

APPENDIX E
EROSION & SEDIMENT CONTROL PLAN
FOR SMALL HOMESITE CONSTRUCTION

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EROSION AND SEDIMENT CONTROL PLAN FOR SMALL HOMESITE CONSTRUCTION

Definition

Small homesite erosion and sediment control plans are a group of minimum erosion and sediment control practices and management techniques that apply to small homesite construction activity on a single residential lot, in order to prevent polluted discharge.

Purpose

This appendix lays out a series of minimum requirements for erosion and sediment control, and management practices that may be used to meet these requirements. Use of these templates will help show compliance with the general requirements for construction activities that require basic stormwater pollution prevention plans (SWPPP). This applies to the construction of small homesites. The owner/developer must complete the relevant conditions (1-4), or small parcel erosion and sediment control plan included in this section, and submit the NOI in order to meet compliance with the SPDES General Permit for Stormwater Discharges From Construction Activities.

Criteria

Generally, several types of practices are required on any one site for effective erosion and sediment control. There are three broad categories of construction-related practices for controlling erosion and sediment on small homesite developments:

1. **Cover practices** prevent erosion by protecting the soil surface from rainfall and runoff. Prevention of erosion is the most preferable and cost-effective approach. These practices include: protection of existing vegetation; temporary covering of exposed soil by mulching, matting, or covering; and permanent site stabilization by topsoiling, seeding, and/or sodding.

2. **Structural Practices** are structural controls that either reduce erosion, control runoff, or keep sediment on the construction site. Examples of these practices include stabilized construction entrances, filter fences, sediment traps, berms, and check dams.

3. **Management Measures** are construction management methods that prevent or reduce erosion potential and ensure the proper functioning of erosion and sediment control practices. Careful construction management can dramatically reduce the costs associated with erosion and sediment problems. Examples of these management measures include:

- Preserving existing trees and grass where possible to prevent erosion;

- Re-vegetating the site as soon as possible;
- Locating soil piles away from roads or waterways;
- Limiting tracking of mud onto streets by requiring all vehicles to use designated access drives;
- Removing sediment carried off-site by vehicles or storms;
- Installing downspout extenders to prevent erosion from roof runoff; and
- Maintaining erosion and sediment practices through sediment removal, structure replacement, etc.

Specification

Each construction site is different. The owner/developer of a small construction site may choose and follow one of the four variations of ESC plans included in this section to develop a SWPPP in compliance with the SPDES Construction Permit For Stormwater Discharges From Construction Activities. However, because of the general nature of the following conditions, **the plans included in this section may not cover all of the resource protection needs on a particular site, and this form does not exempt an owner from the responsibility of filing an NOI.**

Small Homesite Minimum Requirements:

1. Stabilized Construction Entrance:

To prevent vehicles and equipment from tracking sediment and mud off-site, apply gravel or crushed rock to the driveway area and restrict traffic to this one route. This practice will help keep soil from sticking to tires and stop soil from washing off into the street. Carry out periodic inspections and maintenance including washing, top-dressing with additional stone, reworking, and compaction. Plan for periodic street cleaning to remove any sediment that may have been tracked off-site. Remove sediment by shoveling or sweeping and transport to a suitable disposal area where it can be stabilized.

2. Stabilization of Denuded Areas:

Stabilization measures must be initiated as soon as practicable, but in no case more than 14 days after the construction activity has ceased. In frozen ground conditions, stabilization measures must be initiated as soon as practicable. Where construction activity on a portion of the site is temporarily ceased, and earth-disturbing activities will be resumed within twenty-one (21) days, temporary stabilization measures need not be initiated on that portion of the site.

Stabilize denuded areas by implementing soil covering practices (e.g. mulching, matting, sodding). Exposed soils are the most prone to erosion from rainfall and runoff. Vegetation helps protect the soil from these forces and provides natural erosion control. Plan construction to limit

the amount of exposed area, and avoid grading activities during the rainy season (November through March) as much as possible. Clearing limits should be clearly marked and kept as small as possible. Once construction is completed, the site must be permanently stabilized with topsoiling, seeding and plantings, or sodding if needed.

