PRELIMINARY/FINAL LAND DEVELOPMENT PLAN FOR

JOSEPH WIDMER

SMITHFIELD TOWNSHIP

MONROE COUNTY, PA



RBV 2439 PG. 1871

PHIC SCALE

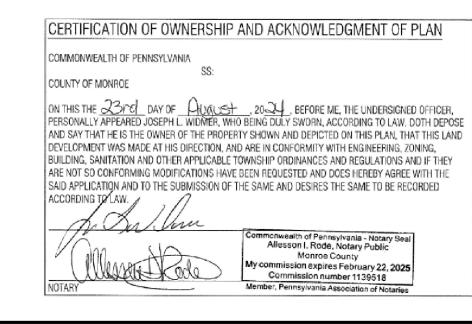
SCALE: 1

ENGINEER:

RKR HESS, A DIVISION OF UTRS INC. 112 N. COURTLAND STREET EAST STROUDSBURG, PA 18301 TEL. (570) 421-1550

OWNER/APPLICANT:

JOSEPH WIDMER 158 SMITHFIELD TRAILER COURT EAST STROUDSBURG, PA 18301



PLAN PREPARER'S STATEMENT: I,_______, A LICENSED PROFESSIONAL ENGINEER IN THE COMMONWEALTH OF PENNSYLVANIA, DO HEREBY CERTIFY THAT THE ACCOMPANYING APPLICATION, PLANS AND SUPPORTING DOCUMENTATION ARE TRUE AND ACCURATE, TO THE BEST OF MY KNOWLEDGE. DATE NICHOLAS DEFRANK, PE

APPLICANT ACKNOWLEDGEMENT STATEMENT:

I, JOSEPH WIDMER, OWNER OF THE PROPERTY, ACKNOWLEDGE THAT ANY REVISION TO THE APPROVED DRAINAGE PLAN MUST BE APPROVED BY THE TOWNSHIP AND THAT A REVISED EROSION AND SEDIMENT CONTROL PLAN MUST BE SUBMITTED TO THE CONSERVATION DISTRICT FOR A DETERMINATION OF ADEQUACY.

AND DATE

CHAIRMAN

SECRETARY

SMITHFIELD TOWNSHIP BOARD OF SUPERVISORS
CERTIFICATE OF REVIEW AND APPROVAL:

A PUBLIC MEETING HELD ON _____ THE BOARD OF SUPERVISORS OF SMITHFIELD
TOWNSHIP REVIEWED AND BY A A MOTION DULLY CARRIED, DOES HEREBY APPROVE THE SAID
LAND DEVELOPMENT PLAN FOR THE LANDS OF JOSEPH WIDMER, AS SHOWN.

DATE: ______

CHAIRMAN

SECRETARY

REVIEWED BY THE SMITHFIELD TOWNSHIP ENGINEER
TOWNSHIP ENGINEER ______

TOWNSHIP ENGINEER ______

DATE

AFFIDAVIT OF PLAN SUBMISSION

THIS LAND DEVELOPMENT PLAN WAS SUBMITTED TO THE MONROE COUNTY PLANNING COMMISSION FOR REVIEW ON _______, 2024

NICHOLAS DEFRANK, PE

PHONE: 610-826-9504

UTILITY CONTACT INFORMATION AS FOLLOWS (FROM PA ONE CALL TICKET):

COMPANY: FIRSTENERGY CORPORATION
ADDRESS: 21 S MAIN STAKRON, OH. 44308
CONTACT: MELLYSSA ADAMS
EMAIL: madams@firstenergycorp.com
PHONE: 330-604-4073

COMPANY: PENNSYLVANIA AMERICAN WATER ADDRESS: 5753 DECKER RDBUSHKILL, PA. 18324 CONTACT: KASEY WHITE EMAIL: KASEY.WHITE@AMWATER.COM PHONE: 570-588-2754

COMPANY: PENCOR SERVICES/BLUE RIDGE COMMUNICATION ADDRESS: 475 DELAWARE AVEPALMERTON, PA. 18071 CONTACT: JOE BUCCIERI FMAIL: ibugcieri@brdy.com

COMPANY: SMITHFIELD SEWER AUTHORITY
ADDRESS: 1155 RED FOX RDEAST STROUDSBURG, PA. 18301
CONTACT: TERRI TIMKO
EMAIL: admin@ssauthority.com

HK AS IN PO

CONTACT: CHRIS CLAUSE
EMAIL: chris@smithfieldtownship.com
PHONE: 570-223-5082EXT. 8

COMPANY: SMITHFIELD TOWNSHIP

ADDRESS: 1155 RED FOX RDE STROUDSBURG, PA. 18301

CALL BEFORE YOU DIG

PENNSYLVANIA LAW REQUIRES
3 WORKING DAYS NOTICE FOR
CONSTRUCTION PHASE AND 10 WORKING
DAYS IN DESIGN STAGE--STOP CALL
PENNSYLVANIA ONE CALL SYSTEM, INC
1-800-242-1776

187 UNDERGROUND UTILITY PROTECTION ACT

RKR HESS, A DIVISION OF UTRS INC. STATES THAT, PURSUANT TO THE PROVISIONS OF ACT NO. 287 OF 1974, AS AMENDED BY ACT 187 OF 1996, OF THE PENNSYLVANIA LEGISLATURE, IT HAS PERFORMED THE FOLLOWING IN PREPARING THESE DRAWINGS REQUIRING EXCAVATION OR DEMOLITION WORK AT SITES WITHIN THE POLITICAL SUBDIVISION(S) SHOWN ON THE DRAWINGS:

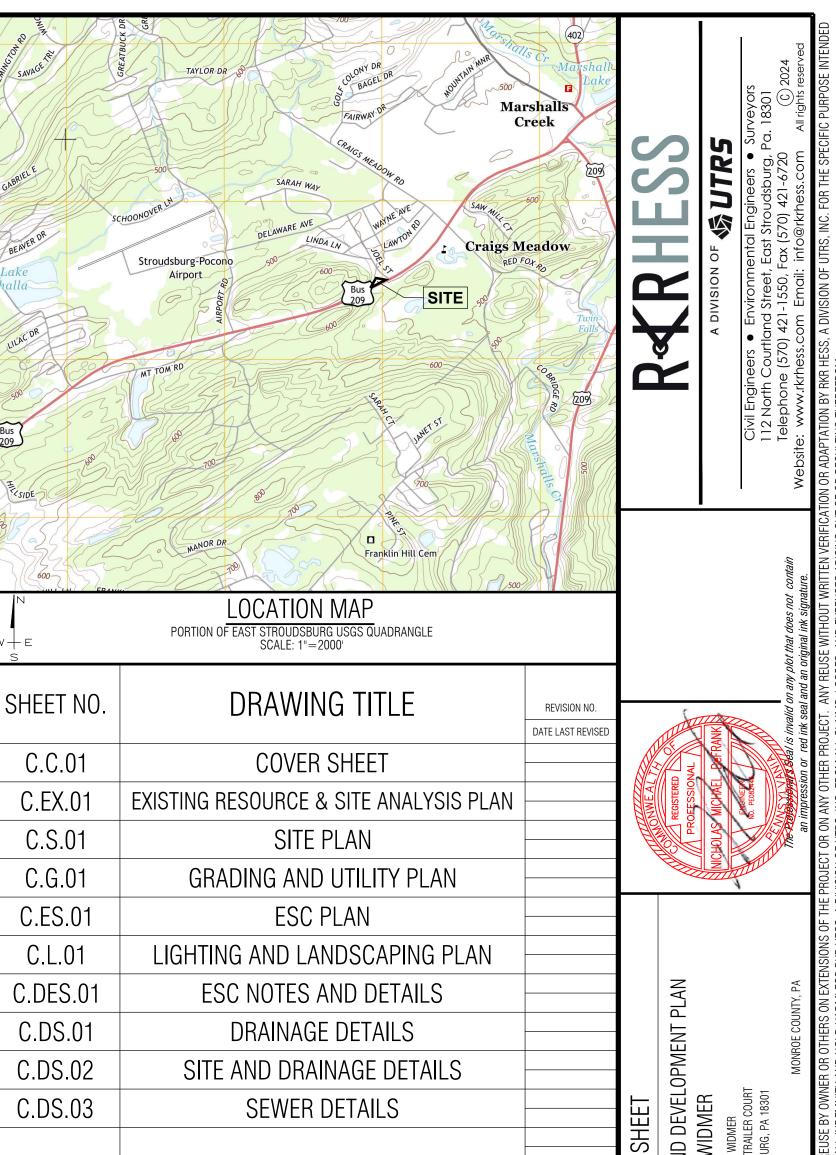
- PURSUANT TO SECTION 4, CLAUSE (2) OF SAID ACT, RKR HESS, A DIVISION OF UTRS INC.
 REQUESTED FROM EACH USER'S OFFICE DESIGNATED ON SUCH LIST PROVIDED BY THE ONE CALL
 SYSTEM NOTIFICATION, THE INFORMATION PRESCRIBED BY SECTION 2, CLAUSE (4) OF SAID ACT,
 NO LESS THAN (10) NOR MORE THAN (90) WORKING DAYS BEFORE FINAL DESIGN IS TO BE
- PURSUANT TO SECTION 4, CLAUSE (5) OF SAID ACT, RKR HESS, A DIVISION OF UTRS INC. HAS MET
 THEIR OBLIGATIONS OF CLAUSE (2) BY CALLING THE ONE CALL SYSTEM SERVING THE LOCATION
 WHERE EXCAVATION IS TO BE PERFORMED.
- PURSUANT TO SECTION 4, CLAUSE (3) OF SAID ACT, RKR HESS, A DIVISION OF UTRS INC. 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 DESIGNATE OF CALL SYSTEM PHONE NUMBER AS SHOWN ON THE LIST REFERRED TO NO SERVICE ADDRESS AND PHONE NUMBER AS SHOWN ON THE LIST REFERRED

AND RKR HESS, A DIVISION OF UTRS INC. 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 RKR HESS, A DIVISION OF UTRS INC. IS REFLECTING SAID INFORMATION ON THESE DRAWINGS ONLY DUE TO THE REQUIREMENTS OF THE SAID ACT NO. 187 OF DECEMBER 19, 1996.

ONE CALL SYSTEM SERIAL NO. NOTIFICATION BY RKR HESS, A DIVISION OF UTRS INC.

DATE: JUNE 20, 2024

ONE CALL SYSTEM SERIAL NUMBER: 20241720037



REVISIONS

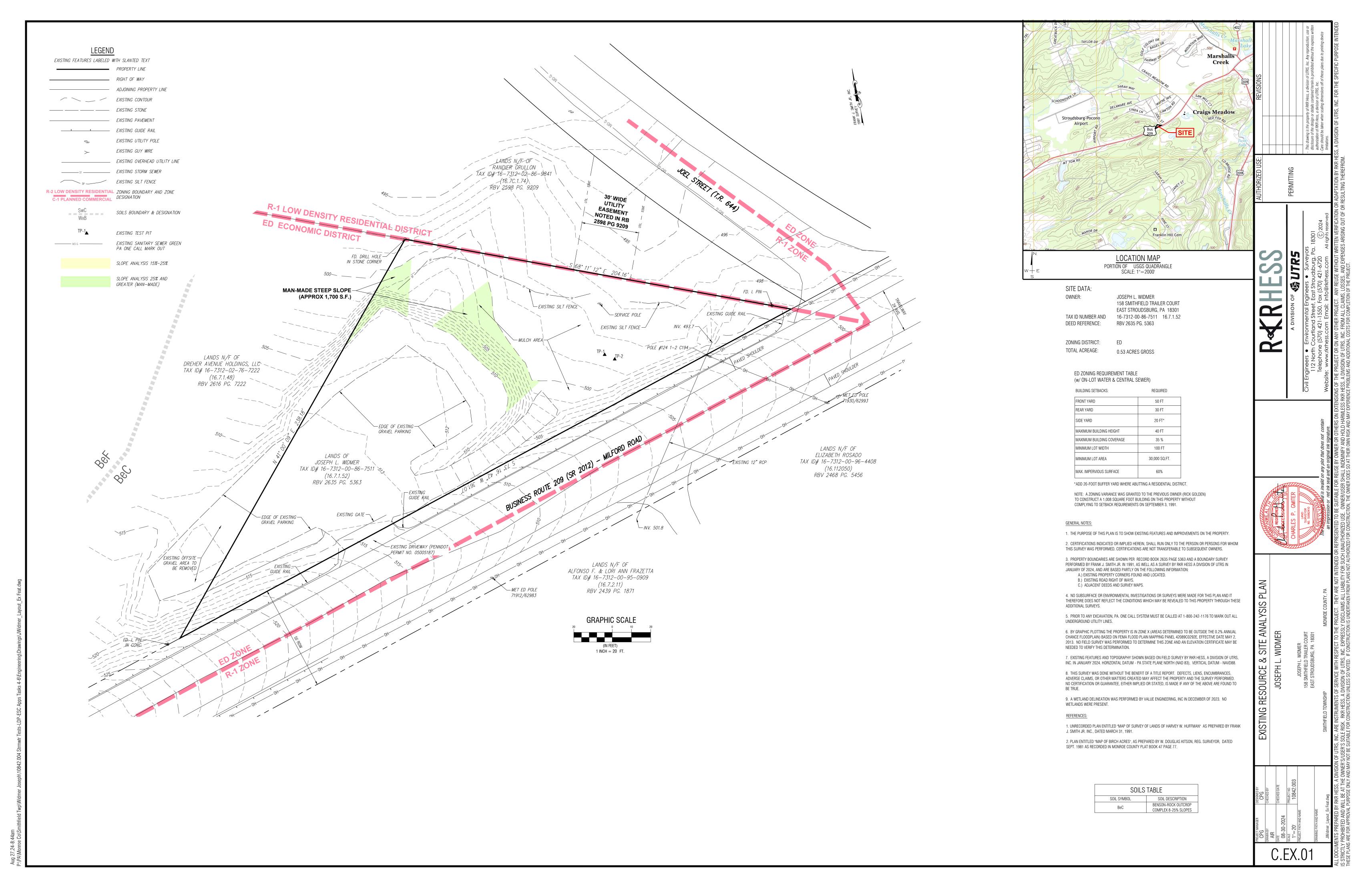
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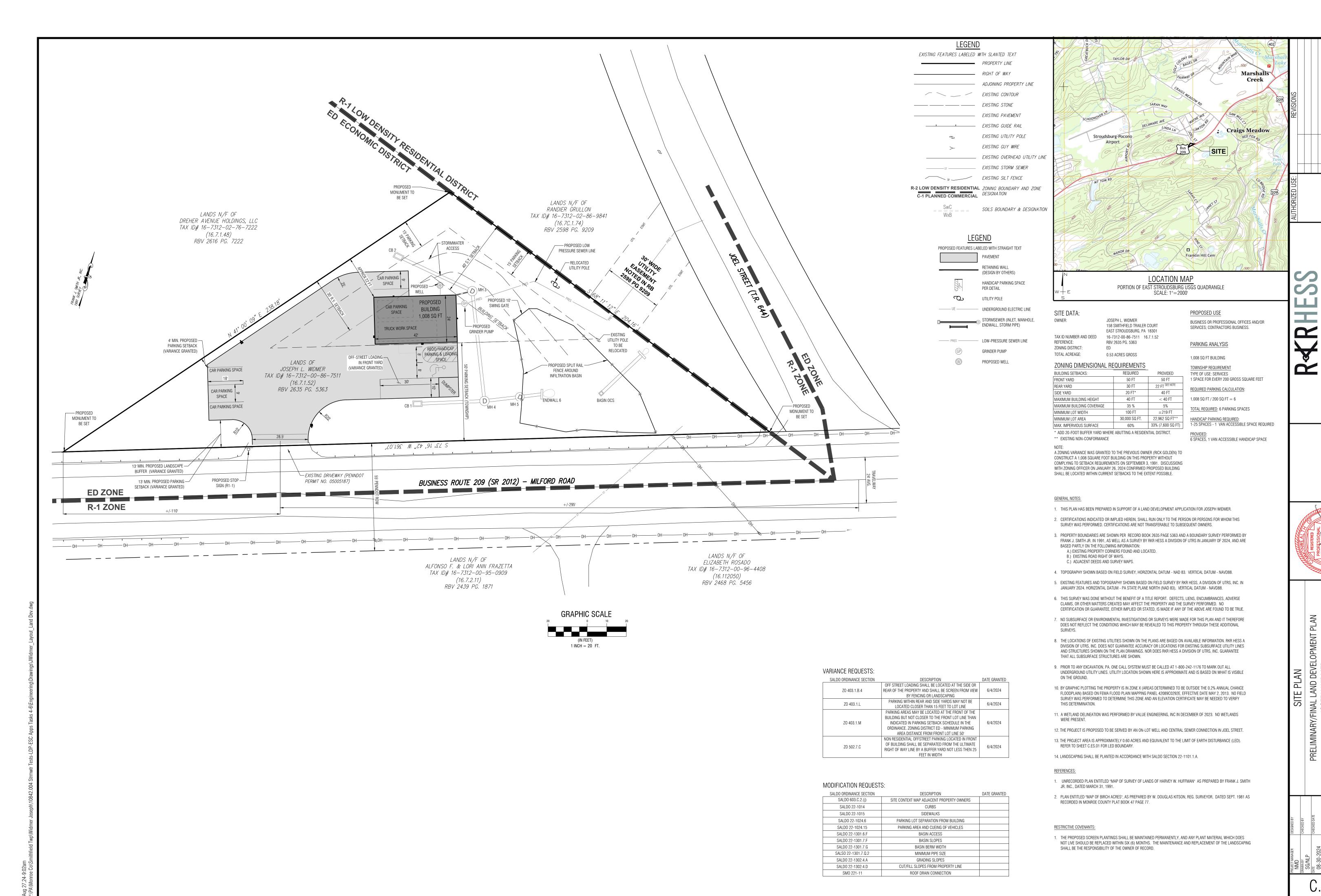
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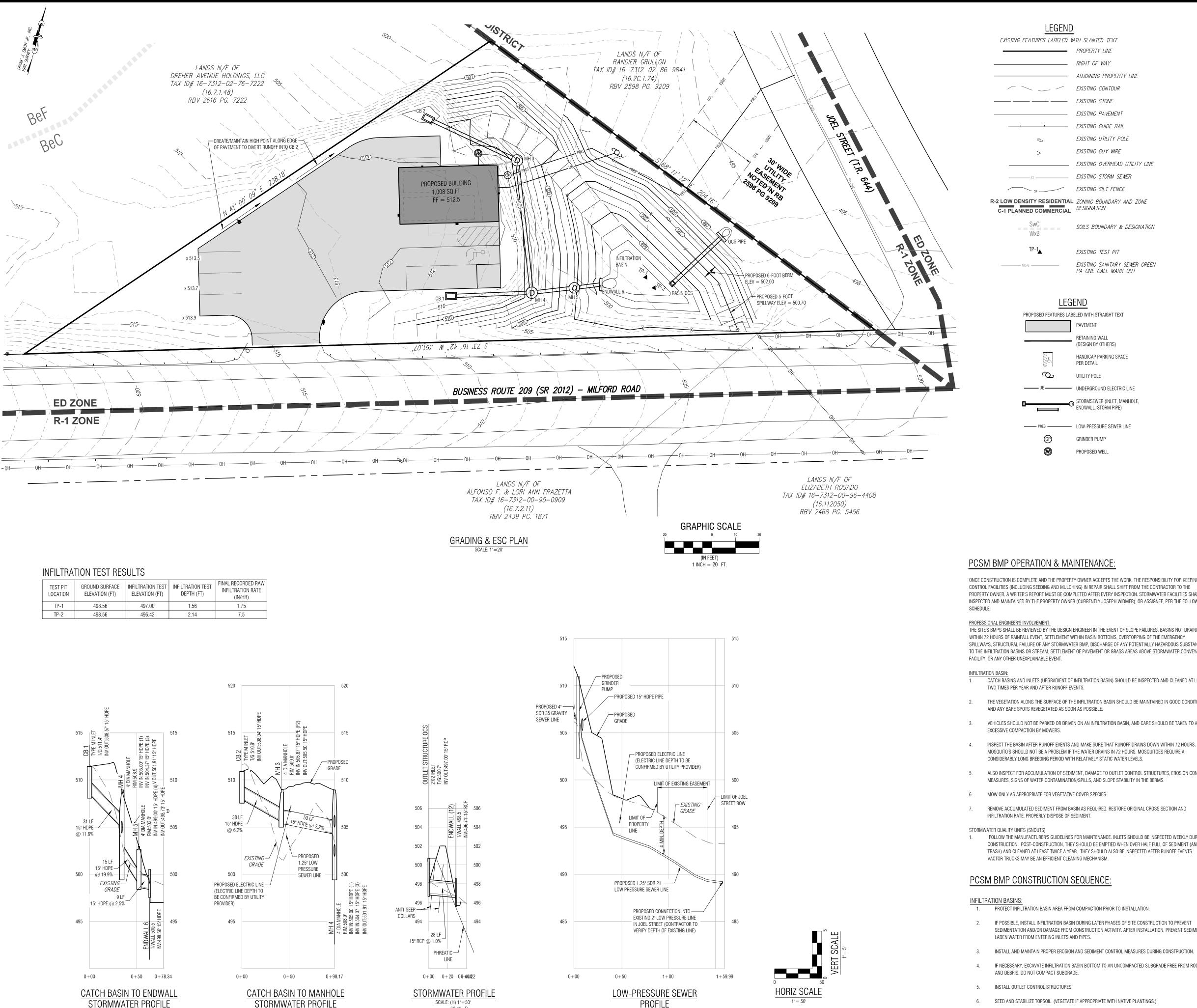
PRELIMINARY/FINAL LAN
JOSEPH V.

