

## working for clean rivers

The Bureau of Environmental Services works with Portland residents and businesses to protect water quality, public health, and the environment through wastewater collection and treatment, sewer construction and maintenance, stormwater management, and stream and watershed restoration.

# **Green Street Stewards** Maintenance Guide

**UPDATED NOVEMBER 2017** 





CITY OF PORTLAND working for clean rivers

## Welcome to the Green Street Steward Program!

Becoming a green street steward is a rewarding way to care for your community and help to keep Portland's rivers clean. This guide describes the simple activities that you can do to help maintain a green street.

## What is a green street?

Green streets are vegetated spaces that capture stormwater runoff and allow it to soak into the ground as soil and plants filter pollutants. Green streets reduce the amount of stormwater that flows into the sewer system and local streams, replenish groundwater supplies, and create urban green spaces.

## Why green streets?

Portland's green streets work hard managing stormwater runoff from streets, sidewalks and other paved surfaces. Green streets help:

- Protect water quality and improve the overall health of our rivers and streams.
- Prevent stream erosion.
- Prevent combined sewer overflows.
- Reduce the risk of basement backups and sewage releases into the environment.

## Sign up to be a steward!

If you have not yet adopted a facility, start by registering as a green street steward at **www.portlandoregon.gov/bes/GreenStreetSteward**. Follow these steps:

- 1. Register as a green street steward.
- 2. Select a green street to adopt.
- 3. Accept the terms and conditions.

#### **INSIDE THIS GUIDE**

Introduction
Overview of Green Street Steward Activities
How-to Maintain Your Green Street
Optional Planting Activities
Getting to Know the Plants
Reporting on Your Work

## How do green streets work?



**O** CAPTURE AND TREATMENT AREA— Stormwater runoff from the street flows into

this area, pools, and then slowly infiltrates into the ground.



**OVERFLOW DRAIN**— During heavy rains, excess runoff can drain to sewer. Not all green streets have one.

Example of beehive overflow drain

## **OURB OPENING**

Also called an inlet or outlet. Runoff can flow into or out of a facility.

## Who is responsible for green street maintenance?

Portland's Bureau of Environmental Services routinely monitors all green streets to determine the level of work needed to maintain healthy plants and ensure that the facilities function properly.

# Green street care is divided into two phases: the **2-year establishment phase** and the **long-term stewardship phase**. During the 2-year establishment phase, young plants in the facility are susceptible to damage, so steward activities are more limited. When you register as a steward you will be informed of the phase of your green street.

#### 2-YEAR PLANT ESTABLISHMENT PHASE

During this phase, the city or a site developer contracts with professional landscapers to care for and maintain green streets.

## The city or professional landscaper will:

- ✓ Check for proper green street function
- ✓ Remove sediment
- Clear curb openings and top of overflow drain
- ✓ Remove trash and debris
- ✓ Remove weeds
- ✓ Water vegetation
- ✓ Trim trees and plants, if necessary
- Replace or remove trees or plants, if necessary

#### A green street steward can:

- ✓ Remove trash and debris
- ✓ Clear curb openings and top of overflow drain
- ✓ Remove or push aside sediment from inlets
- ✓ Water vegetation during the summer or any other period of drought

### LONG-TERM MAINTENANCE PHASE

The city will monitor and maintain green street facilities, but stewards can help.

#### The city will:

- ✓ Check for proper green street function
- ✓ Remove sediment
- ✓ Clear curb openings and top of overflow drain
- ✓ Remove trash and debris
- ✓ Remove weeds
- ✓ Water vegetation, if necessary
- ✓ Trim trees and plants, if necessary
- Replace or remove trees or plants, if necessary

#### A green street steward can:

- ✓ Remove trash and debris
- ✓ Clear curb openings and top of overflow drain
- ✓ Remove or push aside sediment from inlets
- Water vegetation during the summer or any other period of drought
- ✓ Remove weeds after completing a training course (see page 6)
- Add additional plants after getting written approval from Environmental Services (see pages 7 and 8)

During both phases, trimming, pruning and removing plants will be done by the City or its professional landscaper.

## **Green Street Steward Activities**

As a steward, you can help restore river and watershed health by caring for a green street near you.

Before you begin, you need to register and select a green street to adopt at www.portlandoregon.gov/bes/ GreenStreetSteward. You can also schedule a

training and record your stewardship activities.

The Green Street Steward Activities at a Glance at right summarizes simple volunteer green street activities you can perform. (See pages 4-6 for maintenance how-to tips).

## **Please DO NOT:**

The city selects plants and soil that work best for green street function. Any changes, alterations or additions to the green street may disrupt this function and the growth of plants. For these reasons, **please do not:** 

- ✓ Prune or trim plants and trees in a facility
- ✓ Add or replace plants without written approval (see pages 7-8)
- ✓ Use chemical herbicides, fertilizers, or insecticides
- ✓ Modify or alter a facility's function or design
- ✓ Add or remove soil, compost, mulch, or rocks
- ✓ Store tools, lumber or other items in a facility
- ✓ Remove dead or dying plants

## **Green Street Steward Activities at a Glance**

After registering and adopting a green street use this chart to identify your activities.

