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TEMPORARY VEGETATIVE COVER

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. All grading shall be done in accordance with Standards for Land Grading.
   B. Install needed erosion control practices or facilities such as diversions, grade stabilization structures, channel stabilization measures, sediment basins and waterways. See Standards 11 through 42.
   C. 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 (CABLES, IRRIGATION SYSTEMS, ETC.)
2. SEEDBED PREPARATION
   A. Apply ground limestone and fertilizer according to soil test recommendations such as offered by Rutgers Co–operative Extension. Soil sample mailers are available from the local Rutgers Cooperative Extension offices. Fertilizer shall be applied at the rate of 500 pounds per acre or 11 pounds per 1,000 square feet of 10–20–10 or equivalent with 50% water insoluble nitrogen unless a soil test indicates otherwise. Apply limestone at the rate established by soil testing. 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.
   B. Work lime and fertilizer into the soil as nearly as practical to a depth of 4 inches 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. Inspect seedbed just before seeding. If traffic has left soil compacted, the area must be retilled in accordance with the above.
   D. Soils high in sulfides or having a pH of 4 or less refer to Standard for Management of High Acid Producing Soils.
3. SEEDING
   A. Select seed from recommendation in Table 7–2. Site lies within Zone 7a,b.

Table 7–2

Temporary Vegetative Stabilization Grasses, Seeding Rates, Dates and Depth						
SEED SELECTIONS	SEEDING RATE (1) (pounds)		OPTIMUM SEEDING DATE (2) Based on Planting Hardiness Zone (3)			OPTIMUM SEED DEPTH (4) (inches)
	Per Acre	Per 1000 Sq. Ft.	ZONE 5b, 6a	ZONE 6b	ZONE 7a, b	
COOL SEASON GRASSES						
1. Perennial Ryegrass	100	1.0	03/15–06/01 08/01–09/15	03/01–05/15 08/15–10/01	02/15–05/01 08/15–10/15	
2. Spring Oats	86	2.0	03/15–06/01 08/01–09/15	03/01–05/15 08/15–10/01	02/15–05/01 08/15–10/15	
3. Winter Barley	96	2.2	08/01–09/15	08/15–10/01	08/15–10/15	1.0
4. Annual Ryegrass	100	1.0	03/15–06/01 08/01–09/15	03/15–06/01 08/01–09/15	02/15–05/01 08/15–10/15	0.5
5. Winter Cereal Rye	112	2.8	08/01–11/01	08/01–11/15	08/01–12/15	1.0
WARM SEASON GRASSES						
6. Pearl millet	20	0.5	06/01–08/01	05/15–08/15	05/01–09/01	1.0
7. Millet German or Hungarian)	30	0.7	06/01–08/01	05/15–08/15	05/01–09/01	1.0

(1) Seeding rate for warm season grass, selections 5–7 shall be adjusted to reflect the amount of Pure Line Seed (PLS) as determined by a germination test result. No adjustment is required for cool season grasses.
(2) May be planted throughout summer if soil moisture is adequate or seeded area can be irrigated.
(3) Plant Hardiness Zone (see figure 7–1).
(4) Twice depth for sandy soils.

B. Conventional Seeding. Apply seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or cultipacker seeder. Except for drilled, hydroseeded or cultipacked seedings, seed shall be incorporated into the soil to a depth of ¼ to ½ inch, by raking of dragging. Depth of seed placement may be ¼ inch deeper on coarse textured soil.
C. Hydroseeding is a broadcast seeding method usually involving a truck or trailer mounted tank, with an agitation system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch SHALL NOT be included in the tank with seed. Short fibered mulch may be applied with a hydroseeder following seeding. (Also see Section IV, Mulching). Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. Poor seed to soil contact occurs reducing seed germination and growth. Hydroseeding may be use for areas too steep for conventional equipment to traverse or too obstructed with rocks, stumps, etc.
D. After seeding, firming the soil with a corrugated roller will assure good seed–to–soil contact, restore capillarity and improve seeding emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.