AUTHORIZED US				CINITTINIO	מאווון ווואועם ב		
DESIGNED BY	СНЕСКЕD ВУ	CHECKED DATE		PROJECT NO.	10842.004		
PROJECT MANAGER NMD	DRAWN BY SG	DATE	08-30-2024	SCALE	AS SHOWN	PROJECT PATH AND NAME	DRAWING PATH AND NAME





SHEET 3 OF 10



SCALE: (H) 1"=50

(V) 1"=5'

SCALE: (H) 1"=50"

SEWER NOTES:

- 1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE TOWNSHIP'S RULES AND REGULATIONS FOR BUILDING SEWERS AND CONNECTIONS FOR INDIVIDUAL IMPROVED PROPERTIES AND STANDARDS SPECIFICATIONS FOR CONSTRUCTION OF SANITARY SEWER SYSTEMS FOR SMITHFIELD SEWER AUTHORITY, LAST REVISED NOVEMBER 13, 2023 AND ADOPTED ON NOVEMBER 13, 2023 IN RESOLUTION 1-2023, CURRENT OPERATIONAL AND MAINTENANCE PLAN OR SEWER MANUAL AS APPROPRIATE. FOR THE PURPOSE OF NOTATIONS, THE TERM 0&M SHALL INCLUDE RESOLUTION 1-2023, THE 0&M PLAN AND SEWER MANUAL.
- 2. CONTRACTOR SHALL FURNISH, INSTALL, AND TEST ALL MATERIALS IN ACCORDANCE WITH THE TOWNSHIP'S 0&M PLAN, AND SHALL SUBMIT SHOP DRAWINGS AND TESTING SPECIFICATIONS TO THE TOWNSHIP FOR APPROVAL PRIOR TO CONSTRUCTION.
- 3. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE PROJECT ENGINEER AND THE TOWNSHIP PRIOR TO ORDERING MATERIALS FOR THE
- 4. ALL PRESSURE PIPES SHALL BE SDR 21 PVC PIPE WITH JOINTS SLVENT CEMENT TO ASTM D2855 AND PLACED WITH A 4-FOOT MINIMUM COVER FROM THE TOP OF THE PIPE TO THE FINISHED GROUND ELEVATION, EXCEPT WHERE SPECIFIC DEPTHS ARE OTHERWISE SHOWN ON THE APPROVED DRAWINGS.

6. PIPE SHALL BE LAID TO A UNIFORM LINE AND GRADE BETWEEN MANHOLES OR CLEANOUTS, SOCKET ENDS UPGRADE, WITH A FIRM AND

- 5. UTILITY TRENCHES SHALL BE SHORED IN ACCORDANCE WITH OSHA STANDARDS.
- EVEN BEARING ALONG THE BARREL OF THE PIPE. THE INTERIOR OF EACH PIPE SHALL BE CLEANED OF ALL EXCESS JOINT AND FOREIGN MATERIAL BEFORE THE NEXT PIPE IS LAID. THE PIPE SHALL BE LAID IN THE BEDDING MATERIAL AS SPECIFIED. PIPE-LAYING SHALL COMMENCE AT THE LOWEST POINT AND PROCEED UPGRADE. AT THE CLOSE OF EACH DAY'S WORK AND AT SUCH OTHER TIMES WHEN THE PIPE IS NOT BEING LAID, THE OPEN END OF THE PIPE SHALL BE PROTECTED WITH A FITTING STOPPER..
- 7. UNDER NO CIRCUMSTANCES WILL ANY PIPE BE INSTALLED IN A TRENCH CONTAINING WATER, OR A BED CONTAINING FROST. 8. PIPE BEDDING SHALL BE PLACED IN LAYERS NOT EXCEEDING 6-INCHES AND COMPACTED TO 95%. BACK FILLING SHALL NOT DISTURB OR
- 9. THE CONTRACTOR SHALL TEST EACH SECTION OF SEWER BETWEEN MANHOLES AND ALL LATERALS TO THE LIMIT OF THE WORK AS
- OUTLINED IN THE TOWNSHIP SPECIFICATIONS. 10. ALL MATERIALS, WORK, AND TESTING SHALL BE IN ACCORDANCE WITH TOWNSHIP SPECIFICATIONS AND THE PA UNIFORM CONSTRUCTION CODE, PA WASTE WATER FACILITIES MANUAL, AND THE 0&M PLAN, WHICHEVER IS MORE RESTRICTIVE.
- 11. ALL INSTALLATION AND TESTING OF SANITARY SEWER SYSTEMS SHALL BE WITNESSED AND INSPECTED BY THE TOWNSHIP PURSUANT TO THE TOWNSHIP'S REGULATIONS. NOTICES SHALL BE MADE BY THE CONTRACTOR TO THE TOWNSHIP 24 HOURS PRIOR TO ANY WORK BEING PERFORMED TO ALLOW FOR ALL INSPECTIONS.
- 12. THE DEVELOPER THROUGH ITS CONTRACTOR SHALL PROVIDE THE TOWNSHIP WITH TWO (2) PAPER COPIES OF AS-BUILT PLANS. 13. TESTING
- 13.1. HYDROSTATIC LEAKAGE TEST (THE TOWNSHIP'S DESIGNATED AGENT SHALL BE PRESENT FOR ALL FINAL ACCEPTANCE TESTS): 13.1.1. TEST EACH NEWLY LAID SANITARY FORCE MAIN OR LOW PRESSURE SYSTEM BY HYDROSTATIC TEST PROCEDURE IN ACCORDANCE WITH THE RECOMMENDED PRACTICE ESTABLISHED BY AWWA STANDARD C600. SECTION 4. CONDUCT PRESSURE TEST FOR A PERIOD OF NOT LESS THAN 30 MINUTES AT A PRESSURE OF NOT LESS THAN AT 1.5 TIMES THE
- ELEVATION OF THE TEST GAUGE. OBTAIN TEST PRESSURE FROM ENGINEER. 13.1.2. SLOWLY FILL THE SECTION TO BE TESTED WITH WATER, EXPELLING AIR FROM THE PIPELINE AT THE HIGH POINTS. INSTALL CORPORATION STOPS AT HIGH POINTS IF NECESSARY. AFTER ALL AIR IS EXPELLED, CLOSE AIR VENTS AND CORPORATION

WORKING PRESSURE OF THE PIPELINE BASED ON THE ELEVATION OF THE LOWEST POINT IN THE PIPELINE CORRECTED TO THE

- STOPS AND RAISE THE PRESSURE TO THE SPECIFIED TEST PRESSURE. 13.1.3. OBSERVE JOINTS, FITTINGS AND VALVES UNDER TEST. REMOVE AND RENEW CRACKED PIPE, JOINTS, FITTINGS, AND VALVES SHOWING VISIBLE LEAKAGE. RETEST.
- 13.1.4. AFTER VISIBLE DEFICIENCIES ARE CORRECTED, CONTINUE TESTING AT THE SAME TEST PRESSURE FOR AN ADDITIONAL TWO HOURS TO DETERMINE THE LEAKAGE RATE. MAINTAIN PRESSURE WITHIN PLUS OR MINUS 5.0 PSI OF TEST PRESSURE. LEAKAGE IS DEFINED AS THE QUANTITY OF WATER SUPPLIED TO THE PIPELINE NECESSARY TO MAINTAIN TEST PRESSURE DURING THE PERIOD OF THE TEST.
- 13.1.5. COMPUTE THE MAXIMUM ALLOWABLE LEAKAGE BY THE FOLLOWING FORMULA:

L = NDP1/27400

WHERE: L IS THE ALLOWABLE LEAKAGE IN GALLONS/HOUR N IS THE NUMBER OF JOINTS IN THE SECTION TESTED D IS THE NOMINAL DIAMETER OF THE PIPE IN INCHES P IS THE AVERAGE TEST PRESSURE IN PSIG

- 13.1.6 IF THE TEST OF THE PIPE INDICATES LEAKAGE GREATER THAN THAT ALLOWED, LOCATE THE SOURCE OF THE LEAKAGE, MAKE CORRECTIONS AND RETEST UNTIL LEAKAGE IS WITHIN ALLOWABLE LIMITS. CORRECT VISIBLE LEAKS REGARDLESS OF THE AMOUNT OF LEAKAGE.
- 13. ALL WATER ACCUMULATED IN ANY EXCAVATION SHALL BE REMOVED AND DEWATERED THROUGH THE PUMPED WATER FILTER BAG PRIOR
- 14. ANY EXISTING MANHOLE LID WHICH IS OPENED BY THE CONTRACTOR SHALL BE SECURELY CLOSED BY THE CONTRACTOR WHEN NOT ACTIVELY SUPERVISED. THE LID SHALL BE SECURELY SHUT. ANY DEBRIS ON THE RIM RISER SHALL BE REMOVED TO ENSURE FULL CONTACT BETWEEN THE RIM AND THE LID. MANHOLE INSERTS SHALL BE REINSTALLED, IF AN INSERT IS NOT PRESENT. THE CONTRACTOR SHALL INFORM THE TOWNSHIP IMMEDIATELY. IF THE TOWNSHIP IS NOT INFORMED OF MISSING INSERTS IT IS ASSUMED THE INSERT WAS LOST BY THE CONTRACTOR AND THE CONTRACTOR WILL BE REQUIRED TO INSTALL A NEW INSERT AT NO COST TO THE TOWNSHIP.

PCSM BMP OPERATION & MAINTENANCE:

ONCE CONSTRUCTION IS COMPLETE AND THE PROPERTY OWNER ACCEPTS THE WORK, THE RESPONSIBILITY FOR KEEPING CONTROL FACILITIES (INCLUDING SEEDING AND MULCHING) IN REPAIR SHALL SHIFT FROM THE CONTRACTOR TO THE PROPERTY OWNER. A WRITER'S REPORT MUST BE COMPLETED AFTER EVERY INSPECTION. STORMWATER FACILITIES SHALL BE INSPECTED AND MAINTAINED BY THE PROPERTY OWNER (CURRENTLY JOSEPH WIDMER), OR ASSIGNEE, PER THE FOLLOWING

PROPERTY LINE

_____ RIGHT OF WAY

EXISTING CONTOUR

----- EXISTING PAVEMENT

EXISTING GUIDE RAIL

SF EXISTING SILT FENCE

LEGEND

PROPOSED FEATURES LABELED WITH STRAIGHT TEXT

PAVEMENT

PER DETAIL UTILITY POLE

——— UE ———— UNDERGROUND ELECTRIC LINE

PRES LOW-PRESSURE SEWER LINE

GRINDER PUMP

PROPOSED WELL

RETAINING WALL

(DESIGN BY OTHERS)

HANDICAP PARKING SPACE

STORMSEWER (INLET, MANHOLE

ENDWALL, STORM PIPE)

----- ADJOINING PROPERTY LINE

EXISTING UTILITY POLE

EXISTING STORM SEWER

EXISTING TEST PIT

PA ONE CALL MARK OUT

EXISTING OVERHEAD UTILITY LINE

SOILS BOUNDARY & DESIGNATION

EXISTING SANITARY SEWER GREEN

EXISTING GUY WIRE

PROFESSIONAL ENGINEER'S INVOLVEMENT:

THE SITE'S BMPS SHALL BE REVIEWED BY THE DESIGN ENGINEER IN THE EVENT OF SLOPE FAILURES. BASINS NOT DRAINING WITHIN 72 HOURS OF RAINFALL EVENT, SETTLEMENT WITHIN BASIN BOTTOMS, OVERTOPPING OF THE EMERGENCY SPILLWAYS, STRUCTURAL FAILURE OF ANY STORMWATER BMP, DISCHARGE OF ANY POTENTIALLY HAZARDOUS SUBSTANCE TO THE INFILTRATION BASINS OR STREAM, SETTLEMENT OF PAVEMENT OR GRASS AREAS ABOVE STORMWATER CONVEYANCE FACILITY, OR ANY OTHER UNEXPLAINABLE EVENT.

CATCH BASINS AND INLETS (UPGRADIENT OF INFILTRATION BASIN) SHOULD BE INSPECTED AND CLEANED AT LEAST

- TWO TIMES PER YEAR AND AFTER RUNOFF EVENTS.
- THE VEGETATION ALONG THE SURFACE OF THE INFILTRATION BASIN SHOULD BE MAINTAINED IN GOOD CONDITION, AND ANY BARE SPOTS REVEGETATED AS SOON AS POSSIBLE.
- VEHICLES SHOULD NOT BE PARKED OR DRIVEN ON AN INFILTRATION BASIN, AND CARE SHOULD BE TAKEN TO AVOID EXCESSIVE COMPACTION BY MOWERS.
- CONSIDERABLY LONG BREEDING PERIOD WITH RELATIVELY STATIC WATER LEVELS.
- ALSO INSPECT FOR ACCUMULATION OF SEDIMENT, DAMAGE TO OUTLET CONTROL STRUCTURES, EROSION CONTROL MEASURES, SIGNS OF WATER CONTAMINATION/SPILLS, AND SLOPE STABILITY IN THE BERMS.
- 6. MOW ONLY AS APPROPRIATE FOR VEGETATIVE COVER SPECIES.
- REMOVE ACCUMULATED SEDIMENT FROM BASIN AS REQUIRED. RESTORE ORIGINAL CROSS SECTION AND INFILTRATION RATE. PROPERLY DISPOSE OF SEDIMENT.

