



Small Construction Site Storm Water Erosion and Sedimentation Control Plan Template

Property Owner Name: _____

Physical Site Address: _____

Parcel Number (APN): _____

Permit Number (to be filled in by staff): _____

Instructions

To help you develop your construction project ***Erosion and Sedimentation Control (ESC)*** plan, Whatcom County has developed this ESC plan. The template is designed to help you develop an ESC plan for a construction or grading project that will have less than one-acre of disturbed soil and is not subject to the Washington State Department of Ecology Construction Stormwater General Permit. You should read the instructions for each section before you complete that section.

A. Nature of the Construction Activity

Provide a general description of the nature of the construction activities at your project (Example: Construction of new 2,100 sq. ft. residence; 10 x 30 deck; 120 square foot addition to an existing home; new 16 x 24 garage and driveway).

1. General Description of Project:

2. Site Plan Requirement – A site plan showing applicable BMP’s (indicated below) needs to be included with this document. The site plan showing the BMP’s may be the same site plan used for an associated permit (i.e. building permit, Land Disturbance Permit, Site Plan Review, etc.)

B. Construction Site Best Management Practices Instructions

Select the appropriate Best Management Practices (BMPs) for your project from the following checklist. Information about the BMPs can be found on the specification sheets that are located at the end of this section as **Exhibit A**. The BMP Fact Sheets are educational materials containing product information, technical data, and advice for using BMPs before, during and after construction.

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Best Management Practices, continued from previous page.

Select all that apply:

1. Scheduling Construction Activity

- Avoid land disturbance during the rainy season from October 1 through May 31.
- Plan your construction work to have your BMPs installed before construction. Have all rainy season BMPs installed prior to October 1. Provide enough time before rainfall begins to stabilize the soil with vegetation or other physical means, or to install sediment trapping devices.

2. Preservation of natural features, vegetation and soil

- Existing vegetation outside the construction area will be preserved on the site and protected.
- Construction activity will avoid activity under the drip line of remaining trees.
- Vegetation to be preserved within the construction area will be protected with temporary fencing.
- Retain protective measures until all construction activity is complete to avoid damage during site cleanup.

3. Drainage swales or lined ditches to control storm water flow

- Earthen dike(s) and drainage swale(s) will be constructed to direct water into surrounding on-site vegetation.
- Velocity Dissipation Devices (such as sand bag check dams, or rock splash pads) will be installed at the outlets of culverts, conduits or channels to prevent erosion,

4. Mulching or hydroseeding to stabilize disturbed soils

- Mulch, such as wood fiber or straw, will be applied to an adequate depth (a depth at which no soil is visible underneath the mulch) to protect erosion of exposed soil from raindrop impact or wind. See table in Exhibit A for information on specific mulch types.
- Seeding will be used with mulching.
- Hydroseed with a Bonded Fiber Matrix will be used to stabilize exposed soils

5. Erosion control to protect soils on slopes

- Mattings of natural materials (jute, coir) or other geotextiles will be used to cover the soil surface to reduce erosion from rainfall impact, see Figure II-4.1.4.
- Seeding will be used with matting material.
- Plastic covering will be used to cover exposed soils on slopes. The plastic covering will extend to native vegetation or other non-exposed-soil surfaces.

6. Protection of storm drain inlets

- Every storm drain inlet that may receive sediment-laden runoff will be protected with at least one type of inlet protection, such as a curb and gutter barrier (BMP C220 – Figure II-4.2.10), block and gravel filter (BMP C220 – Figure II-4.2.8), excavated drop inlet sediment trap, or catch basin filters.

7. Perimeter sediment control

- Silt fence will be installed on a level contour to trap sediment-laden runoff from disturbed areas to promote sedimentation behind the fence, see (BMP C233, Fig. II-4.2.12.)
- Straw wattles will be placed along the perimeter of the project to provide for the removal of sediment from runoff (BMP C235 – Fig. II-4.2.14).
- Brush Barriers shall be installed along the perimeter of the site and along contours of the site. Brush Barriers are not intended for concentrated flows (BMP C231 – Fig.-4.2.11).

8. Sediment trap or sediment basin to retain sediment on site

- A temporary sediment basin will be constructed and maintained until the site is permanently protected against erosion or until a permanent detention basin is constructed (BMP C241).
- A temporary check dam of rock, triangular silt dike, or sandbags, will be placed across a swale or drainage ditch to reduce the velocity of water, to promote sedimentation and for reducing erosion (BMP C207 Fig. II-4.2.7).

9. Stabilized Construction exit

- A stabilized construction access. Driveway aggregate (e.g. clear crushed gravel, without fine sediment) underlain with geotextile, will be located where traffic will be entering or leaving the construction site to or from a public right of way, street, alley, sidewalk, or parking area.
- A Stabilized Construction Exit (usually for projects on larger parcels). A Stabilized Exit shall be made up of 4"-8" quarry spalls, a minimum of 12-inches in depth, and underlain by geotextile. The stabilized exit shall be a minimum of 100-feet in length (BMP C105 – Fig. II-4.1.1)

10. Dust control

- Apply water, geotextiles, gravel, temporary vegetation, or mulching to prevent or alleviate dust.

