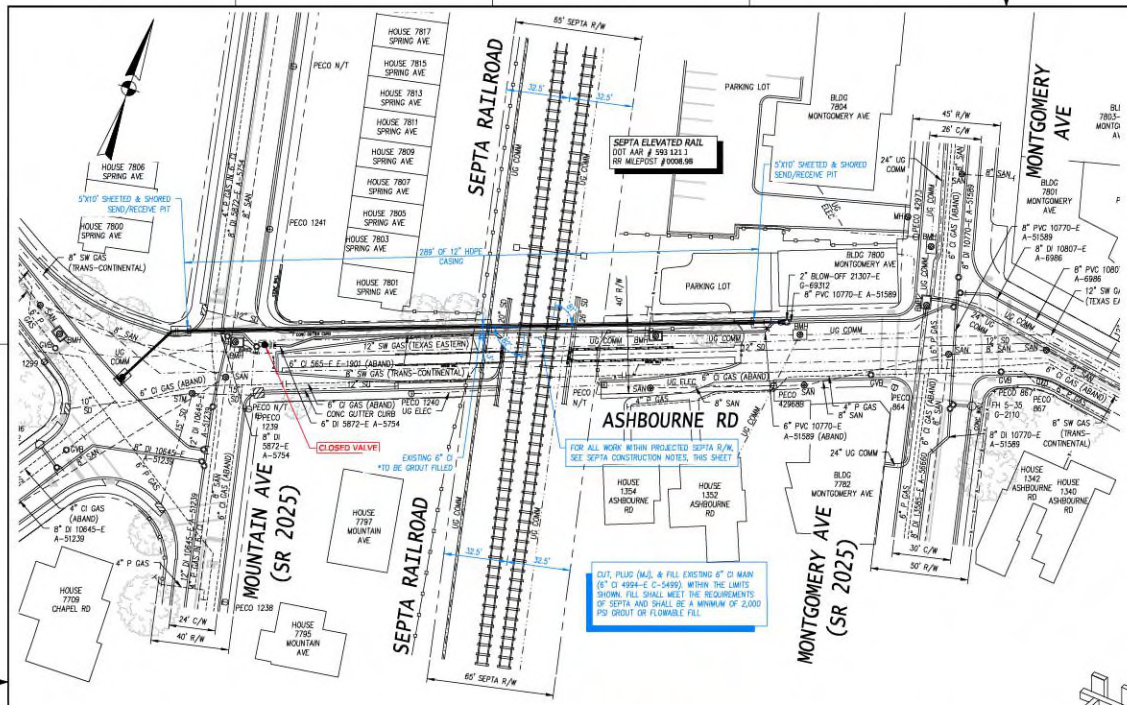
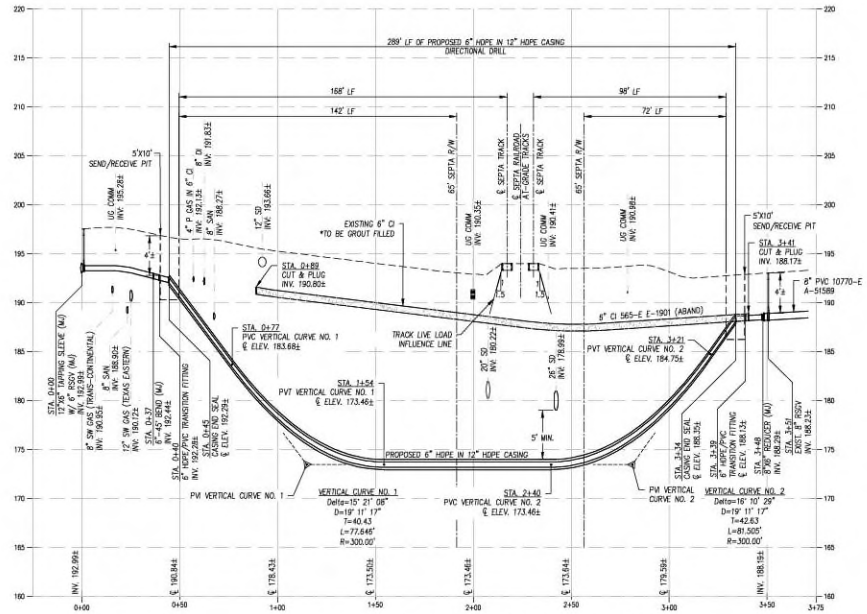
A-2025-3059495



