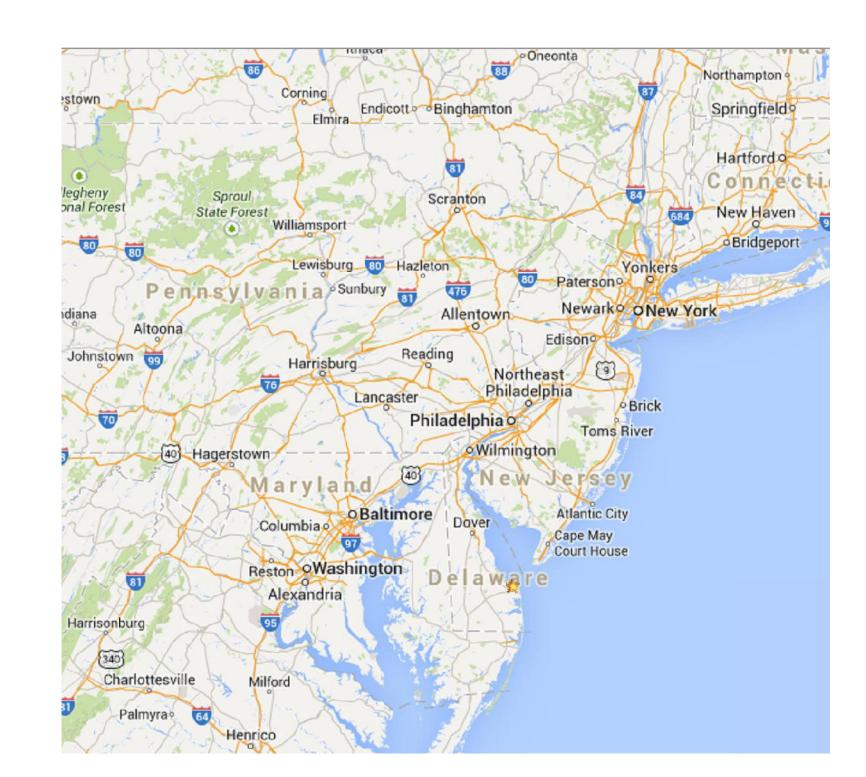
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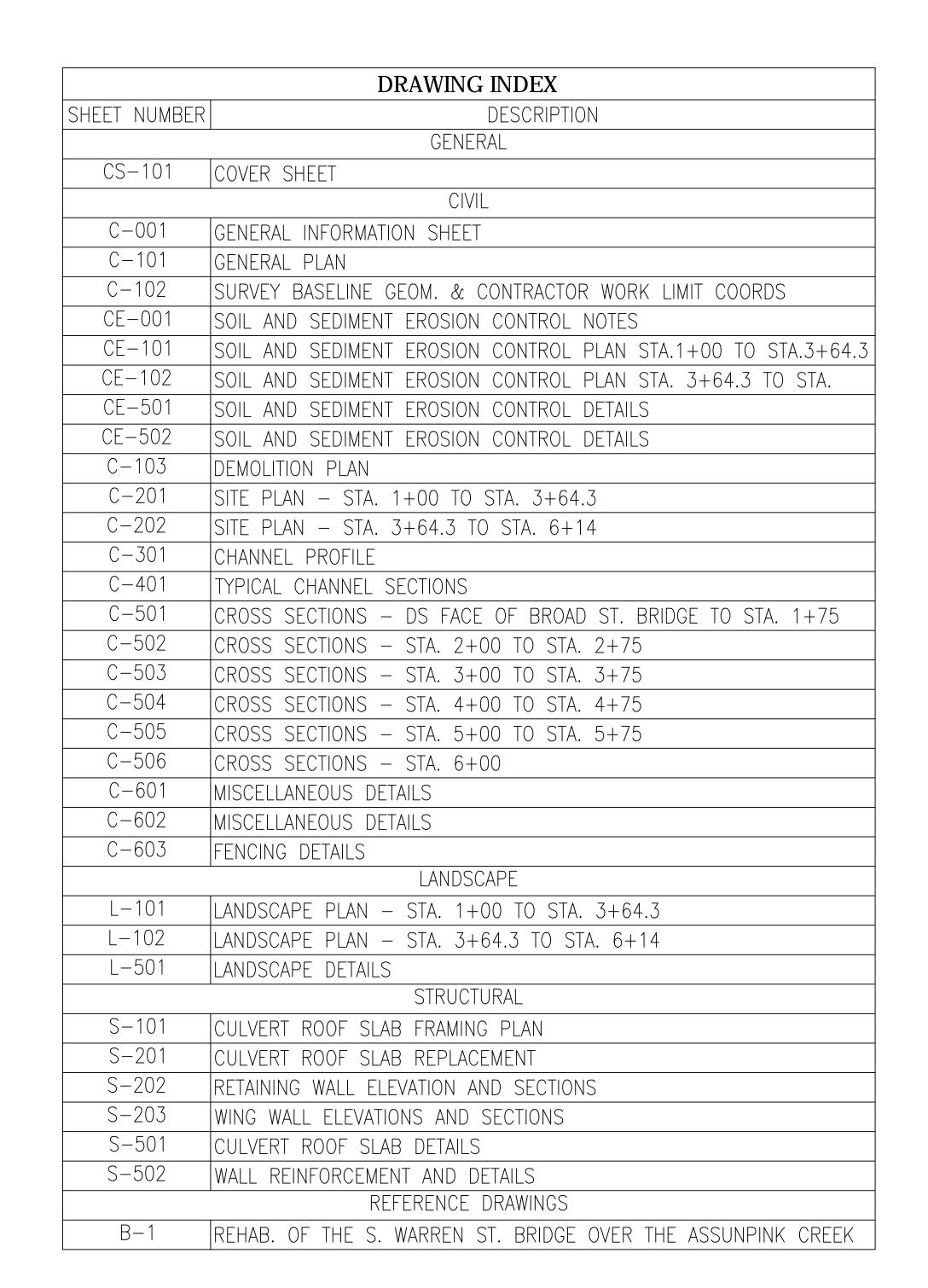
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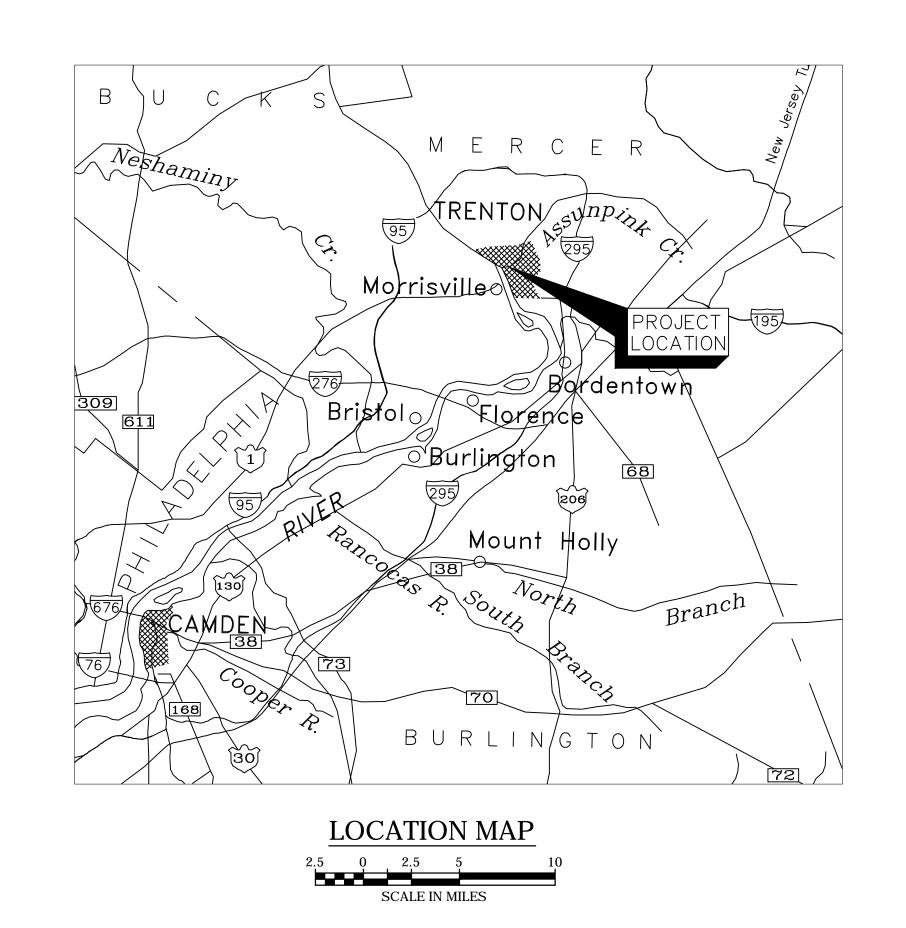


STREAM DAYLIGHTING & ECOSYSTEM RESTORATION

LOWER ASSUNPINK CREEK MERCER COUNTY, NEW JERSEY

IFB W912BU-14-B-00##





Per Burger | Frenchrown | Frenc

THIS PROJECT WAS DESIGNED BY THE PHILADELPHIA DISTRICT OF THE U.S. ARMY CORPS OF ENGINEERS. THE INITIALS OR SIGNATURES AND REGISTRATION DESIGNATIONS OF INDIVIDUALS APPEAR ON THESE PROJECT DOCUMENTS WITHIN THE

SCOPE OF THEIR EMPLOYMENT AS

REQUIRED BY ER 1110-1-8152.

SUBMITTED:

JOSE R. ALVAREZ, P.E.
CHIEF, ENGINEERING BRANCH

CHIEF, ENGINEERING AND CONSTRUCTION DIVISION

CHIEF, ENGINEERING BRANCH

APPROVED:

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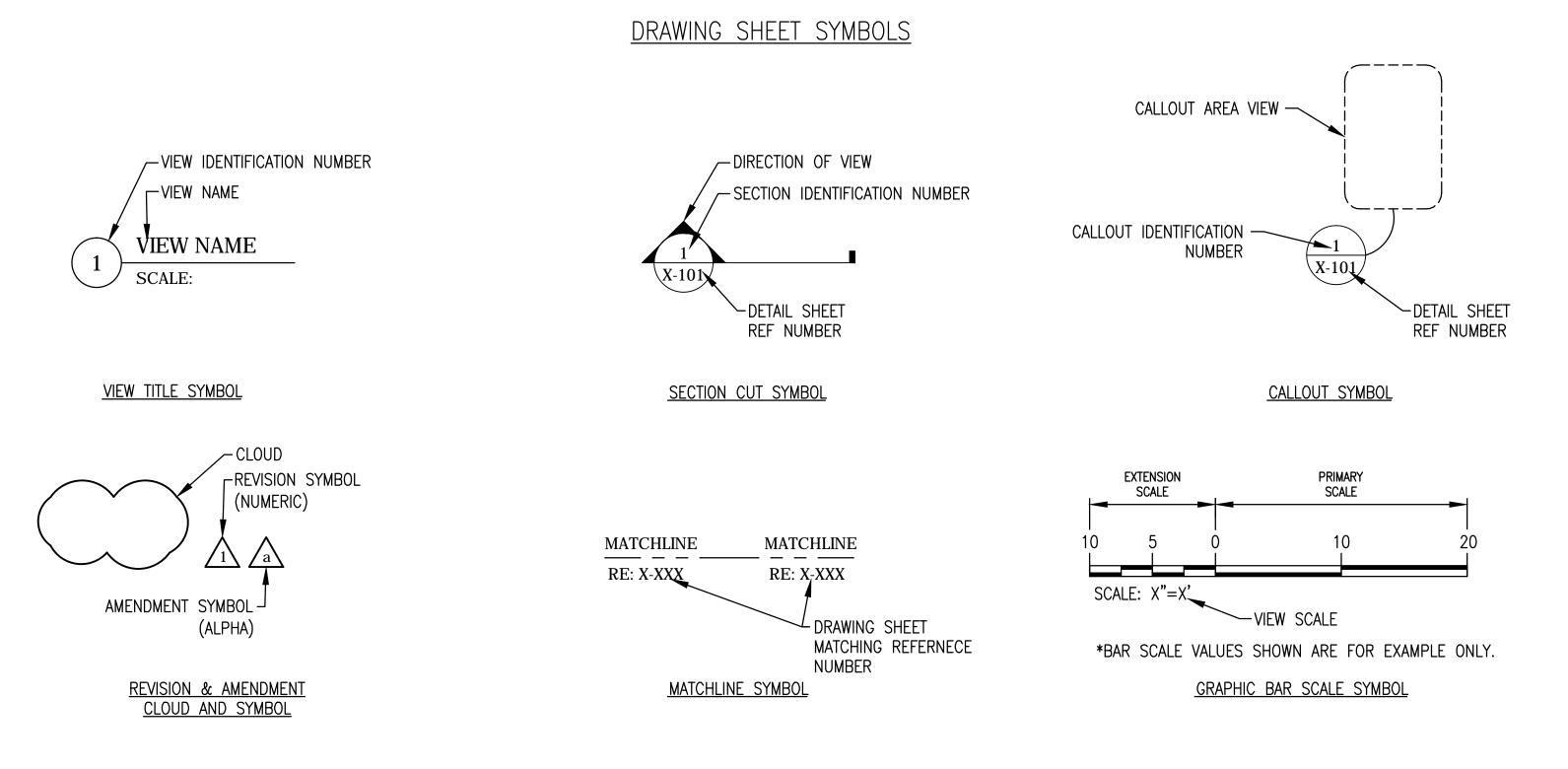
PETER M. TRANCHIK, P.E.

SHEET NUMBER

CS-101

SYMBOLS, ABBREVIATIONS AND GENERAL NOTES





			ABBREVIATIONS		
ABBRV	DESCRIPTION	ABBRV	DESCRIPTION	ABBRV	DESCRIPTION
AD	AREA DRAIN	FF	FINISHED FLOOR	PSI	POUNDS PER SQUARE INCH
ADDL	ADDITIONAL	FIN	FINISH	PVI	POST INDICATOR VALVE
AFF	ABOVE FINISHED FLOOR	FL	FLOOR	RAD	RADIUS
BD	BOARD	FM	FORCE MAIN	REINF	REINFORCEMENT
BIT	BITUMINOUS	FT	FOOT, FEET	REM	REMOVABLE
BL	BASE LINE	FTG	FOOTING	ROW	RIGHT OF WAY
BLDG	BUILDING	G	GROUND	S	SOUTH
BM	BEAM	GOVT	GOVERNMENT	SCH	SCHEDULE
BMP	BEST MANAGEMENT PRACTICE	GR	GRADE	SECT	SECTION
BOT	BOTTOM	HORIZ	HORIZONTAL	SPEC	SPECIFICATION
BVCE	BEGINNING OF VERTICAL CURVE ELEVATION	HS	HIGH STRENGTH	SPRT	SUPPORT
BVCS	BEGINNING OF VERTICAL CURVE STATION	HT	HEIGHT	SQ	SQUARE
CMU	CONCRETE MASONRY UNIT	HVY	HEAVY	SST	STAINLESS STEEL
CO	CLEAN OUT	IN	INCH	STA	STATION
COL	COLUMN	INSUL	INSULATION, INSULATED	STD	STANDARD
CONC	CONCRETE	IINT	INTERIOR	STRUCT	STRUCTURAL
CONSTR	CONSTRUCTION	INV	INVERT	SUSP	SUSPENDED
CONT	CONTINUOUS		LIVE LOAD	SYS	SYSTEM
CTRL	CONTROL	LP	LOW POINT	TEMP	TEMPORARY
CWL	CONTRACTOR WORK LIMITS	I T	LIGHT	TD	TRENCH DRAIN
DET	DETAIL	LVC	LENGTH OF VERTICAL CURVE	TDO	TRENCH DRAIN OUTLET PIPE
DGA	DENSE GRADED AGGREGATE	JCT	JUNCTION	TELE	TELEPHONE
DIA DIA	DIAMETER	MATL	MATERIAL	TOPO	TOPOGRAPHY
OIM	DIMENSION	MAX	MAXIMUM	TYP	TYPICAL
DL DWO	DEAD LOAD	MIN	MINIMUM	UD	UNDERDRAIN
DWG	DRAWING	MISC	MISCELLANEOUS	UDO	UNDERDRAIN OUTLET PIPE
<u> </u>	EAST	N	NORTH NOT LEGG THAN	UE	UNDERGROUND ELECTRIC
EA EOM	EACH CONTROL MAT	NLT	NOT LESS THAN	UGND	UNDERGROUND
ECM	EROSION CONTROL MAT	NTS	NOT TO SCALE	UNO	UNLESS NOTED OTHERWISE
<u>EJ</u>	EXPANSION JOINT	00	ORIGINAL CONSTRUCTION	UOP	UNDERDRAIN OUTLET PIPE
EL	ELEVATION	OD	OUTSIDE DIAMETER	UXO	UNEXPLODED ORDINANCE
ELEC	ELECTRIC	OH	OVERHEAD	VB	VINYL BASE
EOP	EDGE OF PAVEMENT	OPG	OPENING	VC VC	VERTICAL CURVE
EOS	EDGE OF SHOULDER	OPP	OPPOSITE	VCT	VINYL COMPOSITION TILE
EQ	EQUAL	PC	POINT OF CURVE	VOL	VOLUME
EQUIP	EQUIPMENT	PD	PAVEMENT DRAIN	VERT	VERTICAL
EXH	EXHAUST	PI	POINT OF INFLECTION	VTR	VENT THROUGH ROOF
EXIST	EXISTING	PI	POINT OF INFLECTION	W/	WITH
EXP	EXPANSION, EXPOSED	PIV	POINT OF VERTICAL INFLECTION	W	WEST
EXP JT	EXPANSION JOINT	POT	POINT OF TANGENT	WL	WATER LEVEL
EXT	EXTERIOR	PMP	PROBABLE MAXIMUM PRECIPITATION	WS	WATER SURFACE
FIG	FIGURE SINGLE	PNL	PANEL	W/O	WITHOUT
FDTN	FOUNDATION	PSF	POUNDS PER SQUARE FOOT		
		-			

PROPOSED CONTOUR	_	162	— 162
STATE OF NJ PROPE	RTY LINE -		
SURVEY AND CONSTR BASELINE	RUCTION -		
EXISTING CONTOUR L	INE	23	
DEMOLITION			
EXIST. BEAM GUIDE	RAIL	_ 0 0	0
EXISTING FENCE		XX_	
EXISTING STORM LINE	<u> </u>	— ST——ST—	
EXISTING HOT WATER	R PIPE	—— HW ——— HW —	
EXISTING COLD WATE	R PIPE	—— CW ——— CW —	_
EXISTING ELECTRIC C	CONDUIT	— EC — EC —	
GUIDE RAIL			
CANTILEVER RETAININ	NG WALL		_
ВОТТОМ	RIPRAP ———— EDGE OF CHANNEL =		
4' HIGH ORNAMENTA	L FENCE		-
BOLLARD WITH CHAIR	N	0-0-0	
PIPE RAILING	=		
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0011010100 010010	SE AREA	77777 222	
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TEMPORARY UTILITY I			2
TEMPORARY UTILITY IS CONTRACTOR WORK W/ COORDINATE			2
TEMPORARY UTILITY IS CONTRACTOR WORK W/ COORDINATE PIPE RAILING			Q