11. Management of washout areas (concrete, paints, stucco, etc.)

- Designate concrete, paint and stucco washout areas. Collect and retain concrete, paints and stucco washout water or chemicals and solids in leak proof containers so that it does not reach the soil surface and then migrate to surface water or into the ground water.

12. Control of vehicle/equipment fueling to contractor's staging area

- Store and use petroleum products in dry covered areas and perform vehicle fueling in areas having materials and equipment available to contain and clean up any spills that may occur.

13. Spill prevention and control

- Check equipment, hydraulic lines, and containers for leaks and corrosion.
- Maintain a spill-kit with absorbent materials. Clean up spills immediately. For hazardous materials, follow cleanup instructions on the package.

14. Other proposed ESC BMP's, or additional ESC information.



Exhibit A

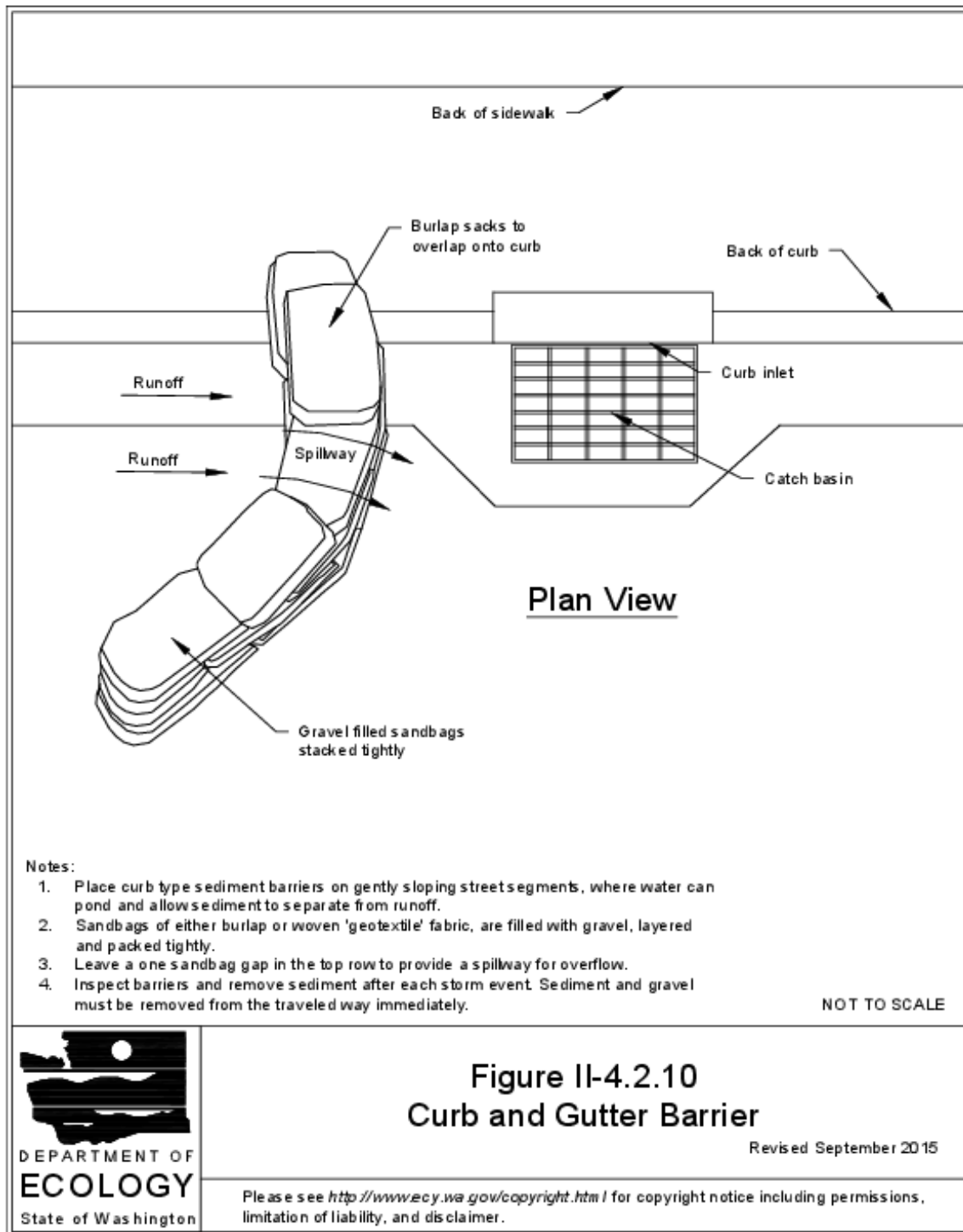
Standards for Specific Mulch Materials

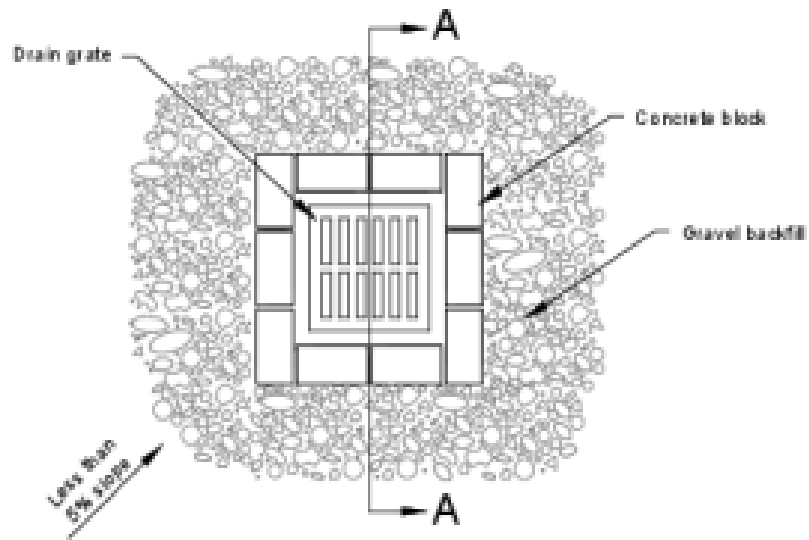
Table II-4.1.8 Mulch Standards and Guidelines

Mulch Material	Quality Standards	Application Rates	Remarks
Straw	Air-dried; free from undesirable seed and coarse material.	2"-3" thick; 5 bales per 1,000 sf or 2-3 tons per acre	Cost-effective protection when applied with adequate thickness. Hand-application generally requires greater thickness than blown straw. The thickness of straw may be reduced by half when used in conjunction with seeding. In windy areas straw must be held in place by crimping, using a tackifier, or covering with netting. Blown straw always has to be held in place with a tackifier as even light winds will blow it away. Straw, however, has several deficiencies that should be considered when selecting mulch materials. It often introduces and/or encourages the propagation of weed species and it has no significant long-term benefits. It should also not be used within the ordinary high-water elevation of surface waters (due to flotation).
Hydromulch	No growth inhibiting factors.	Approx. 25-30 lbs per 1,000 sf or 1,500 - 2,000 lbs per acre	Shall be applied with hydromulcher. Shall not be used without seed and tackifier unless the application rate is at least doubled. Fibers longer than about 3/4 - 1 inch clog hydromulch equipment. Fibers should be kept to less than 3/4 inch.

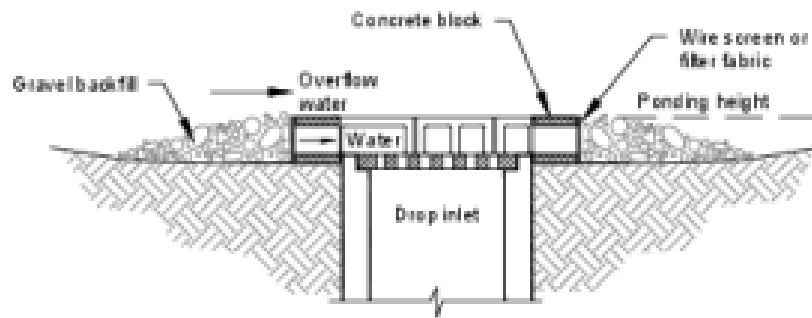
Table II-4.1.8 Mulch Standards and Guidelines

Mulch Material	Quality Standards	Application Rates	Remarks
