POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN FOR 283 COMMERCE CENTER - BUILDING #1 FOR PDC NORTHEAST LPIV, LLC

ENGINEER'S CERTIFICATION

I, JOSHUA C. GEORGE, P.E., A REGISTERED PROFESSIONAL ENGINEER OF THE COMMONWEALTH OF PENNSYLVANIA, HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE, THIS PLAN IS ACCURATE AND CORRECT AS INDICATED.

JOSHUA C. GEORGE, P.E. R

MOUNT JOY TOWNSHIP LANCASTER COUNTY, PENNSYLVANIA JANUARY 04, 2023



INDEX OF DRAWINGS SHEET NO. C-100 COVER SHEET C-200 OVERALL EXISTING CONDITIONS PLAN C-1401 - C-1405 C-1501 - C-1503 POST-CONSTRUCTION STORMWATER MANAGEMENT DETA ACT 287 SUBDIVISION(S) SHOWN ON THESE DRAWINGS: MORE THAN (90) WORKING DAYS BEFORE FINAL DESIGN IS TO BE COMPLETED. EXCAVATION IS TO BE PERFORMED. (5) OF SAID ACT." ONE CALL SYSTEM SERIAL NO. NOTIFICATION: DATE: 2022 ONE CALL SYSTEM SERIAL NUMBER: #20221612420 & #20213161628 **PROJECT NAME PROJECT NO.** 22-0123-005

APPLICANT

PDC NORTHEAST LPIV, LLC 6059 ALLENTOWN BLVD SUITE 127 HARRISBURG, PA 17112 (717) 649-9588 ATTN: JOE PETERS

LIST OF UTILITIES

SERIAL NUMBER - [20221612420]-[000] & [20213161628]-[000] COMPANY: COMCAST ADDRESS: 339 BALTIMORE RD SHIPPENSBURG, PA. 17257

CONTACT: WILLIAM MAYS EMAIL: william_mays@cable.comcast.com COMPANY: FIRST ENERGY PENELEC ADDRESS: 21 S MAIN ST AKRON, OH. 44308

CONTACT: DEAN BOYERS EMAIL: investigations@verizon.com

CONTACT: CARA WARREN EMAIL: CARAWARREN@FIRSTENERGYCORP.COM COMPANY: VERIZON BUSINESS FORMERLY MCI ADDRESS: 400 INTERNATIONAL PARKWAY RICHARDSON, TX. 75081

COMPANY: MOUNT JOY TOWNSHIP LANCASTER COUNTY ADDRESS: 8853 ELIZABETHTOWN RD ELIZABETHTOWN, PA, 17022 CONTACT: KEN EBERSOLE EMAIL: KEN@MTJOYTWP.ORG

COMPANY: PPL ELECTRIC UTILITIES CORPORATION ADDRESS: 434 SUSQUEHANNA TRAIL NORTHUMBERLAND, PA. 17857 CONTACT: DOUG HAUPT EMAIL: dlhaupt@pplweb.com

OWNER

FRANKLIN B. GREINER JR. 700 CORNWALL MOUNTAIN ROAD LITITZ, PA 17543

COMPANY: LUMEN/CENTURYLINK ADDRESS: 200 TECHNOLOGY DRIVE PITTSBURGH, PA. 15219 CONTACT: DAN SHENTO

EMAIL: DAN.SHENTO@LUMEN.COM COMPANY: UGI UTILITIES INC ADDRESS: 1301 AIP DR MIDDLETOWN, PA. 17057

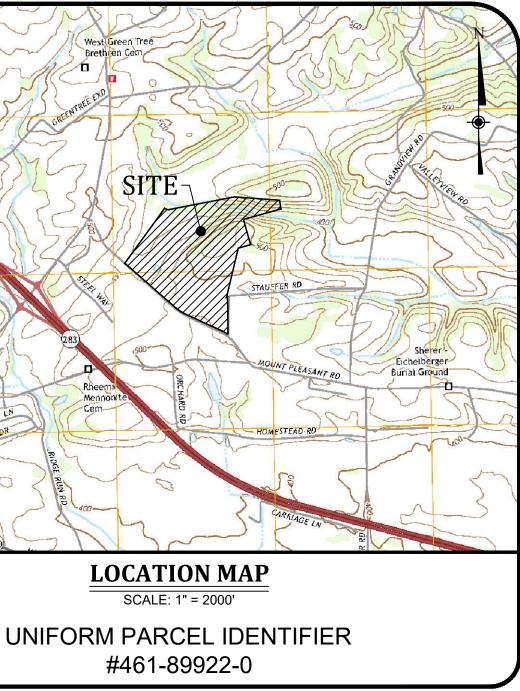
ELIZABETHTOWN, PA. 17022

CONTACT: STEPHEN BATEMAN EMAIL: sbateman@ugi.com COMPANY: ELIZABETHTOWN AREA WATER AUTHORITY ADDRESS: 211 W HUMMELSTOWN STREET

CONTACT: DEL BECKER COMPANY: ELIZABETHTOWN REGIONAL SEWER AUTHORITY ADDRESS: 235 ERSA DR ELIZABETHTOWN, PA, 17022 CONTACT: STEVEN RETTEW

EMAIL: steve@ersapa.com COMPANY: MET ED FIRSTENERGY ADDRESS: 2800 POTTSVILLE PIKE READING, PA. 19605 CONTACT: PETE HACHEM

EMAIL: PHACHEM@FIRSTENERGYCORP.COM



TITLE

POST-CONSTRUCTION STORMWATER MANAGEMENT PLAI 10 SHEETS IN SET

LANDWORKS CIVIL DESIGN, LLC HEREBY STATES THAT, PURSUANT TO THE PROVISIONS OF ACT 287 OF 1974. OF THE PENNSYLVANIA LEGISLATURE, IT HAS PERFORMED THE FOLLOWING IN PREPARING THESE DRAWINGS REQUIRING EXCAVATION OR DEMOLITION WORK AT SITES WITHIN THE POLITICAL

PURSUANT TO SECTION 4, CLAUSE (2) OF SAID ACT, LANDWORKS CIVIL DESIGN, LLC REQUESTED FROM EACH USER'S OFFICE DESIGNATED ON SUCH LIST PROVIDED BY THE ONE CALL SYSTEM NOTIFICATION, THE INFORMATION PRESCRIBED BY SECTION 2, CLAUSE (4) OF SAID ACT, NOT LESS THAN (10) NOR

PURSUANT TO SECTION 4, CLAUSE (5) OF SAID ACT, LANDWORKS CIVIL DESIGN, LLC HAS MET THEIR OBLIGATIONS OF CLAUSE (2) BY CALLING THE ONE CALL SYSTEM SERVING THE LOCATION WHERE

PURSUANT TO SECTION 4, CLAUSE (3) OF SAID ACT, LANDWORKS CIVIL DESIGN, LLC HAS SHOWN UPON THESE DRAWINGS "THE POSITION AND TYPE OF EACH LINE, AS DERIVED PURSUANT TO THE REQUEST MADE AS REQUIRED BY CLAUSE (2), THE SERIAL NUMBER PROVIDED BY THE ONE CALL SYSTEM, THE TOLL-FREE ONE CALL SYSTEM PHONE NUMBER, AND THE NAME OF THE USER, THE USER'S DESIGNATED OFFICE ADDRESS AND PHONE NUMBER AS SHOWN ON THE LIST REFERRED TO IN SECTION 4, CLAUSE

AND LANDWORKS CIVIL DESIGN, LLC DOES NOT MAKE ANY REPRESENTATION, WARRANTY, ASSURANCE OR GUARANTEE THAT THE INFORMATION RECEIVED PURSUANT TO SAID REQUEST AND AS REFLECTED ON THESE DRAWINGS IS CORRECT OR ACCURATE, BUT LANDWORKS CIVIL DESIGN, LLC IS REFLECTING SAID INFORMATION ON THESE DRAWINGS ONLY DUE TO THE REQUIREMENTS OF THE SAID ACT NO. 181 OF 2006.



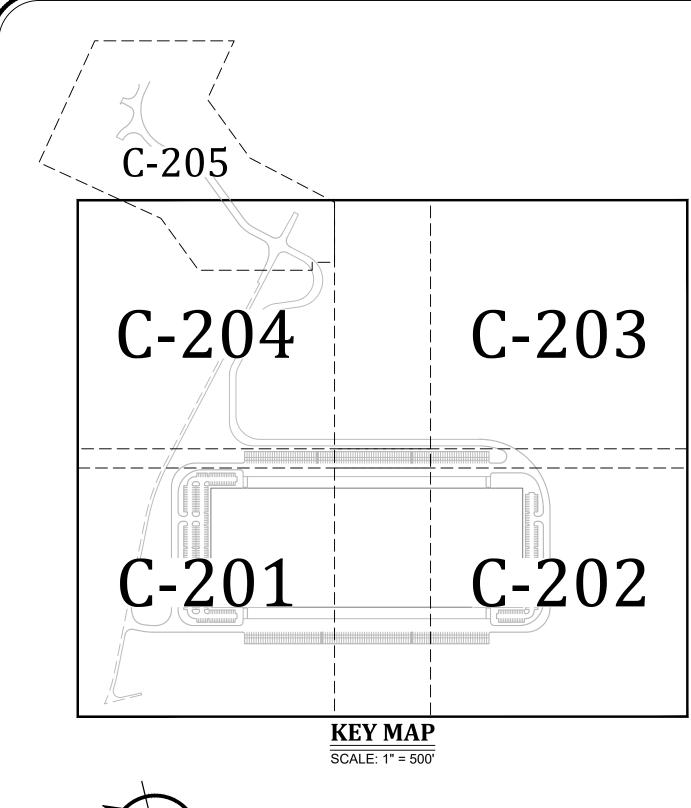
CALL BEFORE YOU DIG PENNSYLVANIA LAW REQUIRES (3) WORKING DAYS NOTICE FOR **CONSTRUCTION PHASE AND (10) WORKING** DAYS IN DESIGN STAGE - STOP CALL

283 COMMERCE CENTER - BUILDING #1



1195 VIRGINIA AVENUE p (717) 891-1195

YORK, PA 17403 www.landworkscd.com



LEGEND

EXISTING BOUNDARY LINE EXISTING ADJOINER BOUNDARY LINE EXISTING RIGHT-OF-WAY LINE EXISTING CURB EXISTING PAVEMENT EXISTING CONTOUR LINE EXISTING STREAM MUNICIPAL BOUNDARY LINE EXISTING GRAVEL DRIVE EXISTING VEGETATION EXISTING VEGETATION EXISTING TREELINE EXISTING FENCE EXISTING OVERHEAD ELECTRIC LINE EXISTING OURHEAD ELECTRIC LINE EXISTING GUIDE RAIL	
EXISTING WETLANDS	
EXISTING UTILITY POLE EXISTING WATER VALVE	Ø ®
EXISTING FIRE HYDRANT EXISTING WATER LINE EXISTING SANITARY SEWER MANHOLE EXISTING SANITARY SEWER LINE EXISTING STORM MANHOLE	
EXISTING STORM INLET	
EXISTING STORM PIPE	<i>18" RCP</i>
EXISTING ELECTRIC TRANSFORMER	E
EXISTING ELECTRIC MANHOLE	$\overleftarrow{\mathcal{E}}$
EXISTING COMMUNICATIONS MANHOLE	$\widecheck{\mathcal{C}}$
EXISTING CABLE TV BOX	
EXISTING GAS METER	GM
EXISTING GAS MANHOLE	(\mathcal{G})
EXISTING TELEPHONE BOX	
EXISTING WATER METER PIT	$\overline{\mathcal{W}}$
EXISTING WATER MANHOLE	Ŵ
EXISTING WELL	(M)
EXISTING LIGHT STANDARD	¢

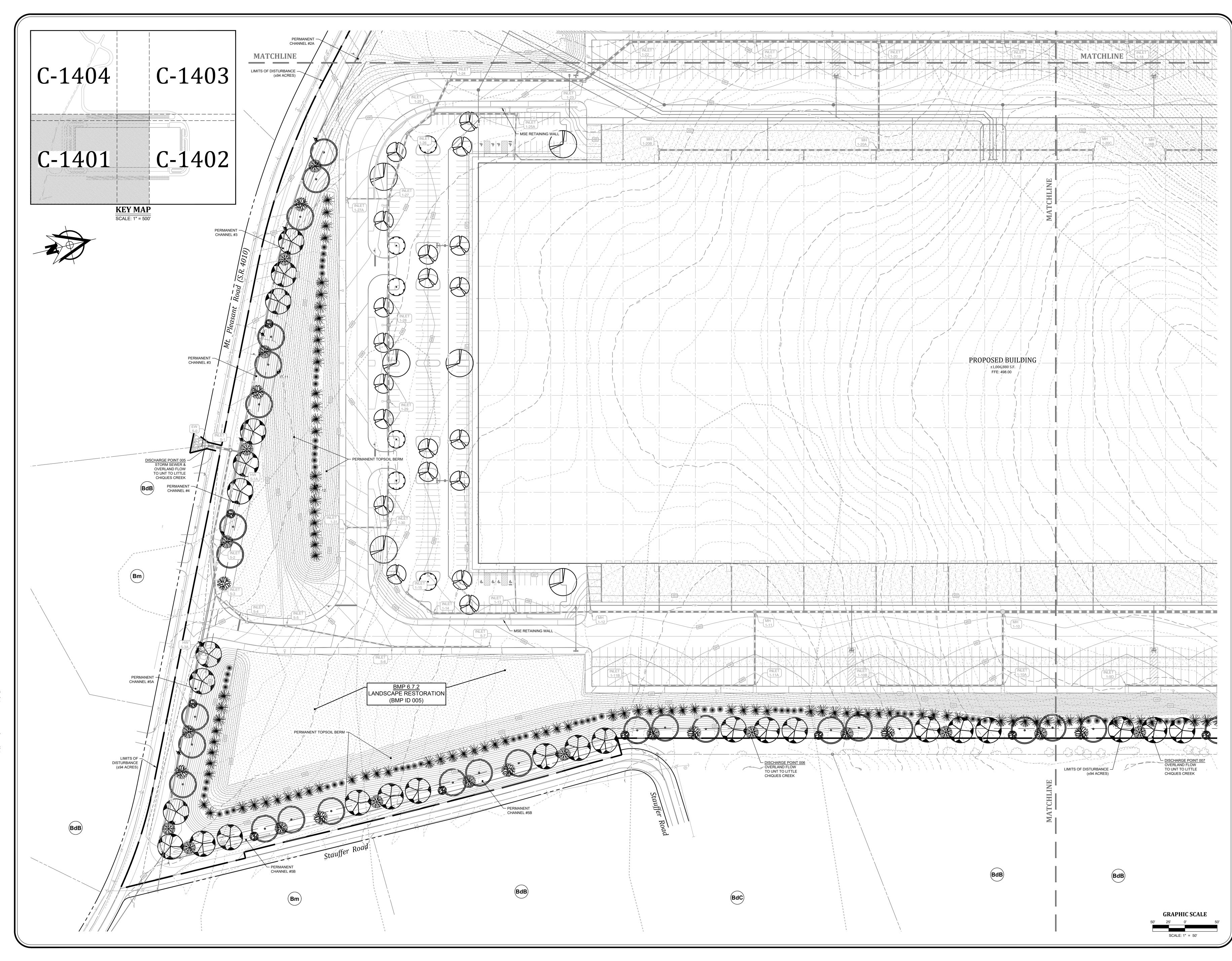
CURVE TABLE												
CURVE #	LENGTH	RADIUS	CHORD BEARING	CHOF								
C1	44.76'	1423.50'	S 01°06'32" E									
C2	32.38'	15.00'	S 61°38'31" W									
C3	107.49'	712.50'	S 60°49'48" E									
C4	311.00'	1087.50'	N 56°57'33" W									

dwg] vg]





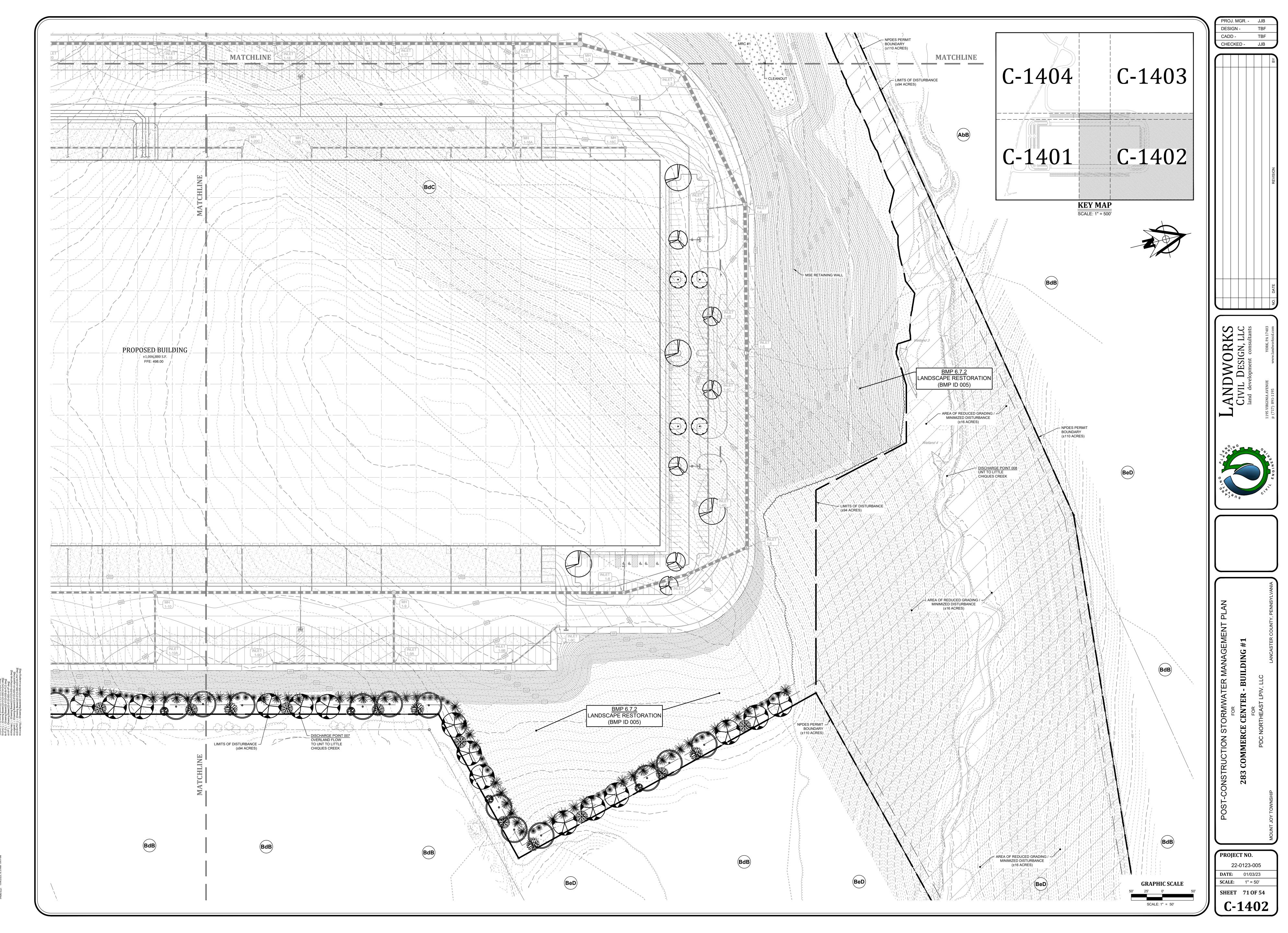
 SCALE: 1" = 150'



