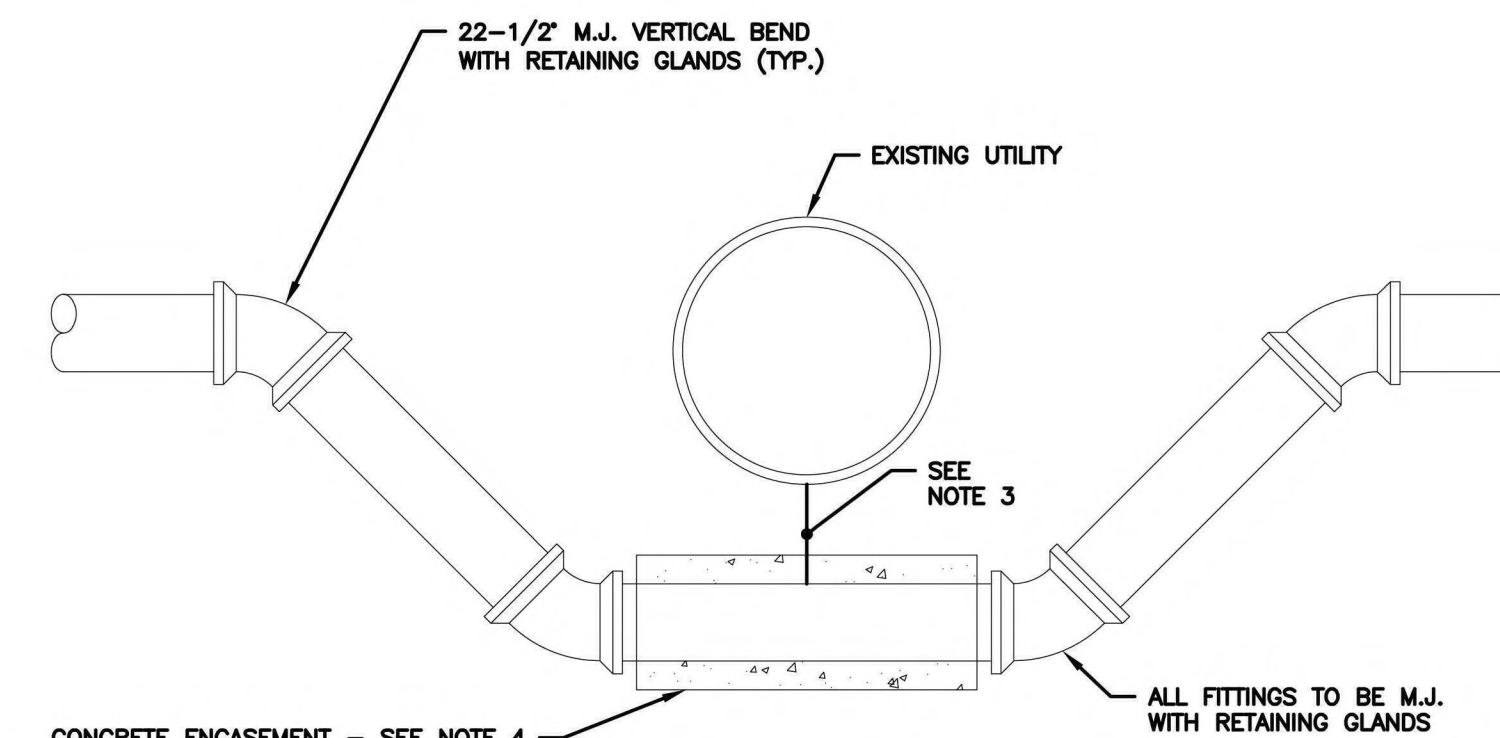
- NOTES:**
- END SEALS SHALL BE INSTALLED AFTER THE INSERTION OF THE CARRIER PIPE INTO THE CASING. END SEALS SHALL BE 1/8" THICK SYNTHETIC RUBBER END SEALS WITH STAINLESS STEEL BANDS, PIPELINE SEAL AND INSULATOR MODEL "C" PULL-ON END SEAL OR ADVANCE PRODUCTS & SYSTEMS MODEL AC PULL-ON END SEAL. WRAP-AROUND TYPE END SEALS AND ZIPPER TYPE END SEALS WILL NOT BE ACCEPTED.

