

PUBLIC NOTICE

REQUEST FOR PERMISSION TO ALTER A U.S. ARMY CORPS OF ENGINEERS PROJECT UNDER SECTION 408

TITLE: County of Sussex, Delaware – PS 202 Interconnect Project - Installation of Sanitary Sewer Force Main via Horizontal Directional Drilling beneath the Lewes and Rehoboth Canal Federal Navigation Channel.

PUBLIC NOTICE IDENTIFICATION NUMBER: NAP-2020-00066-85

PUBLIC NOTICE COMMENT PERIOD:

Begins: **21 February 2020**

Expires: **22 March 2020**

Interested parties are hereby notified that an application has been received for a Department of the Army Section 408 permission for certain work at or near a federal project of the United States, as described below and shown on attached figures. Written comments are being solicited from anyone having an interest in the requested alteration. Comments will become part of the U.S. Army Corps of Engineers' (USACE's) administrative record and will be considered in determining whether to approve the request. Comments supporting, opposing, or identifying concerns that should be considered by the USACE in its decision process are all welcome.

This public notice is not a paid advertisement and is for public information only. Issuance of this notice does not imply USACE endorsement of the project as described.

- 1. REQUESTER:** In compliance with 33 USC 408 (Section 14 of the Rivers and Harbors Act of 1899; hereinafter Section 408), the County of Sussex, Delaware has requested permission to install, via the Horizontal Directional Drilling (HDD) method, one (1) sanitary sewer force main beneath the Lewes and Rehoboth Federal Navigation Channel.
- 2. LOCATION:** The proposed project is located immediately south of the Route 1 road crossing in Rehoboth Beach, Sussex County, Delaware; at approximate coordinates: 38.708242°N, 75.093262°W (NAD 83).
- 3. LOCATION MAP(S)/DRAWING(S):** See attached Drawings.
- 4. REQUESTER'S PROPOSED ACTION:** Install, via the HDD method, one (1) approximately 1,025.0-foot long, 8.0-inch-diameter, sanitary sewer force main to approximately 25.0-feet beneath the existing floor of the Lewes and Rehoboth Canal Federal Navigation Channel from upland entry and exit pits.

5. REGULATORY AUTHORITY: This request will be reviewed according to the provisions of Section 14 of the Rivers and Harbors Act of 1899 (33 U.S.C. 408). A requestor has the responsibility to acquire all other permissions or authorizations required by federal, state, and local laws or regulations, including any required permits from the USACE Regulatory Program under Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403), Section 404 of the Clean Water Act (33 USC Section 1344) and/or Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 USC 1413). Any Section 10/404/103 permit decision associated with the proposed alteration is separate from and will not be included in the Section 408 permission decision. An approval under Section 408 does not grant any property rights or exclusive privileges nor does it authorize any injury to the property or rights of others.

6. ENVIRONMENTAL COMPLIANCE: A decision on a Section 408 request is a federal action, and therefore subject to the National Environmental Policy Act (NEPA) and other environmental compliance requirements. While ensuring compliance is the responsibility of USACE, the requester is providing all information that the Philadelphia District identifies as necessary to satisfy all applicable federal laws, executive orders, regulations, policies, and ordinances. Based on information provided by the applicant to date, current Corps regulations governing NEPA implementation, and/or the contents of existing NEPA documentation if available, it is likely that the proposed action will be determined to be categorically excluded from the need to prepare an Environmental Assessment (EA) or Environmental Impact Statement (EIS). This determination will be finalized following completion of agency coordination and prior to issuance of the Section 408 Permission Decision.

7. EVALUATION: As part of its evaluation, USACE will first make a determination that the submittal from the requestor is complete. The Philadelphia District is working closely with the requestor to ensure that all required technical plans, maps, drawings, and specifications are provided and are complete. Once the package is complete, a District-led review will be conducted to determine, in accordance with Engineering Circular (EC) 1165-2-216, whether the proposed alteration will impair the usefulness of the USACE Project or be injurious to the public interest, as follows:

- A. *Impair the Usefulness of the Project Determination.* The Philadelphia District's Section 408 review team will determine if the proposed alteration will limit the ability of the federally authorized project to function as authorized, or will compromise or change any authorized project conditions, purposes or outputs.
- B. *Injurious to the Public Interest Determination.* Proposed alterations will be reviewed to determine the probable impacts, including cumulative impacts, on the public interest. Evaluation of the probable impacts that the proposed alteration to the USACE project may have on the public interest requires a careful weighing of all those factors that are relevant in each particular case. Factors that may be relevant to the public interest depend upon the type of USACE project being altered and may include, but are not limited to, such things as conservation, economic development, historic properties, cultural resources, environmental impacts, water supply, water quality, flood hazards, floodplains, residual risk, induced damages, navigation, shore erosion or accretion, and recreation. The decision whether to

approve an alteration will be determined by the consideration of whether benefits are commensurate with risks. If the potential detriments are found to outweigh the potential benefits, then it may be determined that the proposed alteration is injurious to the public interest.

8. SOLICITATION OF COMMENTS: The USACE is soliciting comments from the public; federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of the proposed activity. Any comments received will be considered by USACE to determine whether to issue, modify, condition, or deny a permission for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and other public interest factors listed above. Comments are considered in making a final determination whether the proposed action will be categorically excluded from the need to prepare further NEPA documentation. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

- A. It should be noted that materials submitted as part of the Section 408 request become part of the public record and are thus available to the general public under the procedures of the Freedom of Information Act (FOIA). Individuals may submit a written request to the Philadelphia District Corps of Engineers, Office of Counsel to obtain copies of said materials under the FOIA.
- B. It is presumed that all parties viewing this notice will wish to respond to this public notice; therefore, a lack of response will be interpreted as meaning that there is no objection to the project as described.

9. COMMENT SUBMISSION AND ADDITIONAL INFORMATION: Written comments on the described work should reference the USACE Public Notice Identification Number found on the first page of this notice. Comments must reach this office no later than the stated expiration date of the Public Notice to become part of the record and be considered in the decision. Comments or requests for additional information should be mailed or emailed to the following address:

Email: JuanCarlos.Corona@usace.army.mil

Mailing Address:

U.S. Army Corps of Engineers

Philadelphia District

ATTN: Juan Carlos Corona

7th Floor

100 Penn Square East

Philadelphia, PA 19107-3390

SHEET LIST	
SHEET NUMBER	SHEET TITLE
GENERAL	
G001	COVER SHEET
G002	SHEET LIST AND LEGEND
G003	GENERAL AND CIVIL CONSTRUCTION NOTES
G004	HORIZONTAL DIRECTIONAL DRILLING UTILITY CONSTRUCTION NOTES
CIVIL	
C001	OVERALL SITE, BENCHMARKS AND KEY PLAN
C002	PLAN AND PROFILE STA 0+00 TO STA 4+50
C003	PLAN AND PROFILE STA 4+50 TO STA 10+50
C004	HDD BORE PATH PLAN AND PROFILE
C005	DETAILS SHEET 1 OF 3
C006	DETAILS SHEET 2 OF 3
C007	DETAILS SHEET 3 OF 3
C008	EROSION AND SEDIMENT CONTROL PLAN
C009	EROSION AND SEDIMENT CONTROL NOTES
C010	EROSION AND SEDIMENT CONTROL DETAILS SHEET 1 OF 3
C011	EROSION AND SEDIMENT CONTROL DETAILS SHEET 2 OF 3
C012	EROSION AND SEDIMENT CONTROL DETAILS SHEET 3 OF 3
C013	TRAFFIC CONTROL PLAN STA 4+44 TO STA 10+25 CONSTRUCTION
C014	TRAFFIC CONTROL NOTES AND DETAILS

SURVEY		
FEATURE	EXISTING	PROPOSED
MONUMENT		
IB		
RIB		
IRON PIPE		
NAIL		
BENCHMARK		
TEMPORARY BENCHMARK		
CONTROL POINT		

SANITARY		
FEATURE	EXISTING	PROPOSED
SANITARY SEWER MH		
CLEAN OUT		
SANITARY SEWER VALVE		
VENT		
LATERAL		
END CAP		
MANHOLE DEMOLITION		

STORM & DRAINAGE		
FEATURE	EXISTING	PROPOSED
STORM MANHOLE		
STORM CATCH BASIN		
CULVERT/END SECTIONS		
SWALE/DITCH		
YARD DRAIN		
FLOW ARROW		
STORM PIPE		

WATER		
FEATURE	EXISTING	PROPOSED
WATER GATE VALVE		
WATER BUTTERFLY VALVE		
HYDRANT VALVE		
HYDRANT		
CURB STOP		
WATER METER		
AIR RELIEF VALVE		
WELL		
SERVICE		
SERVICE RECONNECT		
BLOWOFF / SAMPLE POINT		
TAPPING SLEEVE		
WATER SERVICE BOX		
SPRINKLER HEAD		
VALVE CHAMBER		
END CAP		

POWER		
FEATURE	EXISTING	PROPOSED
UTILITY POLE		
GUY WIRE ANCHOR		
STREET LIGHT		
BURIED CABLE MARKER		
TRANSMISSION TOWERS		
PULL BOX STREET LIGHTS		
TERMINAL BOX		
UTILITY MANHOLE		
HANDHOLE		
INSPECTION POST		
UTILITY MARKER		

NATURAL GAS		
FEATURE	EXISTING	PROPOSED
GAS VALVE		
GAS METER		
GAS MAIN MARKER		
GAS SERVICE BOX		
GAS WELL		
END CAP		

COMMUNICATIONS		
FEATURE	EXISTING	PROPOSED
PEDESTAL		
POLICE OR FIRE CALL BOX		

RAILROAD		
FEATURE	EXISTING	PROPOSED
RR SIGNAL		
RR SIGNAL CONTROL BOX		
RR SWITCHSTAND		
RR FROG POINT		
RR BUMPER		

TOPOGRAPHY		
FEATURE	EXISTING	PROPOSED
SPLASH BLOCK		
MAIL BOX		
YARD LIGHT		
STONE FENCE		
TREE LINE		
DECIDUOUS TREE, TRUNK Ø		
CONIFER TREE, TRUNK Ø		
CONIFER TREE, MULTI-TRUNK Ø		
DECIDUOUS TREE, MULTI-TRK Ø		
TREE BORING		
TREE REMOVAL		
BORING/RECEIVING PITS		
STUMP		
HEDGE		
BOLLARD		
SPOT ELEVATION		
WATER ELEVATION		
GATE		
POST		
STREAM OR RIVER		
TOP OF SLOPE		
TOE OF SLOPE		
TEST BORE HOLE		

TRAFFIC		
FEATURE	EXISTING	PROPOSED
TRAFFIC SIGNAL		
PULL BOX TRAFFIC SIGNAL		
SIGNAL POLE W/CONTROL		
ROAD SIGNS		
MILE MARKER		

MISC		
FEATURE	EXISTING	PROPOSED
TANK FILLER		
CLAY DAM		
CONTRACTOR TEST PIT		
POST INDICATOR VALVE		
PUMP		
VALVE OPERATOR **		
CHECK VALVE		

MATERIAL SYMBOLS		
FEATURE	EXISTING	PROPOSED
CLAY		
APPROVED BACKFILL		
SAND		
SEDIMENT		
COMPACT STONE SUBBASE		
SELECT FILL		
FILL		
RIP-RAP / CRUSHED STONE		
BEDROCK		
SWAMP		
TOPSOIL		
ASPHALT		
CONCRETE		
CONCRETE MASONRY UNIT		
ROCK SURFACE		
EARTH SURFACE		
PIPE BEDDING		
TOP COURSE		
BINDER COURSE		
GRANITE		
PEA GRAVEL		
EASEMENT		
MARSH OR SWAMP		
ROCK OUTCROPPING		

SURVEY LINETYPES		
FEATURE	EXISTING	PROPOSED
PROPERTY LINE		
MUNICIPAL BOUNDARY		
CENTER LINE		
EASEMENT		
ROW & MONUMENT		
CONTOURS MAJOR		
CONTOURS MINOR		
FEMA FLOOD CONTOUR		

UTILITY LINETYPES		
FEATURE	EXISTING	PROPOSED
ELECTRIC UNDERGROUND		
ELECTRIC OVERHEAD		
TELEPHONE UNDERGROUND		
TELEPHONE OVERHEAD		
COMMUNICATION UNDERGROUND		
COMMUNICATION OVERHEAD		
GAS		
WATER MAIN		
SANITARY SEWER		
SANITARY SEWER FORCEMAIN		
STORM SEWER		
ABANDONED PIPE		
DEMOLITION		

TOPOGRAPHIC LINETYPES		
FEATURE	EXISTING	PROPOSED
FENCE		
GUIDE POSTS GUARD RAIL		
RR TRACKS SMALL SCALE		
SHEET PILING		
SHORE LINE		
WORK LIMIT LINE		

ABBREVIATIONS		
Ø, DIA	=	DIAMETER
AOBE	=	AS ORDERED BY ENGINEER
ASPH	=	ASPHALT
AHD	=	AHEAD
BOB	=	BOTTOM OF BANK
BC	=	BOTTOM OF CURB
BDY	=	BOUNDARY
BV	=	BUTTERFLY VALVE
BLDG	=	BUILDING
BLVD	=	BOULEVARD
BM	=	BENCHMARK
BTD	=	BLACK TOP DRIVE
BK	=	BACK
CL	=	CENTERLINE
CB	=	CATCH BASIN
CATV	=	CABLE TV
C/C	=	CENTER TO CENTER
CIP	=	CAST IRON PIPE
CMP	=	CORRUGATED METAL PIPE
CO	=	CLEANOUT
CONC	=	CONCRETE
CONST	=	CONSTRUCTION
CP	=	CONTROL POINT
CR	=	COUNTY ROAD
CSD	=	CRUSHED STONE DRIVE
CSPA	=	CORRUGATED STEEL PIPE ARCH
CT	=	COPPER TUBING PIPE
CULV	=	CULVERT
DI	=	DUCTILE IRON
DIP	=	DUCTILE IRON PIPE
DIA, Ø	=	DIAMETER
DN	=	DOWN
E	=	EAST
EL	=	ELEVATION
EP	=	EDGE OF PAVEMENT
EPS	=	EDGE OF PAVED SHOULDER
ES	=	EDGE OF SHOULDER
FND	=	FOUNDATION
FS	=	FAR SIDE
FT	=	FOOT, FEET
GAR	=	GARAGE
GM	=	GAS METER
GP	=	GUY POLE
GRAV	=	GRAVEL
GSB	=	GAS SERVICE BOX
GV	=	GAS VALVE (MAIN LINE)
GS	=	GATE SERVICE
GW	=	GAS WELL
HC	=	HANDICAP
HDPE	=	HIGH DENSITY POLYETHYLENE PIPE
HP	=	HIGH POINT
HPG	=	HIGH PRESSURE GAS
HSE #	=	HOUSE NUMBER
HW	=	HEADWALL
HWY	=	HIGHWAY
HYD	=	HYDRANT
INV	=	INVERT
IB	=	IRON BAR
IP	=	IRON PIPE OR IRON PIN
LF	=	LINEAR FOOT
LP	=	LIGHT POLE
LPG	=	LOW PRESSURE GAS
LT	=	LEFT
MH	=	MANHOLE
MJ	=	MECHANICAL JOINT
MON	=	MONUMENT

ABBREVIATIONS		
N	=	NORTH
NE	=	NORTH EAST
NW	=	NORTH WEST
NITC	=	NOT IN THIS CONTRACT
NYT	=	NEW YORK TELEPHONE
PAVT	=	PAVEMENT
PCCP	=	PRESTRESSED CONCRETE CYLINDER PIPE
PCSP	=	PERFORATED CORRUGATED STEEL PIPE
PS	=	PUMP STATION
PVC	=	POLYVINYL CHLORIDE PIPE
PP	=	POWER POLE
RCP	=	REINFORCED CONCRETE PIPE
RIB	=	RECORDED IRON BAR
RD	=	ROAD
RP	=	REFLECTOR POST
RR	=	RAILROAD
ROW	=	RIGHT OF WAY
RT	=	RIGHT
RTE	=	ROUTE
R	=	RADIUS
STA	=	STATION
SA	=	SANITARY MANHOLE (SYMBOL)
SAN	=	SANITARY SEWER
SSMH	=	SANITARY MANHOLE
SHDR	=	SHOULDER
SIB	=	SET IRON BAR
SH	=	STATE HIGHWAY
S	=	SOUTH
SE	=	SOUTH EAST
SF	=	SILT FENCE
SBD	=	STRAW BALE DIKE
SPK	=	SPIKE
STP	=	STEEL PIPE
STM	=	STORM SEWER
STM MH	=	STORM MANHOLE
STK	=	STAKE
ST	=	STREET
STY	=	STORY
SW	=	SIDEWALK
SW	=	SOUTH WEST
TB	=	TEST BORE
TOB	=	TOP OF BANK
TBM	=	TEMPORARY BENCH MARK
TC	=	TOP OF CURB
TEL P	=	TELEPHONE POLE
TGL	=	THEORETICAL GRADE LINE
UP	=	UTILITY POLE
UGE	=	UNDERGROUND ELECTRIC
UGT	=	UNDERGROUND TELEPHONE
VCP	=	

GENERAL CONSTRUCTION NOTES:

- SURVEY INFORMATION AS DEVELOPED BY DAVIS, BOWEN, AND FRIEDEL INC. AERIAL IMAGERY FROM DELAWARE ENVIRONMENTAL MONITORING & ANALYSIS CENTER.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY OF DELMARVA / 811" FOR UTILITY MARKING AND LOCATIONS PRIOR TO COMMENCING WORK.
- THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND FURNISH COPIES TO THE OWNER PRIOR TO COMMENCING WORK.
- THE CONTRACTORS WORK AREA SHALL BE CONFINED TO THE LIMITS OF THE RIGHT-OF-WAYS AND EASEMENTS. THE CONTRACTOR SHALL OBTAIN ANY ADDITIONAL EASEMENTS OR WORK RELEASES SHOULD THE CONTRACTOR REQUIRE ADDITIONAL AREA TO ACCOMMODATE HIS OPERATIONS.
- THE CONTRACTOR SHALL PROVIDE MAINTENANCE AND PROTECTION OF TRAFFIC IN ACCORDANCE WITH THE DELAWARE DOT STANDARDS.
- THE LOCATIONS AND DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THE PLANS AND PROFILES ARE APPROXIMATE. OTHER UNDERGROUND UTILITIES NOT SHOWN MAY BE ENCOUNTERED. FOR OPEN CUT THE CONTRACTOR SHALL EXCAVATE (SOFT DIG) IN ADVANCE OF THE PIPE LAYING OPERATION AND EXPOSE ALL EXISTING UNDERGROUND UTILITIES TO PREVENT DAMAGE DURING CONSTRUCTION AND TO DETERMINE REQUIRED CHANGES IN GRADE NECESSARY TO INSTALL THE FORCEMAIN TO AVOID CONFLICTS. ALL EXCAVATIONS SHALL BE RESTORED PER DETAIL 1 ON C005.
- THE CONTRACTOR SHALL INSTALL THOSE MEASURES REQUIRED TO LIMIT EROSION OF AREAS DISTURBED BY THE WORK. CLEARING SHALL BE PERFORMED ON AN AS NEEDED BASIS, PHASED TO REDUCE EROSION POTENTIAL AND VISUAL IMPACT.
- BLASTING WILL NOT BE PERMITTED.
- THE CONTRACTOR SHALL HAVE ALL EQUIPMENT, MANPOWER, AND MATERIALS REQUIRED ON SITE AND READY FOR USE PRIOR TO COMMENCING ANY SHUT-DOWN OR REMOVING ANY EXISTING FACILITIES FROM SERVICE. THE CONTRACTOR SHALL NOTIFY ALL AFFECTED CUSTOMER OF ANY SHUT-DOWN AT LEAST 48 HOURS IN ADVANCE. ANY SHUT-DOWNS SHALL BE LIMITED TO 4 CONSECUTIVE HOURS. IT MAY BE NECESSARY TO SCHEDULE SHUT-DOWNS AT NIGHT, WEEKENDS, OR OTHER OFF HOURS SO AS TO NOT AFFECT SCHOOLS, BUSINESSES OR OTHER CUSTOMERS, AS DETERMINED BY THE OWNER. SHUT-DOWN REQUESTS SHALL BE SUBMITTED TO THE OWNER A MINIMUM OF 5 BUSINESS DAYS IN ADVANCE OF THE REQUESTED SHUT-DOWN DATE.
- THE CONTRACTOR SHALL NOTIFY THE OWNER OF ANY UTILITY POLE IN ADVANCE OF ANY EXCAVATION WORK THAT WILL TAKE PLACE WITHIN 5'-0" OF THE UTILITY POLE. THE CONTRACTOR SHALL INCLUDE THE COST OF TEMPORARY POLE SUPPORT IN THE APPROPRIATE BID ITEM. WHERE UTILITY POLES ARE REQUIRED TO BE SUPPORTED DURING CONSTRUCTION, THE CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS WITH THE UTILITY COMPANY.
- IF MATERIALS ARE ENCOUNTERED DURING THE CONSTRUCTION THAT ARE SUSPECTED OF BEING CONTAMINATED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE DELAWARE DEC FOR DIRECTION REGARDING TESTING, SEPARATION, CONTAINMENT AND DISPOSAL PROCEDURES.
- THE CONTRACTOR SHALL COLD PATCH ALL TRENCH EXCAVATIONS IN TRAVELED AREA INCLUDING ROADS, DRIVEWAYS, SIDEWALKS AND PARKING AREAS.
- THE CONTRACTOR SHALL NOT RESTRICT SCHOOL BUS ACCESS OR ANY EMERGENCY VEHICLES.
- THE USE OF EXISTING FIRE HYDRANTS FOR ANY REASON IS PROHIBITED WITHOUT PRIOR APPROVAL OF THE OWNER.
- THE CONTRACTOR SHALL BE PRESENT AND ASSIST IN THE FINAL WALK INSPECTION. THE CONTRACTOR SHALL PROVIDE SUFFICIENT PERSONNEL AND EQUIPMENT TO DEMONSTRATE TO THE ENGINEER THAT ALL VALVES OPERATE AS REQUIRED.


CIVIL CONSTRUCTION NOTES:

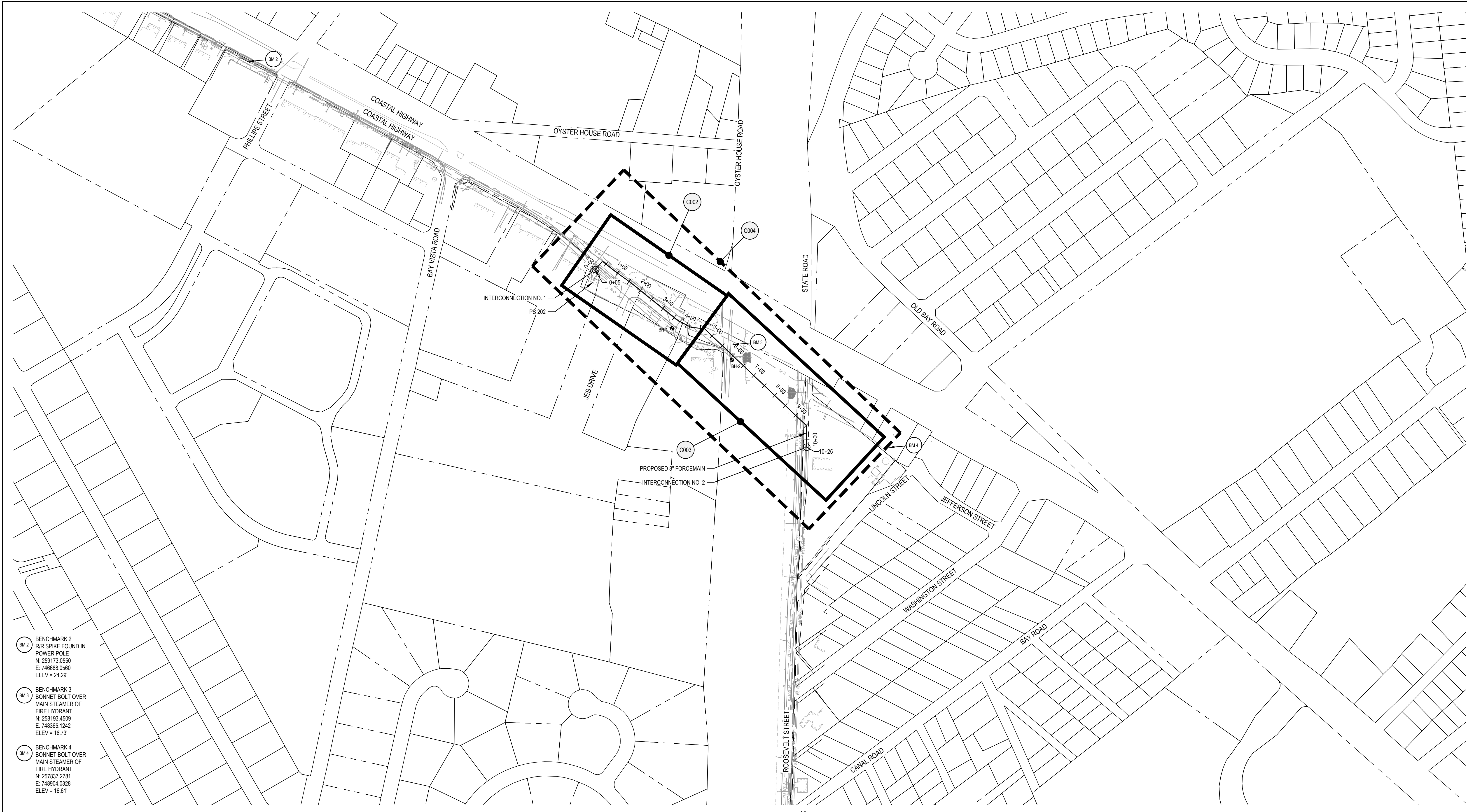
- PIPE, FITTINGS, AND APPURTENANCES
 - ALL PRESSURE SEWER PIPING SHALL BE PVC (DR-18) OR HDPE (PE 4170 DR-11) CONFORMING TO ASTM A-1748 AND ASTM D-2241 FOR PVC AND ASTM D-3350 (CELL CLASSIFICATION OF 345444C) AND AWWA C906 FOR HDPE. LATEST REVISIONS. PVC PIPING SHALL HAVE BELL AND SPIGOT RUBBER GASKET JOINTS AND HDPE PIPING SHALL HAVE BUTT FUSION JOINTS.
 - WHEN TRANSFERRING FROM HDPE PIPE TO ANOTHER MATERIAL, PIPE FLEX-RESTRAINTS ARE REQUIRED. AN ELECTROFUSION FLEX RESTRAINT BY CENTRAL PLASTICS, OR EQUAL, SHALL BE USED WITH A CONCRETE ANCHOR BLOCK TO PREVENT PULL OUTS FROM EXPANSION OF HDPE PIPE.
 - VALVES SHALL BE PLUG VALVES WITH MECHANICAL JOINT ENDS, 2-INCH SQUARE OPERATING NUT, NON-RISING STEMS, SUITABLE FOR BURIED SERVICE, AND CONFORM TO ASTM A126 CL B, AWWA C111 (ANSI A21.11), AND AWWA C504 SPECIFICATIONS, LATEST REVISIONS, BY PRATT OR APPROVED EQUAL. EACH VALVE SHALL BE INSTALLED WITH A CAST IRON TWO-PIECE SCREW TYPE VALVE BOX AND COVER.
 - COMBINATION AIR VALVES SHALL BE SINGLE BODY DESIGN AND SHALL PROVIDE BOTH AIR RELEASE AND AIR/VACUUM VALVE FUNCTIONS. VALVE SHALL HAVE A DESIGN WORKING PRESSURE OF 150 PSI AND A MAXIMUM FLUID TEMPERATURE OF 180° F. AIR RELEASE SHALL BE BY DUAL-RANGE VENTING WITH A 5/16" SELF-ADJUSTING ORIFICE. FRACTIONAL AIR RELEASE ORIFICE MUST BE CAPABLE OF RELEASING 140 SCFM OF AIR AT 150 PSI PRESSURE DIFFERENTIAL. VALVE SHALL CLOSE TIGHTLY AT PRESSURES BETWEEN 2 AND 150 PSI WITHOUT LEAKING. THE AIR/VACUUM INLET AND OUTLET AREAS SHALL MEET FLOW AREA REQUIREMENTS SET FORTH IN AWWA C512. VALVE SHALL BE AN ASU COMBINATION AIR VALVE BY DEZURIK OR EQUAL.
 - PVC AND HDPE PRESSURE PIPE SHALL HAVE A MAGNETIC TAPE MARKER LAID DIRECTLY ABOVE THE FULL LENGTH OF THE PIPE APPROXIMATELY 18-INCH BELOW GRADE. THE MAGNETIC TAPE SHALL BE GREEN AND LABELED "SANITARY SEWER".
 - FITTINGS SHALL BE DI MECHANICAL JOINT PUSH-ON FITTING CONFORMING TO AWWA C104 AND AWWA C153 OF THE SAME PRESSURE CLASS AS THE ADJACENT PIPING. ALL PIPE JOINTS ON EITHER SIDE OF THE FITTING SHALL BE MECHANICALLY RESTRAINED TO THE LENGTH SHOWN ON DETAIL 7 AND HAVE A CONCRETE THRUST BLOCK MEETING THE REQUIREMENTS OF DETAILS 8 AND 9. ROODING IS NOT ALLOWED ON THIS PROJECT.
 - COATINGS AND LININGS FOR DUCTILE IRON PIPE AND FITTINGS:
 - LINED WITH A BITUMINOUS SEAL COATED CEMENT-MORTAR LINING IN ACCORDANCE WITH AWWA C104, DOUBLE THICKNESS.
 - COATED ON THE OUTSIDE WITH A BITUMINOUS COATING, APPROXIMATELY ONE MILLIMETER THICK. FITTINGS MAY BE LINED WITH AN NSF/ANSI STANDARD 61 APPROVED FUSION BONDED EPOXY MEETING THE APPLICABLE SECTIONS OF AWWA C116.
 - POLYETHYLENE ENCASEMENT FOR DUCTILE IRON PIPE AND FITTINGS:
 - POLYETHYLENE ENCASEMENT SHALL BE USED FOR DUCTILE IRON PIPE AND FITTINGS AND ON DUCTILE IRON FITTINGS WHEN USING PVC PIPE, CONFORMING TO AWWA SPECIFICATION C105.
 - POLYETHYLENE FILM CONFORMING TO THE FOLLOWING REQUIREMENTS OF ASTM STANDARD SPECIFICATION D1248 - POLYETHYLENE PLASTICS MOLDING AND EXTRUSION MATERIALS.
 - TENSILE STRENGTH OF 1,200 PSI MINIMUM AND SHALL ALLOW ELONGATION OF 300 PERCENT MINIMUM AND HAVE A DIELECTRIC STRENGTH OF 800 V/MIL THICKNESS MINIMUM.
 - MINIMUM NOMINAL THICKNESS OF 0.008 IN (8 MILS), THE MINUS TOLERANCE OF THICKNESS SHALL NOT EXCEED 10 PERCENT OF THE NOMINAL THICKNESS.
 - TAPE REQUIRED TO COMPLETE THE INSTALLATION SHALL BE 2 INCHES WIDE, PLASTIC BACKED ADHESIVE TAPE SUCH AS POLYKEN #900, SCOTCHRAP #50 OR APPROVED EQUAL.
- NUTS AND BOLTS SHALL HAVE A FLUOROCARBON SC-1 COATING. T-BOLTS SHALL BE HEAT TREATED DUCTILE IRON MATERIAL WITH A MINIMUM OF 65,000 PSI TENSILE STRENGTH AND 45,000 PSI YIELD STRENGTH MEETING ANSIAWWA C111/A21-95.
- CORRUGATED POLYETHYLENE PIPE FOR STORM SEWERS SHALL BE MANUFACTURED OF VIRGIN PE COMPOUNDS, WHICH CONFORM TO THE REQUIREMENTS OF TYPE 111, CATEGORY 4 OR 5, GRADE P33, CLASS C; OR GRADE P34, CLASS C IN ACCORDANCE WITH LATEST REVISION OF ASTM D1248. PIPE STIFFNESS OF 12-INCH SIZE PIPE AT 5 PERCENT DEFLECTION SHALL BE 45 PSI, 18-INCH SIZE PIPE AT 5 PERCENT DEFLECTION SHALL BE 40 PSI, AND 36-INCH SIZE PIPE AT 5 PERCENT DEFLECTION SHALL BE 22 PSI.
- OPEN-CUT INSTALLATION
 - THE CONTRACTOR SHALL CONFORM TO MANUFACTURER'S INSTRUCTIONS AND TO APPLICABLE CODES AND STANDARDS.
 - UTILITIES SHOWN ON THE DRAWINGS AND BEING CROSSED BY THE PROPOSED PIPELINE HAVE BEEN NOTED WITH THE TEST PIT SYMBOL. TEST PITS SHALL BE EXCAVATED (SOFT DIG) TO EXPOSE THE UTILITY IN QUESTION IN ADVANCE OF LAYING OPERATIONS SO THAT, IF MINOR ADJUSTMENTS TO LINE AND GRADES MUST BE MADE DUE TO INTERFERENCE FROM THESE UTILITIES, SAID CHANGES CAN BE MADE IN ADVANCE OF THE WORK.
 - EXCAVATION FOR STRUCTURES AND PIPELINES SHALL BE OPEN EXCAVATIONS, SHORED AND BRACED WHERE NECESSARY TO PREVENT DAMAGE OR INJURY TO WORKMEN, PUBLIC, STRUCTURES, AND PIPELINES, AND SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE, FEDERAL, AND OSHA REGULATIONS AND REQUIREMENTS. PROVIDE SHEETING, SHORING, AND BRACING OR MOVEABLE TRENCH BOXES AND SHEETING WHEN GROUND CONDITIONS REQUIRED TRENCH SUPPORT.
 - TRENCHES SHALL BE EXCAVATED TO THE LIMITS SHOWN ON THE PLANS. TRENCH BOTTOMS SHALL BE FIRM, STABLE, AND UNIFORM TO SUPPORT THE FULL LENGTH OF PIPE SECTIONS. TRENCH BOTTOMS CONTAINING UNSUITABLE MATERIALS SHALL BE OVER EXCAVATED TO REMOVE ALL UNSUITABLE MATERIAL AND SHALL BE BACKFILLED WITH COMPACTED SELECT BACKFILL MATERIAL.
 - PROVIDE ALL SUITABLE MEANS TO CONTROL GROUNDWATER INFILTRATION INTO OPEN EXCAVATIONS. PROVIDE PUMPS, WELL POINTS, OR OTHER MEANS NECESSARY TO MAINTAIN TRENCHES IN A DRY AND STABLE CONDITION.
 - THE PIPE, STRUCTURES, AND APPURTENANCES SHALL BE INSTALLED TO CONFORM TO THE LOCATION SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. EACH PIPE, FITTING, AND STRUCTURE SHALL BE KEPT CLEAN AND FREE FROM ALL DIRT AND DEBRIS AND SHALL BE BEDDED THROUGHOUT ITS LENGTH. PIPE BEDDING AND ENCASEMENT MATERIAL SHALL BE COMPACTED SAND CONFORMING TO LATEST REVISION OF ASTM C136.
 - SELECT BACKFILL MATERIAL SHALL BE INSTALLED AND COMPACTED UNDER ALL CRUSH STONE DRIVEWAYS, PARKING AREAS, SIDEWALKS, SHOWN ON THE PLANS, OR OTHER AREAS AS DIRECTED BY THE ENGINEER. SELECT BACKFILL MATERIAL SHALL CRUSHER RUN INSTALLED TO SUB-GRADE. SELECT BACKFILL MATERIAL SHALL BE INSTALLED TO A LIMIT OF 5 FEET OUTSIDE THE EDGE OF DRIVEWAYS, SIDEWALKS, OR PARKING AREAS.
 - EXCAVATED MATERIALS SHALL BE REMOVED FROM THE PIPE TRENCH AND STOCKPILED AT A LOCATION NEAR THE TRENCH FOR USE AS GENERAL BACKFILL MATERIAL. THIS MATERIAL MAY BE USED AS BACKFILL PROVIDED IT DOES NOT CONTAIN BOULDERS, FROZEN CLUMPS, ROCK, OR OTHER MATERIALS WHICH COULD CAUSE DAMAGE TO THE PIPE. ALL BACKFILL MATERIALS SHALL BE COMPACTED WITH MECHANICAL TAMPERS IN ORDER TO OBTAIN A UNIFORM, COMPACTED TRENCH.

- THE MINIMUM DENSITY FOR GENERAL BACKFILL SHALL BE 95 PERCENT OF MAXIMUM DENSITY OBTAINED IN THE LABORATORY IN ACCORDANCE WITH THE LATEST REVISION OF ASTM D1577.
- CORE DRILLING OF EXISTING MANHOLES OR EXISTING STRUCTURES SHALL BE COMPLETED USING EQUIPMENT SUITABLE FOR THE USE INTENDED. DRILLING MACHINES SHALL BE CAPABLE OF CUTTING THROUGH CONCRETE WALLS AND REINFORCED STEEL LEAVING A SMOOTH OPENING FOR INSTALLATION OF PROPOSED PIPING. PIPING SHALL BE INSTALLED THROUGH THE WALL OPENING AND A MECHANICAL SEAL, THUNDERLINK SEAL OR EQUAL, INSTALLED TO SEAL OPENING BETWEEN PIPE AND WALL AFTER INSTALLATION OF MECHANICAL SEAL, GROUT REMAINING OPENING ON WALL WITH HYDRAULIC CEMENT GROUT.
- HORIZONTAL DIRECTIONAL DRILLING (HDD) INSTALLATION
 - FOR HDD INSTALLATION THE CONTRACTOR SHALL ADHERE TO THE HORIZONTAL DIRECTIONAL DRILLING UTILITY CONSTRUCTION NOTES ON G004.
- TESTING PROCEDURES
 - IT IS IMPERATIVE THAT ALL SEWERS AND APPURTENANT STRUCTURES BE CONSTRUCTED AS WATERTIGHT AS PRACTICABLE. AFTER BACKFILLING AND PRIOR TO FINAL ACCEPTANCE OF THE PROJECT, THE FOLLOWING THREE PROCEDURES SHALL BE PERFORMED ON ALL NEW SEWERS:
 - INITIAL FLUSHING
 - CONTRACTOR SHALL FILL AND FLUSH NEW PIPELINE TO REMOVE DIRT AND MISCELLANEOUS DEBRIS FROM THE INSIDE OF THE PIPING SYSTEM. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A WATER SOURCE FOR FILLING AND FLUSHING AS WELL AS REMOVING ALL ENTRAPPED AIR.
 - FLUSHING MUST HAVE SUFFICIENT FLOWRATE TO ACHIEVE A FLUID VELOCITY OF 2.5 FEET PER SECOND INSIDE THE PIPELINE.
 - CONTRACTOR SHALL OPEN AND CLOSE VALVES SEVERAL TIMES UNDER EXPECTED LINE PRESSURE TO FLUSH FOREIGN MATERIAL OUT OF THE VALVES AND PIPELINES.
 - FLUSHING SHALL CONTINUE UNTIL THREE PIPE VOLUMES HAVE PASSED THROUGH THE NEW PIPELINE AND THE WATER APPEARS SEDIMENT FREE.
 - PRESSURE TESTING
 - PRESSURE TEST APPARATUS SHALL BE INSTALLED, AS SHOWN ON THE DRAWINGS, AT THE LOWEST POINT IN THE LINE AND SHALL BE TESTED AT A PRESSURE OF 120 PSI AS OUTLINED HEREIN. PRESSURE GAUGE SHALL HAVE MARKINGS AT NO GREATER THAN 2 PSI INCREMENTS AND BE IN GOOD WORKING CONDITION AND MUST BE DEMONSTRATED TO BE ACCURATE TO THE ENGINEER PRIOR TO ANY TESTING.
 - TEST PRESSURE SHALL BE HELD ON THE PIPELINE FOR A PERIOD OF TWO (2) HOURS, UNLESS A LONGER PERIOD IS REQUESTED BY THE ENGINEER. PRESSURE SHALL NOT FLUCTUATE BY MORE THAN 5 PSI DURING TESTING. IF THE PRESSURE DROP IS 3 PSI OR GREATER BUT LESS THAN 5 PSI IN 2 HOURS, THE CONTRACTOR SHALL CONTINUE THE TEST FOR ANOTHER TWO (2) HOURS. IF THE PRESSURE DROP OVER THE FOUR (4) HOUR PERIOD IS GREATER THAN 5 PSI, THE TEST FAILED AND MUST BE REPEATED AFTER THE CAUSE OF THE LEAKAGE IS EXPLORED AND THE NECESSARY REPAIRS HAVE BEEN MADE.
 - THE PRESSURE LOSS RECORDED OVER THE 2- OR 4-HOUR TEST MUST BE ACCEPTABLE TO THE OWNER, ENGINEER, AND ANY OTHER GOVERNING BODY FOR FINAL HYDROSTATIC TESTING APPROVAL TO BE GIVEN.
 - LEAKAGE TESTING
 - THE LEAKAGE TEST SHALL BE CONDUCTED CONCURRENTLY WITH THE PRESSURE TEST.
 - THE RATE OF LEAKAGE SHALL BE DETERMINED AT 15-MINUTE INTERVALS BY MEANS OF VOLUMETRIC MEASUREMENT OF THE MAKEUP WATER ADDED TO MAINTAIN THE TEST PRESSURE. THE TEST SHALL PROCEED UNTIL THE RATE OF LEAKAGE HAS STABILIZED OR IS DECREASING BELOW AN ALLOWABLE VALUE. FOR THREE CONSECUTIVE 15-MINUTE INTERVALS, AFTER THIS, THE TEST PRESSURE SHALL BE MAINTAINED FOR AT LEAST ANOTHER 15 MINUTES.
 - THE LEAKAGE FOR PRESSURE PIPELINES SHALL NOT EXCEED THE FOLLOWING ALLOWABLE RATES IN GALLONS PER HOUR PER 1,000 FEET OF PIPE AT THE TEST PRESSURE SPECIFIED UNDER ITEM 3.A.2 ABOVE:

PIPE DIAMETER	PIPE MATERIAL	ALLOWABLE LEAKAGE
8-INCH	PVC / DI / HDPE	0.59
 - REGARDLESS OF THE ABOVE ALLOWABLE(S), ANY VISIBLE LEAKS SHALL BE PERMANENTLY STOPPED.
 - THE CONTRACTOR SHALL PROVIDE A METER CERTIFIED WITHIN THE LAST YEAR OR A SOURCE-WATER TANK/BARREL OF SMALL ENOUGH CROSS SECTION SO THAT MEASURABLE CHANGES IN WATER DEPTH CAN BE ACCURATELY RECORDED. IF THE CHANGE IN WATER DEPTH CANNOT BE PROPERLY MEASURED, THE ENGINEER MAY REQUIRE THE TEST TO BE RUN MORE THAN 2 HOURS UNTIL AN ACCURATE DEPTH CHANGE CAN BE RECORDED AND THE ENGINEER IS SATISFIED WITH THE RESULTS.
 - THE LEAKAGE VOLUME RECORDED OVER THE 2- OR 4-HOUR TEST MUST BE ACCEPTABLE TO THE OWNER, ENGINEER, AND OTHER GOVERNING BODIES FOR FINAL PIPELINE APPROVAL TO BE GIVEN.

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				Bar is one inch on original size sheet 0 ————— 1"		 GHD Inc. 16701 Meiford Boulevard, Suite 330 Bowie MD 20715 USA T 1 240 206 6810 F 1 240 206 6811 W www.ghd.com	Drawn T. DAHMER	Designer W. WHEELER	Client SUSSEX COUNTY
D	ISSUED FOR 100% REVIEW	TED	WWW	01/24/20	Drafting Check W. WHEELER		Design Check K. GEORGE	Project PS 202 INTERCONNECT	
C	ISSUED FOR 90% REVIEW	TED	WWW	10/02/19	Project Manager L. BENNETT		Date JANUARY 2020	Title GENERAL AND CIVIL CONSTRUCTION NOTES	
B	ISSUED FOR 60% REVIEW	TED	WWW	09/12/19	Project No. 11186880		Original Size Arch D		
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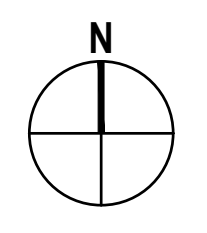


- BM 2** BENCHMARK 2
 R/R SPIKE FOUND IN
 POWER POLE
 N: 259173.0550
 E: 746688.0960
 ELEV = 24.29'
- BM 3** BENCHMARK 3
 BONNET BOLT OVER
 MAIN STEAMER OF
 FIRE HYDRANT
 N: 258193.4509
 E: 748365.1242
 ELEV = 16.73'
- BM 4** BENCHMARK 4
 BONNET BOLT OVER
 MAIN STEAMER OF
 FIRE HYDRANT
 N: 257837.8781
 E: 748904.0328
 ELEV = 16.61'

LEGEND:

- C002 — DRAWING NUMBER FOR PLAN AND PROFILE
- PLAN AND PROFILE
- HDD BORE-PATH

PLAN
 SCALE: 1" = 150'



100% DESIGN

No.	Issue	Drawn	Approved	Date
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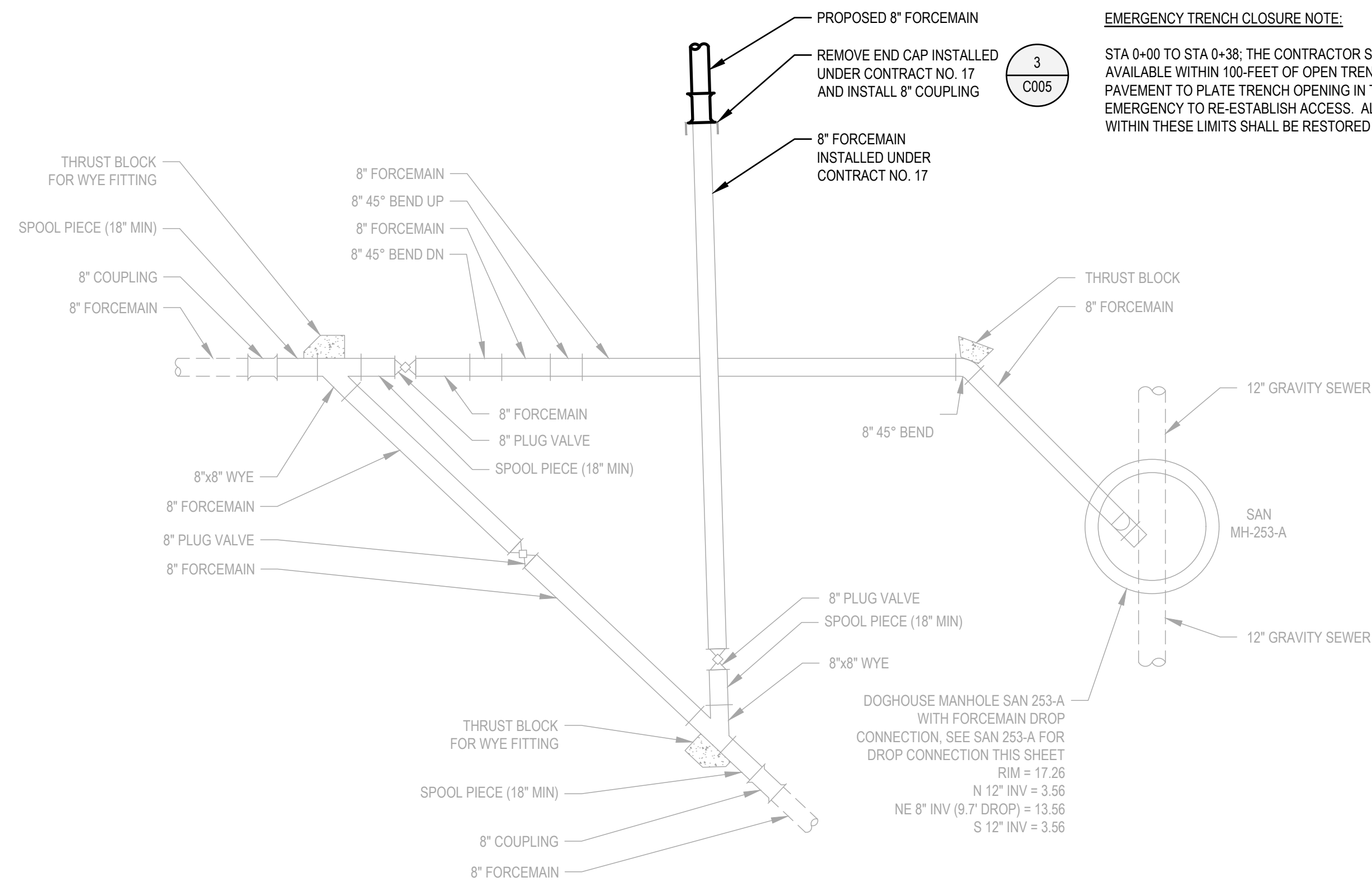
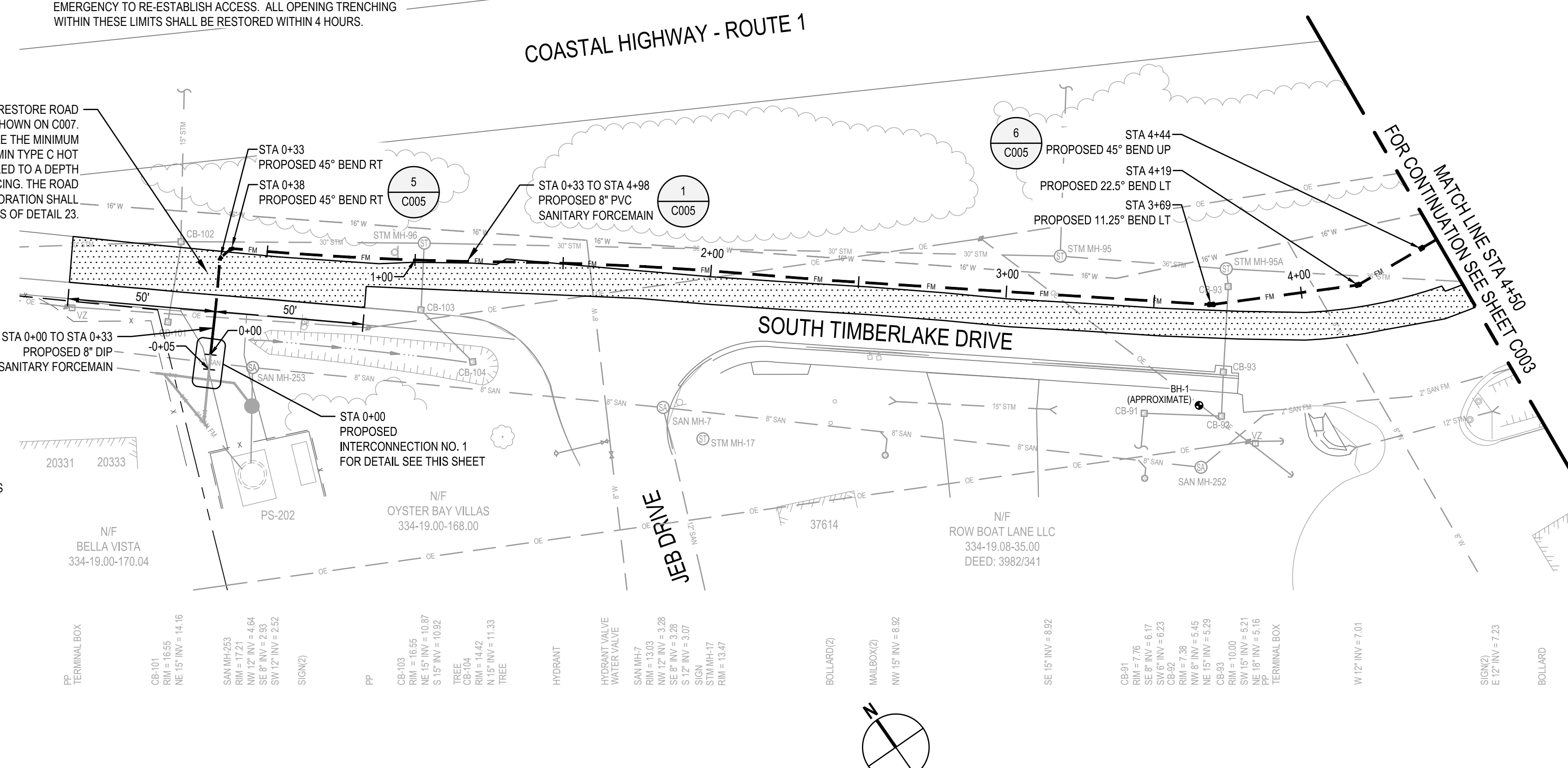
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Project Manager	L. BENNETT	Date	JANUARY 2020
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Client	SUSSEX COUNTY		
Project	PS 202 INTERCONNECT		
Title	OVERALL SITE, BENCHMARKS AND KEY PLAN		
Project No.	11186880		
Original Size	Arch D	Sheet No.	C001

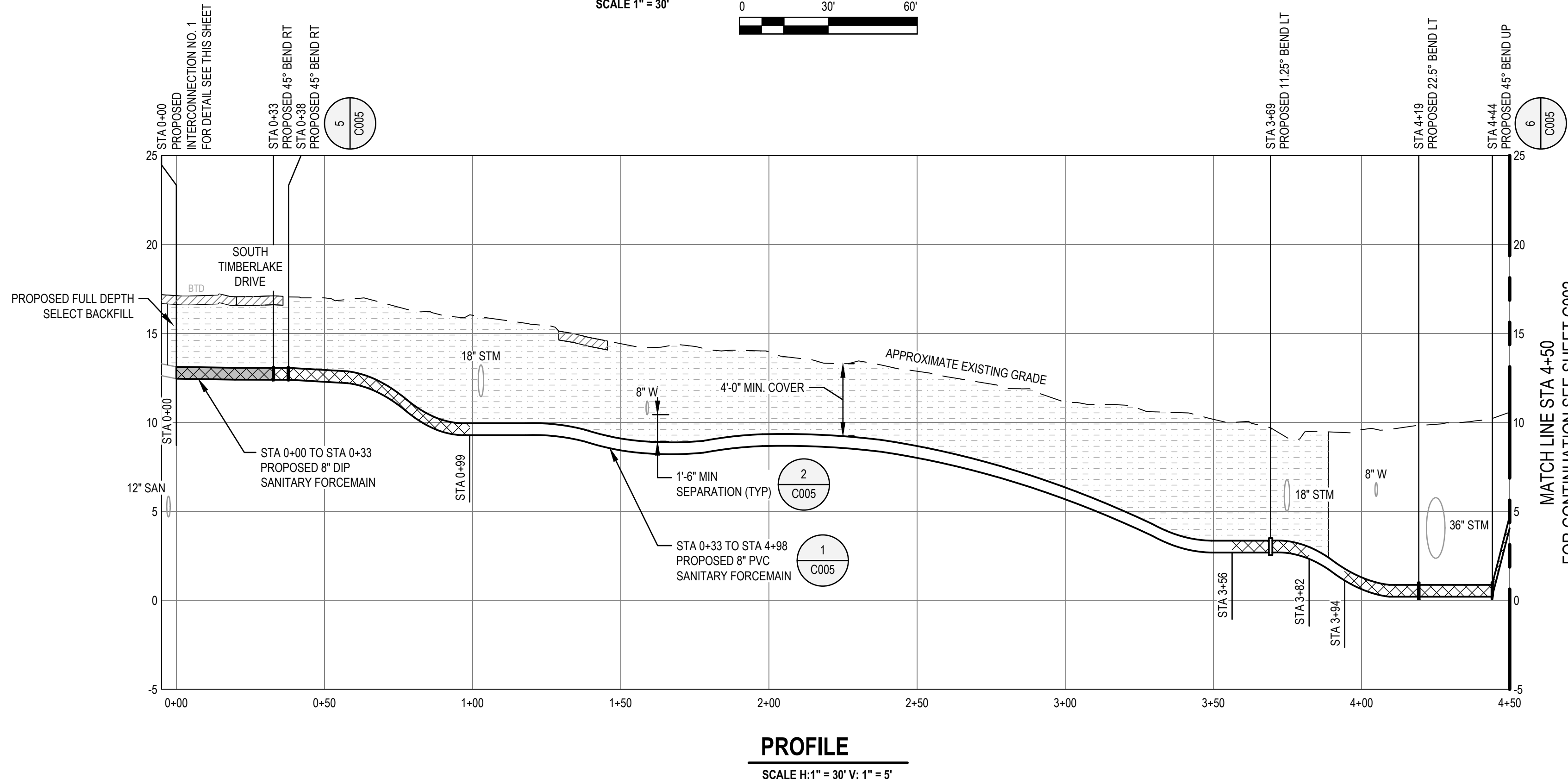
EMERGENCY TRENCH CLOSURE NOTE:
 STA 0+00 TO STA 0+38, THE CONTRACTOR SHALL HAVE ROAD PLATES AVAILABLE WITHIN 100-FEET OF OPEN TRENCHING THROUGH PAVEMENT TO PLATE TRENCH OPENING IN THE EVENT OF AN EMERGENCY TO RE-ESTABLISH ACCESS. ALL OPENING TRENCHING WITHIN THESE LIMITS SHALL BE RESTORED WITHIN 4 HOURS.

CONTRACTOR SHALL RESTORE ROAD SURFACE PER DETAIL 23, SHOWN ON C007. THE LIMITS SHOWN ARE THE MINIMUM REQUIREMENTS FOR THE 2" MIN TYPE C HOT MIX. THIS AREA SHALL BE MILLED TO A DEPTH OF 2" PRIOR TO RESURFACING. THE ROAD BASE AND TRENCH RESTORATION SHALL FOLLOW THE REQUIREMENTS OF DETAIL 23.