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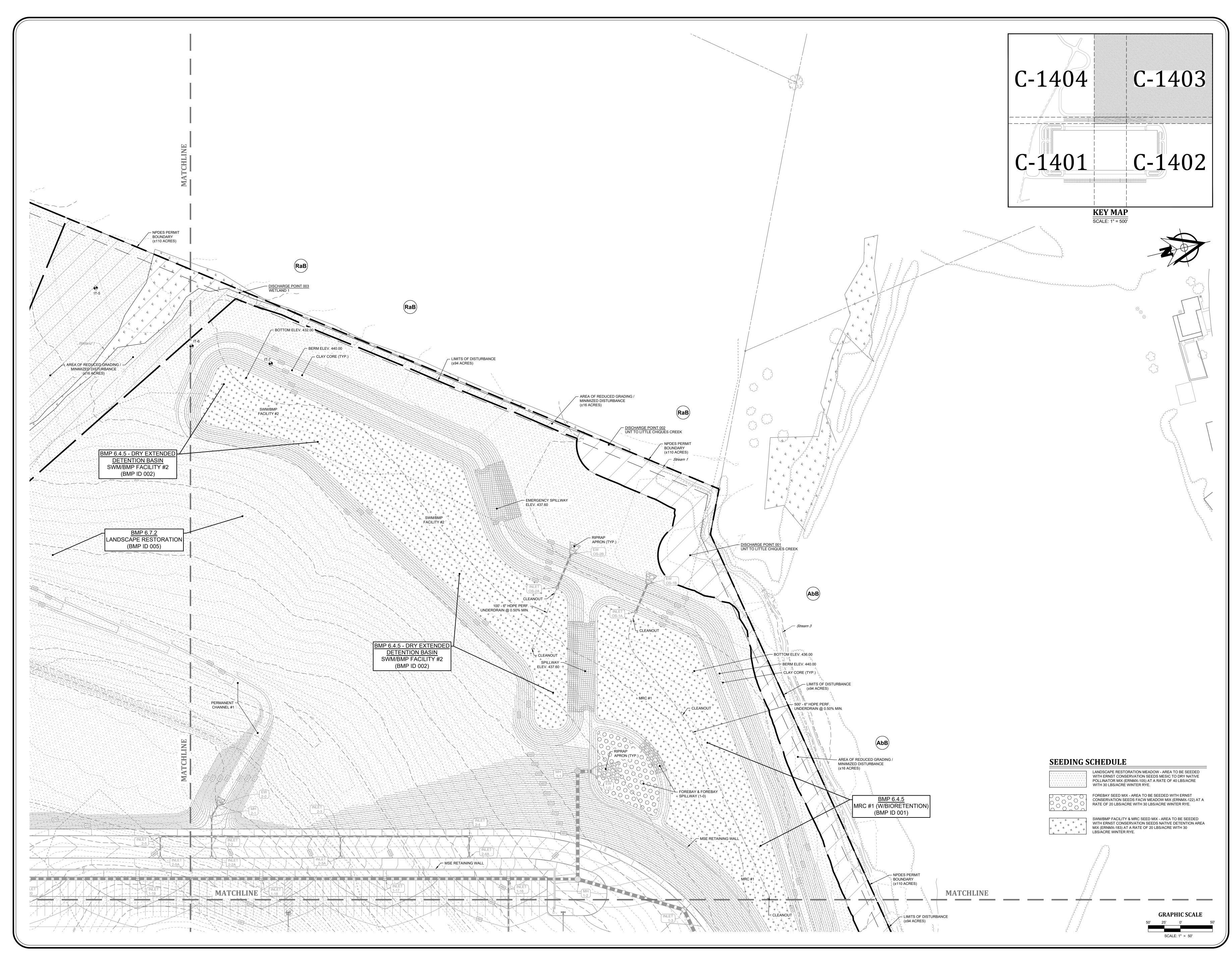
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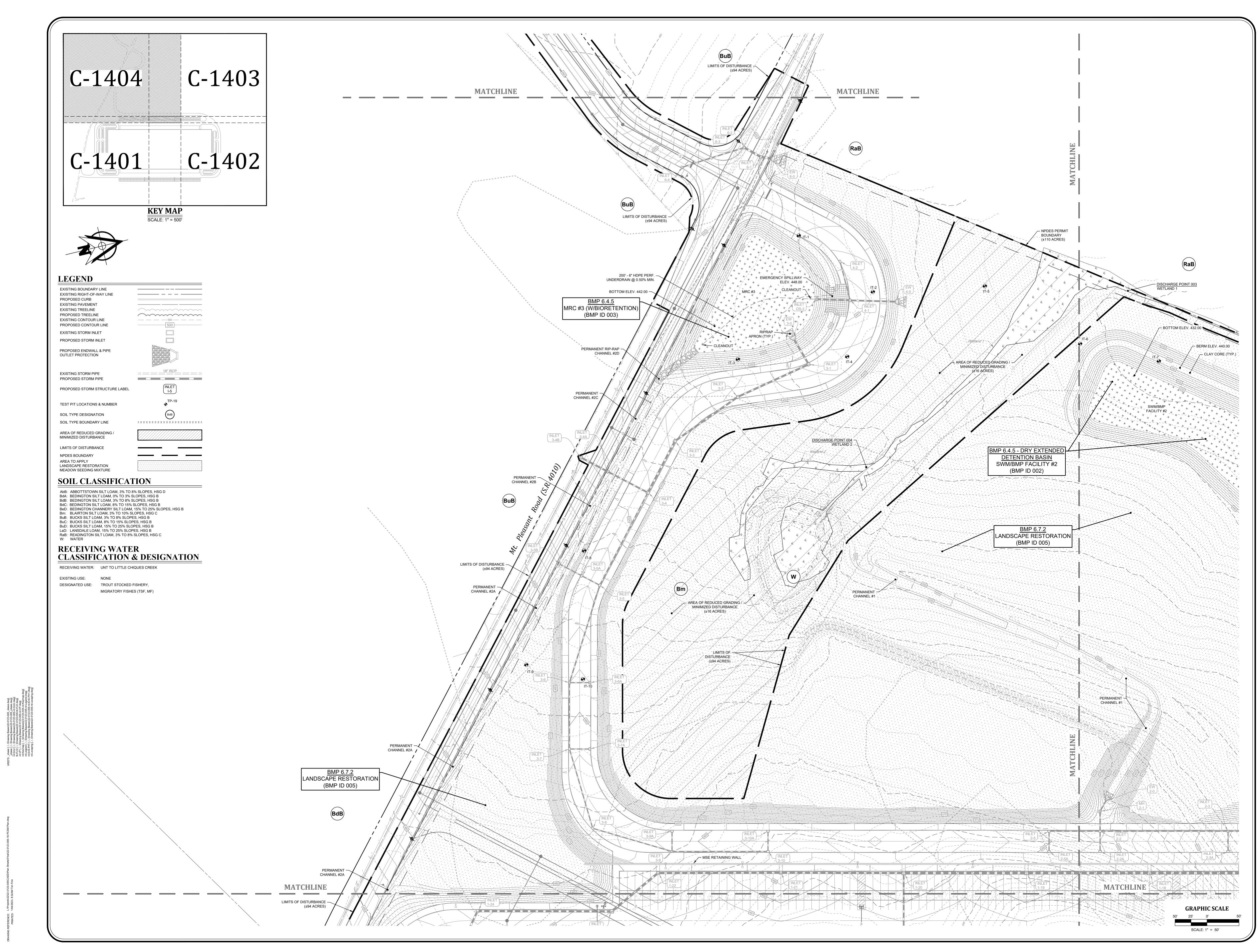
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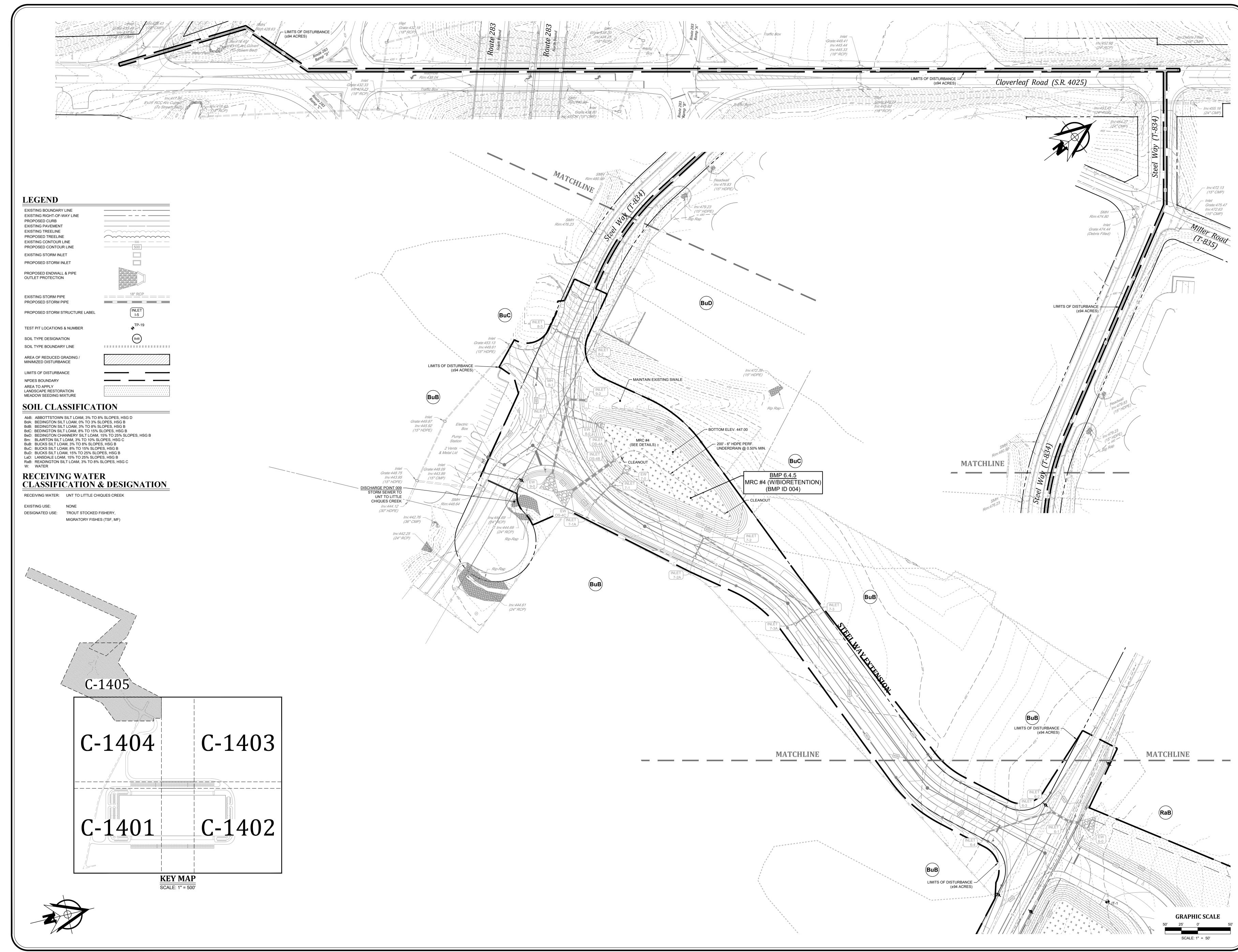
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> B REFERENCE: L:/Projects/22/22-013-005/CADD/Plan Sheets/Final/22-0123-005-PRINTED: 1/04/2023, 8:31AM Tim Fink









1123-005, xbase.dwg] 1123-005_pbase.dwg] 1123-005-rd-GnL dwg] 1123-005-rd-PL dwg] 123-005-rd-VP-dwg] 22-0123-005-rd-Hegmap.c 22-0123-005-rd-Hegmap.c S: _xbase [...,Drawing Bases/22-0 Dbase [...,Drawing Bases/22-0 rd-GnU [...,Drawing Bases/22-0 rd-PL [...,Drawing Bases/22-0 rd-VP [...,Drawing Bases/22-0 rd-Legend [...,Drawing Bases/27 rd-Legend [...,Drawing Bases/27 rd-Legend [...,Drawing Bases/27 rd-Regend [...,Drawing Bases/27