5 STEEL SLEEVE DETAIL
NTS



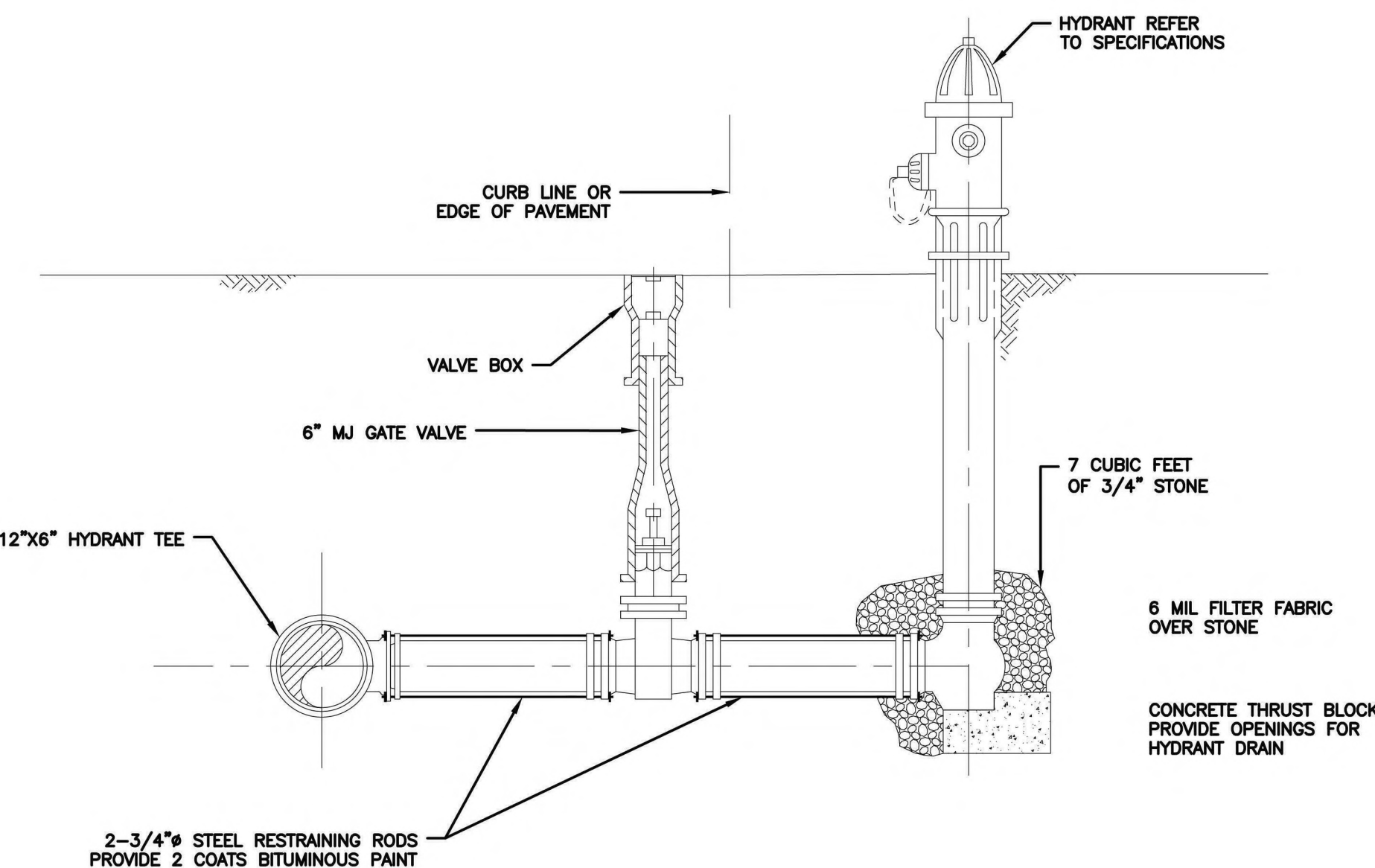
NOTE - OWNER TO FURNISH 12" PIPE. ALL OTHER MATERIALS SHALL BE FURNISHED BY CONTRACTOR