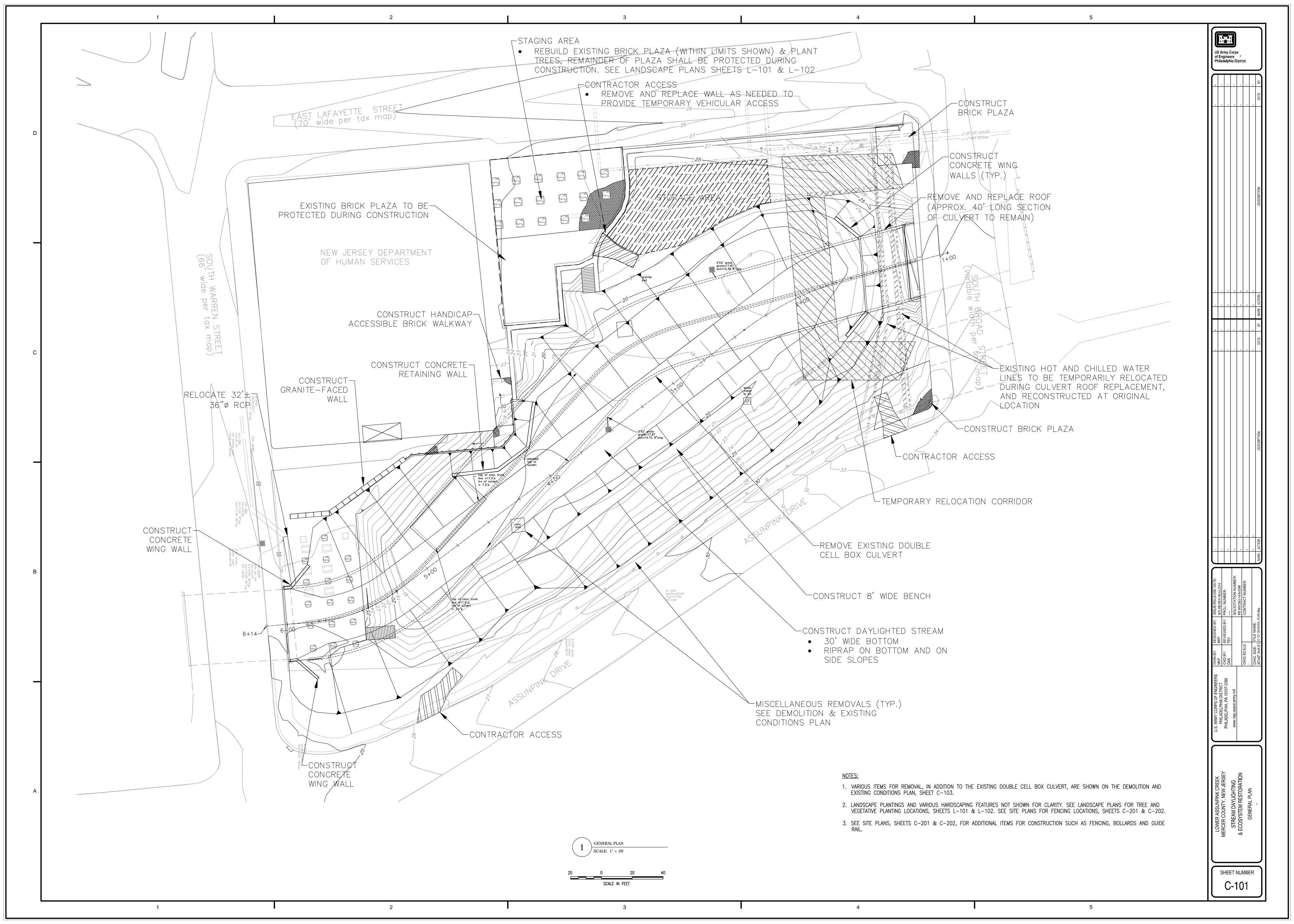
<u>CIVIL AND SITEWORK LEGEND</u>

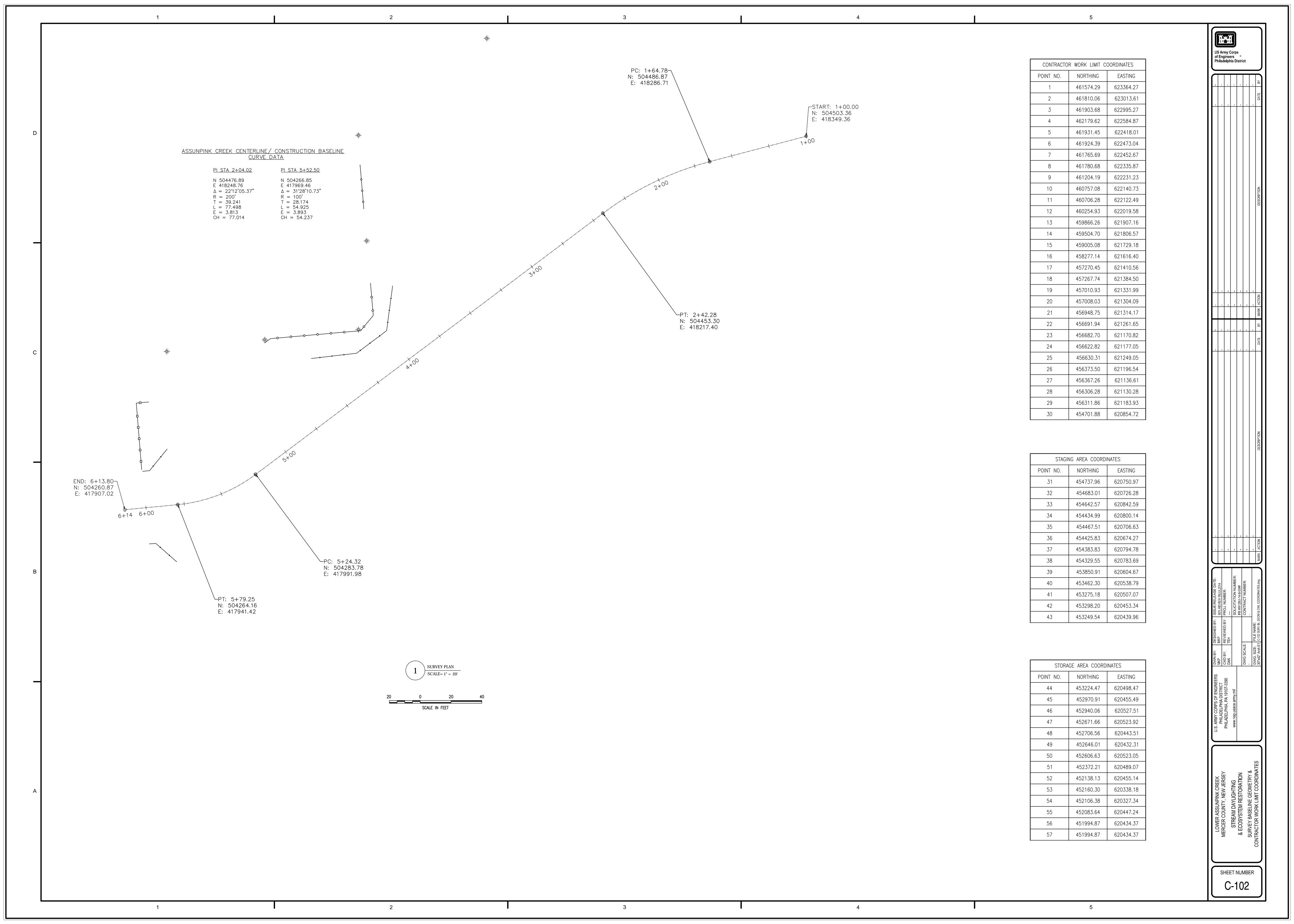
	MISCELLANEOUS	<u>SYMBOLS</u>
	EXISTING COVER EXISTING GRATE EXISTING PARKING METER EXISTING LIGHT POLE EXISTING SIGN EXISTING TREE EXISTING UTILITY MANHOLE MONITORING WELL TEST PIT SOIL BORING	TP-01 $AC-01$ $B-01$ $AC-01$ $AC-01$
13+ 55.2 00 28.83	PROFILE LEGEN — EXISTING GROUND ELEVATION — PROFILE PIPE ELEVATION ALIGNMENT STATION	EXISTING GROUND FINISH GRADE NEW CULVERT PIPE EXISTING PIPE -0.50% PROFILE GRADE
	EROSION AND SEDIMENT CON SEDIMENT BARRIER STABILIZED CONSTRUCTION EN	— SB ——

SHEET NUMBER

GENERAL NOTES:

- 1. ELEVATIONS ARE EXPRESSED IN FEET AND TENTHS AND REFER TO THE NORTH AMERICAN VERTICAL DATUM (NAVD) 1988.
- 2. HORIZONTAL CONTROL IS REFERENCED TO THE NEW JERSEY STATE PLANE COORDINATE SYSTEM (NAD 1983).
- 3. THE CONTRACTOR WORK LIMIT AND LIMIT OF DISTURBANCE LINE SHALL BE COINCIDENT, AND AS SHOWN ON SHEETS C-201 & C-202. COORDINATES FOR THE CONTRACTOR WORK LIMIT ARE SHOWN IN TABULATED FORM ON SHEET C-102
- 4. THE CONTRACTOR SHALL STAGE AND ACCESS THE SITE FROM THE LOCATIONS SHOWN ON SHEET C-101.
- 5. CONTRACTOR SHALL MAINTAIN ACCESS TO BOTH ENTRANCES OF THE NEW JERSEY STATE DEPARTMENT OF HEALTH AND HUMAN SERVICES BUILDING. SEE SPECIFICATIONS FOR REQUIREMENTS.
- 6. THE EXISTING SITE CONDITION SURVEYS ARE A RESULT OF SURVEYS CONDUCTED IN APRIL OF 2010, AND CAN ONLY BE CONSIDERED REPRESENTATIVE OF THE CONDITIONS OCCURRING AT THAT TIME. CONTRACTOR SHALL VERIFY CURRENT CONDITIONS BEFORE BEGINNING ANY
- 7. THE CONTRACTOR MUST COORDINATE WITH ALL APPROPRIATE UTILITY COMPANIES, AND COR FOR MARK-OUT OF EXISTING ONSITE UTILITIES PRIOR TO BEGINNING CONSTRUCTION ACTIVITIES.
- 8. THE EROSION AND SEDIMENT CONTROL PLAN INCLUDED IN THIS SET OF PLANS IS FOR BIDDING PURPOSES ONLY. THE CONTRACTOR SHALL PRODUCE HIS OWN PLAN AND ACQUIRE ALL REQUIRED PERMITS, SEE SPECIFICATIONS.





EROSION AND SEDIMENT CONTROL NOTES

- 1. THE CONTRACTOR SHALL NOTIFY MERCER COUNTY SOIL CONSERVATION DISTRICT (MCSCD) AT (609) 586-9603 FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY LAND DISTURBING ACTIVITY.
- 2. AT LEAST 7 DAYS PRIOR TO THE START OF EARTH-DISTURBING ACTIVITIES, THE CONTRACTOR SHALL BE REQUIRED TO HOLD A PRE-CONSTRUCTION MEETING BETWEEN PROJECT REPRESENTATIVES, REPRESENTATIVE OF THE MCSCD, AND CONTRACTING OFFICER.
- 3. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY (STATE STANDARDS).
- 4. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCES, OR IN THEIR PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
- 5. ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE CONTRACTING OFFICER AND THE MCSCD FOR RECERTIFICATION. THE REVISED PLANS SHALL MEET ALL CURRENT STATE SOIL EROSION AND SEDIMENT CONTROL STANDARDS.
- 6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMEDIATING ANY EROSION OR SEDIMENT PROBLEMS THAT ARISE AS A RESULT OF ONGOING CONSTRUCTION AT THE REQUEST OF THE
- 7. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTATION AND MAINTENANCE OF THE APPROVED PLAN AND ALL OTHER MEASURES NECESSARY TO CONTROL, FILTER, OR PREVENT SEDIMENT FROM LEAVING THE SITE.
- 8. THE CONTRACTOR SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO PUBLIC OR GOVERNMENT ROADS DURING THE LIFE OF THE PROJECT. ALL MATERIALS DEPOSITED ONTO PUBLIC OR GOVERNMENT ROADS SHALL BE REMOVED IMMEDIATELY.
- 9. TRAFFIC CONTROL STANDARDS REQUIRE THE INSTALLATION OF A 50'X30'X1' PAD OF 1.5" OR 2" STONE, AT ALL CONSTRUCTION DRIVEWAYS, IMMEDIATELY AFTER INITIAL SITE DISTURBANCE.
- 10. INSPECTIONS: THE CONTRACTOR SHALL INSPECT DISTURBED AREAS OF THE CONSTRUCTION SITE, AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION THAT HAVE NOT BEEN FINALLY STABILIZED, STABILIZATION PRACTICES, STRUCTURAL PRACTICES, OTHER CONTROLS, AND AREAS WHERE VEHICLES EXIT THE SITE AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF ANY STORM THAT PRODUCES 0.5 INCHES OR MORE OF RAINFALL AT THE SITE. WHERE SITES HAVE BEEN FINALLY STABILIZED, SUCH INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE EVERY MONTH. DISTURBED AREAS AND AREAS USED FOR MATERIAL STORAGE THAT ARE EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. DISCHARGE LOCATIONS OR POINTS SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS. LOCATIONS WHERE VEHICLES EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFFSITE SEDIMENT TRACKING. FOR EACH INSPECTION CONDUCTED, THE CONTRACTOR SHALL PREPARE A REPORT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION. THE DATE(S) OF THE INSPECTION. MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE EROSION AND SEDIMENT CONTROL PLAN, MAINTENANCE PERFORMED, AND ACTIONS TAKEN. THE REPORT SHALL BE FURNISHED TO THE CONTRACTING OFFICER WITHIN 24 HOURS OF THE INSPECTION AS A PART OF THE CONTRACTOR'S DAILY QUALITY CONTROL REPORT. A COPY OF THE INSPECTION REPORT SHALL BE MAINTAINED AT THE JOB SITE.
- 11. UNTIL THE SITE ACHIEVES FINAL STABILIZATION, THE CONTRACTOR SHALL ASSURE THAT THE BMPS ARE IMPLEMENTED, OPERATED, AND MAINTAINED PROPERLY AND COMPLETELY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL BMP FACILITIES. ALL MAINTENANCE WORK, INCLUDING CLEANING, REPAIR, REPLACEMENT, REGRADING, AND RESTABILIZATION SHALL BE PERFORMED IMMEDIATELY. IF EROSION AND SEDIMENT CONTROL BMPS FAIL TO PERFORM AS EXPECTED. REPLACEMENT BMPS, OR MODIFICATIONS OF THOSE INSTALLED SHALL BE REQUIRED.
- 12. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE CONTRACTOR SHALL IMPLEMENT APPROPRIATE BMPS TO ELIMINATE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.
- 13. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 80% PERENNIAL VEGETATIVE COVER, OR OTHER PERMANENT NON-VEGETATIVE COVER, AND MOWED ONCE WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS.
- 14. THE SITE'S APPROVAL LETTER, APPROVED EROSION AND SEDIMENT CONTROL PLANS, DAILY LOG BOOKS AND TEST REPORTS SHALL BE AVAILABLE AT THE SITE AT ALL TIMES FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF THE MCSCD AND THE CONTRACTING OFFICER.
- 15. DUST PARTICLES, AEROSOLS AND GASEOUS BY-PRODUCTS FROM CONSTRUCTION ACTIVITIES, AND PROCESSING AND PREPARATION OF MATERIALS, SUCH AS FROM ASPHALTIC BATCH PLANTS, SHALL BE CONTROLLED AT ALL TIMES, INCLUDING WEEKENDS, HOLIDAYS AND HOURS WHEN WORK IS NOT IN PROGRESS. THE CONTRACTOR SHALL MAINTAIN EXCAVATIONS, STOCKPILES, HAUL ROADS, PERMANENT AND TEMPORARY ACCESS ROADS, PLANT SITES, SPOIL AREAS, BORROW AREAS, AND OTHER WORK AREAS WITHIN OR OUTSIDE THE PROJECT BOUNDARIES, FREE FROM PARTICULATES WHICH WOULD CAUSE THE FEDERAL, STATE, AND LOCAL AIR POLLUTION STANDARDS TO BE EXCEEDED OR WHICH WOULD CAUSE A HAZARD OR A NUISANCE. MULCHING, VEGETATIVE COVER, APPROVED SPRAY-ON ADHESIVES, SPRINKLING, CALCIUM CHLORIDE, OR STONE WILL BE PERMITTED TO CONTROL PARTICULATES IN THE WORK AREA IN ACCORDANCE WITH THE STATE STANDARD FOR DUST CONTROL (16-1). SPRINKLING, TO BE EFFICIENT, SHALL BE REPEATED TO KEEP THE DISTURBED AREA DAMP AT ALL TIMES. THE CONTRACTOR SHALL HAVE SUFFICIENT, COMPETENT EQUIPMENT AVAILABLE TO ACCOMPLISH THESE TASKS. PARTICULATE CONTROL SHALL BE PERFORMED AS THE WORK PROCEEDS AND WHENEVER A PARTICULATE NUISANCE OR HAZARD OCCURS. THE CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL VISIBILITY REGULATIONS.
- 16. TEMPORARY SEDIMENT CONTROL DEVICES MAY BE REMOVED. WITH PERMISSION OF MCSCD INSPECTOR AND THE CONTRACTING OFFICER, FOLLOWING ACHIEVEMENT OF PERMANENT STABILIZATION IN ALL CONTRIBUTORY DRAINAGE AREAS. STORMWATER MANAGEMENT STRUCTURES USED TEMPORARILY FOR SEDIMENT CONTROL SHALL BE CONVERTED TO THE PERMANENT CONFIGURATION WITHIN THIS TIME PERIOD AS WELL. AREAS DISTURBED DURING REMOVAL OF TEMPORARY BMPS SHALL BE STABILIZED IMMEDIATELY.
- 17. WHEN PUMPING SEDIMENT-LADEN WATER. THE DISCHARGE SHALL BE DIRECTED THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER NON-DISTURBED AREAS. SEDIMENT REMOVED FROM BASINS OR OTHER BMPS SHALL BE PLACED AND STABILIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN, DRAINAGE SWALE, WETLAND OR TREE-SAVE AREA OR ON STEEP SLOPES.
- 18. STOCKPILE HEIGHTS SHALL NOT EXCEED 35 FEET. STOCKPILE SLOPES SHALL BE 2:1 OR FLATTER. STOCKPILES SHALL BE PLACED IN DESIGNATED STOCKPILE AREAS AND PROTECTED BY EROSION AND SEDIMENT CONTROL MEASURES AND STABILIZED.
- 19. THE CONTRACTOR SHALL ASSURE THAT A SOIL EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, APPROVED BY THE MCSCD, AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL SOIL AND/OR ROCK SPOIL AND BORROW AREAS, REGARDLESS OF THEIR LOCATIONS.
- 20. THE CONTRACTOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE SOLID WASTE REGULATIONS AT NJSA 7:26-16 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE.

- 21. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN 30 DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF A TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVELENT MATERIAL, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO THE STATE STANDARDS.
- 22. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. STEEP SLOPES, ROADWAY EMBANKMENTS) WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO THE STATE STANDARDS.
- 23. ANY STEEP SLOPE RECEIVING PIPELINE INSTALLATION SHALL BE BACKFILLED AND STABILIZED DAILY, AS INSTALLATION PROCEEDS (I.E. SLOPES GREATER THAN 3:1).
- 24. PERMANENT VEGETATION SHALL BE SEEDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING. MULCH SHALL BE USED FOR PROTECTION UNTIL SEEDING IS ESTABLISHED.
- 25. IN ACCORDANCE WITH THE STATE STANDARD FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION, ANY SOIL HAVING A pH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE COVERED WITH A MINIMUM OF 12" OF SOIL HAVING A pH OF 5 OR MORE PRIOR TO SEEDBED PREPARATION.
- 26. MULCHING TO THE STATE STANDARDS IS REQUIRED FOR OBTAINING A CONDITIONAL REPORT OF COMPLIANCE. CONDITIONALS ARE ONLY ISSUED WHEN THE SEASON PROHIBITS SEEDING.
- 27. CONDUIT OUTLET PROTECTION SHALL BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
- 28. THE MCSCD SHALL BE NOTIFIED OF ANY CHANGES IN OWNERSHIP.
- 29. HYDROSEEDING IS A TWO STEP PROCESS. THE FIRST STEP INCLUDES SEED, FERTILIZER, LIME, ETC., ALONG WITH MINIMAL AMOUNTS OF MULCH TO PROMOTE CONSISTENCY, GOOD SEED TO SOIL CONTACT, AND GIVE A VISUAL INDICATION OF COVERAGE. UPON COMPLETION OF SEEDING OPERATIONS, HYDRO-MULCH SHALL BE APPLIED AT A RATE OF 1500 LBS. PER ACRE IN THE SECOND STEP. THE USE OF HYDRO-MULCH, AS OPPOSED TO STRAW, IS LIMITED TO OPTIMUM SEEDING DATES AS LISTED IN THE STATE STANDARDS. HYDRO-MULCH SHALL NOT BE APPLIED ON STEEP SLOPES.
- 30. ANY SEDIMENT WASHED, TRACKED OR SPILLED ONTO PAVED SURFACES SHALL BE REMOVED IMMEDIATELY.
- 31. AT THE TIME WHEN THE SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER, SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
- 32. IF ONSITE TOPSOIL IS NOT SUITABLE PER STANDARD 8-1 FOR TOPSOILING IN THE STATE STANDARDS AND SECTION XX OF THE SPECIFICATIONS, TOPSOIL THAT MEETS THE STATE STANDARDS SHALL BE BROUGHT IN FROM AN OFFSITE SOURCE.
- 33. STAGING AND STOCKPILE AREAS SHALL BE REPAIRED AND RESTORED TO PRE-PROJECT CONDITIONS UPON PROJECT COMPLETION.

SEEDING:

1. TEMPORARY STABILIZATION:

A. COOL SEASON SPECIES:

100% PERENNIAL RYEGRASS APPLICATION RATE: 100.0 LBS / AC SEEDING SEASON DATES: MARCH 1 TO MAY 15 AND AUGUST 15 TO OCTOBER 1

OR 100% CEREAL RYE

APPLICATION RATE: 112.0 LBS / AC SEEDING SEASON DATES: OCTOBER 1 TO NOVEMBER 15

B. WARM SEASON SPECIES: 40% PEARL MILLET, 40% MILLET (GERMAN OR HUNGARIAN), 20% WEEPING LOVEGRASS APPLICATION RATE: 100.0 LBS / AC SEEDING SEASON DATES: MAY 15 TO AUGUST 15

SEE PERMANENT STABILIZATION FOR FERTILIZER TYPE/RATE, LIME RATE, AND MULCH TYPE/RATE

2. PERMANENT STABILIZATION:

A. SPECIES: 30% CHEWINGS FESCUE 35% CREEPING RED FESCUE 15% KENTUCKY BLUEGRASS 20% PERENNIAL RYEGRASS APPLICATION RATE: 200 LBS / AC FERTILIZER TYPE: 10-20-10 FERTILIZER APPLICATION RATE*: 500 LBS / AC LIMING RATE*: CLAY, CLAY LOAM, AND HIGH ORGANIC SOIL: 3 TONS / AC SANDY LOAM, LOAM, SILT LOAM: 2 TONS / AC LOAMY SAND, SAND: 1 TON / AC MULCH TYPE: STRAW OR HAY STRAW OR HAY MULCHING RATE: 1.5 TO 3.0 TONS / AC) OPTIMUM SEEDING SEASON DATES: MARCH 1 TO MAY 15 AND AUGUST 15 TO OCTOBER 15

* GENERALIZED RATES ARE INDICATED. GROUND LIMESTONE AND FERTILIZER SHALL BE APPLIED ACCORDING TO SOIL TEST RECOMMENDATIONS. 3. MATERIALS FOR SEED, MULCH, SOIL SUPPLEMENTS, HERBICIDES, AND OTHER ITEMS RELEVANT TO THE SEEDING PROCESS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY (STATE STANDARDS)

4. ON THE DAILY CONTRACTOR QUALITY CONTROL REPORT, THE CONTRACTOR SHALL RECORD THE DATES: WHEN THE MAJOR GRADING ACTIVITIES OCCUR (E.G., CLEARING, GRUBBING, EXCAVATION, AND GRADING); WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE: AND WHEN STABILIZATION PRACTICES ARE INITIATED.

SEEDBED PREPARATION:

- 1. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCHING AND MULCH ANCHORING. IMMEDIATELY PRIOR TO SEEDING, THE SURFACE SHALL BE SCARIFIED 6" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION.
- 2. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRINGTOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISCING OPERATION SHALL BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.
- 3. REMOVE FROM THE SURFACE ALL STONES ONE INCH OR LARGER IN ANY DIMENSION. REMOVE ALL DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, PIECES OF CONCRETE, CLODS, LUMPS OR OTHER UNSUITABLE MATERIAL.
- 4. APPLY SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER. THE LATTER MAY BE JUSTIFIABLE FOR LARGE, STEEP AREAS WHERE CONVENTIONAL VEHICLES CANNOT TRAVEL. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH THE SEED. EXCEPT FOR DRILLED, HYDROSEEDER OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE TEXTURED

MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. (THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DEEMED COMPLIANCE WITH THIS MULCHING REQUIREMENT.)

A. MULCH MATERIALS SHOULD BE UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, OR SALT HAY TO BE APPLIED AT THE RATE OF 1-1/2 TO 2 TONS PER ACRE (70 TO 90 POUNDS PER 1,000 SQUARE FEET), EXCEPT THAT WHERE A CRIMPER IS USED INSTEAD OF A LIQUID MULCHBINDER (TACKIFYING OR ADHESIVE AGENT), THE RATE OF APPLICATION MUST BE

DOUBLE THE LOWER RATE. MULCH CHOPPER-BLOWERS MUST NOT GRIND THE MATERIAL B. SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THAT APPROXIMATELY 85% OF THE SOIL SURFACE WILL BE COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQUARE FEET SECTION AND DISTRIBUTE 70 - 90 POUNDS WITHIN EACH SECTION

C. MULCH ANCHORING SHOULD BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA, STEEPNESS OF SLOPES, AND COSTS.

> 1. PEG AND TWINE: - DRIVE 8 TO 10 INCH WOODEN PEGS TO WITHIN 2 - 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRISS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.

