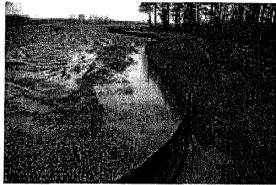


STANDARD AND SPECIFICATIONS FOR SILT FENCE



- Maximum drainage area for overland flow to a silt fence shall not exceed 1/4 acre per 100 feet of fence; and
- Erosion would occur in the form of sheet erosion; and
- There is no concentration of water flowing to the barrier.

Design Criteria

Design computations are not required. All silt fences shall be placed as close to the areas as possible, but at least 10 feet from the toe of a slope to allow for maintenance and roll down. The area beyond the fence must be undisturbed or stabilized.

A detail of the silt fence shall be shown on the plan and contain the following minimum requirements:

- The type, size, and spacing of fence posts.
- The size of woven wire support fences.
- The type of filter cloth used.
- The method of anchoring the filter cloth.
- The method of fastening the filter cloth to the fencing support.

Sensitive areas to be protected by silt fence may need to be reinforced by using heavy wire fencing for added support to prevent collapse.

Where ends of filter cloth come together, they shall be overlapped, folded and stapled to prevent sediment bypass. See Figure 7A.8 on page 7A.21 for details.

Criteria for Silt Fence Materials

- Silt Fence Fabric: The fabric shall meet the following specifications (table on following page) unless otherwise approved by the appropriate erosion and sediment control plan approval authority. Such approval shall not constitute statewide acceptance. Statewide acceptability shall depend on in-field and/or laboratory observations and evaluations.
- Fence Posts (for fabricated units): The length shall be a minimum of 36 inches long. Wood posts will be of sound quality hardwood with a minimum cross sectional area of 3.0 square inches. Steel posts will be standard T and U section weighing not less than 1.00 pound per linear foot.
- Wire Fence (for fabricated units): Wire fencing shall be a minimum 14-1/2 gauge with a maximum 6 in. mesh opening, or as approved.
- Prefabricated Units: Envirofence, or approved equal, may be used in lieu of the above method providing the unit is installed per details shown in Figure 7A.8.

Purpose

The purpose of a silt fence is to reduce runoff velocity and effect deposition of transported sediment load. Limits imposed by ultraviolet stability of the fabric will dictate the maximum period the silt fence may be used (approximately one year).

Conditions Where Practice Applies

A silt fence may be used subject to the following conditions:

- Maximum allowable slope lengths contributing runoff to a silt fence placed on a slope are:

Slope Steepness	Maximum Length (ft.)
2:1	25
3:1	50
4:1	75
5:1 or flatter	100

Fabric Properties	Minimum Acceptable Value	Test Method
Grab Tensile Strength (lbs)	90	ASTM D1682
Elongation at Failure (%)	50	ASTM D1682
Mullen Burst Strength (PSI)	190	ASTM D3786
Puncture Strength (lbs)	40	ASTM D751 (modified)
Slurry Flow Rate (gal/min/sf)	0.3	
Equivalent Opening Size	40-80	US Std Sieve CW-02215
Ultraviolet Radiation Stability (%)	90	ASTM G-26

STANDARD AND SPECIFICATIONS FOR DUST CONTROL



Construction Specifications

Vegetative Cover – For disturbed areas not subject to traffic, vegetation provides the most practical method of dust control (see Section 5).

Mulch (including gravel mulch) – Mulch offers a fast effective means of controlling dust.

Spray adhesives – Examples of spray adhesives for use on mineral soils are shown in the following table:

Material	Water Dilution	Type of Nozzle	Apply Gallons/Acre
Acrylic polymer	9:1	Coarse spray	500
Latex emulsion	12.5:1	Fine spray	235
Resin in water	4:1	Fine spray	300

Definition

The control of dust resulting from land-disturbing activities.

Purpose

To prevent surface and air movement of dust from disturbed soil surfaces that may cause off-site damage, health hazards, and traffic safety problems.

Conditions Where Practice Applies

On construction roads, access points, and other disturbed areas subject to surface dust movement and dust blowing where off-site damage may occur if dust is not controlled.