6 MANUAL AIR RELEASE VALVE MANHOLE DETAIL
NTS



- NOTES:**
- WATER MAIN MAY BE LOOPED ABOVE OBSTRUCTION IF 4.5' MINIMUM COVER IS MAINTAINED ABOVE MAIN.
 - WATER MAIN SHALL BE DUCTILE IRON CEMENT LINED PIPE. ALL JOINTS SHALL BE OF THE BOLTLESS RESTRAINED JOINT TYPE.
 - ALL WATER MAINS AND SANITARY OR INDUSTRIAL SEWER LINES SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF 10 FEET. IF SUCH LATERAL SEPARATION IS NOT POSSIBLE, THE WATER AND SEWER LINES SHALL BE IN SEPARATE TRENCHES (STEP TRENCHES ARE PROHIBITED) WITH THE TOP OF THE SEWER LINE AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN OR WITH SUCH OTHER SEPARATION EXPRESSLY APPROVED BY THE DEPARTMENT. AT CROSSINGS OF SEWER LINES AND WATER MAINS, THE TOP OF THE SEWER LINES SHALL BE AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN (SEWER SERVICE LATERALS ARE NOT SUBJECT TO THIS REQUIREMENT). IF SUCH VERTICAL SEPARATION IS NOT POSSIBLE, THE SEWER LINE SHALL BE OF WATERTIGHT CONSTRUCTION (I.E. DUCTILE IRON OR REINFORCED CONCRETE PIPE), WITH WATERTIGHT JOINTS THAT ARE A MINIMUM OF 10 FEET FROM THE WATER MAIN.
 - WHERE WATER MAIN IS LOOPED BELOW SEWERS, ENCASE WATER MAIN IN CONCRETE 6" THICK.

3 UTILITY BY-PASS
NTS



7 FIRE HYDRANT DETAIL
NTS

NOTES - OWNER TO FURNISH MATERIALS FOR FIRE HYDRANT ASSEMBLY FOR CONTRACTOR INSTALLATION



REVISIONS	REVISIONS
1 PERMIT SET ATE 11/3/2023	



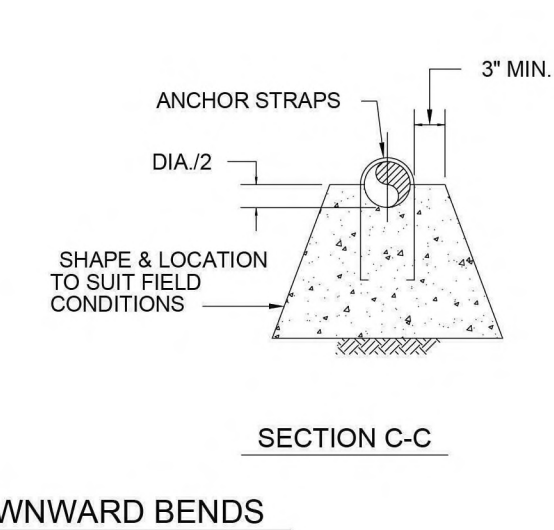
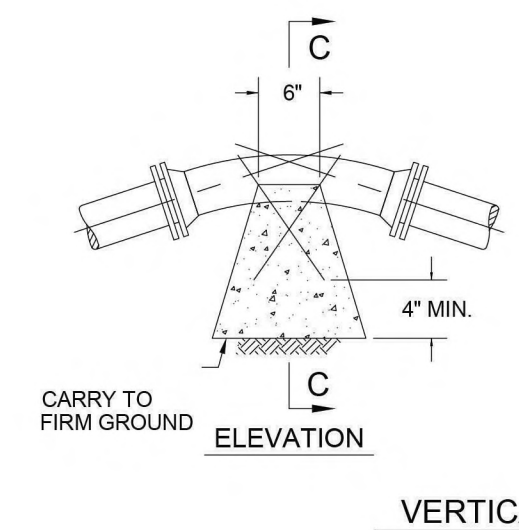
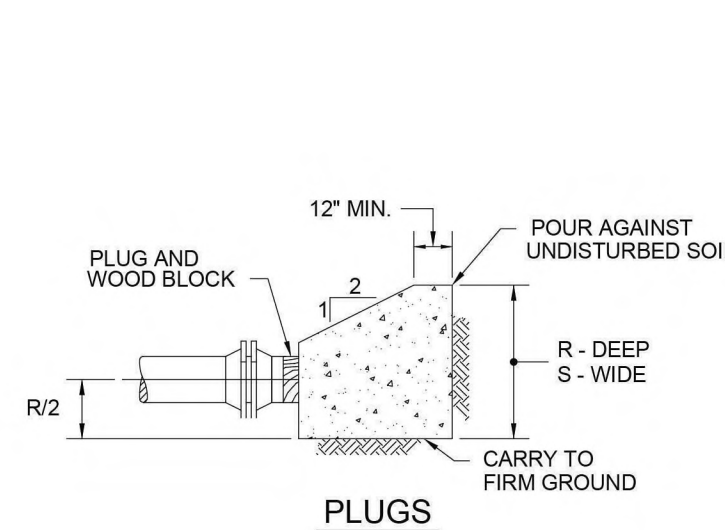
AMY PALAMARA
REGISTERED PROFESSIONAL ENGINEER
NO. 087149
12/08/23
PA LICENSED PROFESSIONAL ENGINEER NO. PE087746