2. MULCH NETTINGS: — STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED.

3. CRIMPER (MULCH ANCHORING TOOL): —A TRACTOR—DRAWN IMPLEMENT, SOMEWHAT LIKE A DISC-HARROW, ESPECIALLY DESIGNED TO PUSH OR CUT SOME OF THE BROADCAST LONG FIBER MULCH 3 - 4 INCHES INTO THE SOIL SO AS TO ANCHOR IT AND LEAVE PART STANDING UPRIGHT. THIS TECHNIQUE IS LIMITED TO AREAS TRAVERSABLE BY A TRACTOR, WHICH MUST OPERATE ON THE CONTOUR OF SLOPES. STRAW MULCH RATE SHALL BE 3 TONS PER ACRE. NO TACKIFYING OR ADHESIVE AGENT IS REQUIRED.

4. LIQUID MULCH-BINDERS: MAY BE USED TO ANCHOR SALT HAY, HAY OR STRAW

- A. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND MAY CATCH THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. THE REMAINDER OF THE AREA SHOULD BE UNIFORM IN APPEARANCE. B. USE ONE OF THE FOLLOWING:
 - 1) EMULSIFIED ASPHALT (SS-1, CSS-1, CMS-2, MS-2, RS-1, CRS-1, AND CRS-2). APPLY 0.04 GAL/SQYD OR 194 GAL/ACRE ON FLAT AREAS AND ON SLOPES LESS THAN 8 FEET OR MORE HIGH, USE 0.075 GAL/SQYD OR 363 GAL/ACRE. THESE MATERIALS MAY BE DIFFICULT TO APPLY UNIFORMLY AND WILL DISCOLOR SURFACES.
 - 2) ORGANIC AND VEGETABLE BASED BINDERS NATURALLY OCCURRING, POWDER BASED, HYDROPHILLIC MATERIALS WHEN MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANED NETWORKS OF INSOLUABLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN PHYTOTOXIC EFFECT OR IMPEDE GROWTH ON TURFGRASS. USE AT RATES AND WEATHER CONDITIONS AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH MATERIALS. MANY NEW PRODUCTS ARE AVAILABLE, SOME OF WHICH MAY NEED FURTHER EVALUATION FOR USE IN THIS STATE.
 - 3) SYNTHETIC BINDERS HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION TO MULCH, DRYING AND CURING SHALL NO LONGER BE SOLUABLE OR DISPERSIBLE IN WATER. IT SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURERS AND REMAIN TACKY UNTIL GERMINATION OF
- D. WOOD-FIBER OR PAPER-FIBER MULCH AT THE RATE OF 1,500 POUNDS PER ACRE MAY BE APPLIED BY A HYDROSEEDER. THIS MULCH SHALL NOT BE MIXED IN THE TANK WITH SEED. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL.

MAINTAINING PERMANENT VEGETATION:

- 1. A PREVENTATIVE MAINTENANCE PROGRAM ANTICIPATES REQUIREMENTS AND ACCOMPLISHES WORK WHEN IT CAN BE DONE WITH LEAST EFFORT AND EXPENSE TO INSURE ADEQUATE VEGETATIVE
- 2. MAINTENANCE SHOULD OCCUR ON A REGULAR BASIS, CONSISTENT WITH FAVORABLE PLANT GROWTH, SOIL, AND CLIMACTIC CONDITIONS. THIS INVOLVES REGULAR SEASONAL WORK FOR MOWING, FERTILIZING, LIMING, WATERING, PRUNING, FIRE CONTROL, WEED AND PEST CONTROL, RESEEDING, AND TIMELY REPAIRS. THE DEGREE OF PREVENTATIVE MAINTENANCE DEPENDS UPON THE CATEGORY OF THE VEGETATION AND LAND; I.E., IMPROVED, SEMI-IMPROVED, AND UNIMPROVED GROUNDS.
 - A. MOWING IS A RECURRING PRACTICE AND ITS INTENSITY DEPENDS UPON THE FUNCTION OF THE GROUND COVER. ON IMPROVED AREAS, SUCH AS LAWNS, CERTAIN RECREATION FIELDS, AND PICNIC AREAS, MOWING WILL BE FREQUENT. ON SEMI-IMPROVED AREAS, MOWING WILL BE INFREQUENT. UNIMPROVED AREAS MAY BE LEFT UNMOWED TO PERMIT
 - NATURAL SUCCESSION. B. FERTILIZER SHOULD BE APPLIED AS NEEDED TO MAINTAIN A DENSE STAND OF DESIRABLE SPECIES. FREQUENTLY MOWED AREAS AND THOSE ON SANDY SOILS WILL REQUIRE MORE
- C. LIME REQUIREMENT SHOULD BE DETERMINED BY SOIL TESTING EVERY 2 3 YEARS. FERTILIZATION INCREASES THE NEED FOR LIMING.

SEQUENCE OF CONSTRUCTION

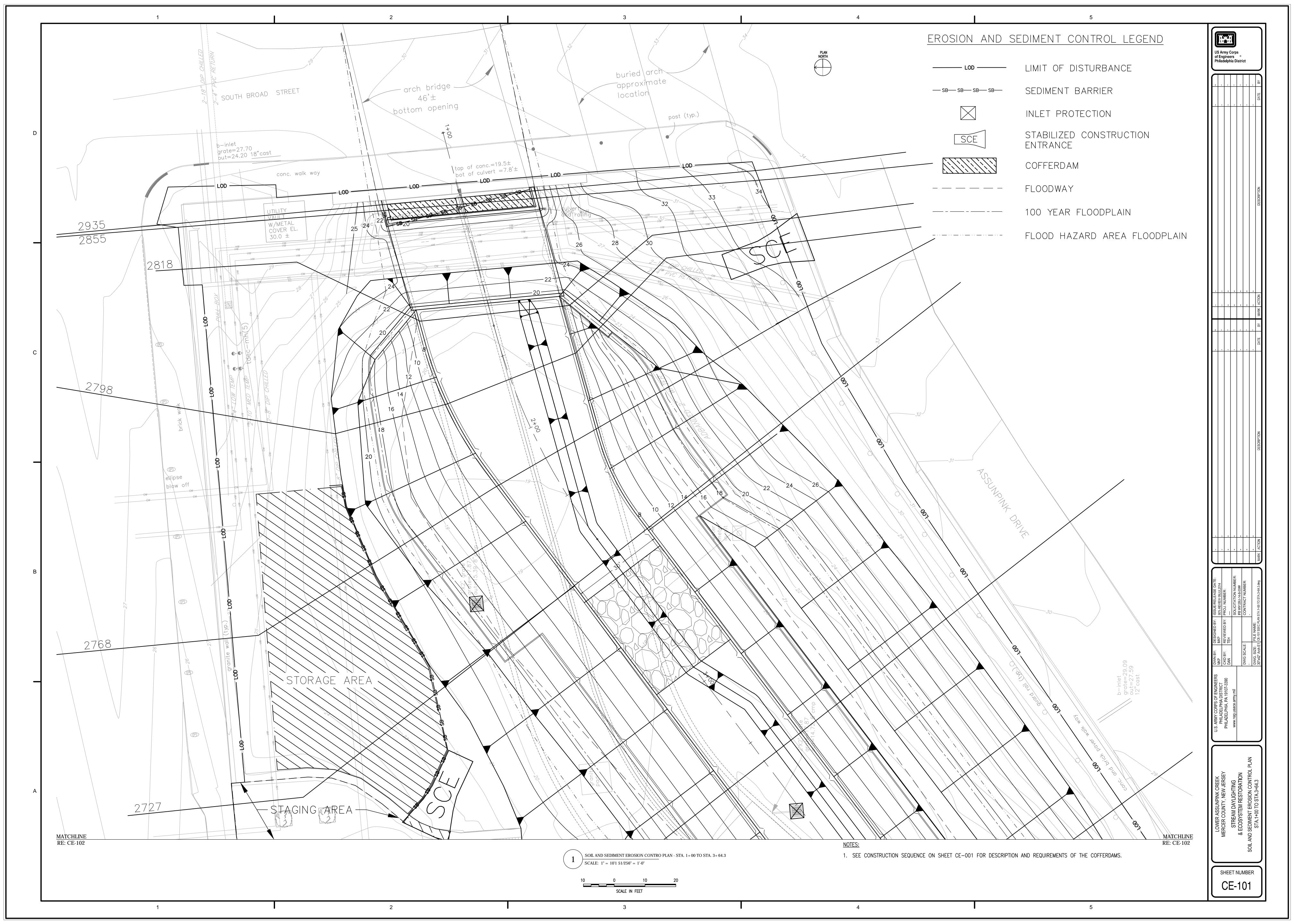
ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED, UNLESS OTHERWISE NOTED. CLEARING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE.

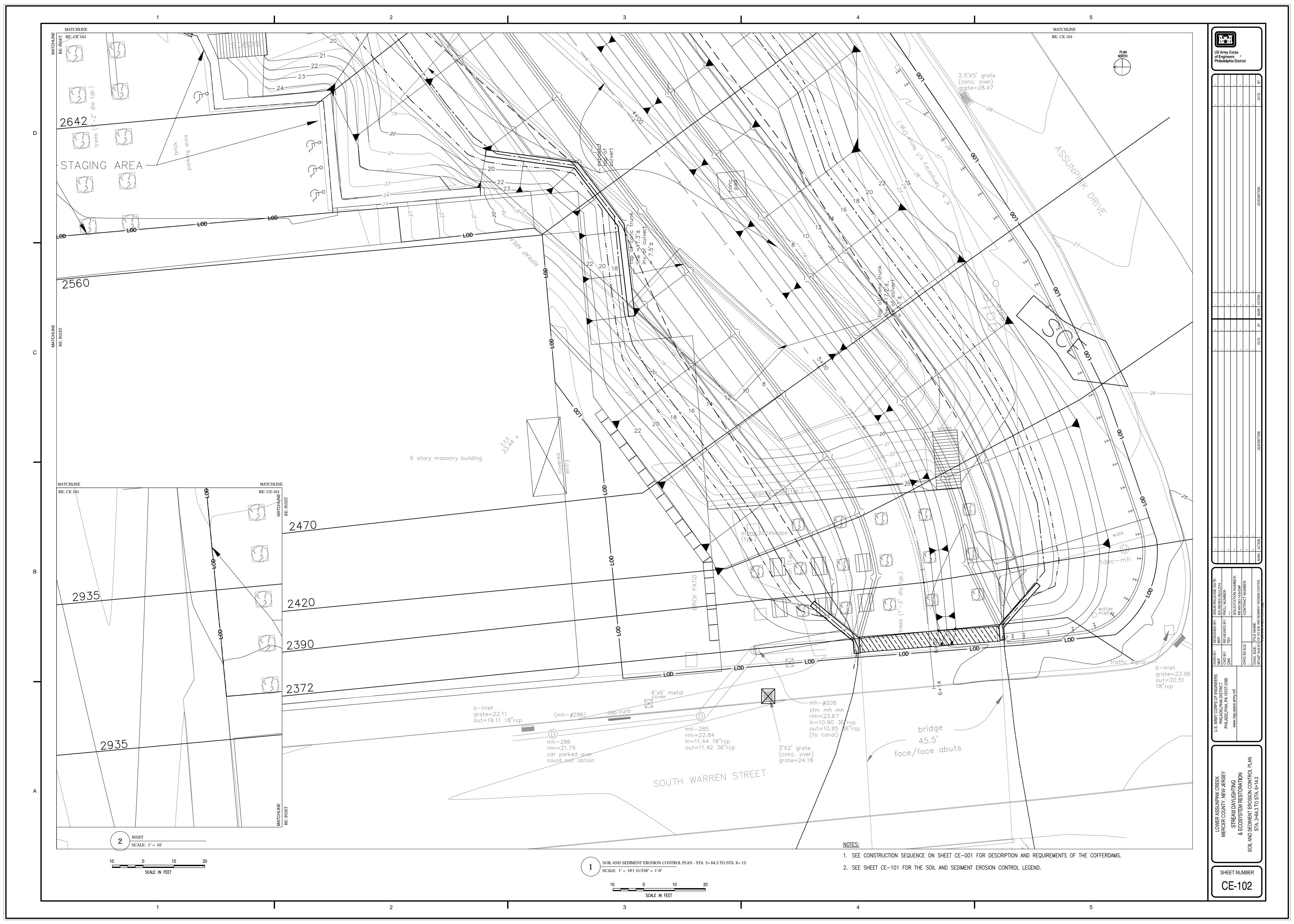
- 1. CONTRACTOR SHALL OBTAIN "NOTICE TO PROCEED".
- 2. AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE CONTRACTOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE CONTRACTING OFFICER, AND THE MERCER COUNTY SOIL CONSERVATION DISTRICT (MCSCD) TO AN ON-SITE MEETING.
- 3. AT LEAST 3 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE NEW JERSEY ONE CALL SYSTEM AT 1-800-272-1000 FOR BURIED UTILITIES LOCATIONS.
- 4. CONTRACTOR SHALL NOTIFY THE MCSCD INSPECTOR 48 HOURS PRIOR TO ANY LAND DISTURBING ACTIVITY.
- 5. MOBILIZE STAGING AREA AND PROVIDE CONSTRUCTION ENTRANCE(S). ALSO PROVIDE A SEDIMENT BARRIER AT THE UPSTREAM END OF THE CULVERT TO PREVENT SEDIMENTS FROM ENTERING THE STREAM BETWEEN BROAD ST. AND THE EXISTING CULVERT ENTRANCE AND SEDIMENT BARRIERS DOWNSLOPE OF THE STOCKPILE AREA.
- PROTECT EXISTING INLETS WITH INLET PROTECTION UNTIL THEY ARE DEMOLISHED OR UNTIL REMOVAL IS APPROVED BY THE CONTRACTING OFFICER AND THE MCSCD.
- 7. CLEAR, GRUB, AND EXCAVATE IN AREAS THAT CAN BE COMPLETED WITHOUT DIVERTING STREAMFLOW. ITEMS THAT MAY BE REMOVED INCLUDE SOILS OVER THE CULVERT AND THE BRICK PATIO PARK, INCLUDING BRICK, TREES, AND SOILS, ADJACENT TO WARREN STREET. ANY AREA WHERE FINAL GRADE IS ACHIEVED SHALL BE STABILIZED USING TEMPORARY OR, IF SENSIBLE, PERMANENT STABILIZATION TECHNIQUES SHOWN THE PLANS.
- EXCAVATE AREA NECESSARY FOR CONSTRUCTION OF TEMPORARY UTILITY LINES AND ROUTE UTILITIES THROUGH TEMPORARY LINES AS SHOWN ON THE PLANS. EXCAVATE ATOP THE UPSTREAM-MOST END OF THE CULVERT FOR A LENGTH LONG ENOUGH TO EXPOSE THE EXISTING DEAD UTILITY LINES AND CULVERT ROOF PANELS. THE LOCATION OF THE SEDIMENT BARRIER THAT PREVENTS SEDIMENT FROM ENTERING THE STREAM BETWEEN THE UPSTREAM END OF THE CULVERT AND BROAD ST. MAY NEED TO BE ADJUSTED DURING THIS PROCESS TO MAINTAIN ITS FUNCTION. WHILE TEMPORARY LINES ARE IN OPERATION, REMOVE THE EXISTING UTILITY LINES AND CULVERT ROOF PANELS IN THIS EXPOSED REACH. REPLACE CULVERT ROOF PANELS. ROUTE THE UTILITIES THROUGH THE NEWLY REPLACED PERMANENT UTILITY LINES AND REMOVE THE TEMPORARY LINES. FILL ABOVE THE CULVERT TO BURY THE UTILITY LINES AND ACHIEVE FINAL GRADE. STABILIZE PER APPROVED PLANS
-). CONSTRUCT FLOW DIVERSION(S) AS SEQUENCED BELOW. THE CULVERT HAS TWO CHUTES. WHILE WORK IS OCCURRING IN ONE CHUTE, THE OTHER SHALL BE USED FOR DIVERSION OF THE STREAMFLOW. THE CENTRAL WALL BETWEEN CHUTES MAY REQUIRE BRACING. A COFFER DAM IS REQUIRED AT THE UPSTREAM END OF THE WORK AREA TO BLOCK STREAMFLOW IN THE CHUTE WHERE EXCAVATION IS OCCURRING. A COFFERDAM MAY BE REQUIRED AT THE DOWNSTREAM END OF THE WORK AREA TO PREVENT FLOWS FROM BACKING UP IN TO THE WORK AREA. MONITOR NATIONAL WEATHER SERVICE STREAMFLOW PREDICTIONS FOR ASSUNPINK CREEK AND DELAWARE RIVER (SEE LINKS AT BOTTOM OF PAGE), AND GAGES AT TRENTON, NJ DAILY TO DETERMINE POTENTIAL FOR UPSTREAM OR DOWNSTREAM COFFER DAM OVERTOPPING. IF THE COFFERDAMS WILL BE OVERTOPPED, THEN EQUIPMENT AND PERSONNEL SHALL BE EVACUATED FROM THE WORK AREA AND REMOVAL OF THE COFFERDAM MAY BE WARRANTED TO PREVENT FLOODING AND/OR DAMAGE TO THE PROJECT AREA. ANY WATER PUMPED FROM THE EXCAVATION AREA SHALL BE DIRECTED THROUGH AN APPROVED SEDIMENT CONTROL DEVICE SUCH AS A FILTER BAG, SUMP PIT, ETC. AND ONTO A STABILIZED AREA DOWNSTREAM OF THE WORK AREA.
- A. BLOCK SOUTHERN CULVERT CHUTE WITH A COFFER DAM JUST UPSTREAM OR WITHIN THE OF THE CULVERT. EVALUATE WHETHER A COFFER DAM WITHIN THE DOWNSTREAM END OF THE SOUTHERN CULVERT CHUTE IS REQUIRED AND CONSTRUCT IT, IF NECESSARY. PASS ALL FLOW THROUGH THE NORTHERN CULVERT CHUTE AND DEWATER THE SOUTHERN CULVERT
- B. DEMOLISH THE SOUTHERN CULVERT CHUTE OF THE CULVERT. CONSTRUCT NECESSARY STREAM BOTTOM AND SIDE SLOPE PROTECTION, NECESSARY WALLS OR OTHER STRUCTURES, GRADE TO FINAL GRADE, AND STABILIZE THE SOUTHERN CHANNEL BOTTOM AND SIDE SLOPE PER THE APPROVED PLANS.
- C. WHEN THE SOUTHERN CULVERT CHUTE WORK AREA IS STABILIZED, REMOVE THE COFFER DAM(S) BLOCKING THE SOUTHERN CULVERT CHUTE. MOVE THE UPSTREAM COFFER DAM JUST UPSTREAM OR WITHIN THE NORTHERN CULVERT CHUTE TO BLOCK THE STREAMFLOW. EVALUATE WHETHER A COFFER DAM WITHIN THE DOWNSTREAM END OF THE NORTHERN CULVERT CHUTE IS REQUIRED AND CONSTRUCT IT, IF NECESSARY. PASS ALL FLOW THROUGH THE SOUTHERN STABILIZED AREA AND SOUTHERN CULVERT CHUTE AND DEWATER THE NORTHERN CULVERT CHUTE.
- D. DEMOLISH THE NORTHERN CHUTE OF CULVERT. CONSTRUCT NECESSARY STREAM BOTTOM AND SIDE SLOPE PROTECTION, NECESSARY WALLS OR OTHER STRUCTURES, GRADE TO FINAL GRADE, AND STABILIZE THE NORTHERN CHANNEL BOTTOM AND SIDE SLOPE PER THE APPROVED PLANS.
- 10. WHEN CULVERT IS COMPLETELY DEMOLISHED AND THE STREAM STABILIZED, WITH THE APPROVAL OF THE CONTRACTING OFFICER AND THE MCSCD, REMOVE COFFER DAMS AND REPAIR ANY EROSION DAMAGE TO STREAM THAT MAY HAVE OCCURRED DURING CONSTRUCTION. REPAIR AND RESTORE STAGING AND STOCKPILE AREAS TO PRE-PROJECT CONDITIONS.
- 11. WITH THE APPROVAL OF THE CONTRACTING OFFICER AND THE MCSCD, REMOVE ALL TEMPORARY SEDIMENT AND EROSION CONTROLS.

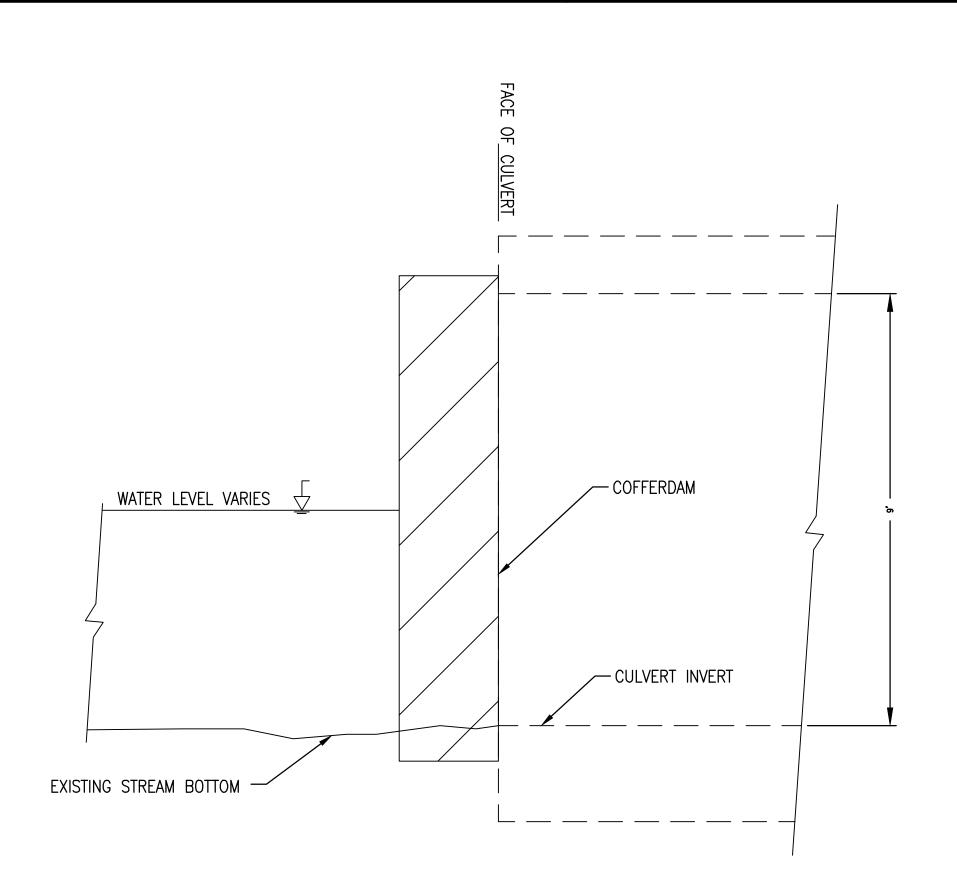
(HTTP://WATER.WEATHER.GOV/AHPS2/HYDROGRAPH.PHP?WF0=PHI&GAGE=TACN4&VIEW=1.1.1.1.1.1.1.1.1.1&TOGGLES=10.7.8.2.9.15.6) AND DELAWARE RIVER (HTTP://WATER.WEATHER.GOV/AHPS2/HYDROGRAPH.PHP?WFO=PHI&GAGE=TREN4&VIEW=1,1,1,1,1,1,1,1.1&TOGGLES=10,7,8,2,9,15,6) US Army Corps of Engineers ® Philadelphia District

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SHEET NUMBER CE-001







CONSTRUCTION SPECIFICATIONS 1. CONSTRUCTION SHALL BE PERFORMED DURING LOW FLOW CONDITIONS.