Compost	No visible water or dust during handling. Must be produced per WAC 173-350, Solid Waste Handling Standards, but may have up to 35% biosolids.	2" thick min.; approx. 100 tons per acre (approx. 800 lbs per yard)	More effective control can be obtained by increasing thickness to 3". Excellent mulch for protecting final grades until landscaping because it can be directly seeded or tilled into soil as an amendment. Compost used for mulch has a coarser size gradation than compost used for BMP C125: Topsoiling / Composting or BMP T5.13: Post-Construction Soil Quality and Depth . It is more stable and practical to use in wet areas and during rainy weather conditions. Do not use near wetlands or near phosphorous impaired water bodies.
Chipped Site Vegetation	Average size shall be several inches. Gradations from fines to 6 inches in length for texture, variation, and interlocking properties.	2" thick min.;	This is a cost-effective way to dispose of debris from clearing and grubbing, and it eliminates the problems associated with burning. Generally, it should not be used on slopes above approx. 10% because of its tendency to be transported by runoff. It is not recommended within 200 feet of surface waters. If seeding is expected shortly after mulch, the decomposition of the chipped vegetation may tie up nutrients important to grass establishment.
Wood-based Mulch or Wood Straw	No visible water or dust during handling. Must be purchased from a supplier with a Solid Waste Handling Permit or one exempt from solid waste regulations.	2" thick min.; approx. 100 tons per acre (approx. 800 lbs. per cubic yard)	This material is often called "hog or hogged fuel". □ The use of mulch ultimately improves the organic matter in the soil. Special caution is advised regarding the source and composition of wood-based mulches. Its preparation typically does not provide any weed seed control, so evidence of residual vegetation in its composition or known inclusion of weed plants or seeds should be monitored and prevented (or minimized).
Wood Strand Mulch	A blend of loose, long, thin wood pieces derived from native conifer or deciduous trees with high length-to-width ratio.	2" thick min.	Cost-effective protection when applied with adequate thickness. A minimum of 95-percent of the wood strand shall have lengths between 2 and 10-inches, with a width and thickness between 1/16 and 3/8-inches. The mulch shall not contain resin, tannin, or other compounds in quantities that would be detrimental to plant life. Sawdust or wood shavings shall not be used as mulch. (WSDOT specification (9-14.4(4))





Plan View



Section A-A

Notes:

1. Drop inlet sediment barriers are to be used for small, nearly level drainage areas. (less than 5%)
2. Excavate a basin of sufficient size adjacent to the drop inlet.
3. The top of the structure (ponding height) must be well below the ground elevation downslope to prevent runoff from bypassing the inlet. A temporary dike may be necessary on the downslope side of the structure.