4. MULCHING
Mulching is required on all seeding. Mulch will insure against erosion before grass is established and will promote faster and earlier establishment. The existence of vegetation sufficient to control soil erosion shall be deemed compliance with this mulching requirement.
A. Straw or Hay. Unrotted small grain straw, hay free from seeds, applied at a rate of 1½ to 2 tons per acre (70 to 90 pounds per 1,000 square feet), except that where a crimper is used instead of a liquid mulch–binder (tackifying or adhesive agent), the rate of application is 3 tons per acre. Mulch chopper–blowers must NOT grind the mulch. Hay mulch is not recommended for establishing fine turf or lawns due to the presence of weed seed.
Application. Spread mulch uniformly by hand or mechanically so that approximately 95% of the soil surface will be covered. For uniform distribution of hand–spread mulch, divide the area into approximately 1,000 square feet sections and distribute 70 to 90 pounds within each section.
Anchoring shall be accomplished immediately after placement to minimize loss by wind or water. This may be done by one of the following methods, depending upon the size of the area, steepness of slopes and costs.
1. Peg and Twine. Drive 8 to 10 inch wooden pegs to within 2 to 3 inches of the soil surface every 4 feet in all direction. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a criss–cross and a square pattern. Secure twine around each peg with two or more turns.
2. Mulch Nettings. Staple paper, jute, cotton or plastic nettings to the soil surface. Use a degradable netting in areas to be mowed.
3. Crimper (mulch anchoring tool). A tractor–drawn implement, somewhat like a disc harrow, especially designed to push or cut some of the broadcast long fiber mulch 3 to 4 inches into the soil so as to anchor it and leave part standing upright. This technique is limited to areas traversable by a tractor, which must operate on the contour of slopes. Straw mulch rate must be 3 tons per acre. No tackifying or adhesive agent is required.
4. Liquid Mulch–Binders May be used to anchor hay or straw mulch.
   a. Applications should be heavier at edges where wind may catch the mulch, in valleys and at crests of banks. The remainder of the area should be uniform in appearance.
   b. Use of one of the following:
      (1) Organic and Vegetable Based Binders–Naturally occurring, powder based, hydrophilic materials when mixed with water formulates a gel and when applied to mulch under satisfactory curing conditions will form membraned networks of insoluble polymers. The vegetable gel shall be physiologically harmless and not result in a phytotoxic effect or impede growth of turfgrass. Use at rates and weather conditions as recommended by the manufacturer to anchor mulch materials. Many new products are available, some of which may need further evaluation for use in this state.
      (2) Synthetic Binders–High polymer synthetic emulsion, miscible with water when diluted and following application to mulch, drying and curing shall no longer be soluble or dispersible in water. It shall be applied at rates recommended by the manufacturer and remain tacky until germination of grass.
      Note: All name given above are registered trade names. This does not constitute a commendation of these products to the exclusion of other products
B. Wood–Fiber or paper–fiber mulch. Shall be made from wood, plant fibers or paper containing no growth or germination inhibiting materials, used at the rate of 1,500 pounds per acre (or as recommended by the product manufacturer) and may be applied by a hydroseeder. This mulch shall not be mixed in the tank with the seed. Use is limited to flatter slopes and during optimum seeding periods in spring and fall.
C. Pelletized Mulch Compressed and extruded paper and/or wood fiber product, which may contain co–polymers, tackifiers, fertilizer and coloring agents. The dry pellets, when applied to a seeded area and watered, form a mulch mat. Pelletized mulch shall be applied in accordance with the manufacturers recommendations. Mulch may be applied by hand or mechanical spreader at the rate of 60–75 lbs/1,000 square feet and activated with 0.2 to 0.4 inches of water. This material has been found to be beneficial for use on small lawn or renovation areas, seeded areas where weed–seed free mulch is desired or on sites where straw mulch and tackifier agent are not practical or desirable.
Applying the full 0.2 to 0.4 inches of water after spreading pelletized mulch on the seed bed is extremely important for sufficient activation and expansion of the mulch to provide soil coverage.

CONSTRUCTION SCHEDULE

1. NOTIFY THE OCEAN COUNTY SOIL CONSERVATION DISTRICT IN WRITING AT LEAST 48 HOURS PRIOR TO LAND DISTURBANCE.
2. CLEAR SITE (2 WEEKS)
3. INSTALLATION OF TREE PROTECTION/SILT FENCE. (1 WEEK)
3. INSTALL STABLE CONSTRUCTION ENTRANCE AND INSTALL INLET PROTECT TO EXISTING INLETS ADJACENT TO PROJECT. (1 DAY)
4. ROUGH GRADE. (3 WEEKS)
5. INSTALLATION OF DRAINAGE, TEMPORARY STABILIZATION OF DISTURBED AREAS. (2 WEEKS)
6. INSTALLATION OF INLET PROTECTION DEVICES AFTER CONSTRUCTION OF STORM SEWER SYSTEM. (2 DAYS)
7. BUILDING CONSTRUCTION (ONGOING)
8. INSTALLATION OF SUBBASE AND TEMPORARY STABILIZATION OF DISTURBED AREAS. (3 DAYS)
9. CONDUCT SOIL COMPACTION TESTING IN LOCATIONS DEPICTED ON THE PLAN. TEST TO BE WITNESSED BY OCSCD INSPECTOR. IF TEST PASS, SUBMIT RESULTS TO OCEAN COUNTY SOIL CONSERVATION DISTRICT. IF TEST FAILS, RESTORATION OF COMPACTED SOILS SHALL BE CONDUCTED THROUGH DEEP SCARIFICATION/TILLAGE (6" MINIMUM DEPTH).
10. APPLY TOPSOIL TO AN AVERAGE DEPTH OF 5 INCHES FIRMED IN PLACE. (SEE STANDARD FOR TOPSOIL ON THIS SHEET) (3 DAYS)
11. PERMANENT STABILIZATION OF SITE AND INSTALLATION OF FINAL BITUMINOUS PAVEMENT. (3 DAYS)
12. REMOVAL OF SOIL EROSION AND SEDIMENT CONTROL DEVICES. (2 DAYS)
13. OBTAIN A FINAL REPORT OF COMPLIANCE FROM THE OCEAN COUNTY SOIL CONSERVATION DISTRICT.

PERMANENT VEGETATIVE COVER

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. All grading should be done in accordance with Standard for Land Grading.
   B. Immediately prior to seeding and topsoil application, the subsoil shall be evaluated for compaction in accordance with the 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 needed soil erosion control practices or facilities such as diversions, grade–stabilization structures, channel stabilization measures, sediment basins and waterways.
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. Soil sample mailers are available from the local Rutgers Cooperative Extension offices (http://njaes.rutgers.edu/county/). Fertilizer shall be applied at the rate of 500 pounds per acre or 11 pounds per 1,000 square feet 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 the seedbed preparation and repeat another one–half rate application of the same fertilizer within 3 to 5 weeks after seeding.
   B. Work lime and fertilizer into the topsoil as nearly as practical to a depth of 4 inches 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 a 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 Soils for specific requirements.
3. Seeding
   A. Select a mixture from Table 4–3 or use a mixture recommended by Rutgers Cooperative Extension or Natural Resources Conservation Service which is approved by the Soil Conservation District. 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 retetsted.
      1. Seeding rates specified are required when a report of compliance is requested prior to actual establishment of permanent vegetation. Up to 50% reduction in rates may be used when permanent vegetation is established prior to a report of compliance inspection. These rates apply to all methods of seeding. Establishing permanent vegetation means 80% vegetative coverage with specified seed mixture for the seeded area and mowed once.
      2. Warm–season mixtures are grasses and legumes which maximize growth at high temperatures, generally 85° F and above. See Table 4–3 mixtures 1 to 7. Planting rates for warm–season grasses shall be the amount of Pure Live Seed (PLS) as determined by germination testing results.
      3. Cool–season mixtures are grasses and legumes which maximize growth at temperatures below 85°F. Many grasses become active at 65° F. See Table 4–3 mixtures 8–20. Adjustment of planting rates to compensate for the amount of PLS is not required for cool season grasses.