STORMWATER QUALITY UNITS (SNOUTS)

FOLLOW THE MANUFACTURER'S GUIDELINES FOR MAINTENANCE. INLETS SHOULD BE INSPECTED WEEKLY DURING CONSTRUCTION. POST-CONSTRUCTION, THEY SHOULD BE EMPTIED WHEN OVER HALF FULL OF SEDIMENT (AND TRASH) AND CLEANED AT LEAST TWICE A YEAR. THEY SHOULD ALSO BE INSPECTED AFTER RUNOFF EVENTS. VACTOR TRUCKS MAY BE AN EFFICIENT CLEANING MECHANISM.

PCSM BMP CONSTRUCTION SEQUENCE

- 1. PROTECT INFILTRATION BASIN AREA FROM COMPACTION PRIOR TO INSTALLATION.
- 2. IF POSSIBLE, INSTALL INFILTRATION BASIN DURING LATER PHASES OF SITE CONSTRUCTION TO PREVENT SEDIMENTATION AND/OR DAMAGE FROM CONSTRUCTION ACTIVITY. AFTER INSTALLATION, PREVENT SEDIMENT-LADEN WATER FROM ENTERING INLETS AND PIPES.
- INSTALL AND MAINTAIN PROPER EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION.
- IF NECESSARY, EXCAVATE INFILTRATION BASIN BOTTOM TO AN UNCOMPACTED SUBGRADE FREE FROM ROCKS AND DEBRIS. DO NOT COMPACT SUBGRADE.
- INSTALL OUTLET CONTROL STRUCTURES.
- 6. SEED AND STABILIZE TOPSOIL. (VEGETATE IF APPROPRIATE WITH NATIVE PLANTINGS.)
- 7. DO NOT REMOVE INLET PROTECTION OR OTHER EROSION AND SEDIMENT CONTROL MEASURES UNTIL SITE IS FULLY STABILIZED.

INFILTRATION BASIN BMP CONSTRUCTION NOTES:

- 1. THE AREA PROPOSED FOR INFILTRATION/RETENTION SHALL BE FENCED, AS SHOWN ON THE PLAN, TO PROTECT THE AREA FROM COMPACTION FROM CONSTRUCTION ACTIVITIES.
- 2. STOCKPILES SHALL NOT BE PLACED OVER INFILTRATION AREAS.
- 3. COMPACTION OF THE SOIL AT THE INFILTRATION SURFACE SHALL NOT OCCUR. THE FOLLOWING METHODS ARE EXAMPLES OF HOW COMPACTION COULD BE AVOIDED.

A. EXCAVATION AND GRADING OF THE PROPOSED INFILTRATION BMP'S, INCLUDING THE BERM, SHALL BE COMPLETED FROM THE PERIMETER OF THE PROPOSED BMP WHERE POSSIBLE. WHERE THE EXCAVATION CANNOT BE COMPLETED FROM THE PERIMETER OF THE BMP, BULK EARTHWORK CAN BE COMPLETED TO AN ELEVATION THAT IS 1 FOOT ABOVE THE INFILITRATION SURFACE. THE FINAL 1 FOOT OF MATERIAL SHOULD BE EXCAVATED WITH A HOF OR SIMILAR EQUIPMENT. EXCAVATION FROM THIS POINT ON SHOULD BE COMPLETED WITH THE MACHINE PLACED ON THE AREAS CONTAINING 1 FOOT OF MATERIAL. AS THE EXCAVATION OF THE 1 FOOT OF MATERIAL PROCEEDS, THE INFILTRATION SURFACE SHOULD BE SCARIFIED. AGGREGATE BACKFILL SHOULD NOT BE DUMPED ONTO THE PREPARED INFILTRATION SURFACE BY TRUCK BUT SHOULD BE SPREAD WITH THE MACHINE PLACING/SPREADING THE STONE ON THE PERIMETER OF THE INFILTRATION SURFACE OR TRACKING OVER A MINIMUM OF 1 FOOT OF

B. THE USE OF LOW GROUND PRESSURE (LGP) MACHINES IS ALLOWED AS LONG AS THE SPECIFICATIONS OF THE MACHINE TO BE USED ARE PROVIDED AT THE PRE-CONSTRUCTION MEETING AND IT IS VERIFIED PRIOR TO EXCAVATION THAT THE PROPOSED MACHINE IS A LGP MACHINE.

4. IF COMPACTION OF THE INFILTRATION SURFACE OCCURS, INFILTRATION TESTING WILL BE REQUIRED TO VERIFY THAT THE INFILTRATION RATE USED IN THE CALCULATIONS IS STILL ACCURATE. IF THE NEW INFILTRATION RATE IS LOWER THAN THE RATE USED IN THE CALCULATIONS, THE DISTRICT WILL PROVIDE COMPLIANCE ASSISTANCE MEASURES TO ADDRESS THE VIOLATION. THESE MAY INCLUDE REQUIREMENTS FOR A REVISED PCSM PLAN AND/OR A REVISED E&S PLAN TO ADDRESS SOIL RESTORATION.

CRITICAL STAGES OF CONSTRUCTION

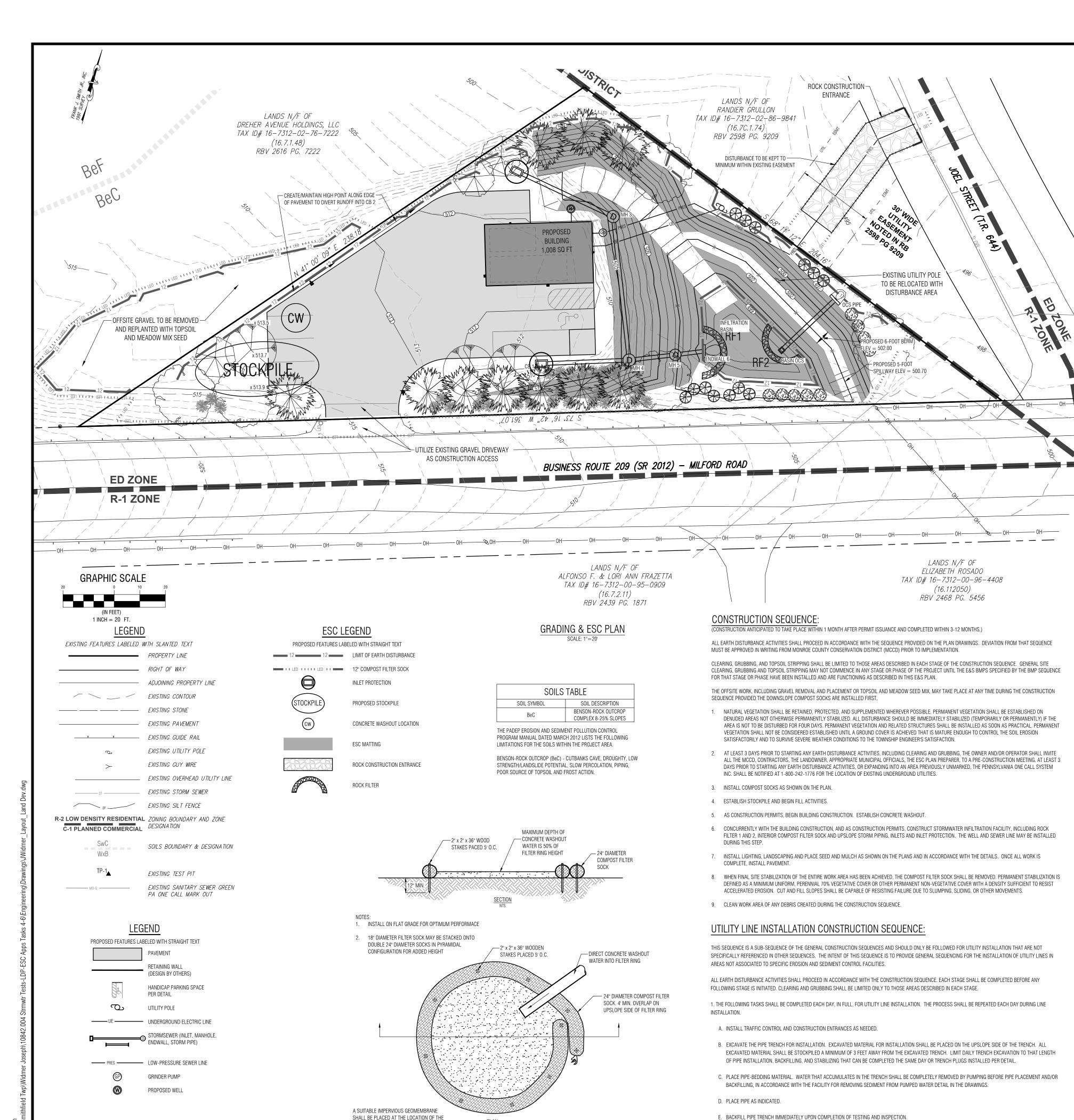
CRITICAL STAGES (THE OWNER SHALL ENGAGE A QUALIFIED PROFESSIONAL ENGINEER OR OTHER QUALIFIED PROFESSIONAL TO PERFORM CRITICAL STAGE INSPECTIONS)

- INSTALLATION OF INFILTRATION BASIN OBSERVE EXCAVATION, SUB-GRADE PREPARATION AND SEED MIX VIA SEED TAGS. CONFIRMATION OF REQUIRED MINIMUM VOLUME AND TOP OF BERM, EMERGENCY SPILLWAY AND OCS GEOMETRY AND STABILIZATION VIA AS-BUILT SURVEY. VERIFICATION OF INFILTRATION VIA FIELD OBSERVATION OF 72 HOUR DRAWDOWN.
- SNOUT INLETS VERIFICATION OF INSTALLATION OF SNOUTS IN INLETS DURING FIELD VISIT AFTER CONSTRUCTION.

ENGINEER'S STATEMENT

And Vinger of the Carrier that the Rainage Plan Meers all design standards and criteria of the BRODHEAD-MCMICHAELS CREEK ACT 167 PLAN AND SMITHFIELD TOWNSHIP STORMWATER MANAGEMENT ORDINANCE,





WASHOUT PRIOR TO INSTALLING THE SOCKS

FIGURE 3.18 TYPICAL COMPOST SOCK WASHOUT INSTALLATION

EROSION AND SEDIMENT CONTROL NOTES:

- 1. ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED ESC PLAN. A COPY OF THE APPROVED DRAWINGS (STAMPED, SIGNED AND DATED BY THE REVIEWING AGENCY) MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.
- 2. AT LEAST 7 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE ESC PLAN PREPARER, THE PCSM PLAN PREPARER, THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGHT OF CRITICAL STAGES OF IMPLEMENTATION OF THE PCSM PLAN, AND A REPRESENTATIVE FROM THE LOCAL CONSERVATION DISTRICT TO AN ON-SITE
- 3. AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE PENNSYLVANIA ONE CALL SYSTEM INC. SHALL BE NOTIFIED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING
- 4. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR
- BY THE DEPARTMENT PRIOR TO IMPLEMENTATION. 5. AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND
- OTHER OBJECTIONABLE MATERIAL. 6. CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING. GRUBBING AND TOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE
- OR PHASE OF THE PROJECT UNTIL THE ESC BMPS SPECIFIED BY THE BMP SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS ESC PLAN.
- 7. AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARLY MARKED AND FENCED OFF BEFORE CLEARING AND GRUBBING
- BY VEGETATION. EACH STOCKPILE SHALL BE PROTECTED IN THE MANNER SHOWN ON THE PLAN DRAWINGS. STOCKPILE HEIGHTS SHALL NOT EXCEED 35 FEFT STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER IMMEDIATELY LIPON DISCOVERING LINEORESEEN CIRCLIMSTANCES POSING THE POTENTIAL FOR ACCELERATED FROSION AND/OR

SEDIMENT POLLUTION. THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO MINIMIZE THE

TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED AT THE LOCATION(S) SHOWN ON THE PLAN

MAPS(S) IN THE AMOUNT NECESSARY TO COMPLETE THE FINISH GRADING OF ALL EXPOSED AREAS THAT ARE TO BE STABILIZED

- POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY THE LOCAL CONSERVATION DISTRICT AND/OR THE REGIONAL ALL BLUI DING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1, AND 287.1 ET. SEQ.
- NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN ESC PLAN APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE
- DEPARTMENT FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED
- ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED VEGETATED AREAS.
- VEHICLES AND EQUIPMENT MUST ENTER FROM SR 209 (MILFORD ROAD).

SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING.

- 15. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPS SHALL BE MAINTAINED PROPERLY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT BMPS AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING MUST BE PERFORMED IMMEDIATELY. IF THE ESC BMPS FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPS, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
- A LOG SHOWING DATES THAT ESC BMPS WERE INSPECTED AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE THEY WERE CORRECTED SHALL BE MAINTAINED ON THE SITE AND BE MADE AVAILABLE TO REGULATORY AGENCY OFFICIALS AT THE TIME OF
- 17. SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEPT INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.
- 18. ALL SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS.
- 19. AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES -- 6 TO 12 INCHES ON COMPACTED SOILS -- PRIOR TO PLACEMENT OF TOPSOIL. AREAS TO BE VEGETATED SHALL HAVE A MINIMUM 4 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING. FILL OUTSLOPES SHALL HAVE A MINIMUM OF 2 INCHES OF TOPSOIL
- 20. 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
- 21. ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS.
- 22 FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OBJECTIONARI F. MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
- 23. FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.
- 24. FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
- 25. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.
- 26. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE. CUT SLOPES IN
- COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE VEGETATED. SEEDED AREAS WITHIN 50 FEET OF A SURFACE WATER, OR AS OTHERWISE SHOWN ON THE PLAN DRAWINGS, SHALL BE BLANKETED ACCORDING TO THE STANDARDS OF THIS PLAN. 27. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE IN ANY AREA OR SUBAREA OF THE PROJECT, THE OPERATOR SHALL
- STABILIZE ALL DISTURBED AREAS. DURING NON-GERMINATING MONTHS. MULCH OR PROTECTIVE BLANKETING SHALL BE APPLIED AS DESCRIBED IN THE PLAN. AREAS NOT AT FINISHED GRADE, WHICH WILL BE REACTIVATED WITHIN 1 YEAR, MAY BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY STABILIZATION SPECIFICATIONS. THOSE AREAS WHICH WILL NOT BE REACTIVATED WITHIN 1 YEAR SHALL BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION SPECIFICATIONS.
- 28. PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION. CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS.
- 29. ESC BMPS SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ANOTHER BMP APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT.
- 30. 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
- 31. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMPS MUST BE REMOVED OR CONVERTED TO PERMANENT POST CONSTRUCTION STORMWATER MANAGEMENT BMPS. AREAS DISTURBED DURING REMOVAL OR CONVERSION OF THE BMPS SHALL BE STABILIZED IMMEDIATELY. IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS, SUCH REMOVAL/CONVERSIONS ARE TO BE DONE ONLY DURING THE GERMINATING SEASON.