EMERGENCY TRENCH CLOSURE NOTE:
 STA 0+00 TO STA 0+38, THE CONTRACTOR SHALL HAVE ROAD PLATES AVAILABLE WITHIN 100-FEET OF OPEN TRENCHING THROUGH PAVEMENT TO PLATE TRENCH OPENING IN THE EVENT OF AN EMERGENCY TO RE-ESTABLISH ACCESS. ALL OPENING TRENCHING WITHIN THESE LIMITS SHALL BE RESTORED WITHIN 4 HOURS.



INTERCONNECTION NO. 1
 (STA 0+00)
 SEE PLAN THIS SHEET



PROFILE
 SCALE H: 1" = 30' V: 1" = 5'

100% DESIGN

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A	ISSUED FOR 30% REVIEW	TED	WWW	08/22/19

PIPE LEGEND

	PVC
	HDPE
	DIP
	LIMITS OF RESTRAINT

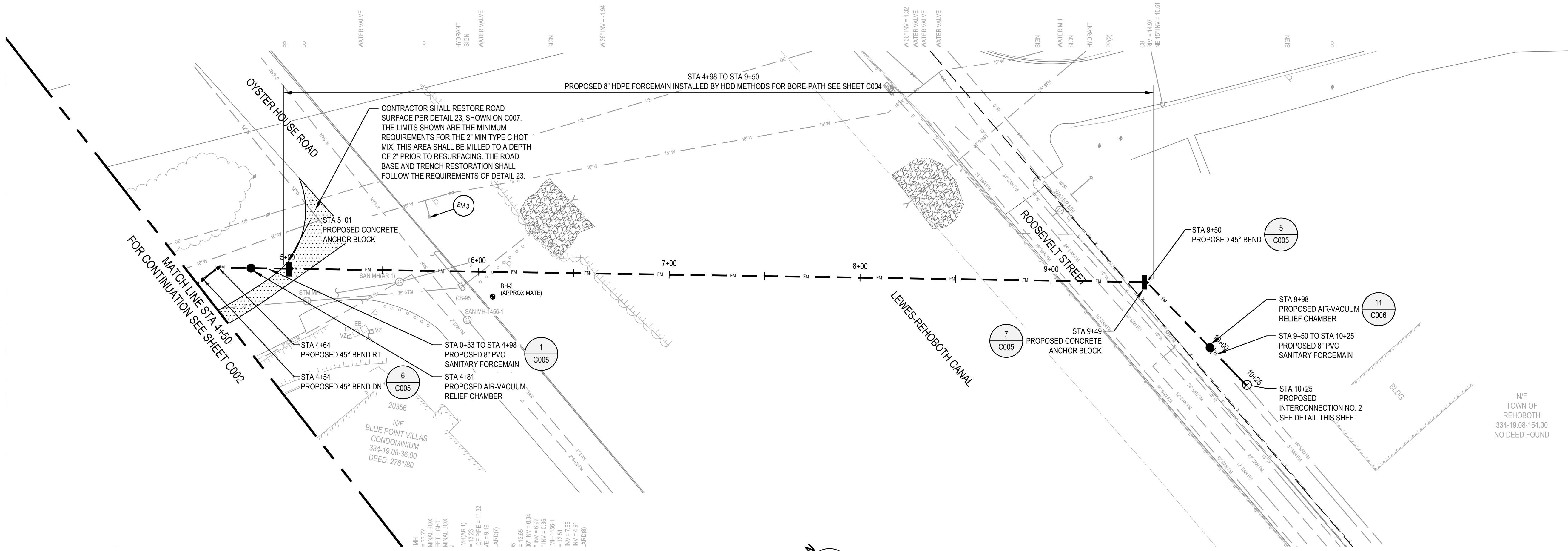
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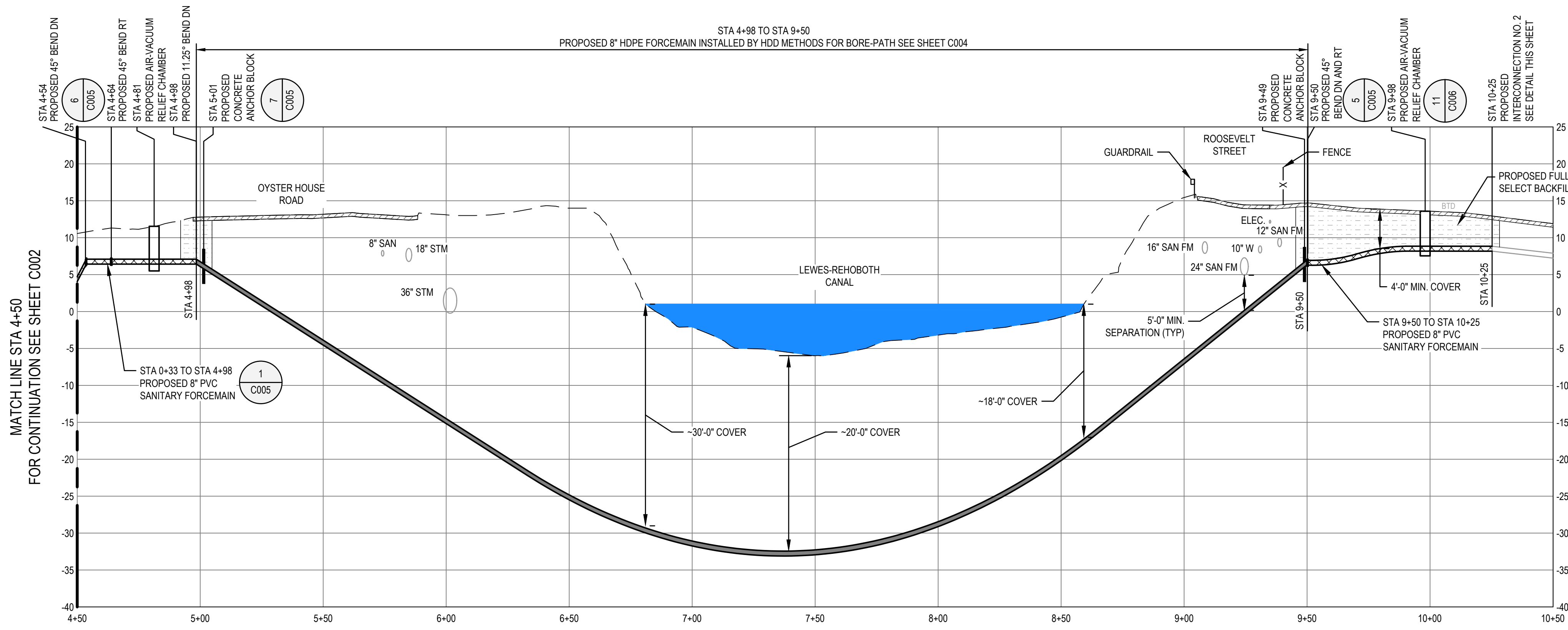
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Drawn **T. DAHMER**
 Designer **W. WHEELER**
 Drafting Check **W. WHEELER**
 Design Check **K. GEORGE**
 Project Manager **L. BENNETT**
 Date **JANUARY 2020**

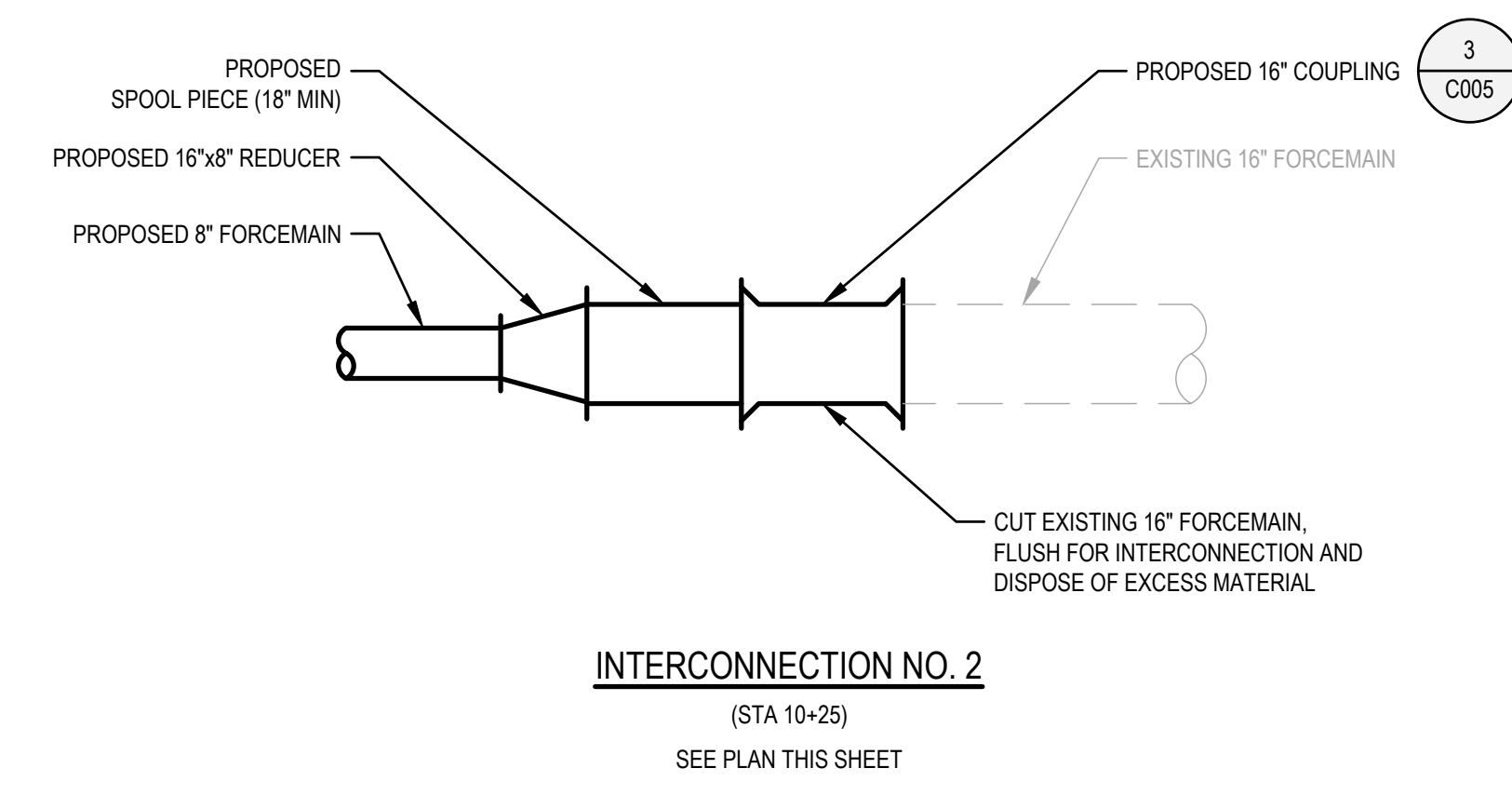
Client **SUSSEX COUNTY**
 Project **PS 202 INTERCONNECT**
 Title **PLAN AND PROFILE**
STA 0+00 TO STA 4+50
 Project No. **11186880**
 Original Size **Arch D**
 Sheet No. **C002**



PLAN
SCALE 1" = 30'



PROFILE
SCALE H: 1" = 30' V: 1" = 10'



INTERCONNECTION NO. 2
(STA 10+25)
SEE PLAN THIS SHEET

100% DESIGN

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B	ISSUED FOR 60% REVIEW	TED	WWW	09/12/19
A	ISSUED FOR 30% REVIEW	TED	WWW	08/22/19

PIPE LEGEND

	PVC
	HDPE
	DIP
	LIMITS OF RESTRAINT

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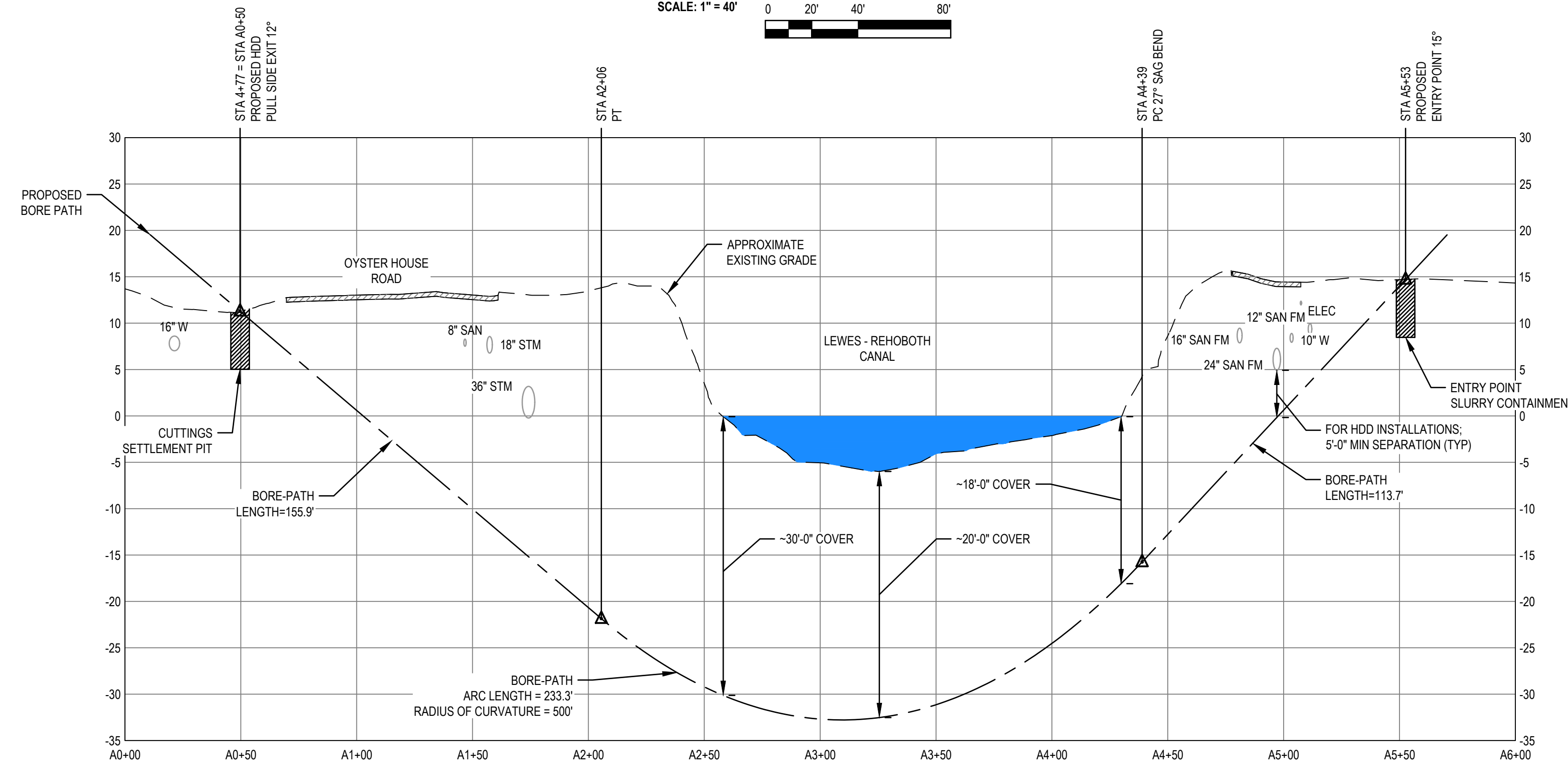
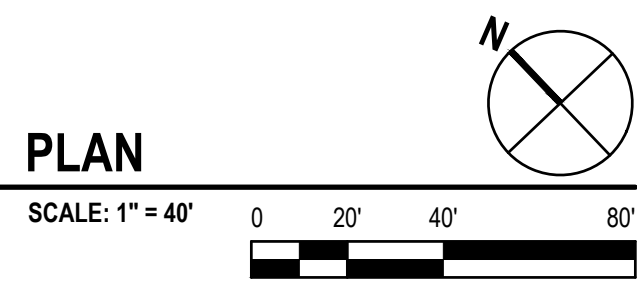
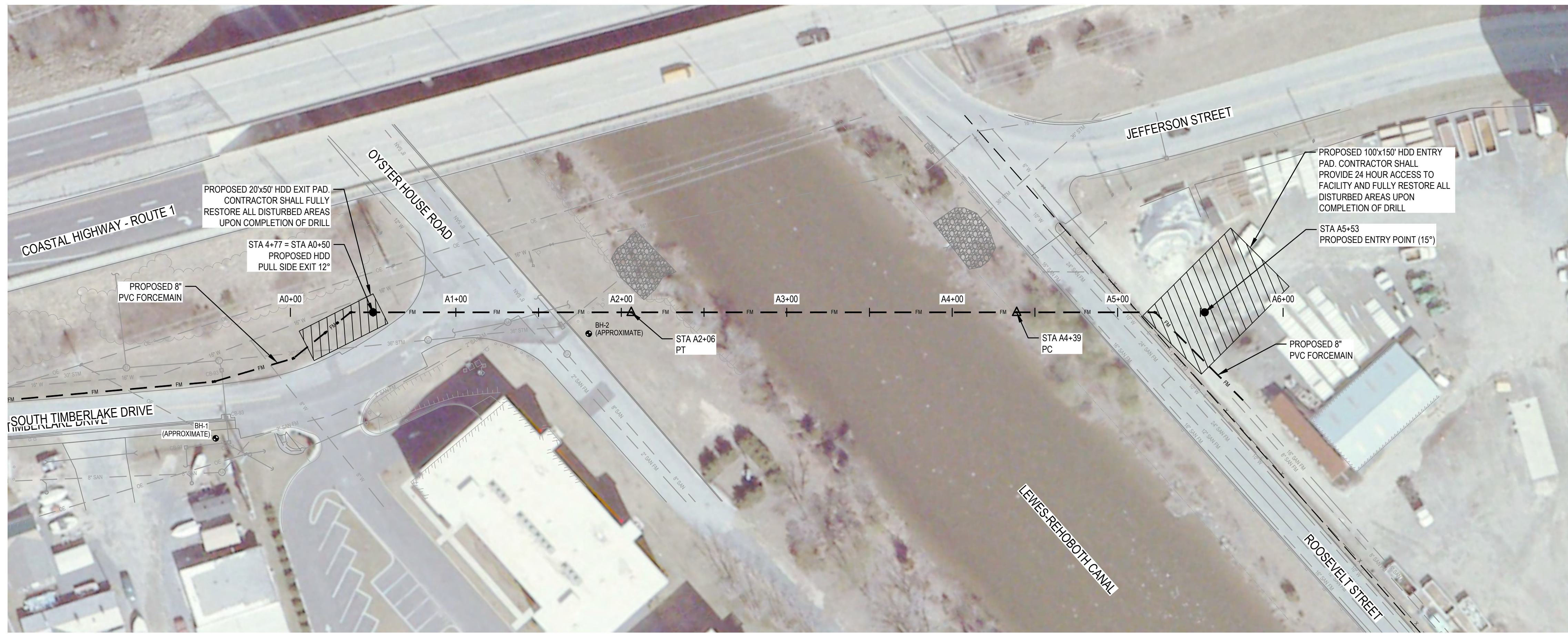
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Project Manager	L. BENNETT	Date	JANUARY 2020

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Client	SUSSEX COUNTY
Project	PS 202 INTERCONNECT
Title	PLAN AND PROFILE
	STA 4+50 TO STA 10+50
Project No.	11186880
Original Size	Arch D
Sheet No.	C003

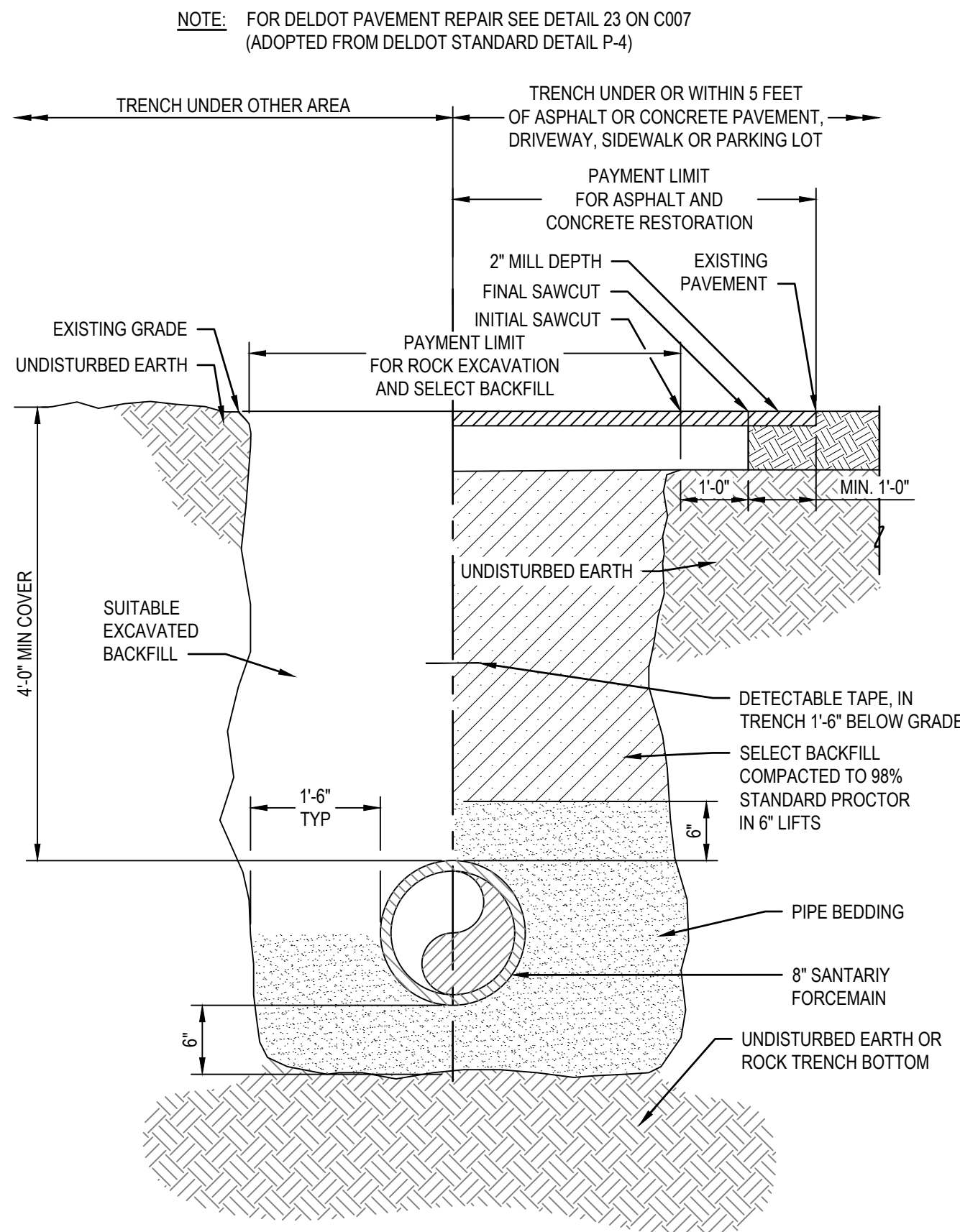
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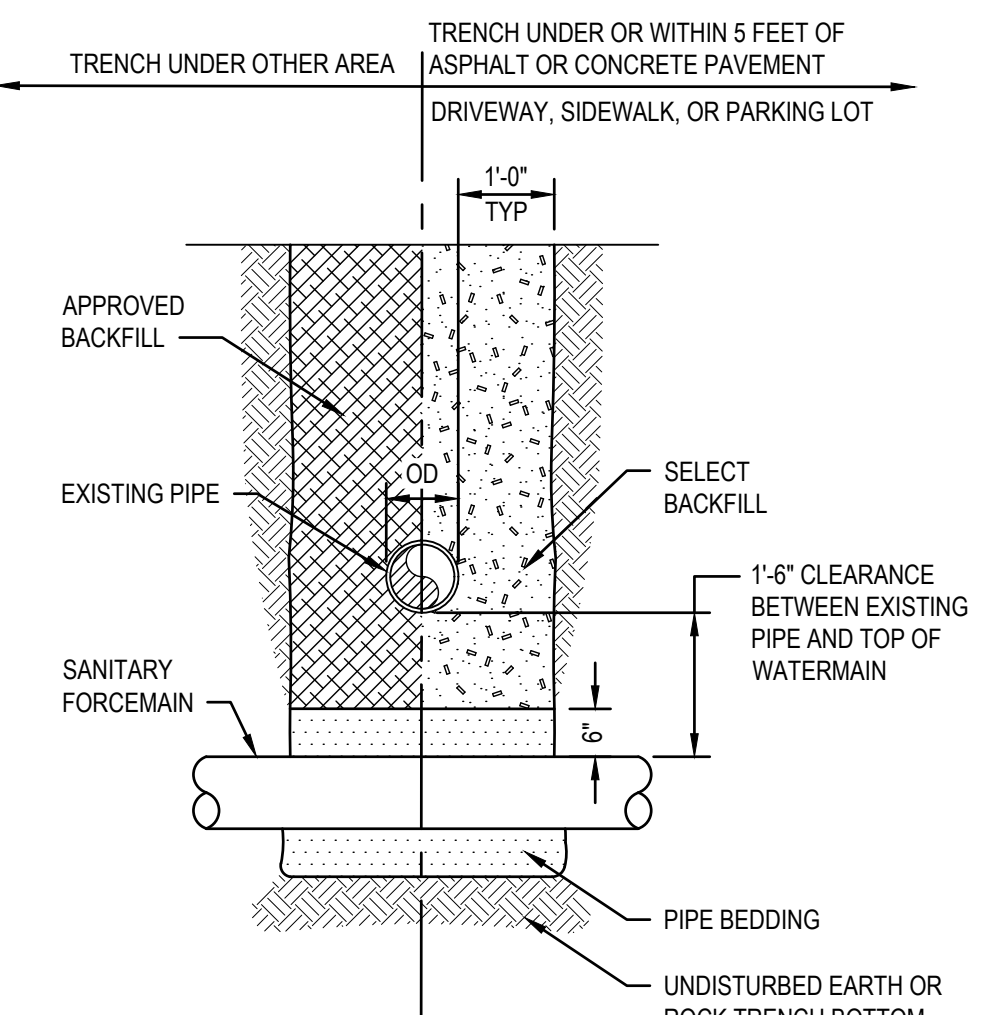
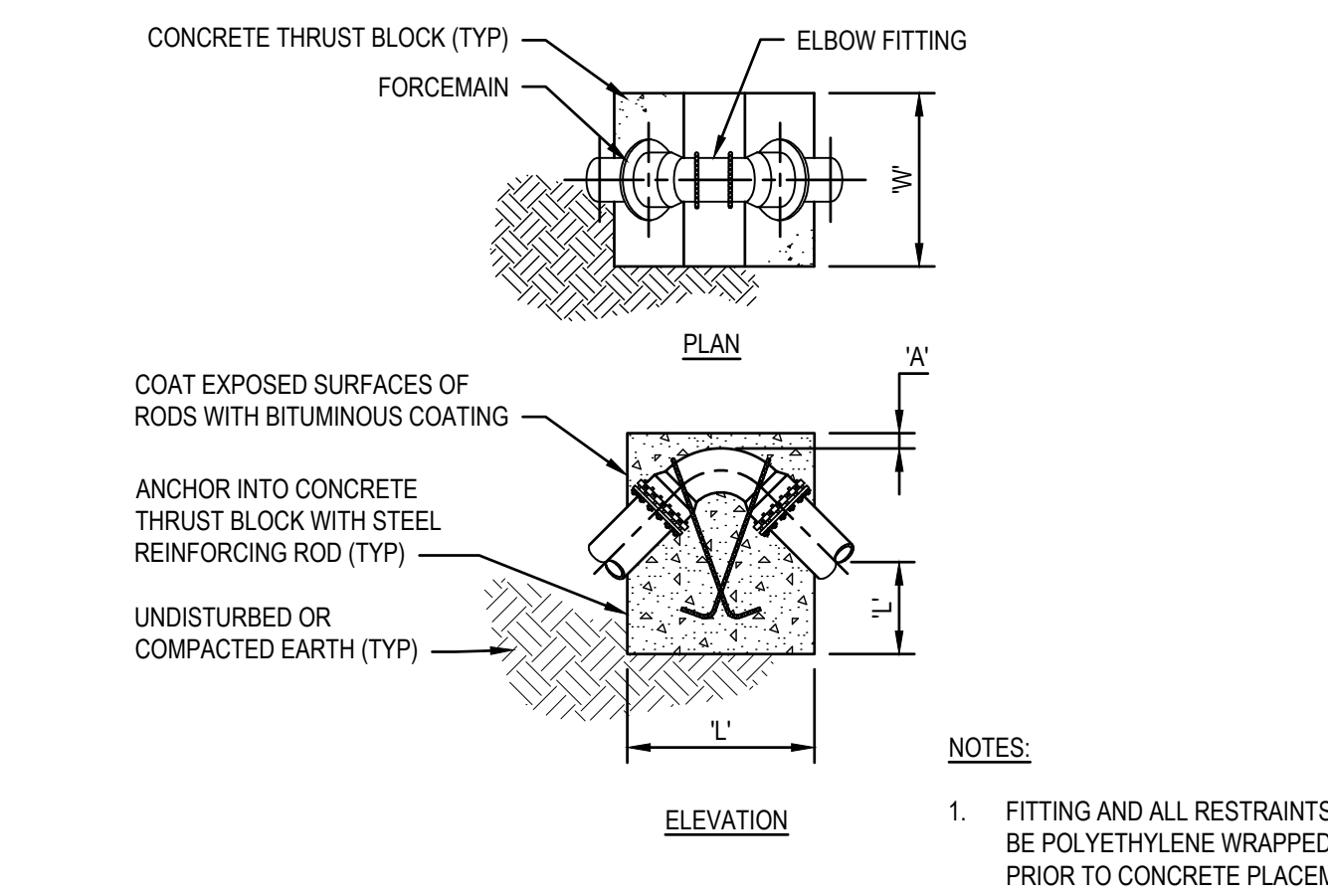
PROFILE
SCALE: H: 1" = 40' V: 1" = 10'

