Stormwater Site Plan (SSP) Report and Construction Stormwater Pollution Prevention Plan (SWPPP) Short Form

Project Name

Prepared For

Project Address & Parcel Number(s)

Stormwater Site Plan Prepared By

Name	Organization	Contact Telephone Number	Email Address

Date Prepared

GRA

1. Project Information

A. Property Owner

Name	Organization	Mailing Address	Contact Telephone Number	Email Address

B. Applicant (if different than Property Owner)

Name	Organization	Mailing Address	Contact Telephone Number	Email Address

C. Project Areas

Table 1 - 1: Project Area Worksheet

Description	Area
Existing Conditions	
Total Project Area (ft²)	
Existing hard surface (ft²)	
Existing vegetation area (ft²)	
Proposed Conditions	
Total Project Area (ft²)	
Amount of new hard surface (ft²)	
Amount of new Pollution Generating Hard Surfaces (PGHS) (ft^2)	
Amount of replaced hard surface (ft²)	
Amount of replaced PGHS (ft²)	
Amount of new plus replaced hard surface (ft²)	
Amount of new + replaced PGHS (ft²)	
Amount of existing hard surfaces converted to vegetation (ft²)	
Amount of Land Disturbed (ft²)	
Vegetation to Lawn/Landscaped (acres)	
Native Vegetation to Pasture (acres)	
Existing hard surface to remain unaltered (ft²)	
Existing vegetation area to remain (ft²)	

Definitions for Table 1-1

(For more comprehensive definitions see the current edition of the Dept. of Ecology's Stormwater Management Manual for Western Washington, Glossary of Terms)

Project Area: That portion of a property, properties, and public right-of-way subject to land disturbing activities, new hard surfaces, or replaced hard surfaces. Often times the project area can be the tax parcel or parcels where the project is proposed to be constructed plus any right-of-way improvements.

Hard Surface: A surface area which prevents or retards the entry of water into the soil and causes water to run off the surface in greater quantity or rate of flow than natural conditions. Common hard surfaces include roof tops, walkways, patios, driveways, asphalt or concrete paving, gravel roads, and parking lots. This term is synonymous with "impervious surface."

New hard Surface: A surface that is:

- changed from a pervious surface to an impervious surface (e.g. – resurfacing by upgrading from dirt to gravel, a bituminous surface treatment ("chip seal"), asphalt, concrete, or an impervious structure); or
- upgraded from gravel to chip seal, asphalt, concrete, or an impervious structure; or
- upgraded from chip seal to asphalt, concrete, or an impervious structure.

Note that if asphalt or concrete has been overlaid by a chip seal, the existing condition should be considered as asphalt or concrete.

Pollution Generating Hard Surface (PGHS): Those hard surfaces considered to be a source of pollutants in stormwater runoff, including surfaces subject to vehicular use, industrial activities, storage of erodible or leachable materials or chemicals, and un-coated metal roofs. Common PGHS include driveways, roadways, parking lots, and galvanized roofing.

Replaced Hard Surface: For structures, the removal down to (i.e. – exposing the top of) the foundation and replacement. For other hard surfaces, the removal down to (i.e. – exposing the top of) bare soil or base course and replacement.

Land Disturbed: Any area of the project property where construction activities like clearing, grading, filling, and excavation change the existing soil cover and/or the existing soil topography. Areas of soil compaction associated with structure stabilization and road construction are considered land disturbed.

Lawn/Landscaped: Vegetated areas that contain grass, groundcover plants, and shrubs that are regularly maintained.

Pasture: Vegetated areas that contain a combination of grass, groundcover plants and shrubs that are not regularly maintained. Pasture areas may contain trees, both native and ornamental, with less density than naturally forested areas.

2. **Project Overview - Provide a brief description of the proposed project. Identify the type of City of Auburn (COA) permit(s) requested and permit number(s), if known. Also identify all permits and approvals required by other regulatory agencies, if any (e.g. King County Health Department for onsite septic systems).**

3. Existing Project Site Conditions

A. Answer the following questions, and attach photos, maps, and figures (if necessary) to describe the existing site conditions.

i) Describe in one or two sentences the existing project site use and surface topography:

ii) Describe in words or show on a figure the stormwater runoff patterns (natural and artificial) and the points where stormwater enters and exits the project site.

iii) Answer the following questions to help describe the existing site conditions. Where an Answer is Yes, include as an attachment documentation or a map that shows the location of the site condition. If an Answer is Unknown, please contact city Development Engineering (development@auburnwa.gov) or Planning (planning@auburnwa.gov) to obtain information on that site condition.

Questions	Answer
Are aquifer recharge areas located on the project site or within 500 feet of the project site?	☐Yes ☐No ☐Unknown
Are wetlands and/or their buffers located on the project site or within 500 feet of the project site?	☐Yes ☐No ☐Unknown
Are geologically hazardous areas located on the project site or within 500 feet of the project site?	☐Yes ☐No ☐Unknown
Are any flood hazard areas located on the project site or within 500 feet of the project site?	☐Yes ☐No ☐Unknown
Are streams and/or their buffers located on the project site or within 500 feet of the project site?	☐Yes ☐No ☐Unknown
Are wildlife habitat areas located on the project site or within 500 feet of the project site?	☐Yes ☐No ☐Unknown
Are springs located on the project site or within 500 feet of the project site?	☐Yes ☐No ☐Unknown
Are any structures located on the project site?	☐Yes ☐No ☐Unknown
Are any fuel tanks or other storage tanks (above or below-ground) located on the project site?	☐Yes ☐No ☐Unknown
Are any groundwater wells located on the project site or within 100 feet of the project site?	☐Yes ☐No ☐Unknown
Are any septic systems located on the project site or within 100 feet of the project site?	☐Yes ☐No ☐Unknown
Are any Superfund sites located on the project site or within 100 feet of the project site?	☐Yes ☐No ☐Unknown
Are any public or private easements located on the project site?	☐Yes ☐No ☐Unknown

i) Additional Information

Insert associated figure(s) as addendum if applicable.

B. Existing Project Site Condition Aerial Map

i. Provide an existing conditions aerial map

Provide a current aerial of the project site to show the existing site conditions. Aerial image must show the extent of existing hard surface areas, vegetation areas, pasture areas, and lawn/landscaped areas. Images can be obtained from the City of Auburn GIS website (Web Mapping Applications | City of Auburn GIS Hub), King County iMap Viewer, or Google Maps. Include a scale.

4. Off-Site Analysis (MR #10)

A. Answer the following questions, and attach photos, maps or figures (if necessary) to describe the off-site upstream and downstream surface drainage patterns within a quarter mile of the project site.

i) What was the date of the site visit and briefly describe the weather conditions.

ii) Briefly describe any surface drainage issues or evidence of flooding problems observed during the site visit. If no issues or problems were observed, so state.

iii) Briefly describe any evidence of constrictions or capacity deficiencies, or evidence of overtopping, scouring, sloughing, or sedimentation in the surface drainage system. If no evidence of these conditions were observed, so state.

iv) Are there any signs of significant destruction or disturbance of aquatic habitat (e.g. – siltation, pollutant discharge, stream diversion, etc.)? If none were observed, so state.

v) Briefly describe each component of the surface drainage system including type (e.g. – culvert, ditch, gutter flow), approximate dimensions (length, width and depth), and current condition. If the surface drainage appears to be sheet flow, describe the type of land cover (road, grass, steep slope, etc.) and approximate length.

5. Source Control of Pollution (MR#3)

Source control BMPs can be found in the latest edition of Volume IV of the Dept. of Ecology Stormwater Management Manual for Western Washington (SWMMWW). Read through Volume IV of the SWMMWW, and select all applicable source control BMPs for your project based on the intended use and unique site conditions. List the BMPs in the table below (add additional sheets if necessary).

Single-family residential projects may skip this section of the Short Form.

Table 5-1: Source Control BMPs

BMP Code	BMP Description

6. Proposed Project Site Conditions

A. Describe in words and provide figure(s) or drawing(s) that describe the proposed project site conditions.

i) Describe in one or two sentences the proposed project site use:

ii) Describe in words or show on a figure the stormwater runoff patterns (natural and artificial) and the points where stormwater enters and exits the project site.

iii) Provide a figure showing:

- the proposed improvements (buildings, sidewalks, parking lots, utilities, etc.),
- existing improvements that will remain in place,
- proposed septic systems and/or water wells, and
- proposed public and private easements

iv) Additional Information

7. Discussion of Minimum Requirements

A. Minimum Requirement #1 – Preparation of a Stormwater Site Plan

This Stormwater Site Plan Report and the associated Site Plans and Building Permit Drawings _____ are being used to meet Minimum Requirement #1.

Description of Site Appropriate Development Principles

Where practicable, projects shall use the following site appropriate development principles. Put a checkmark next to the principles that will be used for the project. Project design is not required to be changed to accommodate site appropriate development principles, but where feasible, these principles must be used. If none of the site development principles are feasible, place a checkmark in the last box below.

☐ Minimization of land disturbance by fitting development to the natural terrain.

☐ Minimization of land disturbance by confining construction to the smallest area feasible and away from critical areas.

☐ Preservation of natural vegetation.

☐ Locating impervious surfaces over less permeable soils.

☐ Clustering buildings.

☐ Minimizing impervious surfaces.

☐ Site appropriate development principles are not practicable because of project design.

B. Minimum Requirement #2 – Construction Stormwater Pollution Prevention Plan (SWPPP)

Completion of the Construction Stormwater Pollution Prevention Plan in this document meets this requirement.

C. Minimum Requirement #3 – Source Control

For commercial, industrial, and other non-residential projects, completion of Section 5 of this SSP Report meets this requirement. Single-family residential projects are not required to complete this requirement.

D. Minimum Requirement #4 – Preservation of Natural Drainage Systems and Outfalls

i. Description of Drainage Patterns and Outfalls

All boxes should be checked for this Minimum Requirement. Refer to the information provided in

paragraphs 3.A.ii. and 6.A.ii. If all boxes cannot be checked a Washington State licensed civil engineer must be retained to evaluate the proposed discharge location for potential erosion problems or impacts to the receiving water body and determine if the effects are insignificant or require outfall BMPs as described in V-1.4.3 of the SWMMWW.

☐ The natural (or existing) drainage patterns are maintained to the maximum extent feasible.
☐ Discharges from the project site occur at the natural (or existing) location to the maximum extent feasible.
☐ Discharge from the project site will not cause adverse impacts to downstream receiving waters and downgradient properties.

E. Minimum Requirement #5 – Onsite Stormwater Management

i. The List Approach.

Projects that trigger only Minimum Requirements #1 - #5 and #10 that choose The List Approach must select BMPs from List #1. A complete description of each BMP used in List #1 can be found in Volume V of the SWMMWW by clicking on the BMP.