2. COFFERDAM SHALL NOT IMPEDE THE FLOW OF THE STREAM.

3. LARGE ROCKS, WOODY VEGETATION, OR OTHER MATERIAL IN THE STREAMBED AND BANKS WHICH MAY PRECLUDE PROPER INSTALLATION OF THE COFFERDAM MATERIALS AND/OR IMPEDE THE PROPOSED CONSTRUCTION SHALL BE REMOVED.

4. COFFERDAM SHALL BE CONSTRUCTED WITH SANDBAGS, A PORTABLE METAL FRAMED SUPPORTED GEOTEXTILE/MEMBRANE (SUCH AS A PORTADAM OR APPROVED EQUAL), STOP LOGS, OR OTHER MATERIAL AS SUBMITTED BY CONTRACTOR AND APPROVED BY THE COR AND MCSCD. COFFERDAM SHALL BE PLACED UPSTREAM AND, POSSIBLY, DOWNSTREAM OF THE WORK AREA TO ISOLATE THE WORK AREA FROM STREAMFLOW. HEIGHT OF THE COFFERDAM SHALL BE ADEQUATE TO KEEP WATER FROM OVERTOPPING THE DAM AND FLOODING THE WORK AREA FOR COMMON FLOWS.

5. WATER IN THE WORK AREA SHALL BE PUMPED TO AN APPROVED DEWATERING PRACTICE.

/ SCALE: N.T.S.

6. ONCE ADEQUATELY DEWATERED, IN-STREAM CONSTRUCTION MAY BEGIN FROM THE BANK AND PROCEED TO THE CENTERLINE OF THE STREAM AS

7. ALL DISTURBED AREAS WITHIN THE CURRENT WORK AREA SHALL BE STABILIZED IN ACCORDANCE WITH THE APPROVED PLAN PRIOR TO DISMANTLING AND RECONSTRUCTING THE COFFERDAM TO WORK IN THE NEXT AREA.

Stabilized Construction Access Detail

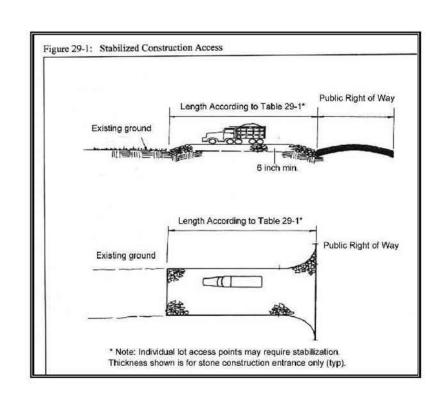


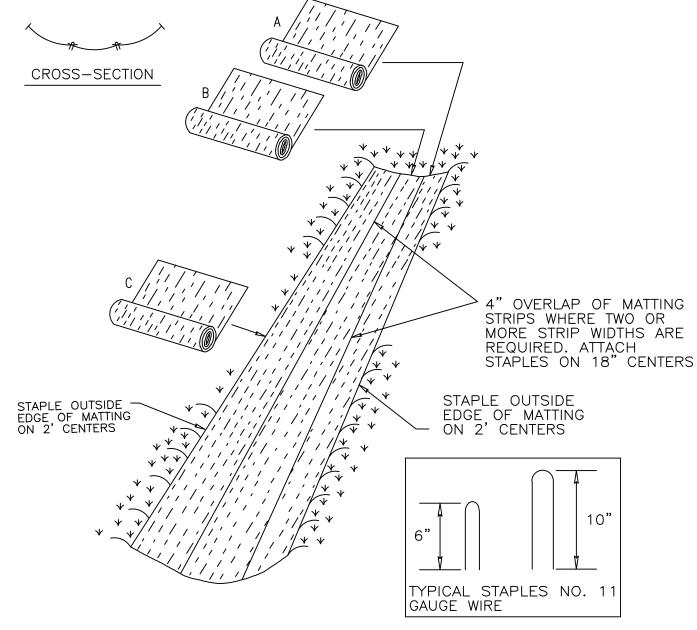
Table 29-1: Lengths of Construction Exits on Sloping Roadbeds

n	Length of Stone Required				
Percent Slope of Roadway	Coarse Grained Soils	Fine Grained Soils			
0 to 2%	50 ft.	100 ft.			
2 to 5%	100 ft.	200 ft.			
> 5%	Entire surface stabilized with FABC base course				

* As prescribed by local ordinance or other governing authority.

STABILIZED CONSTRUCTION ENTRANCE

CHANNEL AND STEEP SLOPE PROTECTION



CONSTRUCTION SPECIFICATIONS

1. KEY-IN THE MATTING BY PLACING THE TOP ENDS OF THE MATTING IN A NARROW TRENCH, 6" IN DEPTH. BACKFILL THE TRENCH AND TAMP FIRMLY TO CONFORM TO THE CHANNEL CROSS-SECTION. SECURE WITH A ROW OF STAPLES ABOUT 4" DOWN SLOPE FROM THE TRENCH. SPACING BETWEEN STAPLES IS 6".

2. STAPLE THE 4" OVERLAP IN THE CHANNEL CENTER USING AN 18" SPACING BETWEEN STAPLES. 3. BEFORE STAPLING THE OUTER EDGES OF THE MATTING, MAKE SURE THE MATTING IS SMOOTH AND IN FIRM CONTACT WITH THE SOIL.

4. WHERE ONE ROLL OF MATTING ENDS AND ANOTHER BEGINS, THE END OF THE TOP STRIP SHALL OVERLAP THE UPPER END OF THE LOWER STRIP BY 4", SHIPLAP FASHION. REINFORCE THE OVERLAP WITH A DOUBLE ROW OF STAPLES SPACED 6" APART IN A STAGGERED PATTERN ON EITHER SIDE.

5. EROSION CONTROL MAT SHALL BE INSTALLED IN ALL LOCATIONS WHERE SEEDING CANNOT BE COMPLETED WITHIN 2 WEEKS OF FINAL GRADING.

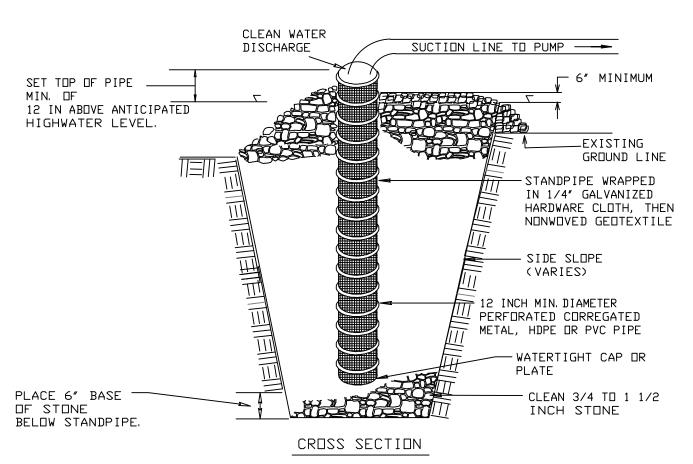
6. THE DISCHARGE END OF THE MATTING LINER SHOULD BE SIMILARLY SECURED WITH 2 DOUBLE ROWS OF NOTE: IF FLOW WILL ENTER FROM THE EDGE OF THE MATTING THEN THE AREA EFFECTED BY THE FLOW

MUST BE KEYED-IN.

* IF ANY EROSION OCCURS WITHIN SWALES OR ALONG ANY SLOPED AREA, EROSION CONTROL BLANKET SHALL BE PROVIDED.



SUMP PIT



CONSTRUCTION SPECIFICATIONS

1. USE 12 INCH OR LARGER DIAMETER CORRUGATED METAL, HDPE, OR PVC PIPE WITH 1 INCH DIAMETER PERFORATIONS, 6 INCHES ON CENTER. BOTTOM OF PIPE SHALL BE CAPPED WITH WATERTIGHT SEAL.

2. WRAP PIPE WITH 1/4 INCH GALVANIZED HARDWARE CLOTH AND WRAP NONWOVEN GEOTEXTILE OVER THE HARDWARE CLOTH.

3. EXCAVATE PIT TO THREE TIMES THE PIPE DIAMETER AND FOUR FEET IN DEPTH. PLACE 3/4 TO 1 1/2 INCH STONE, 6 INCHES IN DEPTH PRIOR TO PIPE PLACEMENT.

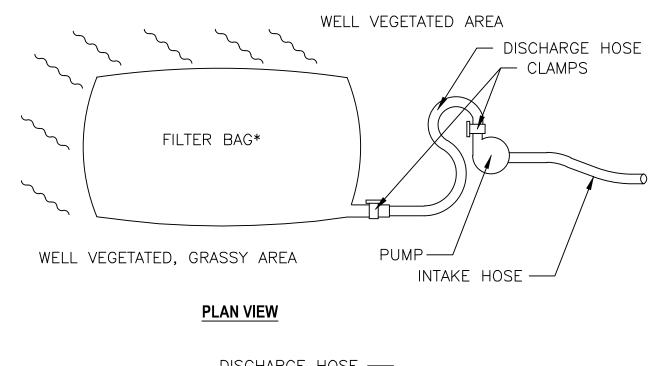
4. SET TOP OF PIPE MINIMUM 12 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION.

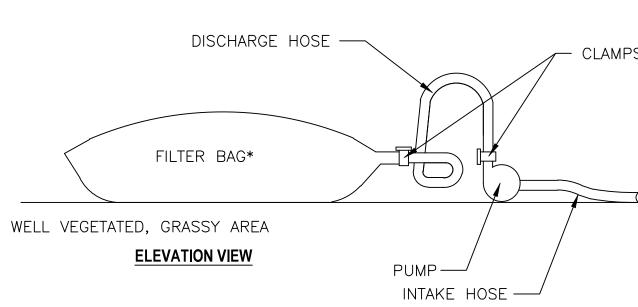
5. BACKFILL PIT AROUND THE PIPE WITH 3/4 TO 1 1/2 INCH CLEAN STONE AND EXTEND STONE A MINIMUM OF

6 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION. 6. DISCHARGE TO A STABLE AREA AT A NON-EROSIVE RATE.

7. A SUMP PIT REQUIRES FREQUENT MAINTENANCE. IF SYSTEM CLOGS, REMOVE PERFORATED PIPE AND REPLACE GEOTEXTILE AND STONE. KEEP POINT OF DISCHARGE FREE OF EROSION.

PUMPED WATER FILTER BAG





SPECIFICATIONS FOR FILTER BAGS

1. FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS.

2. A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL. SPARE BAGS SHALL BE KEPT ON-SITE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED.

3. BAGS SHALL BE LOCATED IN WELL-VEGETATED AREAS, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. A GEOTEXTILE FLOW PATH MAY BE PROVIDED. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%.

4. THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED.

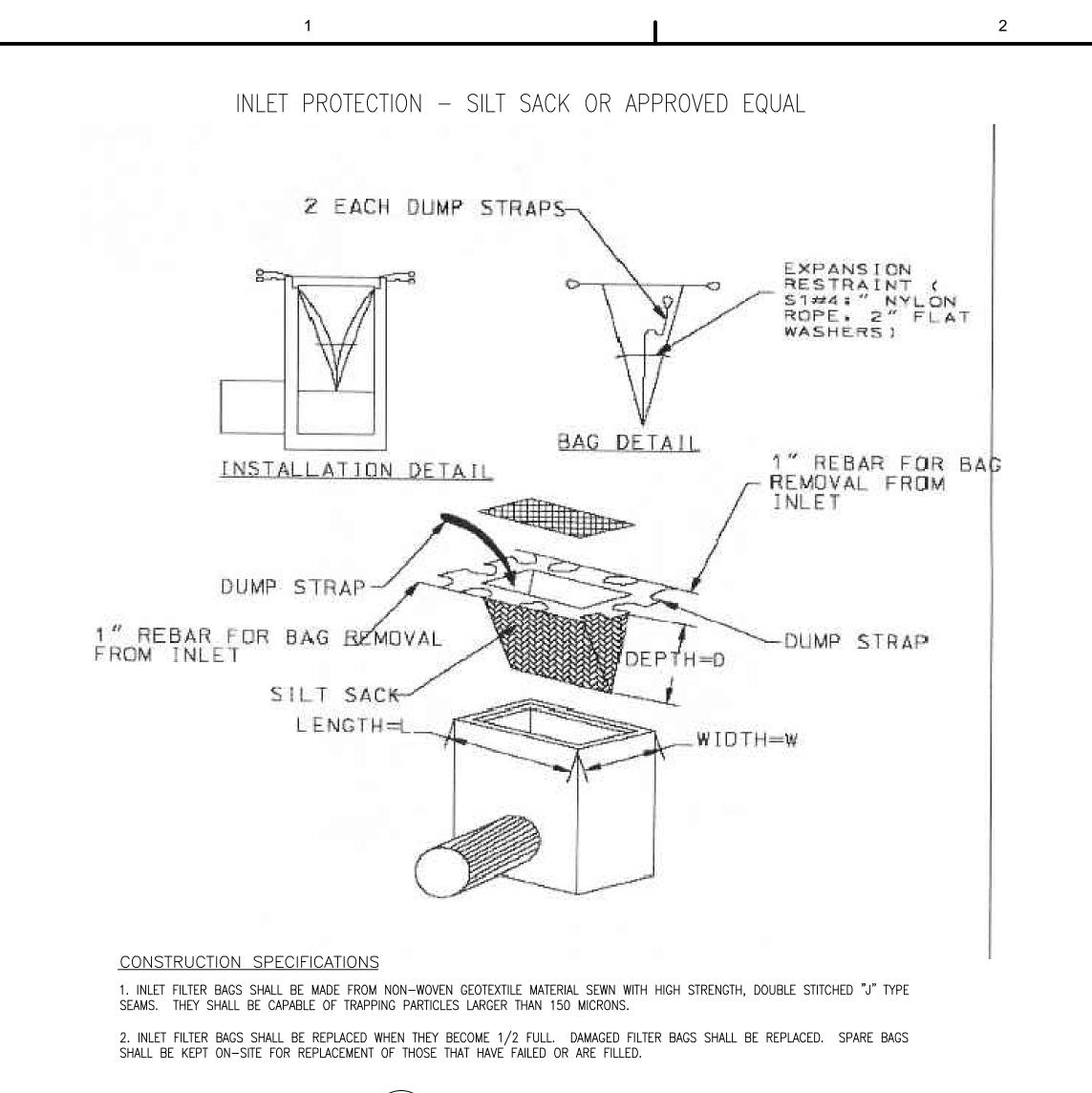
5. THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR $^1\!\!\!\!2$ THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED. 6. FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL

CEASE IMMEDICATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.



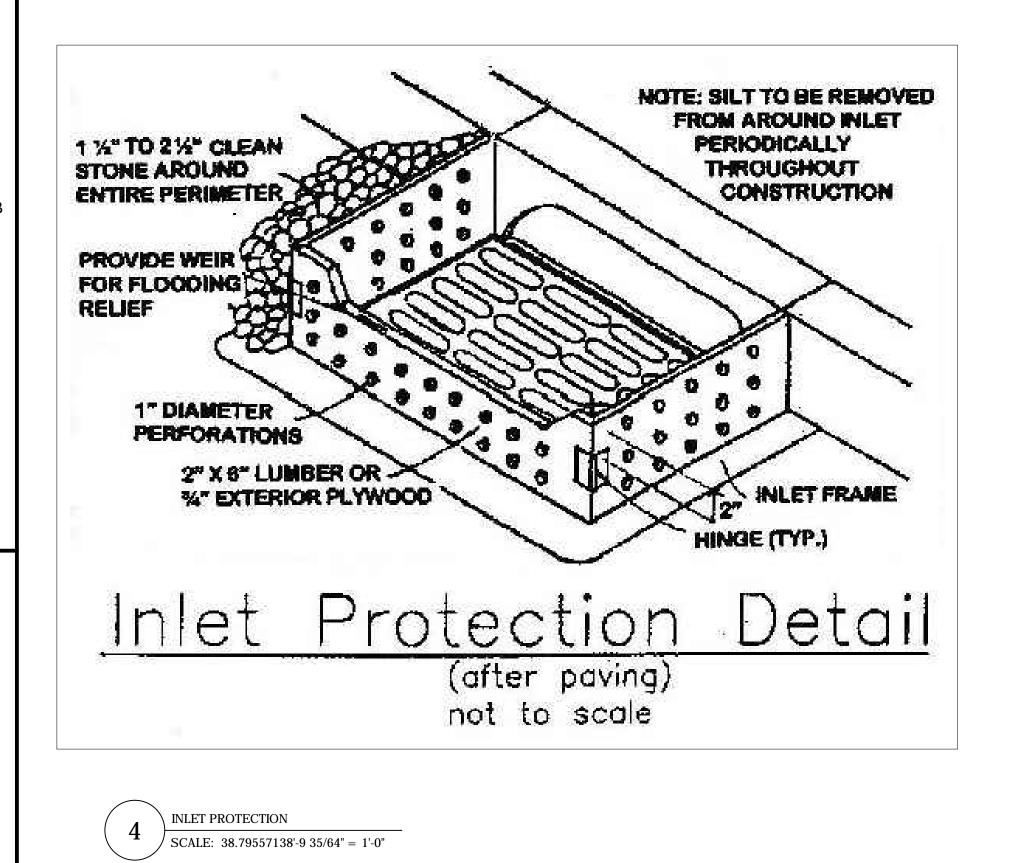
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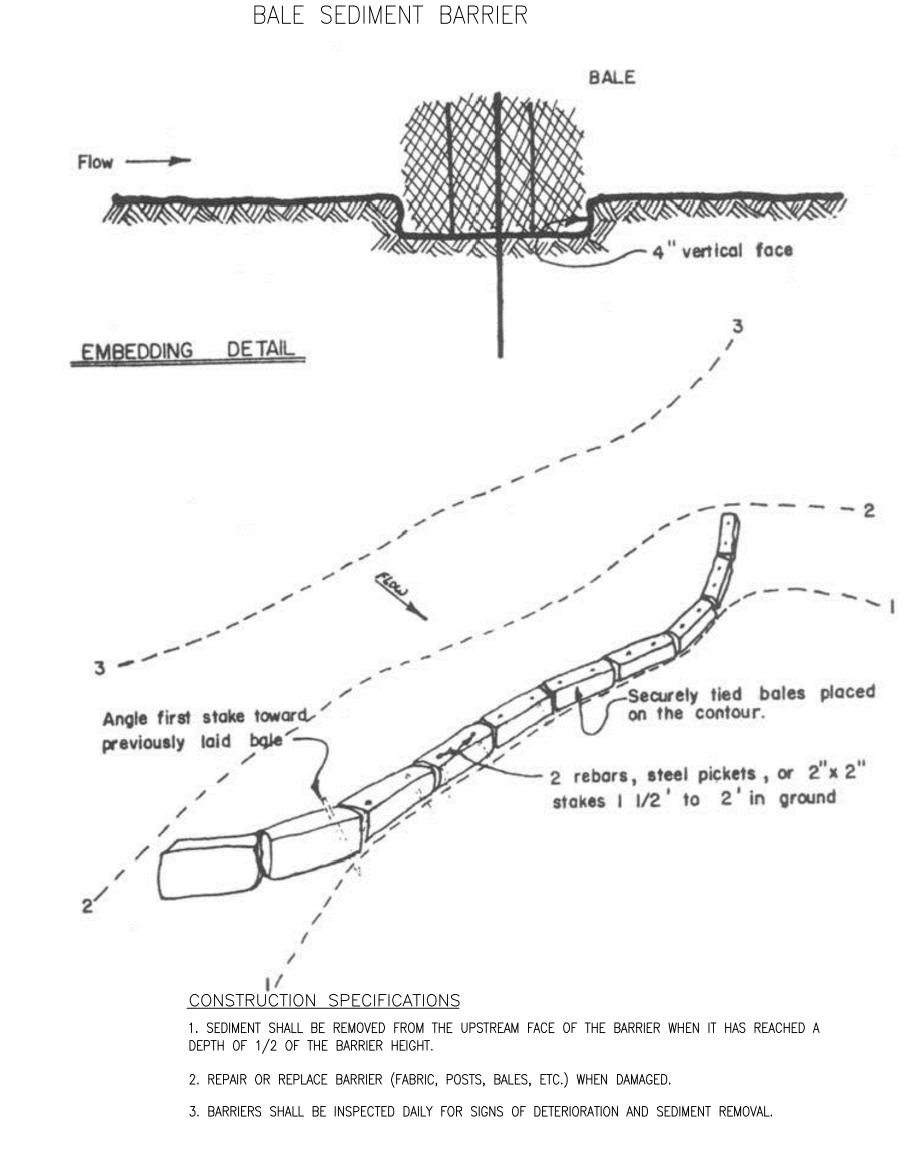


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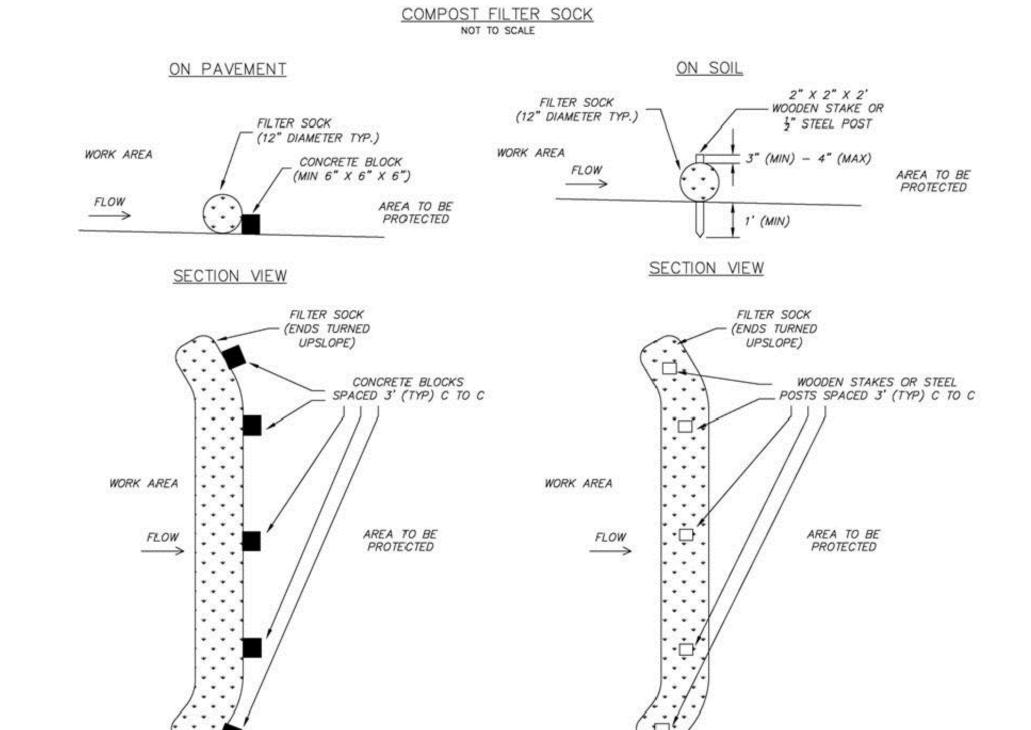
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SEDIMENT BARRIERS



FILTER SOCK SEDIMENT BARRIER



CONSTRUCTION SPECIFICATIONS

PLAN VIEW

- COMPOST FILTER SOCKS ARE TO BE USED IN LIEU OF SILT FENCES.