3. Protection of Adjacent Properties:

Keep sediment on-site by using structural and source control practices (e.g. vegetative buffer strips, sediment barriers, soil berms or dikes, etc). See Sections 3, 4, or 5 as appropriate. Wherever possible, preserve a buffer of existing vegetation around the site boundary. This will help to decrease runoff velocities and trap sediment suspended in the runoff. Other structural controls such as filter fence or straw bale barriers should also be used to filter runoff and trap sediment on-site.

When excavating basement soils, move the soil to a location that is, or will be, vegetated, such as in the backyard or side yard area. This will increase the distance eroded soil must travel, through vegetation, to reach the storm sewer system. Piles should be situated so that sediment does not run into the street or adjoining yards. Soil piles should be temporarily seeded and circled with silt fence until the soil is either replaced or removed. Backfill basement walls as soon as possible and rough grade the lot. This will eliminate the large soil mounds, which are highly erodible, and prepare the lot for temporary cover. After backfilling, grade or remove excess soil from the site quickly, to eliminate any sediment loss from surplus fill.

4. Concentrated Flow:

For constructed drainage ways, or other areas of concentrated flow, install check dams according to the specifications on page E.12 to reduce erosion in the channel. As with other erosion controls, check dams must be inspected regularly. Remove sediment accumulated behind the dam as needed to allow channel to drain through the stone check dam and prevent large flows from carrying

sediment over the dam. Replace stones as needed to maintain the design cross section of the structures. Sediment removal is crucial to the effectiveness of the dam—if not maintained, high flows could cause erosion around the sides of the structures, adding significant sediment loads downstream.

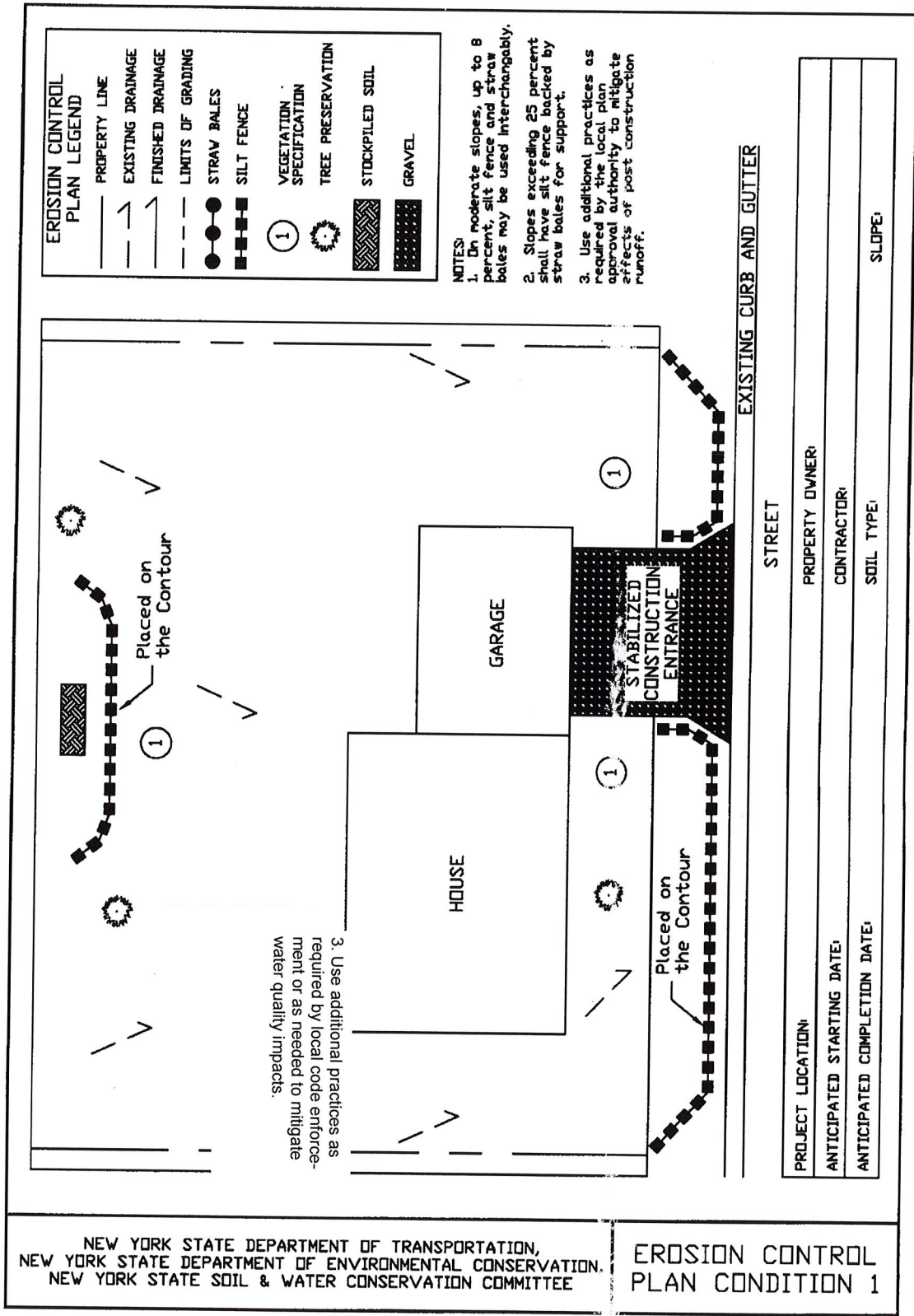
5. Maintenance:

Maintain erosion and sediment control practices through regular inspection. Regular maintenance is extremely important for the proper operation of structural practices. After initial groundbreaking, the builder shall conduct site inspections at least once every 14 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater.

6. Other Practices:

Use additional practices as required by the local plan approval authority to mitigate effects of increased runoff. This may include providing additional controls to a locally protected stream or resource area, protecting riparian corridors (vegetative stream buffers), etc. Individual homeowners and/or developers are responsible for researching additional requirements related to erosion and sediment runoff control established by their local jurisdictions.

Figure E.1 Erosion Control Plan Condition 1



Condition 1—Vegetative Requirements & Compliance Form

Vegetation Requirements:

1.) Site Preparation

- A. Install needed water and erosion control measures and bring area to be seeded to desired grades using a minimum of 4 in. topsoil.
- B. Prepare seedbed by loosening soil to a depth of 4-6 inches.
- C. Lime to a pH of 6.5
- E. Fertilize as per soil test or, if fertilizer must be applied before soil test results are received, apply 850 pounds of 5-10-10 or equivalent per acre (20 lbs/1,000 sq. ft.)
- F. Incorporate lime and fertilizer in top 2-4 inches of topsoil.
- G. Smooth. Remove all stones over 1 inch in diameter, sticks, and foreign matter from the surface. Firm the seedbed.

2.) Planting—Sunny Location.

Use a cultipacker type seeder if possible. Seed to a depth of 1/8 to 1/4 inch. If seed is to be broadcast, cultipack or roll after seeding. If hydroseeded, lime and fertilizer may be applied through the seeder and rolling is not practical. Seed using the following mix and rates:

<u>Species (% by weight)</u>	<u>lbs/1,000sq. ft</u>	<u>lbs./acre</u>
65% Kentucky bluegrass blend.....	2.0-2.6.....	85-114
20% perennial ryegrass.....	0.6-0.8.....	26-35
15% fine fescue.....	0.4-0.6.....	19-26
Total.....	3.0-4.0.....	130-175
or,		
100% Tall fescue, Turf-type, fine leaf.....	3.4-4.6.....	150-200

- 3.) When using the cultipacker or broadcast seed method, mulch using small grain straw, applied at a rate of 2 tons per acre; and anchor with a netting or tackifier. Hydroseed applications should include mulch, fertilizer and seed.