Table 4–3

Permanent Vegetative Mixture, Planting Rates and Planting Dates								
Area	Seed Mixture	Planting Rate		Planting Date (A–Acceptable Planting Period, O–Optimal Planting Period)			Maintenance Level	Remarks
				Zone 7a, 7b				
		Lbs/acre	Lbs./1000 sq. ft	2/1–4/30	5/1–8/14	8/15–10/30		
Cool Season Mixtures / Residential	Hard Fescue Chewing Fescue Strong Creeping red Fescue Perennial Ryegrass	130 45 45 10	3 1 1 .25	O	A	O	c–d	Low maintenance fine fescue lawn mix
Basin	Deer Tongue Kentucky Bluegrass Turf–type Tall fescue	50 150	1.1 3.4	O	A	O	c–d	Filter strip use for nutrient uptake.

Footnotes:
1. See Appendix B for descriptions of turf grass mixtures and cultivars. The actual amount of warm season grass mixture used in Table 3 (seed mix 1–7) shall be adjusted to reflect the amount of Pure Live Seed (PLS) as determined by germination testing results. No adjustment is required for cool season grasses (seed mixtures 8–20).
2. Seeding mixtures and/or rates not listed above may be used if recommended by the local Soil Conservation District, Natural Resources Conservation Service. Recommendations of Rutgers Cooperative Extension may be used if approved by the Soil Conservation District. Legumes (flatpea, crownvetch, trefoil, lespedeza) should be mixed with proper innoculant prior to planting.
3. Seeding rates specified are required when a report of compliance is requested prior to actual establishment of permanent vegetation. Up to 50% reduction is rates may be used when permanent vegetation is established prior to a report of compliance inspection. These rates apply to all methods of seeding. Establishing permanent vegetation means 80% vegetative coverage of the seeded area and mowed once. Grass seed mixture checked by the State Seed Analyst, New Jersey Department of Agriculture, Trenton, New Jersey, will assure purchaser that the purchaser that the mixture obtained is the mixture ordered, pursuant to N.J. State Seed Law, N.J.S.A. 4:8–17.13 et. seq.