CON	EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE IPLETED AND IMMEDIATELY STABILIZED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING, GRUBBING, AND TOPSOIL STRIPPING LL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE. ANY DEVIATION FROM THE FOLLOWING SEQUENCE MUST BE	COMPLETION CER CONDITIONS OF TI
APP 1.	ROVED IN WRITING FROM THE LOCAL COUNTY CONSERVATION DISTRICT. AT LEAST SEVEN (7) SEVEN DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARER, THE PCSM PLAN PREPARER, THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGHT OF CRITICAL STAGES OF IMPLEMENTATION OF THE PCSM PLAN, AND A REPRESENTATIVE OF THE LOCAL COUNTY CONSERVATION DISTRICT TO AN ON-SITE	STEEL WAY CONSTRUME IF NECESSARY, THE IN PROJECT SITE. COOR PRACTICABLE.
2.	PRE-CONSTRUCTION MEETING. AT LEAST 3 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INCORPORATED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.	 29. PERFORM STAGES 30. CLEAR AND GRUE CONSTRUCTION E 31. INSTALL FILTER SC
	THE LIMITS OF DISTURBANCE (LOD) SHOULD BE MARKED PRIOR TO DISTURBANCE ACTIVITIES (I.E. SURVEY STAKES, POSTS & ROPE, CONSTRUCTION FENCE, ETC.). UPON THE INSTALLATION OR STABILIZATION OF ALL PERIMETER SEDIMENT CONTROL BMPS AND AT LEAST 3 DAYS PRIOR TO PROCEEDING	32. CONDUCT SITE E VEHICULAR ACCE ROCK CONSTRUC
5.	WITH THE BULK EARTH DISTURBANCE ACTIVITIES, THE PERMITTEE OR CO-PERMITTEE SHALL PROVIDE NOTIFICATION TO THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT. INITIAL EROSION AND SEDIMENTATION CONTROL MEASURES AND BMPS MUST BE CONSTRUCTED, STABILIZED, AND OPERATIONAL BEFORE ANY EARTH DISTURBANCE WHICH IS TRIBUTARY TO THOSE MEASURES BEGINS.	33. <u>CRITICAL STAGE:</u> FOR TEMPORARY DURING EXCAVAT A. BEGIN EXCAVA
6.	SE 1 CLEAR AND GRUB, REMOVE TOPSOIL, PERFORM NECESSARY INITIAL GRADING IN ONLY THE AREA NEEDED FOR EXTENDED ROCK CONSTRUCTION ENTRANCE #1 ON MOUNT PLEASANT ROAD, AND INSTALL EXTENDED ROCK CONSTRUCTION ENTRANCE #1. VEHICLES AND EQUIPMENT MAY NOT ENTER OR EXIT THE PROJECT SITE AT ANY OTHER LOCATION. THE EXISTING DRIVEWAY AND GRAVEL AREA MAY BE USED AS ACCESS INTO THE SITE AND AS A CONTRACTOR STAGING AREA.	ELEVATIONS. M ENTERING THE B. CONSTRUCT C UPSTREAM. IM C. CONSTRUCT O
8.	INSTALL FILTER SOCKS #1-61 & #70-71 AND ROCK FILTERS #1-2 THROUGHOUT THE SITE AS SHOWN ON THE PLAN. CONDUCT SITE DEMOLITION ACTIVITIES AND REMOVE ALL WASTE FROM THE SITE IN ACCORDANCE WITH THE DEP REGULATIONS. VEHICULAR ACCESS FOR DEMOLITION ACTIVITIES (PAVEMENTS, BUILDINGS, TREES, UTILITIES, ETC.) SHALL BE FROM THE ESTABLISHED ROCK CONSTRUCTION ENTRANCE.	PROCEEDING U PRESENTED ON D. CONSTRUCT TI PERMANENT E
).	<u>CRITICAL STAGE:</u> CLEAR AND GRUB, REMOVE TOPSOIL, PERFORM NECESSARY INITIAL GRADING ONLY WITHIN THE AREAS DESIGNATED FOR TEMPORARY FACILITY #1, TEMPORARY SEDIMENT BASINS #2 & #3, THE FILL AREAS, ASSOCIATED INLET AND OUTLET CONVEYANCE SYSTEMS FOR EACH BMP, AND THE TEMPORARY TOPSOIL STOCKPILE. STORE TOPSOIL DURING EXCAVATION OF THESE BMPS IN THE TEMPORARY TOPSOIL STOCKPILE.	E. INSTALL THE SI DETAILS. IMME MATTING, AND GRATES ON TH
	A. CONSTRUCT OUTLET CONVEYANCE SYSTEMS OS-1A TO OS-1B, OS-2A TO OS-2B, OS-3 TO 4-0, AND 4-2 TO 4-1, BEGINNING AT THE DOWNSTREAM STRUCTURE AND RIPRAP APRON, AND PROCEEDING UPSTREAM. CONSTRUCT ANTI-SEEP COLLARS AND CONCRETE CRADLES ON THE OUTLET PIPES AS PER THE DETAILS PRESENTED ON THE PLAN. WITH A STEEL PLATE OR SIMILAR DEVICE, BLOCK OS-1A TO PREVENT STORMWATER FROM EXITING THE FACILITY THROUGH THIS STRUCTURE.	34. FOLLOW THE CO STAGE DESCRIBE
	B. CONSTRUCT TEMPORARY FACILITY #1 AND TEMPORARY SEDIMENT BASINS #2 & #3 IN ACCORDANCE WITH THE DESIGN DETAILS PRESENTED ON THE PLAN. INSTALL THE PERMANENT EMBANKMENT BERM, IMPERVIOUS CORE, EMERGENCY SPILLWAY & CHANNEL, AND FOREBAYS & FOREBAY SPILLWAYS TO THE DESIGN ELEVATIONS. CLAY CORE MATERIAL SHALL BE AVAILABLE FOR PLACEMENT AS SOON AS EXCAVATION PERMITS. PLACE EXCESS FILL MATERIAL IN THE FILL AREAS AS SHOWN ON THE PLANS.	1. PCSM REQUIREMEN
	 C. AS APPLICABLE TO EACH BMP, INSTALL THE EMERGENCY SPILLWAY LINER, SKIMMER CONFIGURATION WITH STONE LANDING BERM, BAFFLE(S), AND CLEANOUT MARKER(S) AS SHOWN ON THE PLAN AND DETAILS. IMMEDIATELY STABILIZE THE FACILITIES' INTERNAL AND EXTERNAL SLOPES WITH THE PRESCRIBED SEED MIX, MULCH, MATTING, AND SLOPE PROTECTION, AS APPLICABLE. ATTACH THE SKIMMER TO THE UNDERDRAIN OR DEWATERING ORIFICES. DO NOT INSTALL THE GRATES ON THE OUTLET STRUCTURES AT THIS TIME. D. CONSTRUCT INLET CONVEYANCE SYSTEMS 1-1 TO 1-0 AND 3-3 TO 3-0 AS SHOWN ON THE PLANS. BEGIN AT THE DOWNSTREAM 	 A. A LICENSED PR IMPLEMENTATION TREATMENT OR OR THE CONSER B. THE PCSM PLAN DEPARTMENT OF
	STRUCTURE AND RIPRAP APRON AND PROCEED UPSTREAM. CLEAR AND GRUB AND REMOVE TOPSOIL IN THE AREA OF DYNAMIC BERM #1. CONSTRUCT DYNAMIC BERM #1 AND PERMANENT RIP-RAP CHANNEL #2D IN ACCORDANCE WITH THE PLAN'S DESIGN DETAILS. STORE TOPSOIL IN THE TEMPORARY TOPSOIL STOCKPILE.	2. PCSM LONG TERM
1.	 A. WHEN INLET 3-3 AND THE DOWNSTREAM CONVEYANCE SYSTEM IS INSTALLED AND FUNCTIONAL, DIRECT RUNOFF DIVERSION SOCK #1 TO DISCHARGE INTO THIS INLET. CONTACT THE LOCAL COUNTY CONSERVATION DISTRICT FOR AN INSPECTION AND VERIFICATION THAT ALL INITIAL E&S BMPS CONSTRUCTED IN PHASE 1 ARE FUNCTIONAL AND OPERATING PER THE DESIGN DRAWINGS PRIOR TO PROCEEDING TO PHASE 2. 	DIFFERENT PERS PCSM BMPS. B. A PERMITTEE C OTHERWISE FAIL FOR LONG-TERM
2.	<mark>SE 2</mark> CLEAR AND GRUB THE ENTIRE SITE. STRIP TOPSOIL AND STOCKPILE IN THE PERMANENT TOPSOIL BERMS OR DESIGNATED TEMPORARY AREA AS SHOWN ON THE PLAN. APPLY TEMPORARY SEEDING TO THE STOCKPILE. ALL EXCESS TOPSOIL NOT REQUIRED TO BE REAPPLIED	3. PERMIT TERMINATIO
ТА	TO DISTURBED AREAS AFTER CONSTRUCTION IS COMPLETED SHALL BE REMOVED FROM THE SITE. THE RECIPIENT SITE SHALL HAVE AN APPROVED EROSION & SEDIMENTATION CONTROL PLAN PRIOR TO RECEIVING ANY TOPSOIL. GES #13-15 MAY BE PERFORMED SIMULTANEOUSLY AS DIFFERENT AREAS OF THE SITE ARE BROUGHT TO SUBGRADE ELEVATIONS AND IOUS CONVEYANCE SYSTEMS, DYNAMIC BERMS, TOP OF SLOPE BERMS, AND OTHER BMPS ARE CONSTRUCTED.	PLAN, THE PERM B. THE NOTICE OF (1) THE FACILIT
	PROCEED WITH BULK SITE EXCAVATION AND ROUGH GRADING ACTIVITIES ON THE ENTIRE SITE AND BRING THE SITE AREAS TO SUBGRADE ELEVATIONS WHILE MAINTAINING ALL DYNAMIC BERM, TEMPORARY SEDIMENT BASIN, AND TEMPORARY FACILITY ELEVATIONS AND FUNCTIONALITY. CONTINUALLY ADJUST THE DYNAMIC BERM TO THE TOP OF FILL SLOPES TO INTERCEPT THE MAXIMUM AMOUNT OF	(2) THE OPERA(3) THE NPDES
	SEDIMENT. REFER TO THE FILL PLACEMENT DETAIL PRESENTED ON THE PLAN. THE REMAINING STORM SEWER CONVEYANCE SYSTEMS MAY BEGIN TO BE INSTALLED. REGULARLY MONITOR AND MAINTAIN ALL SEDIMENT BASIN ELEVATIONS AND OUTLET STRUCTURE CONFIGURATIONS TO ENSURE THAT THE BASINS ARE FULLY FUNCTIONAL. ALSO, APPLY EROSION CONTROL MATTING TO THE INDICATED AREAS ON THE PLAN. AS AREAS OF THE SITE REACH SUBGRADE ELEVATION, APPROPRIATE STABILIZATION SHALL BE APPLIED TO FILL SLOPES, LAWN AREAS, LANDSCAPE BERMS, ETC. TO MINIMIZE ACCELERATED EROSION.	(4) THE REASO(5) IDENTIFICAT MAINTENANT
	 A. EXTENDED ROCK CONSTRUCTION ENTRANCE #2 MAY BE CONSTRUCTED AT THIS TIME. IF CONSTRUCTED, EXTENDED ROCK CONSTRUCTION ENTRANCE #1 MAY BE REMOVED. B. RETAINING WALL CONSTRUCTION MAY BEGIN AT THIS TIME. C. WHEN THE FINAL FILL SLOPES ALONG THE PERIMETER OF THE SITE BEING TO OCCUR, CONVERT DYNAMIC BERM #1 TO TOP OF SLOPE 	(6) COPY OF LE INSTRUMEN IN THE ORD PCSM BMP, PROVIDE NO THAT RUNS
4.	WHILE THE TOP OF SLOPE BERMS ARE BEING CONSTRUCTED AND THE SITE IS BROUGHT TO SUBGRADE ELEVATIONS, CONSTRUCT THE REMAINING STORM SEWER CONVEYANCE SYSTEMS, AS SHOWN ON THE PHASE 2 PLAN. THE STORM SEWER SYSTEMS SHOULD BE	WITH THE N (7) FINAL CERT CERTIFICAT
	REMIAINING STORM SEWER CONVETANCE STSTEMS, AS SHOWN ON THE PHASE 2 PLAN. THE STORM SEWER STSTEMS SHOULD BE INSTALLED BEGINNING AT THE DOWNSTREAM STRUCTURE AND RIPRAP APRON AND PROCEEDING UPSTREAM. AFTER INLETS ARE INSTALLED, INLET TOPS SHALL REMAIN PROPPED UP WITH BRICKS TO ALLOW RUNOFF TO ENTER THE STORM SEWER CONVEYANCE SYSTEMS TRIBUTARY TO THE SEDIMENT BASINS PRIOR TO CURB INSTALLATION AND PAVING OCCURRING. PROVIDE MASTIC OR EQUIVALENT IN ALL INLETS LOCATED WITHIN GRASSED AREAS TO PREVENT SOIL FROM WASHING INTO THE STORM SEWER THROUGH UNSEALED JOINTS IN THE INLET BOX AND TOP. ALL STORM SEWER PIPING SHALL BE PERIODICALLY FLUSHED TO PREVENT EXCESSIVE SEDIMENT AND DEBRIS ACCUMULATIONS FROM BUILDING UP WITHIN PIPES AND STRUCTURES. ANY WATER PUMPED FROM STORM SEWER TRENCHES SHALL BE DIRECTED TO A SEDIMENT REMOVAL FACILITY SUCH AS A FILTER BAG OR APPROVED EQUAL. AS THE REMAINING AREAS OF THE SITE REACH SUBGRADE ELEVATIONS, APPROPRIATE STABILIZATION SHALL BE APPLIED TO FILL SLOPES, LAWN AREAS, LANDSCAPE BERMS, ETC. TO MINIMIZE ACCELERATED EROSION.	"I (NAME) DO HEREBY BELIEF, THAT THE ACC IN CONFORMANCE WI THE PROJECT SITE W CONSTRUCTION PRAC (8) THE PERMIT (9) THE PERMIT
	 A. INSTALL ROCK FILTERS #3 & #4 AROUND HW 5-1A & HW 5-3A, RESPECTIVELY, PRIOR TO EACH STRUCTURE RECEIVING STORMWATER FLOWS. B. CONSTRUCT PERMANENT CHANNELS #2A, #2B, #2C, #3, #4, #5A, & #5B AS THEIR RESPECTIVE RECEIVING CONVEYANCE SYSTEMS ARE 	IDENTIFIED
	 COMPLETED. IMMEDIATELY INSTALL THE SPECIFIED STABILIZATION IN EACH CHANNEL. C. ONCE ROCK FILTERS #3 & #4 ARE INSTALLED AND FUNCTIONAL, FILTER SOCKS #60 & #61 MAY BE REMOVED AND/OR ADJUSTED AS NEEDED TO COMPLETE INSTALLATION OF NEARBY CHANNELS. 	ACCORDING TO THE FORMATION. IN MANY CHARACTERISTICS OF
5.	D. INSTALL INLET PROTECTION ON THE SPECIFIED INLETS IMMEDIATELY AFTER THEY ARE CONSTRUCTED. ONCE THE SITE IS BROUGHT TO SUBGRADE ELEVATIONS, CONSTRUCT SANITARY SEWER MAIN LINES, MANHOLES, AND BUILDING SEWER LATERALS. ALSO, INSTALL ALL OTHER UTILITY SERVICE LINES AND OTHER RELATED UNDERGROUND WORK AT THIS TIME. ANY WATER	BASED ON ENGINEERI ARKOSIC SANDSTONE PATTERN, ARE MODEF QUICKLY WEATHERED
	PUMPED FROM UTILITY TRENCHES SHALL BE DIRECTED TO A SEDIMENT REMOVAL FACILITY SUCH AS A FILTER BAG OR APPROVED EQUAL. WHEN PERFORMING ANY OFFSITE UTILITY WORK, ONLY TRENCHING WORK THAT CAN BE COMPLETED AND PERMANENTLY STABILIZED EACH WORKING DAY SHALL BE PERFORMED IN ORDER TO PREVENT SEDIMENT LADEN RUNOFF FROM LEAVING THE WORK AREA. DURING TRENCHING, STOCKPILE MATERIAL UPSLOPE OF THE TRENCH. PERMANENT STABILIZATION INCLUDES SEEDING, MULCHING, AND MATTING. ONCE THE BUILDING PAD IS BROUGHT TO SUBGRADE ELEVATIONS, BUILDING CONSTRUCTION MAY NOW COMMENCE AT ANY TIME.	PORTION OF THE BEDI THE COCALICO FORM QUARTZOSE SANDST DEVELOPED, HIGHLY MODERATELY TO HIG BEDDING-PLANE OPEN
	CONSTRUCT SITE CURBING AND PLACE SUBBASE MATERIAL TO STABILIZE THE SITE DRIVEWAYS, TRUCK COURTS, TRUCK STORAGE AREAS AND PARKING AREAS AS SOON AS PRACTICABLE. THIS WILL ELIMINATE THE ROCK CONSTRUCTION ENTRANCE AND THE NEED TO PROP UP INLET TOPS WITH BRICKS. THIS WILL ALSO ELIMINATE THE NEED FOR TOP OF SLOPE BERMS.	<u>CRITICAL S</u>
9.	CONTINUE WITH GENERAL BUILDING CONSTRUCTION AND CONSTRUCTION OF OTHER LOCALIZED SITE ITEMS SUCH AS SITE LIGHTING, SIDEWALK SYSTEMS, FENCING, UTILITY CONNECTIONS, ETC. INSTALL BITUMINOUS BINDER COURSE ON THE SITE DRIVEWAYS, TRUCK COURTS, TRUCK STORAGE AREAS AND PARKING AREAS ONCE	THE FOLLOWING STA CONSTRUCTION OF 1 NECESSARY TO BE OF
20.	MAJOR EXTERIOR BUILDING CONSTRUCTION AND ALL UTILITY CONSTRUCTION ARE SUBSTANTIALLY COMPLETED. CONDUCT FINE GRADING ACTIVITIES AND PLACE TOPSOIL ON ALL REMAINING AREAS. APPLY PERMANENT SEEDING, SOIL SUPPLEMENTS, MULCHING, AND MATTING WHERE APPLICABLE IN ACCORDANCE WITH THE PERMANENT SEEDING SPECIFICATIONS PRESENTED ON THE	 WHEN TEMPORAL TEMPORARY OUT ASSOCIATED APP WHEN ALL TEMPORAL
1.	PLAN. INSTALL FINAL LANDSCAPING AND PLANTINGS PER PROJECT REQUIREMENTS AND PROCEDURES PRESENTED ON THE APPROVED PCSM PLAN. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT FOR AN INSPECTION PRIOR TO REMOVAL/CONVERSION OF THE	3. THE LANDSCAPE
2.	E&S BMPS. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY E&S BMPS MUST BE REMOVED OR CONVERTED TO PERMANENT PCSM BMPS. AREAS DISTURBED DURING REMOVAL OR CONVERSION OF THE BMPS MUST BE STABILIZED IMMEDIATELY IN ACCORDANCE WITH	
3.	THE PERMANENT SEEDING SPECIFICATIONS PRESENTED ON THE PLAN. IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS, SUCH REMOVAL/CONVERSIONS SHOULD BE DONE ONLY DURING THE GERMINATING SEASON. REMOVE ALL SECONDARY EROSION AND SEDIMENTATION CONTROL MEASURES ONCE THE SITE IS STABILIZED (70 PERCENT UNIFORM	
	STABILIZATION) SUCH AS DIVERSION SWALES/BERMS, FILTER SOCK, ROCK FILTER, INLET PROTECTION, AND THE LIKE. PERMANENTLY RE-SEED, MULCH AND MAT WHERE APPLICABLE ANY REMAINING AREAS WHICH REMAIN DISTURBED OR HAVE NOT BEEN ESTABLISHED FROM PREVIOUS SEEDING APPLICATIONS IN ACCORDANCE WITH THE PERMANENT SEEDING SPECIFICATIONS PRESENTED ON THE PLAN.	
	<u>CRITICAL STAGE</u> : WHEN THE ENTIRE WATERSHED AREAS TO THEM ARE COMPLETELY STABILIZED, CONVERT ALL TEMPORARY SEDIMENT BASINS AND FACILITIES INTO THEIR RESPECTIVE PERMANENT MRC OR SWM/BMP FACILITIES AS PER THE DETAILS PROVIDED ON THE PCSM PLAN. AS APPLICABLE, REMOVE THE SKIMMER AND STONE LANDING BERMS, BAFFLES, AND CLEANOUT MARKERS. PLACE THE TOP INLET GRATE ONTO EACH PERMANENT OUTLET STRUCTURE AND REMOVE ANY TEMPORARY STEEL PLATES. REMOVE ALL SEDIMENT FROM THE FACILITIES AND EITHER INCORPORATE INTO THE SITE OR DISPOSE OF IN ACCORDANCE WITH DEP REGULATIONS. INSTALL THE SOIL MIXTURES AND UNDERDRAINS IN EACH FACILITY PER THE DETAILS ON THE PLAN. RE-SEED AND STABILIZE ANY AREAS DISTURBED DURING CONVERSION OF THE BASIN PER THE PROJECT'S SPECIFICATIONS.	
	A. CONSTRUCT THE PERMANENT EMBANKMENT, CLAY CORE, AND EMERGENCY SPILLWAY BETWEEN MRC #1 AND SWM/BMP FACILITY #2.	
25.	<u>CRITICAL</u> <u>STAGE:</u> WHEN THE ENTIRE SITE HAS BEEN STABILIZED, INSTALL THE LANDSCAPE RESTORATION SEED MIXTURE. THE SEED FORMULA SHALL BE VERIFIED BEFORE BEING INSTALLED.	

BEEN PERFORMED IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THIS PERMIT AND THE APPROVED E&S AND PCSM PLANS.

TION CERTIFICATES ARE NEEDED TO ENSURE THAT ALL WORK IS PERFORMED IN ACCORDANCE WITH THE TERMS AND IN GENERAL, THERE ARE NO KNOWN UNUSUAL SITE CHARACTERISTICS THAT ARE UNLIKE THOSE FOUND ELSEWHERE IN THE REGION WHERE VEGETATIVE STABILIZATION: ONS OF THE PERMIT AND THE APPROVED E&S AND PCSM PLANS. CONSTRUCTION

RY, THE IMPROVEMENTS AND EXTENSION TO STEEL WAY CAN BE COMPLETED IS A SEPARATE SEQUENCE FROM THE MAIN TE. COORDINATE WITH NEIGHBORING PROPERTY OWNERS TO MAINTAIN ACCESS TO THEIR SITE TO THE GREATEST EXTENT M STAGES #1-5 AS DESCRIBED ABOVE.

AND GRUB, REMOVE TOPSOIL, PERFORM NECESSARY INITIAL GRADING IN ONLY THE AREA NEEDED FOR EXTENDED ROCK UCTION ENTRANCE #3 ON MOUNT PLEASANT ROAD, AND INSTALL EXTENDED ROCK CONSTRUCTION ENTRANCE #3. FILTER SOCKS #62-69 AS SHOWN ON THE PLAN.

SITE DEMOLITION ACTIVITIES AND REMOVE ALL WASTE FROM THE SITE IN ACCORDANCE WITH THE DEP REGULATIONS. LAR ACCESS FOR DEMOLITION ACTIVITIES (PAVEMENTS, BUILDINGS, TREES, UTILITIES, ETC.) SHALL BE FROM THE ESTABLISHED MATTING AND SILT SOCK ON THE SITE. ONSTRUCTION ENTRANCE.