Common white clover can be added to mixtures at the rate of 1-2 lbs/acre to help maintain green color during the dry summer period, however, they will not withstand heavy traffic. Fertilizing—First year, (spring seedlings) three to four weeks after germination apply 1 pound nitrogen/1,000 square feet using a complete fertilizer with a 2-1-1 or 4-1-3 ratio or as recommended by soil test results. For summer and early fall seedings, apply as above unless air temperatures are above 85°F for extended period. Wait until heat wave is over to fertilize. For late fall/ winter seedings, fertilize in spring. Restrict use—new seedlings should be protected from use for one full year to allow development of a dense sod with good root structure.

Certification Statement

Please complete and sign this 2-sided document (with Typical Erosion Control Plan) and attach to BLUEPRINTS and SITE PLAN prior to any earth disturbance. These documents must be kept on site and be available for review as requested by any agent of the NYSDEC. **This 2-sided form can be used as a basic stormwater pollution prevention plan, but will not exempt a landowner from filing a Notice of Intent.**

"I certify under penalty of law that I understand and agree to comply with the terms and conditions of the ESC plan for the construction site identified in such ESC plan as a condition of authorization to discharge stormwater. I also understand that the operator must comply with the terms and conditions of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards."

Builder/Contractor (print) _____

Signature _____

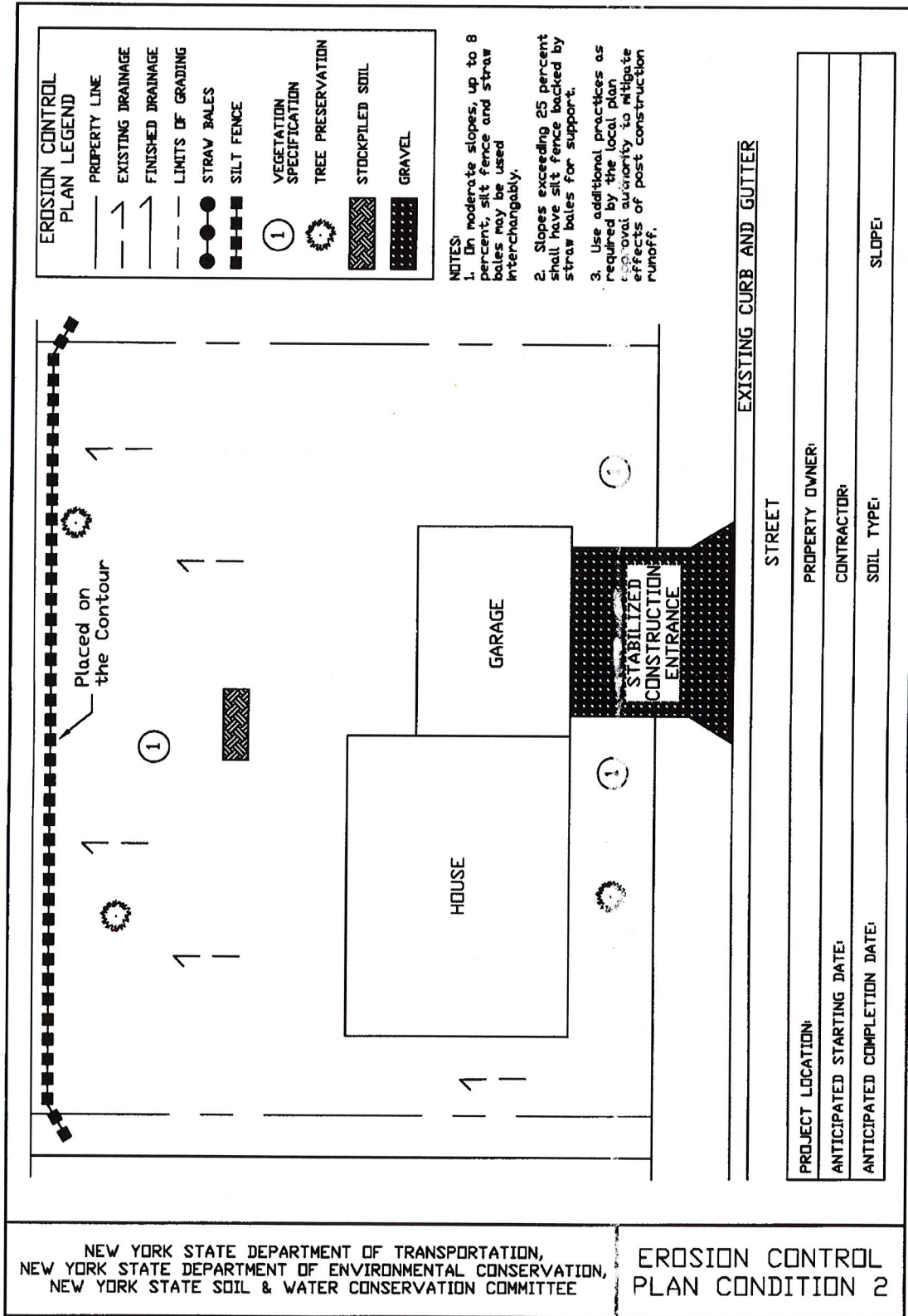
Address _____

