PROJECT NO. 130172801

MERCER COUNTY SCD REQUIRED SOIL EROSION AND SEDIMENT CONTROL NOTES

1. THE MERCER COUNTY SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED 48 HOURS PRIOR TO STARTING LAND DISTURBANCE ACTIVITY. NOTICE MAY BE MAILED, FAXED OR EMAILED TO:
MCSCD, 508 HUGHES DRIVE, HAMILTON SQUARE, NJ 08690
PHONE: 609-586-9603 FAX: 609-586-1117 EMAIL: MERCERSOIL@AOL.COM
2. IF APPLICABLE TO THIS PROJECT, THE OWNER SHOULD BE AWARE OF HIS OR HER OBLIGATION TO FILE FOR A NJPDES CONSTRUCTION ACTIVITY STORMWATER 5G3 PERMIT (NJG0088323) VIA THE NJDEP ONLINE PERMITTING SYSTEM (WWW.NJ.GOV/DEP/ONLINE) AND TO MAINTAIN THE ASSOCIATED BEST MANAGEMENT PRACTICES AND STORMWATER POLLUTION PREVENTION PLAN SELF-INSPECTION LOGBOOK ONSITE AT ALL TIMES. THIS PERMIT MUST BE FILED PRIOR TO THE START OF SOIL DISTURBANCE. THE ONLINE APPLICATION PROCESS WILL REQUIRE ENTRY OF AN SCD CERTIFICATION CODE, WHICH IS PROVIDED BY THE SOIL CONSERVATION DISTRICT UPON CERTIFICATION OF THE SOIL EROSION AND SEDIMENT CONTROL PLAN.
3. THE MERCER COUNTY SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED OF ANY CHANGES IN OWNERSHIP.
4. ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN, INCLUDING AN INCREASE IN THE LIMIT OF DISTURBANCE, WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT FOR RECERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION & SEDIMENT CONTROL STANDARDS.
5. A COPY OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON SITE AT ALL TIMES.
6. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCES, OR IN THEIR PROPER SEQUENCE AS OUTLINED WITHIN THE SEQUENCE OF CONSTRUCTION ON THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
7. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NJ. IF LANGUAGE CONTAINED WITHIN ANY OTHER PERMIT FOR THIS PROJECT IS MORE RESTRICTIVE THAN (BUT NOT CONTRADICTORY TO) WHAT IS CONTAINED WITHIN THESE NOTES OR ON THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN, THEN THE MORE RESTRICTIVE PERMIT REQUIREMENTS SHALL BE FOLLOWED.
8. THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS REQUIRES THE INSTALLATION OF A 1½" TO 2½" CLEAN STONE TRACKING PAD AT ALL CONSTRUCTION DRIVEWAYS IMMEDIATELY AFTER INITIAL SITE DISTURBANCE, WHETHER IDENTIFIED ON THE CERTIFIED PLAN OR NOT. THE WIDTH SHALL SPAN THE FULL WIDTH OF EGRESS, AND LENGTH SHALL BE 50 FT. OR MORE, DEPENDING ON SITE CONDITIONS AND AS REQUIRED BY THE STANDARD. THIS SHALL INCLUDE INDIVIDUAL LOT ACCESS POINTS WITHIN RESIDENTIAL SUBDIVISIONS. IF THE EGRESS IS TO A COUNTY ROAD, THEN A 20 FT. LONG PAVED TRANSITION SHALL BE PROVIDED BETWEEN THE EDGE OF PAVEMENT AND THE STONE ACCESS PAD.
9. A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS IN ORDER TO STABILIZE STREETS, ROADS, DRIVEWAYS AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUB-BASE SHALL BE INSTALLED WITHIN 15 DAYS OF PRELIMINARY GRADING, PROVIDED THAT ALL OTHER REQUIREMENTS RELATED TO DETENTION BASINS, SWALES AND THE SEQUENCE OF CONSTRUCTION HAVE BEEN MET.
10. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN 14 DAYS AND NOT SUBJECT TO CONSTRUCTION ACTIVITY WILL IMMEDIATELY RECEIVE TEMPORARY STABILIZATION. IF THE SEASON PREVENTS ESTABLISHMENT OF A TEMPORARY VEGETATIVE COVER, OR IF THE AREA IS NOT TOPSOILED, THEN THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO STATE STANDARDS. SLOPED AREAS IN EXCESS OF 3H:1V SHALL BE PROVIDED WITH EROSION CONTROL BLANKETS. CRITICAL AREAS SUBJECT TO EROSION (I.E. STEEP SLOPES, ROADWAY EMBANKMENTS, ENVIRONMENTALLY SENSITIVE AREAS) WILL RECEIVE TEMPORARY STABILIZATION IMMEDIATELY AFTER INITIAL DISTURBANCE OR ROUGH GRADING.
11. ANY STEEP SLOPES (I.E. SLOPES GREATER THAN 3:1) RECEIVING PIPELINE OR UTILITY INSTALLATION WILL BE BACKFILLED AND STABILIZED DAILY, AS THE INSTALLATION PROCEEDS.
12. PERMANENT VEGETATION SHALL BE SEEDED OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING AND TOPSOILING. ALL AGRONOMIC REQUIREMENTS CONTAINED WITHIN THE STANDARDS AND ON THE CERTIFIED PLAN SHALL BE EMPLOYED. MULCH WITH BINDER, IN ACCORDANCE WITH THE STANDARDS, SHALL BE USED ON ALL SEEDED AREAS. SAVE ALL TAGS AND/OR BAGS USED FOR SEED, LIME AND FERTILIZER, AND PROVIDE THEM TO THE DISTRICT INSPECTOR TO VERIFY THAT MIXTURES AND RATES MEET THE STANDARDS.
13. AT THE TIME WHEN THE SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER, SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, THEN NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
14. DURING THE COURSE OF CONSTRUCTION, SOIL COMPACTION MAY OCCUR WITHIN HAUL ROUTES, STAGING AREAS AND OTHER PROJECT AREAS. IN ACCORDANCE WITH THE STANDARD FOR TOPSOILING, COMPACTED SURFACES SHOULD BE SCARIFIED 6" TO 12" IMMEDIATELY PRIOR TO TOPSOIL APPLICATION. THIS WILL HELP ENSURE A GOOD BOND BETWEEN THE TOPSOIL AND SUBSOIL. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.).
15. PRIOR TO SEEDING, TOPSOIL SHALL BE WORKED TO PREPARE A PROPER SEEDBED. THIS SHALL INCLUDE RAKING OF THE TOPSOIL AND REMOVAL OF DEBRIS AND STONES, ALONG WITH OTHER REQUIREMENTS OF THE STANDARD FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION.
16. IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, ANY SOIL HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE BURIED WITH LIMESTONE IN ACCORDANCE WITH THE STANDARD AND BE COVERED WITH A MINIMUM OF 12" OF SOIL HAVING A PH OF 5 OR MORE PRIOR TO TOPSOIL APPLICATION AND SEEDBED PREPARATION. IF THE AREA IS TO RECEIVE TREE OR SHRUB PLANTINGS, OR IS LOCATED ON A SLOPE, THEN THE AREA SHALL BE COVERED WITH A MINIMUM OF 24" OF SOIL HAVING A PH OF 5 OR MORE.
17. MULCHING TO THE STANDARDS IS REQUIRED FOR OBTAINING A CONDITIONAL REPORT OF COMPLIANCE. CONDITIONAL ROC'S ARE ONLY ISSUED WHEN THE SEASON PROHIBITS SEEDING. PERMANENT STABILIZATION MUST THEN BE COMPLETED DURING THE OPTIMUM SEEDING SEASON IMMEDIATELY FOLLOWING THE CONDITIONAL ROC, OR THE COMPLETION OF WORK IN A GIVEN AREA.
18. HYDROSEEDING IS A TWO-STEP PROCESS. THE FIRST STEP INCLUDES SEED, FERTILIZER, LIME, ETC., ALONG WITH MINIMAL AMOUNTS OF MULCH TO PROMOTE CONSISTENCY, GOOD SEED-TO-SOIL CONTACT, AND GIVE A VISUAL INDICATION OF COVERAGE. UPON COMPLETION OF THE SEEDING OPERATION, HYDROMULCH SHOULD BE APPLIED AT A MINIMUM RATE OF 1500 LBS. PER ACRE IN SECOND STEP. THE USE OF HYDRO-MULCH, AS OPPOSED TO STRAW, IS LIMITED TO OPTIMUM SEEDING DATES AS LISTED IN THE STANDARDS. THE USE OF HYDROMULCH ON SLOPED AREAS IS DISCOURAGED.
19. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL ADJACENT ROADS CLEAN DURING LIFE OF THE CONSTRUCTION PROJECT. ALL SEDIMENT WASHED, DROPPED, TRACKED OR SPILLED ONTO PAVED SURFACES SHALL BE IMMEDIATELY REMOVED.
20. THE DEVELOPER SHALL BE RESPONSIBLE FOR REMEDIATING ANY EROSION OR SEDIMENT PROBLEMS THAT ARISE AS A RESULT OF ONGOING CONSTRUCTION, AND FOR EMPLOYING ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES AT THE REQUEST OF THE MERCER COUNTY SOIL CONSERVATION DISTRICT.
21. CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
22. ALL DETENTION / RETENTION BASINS MUST BE FULLY CONSTRUCTED (INCLUSIVE OF ALL STRUCTURAL COMPONENTS AND LINERS) AND PERMANENTLY STABILIZED PRIOR TO PAVING OR PRIOR TO THE ADDITION OF ANY IMPERVIOUS SURFACES. PERMANENT STABILIZATION INCLUDES, BUT MAY NOT BE LIMITED TO: TOPSOIL, SEED, STRAW MULCH AND BINDERS OR EROSION CONTROL BLANKETS ON ALL SEEDING, ALL AGRONOMIC REQUIREMENTS AS SPECIFIED ON THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN, INSTALLATION OF THE OUTFLOW CONTROL STRUCTURES AND DISCHARGE STORM DRAINAGE PIPING, LOW FLOW CHANNELS, CONDUIT OUTLET PROTECTION, EMERGENCY SPILLWAYS, AND LAP RING PROTECTION.
23. THE RIDING SURFACE OF ALL UTILITY TRENCHES WITHIN PAVED AREAS SHALL BE 3/4" CLEAN STONE OR BASE PAVEMENT UNTIL SUCH TIME AS FINAL PAVEMENT HAS BEEN INSTALLED. TEMPORARY SOIL RIDING SURFACES ARE PROHIBITED.
24. ALL CONSTRUCTION DEWATERING (TRENCHES, EXCAVATIONS, ETC.) MUST BE DONE THROUGH AN INLET OR OUTLET FILTER IN ACCORDANCE WITH THE STANDARD FOR DEWATERING OR AS DEPICTED ON THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN. DISCHARGE LOCATIONS FOR THE DEWATERING OPERATION MUST CONTAIN PERENNIAL VEGETATION OR SIMILAR STABLE SURFACE.
25. ALL SWALES OR CHANNELS THAT WILL RECEIVE RUNOFF FROM PAVED SURFACES MUST BE PERMANENTLY STABILIZED PRIOR TO THE INSTALLATION OF PAVEMENT. IF THE SEASON PROHIBITS THE ESTABLISHMENT OF PERMANENT STABILIZATION, THE SWALES OR CHANNELS MAY BE TEMPORARILY STABILIZED IN ACCORDANCE WITH THE STANDARDS.
26. NJSA 4:24-39 ET SEQ. REQUIRES THAT NO CERTIFICATE OF OCCUPANCY OR TEMPORARY CERTIFICATE OF OCCUPANCY BE ISSUED BY THE MUNICIPALITY BEFORE THE PROVISIONS OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN HAVE BEEN SATISFIED. THEREFORE, ALL SITE WORK FOR SITE PLANS AND ALL WORK AROUND INDIVIDUAL LOTS IN SUBDIVISIONS MUST BE COMPLETED BEFORE THE DISTRICT ISSUES A REPORT OF COMPLIANCE OR CONDITIONAL REPORT OF COMPLIANCE, WHICH MUST BE FORWARDED TO THE MUNICIPALITY PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY OR TEMPORARY CERTIFICATE OF OCCUPANCY, RESPECTIVELY.