100% DESIGN

<p>NOTE: FOR PLAN AND PROFILE SEE SHEETS C002 TO C003</p>					<p>Bar is one inch on original size sheet 0 1"</p>		<p>GHD Inc. 16701 Meiford Boulevard, Suite 330 Bowie MD 20715 USA T 1 240 206 6810 F 1 240 206 6811 W www.ghd.com</p>		<p>Drawn T. DAHMER Designer W. WHEELER Drafting Check W. WHEELER Design Check K. GEORGE Project Manager L. BENNETT Date JANUARY 2020</p>		<p>Client SUSSEX COUNTY Project PS 202 INTERCONNECT Title HDD BORE PATH PLAN AND PROFILE Project No. 11186880 Original Size Arch D Sheet No. C004</p>		
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<p>B ISSUED FOR 60% REVIEW TED WWW 09/12/19</p>													
<p>A ISSUED FOR 30% REVIEW TED WWW 08/22/19</p>													
No.	Issue	Drawn	Approved	Date									



1 TYPICAL TRENCH/OPEN EXCAVATION RESTORATION
SCALE: NTS



2 PIPE CROSSING DETAIL
SCALE: NTS

3 CONNECTION TO EXISTING FORCEMAIN
SCALE: NTS

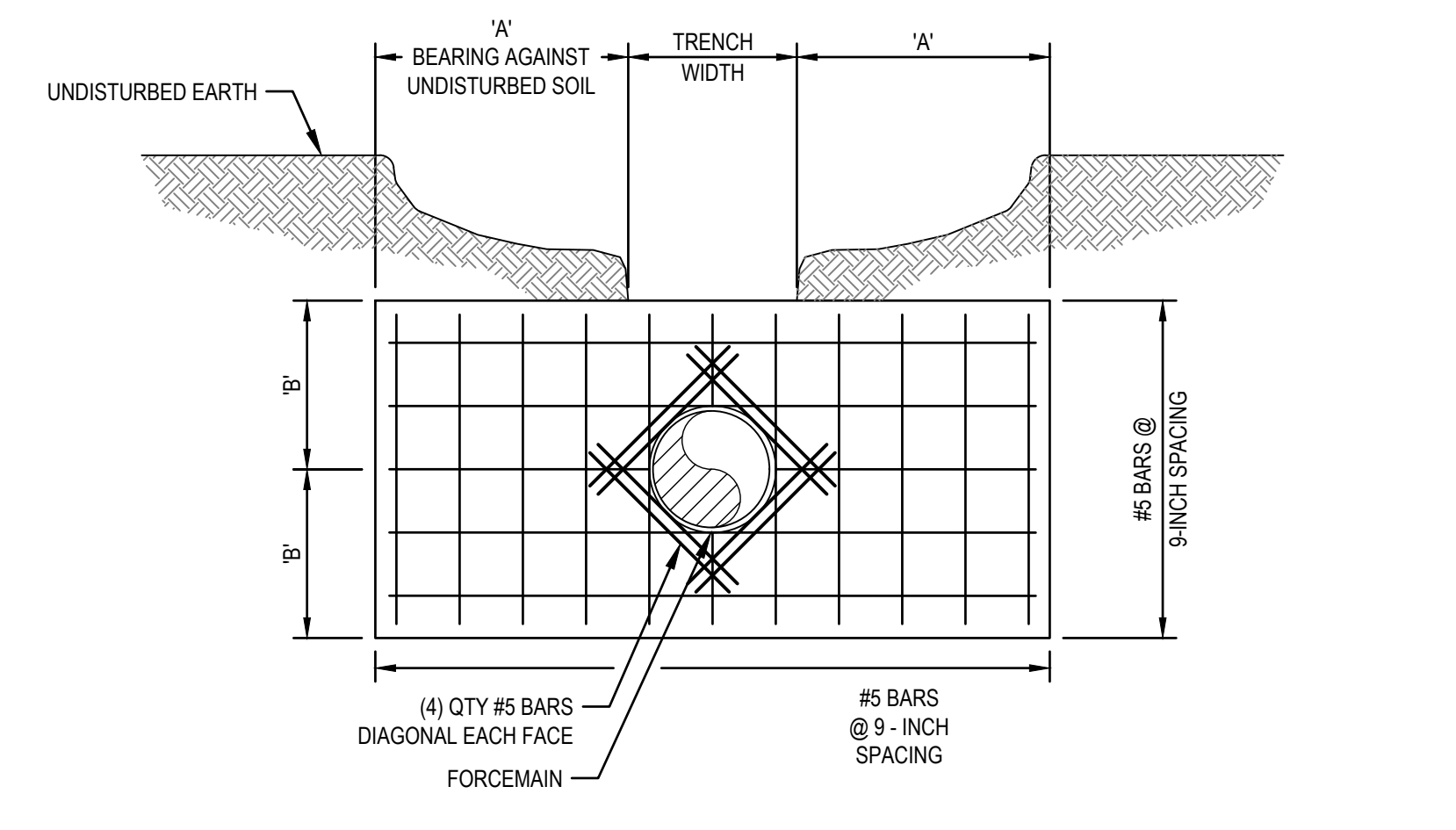
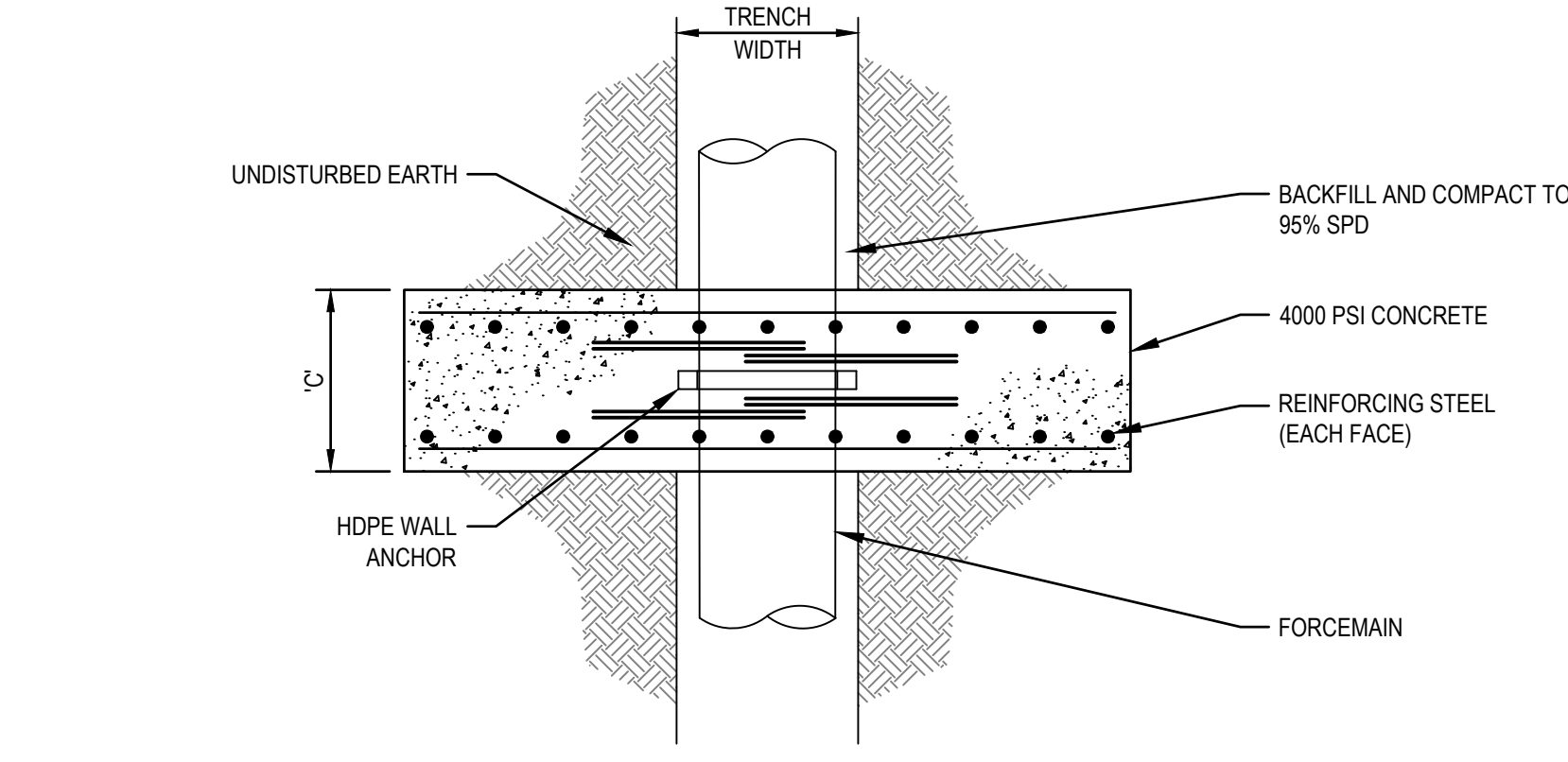
4 RESTRAINED JOINT SCHEDULE
SCALE: NTS

PIPE SIZE		11.25° ELBOW	22.5° ELBOW	45° ELBOW	TEE BRANCH, 90° BEND, VALVE OR DEAD END
8"	PVC	13'	25'	48'	99'
8"	DIP	12'	23'	45'	94'

- NOTES:**
- DIMENSION 'L' REPRESENTS THE LENGTH OF RESTRAINED PIPE REQUIRED IN FEET EACH SIDE OF THE PIPE FITTING.
 - NO UNRESTRAINED JOINT WITHIN 5 FEET ON EITHER SIDE OF THE TEE FITTING.
 - CONTRACTOR SHALL PROVIDE ALL ADDITIONAL HARNESSING NECESSARY FOR TESTING PURPOSES. LENGTH AND LOCATION OF HARNESSING SHALL BE DETERMINED BASED UPON CONTRACTORS OPERATIONS.

PIPE SIZE	PIPE TYPE	11.25° ELBOW				22.5° ELBOW				45° ELBOW			
		'A'	'W'	'L'	ROD Ø	'A'	'W'	'L'	ROD Ø	'A'	'W'	'L'	ROD Ø
8"	PVC	1.0	3.0	3.0	1/2"	1.0	3.5	3.5	1/2"	1.0	4.0	4.5	1/2"

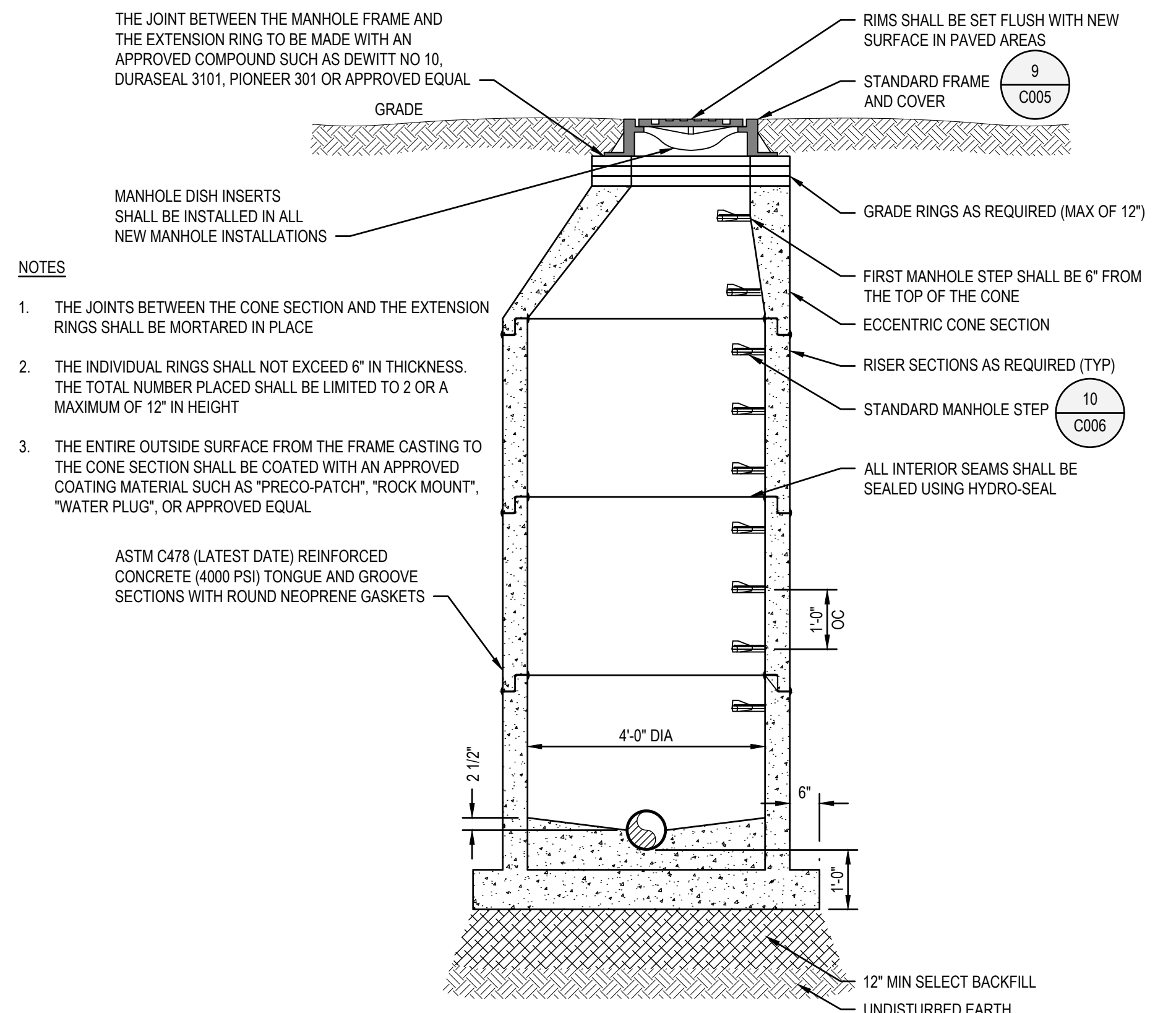
6 TYPICAL THRUST BLOCK FOR VERTICAL BENDS
SCALE



- NOTES:**
- USE HIGH EARLY CEMENT AND ALLOW CONCRETE TO ACHIEVE 90% STRENGTH BEFORE PLACING INFLUENT PIPE INTO SERVICE.

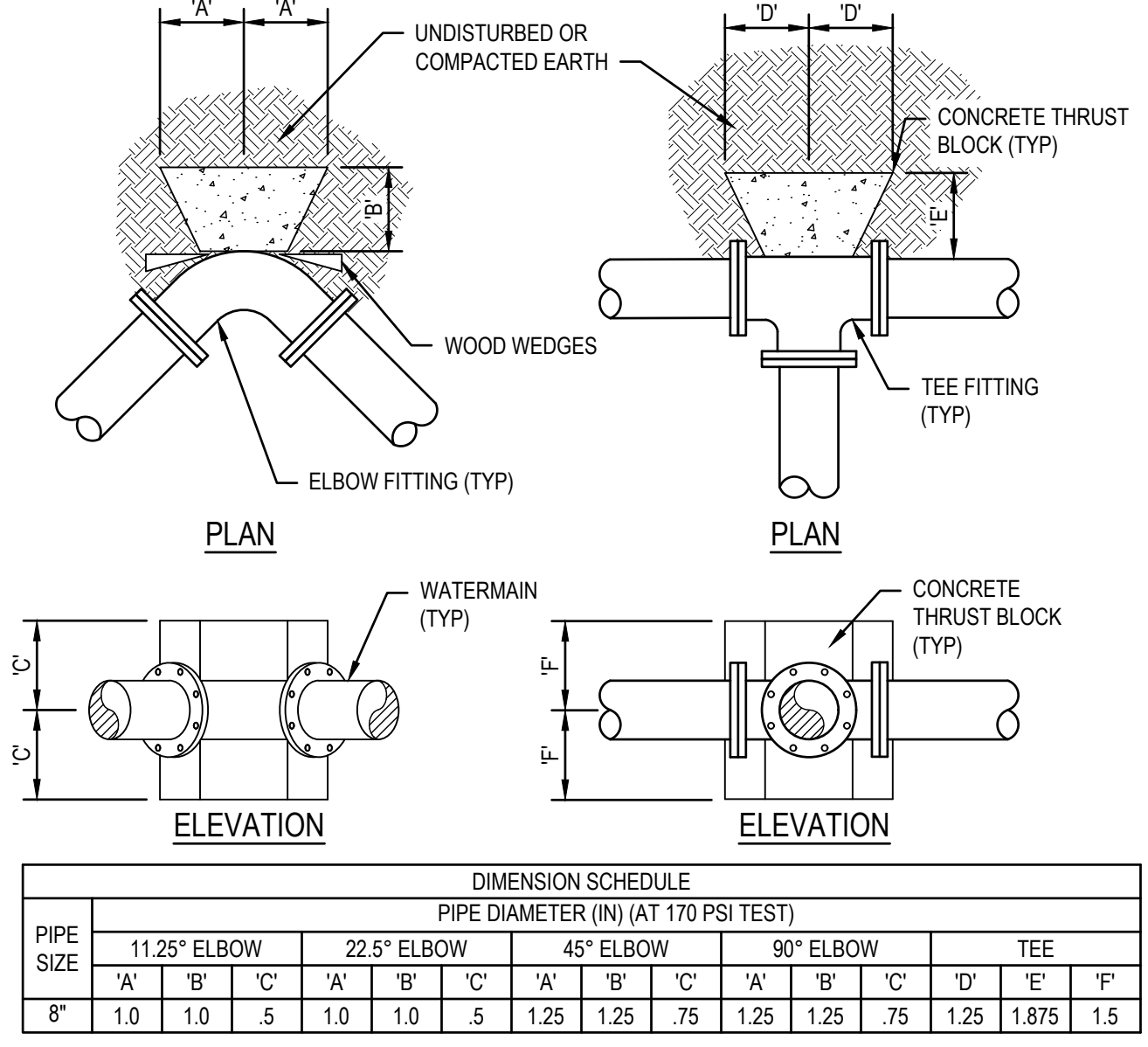
PIPE SIZE	DIMENSION SCHEDULE		
	'A'	'B'	'C'
8"	24"	24"	12"

7 CONCRETE ANCHOR BLOCK
SCALE

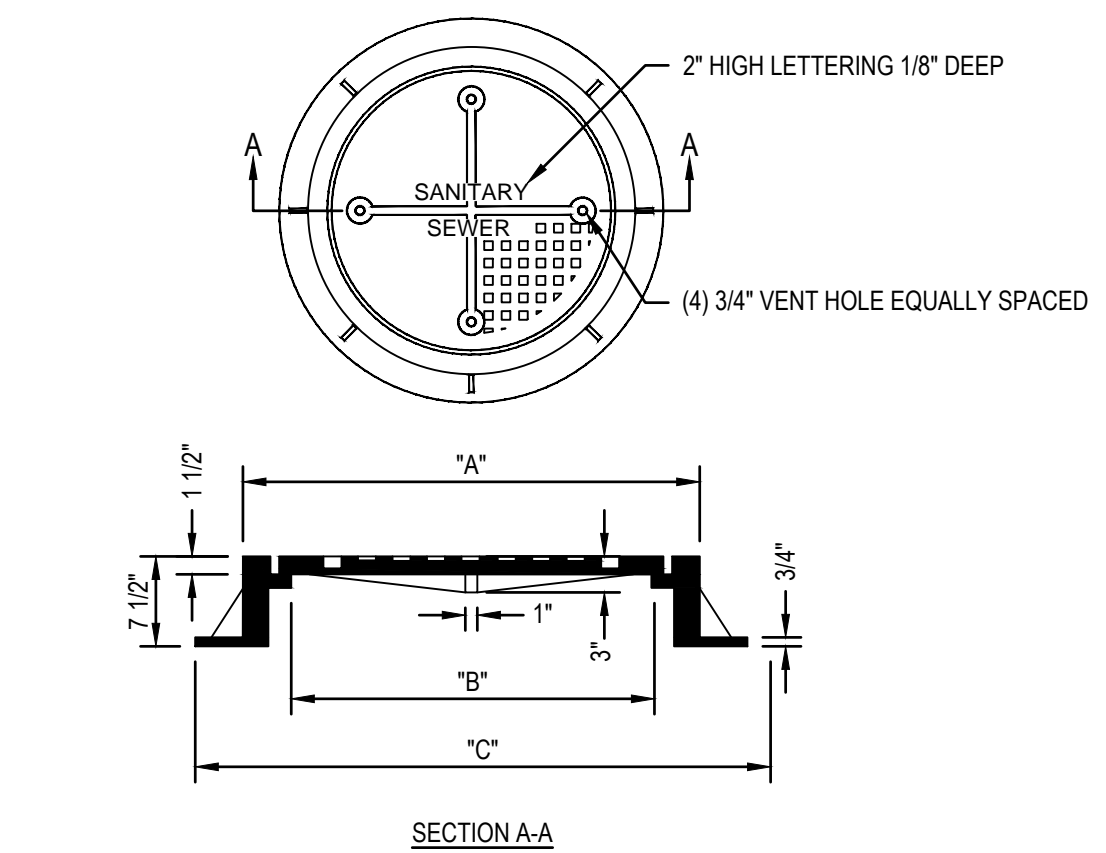


8 PRECAST MANHOLE
SCALE: NTS

5 TYPICAL THRUST BLOCK
SCALE: NTS



- NOTES:**
- THRUST BLOCKS ARE REQUIRED AT ALL BENDS, OFFSETS, AND TEES.
 - THRUST BLOCKS SHALL BE PLACED AGAINST UNDISTURBED TRENCH WALLS AND BOTTOMS.
 - THRUST BLOCKS SHALL BE CONSTRUCTED OF 3,000 PSI CONCRETE.
 - FITTING TO BE POLYETHYLENE WRAPPED PRIOR TO BEDDING AND CONCRETE BLOCK PLACEMENT.
 - THRUST BLOCKS SHALL BE CONSTRUCTED TO ALLOW REMOVAL OF ALL JOINT BOLTS.



DIMENSION 'A'	DIMENSION 'B'	DIMENSION 'C'	WEIGHT OF COVER
24"	22 1/4"	35"(MAX.)	150 LB. ± 5%

- NOTES:**
- MATERIAL ASTM A48 CLASS 30B CAST IRON.
 - UNIT MUST WITHSTAND H-20 WHEEL LOADING.
 - ALL DIMENSIONS ARE TO BE CONSIDERED MINIMUM WITH THE EXCEPTION OF THE COVER, WHICH MUST CONFORM EXACTLY TO MAINTAIN INTERCHANGEABILITY WITHIN THE COUNTY. COATING NOT REQUIRED.
 - FRAMES AND COVERS SHALL HAVE MACHINED BEARING SURFACES.
 - NO LETTERING OTHER THAN SANITARY SEWER WILL BE ALLOWED ON THE EXPOSED SURFACE OF THE COVER.

9 STANDARD FRAME AND COVER
SCALE: NTS

100% DESIGN

No.	Issue	Drawn	Approved	Date
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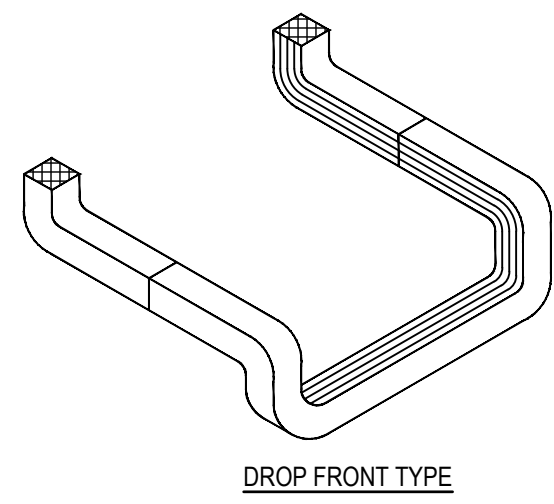
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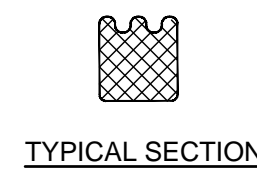
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Project Manager	L. BENNETT	Date	JANUARY 2020
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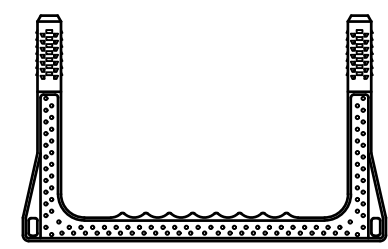
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Project **PS 202 INTERCONNECT**
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Project No. **11186880**
Original Size **Arch D**
Sheet No. **C005**



DROP FRONT TYPE



TYPICAL SECTION



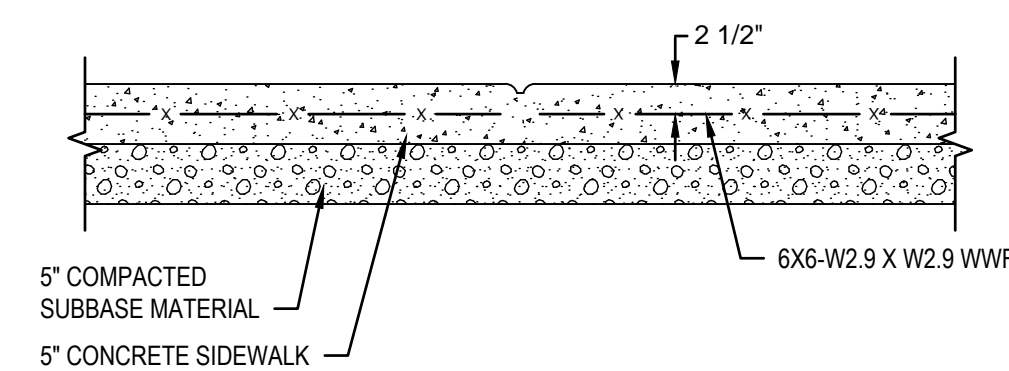
REINFORCED COPOLYMER POLYPROPYLENE TYPE

NOTES:

- MANHOLE STEPS SHALL BE OF FORGED ALUMINUM ALLOY.
- AN ACCEPTABLE ALTERNATE IS THE STEEL REINFORCED COPOLYMER POLYPROPYLENE MANHOLE STEP.
- THE STEPS SHALL BE EMBEDDED IN THE WALLS OF THE CONCRETE MANHOLE BARREL WHILE THE MANHOLE IS BEING CAST OR SECURELY GROUTED IN PLACE AFTER CASTING.