Design Criteria

Construction operations should be scheduled to minimize the amount of area disturbed at one time. Buffer areas of vegetation should be left where practical. Temporary or permanent stabilization measures shall be installed. No specific design criteria is given; see construction specifications below for common methods of dust control.

Water quality should be considered when materials are selected for dust control.

Sprinkling – The site may be sprayed until the surface is wet. This is especially effective on haul roads and access routes.

Stone used for construction roads is also effective for dust control.

Barrier – A fence or similar barrier can control air currents at intervals equal to ten times the barrier height. Preserve existing wind barrier vegetation as much as practical.

Maintenance

Maintain dust control measures through dry weather periods until all disturbed areas are stabilized.

NEW YORK STATE GENERAL NOTES FOR SOIL EROSION AND SEDIMENT CONTROL

- All sediment and erosion control practices are to be installed prior to any major soil disturbance or in their proper sequence and maintained until permanent protection is established.
- Any disturbed areas that will be left exposed more than 14 days and not subject to construction traffic will immediately receive a temporary seeding unless construction activities will resume within 21 days from when activities ceased. Between October 15 and February 15 the disturbed areas will be mulched with unrotted straw or salt hay at a rate of 75 to 100 lbs per 1000 square feet or an equivalent measure according to the State standards. See Stabilization Materials below.
- Permanent vegetation to be seeded or sodded on all exposed areas within 10 days after final grading. Mulch to be used at a rate of 75 to 100 lbs per 1000 square feet for protection until seeding is established. See seeding mixture below.
- All work to be done in accordance with the New York Guidelines for Urban Erosion and Sediment Control.
- Prior to any site grading, drainage facilities shall be installed to allow the majority of storm flow to be transported to the proposed outlet without eroding the site.
- Immediately after initial site disturbance a crushed stone vehicle wheel cleaning blanket will be installed wherever a construction access road intersects any paved roadway. This stabilized construction entry will be of sufficient size to reduce off-site tracking of sediment by construction traffic and will be maintained in good order until all roadways are stabilized. Minimum dimensions shall be 5' long x 1' wide (or entrance width) x 6" thick, underlain with filter fabric, and shall be composed of crushed stone 2 in diameter.
- A subbase course shall be constructed immediately following site grading and installation of improvements in order to stabilize streets, roads, driveways and parking areas.
- All inlets shall be temporarily protected by filters placed immediately after their construction. Filters shall remain in place until the site is permanently stabilized.
- Immediately following initial disturbance or rough grading all critical areas subject to erosion (steep slopes greater than 3:1 v, embankments, swales and channels) will receive a temporary seeding in combination with straw mulch or a suitable equivalent. See Stabilization Materials below.
- Existing trees shall be preserved wherever possible.
- All disturbed areas shall be limed and fertilized prior to either temporary or permanent seeding.
- Stabilization Materials:

Temporary Seeding:

- Seedbed preparation: Scarify if compacted, remove debris & obstacles (rocks, stumps etc)
- Lime: 90 lbs per 1000 square feet ground limestone (to pH 6.0)
- Fertilization: 14 lbs per 1000 square feet (5-10-10)
- Seed: Date and rate of application according to New York-Guidelines for Urban Erosion and Sediment Control. Annual Rye Grass at 0.7 lbs per 1000 square feet. Use certified 'Aroostock' winter rye @ 2.5 lbs/1000 sq ft if seeding in Oct/Nov. Mulch should be applied after seeding for added protection.

Permanent Seeding:

- Soil: Any soil having a pH of 4 or less or containing iron sulfides shall be covered with a minimum of 1/2 inches of soil having a pH of 6 or more prior to seedbed preparation.
- Seed bed preparation: Loosen soil to a depth of 4-6 inches.
- Lime: 3 tons per acre ground limestone (to pH 6.0)
- Fertilizer: 800-900 lbs per Acre 5-10-10 incorporated 4 inches into soil.
- Seed: Preferred seeding between 8/15 and 5/15, seeding between 5/15 and 8/15 may require irrigation. Seed mixture to be 65% Kentucky bluegrass blend @ 85-114 lbs/ac, 20% perennial ryegrass @ 26-35 lbs/ac and 15% fine fescue @ 19-26 lbs/ac.
- Shade Areas: For well to somewhat poorly drained soils seed mixture to be 65% fine fescue @ 114-143 lbs/ac, 15% perennial ryegrass @ 26-33 lbs/ac, and 20% Kentucky bluegrass blend @ 35-44 lbs/ac. For somewhat poor to poorly drained soils, seed mixture to be 70% rough bluegrass @ 60-91 lbs/ac and 30% blend of shade tolerant Kentucky bluegrass @ 25-39 lbs/ac. Mulch should be applied after seeding for added protection.