The List Approach requires applicants to complete a feasibility analysis of the BMPs that will be implemented for their project. If those BMPs are considered feasible, they must be used. Complete the table below for each surface type.

If a BMP is considered feasible, show the location of the BMP on the plan set and provide calculations as applicable showing how the BMP facility was sized.

If a BMP is considered infeasible, complete the infeasibility checklist below this table.

Surface Type: Roofs		
List #1		**BMP Comments**
	Is BMP Feasible?	
1. Choose One: ☐ BMP T5.30: Full Dispersion or ☐ BMP T5.10A: Downspout Full Infiltration	☐ Yes ☐ No	Projects not intending to preserve sufficient forest or native vegetation area may consider T5.30 infeasible.
2. Choose One: ☐ BMP T5.14: Rain Gardens or ☐ BMP T7.30: Bioretention	☐ Yes ☐ No	For T5.14, refer to the *Rain Garden Handbook for Western WA.*
3. BMP T5.10B: Downspout Dispersion	☐ Yes ☐ No	
4. BMP T5.10C: Perforated Stub-Out Connection	☐ Yes ☐ No	

Surface Type: Other Hard Surfaces		
List #1		**BMP Comments**
Analyze Each BMP in the order listed below. Where there is more than one BMP listed, put a checkmark next to the one analyzed. If a BMP is feasible, that BMP must be used, and it is not necessary to analyze other BMPs for feasibility.	Is BMP Feasible?	
1. BMP T5.30: Full Dispersion	☐ Yes ☐ No	See this BMP under Roofs for comment.
2. Choose One: ☐ BMP T5.15: Permeable Pavement, or ☐ BMP T5.14: Rain Gardens, or ☐ BMP T7.30: Bioretention	☐ Yes ☐ No	See BMP T5.14 under Roofs for comment.
3. Choose One: ☐ BMP T5.12: Sheet Flow Dispersion, or ☐ BMP T5.11: Concentrated Flow Dispersion	☐ Yes ☐ No	
Surface Type: Lawn/Landscaped Areas		
List #1		**BMP Comments**
Analyze the BMP below for feasibility. If the BMP is feasible, it must be used.	Is BMP Feasible?	
BMP T5.13: Post-Construction Soil Quality and Depth	☐ Yes ☐ No	

Describe the BMPs that will be used for each surface type. If more than one BMP will be used for a surface type, state this and provide a description. Describe the method that will be used for BMP T5.13.

ii. Minimum Requirement #5 – BMP Infeasibility Checklist

Complete the Infeasibility Checklist by checking the box next to the criteria for which that BMP would not be feasible for the project; a BMP is considered infeasible if any one infeasibility criteria is met. If a single criteria for All Dispersion BMPs or All Infiltration BMPs is checked, then all dispersion BMPs or all infiltration BMPs can be ruled out here.

All Dispersion BMPs (includes T5.30, T5.10B, T5.11, and T5.12)

☐ On project sites where the dispersion flow path area is within 10 feet of a proposed or existing septic system or drainfield.

☐ On project sites where the dispersion flow path area is on a slope greater than 20%.

☐ The flow path does not meet a minimum horizontal setback of 5 feet to property lines, structures, and other flow paths.

All Infiltration BMPs (includes T5.10A, T7.30, T5.14, T5.15, and T5.10C)

☐ The area available for installing the infiltration BMP does not meet the minimum horizontal and/or vertical setback requirements listed in Volume V of the SWMMWW.

T5.10A Downspout Full Infiltration (in addition to the infeasibility criteria for All Infiltration BMPs)

☐ The area available for installation of dry wells and infiltration trenches is on or discharges to a slope greater than 25%.

T5.14 Rain Gardens and T7.30 Bioretention (in addition to the infeasibility criteria for All Infiltration BMPs)

☐ Where the site cannot be reasonably designed to locate bioretention or rain garden facilities on slopes less than 8%.

☐ Within 50 feet from the top of slopes that are greater than 20% and over 10 feet of vertical relief.

☐ Within 100 ft of a closed or active landfill, a drinking water well, aquifer, or a spring used for drinking water supply.

☐ Where field testing indicates soils have a measured native soil saturated hydraulic conductivity less than 0.3 in/hr. Minimum requirements for field measuring soil hydraulic conductivity (i.e. – infiltration rates) are found in the Small-Scale Pilot Infiltration Test (PIT Test) section in Chapter V-5.4 of the SWMMWW.

T5.15 Permeable Pavement (in addition to the infeasibility criteria for All Infiltration BMPs)

☐ Down slope of steep, erosion prone areas that are likely to deliver sediment.

☐ Where fill soils are used that can become unstable when saturated.

☐ Within 50 feet from the top of slopes that are greater than 20%.

☐ Where site cannot be designed to have porous AC at less than a 5 % slope, pervious concrete at less than a 10% slope, or permeable pavers at less than 10% slope. Use of permeable pavers is limited to walkways, private parking lots, and private driveways.

☐ Where field testing indicates soils have a measured native soil saturated hydraulic conductivity less than 0.3 in/hr. Minimum requirements for field measuring soil hydraulic conductivity (i.e. – infiltration rates) are found in the Small-Scale Pilot Infiltration Test (PIT Test) section in Chapter V-5.4 of the SWMMWW.

T5.10B Downspout Dispersion Systems (in addition to the infeasibility criteria for All Dispersion BMPs)

☐ The vegetated flow path is less than 25 feet between the trench outlet and any property line, structure, stream, wetland, or impervious surface.

☐ There is insufficient space to accommodate the dispersion trench or trenches required for the surface area draining to it. The minimum trench length is 10 feet per 700 SF of surface area.

☐ The dispersion area is flat and would result in ground saturation.

T5.11 Concentrated Flow Dispersion (in addition to the infeasibility criteria for All Dispersion BMPs)

☐ There are no concentrated flows to disperse.

☐ The vegetated flow path is less than 50 feet between the trench outlet and any property line, structure, stream, wetland, or impervious surface.

☐ The surface area draining to each concentrated flow area is greater than 700 SF.

☐ The vegetated flow path is less than 50 feet between the trench outlet and any slope steeper than 15%.

T5.12 Sheet Flow Dispersion (in addition to the infeasibility criteria for All Dispersion BMPs)

☐ The area to be dispersed has a slope greater than 15%.

☐ The minimum vegetated flow path for sheet flow dispersion cannot be met. Note: A 10-foot flow is required to disperse runoff from a contributing flow length of up to 20 feet. An additional 10 feet of flow path is required for each additional 20 feet of contributing flow path or fraction thereof.

T5.10C Perforated Stub-Out Connections

☐ The location for the perforated pipe portion of the system is under impervious or heavily compacted surfaces.

☐ The minimum perforated stub-out length of 10 feet per 5,000 SF of contributing roof area cannot be met.

☐ Where the site cannot be reasonably designed to locate a catch basin between the perforated stub-out and point of connection to the public storm drainage system.

F. Minimum Requirement #10 – Off-Site Analysis

Completion of Section 4 of this SSP Report meets this requirement.

Construction Stormwater Pollution Prevention Plan (SWPPP) Short Form

A. Proposed Construction Schedule

i. Proposed Start Date:

ii. Proposed End Date:

iii. Describe proposed phasing or sequencing (if any):

B. Guidelines for Erosion Control Practices

As required by Ecology, this SWPPP must contain the 13 required elements. Check off each element as it is addressed in the SWPPP Short Form and/or on your site plan.

- ☐ 1. Mark Clearing Limits (orange construction fence, staking with ribbon).
- ☐ 2. Establish Construction Access (gravel entrance, tire wash area).
- ☐ 3. Control Flow Rates (using pipe, drainage swales, berms).
- ☐ 4. Install Sediment Controls (silt fence, sediment traps).
- ☐ 5. Stabilize Soils (mulch, hydroseed, straw).
- ☐ 6. Protect Slopes (divert water from top of slope, cover with plastic or erosion control blanket).
- ☐ 7. Protect Drain Inlets (catch basin inserts).
- ☐ 8. Stabilize Channels and Outlets (cover with grass, riprap).
- ☐ 9. Control Pollutants (maintain equipment to prevent leaks).
- ☐ 10. Control Dewatering (pump to sediment trap).
- ☐ 11. Maintain BMPs (weekly maintenance/replacement, preparation for storm events).
- ☐ 12. Manage the Project (establish construction schedule, phasing, contact numbers).
- ☐ 13. Protect Low Impact Development BMPs (avoid compaction and/or sedimentation of bioretention areas, if applicable).

Several common erosion control techniques are explained and described in this section. Standard details for the installation of these methods are included in this document. The applicant does not need to reproduce these drawings but must indicate where each BMP will be used on a site plan and indicate which detail will be used. An example site plan and symbols list is provided to assist the applicant in preparation of their own site plan.

Only those erosion and sediment control techniques that are most pertinent to small construction sites are included here. More detailed information on construction BMPs can be found in Volume II of the Department of Ecology (Ecology) Stormwater Management Manual for Western Washington (SWMMWW). The BMP numbers referenced are BMPs located in the SWMMWW.

For phased construction plans, clearly indicate erosion control methods to be used for each phase of construction.

1. Mark Clearing Limits

All construction projects must clearly mark any clearing limits, sensitive areas and their buffers, and any trees that will be preserved prior to beginning any land disturbing activities, including clearing and grading. Clearly mark limits both in the field and on the plans. Do not staple or wire fences to trees.

Applicable BMPs include:

- BMP C101: Preserving Natural Vegetation
- BMP C102: Buffer Zones
- BMP C103: High Visibility Fence

2. Establish Construction Access

All construction projects subject to vehicular traffic shall provide a means of preventing vehicle "tracking" of soil from the site onto City streets. At a minimum, there shall be a rock pad construction entrance at every construction access point. *Note: The applicant should consider placing the entrance in the area for future driveway(s), as the rock can be used for driveway base material*. The entrance(s) shall be inspected weekly and if excessive sediment is found, more rock shall be added to ensure proper functioning. See *Figure C- 2 Establish Construction Access-Construction Entrance*.

If sediment is tracked off site, it shall be swept or shoveled from the paved surface daily. Washing of the streets to remove the sediment is not permitted because wash water can transport sediments to streams and other water courses via the City storm drainage system.

The entrance must be identified on the site plan and must conform to *Figure C- 2 Establish Construction Access-Construction Entrance*.

Applicable BMPs include:

- BMP C105: Stabilized Construction Entrance
- BMP C106: Wheel Wash
- BMP C107: Construction Road/Parking Area Stabilization

3. Control Flow Rates

Flow control BMPs must be used to protect properties and waterways downstream of construction sites from erosion and the associated discharge of turbid waters. Construct stormwater retention or detention facilities as one of the first steps in grading. Protect permanent infiltration ponds from siltation when these facilities are used for flow control during construction.
A combination of drainage swales and possibly a sediment trap may be used to control runoff and trap associated sediment before it leaves the construction site.