Telephone _____

Fax _____

E-mail _____

Figure E.2
Erosion Control Plan Condition 2



Condition 2—Vegetative Requirements & Compliance Form

Vegetation Requirements:

1.) Site Preparation

- A. Install needed water and erosion control measures and bring area to be seeded to desired grades using a minimum of 4 in. topsoil.
- B. Prepare seedbed by loosening soil to a depth of 4-6 inches.
- C. Lime to a pH of 6.5
- E. Fertilize as per soil test or, if fertilizer must be applied before soil test results are received, apply 850 pounds of 5-10-10 or equivalent per acre (20 lbs/1,000 sq. ft.)
- F. Incorporate lime and fertilizer in top 2-4 inches of topsoil.
- G. Smooth. Remove all stones over 1 inch in diameter, sticks, and foreign matter from the surface. Firm the seedbed.

2.) Planting—Sunny Location.

Use a cultipacker type seeder if possible. Seed to a depth of 1/8 to 1/4 inch. If seed is to be broadcast, cultipack or roll after seeding. If hydroseeded, lime and fertilizer may be applied through the seeder and rolling is not practical. Seed using the following mix and rates:

<u>Species (% by weight)</u>	<u>lbs/1,000sq. ft</u>	<u>lbs./acre</u>
65% Kentucky bluegrass blend.....	2.0-2.6.....	85-114
20% perennial ryegrass.....	0.6-0.8.....	26-35
15% fine fescue.....	0.4-0.6.....	19-26
Total.....	3.0-4.0.....	130-175
or,		
100% Tall fescue, Turf-type, fine leaf.....	3.4-4.6.....	150-200

3.) When using the cultipacker or broadcast seed method, mulch using small grain straw, applied at a rate of 2 tons per acre; and anchor with a netting or tackifier. Hydroseed applications should include mulch, fertilizer and seed.

