

## 9.12 EROSION CONTROL PLAN REVIEW

### Standard of Practice

#### Background

Protecting our City's stormwater is critical to the health of our City. A key element is the prevention of sediment leaving construction sites and providing erosion control methods and BMP's that assist with this effort. Furthermore, the City is mandated through our MS 4 permit, DEQ 1200 CA permit and our own ordinances to enforce erosion prevention and sediment control(EPSC). This standard of practice provides guidance in preparing and reviewing EPSC plans.

#### Standard of Practice

1. The following describes the requirements for preparing Erosion Prevention and Sediment Control Plans (Plans) for new **single-family and duplex construction** requiring a building permit.

##### A. Requirements

The City of Salem's inspection threshold for erosion prevention and sediment control is any disturbance of 3,000 square feet or more. It is the responsibility of the permit holder to keep sediment on-site. Plans shall describe ways to minimize the discharge of pollutants in runoff from any construction activity, using erosion prevention, sediment, runoff, and non-stormwater pollution control BMPs.

The Plan designer shall incorporate information and observations obtained from the City, applicable resource agencies, and a site visit. In addition, the designer must identify potential erosion and sediment problems, develop design objectives, formulate and evaluate alternatives, select best erosion prevention measures, and develop a Plan.

The permit holder shall designate a person with erosion prevention and sediment control experience. The designated person whether the contractor or erosion and sediment specialist, has a defined responsibility to prevent sediment from leaving the site. The designee must follow the Plan, or make approved revisions to the Plan as necessary, and ensure that the site is stable. Although a permitted Plan may appear to have addressed all issues, the designer shall adapt the Plan during implementation to ensure proper performance.

##### B. Minimum BMPs for Single-Family/Duplex Projects

Minimum BMPs for single-family or duplex permitted projects are listed in the table below. Note that wet season construction requires augmented protection measures. If planned dry season construction becomes delayed into the next wet season, the Plan must be revised to include at least the minimum wet season BMPs.

**TABLE: MINIMUM BMPs FOR ALL SINGLE-FAMILY/DUPLEX PROJECTS**

Best Management Practice <sup>1</sup>	Code <sup>2</sup>	Year Around <sup>3</sup>
Linear Barrier and Perimeter Control		✓
Storm Drain Inlet Protection		✓
Construction Entrance/Exit Tracking Controls		✓
Non-Soil Stockpile Management		✓
Concrete Management		✓
Inspection and Maintenance		✓
Soil Stockpile Management		✓
Temporary Seeding and Planting / Permanent Seeding and Planting		✓
Non-Stormwater Pollution Controls		✓
Slope Breaks for Steep Slopes		✓

<sup>1</sup>BMPs not included in this SOP may be submitted to the City for consideration.

<sup>2</sup>Code references correspond to BMP details and will be provided when final code is adopted.

<sup>3</sup>Additional wet season measures required from October 15 to May 31.

C. Site Plan Checklist

*Site Plan must include the following:*

- Provide the name and phone number of the person(s) responsible for erosion prevention and sediment control on site.
- Site contours and/or drainage patterns found on the site as required by example Plans A, B, or C attached.
- Location and maintenance schedule of erosion prevention and sediment control measures to be used on site. Including but not limited to:
  - Gravel construction entrance
  - Sediment barrier: down-slope side of the site along contours
  - Storm drain inlet protection
- Between October 15 and May 31, notes describing additional wet weather BMPs to be utilized and ground cover.

D. Example Site Plan

(See A, B, and C attached)

2. The following describes the requirements for preparing Erosion Prevention and Sediment Control Plans (Plans) for all **private and public development projects, except single-family and duplex construction**. These projects include new construction of existing lots of record and additions to existing developments that require a City building or grading permit.

#### A. Requirements

The City of Salem's erosion prevention and sediment control threshold is any disturbance of 3,000 square feet or more. It is the responsibility of the permit holder to keep sediment on-site. Plans shall describe ways to minimize the discharge of pollutants in runoff from any construction activity, using erosion prevention, and sediment, runoff, and non-stormwater pollution control BMPs.

The Plan designer shall incorporate information and observations obtained from the City, applicable resource agencies, and a site visit. In addition, the designer must identify potential erosion and sediment problems, develop design objectives, formulate and evaluate alternatives, select best erosion prevention measures, and develop a Plan.

The permit holder shall designate a person with erosion prevention and sediment control experience as the EPSC Manager. The designated person, whether contractor or erosion and sediment control specialist, has a defined responsibility to prevent sediment from leaving the site. The designee must follow the Plan, make approved revisions to the Plan as necessary, and ensure that the site is stable with no visible sediment discharges. Although a permitted Plan may appear to have addressed all issues, the designer shall adapt the Plan during implementation to ensure proper performance.