SOIL EROSION AND SEDIMENT CONTROL PLAN NOTES

PERMANENT STABILIZATION WITH SOD

PERMANENT SODDING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY." THE FOLLOWING SOD SCHEDULE SHOULD BE USED FOR PERMANENT STABILIZATION:

1. SITE PREPARATION
   A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR LIMING, FERTILIZING, INCORPORATION OF ORGANIC MATTER, AND OTHER SOIL PREPARATION PROCEDURES. ALL GRADING SHALL BE DONE IN ACCORDANCE WITH STANDARD FOR LAND GRADING.
   B. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING THE SOIL STRUCTURE. A UNIFORM APPLICATION TO A DEPTH OF 6 INCHES (UNSETTLED) IS REQUIRED ON ALL SITES. TOPSOIL SHALL BE AMENDED WITH ORGANIC MATTER, AS NEEDED, IN ACCORDANCE WITH STANDARD FOR TOPSOILING.
   C. INSTALL EROSION CONTROL MEASURES AS INDICATED ON THE "SOIL EROSION AND SEDIMENT CONTROL PLAN," DRAWING CE-101 AND AS DETAILED ON DRAWING CE-502.
2. SOIL PREPARATION
   A. FERTILIZER SHALL BE APPLIED AT A RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET USING 10-10-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE AND INCORPORATED INTO THE SURFACE 4 INCHES. IF FERTILIZER IS NOT INCORPORATED, APPLY ½ THE RATE DESCRIBED ABOVE DURING SEEDBED PREPARATION AND REPEAT ANOTHER ½ RATE APPLICATION OF THE SAME FERTILIZER WITHIN 3 TO 5 WEEKS AFTER SODDING. APPLY LIMESTONE AT THE RATE OF 2 TONS/ACRE UNLESS SOIL TESTING INDICATES OTHERWISE. CALCIUM CARBONATE IS THE EQUIVALENT AND STANDARD FOR MEASURING THE ABILITY OF LIMING MATERIALS TO NEUTRALIZE SOIL ACIDITY AND SUPPLY CALCIUM AND MAGNESIUM TO GRASSES AND LEGUMES. THE TABLE BELOW IS A GENERAL GUIDELINE FOR LIMESTONE APPLICATION RATES.

Limestone Application Rate by Soil Texture		
Soil Texture	Tons/Acre	LBS./1000 SQ. FT.
Clay, clay loam, and high organic soil	3	135
Sandy loam, loam, silt loam	2	90
Loamy sand, sand	1	45

   B. WORK LIME, AND FERTILIZER INTO THE TOPSOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRINGTOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM, FINE SEEDBED IS PREPARED.
   C. REMOVE FROM THE SURFACE ALL OBJECTS THAT WOULD PREVENT GOOD SOD TO TOPSOIL CONTACT AND REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, PIECES OF CONCRETE, CLODS, LUMPS, OR OTHER UNSUITABLE MATERIAL.
   D. INSPECT SITE JUST BEFORE SODDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED AND FIRMED IN ACCORDANCE WITH THE ABOVE.
3. SOD PLACEMENT
   A. SOD STRIPS SHOULD BE LAID ON THE CONTOUR, NEVER UP AND DOWN THE SLOPE, STARTING AT THE BOTTOM OF THE SLOPE AND WORKING UP. ON STEEP SLOPES, THE USE OF LADDERS WILL FACILITATE THE WORK AND PREVENT DAMAGE TO THE SOD. DURING PERIODS OF HIGH TEMPERATURE, LIGHTLY IRRIGATE THE SOIL IMMEDIATELY PRIOR TO LAYING THE SOD.
   B. PLACE SOD STRIPS WITH SNUG, EVEN JOINTS (SEAMS) THAT ARE STAGGERED. OPEN SPACES INVITE EROSION.
   C. LIGHTLY ROLL OR TAMP SOD IMMEDIATELY FOLLOWING PLACEMENT TO INSURE SOLID CONTACT OF ROOT MAT AND SOIL SURFACE. DO NOT OVERLAP THE SOD. ALL JOINTS SHOULD BE BUTTED TIGHTLY TO PREVENT VOIDS WHICH WOULD CAUSE DRYING OF THE ROOTS AND INVASION OF WEEDS.
   D. ON SLOPES GREATER THAN 3 TO 1, SECURE SOD TO SURFACE SOIL WITH WOOD PEGS, WIRE STAPLES BIODEGRADABLE PLASTIC SPIKES, OR SPLIT SHINGLES (* TO 10 INCHES LONG BY ¾ INCH WIDE).
   E. SURFACE WATER CANNOT ALWAYS BE DIVERTED FROM FLOWING OVER THE FACE OF THE SLOPE, BUT A CAPPING STRIP OF HEAVY JUTE OR PLASTIC NETTING, PROPERLY SECURED, ALONG THE CROWN OF THE SLOPE AND EDGES WILL PROVIDE EXTRA PROTECTION AGAINST LIFTING AND UNDERCUTTING OF SOD. THE SAME TECHNIQUE CAN BE USED TO ANCHOR SOD IN WATER-CARRYING CHANNELS AND OTHER CRITICAL AREAS. WIRE STAPLES MUST BE USED TO ANCHOR NETTING IN CHANNEL WORK.
   F. IMMEDIATELY FOLLOWING INSTALLATION, SOD SHOULD BE WATERED UNTIL WATER PENETRATES THE SOIL LAYER BENEATH SOD TO A DEPTH OF 1 INCH. MAINTAIN OPTIMUM WATER FOR AT LEAST TWO WEEKS.
4. TOPDRESSING
   A. SINCE SOIL ORGANIC MATTER AND SLOW RELEASE NITROGEN FERTILIZER (WATER INSOLUBLE) ARE PRESCRIBED IN SECTIONS 1 AND 2, A FOLLOW-UP TOPDRESSING IS NOT MANDATORY, EXCEPT WHERE GROSS NITROGEN DEFICIENCY EXISTS IN THE SOIL TO THE EXTENT THAT TURF FAILURE MAY DEVELOP, TOPDRESSING SHALL THEN BE APPLIED. TOPDRESS WITH 10-0-10 OR EQUIVALENT AT 400 POUNDS PER ACRE OR 7 POUNDS PER 1,000 SQUARE FEET EVERY 3 TO 5 WEEKS UNTIL THE GROSS DEFICIENCY IN THE TURF IS AMELIORATED.