Common white clover can be added to mixtures at the rate of 1-2 lbs/acre to help maintain green color during the dry summer period, however, they will not withstand heavy traffic. Fertilizing—First year, (spring seedlings) three to four weeks after germination apply 1 pound nitrogen/1,000 square feet using a complete fertilizer with a 2-1-1 or 4-1-3 ratio or as recommended by soil test results. For summer and early fall seedings, apply as above unless air temperatures are above 85°F for extended period. Wait until heat wave is over to fertilize. For late fall/ winter seedings, fertilize in spring. Restrict use—new seedlings should be protected from use for one full year to allow development of a dense sod with good root structure.

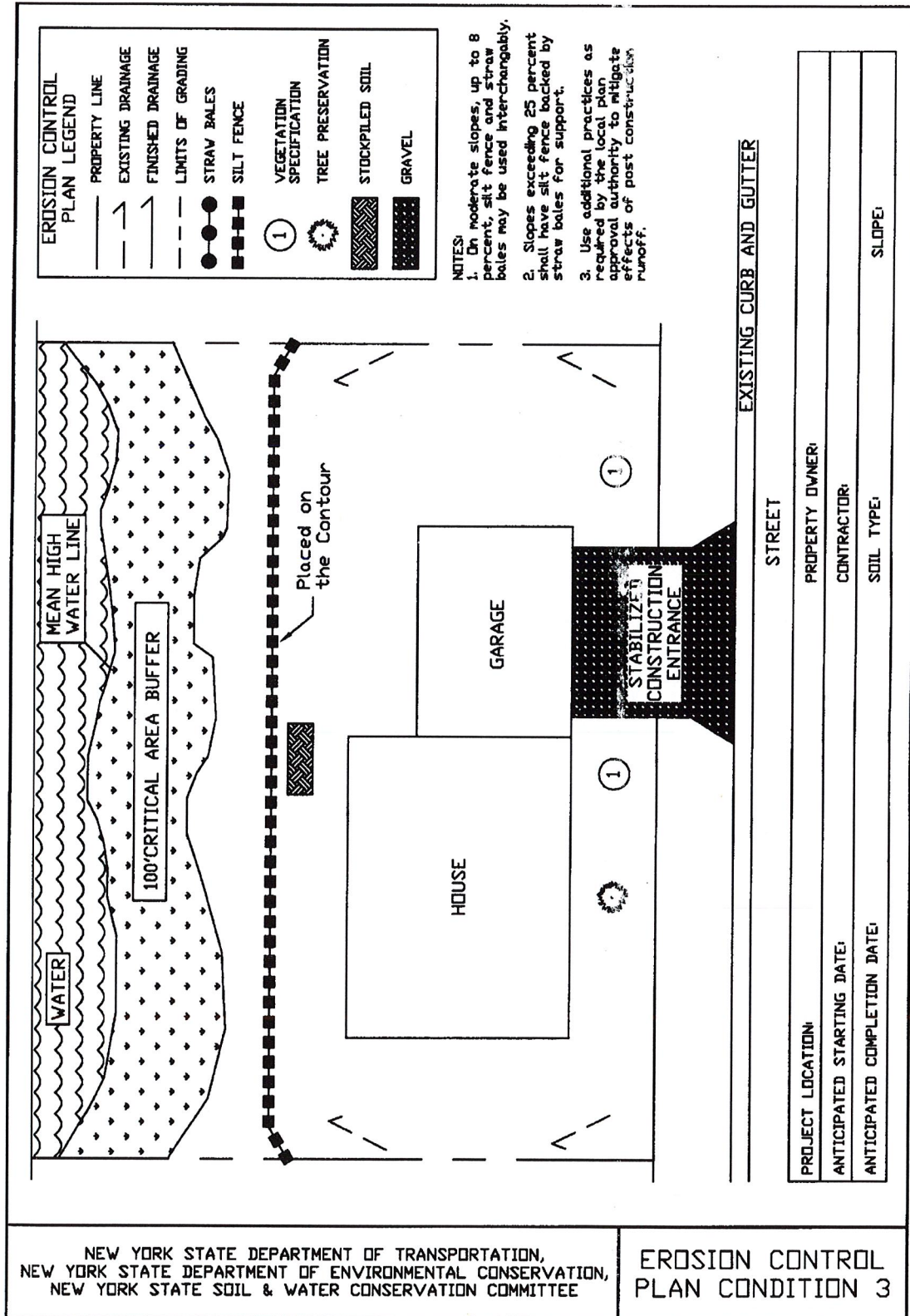
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Builder/Contractor (print)	Signature
Address	
Telephone	E-mail
Fax	