STAGE: CLEAR AND GRUB, REMOVE TOPSOIL, PERFORM NECESSARY INITIAL GRADING ONLY WITHIN THE AREAS DESIGNATED IPORARY SEDIMENT BASIN #4, ASSOCIATED INLET AND OUTLET CONVEYANCE SYSTEMS, AND PIPE RUN #9. STORE TOPSOIL EXCAVATION OF THIS BMP IN THE MAIN SITE'S TEMPORARY TOPSOIL STOCKPILE. N EXCAVATION OF TEMPORARY SEDIMENT BASIN #4 AND USE EXCESS MATERIAL TO BEGIN BRINGING STEEL WAY TO SUBGRADE ATIONS. MAINTAIN THE EXISTING CHANNEL NEXT TO TEMPORARY SEDIMENT BASIN #4 TO PREVENT OFFSITE STORMWATER FROM

RING THE BASIN. TRUCT CONVEYANCE SYSTEM 9-2 TO 9-0, BEGINNING AT THE DOWNSTREAM STRUCTURE AND RIPRAP APRON, AND PROCEEDING REAM. IMMEDIATELY INSTALL INLET PROTECTION ON INLET 9-2.

TRUCT OUTLET CONVEYANCE SYSTEM OS-4A TO OS-4C, BEGINNING AT THE DOWNSTREAM STRUCTURE AND RIPRAP APRON, AND CEEDING UPSTREAM. CONSTRUCT ANTI-SEEP COLLARS AND CONCRETE CRADLES ON THE OUTLET PIPES AS PER THE DETAILS ENTED ON THE PLAN.

IANENT EMBANKMENT BERM AND IMPERVIOUS CORE TO THE DESIGN ELEVATIONS. CLAY CORE MATERIAL SHALL BE AVAILABLE WITHIN THE GEOTECHNICAL REPORT. PLACEMENT AS SOON AS EXCAVATION PERMITS. PLACE EXCESS FILL MATERIAL IN AREAS NEEDED FOR STEEL WAY.

ILS. IMMEDIATELY STABILIZE THE FACILITIES' INTERNAL AND EXTERNAL SLOPES WITH THE PRESCRIBED SEED MIX, MULCH, BEDROCK. ING, AND SLOPE PROTECTION, AS APPLICABLE. ATTACH THE SKIMMER TO THE UNDERDRAIN ORIFICE. DO NOT INSTALL THE ES ON THE OUTLET STRUCTURES AT THIS TIME.

THE CONSTRUCTION SEQUENCE DESCRIBED IN STAGES #12-28 FOR COMPLETION OF STEEL WAY, INCLUDING THE CRITICAL DESCRIBED IN STAGE #24 FOR BMP CONVERSION.

PERMIT NOTES UIREMENTS

NSED PROFESSIONAL OR A DESIGNEE SHALL BE PRESENT ONSITE AND BE RESPONSIBLE DURING CRITICAL STAGES OF IENTATION OF THE APPROVED PCSM PLAN. THE CRITICAL STAGES MAY INCLUDE THE INSTALLATION OF UNDERGROUND MENT OR STORAGE BMPS, STRUCTURALLY ENGINEERED BMPS, OR OTHER BMPS AS DEEMED APPROPRIATE BY THE DEPARTMENT CONSERVATION DISTRICT

CSM PLAN, INSPECTION REPORTS, AND MONITORING RECORDS SHALL BE AVAILABLE FOR REVIEW AND INSPECTION BY THE TMENT OR THE CONSERVATION DISTRICT.

IG TERM OPERATIONS AND MAINTENANCE REQUIREMENTS RMITTEE OR CO-PERMITTEE SHALL BE RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OF PCSM BMPS UNLESS A RENT PERSON IS IDENTIFIED IN THE NOTICE OF TERMINATION AND HAS AGREED TO LONG-TERM OPERATION AND MAINTENANCE OF

MITTEE OR CO-PERMITTEE THAT FAILS TO TRANSFER LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMP OR WISE FAILS TO COMPLY WITH THIS REQUIREMENT SHALL REMAIN JOINTLY AND SEVERALLY RESPONSIBLE WITH THE LANDOWNER ING-TERM OPERATION AND MAINTENANCE OF THE PCSM BMPS LOCATED ON THE PROPERTY.

ERMANENT STABILIZATION OF EARTH DISTURBANCE ACTIVITY AND INSTALLATION OF BMPS IN ACCORDANCE WITH AN APPROVED THE PERMITTEE OR CO-PERMITTEE SHALL SUBMIT A NOTICE OF TERMINATION TO THE DEPARTMENT OR CONSERVATION DISTRICT

DTICE OF TERMINATION MUST INCLUDE:

FACILITY NAME, ADDRESS AND LOCATION OPERATOR NAME AND ADDRESS

NPDES PERMIT NUMBER

REASON FOR PERMIT TERMINATION

ENTIFICATION OF THE PERSONS WHO HAVE AGREED TO AND WILL BE RESPONSIBLE FOR LONG-TERM OPERATION AND INTENANCE OF THE PCSM BMPS.

VPY OF LEGAL INSTRUMENT: FOR ANY PROPERTY CONTAINING A PCSM BMP, THE PERMITTEE OR CO-PERMITTEE SHALL RECORD AN STRUMENT WITH THE RECORDER OF DEEDS WHICH WILL ASSURE DISCLOSER OF THE PCSM BMP AND THE RELATED OBLIGATIONS THE ORDINARY COURSE OF A TITLE SEARCH OF THE SUBJECT PROPERTY. THE RECORDED INSTRUMENT MUST IDENTIFY THE SM BMP, PROVIDE FOR NECESSARY ACCESS RELATED TO LONG-TERM OPERATION AND MAINTENANCE FOR PCSM BMPS AND OVIDE NOTICE THAT THE RESPONSIBILITY FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMP IS A COVENANT $_{
m COR}$ AT RUNS WITH THE LAND THAT IS BINDING UPON AND ENFORCEABLE BY SUBSEQUENT GRANTEES, AND PROVIDE PROOF OF FILING ITH THE NOTICE OF TERMINATION.

IAL CERTIFICATION: THE PERMITTEE SHALL INCLUDE WITH THE NOTICE OF TERMINATION "RECORD DRAWINGS" WITH A FINAL $_{\sf FAS}$ RTIFICATION STATEMENT FROM A LICENSED PROFESSIONAL, WHICH READS AS FOLLOWS:

HEREBY CERTIFY PURSUANT TO THE PENALTIES OF 18 PA. C.S.A. §4904 TO THE BEST OF MY KNOLEDGE, INFORMATION, AND FLO THE ACCOMPANYING RECORD DRAWINGS ACCURATELY REFLECT THE AS-BUILT CONDITIONS, ARE TRUE AND CORRECT, AND ARE IANCE WITH CHAPTER 102 OF THE RULES AND REGULATIONS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THAT SITE WAS CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PCSM PLAN, ALL APPROVED PLAN CHANGES AND ACCEPTED ION PRACTICES."

PERMITTEE SHALL RETAIN A COPY OF THE RECORD DRAWINGS AS PART OF THE APPROVED PCSM PLAN. PERMITTEE SHALL PROVIDE A COPY OF THE RECORD DRAWINGS AS PART OF THE APPROVED PCSM PLAN TO THE PERSON ENTIFIED IN THIS SECTION AS BEING RESPONSIBLE FOR THE LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMPS.

GIC SOIL FORMATION & POTENTIAL POLLUTION

TO THE GEOLOGIC MAP OF PENNSYLVANIA (1980), THE SITE IS UNDERLAIN BY THE NEW OXFORD FORMATION AND COCALICO IN MANY CASES, WHEN A SITE IS NEAR THE MEETING OF TWO OR MORE FORMATIONS, THE BEDROCK ENCOUNTERED DISPLAYS ISTICS OF BOTH FORMATIONS.

NGINEERING CHARACTERISTICS OF THE ROCKS OF PENNSYLVANIA, THE NEW OXFORD FORMATION CONSISTS OF LIGHT COLORED NDSTONE AND CONGLOMERATE SANDSTONE. THE FORMATION IS WELL BEDDED, THIN. THE JOINTS HAVE A SEAMY TO PLATY E MODERATELY DEVELOPED, AND HIGHLY FRACTURED. THIS FORMATION IS SLIGHTLY RESISTANT TO WEATHERING AND CAN BE THERED TO A MODERATE DEPTH. THE SURFACE DRAINAGE IS GOOD WITH PRIMARY POROSITY OCCURRING IN THE WEATHERED THE BEDROCK WITH SECONDARY POROSITY OCCURRING IN THE JOINTS AND BEDDING PLANES.

CO FORMATION CONSISTS OF GRAY PHYLLITIC SHALE, SILTSTONE, SILICEOUS SHALE, SOME INTERBEDDED ARGILLACEOUS AND SANDSTONE. BEDDING IS MODERATELY WELL DEVELOPED AND THIN. JOINTS HAVE A SEAMY TO PLATY PATTERN, ARE WELL HIGHLY ABUNDANT, AND ARE OPEN AND STEEPLY DIPPING. THE FORMATION IS SLIGHTLY RESISTANT TO WEATHERING IS THUS TO HIGHLY WEATHERED IN THIN, PENCIL-LIKE FRAGMENTS. SURFACE DRAINAGE IS GOOD DUE TO JOINTING, FAULTING, AND ANE OPENINGS PROVIDING SECONDARY POROSITY OF LOW MAGNITUDE.

CAL STAGES OF CONSTRUCTION

VING STAGES OF CONSTRUCTION REQUIRE A LICENSED PROFESSIONAL OR DESIGNEE TO BE PRESENT ON THE SITE DURING ION OF THE SPECIFIC ITEMS FOR INSPECTION AND FIELD VERIFICATION. ALL OTHER STAGES OF CONSTRUCTION ARE NOT TO BE OBSERVED BY A LICENSED PROFESSIONAL OR DESIGNEE.

EMPORARY SEDIMENT BASINS #2, #3, & #4 AND TEMPORARY FACILITY #1 ARE BEING CONSTRUCTED. THIS INCLUDES THE ARY OUTLET STRUCTURE, EMERGENCY SPILLWAY, DIMENSIONS OF THE BASIN, SKIMMER ATTACHMENT, IMPERVIOUS CORE, AND ATED APPURTENANCES.

LL TEMPORARY SEDIMENT BASINS AND FACILITIES ARE BEING CONVERTED TO THEIR PERMANENT CONDITIONS. THIS INCLUDES RMANENT OUTLET STRUCTURE, UNDERDRAINS, FOREBAYS, FOREBAY SPILLWAYS, AND SOIL MIXTURE. DSCAPE RESTORATION SEED MIXTURE SHALL BE VERIFIED BEFORE IT IS INSTALLED.

SOIL LIMITATIONS & RESOLUTIONS

GEOTECHNICAL RECOMMENDATIONS PROVIDED SPECIFICALLY FOR THE SUBJECT PROJECT. ANY ROCK ENCOUNTERED WILL BE RIPPED OR BLASTED AS NECESSARY, AND USED FOR COMPACTED FILL IN OTHER AREAS OR REMOVED FROM THE SITE.

PERENNIAL GRASSES. WHEN FINAL GRADE IS ACHIEVED DURING NON-GERMINATING MONTHS, THE AREA SHOULD BE IF BLASTING IS NECESSARY, USE CONTROLLED TECHNIQUES TO CONTAIN VIBRATIONS WITHIN THE REQUIRED BLASTING AREA. A CERTIFIED BLASTING PROFESSIONAL MUST OVERSEE ALL BLASTING ACTIVITIES. THE PROFESSIONAL SHALL BE FAMILIAR WITH BLASTING TECHNIQUES IN BEGINNING OF THE NEXT PLANTING SEASON. HOWEVER, THE AREA WILL NOT BE CONSIDERED STABILIZED UNTIL A MIL A KARST ENVIRONMENT AND THE PREVENTION OF SINKHOLES. AFTER BLASTING OPERATIONS, THE BLASTING PROFESSIONAL SHALL PERFORM VEGETATIVE COVER OF EROSION RESISTANT PERENNIAL SPECIES HAS BEEN ACHIEVED. INSPECTIONS TO LOCATE POSSIBLE AREAS OF CONCERN. IF ANY SINKHOLES ARE ENCOUNTERED, DIVERT SURFACE WATER AWAY FROM THE SINKHOLE AND IMMEDIATELY FOLLOW THE SINKHOLE REPAIR AND REMEDIATION PROCEDURES ALONG WITH ANY RECOMMENDATIONS OF THE AS DISTURBED AREAS WITHIN A PROJECT APPROACH FINAL GRADE, PREPARATIONS SHOULD BE MADE FOR SEEDING AND BLASTING PROFESSIONAL. ADDITIONALLY, BEFORE PLACING THE FINAL ENGINEERED SOIL MIXTURE WITHIN EACH SWM / BMP FACILITY, WAITING UNTIL EARTHMOVING IS COMPLETED BEFORE MAKING PREPARATIONS FOR SEEDING AND MULCHING IS NOT ACC INSPECT AND REPAIR THE SUBGRADE FOR SINKHOLES OR FRACTURES. OPSOIL APPLICATION: SLOPE WILL NOT BE AN ADVERSE FACTOR TO CONSTRUCTION. SLOPES WILL BE RE-SHAPED PER THE PROPOSED GRADING PLAN AND TYPICALLY WILL BE 3:1 OR FLATTER. ANY ACCELERATED RUNOFF OR EROSION FROM SLOPES WILL BE HANDLED BY EROSION CONTROL

DRAINAGE WITHIN THE PROJECT AREA WILL BE ACCOMMODATED BY PROPOSED GRADING, STORM PIPING AND SWALES. THE GROUND SURFACE WILL BE RESHAPED, COMPACTED AND STABILIZED CONSISTENT WITH THE PROPOSED GRADING PLAN CONTAINED HEREIN.

SOIL STRENGTH SHALL BE ENSURED THOUGH PROPER COMPACTION TECHNIQUES, AS ADVISED BY THE GEOTECHNICAL REPORT FOR THE PROJECT. SHOULD CIRCUMSTANCES ARISE WHERE REQUIRED COMPACTION CANNOT BE ACHIEVED, THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR CORRECTIVE MEASURES.

ROAD FILL SHALL BE PLACED IN ACCORDANCE WITH THE RECOMMENDATIONS OUTLINED WITH THE GEOTECHNICAL REPORT. SHOULD CIRCUMSTANCES ARISE WHERE REQUIRED COMPACTION CANNOT BE ACHIEVED, THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR CORRECTIVE MEASURES.

SHOULD EXCAVATION ACTIVITIES OCCUR DURING WINTER MONTHS WHEN FROST ACTION MAY OCCUR, THE CONTRACTOR SHALL REMOVE THE NOTE: A COMPOST BLANKET WHICH MEETS THE ABOVE STANDARDS MAY BE SUBSTITUTED FOR THE SOIL AMENDMENTS. TRUCT TEMPORARY SEDIMENT BASIN #4 IN ACCORDANCE WITH THE DESIGN DETAILS PRESENTED ON THE PLAN. INSTALL THE FROST-IMPACTED SOILS PRIOR TO PLACEMENT OF FILL MATERIAL AND ENSURE COMPACTION MEETS THE RECOMMENDATIONS CONTAINED

IL THE SKIMMER CONFIGURATION WITH STONE LANDING BERM. BAFFLES, AND CLEANOUT MARKER AS SHOWN ON THE PLAN AND IN CUT AREAS, OVER-EXCAVATION SHALL BE PERFORMED TO ENSURE THAT PROPER SOIL ADHESION IS ACHIEVED IN AREAS OF SHALLOW

AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL NEED TO HAVE APPROPRIATE E&S CONTROLS.

ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES, AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.

ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS. FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS. FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.

FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.