 WOODEN STAKES OR STEEL POSTS DRIVEN THROUGH THE CENTER OF THE FILTER SOCK SHALL BE USED TO SECURE THE FILTER SOCK. IN LOCATIONS WHERE PAVEMENT AND / OR CONCRETE DOESN'T ALLOW FOR STAKES TO BE USED, HEAVY CONCRETE BLOCKS SHALL BE USED TO SECURE THE FILTER SOCKS. EITHER METHOD OF SECURING THE FILTER SOCK SHALL BE PLACED AT 3' (TYP) CENTER TO CENTER SPACING.

 3. ONCE SEDIMENT ACCUMULATES TO HALF THE HEIGHT OF THE FILTER SOCK,
- 4. FILTER SOCK UNIT WEIGHT (WHEN FILLED): 32 LBS / FT (MIN)
 5. FILTER SOCK AIR SPACE: 20%
- MAINTENANCE: A. ACCUMULATED SEDIMENT SHALL BE REMOVED ONCE IT HAS ACCUMULATED TO 3" THE ORIGINAL HEIGHT OF THE BARRIER.

 B. COMPOST FILTER SOCKS SHALL BE REPLACED WHENEVER IT HAS

 DETERIORATED TO SUCH AN EXTENT THAT THE EFFECTIVENESS OF COMPOST
 FILTER SOCK IS REDUCED.

COMPOST MEDIA SPECIFICATIONS

A. COMPOST USED FOR COMPOST FILTER SOCK FILLER MATERIAL SHALL BE WEED FREE AND DERIVED FROM A WELL-DECOMPOSED SOURCE OF ORGANIC MATTER. THE COMPOST SHALL ALSO BE FREE OF ANY REFUSE, CONTAMINANTS, OR OTHER MATERIALS TOXIC TO PLANT

PLAN VIEW

- C. COMPOST MATERIAL pH: 6.0 8.0 (TMECC 04.11-A)
 C. MOISTURE CONTENT: 30 60% (DRY WEIGHT)
- ORGANIC MATTER CONTENT: 25 65% (DRY WEIGHT)
 PARTICLE SIZE: 100% PASSING A 2" SIEVE AND MAXIMUM OF 30% PASSING A &" SIEVE (TMECC 02.02-B)

FILTER SOCK MATERIAL SPECIFICATIONS

- A. FILTER SOCK MATERIAL TYPE SHALL BE MULTI-FILAMENT POLYPROPYLENE

 B. FOR MESH OPENINGS OF §" (OR §"), TENSILE STRENGTH (ASTM D5035-95) SHALL BE 44 PSI (OR 202 PSI FOR §" MESH).

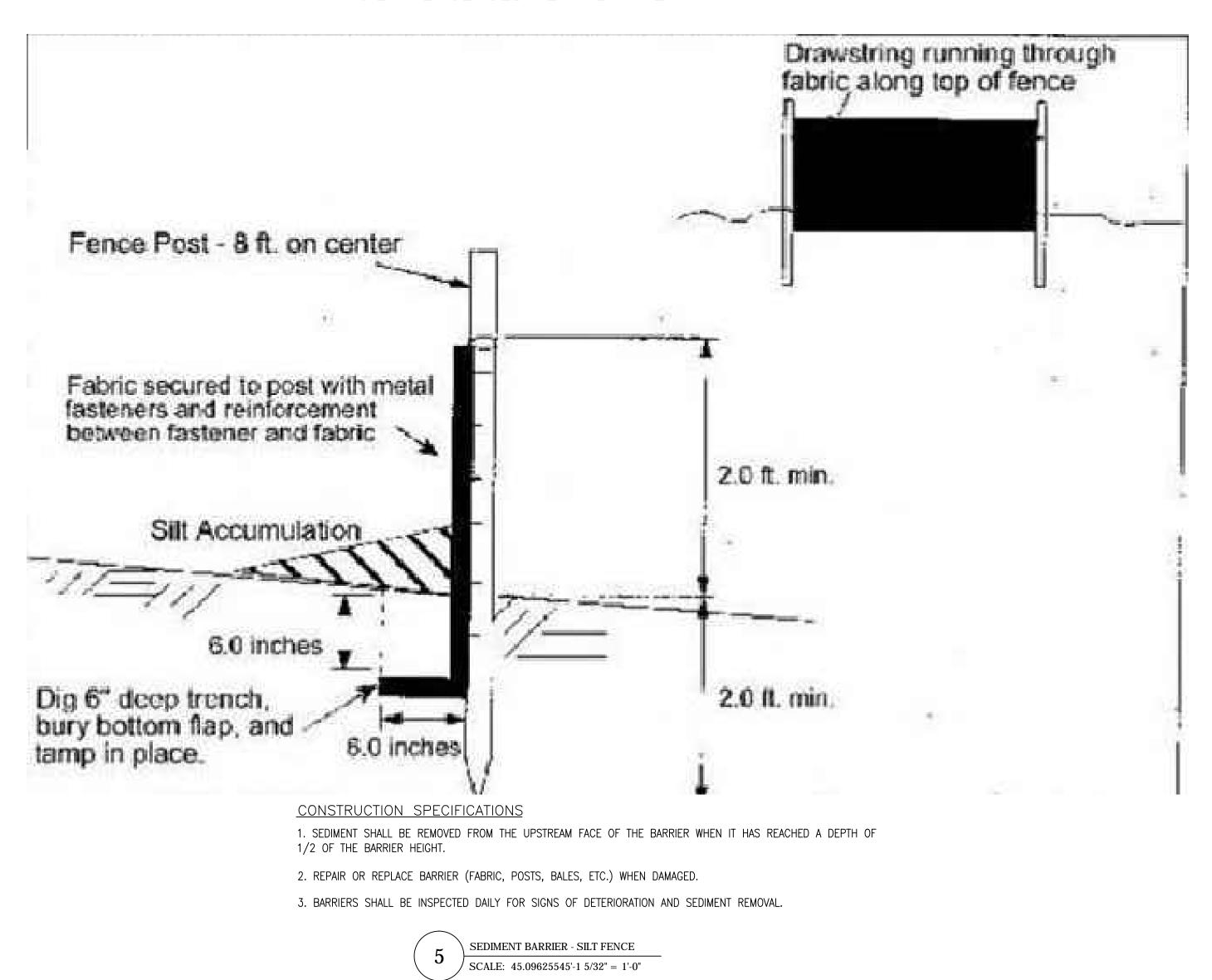
 C. % ORIGINAL TENSILE STRENGTH FROM ULTRAVIOLET EXPOSURE (ASTM G155-05a) SHALL BE 100% AT 1000 HR.

 D. FILTER SOCK HYDRAULIC CONDUCTIVITY: 11.3 GPM / FT

SEDIMENT BARRIER - FILTER SOCK SCALE: 20.03386020'-0 13/32" = 1'-0"

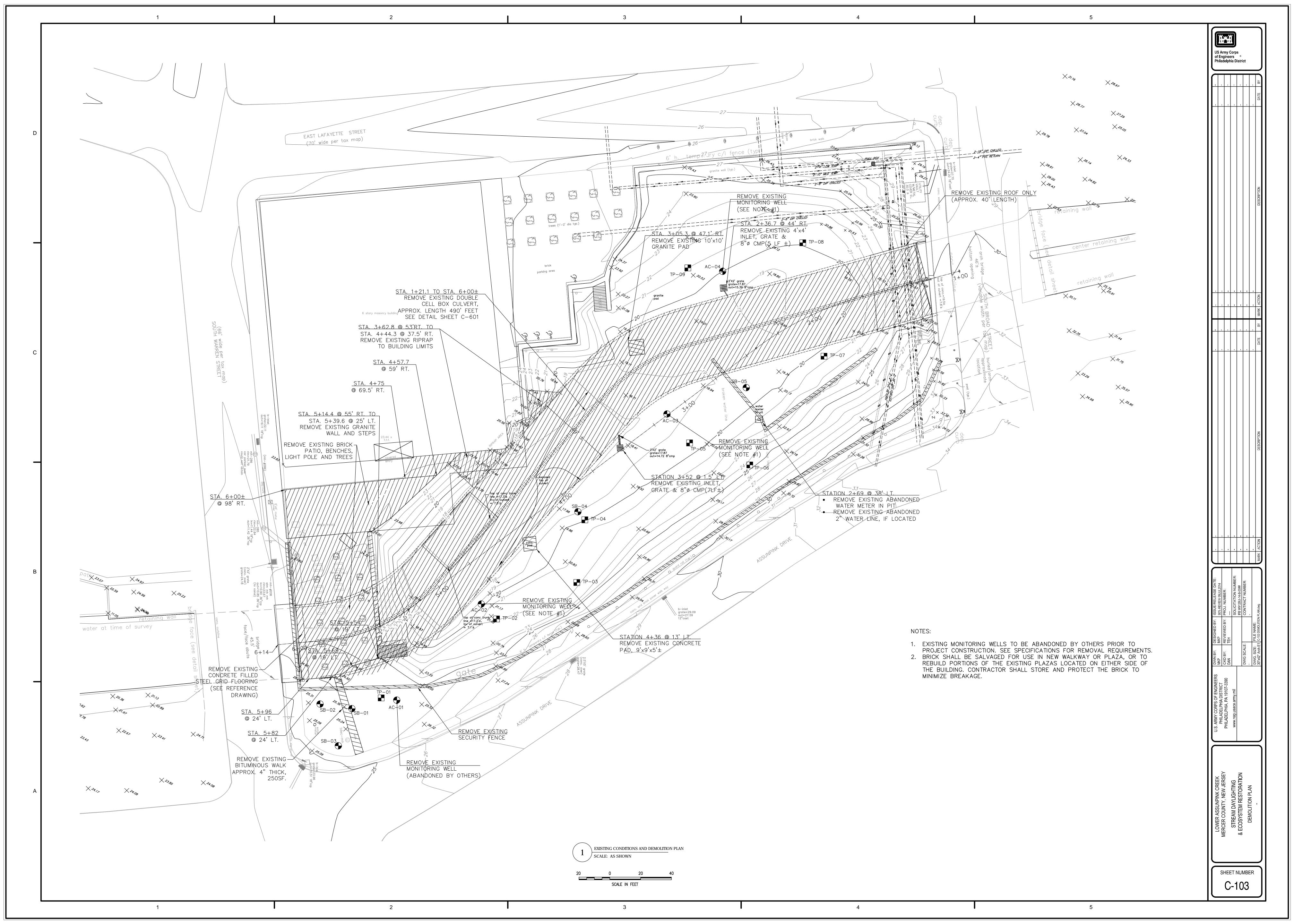
SILT FENCE SEDIMENT BARRIER

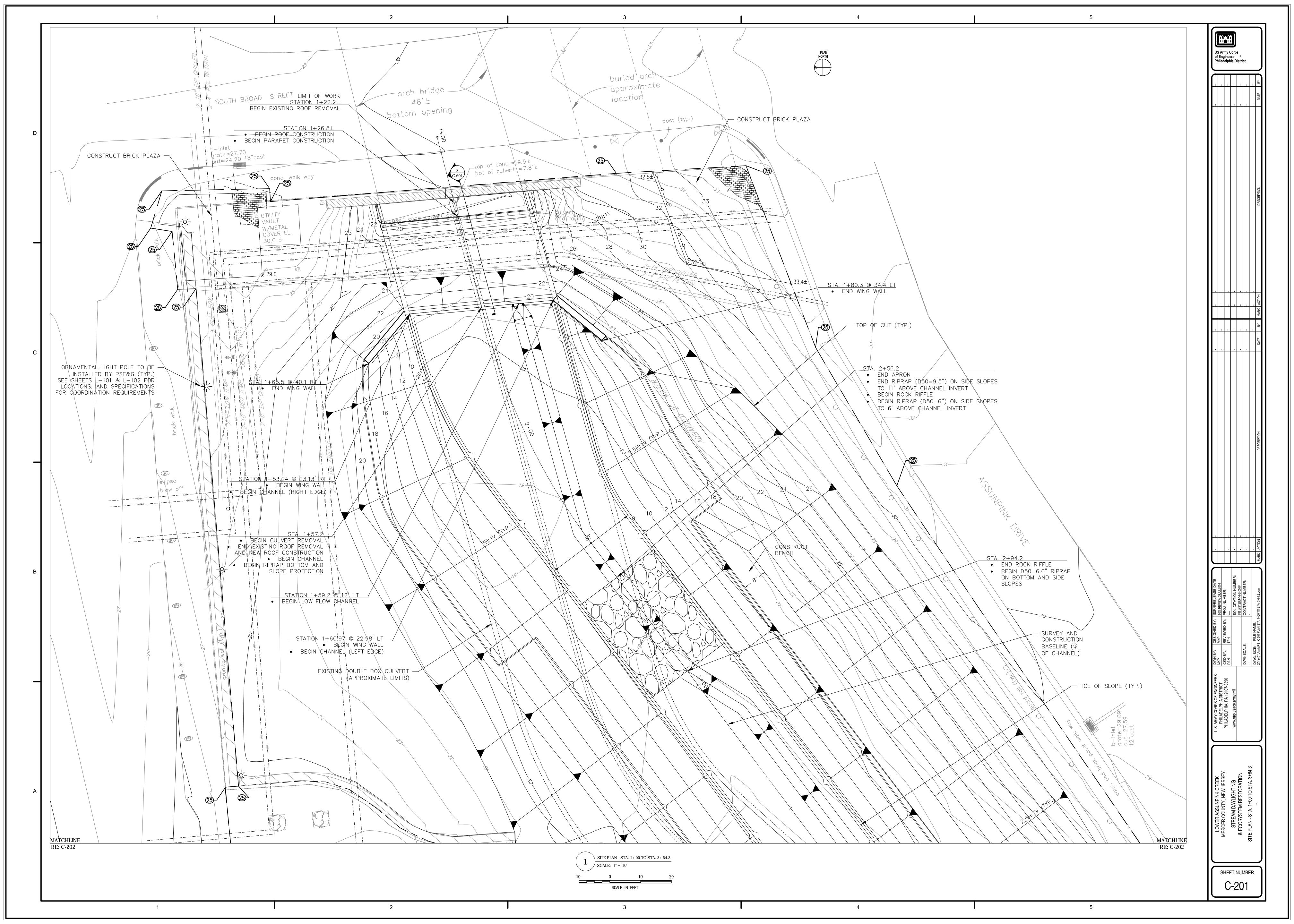
SEDIMENT BARRIER - STRAW BALE FENCE SCALE: 22.64604222'-7 193/256" = 1'-0"