Figure E.3 Erosion Control Plan Condition 3



Condition 3—Vegetative Requirements & Compliance Form

Vegetation Requirements:

1.) Site Preparation

- A. Install needed water and erosion control measures and bring area to be seeded to desired grades using a minimum of 4 in. topsoil.
- B. Prepare seedbed by loosening soil to a depth of 4-6 inches.
- C. Lime to a pH of 6.5
- E. Fertilize as per soil test or, if fertilizer must be applied before soil test results are received, apply 850 pounds of 5-10-10 or equivalent per acre (20 lbs/1,000 sq. ft.)
- F. Incorporate lime and fertilizer in top 2-4 inches of topsoil.
- G. Smooth. Remove all stones over 1 inch in diameter, sticks, and foreign matter from the surface. Firm the seedbed.

2.) Planting—Sunny Location.

Use a cultipacker type seeder if possible. Seed to a depth of 1/8 to 1/4 inch. If seed is to be broadcast, cultipack or roll after seeding. If hydroseeded, lime and fertilizer may be applied through the seeder and rolling is not practical. Seed using the following mix and rates:

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15% fine fescue.....	0.4-0.6.....	19-26
Total.....	3.0-4.0.....	130-175
or,		
100% Tall fescue, Turf-type, fine leaf.....	3.4-4.6.....	150-200

- 3.) When using the cultipacker or broadcast seed method, mulch using small grain straw, applied at a rate of 2 tons per acre; and anchor with a netting or tackifier. Hydroseed applications should include mulch, fertilizer and seed.

Common white clover can be added to mixtures at the rate of 1-2 lbs/acre to help maintain green color during the dry summer period, however, they will not withstand heavy traffic. Fertilizing—First year, (spring seedlings) three to four weeks after germination apply 1 pound nitrogen/1,000 square feet using a complete fertilizer with a 2-1-1 or 4-1-3 ratio or as recommended by soil test results. For summer and early fall seedings, apply as above unless air temperatures are above 85°F for extended period. Wait until heat wave is over to fertilize. For late fall/ winter seedings, fertilize in spring. Restrict use—new seedlings should be protected from use for one full year to allow development of a dense sod with good root structure.