#### B. Standard Notes

The following requirements shall be included on all Plans. Language may be customized for specific site as long as intent meets the following:

- The permittee, or EPSC Manager, shall be responsible for proper installation, monitoring, maintenance, and removal of all erosion prevention and sediment control measures, in accordance with the city, state, and federal regulations. Responsibility will continue until permanent vegetation or landscape is complete. Permittee shall be responsible for maintenance until the following conditions are met: 1) the project has been accepted by the City; 2) all individual lots are sold; and 3) termination of the 1200-C permit by the Department of Environmental Quality (DEQ).
- The permittee shall mark clearing limits shown on the Plan prior to constructions. During the construction period, no disturbance beyond the clearing limits shall be permitted unless plan revisions are approved by the City. The markings shall be maintained by the permittee or designee for the duration of construction.
- The EPSC BMPs shown on the Plan must be constructed in conjunction with all clearing and grading activities, in accordance with the conditions of approval, public works standards, development code, and in such a manner as to ensure that sediment, sediment-laden water, and other pollutants do not enter the drainage system or roadways, or violate applicable water quality standards.

- The EPSC BMPs shown on the Plan are minimum requirements for anticipated site conditions. During the construction period, the BMPs shall be upgraded as needed for unexpected storm events and to ensure that sediment and sediment-laden water do not leave the site.
- The EPSC BMPs shown on the Plans shall be adjusted to meet EPSC needs of each project phase including, but not limited to, retention, treatment, and other stabilization measures.
- The EPSC BMPs shall be inspected daily during stormwater and snowmelt runoff and at least once every seven calendar days and within 24 hours after any storm event that produces at least ½" of rain per 24-hour period. On inactive periods of greater than seven consecutive calendar days, inspections are required every two weeks.
- At no time shall sediment be allowed to accumulate more than one-third the height of any sediment control barrier. Trapped sediments shall be removed from catch basins when design capacity has been reduced by 50 percent. All catch basins and conveyance lines shall be cleaned prior to project final inspection. The cleaning operation shall not flush or intentionally wash sediment-laden water into the downstream stormwater system, streams, or drainage ways.
- Sediment that leaves the site shall be cleaned up within the same work day and placed back on the site or properly disposed. This includes, but is not limited to, cleaning City streets. Any in-stream cleanup of sediment shall be performed according to requirements of the U.S. Army Corps of Engineers and the Oregon Department of State Lands.
- Storm drain inlets, catch basins, and area drains shall be protected until construction activities are completed and permanent vegetation has been established.
- Stabilized gravel entrances shall be installed at the beginning of construction and maintained for the duration of the project. Additional measures may be required to ensure that all paved areas are kept clean for the duration of the project.
- Concrete washout containment location shall be provided for washing of concrete trucks and equipment so that concrete slurry is not washed into the stormwater system, streams, or drainage ways and disposed of in accordance with all codes and ordinances when construction is complete.
- Groundcover and/or seeding shall be completed as soon as practicable for each phase of construction, and not later than September 15. If fertilizers are used to establish vegetation, the application rates shall follow manufacturer's guidelines and the application shall be performed in such a way to minimize nutrient-laden runoff to receiving waters. The Plan shall state the conditions for determining successful vegetation establishment.
- Non-stormwater pollutant control measures including any use of toxic or other hazardous materials shall include proper storage, spill containment, application, and disposal.

- Wet weather measures shall be established by October 15 and continue to function through May 31 of the following year. Prior to discontinuing activities on any portion of the site between October 15 and May 31, any exposed area shall be stabilized within seven days to prevent erosion. Between June 1 and September 15, the site must be stabilized within 30 days. Stabilization may occur by applying appropriate cover (e.g., mulch, erosion control blankets, binders, tackifiers) or establishing adequate vegetative cover.
- Prior to final project acceptance by the city, the site shall be permanently stabilized (see and mulch or tackifier, or permanent landscaping). For subdivisions, temporary groundcover will be accepted if home construction will begin within 30 days of project finalization.
- The permittee is responsible for removing all sediment control measures once permanent stabilization has been established. DEQ will not terminate the 1200-C permit until permanent vegetation is established.

#### C. Minimum BMPs for all other Development Projects

Regardless of size or type, the EPSCPs for all projects must contain a minimum set of BMPs. Minimum BMPs for all permitted projects, other than single-family or duplex projects are listed in the following table.