PLAN FOR WATER MAIN REPLACEMENT
ASHBOURNE RD AT RAILROAD
SCALE – 1"=30'



PROFILE/DIRECTIONAL DRILL – ASHBOURNE RD AT RAILROAD
US DOT AAR 593121J – MILEPOST 0008.98
SCALE – HORIZ: 1"=30' VERT: 1"=6'
ALL ELEVATIONS ARE APPROXIMATE TEST HOLES REQUIRED TO CONFIRM DEPTHS

PIPE CROSSING DATA	CARRIER PIPE	CASING PIPE
CONTENTS TO BE HANDLED	WATER	NONE
OPERATING PRESSURE (PSI)	100	N/A
NOMINAL PIPE SIZE (")	6"	12"
O.S. DIAMETER (")	6.825"	13.056"
I.S. DIAMETER (")	5.571"	10.656"
WALL THICKNESS (")	0.627"	1.200"
WEIGHT PER FOOT (LBS)	5.41	19.82
MATERIAL	HDPE	HDPE
PROCESS OF MANUFACTURE	EXTRUDED	EXTRUDED
SPECIFICATION	ASTM F714/AWWA C906	ASTM F714/AWWA C906
GRADE OR CLASS	PE4710, DR11	PE4710, DR11
WORKING PRESSURE (PSI)	200	N/A
TYPE OF JOINT	BUTT FUSION	BUTT FUSION
TYPE OF COATING	NONE	NONE
DETAILS OF CATHODIC PROTECTION	N/A	N/A
DETAILS OF SEAL OR PROTECTION AT ENDS OF COATING	N/A	FLEXIBLE OIL/WATER RESISTANT RUBBER END SEALS
METHOD OF INSTALLATION	PUSHING	HORIZONTAL DIRECTIONAL DRILLING
SPECIFIC MIN. YIELD STRENGTH	3,500 PSI	3,500 PSI

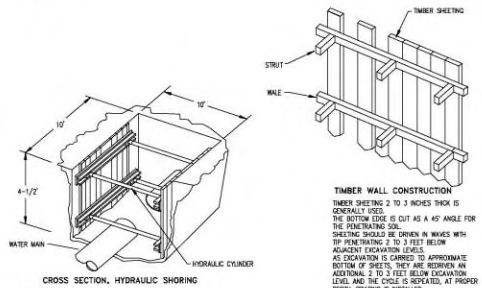
SEPTA CONSTRUCTION REQUIREMENTS

1. OSHA RULE AND REGULATIONS MUST BE ADHERED TO FOR SAFETY IN EXCAVATIONS, THE DESIGN AND THE SHORING OF THE BORING PITS. ADDITIONALLY, PITS SHALL BE FENCED WITH ADEQUATE LIGHTING FOR PUBLIC SAFETY.
2. THE TRACK AND RIGHT-OF-WAY MUST BE PROTECTED FROM ANY EROSION CAUSED BY THE PROJECT FIELD WORK.
3. SUPPORT OF EXCAVATION (SOE) DESIGN IS THE RESPONSIBILITY OF THE CONTRACTOR. SOE DESIGN TO BE SUBMITTED TO SEPTA FOR REVIEW PRIOR TO CONSTRUCTION.
4. PROVIDE EVIDENCE THAT SEPTA'S INSURANCE REQUIREMENTS, AS DETERMINED BY SEPTA'S RISK MANAGEMENT OFFICE, HAVE BEEN MET.
5. ALL PERSONNEL INVOLVED IN THE FIELD WORK PORTION OF THE PROJECT, AND WHO'S DUTIES MIGHT INVOLVE ENTERING THE SEPTA RIGHT-OF-WAY, WILL BE REQUIRED TO ATTEND A FOUR HOUR SEMINAR IN ORDER TO OBTAIN SAFETY CERTIFICATION, AS MANDATED BY SEPTA AND THE FEDERAL RAILROAD ADMINISTRATION. THE ROADWAY WORKER SAFETY SEMINAR IS HELD BI-WEEKLY AT SEPTA'S MAIN OFFICE, 1234 MARKET STREET IN PHILADELPHIA. CONTACT SEPTA A MINIMUM OF 3 WEEKS IN ADVANCE OF WORK COMMENCING TO SCHEDULE ATTENDANCE FOR PROJECT PERSONNEL.
6. PROVIDE NOTIFICATION PRIOR TO THE START OF CONSTRUCTION, INCLUDING UPDATED PROJECT SCHEDULES.
7. STAINLESS STEEL CASING SPACERS SPECIFIED SHALL HAVE TWO PIECE STAINLESS BAND WITH POLYETHYLENE RUNNER HEIGHT OF ONE AND A HALF INCHES. RECOMMENDED PLACEMENT OF SPACERS ARE 3 PER 18-20 FT. LENGTH OF PIPE. SPACERS SHALL BE ADVANCED PRODUCT SYSTEMS, (337) 322-6116 OR APPROVED EQUAL.
8. A RIGHT OF ENTRY PERMIT MUST BE SECURED PRIOR TO START OF CONSTRUCTION.
9. A SIGN IDENTIFYING THE BURIED UTILITY AND EMERGENCY SHUTOFF VALVES WILL BE INSTALLED AT THE PIPE LOCATION. THE SIGN SHALL INCLUDE THE FACILITY OWNER NAME (AQUA) AND CONTACT NUMBER.