A. Sediment traps

Refer to BMP C240: Sediment Trap and *Figure C- 3 Control Flow Rates/Install Sediment Controls-Sediment Trap Cross-Section & Outlet*.

Sediment traps are small temporary ponds (typically less than 3 feet deep) used to trap sediment suspended in site runoff before it leaves a construction site. As concentrated surface water pools within the pond, sediment is allowed to settle out of the water. Typically, a sediment trap will not be required for small sites as long as concentrated stormwater runoff (swales or ditches) does not occur.

Use the table below for sizing your sediment trap.

Contributing Area (Acres)	Required Surface Area of Pond (sq. ft.)
• 1/8 acre or less	• 130
• ¼ acre or less	• 260
• ½ acre or less	• 520
• ¾ acre or less	• 780
• 1 acre or less	• 1040

If expected time of construction or downstream conditions warrant more protection, see BMP C240 for sizing information.

NOTE: If dewatering or significant stormwater runoff is expected, a sediment trap should be used to settle out solids before discharging to the City system.

B. Drainage Swales

Drainage swales are temporary ditches (minimum slope of 0.5% and a maximum of 10%) used to convey concentrated stormwater flows away from construction activities into a temporary sediment trap. Drainage swales carrying concentrated flows must discharge into a sediment trap or pond. Swales should be stabilized with erosion protection. See *Figure C- 4 Control Flow Rates - Drainage Swale Cross-Sections*. *Note: Swales should be completely stabilized before directing concentrated flows or they will erode.*

Applicable BMPs include:

- BMP C203: Water Bars
- BMP C207: Check Dams
- BMP C209: Outlet Protection
- BMP C235: Wattles
- BMP C240: Sediment Trap
- BMP C241: Temporary Sediment Pond

4. Install Sediment Controls

Sediment barriers should be used downslope of disturbed areas. Sediment barriers are intended to create a barrier to slow the "sheet" flow of stormwater and allow the sediment to settle out behind the barrier. Do not use sediment barriers in streams, channels, ditches or around inlets/outlets of culverts. Sediment barriers selected shall be identified on the site plan and must conform to the BMPs and/or City of Auburn Standard Details outlined below.

A. Silt fence

A silt fence is a temporary sediment barrier consisting of filter fabric, attached to supporting posts and entrenched into the soil. See *Figure C- 5 Install Sediment Controls-Silt Fence*.

B. Berm Barriers

A continuous berm is a temporary diversion dike or sediment barrier. It may be constructed with:

- Wattles. See *Figure C- 6 Install Sediment Controls-Straw Wattle Rolls*.
- Soil, sand, or aggregate encased within a geosynthetic fabric.
- Sandbags.

Applicable BMPs include:

- BMP C208 Triangular Silt Dike (TSD) (Geotextile Encased Check Dam)
- BMP C231: Brush Barrier
- BMP C232: Gravel Filter Berm
- BMP C233: Silt Fence
- BMP C234: Vegetated Strip
- BMP C235: Wattles

5. Stabilize Soils

Soil erosion protection is applied over the soil surface to reduce erosion from rainfall and wind. It can also be used to aid the establishment of vegetation. Between October 1st and April 30th, no soils shall remain exposed for more than 2 days unless they are being actively worked. From April 1st to September 30th, no soils shall remain exposed for more than 7 days unless they are being actively worked. Implement soil erosion protection in the following ways:

A. Mulches/Seeding/Hydroseeding

Mulching is the application of a protective layer of straw or other suitable material to the soil surface. Mulch can be applied to any site where soil has been disturbed, and the protective vegetation has been removed. An approved Hydroseed mix for erosion control is provided in the table below. Standards and guidelines for mulch are provided in *Table C- 1 Mulch Standards and Guidelines* below. Materials that may be used for mulching include:

- Straw or hay
- Compost material
- Wood or bark chips
- Hydraulically applied grass seed (Hydroseed)
- Bonded Fiber Matrix

Applicable BMPs include:

- BMP C121: Mulching
- BMP C120: Temporary and Permanent Seeding
- BMP C124: Sodding
- BMP C125: Topsoiling/Composting
- BMP C126: Polyacrylamide (PAM) for Soil Erosion Protection
- BMP C130: Surface Roughening
- BMP C140: Dust Control

	% Weight	**% Purity**	**% Germination**
• Chewings or annual bluegrass *Festuca rubra var. commutate or Poa anna*	• 40	• 98	• 90
• Perennial rye *Lolium perenne*	• 50	• 98	• 90
• Redtop or colonial bentgrass *Agrostis alba or Agrostis tenuis*	• 5	• 92	• 85
• White Dutch clover *Trifolium repens*	• 5	• 98	• 90

Mulch Material	Quality Standards	Application Rates	Remarks
• Straw	• Air-dried; free from undesirable seed and coarse material.	• 3" thick; 5 bales per 1000 sf or 2 to 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. If often introduces and/or encourages the propagation of weed species and it has no significant long-term benefits. Straw should be used only if mulches with long-term benefits are unavailable locally. It should also not be used within the ordinary high-water elevation of surface waters (due to flotation).
• Hydro-mulch	• No growth inhibiting factors.	• Approx. 25-30 lbs. per 1000 sf or 1500-2000 lbs. per acre.	• Shall be applied with hydromulcher. Shall not be used without seed and tackifier unless the application rate is at least doubled. Fivers longer than about ¾ - 1 inch clog hydromulch equipment. Fibers should be kept to less than ¾ inch.
• Composted Mulch and Compost	• No visible water or dust during handling. Must be purchased from supplier with a Solid Waste Handling permit (unless exempt)	• 3" 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. Composted mulch has a coarser size gradation than compost. It is more stable and practical to use in wet areas and during rainy weather conditions.
• Chipped Site Vegetation	• Average size shall be several inches. Gradations from fine to 6-inches in length for texture, variation, and interlocking properties.	• 3" minimum thickness	• 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.

Table C- 1 Mulch Standards and Guidelines

B. Erosion Control Blankets/ Mats

Erosion control blankets are suited for post-construction site stabilization but may be used for temporary stabilization of highly erosive soils. Erosion control blankets are suitable for steep slopes, stream banks, and areas where vegetation will be slow to establish. These blankets are typically made from straw, coconut fiber, excelsior, or synthetic material that is enveloped in plastic, biodegradable netting, jute, polypropylene, or nylon. See *Figure C- 7 Protect Slopes - Erosion Blankets and Turf Reinforcement Mats*.

Applicable BMPs include:

- BMP C122: Nets and Blankets

C. Gravel/Riprap

Gravel and Riprap are used to protect hillsides, drainage channels, stream banks, and pipe outlets from erosion due to surface water flow.

D. Plastic Sheeting

Plastic sheeting is a temporary method of erosion control. Plastic covering provides immediate, short-term erosion protection to slopes, soil stockpiles, and other disturbed areas. Unlike the other erosion protection techniques mentioned above, plastic sheeting shall be removed prior to applying permanent erosion protection. See *Figure C- 8 Tarp Covering*.

Applicable BMPs include:

- BMP C123: Plastic Covering

6. Protect Slopes

Design, construct and phase projects in a manner that will minimize erosion. Protect slopes by diverting water at the top of the slope. Reduce slope velocities by minimizing the continuous length of slope. This can be accomplished by terracing and roughening slope sides. Seeding and establishing vegetation on slopes will help protect slopes as well.

Applicable BMPs include:

- BMP C120: Temporary and Permanent Seeding
- BMP C130: Surface Roughening
- BMP C131: Gradient Terraces
- BMP C200: Interceptor Dike and Swale
- BMP C204: Pipe Slope Drains

7. Protect Drain Inlets

To prevent sediment from entering drainage systems prior to site stabilization, install catch basin protection within onsite and nearby downstream catch basins. See *Figure C- 9 Protect Drain Inlets - Bag Filter* and *Figure C- 10 Protect Drain Inlets - Inlet Gravel and Filter Fabric* for acceptable methods of catch basin protection.

NOTE: Only Standard Detail E-03 is approved for use in the City of Auburn right of way.

Applicable BMPs include:

- BMP C220: Inlet Protection

8. Stabilize Channels and Outlets

All on-site conveyance channels shall be designed, constructed, and stabilized to prevent erosion from a Type 1A, 10-year, 24-hour frequency storm for the developed condition. Provide stabilization adequate to prevent erosion of outlets, adjacent streambanks, slopes, and downstream reaches at the outlets of all conveyance systems. The best method for stabilizing channels is to line the channel completely with a blanket product, then add check dams as necessary to function as an anchor and slow the flow of water. See *Figure C- 4 Control Flow Rates - Drainage Swale Cross-Sections*, *Figure C- 6 Install Sediment Controls-Straw Wattle Rolls*, and *Figure C- 11 Temporary Channel Liners*.

Applicable BMPs include:

- BMP C202: Channel Lining
- BMP C122: Nets and Blankets
- BMP C207: Check Dams
- BMP C209: Outlet Protection

9. Control Pollutants

All pollutants must be disposed of in a manner that does not cause contamination of surface waters. Do not maintain or repair any heavy equipment or vehicles onsite. Clean any spills immediately. Handle concrete and concrete waste appropriately. Use BMP C154 Concrete Washout Area for concrete cleanup. See *Figure C- 12 Concrete Washout Area with Wood Planks* and *Figure C- 13 Concrete Washout Area with Straw Bales*.

Applicable BMPs include:

- BMP C150: Materials on Hand
- BMP C151: Concrete Handling
- BMP C152: Sawcutting and Surfacing Pollution Prevention
- BMP C153: Materials Delivery, Storage and Containment
- BMP C154: Concrete Washout Area

10. Control Dewatering

All discharges to the City sewer system require City and King County approval. This approval process may be initiated by contacting the City. The city will coordinate the request for a letter of authorization from the King County Wastewater Treatment Division. See BMP S675 in Volume IV of the COA Supplemental Manual.

Any dewatering water must be discharged through a stabilized channel to a sediment pond.

11. Maintain BMPs

Maintain and repair temporary erosion and sediment control BMPs as needed. Inspect all BMPs at least weekly and after every storm event. Remove all temporary erosion and sediment control BMPs within 30 days after final site stabilization.