Note that wet season construction (October 15—May 31) requires augmented protection measures. If planned dry season construction becomes delayed into the next wet season, the Plan must be revised to include at least the minimum wet seasons BMPs.

The minimum set of BMPs may not be adequate to prevent erosion and sediment discharges under all circumstances and site conditions. In these cases, the designer/builder must select additional BMPs for the Plan to address site-specific conditions.

**TABLE: MINIMUM BMPs FOR ALL OTHER DEVELOPMENT PROJECTS**

Best Management Practice <sup>1</sup>	Code <sup>2</sup>	Year Around <sup>3</sup>
Linear Barrier and Perimeter Control		✓
Storm Drain Inlet Protection		✓
Construction Entrance/Exit Tracking Controls		
Tire Wash, as required		✓
Non-Soil Stockpile Management		✓
Concrete Management		✓
Inspection and Maintenance		✓
Soil Stockpile Management		✓
Temporary Seeding and Planting /		
Permanent Seeding and Planting		✓
Non-Stormwater Pollution Controls		✓
Slope Breaks for Steep Slopes		✓

<sup>1</sup>BMPs not included in this SOP may be submitted to the City for consideration.

<sup>2</sup>Code references correspond to BMP details and will be provided when final code is adopted.

<sup>3</sup>Additional wet season measures required from October 15 to May 31.

**D. Plan Requirement Checklist**

*The EPSC Plan submittal must include:*

- Cover sheet with a site location map.
- Proposed public and private stormwater system plan or composite utility plan.
- Final site stabilization or planting plan.
- Completed EPSC plan as noted below.

*The EPSC Plan must include the following items:*

- Name and number of the designated person (permittee or EPSC Manager) responsible for erosion control.
- Contour lines with elevations included on the plan. Contours should extend beyond the property line a sufficient distance to define where stormwater enters the site.
- Adjacent natural resources, such as streams, creeks, wetlands, ponds, drainage channels, lakes, and other sensitive areas.
- Identification of slopes, drainage patterns, and concentrated flows.
- Location of cuts and fills.

- Location of excavated materials storage.
- Identified clearing limits.
- Identified area for concrete truck and equipment washout containment area.
- Location of gravel construction entrances.
- Locations of erosion prevention and sediment control BMPs (refer to previous table for minimum BMP requirements).
  1. Sediment control devices, such as down-slope barriers, slope breaks, inlet protection, and outlet protection.
  2. Erosion prevention devices, such as temporary vegetation, matting, mulch, or other appropriate groundcovers.
  3. Runoff controls, such as slope drains, temporary diversions, and check dams.
  4. Temporary/permanent detention facilities.
- Description of all non-stormwater pollution controls.
- Details and/or specifications for all proposed BMPs.
- Standard notes.
- BMP maintenance and inspection schedule.
- Construction schedule.

*Wet Weather Plan Requirements (October 15–May 31) must include the following items:*

- Native vegetation, established temporary vegetation, such as seeding and mulch or mulch and tackifier, binders, or matting.
- Slope stabilization, such as horizontal tracking, terracing, temporary or permanent ground cover, interceptor dikes, or bio-swales.

*Additional Considerations:*

- Remove only vegetation necessary to conduct the work.
- Construction phase of the project and associated BMPs for each phase.
- Intercept stormwater runoff and direct flow away from exposed soils to be a stabilized outlet.
- How to prepare for predicted rain events.

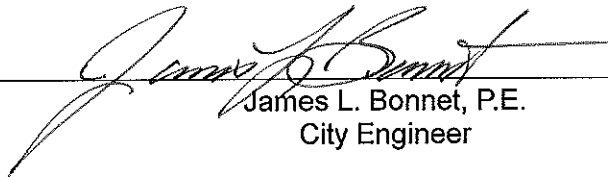
E. Sample Site Plan  
(See attached)

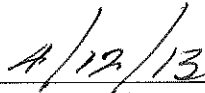
## Revisions

N/A

### Attachments:

1. Single Family Lot Erosion Control Plan A—Flat
2. Single Family Lot Erosion Control Plan B—Slope
3. Single Family Lot Erosion Control Plan C—Waterway
4. Sample Erosion & Sediment Control Plan