- Mulching shall be done at the rate of 75 to 100 lbs per 1000 square feet with unrotted salt hay.
- Liquid Mulch binders may be used to anchor salt hay, hay or straw mulches.

- 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.
- Use one of the following: Emulsified Asphalt 95-1 C55-1 C55-2 M5-2 R5-1 R5-2 C95-1 C95-2. Apply 0.04 gallon per square yard or 194 gallons per acre on flat areas and on slopes less than 8 feet high. On slopes 8 feet high or more use 0.075 gallon per square yard or 363 gallons per acre.

Outback asphalt rapid curing RC-70 RC-250 and RC-600 or medium curing MC-250 or MC-600.

Apply 0.04 gallons per square yard or 194 gallons per acre on flat areas and on slopes less than 8 feet high. On slopes 8 feet high or more use 0.075 gallons per square yard or 363 gallons per acre.

Synthetic or Organic Binders. Binders such as curasol DCA-70 Petro Set and Terra Tack may be used at rates recommended by the manufacturer of anchor mulch materials.

NOTE:

All names given above are registered trade names. This does not constitute a recommendation of these products to the exclusion of other products.

- Topsoil should be free of debris, such as weeds and stones, and contain no toxic substance that may be harmful to plant growth. Stock piles of topsoil should be situated so as not to obstruct natural drainage or cause off-site environmental damage.
- All fill materials are to be free of brush, rubbish, timber, logs, vegetative matter, and slumps in amounts that will be detrimental to constructing stable fills. All fills shall be compacted for their intended purposes and as required to reduce slipping erosion, or excess saturation.
- Contractor to maintain dust control measures throughout the course of construction for all disturbed areas. The Contractor will provide a water truck on-site at all times to spray the disturbed areas as necessary. Refer to New York - Guidelines for Urban Erosion & Sediment Control.

STANDARD AND SPECIFICATIONS FOR MULCHING



Criteria

Site preparation prior to mulching requires the installation of necessary erosion control or water management practices and drainage systems.

Slope, grade and smooth the site to fit needs of selected mulch products.

Remove all undesirable stones and other debris to meet the needs of the anticipated land use and maintenance required.

Apply mulch after soil amendments and planting is accomplished or simultaneously if hydroseeding is used.

Select appropriate mulch material and application rate or material needs. Determine local availability.

Select appropriate mulch anchoring material.

NOTE: The best combination for grass/legume establishment is straw (cereal grain) mulch applied at 2 ton/acre (90 lbs./1000sq.ft.) and anchored with wood fiber mulch (hydro mulch) at 500 - 750 lbs./acre (11 - 17 lbs./1000 sq. ft.). The wood fiber mulch must be applied through a hydroseeder immediately after mulching.

Definition

Applying coarse plant residue or chips, or other suitable materials, to cover the soil surface.

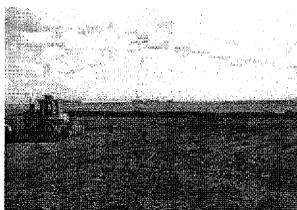
Purpose

The primary purpose is to provide initial erosion control while a seeding or shrub planting is establishing. Mulch will conserve moisture and modify the surface soil temperature and reduce fluctuation of both. Mulch will prevent soil surface crusting and aid in weed control.

Conditions Where Practice Applies

On soils subject to erosion and on new seedlings and shrub plantings. Mulch is useful on soils with low infiltration rates by retarding runoff.