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**Figure II-4.2.8
Block and Gravel Filter**

Revised August 2015

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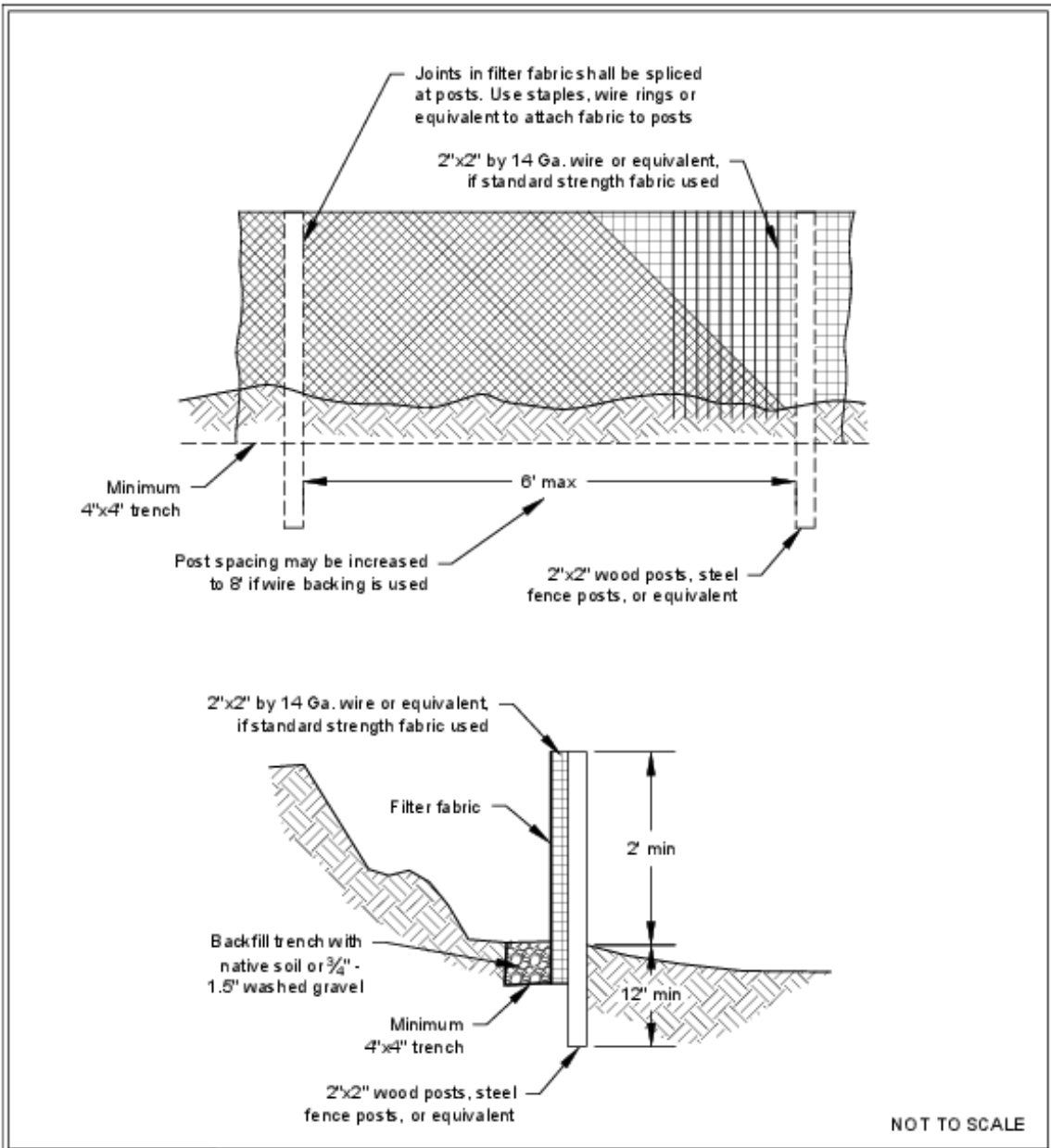
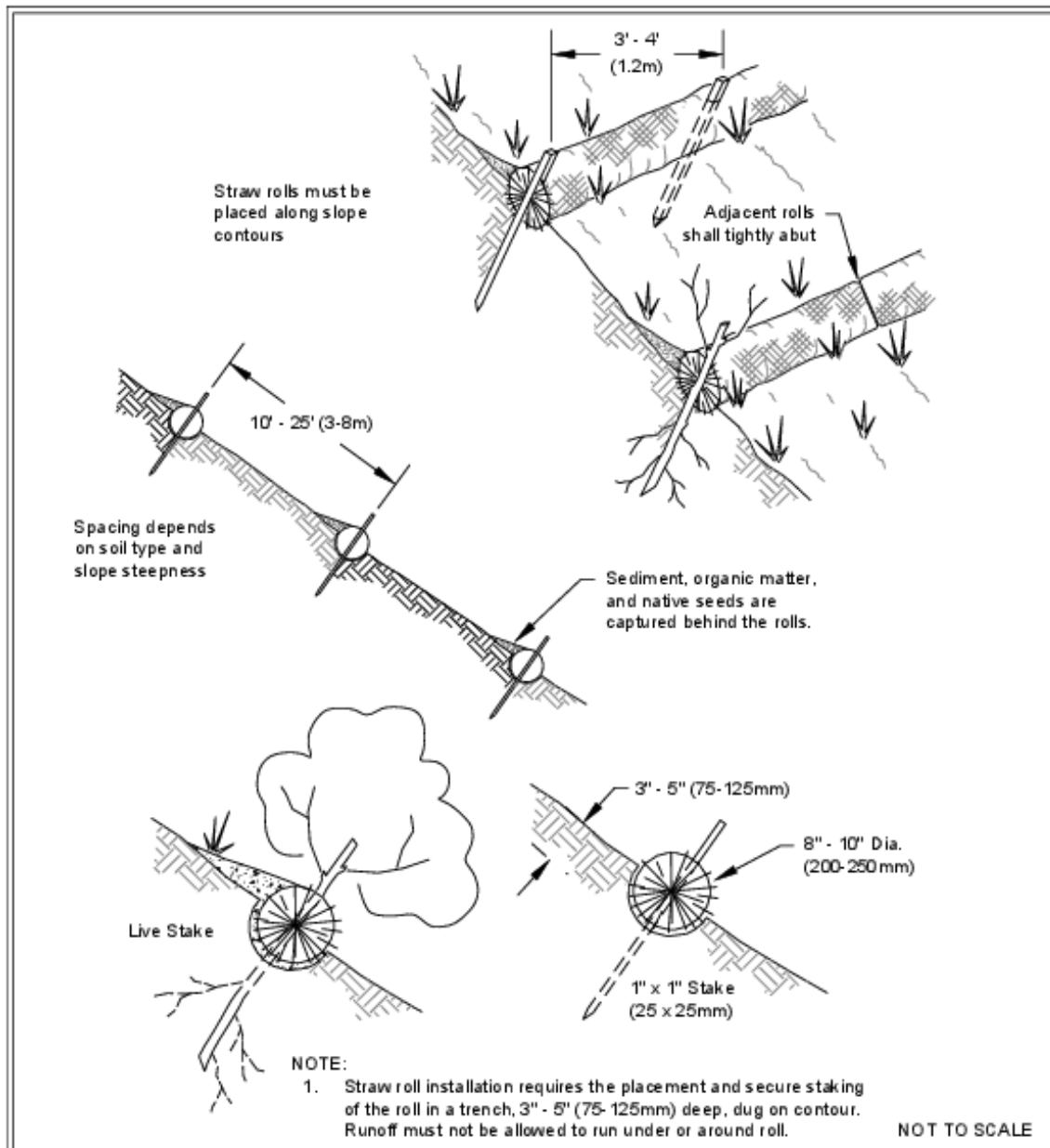