SOIL NAME	CUTBANKS CAVE	CORROSIVE TO CONCRETE/ STEEL	DROUGHTY	EASILY ERODIBLE	FLOODING	DEPTH TO SATURATED ZONE/ SEASONAL HIGH WATER TABLE	HYDRIC/ HYDRIC INCLUSIONS	LOW STRENGTH/LANDSLIDE PRONE	SLOW PERCOLATION	PIPING	POOR SOURCE OF TOPSOIL	FROST ACTION	SHRINK/ SWELL	POTENTIAL SINKHOLE	PONDING	WETNESS
ABBOTTSTOWN	x	C/S		x		x	x	х	х	x	x	х				х
BEDINGTON	х	С	х	x			x		х		x	х				
BLAIRTON	х	C/S		x		x	x	х	х	х	X	х				х
BUCKS	х	С						х	х	x	X	х	x			
LANSDALE	х	С	х					х	х		x	Х				
READINGTON	х	C/S		x		x	x	х	х	х	X	х				х

CUTBANKS CAVE:

PONDING:

WETNESS:

	ONE OR MORE OF THE FOLLOWING DESIGNS:
	 SLOPING THE GROUND TO REDUCE THE HEIGHT OF THE CUTBANK. BENCHING THE GROUND TO REDUCE THE HEIGHT OF THE CUTBANK. SHORING THE CUTBANK WITH SUPPORT (PLANKING OR HYDRAULIC JACKS) SHIELDING THE CUTBANK (TRENCH BOX)
CORROSIVE:	ALL UNDERGROUND PIPES, CONDUITS, AND STORAGE TANKS SHALL BE PROTECTIVE COATING OR SH MANUFACTURED FROM CORROSION RESISTANT MATERIALS TO PREVENT CORROSION DUE TO EXP TO CORROSIVE SOILS.
EASILY ERODIBLE:	EROSION CONTROL MEASURES SHALL BE MONITORED AND ROUTINELY IN ACCORDANCE WITH PROSCHEDULE AND PROCEDURE UNTIL THE SITE IS COMPLETELY STABILIZED.
FLOODING:	CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE AT ALL AREAS DURING AND AFTER CONSTRUCT SLOPING ALL SURFACES, EXCEPT FOR THE BUILDING PAD AND BOTTOM SURFACES OF PCSM B MINIMUM OF 1%. THE BOTTOM SURFACES OF PCSM BMPS SHALL BE SLOPED AS DESIGNED. COLLECTED IN TRENCHES AND OTHER EXCAVATIONS DURING CONSTRUCTION SHALL BE REMOVED TO CONTINUATION OR COMPLETION OF WORK WHERE WATER IS ENCOUNTERED.
DEPTH OF SATURATED ZONE:	CONTRACTOR SHALL PROVIDE NECESSARY PUMPS AND PIPES TO DRAIN ANY GROUND ENCOUNTERED DURING EXCAVATION. SATURATED SOILS SHALL BE DIRED PRIOR TO USE AS FILL.
HYDRIC INCLUSIONS:	CONTRACTOR SHALL UTILIZE CONSTRUCTION TECHNIQUES DESIGNED TO HANDLE ANY SATURATED DURING EXCAVATION.
LOW STRENGTH:	PRECAUTIONS SHOULD BE TAKEN TO PREVENT SLOPE FAILURE DUE TO IMPROPER CONSTRUCTIONS SHOULD BE TAKEN TO PREVENT SLOPE FAILURE DUE TO IMPROPER CONSTRUCTION OF SLOPES AND FAILURE TO PREVENT SATURATION OF SLOPES. AS DEFINED BY OSHA, PROTECTIVE SYSTEMS IN ONE OR MORE OF THE FOLLOWING DESIGNS:
	 SLOPING THE GROUND TO REDUCE THE HEIGHT OF THE CUTBANK. BENCHING THE GROUND TO REDUCE THE HEIGHT OF THE CUTBANK. SHORING THE CUTBANK WITH SUPPORTS (PLANKING OR HYDRAULIC JACKS). SHEILDING THE CUTBANK (TRENCH BOX).
SLOW PERCOLATION:	CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE AT ALL AREAS DURING AND AFTER CONSTRUCT SLOPING ALL SURFACES, EXCEPT FOR THE BUILDING PAD AND BOTTOM SURFACES OF PCSM B MINIMUM OF 1%. THE BOTTOM SURFACES OF PCSM BMPS SHALL BE SLOPES AS DESIGNED. COLLECTED IN TRENCHES AND OTHER EXCAVATIONS DURING CONSTRUCTION SHALL BE REMOVED TO CONTINUATION OR COMPLETION OF WORK WHERE WATER IS ENCOUNTERED.
PIPING:	PRECAUTIONS SHOULD BE TAKEN, AS NECESSARY, TO PREVENT PIPING. CONSTRUCT ANTI-SEEP CO AS DESIGNED FOR EACH PCSM BMP BASIN.
POOR SOURCE OF TOPSOIL:	SOIL TESTS SHALL BE PERFORMED TO DETERMINE APPROPRIATE TOPSOIL FOR USE IN LAWN AREAS.
FROST ACTION:	CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE AT ALL AREAS DURING CONSTRUCTION AND CONSTRUCTION BY SLOPING ALL SURFACES, EXCEPT FOR THE BUILDING PAD AND BOTTOM SURFACES PCSM BMPS, A MINIMUM OF 1%. THE BOTTOM SURFACES OF PCSM BMPS SHALL BE SLOPED AS DES WATER COLLECTED IN TRENCHES AND OTHER EXCAVATIONS DURING CONSTRUCTION SHALL BE RE PRIOR TO CONTINUATION OR COMPLETION OF WORK WHERE WATER IS ENCOUNTERED.
SHRINK/SWELL:	STRENGTHENED FOUNDATIONS MAY BE UTILIZED IF WARRANTED BY ACTUAL SITE INVESTIGATIONS.
POTENTIAL SINKHOLES:	A SINKHOLE TREATMENT DETAIL IS PROVIDED ON THE PLAN. CONTRACTOR SHALL NOTIFY END TOWNSHIP AND CONSERVATION DISTRICT IMMEDIATELY IF SINKHOLES ARE ENCOUNTERED.

CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE AT ALL AREAS DURING CONSTRUCTION AND AFTER CONSTRUCTION BY SLOPING ALL SURFACES, EXCEPT FOR THE BUILDING PAD AND BOTTOM SURFACES OF PCSM BMPS, A MINIMUM OF 1%. THE BOTTOM SURFACES OF PCSM BMPS SHALL BE SLOPED AS DESIGNED. WATER COLLECTED IN TRENCHES AND OTHER EXCAVATIONS DURING CONSTRUCTION SHALL BE REMOVED PRIOR TO CONTINUATION OR COMPLETION OF WORK WHERE WATER IS ENCOUNTERED.

AS REQUIRED BY CHAPTER 102.8(F)(13). MEASURES HAVE BEEN TAKEN IN ORDER TO IDENTIFY POTENTIAL THER POST-CONSTRUCTION STORMWATER TO "SURFACE WATERS OF THE COMMONWEALTH" AND AVOID, MINIMIZE, OR CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE AT ALL AREAS DURING CONSTRUCTION AND AFTER POLLUTION FROM THERMAL IMPACTS BY UTILIZING ON-SITE BMPS. PLANNED SITE FEATURES FOR THE PROJECT HAVE CONSTRUCTION BY SLOPING ALL SURFACES, EXCEPT FOR THE BUILDING PAD AND BOTTOM SURFACES OF DESIGNED TO MINIMIZE THERMAL IMPACTS. TO THE GREATEST EXTENT PRACTICABLE, WITHIN THE PROJECT'S DISTURBE PCSM BMPS, A MINIMUM OF 1%, THE BOTTOM SURFACES OF PCSM BMPS SHALL BE SLOPED AS DESIGNED. PROVIDING A MAIN OBJECTIVE OF BALANCING REQUIRED NEEDS FOR PROPERLY DESIGNED SITES WITH THE STEWARDSH WATER COLLECTED IN TRENCHES AND OTHER EXCAVATIONS DURING CONSTRUCTION SHALL BE REMOVED OF ENVIRONMENTAL RESOURCES THAT EXIST ON THE PROPERTY, CONSEQUENTLY, THE SITE'S TOTAL IMPERVIOUS C PRIOR TO CONTINUATION OR COMPLETION OF WORK WHERE WATER IS ENCOUNTERED. SUBSTANTIALLY REDUCED FROM THE TOWNSHIP'S 70% MAXIMUM ALLOWABLE COVERAGE AND HELPS TO ACHIEVE ON MAIN GOALS OF PROVIDING EQUILIBRIUM BETWEEN REQUIRED FACILITY NEEDS AND ENVIRONMENTAL RESOURCE MANAG

SIMILAR SOILS ARE PRESENT. HOWEVER, REFERENCE IS HEREBY MADE TO THE SITE'S GEOTECHNICAL ENGINEERING REPORT FOR ANY

CONTRACTOR SHALL USE THE FOLLOWING CONSTRUCTION TECHNIQUES DESIGNED TO REDUCE OR ELIMINATE THE POTENTIAL FOR CUTBANK CAVING. AS DEFINED BY OSHA, PROTECTIVE SYSTEMS INCLUDE ONE OR MORE OF THE FOLLOWING DESIGNS:

DUCE THE HEIGHT OF THE CUTBANK. EDUCE THE HEIGHT OF THE CUTBANK. SUPPORT (PLANKING OR HYDRAULIC JACKS)

NCH BOX) ITS. AND STORAGE TANKS SHALL BE PROTECTIVE COATING OR SHALL BE

RESISTANT MATERIALS TO PREVENT CORROSION DUE TO EXPOSURE ALL BE MONITORED AND ROUTINELY IN ACCORDANCE WITH PROVIDED

THE SITE IS COMPLETELY STABILIZED. TIVE DRAINAGE AT ALL AREAS DURING AND AFTER CONSTRUCTION BY FOR THE BUILDING PAD AND BOTTOM SURFACES OF PCSM BMPS, A JRFACES OF PCSM BMPS SHALL BE SLOPED AS DESIGNED. WATER 8.

HER EXCAVATIONS DURING CONSTRUCTION SHALL BE REMOVED PRIOR OF WORK WHERE WATER IS ENCOUNTERED. . SATURATED SOILS SHALL BE DIRED PRIOR TO USE AS FILL

TRUCTION TECHNIQUES DESIGNED TO HANDLE ANY SATURATED SOILS

TO PREVENT SLOPE FAILURE DUE TO IMPROPER CONSTRUCTION ENING AND OVERLOADING OF SLOPES, REMOVAL OF LATERAL SUPPORT RECYCLING OF BUILDING MATERIALS TION OF SLOPES. AS DEFINED BY OSHA, PROTECTIVE SYSTEMS INCLUDE

TIVE DRAINAGE AT ALL AREAS DURING AND AFTER CONSTRUCTION BY FOR THE BUILDING PAD AND BOTTOM SURFACES OF PCSM BMPS, A JRFACES OF PCSM BMPS SHALL BE SLOPES AS DESIGNED. WATER HER EXCAVATIONS DURING CONSTRUCTION SHALL BE REMOVED PRIOR OF WORK WHERE WATER IS ENCOUNTERED.

AS NECESSARY, TO PREVENT PIPING. CONSTRUCT ANTI-SEEP COLLARS BASIN

TO DETERMINE APPROPRIATE TOPSOIL FOR USE IN LAWN AREAS. ITIVE DRAINAGE AT ALL AREAS DURING CONSTRUCTION AND AFTER

ETION OF WORK WHERE WATER IS ENCOUNTERED

PROVIDED ON THE PLAN. CONTRACTOR SHALL NOTIFY ENGINEER, TRICT IMMEDIATELY IF SINKHOLES ARE ENCOUNTERED.

SEEDING SPECIFICATIONS

ALL DISTURBED AREAS THAT HAVE NOT OTHERWISE BEEN STABILIZED AND HAVE SIGNIFICANT POTENTIAL FOR E STABILIZED WITH VEGETATION. THIS INCLUDES GRADED AREAS WHERE IT IS ANTICIPATED THAT FUTURE EARTHMOVIN WITHIN THE COMING YEAR. AREAS THAT WILL BE SUBJECT TO EARTHMOVING WITHIN 12 MONTHS MAY BE STABILIZED WIT MIXTURES, PREDOMINANTLY ANNUAL GRASSES. ALL OTHERS SHOULD BE STABILIZED WITH PERMANENT SEED MIXTURE

TOPSOIL SHOULD BE UNIFORMLY DISTRIBUTED ACROSS THE DISTURBED AREA TO A DEPTH OF MINIMUM DEPTH OF AMENDMENTS SHOULD BE WORKED INTO THE SOIL TO A DEPTH OF 8"-10". IRREGULARITIES IN THE SURFACE RESUL PLACEMENT SHOULD BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS. TOPSOIL SHOULD NO THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET, OR IN A C OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

SOIL AMENDMENTS:

- TEMPORARY SEEDING APPLY AGRICULTURAL LIME AT A RATE OF 1 TON PER ACRE AND 10-10-10 FERTILIZER AT A R
- PERMANENT SEEDING APPLY AGRICULTURAL LIME AT A RATE OF 6 TONS PER ACRE AND 10-20-20 FERTILIZER AT A RATE ACRE

SEEDING:

TEMPORARY SEEDING SHALL CONSIST OF 100 PERCENT ANNUAL RYE GRASS AND SHALL CONFORM TO THE REQUIR DEPARTMENT OF TRANSPORTATION (PADOT) SPECIFICATIONS FOR FORMULA E SEED MIXTURE. SEED SHALL BE APPLIE LBS./1,000 SQ. YDS. SEED SHALL BE APPLIED BETWEEN THE DATES OF MARCH 15TH TO OCTOBER 15TH.

PERMANENT SEEDING SHALL CONSIST OF THE FOLLOWING:

- LAWN AREAS SEED WITH 20% PERENNIAL RYEGRASS MIXTURE (A COMBINATION OF IMPROVED CERTIFIED VARI VARIETY EXCEEDING 50% OF THE TOTAL RYEGRASS COMPONENT), 30% CREEPING RED FESCUE OR CHEWING KENTUCKY BLUEGRASS MIXTURE (A COMBINATION OF IMPROVED CERTIFIED VARIETIES WITH NOT ONE VARIET' THE TOTAL BLUEGRASS COMPONENT). SEED SHALL BE APPLIED AT A RATE OF 21 LBS./1,000 SQ. YDS. SEEI BETWEEN THE DATES OF MARCH 15TH TO JUNE 1ST AND AUGUST 16TH TO OCTOBER 15TH.
- LANDSCAPE RESTORATION MEADOW AREA TO BE SEEDED WITH ERNST CONSERVATION SEEDS MESIC TO DRY MIX (ERNMX-105) AT A RATE OF 40 LBS/ACRE WITH 30 LBS/ACRE WINTER RYE. FOREBAY SEED MIX - AREA TO BE SEEDED WITH ERNST CONSERVATION SEEDS FACW MEADOW MIX (ERNMX-
- LBS/ACRE WITH 30 LBS/ACRE WINTER RYE. SWM/BMP FACILITY & MRC SEED MIX - AREA TO BE SEEDED WITH ERNST CONSERVATION SEEDS NATIVE D (ERNMX-183) AT A RATE OF 20 LBS/ACRE WITH 30 LBS/ACRE WINTER RYE.

NOTE: FILL SLOPES SHOULD BE SEEDED AND MULCHED AT REGULAR VERTICAL INCREMENTS (15-25' MAXIMUM) AS CONSTRUCTED. THIS WILL ALLOW THE BOTTOM OF THE FILL TO PROGRESS TOWARD STABILIZATION WHILE WORK CONTIN PORTION. MAKING FINAL STABILIZATION EASIER TO ACHIEVE AND PROVIDING SOME VEGETATIVE BUFFERING AT THE BOTT MULCHING:

MULCHING SHALL BE PROVIDED AS REQUIRED IN AREAS DIFFICULT TO VEGETATE, AND DURING OFF-SEASON OPE METHODS AND MATERIALS SHALL CONFORM TO THE FOLLOWING:

- MULCH MATERIALS SHALL BE UNROTTED SALT HAY, HAY OR SMALL GRAIN STRAW APPLIED AT THE RATE OF 3 TOI BLOWER SHALL NOT GRIND OR CHOP THE MATERIAL. WOODCHIPS, FREE OF INSECTS AND DISEASE ARE PERMITT TONS PER ACRE.
- MULCH SHALL BE SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THAT APPROXIMATELY 85% TO 95% OF THE SC COVERED
- MULCH ANCHORING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY WIND OR \ DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE SLOPE.
- 4. PEG AND TWINE DRIVE 8" TO 10" PEGS TO WITHIN 2" TO 3" OF THE SOIL SURFACE EVERY 4' IN ALL DIRECTIONS. TA BEFORE OR AFTER APPLYING MULCH. SECURE THE MULCH TO THE SOIL SURFACE BY STRETCHING TWINE B CRISS-CROSS OR SQUARE PATTERN, AND SECURE THE TWIN AROUND EACH BEG WITH TWO OR MORE ROUND TURNS.
- 5. MULCH NETTING STAPLE PAPER, JUTE, COTTON OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE DEGRADABLE N BE MOWED.
- 6. MULCH MATERIALS AND BINDERS SHALL BE ROLLED IN PLACE BY TRACKED VEHICLE OR OTHER SUITABLE EQUIPMENT
- 7. APPLICATIONS SHOULD BE HEAVIER AT EDGES WERE WIND CATCHES THE MULCH. IN VALLEYS AND AT CRESTS OF BA AREA SHOULD BE UNIFORM IN APPEARANCE.
- WOOD-FIBER OR PAPER-FIBER MULCH AT THE RATE OF 1,500 LBS PER ACRE, OR PER MANUFACTURER RECOM APPLIED BY A HYDROSEEDER. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRII
- NECESSARY PUMPS AND PIPES TO DRAIN ANY GROUNDWATER 9. OTHER: WHERE EXCESSIVE SOIL EROSION, TRACKING OR FLOWING OF SEDIMENT IS EVIDENT OR ANTICIPATED, CRUSHED STONE SHALL BE PLACED WITHIN THE AFFECTED AREA AND MAINTAINED UNTIL PERMANENT STABILIZ ADDITIONAL STONE SHALL BE PLACED AS REQUIRED UNTIL STABILIZATION IS ACHIEVED. CRUSHED STONE SHALL C DESIGNATION M43. SIZE NO. 2 (2-1/2" TO 1-1/2").

ALL BUILDING MATERIALS AND CONSTRUCTION WASTE SHALL BE REMOVED FROM THE SITE AND RECYCLED AND/OR PR ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS, 25 PA. CODE §260.1 ET SEQ., §271. ET SEQ. NO BUILDING MATERIAL OR CONSTRUCTION WASTE OR OTHER UNUSED BUILDING MATERIALS SHALL BE BURNED, DISCHARGED AT THE PROJECT SITE. ANTICIPATED PROJECT WASTES INCLUDE, BUT ARE NOT LIMITED, TO THE FOLLO VARIOUS PAVEMENTS (BITUMINOUS, CONCRETE, GRAVEL), DEBRIS FROM EXISTING STRUCTURES, TREE/SHRUBS TO BE RE

OFF-SITE DISPOSAL AREAS

TO THE EXTENT THAT IT MAY BE NECESSARY TO EXPORT WASTE MATERIAL. EXCESS TOPSOIL. OR OTHER UNSUIT MATERIAL FROM THE SITE, IT SHALL BE THE RESPONSIBILITY OF THE PERMITTEE AND ANY CO-PERMITTEE TO DISPOSE OF APPROVED AND PERMITTED SITE. OTHERWISE, A SOIL EROSION AND SEDIMENTATION CONTROL PLAN AND OTHER APPLICATIONS AND MATERIALS SHALL BE SUBMITTED TO THE APPROPRIATE COUNTY CONSERVATION DISTRICT FOR DISPOSAL REGARDLESS OF THE SITE LOCATION.

PREPAREDNESS, PREVENTION, AND CONTINGENCY PLANS

URFACES, EXCEPT FOR THE BUILDING PAD AND BOTTOM SURFACES OF IF THE POTENTIAL EXISTS FOR CAUSING ACCIDENTAL POLLUTION OF AIR, LAND, OR WATER, OR FOR CAUSING ENDANG BOTTOM SURFACES OF PCSM BMPS SHALL BE SLOPED AS DESIGNED. HEALTH AND SAFETY THROUGH ACCIDENTAL RELEASE OF TOXIC, HAZARDOUS, OR OTHER POLLUTING MATERIALS. AND OTHER EXCAVATIONS DURING CONSTRUCTION SHALL BE REMOVED CO-PERMITTEE MUST DEVELOP A PREPAREDNESS, PREVENTION AND CONTINGENCY (PPC) PLAN. THE PPC PLAN SHAL ACCORDANCE WITH APPLICABLE DEP REGULATIONS. THE PPC PLAN SHALL IDENTIFY AREAS WHICH MAY INCLUDE, BUT WASTE MANAGEMENT AREAS, RAW MATERIAL STORAGE AREAS, TEMPORARY AND PERMANENT SPOILS STORAGE A AREAS. AND ANY OTHER AREAS THAT MAY HAVE THE POTENTIAL TO CAUSE NON-COMPLIANCE WITH THE TERMS AND NPDES PERMIT DUE TO THE STORAGE, HANDLING OR DISPOSAL OF ANY TOXIC OR HAZARDOUS SUBSTANCES SUCI PESTICIDES, HERBICIDES, SOLVENTS, ETC. BMPS SHALL BE DEVELOPED AND IMPLEMENTED FOR EACH IDENTIFIED AREA. BE MAINTAINED ON SITE AT ALL TIMES AND SHALL BE MADE AVAILABLE FOR REVIEW AT THE DEPARTMENT'S OR A CONSERVATION DISTRICT'S REQUEST.