STANDARD AND SPECIFICATIONS FOR TOPSOILING



Site Preparation

- As needed, install erosion control practices such as diversions, channels, sediment traps, and stabilizing measures, or maintain if already installed.
- Complete rough grading and final grade, allowing for depth of topsoil to be added.
- Scarify all compact, slowly permeable, medium and fine textured subsoil areas. Scarify at approximately right angles to the slope direction in soil areas that are steeper than 5 percent.
- Remove refuse, woody plant parts, stones over 3 inches in diameter, and other litter.

Topsoil Materials

- Topsoil shall have at least 2 percent by weight of fine textured stable organic material, and no greater than 6 percent. Muck soil shall not be considered topsoil.
- Topsoil shall have not less than 20 percent fine textured material (passing the NO. 200 sieve) and not more than 15 percent clay.
- Topsoil treated with soil sterilants or herbicides shall be so identified to the purchaser.
- Topsoil shall be relatively free of stones over 1 1/2 inches in diameter, trash, noxious weeds such as nut sedge and quackgrass, and will have less than 10 percent gravel by volume.
- Topsoil containing soluble salts greater than 500 parts per million shall not be used.

Application and Grading

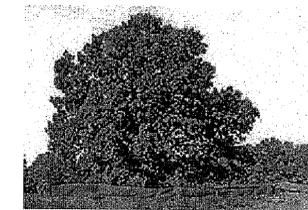
- Topsoil shall be distributed to a uniform depth over the area. It shall not be placed when it is partly frozen, muddy, or on frozen slopes or over ice, snow, or standing water puddles.
- Topsoil placed and graded on slopes steeper than 5 percent shall be promptly fertilized, seeded, mulched, and stabilized by "tracking" with suitable equipment.
- Apply topsoil in the following amounts:

Site Conditions	Intended Use	Minimum Topsoil Depth
1. Deep sand or loamy sand	Mowed lawn	6 in.
	Tall legumes, unmowed	2 in.
2. Deep sandy loam	Tall grass, unmowed	1 in.
	Mowed lawn	5 in.
3. Six inches or more silt loam, loam, or silt	Tall legumes, unmowed	2 in.
	Tall grass, unmowed	none
3. Six inches or more silt loam, loam, or silt	Mowed lawn	4 in.
	Tall legumes, unmowed	1 in.
	Tall grass, unmowed	1 in.

Table 5.8 Mulch Anchoring Guide

Anchoring Method or Material	Kind of Mulch to be Anchored	How to Apply
1. Peg and Twine	Hay or straw	After mulching, divide areas into blocks approximately 1 sq. yd. in size. Drive 4-6 pegs per block to within 2" to 3" of soil surface. Secure mulch to surface by stretching twine between pegs in criss-cross pattern on each block. Secure twine around each peg with 2 or more tight turns. Drive pegs flush with soil. Driving stakes into ground tightens the twine.
2. Mulch netting	Hay or straw	Staple the light-weight paper, jute, wood fiber, or plastic nettings to soil surface according to manufacturer's recommendations. Should be biodegradable. Most products are not suitable for foot traffic.
3. Wood cellulose fiber	Hay or straw	Apply with hydroseeder immediately after mulching. Use 500 lbs. wood fiber per acre. Some products contain an adhesive material, possibly advantageous.
4. Mulch anchoring tool	Hay or straw	Apply mulch and pull a mulch anchoring tool (blunt, straight discs) over mulch as near to the contour as possible. Mulch material should be "tucked" into soil surface about 3".
5. Chemical	Hay or straw	Apply Terra Tack AR 120 lbs./ac. in 480 gal. of water (#156/ac.) or Aero spray 70 (60 gal/ac.) according to manufacturer's instructions. Avoid application during rain. A 24-hour curing period and a soil temperature higher than 45° Fahrenheit are required.

STANDARD AND SPECIFICATIONS FOR PROTECTING VEGETATION DURING CONSTRUCTION



- Trees to be cut should be marked on the plans. If timber can be removed for salable products, a forester should be consulted for marketing advice.
- Trees that may become a hazard to people, personal property, or utilities should be removed. These include trees that are weak-wooded, disease-prone, subject to windthrow, or those that have severely damaged root systems.
- The vigor of remaining trees may be improved by a selective thinning. A forester should be consulted for implementing this practice.