12. Manage the Project

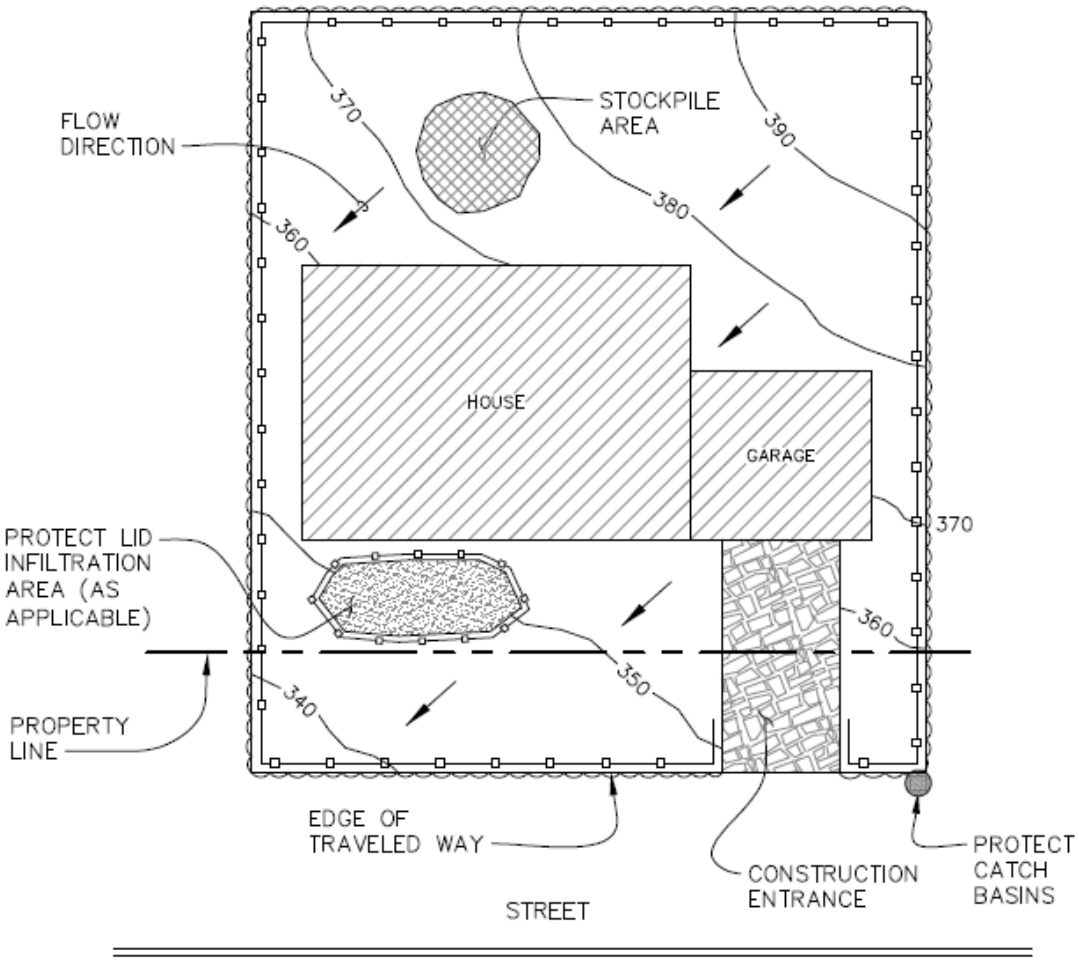
Projects shall be phased to the maximum degree practicable and consider seasonal work limits. Inspect, maintain, and repair all BMPs as needed to assure continued performance of their intended function. Projects that disturb one or more acres must have site inspections conducted by a Certified Erosion and Sediment Control Lead (CESCL). Project sites less than one acre may have a person without CESCL certification conduct inspections. The SWPPP must identify the CESCL or inspector, who shall always be present on-site or on-call.

Applicable BMPs include:

- BMP C150: Materials On-Hand
- BMP C160: Certified Erosion and Sediment Control Lead
- BMP C162: Scheduling

13. Protect Low impact Development BMPs

Clearly mark limits of Low Impact Development (LID) BMPs with web fencing or silt fencing. Maintain and repair LID BMPs such as rain gardens and bioretention areas as needed. Inspect all BMPs at least weekly and after every storm event. Restore on-site stormwater management BMPs to design conditions at the end of the project.



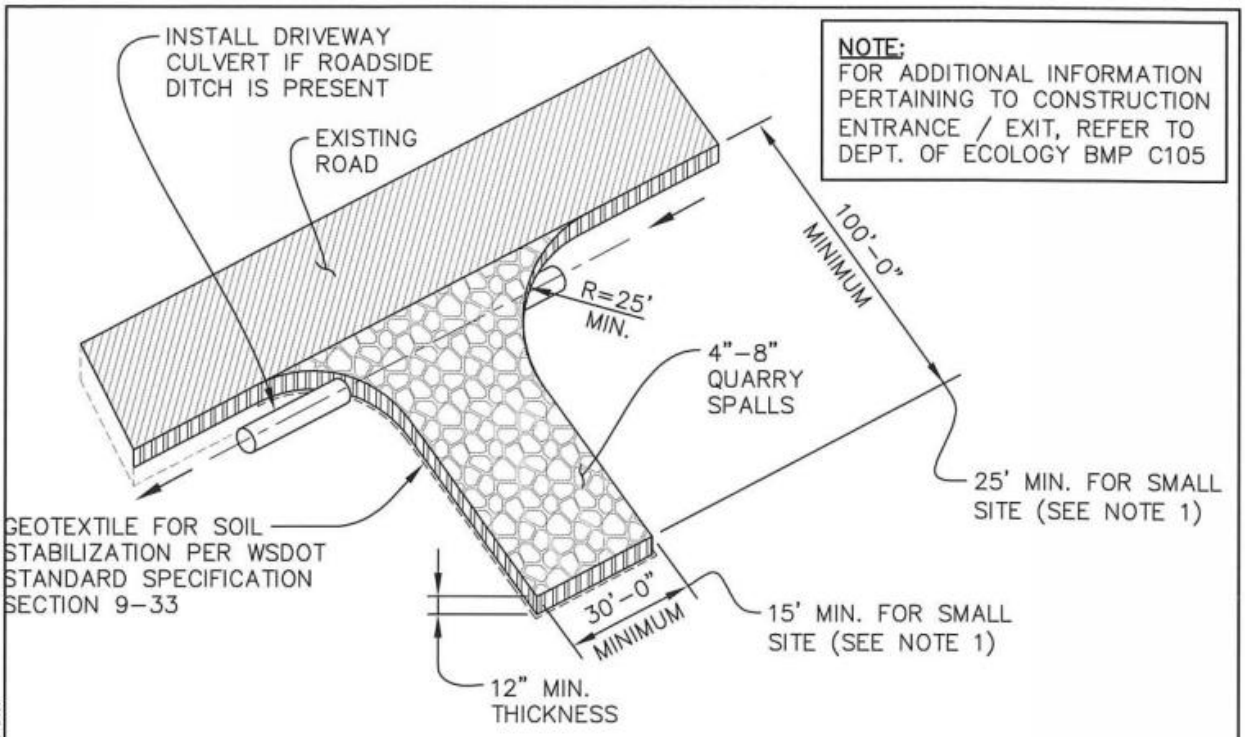
NOTES:

1. THESE ARE SUGGESTED MINIMUM REQUIREMENTS. ADJUST EROSION CONTROL PRACTICES AND MAINTAIN AS CONDITIONS REQUIRE.
2. EROSION AND SEDIMENT CONTROL SHALL BE IN PLACE BEFORE INITIATING ANY CONSTRUCTION ACTIVITIES. INSPECTION MUST BE MADE AFTER INSTALLATION OF EROSION CONTROL PRACTICES.

LEGEND:

- SILT FENCE (STD DTL E–02)
- CONSTRUCTION ENTRANCE (STD DTL E–01)
- CATCH BASIN INLET PROTECTION (STD DTL E–03)
- CLEARING AND GRUBBING LIMITS
- STOCKPILE AREA (FIGURE C–8 TARP COVERING)

Figure C- 1 Sample Erosion and Sediment Control Plan

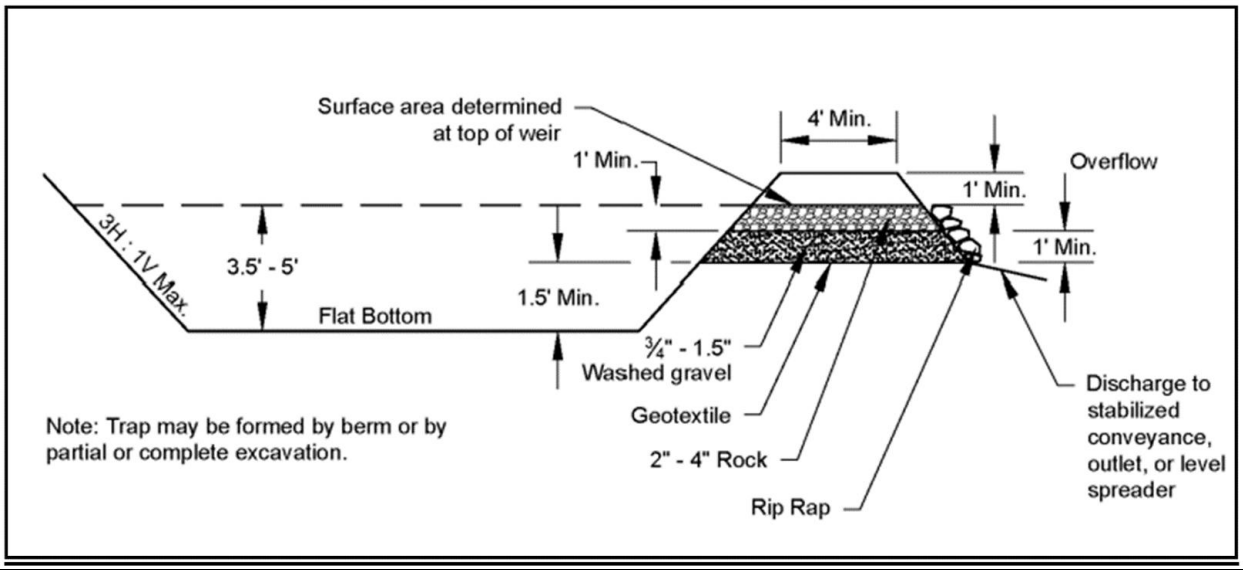


MAINTENANCE STANDARDS:

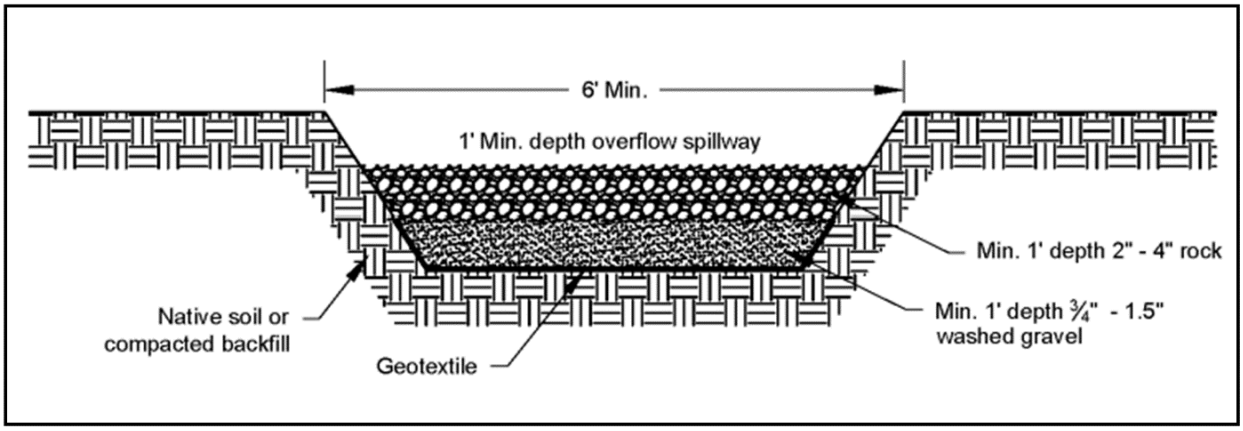
1. SMALL SITE IS DEFINED AS A SITE THAT ADDS OR REPLACES LESS THAN 5,000 SQUARE FEET OF IMPERVIOUS SURFACE & DISTURBS LESS THAN ONE ACRE.
2. QUARRY SPALLS PLUS WOVEN GEOTEXTILE FABRIC UNDER ROCK SHALL BE ADDED AS NEEDED TO KEEP THE ENTRANCE IN CONFORMANCE WITH THESE STANDARDS.
3. IF THE ENTRANCE IS NOT PREVENTING SEDIMENT FROM BEING TRACKED ONTO PAVEMENT, THEN ALTERNATIVE MEASURES TO KEEP THE STREETS FREE OF SEDIMENT SHALL BE USED. THIS MAY INCLUDE SHOVELING, PICKUP SWEEPING, & HAND SWEEPING, AN INCREASE IN THE ENTRANCE DIMENSIONS, OR THE INSTALLATION OF A SELF-CONTAINED WHEEL WASH STATION, (REFER TO DOE BMP C-106 FOR MORE INFORMATION).
4. ANY SEDIMENT THAT IS TRACKED ONTO STREET PAVEMENT SHALL BE REMOVED IMMEDIATELY BY SHOVELING, PICKUP SWEEPING, & HAND SWEEPING. THE SEDIMENT COLLECTED BY SWEEPING SHALL BE REMOVED OR STABILIZED ONSITE. PAVEMENT SHALL NOT BE CLEANED BY WASHING DOWN THE STREET, EXCEPT WHEN SWEEPING IS INEFFECTIVE & THERE IS A THREAT TO PUBLIC SAFETY. IF IT IS NECESSARY TO WASH THE STREETS, A CONSTRUCTION OF A SMALL SUMP SHALL BE CONSIDERED. SEDIMENT WOULD THEN BE WASHED INTO THE SUMP.
5. ANY ROCK SPALLS THAT ARE LOOSENED FROM THE DRIVEWAY PAD & ONTO THE ROADWAY SHALL BE REMOVED IMMEDIATELY. VACTOR TRUCK MUST BE USED TO CLEAN CATCH BASIN IF IT BECOMES PLUGGED.
6. VEHICLES SHALL NOT ENTER OR EXIT THE SITE OTHER THAN THE CONSTRUCTION ENTRANCE(S).
7. REMOVE TEMPORARY CONSTRUCTION ENTRANCE/EXIT UPON COMPLETION OF THE ON-SITE WORK.

APPROVED BY CITY ENGINEER:	DATE:	CITY OF AUBURN WASHINGTON	TEMPORARY CONSTRUCTION ENTRANCE / EXIT
COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.			STANDARD DETAIL: E-01.1

Figure C- 2 Establish Construction Access-Construction Entrance

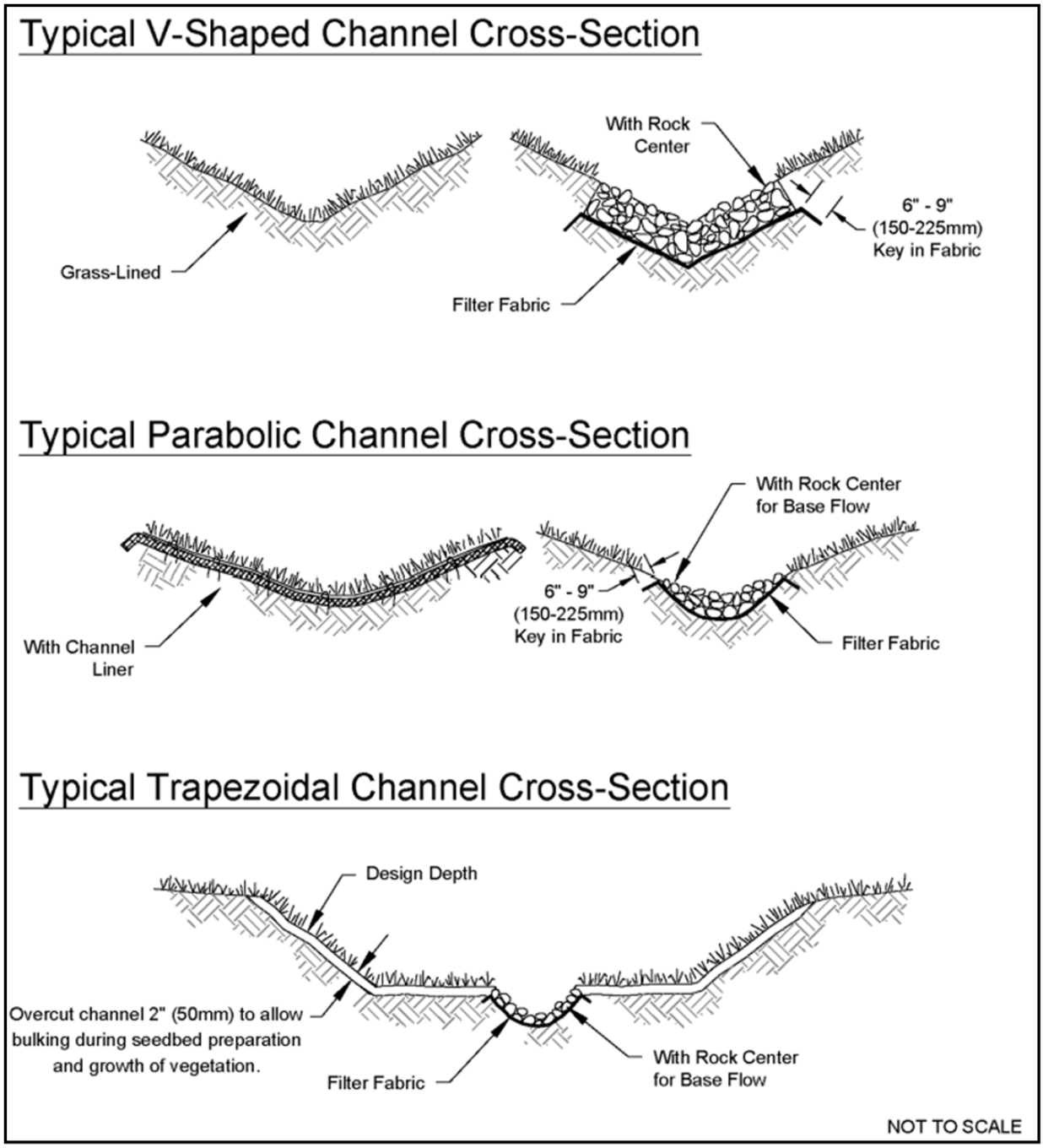


Source: Figure II-4.26 Cross Section of Sediment Trap (2024 SWMMWW, pg. 430)



Source: Figure II-4.27 Sediment Trap Outlet (2024 SWMMWW, pg. 431)

Figure C- 3 Control Flow Rates/Install Sediment Controls-Sediment Trap Cross-Section & Outlet



Source: Figure II-4.10 Typical Grass-Lined Channels (2024 SWMMWW, pg. 379)