PERMANENT SOD

MANAGEMENT OF HIGH ACID PRODUCING SOIL

HIGH ACID PRODUCING SOILS MAY BE PRESENT IN UNDISTURBED SOILS AT VARYING DEPTHS INCLUDING NEAR THE SOIL SURFACE TO EXCAVATIONS OR DEEP DISTURBANCES. ITS PRESENCE ON A SITE MAY BE SIGNIFICANT OR LIMITED IN THE SOIL PROFILE. HIGH ACID PRODUCING SOILS ARE COMMONLY BLACK, DARK BROWN, GRAY OR GREENISH WITH SILVERY PYRITE OR MARCASITE NUGGETS OR FLAKED. ALTERNATIVELY, SANDY SOILS OR REDDISH, YELLOWISH OR LIGHT TO MEDIUM BROWN SOIL MATERIALS ARE USUALLY FREE OF HIGH ACID PRODUCING DEPOSITS.

METHODS AND MATERIALS:

1. LIMIT THE EXCAVATION AREA AND EXPOSURE TIME WHEN HIGH ACID PRODUCING SOILS ARE ENCOUNTERED.
2. TOPSOIL STRIPPED FROM THE SITE SHALL BE STORED SEPARATELY FROM TEMPORARY STOCKPILED HIGH ACID PRODUCING SOILS.
3. STOCKPILES OF HIGH ACID PRODUCING SOIL SHOULD BE LOCATED ON LEVEL LAND TO MINIMIZE ITS MOVEMENT, ESPECIALLY WHEN THIS MATERIAL HAS A HIGH CLAY CONTENT.
4. TEMPORARILY STOCKPILED HIGH ACID PRODUCING SOIL MATERIAL TO BE EXPOSED MORE THAN 30 DAYS SHOULD BE COVERED WITH PROPERLY ANCHORED, HEAVY GRADE SHEETS OF POLYETHYLENE WHERE POSSIBLE. IF NOT POSSIBLE, STOCKPILES SHALL BE COVERED WITH A MINIMUM OF 3 TO 6 INCHES OF WOOD CHIPS TO MINIMIZE EROSION OF THE STOCKPILE. SILT FENCE SHALL BE INSTALLED AT THE TOE OF THE SLOPE TO CONTAIN MOVEMENT OF THE STOCKPILED MATERIAL. TOPSOIL SHALL NOT BE APPLIED TO THE STOCKPILES TO PREVENT TOPSOIL CONTAMINATION WITH HIGH ACID PRODUCING SOIL.
5. HIGH ACID PRODUCING SOILS WITH A pH OF 4 OR LESS, OR CONTAINING IRON SULFIDE, (INCLUDING BORROW FROM CUTS) SHALL BE ULTIMATELY PLACED OR BURIED WITH LIMESTONE APPLIED AT THE RATE OF 6 TONS PER ACRE (OR 275 LBS / 1,000 SF OF SURFACE AREA) AND COVERED WITH A MINIMUM OF 12 INCHES OF SETTLED SOIL WITH A pH OF 5 OR MORE EXCEPT AS FOLLOWS:
   A. AREAS WHERE TREES OR SHRUBS ARE TO BE PLANTED SHALL BE COVERED WITH A MINIMUM OF 24 INCHES OF SOIL WITH A pH OF 5 OR MORE.
   B. DISPOSAL AREAS SHALL NOT BE LOCATED WITHIN 24 INCHES OF ANY SURFACE OF A SLOPE OR BANK, SUCH AS BERMS, STREAM BANKS, DITCHES AND OTHERS TO PREVENT POTENTIAL LATERAL LEACHING DAMAGES.
6. EQUIPMENT USED FOR MOVEMENT OF HIGH ACID PRODUCING SOILS SHOULD BE CLEANED AT THE END OF EACH DAY TO PREVENT SPREADING OF HIGH ACID SOIL MATERIALS TO OTHER PARTS OF THE SITE, INTO STREAMS OR STORMWATER CONVEYANCES AND TO PROTECT MACHINERY FROM ACCELERATED RUSTING.
7. NON VEGETATIVE EROSION CONTROL PRACTICES (STONE TRACKING PADS, STRATEGICALLY PLACED LIMESTONE CHECK DAM, SILT FENCE, WOOD CHIPS) SHOULD BE INSTALLED TO LIMIT THE MOVEMENT OF HIGH ACID PRODUCING SOILS FROM, AROUND OR OFF THE SITE.
8. FOLLOWING BURIAL OR REMOVAL OF HIGH ACID PRODUCING SOIL, TOPSOILING AND SEEDING OF THE SITE, MONITORING SHOULD CONTINUE FOR APPROXIMATELY 6 TO 12 MONTHS TO ASSURE THERE IS ADEQUATE STABILIZATION AND THAT NO HIGH ACID SOIL PROBLEMS EMERGE. IF PROBLEMS STILL EXIST THE AFFECTED AREA MUST BE TREATED AS INDICATED ABOVE TO CORRECT THE PROBLEM.
9. MONITORING OF AREAS WHERE HIGH ACID PRODUCING SOIL HAS BEEN PLACED OR BURIED SHOULD BE PERFORMED FOR AT LEAST 2 YEARS OR LONGER IF PROBLEMS OCCUR, TO ASSURE THERE IS NO MIGRATION OF POTENTIAL ACID LEACHATE.

MANAGEMENT OF HIGH ACID PRODUCING SOIL

TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION

DISTURBED AREAS SHALL BE MAINTAINED IN A ROUGH GRADED CONDITION AND TEMPORARILY SEEDED AND HAY MULCHED UNTIL PROPER WEATHER EXISTS FOR THE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER. THE FOLLOWING SCHEDULE SHALL BE USED FOR TEMPORARY STABILIZATION:

1. SITE PREPARATION
   A. INSTALL EROSION CONTROL MEASURES AS INDICATED ON THE "SOIL EROSION AND SEDIMENT CONTROL PLAN," DRAWING CE-101 AND AS DETAILED ON DRAWING CE-502.
   B. IMMEDIATELY PRIOR TO SEEDING, THE SURFACE SHOULD BE SCARIFIED 6" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES.
2. SEEDBED PREPARATION
   A. APPLY GROUND LIMESTONE AND FERTILIZER. LIMESTONE SHALL BE APPLIED AT A RATE OF 90 LBS/1,000 SF (2 TONS/ACRE - FOR SANDY LOAM, LOAM, AND SILT LOAM) AS PER TABLE 7-1 OF THE STATE SOIL EROSION STANDARDS. FERTILIZER SHALL BE APPLIED AT A RATE OF 11 LBS/1,000 SF (500 LBS/ACRE) OF 10-20-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN.
   B. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4" WITH A DISC, SPRINGTOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.
   C. INSPECT SEEDBED JUST PRIOR TO SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED IN ACCORDANCE WITH THE ABOVE.
3. SEEDING
   A. APPLY PERENNIAL RYEGRASS AT A RATE OF 1 LB/1,000 SF (100 LBS/ACRE) TO A DEPTH OF 2" AS PER TABLE 7-2 AND FIGURE 7-1 OF THE STATE SOIL EROSION STANDARDS. PLANT BETWEEN MARCH 1 AND MAY 15 OR BETWEEN AUGUST 15 AND OCTOBER 1. PRIOR TO MARCH 1, STABILIZE WITH MULCH ONLY (SEE SPECIFICATIONS, THIS SHEET).
   B. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL, TO A DEPTH OF 1/4" TO 1/2", BY RAKING OR DRAGGING.
   C. HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL.
   D. AFTER SEEDING, FIRM THE SOIL WITH A CORRUGATED ROLLER TO ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE.
4. MULCHING
   A. MULCHING IS REQUIRED ON ALL SEEDING TO INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND PROMOTE FASTER AND EARLIER ESTABLISHMENT.
   B. UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, OR SALT HAY SHALL BE APPLIED AT A RATE OF 70 TO 90 LBS/1,000 SF (1-1/2 TO 2 TONS PER ACRE). MULCH CHOPPER-BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH IS NOT RECOMMENDED DUE TO THE PRESENCE OF WEED SEEDS.
   C. SPREAD MULCH UNIFORMLY BY HAND OR MECHANICALLY SO THAT APPROXIMATELY 85% OF THE SOIL SURFACE WILL BE COVERED.
   D. ANCHORING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. DRIVE 8" TO 10" WOODEN PEGS TO WITHIN 2" TO 3" OF THE SOIL SURFACE EVERY 4' IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRIS-CROSS AND SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.

TEMPORARY SEED MIX

STANDARD FOR DUST CONTROL

DUST CONTROL MEASURES SHALL BE USED TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, REDUCE ON-SITE AND OFF-SITE DAMAGE AND HEALTH HAZARDS, AND IMPROVE TRAFFIC SAFETY. ONE OR MORE OF THE FOLLOWING METHODS MAY BE USED FOR DUST CONTROL:

1. MULCH
   A. SEE SPECIFICATIONS, THIS SHEET.
2. VEGETATIVE COVER
   A. SEE SPECIFICATIONS, THIS SHEET.
3. SPRAY-ON ADHESIVES
   A. ANIONIC ASPHALT EMULSION, DILUTED WITH WATER AT 7:1, COARSE SPRAY, APPLY AT A RATE OF 1200 GALLONS/ACRE.
   B. LATEX EMULSION, DILUTED WITH WATER AT 12.5:1, FINE SPRAY, APPLY AT A RATE OF 235 GALLONS/ACRE.
   C. POLYACRYLAMIDE (PAM) SPRAY ON OR DRY SPREAD - APPLY PER MANUFACTURER'S INSTRUCTIONS.
   D. ACIDULATED SOY BEAN SOAP STICK, DO NOT DILUTE, COARSE SPRAY, APPLY AT A RATE OF 1200 GALLONS/ACRE.
4. TILLAGE
   A. ROUGHEN THE SURFACE TO BRING CLODS TO THE SURFACE. THIS IS A TEMPORARY EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING BEGINS. BEGIN PLOWING ON THE WINDWARD SIDE OF THE SITE. USE CHISEL-TYPE PLOWS SPACES APPROXIMATELY 12" APART, OR SPRING-TOOTHED HARROWS.
5. SPRINKLING
   A. SPRINKLE ALL EXPOSED AREAS UNTIL THE SURFACE IS WET.
6. BARRIERS
   A. SOLID BOARD FENCE, SNOW FENCES, BURLAP FENCES, CRATE WALLS, BALES OF HAY AND SIMILAR MATERIALS USED TO CONTROL AIR CURRENTS AND SOIL BLOWING.
7. CALCIUM CHLORIDE
   A. LOOSE, DRY GRANULES OR FLAKES SHALL BE FED THROUGH COMMONLY USED SPREADERS AT A RATE THAT WILL KEEP THE SURFACE MOIST BUT NOT CAUSE POLLUTION OR PLANT DAMAGE. IS USED ON STEEP SLOPES, OTHER PRACTICES MUST ALSO BE IMPLEMENTED TO PREVENT WASHING INTO STREAMS OR ACCUMULATION AROUND PLANTS.
8. STONE
   A. COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

STANDARD FOR DUST CONTROL

STANDARD FOR TOPSOILING

TOPSOIL SHALL BE USED WHERE SOILS ARE TO BE DISTURBED AND WILL BE REVEGETATED. THE FOLLOWING SCHEDULE SHALL BE USED FOR MAINTENANCE OF VEGETATION:

1. MATERIALS
   A. TOPSOIL SHOULD BE FRIABLE, LOAMY, FREE OF DEBRIS, OBJECTIONABLE WEEDS AND STONES, AND CONTAIN NO TOXIC SUBSTANCE OR ADVERSE CHEMICAL OR PHYSICAL CONDITION THAT MAY BE HARMFUL TO PLANT GROWTH. SOLUBLE SALTS SHOULD NOT BE EXCESSIVE (CONDUCTIVITY LESS THAN 0.5 MILLIOHMS PER CENTIMETER). MORE THAN 0.5 MILLIOHMS MAY DESICCATE SEEDLINGS AND ADVERSELY IMPACT GROWTH.
   B. TOPSOIL HAULED IN FROM OFFSITE SHOULD HAVE A MINIMUM ORGANIC MATTER CONTENT OF 2.75 PERCENT. ORGANIC CONTENT MAY BE RAISED BY ADDITIVES.
2. STRIPPING AND STOCKPILING
   A. FIELD EXPLORATION SHOULD BE MADE TO DETERMINE WHETHER QUANTITY AND/OR QUALITY OF SURFACE SOIL JUSTIFIES STRIPPING.
   B. STRIPPING SHOULD BE CONFINED TO THE IMMEDIATE CONSTRUCTION AREA.
   C. WHERE FEASIBLE, LIME MAY BE APPLIED BEFORE STRIPPING TO BRING THE SOIL PH OR APPROXIMATELY Y6.5. LIMESTONE SHALL BE APPLIED AT A RATE OF 90 LBS/1,000 SF (2 TONS/ACRE - FOR SANDY LOAM, LOAM, AND SILT LOAM) AS PER TABLE 4-1 OF THE STATE SOIL EROSION STANDARDS.
   D. A 4" TO 6" STRIPPING DEPTH IS COMMON, BUT MAY VARY DEPENDING ON THE PARTICULAR SOIL.
   E. STOCKPILES OF TOPSOIL SHOULD BE SITUATED SO AS NOT TO OBSTRUCT NATURAL DRAINAGE OR CAUSE OFF-SITE ENVIRONMENTAL DAMAGE.
   F. STOCKPILES SHOULD BE VEGETATED AS DESCRIBED IN THE DETAILS ON THIS SHEET. WEEDS SHOULD NOT BE ALLOWED TO GROW ON STOCKPILES.
3. SITE PREPARATION
   A. GRADE AT THE ONSET OF THE OPTIMAL SEEDING PERIOD TO AS TO MINIMIZE THE DURATION AND AREA OF EXPOSURE OF DISTURBED SOIL TO EROSION. IMMEDIATELY PROCEED TO ESTABLISH VEGETATIVE COVER IN ACCORDANCE WITH THE SPECIFIED SEED MIXTURE (SEE DETAIL THIS SHEET).
   B. LIMESTONE, IF REQUIRED, SHOULD BE APPLIED TO BRING SOIL TO A PH OF APPROXIMATELY 6.5 AND INCORPORATED INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4".
   C. IMMEDIATELY PRIOR TO TOPSOILING, THE SURFACE SHOULD BE SCARIFIED 6" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION TO ENSURE A GOOD BOND BETWEEN THE TOPSOIL AND SUBSOIL. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES.
   D. INSTALL EROSION CONTROL MEASURES AS INDICATED ON THE "SOIL EROSION AND SEDIMENT CONTROL PLAN," DRAWING CE-101 AND AS DETAILED ON DRAWING CE-502.
4. APPLYING TOPSOIL
   A. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING SOIL STRUCTURE.
   B. A UNIFORM APPLICATION DEPTH OF 5" (UNSETTLED) IS RECOMMENDED. SOILS WITH A PH OF 4.0 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM DEPTH OF 12" OF SOIL HAVING A PH OF 5.0 OR MORE.