AMERICAN WATER ENGINEERING
1 WATER STREET
CAMDEN, NJ 08102
AMERICAN WATER
DRAWN BY A. EDWINS
PROJECT ENGR A. PALAMARA
DATE NOVEMBER 2023
PROJECT

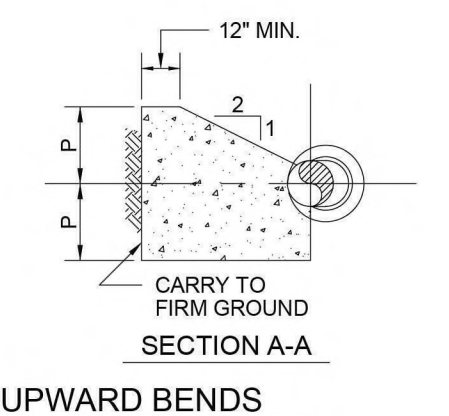
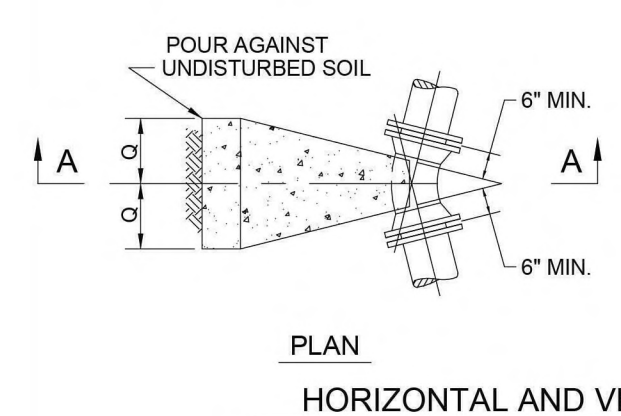
WYOMISSING HIGH GRADIENT IMPROVEMENTS
CIVIL
DETAILS SHEET

SINKING SPRING, PA	USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES	PERMIT SUBMITTAL	124-630009-C16
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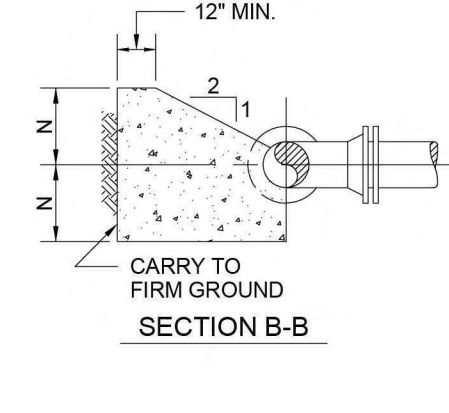
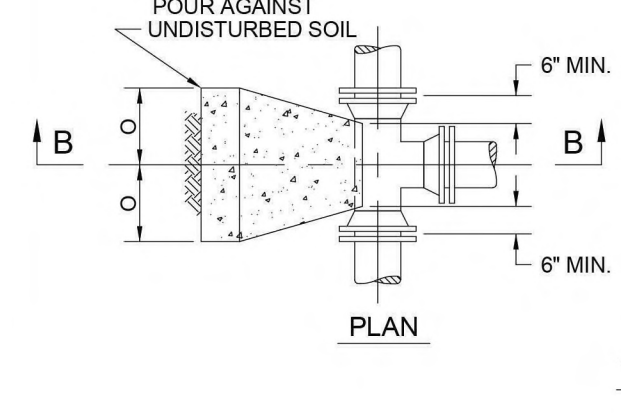
USE DIMENSIONS ONLY SCALE AS SHOWN