TOOL BOX MEETINGS:
THE CONTRACTOR'S SUPERINTENDENT OR SAFETY OFFICER SHALL HOLD DAILY "TOOL BOX" JOB BRIEFINGS WITH ALL CONTRACTOR PERSONNEL. SUBJECTS, TIME, AND LOCATION CAN BE SET AT THE CONTRACTOR'S CONVENIENCE. SEPTA REQUIRES 3 BUSINESS DAYS PRIOR NOTICE, OR A SCHEDULE OF SUCH TOOL BOX MEETINGS. THIS NOTICE SHALL INCLUDE LOCATION AND AGENDA.

HORIZONTAL DIRECTIONAL DRILL (HDD) PROCEDURE

1. WORK AREAS WILL BE CLEARED, PRECAUTIONS TO PROTECT EXISTING DRAINAGE AND EROSION CONDITIONS WILL BE TAKEN. APPROPRIATE SIGNS TO DIVERT TRAFFIC WILL BE PLACED IN ACCORDANCE WITH SEPTA AND CHELTENHAM TOWNSHIP SPECIFICATIONS; NO EQUIPMENT SHALL BE OPERATED ON OR NEAR THE TRACK IN ANY WAY THAT COULD ERODE THE TRACK SHOULDER OR TRACK STRUCTURE. EQUIPMENT IS THEN STAGED ON SITE AND NECESSARY TRAFFIC CONTROLS AND DESIGNATED WORK AREAS PUT IN PLACE.
2. CONSTRUCT ONE (1) 5'X10' ENTRY PIT AND ONE (1) 5'X10' EXIT PIT. BOTH PITS WILL BE OUTSIDE OF THE SEPTA RIGHT-OF-WAY. ALL PITS WILL HAVE SHEETED AND SHORED WALLS PER DETAIL (SEE THIS SHEET).
3. POSITION THE DIRECTIONAL DRILL RIG AT THE ENTRY PIT LOCATION AND ALIGN WITH THE PLANNED DRILL PATH. VERIFY DEPTH AND ALIGNMENT BASED ON DRILL PROFILE.
4. DRILL PILOT HOLE ALONG DESIGNED BORE PATH USING GUIDANCE SYSTEM TO MAINTAIN HORIZONTAL AND VERTICAL ALIGNMENT. DRILLING FLUIDS WILL BE USED TO STABILIZE THE BORE AND REMOVE CUTTINGS.
5. THE TRACKS OF THE RAILROAD WILL BE SURVEYED BEFORE DRILLING BEGINS.
6. AS THE PILOT HOLE IS DRILLED, TRACK ALIGNMENT WILL BE MONITORED. ONCE PILOT HOLE IS COMPLETE, REAMING OPERATIONS WILL BEGIN TO ENLARGE THE HOLE TO SUIT THE CARRIER PIPE DIAMETER.
7. DURING THE DRILLING PROCEDURE, THE TRACKS WILL BE SURVEYED TO CHECK FOR ANY CHANGE IN ELEVATION.
8. AFTER THE BOREHOLE IS PREPARED, CASING SPACERS ARE ATTACHED TO THE CARRIER PIPE PER DETAIL, SHEET 3 OF 8.
9. THE CARRIER PIPE AND SPACERS ARE PULLED BACK THROUGH THE BORE FROM THE EXIT PIT TO THE ENTRY PIT USING THE HDD RIG.
10. THE CASING PIPE ENDS ARE SEALED PER DETAIL (SEE THIS SHEET). THE EXIT PIT AND ANY DISTURBED AREAS ARE BACKFILLED AND RESTORED TO MATCH EXISTING CONDITIONS.
11. THE HDD RIG AND SUPPORT EQUIPMENT ARE REMOVED, AND THE ENTRY/EXIT PITS ARE BACKFILLED AND RESTORED TO EXISTING CONDITIONS. BACKFILL AND RESTORATION TO BE IN ACCORDANCE WITH PENNDOT SPECIFICATIONS AND REQUIREMENTS. SIGNS IDENTIFYING THE BURIED UTILITY SHALL BE PLACED AT THE PIPE LOCATION OUTSIDE RAILROAD RIGHT-OF-WAY.
12. THE TRACK OF THE RAILROAD IS THEN SURVEYED FOR ANY ELEVATION CHANGES. WHEN DISTURBED AREAS ARE RESTORED TO ORIGINAL CONDITION, TRAFFIC CONTROL AND EQUIPMENT IS REMOVED.