STANDARD FOR TOPSOILING

STABILIZATION WITH MULCH ONLY

NON-GROWING STABILIZATION MEASURES SHALL BE USED WHERE THE SEASON & OTHER CONDITIONS MAY NOT BE SUITABLE FOR GROWING AN EROSION RESISTANT COVER OR WHERE STABILIZATION IS NEEDED FOR A SHORT PERIOD UNTIL MORE SUITABLE PROTECTION CAN BE APPLIED. THE FOLLOWING SCHEDULE SHALL BE USED FOR STABILIZATION MULCH:

1. SITE PREPARATION
   A. INSTALL EROSION CONTROL MEASURES AS INDICATED ON THE "SOIL EROSION AND SEDIMENT CONTROL PLAN," DRAWING CE-101 AND AS DETAILED ON DRAWING CE-502.
2. PROTECTIVE MATERIALS
   A. APPLY UNROTTED SMALL-GRAIN STRAW, OR SALT HAY UNIFORMLY AT A RATE OF 90 TO 115 LBS/1,000 SF (2.0 TO 2.5 TONS/ACRE) AND ANCHOR WITH A MULCH ANCHORING TOOL.
3. MULCH ANCHORING
   A. ANCHORING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. DRIVE 8" TO 10" WOODEN PEGS TO WITHIN 2" TO 3" OF THE SOIL SURFACE EVERY 4' IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRIS-CROSS AND SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.

STABILIZATION WITH MULCH

CONSTRUCTION OPERATIONS

OPERATION	ANTICIPATED DURATION
1. NOTIFY THE MERCER COUNTY SOIL CONSERVATION DISTRICT AT LEAST 48 HOURS PRIOR TO ANY PROJECT PRE-CONSTRUCTION MEETING OR SITE DISTURBANCE.	4 WEEKS (items 1–2)
2. PLACE AND MAINTAIN THE SEDIMENT BARRIERS AS SHOWN ON THE PLAN. INSTALL INLET PROTECTION AS SHOWN. ALL TRAFFIC MUST USE THE SPECIFIED CONSTRUCTION ENTRANCE AT ALL TIMES.	
3. PERFORM SITE DEMOLITION ACTIVITIES. CLEAR AND GRUB AREAS AS REQUIRED.	4 MONTHS
4. ROUGH GRADE THE SITE. INSTALL STORM DRAINAGE FROM DOWNSTREAM TO UPSTREAM. INSTALL ALL UTILITY IMPROVEMENTS. APPLY TEMPORARY OR PERMANENT STABILIZATION TO ALL DISTURBED AREAS THAT ARE NO LONGER UNDER ACTIVE CONSTRUCTION. INSTALL INLET FILTER PROTECTION OVER NEW STORM SYSTEM.	4 MONTHS
5. AFTER STORM DRAINAGE SYSTEM IS CONSTRUCTED, CONTRACTOR SHALL CONTINUE TO MONITOR ADJACENT STREETS TO DETERMINE IF INLET PROTECTION IS REQUIRED BEYOND THE SITE LIMITS.	—
6. BEGIN AND CONTINUE SITEWORK AND BUILDING CONSTRUCTION.	1.5 YEARS
7. COMPLETE FINAL SITE GRADING WITH CURBING AND PAVING. SPREAD 5 INCHES OF TOPSOIL.	2 MONTHS
8. ALL SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED UNTIL ALL IMPROVEMENTS TO THE SITE ARE COMPLETED.	—
9. LANDSCAPE ALL APPROPRIATE AREAS AS INDICATED AND REMOVE ALL TEMPORARY SEDIMENT CONTROL STRUCTURES.	2 WEEK
10. NOTIFY THE MERCER COUNTY SOIL CONSERVATION DISTRICT AT THE COMPLETION OF CONSTRUCTION.	—
TOTAL	126 WEEKS (29 MONTHS)

SCHEDULE OF CONSTRUCTION OPERATIONS WAS DEVELOPED BY THE ENGINEER AND IS APPROXIMATE. THE CONTRACTOR MAY ALTER THIS SCHEDULE SIGNIFICANTLY. THE SCHEDULE IS FOR CONCEPTUAL PURPOSES ONLY.

SEQUENCE OF CONSTRUCTION OPERATIONS

MAINTENANCE OF VEGETATION

MAINTENANCE SHALL OCCUR ON A REGULAR BASIS, CONSISTENT WITH FAVORABLE PLANT GROWTH, SOIL, AND CLIMATIC CONDITIONS. THIS INVOLVES REGULAR SEASONAL WORK FOR MOWING, FERTILIZING, LIMING, WATERING, PRUNING, FIRE CONTROL, WEED AND PEST CONTROL, RESEEDING, AND TIMELY REPAIRS. THE FOLLOWING SCHEDULE SHALL BE USED FOR MAINTENANCE OF VEGETATION:

1. THE SITE'S VEGETATED AREAS WILL REQUIRE MEDIUM TO LOW LEVELS OF MAINTENANCE. MOWING IS EXPECTED TO BE INFREQUENT TO PERMIT NATURAL SUCCESSION.
2. FERTILIZER AND LIME SHALL BE APPLIED AS NEEDED TO MAINTAIN A DENSE STANDARD OF DESIRABLE SPECIES. FREQUENTLY MOWED AREAS AND THOSE ON SANDY SOILS WILL REQUIRE MORE FERTILIZATION.
3. LIME REQUIREMENT SHALL BE DETERMINED BY SOIL TESTING EVERY 2 TO 3 YEARS. FERTILIZATION INCREASES THE NEED FOR LIMING.
4. WEED INVASION MAY RESULT FROM ABUSIVE MOWING AND FROM INADEQUATE FERTILIZING AND LIMING. BRUSH INVASION IS A COMMON CONSEQUENCE OF LACK OF MOWING. THE AMOUNT OF WEEDS OR BRUSH THAT CAN BE TOLERATED IN ANY VEGETATED AREA DEPENDS UPON THE INTENDED USE OF THE LAND. DRAINAGE WAYS ARE SUBJECT TO RAPID INFESTATION BY WEED AND WOODY PLANTS. THESE SHOULD BE CONTROLLED, SINCE THEY OFTEN REDUCE DRAINAGE WAY EFFICIENCY. CONTROL OF WEEDS OR BRUSH IS ACCOMPLISHED BY USING HERBICIDES OR MECHANICAL METHODS.
5. VEGETATION SHALL BE KEPT PEST AND DISEASE FREE.
6. ACCUMULATED DRY VEGETATION SHALL BE REMOVED TO REDUCE THE FIRE HAZARD.
7. PRUNE TREES AND SHRUBS TO REMOVE DEAD OR DAMAGED BRANCHES. REMOVE UNDESIRABLE OR INVASIVE PLANTS TO MAINTAIN INTEGRITY OF THE LANDSCAPE AND ENHANCE QUALITY OF PERMANENT VEGETATIVE COVER.

MAINTENANCE OF VEGETATION

MERCER COUNTY
SOIL CONSERVATION DISTRICT
508 HUGHES DRIVE
HAMILTON SQUARE, N.J. 08690
PHONE: (609) 586-9603
FAX: (609) 586-1117
MERCERSOIL@AOL.COM

CONTRACTOR MUST NOTIFY DISTRICT 48-HOURS PRIOR TO START OF CONSTRUCTION.