O = Optimal Planting Period A = Acceptable Planting Period

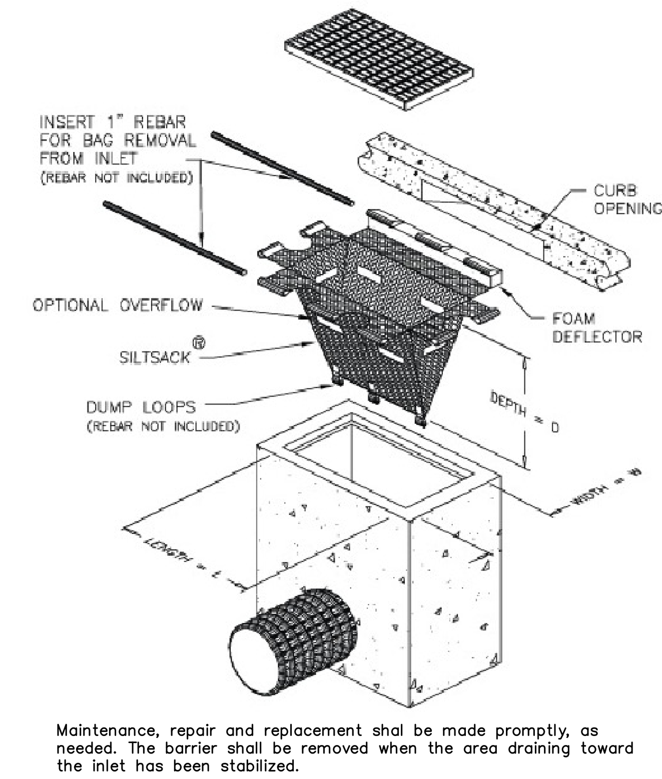
4. Maintenance Level:
   a. Intensive Mowing (2–4 days), fertilization, lime, pest control and irrigation. (Examples – High maintenance Lawns, Commercial and Recreation Areas, Public Facilities).
   b. Frequent Mowing (4–7 days), Occasional Fertilization, lime and weed control. (Examples – Home Lawns, Commercial Sites, School Sites).
   c. Periodic Mowing (7–14 days), Occasional fertilization and lime. (Examples – Home Lawns, Parks).
   d. Infrequent or No Mowing, fertilization and lime the first year of establishment. (Examples – Roadsides, Recreation Areas, Public Open Space).
B. Conventional Seeding is performed by applying seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or cultipacker seeder. Except for drilled, hydroseeded or cultipacked seedings, seed shall be incorporated into the soil within 24 hours of seedbed preparation to a depth of ¼ to ½ inch, by raking or dragging. Depth of seed placement may be ¼ inch deeper on coarse–textured soil.
C. After seeding, firming the soil with a corrugated roller will assure good seed–to–soil contact, restore capillarity and improve seeding emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.
D. Hydroseeding is a broadcast seeding method usually involving a truck or trailer–mounted tank, with an agitation system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. Short–fibered mulch may be applied with a hydroseeder following seeding. (Also see Section 4–Mulching below). Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. When poor seed to soil contact occurs, there is a reduced seed germination and growth.
4. Mulching
Mulching is required on all seeding. Mulch will protect against erosion before grass is established and will promote faster and earlier establishment. The existence of vegetation sufficient to control soil erosion shall be deemed compliance with this mulching requirement.
A. Straw or Hay. Unrotted small grain straw, hay free of seeds, to be applied at the rate of 1½ to 2 tons per acre (70 to 90 pounds per 1,000 square feet) except that where a crimper is used instead of a liquid mulch–binder (tackifying or adhesive agent), the rate of application is 3 tons per acre/ Mulch chopper–blowers must NOT grind the mulch. Hay mulch is not recommended for establishing fine turf or lawns due to the presence of weed seed.
Application – Spread mulch uniformly by hand or mechanically so that at least 85% of the soil surface is covered. For uniform distribution of hand–spread mulch, divide area into approximately 1,000 square feet sections and distribute 70 to 90 pounds within each section.
Anchoring shall be accomplished immediately after placement to minimize loss by wind or water. This may be done by one of the following methods, depending upon the size of the areas, steepness of slopes and costs.
1. Peg and Twine. Drive 8 to 10 inch wooden pegs to within 2 to 3 inches of the soil surface every 4 feet in all directions. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a criss–cross and a square pattern. Secure twine around each peg with two or more turns.
2. Mulch Nettings – Staple paper, jute, cotton or plastic nettings to the soil surface. Use a degradable netting in areas to be mowed.
3. Crimper (mulch anchoring coulter tool) – A tractor–drawn implement, somewhat like a disc harrow, especially designed to push or cut some of the broadcast long fiber mulch 3 to 4 inches into the soil so as to anchor it and leave part standing upright. This technique is limited to areas traversable by a tractor, which much operate on the contour of slopes. Straw mulch rate must be 3 tons per acre. No tackifying or adhesive agent is required.
4. Liquid Mulch–Binders – May be used to anchor salt hay, hay or straw mulch.
   a. Applications should be heavier at edges where wind may catch the mulch in valleys and at crests of banks. The remainder of the area should be uniform in appearance.
   b. Use one of the following:
      (1) Organic and Vegetable Based Binders – Naturally occurring, powder–based, hydrophilic materials when mixed with water, formulates a gel and when applied to mulch binder under satisfactory curing conditions will form membraned networks of insoluble polymers, The vegetable gel shall be physiologically harmless and not result in a phytotoxic effect or impede growth of turf grass. Use at rates and weather conditions as recommended by the manufacturer to anchor mulch materials. Many new products are available, some of which may need further evaluation for use in this state.
      (2) Synthetic Binders – High polymer synthetic emulsion, miscible with water when diluted and, following application of mulch, drying and curing, shall no longer be soluble or dispersible in water. Binder shall be applied at rates recommended by manufacturer and remain tacky until germination of grass.
   Note: All names given above are registered trade names. This does not constitute a recommendation of these products to the exclusion of other products.
B. Wood–Fiber or paper–fiber mulch – Shall be made from wood, plant fibers or paper containing no growth or germination inhibiting materials, used at the rate of 1,500 pounds per acre (or as recommended by the product manufacturer) and may be applied by a hydroseeded. MULCH SHALL NOT BE MIXED IN THE TANK WITH SEED. Use is limited to flatter slopes and during optimum seeding periods in spring and fall.
C. Pelletized Mulch – Compressed and extruded paper and/or wood fiber product, which may contain co–polymers, tackifyers fertilizers and coloring agents. The dry pellets, when applied to a seeded area and watered, form a mulch mat. Pelletized mulch shall be applied in accordance with the manufacturers recommendations, Mulch may be applied by hand or mechanical spreader at the rate of 60–75 lbs/1,000 square feet and activated with 0.2 to 0.4 inches of water. This material has been found to be beneficial for use on small lawn or renovation areas, seeded areas where weed–seed free mulch is desires. Applying the full 0.2 to 0.4 inches of water after spreading pelletized mulch on the seedbed is extremely important for sufficient activation and expansion of the mulch to provide soil coverage.
5. Irrigation (where feasible)
If soil moisture is deficient, supple new seeding with adequate water (a minimum of ¼ inch applied up to 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.
6. Topdressing
Since soil organic matter content and slow release nitrogen fertilizer (water insoluble) are prescribed in Section 2A–Seedbed
Preparation in this Standard, no follow–up of topdressing is mandatory. An exception may be made where grass nitrogen deficiency exists in the soil to the extent that turf failure may develope. In that instance, topdress with 10–10–10 or equivalent at 300 pounds per acre or 7 pounds per 1,000 square feet every 3 to 5 weeks until the grass nitrogen deficiency in the turf is ameliorated.
7. Establishing Permanent Vegetative Stabilization
The quality of permanent vegetation rests with the contractor. The timing of seeding, preparing the seedbed, applying nutrients, mulch and other management are essential. The seed application rates in Table 4–3 are required when a REPORT OF COMPLIANCE is requested prior to actual establishment of permanent vegetation. Up to 50% reduction in application rates may be used when permanent vegetation is established prior to requesting a REPORT OF COMPLIANCE from the district. These rates apply to all methods of seeding. ESTABLISHING PERMANENT VEGETATION MEANS 80% VEGETATIVE COVER (OF THE SEEDED SPECIES) AND MOWED ONCE.. Note this designation of mowed once does not guarantee
the permanency of the turf should other maintenance factors be neglected or otherwise mismanaged.