Figure II-4.2.12
Silt Fence

Revised October 2014

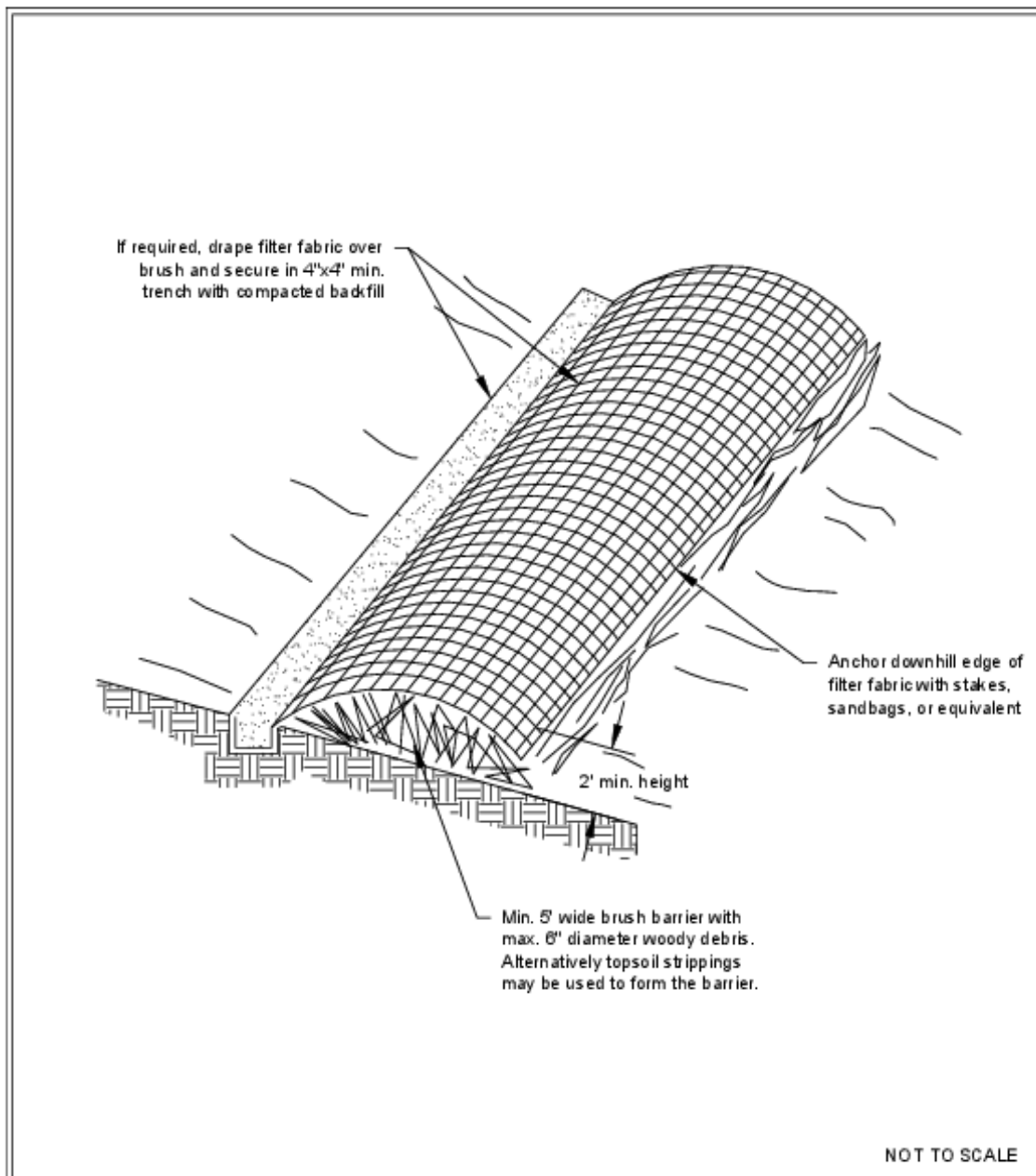
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**Figure II-4.2.14
Wattles**

Revised November 2015

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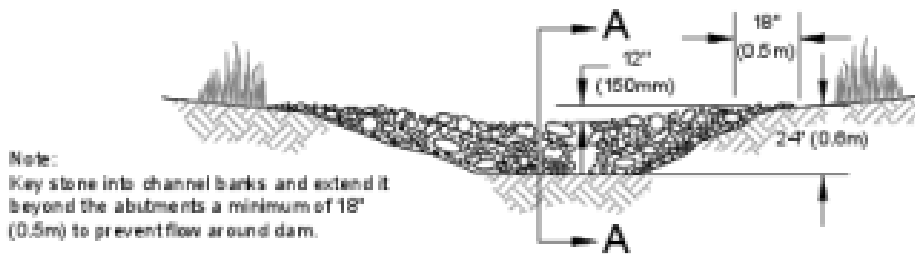


**Figure II-4.2.11
Brush Barrier**

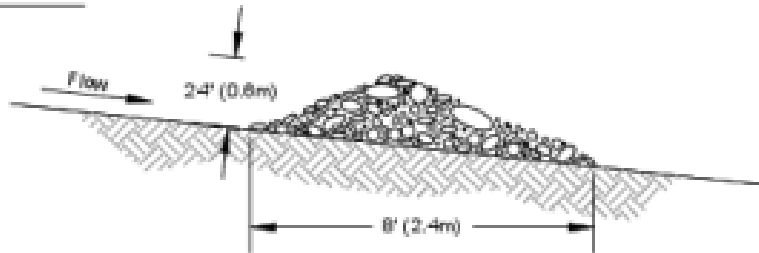
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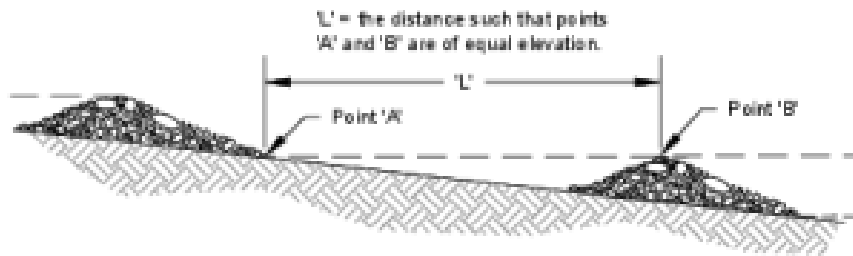
View Looking Upstream