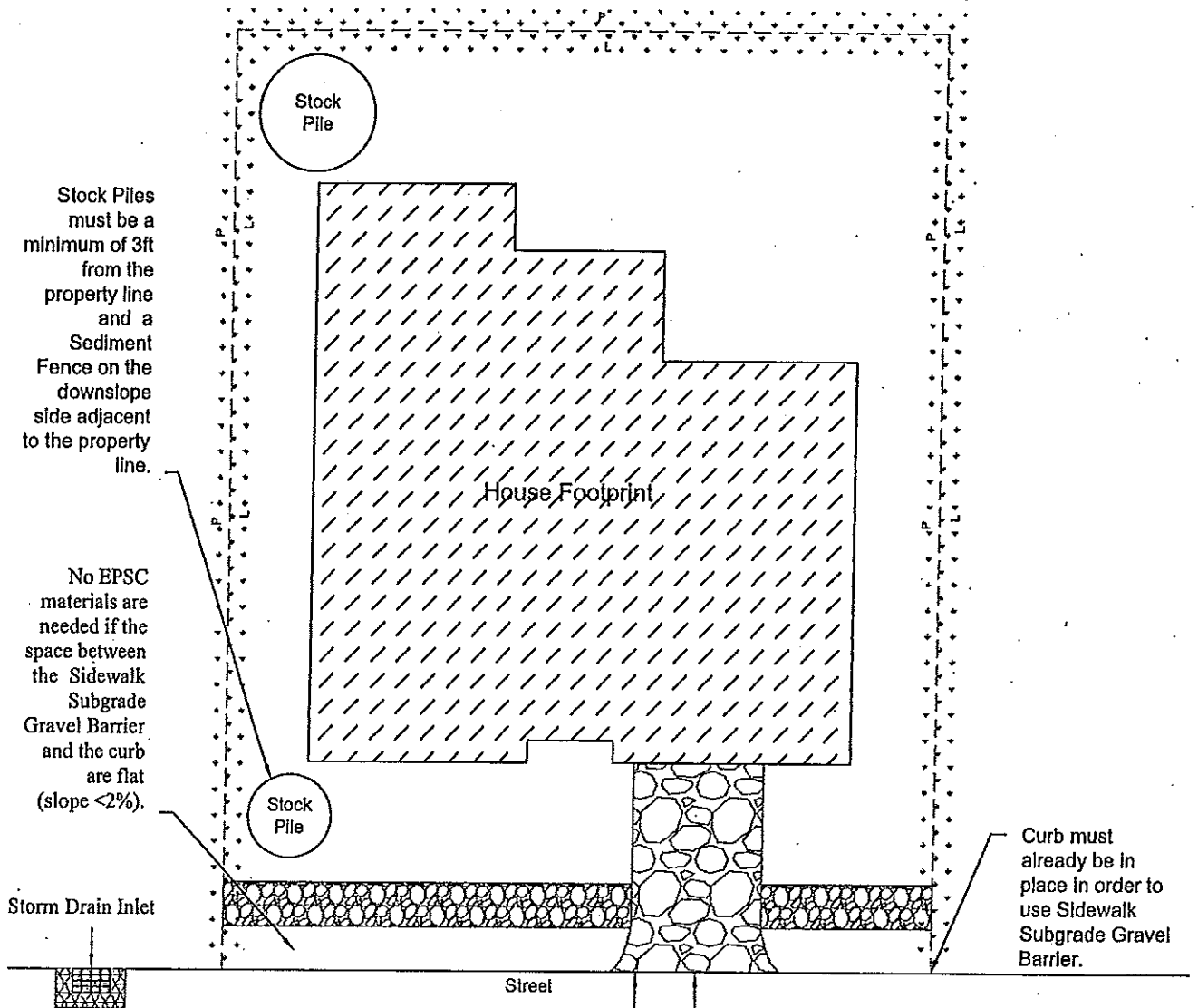
  
James L. Bonnet, P.E.  
City Engineer

  
Date



# Single Family Lot Erosion Control Plan A - Flat


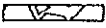

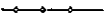


(Drawing Not to Scale)



Non-construction vehicles must park only on all-weather (paved) surfaces.

No sediment may be tracked off the property. All vehicles must only use Gravel Entrance to enter and exit the site.