32. 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 TO SCHEDULE A FINAL INSPECTION.
- 33. FAILURE TO CORRECTLY INSTALL ESC BMPS, FAILURE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE. OR FAILURE TO TAKE IMMEDIATE CORRECTIVE ACTION TO RESOLVE FAILURE OF ESC BMPS MAY RESULT IN ADMINISTRATIVE, CIVIL, AND/OR CRIMINAL PENALTIES BEING INSTITUTED BY THE DEPARTMENT AS DEFINED IN SECTION 602 OF THE PENNSYLVANIA CLEAN STREAMS LAW. THE CLEAN STREAMS LAW PROVIDES FOR UP TO \$10,000 PER DAY IN CIVIL PENALTIES, UP TO \$10,000 IN SUMMARY CRIMINAL PENALTIES, AND UP TO \$25,000 IN MISDEMEANOR CRIMINAL PENALTIES FOR
- 34. IF THE SITE WILL NEED TO IMPORT OR EXPORT MATERIAL FROM THE SITE, THE RESPONSIBILITY FOR PERFORMING ENVIRONMENTAL DUE DILIGENCE AND DETERMINATION OF CLEAN FILL WILL REST WITH THE CONTRACTOR:
- A. CLEAN FILL IS DEFINED AS: UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSABLE, INERT, SOLID MATERIAL. THE TERM INCLUDES SOIL, ROCK, STONE, DREDGED MATERIAL, USED ASPHALT, AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM OTHER WASTE AND IS RECOGNIZABLE AS SUCH. THE TERM DOES NOT INCLUDE MATERIALS PLACED IN OR ON THE WATERS OF THE COMMONWEALTH UNLESS OTHERWISE AUTHORIZED. (THE TERM "USED ASPHALT" DOES NOT INCLUDE MILLED ASPHALT OR ASPHALT THAT HAS BEEN PROCESSED
- B. CLEAN FILL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE: FILL MATERIALS AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE STILL QUALIFIES AS CLEAN FILL PROVIDED THE TESTING REVEALS THAT THE FILL MATERIAL CONTAINS CONCENTRATIONS OF REGULATED SUBSTANCES THAT ARE BELOW THE RESIDENTIAL LIMITS IN TABLES FP-1A AND FP-1B FOUND IN THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL".
- C. ANY PERSON PLACING CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE MUST USE FORM FP-001 TO CERTIFY THE ORIGIN OF THE FILL MATERIAL AND THE RESULTS OF THE ANALYTICAL TESTING TO QUALIFY THE MATERIAL AS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE OWNER OF THE PROPERTY RECEIVING THE FILL.
- D. ENVIRONMENTAL DUE DILIGENCE: THE APPLICANT MUST PERFORM ENVIRONMENTAL DUE DILIGENCE TO DETERMINE IF THE FILL MATERIALS ASSOCIATED WITH THE PROJECT QUALIFY AS CLEAN FILL. ENVIRONMENTAL DUE DILIGENCE IS DEFINED AS: INVESTIGATIVE TECHNIQUES, INCLUDING, BUT NOT LIMITED TO, VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANBORN MAPS, ENVIRONMENTAL OUESTIONNAIRES. TRANSACTION SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS, ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES THAT THE FILL MAY HAVE BEEN SUBJECTED TO A SPILL OR RELEASE OF REGULATED SUBSTANCE. IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, IT MUST BE

F. GRADE DISTURBED AREAS TO FINAL CONTOURS. FOLLOW APPROPRIATE EROSION AND SEDIMENTATION POLLUTION CONTROL MEASURES INCLUDING WATER BARS

WITH COMPOST FILTER SOCK FILTERS. IMMEDIATELY PLACE ESC MATTING, SEED AND MULCH ALL DISTURBED AREAS OUTSIDE PAVED AREAS. AREAS ON PAVED

SURFACES SHALL BE IMMEDIATELY PATCHED WITH BITUMINOUS PAVING MATERIAL TO PROVIDE STABILIZATION. AREAS NOTED TO BE STABILIZED WITH EROSION

CONTROL MATTING SHALL BE IMMEDIATELY STABILIZED AS NOTED. SEE DETAILS ON FOLLOWING SHEET, ESC/UTIL 6& 7 & PCSM 4 FOR TRENCH DETAILS.

- TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN ACCORDANCE WITH APPENDIX A OF THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL".
- E. FILL MATERIAL THAT DOES NOT QUALIFY AS CLEAN FILL IS REGULATED FILL. REGULATED FILL IS WASTE AND MUST BE MANAGED IN ACCORDANCE WITH THE DEPARTMENT'S MUNICIPAL OR RESIDUAL WASTE REGULATIONS BASED ON 25 PA CODI CHAPTERS 287 RESIDUAL WASTE MANAGEMENT OR 271 MUNICIPAL WASTE MANAGEMENT, WHICHEVER IS APPLICABLE. THESE REGULATIONS ARE AVAILABLE ON-LINE AT WWW.PACODE.COM.
- 35. THE PROJECTS RECEIVING WATERCOURSE IS THE SAMBO CREEK WITH A CHAPTER 93 CLASSIFICATION OF COLD-WATER FISHERIES, MIGRATORY FISHERIES (CWF-MF).
- 36. CONCRETE WASH WATER SHALL BE HANDLED IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS. IN NO CASE SHALL IT BI ALLOWED TO ENTER ANY SURFACE WATERS OR GROUNDWATER SYSTEMS.
- 37. EROSION CONTROL BLANKETING SHALL BE INSTALLED ON ALL SLOPES 3H:1V OR STEEPER WITHIN 50 FEET OF A SURFACE WATER AND ON ALL OTHER DISTURBED AREAS SPECIFIED ON THE PLAN MAPS AND/OR DETAIL SHEETS.
- 38. FILL MATERIAL FOR EMBANKMENTS SHALL BE FREE OF ROOTS, OR OTHER WOODY VEGETATION, ORGANIC MATERIAL, LARGE STONES, AND OTHER OBJECTIONABLE MATERIALS. THE EMBANKMENT SHALL BE COMPACTED IN ACCORDANCE WITH THE

EARTH MOVING DURING WINTER CONDITIONS

IN ORDER TO MINIMIZE THE POTENTIAL FOR SOIL EROSION AND RESULTING POLLUTION DURING THE WINTER MONTHS, THE FOLLOWING E & S POLLUTION CONTROL MEASURES SHALL BE TAKEN FOR ALL SOILS LOCATED ON THE SITE:

WHEN FROZEN SOILS ARE ENCOUNTERED, THEY MUST BE STABILIZED IMMEDIATELY WITH THE MEASURES CALLED OUT IN THE CONSTRUCTION SEQUENCE AND SHOWN ON THE PLAN. AREAS THAT ARE NOT TO BE PERMANENTLY STABILIZED. WITH STONE SHALL BE STABILIZED WITH MULCH AND JUTE NETTING UNTIL TEMPORARY OR FINAL SEEDING CAN BE

ADDITIONAL STONE SHALL BE PLACED ON THE CONSTRUCTION ENTRANCE IF REQUIRED TO MAINTAIN ITS EFFECTIVENESS. EROSION AND SEDIMENT CONTROLS SHALL BE IN PLACE BY WINTER.

DISTURBED AREAS SHALL BE MULCHED WITH STRAW OR EQUIVALENT MATERIAL, AT A MINIMUM RATE OF 3.0 FONS/ACRE, DURING WINTER MONTHS AND SEEDED AND STABILIZED AS SOON AS CONDITIONS ALLOW IN THE SPRING.

OPERATION & MAINTENANCE PROGRAM DURING CONSTRUCTION

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF ALL EROSION AND SEDIMENTATION CONTROL FACILITIES DURING CONSTRUCTION.
- INDIVIDUAL FACILITY OPERATION AND MAINTENANCE REQUIREMENTS ARE INCLUDED IN THE FACILITY'S DETAIL
- THE CONTRACTOR SHALL MONITOR AND MAINTAIN SEEDED AND MULCHED AREAS ON A DAILY BASIS UNTIL PROPER STABILIZATION, AS INTENDED, IS ACHIEVED. WHERE STABILIZATION IS DEFICIENT, SEED AND MULCH SHALL BE REAPPLIED. IF NECESSARY, SOIL SHALL BE TESTED TO DETERMINE THE PROPER SEED MIX AND SOIL AMENDMENTS
- STRUCTURES SHALL BE CLEANED OF SEDIMENT AS INDICATED IN THE APPLICABLE DETAIL. SEDIMENT REMOVED FROM STRUCTURES SHALL BE DISPOSED OF IN LANDSCAPED AREAS, OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS, OR DRAINAGE SWALES, AND IMMEDIATELY STABILIZED OR PLACED IN TOPSOIL STOCKPILES. PROPER SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE TAKEN UNTIL STABILIZATION IS ESTABLISHED.
- 5. THE CONTRACTOR SHALL CHECK ON A DAILY BASIS TO INSURE THAT NO EXPOSED AREA IS ALLOWED TO DRAIN FREELY WITHOUT SOME TYPE OF EROSION AND SEDIMENT CONTROL. IF EXPOSED AREAS ARE FOUND, CONTROL MEASURES SHALL BE ESTABLISHED ACCORDING TO THE PLANS IMMEDIATELY.
- ONCE CONSTRUCTION IS COMPLETE AND THE OWNER ACCEPTS THE WORK, THE RESPONSIBILITY FOR KEEPING CONTROL FACILITIES (INCLUDING SEEDING AND MULCHING) IN REPAIR SHALL SHIFT FROM THE CONTRACTOR TO THE
- THE CONTRACTOR SHALL PROVIDE A PREPAREDNESS, PREVENTION AND CONTINGENCY (PPC) PLAN FOR ANY CHEMICALS, SOLVENTS AND OTHER HAZARDOUS WASTE OR MATERIALS THAT HAVE THE POTENTIAL TO CAUSE CCIDENTAL POLLUTION DURING EARTH DISTURBANCE ACTIVITIES WHICH WILL BE USED OR STORED ON SITE.
- THE CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF THE APPENDIX 64, EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, DEPARTMENT OF ENVIRONMENTAL PROTECTION, SUBPART C, PROTECTION OF NATURAL RESOURCES, ARTICLE III, WATER RESOURCES, CHAPTER 102, EROSION

THE RECOMMENDED RESOLUTIONS TO SOIL USE RESTRICTIONS ARE AS

ACIDIC SOILS - A SEED MIX SUITABLE FOR ACIDIC SOIL SHALL BE SUPPLEMENTED WITH THE PROPER SOIL IMENDMENTS. WHERE PROPER COVER CANNOT BE ESTABLISHED, SOIL TESTS SHALL BE PERFORMED TO DETERMINE THE PROPER SEED MIX FOR THE GIVEN CONDITIONS AND PROPOSED USE.

<u>DEPTH TO ROCK</u> - PROPER EXCAVATION METHODS SHALL BE USED TO REMOVE ROCK.

EROSION - EROSION AND SEDIMENT CONTROL MEASURES SHALL BE USED AS SPECIFIED.

<u>LARGE STONES</u> - LARGE STONES SHALL BE REMOVED OR BROKEN UP.

LOW NATURAL FERTILITY - A SEED MIX SUITABLE FOR THIS SOIL SHALL BE SUPPLEMENTED WITH THE PROPER SOIL AMENDMENTS. WHERE PROPER COVER CANNOT BE ESTABLISHED, SOIL TESTS SHALL BE PERFORMED TO DETERMINE THE PROPER SEED MIX FOR THE GIVEN CONDITIONS AND PROPOSED USE.

LOW MOISTURE HOLDING CAPACITY - SOILS WITH LOW MOISTURE HOLDING CAPACITY SHALL BE IRRIGATED AS PART OF THE MAINTENANCE PROGRAM.

SLOW PERMEABILITY AND HIGH WATER TABLE - WHEN NECESSARY, TEMPORARY DEWATERING FACILITIES SHALL BE

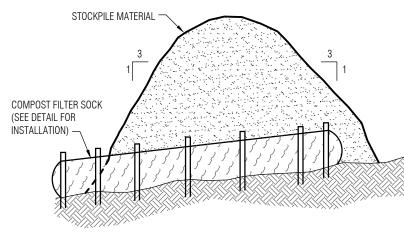
 $\underline{\text{SLOPE}}\text{ - THE SITE SHALL BE GRADED TO PROVIDE MANAGEABLE SLOPES AS SPECIFIED IN THE PLANS.}$

STONINESS - STONES SHALL BE REMOVED AND DISPOSED OF OR USED ELSEWHERE IN FILLING OPERATION.

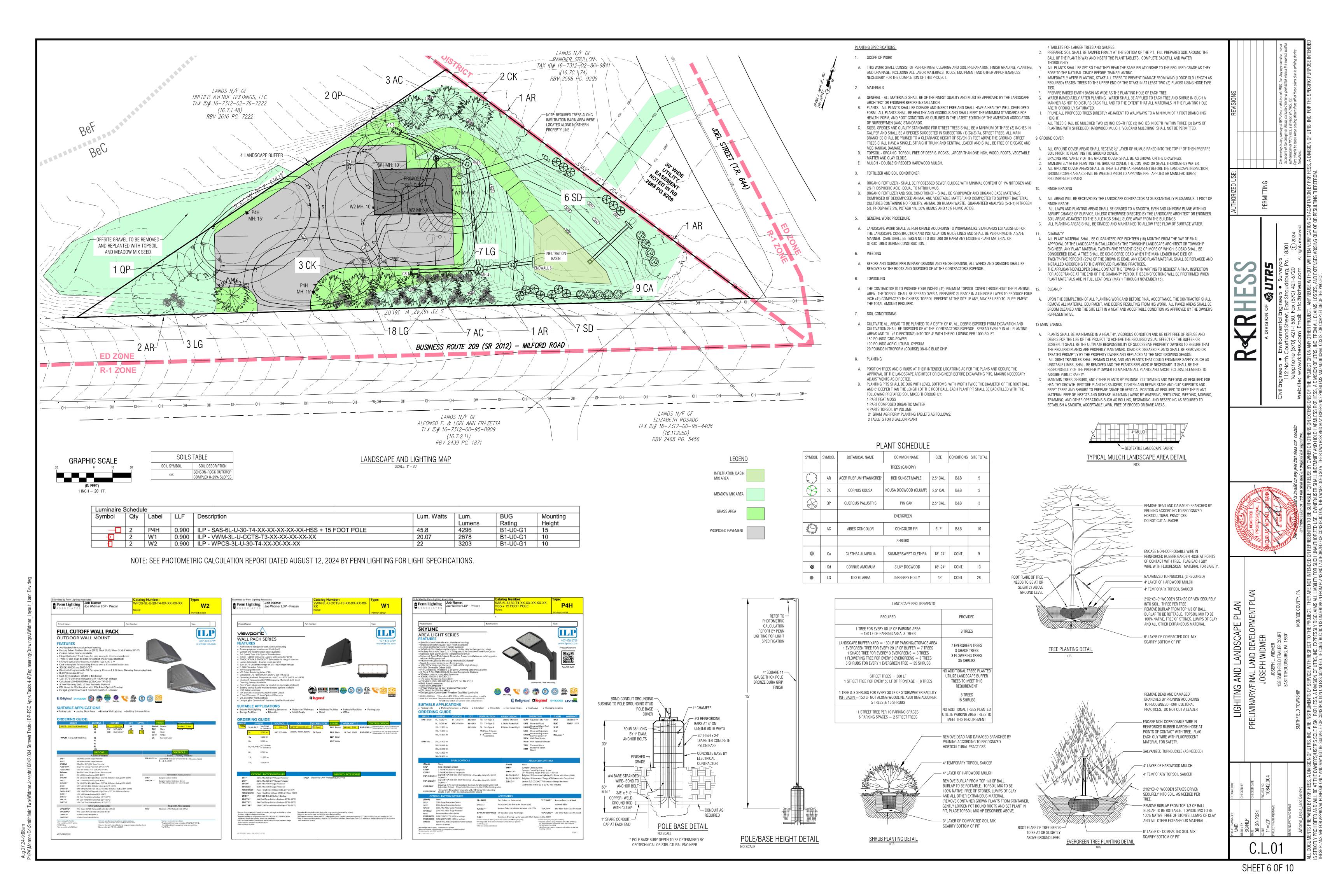
DISPOSAL OF REFUSE

DISPOSAL ITEMS MAY CONSIST OF PACKAGING MATERIALS (BOXES, CANS, CRATES, ETC.), EXCESS FILL, LEARED VEGETATION, LUMBER, AND OTHER BUILDING MATERIALS. BRICK, CEMENT, CONCRETE BLOCKS, AND OTHER NON-DEGRADABLE RIGID MATERIALS DEEMED TO BE CLEAN FILL MIGHT BE USED AS BACK FILL. AS SPECIFIED. ALL MATERIAL NOT SUITABLE FOR BACKFILL SUCH AS LUMBER. PLASTIC. RUBBER. STEEL. ETC. SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH THE PLANS AND FEDERAL, STATE, AND LOCAL REGULATIONS. ALL EXISTING VEGETATION THAT IS TO BE REMOVED SHALL BE CLEARED AND GRUBBED PRIOR TO CONSTRUCTION. ALL EXCESS SOIL, IF ANY, SHALL BE DISPOSED OF AT A SITE WITH AN APPROVED EROSION AND SEDIMENT POLLUTION CONTROL PLAN.

ANTICIPATED CONSTRUCTION WASTE INCLUDES TEMPORARY BMP'S AFTER REMOVAL .COMPOST FROM BMP'S MAY BE UTILIZED ONSITE. SEDIMENT REMOVED FROM BMP'S SHALL BE UTILIZED IN LANDSCAPED AREAS ONSITE. ALL OTHER BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1, AND 287.1 ET. SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THIS SITE.



RECYCLING OR DISPOSAL OF MATERIALS YPICAL STOCKPILE DETAI



LOW VOLUME 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. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	60 LB/IN
GRAB TENSILE	ASTM D-4632	205 LB
PUNCTURE	ASTM D-4833	110 LB
MULLEN BURST	ASTM D-3786	350 PSI
UV RESISTANCE	ASTM D-4355	70%
AOS % RETAINED	ASTM D-4751	80 SIEVE

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 OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.

BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%. FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS. IF BAG LOCATION IS STONY OR UNEVEN, BAGS SHALL BE PLACED ON 6" STONE BED OVER GEOTEXTILE. STONE AND GEOTEXTILE TO BE REMOVED ONCE WORK IS COMPLETE.