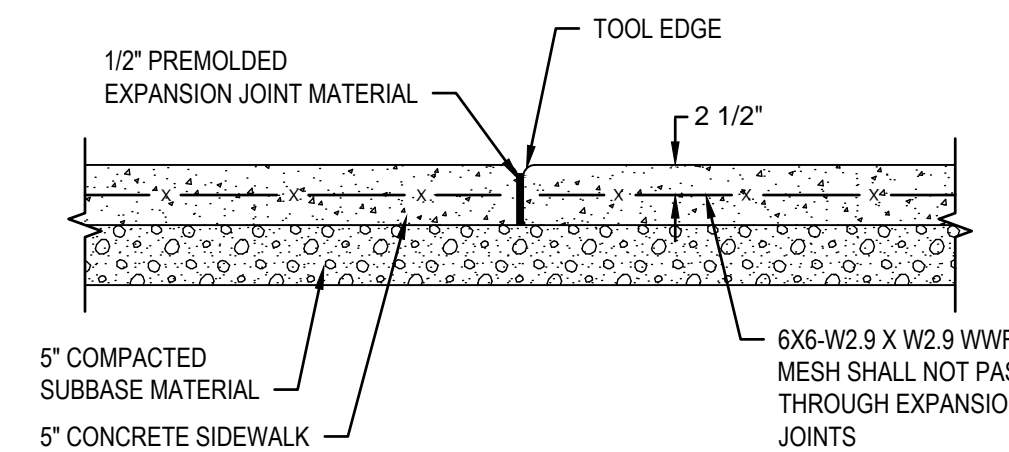
10 TYPICAL MANHOLE STEP

SCALE: NTS



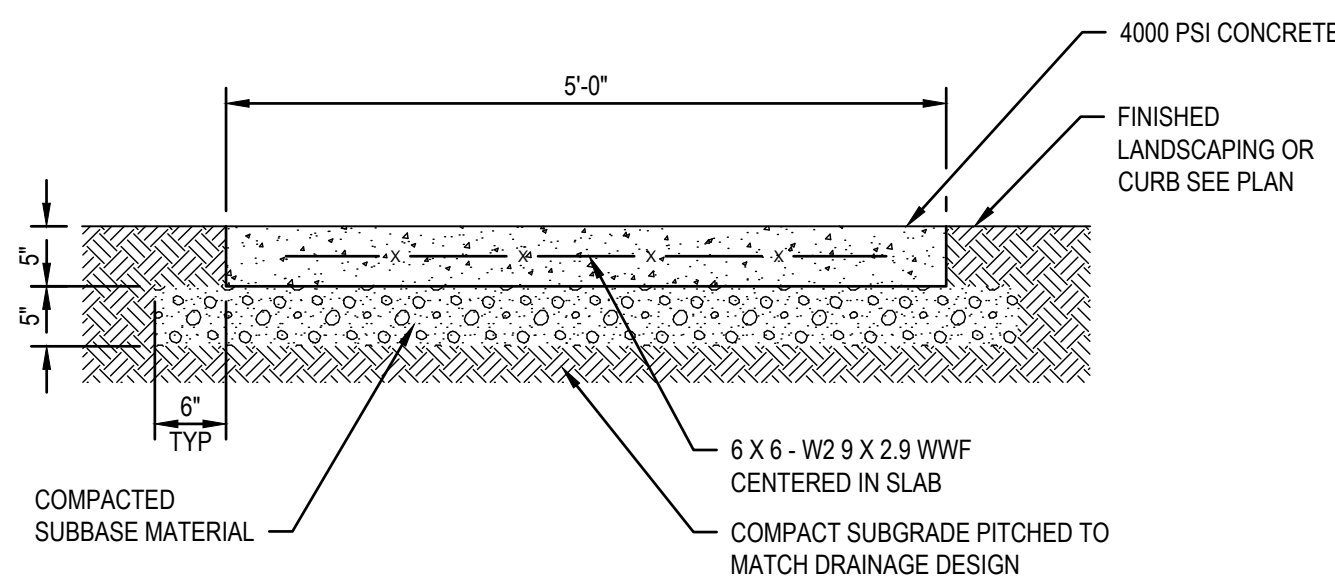
15 TYPICAL SIDEWALK CONSTRUCTION JOINT

SCALE: NTS



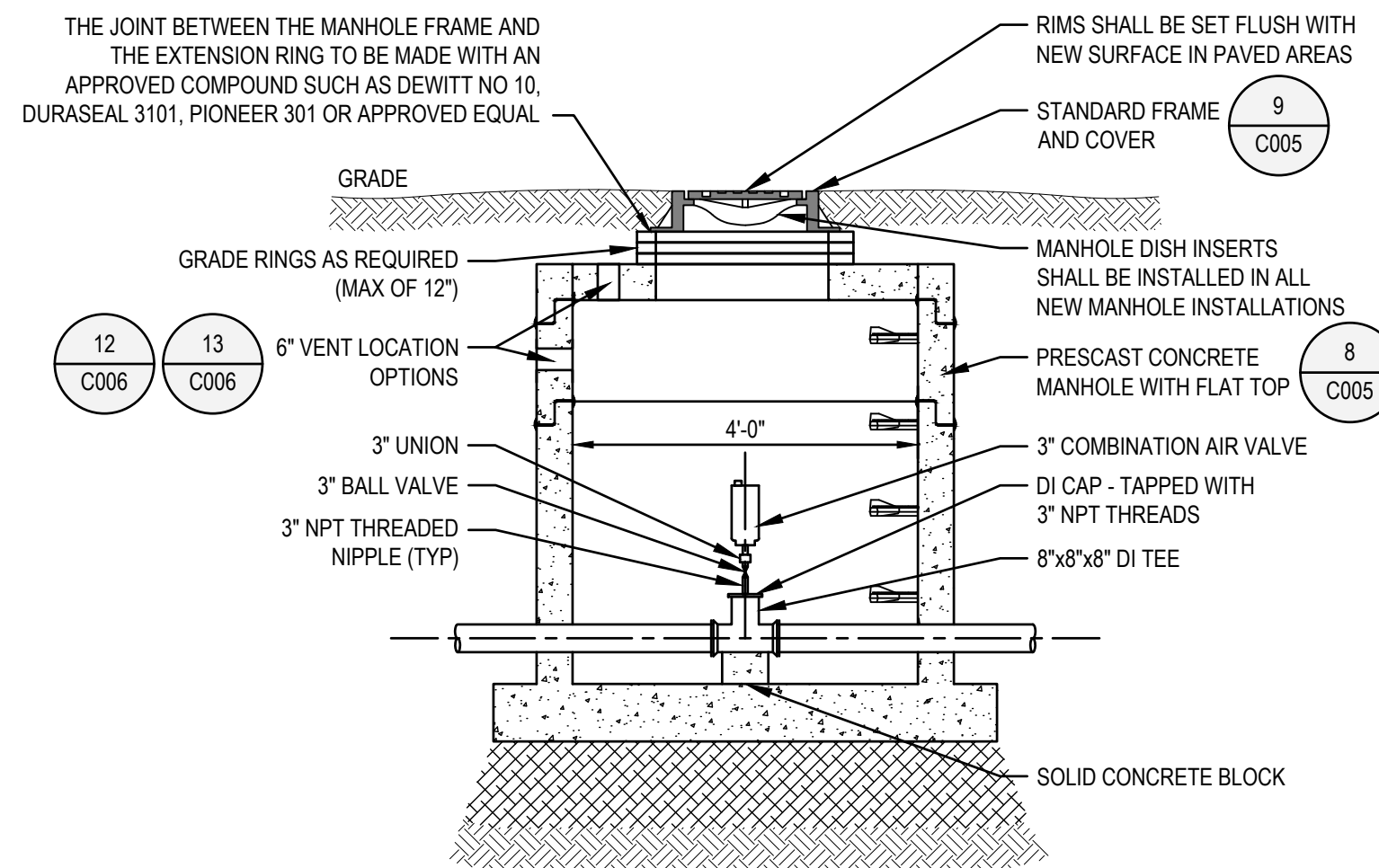
16 TYPICAL SIDEWALK EXPANSION JOINT

SCALE: NTS



17 SIDEWALK SECTION

SCALE: NTS

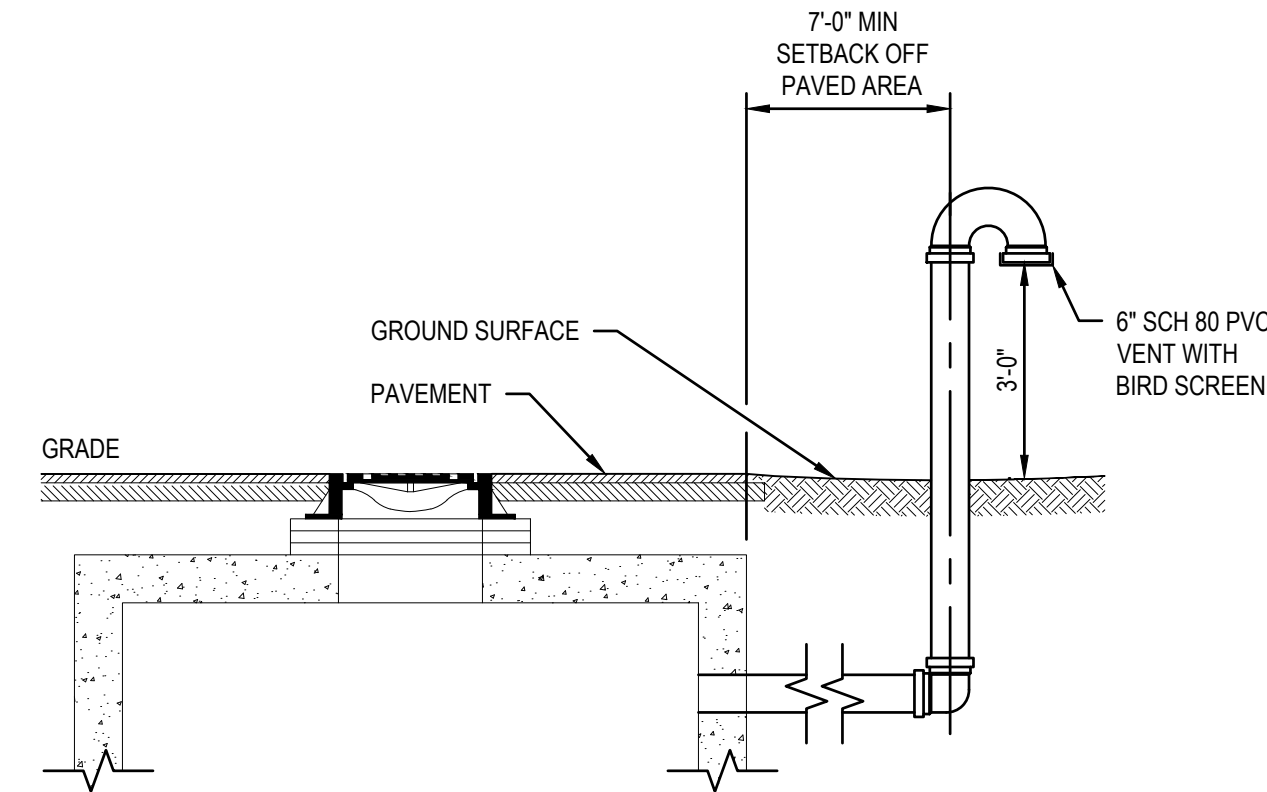


11 AIR-VACUUM RELIEF CHAMBER

SCALE: NTS

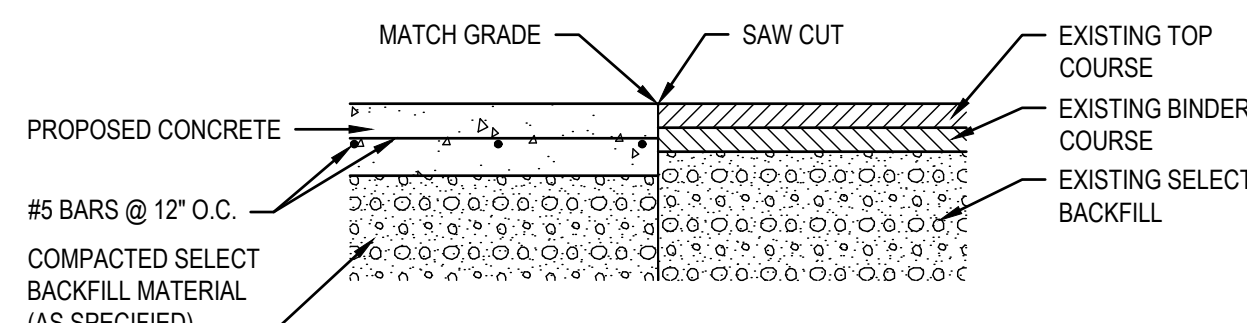
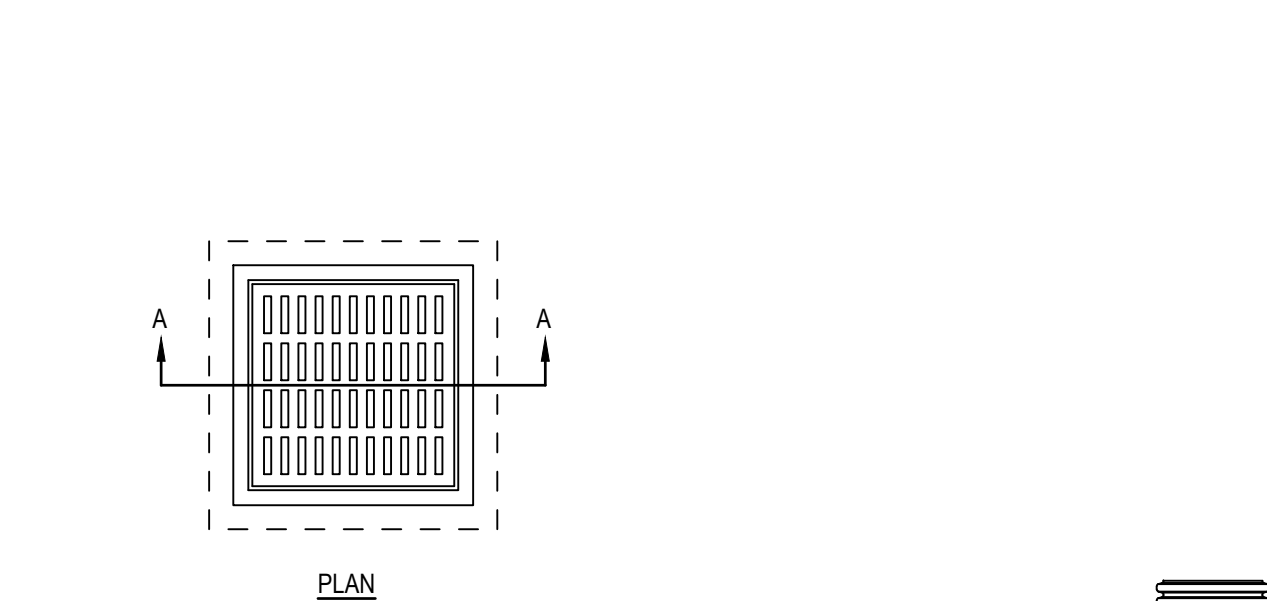
12 VENT FOR MANHOLE ON CHAMBER OFF ROAD

SCALE: NTS



13 VENT FOR MANHOLE IN PAVEMENT

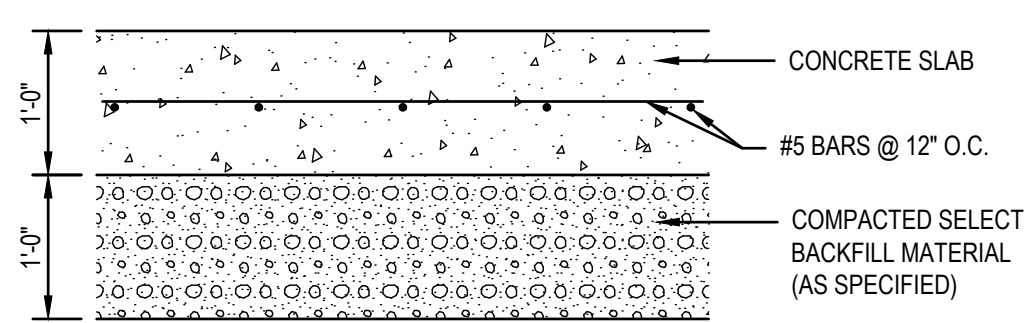
SCALE: NTS



NOTE: CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ASPHALT TO PRE-CONSTRUCTION CONDITION.

18 SAW CUT DETAIL

SCALE: NTS

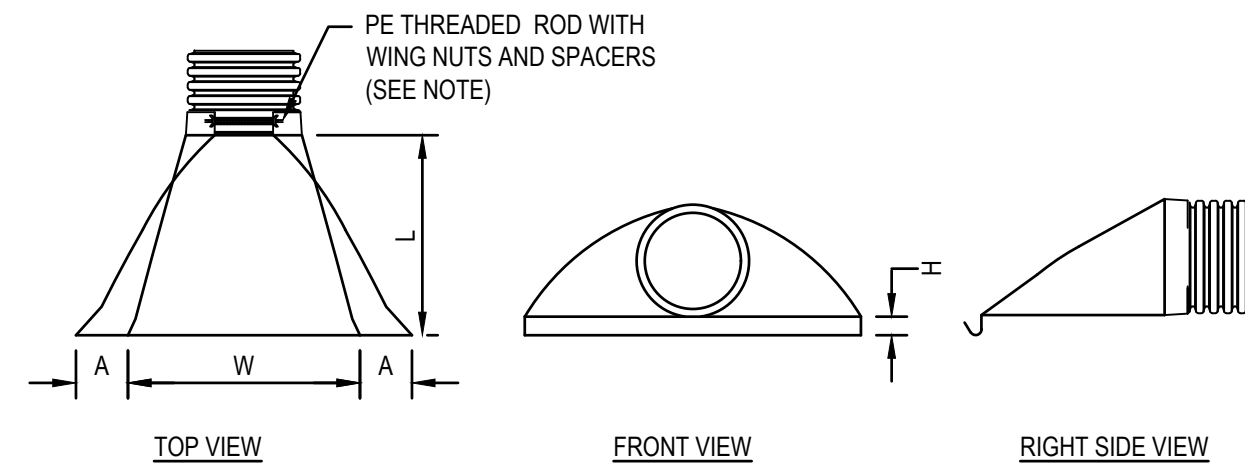
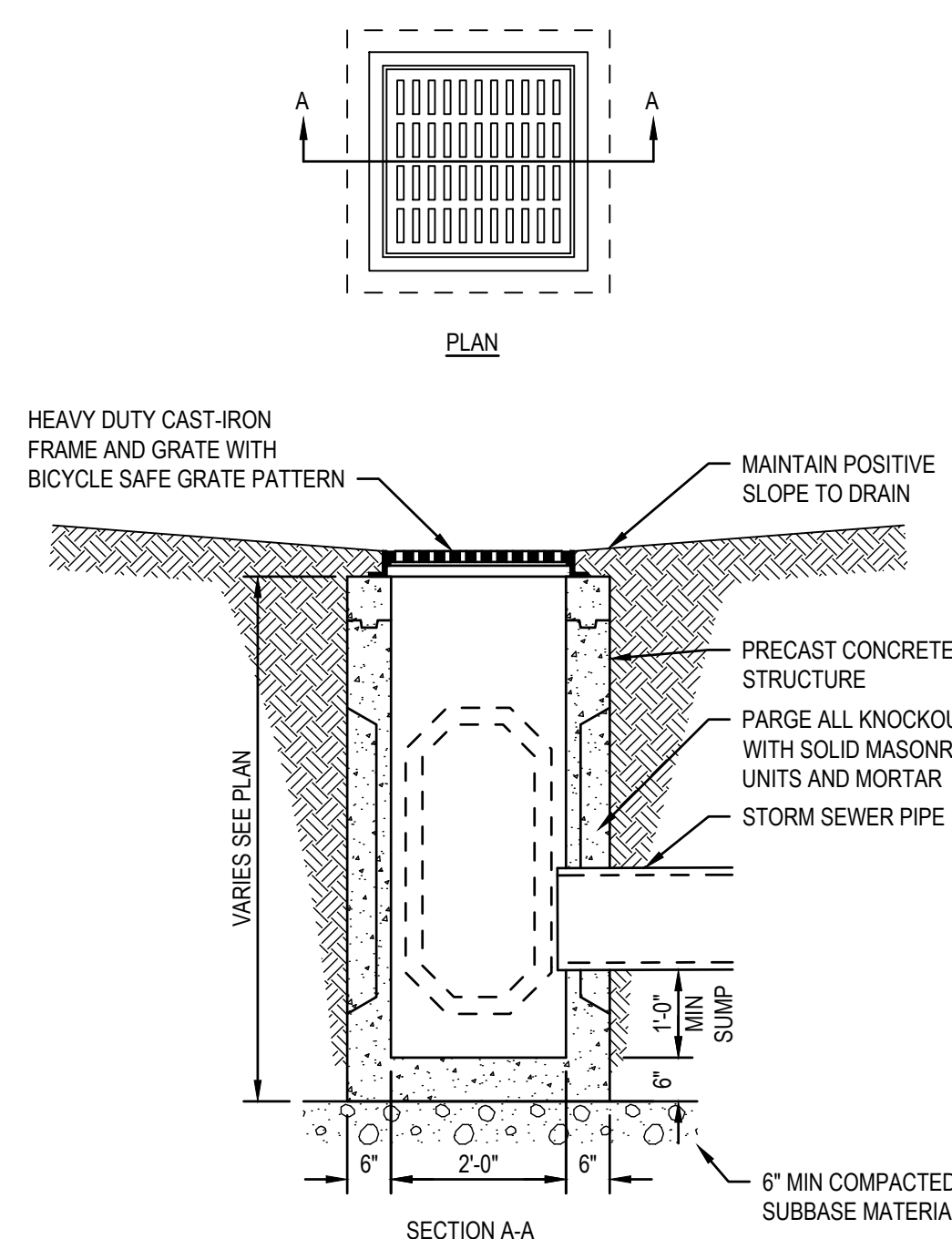


19 TYPICAL CONCRETE DRIVE SECTION

SCALE: NTS

20 24IN CATCH BASIN WITH FRAME AND GRATE

SCALE: NTS

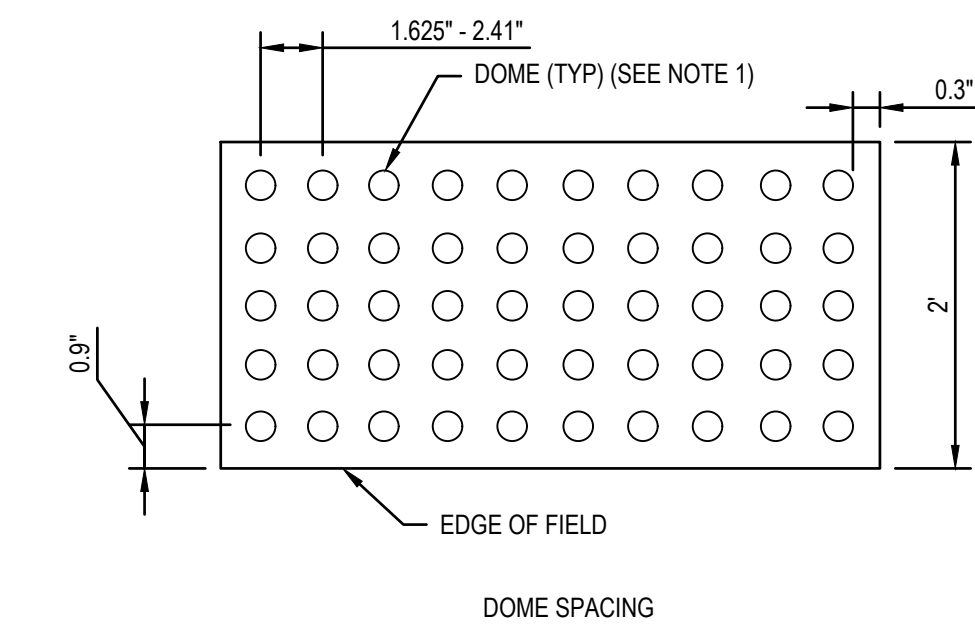


- NOTE:
- PE THREADED ROD WITH WING NUTS PROVIDED FOR END SECTIONS 12" - 24", 30" AND 36" END SECTIONS TO BE CONNECTED TO PIPE PER MANUFACTURER'S RECOMMENDATIONS.

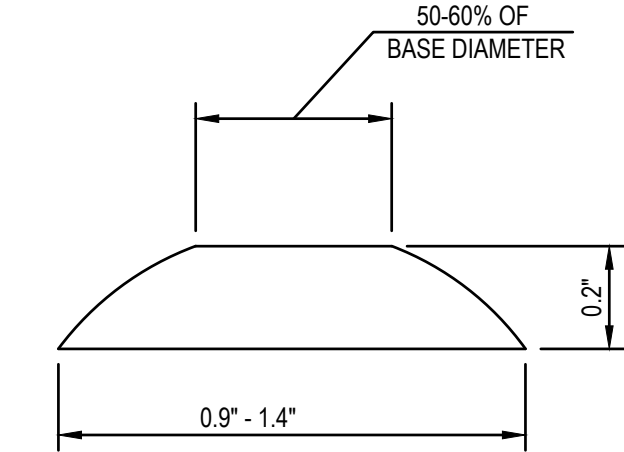
PIPE SIZE	A	H	L	W
12"	0'-6.5"	0'-6.5"	2'-1"	2'-5"
15"	0'-6.5"	0'-6.5"	2'-1"	2'-5"
18"	0'-7.5"	0'-6.5"	2'-8"	2'-11"
24"	0'-7.5"	0'-6.5"	3'-0"	3'-9"
30"	0'-10.5"	0'-7.0"	4'-5"	5'-8"
36"	0'-10.5"	0'-7.0"	4'-5"	5'-8"

21 FLARED END SECTIONS

SCALE: NTS



DOME SPACING



DOME SECTION

NOTES:

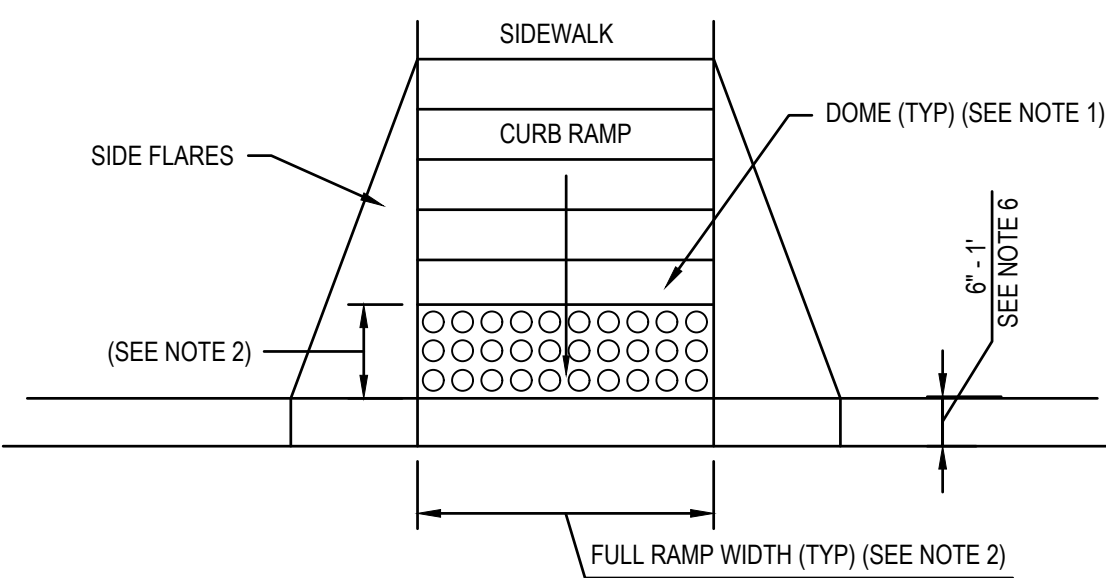
- THE DETAILS PROVIDED ARE NOT DRAWN TO SCALE. THE QUANTITY OF DOMES DEPICTED ON THE DETECTABLE WARNING FIELD (THE DOMES ARE THE ENTIRE 2' LEVEL SURFACE) IS FOR ILLUSTRATION ONLY.
- THE SIZE OF THE DETECTABLE WARNING FIELD SHALL BE 2' IN THE DIRECTION OF TRAVEL AND SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE, EXCLUSIVE OF SIDE FLARES.
- THE ROWS OF DOMES SHALL BE ALIGNED TO BE PERPENDICULAR OR RADIAL TO THE GRADE BREAK BETWEEN THE RAMP LANDING OR CURB RAMP AND THE STREET.
- WHERE DOMES ARE ARRAYED RADIIALLY THEY MAY DIFFER IN DOME DIAMETER AND CENTER-TO-CENTER SPACING WITHIN THE RANGES SPECIFIED ON THIS SHEET.
- THE DETECTABLE WARNING FIELD SHALL BE DARK CHARCOAL IN. MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, AND BE MANUFACTURED BY ARMOR TILE OR APPROVED EQUAL.
- DETECTABLE WARNINGS SHALL BE LOCATED SO THAT THE EDGE OR ON CURB RAMP TYPE "A" AT LEAST ONE CORNER OF THE WARNING FIELD NEAREST TO THE ROADWAY IS 6" TO 9" FROM THE FRONT OF THE CURB OR THE EDGE (1" WHERE TRAVERSABLE CURB IS USED).