THERMAL IMPACTS ANALYSIS

IN ADDITION TO MINIMIZING THERMALS IMPACTS RESULTING FROM THE SUBJECT PROJECT TO THE GREATEST EXTENT PRA ENHANCED STORMWATER MANAGEMENT FEATURES AND WATER QUALITY FEATURES HAVE BEEN PLANNED TO MITIGATE FROM THE DEVELOPMENT. FOUR (4) STORMWATER MANAGEMENT FACILITIES HAVE BEEN STRATEGICALLY LOCATED ON T BOTH STORMWATER QUALITY AND QUANTITY. THESE BMPS HAVE BEEN DESIGNED TO COLLECT ALL HEATED ON-SITE IMPI PROVIDING INFILTRATION/STORAGE FOR THE ENTIRE 2-YEAR STORM VOLUME INCREASE GENERATED BY THE SITE. FUR-RUNOFF FROM A MAJORITY OF THE SITE'S PROPOSED ROOFTOPS, PARKING AREAS, SITE ACCESS DRIVEWAYS, TRUCK (IMPERVIOUS SURFACES DISCHARGES INTO LARGE STORM SEWER CONVEYANCE SYSTEMS WHICH ARE THEN AFOREMENTIONED MAIN INFILTRATION BASINS, IMMEDIATELY FOLLOWING A STORM EVENT, AS THE FIRST FLUSH RUNO THESE FACILITIES. IT TRAVELS IN A DEEP UNDERGROUND ENVIRONMENT EXPERIENCING THERMAL COOLING BEFORE RE. ONCE RUNOFF ENTERS THE BASINS. ONCE REACHING THE FACILITY, IT WILL BE STORED AND/OR INFILTRATED INTO SHADED/COOLED ENVIRONMENT DUE TO THE VARIOUS MEADOW GRASSES AND TREES BEING PLANTED WITHIN THE BA DISCHARGING INTO THE DOWNSTREAM RECEIVING WATERCOURSE. FURTHERMORE. THE PROJECT PROPOSES DECIDUOUS/EVERGREEN TREES WHICH WILL HELP SHADE IMPERVIOUS PARKING AREAS. THEREFORE, WITH THE PLANTINGS COUPLED WITH THE AFOREMENTIONED BMPS, THE PROPOSED PROJECT MITIGATES THERMAL IMPACTS GENE TO THE GREATEST EXTENT PRACTICABLE.

		PROJ. MGR DESIGN -	JJB TBF
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OWNERSHIP & MAINTENANCE OF STORMWATER / BMP FACILTIES

CURRENT PRIVATE PROPERTY OWNER AND ANY SUBSEQUENT PROPERTY OWNER SHALL ALSO PRIVATELY OWN AND MAINTAIN SAID BMPS THEREAFTER TO ASSURE THAT THE CONDITION AND FUNCTIONALITY OF THE FACILITIES REMAINS AS DESIGNED AND INTENDED. ALL WASTES AND MATERIALS DEPOSITED IN AND REMOVED FROM POST-CONSTRUCTION STORMWATER (PCSM) BMP FACILITIES DURING OPERATION AND MAINTENANCE SHALL BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE §260.1 ET SEQ., §271.1 ET SEQ., AND §287.1 ET SEQ. NO MATERIALS SHALL BE

OWNERSHIP AND MAINTENANCE OF ALL STORMWATER MANAGEMENT AND OTHER ON-SITE BMPS SHALL BE THE RESPONSIBILITY OF THE

BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE. THE OWNER SHALL ALSO BE RESPONSIBLE FOR INSPECTING AND MONITORING ALL SYSTEMS AND DOCUMENTING SAID ACTIVITY ON A REGULAR BASIS IN ACCORDANCE WITH THE FOLLOWING GENERAL PRACTICES:

MRC #1, #3, & #4 & SWM/BMP FACILITY #2 (BMP 001-004)

- 1. SEQUENCE OF CONSTRUCTION A. THE DESIGN PROFESSIONAL SHALL BE ON-SITE FOR CONSTRUCTION OF THESE BMPS.
- B. INSTALL TEMPORARY SEDIMENT CONTROL BMPS WHERE NECESSARY. C. REMOVE SEDIMENT AND DEBRIS FROM THE TEMPORARY SEDIMENT FACILITY TO THE SUBGRADE ELEVATION BELOW THE PROPOSED SURFACE ELEVATION OF THE BMP. WASTE MATERIAL SHALL BE PROPERLY AND LEGALLY DISPOSED OF IN ACCORDANCE WITH PADEP
- REGULATIONS. D. EXCAVATE BMPS TO PROPOSED SUBGRADE INVERT DEPTH AND SCARIFY THE EXISTING SOIL SURFACES. DO NOT COMPACT IN-SITU SOIL. DURING INITIAL EXCAVATION, CONSTRUCTION EQUIPMENT AND VEHICLES SHALL BE LIMITED TO RUBBER-TIRED VEHICLES TO THE
- EXTENT POSSIBLE. E. PLACE PLANTING SOIL MIXTURE AND SPECIFIED SEED MIXTURE THROUGHOUT THE ENTIRE BMP AREA.
- F. REMOVE TEMPORARY SEDIMENT CONTROL DEVICES AND CONVERT PERMANENT OUTLET STRUCTURE ONCE 70% VEGETATIVE COVER IS ACHIEVED WITHIN THE BMP AREA. G. THE LICENSED PROFESSIONAL SHALL BE PRESENT DURING INITIAL EXCAVATION AS WELL AS DURING FINAL CONVERSION OF THE BMPS FROM "TEMPORARY" TO "PERMANENT" TO ENSURE THAT ALL CONSTRUCTION PROCEEDS IN ACCORDANCE WITH THE DESIGN.

2. INSPECTIONS

A. THE BMPS SHOULD BE INSPECTED AFTER RUNOFF EVENTS GREATER THAN ONE INCH (1") AND MAKE SURE THAT RUNOFF DRAINS DOWN WITHIN 72 HOURS. MOSQUITO'S SHOULD NOT BE A PROBLEM IF THE WATER DRAINS IN 72 HOURS. MOSQUITOES REQUIRE A CONSIDERABLY LONG BREEDING PERIOD WITH RELATIVELY STATIC WATER LEVELS. B. INSPECTIONS OF THE BMPS SHALL INCLUDE BUT NOT BE LIMITED TO:

- STRUCTURAL INTEGRITY AND OPERATION OF THE OUTLET STRUCTURES AND APPURTENANCES COLLECTION, STORAGE AND RELEASE OF STORMWATER IN ACCORDANCE WITH EACH BMP'S DESIGN
- SEDIMENT AND DEBRIS ACCUMULATION
- CONDITION AND GROWTH OF VEGETATION CONDITION AND FUNCTIONALITY OF PLANTING SOIL MIXTURE
- GENERAL SAFETY AND OPERATION
- DEVELOPMENT OF SINKHOLES SIGNS OF WATER CONTAMINATION/SPILLS
- SLOPE STABILITY IN BMP BERMS
- GATE VALVES REMAIN CLOSED. C. IN THE EVENT THAT A DEFICIENCY IS DISCOVERED DURING THE ABOVE INSPECTIONS, IMMEDIATE REMEDIATION SHOULD OCCUR IN ORDER TO RESTORE THE DEFICIENT BMP IN ACCORDANCE WITH THE APPROVED DESIGN.

3. MAINTENANCE

- A. GATE VALVES ARE TO REMAIN CLOSED EXCEPT FOR EMERGENCY OR MAINTENANCE DEWATERING. B. VEGETATION CONTRIBUTING TO AND ADJACENT TO EACH BMP SHALL BE MAINTAINED IN ACCORDANCE WITH THE APPROVED PLAN AND IN
- ACCORDANCE WITH MUNICIPAL ORDINANCES. C. REMOVE ACCUMULATED SEDIMENT AND DEBRIS FROM BMPS AS REQUIRED. PROPERLY DISPOSE OF SEDIMENT IN ACCORDANCE WITH PADEP REGULATIONS. RESTORE ORIGINAL CROSS-SECTION AND INFILTRATION RATE. FLOATABLE DEBRIS THAT MAY IMPACT THE
- OPERATION OF THE OUTLET STRUCTURES SHALL BE REMOVED IMMEDIATELY. D. CATCH BASINS AND INLETS (UPGRADIENT OF THESE BMPS) SHOULD BE INSPECTED AND CLEANED AT LEAST TWO TIMES PER YEAR AND AFTER RUNOFF EVENTS.
- E. THE VEGETATION ALONG THE SURFACE OF THESE BMPS SHOULD BE MAINTAINED IN GOOD CONDITION, AND ANY BARE SPOTS REVEGETATED AS SOON AS POSSIBLE. F. VEHICLES SHOULD NOT BE PARKED OR DRIVEN ON A BMP, AND CARE SHOULD BE TAKEN TO AVOID EXCESSIVE COMPACTION BY MOWERS (WHERE MOWING IS APPLICABLE).
- G. MOW ONLY AS APPROPRIATE FOR VEGETATIVE COVER SPECIES.

LANDSCAPE RESTORATION (BMP 005)

I. INSTALLATION

- A. PLACING OF LANDSCAPE PLANTINGS MUST TAKE PLACE DURING THE NORMAL GROWING SEASON.
- B. SEE THE PLANTING SCHEDULE ON THE PLAN FOR PLANT TYPES TO BE PLACED ON THE SITE. C. SEE THE CONSTRUCTION DETAILS HEREON FOR SPECIFIC PLANT INSTALLATION DETAILS.
- D. THE ENGINEER SHALL FIELD VERIFY THE TYPE AND LOCATION OF THE PROPOSED PLANTINGS AT THE TIME OF INSTALLATION. E. THE ENGINEER SHALL ALSO FIELD VERIFY THE LANDSCAPE RESTORATION SEEDING MIXTURE TYPE AND PROPOSED LOCATIONS AT THE TIME OF APPLICATION.

2. MAINTENANCE

- A. PLANTS SHOULD BE MONITORED REGULARLY FOR GROWTH AND POTENTIAL PROBLEMS. B. ASSIGN RESPONSIBILITIES FOR WATERING, WEEDING, AND MOWING TO INDIVIDUALS RESPONSIBLE FOR SITE MAINTENANCE, MOWING OF LANDSCAPE RESTORATION MEADOW AREAS, AS DEPICTED ON THE POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN, SHALL ONLY BE PERFORMED TWO (2) TIMES PER YEAR AFTER THE INITIAL ESTABLISHMENT OF THE MEADOW AREAS AS DESCRIBED HEREIN.
- C. APPLICATION OF A CAREFULLY SELECTED HERBICIDE MAY BE NECESSARY TO PROTECT THE PLANTS. THE INITIAL MAINTENANCE ROUTINE IS NECESSARY FOR 2 TO 3 YEARS UNTIL TREE GROWTH AND TREE CANOPIES BEGIN TO FORM. D. FERTILIZER AND CHEMICAL-BASED PEST CONTROL PROGRAMS SHOULD BE MINIMIZED IN THE LANDSCAPE RESTORATION MEADOW
- AREAS DEPICTED ON THE POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN. E. IN THE FIRST YEAR, WEEDS MUST BE CAREFULLY CONTROLLED AND CONSISTENTLY MOWED BACK TO 4-6 INCHES TALL WHEN THEY REACH 12 INCHES IN HEIGHT.
- F. IN THE SECOND YEAR, WEEDS SHOULD CONTINUE TO BE MONITORED AND MOWED AND RHIZOMATOUS WEEDS SHOULD BE HAND TREATED WITH HERBICIDE. WEEDS SHOULD NOT BE SPRAYED WITH HERBICIDE AS THE DRIFT FROM THE SPRAY MAY KILL LARGE PATCHES OF DESIRABLE PLANTS, ALLOWING WEEDS TO MOVE IN TO THESE NEW OPEN AREAS.
- G. IN THE BEGINNING OF THE THIRD SEASON, THE YOUNG MEADOW SHOULD BE MOWED VERY CLOSELY IN MID-SPRING. THE MOWED MATERIAL SHOULD BE REMOVED FROM THE SITE TO EXPOSE THE SOIL TO THE SUN. THIS HELPS ENCOURAGE RAPID SOIL WARMING WHICH FAVORS THE ESTABLISHMENT OF "WARM SEASON" PLANTS OVER "COOL SEASON" WEEDS.
- 3. THESE NOTES ALSO APPLY TO THE OPERATION & MAINTENANCE OF THE GRASSED AREAS WITHIN BMPS 001-013.

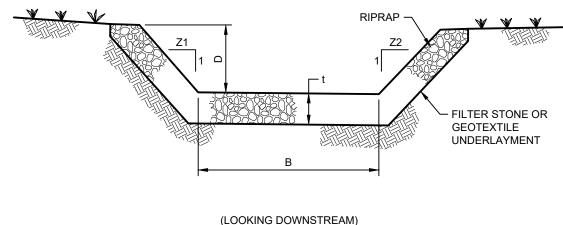
PERMANENT CHANNEL

- 1. CONSTRUCTION SEQUENCE A. BEGIN CHANNEL CONSTRUCTION ONLY WHEN THE APPROPRIATE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES ARE IN PI ACE B. ROUGH GRADE THE CHANNEL. EQUIPMENT SHALL AVOID EXCESSIVE COMPACTION AND LAND DISTURBANCE. EXCAVATING EQUIPMENT
- SHALL OPERATE FROM THE SIDE OF THE CHANNEL AND NEVER ON THE BOTTOM. C. FINE GRADE THE CHANNEL. ACCURATE GRADING IS CRUCIAL. THE SMALLEST NONCONFORMITY MAY COMPROMISE FLOW CONDITIONS D. SEED, VEGETATE, AND INSTALL PROTECTIVE LINING AS PER APPROVED PLANS AND ACCORDING TO THE SEEDING SPECIFICATIONS.
- PLANT THE CHANNEL AT A TIME OF YEAR WHEN SUCCESSFUL ESTABLISHMENT WITHOUT IRRIGATION IS MOST LIKELY. HOWEVER, TEMPORARY IRRIGATION MAY BE NEEDED IN PERIODS OF LITTLE RAIN OR DROUGHT. VEGETATION SHALL BE ESTABLISHED AS SOON AS POSSIBLE TO PREVENT EROSION AND SCOUR.
- E. ONCE ALL TRIBUTARY AREAS ARE PERMANENTLY STABILIZED, REMOVE TEMPORARY EROSION AND SEDIMENT CONTROLS. 2. MAINTENANCE
- A. ACTIVITIES TO BE DONE ANNUAL AND WITHIN 47 HOURS AFTER EVERY RUNOFF EVENT (>0.25" RAINFALL DEPTH): • INSPECT AND CORRECT EROSION PROBLEMS, DAMAGE TO VEGETATION, AND SEDIMENT AND DEBRIS ACCUMULATION. ADDRESS WHEN GREATER THAN THREE INCHES AT ANY SPOT OR COVERING VEGETATION.
- INSPECT VEGETATION ON SIDE SLOPES FOR EROSION AND FORMATION OF RILLS OR GULLIES, CORRECT AS NEEDED. • INSPECT FOR POOLS OF STANDING WATER; DEWATER AND DISCHARGE TO AN APPROVED LOCATION AND RESTORE TO DESIGN GRADE.
- MOW AND TRIM VEGETATION TO ENSURE SAFETY, AESTHETICS, PROPER CHANNEL OPERATION, OR TO SUPPRESS WEEDS AND INVASIVE VEGETATION. DISPOSE OF CUTTINGS IN A LOCAL COMPOSTING FACILITY. MOW ONLY WHEN DRY TO AVOID RUTTING.
- INSPECT FOR LITTER PRIOR TO MOWING. • INSPECT FOR UNIFORMITY OF CROSS SECTION AND LONGITUDINAL SLOPE, CORRECT AS NEEDED.
- INSPECT INLET AND OUTLET AREAS FOR SIGNS OF EROSION OR BLOCKAGES, CORRECT AS NEEDED. B. ACTIVITIES TO BE DONE AS NEEDED:
- PLANT ALTERNATIVE GRASS SPECIES IN THE EVENT OF UNSUCCESSFUL ESTABLISHMENT. RESEED BARE AREAS. INSTALL APPROPRIATE EROSION CONTROL MEASURES WHEN NATIVE SOIL IS EXPOSED, OR EROSION CHANNELS ARE FORMING. WATER DURING DRY PERIODS, FERTILIZE, AND APPLY PESTICIDE ONLY WHEN NECESSARY.

STORM SYSTEM CONVEYANCE FACILITIES

. STORM SYSTEM CONVEYANCE FACILITIES (INLETS, PIPING, ROOF LEADERS, SWALES, ETC.,) SHOULD BE INSPECTED ANNUALLY FOR PROPER FUNCTION. OPERATION. STRUCTURAL CONDITION, ACCUMULATED SEDIMENT AND DEBRIS, ANY DEFICIENCIES SHALL BE DOCUMENTED AND REPORTED FOR MAINTENANCE.

PRIOR TO RECORDING THE APPROVED POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN, THE OWNER SHALL ALSO ENTER INTO A STORMWATER FACILITIES AND BMP MAINTENANCE AND MONITORING AGREEMENT WITH THE TOWNSHIP. THE AGREEMENT SHALL OUTLINE PROVISIONS FOR OWNERSHIP, MAINTENANCE AND CONTROL OF FACILITIES AS WELL AS PROVISIONS FOR ACCESS BY TOWNSHIP PERSONNEL FOR INSPECTION OF THE FACILITIES DEEMED CRITICAL TO THE PUBLIC WELFARE ON A REGULAR BASIS AND FOLLOWING MAJOR STORM EVENTS. MAINTENANCE AND OBSERVATION ACTIVITIES SHALL BE DOCUMENTED IN A REPORT AND SHALL BE MADE AVAILABLE FOR THE TOWNSHIP.