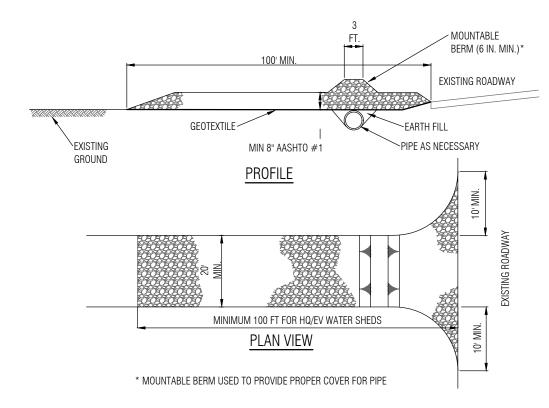
NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE

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.

FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

STANDARD CONSTRUCTION DETAIL #3-16 PUMPED WATER FILTER BAG



4. SYNTHETIC BINDERS, OR CHEMICAL BINDERS, MAY BE USED AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH PROVIDED SUFFICIENT DOCUMENTATION IS PROVIDED TO

BINDER TOGETHER IS GENERALLY MORE EFFECTIVE.

SHOW THEY ARE NON-TOXIC TO NATIVE PLANT AND ANIMAL SPECIES. 5. MULCH ON SLOPES OF 8% OR STEEPER SHOULD BE HELD IN PLACE WITH NETTING. LIGHTWEIGHT PLASTIC, FIBER, OR PAPER NETS MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER'S RECOMMENDATIONS

SOIL AMENDMENT APPLICATION RATE EQUIVALENTS (Table 11.2)

2,480 LBS

410 LB

MULCH APPLICATION RATES (Table 11.6)

1,240 LB

1,650-2,500 LB.

2. STRAW AND HAY MULCH SHOULD BE ANCHORED OR TACKIFIED IMMEDIATELY AFTER APPLICATION

NO STEEPER THAN 3H:1V. THE MACHINERY SHOULD BE OPERATED ON THE CONTOUR. NOTE:

RECOMMENDATIONS MAY BE USED TO TACK MULCH. AVOID APPLICATION DURING RAIN AND ON

WINDY DAYS. A 24-HOUR CURING PERIOD AND A SOIL TEMPERATURE HIGHER THAN 45° F ARE

TYPICALLY REQUIRED. APPLICATION SHOULD GENERALLY BE HEAVIEST AT EDGES OF SEEDED AREA

AND AT CRESTS OF RIDGES AND BANKS TO PREVENT LOSS BY WIND. THE REMAINDER OF THE AREA

SHOULD HAVE BINDER APPLIED UNIFORMLY. BINDERS MAY BE APPLIED AFTER MULCH IS SPREAD

OR SPRAYED INTO THE MULCH AS IT IS BEING BLOWN ONTO THE SOIL. APPLYING STRAW AND

CRIMPING OF HAY OR STRAW BY RUNNING OVER IT WITH TRACKED MACHINERY IS NOT

3. POLYMERIC AND GUM TACKIFIERS MIXED AND APPLIED ACCORDING TO MANUFACTURER'S

TO PREVENT BEING WINDBLOWN. A TRACTOR-DRAWN IMPLEMENT MAY BE USED TO "CRIMP" THE

STRAW OR HAY INTO THE SOIL — ABOUT 3 INCHES. THIS METHOD SHOULD BE LIMITED TO SLOPES

210 LB

TEMPORARY SEEDING APPLICATION RATE

"ADAPTED FROM PENN STATE, *EROSION CONTROL AND CONSERVATION PLANTINGS ON NONCROPLAND

NOTE: A COMPOST BLANKET WHICH MEETS THE STANDARDS OF THIS CHAPTER MAY BE SUBSTITUTED

OR AS PER SOIL TEST; MAY NOT BE

REQUIRED IN AGRICULTURAL FIELDS

STOCKPILES

TYPICALLY NOT REQUIRED FOR TOPSOIL

THER WHEAT OR OAT STRAW FREE OF

MAY PREVENT GERMINATION OF GRASSES

WEEDS. NOT CHOPPED OR FINELY BROKEN TIMOTHY. MIXED CLOVER AND TIMOTHY OR

OTHER NATIVE FORAGE GRASSES

AND LEGUMES

415 SEE LIMITATIONS ABOVE

REQUIRED IN AGRICULTURAL FIELDS OR AS PER SOIL TEST. MAY NOT BE

PERMANENT SEEDING APPLICATION RATE

PER ACRE PER 1,000 sq ft PER 1,000 sq yd

40 LB

500 LB 12.5 LB 100 LB

APPLICATION RATE

PFR ACRE | PER 1.000 sq ft | PER 1.000 sq vd

140 LB

140 LB.

1. MULCHES SHOULD BE APPLIED AT THE RATES SHOWN IN TABLE 11.6

1,000 LB 25 LB

FOR THE SOIL AMENDMENTS SHOWN IN TABLE 11.2

1 TON

AMENDMENT

AGRICULTURAL

FERTILIZER

MULCH TYPE

STRAW 3 TONS

RECOMMENDED.

WOOD CHIPS | 4-6 TONS | 185-275 LB.

HYDROMULCH 1 TON 47 LB.

6. SHREDDED PAPER HYDROMULCH SHOULD NOT BE USED ON SLOPES STEEPER THAN 5%. WOOD FIBER HYDROMULCH MAY BE APPLIED ON STEEPER SLOPES PROVIDED A TACKIFIER IS USED. THE APPLICATION RATE FOR ANY HYDROMULCH SHOULD BE 2,000 LB/ACRE AT A MINIMUM.

OVER FULL WIDTH OF ENTRANCE.

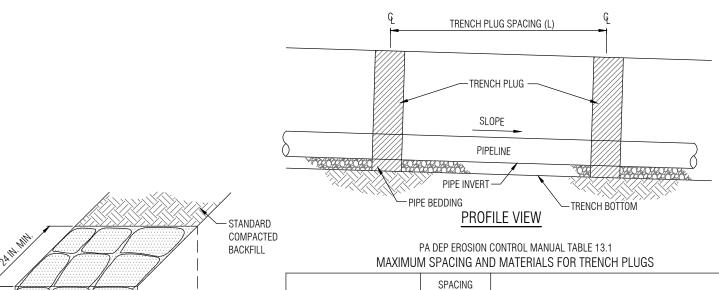
RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.

MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.

MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES. SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK

STANDARD CONSTRUCTION DETAIL #3-1 (ROCK CONSTRUCTION ENTRANCE)



STACKED CLAY

CONCRETE-FILLED

BENTONITE OR

SECTION VIEW

TRENCH SLOPE (%) PLUG MATERIAL

* CLAY, BENTONITE, OR CONCRETE FILLED SACKS * CLAY, BENTONITE, OR CONCRETE FILLED SACKS * CLAY, BENTONITE, OR CONCRETE FILLED SACKS 15 - 25 * CLAY, BENTONITE, OR CONCRETE FILLED SACKS * CLAY, BENTONITE, OR CONCRETE FILLED SACKS CEMENT BAGS (WETTED) OR MORTARED STONE TOPSOIL MAY NOT BE USED TO FILL SACKS

IMPERVIOUS TRENCH PLUGS ARE REQUIRED FOR ALL STREAM, RIVER, WETLAND, OR OTHER WATER BODY CROSSINGS. STANDARD CONSTRUCTION DETAIL #13-4

SEEDING REQUIREMENTS FOR PERMANENT STABILIZATION

FORMULA AND CDECIES	% BY	MIN	IIMUM %	MAX %	SEEDING RATE
FORMULA AND SPECIES	WEIGHT	PURITY	GERMINATION	WEED SEED	lb/1000 yd ²
FORMULA B MIX					44.0 TOTAL
- PERENNIAL RYEGRASS MIXTURE (LOLIUM PERENNE). A COMBINATION OF IMPROVED CERTIFIED VARIETIES WITH NO ONE VARIETY EXCEEDING 50% OF THE TOTAL RYEGRASS COMPONENT)	20	97	90	0.10	8.5
- CREEPING RED FESCUE OR CHEWINGS FESCUE	30	97	85	0.10	12.5
- KENTUCKY BLUEGRASS MIXTURE (POA PRATENSIS) A COMBINATION OF IMPROVED CERTIFIED VARIETIES WITH NO ONE VARIETY EXCEEDING 50% OF THE TOTAL BLUEGRASS COMPONENT.	45	97	80	0.15	21.0
ANNUAL RYEGRASS (LOLIUM MULTIFLORUM)	5	05	00	0.10	2.0

PENNDOT PUBLICATION No. 408, SECTION 804

NATIVE NATURALIZED- LOW MAINTENANCE GRASS SPECIES MIX (MEADOW MIX)

			SEEDING RATE
SPECIES MIX - SEED MIX ERNMX-186-1			6 LB PER 1000 SF
FESTICA RUBRA	CREEPING RED FESCUE	SEED	34 % OF MIX
FESTUCA OVINA	SHEEP FESCUE	SEED	33 % OF MIX
FESTUCA BREVIPILA 'BEACON'	HARD FESCUE 'BEACON'	SEED	10 % OF MIX
FESTUCA OVINA VAR. DURIUSCULA, GLADIATOR	HARD FESCUE 'GLADIATOR	SEED	5 % OF MIX
FESTUCA OVINA VAR. GLAUCA, AZURE	BLUE FESCUE, AZURE	SEED	5 % OF MIX
POA PALUSTRIS 'KELLY'	KENTUCKY BLUEGRASS 'KELLY'	SEED	5 % OF MIX
POA PRATENSIS 'SHAMROCK'	KENTUCKY BLUEGRASS 'SHAMROCK'	SEED	5 % OF MIX
AGROSTIS PERENNANS	AUTUMN BENTGRASS, ALBANY PINE BUSH	SEED	3 % OF MIX

* SEED MIX SUPPLIED BY - ERNST CONSERVATION SEED CO. - OR APPROVED EQUAL. ERNST CONSERVATION SEED CO. 9006 MERCER PIKE, MEADVILLE, PA 16335 PH. 800-873-3321

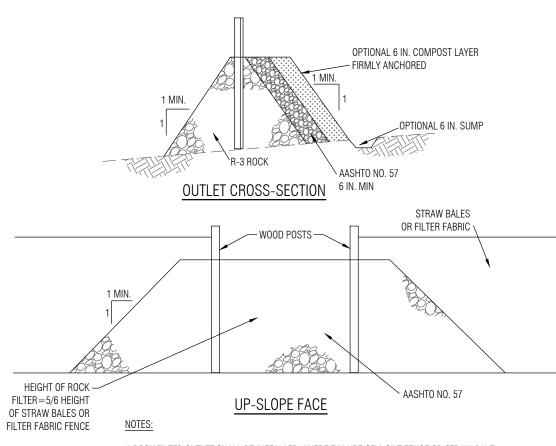
INFILTRATION BASIN SEEDING- LOW MAINTENANCE GRASS & GRASS-LIKE								
PennDOT FORMULA W - WETLAND CONSERVATION MIX* SEEDING RATE: 15 LB PER 10								
FESTUCA ARUNDINACEA VAR. KENTUCKY 31	TALL FESCUE	SEED	30% OF MIX					
LOTUS CORNICULATUS	BIRDSFOOT TREFOIL	SEED	10 % OF MIX					
AGROSTIS ALBA	REDTOP	SEED	10 % OF MIX					
ELYMUS VIRGINICUS	VIRGINIA WILD RYE	SEED	24 % OF MIX					
PANICUM CLANDESTINUM	TIOGA DEERTONGUE	SEED	14 % OF MIX					
CAREX VULPINOIDES	FOX SEDGE	SEED	12 % OF MIX					
* OR APPROVED EQUAL.								

TEMPORARY SEEDINGS

	TYPE OF COVER & SPECIES OF MIXTURES	SEEDING RATE PURE LIVE SEED (lbs/ac)
	RYEGRASS	10
	SPRING OATS (SPRING)	64
тс	WINTER RYE (FALL)	56

SEEDING AND MULCHING REQUIREMENT

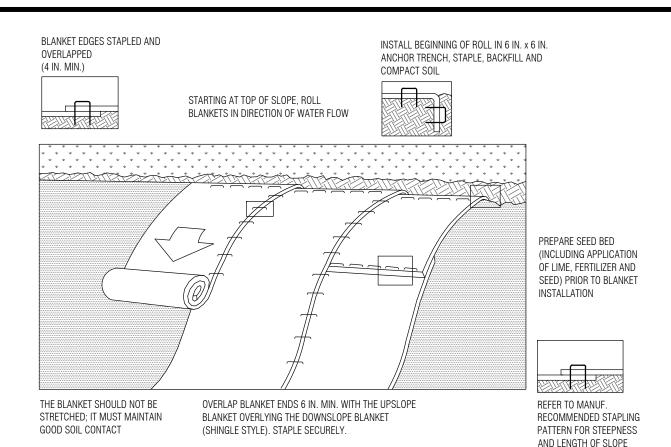
- 1. AS DISTURBED AREAS WITHIN A PROJECT APPROACH FINAL GRADE, PREPARATIONS SHOULD BE MADE FOR SEEDING AND MULCHING TO BEGIN (I.E. ANTICIPATE THE COMPLETION DATE AND SCHEDULE THE SEEDER). IN NO CASE SHOULD AN AREA EXCEEDING 15,000 SQUARE FEET, WHICH IS TO BE STABILIZED BY VEGETATION, REACH FINAL GRADE WITHOUT BEING SEEDED AND MULCHED. WAITING UNTIL EARTHMOVING IS COMPLETED BEFORE MAKING PREPARATIONS FOR SEEDING AND MULCHING IS NOT ACCEPTABLE. THIS REQUIREMENT SHOULD BE CLEARLY STATED IN THE SEEDING AND MULCHING SPECIFICATIONS CONTAINED ON THE PLAN DRAWINGS.
- 2. BEFORE THE SEEDING BEGINS, TOPSOIL SHOULD BE APPLIED AND ANY REQUIRED SOIL AMENDMENTS WORKED INTO THE SOIL TO A DEPTH OF 4 TO 6 INCHES. IF COMPOST IS TO BE ADDED TO THE TOPSOIL, IT SHOULD BE WORKED INTO THE SOIL WITH THE OTHER SOIL AMENDMENTS UNLESS IT IS BEING APPLIED AS AN EROSION CONTROL BMP.
- 3. GRADED AREAS SHOULD BE SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES TO PERMIT BONDING OF THE TOPSOIL TO THE SURFACE AREAS AND TO PROVIDE A ROUGHENED SURFACE TO PREVENT TOPSOIL FROM SLIDING DOWN SLOPE.
- 4. TOPSOIL SHOULD BE UNIFORMLY DISTRIBUTED ACROSS THE DISTURBED AREA TO A DEPTH OF 6 TO 8 INCHES MINIMUM — 2 INCHES ON FILL OUTSLOPES SPREADING SHOULD BE DONE IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL PREPARATION OR TILLAGE. IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOIL PLACEMENT SHOULD BE CORRECTED IN ORDER TO PREVENT FORMATION OF DEPRESSIONS UNLESS SUCH DEPRESSIONS ARE PART OF THE PCSM
- 5. TOPSOIL SHOULD NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION. COMPACTED SOILS SHOULD BE SCARIFIED 6 TO 12 INCHES ALONG CONTOUR WHEREVER POSSIBLE PRIOR TO SEEDING.
- 6. FILL SLOPES SHOULD BE SEEDED AND MULCHED AT REGULAR VERTICAL INCREMENTS 15 TO 25 FEET MAXIMUM — AS THE FILL IS BEING CONSTRUCTED. THIS WILL ALLOW THE BOTTOM OF THE FILL TO PROGRESS TOWARD STABILIZATION WHILE WORK CONTINUES ON THE LIPPER PORTION. MAKING FINAL STABILIZATION EASIER TO ACHIEVE AND PROVIDING SOME VEGETATIVE BUFFERING AT THE BOTTOM OF THE
- 7. WHEREVER SEED AND MULCH IS APPLIED BY HYDROSEEDING METHODS. THE SEED AND MULCH SHOULD BE APPLIED IN SEPARATE APPLICATIONS WITH THE SEED BEING APPLIED FIRST AND THE MULCH SPRAYED ON TOP OF THE SEED. THIS IS TO ENSURE THAT THE SEED MAKES CONTACT WITH THE UNDERLYING SOIL. SOIL PREPARATION SHOULD BE COMPLETED PRIOR TO ADDING SEED TO THE HYDROSEEDING EQUIPMENT. RUNNING SEED THROUGH THE PUMPING SYSTEM CAN RESULT IN EXCESSIVE ABRASION OF THE SEED AND REDUCE THE PERCENTAGE OF PURE LIVE SEED IN THE APPLICATION. THEREFORE ALL SITE PREPARATION SHOULD BE COMPLETED PRIOR TO THE ARRIVAL OF THE HYDROSEEDER.



A ROCK FILTER OUTLET SHALL BE INSTALLED WHERE FAILURE OF A SILT FENCE OR STRAW BALE BARRIER HAS OCCURRED DUE TO CONCENTRATED FLOW. ANCHORED COMPOST LAYER SHALL BE USED ON UPSLOPE FACE IN HQ AND EV WATERSHEDS.

SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE OUTLET.

STANDARD CONSTRUCTION DETAIL #4-6



SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING

PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.

SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.

NOTES:

GREEN DOT.