Definition

The protection of trees, shrubs, ground cover and other vegetation from damage by construction equipment.

Purpose

To preserve existing vegetation determined to be important for soil erosion control, water quality protection, shade, screening, and other values.

Condition Where Practice Applies

On planned construction sites where valued vegetation exists and needs to be preserved.

Design Criteria

1. Planning Considerations

A. Inventory:

- Property boundaries, topography, vegetation and soils information should be gathered. Identify potentially high erosion areas, areas with tree windthrow potential, etc. A vegetative cover type map should be made on a copy of a topographic map which shows other natural and manmade features. Vegetation that is desirable to preserve because of its value for screening, shade, critical erosion control, endangered species, aesthetics, etc., should be identified and marked on the map.
- Based upon this data, general statements should be prepared about the present condition, potential problem areas, and unique features of the property.

B. Planning:

- After engineering plans (plot maps) are prepared, another field review should take place and recommendations made for the vegetation to be saved. Minor adjustments in location of roads, dwellings, and utilities may be needed. Construction on steep slopes, erodible soils, wetlands, and streams should be avoided. Clearing limits should be delineated.
- Areas to be seeded and planted should be identified. Remaining vegetation should blend with their surroundings and/or provide special function such as a filter strip, buffer zone, or screen.
- Trees and shrubs of special seasonal interest, such as flowering dogwood, red maple, striped maple, serviceberry, or shadbush, and valuable potential shade trees should be identified and marked for special protective treatment as appropriate.

- Construct sturdy fences, or barriers, of wood, steel, or other protective material around valuable vegetation for protection from construction equipment. Place barriers far enough away from trees, but not less than the specifications in "B", so that tall equipment such as backhoes and dump trucks do not contact tree branches.
- Construction limits should be identified and clearly marked to exclude equipment.
- Avoid spills of oil/gas and other contaminants.

- Obstructive and broken branches should be pruned properly. The branch collar on all branches whether living or dead should not be damaged. The 3 or 4 cut method should be used on all branches larger than two inches at the cut. First cut about one-third the way through the underside of the limb (about 6-12 inches from the tree trunk). Then (approximately an inch further out) make a second cut through the limb from the upper side. When the branch is removed, there is no splintering of the main tree trunk. Remove the stub. If the branch is larger than 5-6 inches in diameter, use the four cut system. Cuts 1 and 2 remain the same and cut 3 should be from the underside of the limb, on the outside of the branch collar. Cut 4 should be from the top and in alignment with the 3rd cut. Cut 3 should be 1/4 to 1/3 the way through the limb. This will prevent the bark from peeling down the trunk. Do not paint the cut surface.
- Penalties for damage to valuable trees, shrubs, and herbaceous plants should be clearly spelled out in the contract.

It is the obligation of the Engineer to provide the client with a clear and concise description of the work to be performed. The client is responsible for providing the Engineer with all necessary information and data. The Engineer shall be held responsible for any errors or omissions in the design and construction documents. The client shall be held responsible for any delays or cost overruns caused by the client's actions or inactions. The Engineer shall be held responsible for any damages or liabilities arising from the design and construction documents. The client shall be held responsible for any damages or liabilities arising from the construction work. The Engineer shall be held responsible for any damages or liabilities arising from the design and construction documents. The client shall be held responsible for any damages or liabilities arising from the construction work.



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REV	DATE	DESCRIPTION
02	10/16	PRE-ISSUE FOR TEAM REVIEW
05	11/16	PRELIMINARY SITE PLAN REVIEW
07	5/16	SUBMISSION TO PLANNING BOARD

PROJECT TITLE
 PRELIMINARY & FINAL SITE PLAN
Gan-Eden Estates
 TOWN OF THOMPSON SULLIVAN COUNTY NEW YORK

SHEET TITLE
 SOIL EROSION & SEDIMENT CONTROL DETAILS

TAX LOT SECTION 2, BLOCK 1/ LOT 6.3

INITIAL DATE: 12/04/2015
 JOB NO.: 01895/0053
 SCALE: AS SHOWN
 SHEET NO.: B/O
 DRAWN: CY/EM
 CHECKED: AG/LAD
 SHEET NO.: C-21
 75 OF 79