STANDARD FOR TOPSOILING

1.Materials
A.Topsoil should be friable1, loamy2, 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 millimhos per centimeter. More than 0.5 millimhos may desiccate seedlings and adversely impact growth). Imported topsoil shall have a minimum organic matter content of 2.75 percent. Organic matter content may be raised by additives.
B. Topsoil substitute is a soil material which may have been amended with sand, silt, clay, organic matter, fertilizer or lime and has the appearance of topsoil. Topsoil substitutes may be utilized on sites with insufficient topsoil for establishing permanent vegetation. All topsoil substitute materials shall meet the requirements of topsoil noted above. Soil tests shall be performed to determine the components of sand, silt, clay, organic matter, soluble salts and pH level.
2.Stripping and Stockpiling
A.Field exploration should be made to determine whether quantity and or quality of surface soil justifies stripping.
B. Stripping shall be confined to the immediate construction area.
C. Where feasible, lime may be applied before stripping at a rate determined by soil tests to bring the soil pH to approximately 6.5.
D. A 4–6 inch 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 in accordance with standards previously described herein; see standards for Permanent (pg. 4–1) or Temporary (pg.7–1) Vegetative Cover for Soil Stabilization. Weeds should not be allowed to grow on stockpiles.
3.Site Preparation
A.Grade at the onset of the optimal seeding period so 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. Time is of the essence
B. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application and anchoring, and maintenance.
See the Standard for Land Grading, pg. 19–1.
C. As guidance for ideal conditions, subsoil should be tested for lime requirement. Limestone, if needed, 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 inches.
D. Prior to topsoiling, the subsoil shall be in compliance with the Standard for Land Grading, pg. 19–1.
E. Employ needed erosion control practices such as diversions, grade stabilization structures, channel stabilization measures, sedimentation basins, and waterways. See Standards 11 through 42.
4.Applying Topsoil
A. Topsoil should be handled only when it is dry enough to work without damaging soil structure; i.e., less than field capacity (see glossary).
B. A uniform application to an average depth of 5.0 inches, minimum of 4 inches, firmed in place is required. Alternative depths may be considered where special regulatory and/or industry design standards are appropriate such as on golf courses, sports fields, landfill capping, etc.. Soils with a pH of 4.0 or less or containing iron sulfide shall be covered with a minimum depth of 12 inches of soil having a pH of 5.0 or more, in accordance with the Standard for Management of High Acid Producing Soil (pg. 1–1).
C. Pursuant to the requirements in Section 7 of the Standard for Permanent Vegetative Stabilization, the contractor is responsible to ensure that permanent vegetative cover becomes established on at least 80% of the soils to be stabilized with vegetation. Failure to achieve the minimum coverage may require additional work to be performed by the contractor to include some or all of the following: supplemental seeding, re–application of lime and fertilizers, and/or the addition of organic matter (i.e. compost) as a top dressing. Such additional measures shall be based on soil tests such as those offered by Rutgers Cooperative Extension Service or other approved laboratory facilities qualified to test soil samples for agronomic properties.

STANDARD FOR STABILIZATION WITH MULCH ONLY

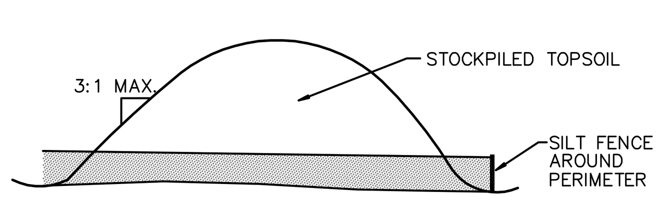
Definition
Stabilizing exposed soils with non–vegetative materials exposed for periods longer than 14 days
Purpose
To protect exposed soil surfaces from erosion damage and to reduce offsite environmental damage.
Water Quality Enhancement
Provides temporary mechanical protection against wind or rainfall induced soil erosion until permanent vegetative cover may be established.
Where Applicable
This practice is applicable to areas subject to erosion, where the season and 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.
Methods and Materials
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. All grading should be done in accordance with Standards for Land Grading
B. Install needed erosion control practices or facilities such as diversions, grade stabilization structures, channel stabilization measures, sediment basins, and waterways. See Standards 11 through 42.
2. Protective Materials
A. Unrotted small–grain straw, at 2.0 to 2.5 tons per acre, is spread uniformly at 90 to 115 pounds per 1,000 square feet and anchored with a mulch anchoring tool, liquid mulch binders, or netting tie down. Other suitable materials may be used if approved by the Soil Conservation District. The approved rates above have been met when the mulch covers the ground completely upon visual inspection, i.e. the soil cannot be seen below the mulch.
C. Synthetic or organic soil stabilizers may be used under suitable conditions and in quantities as recommended by the manufacturer.
D. Wood–fiber or paper–fiber mulch at the rate of 1,500 pounds per acre (or according to the manufacturer's requirements) may be applied by a hydroseeder.
E. Mulch netting, such as paper jute, excelsior, cotton, or plastic, may be used.
F. Woodchips applied uniformly to a minimum depth of 2 inches may be used. Woodchips will not be used on areas where flowing water could wash them into an inlet and plug it.
G. Gravel, crushed stone, or slag at the rate of 9 cubic yards per 1,000 sq. ft. applied uniformly to a minimum depth of 3 inches may be used. Size 2 or 3 (ASTM C–33) is recommended.
3. Mulch Anchoring – should be accomplished immediately after placement of hay or straw mulch to minimize loss by wind or water. This may be done by one of the following methods, depending upon the size of the area and steepness of slopes.
A. Peg and Twine – Drive 8 to 10 inch wooden pegs to within 2 to 3 inches of the soil surface every 4 feet in all directions. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a criss–cross and a square pattern. Secure twine around each peg with two or more round turns.
B. Mulch Nettings – Staple paper, cotton, or plastic nettings over mulch. Use degradable netting in areas to be mowed. Netting is usually available in rolls 4 feet wide and up to 300 feet long.
C. Crimper Mulch Anchoring Coulter Tool – A tractor–drawn implement especially designed to punch and anchor mulch into the soil surface. This practice affords maximum erosion control, but its use is limited to those slopes upon which the tractor can operate safely. Soil penetration should be about 3 to 4 inches. On sloping land, the operation should be on the contour.
D. Liquid Mulch–Binders
1. Applications should be heavier at edges where wind catches the mulch, in valleys, and at crests of banks. Remainder of area should be uniform in appearance.
2. Use one of the following:
a. Organic and Vegetable Based Binders – Naturally occurring, powder based, hydrophilic materials that mixed with water formulates a gel and when applied to mulch under satisfactory curing conditions will form membrane networks of insoluble polymers. The vegetable gel shall be physiologically harmless and not result in a phyto–toxic effect or impede growth of turfgrass. Vegetable based gels shall be applied at rates and weather conditions recommended by the manufacturer.
b. Synthetic Binders – High polymer synthetic emulsion, miscible with water when diluted and following application to mulch, drying and curing shall no longer be soluble or dispersible in water. It shall be applied at rates and weather conditions recommended by the manufacturer and remain tacky until germination of grass.