Figure C- 4 Control Flow Rates - Drainage Swale Cross-Sections

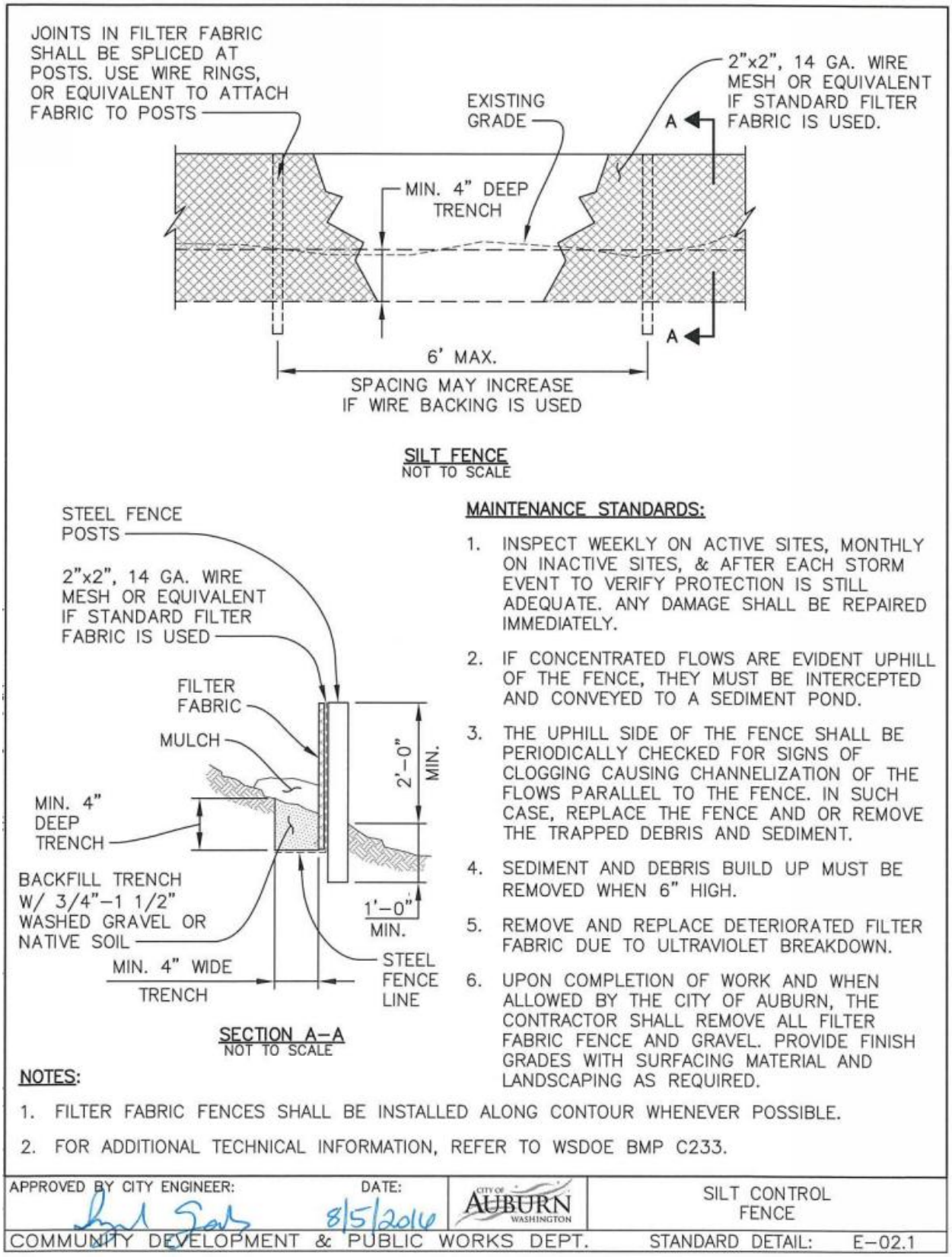
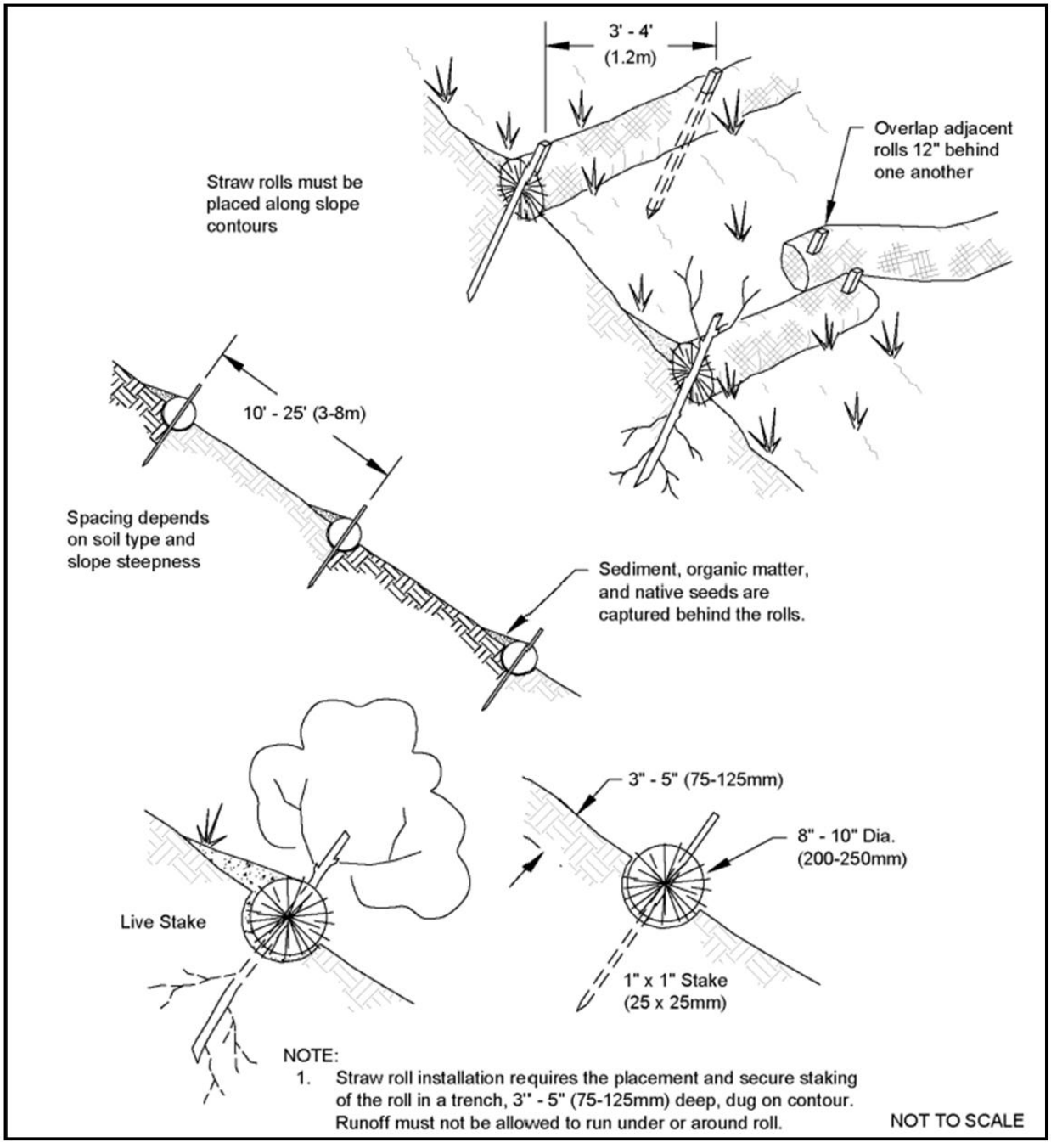
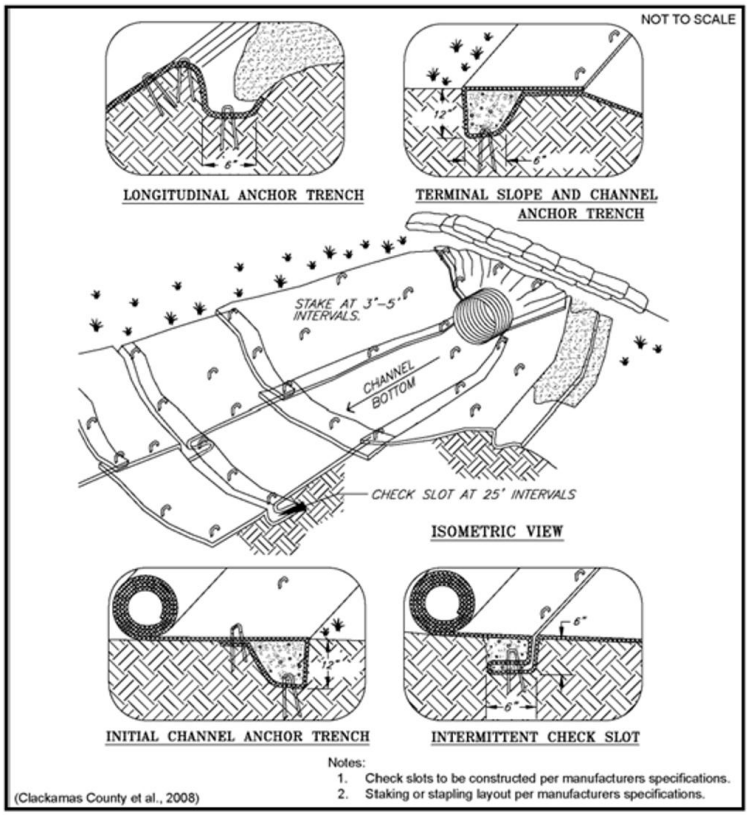


Figure C- 5 Install Sediment Controls-Silt Fence

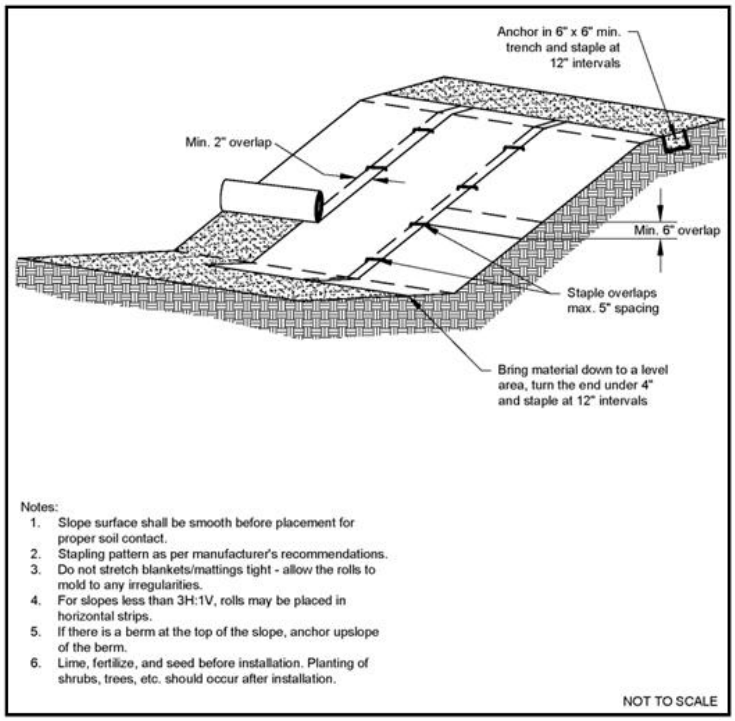


Source: Figure II-4.24 Wattles (2024 SWMMWW, pg. 423)

Figure C- 6 Install Sediment Controls-Straw Wattle Rolls

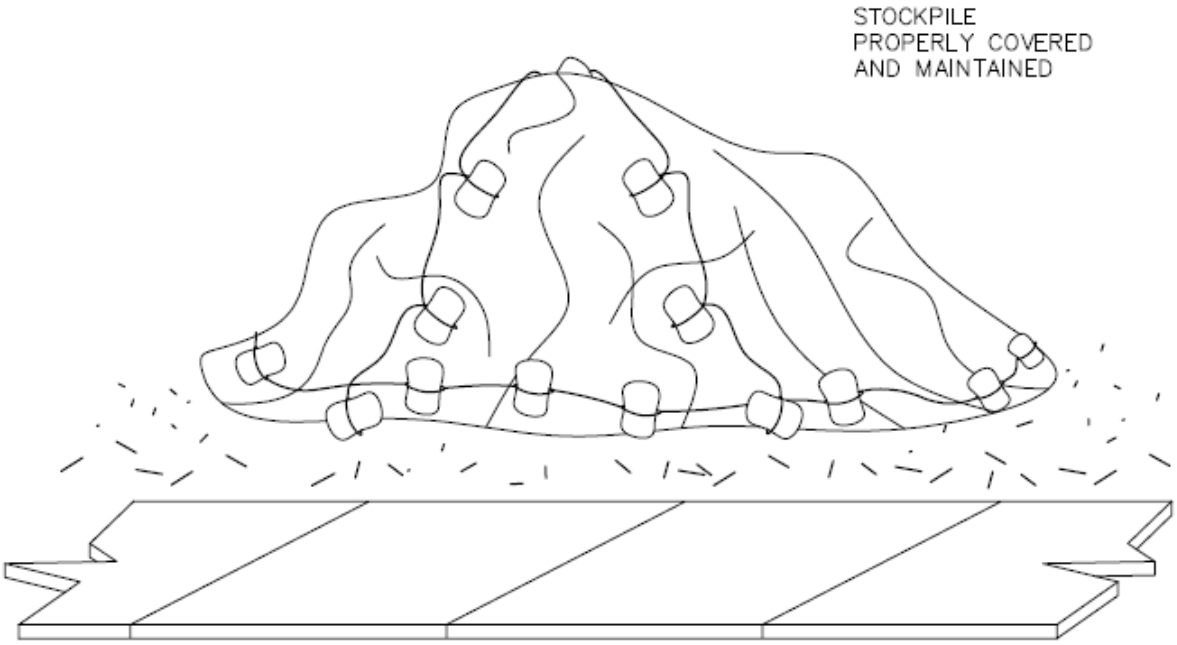


Source: Figure II-4.3 Channel Installation (2024 SWMMWW, pg. 338)