SOIL EROSION CONTACT

PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION
(SHOWN FOR REFERENCE ONLY - ALL LAWN AREAS SHALL BE STABILIZED WITH SOD)

PERMANENT SEEDING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY." THE FOLLOWING SEEDING SCHEDULE SHOULD BE USED FOR PERMANENT STABILIZATION:

1. SITE PREPARATION
   A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING.
   B. IMMEDIATELY PRIOR TO SEEDING AND TOPSOIL APPLICATION, THE SUBSOIL SHALL BE EVALUATED FOR COMPACTION IN ACCORDANCE WITH STANDARD FOR LAND GRADING.
   C. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING THE SOIL STRUCTURE. A UNIFORM APPLICATION TO A DEPTH OF 5 INCHES (UNSETTLED) IS REQUIRED ON ALL SITES. TOPSOIL SHALL BE AMENDED WITH ORGANIC MATTER, AS NEEDED, IN ACCORDANCE WITH STANDARD FOR TOPSOILING.
   D. INSTALL EROSION CONTROL MEASURES AS INDICATED ON THE "SOIL EROSION AND SEDIMENT CONTROL PLAN," DRAWING CE-101 AND AS DETAILED ON DRAWING CE-502.
2. SEEDBED PREPARATION
   A. UNIFORMLY APPLY GROUND LIMESTONE AND FERTILIZER TO TOPSOIL WHICH HAS BEEN SPREAD AND FIRMED, ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION. FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 LBS PER ACRE OR 11 LBS/1,000 SF OF 10-10-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE AND INCORPORATED INTO THE SURFACE 4 INCHES. IF FERTILIZER IS NOT INCORPORATED, APPLY ONE-HALF THE RATE DESCRIBED ABOVE DURING SEEDBED PREPARATION AND REPEAT ANOTHER ONE-HALF THE RATE APPLICATION OF THE SAME FERTILIZER WITHIN 3 TO 5 WEEKS AFTER SEEDING.
   B. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4" WITH A DISC, SPRING-TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.
   C. HIGH ACID PRODUCING SOIL - SOILS HAVING A pH OF 4 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH MINIMUM OF 12 INCHES OF SOIL HAVING A pH OF 5 OR MORE BEFORE INITIATING SEEDBED PREPARATION. SEE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOIL.
3. SEEDING
   A. SEED GERMINATION SHALL HAVE BEEN TESTED WITHIN 12 MONTHS OF THE PLANTING DATE. NO SEED SHALL BE ACCEPTED WITH A GERMINATION TEST DATE MORE THAN 12 MONTHS OLD UNLESS RETESTED.
   B. APPLY 70% TURF TYPE TALL FESCUE, 20% PERENNIAL RYEGRASS, AND 10% KENTUCKY BLUE GRASS. SEED AT A RATE OF 2,000 LBS/ACRE. OPTIMAL PLANTING TIME OCCURS BETWEEN AUGUST 15 AND OCTOBER 15. ACCEPTABLE PLANTING TIME IS BETWEEN MARCH 1 AND APRIL 30 OR BETWEEN MAY 1 THROUGH AUGUST 14.
   C. SEEDING RATE SPECIFIED IS REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF VEGETATION. UP TO 50% REDUCTION IN RATES MAY BE USED WHEN PERMANENT VEGETATION IS ESTABLISHED PRIOR TO A REPORT OF COMPLIANCE INSPECTION. ESTABLISHING PERMANENT VEGETATION MEANS 80% VEGETATIVE COVERAGE WITH A SPECIFIED SEED MIXTURE FOR THE SEEDED AREA AND MOWED ONCE.
   D. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL, TO A DEPTH OF 1/4" TO 1/2", BY RAKING OR DRAGGING.
   E. HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL.
   F. AFTER SEEDING, FIRM THE SOIL WITH A CORRUGATED ROLLER TO ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE.
   G. WET SEED MIX (IF REQUIRED): APPLY DEERTONGUE AT A RATE OF 0.45 LBS/1,000 SF (20 LBS/ACRE), REDTOP AT A RATE OF 0.05 LBS/1,000 SF (2 LBS/ACRE), WILD RYE (ELYMUS) AT A RATE OF 0.35 LBS/1,000 SF (15 LBS/ACRE), AND SWITCHGRASS AT A RATE OF 0.60 LBS/1,000 SF (25 LBS/ACRE) TO A DEPTH OF 2" AS PER TABLES 4-2 AND 4-3, AND FIGURE 4-1 OF THE STATE SOIL EROSION STANDARDS. PLANT BETWEEN MARCH 1 AND APRIL 30.
4. MULCHING
   A. MULCHING IS REQUIRED ON ALL SEEDING TO INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND PROMOTE FASTER AND EARLIER ESTABLISHMENT.
   B. UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, OR SALT HAY SHALL BE APPLIED AT A RATE OF 70 TO 90 LBS/1,000 SF (1-1/2 TO 2 TONS PER ACRE). MULCH CHOPPER-BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH IS NOT RECOMMENDED DUE TO THE PRESENCE OF WEED SEEDS.
   C. SPREAD MULCH UNIFORMLY BY HAND OR MECHANICALLY SO THAT APPROXIMATELY 85% OF THE SOIL SURFACE WILL BE COVERED.
   D. ANCHORING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. DRIVE 8" TO 10" WOODEN PEGS TO WITHIN 2" TO 3" OF THE SOIL SURFACE EVERY 4' IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRIS-CROSS AND SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.
5. IRRIGATION
   A. IF SOIL IS MOISTURE DEFICIENT, AND MULCH IS NOT USED, SUPPLY NEW SEEDLINGS WITH ADEQUATE WATER (A MINIMUM OF 1/4" TWICE A DAY UNTIL VEGETATION IS WELL ESTABLISHED). THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE IN ABNORMALLY DRY OR HOT WEATHER OR ON DROUGHTY SITES.
   B. COORDINATE IRRIGATION OF SEEDED AREAS WITH PROPERTY OWNER AND MAINTENANCE PERSONNEL.
6. TOPDRESSING
   A. SLOW RELEASE NITROGEN FERTILIZER (WATER INSOLUBLE) IS PRESCRIBED IN 2.A. ABOVE, NO FOLLOW-UP OF TOPDRESSING IS MANDATORY. AN EXCEPTION MAY BE MADE WHERE GROSS NITROGEN DEFICIENCY EXISTS TO THE EXTENT THAT TURF FAILURE MAY DEVELOP, IN THAT INSTANCE, TOPDRESS WITH 10-10-10 OR EQUIVALENT AT 7 LBS/1,000 SF (300 LBS/ACRE) EVERY 3 TO 5 WEEKS UNTIL THE GROSS NITROGEN DEFICIENCY IN THE TURF IS AMELIORATED.

PERMANENT SEED MIX

Date	Description	No.
2/15/2022	Revised per Township Comments	2
12/3/2021	Completeness Revisions 1	1

REVISIONS

SIGNATURE
CHRISTIAN ROCHE 11/12/2021
PROFESSIONAL ENGINEER NJ Lic. No. 24GE04988100

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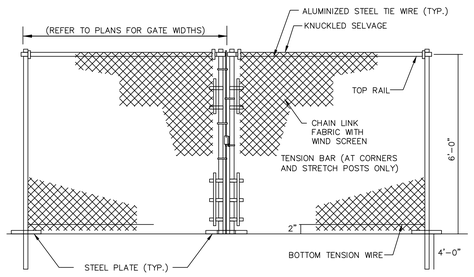
NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project
BRIDGE POINT 8 INDUSTRIAL PARK
WEST WINDSOR TOWNSHIP
MERCER COUNTY **NEW JERSEY**

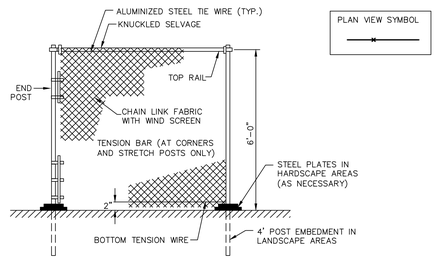
Drawing Title
SOIL EROSION & SEDIMENT CONTROL DETAILS

Project No. 130172801
Date 12/03/2021
Drawn By EAW
Checked By CMR
Drawing No. CE501

Date: 2/11/2022 Time: 16:06 User: mmorgan Style Table: Langan.stb Layout: CE501 Document Code: 130172801-0501-CE501-0101



CONSTRUCTION GATE



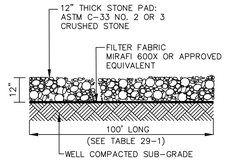
6-FT TEMPORARY CONSTRUCTION FENCE

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

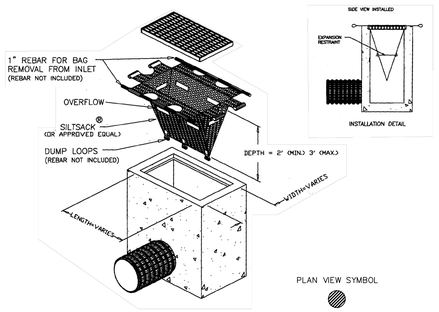
Percent Slope of Roadway	Length of Stone Required	
	Coarse-Grained Soils	Fine-Grained Soils
2 to 5%	100 ft.	200 ft.