DETECTABLE WARNING FIELD DIMENSIONS

DOME ALIGNMENT

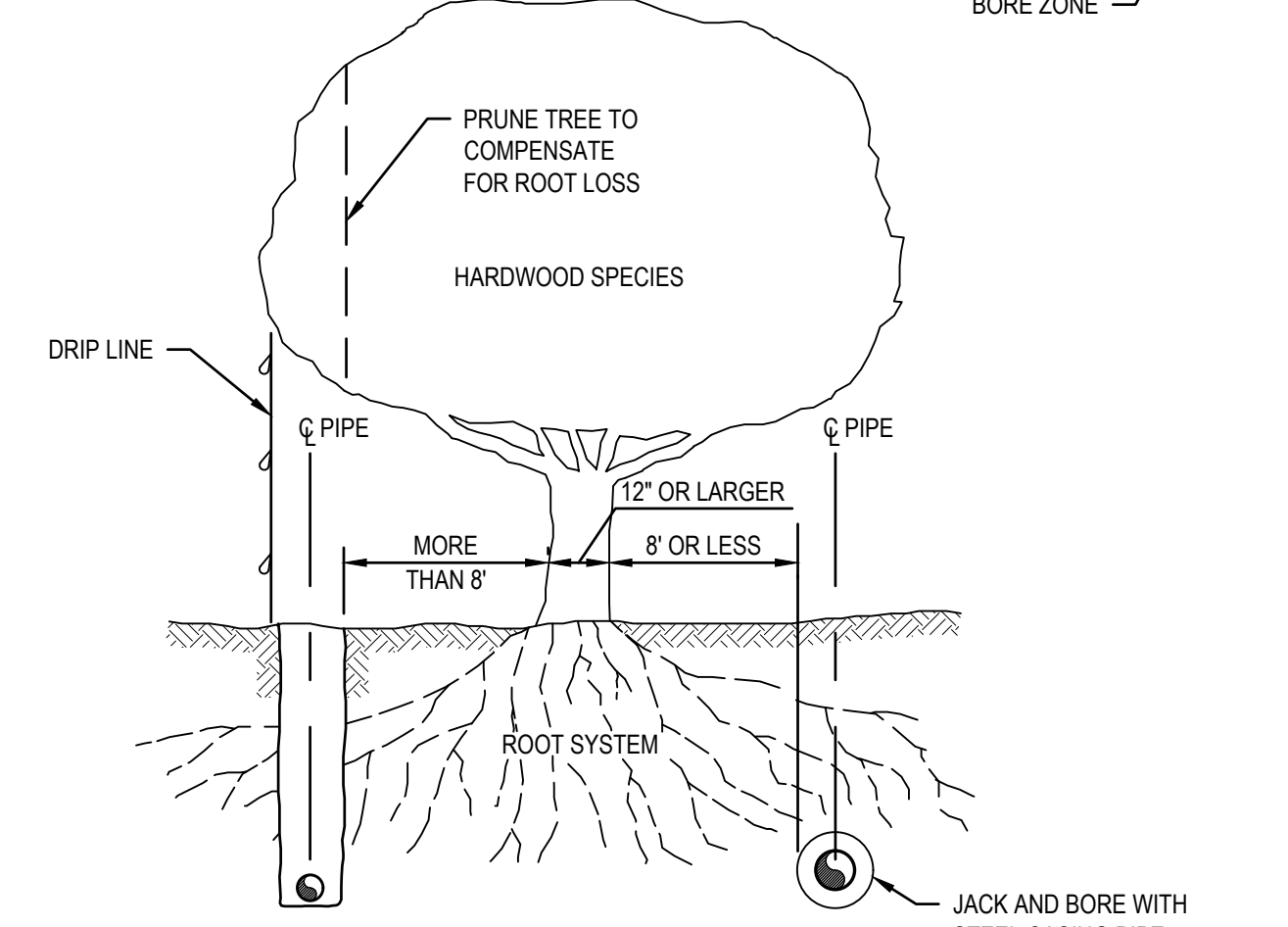
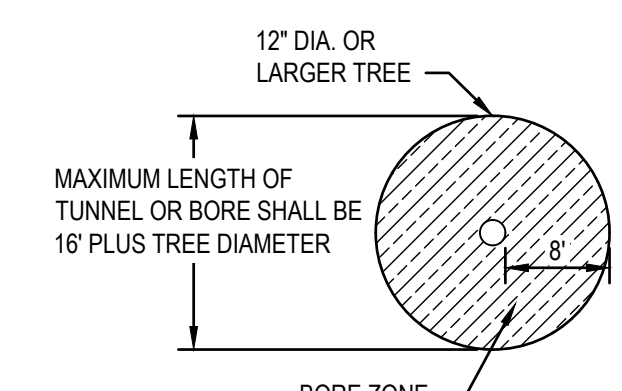
COLOR REQUIREMENTS

DETECTABLE WARNING LOCATIONS



14 DETECTABLE WARNING SYSTEM

SCALE: NTS



- NOTES:
- TREE BORES SHALL BE AT LOCATIONS SHOWN ON CONTRACT DRAWINGS.
 - THE CONTRACTOR SHALL RETAIN THE SERVICES OF A QUALIFIED LANDSCAPER TO TRIM AND REPAIR TREES AS NECESSARY.

22 TYPICAL TREE BORE

SCALE: NTS

100% DESIGN

No.	Issue	Drawn	Approved	Date
C	ISSUED FOR 90% REVIEW	TED	WWW	10/02/19
B	ISSUED FOR 60% REVIEW	TED	WWW	09/12/19
A	ISSUED FOR 30% REVIEW	TED	WWW	08/22/19

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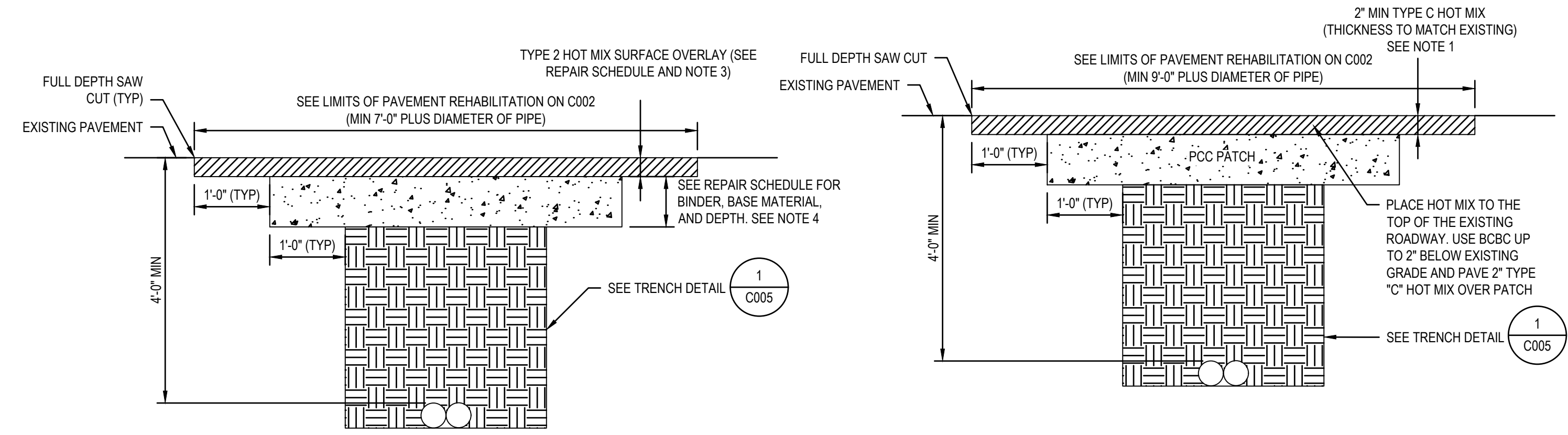
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Drafting Check	W. WHEELER	Design Check	K. GEORGE
Project Manager	L. BENNETT	Date	JANUARY 2020
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Client	SUSSEX COUNTY
Project	PS 202 INTERCONNECT
Title	DETAILS SHEET 2 OF 3
Project No.	11186880
Original Size	Arch D
Sheet No.	C006



PERMANENT CROSS-ROAD OR LONGITUDINAL PATCH DETAIL

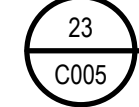
PERMANENT CROSS-ROAD OR LONGITUDINAL PATCH DETAIL
*EXISTING CONCRETE PAVEMENT OVERLAYED WITH HOTMIX LOCATIONS

DELDOT HOT MIX ASPHALT			
CORSE	TYPE	DEPTH	ITEM NO.
SURFACE	C	2"	401807
BINDER	B	3"	401810
BINDER	BCBC	6"	401819
BASE	GABC	8"	302008

NOTES:

1. THIS IS A MINIMUM PATCH. IF THE EXISTING ROADWAY HAS A HEAVIER CROSS SECTION THAN SHOWN HERE, IT SHALL BE REPLACED WITH THAT CROSS SECTION, OR AS DIRECTED BY THE ENGINEER.
2. ADOPTED FROM DEL DOT STANDARD DETAIL P-4 (2013)
3. 2" MIN. PAVEMENT SURFACE OVERLAY SHALL BE DELDOT MIX 76-22, #401807 (160 C 76-22)
4. PATCH SHALL MATCH EXISTING ASPHALT PAVEMENT. TYPE B BINDER THICKNESS SHALL BE INCREASED TO 5" DEPTH AND PLACED IN TWO LIFTS, A 2" AND 3" LIFT FOR COMPACTION.

PAVEMENT PATCH DETAILS FOR STATE ROAD
SOUTH TIMBERLAKE DRIVE
SCALE: NTS



100% DESIGN

				<p>Bar is one inch on original size sheet</p> <p>0 1"</p>		<p>GHD Inc. 16701 Meiford Boulevard, Suite 330 Bowie MD 20715 USA T 1 240 206 6810 F 1 240 206 6811 W www.ghd.com</p>		<p>Drawn T. DAHMER Designer W. WHEELER</p> <p>Drafting Check W. WHEELER Design Check K. GEORGE</p> <p>Project Manager L. BENNETT Date JANUARY 2020</p> <p>This document shall not be used for construction unless signed and sealed for construction.</p>		<p>Client SUSSEX COUNTY</p> <p>Project PS 202 INTERCONNECT</p> <p>Title DETAILS</p> <p>SHEET 3 OF 3</p> <p>Project No. 11186880</p> <p>Original Size Arch D Sheet No. C007</p>	
D	ISSUED FOR 100% REVIEW	TED	WWW	01/24/20	<p>Reuse of Documents</p> <p>This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD and shall not be reused in whole or in part for any other project without GHD's written authorization. © 2020 GHD</p>						
C	ISSUED FOR 90% REVIEW	TED	WWW	11/26/19							
No.	Issue	Drawn	Approved	Date							



LEGEND:
 --- L.O.D. --- LIMITS OF DISTURBANCE
 --- C.F.L. --- COMPOST FILTER LOG

PLAN
 SCALE: 1" = 40'

100% DESIGN

D	ISSUED FOR 100% REVIEW	TED	WWW	01/24/20
C	ISSUED FOR 90% REVIEW	TED	WWW	10/02/19
B	ISSUED FOR 60% REVIEW	TED	WWW	09/12/19
A	ISSUED FOR 30% REVIEW	TED	WWW	08/22/19
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Drawn	T. DAHMER	Designer	W. WHEELER
Drafting Check	W. WHEELER	Design Check	K. GEORGE
Project Manager	L. BENNETT	Date	JANUARY 2020
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Client	SUSSEX COUNTY		
Project	PS 202 INTERCONNECT		
Title	EROSION AND SEDIMENT CONTROL PLAN		
Project No.	11186880		
Original Size	Arch D	Sheet No.	C008

EROSION AND SEDIMENT CONTROL NOTES:

- ALL EROSION AND SEDIMENT PRACTICES SHALL COMPLY WITH THE DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK REV 03/2013 OR LATEST EDITION.
- REVIEW AND APPROVAL OF THE SEDIMENT AND STORMWATER MANAGEMENT PLAN SHALL NOT RELIEVE THE CONTRACTOR FROM HIS OR HER RESPONSIBILITIES FOR COMPLIANCE WITH THE REQUIREMENTS OF THE SEDIMENT AND STORMWATER REGULATIONS, NOR SHALL IT RELIEVE THE CONTRACTOR FROM ERRORS OR OMISSIONS IN THE APPROVED PLAN.
- IF THE APPROVED PLAN NEEDS TO BE MODIFIED, ADDITIONAL SEDIMENT AND STORMWATER CONTROL MEASURES MAY BE REQUIRED AS DEEMED NECESSARY BY THE SUSSEX CONSERVATION DISTRICT. THIS MAY RESULT IN ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES.
- FOLLOWING SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 14 CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER SEDIMENT CONTROLS, TOPSOIL STOCKPILES, AND ALL OTHER DISTURBED OR GRADED AREAS ON THE PROPOSED SITE.
- THE CONTRACTOR SHALL MAINTAIN AND REPAIR ALL EROSION AND SEDIMENT CONTROL PRACTICES FOR THE DURATION OF THE PROJECT
- THE SUSSEX CONSERVATION DISTRICT RESERVES THE RIGHT TO ENTER PRIVATE PROPERTY FOR THE PURPOSES OF PERIODIC SITE INSPECTION.
- APPROVED PLANS REMAIN VALID FOR FIVE YEARS FROM DATE OF APPROVAL
- IF DUST BECOMES A PROBLEM DURING CONSTRUCTION, DUST CONTROL SHALL BE STABILIZED ACCORDING TO "STANDARD AND SPECIFICATIONS" FOR DUST CONTROL IN THE "DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK FOR DEVELOPMENT", LATEST EDITION.
- ALL SEDIMENT CONTROL DEVICES SHALL BE INSPECTED AND LEFT IN FUNCTIONAL CONDITION AT THE END OF EACH WORKING DAY.
- ANY DEVIATION FROM THE "SEQUENCE OF OPERATIONS" AS SHOWN ON THESE DRAWINGS SHALL BE APPROVED BY THE SEDIMENT CONTROL INSPECTOR.
- IF MINOR FIELD ADJUSTMENTS ARE NEEDED, THE CONTRACTOR MUST GET APPROVAL FROM THE SEDIMENT CONTROL INSPECTOR.
- INSTALLED SEDIMENT CONTROL DEVICES SHALL FULLY PROTECT TRENCH EXCAVATION, STOCKPILES AND OTHER AREAS DISTURBED DURING CONSTRUCTION.
- WHEN SLOPES ARE 3:1 OR GREATER, EROSION CONTROL MATTING IS REQUIRED.
- NO SPOILS, STOCKPILED OR EXCAVATED MATERIAL MAY BE DISCHARGED INTO WETLANDS REGULATED BY THE ARMY CORP OF ENGINEERS OR THE STATE OF DELAWARE.
- NO SPOILS SHALL ENTER STREAMS, CHANNELS OR WATERWAYS. MEASURES SUCH AS SILT FENCE, OR BUFFER STRIPS SHALL BE USED TO PROTECT STREAMS, CHANNELS PONDS OR WATERWAYS. THE DISTRICT INSPECTOR MAY AT HIS DISCRETION SELECT THE INSTALLATION LOCATION.
- AT ANY TIME A DEWATERING OPERATION IS USED, IT SHALL BE PREVIOUSLY APPROVED BY THE AGENCY CONSTRUCTION SITE REVIEWER FOR A NON-EROSIVE POINT OF DISCHARGE, AND A DEWATERING PERMIT SHOULD BE APPROVED BY THE DNREC WELL PERMITTING BRANCH. ANY DEWATERING ENCOUNTERED DURING CONSTRUCTION SHALL BE FILTERED THROUGH AN APPROVED SEDIMENT REMOVING DEVICE AS INDICATED ON THE PLANS. ALL WATER DISCHARGED FROM SEDIMENT DEVICES MUST BE DISCHARGED TO AN APPROVED SITE. THE DISCHARGE OF WATER FROM SEDIMENT TANKS DIRECTLY TO TIDAL WATERS OR WETLANDS IS PROHIBITED.
- SEDIMENT CONTROL DEVICES CONSTRUCTED WITHIN DITCH AREAS SHALL BE REMOVED ONLY WHEN PERFORMING TRENCH EXCAVATION, BACKFILL/GRADING OF THE DITCH. REMOVED DEVICES SHALL BE RE-INSTALLED IMMEDIATELY FOLLOWING DISTURBANCE.
- SALVAGE EXISTING TOPSOIL FROM THE CONSTRUCTION AREA.
- STOCKPILES OF MATERIAL SHALL BE ON A RELATIVELY FLAT SURFACE. STOCKPILES MUST BE SURROUNDED WITH SILT FENCE OR STABILIZED EARTH BERM.
- NO MATERIAL OUTSIDE OF CONTRACT AREA IS ALLOWED TO BE STOCKPILED IN THIS SITE. A SEPARATE APPROVED SEDIMENT CONTROL PLAN IS REQUIRED.
- MATERIAL REMOVED AS A RESULT OF EXCAVATION FROM ROAD SURFACE, GRAVEL, SAND ROADS AND STOCKPILED FOR RE-USE SHALL BE PROTECTED WITH APPROVED SEDIMENT CONTROL PRACTICE. THE METHOD SHALL BE REVIEWED WITH THE SUSSEX CONSERVATION DISTRICT INSPECTOR PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL KEEP ALL ROADS OR STREETS ADJACENT TO THE CONSTRUCTION SITE CLEAN OF DEBRIS OR SEDIMENT. STREET CLEANING AND REMOVAL OF ANY SEDIMENT SHALL BE ACCOMPLISHED AT THE END OF EACH WORKING DAY OR PRIOR TO RAIN OR WHEN FIELD CONDITIONS DICTATE.
- APPROVAL OF A SEDIMENT AND STORMWATER PLAN DOES NOT GRANT OR IMPLY RIGHT TO DISCHARGE STORMWATER RUNOFF. THE OWNER/DEVELOPER IS RESPONSIBLE FOR ACQUIRING ANY AND ALL AGREEMENTS, EASEMENTS, ETC., NECESSARY TO COMPLY WITH STATE DRAINAGE AND OTHER APPLICABLE LAWS.

- BEFORE ANY EARTHWORK OR EXCAVATION TAKES PLACE, THE CONTRACTOR SHALL CALL MISS UTILITY AT 811 OR 1.800.282.8555 AT LEAST 48 HOURS PRIOR TO CONSTRUCTION, TO HAVE ALL EXISTING UTILITIES MARKED ON-SITE.
- THE CONTRACTOR SHALL AT ALL TIMES PROTECT AGAINST SEDIMENT OR DEBRIS LADEN RUNOFF OR WIND FROM LEAVING THE SITE. PERIMETER CONTROLS SHALL BE CHECKED DAILY AND ADJUSTED AND/OR REPAIRED TO FULLY CONTAIN AND CONTROL SEDIMENT FROM LEAVING THE SITE. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED HALF OF THE EFFECTIVE CAPACITY OF THE CONTROL. IN ADDITION, THE CONTRACTOR MAY NEED TO ADJUST OR ALTER MEASURES IN TIMES OF ADVERSE WEATHER CONDITIONS, OR AS DIRECTED BY THE AGENCY CONSTRUCTION SITE REVIEWER.
- BEST AVAILABLE TECHNOLOGY (BAT) SHALL BE EMPLOYED TO MANAGE TURBID DISCHARGES IN ACCORDANCE WITH REQUIREMENTS OF 7 DEL. C. CH 60, REGULATIONS GOVERNING THE CONTROL OF WATER POLLUTION, SECTION 9.1.02, KNOWN AS SPECIAL CONDITIONS FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES, AND DEPARTMENT POLICIES, PROCEDURES, AND GUIDANCE.
- NOTIFY THE DNREC SEDIMENT AND STORMWATER PROGRAM (OR RELEVANT DELEGATED AGENCY) IN WRITING AT LEAST FIVE (5) DAYS PRIOR TO THE START OF CONSTRUCTION. FAILURE TO DO SO CONSTITUTES A VIOLATION OF THE APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLAN.
- PRIOR TO ANY CLEARING, INSTALLATION OF SEDIMENT CONTROL MEASURES OR GRADING, A PRE-CONSTRUCTION MEETING MUST BE SCHEDULED AND CONDUCTED WITH THE AGENCY CONSTRUCTION SITE REVIEWER, THE LANDOWNER/DEVELOPER, CONTRACTOR, AND CERTIFIED CONSTRUCTION REVIEWER ARE REQUIRED TO BE IN ATTENDANCE AT THE PRE-CONSTRUCTION MEETING, THE DESIGNER IS RECOMMENDED TO ATTEND.
- ALL PERIMETER CONTROLS ARE TO BE REVIEWED BY THE AGENCY CONSTRUCTION SITE REVIEWER AND APPROVED PRIOR TO PROCEEDING WITH FURTHER SITE DISTURBANCE OR CONSTRUCTION.
- EROSION AND SEDIMENT CONTROL DEVICES SHOULD BE REMOVED ONLY AFTER WORK IN AN AREA HAS BEEN COMPLETED AND STABILIZED, WITH WRITTEN APPROVAL FROM THE AGENCY CONSTRUCTION SITE REVIEWER.

SEQUENCE OF OPERATIONS:

- THE SUSSEX CONSERVATION DISTRICT MUST BE NOTIFIED IN WRITING FIVE (5) DAYS PRIOR TO COMMENCING WITH CONSTRUCTION. FAILURE TO DO SO CONSTITUTES A VIOLATION OF THE APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLAN.
- CONDUCT A PRE-CONSTRUCTION MEETING.
- CLEAR AND GRUB FOR ALL AREAS NECESSARY FOR THE INSTALLATION OF PERIMETER CONTROLS.
- INSTALL PERIMETER CONTROLS AND ALL OTHER SEDIMENT AND EROSION CONTROL MEASURES AS SHOWN OR CALLED FOR ON THE DRAWINGS INCLUDING STABILIZED CONSTRUCTION ENTRANCES.
- EXCAVATE TRENCH, INSTALL PIPELINES AND BACKFILL. ALL TRENCHES SHALL BE BACKFILLED DURING THE SAME DAY/LIGHT PERIOD THAT THEY HAVE BEEN EXCAVATED. ANY GROUNDWATER PUMPED DURING CONSTRUCTION SHALL BE DISCHARGED TO EXISTING DRAINAGE DITCHES. DRAINAGE DITCHES SHALL BE PROTECTED FROM EROSION DURING THIS OPERATION. ANY SEDIMENT LADDED WATER REMOVED FROM EXCAVATIONS SHALL BE FILTERED THROUGH A DEWATERING BASIN ACCEPTABLE TO THE SUSSEX CONSERVATION DISTRICT.
- AS WORK PROGRESSES, RETOPSOIL COMPLETE PORTIONS USING SALVAGED TOPSOIL, FINE GRADE AND APPLY PERMANENT SEEDING AS NOTED. IF OUT OF SEASON APPLY TEMPORARY SEEDING UNTIL PERMANENT SEEDING CAN BE PERFORMED.
- RESTORE ALL DISTURBED AREAS TO THE ORIGINAL GRADE AND VEGETATE AS REQUIRED.
- REMOVE SEDIMENT AND EROSION CONTROL DEVICES AFTER AREA HAS BEEN COMPLETELY STABILIZED (WITH PRIOR APPROVAL OF THE SEDIMENT AND EROSION CONTROL INSPECTOR.)

START CONSTRUCTION: FEBRUARY 2020.

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE PERMANENT LONG LIVED VEGETATIVE COVER IS NEEDED.

SEEDING PREPARATION: LOOSEN UPPER THREE INCHES BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS. USE THE FOLLOWING.
 APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ.FT.) AND 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.

SEEDING: FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 150 LBS. PER ACRE (14 LBS./1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 150 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 6 LBS. PER ACRE (0.05 LBS./1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28 PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS. PER ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS PER ACRE WELL ANCHORED STRAW.

MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL./1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FT. OR HIGHER USE 348 GALLONS PER ACRE (8 GAL./1000 SQ.FT.) FOR ANCHORING.

MAINTENANCE: INSPECT ALL SEEDED AREAS AND MAKE REPAIRS IF NEEDED. RESEED IF NECESSARY.

TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDING PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.

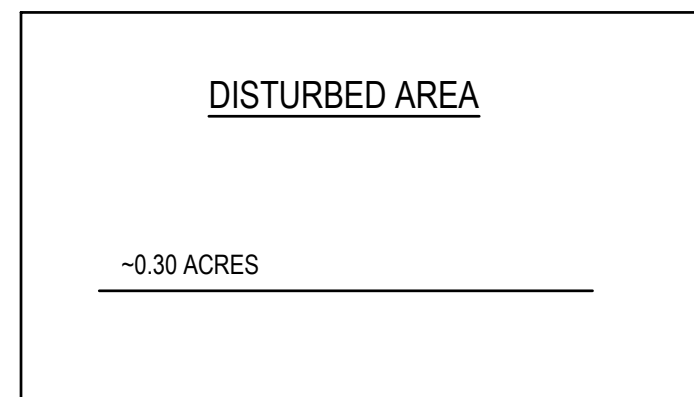
SOIL AMENDMENTS: APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.)

SEEDING: FOR PERIOD MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15 SEED WITH 2 1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS./1000 SQ.FT.). FOR PERIOD FROM MAY 1 THRU AUGUST 14, SEED WITH 3 LBS. PER ACRE OF WEEPING LOVEGRASS (0.07 LBS./1000 SQ.FT.). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING OR USE SOD.

MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL./1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FT. OR HIGHER, USE 348 GAL. PER ACRE (8 GAL./1000 SQ.FT.) FOR ANCHORING.

GENERAL NOTES:

- ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, LOCAL BUILDING CODES, AND THE STANDARD SPECIFICATION AND DETAILS, OF SUSSEX COUNTY.
- THESE DRAWINGS SHOW INFORMATION FROM THE BEST AVAILABLE RECORDS REGARDING PIPES, CONDUITS, TELEPHONE LINES, AND OTHER STRUCTURES AND CONDITIONS, WHICH EXIST ALONG THE LINE OF WORK, BOTH AT AND BELOW THE SURFACE OF THE GROUND. THE CONTRACTOR SHALL SUPPORT AND PROTECT ALL PIPES, CONDUITS, TELEPHONE LINES AND OTHER STRUCTURES, AS REQUIRED. ALL DAMAGE TO EXISTING SERVICES SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTORS EXPENSE.
- ALL DISTURBED AREAS SHALL BE SMOOTHLY GRADED TO PROMOTE POSITIVE DRAINAGE AND ALSO STABILIZED WITH TOPSOIL, SEED AND MULCH. IF SETTLEMENT OCCURS, TOPSOIL, SEEDING AND MULCH SHALL BE REPEATED UNTIL SETTLEMENTS SUBSIDES. (SEE SOIL EROSION AND SEDIMENT CONTROL NOTES, DETAILS AND SPECIFICATIONS.)
- ALL DRAINAGE STRUCTURES AND TRENCHES SHALL REMAIN FUNCTIONAL DURING CONSTRUCTION.
- THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR ANY DEVIATION FROM THESE PLANS.
- THE FINAL AUTHORITY FOR ALL WETLANDS RELATED ISSUES REST WITH THE UNITED STATES ARMY CORPS OF ENGINEERS AND/OR THE ENVIRONMENTAL PROTECTION AGENCY.
- IT SHALL BE UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY ANY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THE PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PERFORM SUCH WORK.
- ALL WORK SHALL COMPLY WITH ALL PROVISIONS OF THE CURRENT DELAWARE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- THE MEASURES REQUIRED IN THE APPROVED SEDIMENT CONTROL PLAN SHALL APPLY BE COMPLETED, AND IN SERVICE PRIOR TO CONSTRUCTION OF FACILITIES SHOWN ON THESE PLANS.
- PRIOR TO SEEDING, THE CONTRACTOR SHALL HAVE SOILS TEST TO DETERMINE LIME AND FERTILIZER REQUIREMENTS.
- FOR ALL AREAS, CULVERT AND/OR UTILITY TRENCH BACK FILL SHALL BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY DETERMINED BY ASSHTO METHOD T-180.
- TRENCHES SHALL NOT REMAIN OPEN OVERNIGHT. IF IT IS NECESSARY FOR TRENCHES TO REMAIN OPEN IN A TRAFFIC AREA, STEEL PLATES CAPABLE OF BEARING TRAFFIC SHALL BE USED TO COMPLETELY COVER THE TRENCH OPENING.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF TRAFFIC ON ANY EXISTING ROADS.
- ALL UTILITY DETAILS SHALL COMPLY WITH THE STANDARD DETAILS AS SHOWN ON THESE PLANS UNLESS OTHERWISE NOTED.
- ANY CLEARING, GRADING CONSTRUCTION OR DEVELOPMENT, OR ALL OF THESE, WILL BE DONE PURSUANT TO THIS PLAN. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR OR SUBCONTRACTOR TO NOTIFY THE ENGINEER OF ANY DEVIATIONS FROM THIS PLAN. ANY CHANGE MADE IN THIS PLAN WITHOUT WRITTEN AUTHORIZATION FROM THE ENGINEER WILL PLACE RESPONSIBILITY FOR SAID CHANGE ON THE CONTRACTOR OR THE SUBCONTRACTOR. EROSION AND SEDIMENT PRACTICES, AND SITE IN GENERAL, MUST BE INSPECTED WEEKLY AND AFTER EACH RAIN FALL EVENT, BY THE CONTRACTOR OR RESPONSIBLE PERSON, AND ANY NEEDED MAINTENANCE PERFORMED IMMEDIATELY.
- EROSION AND SEDIMENT PRACTICES, AND SITE IN GENERAL, MUST BE INSPECTED WEEKLY AND AFTER EACH RAIN FALL EVENT, BY THE CONTRACTOR OR RESPONSIBLE PERSON, AND ANY NEEDED MAINTENANCE PERFORMED IMMEDIATELY.
- ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION OF THIS PROJECT WILL HAVE AT LEAST ONE PERSON ON-SITE AT ALL TIME WHO HAS TAKEN THE CONTRACTORS CERTIFICATION COURSE (BLUE CARD) AT A DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT CONTROL, APPROVED TRAINING PROGRAM FOR THE CONTROL OF SOIL EROSION AND SEDIMENT CONTROL BEFORE BEGINNING THE PROJECT.
- CONTRACTOR SHALL RESTORE ALL DISTURBED DUNES TO PRE-CONSTRUCTION GRADE AND CONDITIONS.