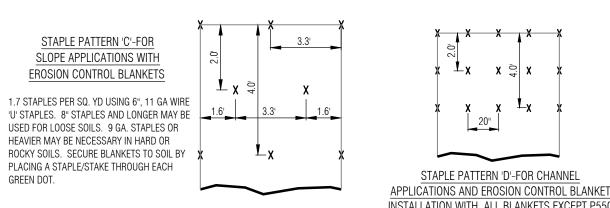
BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.

THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

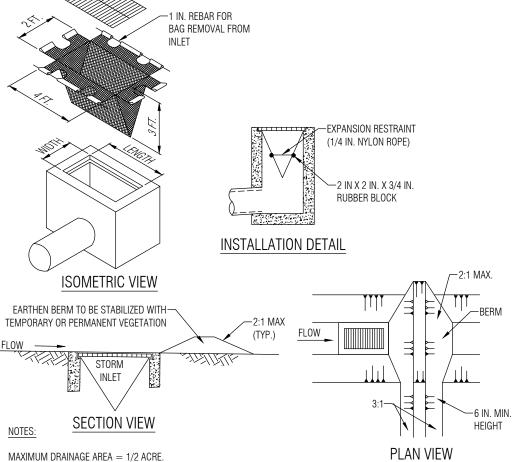
STANDARD CONSTRUCTION DETAIL #11-1 ROSION CONTROL BLANKET INSTALLATION NOT TO SCALE

ESC MATTING TO BE NORTH AMERICAN GREEN S75 OR APPROVED EQUAL



INSTALLATION WITH ALL BLANKETS EXCEPT P55 3.4 STAPLES PER SQ. YD. USING 6", 11 GA WIRE 'U' STAPLES. 8" STAPLES AND LONGER MAY BE USED FOR LOOSE SOILS. 9 GA. STAPLES OR HEAVIER MAY BE NECESSARY IN HARD OR ROCKY SOILS. SECURE BLANKETS TO SOIL BY PLACING A STAPLE/STAKE THROUGH EACH WHITE DOT.

BEING BLANKETED



INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.

ROLLED EARTHEN BERM IN ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON

ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL

PERMANENT STABILIZATION IS COMPLETED OR REMAIN PERMANENTLY. AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS., A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL

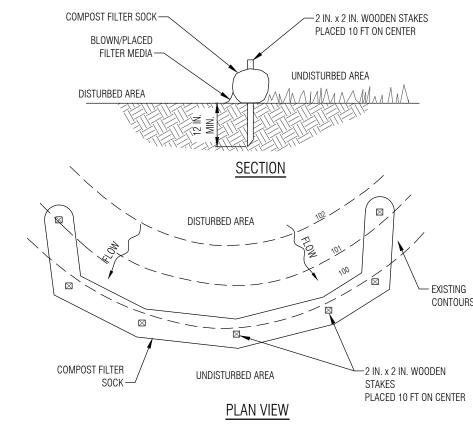
PARTICLES NOT PASSING A NO. 40 SIEVE. INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON

DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS. STANDARD CONSTRUCTION DETAIL #4-16 FILTER BAG INLET PROTECTION - TYPE M INLET

NOT TO SCALE

SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION.

DISPOSE ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.



A CERTIFICATION OF THE MATERIALS USED FOR THE COMPOST FILTER SOCKS SHALL BE PROVIDED TO THE COUNTY CONSERVATION DISTRICT.

SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA. SHEET FLOW SHALL BE MAINTAINED TO THE VARIOUS COMPOST FILTER SOCKS. IF CONCENTRATED FLOW OR OVERTOPPING OCCURS, A ROCK FILTER SHALL BE PLACED AT THE POINT OF CONCENTRATION/ OVERTOPPING. SEE DETAIL 4-6.

ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.

TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.

COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION

BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

STANDARD CONSTRUCTION DETAIL #4-1 COMPOST FILTER SOCK NOT TO SCALE

TABLE 4.1 COMPOST SOCK FABRIC MINIMUM SPECIFICATIONS

MATERIAL TYPE	3 MIL HDPE	5 MIL HDPE	5 MIL HDPE	MULTI-FILAMENT POLYPROPYLENE (MFPP)	HEAVY DUTY MULTI-FILAMENT POLYPROPYLENE (HDMFPP)
MATERIAL CHARACTERISTICS	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE	BIO-DEGRADABLE	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE
		12"	12"	12"	12"
SOCK	12"	18"	18"	18"	18"
DIAMETERS	18"	24"	24"	24"	24"
		32"	32"	32"	32"
MESH OPENINGS	3/8"	3/8"	3/8"	3/8"	1/8"
TENSILE STRENGTH		26 psi	26 psi	44 psi	202 psi
ULTRAVIOLET STABILITY % ORIGINAL STRENGTH (ASTM G-155)	23% AT 1000 HR.	23% AT 1000 HR.		100% AT 1000 HR	100% AT 1000 HR
MINIMUM FUNCTIONAL LONGEVITY	6 MONTHS	9 MONTHS	6 MONTHS	1 YEAR	2 YEARS

TWO-PLY SYSTEMS								
	HDPE BIAXIAL NET							
INNER CONTAINMENT NETTING	CONTINUOUSLY WOUND							
INNER CONTAINWENT NETTING	FUSION-WELDED JUNCTURES							
	¾" x ¾" MAX. APERTURE SIZE							
OUTER FILTRATION MESH	COMPOSITE POLYPROPYLENE FABRIC (WOVEN LAYER AND NON-WOVEN LAYER FLEECE MECHANICALLY FUSED VIA NEEDLE PUNCH)							
	¾ ₁₆ " MAX. APERTURE SIZE							

SOCK FABRICS COMPOSED OF BURLAP MAY BE USED ON PROJECTS LASTING 6 MONTHS OR LESS.

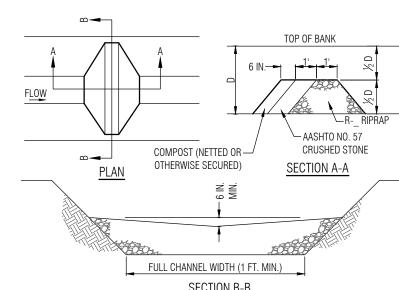
COMPOST SHOULD BE A WELL DECOMPOSED, WEED-FREE ORGANIC MATTER DERIVED FROM AGRICULTURE, FOOD, STUMP

GRINDINGS, AND YARD OR WOOD/BARK ORGANIC MATTER SOURCES. THE COMPOST SHOULD BE AEROBICALLY COMPOSTED. THE COMPOST SHOULD POSSESS NO OBJECTIONABLE ODORS AND SHOULD BE REASONABLY FREE (<1% BY DRY WEIGHT) OF MAN-MADE FOREIGN MATTER. THE COMPOST PRODUCT SHOULD NOT RESEMBLE THE RAW MATERIAL FROM WHICH IT WAS DERIVED. WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS ARE NOT ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX.

THE PHYSICAL PARAMETERS OF THE COMPOST SHOULD COMPLY WITH THE STANDARDS IN TABLE 4.2. THE STANDARDS CONTAINED IN THE PENNDOT PUBLICATION 408 ARE AN ACCEPTABLE ALTERNATIVE.

TABLE 4.2 COMPOST STANDARDS

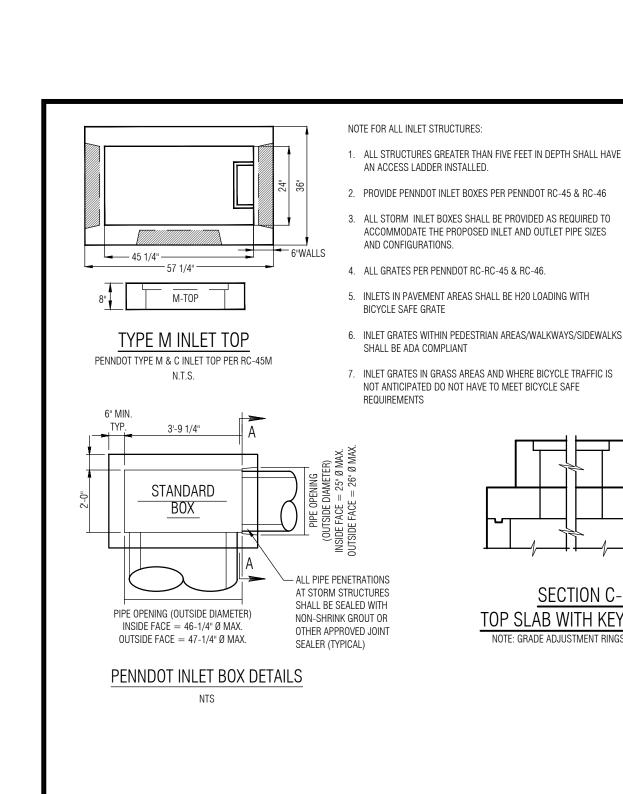
001111 001 0	317 (110) (1100
ORGANIC MATTER CONTENT	25%-100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
рН	5.5 - 8.5
MOISTURE CONTENT	30% - 60%
PARTICLE SIZE	30%-50% PASS THROUGH 3/8" SCREEN
SOLUBLE SALT CONCENTRATION	5.0 dS/m (mmhos/cm) MAXIMUM
FILTREXX	



RIPRAP FOR D ≥ 3 FT. - USE R-4 LOCATION (FT) SIZE (R-_) FOR D \geq 2 FT. TO D < 3 FT. - USE R-3 ENDWALL 6 2.5 3 NOT APPLICABLE FOR D < 2 FT. OCS 2.5 3

SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE HEIGHT OF THE FILTERS. IMMEDIATELY UPON STABILIZATION OF EACH CHANNEL, REMOVE ACCUMULATED SEDIMENT, REMOVE ROCK FILTER, AND STABILIZE DISTURBED AREAS.

> STANDARD CONSTRUCTION DETAIL #4-14 **ROCK FILTER** NOT TO SCALE

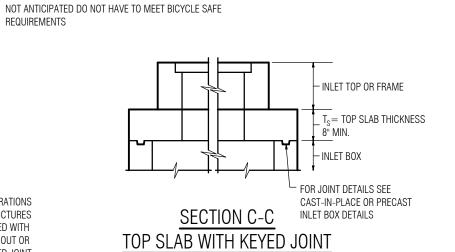


FILTER DIAPHRAGM*

OUTLET-

*WHERE PROPOSED

PROTECTION



ALL STRUCTURES GREATER THAN FIVE FEET IN DEPTH SHALL HAVE

PROVIDE PENNDOT INLET BOXES PER PENNDOT RC-45 & RC-46

ALL STORM INLET BOXES SHALL BE PROVIDED AS REQUIRED TO

ACCOMMODATE THE PROPOSED INLET AND OUTLET PIPE SIZES

AN ACCESS LADDER INSTALLED.

AND CONFIGURATIONS.

BICYCLE SAFE GRATE

SHALL BE ADA COMPLIANT

EMBANKMENT ALONG PRINCIPAL SPILLWAY

VIRGIN

GROUND

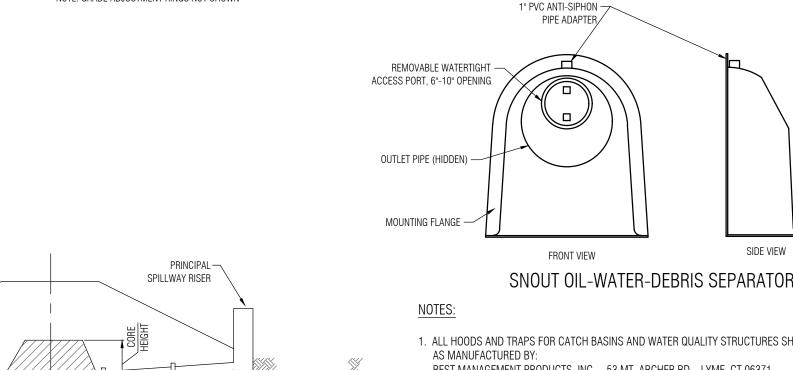
CROSS-SECTION AT OUTLET BARREL

FILTER DIAPHRAGM LOCATION (Lfd) SHALL BE AS SHOWN IN FIGURE 7.8 OF THE PA DEP EROSION CONTROL MANUAL.

STANDARD CONSTRUCTION DETAIL #7-17

A CONCRETE CRADLE MAY BE USED IN CONJUNCTION WITH ANTI-SEEP COLLARS AND/OR FILTER DIAPHRAGM.

ANTI-SEEP COLLAR NUMBER, SIZE AND SPACING SHALL BE AS SHOWN ELSEWHERE IN PLAN.



1. ALL HOODS AND TRAPS FOR CATCH BASINS AND WATER QUALITY STRUCTURES SHALL BE BEST MANAGEMENT PRODUCTS, INC. 53 MT. ARCHER RD. LYME, CT 06371 (860) 434-0277, (860) 434-3195 FAX TOLL FREE: (800) 504-8008 OR (888) 434-0277 WEB SITE: www.bmpinc.com

2. ALL HOODS SHALL BE CONSTRUCTED OF A GLASS REINFORCED RESIN COMPOSITE WITH ISO GEL COAT EXTERIOR FINISH WITH A MINIMUM 0.125" LAMINATE THICKNESS.

3. ALL HOODS SHALL BE EQUIPPED WITH A WATERTIGHT ACCESS PORT, A MOUNTING FLANGE, AND AN ANTI-SIPHON VENT PIPE AND ELBOW AS DRAWN. (SEE CONFIGURATION DETAIL)

4. THE SIZE AND POSITION OF THE HOOD SHALL BE DETERMINED BY OUTLET PIPE SIZE AS PER MANUFACTURER'S RECOMMENDATION (SNOUT SIZE ALWAYS LARGER THAN PIPE SIZE).

5. THE BOTTOM OF THE HOOD SHALL EXTEND DOWNWARD A MINIMUM DISTANCE EQUAL TO 1/2 The outlet PIPE diameter with a minimum distance of 6" for PIPES < 12" I.D.

6. THE ANTI-SIPHON VENT SHALL EXTEND ABOVE HOOD BY MINIMUM OF 3" AND A MAXIMUM OF 12" ACCORDING TO STRUCTURE CONFIGURATION.

7. THE SURFACE OF THE STRUCTURE WHERE THE HOOD IS MOUNTED SHALL BE FINISHED SMOOTH AND FREE OF LOOSE MATERIAL AND PIPE SHALL BE FINISHED FLUSH TO WALL.

8. ALL STRUCTURE JOINTS SHALL BE WATERTIGHT.

 $_{\rm S} = {\sf SLAB} \; {\sf LENGTH} \; {\sf SEE} \; {\sf NOTE} \; {\sf 1}$

SECTION D-D

TOP SLAB WITH KEYED JOINT

AS SHOWN IN PENNDOT RC-46M

TOP SLAB - PRECAST CONCRETE

U.S. CUSTOMARY UNITS

STANDARD 8 #6

INLET TOP SLAB DETAILS

"S1" BARS @ 6"—

CAST-IN-PLACE = 2

INLET TOP SLAB NOTES:

REQUIREMENTS

1. OUT TO OUT DIMENSIONS OF TOP SLABS TO

2. TOP SLAB SHALL MEET PENNDOT RC46M

SIDE VIEW

MATCH SIZE OF INLET BOX.

9. THE HOOD SHALL BE SECURELY ATTACHED TO STRUCTURE WALL WITH 3/8' STAINLESS STEEL BOLTS AND OIL-RESISTANT GASKET AS SUPPLIED BY MANUFACTURER. (SEE INSTALLATION DETAIL)

10. INSTALLATION INSTRUCTIONS SHALL BE FURNISHED WITH MANUFACTURER SUPPLIED

INSTALLATION KIT. INSTALLATION KIT SHALL INCLUDE:

OR PRE-APPROVED EQUAL

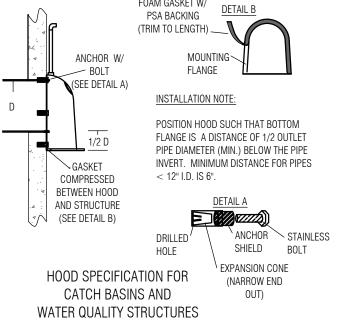
A. INSTALLATION INSTRUCTIONS

E. ANCHOR SHIELDS

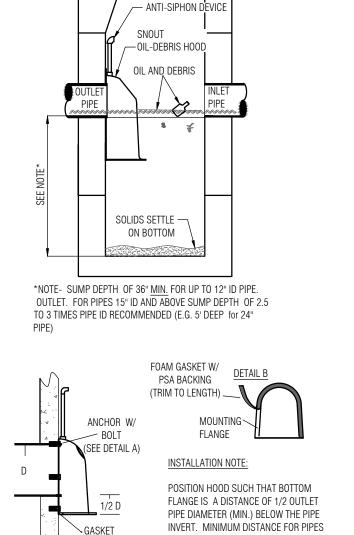
B. PVC ANTI-SIPHON VENT PIPE AND ADAPTER C. OIL-RESISTANT CRUSHED CELL FOAM GASKET WITH PSA BACKING D. 3/8" STAINLESS STEEL BOLTS

(PRECAST ONLY)

STRUCTURE ID | OUTFLOW PIPE | SNOUT SIZE | INLET TYPE 4 15" 18F 4' DIA MH







PROVIDE WATERTIGHT

12 IN. THICK (MIN.) CAST-IN-PLACE OR PRECAST

NOTES:

TYPICAL INSTALLATION

CONNECTION

CONCRETE COLLAR (MIN. 2000 PSI) —

RISFR TO

FIRST

COLLAR

COLLARS

STANDARD CONSTRUCTION DETAIL #7-16

CONCRETE ANTI-SEEP COLLAR FOR

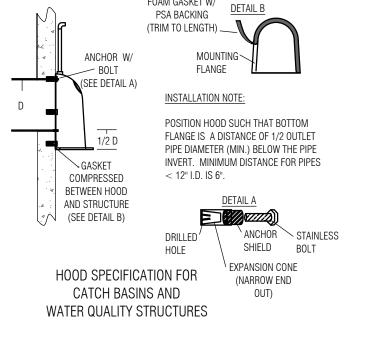
PERMANENT BASINS OR TRAPS

ALL COLLARS SHALL BE INSTALLED SO AS TO BE WATERTIGHT.