> 5% Entire surface stabilized with Hot Mix Asphalt Base Course, Mix I-2

NOTE:
FOR CONSTRUCTION PAD LOCATION SEE SOIL EROSION AND SEDIMENT CONTROL PLAN.



STABILIZED CONSTRUCTION ACCESS



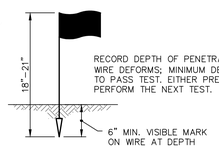
NOTES:

1. SEDIMENT FILTER BAGS ARE FOR USE WITHIN ALL INLETS THAT ARE IN PAVED AREAS BUT ARE NOT ADJACENT TO CURBING.
2. SEDIMENT FILTER BAGS SHALL BE MANUFACTURED BY SILTSACK (REGULAR FLOW MODEL) OR APPROVED EQUAL.
3. LENGTH AND WIDTH OF FILTER BAG VARIES ACCORDING TO INLET SIZE.
4. OVERFLOW HOLES ARE REQUIRED A MINIMUM OF 1 FOOT ABOVE THE BOTTOM OF THE BAG.

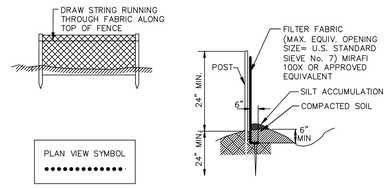
SEDIMENT FILTER BAG INSERT

NOTE: SOIL SHOULD BE MOIST BUT NOT SATURATED. DO NOT TEST WHEN SOIL IS EXCESSIVELY DRY OR SUBJECT TO FREEZING TEMPERATURES. SLOW, STEADY DOWNWARD PRESSURE USED TO ADVANCE THE WIRE.

* WIRE MAY BE RE-INSERTED IF/WHEN AN OBSTRUCTION (ROCK, ROOT, DEBRIS) IS ENCOUNTERED.



PROBING WIRE TEST 15.5 GA. STEEL WIRE (SURVEY FLAG)



METHOD OF INSTALLATION:

1. CONTRACTOR TO DIG 6" MIN. TRENCH AND LINE TRENCH WITH FILTER FABRIC PRIOR TO BACKFILL.
2. EXCEPT FOR THE END POST, DRIVE ALL POSTS INTO THE GROUND AT BACK SIDE OF TRENCH SPACED A MAXIMUM OF 8 FT O.C.
3. ATTACH FILTER FABRIC TO POST AND STRETCH BETWEEN POSTS. SECURE FABRIC TO POST WITH METAL FASTENER AND REINFORCEMENT MATERIAL PLACED BETWEEN THE FASTENER AND THE GEOTEXTILE FABRIC.
4. POSTS SHALL BE CONSTRUCTED OF HARDWOOD WITH A MINIMUM DIAMETER THICKNESS OF 1-1/2 INCHES.

24" SILT FENCE

EASTCOAST erosion blankets

443 Bricker Road
Bernville, PA 19506
1-800-582-4005
610-488-8496 (office)
610-488-8494 (fax)
www.erosionblankets.com

Material and Performance Specification Sheet

ECC-2 Double Net Coconut Rolled Erosion Control Product

Description: The ECC-2 is made with uniformly distributed 100% coconut fiber and two polypropylene nets securely sown together with UV stabilized thread. The tightly compressed blankets are placed inside vented bags and include a product label, code and installation guide. The blankets are palletized for easy transportation.

The ECC-2 has functional longevity of approximately 36 months, but will vary depending on soil and climatic conditions and is suitable for slopes 1:1. The ECC-2 meets Type 4 specification requirements established by the Erosion Control Technology Council (ECTC) and Federal Highway Administration's (FHWA) FP-03 Section 713.17.

Materials:

Netting - Top and Bottom	Matrix	Thread
Heavyweight UV Stabilized Polypropylene .75"x .75" Opening	100% Coconut Fiber 0.55 lbs/sq yd	UV Stabilized 1.50" stitch spacing

Roll Sizes:

	Standards	
Width:	7.5 ft (2.3 m)	7.5 ft (2.3 m)
Length:	96.0 ft (29.3 m)	120.0 ft (36.6 m)
Weight ±10%:	48.0 lbs(20.4 kg)	60.0 lbs (27.2 kg)
Area:	80 yd² (66.9 m²)	100 yd² (83.6 m²)
#/Pallet:	20	16

Index Value Properties*:

Property	Test Method	Typical
Mass/Unit Area	ASTM D6475	9.45 oz/yd²
Thickness	ASTM D5199	.23 in
Tensile Strength-MD	ASTM D5035	270 lb/ft
Elongation-MD	ASTM D5035	38 %
Tensile Strength-TD	ASTM D5035	170 lb/ft
Elongation-TD	ASTM D5035	30 %
Light Penetration	ECTC Guidelines	14 %
Water Absorption	ASTM D1117	233 %

* May differ depending upon raw material variations

Bench-Scale Testing* (NTPEP):

Test Method	Parameters	Results
ECTC Method 2 Rainfall	90mm (2in) / hr-30 min	SLR**=8.60
	100mm (4in) / hr-30 min	SLR**=11.71
	150mm (6in) / hr-30 min	SLR**=17.41
ECTC Method 3 Shear Resistance	Shear at .50 in soil loss	2.99 lb/ft
ECTC Method 4 Germination	Top soil: Fescue; 21 day incubation	755% improvement

*Bench scale tests should not be used for design purposes.
**Soil Loss Ratio=Soil Loss Bare Soil/Soil Loss with RECP+S/C Factor (soil loss is based on regression analysis).

Design Values:

Property	Value
Manning's N	.025
RUSLE C-Factor	.09
Maximum Permissible Sheer Stress	3.2 psf (154 Pa)
Maximum Flow Velocity	7.0 ft/sec (2.13 m/sec)

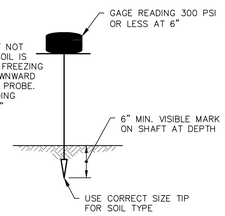
Proud Member of:

NOTE:
CONTRACTOR TO INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

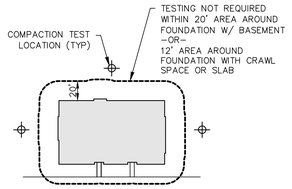
EROSION CONTROL BLANKET DETAIL

NOTE: SOIL SHOULD BE MOIST BUT NOT SATURATED. DO NOT TEST WHEN SOIL IS EXCESSIVELY DRY OR SUBJECT TO FREEZING TEMPERATURES. SLOW, STEADY DOWNWARD PRESSURE USED TO ADVANCE THE PROBE. MEASURE DEPTH WHEN GAGE READING REACHES 300 PSI OR DEPTH OF 6"

* PENETROMETER MAY BE RE-INSERTED IF/WHEN AN OBSTRUCTION (ROCK, ROOT, DEBRIS) IS ENCOUNTERED.

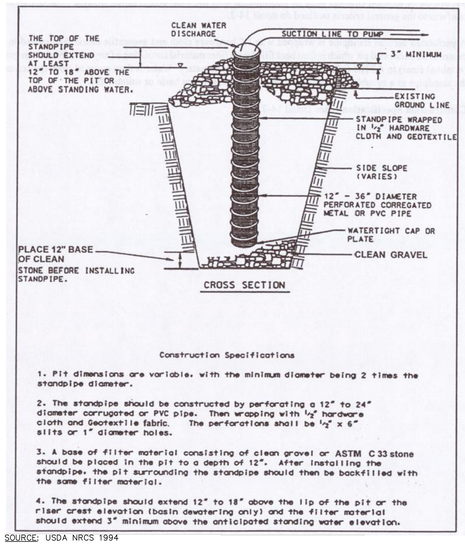


HANDHELD SOIL PENETROMETER TEST



NOTE: SOIL COMPACTION TESTING LOCATIONS IDENTIFIED ARE RECOMMENDED LOCATIONS FOR GRADED/DISTURBED AREAS WITHIN THE VICINITY OF BUILDINGS AND STRUCTURES OR ON INDIVIDUAL LOTS. FOR GRADED/DISTURBED AREAS WITHIN OPEN OR COMMON SPACES, SOIL COMPACTION TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE FREQUENCY LISTED IN THE LEGEND (THIS SHEET).