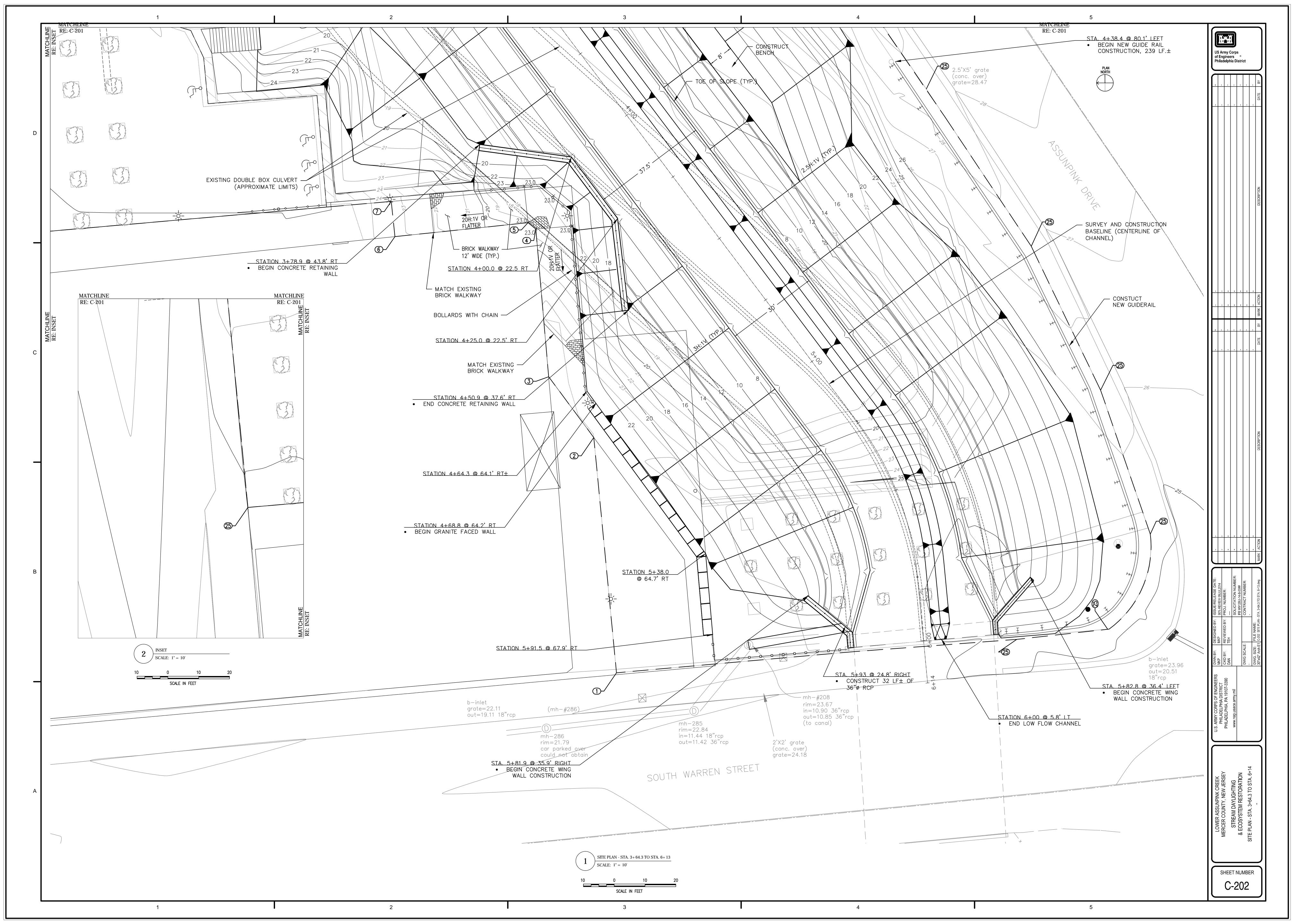


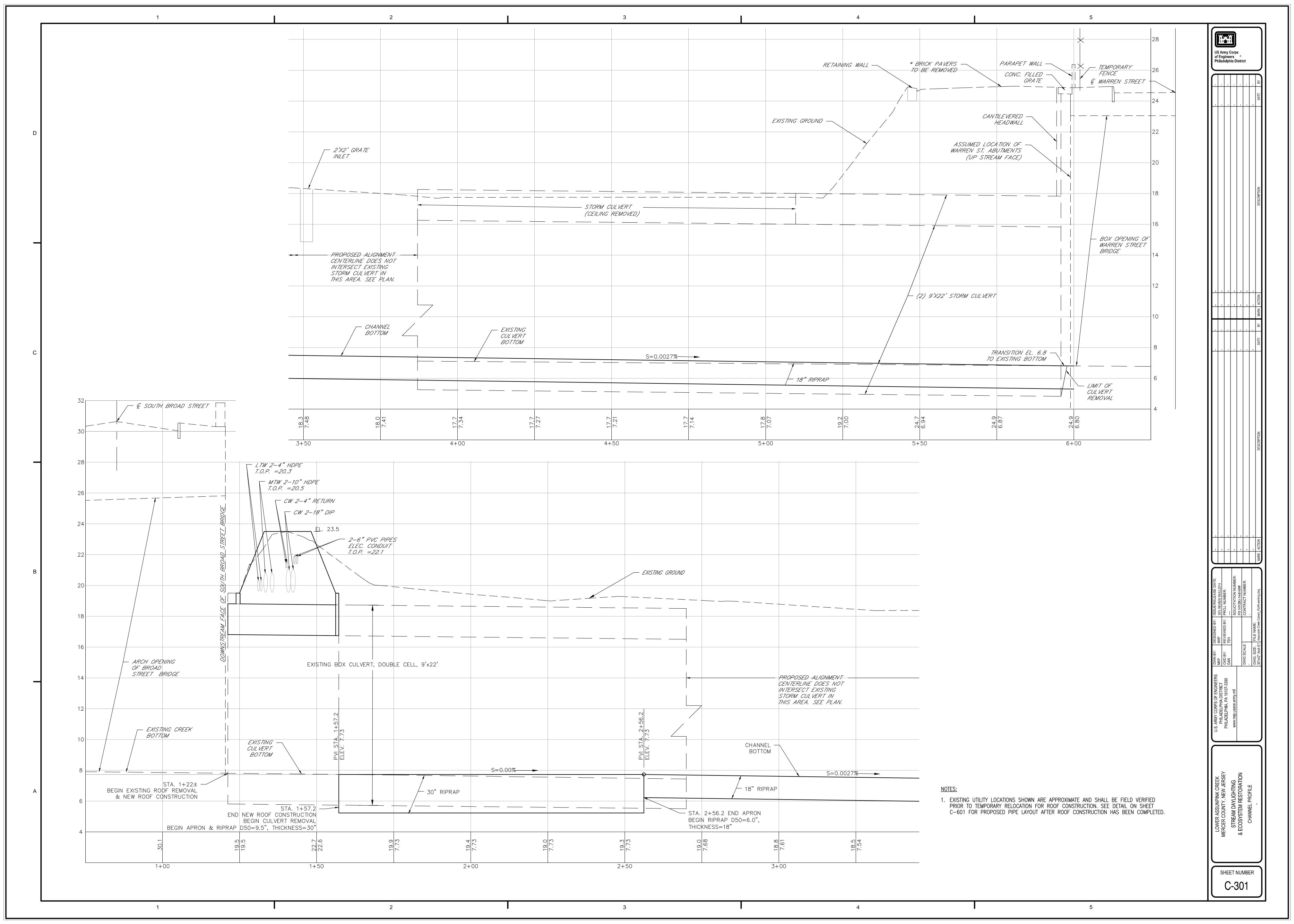
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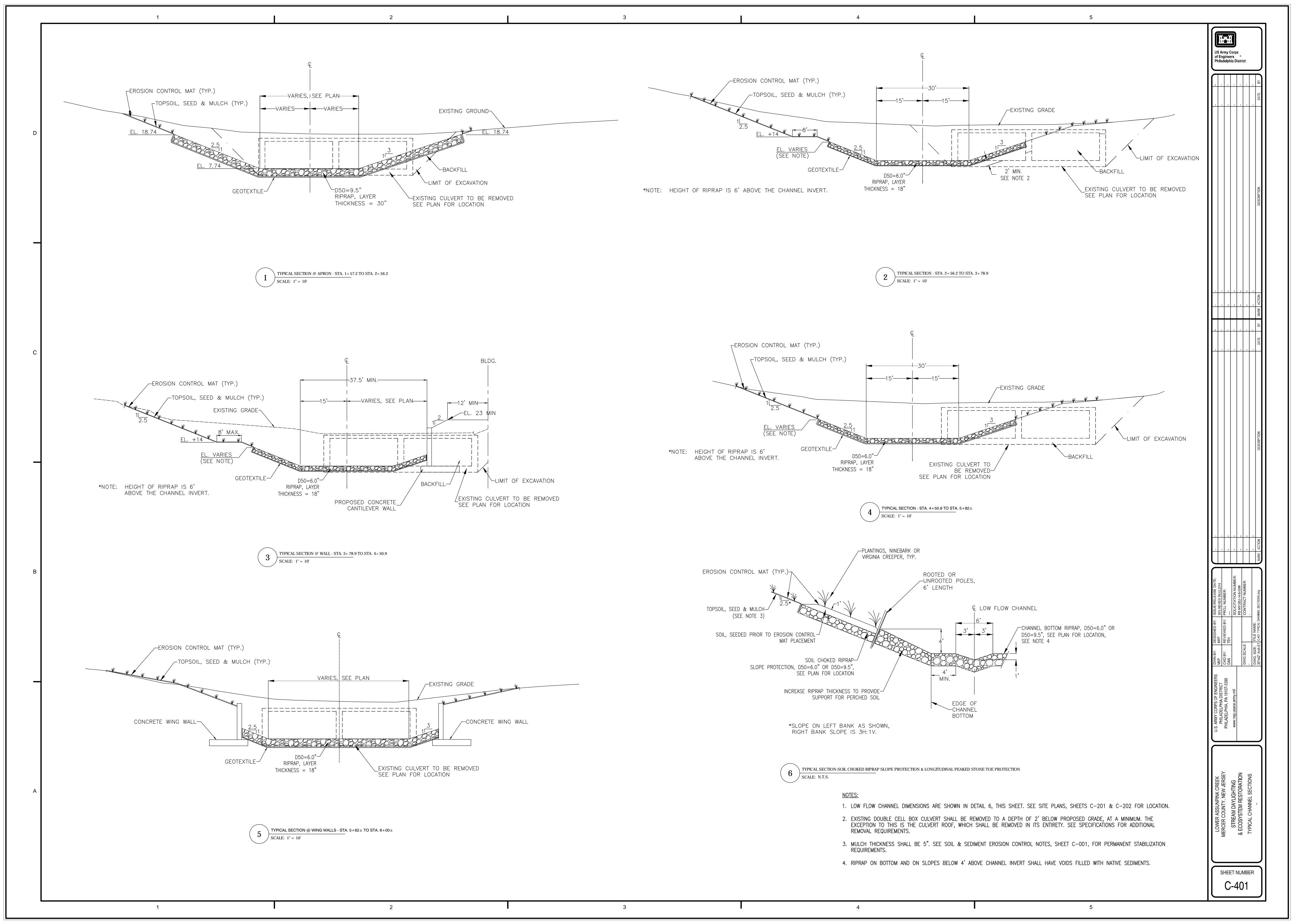
of Engineers ® Philadelphia District