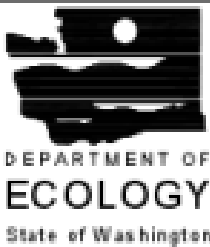
Section A-A



Spacing Between Check Dams



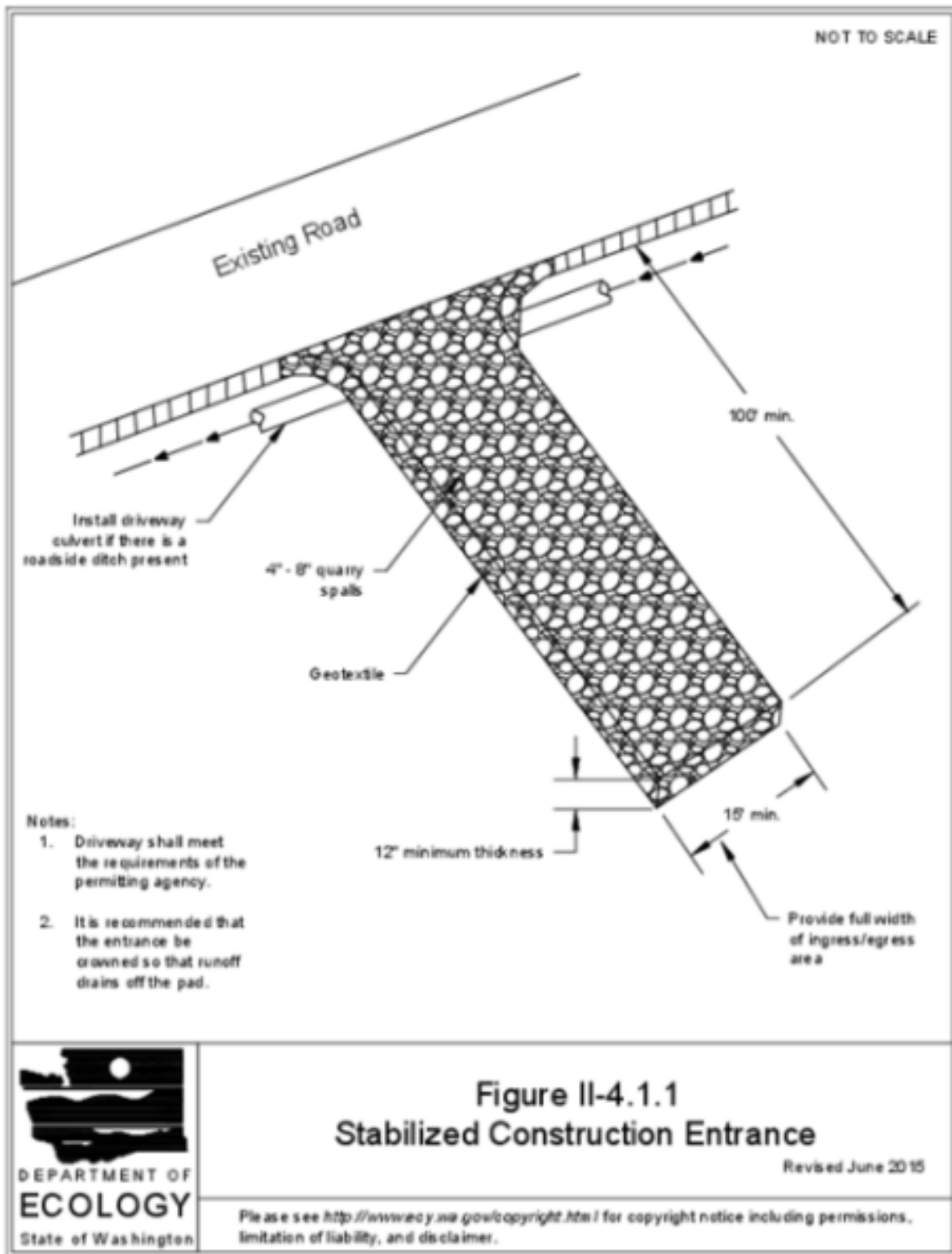
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**Figure II-4.2.7
Rock Check Dam**