Source: Figure II-4.4 Channel Installation (2024 SWMMWW pg. 339)

Figure C- 7 Protect Slopes - Erosion Blankets and Turf Reinforcement Mats



NOTES:

1. COVER ALL STOCKPILES ACCORDING TO SEASONAL REQUIREMENTS.
2. DRY SEASON (MAY 1 – SEPTEMBER 30): 7 DAYS.

   WET SEASON (OCTOBER 1 – APRIL 30): 2 DAYS.
3. STABILIZE SOILS AT THE END OF A SHIFT, OR BEFORE A HOLIDAY OR WEEKEND IF NEEDED BASED ON THE WEATHER FORECAST.
4. STOCKPILES SHALL BE LOCATED AWAY FROM STORM DRAIN INLETS, WATERWAYS, AND DRAINAGE CHANNELS.
5. STOCKPILES SHALL NOT BE PLACES IN PROTECTED LID AREAS OR ON PERMEABLE PAVEMENT.
6. SEE BMP C123 (PLASTIC COVERING) IN THE SWMMWW FOR COMPLETE INSTRUCTIONS FOR COVERING STOCKPILES.

Figure C- 8 Tarp Covering

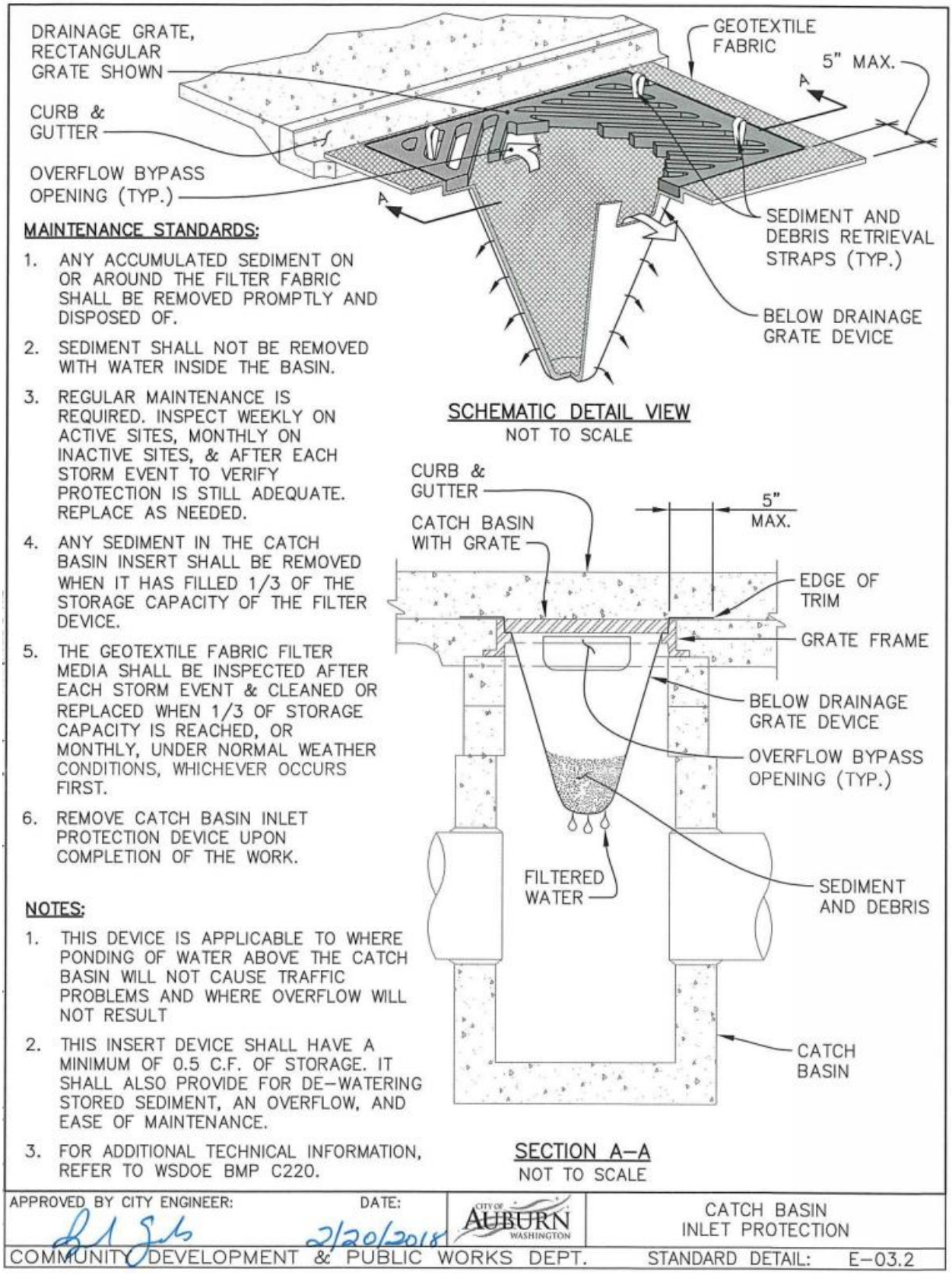


Figure C- 9 Protect Drain Inlets - Bag Filter

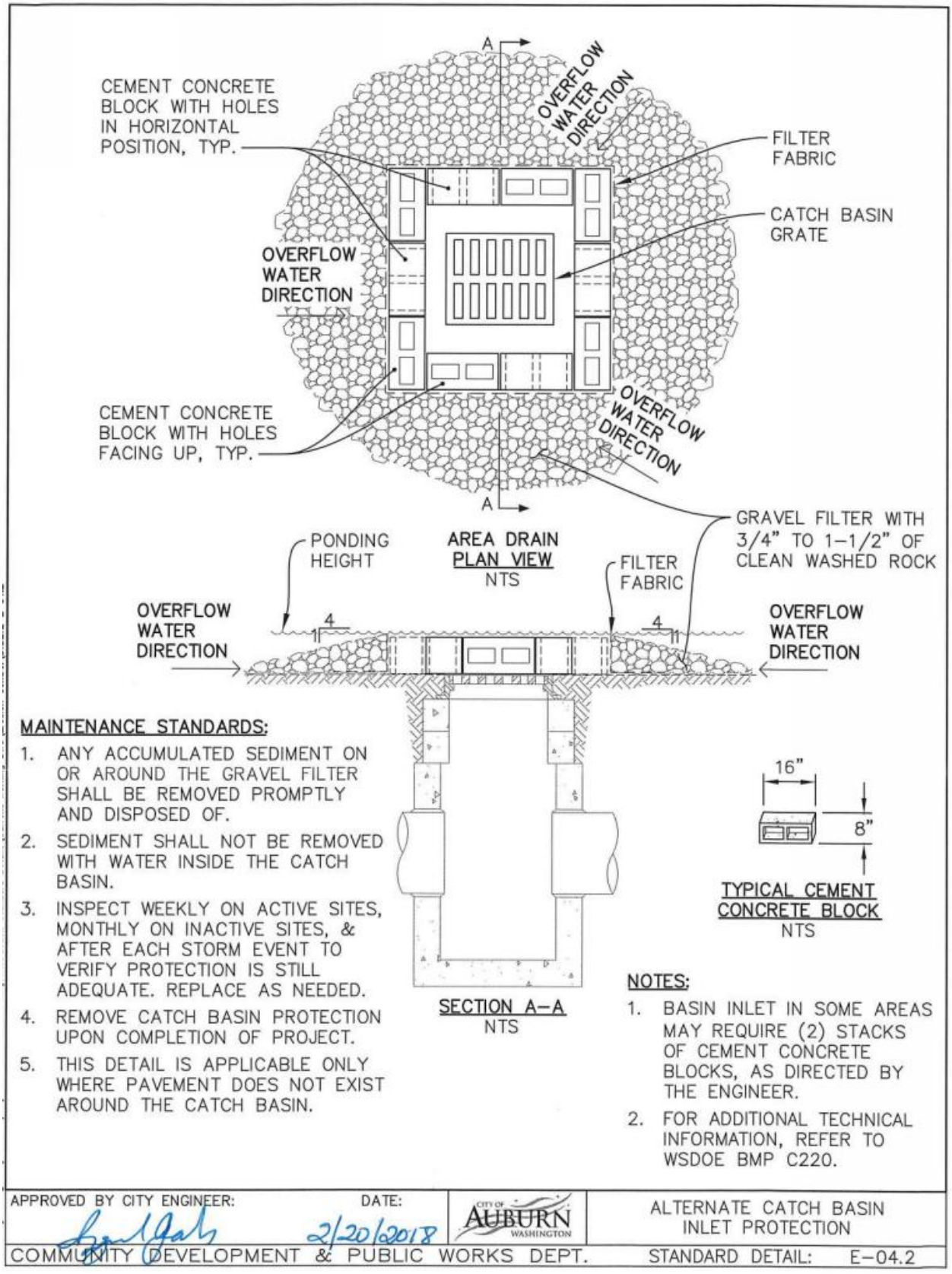
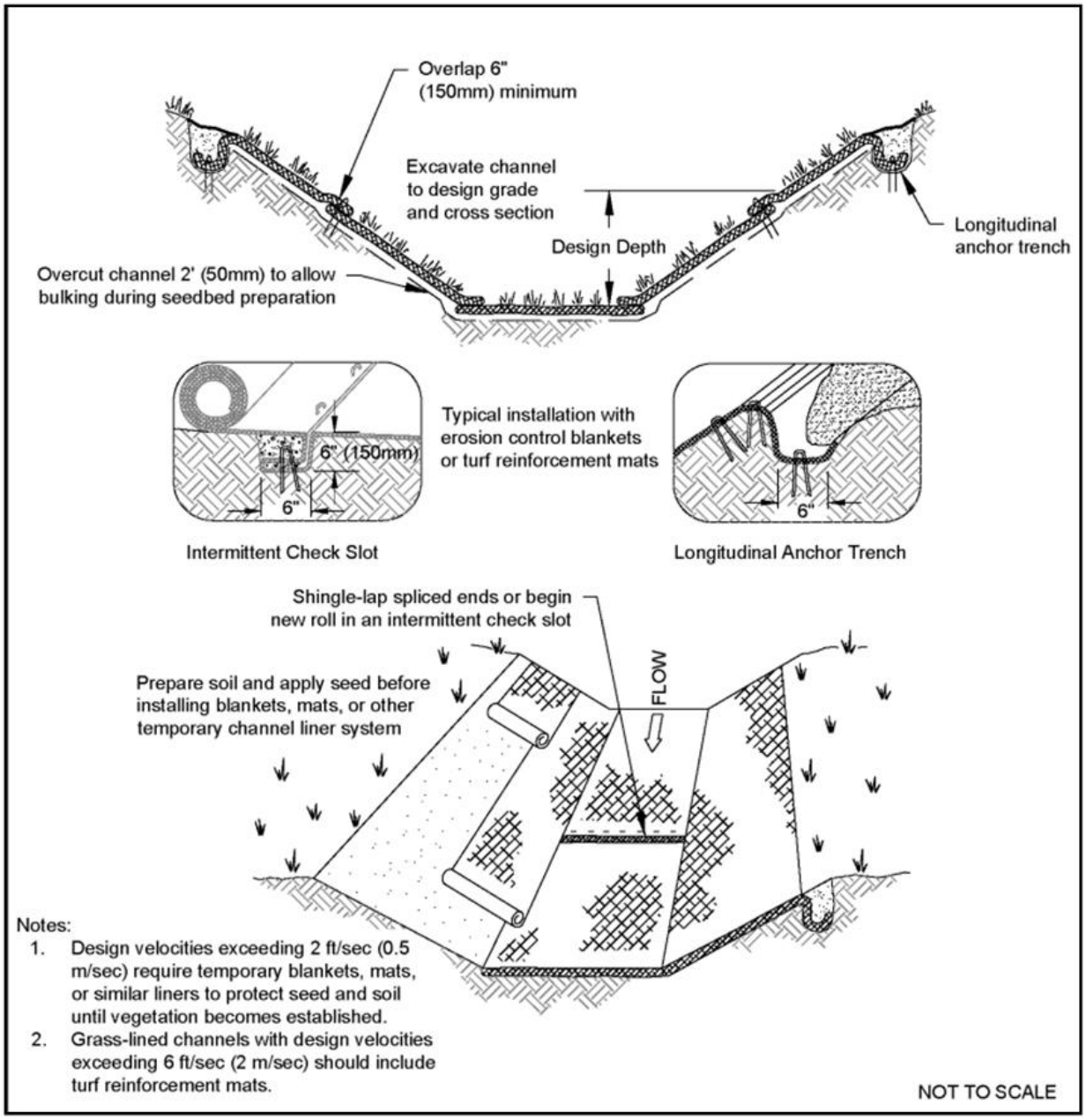
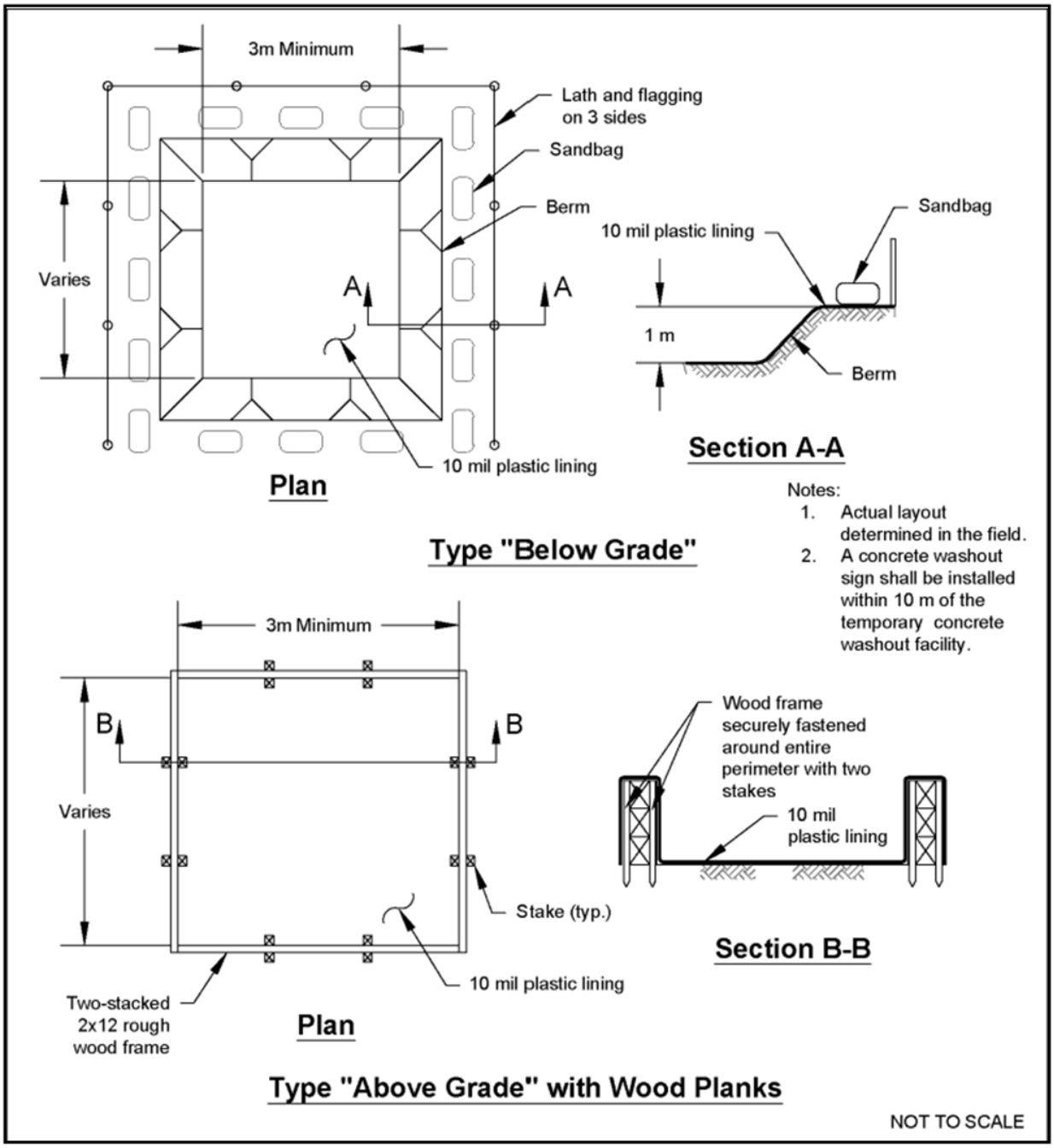


Figure C- 10 Protect Drain Inlets - Inlet Gravel and Filter Fabric



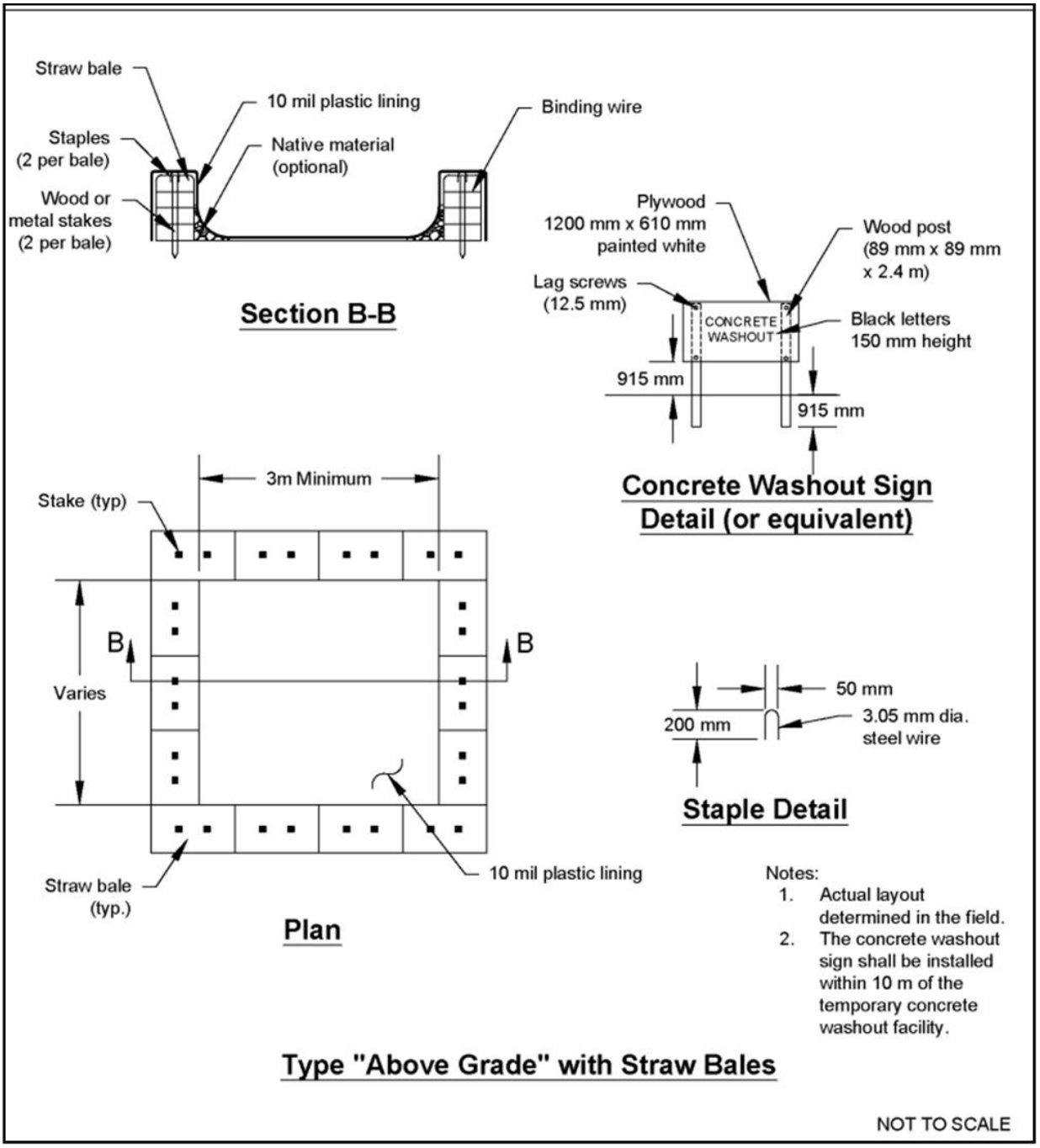
Source: Figure II-4.11 Temporary Channel Liners (2024 SWMMWW, pg. 380)

Figure C- 11 Temporary Channel Liners



Source: Figure II-4.7 Concrete Washout Area with Wood Planks (2024 SWMMWW, pg. 368)

Figure C- 12 Concrete Washout Area with Wood Planks



Source: Figure II-4.8 Concrete Washout Area with Straw Bales (2024 SWMMWW, pg. 369)

Figure C- 13 Concrete Washout Area with Straw Bales