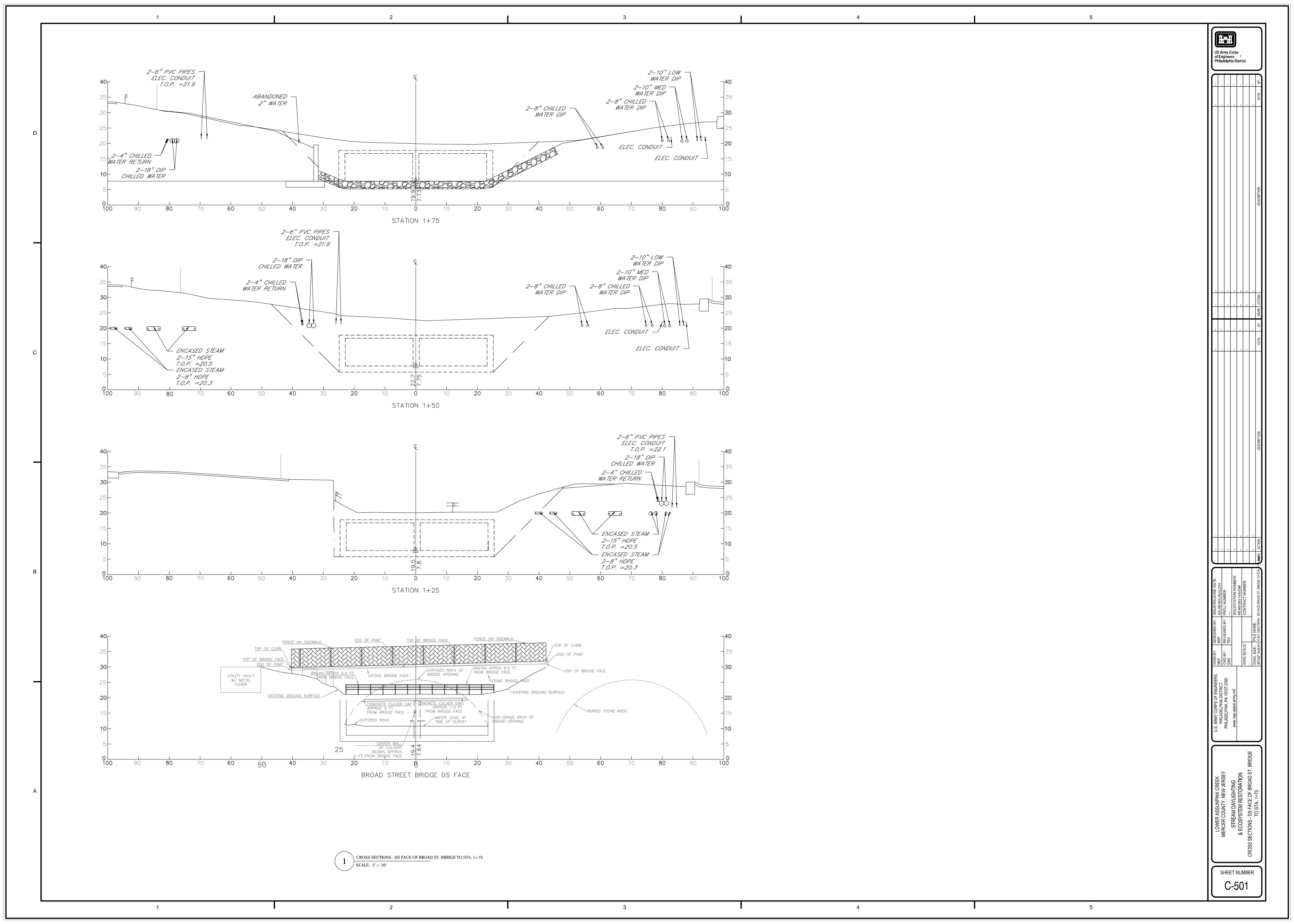


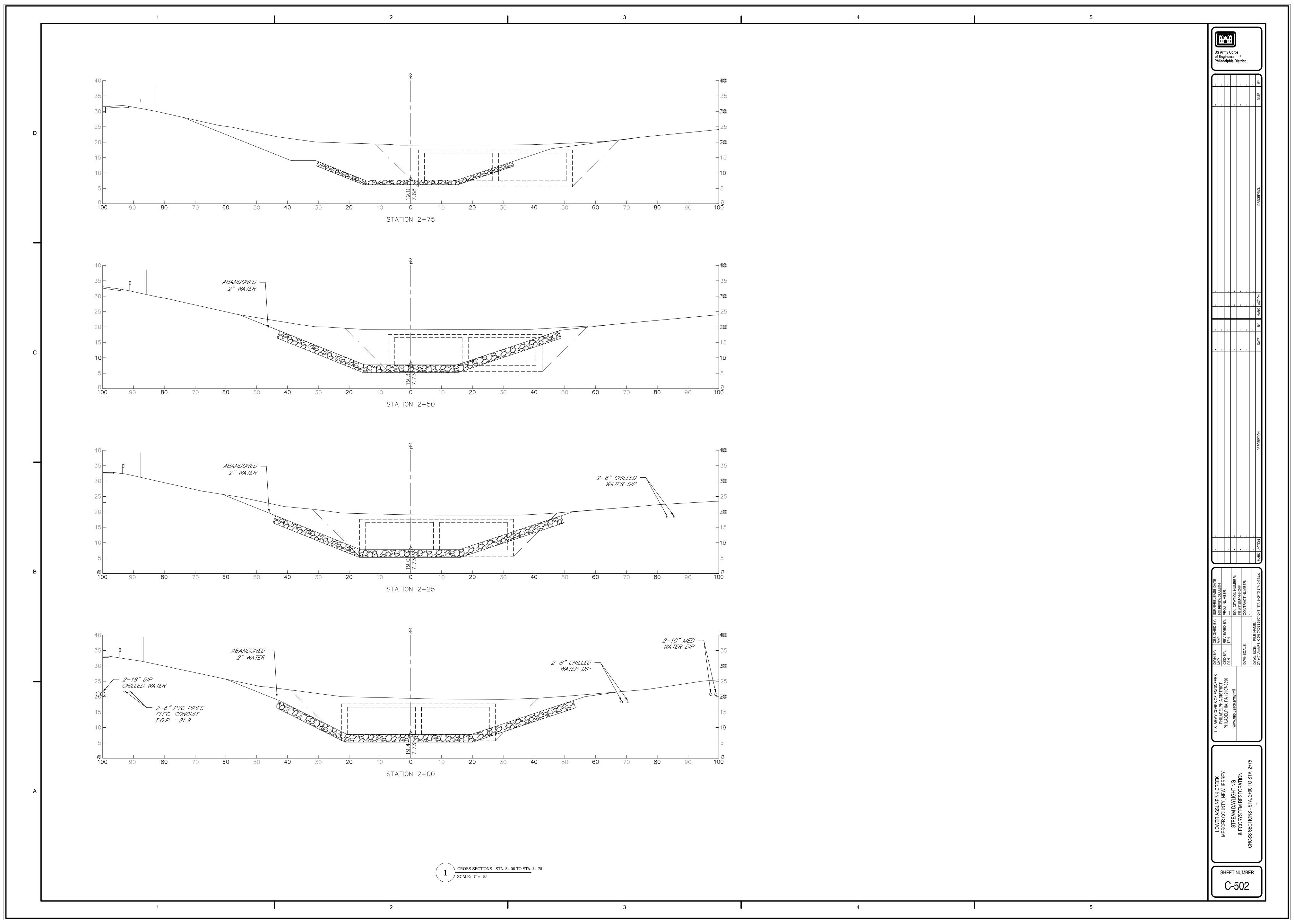


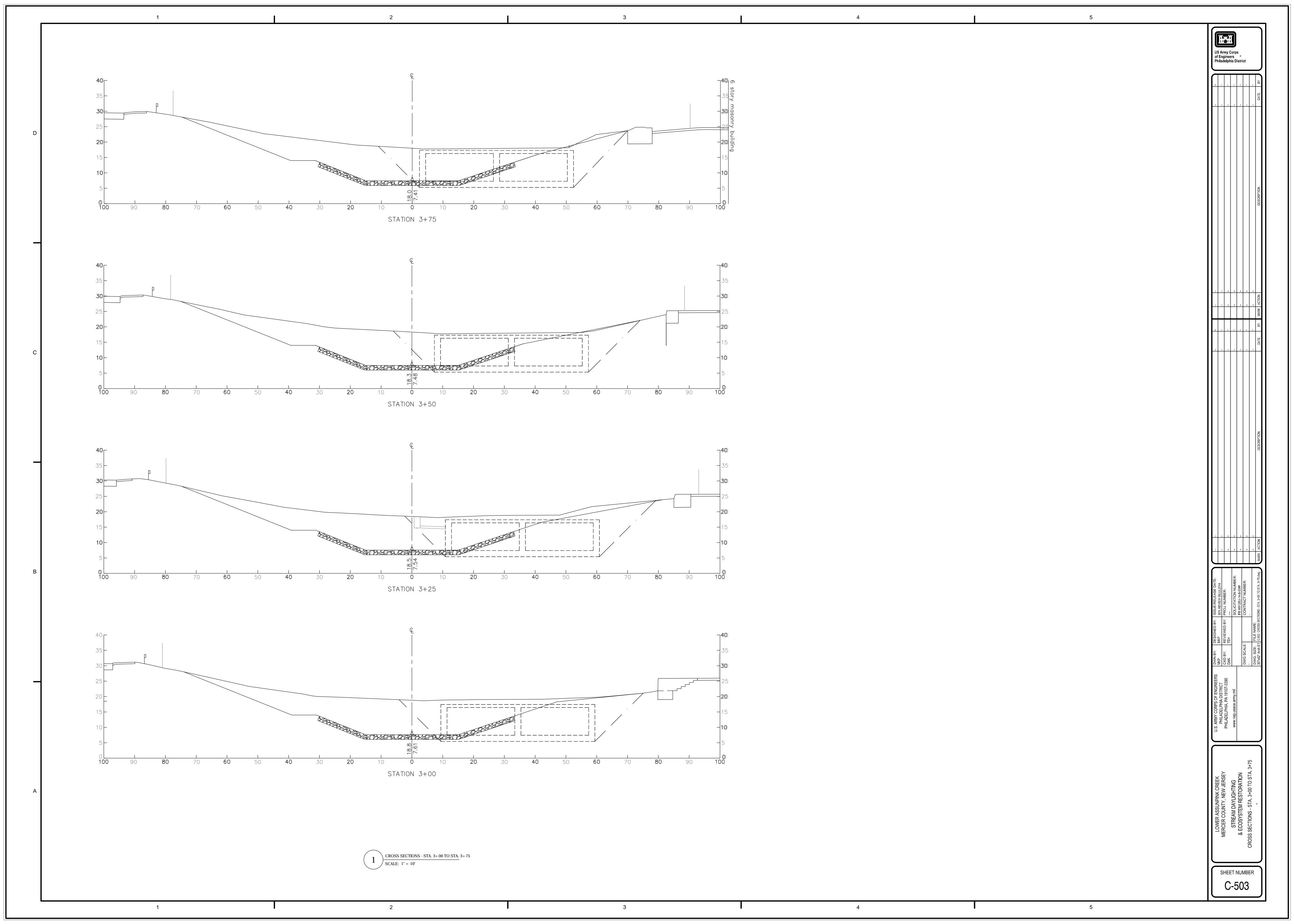


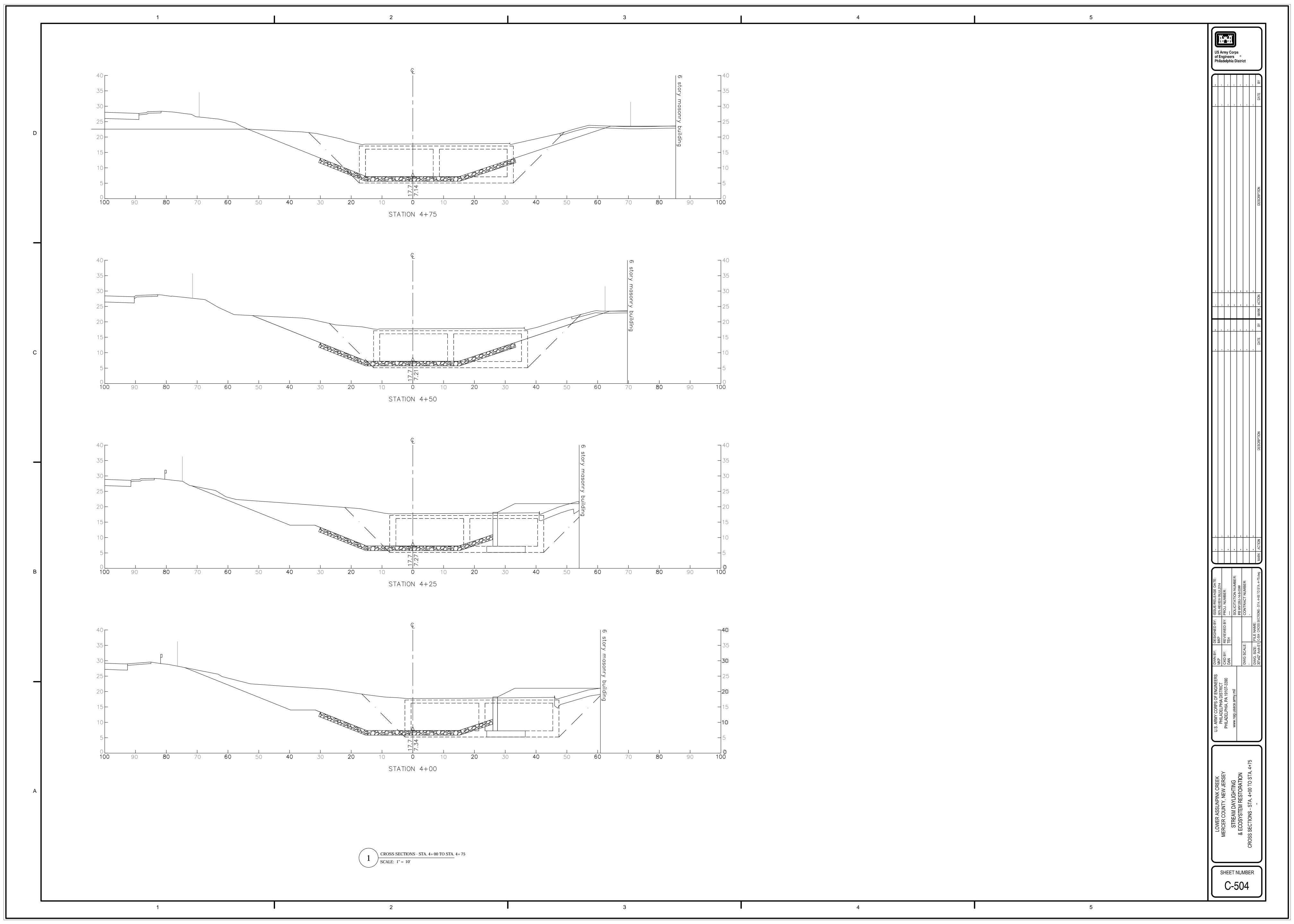


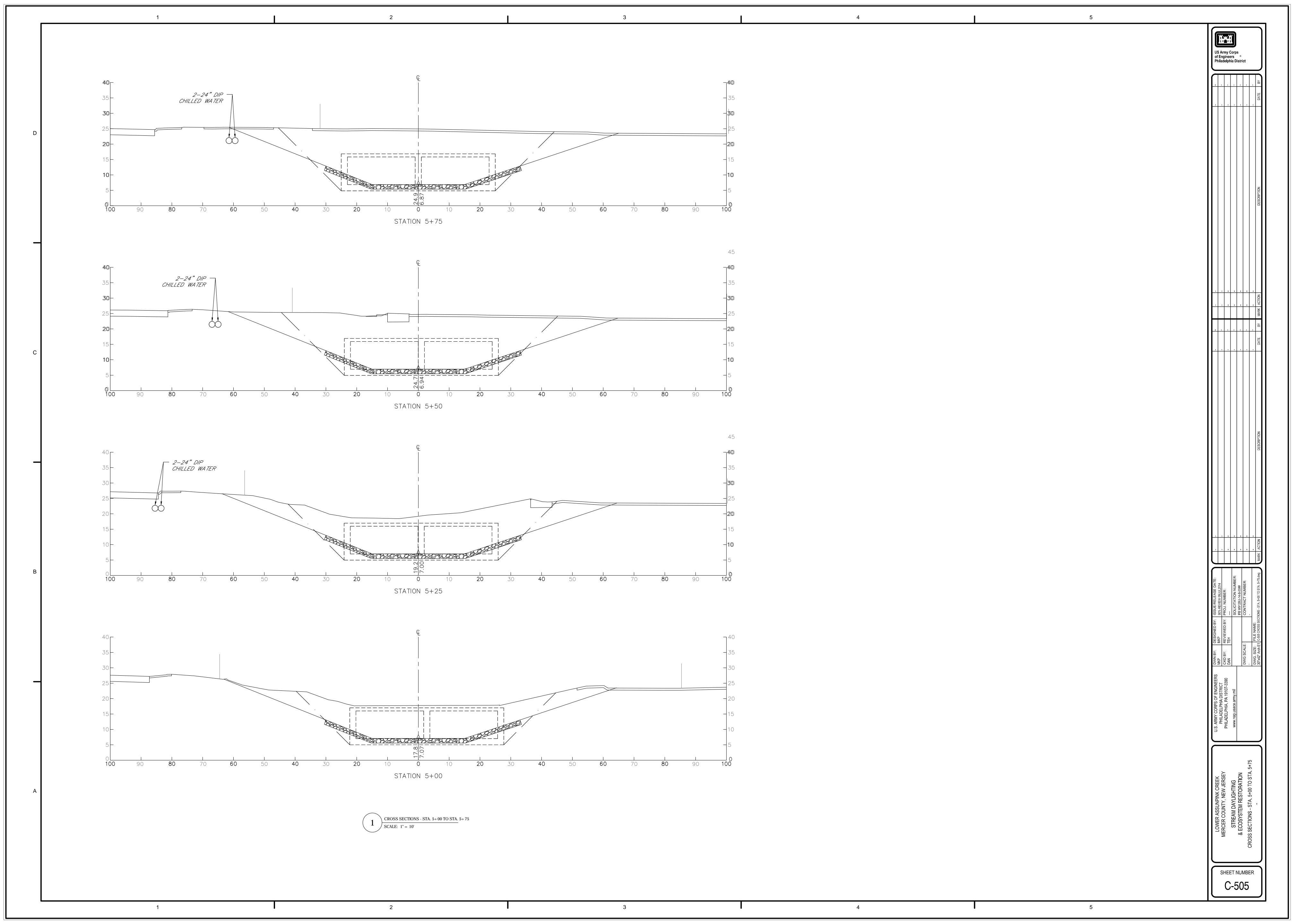


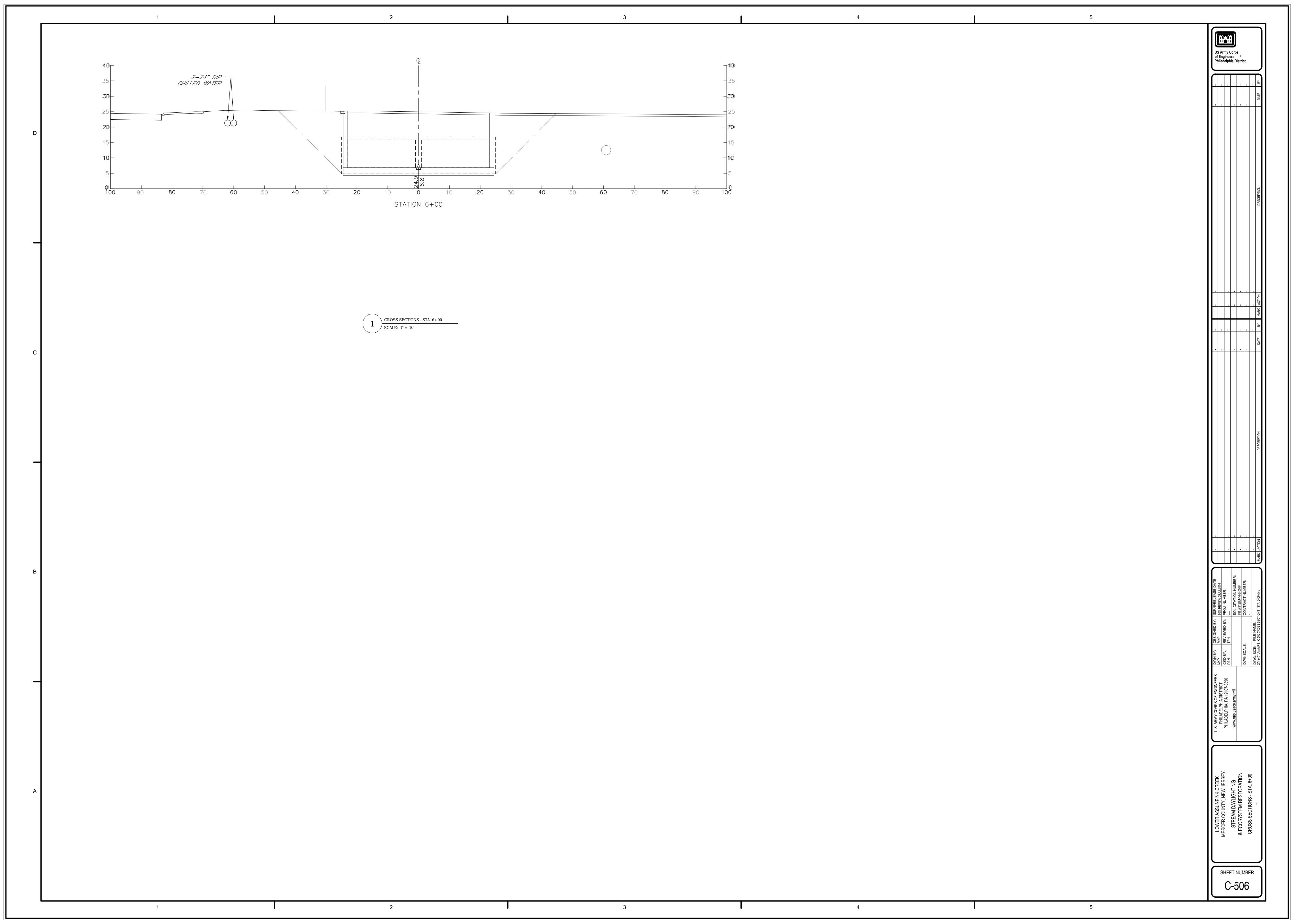


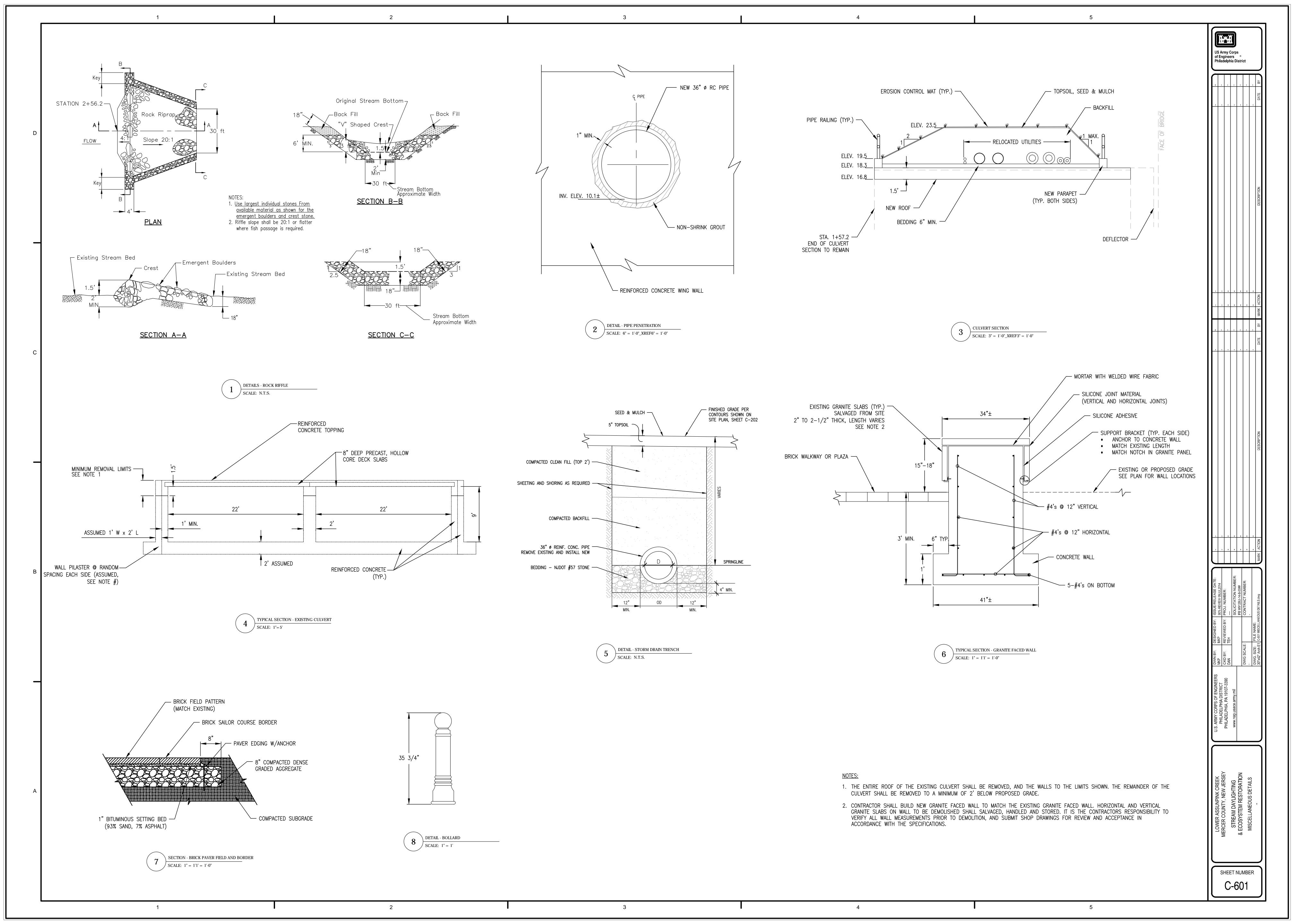


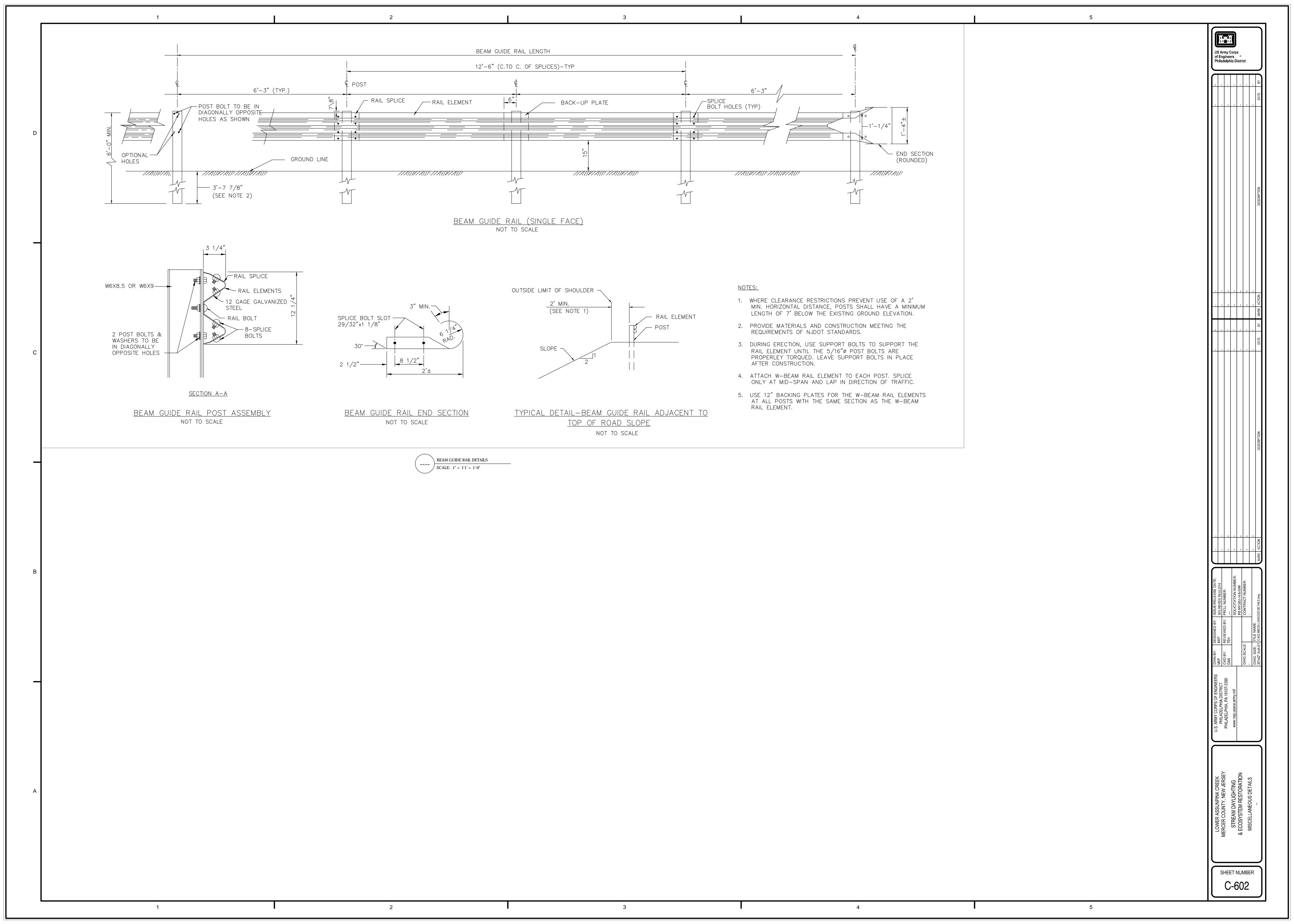


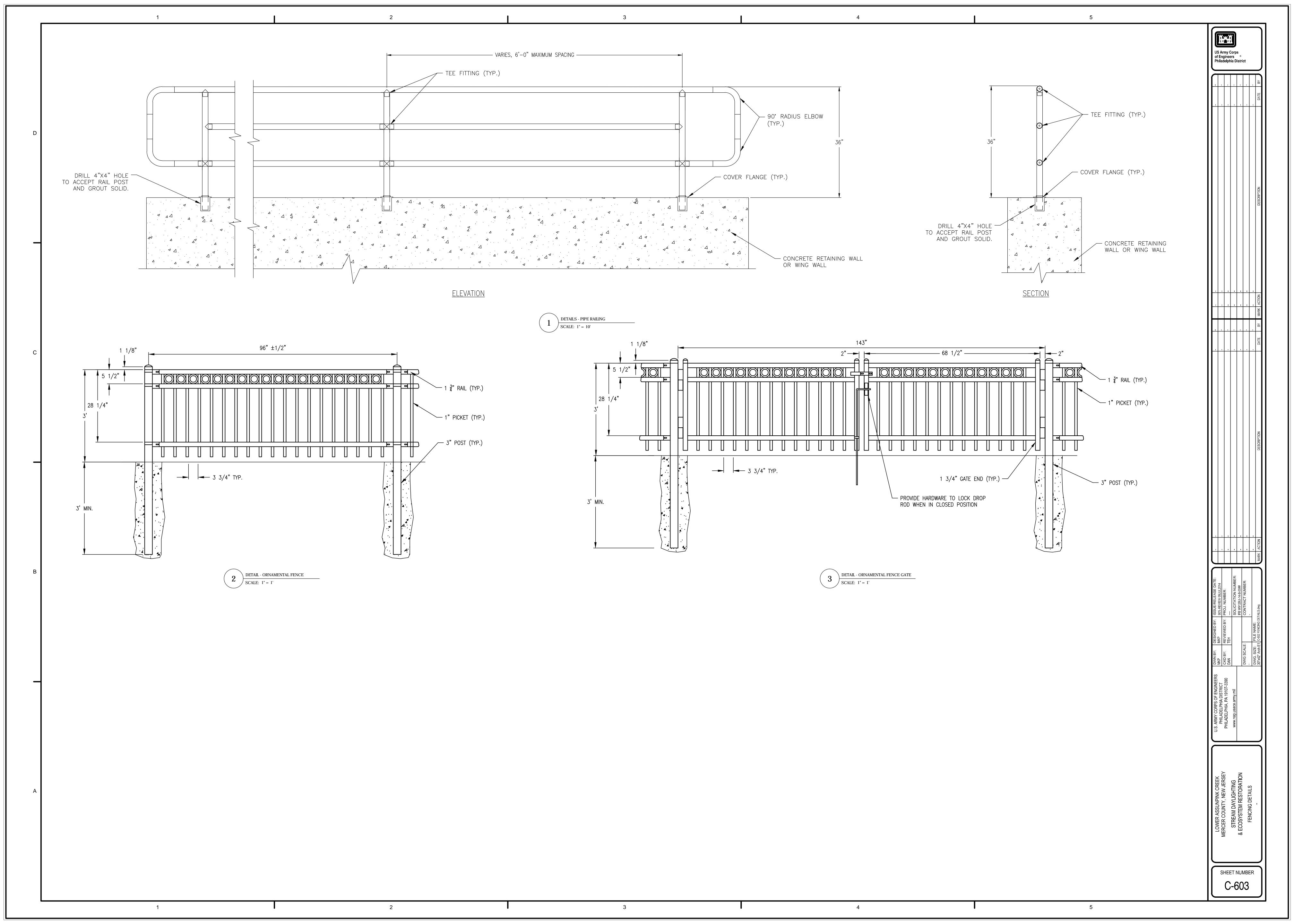