Revised July 2015

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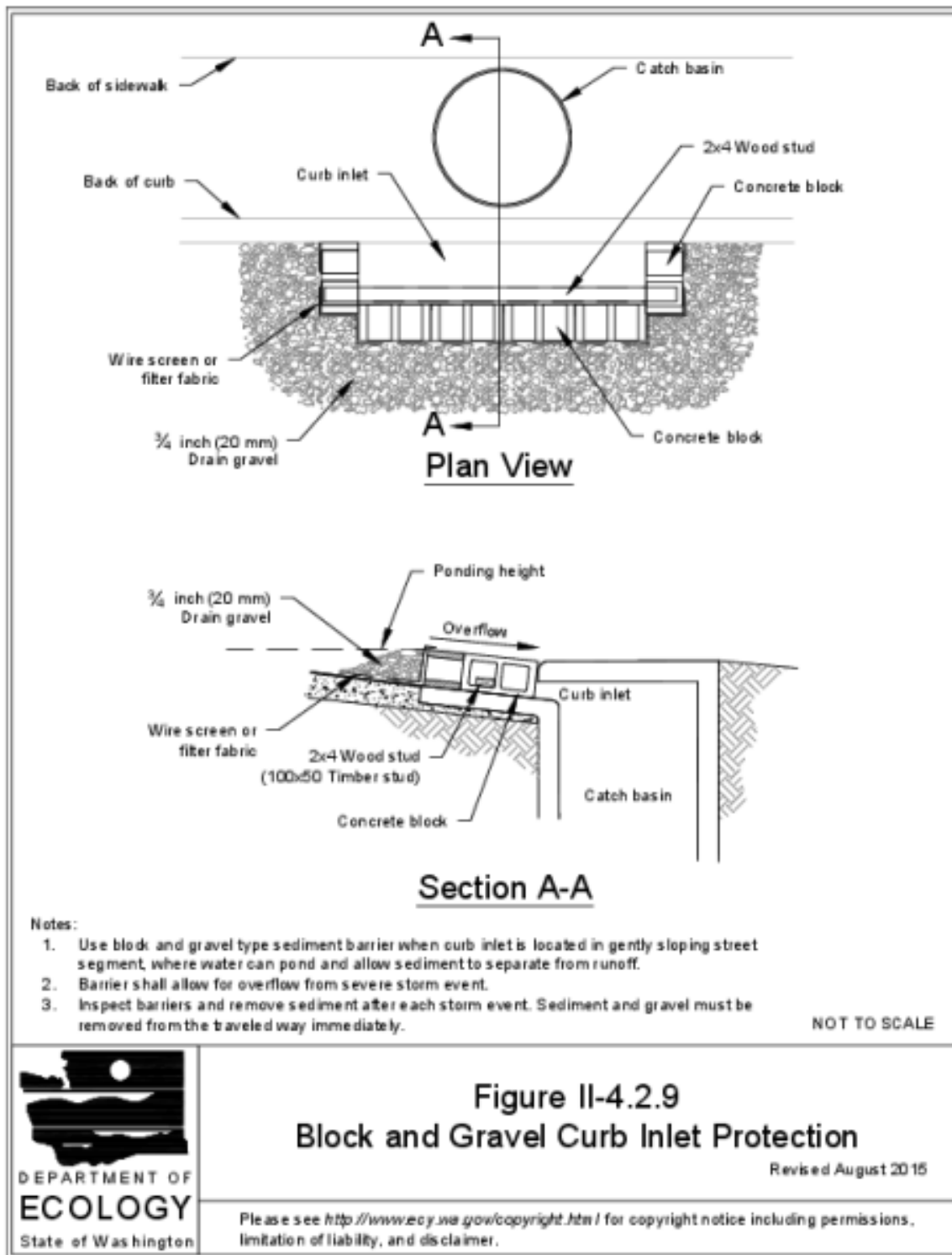
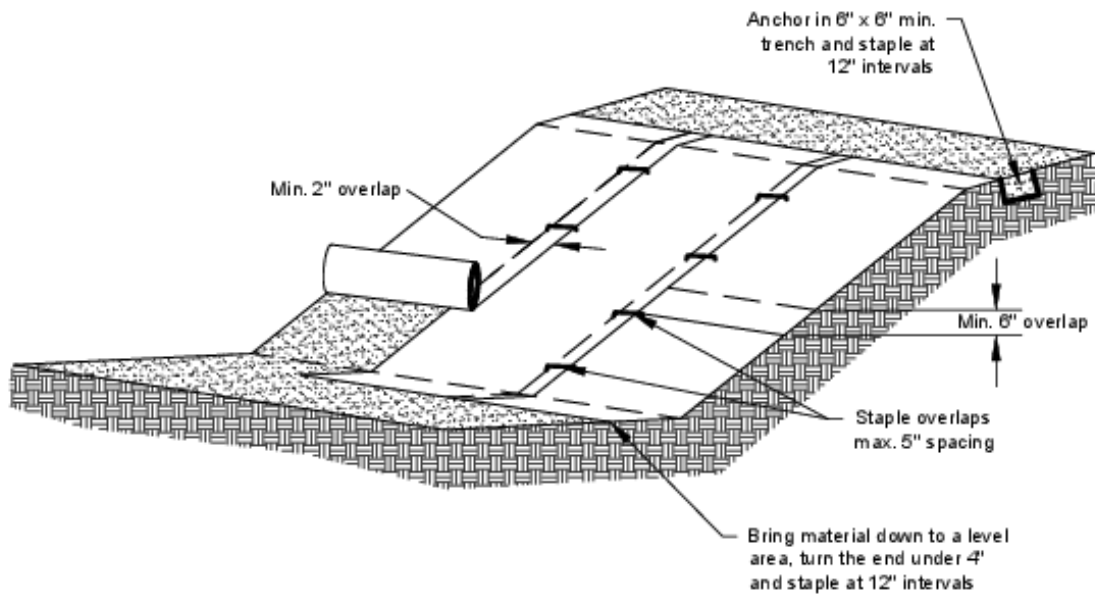


Figure II-4.2.9
Block and Gravel Curb Inlet Protection

Revised August 2015

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Notes:

1. Slope surface shall be smooth before placement for proper soil contact.
2. Stapling pattern as per manufacturer's recommendations.
3. Do not stretch blankets/mattings tight - allow the rolls to mold to any irregularities.
4. For slopes less than 3H:1V, rolls may be placed in horizontal strips.
5. If there is a berm at the top of the slope, anchor upslope of the berm.
6. Lime, fertilize, and seed before installation. Planting of shrubs, trees, etc. should occur after installation.

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**Figure II-4.1.4
Slope Installation**

Revised June 2015

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