If the curb is in place, use curb wood ramps. (See Handbook 3.2.1G p.10)

-  Catch Basin Insert
-  Gravel Construction Entrance
-  Sidewalk Subgrade Gravel Barrier
-  Silt Fence
-  Undisturbed Vegetative Buffer
-  Direction of Surface Water Runoff

## NOTES

- Spacing between Sediment Fences installed along the property line and on the contours of slopes in any direction:

Site Slope	Spacing between Fences
<2% 50:1	(Flat) no fence required
<10% 10:1	300ft
<15% 6.7:1	150ft
<20% 5:1	100ft
<30% 3.5:1	50ft
<50% 2:1	25ft
>50% 2:1	25ft

(Handbook Table 3-2 p.8)

# Erosion Prevention & Sediment Control Requirements

## General Criteria

- These Standard Plans are not a replacement of the EPSC Handbook and are intended for use only as a reference.
- Limit vegetation removal to minimize disturbed land area. (Should reference SRC 68, Preservation of Trees and Vegetation, for required vegetation retention.)
- An Undisturbed Vegetative Buffer is either an undisturbed grassed area or is covered with dense vegetation and should be left around the property line.
- A sidewalk is assumed to be part of the site plan. If a sidewalk is not planned for the site, a Sediment Fence or other approved Barrier may be used in place of the Sidewalk Subgrade Gravel Barrier. (See Handbook Table 3-1, p.7)
- Catch Basin Protection is required on adjacent and downstream catch basins.
- For BMP Design Criteria and Specifications, refer to the EPSC Plan Technical Guidance Handbook, Section 3.2.

## Erosion Prevention and Sediment Control (EPSC) Plan Technical Guidance Handbook:

<http://www.cityofsalem.net/~envserv/Salem%20Erosion%20Handbook.pdf>

## Applicant Responsibilities

- Keep all sediment on the property and especially out of streets, catch basins, and adjacent developed properties.
- Gravel Construction Entrances must be installed prior to ANY site work.
- Install all other EPSC measures prior to or concurrent with the initial ground disturbing activities.
- Call for inspection when all EPSC materials are installed in accordance with this plan.
- Maintain effectiveness of the recommended EPSC methods until all disturbed soil areas are permanently stabilized.
- Relocate EPSC materials respective to changing topography of the site during construction.
- If current methods become insufficient, implement other effective EPSC techniques referred to in the EPSC Plan Technical Guidance Handbook.
- If constructing during the Wet Season (October 15 - April 30), then additional EPSC methods may be needed. (See Handbook Table 3-1 lines 6 & 7, p.7)
- Permanent vegetation must be established (or native vegetation re-established) by October 15 and before removing EPSC measures.