CHANNEL CROSS-SECTION

CHANNEL	В	D	Z1	Z3	RIPRAP GRADATION	t	UNDERLAYMENT
2D	2.0	1.5	3	3	R-4	18"	CLASS 1 GEOTEXTILE

NOTES:

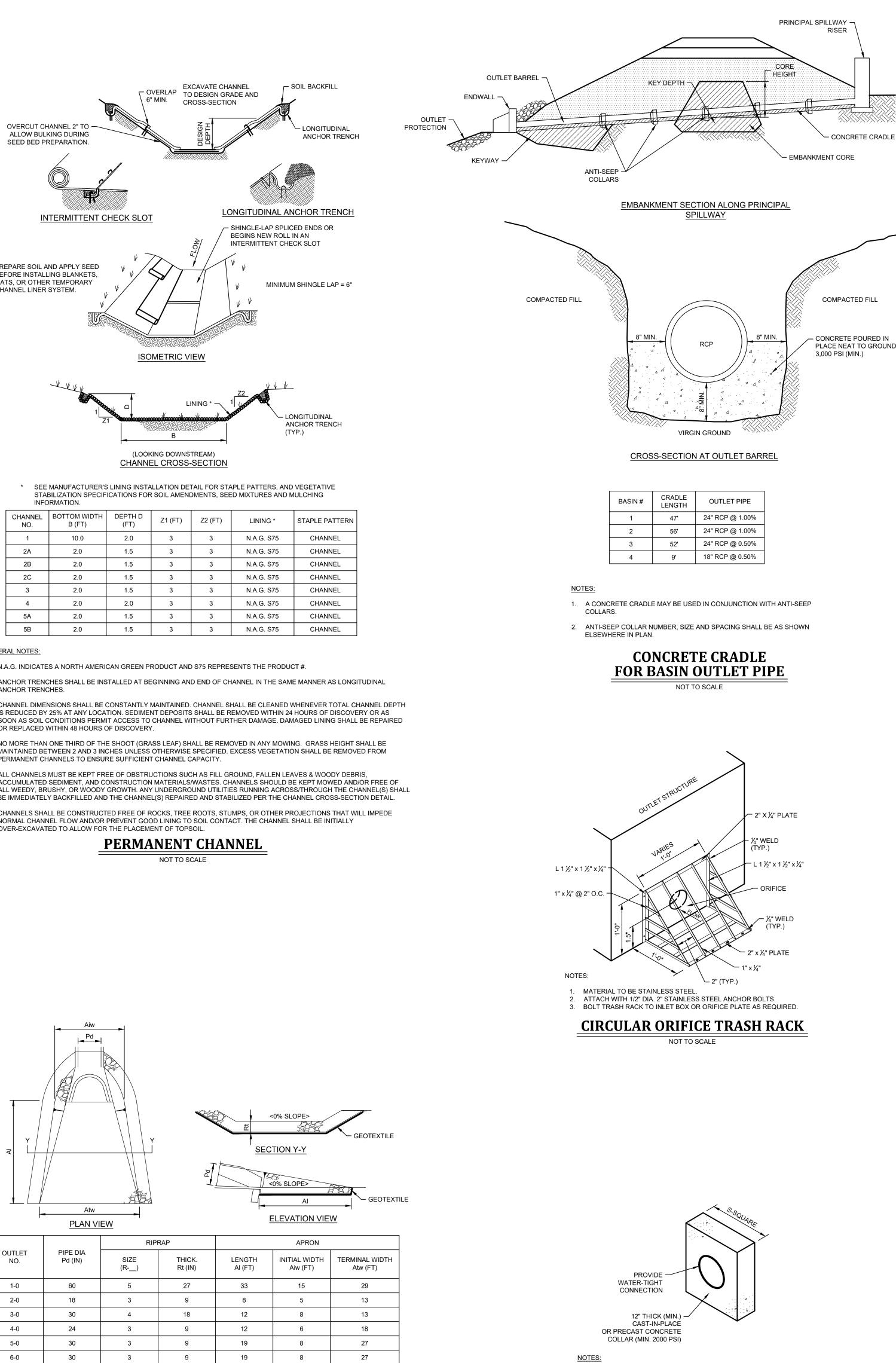
1. FILTER STONE UNDERLAYMENT FOR BED SLOPES 0.10 FT/FT SHALL BE USED. 2. CHANNEL DIMENSIONS ARE FOR THE COMPLETED CHANNEL AFTER ROCK PLACEMENT. CHANNEL MUST BE OVER-EXCAVATED A

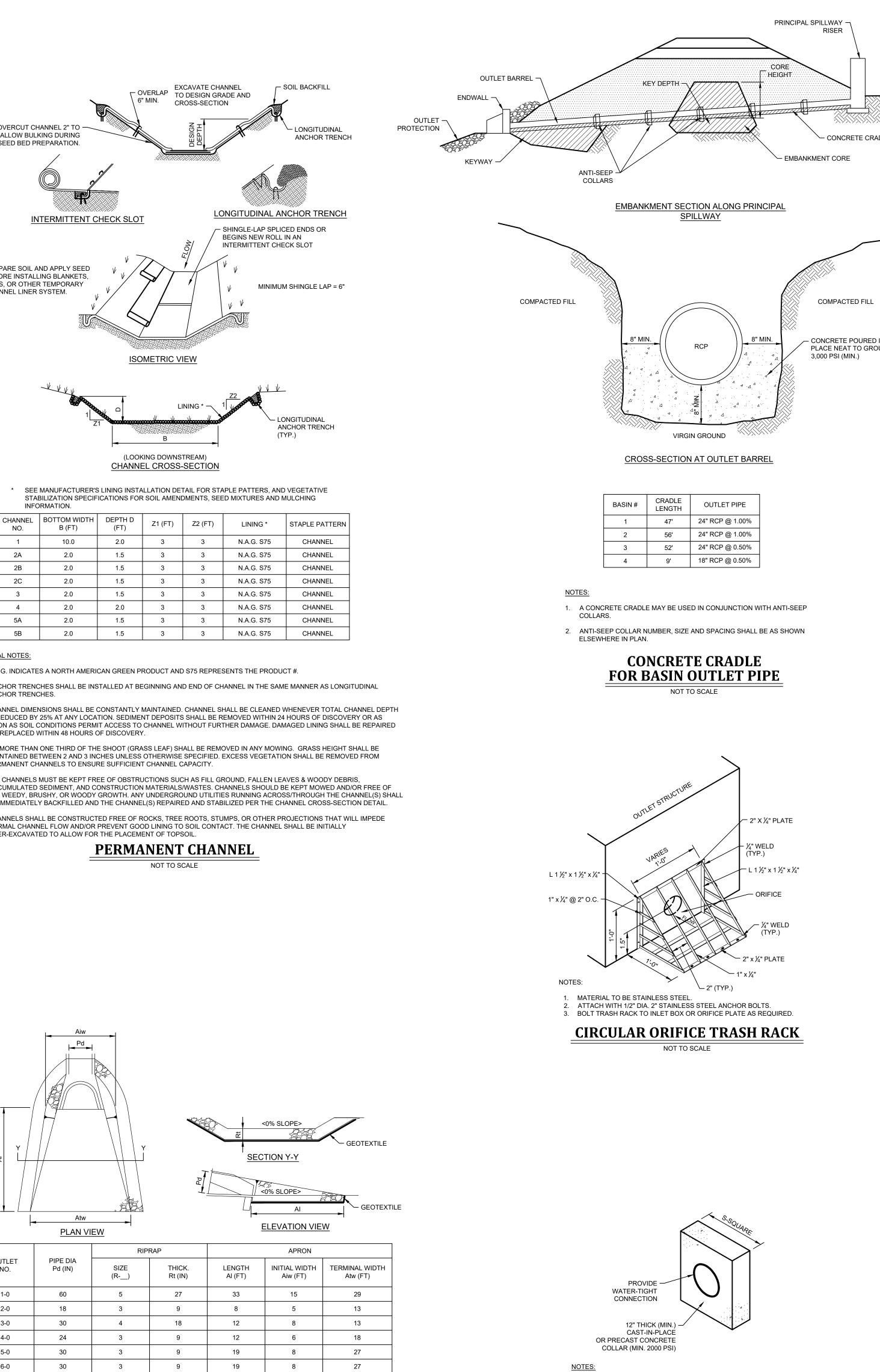
SUFFICIENT AMOUNT TO ALLOW FOR THE VOLUME OF ROCK PLACED WITHIN THE CHANNEL WHILE PROVIDING THE SPECIFIED FINISHED DIMENSIONS.

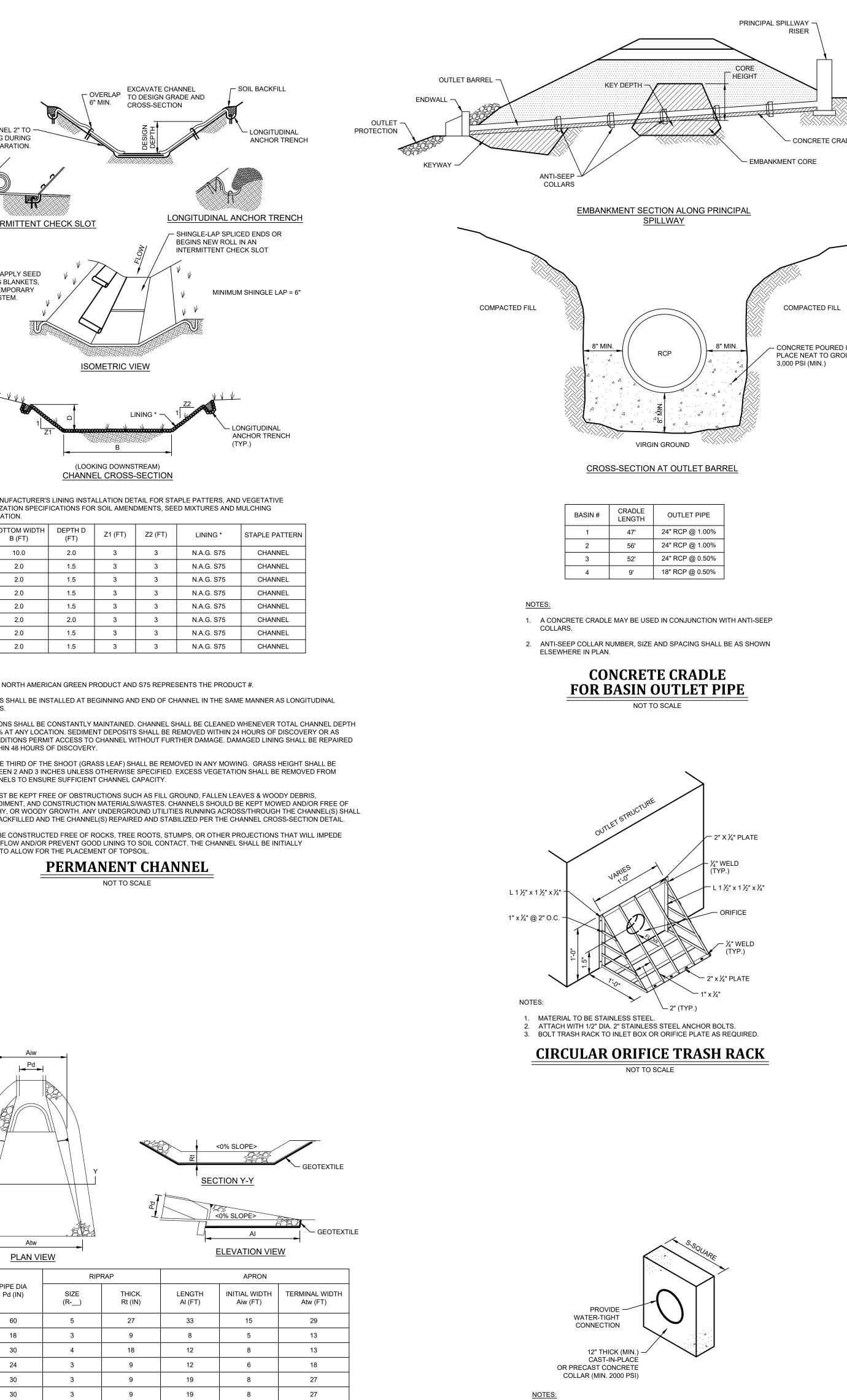
3. CHANNEL DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. CHANNEL SHALL BE CLEANED WHENEVER TOTAL CHANNEL DEPTH IS REDUCED BY 25% AT ANY LOCATION. SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON AS SOIL CONDITIONS PERMIT ACCESS TO CHANNEL WITHOUT FURTHER DAMAGE. 4. DAMAGED LINING SHALL BE REPAIRED OR REPLACED WITHIN 48 HOURS OF DISCOVERY.

5. THE MINIMUM ROCK THICKNESS (T) SHALL BE 1.5 TIMES THE MAX ROCK SIZE.

PERMANENT RIP-RAP CHANNEI NOT TO SCALE

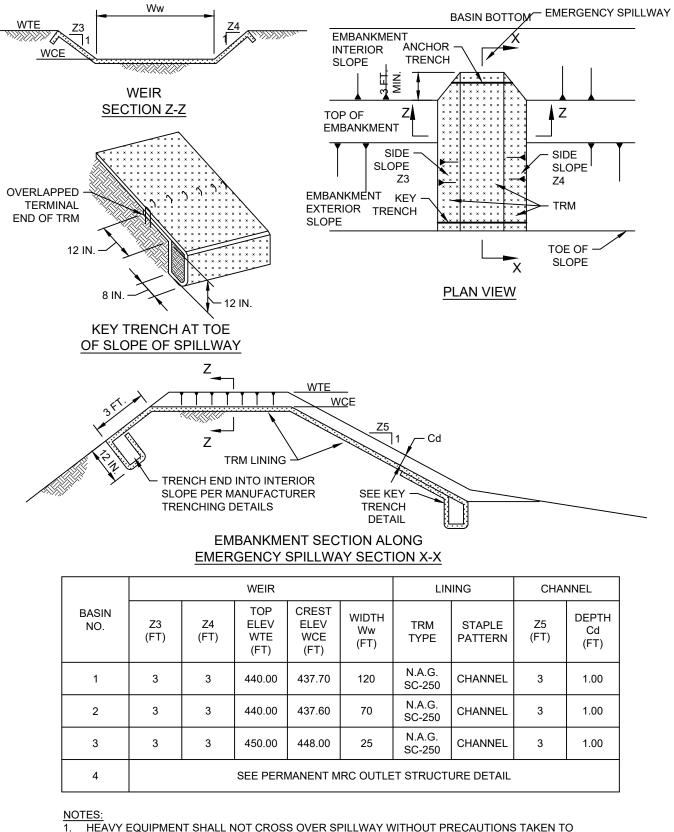






CHANNEL NO.	BOTTOM WIDTH B (FT)	DEPTH D (FT)	Z1 (FT)
1	10.0	2.0	3
2A	2.0	1.5	3
2B	2.0	1.5	3
2C	2.0	1.5	3
3	2.0	1.5	3
4	2.0	2.0	3
5A	2.0	1.5	3
5B	2.0	1.5	3

- OR REPLACED WITHIN 48 HOURS OF DISCOVERY.



NOTES: 1. HEAVY EQUIPMENT SHALL NOT CROSS OVER SPILLWAY WITHOUT PRECAUTIONS TAKEN TO PROTECT TRM LINING.

2. DISPLACED LINER WITHIN THE SPILLWAY AND/OR OUTLET CHANNEL SHALL BE REPLACED IMMEDIATELY

NOT TO SCALE

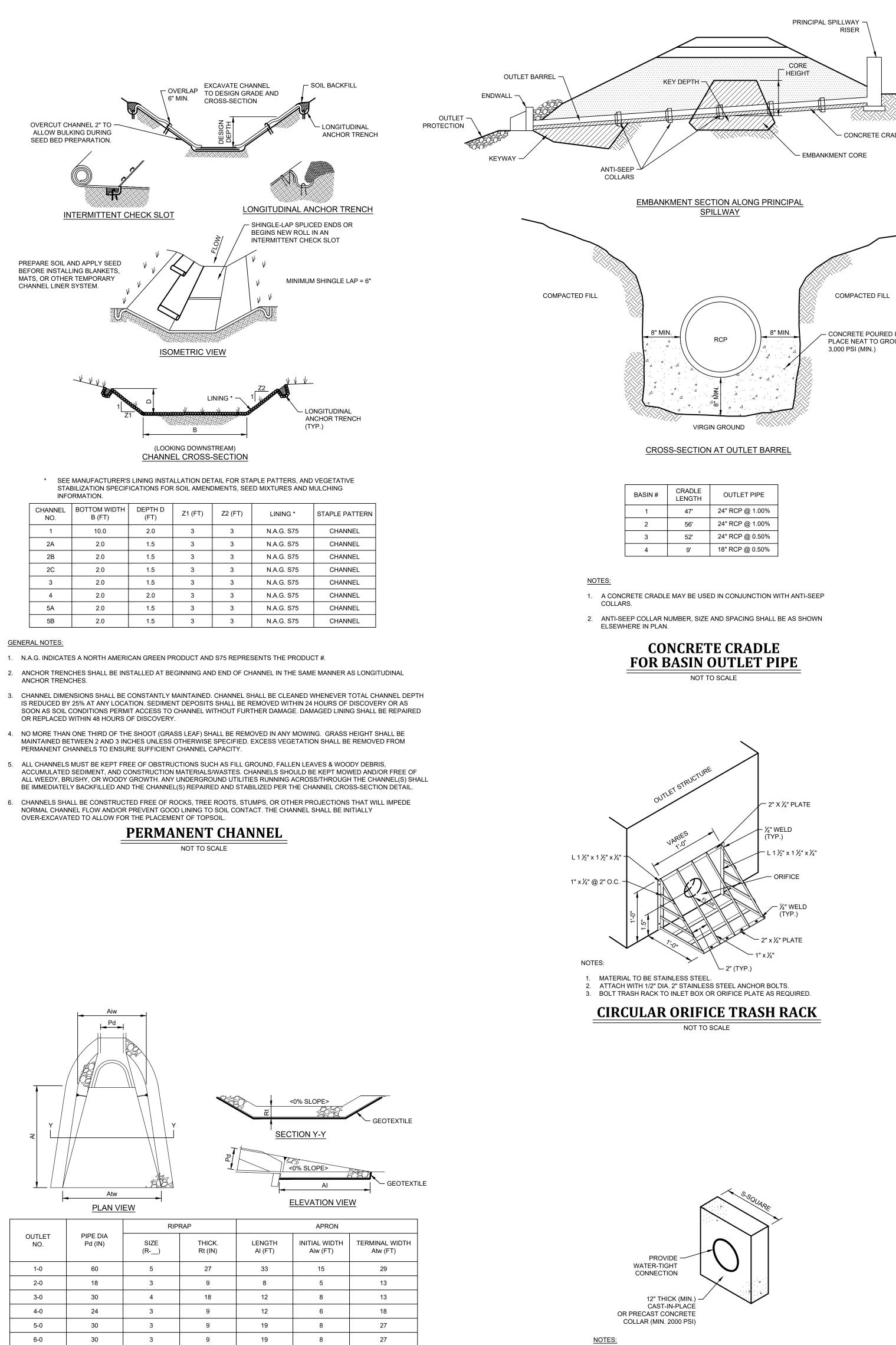
3. SEE EROSION CONTROL BLANKET INSTALLATION DETAIL FOR STAPLE PATTERN.