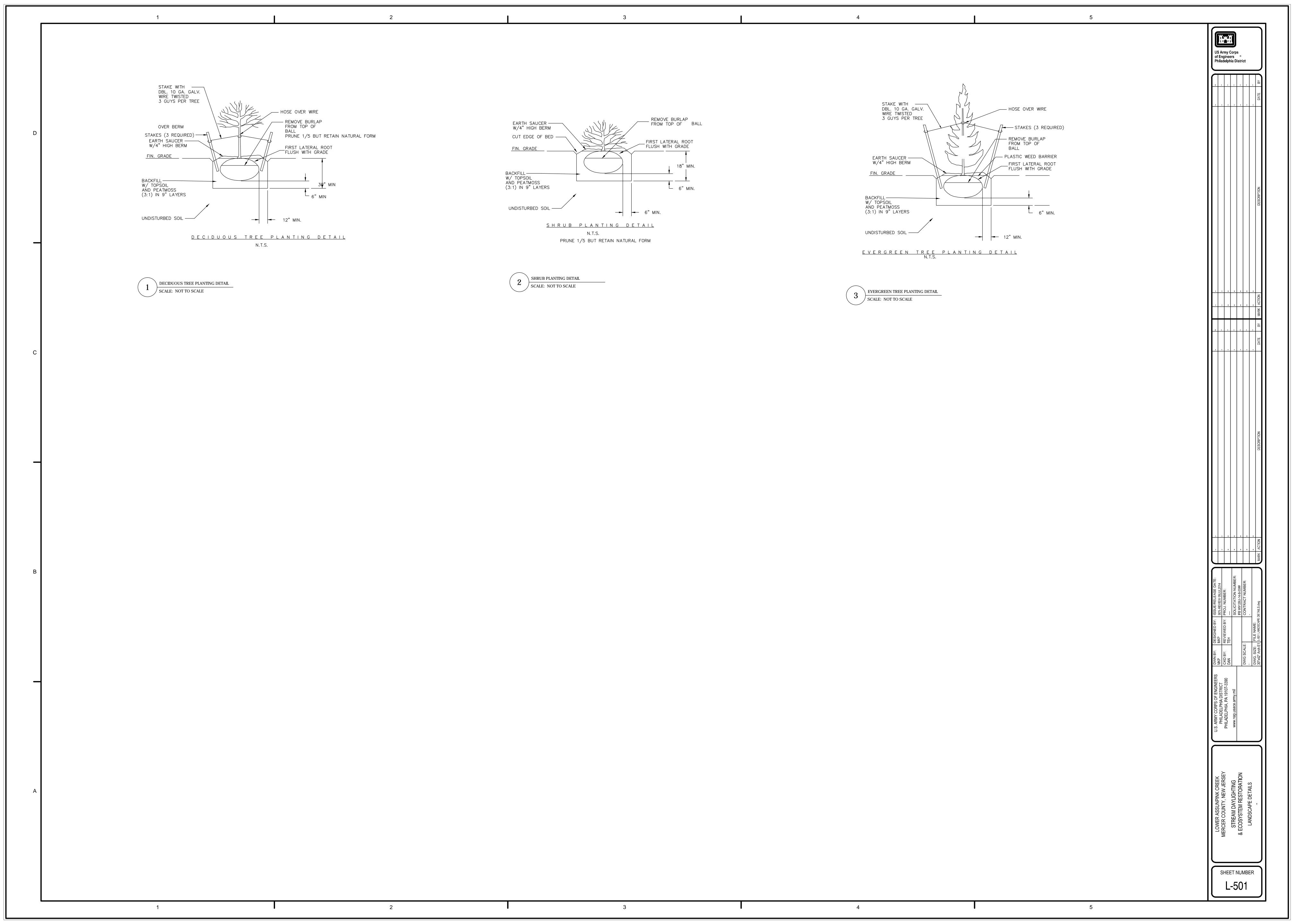


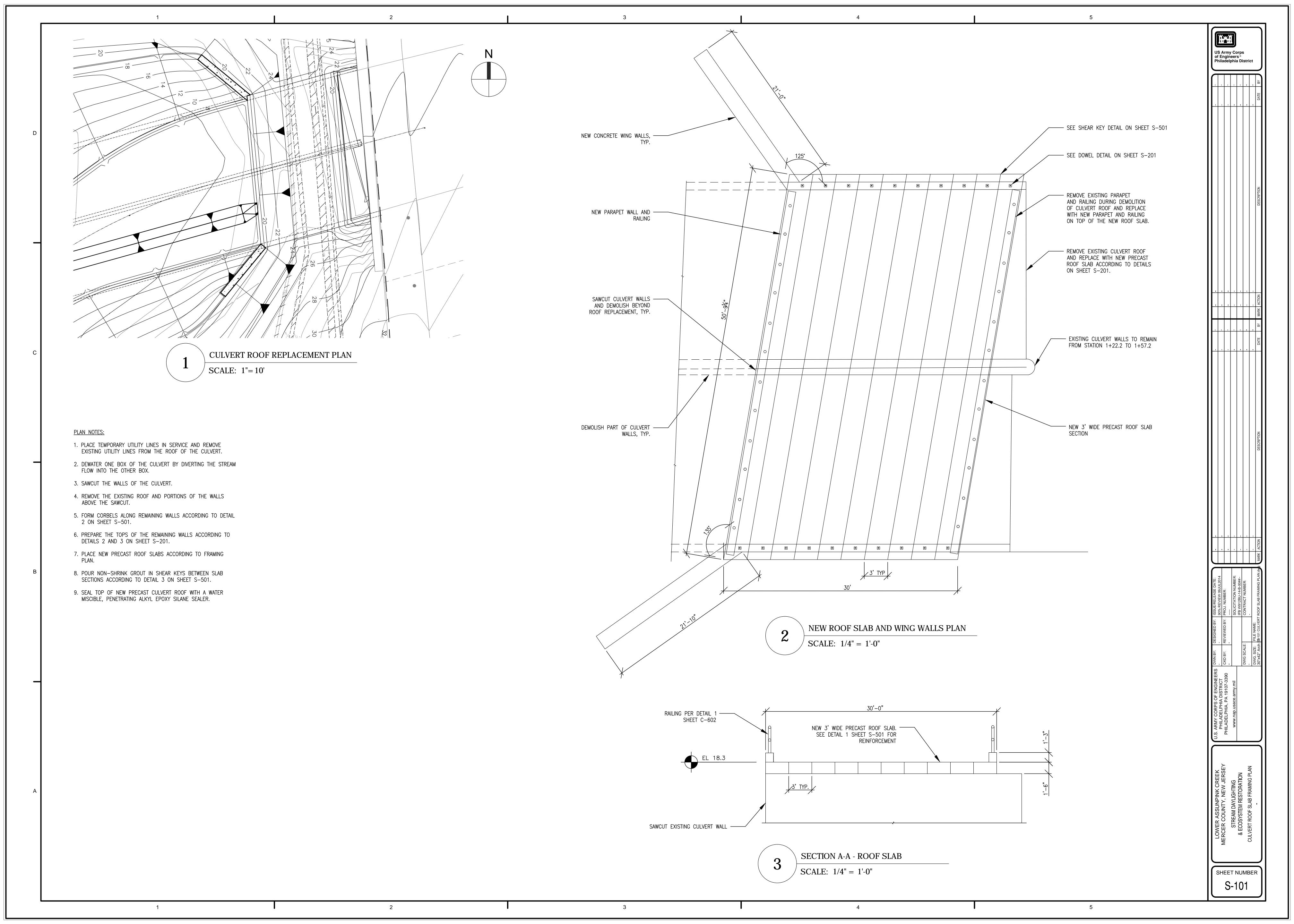


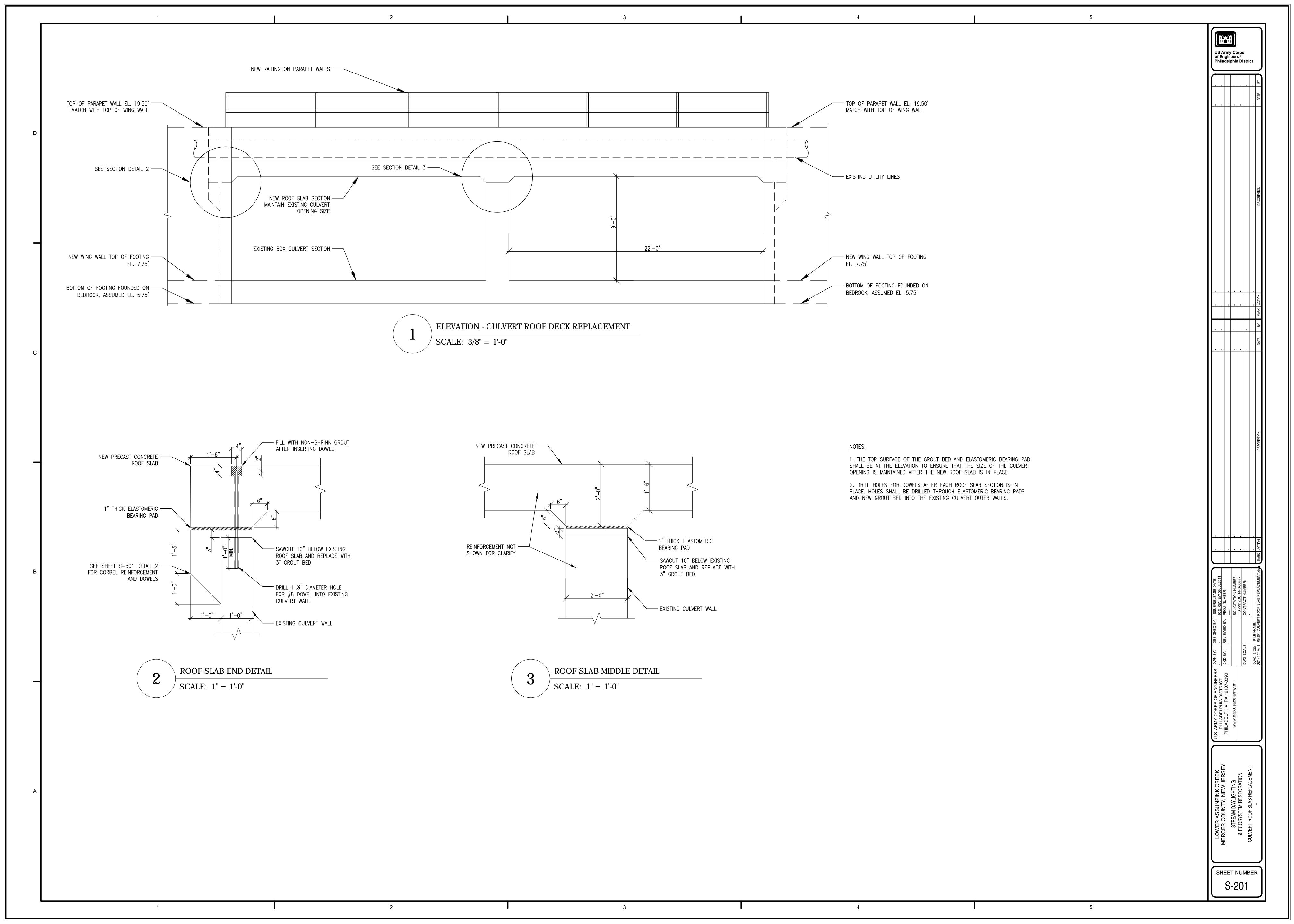


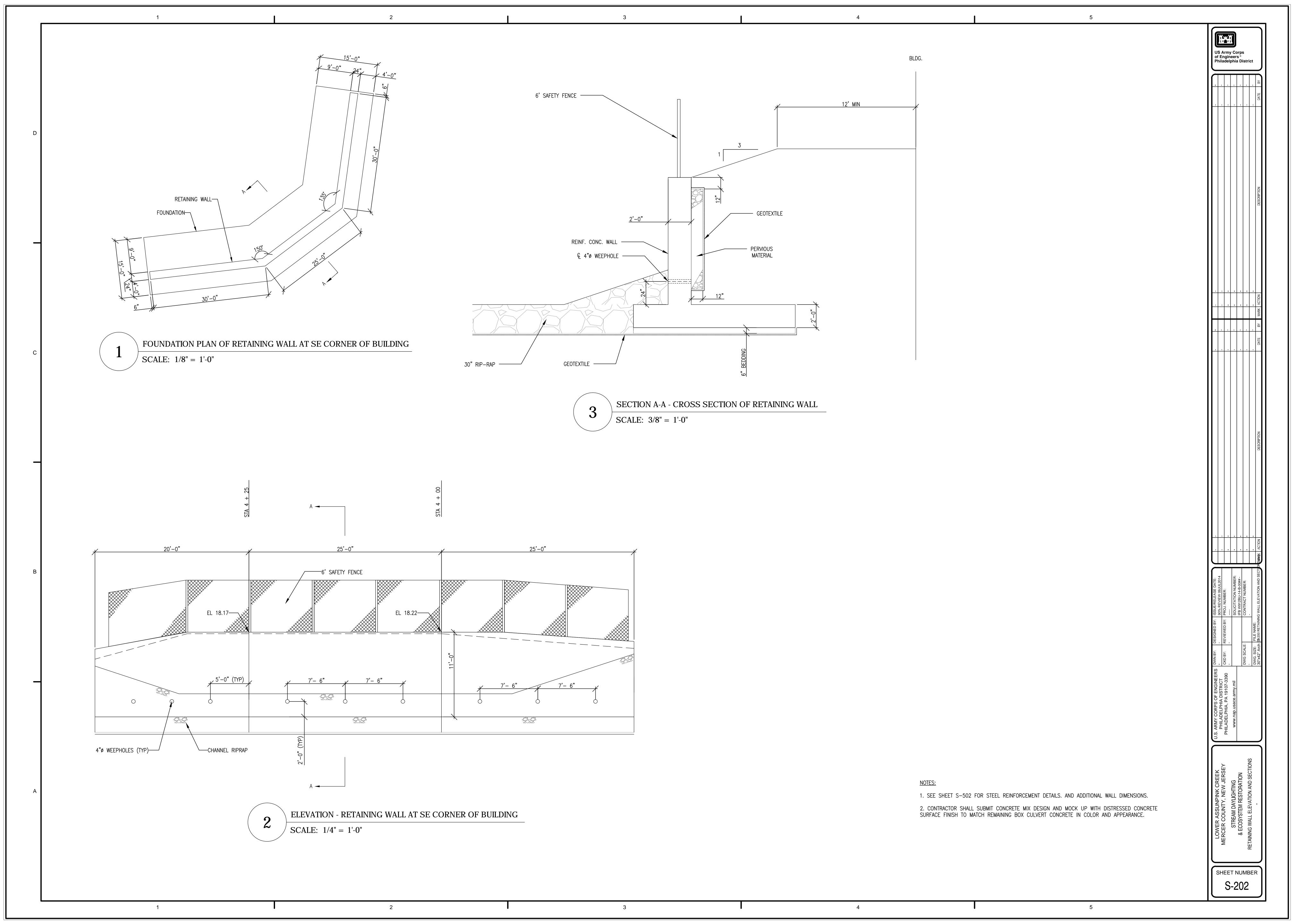


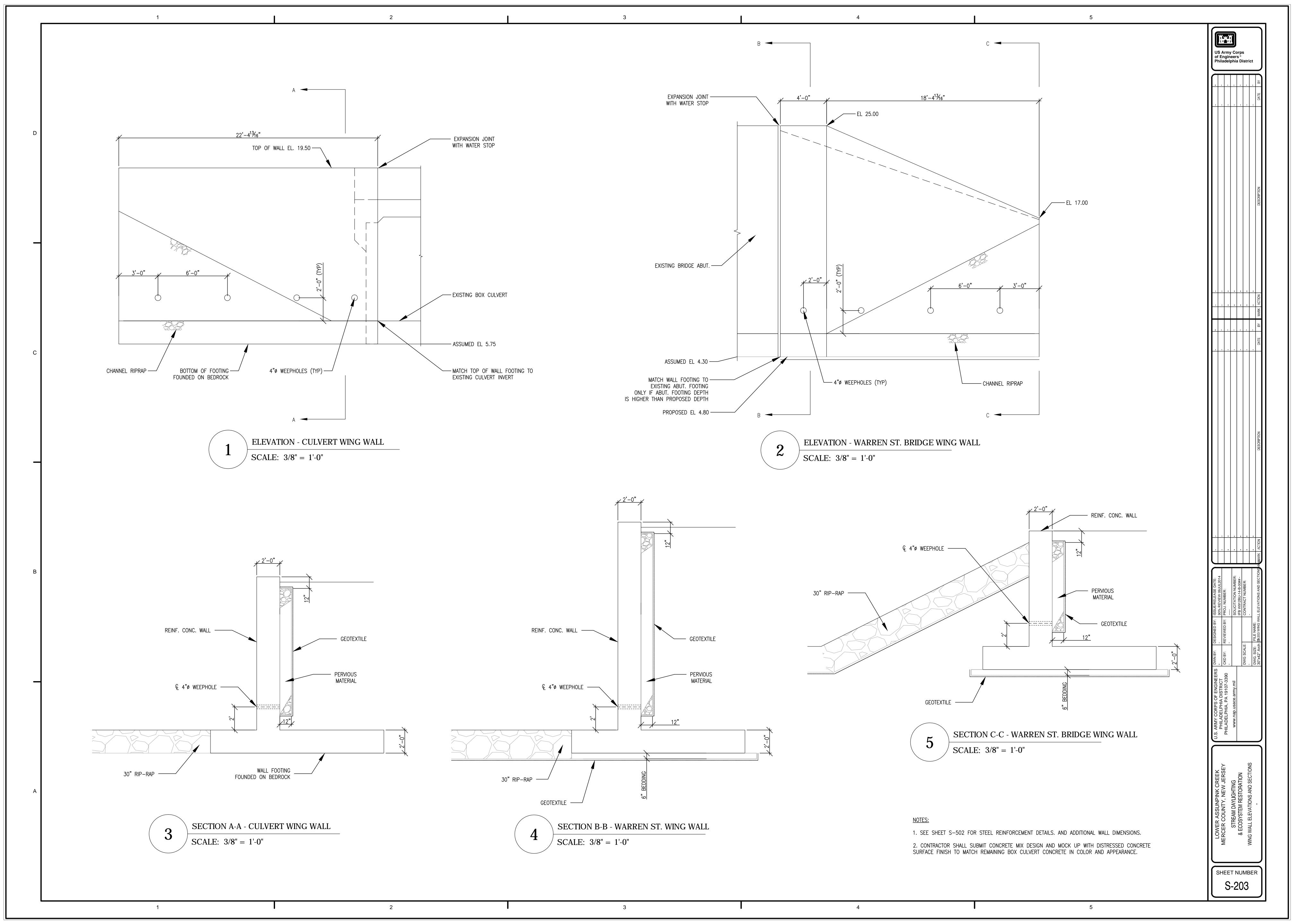


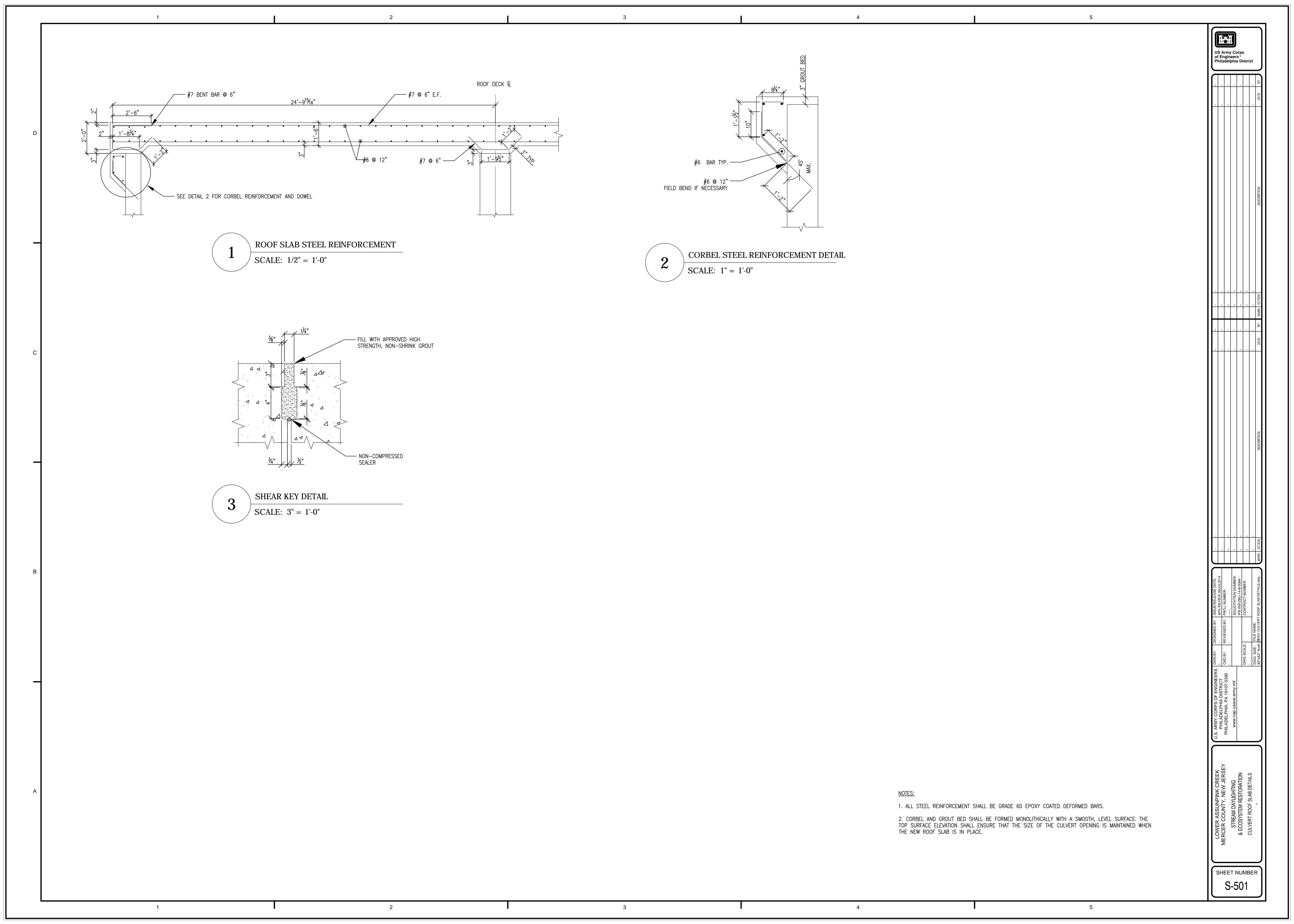


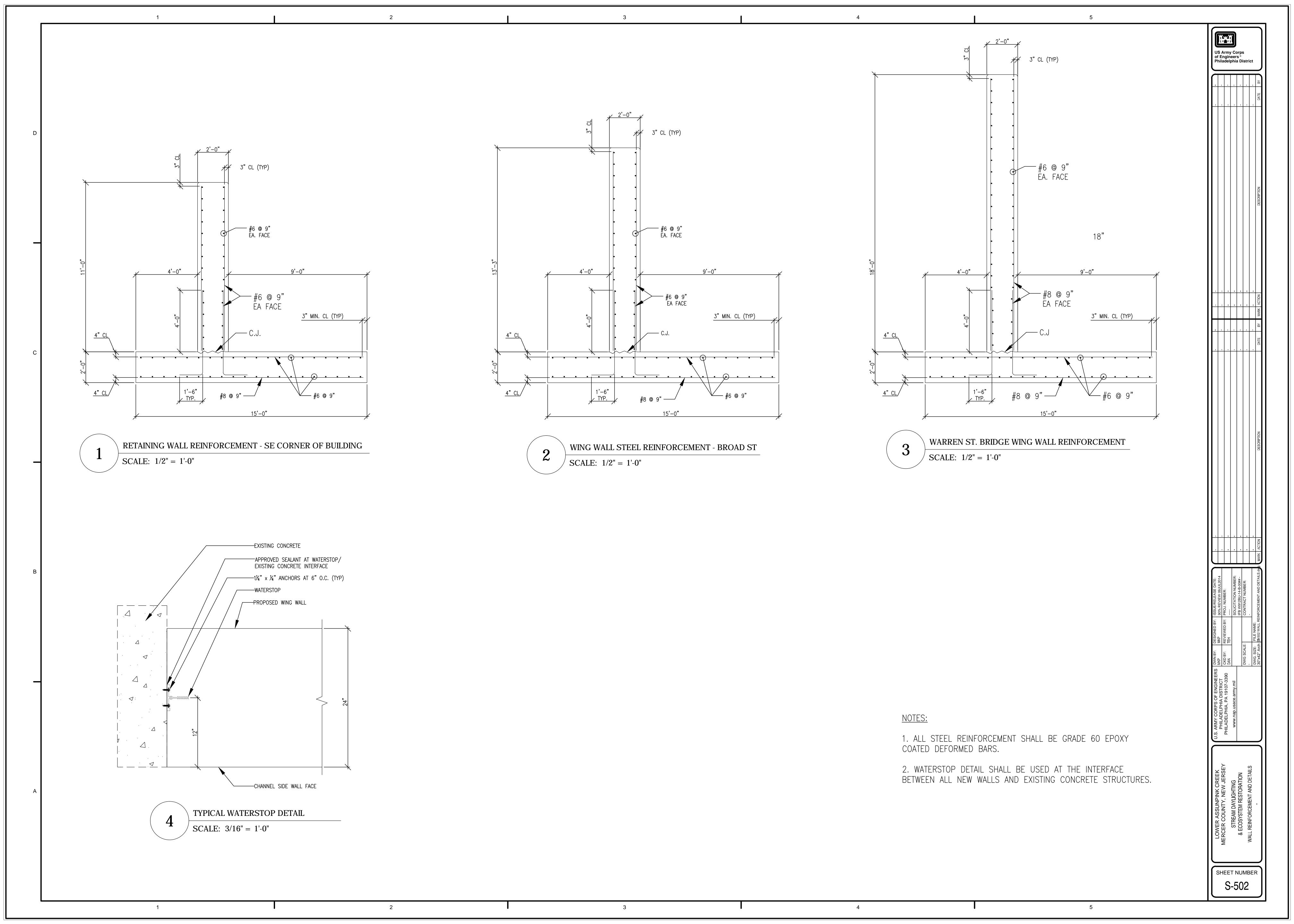


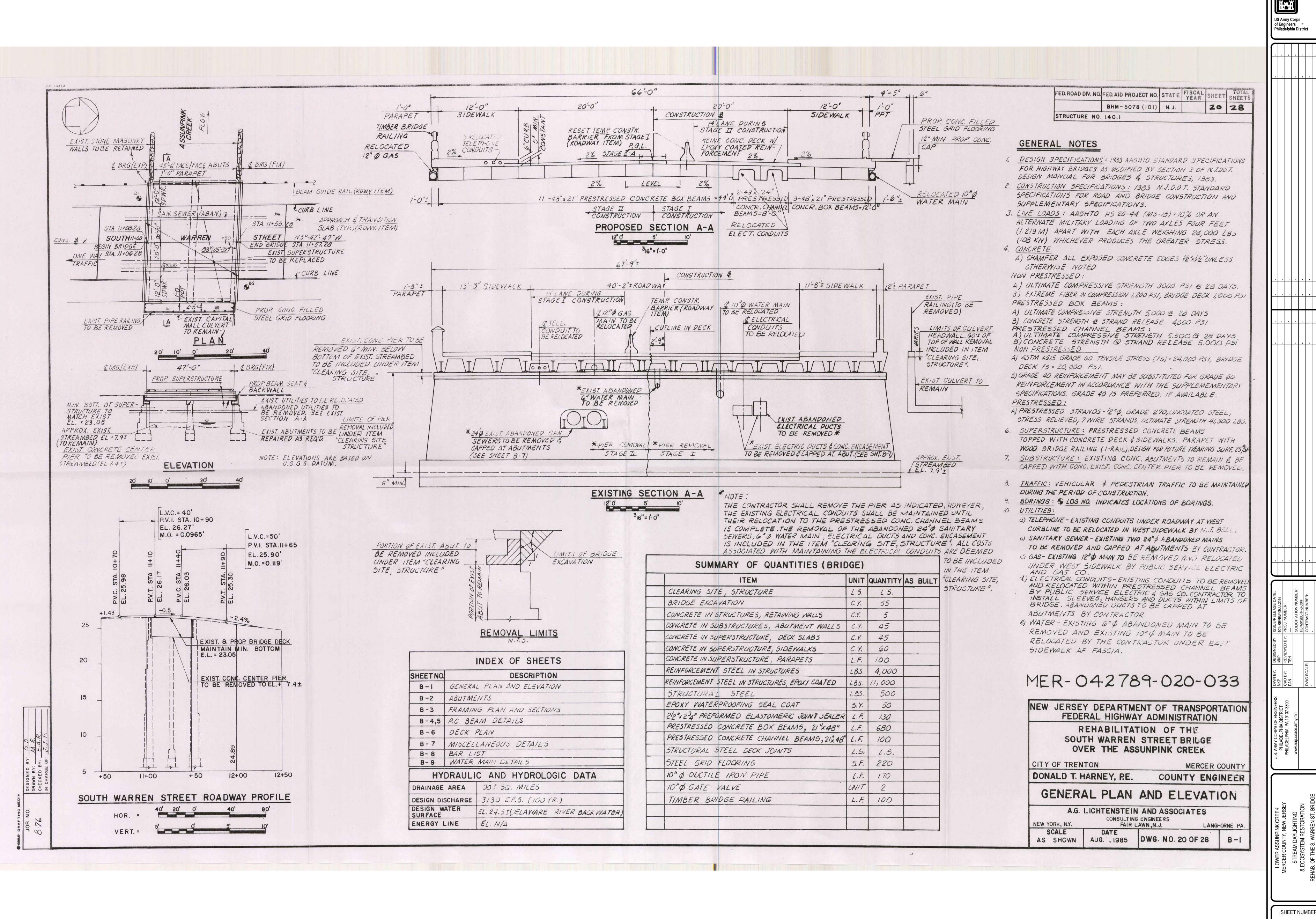












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