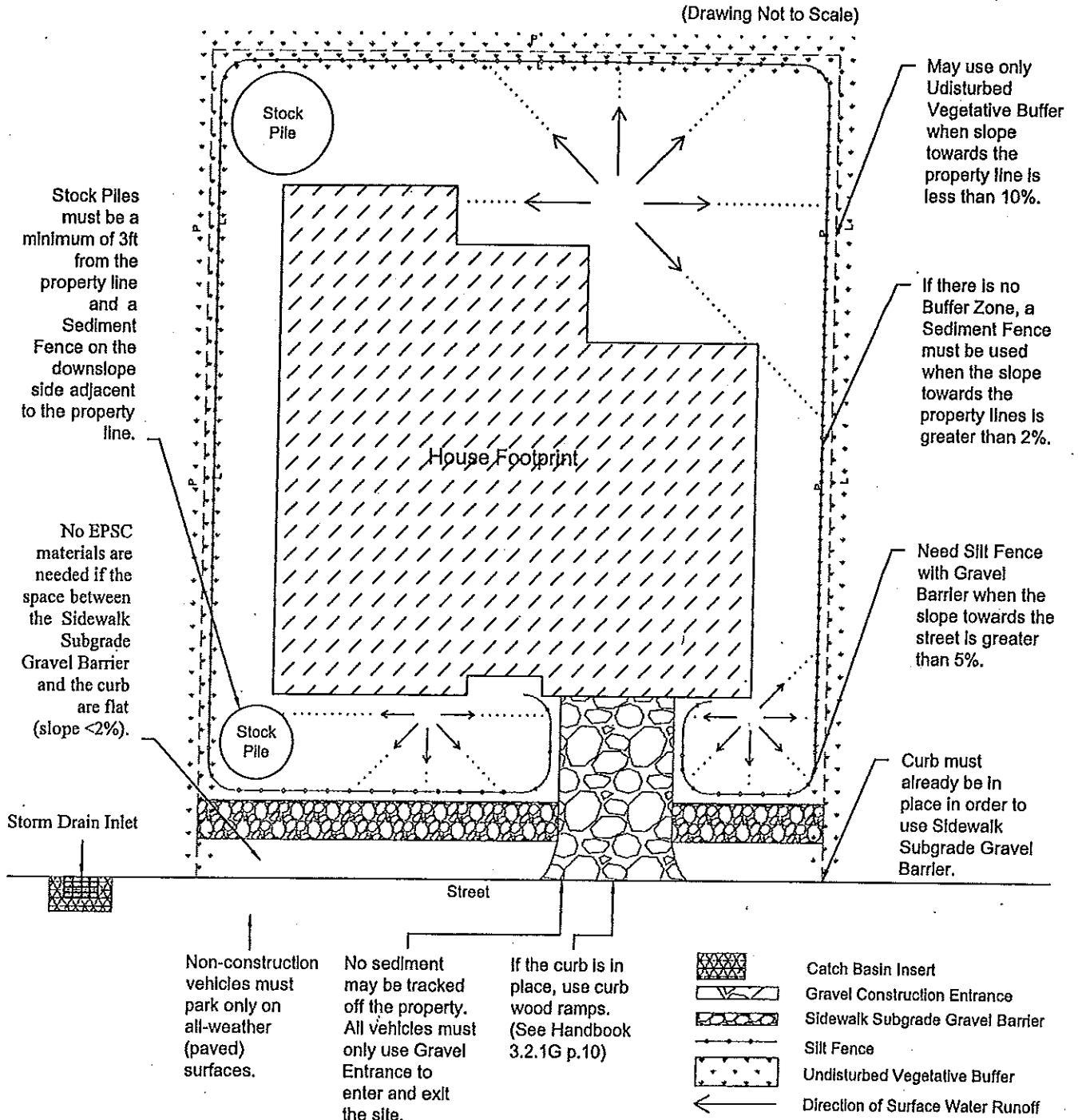
## Maintenance

- Applicant must inspect EPSC methods after each rainfall and at least daily during prolonged rainfall. Make any required repairs, relocations, or additions immediately.
- No more than 1ft of sediment shall be allowed to accumulate against EPSC materials.
- Clean up sediment leaving sight THROUGHOUT EACH DAY, by sweeping or shoveling, NOT flushing.
- Catch Basin Inserts:
  - Inspect and clean DAILY on active sites, every two weeks on inactive sites, and within 24 hours after each rainfall event.
  - Use mechanical means to remove sediment deposits (shovel, broom, sweeper/vactor unit).
  - Replace filter fabric as needed (about once a month).
- Gravel Barriers:
  - Remove accumulated sediment, add gravel, and/or install additional sediment barriers.
- Sediment Fences:
  - Remove sediment buildup on fence or regrade sediment into uphill slopes.
  - Repair and reestablish Sediment Fences as needed.

## Call for inspection:

Public Works Dispatch  
(503) 588-6333

# Single Family Lot Erosion Control Plan B - Slope



## NOTES

- Spacing between Sediment Fences installed along the property line and on the contours of slopes in any direction:

Site Slope	Spacing between Fences
<2% 50:1	(Flat) no fence required
<10% 10:1	300ft
<15% 6.7:1	150ft
<20% 5:1	100ft
<30% 3.5:1	50ft
<50% 2:1	25ft
>50% 2:1	25ft

(Handbook Table 3-2 p.8)

# Erosion Prevention & Sediment Control Requirements

## General Criteria

- **These Standard Plans are not a replacement of the EPSC Handbook and are intended for use only as a reference.**
- Limit vegetation removal to minimize disturbed land area. (Should reference SRC 68, Preservation of Trees and Vegetation, for required vegetation retention.)
- An Undisturbed Vegetative Buffer is either an undisturbed grassed area or is covered with dense vegetation and should be left around the property line.
- A sidewalk is assumed to be part of the site plan. If a sidewalk is not planned for the site, a Sediment Fence or other approved Barrier may be used in place of the Sidewalk Subgrade Gravel Barrier. (See Handbook Table 3-1, p.7)
- Catch Basin Protection is required on adjacent and downstream catch basins.
- For BMP Design Criteria and Specifications, refer to the EPSC Plan Technical Guidance Handbook, Section 3.2.

**Erosion Prevention and Sediment Control (EPSC) Plan Technical Guidance Handbook:**

<http://www.cityofsalem.net/~envserv/Salem%20Erosion%20Handbook.pdf>

## Applicant Responsibilities

- **Keep all sediment on the property** and especially out of streets, catch basins, and adjacent developed properties.
- **Gravel Construction Entrances** must be installed prior to ANY site work.
- **Install** all other EPSC measures prior to or concurrent with the initial ground disturbing activities.
- Call for **inspection** when all EPSC materials are installed in accordance with this plan.
- **Maintain** effectiveness of the recommended EPSC methods until all disturbed soil areas are permanently stabilized.
- Relocate EPSC materials respective to changing topography of the site during construction.
- If current methods become insufficient, implement other effective EPSC techniques referred to in the EPSC Plan Technical Guidance Handbook.
- If constructing during the **Wet Season (October 15 - April 30)**, then additional EPSC methods may be needed. (See Handbook Table 3-1 lines 6 & 7, p.7)
- Permanent vegetation must be established (or native vegetation re-established) by October 15 and before removing EPSC measures.