CROSS SECTION, HYDRAULIC SHORING

HYDRAULIC SHORING SHOULD BE CHECKED AT LEAST ONCE PER SHIFT FOR LEAKING HOSES AND/OR CYLINDERS, BROKEN CONNECTIONS, CRACKED NIPPLES, BENT BASES, AND ANY OTHER DAMAGED OR DEFECTIVE PARTS

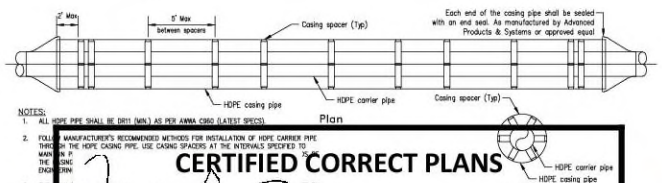
TIMBER WALL CONSTRUCTION

TIMBER SHEETING 2 TO 3 INCHES THICK IS GENERALLY USED.
THE BOTTOM EDGE IS CUT AS A 45° ANGLE FOR THE PENETRATING SOIL.
SHEETING SHOULD BE DRIVEN IN WAVES WITH TIP PENETRATING 2 TO 3 FEET BELOW ADJACENT EXCAVATION LEVELS.
AS EXCAVATION IS CARRIED TO APPROXIMATE BOTTOM OF SHEETS, THEY ARE REDRIVEN AN ADDITIONAL 2 TO 3 FEET BELOW EXCAVATION LEVEL AND THE CYCLE IS REPEATED, AT PROPER DEPTH, BRACING IS INSTALLED.

THE WALES TRANSFER THE LEAD FROM THE TIMBER TIE-BACK SYSTEM TO THE STRUT

All shoring should be installed from the top down and removed from the bottom up.

TYPICAL SHEETING AND SHORING



NOTES:
1. ALL HDPE PIPE SHALL BE DR11 (MIN.) AS PER AWWA C960 (LATEST SPECS).
2. FOLLOW MANUFACTURER'S RECOMMENDED METHODS FOR INSTALLATION OF HDPE CARRIER PIPE THROUGH THE HDPE CASING PIPE. USE CASING SPACERS AT THE INTERVALS SPECIFIED TO MAIN IN P THE CASING ENGINEERIN
3. THE ANY 1 ADVANCE P ID BY WITH HDPE CASING AND SPACERS

CERTIFIED CORRECT PLANS
Will M. L. P.E.
Professional Engineer
Approved by Bureau of Technical Utility Services
PA PUBLIC UTILITY COMMISSION
ATTEST Matthew L. Hunsicker
Secretary

NO	DATE	REVISION	INTL
0		ISSUED FOR CONSTRUCTION	
0		DESIGN COMPLETION	

AQUA PENNSYLVANIA, INCORPORATED
762 LANCASTER AVENUE, BRYN MAWR, PA., 19010

PROJECT PLAN FOR:
ELKINS PARK SEPTA CROSSING PROJECT
ASHBOURNE RD
CHELTENHAM TOWNSHIP, MONTGOMERY COUNTY

TEC TOTAL ENGINEERING & CONSULTING SERVICES, LLC

DRAWN BY: CAP	CHK'D BY: JMM/AJC	EXT No: 21030-E	
DATE: 02/11/2025	SCALE: 1"=30'	PLATE: R18	A - 68962
PROJECT No: 400.19	CPA ID No: 11082849		
APPROVED		SHEET 4 OF 10	

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