Maintenance, repair and replacement shal be made promptly, as needed. The barrier shall be removed when the area draining toward the inlet has been stabilized.

INLET PROTECTION DETAIL

N.T.S.



STOCKPILE AREA DETAIL

N.T.S.

STANDARD FOR DEWATERING

Definition
The removal and discharge of sediment–laden water from an excavated area, construction site or sediment basin.
Purpose
To properly remove suspended sediments and water from excavated areas through filtration and/or settlement prior to discharging water to a receiving water course or body.
Conditions Where Practice Applies
During construction excavated facilities need to be dewatered to facilitate or complete the construction process. The water pumped out of the excavated areas contain sediments that must be removed prior to discharging to receiving bodies of water. This standard does not address the removal of ground water through well points etc.
This standard describes the following practices for the removal of sediment laden waters from excavation areas:
removable pumping stations, sump pits, portable sedimentation tanks and silt control bags.
Water Quality Enhancement
Water discharged from excavated areas on construction sites may be a significant contributor of sediment to surface waters during construction. Water must be removed and disposed of in order for construction to move forward. Typically, water is pumped or containment berms are breached and sediment laden waters are permitted to flow uncontrolled into surface waters such as streams or lakes. By employing practices described in this standard, the majority of sediment suspended in waters may easily be removed prior to leaving the site. Filters and materials described herein are readily available and are easy to install and maintain.
Design Criteria

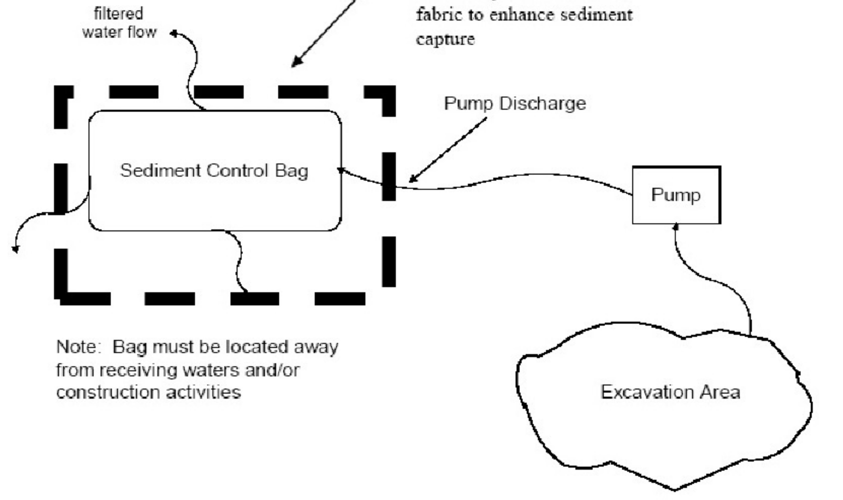
Sediment Tank / Silt Control Bags are containers through which sediment laden water is pumped to trap and retain the sediment. A sediment tank or a silt control bag is to be used on sites were excavations are deep, and space is limited and where direct discharge of sediment laden water to stream and storm drainage systems is to be avoided.

Construction Specifications
A. Location. Containers (tanks or bags) shall be located for ease of clean–out and disposal of the trapped sediment and to minimize interference with construction activities and pedestrian traffic. Bags shall not be place directly into receiving waters.

B. Tank size. The following formula should be used in determining the storage volume of the tank: 1 cubic foot of storage for each gallon per minute of pump discharge capacity. Typical tank configuration is shown on Detail 14–3. Tanks may be connected in series to increase effectiveness.

C. Tanks consist of two concentric circular pipes (CMP), attached to a watertight baseplate. The inner CMP is perforated with 1" holes on 6" centers and is wrapped with geotextile and hardware cloth. Pumped water is discharged into the inner CMP where it flows through the geotextile into the space between the two CMP=s. A discharge line is attached to the outer CMP and draws filtered water from the annulus between the two concentric CMP=s. The discharge line may be connected to another tank where it drains to the inner CMP of the second tank. This series connection may be continued indefinitely.

D. Sediment Control Bags must be located away from receiving waters and disposed of according to manufacturer's instructions. See Detail 14–4. Bags may be combined with temporary filters (item 4, following) for enhanced filtration.