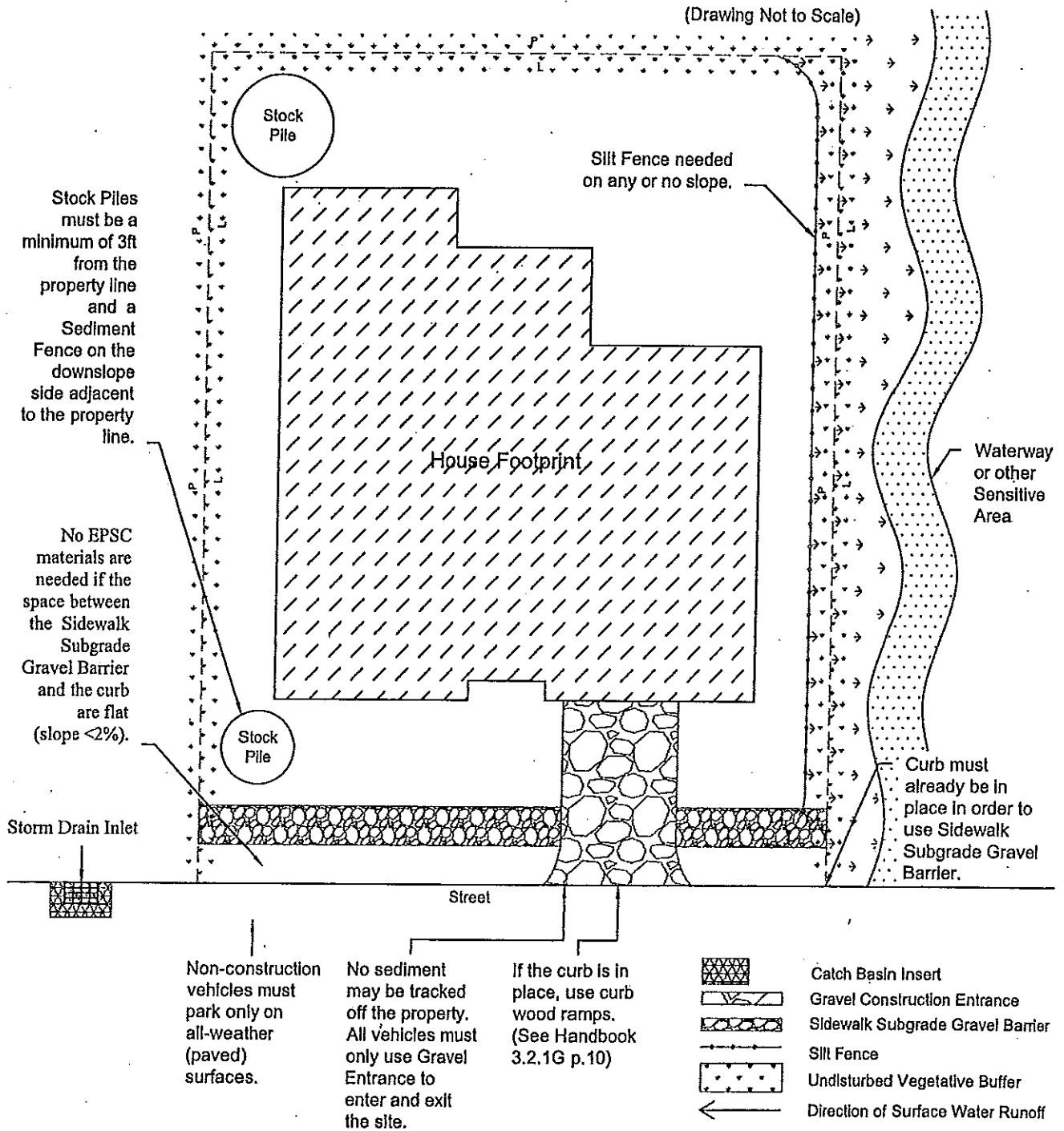
## Maintenance

- Applicant must inspect EPSC methods after each rainfall and at least daily during prolonged rainfall. Make any required repairs, relocations, or additions immediately.
- No more than 1ft of sediment shall be allowed to accumulate against EPSC materials.
- Clean up sediment leaving sight **THROUGHOUT EACH DAY**, by sweeping or shoveling, **NOT** flushing.
- **Catch Basin Inserts:**
  - Inspect and clean **DAILY** on active sites, every two weeks on inactive sites, and within 24 hours after each rainfall event.
  - Use mechanical means to remove sediment deposits (shovel, broom, sweeper/vactor unit).
  - Replace filter fabric as needed (about once a month).
- **Gravel Barriers:**
  - Remove accumulated sediment, add gravel, and/or install additional sediment barriers.
- **Sediment Fences:**
  - Remove sediment buildup on fence or regrade sediment into uphill slopes.
  - Repair and reestablish Sediment Fences as needed.