VERTICAL DOWNWARD BENDS



HORIZONTAL AND VERTICAL UPWARD BENDS

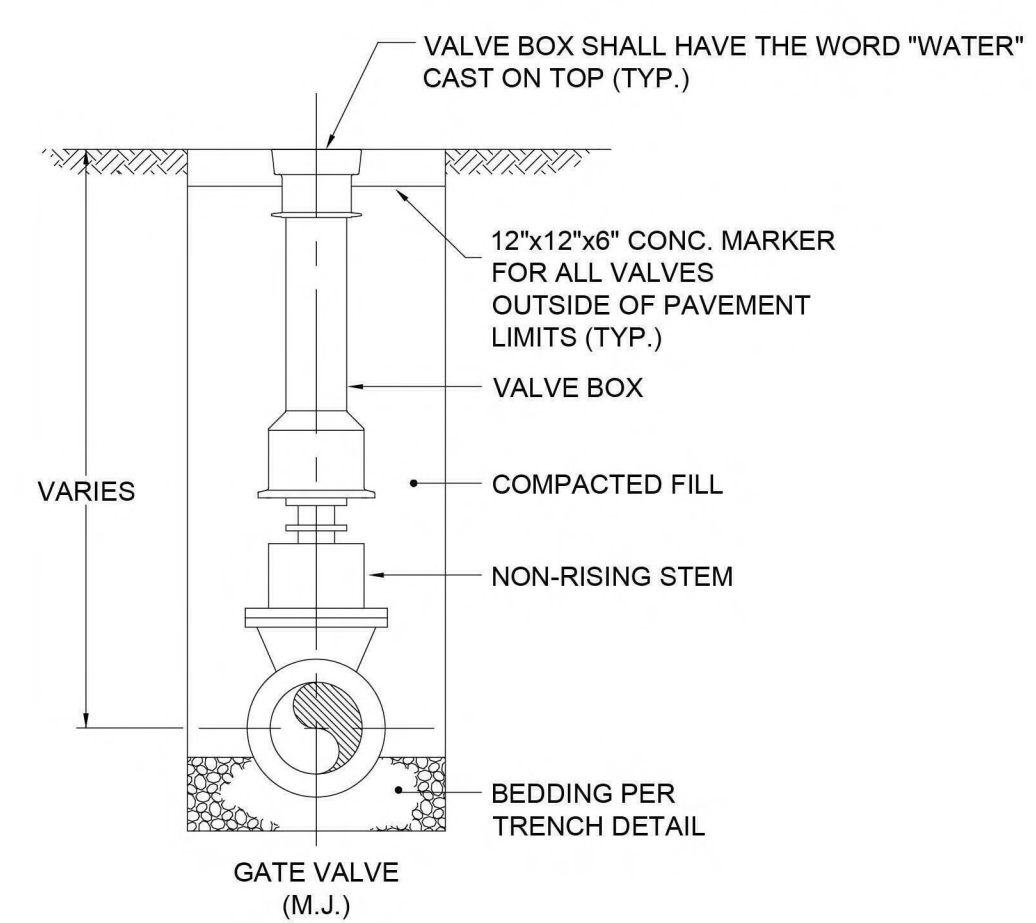


TEES

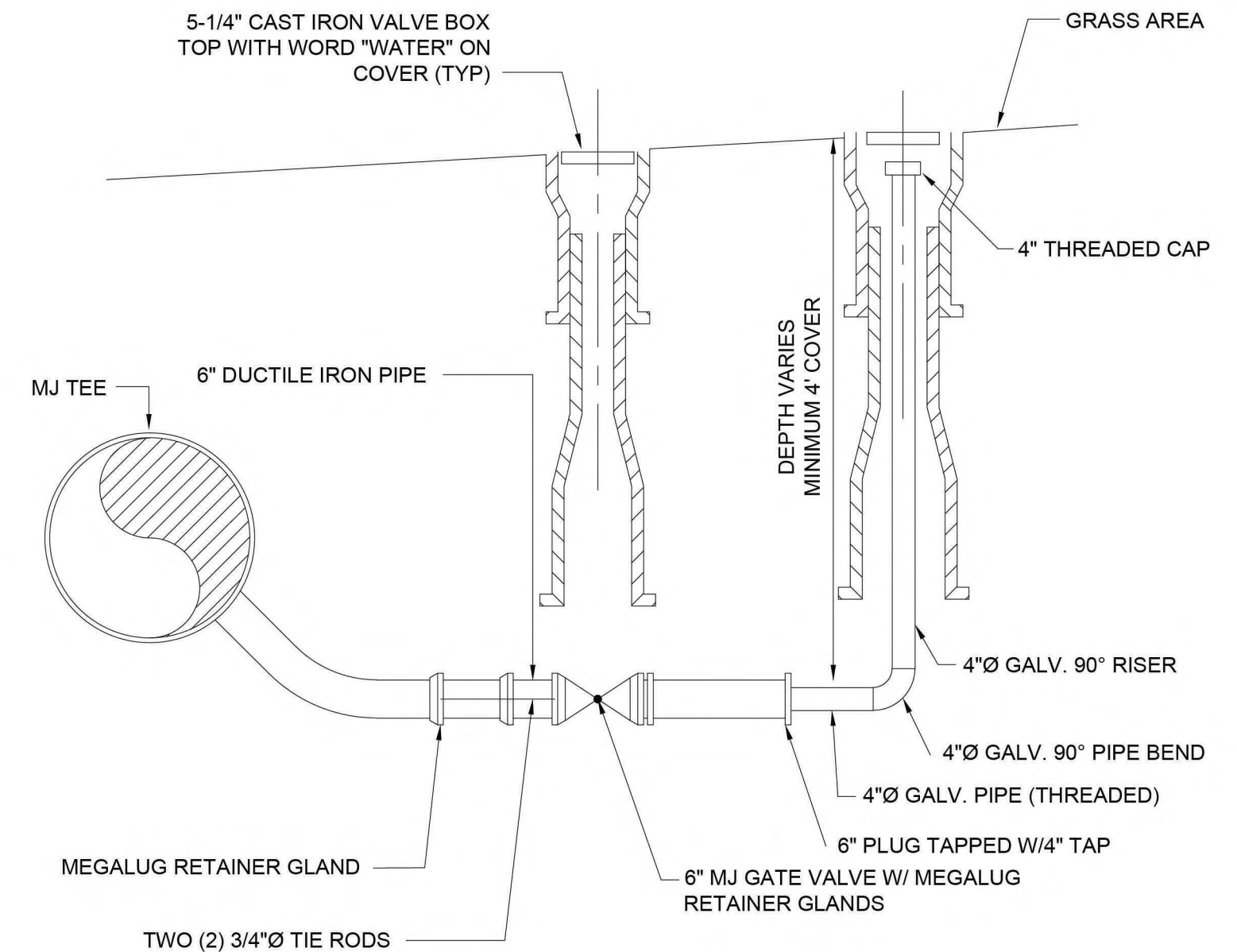
THRUST BLOCKS FOR TEES, HORIZ. & VERTICAL BENDS AND PLUGS					
DESCRIPTION	DIMENSION	6"Ø	8"Ø	12"Ø	
TEES	N	1'-0"	1'-3"	1'-6"	
	O	1'-4"	1'-10"	3'-3"	
90° BENDS	P	1'-0"	1'-3"	1'-6"	
	Q	1'-4"	1'-10"	3'-3"	
45° BENDS	P	0'-9"	1'-0"	1'-3"	
	Q	1'-0"	1'-3"	2'-2"	
22½° BENDS	P	0'-8"	0'-9"	1'-0"	
	Q	0'-9"	0'-11"	1'-4"	
11½° BENDS	P	0'-5"	0'-6"	0'-8"	
	Q	0'-6"	0'-8"	1'-1"	
VERTICAL DOWNWARD	45° BENDS	MIN. CONC. ANCHORAGE	1.4 CY	2.5 CY	5.2 CY
	22½° BENDS	MIN. CONC. ANCHORAGE	0.7 CY	1.3 CY	2.6 CY
VERTICAL UPWARD	45° BENDS	MIN. CONC. ANCHORAGE	1.4 CY	2.5 CY	5.2 CY
	22½° BENDS	MIN. CONC. ANCHORAGE	0.7 CY	1.3 CY	2.6 CY
PLUGS	R	2'-0"	2'-6"	3'-0"	
	S	2'-8"	3'-8"	6'-6"	

THRUST BLOCKS DESIGNED FOR 200 LB. PER SQ. IN. TEST PRESSURE AND 2000 LB. PER SQ. FT. SOIL PRESSURE. PLASTIC SHEETING SHALL BE PLACED AROUND THE WATER MAIN PRIOR TO THE PLACEMENT OF THE THRUST BLOCK.
 * MINIMUM CONCRETE ANCHORAGE WITHOUT BACKFILL AND NO GROUND WATER CONDITION

8 THRUST BLOCK DETAILS
NTS



9 BURIED VALVE INSTALLATION DETAIL
NTS



10 BLOWOFF VALVE DETAIL
NTS



REVISIONS	REVISIONS
1 PERMIT SET ATE 11/3/2023	△
△	△
△	△
△	△
△	△



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