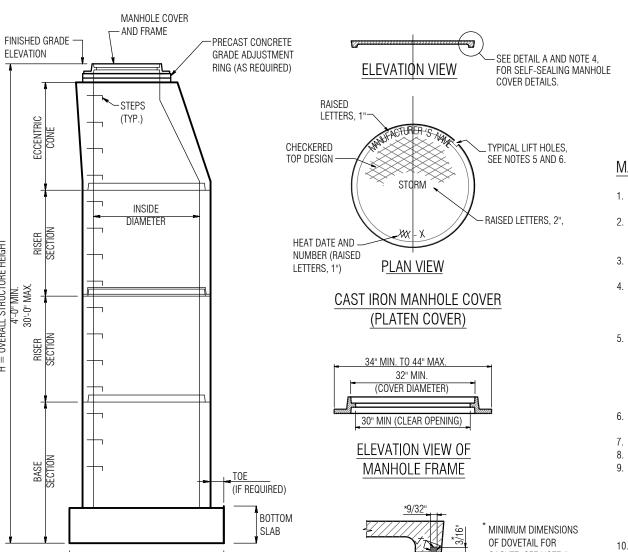
COLLAR SIZE AND SPACING SHALL BE AS INDICATED WITHIN TABLE.

COLLAR

SPACING







MANHOLE COVER AND FRAME NOTES

PUBLICATION 408, SECTION 605.2(b) DESIGN MANHOLE COVERS AND FRAMES FOR PHL-93 OR HS-25 LOADINGS. IF MANHOLES ARE NOT IN OR ADJACENT TO ROADWAY, DESIGN FOR ALL POSSIBLE LIVE

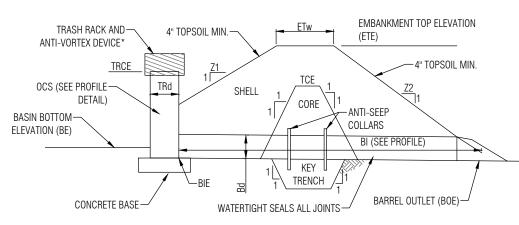
3. PROVIDE GRAY CAST IRON CONFORMING TO AASHTO M105, CLASS 35B AND AASHTO 4. PROVIDE MANHOLE COVERS AND FRAMES SUPPLIED BY A MANUFACTURER LISTED IN BULLETIN 15. FOR DEVIATIONS OR MODIFICATIONS OF THE STANDARDS. SUBMIT SHOP DRAWINGS TO THE BUREAU OF PROJECT DELIVERY, HIGHWAY DELIVERY DIVISION CHIEF FOR REVIEW AND ACCEPTANCE.

5. PROVIDE A GASKET SEALING SYSTEM, DOVETAIL GROOVE AND CONTINUOUS GASKET, AS INDICATED IN DETAIL A. TO PREVENT INFLOW THROUGH THE BEARING SURFACES. OF SURFACE RUNOFF WATER INTO THE MANHOLE SYSTEM, WHEN SPECIFIED. PROVIDE 1/4" DIAMETER ONE PIECE SELF-SEAL POLYISOPRENE ROUND GASKET, 40 DUROMETER GLUED IN PLACE. PROVIDE TWO (2) LIFT HOLES AT 180 DEGREES TO FACILITATE COVER REMOVAL FOR SELF-SEALING MANHOLE COVER.

6. PROVIDE TWO (2) LIFT HOLES AT 180 DEGREES TO FACILITATE COVER REMOVAL FOR NON-SEALING MANHOLE COVER FRAME TO HAVE A MINIMUM BEARING SEAT OF 1" FOR MANHOLE COVER.

ATTACH FRAME AND/OR PRECAST CONCRETE GRADE ADJUSTMENT RINGS RIGIDLY TO THE TOP OF THE MANHOLE. USE 3-1/2" THREADED STUDS (MINIMUM) WITH HEX HEAD NUTS AND WASHERS, INSERTED THROUGH 5/8" DIAMETER HOLES (MINIMUM) THROUGH THE FRAME AND/OR RING. SPACE HOLES AT 120 DEGREES (MAXIMUM) AND 2" (MINIMUM) FROM OUTSIDE EDGE OF FRAME/RING. EMBED STUDS 4" MINIMUM INTO

10. SET THE BASE OF THE FRAME ON A NON-SHRINK GROUT PAD TO PROVIDE FULL BEARING ON THE SUPPORTING SURFACE. NON-SHRINK GROUT IS ALSO PERMITTED FOR CROSS SLOPE AND LONGITUDINAL GRADE ADJUSTMENTS - PROVIDE NON-SHRINK GROUT IN ACCORDANCE WITH PUBLICATION 408, SECTION



* ALSO REFER TO SEDIMENT BASIN TEMPORARY RISER, EMERGENCY SPILLWAY, ENERGY DISSIPATER, TRASH RACK AND ANTI-VORTEX DEVICE, AND SEDIMENT STORAGE DEWATERING FACILITY DETAILS.

					EMBANKN	MENT	DOTTOM		
BASIN NO.	Z1 (FT)	Z2(FT)	DIA TRd (IN)	TOP ELEV ETE (FT)	TOP WIDTH ETw (FT)	KEY* TRENCH DEPTH (FT)	KEY* TRENCH WIDTH (FT)	EENCH BE (MIN. 100-YR WATE SURFACE ELEV.) (FT)	TOP OF CORE ELEV (FT) (MIN. 100-YR WATER SURFACE ELEV.)
1	3	2	2' X 2' B0X	502.0	6	2	8	497.0	500.65

DETENTION BASIN/INFILTRATION BASIN BASIN EMBANKMENT AND SPILLWAY DETAILS NOT TO SCALE

BASIN EMBANKMENT AND SPILLWAY DETAIL NOTES

BASINS, INCLUDING ALL APPURTENANT WORKS, SHALL BE CONSTRUCTED TO THE DETAIL AND DIMENSIONS SHOWN ON THE PCSM PLAN

AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO A DEPTH OF TWO FFET PRIOR TO ANY PLACEMENT AND COMPACTION OF EARTHEN FILL. FILL MATERIAL FOR THE EMBANKMENTS SHALL BE FREE OF ROOTS. OR OTHER WOODY VEGETATION. ORGANIC MATERIAL, LARGE STONES, AND OTHER OBJECTIONABLE MATERIALS. THE EMBANKMENT SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED ACCORDING TO THE SPECIFICATIONS OF THE E&S AND PCSM PLAN DRAWINGS. TREES SHALL NOT BE PLANTED ON THE

ACCESS SHALL BE PROVIDED FOR SEDIMENT REMOVAL AND OTHER REQUIRED MAINTENANCE ACTIVITIES.

1. OUTLET BARRELS FOR PERMANENT BASINS -- SHOULD BE SET IN A CONCRETE CRADLE, AS SHOWN IN STANDARD CONSTRUCTION DETAIL #7-17. OUTLET BARRELS SHOULD BE CONSTRUCTED OF A MATERIAL THAT IS NOT SUSCEPTIBLE TO CRUSHING OR OTHER DAMAGE DURING CONSTRUCTION. LIMITATIONS OF PIPING ARE OFTEN GIVEN BY THE MANUFACTURER. PVC AND OTHER MATERIALS REQUIRING GRAVEL ENCLOSURES TO PREVENT CRUSHING ARE NOT ACCEPTABLE FOR USE AS OUTLET BARRELS. ANTI-SEEP COLLARS OR FILTER DIAPHRAGMS SHOULD BE PROVIDED WHEREVER SOILS HAVING PIPING POTENTIAL (SEE PAGES 401 TO 409 OF ESC MANUAL) ARE USED TO CONSTRUCT THE EMBANKMENT

2. SOILS ACCEPTABLE FOR EMBANKMENT AND CORE CONSTRUCTION SHOULD BE LIMITED TO GC. GM. SC. SM. CL OR ML AS DESCRIBED IN ASTMD-2487 (UNIFIED SOILS CLASSIFICATION). OTHER SOILS MAY BE ACCEPTABLE ON A CASE-BY-CASE BASIS FOR TEMPORARY BASINS, OR PERMANENT BASINS WITH DRAINAGE AREAS LESS THAN 10 ACRES.

3. THE FOUNDATION OF THE EMBANKMENT SHOULD BE STRIPPED AND GRUBBED TO A DEPTH OF TWO FEET PRIOR TO ANY PLACEMENT AND COMPACTION OF EARTHEN FILL.

4. A KEY TRENCH, OR CUTOFF TRENCH, IS REQUIRED FOR ALL PERMANENT BASINS. MINIMUM TRENCH DEPTH = 2', MINIMUM WIDTH = 4', MAXIMUM SIDE SLOPE STEEPNESS IS 1H:1V. THE TRENCH SHOULD EXTEND UP BOTH ABUTMENTS TO THE RISER CREST ELEVATION. SEE FILL CLASSIFICATIONS & COMPACTION SPECIFICATIONS FOR FILL & COMPACTION REQUIREMENTS. THE TRENCH SHOULD BE DEWATERED DURING BACKFILLING AND COMPACTION OPERATIONS. NOTE: A KEY TRENCH MAY NOT BE REQUIRED WHEREVER IT CAN BE SHOWN THAT ANOTHER DESIGN FEATURE, SUCH AS THE USE OF AN IMPERMEABLE LINER, ACCOMPLISHES THE SAME PURPOSE.

5. THE CORE SHOULD BE PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE TOP WIDTH OF THE CORE SHOULD BE AT LEAST FOUR FEFT. THE HEIGHT SHOULD EXTEND UP TO AT LEAST THE 10-YEAR WATER ELEVATION OR AS SHOWN ON THE PLANS AND/OR DETAILS. THE SIDE SLOPES SHOULD BE 1, TO 1 OR FLATTER. THE CORE SHOULD BE COMPACTED WITH CONSTRUCTION. EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY. THE CORE SHOULD, BE PLACED CONCURRENTLY WITH THE OUTER SHELL OF THE EMBANKMENT

6. ANY SPRINGS ENCOUNTERED IN THE FOUNDATION AREA OF A BASIN EMBANKMENT SHOULD BE DRAINED TO THE OUTSIDE/DOWNSTREAM TOE OF THE EMBANKMENT WITH A DRAIN SECTION TWO FEET BY TWO FEET IN DIMENSION CONSISTING OF PENNDOT TYPE A SAND. COMPACTED BY HAND TAMPER. NO GEOTEXTILES ARE TO BE USED AROUND THE SAND. THE LAST THREE FEET OF THIS DRAIN AT THE OUTSIDE/DOWNSTREAM SLOPE SHOULD BE CONSTRUCTED WITH AASHTO #8 MATERIAL. OTHER METHODS OF DRAINING SPRING DISCHARGES MAY BE ACCEPTED ON A CASE-BY-CASE BASIS.

7. ALL BASIN EMBANKMENTS SHOULD BE COMPACTED BY SHEEPSFOOT OR PAD ROLLER. THE LOOSE LIFT THICKNESS SHOULD BE 9 INCHES OR LESS, DEPENDING ON ROLLER SIZE, AND THE MAXIMUM PARTICLE SIZE IS 6 INCHES OR LESS -- 2/3 LIFT THICKNESS. FIVE PASSES OF THE COMPACTION EQUIPMENT OVER THE ENTIRE SURFACE OF EACH LIFT IS REQUIRED. EMBANKMENT COMPACTION TO VISIBLE NON-MOVEMENT IS ALSO REQUIRED. THE PRINCIPAL SPILL WAY/OUTEALL PIPE SHOULD BE INSTALLED CONCURRENTLY WITH FILL PLACEMENT AND NOT EXCAVATED INTO THE EMBANKMENT. FOR THE EMBANKMENT, EACH LIFT SHOULD BE COMPACTED TO 95% OF THE STANDARD PROCTOR. FILL MATERIAL SHOULD CONTAIN SUFFICIENT MOISTURE SO THAT IF FORMED IN TO A BALL IT WILL NOT CRUMBLE

YET NOT BE SO WET THAT WATER CAN BE SQUEEZED OUT. 8. THE MINIMUM EMBANKMENT TOP WIDTH IS 6 FEET. THE MAXIMUM CONSTRUCTED EMBANKMENT SLOPE IS 2H:1V. THE SUM OF THE HORIZONTAL COMPONENTS OF THE INSIDE AND OUTSIDE EMBANKMENT SLOPES (Z1 + Z2) SHOULD TOTAL AT LEAST 5. THE MAXIMUM STEEPNESS OF SLOPES FOR CONSTRUCTED EMBANKMENTS IN PERMANENT BASINS IS 3H:1V INSIDE AND OUTSIDE. EMBANKMENTS AND OTHER DISTURBED AREAS IN AND AROUND THE BASIN SHOULD BE STABILIZED IMMEDIATELY UPON COMPLETION OF THE BASIN. TREES MAY NOT BE PLANTED ON ANY BASIN EMBANKMENT, BECAUSE THE ROOT SYSTEMS MAY COMPROMISE THE INTEGRITY OF THE BERM

OVER TIME. TREES MAY BE PLANTED IN THE NON-EMBANKMENT (POOL) AREAS OF PERMANENT BASINS. 9. ALL EXPOSED EMBANKMENT SLOPES SHOULD BE LIMED, FERTILIZED, SEEDED AND MULCHED. PERMANENT VEGETATIVE GROUND COVER IN COMPLIANCE WITH 25 PA. CODE § 102.22 (RELATING TO SITE STABILIZATION) SHOULD BE ESTABLISHED UPON COMPLETION OF BASIN

- NOTE: TOP OF FOOTER

TO BE 30" BELOW

FINISHED GRADE

- #4 BARS @ 12" C

WAY TOP & BOTTOM

TYPE D ENDWAL

ALL ENDWALLS SHALL BE PROVIDED IN ACCORDANCE WITH PENNDOT RC 31M.

HANOVER TOWNSHIP CONSTRUCTION STANDARDS REQUIRE THE TOP OF FOOTER

ALL ENDWALLS SHALL BE PROVIDED AS REQUIRED TO ACCOMMODATE THE

PROPOSED PIPE SIZES AND CONFIGURATIONS.

TO BE 30" BELOW FINISHED GRADE

TO C (TYP) EACH

PLAN VIEW

FRONT ELEVATION VIEW

CONSTRUCTION. OUTSIDE SLOPES SHOULD BE BLANKETED.

10. EMBANKMENTS SHOULD BE MAINTAINED WITH A GRASSY VEGETATIVE COVER, FREE OF BRUSH AND TREES

PIPE DIAMETER

15". 18" & 21'

24" & 27

30" & 33"

36" & 39"

42" & 45"

48' & 51"

PROVIDE 1 LAYER OF

250 mm /m²

EACH WAY.

(0.12 in /Ln.Ft.)

REINFORCEMENT BARS -

SECTION Z-Z TOP OF **FMBANKMFNT FMBANKMFNT** EXTERIOR SLOPE TRENCH TERMINAL END OF KEY TRENCH AT TOE PLAN VIEW OF SLOPE OF SPILLWAY RIPRAP OUTLET DISSIPATER - STABILIZE DISTURBED AREAS ALONG TOE OF BERM WITH C125M UNTIL

-EMERGENCY SPILLWAY

ANCHOR-

TRENCH

INTERIOR SLOPE

				- 7		N. S.		37		GRASS	IS ESTABLIS	SHED.
				INTO INTE	M LINING RIOR SLOPE PI HING DETAILS		SEE KEY – TRENCH DETAIL			DI	1 /	ON-WOVEN EOTEXTILE
		ΕN	/IBANKI	MENT S	SECTION A	LONG E		CY SPIL	LWAY			RAP OUTLET SSIPATER
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		WEIR			LINII	٧G	CHAN	NEL		DISSI	PATER	
		BFRM	CREST									RIPRAP

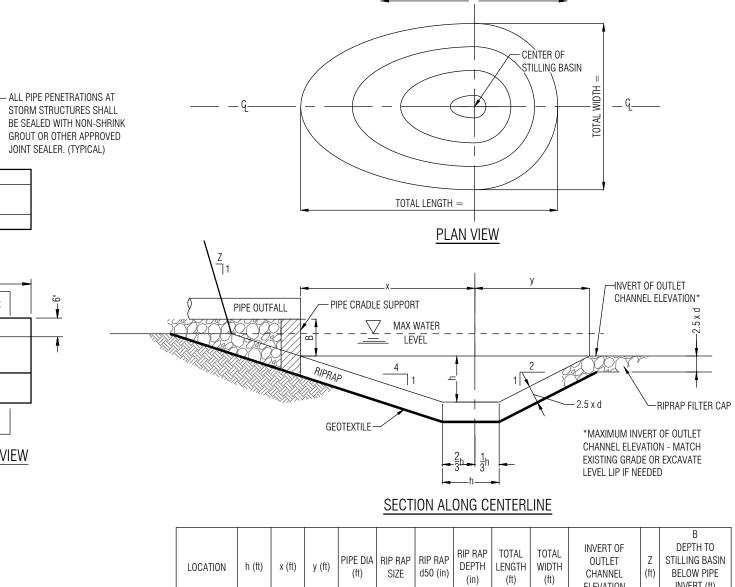
• HEAVY EQUIPMENT SHALL NOT CROSS OVER SPILLWAY WITHOUT PRECAUTIONS TAKEN TO PROTECT TRM LINING. DISPLACED LINER WITHIN THE SPILLWAY AND/OR OUTLET CHANNEL SHALL BE REPLACED IMMEDIATELY. RIPRAP AT TOE OF EMBANKMENT SHALL BE EXTENDED A SUFFICIENT LENGTH IN BOTH DIRECTIONS TO PREVENT SCOUR.