TYPICAL SOIL COMPACTION TESTING LOCATIONS



SOURCE: USDA NRCS 1994

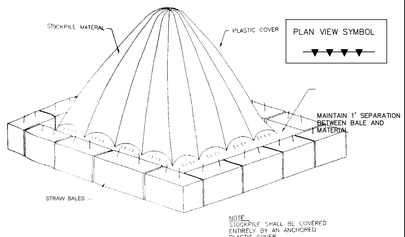
NOTE:
ALL CONSTRUCTION DEWATERING TO BE IN CONFORMANCE WITH STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY, SIXTH EDITION, SECTION 14 AND APPLICABLE NJDEP PERMITS FOR THE PROJECT.

NEW JERSEY SOIL EROSION AND SEDIMENT CONTROL DETAIL FOR CONSTRUCTION DEWATERING

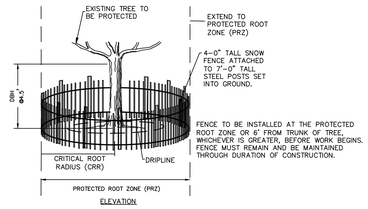
STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY, SECTION 14, SEVENTH EDITION

NOTES:

1. DISTURBED AREAS SHALL BE MULCHED WITH STRAW OR HAY IF THE FALL SEEDING PERIOD CANNOT BE SUCCESSFULLY MET.
2. MULCH TO BE APPLIED AT A RATE OF 1.5 TO 2 TONS PER ACRE. TACK MATERIAL TO BE CUTBACK ASPHALT-RAPID CURING (RC-70, PC-250 AND RC-800) OR MEDIUM CURING (MC-250 OR MC-800). APPLY 0.4 GAL/S.Y. OR 194 GAL/ACRE ON FLAT AREAS AND ON SLOPES LESS THAN 8 FEET HIGH. ON SLOPES 8 FEET OR MORE HIGH USE .075 GAL/S.Y. OR 363 GAL/ACRE.



TEMPORARY SOIL STOCKPILE



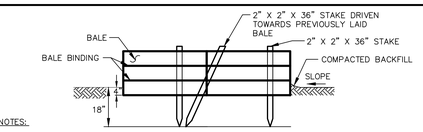
ESTIMATE A TREE'S PROTECTED ROOT ZONE (PRZ) BY CALCULATING THE CRITICAL ROOT RADIUS (CRR).

1. MEASURE THE DBH (DIAMETER OF TREE AT BREAST HEIGHT, 4.5 FEET ABOVE GROUND ON THE UPHILL SIDE OF TREE) IN INCHES.
2. MULTIPLY MEASURED DBH BY 1.5 OR 1.0. EXPRESS THE RESULT IN FEET.
   CRR = DBH x 1.5: CRITICAL ROOT RADIUS FOR OLDER, UNHEALTHY, OR SENSITIVE SPECIES.
   CRR = DBH x 1.0: CRITICAL ROOT RADIUS FOR YOUNGER, HEALTHY, OR TOLERANT SPECIES.

NOTES:

1. PROTECTIVE FENCE TO BE REMOVED AFTER CONSTRUCTION.
2. ALL EXPOSED ROOT STUBS AND ROOTS ARE TO BE BACK FILLED WITH APPROVED TOPSOIL.
3. REFER TO STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY – TABLE 9-1 FOR POTENTIAL CONSTRUCTION IMPACTS TO TREES SPECIES.

TREE PROTECTION

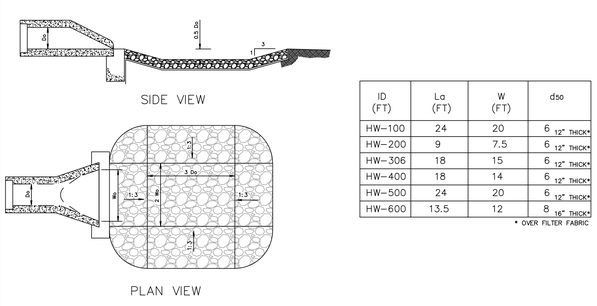


NOTES:

1. STRAW BALE BARRIERS SHOULD NOT BE USED FOR MORE THAN 3 MONTHS.
2. STRAW BALE BARRIERS MUST BE PLACED AT LEVEL GRADES. BOTH ENDS OF THE BARRIER MUST BE EXTENDED AT LEAST 8 FEET UPSLOPE AT 45° TO MAINTAIN BARRIER ALIGNMENT.
3. SEDIMENT MUST BE REMOVED WHERE ACCUMULATIONS REACH 1/3 THE ABOVE GROUND HEIGHT OF THE BARRIER.
4. ANY SECTION OF STRAW BALE BARRIER WHICH HAS BEEN UNDERMINED OR TOPPED MUST BE IMMEDIATELY REPLACED WITH A ROCK FILTER OUTLET. SEE ROCK FILTER OUTLET DETAIL.
5. BALES SHALL BE SECURELY ANCHORED IN PLACE BY TWO STAKES OR RE-BARS DRIVEN THROUGH EACH BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.

MAINTENANCE:
INSPECT ONCE EVERY WEEK OR AFTER EVERY STORM EVENT. HAYBALE BARRIERS WILL BE REMOVED WHEN CLOGGED WITH SEDIMENTS. MATERIALS MUST BE WASHED COMPLETELY FREE OF ALL FOREIGN MATERIALS OR NEW HAYBALE BARRIERS MUST BE USED TO REBUILD THE BARRIER.

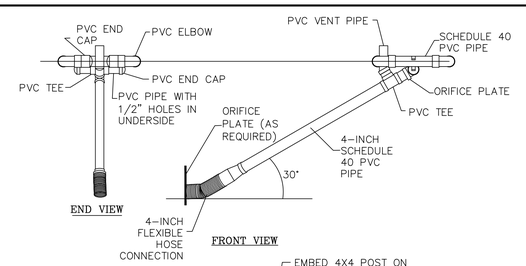
STRAW BALE BARRIERS

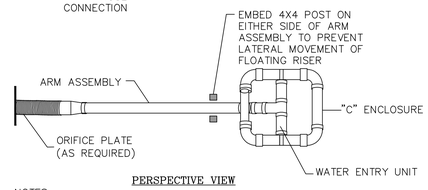


ID (FT)	La (FT)	W (FT)	d50
HW-100	24	20	6 12" THICK*
HW-200	9	7.5	6 12" THICK*
HW-306	18	15	6 12" THICK*
HW-400	18	14	6 12" THICK*
HW-500	24	20	6 12" THICK*
HW-600	13.5	12	8 16" THICK*

* OVER FILTER FABRIC

PRE-FORMED SCOUR HOLE





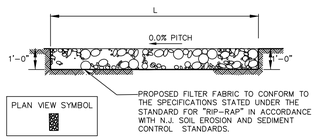
NOTES:

1. THE FLOATING RISER (SKIMMER) SHALL BE CONNECTED TO THE PERMANENT OUTLET CONTROL STRUCTURE USING A WATER TIGHT CONNECTION. AN ORIFICE PLATE SHALL BE PROVIDED TO BLOCK THE REMAINDER OF THE LOW FLOW ORIFICE.

FLOATING RISER DETAIL

N.T.S.

ID	LENGTH (FT)	WIDTH (FT)	d50 (INCHES)
BASIN 1 SPILLWAY	75	10	6
BASIN 2 SPILLWAY	130	5	6



GENERAL NOTES:

1. THE INDICATED d50, APRON LENGTH, WIDTH AND THICKNESS HAS BEEN DESIGNED IN ACCORDANCE WITH THE NEW JERSEY SOIL EROSION AND SEDIMENT CONTROL STANDARDS
2. DIMENSIONS SHOWN ARE MINIMUMS. CONTRACTOR MAY EXCEED DIMENSIONS WITH GABION BASKET/RENO MATTRESS UNITS.

CONDUIT OUTLET PROTECTION (RIP RAP)

Date	Description	No.
2/15/2022	Revised per Township Comments	2
12/3/2021	Completeness Revisions 1	1

REVISIONS

SIGNATURE CHRISTIAN ROCHE 11/12/2021
PROFESSIONAL ENGINEER NJ Lic. No. 24GE04988100

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NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project

BRIDGE POINT 8 INDUSTRIAL PARK

WEST WINDSOR TOWNSHIP

MERCER COUNTY **NEW JERSEY**

Drawing Title

SOIL EROSION & SEDIMENT CONTROL DETAILS

Project No.	Drawing No.
130172801	CE502
Date: 12/03/2021	
Drawn By	
Checked By	

LANGAN

PROJECT NO. 130172801