OWNER'S CERTIFICATION

"I, THE UNDERSIGNED, CERTIFY THAT ALL LAND CLEARING, CONSTRUCTION AND DEVELOPMENT SHALL BE DONE PURSUANT TO THE APPROVED STANDARD PLAN AND THAT RESPONSIBLE PERSONNEL (I.E., BLUE CARD HOLDER) INVOLVED IN THE LAND DISTURBANCE WILL HAVE A CERTIFICATION OF TRAINING PRIOR TO INITIATION OF THE PROJECT, AT A DNREC SPONSORED OR APPROVED TRAINING COURSE FOR THE CONTROL OF EROSION AND SEDIMENT DURING CONSTRUCTION. IN ADDITION, I GRANT THE DNREC SEDIMENT AND STORMWATER PROGRAM AND/OR THE RELEVANT DELEGATED AGENCY THE RIGHT TO CONDUCT ON-SITE REVIEWS."

DATE: _____ OWNER'S SIGNATURE: _____

HANS MEDLARZ - CHIEF ENGINEER
 PHONE: 302-855-7728
 EMAIL: HANS.MEDLARZ@SUSSEXCOUNTYDE.GOV
 OWNER'S NAME AND TITLE (PRINTED OR TYPED)

DESIGN CERTIFICATION

"I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED UNDER MY SUPERVISION AND TO THE BEST OF MY KNOWLEDGE COMPLIES WITH THE APPLICABLE STATE AND LOCAL REGULATIONS AND ORDINANCES."

DATE: _____ DESIGNER'S ADDRESS: _____

DESIGNER'S SIGNATURE: _____ GHD INC. 16701 MELFORD BLVD., SUITE 330
 BOWIE, MD 20715
 PHONE: 240-206-6810
 FAX: 240-206-6811

DESIGNER'S NAME (KELVIN GEORGE) DELAWARE REGISTRATION No. _____
 P.E.
 TYPE (P.E., P.L.S. OR R.L.A.) _____

100% DESIGN

				Bar is one inch on original size sheet 0 _____ 1"		 GHD Inc. 16701 Melford Boulevard, Suite 330 Bowie MD 20715 USA T 240 206 6810 F 240 206 6811 W www.ghd.com	Drawn T. DAHMER	Designer W. WHEELER	Client SUSSEX COUNTY
D	ISSUED FOR 100% REVIEW	TED	WWW	01/24/20	Reuse of Documents This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD and shall not be reused in whole or in part for any other project without GHD's written authorization. © 2020 GHD		Drafting Check W. WHEELER	Design Check K. GEORGE	Project PS 202 INTERCONNECT
C	ISSUED FOR 90% REVIEW	TED	WWW	10/02/19		Project Manager L. BENNETT	Date JANUARY 2020	Title EROSION AND SEDIMENT CONTROL NOTES	
B	ISSUED FOR 60% REVIEW	TED	WWW	09/12/19				Project No. 11186880	
A	ISSUED FOR 30% REVIEW	TED	WWW	08/22/19				Original Size Arch D Sheet No. C009	
No.	Issue	Drawn	Approved	Date					

Standard Detail & Specifications

Silt Fence

Section

Min. 40" stake length

Reinforcing strip over geosynthetic fabric (typ. each stake)

Min. 24" stake length above ground

Embed fabric min. 6" vertically into ground

Min. 16" stake length driven into ground

Plan

Ends placed upslope to contain runoff

6' Max.

2" X 2" wooden post (typ.)

DATA: Max. controlled slope

Source: Adapted from MD Sids. & Specs. for ESC	Symbol: SF	Detail No. DE-ESC-3.1.2.1 Sheet 1 of 2 Effective FEB 2019
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Standard Detail & Specifications

Silt Fence

Construction Detail

Method for joining continuous sections

Construction Notes:

- Geosynthetic fabric to be fastened securely to fence posts with wire ties or staples.
- When two sections of filter cloth adjoin each other they shall be overlapped by six inches and folded.
- Maintenance shall be performed as needed and material removed when "bulges" develop in the silt fence.

Materials:

- Stakes: Steel (either T or U) or 2" x 2" hardwood
- Geosynthetic Fabric: Type GD-1
- Reinforcing strip: Wooden lath or plastic strip

Source: Adapted from MD Sids. & Specs. for ESC	Symbol: SF	Detail No. DE-ESC-3.1.2.1 Sheet 2 of 2 Effective FEB 2019
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Standard Detail & Specifications

Construction Site Waste Mgt & Spill Control

Fuel Tank

DATA TO BE PROVIDED:
Volume of Potential Pollution
Height of containment
Area of containment
Volume of containment

Stake as required per composite log manufacturer guidelines

Double layer plastic sheeting, on approved equal

Min. 9" composite log or DE# 3 Stone berm

Fuel Tank

Spill containment Area

Source: Delaware ESC Handbook	Symbol: SP	Detail No. DE-ESC-3.6.1 Sheet 1 of 5 Effective FEB 2019
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Standard Detail & Specifications

Construction Site Waste Mgt & Spill Control

Pollution Prevention - Spill Prevention

- Fueling should only take place in signed designated areas, away from downstream drainage facilities and watercourses.
- Fueling must be with nozzles equipped with automatic shut-off to control drips. Do not top off.
- Protect the areas where equipment or vehicles are being repaired, maintained, fueled or parked from storm water run-on and runoff.
- Use barriers such as berms to prevent storm water run-on and runoff, and to contain spills.
- Place a "Fueling Area" sign next to each fueling area.
- Store hazardous materials such as fuel, solvents, oil and chemicals in secondary containment.
- Inspect vehicles and equipment for leaks on each day of use. Repair fluid and oil leaks immediately.
- Absorbent spill clean-up materials and spill kits must be available in fueling areas and on fuel trucks.
- If fueling is to take place at night, make sure the fueling area is sufficiently illuminated.
- Properly dispose of used oil, fluids, lubricants and spill clean-up materials.

CLEAN UP SPILLS

- If it is safe to do so, immediately contain and clean up any chemical and/or hazardous material spills.
- Properly dispose of used oil, fluids, lubricants and spill clean-up materials.
- Do not bury spills or wash them down with water.

LEAKS AND DRIPS

- Use drip pans or absorbent pads at all times. Place under and around leaky equipment.
- Do not allow oil, grease, fuel or chemicals to drip onto the ground.
- Have spill kits and clean up material on-site.
- Repair leaky equipment promptly or remove problem vehicles and equipment from the site. Clean up contaminated soil immediately.
- Store contaminated waste in sealed containers constructed of spent clean up material. Label these containers properly.
- Clean up all spills and leaks. Promptly dispose of waste and spill clean up materials.

Source: Delaware ESC Handbook	Symbol: SP	Detail No. DE-ESC-3.6.1 Sheet 2 of 5 Effective FEB 2019
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Standard Detail & Specifications

Construction Site Waste Mgt & Spill Control

Notes:

The Construction Site Pollution Prevention Plan should include the following elements:

- Material Inventory**
 - Document the storage and use of the following materials:
 - a. Concrete
 - b. Detergents
 - c. Paints (enamel and latex)
 - d. Cleaning solvents
 - e. Pesticides
 - f. Wood scraps
 - g. Fertilizers
 - h. Petroleum based products
- Good housekeeping practices**
 - a. Store only enough product required to do the job.
 - b. All materials shall be stored in a neat, orderly manner in their original labeled containers and covered.
 - c. Substances shall not be mixed.
 - d. When possible, all of a product shall be used up prior to disposal of the container.
 - e. Manufacturers' instructions for disposal shall be strictly adhered to.
 - f. The site foreman shall designate someone to inspect all BMPs daily.
- Waste management practices**
 - a. All waste materials shall be collected and stored in securely lidded dumpsters in a location that does not drain to a waterbody.
 - b. Waste materials shall be salvaged and/or recycled whenever possible.
 - c. The dumpsters shall be emptied a minimum of twice per week, or more if necessary. The licensed trash hauler is responsible for cleaning out dumpsters.

Source: Adapted from USEPA Pub. 840-B-92-002	Symbol: SAP	Detail No. DE-ESC-3.6.1 Sheet 3 of 5 Effective FEB 2019
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Standard Detail & Specifications

Construction Site Waste Mgt & Spill Control

Notes (cont.)

- Trash shall be disposed of in accordance with all applicable Delaware laws.
- Trash cans shall be placed at all lunch spots and littering is strictly prohibited. Recycle bins shall be placed near the construction trailer.
- If fertilizer bags can not be stored in a weather-proof location, they shall be kept on a pallet and covered with plastic sheeting which is overlapped and anchored.
- Equipment maintenance practices**
 - a. If possible, equipment should be taken to off-site commercial facilities for washing and maintenance.
 - b. If performed on-site, vehicles shall be washed with high-pressure water spray without detergents in an area contained by an impervious berm.
 - c. Drip pans shall be used for all equipment maintenance.
 - d. Equipment shall be inspected for leaks on a daily basis.
 - e. Washout from concrete trucks shall be disposed of in a temporary pit for hardening and proper disposal.
 - f. Fuel nozzles shall be equipped with automatic shut-off valves.
 - g. All used products such as oil, antifreeze, solvents and tires shall be disposed of in accordance with manufacturers' recommendations and local, state and federal laws and regulations.
- Spill prevention practices**
 - a. Potential spill areas shall be identified and contained in covered areas with no connection to the storm drain system.
 - b. Warning signs shall be posted in hazardous material storage areas.
 - c. Preventive maintenance shall be performed on all tanks, valves, pumps, pipes and other equipment as necessary.
 - d. Low or non-toxic substances shall be prioritized for use.

Source: Adapted from USEPA Pub. 840-B-92-002	Symbol: SP	Detail No. DE-ESC-3.6.1 Sheet 4 of 5 Effective FEB 2019
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Standard Detail & Specifications

Construction Site Waste Mgt & Spill Control

Notes (cont.)

- Contact information for reporting spills through the DNREC 24-Hour Toll Free Number shall be prominently posted.
- Education**
 - a. Best management practices for construction site pollution control shall be a part of regular progress meetings.
 - b. Information regarding waste management, equipment maintenance and spill prevention shall be prominently posted in the construction trailer.

CONTACT INFORMATION

DNREC 24-Hour Toll Free Number **800-662-8802**

DNREC Solid & Hazardous Waste Management Section **302-739-9403**

Source: Adapted from USEPA Pub. 840-B-92-002	Symbol: SP	Detail No. DE-ESC-3.6.1 Sheet 5 of 5 Effective FEB 2019
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Standard Detail & Specifications

Soil Stockpile

DATA: Max. height (H)

Stockpile entrance to be located on upslope side

3' separation (min.)

Perimeter control (i.e. silt fence)

Plan

Stabilize per Temporary Stabilization specifications

Max. height 20' (10' on residential lot) unless local requirements more restrictive

1 max.

2

Install perimeter control per specification

Section A-A

Source: Adapted from Colorado Urban Storm Drainage Criteria Manual, Vol 3	Symbol: SP	Detail No. DE-ESC-3.7.3 Sheet 1 of 2 Effective FEB 2019
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Standard Detail & Specifications

Soil Stockpile

Construction Notes:

- Locate stockpiles so that they are 50 feet from any storm drain inlet, open channel, wetland or waterbody. Redirect any concentrated flow around the stockpile using an approved erosion and sediment control measure.
- Secure the perimeter of the stockpile with an approved erosion and sediment control perimeter device.
- If stockpile is to remain inactive for more than 14 calendar days, the stockpile must be vegetated. Follow the temporary vegetation specifications. The vegetation chosen shall last the duration of the stockpile; the stockpile shall be restabilized if the temporary vegetation dies or erosion results.

Source: Adapted from Colorado Urban Storm Drainage Criteria Manual, Vol 3	Symbol: SP	Detail No. DE-ESC-3.7.3 Sheet 2 of 2 Effective FEB 2019
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Standard Detail & Specifications

Sensitive Area Protection

Drip line

Protective device

Limit of disturbance

Proposed grading

5' Min.

*5' min. setback applies to all sensitive areas covered by this specification.

Location of Sensitive Area Protection

Drip line

Snow fence

Board fence

Cord fence

Plastic fence

Methods of Sensitive Area Protection

Source: Adapted from VA ESC Handbook	Symbol: SAP	Detail No. DE-ESC-3.7.2 Sheet 1 of 3 Effective FEB 2019
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100% DESIGN

D	ISSUED FOR 100% REVIEW	TED	WWW	01/24/20	<p>Bar is one inch on original size sheet</p> <p>0 1"</p> <p>Reuse of Documents</p> <p>This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD and shall not be reused in whole or in part for any other project without GHD's written authorization. © 2020 GHD</p> <p>GHD Inc. 16701 Meiford Boulevard, Suite 303 Bowie MD 20715 USA T 1 240 206 6810 F 1 240 206 6811 W www.ghd.com</p>	<p>Drawn T. DAHMER</p> <p>Drafting Check W. WHEELER</p> <p>Project Manager L. BENNETT</p> <p>This document shall not be used for construction unless signed and sealed for construction.</p>	<p>Designer W. WHEELER</p> <p>Design Check K. GEORGE</p> <p>Date JANUARY 2020</p> <p>Scale NTS</p>	<p>Client SUSSEX COUNTY</p> <p>Project PS 202 INTERCONNECT</p> <p>Title EROSION AND SEDIMENT CONTROL DETAILS</p> <p>SHEET 1 OF 3</p> <p>Project No. 11186880</p> <p>Original Size Arch D</p> <p>Sheet No. C010</p>
C	ISSUED FOR 90% REVIEW	TED	WWW	10/02/19				
B	ISSUED FOR 60% REVIEW	TED	WWW	09/12/19				
A	ISSUED FOR 30% REVIEW	TED	WWW	08/22/19				
No.	Issue	Drawn	Approved	Date				

Standard Detail & Specifications
Sensitive Area Protection

Construction Notes:

Fencing shall be installed at the extents of all sensitive areas. For trees, the fencing shall be installed outside the dripline (mature canopy) and at no time within 5 feet of the trunk. Personnel must be instructed to honor protective devices. The devices described are suggested only, and are not intended to exclude the use of other devices which will protect the trees to be retained. If sill fence is to be used for demarcation purposes, appropriate signage shall be provided a minimum of every 20 feet denoting the area as a sensitive area protection zone.

Materials:

- Snow Fence - Standard 40-inch high snow fence shall be placed at the limits of clearing or construction on standard steel posts set 6 feet apart.
- Board Fence - Board fencing consisting of 4-inch square posts set securely in the ground and protruding at least 4 feet above the ground shall be placed at the limits of clearing with a minimum of two horizontal boards between posts. For tree protection, if it is not practical to erect a fence of the drip line, construct a triangular fence nearer the trunk. The limits of clearing will still be located at the drip line, since the root zone within the drip line will still require protection.
- Plastic Fencing - 40-inch high "international orange" plastic (polyethylene) web fencing secured to conventional metal "T" or "U" posts driven to a minimum depth of 18 inches on 6-foot minimum centers shall be installed at the limits of clearing. The fence should have the following minimum physical qualities:
 - Tensile yield: Average 2,000 lbs. per 4-foot width (ASTM D638)
 - Ultimate tensile yield: Average 2,900 lbs. per 4-foot width (ASTM D638)
 - Elongation at break (%): Greater than 1000% (ASTM D638)
 - Chemical resistance: Inert to most chemicals and acids

Source: Adapted from VA ESC Handbook
Symbol: **SAP**
Detail No: **DE-ESC-3.7.2**
Sheet 2 of 3
Effective FEB 2019

Standard Detail & Specifications
Sensitive Area Protection

- Cord Fence - Posts with a minimum size of 2 inches square or 2 inches in diameter set securely in the ground and protruding at least 4 feet above the ground shall be placed at the limits of clearing with two rows of cord 1/4-inch or thicker at least 2 feet apart running between posts with strips of colored surveyor's flagging tied securely to the string at intervals no greater than 3 feet.
- Earth Berms - Temporary earth berms shall be constructed according to specifications for a Temporary Earth Dike with the base of the berm on the sensitive area side located along the limits of clearing. Earth berms may not be used for this purpose if their presence will conflict with drainage patterns.
- Trunk Armoring (Tree Protection Only) - As a last resort, a tree trunk can be armored with burlap wrapping and 2-inch studs wired vertically no more than 2 inches apart to a height of 5 feet encircling the trunk. If this alternative is used, the root zone within the drip line will still require protection. Nothing should ever be nailed to a tree.

Maintenance:

Fencing and armoring devices shall be in place before any excavation or grading is begun, shall be kept in good repair for the duration of construction activities, and shall be the last items removed during the final cleanup after the completion of the project.

Source: Adapted from VA ESC Handbook
Symbol: **SAP**
Detail No: **DE-ESC-3.7.2**
Sheet 3 of 3
Effective FEB 2019

Standard Detail & Specifications
Vegetative Stabilization

TEMPORARY SEEDING BY RATES, DEPTHS AND DATES

Mix #	Species ^a	Seeding Rate	Optimum Seeding Dates ¹					Planting Depth ³
			Coastal Plain	Piedmont	All	Coastal Plain	Piedmont	
1	Barley	125 lb/Ac ²	O	A	O	A	O	1-2 inches 2-3" sandy soils
2	Oats	125 4	O	A	O	A	O	1-2 inches 2-3" sandy soils
3	Rye	125 4	O	A	O	A	O	1-2 inches 2-3" sandy soils
4	Perennial Ryegrass	125 4	O	A	O	A	O	0.5 inches 1-2" sandy soils
5	Annual Ryegrass	125 4	O	A	O	A	O	0.5 inches 1-2" sandy soils
6	Winter Wheat	125 4	O	A	O	A	O	1-2 inches 2-3" sandy soils
7	Foral Millet	30 PLS	O		O		O	0.5 inches
8	Pearl Millet	20 PLS	O		O		O	0.5 inches 1-2" sandy soils

1. Winter seeding requires 3 tons per acre of straw mulch for proper stabilization.
2. May be planted throughout summer if soil moisture is adequate or seeded area can be irrigated.
3. Applicable on slopes 3:1 or less.
4. Fifty pounds per acre of Annual Lespedeza may be added to 1/2 the seeding rate of any of the above species.
5. Use varieties currently recommended for Delaware. Contact a County Extension Office for information.
6. Warm season grasses such as Millet or Weeping Lovegrass may be used between 5/1 and 9/1 if desired. Seed at 3-5 lbs. per acre. Good on low fertility and acid areas. Seed after frost through summer at a depth of 0.5".

NOTE: Alternative seed mixes may be used with prior approval from the Department or Delegated Agency.

Source: Delaware ESC Handbook
Symbol: **SAP**
Detail No: **DE-ESC-3.4.3**
Sheet 1 of 4
Effective FEB 2019

Standard Detail & Specifications
Vegetative Stabilization

PERMANENT SEEDING AND SEEDING DATES

Mix No.	Seeding Mixture	Seeding Rate ¹	Optimum Seeding Dates ²							Remarks			
			Coastal Plain	Piedmont	All ³	Coastal Plain	Piedmont	All ³	Coastal Plain		Piedmont	All ³	
1	Well Drained Soils	140	O	A	O	A	O	A	O	A	O	A	Good erosion control mix. Tolerant of low fertility soils. Weeds very difficult to move. Germinates only in top seedbed.
2	Moist Soils	30	O	A	O	A	O	A	O	A	O	A	Good erosion control mix. Tolerant of low fertility soils. Good wildlife cover and food source.
3	Fall Fescue (Turf-Type) or Spring-Creeping Red Fescue or Perennial Ryegrass	50	O	A	O	A	O	A	O	A	O	A	Good erosion control mix. Fall fescue for droughty conditions. Creeping Red Fescue for heavy shade. Ryegrass to suppress woody vegetation.
4	Strong-Creeping Red Fescue or Kentucky Bluegrass or Perennial Ryegrass or Bluegrass	100	O	A	O	A	O	A	O	A	O	A	Use for heavy shade. Suitable waterway mix. Kentucky Bluegrass more drought tolerant. Use Ryegrass for increased drought tolerance.
5	Bluegrass or Annual Ryegrass	10	O		O		O		O		O		Native warm-season mix. Tolerant of low fertility soils. Drought tolerant. Plant shade tolerant. N fertilizer discouraged; weeds will flourish.
6	Fall Fescue (Turf-Type) (Shade of culture)	150	O	A	O	A	O	A	O	A	O	A	Managed Bluegrass for market use.
7	Fall Fescue (Turf-Type) (Shade of culture)	150	O	A	O	A	O	A	O	A	O	A	Three cultivars of Kentucky Bluegrass. Traffic tolerant.
8	Big Bluestem, Indian Grass, or Perennial Ryegrass	25	O	A	O	A	O	A	O	A	O	A	All species are native. Indian Grass and Bluestem have fully seeds. Plant with a specialized native seed drill.
9	Perennial Ryegrass	10	O		O		O		O		O		Creeping Red Fescue will provide erosion protection while the warm season grasses get established.

NOTE: Alternative seed mixes may be used with prior approval from the Department or Delegated Agency.

Source: Delaware ESC Handbook
Symbol: **SAP**
Detail No: **DE-ESC-3.4.3**
Sheet 2 of 4
Effective FEB 2019

Standard Detail & Specifications
Vegetative Stabilization

PERMANENT SEEDING AND SEEDING DATES (cont.)

Mix No.	Seeding Mixture	Seeding Rate ¹	Optimum Seeding Dates ²							Remarks			
			Coastal Plain	Piedmont	All ³	Coastal Plain	Piedmont	All ³	Coastal Plain		Piedmont	All ³	
9	Poorly Drained Soils	75	O	A	O	A	O	A	O	A	O	A	Quick stabilization of disturbed sites and waterways.
10	Reed Canarygrass	10	O	A	O	A	O	A	O	A	O	A	Good erosion control, wildlife cover and wetland revegetation.
11	Residential Lawns	100	O	A	O	A	O	A	O	A	O	A	High value, high maintenance, light traffic, irrigation necessary. Well drained soils, full sun.
12	Fall Fescue (Turf-Type) or Kentucky Bluegrass Blend	100	O	A	O	A	O	A	O	A	O	A	Moderate value, low maintenance, traffic tolerant.
13	Creeping Red Fescue or Kentucky Bluegrass or Perennial Ryegrass	50	O	A	O	A	O	A	O	A	O	A	Shade tolerant, moderate traffic tolerance, moderate maintenance.
14	Creeping Red Fescue or Kentucky Bluegrass or Perennial Ryegrass	50	O	A	O	A	O	A	O	A	O	A	Shade tolerant, moisture tolerant.
15	K-31 Fall Fescue	150	O	A	O	A	O	A	O	A	O	A	Monoculture, but performs well alone in lawns. Discouraged.

1. When hydroseeding is the chosen method of application, the total rate of seed should be increased by 25%.
2. Winter seeding requires 3 tons per acre of straw mulch. Planting dates listed above are averages for Delaware. These dates may require adjustment to reflect local conditions.
3. All seed shall meet the minimum purity and minimum germination percentages recommended by the Delaware Department of Agriculture. The maximum % of seed seeds shall be in accordance with Section 7, Chapter 84, Title 3 of the Delaware Code.
4. Cool season species may be planted throughout summer if soil moisture is adequate or seeded area can be irrigated.
5. All leguminous seeds must be inoculated.
6. Warm season grass mix and Reed Canary Grass cannot be mowed more than 4 times per year.
7. Warm season grasses require a soil temperature of at least 50 degrees in order to germinate, and will remain dormant until then.

NOTE: Alternative seed mixes may be used with prior approval from the Department or Delegated Agency.

Source: Delaware ESC Handbook
Symbol: **SAP**
Detail No: **DE-ESC-3.4.3**
Sheet 3 of 4
Effective FEB 2019

Standard Detail & Specifications
Vegetative Stabilization

Construction Notes:

- Site Preparation
 - Prior to seeding, install needed erosion and sediment control practices such as diversions, grade stabilization structures, berms, dikes, grassed waterways, and sediment basins.
 - Final grading and shaping is not necessary for temporary seedings.
- Seedbed Preparation

It is important to prepare a good seedbed to insure the success of establishing vegetation. The seedbed should be well prepared, loose, uniform, and free of large clods, rocks, and other objectionable material. The soil surface should not be compacted or crusted.
- Soil Amendments
 - Lime - Apply liming materials based on the recommendations of a soil test in accordance with the approved nutrient management plan. If a nutrient management plan is not required, apply dolomitic limestone at the rate of 1 to 2 tons per acre. Apply limestone uniformly and incorporate into the top 4 to 6 inches of soil.
 - Fertilizer - Apply fertilizer based on the recommendations of a soil test in accordance with the approved nutrient management plan. If a nutrient management plan is not required, apply a formulation of 10-10-10 at the rate of 600 pounds per acre. Apply fertilizer uniformly and incorporate into the top 4 to 6 inches of soil.
- Seeding
 - For temporary stabilization, select a mixture from Sheet 1. For a permanent stabilization, select a mixture from Sheet 2 or Sheet 3 depending on the conditions. Alternative seed mixes may be used with prior approval from the Department or Delegated Agency.
 - Apply seed uniformly with a broadcast seeder, drill, cultipacker seeder or hydroseeder. All seed will be applied at the recommended rate and planting depth.
 - Seed that has been broadcast should be covered by raking or dragging and then lightly tamped into place using a roller or cultipacker. If hydroseeding is used and the seed and fertilizer is mixed, they will be mixed on site and the seeding shall be done immediately and without interruption.
- Mulching

All mulching shall be done in accordance with detail DE-ESC-3.4.5.

Source: Delaware ESC Handbook
Symbol: **SAP**
Detail No: **DE-ESC-3.4.3**
Sheet 4 of 4
Effective FEB 2019

Standard Detail & Specifications
Stabilized Construct. Entrance

Plan

Profile

Section A-A (Std.)

Source: Adapted from VA ESC Handbook
Symbol: **SCE**
Detail No: **DE-ESC-3.4.7**
Sheet 1 of 2
Effective FEB 2019

Standard Detail & Specifications
Stabilized Construct. Entrance

Plan

Profile

Section A-A (Opt.)

Source: Adapted from VA ESC Handbook
Symbol: **SCE**
Detail No: **DE-ESC-3.4.7**
Sheet 2 of 2
Effective FEB 2019

Standard Detail & Specifications
Compost Filter Log

Plan

Profile

Surface Option Shown for Slopes less than 8:1

NOTE: Manufacturer's recommendations supersede any installation details shown for this practice

Source: Adapted from MD Sids & Specs for ESC & Filtrax™ International
Symbol: **CFL**
Detail No: **DE-ESC-3.1.7**
Sheet 1 of 2
Effective FEB 2019

Standard Detail & Specifications
Compost Filter Log

Plan

Profile

Surface Option Shown for Slopes less than 8:1

NOTE: Manufacturer's recommendations supersede any installation details shown for this practice

Source: Adapted from MD Sids & Specs for ESC & Filtrax™ International
Symbol: **CFL**
Detail No: **DE-ESC-3.1.7**
Sheet 1 of 2
Effective FEB 2019

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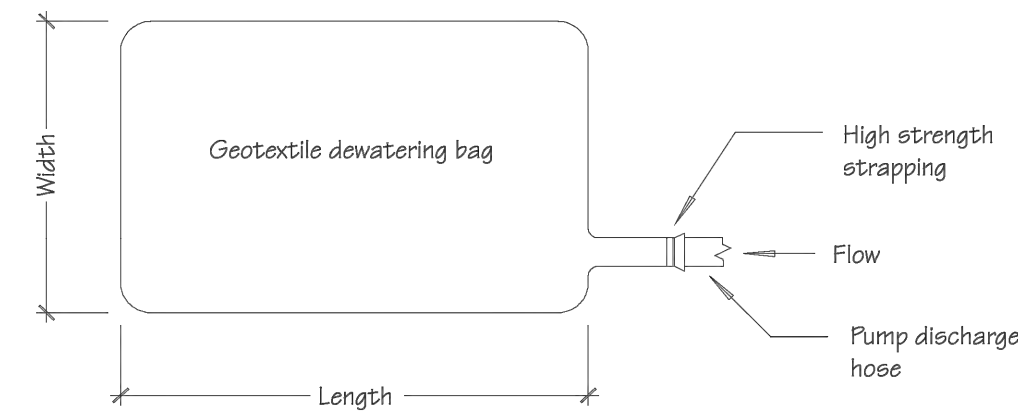
Drawn T. DAHMER
Designer W. WHEELER
Drafting Check W. WHEELER
Design Check K. GEORGE
Project Manager L. BENNETT
Date JANUARY 2020

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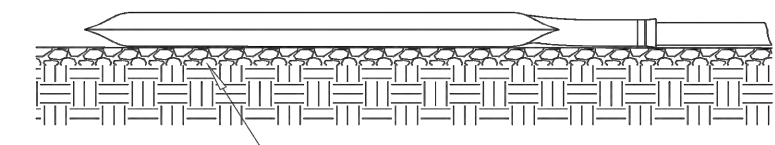
Scale NTS

Client SUSSEX COUNTY
Project PS 202 INTERCONNECT
Title EROSION AND SEDIMENT CONTROL DETAILS
SHEET 2 OF 3
Project No. 11186880
Original Size Arch D
Sheet No. C011

Standard Detail & Specifications
Geotextile Dewatering Bag



Plan



Profile

NOTE: Pre-manufactured products installed in accordance with manufacturer's recommendations may be used as an equivalent substitute with Departmental approval.