THE BASIN LINER SHOULD DIP IN AREA OF SPILLWAY SO THAT A MINIMUM OF 1' OF COVER IS PROVIDED OVER THE LINER

EMERGENCY SPILLWAY WITH TRM LINING NOT TO SCALE

CONSTRUCTION PRACTICES IN INFILTRATION AREAS

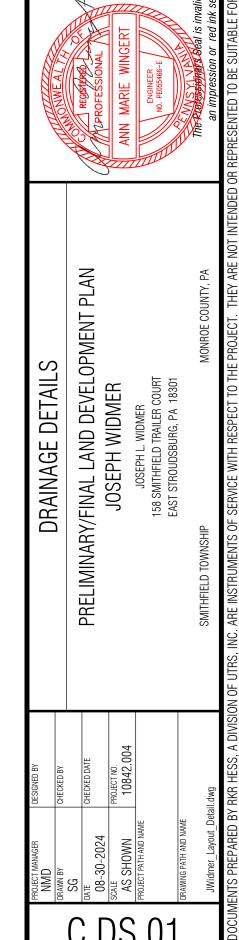
INFILTRATION AREAS SHOULD NOT BE EXPOSED TO LINSTABILIZED BUNDES AND CONSTRUCTION DISTURBANCE THAT MAY DECREASE INFILTRATION RATES. IT WILL BE IMPORTANT TO LIMIT DISTURBANCE AND COMPACTION OF THE INFILTRATION SURFACE DURING CONSTRUCTION. WHERE POSSIBLE, THE OPERATION OF HEAVY, RUBBER-TIRE EQUIPMENT DIRECTLY ON THE INFILTRATION AREA SUBGRADES SHOULD BE AVOIDED OR KEPT TO A MINIMUM. FENCING AND EROSION CONTROL SHOULD BE SET AROUND THE BASIN TO REDUCE CLOGGING FROM SEDIMENT RUNOFF DURING CONSTRUCTION. AFTER GRUBBING AND ROUGH GRADING, INFILTRATION AREAS SHOULD BE TITLED WITH A DISC OR CHISEL PLOW FOLLOWED BY A LEVELING DRAG, TO RESTORE THE SOILS TO A LOOSE CONDITION. CONSTRUCTION OVERSIGHT BY COMPETENT ENGINEERING PERSONNEL DURING INSTALLATION OF THE SWM IS CRITICAL TO SUCCESSFUL FUNCTIONING OF THE SYSTEM. IDEALLY, CONSTRUCTION OVERSIGHT SHOULD BE PROVIDED BY THE GEOTECHNICAL ENGINEER, OR QUALIFIED REPRESENTATIVE, RETAINED BY THE PROJECT OWNER TO DOCUMENT CONSTRUCTION OPERATIONS AND ASSURE THAT PROJECT SPECIFICATIONS AND SPECIAL CONSTRUCTION REQUIREMENTS ARE MET. PERIODIC INSPECTION AND MAINTENANCE OF THE INFILTRATION SYSTEMS WILL BE REQUIRED TO MAXIMIZE THE EFFICIENCY AND DESIGN LIFE OF THE



ENDWALL 6 | 0.8 | 3.9 | 2.0 | 1.25 | R-4 | 6 | 18 | 5.9 | 4 |

STILLING BASIN WITH PIPE END DETAIL

ELLIPTICAL





- 1. CONSTRUCT MANHOLES IN ACCORDANCE WITH THE REQUIREMENTS OF PUBLICATION 408, SECTIONS 605 AND 714 AND RC-39M 2. PROVIDE PRECAST CONCRETE MANHOLES SUPPLIED BY A MANUFACTURER LISTED IN
- BULLETIN 15. PROVIDE A TOP SLAB TO SUPPORT THE MANHOLE COVER AND FRAME, UNLESS AN ECCENTRIC CONE TOP SECTION IS USED.
- 4. ECCENTRIC CONES ARE ONLY PERMITTED TO BE PLACED ON TOP OF A TYPE 4 MANHOLE OR ON TOP OF A TYPE 5 TO TYPE 4 REDUCER CONE OR ON TOP OF A TRANSITION SLAB.
- AND/OR A TYPE 6 TO A TYPE 5. A MAXIMUM OF TWO REDUCER CONES IS PERMITTED PER MANHOLF ASSEMBLY PROVIDE A TRANSITION SLAB BETWEEN TWO SEPARATE MANHOLE SIZES, WHEN TWO
- SEPARATE MANHOLE SIZES ARE USED, UNLESS REDUCER CONES CAN BE USED. (SEE TRANSITION SLAB NOTES). CLEAR COVER FOR STEE
- FOOTINGS [BOTTOM SLAB]: TOP COVER: 2" BOTTOM COVER: 11/2 SIDE COVER: 11/2" TOP AND TRANSITION SLABS [TOP AND BOTTOM]: 11/2"
- MINIMUM SLAB AND WALL THICKNESS MINIMUM TOP SLAB THICKNESS: 8" MINIMUM TRANSITION SLAB THICKNESS: 10" MINIMUM WALL THICKNESS: TYPE 4, 5, 6, 7, AND 8: INSIDE DIAMETER/12 + 1" TYPE 10 AND 12: INSIDE DIAMETER/12

MINIMUM BOTTOM SLAB THICKNESS: 7"

- THICKNESS OF WALL MUST BE MAINTAINED FOR THE ENTIRE HEIGHT OF THE MANHOLE UNLESS A TRANSITION SLAB OR REDUCER CONES ARE USED.
- 10. FABRICATOR IS RESPONSIBLE FOR LIFTING, HANDLING AND TRANSPORTATION STRESSES.

- PROVIDE GALVANIZED STEEL OR PLASTIC LIFTING DEVICES FOR HANDLING AND INSTALLATION. - FILL LIFTING DEVICES WITH NON-SHRINK GROUT AFTER INSTALLATION. - PROVIDE LIFTING INSERTS WITH A MINIMUM CAPACITY OF AT LEAST FOUR TIMES THE CALCULATED LOAD ON THE DEVICE.

-CONCRETE CRADLE

-CONCRETE POURED IN

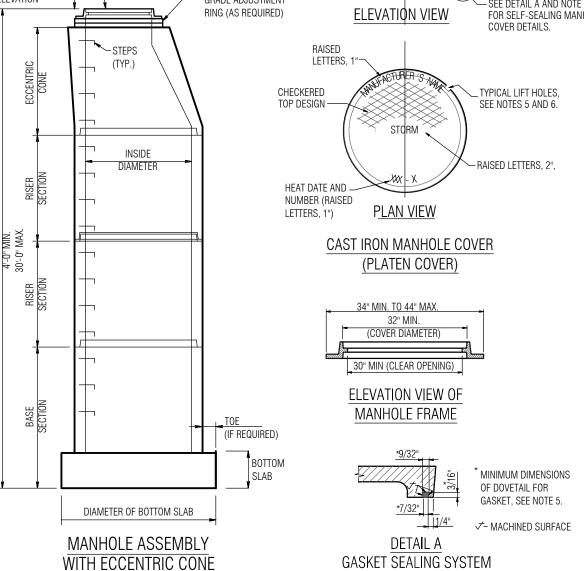
3000 PSI (MIN.)

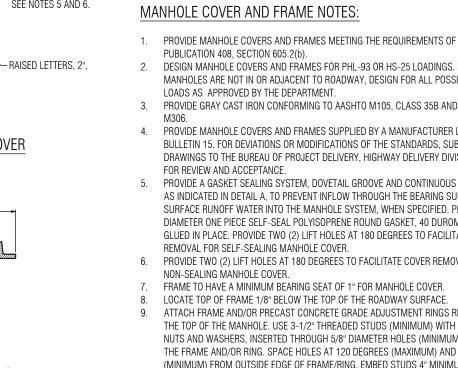
PLACE NEAT TO GROUND,

- 2. WALL TAPERS MAY BE PROVIDED ON THE INSIDE VERTICAL FACE OF BASE SECTIONS TO FACILITATE FORM STRIPPING. TAPERS MAY RESULT IN INTERNAL BOTTOM DIMENSIONS THAT ARE UP TO 2" LESS THAN THE INSIDE DIAMETER OF THE MANHOLE. THE OUTSIDE DIAMETER REDUCER CONES MAY BE USED TO REDUCE THE MANHOLE SIZE FROM A TYPE 5 TO A TYPE 4
 - 3. JOINTS MAY BE CONSTRUCTED WITH EITHER THE BELL UPWARD AND SPIGOT (TONGUE) DOWNWARD OR BELL DOWNWARD AND SPIGOT (TONGUE) UPWARD, CLEAN JOINTS THOROUGHLY BEFORE PLACING NEXT SEGMENT. PLACE JOINT MATERIAL IN ACCORDANCE WITH THIS STANDARD AND MANUFACTURER'S RECOMMENDATIONS. IF A GASKET IS USED TO SEAL THE JOINT, REVISE THE JOINT DETAIL TO ACCOMMODATE THE GASKET. 14. CONTRACTOR/FABRICATOR TO DETERMINE THE TYPE OF MATERIAL USED IN THE JOINTS.
 - 15. PROVIDE EITHER A SHIPLAP OR KEYED JOINT BETWEEN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE MANHOLE.

16. PROVIDE EITHER A SHIPLAP OR KEYED JOINT BETWEEN THE TRANSITION SLAB AND THE

- ADJACENT TOP AND BOTTOM SECTIONS. 17. PROVIDE EITHER A SHIPLAP OR KEYED JOINT BETWEEN MANHOLE SECTIONS.
- 18. PROVIDE A JOINT IN THE BASE SECTION BETWEEN THE WALL AND BOTTOM SLAB IF THE BOTTOM SLAB IS NOT POURED WITH THE WALLS. REFER TO DETAILS ON SHEET 25.
- MINIMUM HEIGHT RISER SECTIONS = 1'-0" (2'-0" PREFERRED) BASE SECTIONS = 2'-0" Maximum Height = 8'-0"
- 20. USE EPOXY BONDING COMPOUND BETWEEN CONCRETE POURS.





8. LOCATE TOP OF FRAME 1/8" BELOW THE TOP OF THE ROADWAY SURFACE MANHOLE. GROUT STUDS INTO MANHOLE.

> - MINIMUM GROUT DEPTH = 1/2" - MAXIMUM GROUT DEPTH = 1"

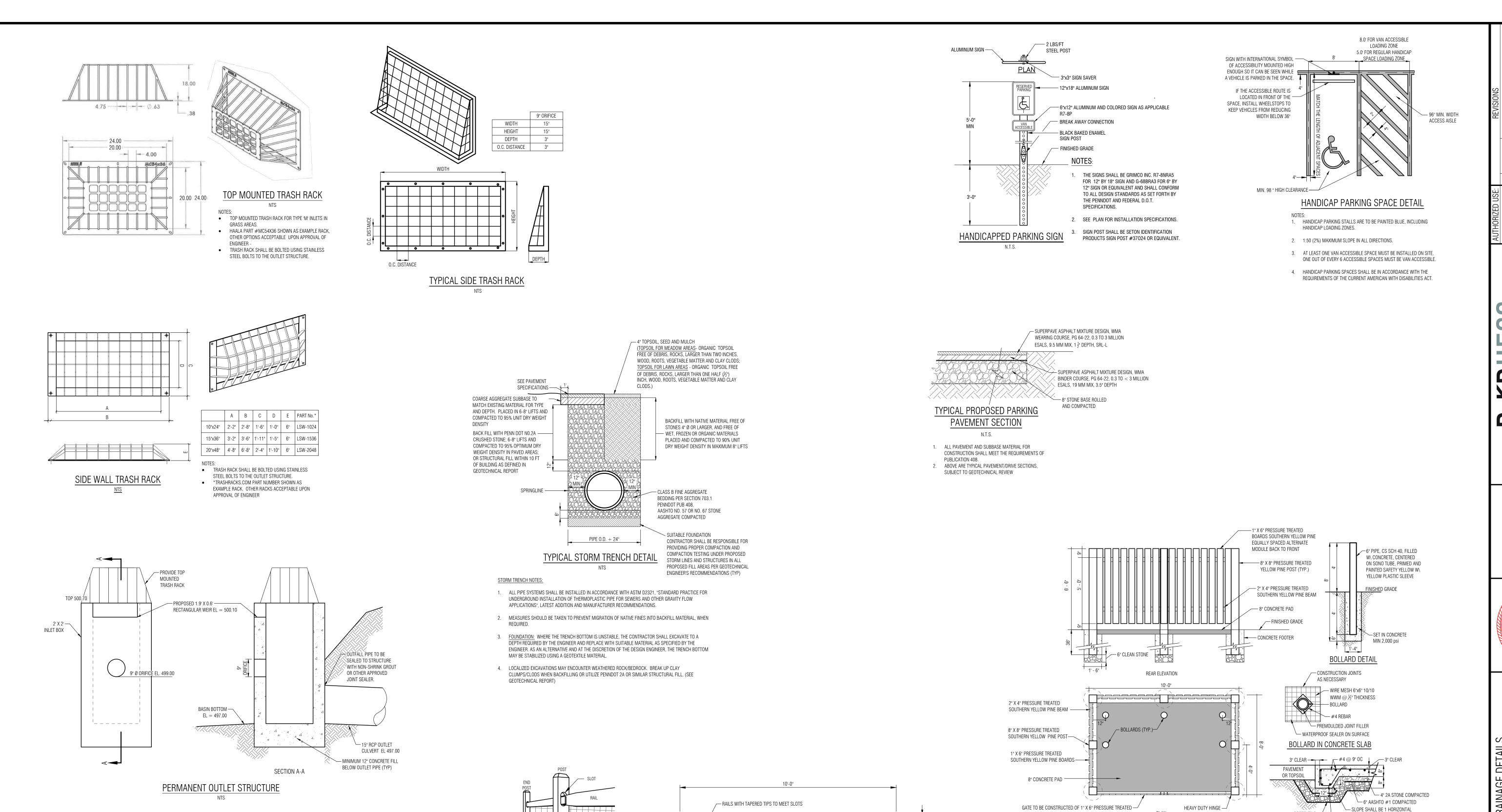
> > SHEET 8 OF 10

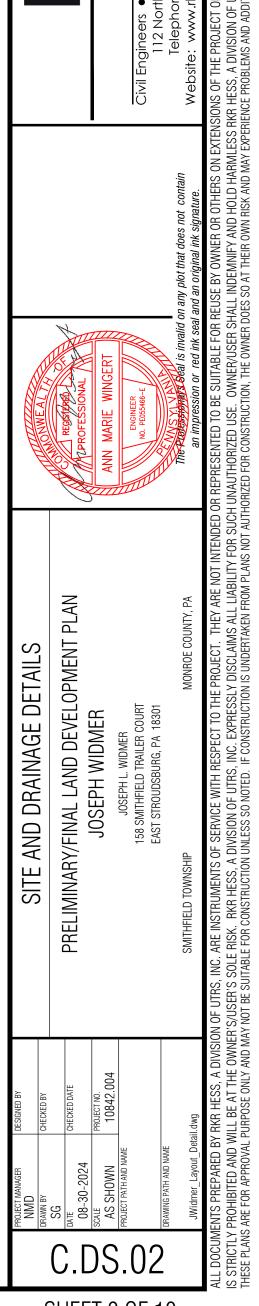
INVERT (ft)

(1 FT MIN.)

ELEVATION

497.00 3 1.50





PERSPECTIVE VIEW

— 36" BLACK PVC COATED WIRE MESH

EXISTING SOIL

FLUSH WITH TOP RAIL

SOUTHERN YELLOW PINE BOARDS SPACED 1/8" APART NAILED TO 2" X 6" SOUTHERN YELLOW PINE SUPPORTS

GEOTEXTILE —

TO 2 VERTICAL OR LESS AS SOIL

CONDITIONS REQUIRE (TYP)

ADDITIONAL (2) #4 CONT.

CONCRETE PAD DETAIL

(3 PER GATE)

TRASH ENCLOSURE