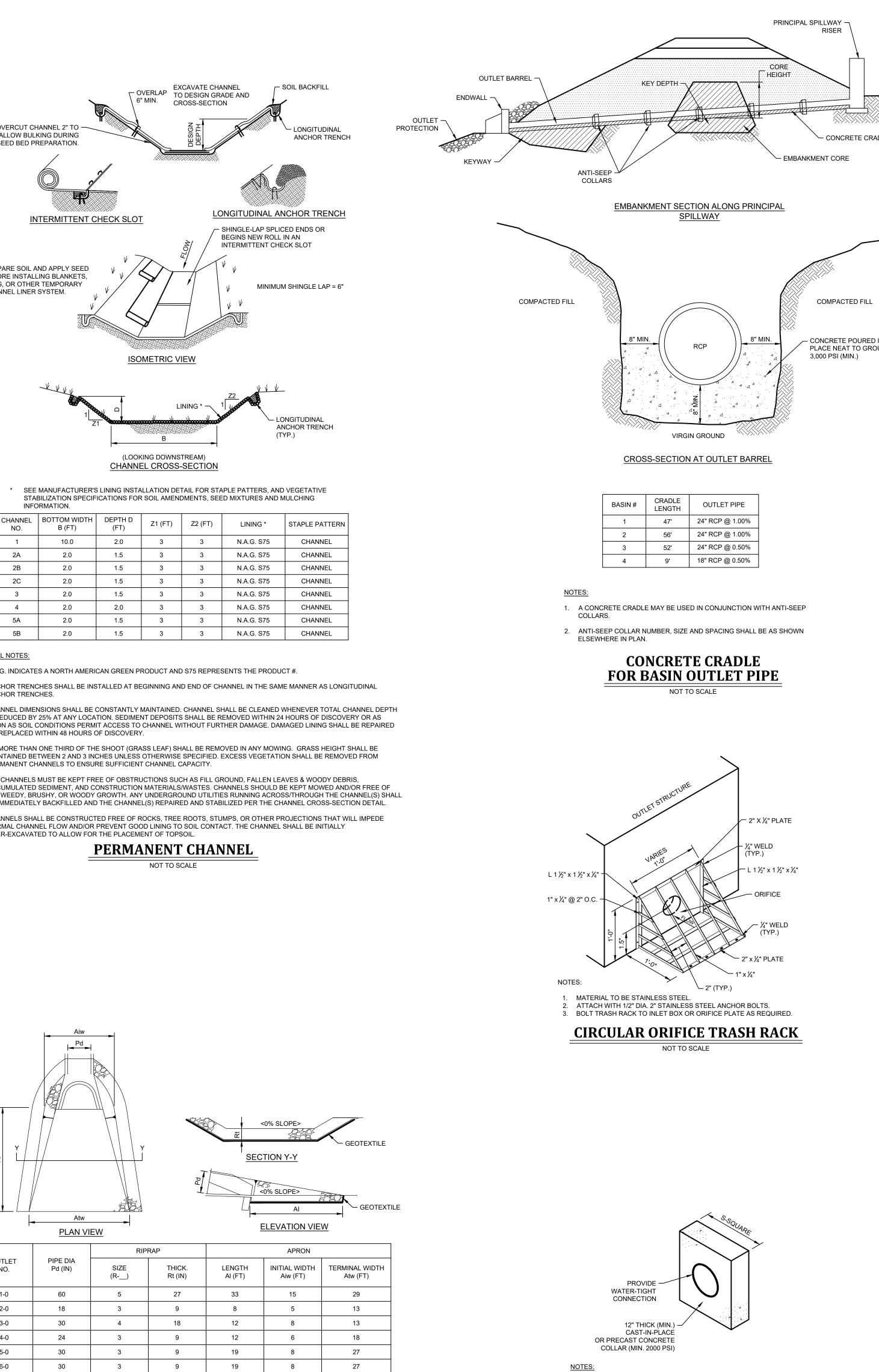
EMERGENCY SPILLWAY WITH TRM LINING

MATCH RECEIVING CHANNELS.

SHALL BE REPLACED IMMEDIATELY.

		RIPRAP					
OUTLET NO.	PIPE DIA Pd (IN)	SIZE (R)	THIC Rt (IN				
1-0	60	5	27				
2-0	18	3	9				
3-0	30	4	18				
4-0	24	3	9				
5-0	30	3	9				
6-0	30	3	9				
7-0	15	3	9				
8-0	15	3	9				
9-0	30	4	18				
OS-1B	24	4	18				
OS-2B	24	4	18				
OS-4C	36	4	18				







1. ALL COLLARS SHALL BE INSTALLED SO AS TO BE WATER-TIGHT. 2. COLLAR SIZE AND SPACING SHALL BE AS INDICATED BELOW.

	BASIN NO.	PIPE SIZE (IN.)	S (IN.)	NO. OF COLLARS	DISTANCE RISER TO 1ST COLLAR (FT.)	COLLAR SPACING (FT.)
ſ	1	24	92	2	6.0000	15
ĺ	2	24	74	2	15.0000	11
ſ	3	24	52	2	12.0000	10
	4	24	76	1	15.0000	N/A

CONCRETE ANTI-SEEP COLLAR PERMANENT BASIN NOT TO SCALE

RIPRAP APRON AT PIPE OUTLET WITH ENDWALL NOT TO SCALE

1. ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN. TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO

2. ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON

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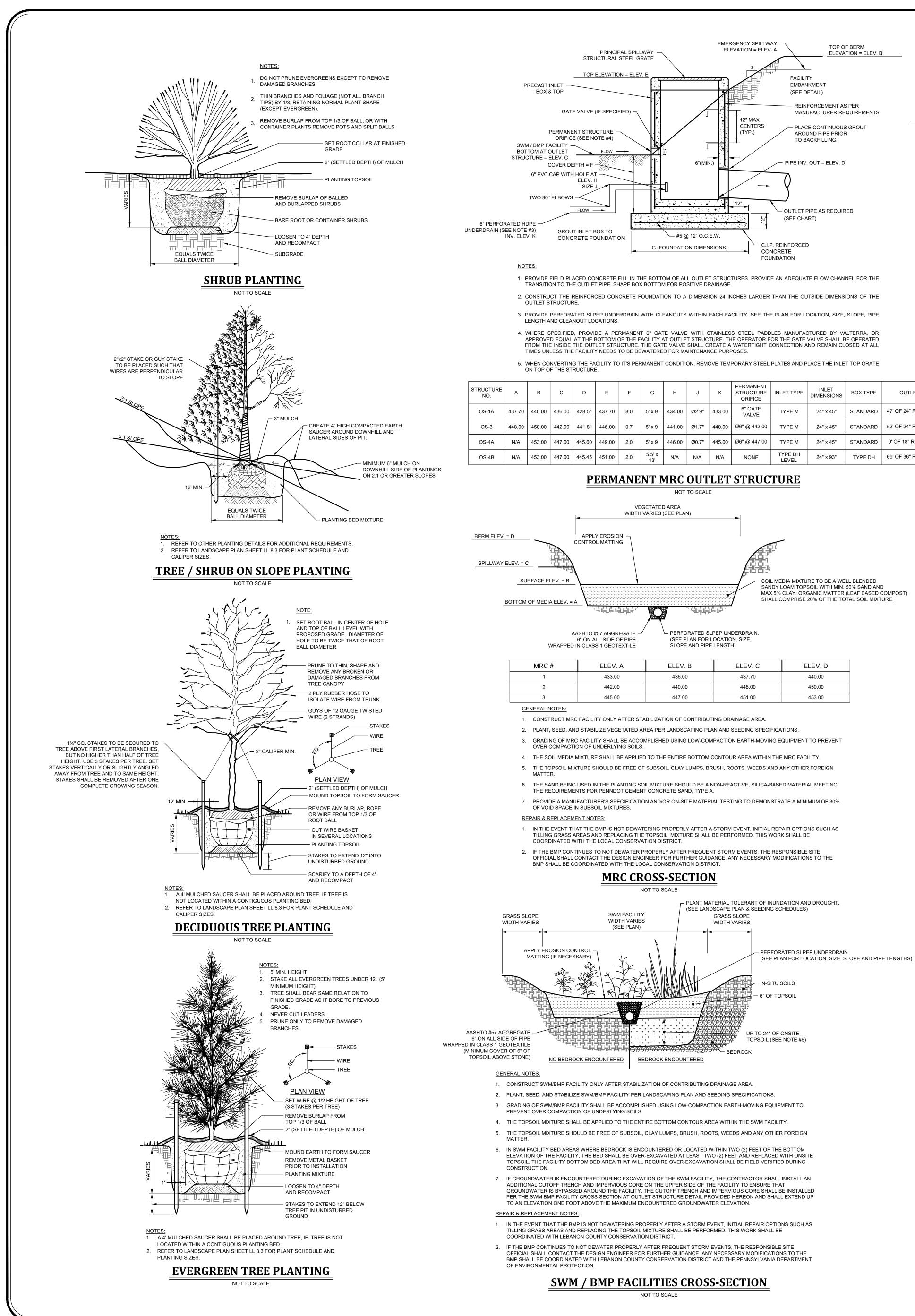
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18

18

29



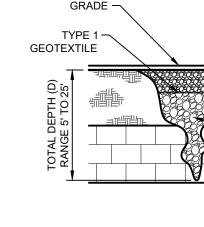


							NOT		C					
			P											
N/A	453.00	447.00	445.45	451.00	2.0'	5.5' x 13'	N/A	N/A	N/A	NONE	TYPE DH LEVEL	24" x 93"	TYPE DH	69' OF 36" RCP @ 0.50
N/A	453.00	447.00	445.60	449.00	2.0'	5' x 9'	446.00	Ø0.7"	445.00	Ø6" @ 447.00	TYPE M	24" x 45"	STANDARD	9' OF 18" RCP @ 0.50
448.00	450.00	442.00	441.81	446.00	0.7'	5' x 9'	441.00	Ø1.7"	440.00	Ø6" @ 442.00	TYPE M	24" x 45"	STANDARD	52' OF 24" RCP @ 0.50
437.70	440.00	436.00	428.51	437.70	8.0'	5' x 9'	434.00	Ø2.9"	433.00	6" GATE VALVE	TYPE M	24" x 45"	STANDARD	47' OF 24" RCP @ 1.00
										OT AT TOE				

		5. WHEN CONVERTING THE FACILITY TO IT'S PERMANENT CONDITION, REMOVE TEMPORARY STEEL PLATES AND PLACE THE INLET TOP GRATE ON TOP OF THE STRUCTURE.													
	A	в	с	D	E	F	G	н	J	к	PERMANENT STRUCTURE ORIFICE	INLET TYPE	INLET DIMENSIONS	BOX TYPE	OUTLET PIPE
	437.70	440.00	436.00	428.51	437.70	8.0'	5' x 9'	434.00	Ø2.9"	433.00	6" GATE VALVE	TYPE M	24" x 45"	STANDARD	47' OF 24" RCP @ 1.00%
	448.00	450.00	442.00	441.81	446.00	0.7'	5' x 9'	441.00	Ø1.7"	440.00	Ø6" @ 442.00	TYPE M	24" x 45"	STANDARD	52' OF 24" RCP @ 0.50%
T															

TOP OF BERM TOP O		H = B
	FACILITY LOCATION	A
1. PROVIDE FIELD PLACED CONCRETE FILL IN THE BOTTOM OF ALL OUTLET STRUCTURES. PROVIDE AN ADEQUATE FLOW CHANNEL FOR THE TRANSITION TO THE OUTLET PIPE. SHAPE BOX BOTTOM FOR POSITIVE DRAINAGE.	MRC #1	436.

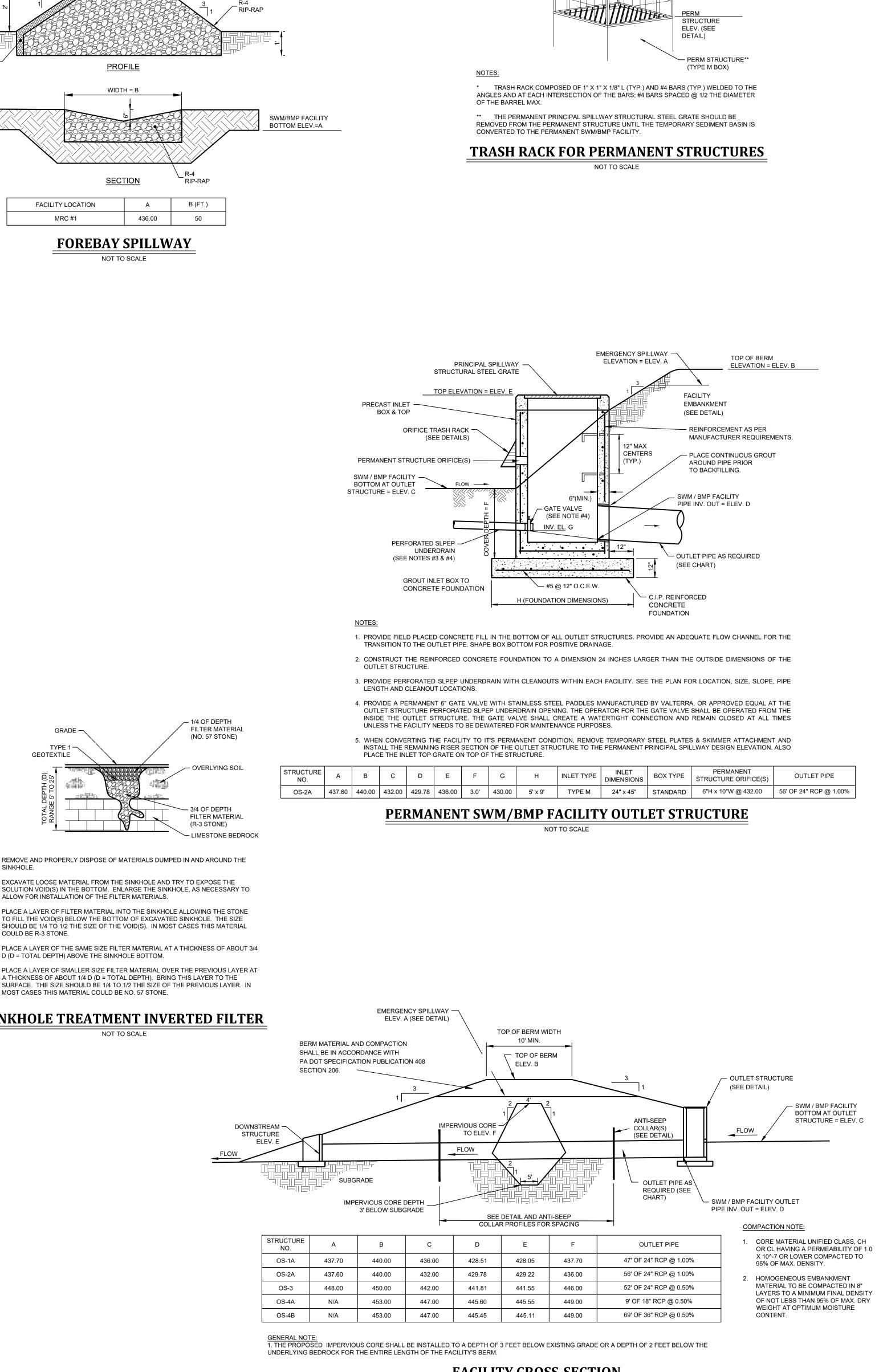
FOREBAY SPILLWAY NOT TO SCALE



- 1. REMOVE AND PROPERLY DISPOSE OF MATERIALS DUMPED IN AND AROUND THE SINKHOLE.
- 2. EXCAVATE LOOSE MATERIAL FROM THE SINKHOLE AND TRY TO EXPOSE THE SOLUTION VOID(S) IN THE BOTTOM. ENLARGE THE SINKHOLE, AS NECESSARY TO ALLOW FOR INSTALLATION OF THE FILTER MATERIALS.
- 3. PLACE A LAYER OF FILTER MATERIAL INTO THE SINKHOLE ALLOWING THE STONE TO FILL THE VOID(S) BELOW THE BOTTOM OF EXCAVATED SINKHOLE. THE SIZE
- COULD BE R-3 STONE. 4. PLACE A LAYER OF THE SAME SIZE FILTER MATERIAL AT A THICKNESS OF ABOUT 3/4
- D (D = TOTAL DEPTH) ABOVE THE SINKHOLE BOTTOM. 5. PLACE A LAYER OF SMALLER SIZE FILTER MATERIAL OVER THE PREVIOUS LAYER AT A THICKNESS OF ABOUT 1/4 D (D = TOTAL DEPTH). BRING THIS LAYER TO THE SURFACE. THE SIZE SHOULD BE 1/4 TO 1/2 THE SIZE OF THE PREVIOUS LAYER. IN MOST CASES THIS MATERIAL COULD BE NO. 57 STONE.

SINKHOLE TREATMENT INVERTED FILTER NOT TO SCALE

FACILITY CROSS-SECTION AT PERMANENT OUTLET STRUCTURE NOT TO SCALE



TRASH RACK*-



- SWM / BMP FACILITY BOTTOM AT OUTLET STRUCTURE = ELEV. C