Source: Adapted from ACF Products, Inc.	Symbol: GB	Detail No. DE-ESC-3.2.1.2 Sheet 1 of 2 Effective FEB 2019
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Standard Detail & Specifications
Geotextile Dewatering Bag



Construction Notes:

- The dewatering bag should be placed so the incoming water flows into and through the bag, and then flow off the site without creating more erosion. The neck should be tied off tightly to stop the water from flowing out of the bag without going through the walls. The dewatering bag should be placed on a gravel bed to allow water to flow in all directions.
- The dewatering bag is considered full and should be disposed when it is impractical for the bag to filter the sediment out at a reasonable flow rate. At this point, it should be replaced with a new bag.
- Disposal may be accomplished as directed by the construction reviewer. If the site allows, the bag may be buried on site and seeded, visible fabric removed and seeded or removed from site to a proper disposal area.

Materials:

- The geotextile fabric shall be a Type GD-IV.
- The dewatering bag shall be sewn with a double needle machine using high strength thread. All structural seams will be sewn with high strength, double stitched "J" type. Seam strength test will have the following minimum average roll values:

Type	TEST METHOD	TEST RESULT
Heavy duty	ASTM D-4884	100 lb / in

- The dewatering bag shall have an opening large enough to accommodate a four (4) inch discharge hose with attached strap to tie off the hose to prevent the pumped water from escaping from the bag without being filtered.

Source: Adapted from ACF Products, Inc.	Symbol: GB	Detail No. DE-ESC-3.2.1.2 Sheet 2 of 2 Effective FEB 2019
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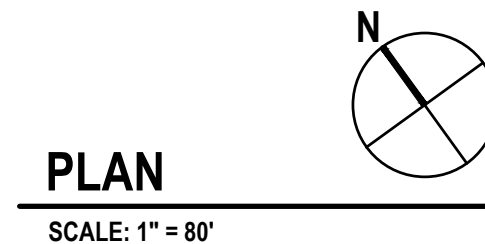
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D ISSUED FOR 100% REVIEW C ISSUED FOR 90% REVIEW B ISSUED FOR 60% REVIEW A ISSUED FOR 30% REVIEW	TED	WWW	01/24/20	Bar is one inch on original size sheet 0 ————— 1"	GHD Inc. 16701 Meiford Boulevard, Suite 330 Bowie MD 20715 USA T 1 240 206 6810 F 1 240 206 6811 W www.ghd.com	Drawn T. DAHMER	Designer W. WHEELER	Client SUSSEX COUNTY Project PS 202 INTERCONNECT Title EROSION AND SEDIMENT CONTROL DETAILS SHEET 3 OF 3 Project No. 11186880 Original Size Arch D Sheet No. C012	
	TED	WWW	10/02/19			Drafting Check W. WHEELER	Design Check K. GEORGE		
	TED	WWW	09/12/19			Project Manager L. BENNETT	Date JANUARY 2020		
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LEGEND:

- DIRECTION OF TRAFFIC
- SIGN
- CHANNELING DEVICE
- FLAGGER
- WORK SPACE
- W20-1
- W20-3
- W20-7
- W21-5
- G20-1
- G20-2
- R11-2



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Project Manager	L. BENNETT	Date	JANUARY 2020
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Client	SUSSEX COUNTY
Project	PS 202 INTERCONNECT
Title	TRAFFIC CONTROL PLAN STA 4+44 TO STA 10+25 CONSTRUCTION
Project No.	11186880
Original Size	Arch D
Sheet No.	C013

TRAFFIC CONTROL SEQUENCE OF CONSTRUCTION

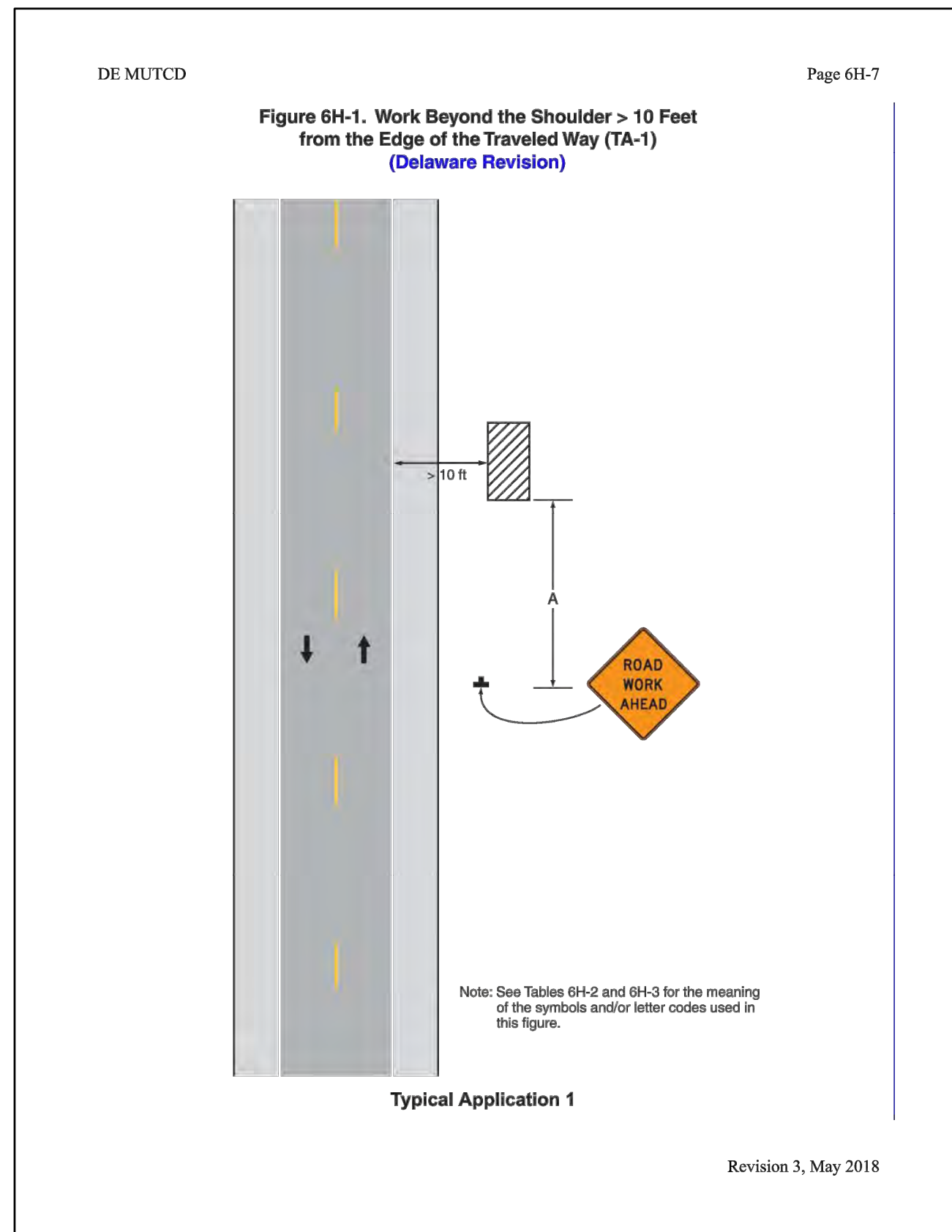
- STEP 1 THE CONTRACTOR SHALL PLACE ALL CONSTRUCTION WARNING SIGNS ONE WEEK PRIOR TO THE BEGINNING OF WORK. THE SIGNS ARE TO REMAIN COVERED UNTIL ROAD CONSTRUCTION BEGINS. THE APPROACH WARNING SIGNS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED.
- STEP 2 THE CONTRACTOR SHALL USE DIAGRAM, FIGURE 6H-1, WORK BEYOND THE SHOULDER (TA-1) FOR OPEN-CUT INSTALLATION AND HDD BORING OPERATIONS, FIGURE 6H-10 FOR OPEN-CUT INSTALLATION CLOSURE THAN 24-INCHES FROM THE EDGE OF PAVEMENT, TO INSTALL TRAFFIC CONTROL DEVICES AND TEMPORARY PAVEMENT MARKING.
- STEP 3 CONSTRUCT ALL PROPOSED WORK.
- STEP 4 REMOVE TRAFFIC CONTROL DEVICES

MAINTENANCE AND PROTECTION OF TRAFFIC NOTES

- THE CONTRACTOR SHALL MAINTAIN TRAFFIC THROUGHOUT THE LENGTH OF THE CONTRACT IN ACCORDANCE WITH THE REQUIREMENTS OF DELDOT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (MUTCD), LATEST REVISION.
- A 72-HOUR (MINIMUM) NOTICE IS REQUIRED TO BE GIVEN TO THE DELDOT DISTRICT INSPECTOR PRIOR TO START UTILITY CONSTRUCTION.
- A COPY OF THE UP TO DATE APPROVED CONSTRUCTION DOCUMENTS AND DELDOT APPROVAL LETTER SHALL BE MAINTAIN ON THE PROJECT SITE AT ALL TIMES AND BE AVAILABLE FOR INSPECTION BY DELDOT PERSONNEL.
- PRIOR TO THE START OF ANY CONSTRUCTION PHASE, ALL PROPOSED MAINTENANCE AND PROTECTION TRAFFIC RELATED WORK SHALL BE COMPLETE. THIS INCLUDES, WHERE APPLICABLE, ALL SIGNS, PAVEMENT MARKINGS, BARRIERS, DELINEATION (CONES, DRUMS, ETC.), PAVEMENT MODIFICATION AND OTHER RELATED WORK.
- THE CONTRACTOR SHALL SUBMIT HIS WORK ZONE TRAFFIC CONTROL PLANS FOR REVIEW AND APPROVAL BY ALL AGENCIES AND ENGINEER PRIOR TO THE IMPLEMENTATION OF SAID PLAN.
- THE CONTRACTOR SHALL POST WARNINGS SIGNS AT ALL APPROACHES TO THE PROJECT AND CONSTRUCTION ENTRANCES. THE CONTRACTOR SHALL PROVIDE FLAGMEN WHEN AND WHERE NECESSARY.
- DELDOT RESERVES THE RIGHT TO STOP THE CONTRACTOR'S OPERATIONS, IF IN THE OPINION OF THE DEPARTMENT'S REPRESENTATIVE, THE CONTRACTOR'S OPERATIONS ARE NOT IN COMPLIANCE WITH MUTCD OR THE CONTRACT DOCUMENTS OR IF THE CONTRACTOR'S OPERATIONS ARE DEEMED UNSAFE.
- CONSTRUCT INGRESS AND EGRESS
 - THE CONTRACTOR SHALL KEEP TO A MINIMUM THE MOVEMENT OF CONSTRUCTION VEHICLES AND EQUIPMENT IN AND OUT OF DESIGNATED TRAVEL LANES. ONLY NECESSARY AND AUTHORIZED VEHICLES, AS DETERMINED BY OWNER/ENGINEER, SHALL BE ALLOWED TO ENTER THE WORK AREA.
- PUBLIC INGRESS AND EGRESS
 - THE CONTRACTOR SHALL MAINTAIN ACCESS TO EXISTING RESIDENTIAL/COMMERCIAL DRIVEWAYS, PARKING LOTS, ETC. AT ALL TIMES.
 - THE CONTRACTOR SHALL PROVIDE PROPERTY OWNERS WITH PROPER ACCESS AND MINIMUM WIDTHS FOR THEIR DRIVEWAYS ACCORDING TO POLICY AND STANDARDS FOR ENTRANCES TO STATE HIGHWAYS AND SHALL MAINTAIN THEM THROUGHOUT ALL PHASES OF WORK AND SHALL DELINEATE THESE BY MEANS OF SIGNS, CONES, AND/OR DRUMS.
 - WHERE DIRECT ACCESS TO DRIVEWAYS IS NOT POSSIBLE DUE TO NECESSARY CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL PLAN AN ALTERNATE MEANS OF ACCESS AND SUBMIT PLANS TO THE OWNER/ENGINEER FOR REVIEW BEFORE OPERATIONS COMMENCE.

DELDOT STANDARD NOTES

- PLANS ARE REVIEWED FOR GENERAL CONFORMITY. DELDOT IS NOT RESPONSIBLE FOR ERRORS OR OMISSIONS WITHIN THE PLAN SET. THE UTILITY OWNER IS RESPONSIBLE TO ENSURE ACCURACY OF PLANS AND CONFORMANCE WITH DELDOT STANDARDS.
- MANHOLE TOP SECTIONS WILL BE OFF SET CONE STYLE. ANY MANHOLE LIDS THAT ARE DETERMINED BY DELDOT TO NOT BE IN THE CENTER OF THE LANE SHALL BE ADJUSTED PRIOR TO FINAL PAVEMENT PLACEMENT.
- MANHOLE FRAME AND LIDS SHALL BE INITIALLY SET 1/2" LOW AND ADJUSTED TO FINISH GRADE WITH CONCRETE COLLAR AFTER FINAL PAVEMENT HAS BEEN PLACED.
- CONCRETE COLLARS SHALL BE POURED AROUND MANHOLE FRAME AND LIDS/VALVE BOXES TO FINISH GRADE USING CLASS "A" CONCRETE.
- ALL BACKFILL MATERIAL IN EXISTING/PROPOSED ROADWAY SHALL CONFORM TO TYPE "C" BORROW. ALL BORROW BACKFILL SHALL BE COMPACTED TO 95% USING AASHTO T99 STANDARD FOR TESTING.
- GABC PLACED SHALL BE COMPACTED TO 98%
- COMPACTION TESTING SHALL BE PERFORMED EVERY 100' AND TESTING SHALL BE TAKEN ON EACH LIFT OF MATERIAL PLACED.
- TAR CHIP/HOT MIXES ROADS: TRAVEL WAY PAVEMENT DISTURBED SHALL BE RESTORED AT THE END OF THE DAY PRIOR TO REOPENING TO TRAFFIC. HOT MIX SHALL BE PLACE PER TEMP PATCHING DETAIL 6" GABC AND 2" TYPE "C" HOT MIX.
- TAR CHIP/HOT MIXES SHOULDERS: SHOULDERS DISTURBED MAY BE LEFT IN GABC TO FINISH GRADE OVERNIGHT BUT SHALL BE CLOSED USING APPROPRIATE SIGNING AND DRUMS. TEMP PAVEMENT SHALL BE PLACED FOR SHOULDERS AT THE END OF EACH WORK WEEK.
- ALL AREAS DISTURBED OUTSIDE OF THE PAVEMENT SHALL BE GRADED EACH DAY TO ENSURE POSITIVE DRAINAGE AND SHALL BE PERMANENTLY RESTORED AT THE END OF EACH WEEK.
- ALL TEMPORARY HOT MIX SHALL BE PLACED TO PROVIDE A SMOOTH RIDEABLE SURFACE TO DELDOT STANDARDS.
- A SAFETY EDGE IS REQUIRED ON ALL HOT MIX PLACED.
- ANY STRIPING DISTURBED SHALL BE PLACED AT THE END OF THE DAY PRIOR TO OPENING TO TRAFFIC.
- PROOF ROLL OF GABC SHALL BE PERFORMED USING A LOADED 10 WHEELER PRIOR TO PLACEMENT OF HOT MIX.
- ALL MATERIALS AND WORKMANSHIP WITHIN THE STATE R/W SHALL BE COMPLETED IN ACCORDANCE WITH CURRENT STATE OF DELAWARE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, SUPPLEMENTAL SPECIFICATIONS, STANDARD CONSTRUCTION DETAILS, UTILITY MANUAL, SPECIAL PROVISIONS AND DESIGN MEMORANDUMS.
- THERE IS A ONE YEAR WARRANTY ON ALL EARTH WORK AND CONCRETE. A THREE YEAR WARRANTY ON ALL HOT MIX INCLUDING SUBBASE/SUBGRADE ISSUES WITHIN THE PAVEMENT AREAS. WARRANTY DOES NOT START UNTIL ALL WORK IS COMPLETED AND A STAND OF GRASS HAS BEEN ESTABLISHED TO DELDOT STANDARDS AND A ACCEPTANCE LETTER HAS BEEN ISSUED.
- ALL DISTURBED AREAS WITHIN THE STATE RIGHT-OF-WAY, BUT NOT IN THE PAVEMENT, SHALL BE TOP-SOLED (6" MINIMUM), FERTILIZED, SEEDED AND MULCHED. IF SOD IS USED NEXT TO SIDEWALK OR SHARED-USE PATH, CONTRACTOR SHALL GRADE TOPSOIL ADJACENT TO THE SIDEWALK OR SHARED-USE PATH PRIOR TO PLACEMENT OF SOD TO ENSURE THAT SOD IS PLACED FLUSH OR JUST BELOW EDGE OF SIDEWALK OR SHARED-USE PATH TO AVOID WATER PONDING ON THE SIDEWALK OR SHARED-USE PATH.
- A 72-HOUR (MINIMUM) NOTICE SHALL BE GIVEN TO THE DELDOT DISTRICT PERMIT SUPERVISOR PRIOR TO STARTING UTILITY CONSTRUCTION.
- A 48 HOUR NOTICE IS REQUIRED TO BE GIVEN TO THE DELDOT INSPECTOR PRIOR TO MATERIAL RELEASES.
- ALL CONCRETE /HOT MIX MATERIALS SHALL BE RELEASED BY THE INSPECTOR PRIOR TO PLACEMENT
- MISS UTILITY OF DELAWARE SHALL BE NOTIFIED THREE (3) CONSECUTIVE WORKING DAYS PRIOR TO EXCAVATION, AT 1-800-282-6555.
- ALL SIGNING, STRIPING AND MAINTENANCE OF TRAFFIC IS THE CONTRACTOR'S RESPONSIBILITY AND SHALL FOLLOW THE GUIDELINES SHOWN IN THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (DE MUTCD) FOR STREETS AND HIGHWAYS (LATEST EDITION). THE OWNER OR MAINTENANCE CORPORATION SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL SIGNS INSTALLED AS PART OF THIS PROJECT.
- A COPY OF THE UP TO DATE APPROVED CONSTRUCTION DOCUMENTS AND DELDOT APPROVAL LETTERS SHALL BE MAINTAINED ON THE PROJECT SITE AT ALL TIMES AND BE AVAILABLE FOR INSPECTION BY DELDOT PERSONNEL.



DE MUTCD Page 6H-3

Table 6H-1. Index to Typical Applications (Sheet 2 of 2) (Delaware Revision)

Typical Application Description	Typical Application Number	
	Two-Lane Conventional Road	Multi-Lane Conventional Road, Interstate, Freeway, or Expressway
Work Within the Traveled Way of an Interstate, Freeway, or Expressway (see Section 6G.14) - also applicable to other roadway types, as noted	---	---
Rolling Road Blocks on a Limited Access Multi-Lane, Divided Highway	---	TA-34
Lane Shift on a Multi-Lane, Divided Highway	---	TA-36
Double Lane Closure on a Multi-Lane, Divided Highway	---	TA-37
Interior Lane Closure on a Multi-Lane, Divided Highway	---	TA-37 or TA-38
Median Crossover on a Multi-Lane, Divided Highway	---	TA-39
Median Crossover for an Entrance Ramp	---	TA-40
Median Crossover for an Exit Ramp	---	TA-41
Work in the Vicinity of an Exit Ramp	---	TA-42
Partial Exit Ramp Closure	---	TA-43
Work in the Vicinity of an Entrance Ramp	---	TA-44
Temporary Reversible Lane Using Movable Barriers	---	Not applicable in Delaware
Work in the Vicinity of a Grade Crossing (see Section 6G.18)	TA-46	TA-33

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Table 6H-2. Meaning of Symbols on Typical Application Diagrams (Delaware Revision)

Arrow board	Shadow vehicle
Arrow board support or trailer (shown lighting down)	Sign (shown facing left)
Changeable message sign or support trailer	Surveyor
Channelizing device	Temporary barrier
Crash cushion	Temporary barrier with retroreflective enhanced conspicuity panel
Direction of temporary traffic detour	Traffic or pedestrian signal
Direction of traffic	Truck-mounted attenuator
Flagger	Type 3 barricade
High-level warning device (Flag tree)	Warning light
Longitudinal channelizing device	Work space
Luminaire	Work vehicle
Pavement markings that should be removed for a long-term project	

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Table 6H-3. Meaning of Letter Codes on Typical Application Diagrams (Delaware Revision)

Road Type	Distance Between Signs**		
	A	B	C
Urban (low speed)†	100 feet	100 feet	100 feet
Urban (high speed)†	300 feet	300 feet	300 feet
Rural	300 feet	300 feet	300 feet
Interstate / Expressway / Freeway	1,000 feet	1,040 feet	2,040 feet

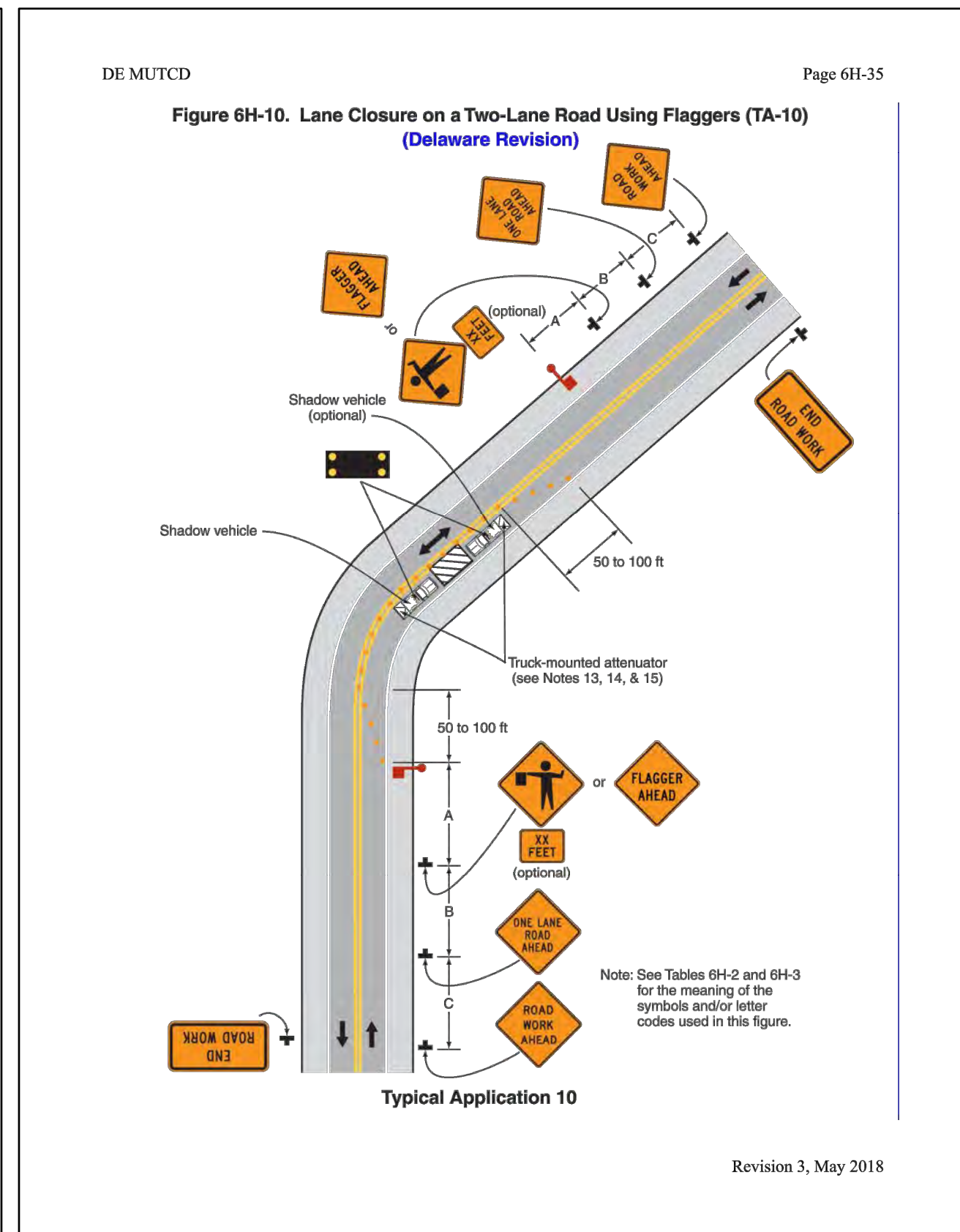
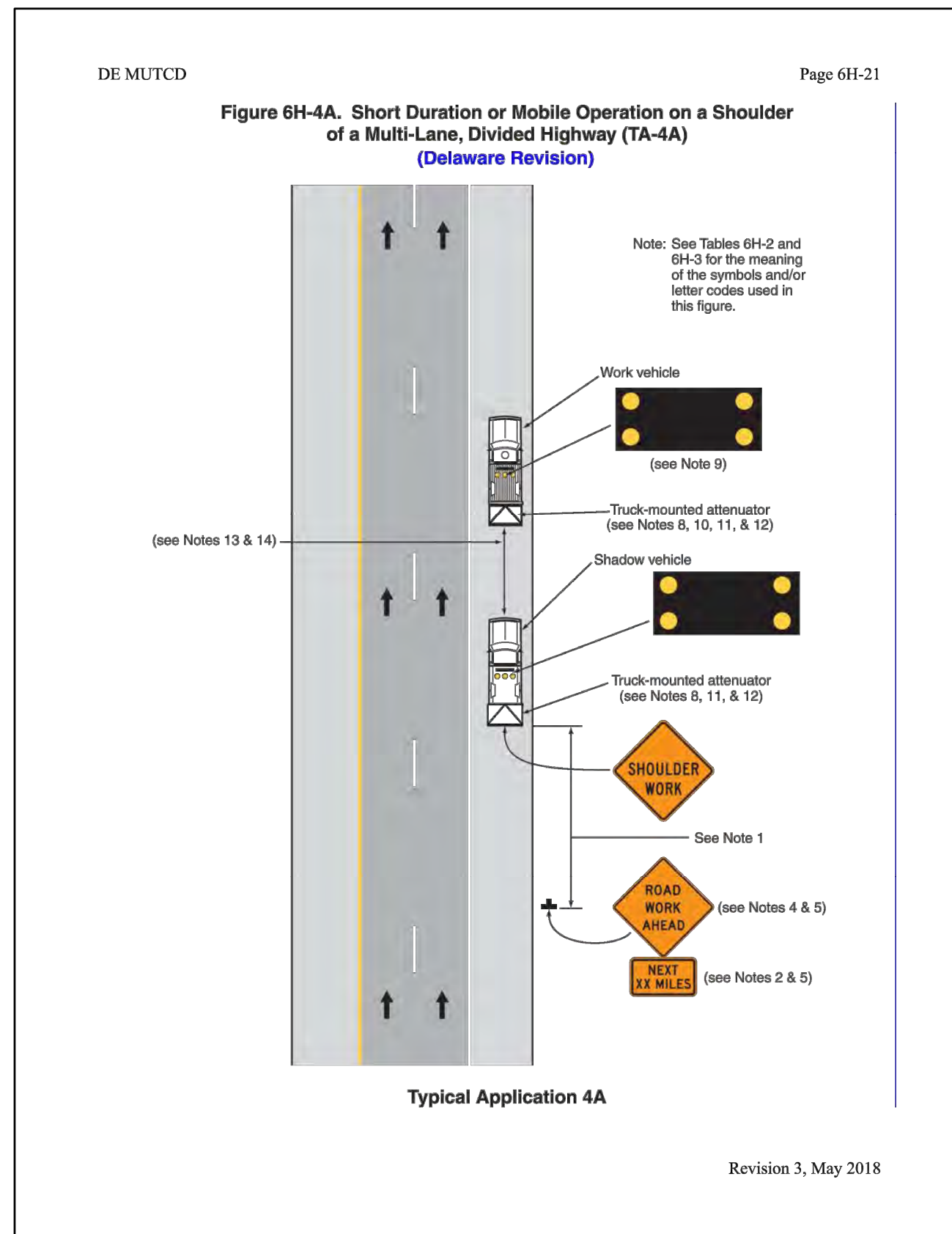
† 40 mph or less is "low speed" and over 40 mph is "high speed" on state-maintained roadways.
 ** The column headings A, B, and C are the dimensions shown in Figure 6H-1 through 6H-46. The A dimension is the distance from the transition or point of restriction to the first sign. The B dimension is the distance between the first and second signs. The C dimension is the distance between the second and third signs. (The "first sign" is the sign in a three-sign series that is closest to the TTC zone. The "third sign" is the sign that is furthest upstream from the TTC zone.)

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Table 6H-4. Formulas for Determining Taper Length (Delaware Revision)

Speed (S)	Taper Length (L) in feet
40 mph or less	$L = \frac{WS^2}{60}$
More than 40 mph	$L = WS$

Where:
 L = taper length in feet
 W = width of offset in feet
 S = posted speed limit, or off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph



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Project Manager	L. BENNETT	Date	JANUARY 2020

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Client	SUSSEX COUNTY
Project	PS 202 INTERCONNECT
Title	TRAFFIC CONTROL NOTES AND DETAILS
Project No.	11186880
Original Size	Arch D
Sheet No.	C014

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