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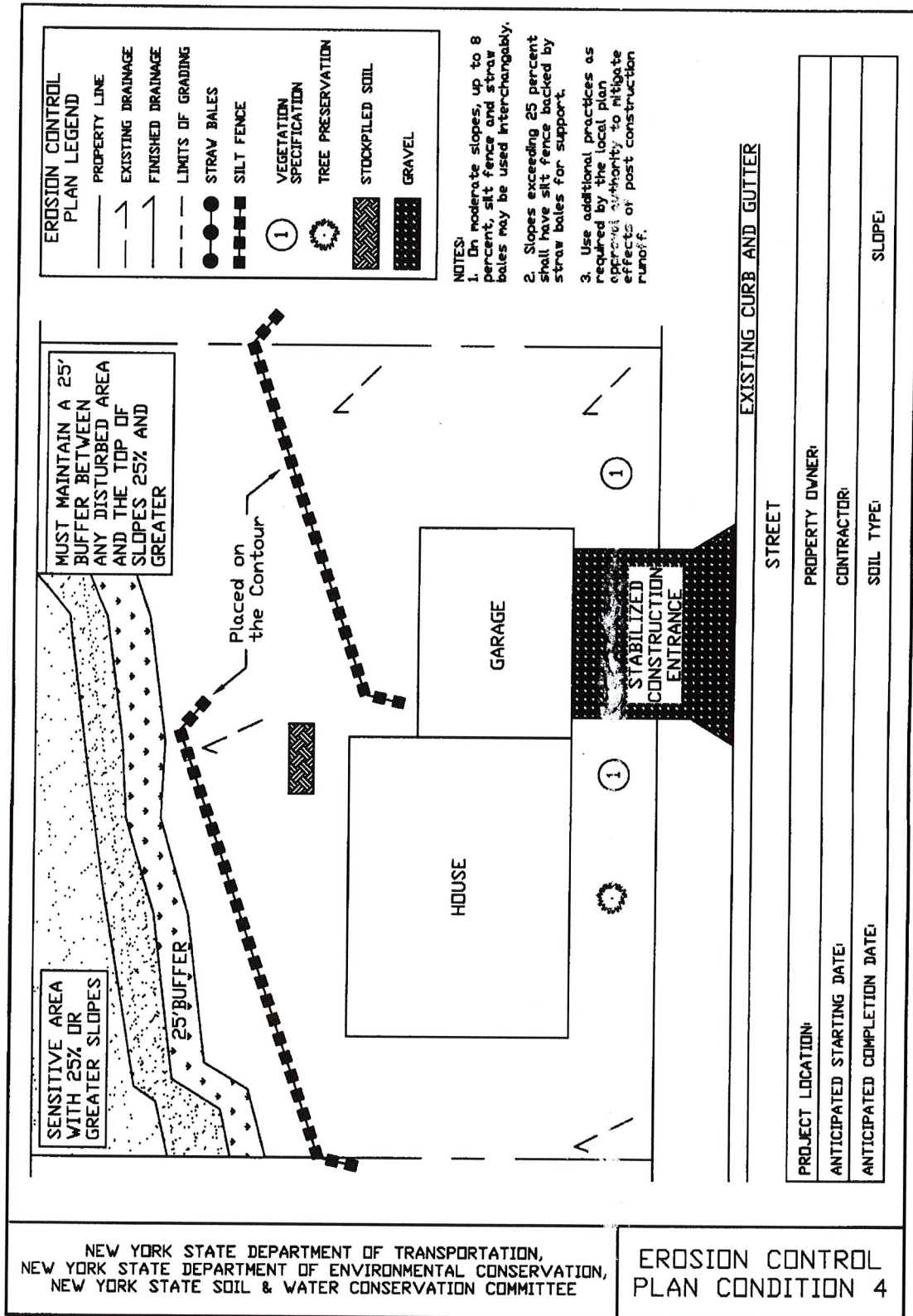
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Builder/Contractor (print) _____ Signature _____

Address _____

Telephone _____ Fax _____ E-mail _____

Figure E.4
Erosion Control Plan Condition 4



Condition 4—Vegetative Requirements & Compliance Form

Vegetation Requirements:

1.) Site Preparation

- A. Install needed water and erosion control measures and bring area to be seeded to desired grades using a minimum of 4 in. topsoil.
- B. Prepare seedbed by loosening soil to a depth of 4-6 inches.
- C. Lime to a pH of 6.5
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2.) Planting—Sunny Location.

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15% fine fescue.....	<u>0.4-0.6.....</u>	<u>19-26</u>
Total.....	3.0-4.0.....	130-175
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100% Tall fescue, Turf-type, fine leaf.....	3.4-4.6.....	150-200

3.) When using the cultipacker or broadcast seed method, mulch using small grain straw, applied at a rate of 2 tons per acre; and anchor with a netting or tackifier. Hydroseed applications should include mulch, fertilizer and seed.

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Builder/Contractor (print)	Signature
Address	
Telephone	E-mail
Fax	

Figure E.5
Construction Details for Stabilized Construction Entrance and Silt Fence