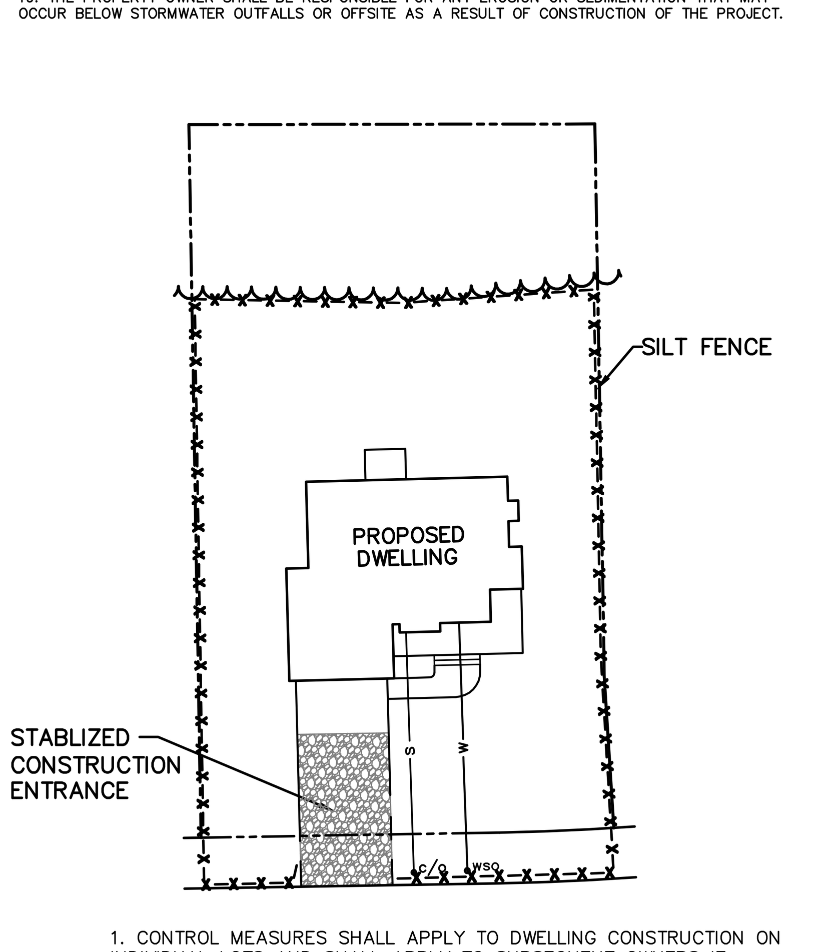
Bags must be disposed of according to manufacturer's instructions. Bags may not be reused.

SEDIMENT CONTROL BAG FOR DEWATERING

A flocculent such as "PAM" (Polyacrylamide) may be added to the basin in accordance with manufacturer's instructions to remove fine suspended colloidal material prior to dewatering. All dewatering discharges must be to a stabilized location. A source of free cationic ions (such as Ca 2+) may be required at a rate of 50– 60 gm Ca2+ /kg PAM to encourage bonding between colloids and PAM. Materials such as lime, CaCl, gypsum or flyash may be used to provide the cation component. The flocculent shall not cause adverse environmental conditions to develop in the area receiving the basin discharge. Flocculent may be added through the use of 'logs' or similar devices impregnated with PAM to dose inflow water prior to entrance to the sediment basin. Such devices shall be placed to allow complete passage of the design storm and shall not obstruct flow through storm sewer systems.