## **Call for inspection:**

Public Works Dispatch  
(503) 588-6333

# Single Family Lot Erosion Control Plan C - Waterway



## NOTES

- Spacing between Sediment Fences installed along the property line and on the contours of slopes in any direction:

Site Slope	Spacing between Fences (Flat) no fence required
<2%	50:1 300ft
<10%	10:1 150ft
<15%	6.7:1 100ft
<20%	5:1 50ft
<30%	3.5:1 25ft
<50%	2:1 25ft
>50%	2:1 25ft

(Handbook Table 3-2 p.8)

- No trees or native vegetation shall be removed from within 50 horizontal feet of the banks of a fish-bearing Waterway. If the Waterway is not fish-bearing, then only trees may not be removed. (See SRC 68.050 and SRC 68.020(o))

- Any ground disturbing activities within the banks of a waterway shall be performed under the regulations of local, state, and federal governments. (See SRC 75.140a and SRC 68 for City requirements.)

- DO NOT install Sediment Fences across Waterways.

# Erosion Prevention & Sediment Control Requirements

## General Criteria

- **These Standard Plans are not a replacement of the EPSC Handbook and are intended for use only as a reference.**
- Limit vegetation removal to minimize disturbed land area. (Should reference SRC 68, Preservation of Trees and Vegetation, for required vegetation retention.)
- An Undisturbed Vegetative Buffer is either an undisturbed grassed area or is covered with dense vegetation and should be left around the property line.
- A sidewalk is assumed to be part of the site plan. If a sidewalk is not planned for the site, a Sediment Fence or other approved Barrier may be used in place of the Sidewalk Subgrade Gravel Barrier. (See Handbook Table 3-1, p.7)
- Catch Basin Protection is required on adjacent and downstream catch basins.
- For BMP Design Criteria and Specifications, refer to the EPSC Plan Technical Guidance Handbook, Section 3.2.

## **Erosion Prevention and Sediment Control (EPSC) Plan Technical Guidance Handbook:**

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## Applicant Responsibilities

- **Keep all sediment on the property** and especially out of streets, catch basins, and adjacent developed properties.
- **Gravel Construction Entrances** must be installed prior to ANY site work.
- **Install** all other EPSC measures prior to or concurrent with the initial ground disturbing activities.
- **Call for inspection** when all EPSC materials are installed in accordance with this plan.
- **Maintain** effectiveness of the recommended EPSC methods until all disturbed soil areas are permanently stabilized.
- Relocate EPSC materials respective to changing topography of the site during construction.
- If current methods become insufficient, implement other effective EPSC techniques referred to in the EPSC Plan Technical Guidance Handbook.
- If constructing during the **Wet Season (October 15 - April 30)**, then additional EPSC methods may be needed. (See Handbook Table 3-1 lines 6 & 7, p.7)
- Permanent vegetation must be established (or native vegetation re-established) by October 15 and before removing EPSC measures.

## Maintenance

- Applicant must inspect EPSC methods after each rainfall and at least daily during prolonged rainfall. Make any required repairs, relocations, or additions immediately.
- No more than 1ft of sediment shall be allowed to accumulate against EPSC materials.
- Clean up sediment leaving sight **THROUGHOUT EACH DAY**, by sweeping or shoveling, **NOT** flushing.
- **Catch Basin Inserts:**
  - Inspect and clean **DAILY** on active sites, every two weeks on inactive sites, and within 24 hours after each rainfall event.
  - Use mechanical means to remove sediment deposits (shovel, broom, sweeper/vactor unit).
  - Replace filter fabric as needed (about once a month).
- **Gravel Barriers:**
  - Remove accumulated sediment, add gravel, and/or install additional sediment barriers.
- **Sediment Fences:**
  - Remove sediment buildup on fence or regrade sediment into uphill slopes.
  - Repair and reestablish Sediment Fences as needed.

## **Call for inspection:**

Public Works Dispatch  
(503) 588-6333

# SAMPLE EROSION & SEDIMENT CONTROL PLAN