SOIL EROSION AND SEDIMENT CONTROL NOTES

1. THE DISTRICT INSPECTOR MAY REQUIRE ADDITIONAL SOIL EROSION AND SEDIMENT CONTROL MEASURES TO BE INSTALLED IN ACCORDANCE WITH "THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY, 7TH EDITION, JANUARY 2014, REVISED JULY 2017." (SESC STANDARDS)
2. ALL WORK IS TO BE DONE IN ACCORDANCE WITH THE SESC STANDARDS.
3. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE OR IN THEIR PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
4. ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLANS WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT. THE REVISED PLANS MUST MEET ALL CURRENT SESC STANDARDS.
STANDARDS: HTTP://WWW.STATE.NJ.US/AGRICULTURE/DIVISIONS/ANR/NRC/NJEROSION.HTML
5. N.J.S.A 4:24–39 ET SEQ. REQUIRES THAT NO CERTIFICATES OF OCCUPANCY BE ISSUED BEFORE THERE HAS BEEN COMPLIANCE WITH PROVISIONS OF A CERTIFIED PLAN FOR PERMANENT MEASURES. ALL SITE WORK, AND ALL WORK AROUND INDIVIDUAL LOTS IN SUBDIVISIONS, MUST BE COMPLETED PRIOR TO THE DISTRICT ISSUING A REPORT OF COMPLIANCE FOR THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE MUNICIPALITY.
6. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED FOR MORE THAN SIXTY (60) DAYS, AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL IMMEDIATELY RECEIVE TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION. IF THE SEASON PREVENTS THE ESTABLISHMENT OF TEMPORARY VEGETATIVE COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL WITHIN 14 DAYS, AT A RATE OF 2 TO 2 ½ TONS PER ACRE AND ANCHORED IN PLACE ACCORDING TO THE SESC STANDARD FOR STABILIZATION WITH MULCH ONLY.
7. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E., STEEP SLOPES AND ROADWAY EMBANKMENTS) WILL RECEIVE TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AT A RATE OF 1 ½ TO 2 TONS PER ACRE AND ANCHORED IN PLACE ACCORDING TO THE SESC STANDARDS.
8. A SUB–BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS TO STABILIZE STREETS, ROADS, DRIVEWAYS, AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUB–BASE SHALL BE INSTALLED WITHIN FIFTEEN (15) DAYS OF THE PRELIMINARY GRADING.
9. ANY STEEP SLOPES (3:1 OR GREATER) OR ANY EXISTING ROADWAYS RECEIVING PIPELINE INSTALLATION WILL BE BACKFILLED AND STABILIZED DAILY, AS THE INSTALLATION CONTINUES.
10. THE SESC STANDARD FOR STABILIZED CONSTRUCTION ACCESS REQUIRES THE INSTALLATION OF A STONE PAD USING CLEAN, CRUSHED, ANGULAR STONE (ASTM C–33, SIZE NO. 2 OR 3) AT ALL CONSTRUCTION DRIVEWAYS WHERE VEHICLES WILL ACCESS PAVED ROADWAYS FROM UNPAVED AREAS OF THE SITE.
11. PERMANENT VEGETATION IS TO BE SEEDED OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING. AT THE TIME OF THE FINAL INSPECTION, YOU ARE REQUIRED TO PROVIDE CONFIRMATION THAT THE PROPER TYPE AND AMOUNT OF SEED, LIME AND FERTILIZER HAVE BEEN USED FOR PERMANENT STABILIZATION WORK. STRAW MULCH PROPERLY ANCHORED IN PLACE IS REQUIRED ON ALL SEEDING IN ACCORDANCE TO THE SESC STANDARDS.
12. AT THE TIME THAT 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 IT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON–VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
13. IN ACCORDANCE WITH THE SESC STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, ANY SOIL HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE COVERED WITH A MINIMUM OF TWELVE (12) INCHES OF SOIL HAVING A PH OF 5 OR MORE PRIOR TO SEEDBED PREPARATION. AREAS WHERE TREES OR SHRUBS ARE TO BE PLANTED SHALL BE COVERED WITH A MINIMUM OF TWENTY–FOUR (24) INCHES OF SOIL HAVING A PH OF 5 OR MORE.
14. CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL. CONDUIT OUTLET PROTECTION INSTALLATION SHALL BE POSTPONED IN BASINS ACTING AS SEDIMENT BASINS DURING CONSTRUCTION.
15. UNFILTERED DEWATERING IS NOT PERMITTED. NECESSARY PRECAUTIONS MUST BE TAKEN DURING ALL DEWATERING OPERATIONS TO MINIMIZE SEDIMENT TRANSFER. ANY DEWATERING METHODS USED MUST BE IN ACCORDANCE WITH THE SESC STANDARD FOR DEWATERING.
16. SHOULD THE CONTROL OF DUST AT THE SITE BE NECESSARY, THE SITE WILL BE SPRINKLED UNTIL THE SURFACE IS WET, TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED, MULCH SHALL BE APPLIED AND ANCHORED IN PLACE, OR OTHER DUST CONTROL METHOD SHALL BE EMPLOYED AS REQUIRED BY THE SESC STANDARD FOR DUST CONTROL.
17. STOCKPILE AND STAGING LOCATIONS ESTABLISHED IN THE FIELD SHALL BE PLACED WITHIN THE LIMIT OF DISTURBANCE ACCORDING TO THE CERTIFIED PLAN. STAGING AND STOCKPILES NOT LOCATED WITHIN THE LIMIT OF DISTURBANCE WILL REQUIRE CERTIFICATION OF AN AMENDED SOIL EROSION AND SEDIMENT CONTROL PLAN. THE DISTRICT RESERVES THE RIGHT TO DETERMINE WHEN CERTIFICATION OF A NEW AND SEPARATE SOIL EROSION AND SEDIMENT CONTROL PLAN WILL BE REQUIRED FOR THESE ACTIVITIES.
18. ALL SOIL STOCKPILES ARE TO BE SURROUNDED WITH A SEDIMENT BARRIER AND STABILIZED IN ACCORDANCE WITH THE SESC STANDARDS. STOCKPILES SHOULD BE SITUATED SO AS TO NOT OBSTRUCT NATURAL DRAINAGE OR CAUSE OFF–SITE ENVIRONMENTAL DAMAGE.
19. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY EROSION OR SEDIMENTATION THAT MAY OCCUR BELOW STORMWATER OUTFALLS OR OFFSITE AS A RESULT OF CONSTRUCTION OF THE PROJECT.



1. CONTROL MEASURES SHALL APPLY TO DWELLING CONSTRUCTION ON INDIVIDUAL LOTS AND SHALL APPLY TO SUBSEQUENT OWNERS IF TITLE IS CONVEYED.
2. THE SOIL EROSION INSPECTOR MAY REQUIRE ADDITIONAL SOIL EROSION MEASURES TO BE INSTALLED, AS DIRECTED BY THE DISTRICT INSPECTOR, IN ACCORDANCE WITH THE STATE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.

INDIVIDUAL LOT DETAIL

N.T.S.

DATE	REVISION

STUART CHALLONER, P.E.
PROFESSIONAL ENGINEER N.J. LIC. NO. 34337
PROFESSIONAL PLANNER N.J. LIC. NO. 4489
CHALLONER & ASSOCIATES L.L.C. Certificate of Auth. No. 24GA28057700
CONSULTING ENGINEERS AND DESIGN PROFESSIONALS
201 Main Street 2nd Floor
Toms River, New Jersey 08753
Phone: 732–818–9980 Fax: 732–818–9981

SOIL EROSION AND SEDIMENT CONTROL DETAILS

8103 LONG BEACH BLVD
LOTS 1 & 12
BLOCK 81
SITUATED IN
BOROUGH OF HARVEY CEDARS
OCEAN COUNTY, NEW JERSEY

Date:	Scale:	Drawn By:	Checked By:	File No.:	Field Book:	Sheet No.:
JAN. 28, 2026	1"=10'	SGP	SCC	26002		5 of 5