Activities	City Professional		Green Street Steward		
	2-year Establishment	Long-term Maintenance	2-year Establishment	Long-term Maintenance	
Clear curb openings of leaves, trash, and debris	yes	yes	yes	yes	
Push aside sediment from inlets	yes	yes	yes	yes	
Clear top of overflow drain (do not lift grate)	yes	yes	yes	yes	
Water during periods of drought	yes	yes	yes	yes	
Remove weeds*	yes	yes	no	yes	
Trim trees and plants	yes	yes	no	no	
Remove or replace plants and trees	yes	yes	no	no	
Remove sediment*	yes	yes	no	yes	
Add additional plants with City approval.**	yes	yes	no	yes	

\*After completing training. \*\*See pages 7-8 for more information on this optional activity.

## When to call the City

Please notify the City:

For problems that threaten public safety or property, or substance spills	Emergency Number: 503-823-1700 (24-hour phone line)
For maintenance concerns such as:	Maintenance Number:
<ul> <li>Damage to plants or trees</li> </ul>	503-823-1424
<ul> <li>Plants or trees need trimming</li> </ul>	
✓ Standing water lasting for more than 48 hours	
<ul> <li>Damage or vandalism to the facility</li> </ul>	
✓ Structural repairs to the facility	

## How-to Maintain Your Green Street

The essential part of green street maintenance is to make sure green streets capture and filter stormwater, so be sure to check your green street regularly to ensure that water can flow into the facility. Follow the maintenance steps below:



#### **BEFORE YOU START**

Think safety first and put on your reflective vest and sturdy gloves and shoes.

#### **CLEAR CURB OPENINGS**

Clear curb openings so water can flow into the facility. Remove leaves, trash and debris. Push aside inlet sediment to create a clear path for stormwater flow. The best time to clear curb openings is immediately before or right after a rain storm.

**What is Debris?** Debris includes things like leaves, sticks and small branches. Remove debris by hand or with a rake. Accumulated trash and debris can block curb openings and overflow drains. Rake leaves from around your green street, especially in the fall when leaves can quickly clog inlets.





## **SAFETY FIRST!**



When maintaining your green street, follow these important guidelines:

- ✓ Make yourself visible. Wear brightly colored clothing or a safety vest.
- Since green streets are next to the street, exercise extra caution and be aware of passing bicycles and vehicles.
- Wear sturdy shoes and thick gloves to help protect you from broken glass, sharp objects, pollutants, and other obvious or concealed hazards.
- Maintain your green street during daylight hours and avoid peak traffic times.
- Do not allow children less than 10 years of age to work with you. Children 10-17 years of age must be accompanied by an adult volunteer. Keep in mind that adult supervision is critical when working within the street environment.
- Don't leave your tools unattended. Keep tools out of streets and sidewalks, so they don't pose a hazard.

The city is not responsible for damages or injuries incurred while maintaining green street facilities.

#### **CLEAR DRAINS**

Make sure that overflow drains are not blocked. Remove leaves, debris and trash from tops of grates. Do not lift grates.





#### **REMOVE TRASH**

Pick up trash you find and recycle what you can. Throw remaining into a trash can.





#### **REMOVE SEDIMENT**

What is sediment? Sediment is picked up by stormwater and settles out as a fine, sand-like substance that can clog openings and reduce green street function. City crews routinely remove sediment and properly dispose of it as part of their standard maintenance practice.

When dealing with sediment in your green street, you can:

**Push aside sediment build-up** at curb openings for city crews to remove on their next visit, or

**Remove the sediment** by bagging it up and disposing of it in the trash can.







## Tools to make the work safer!

- ✓ Thick gloves
- ✓ Sturdy shoes
- ✓ Bright colored clothes or safety vest
- ✓ Hand shovel, trowel, or weed fork
- ✓ Garden or hand rake



- ✓ Broom and dustpan
- ✓ Bucket
- ✓ Yard debris bag
- ✓ Pick stick or grabber tool



#### WATERING

Although green street plants tolerate our dry summer climate, they benefit from additional watering during extended periods of summer drought or extreme heat. The



city welcomes your help with watering during these times. Please use a gentle, low pressure shower setting to avoid erosion. Water at a rate that the ground can soak up without water pooling.

#### **PROPERLY DISPOSE OF TRASH AND DEBRIS**

Be sure to empty your buckets into the right bins.



- Trash:
- ✓ Cigarette butts
- Litter and garbage
- ✓ Bagged sediment



Yard Waste: ✓ Leaves

✓ Sticks, twigs, etc.✓ Weeds



 ✓ Other recyclable items

#### WEED REMOVAL

After the 2-year establishment phase, stewards can begin removing weeds from their green streets after completing a training. To schedule a training, contact Svetlana Pell at 503-823-8764 or **Svetlana.Pell@portlandoregon.gov**.

After training, you can weed by hand or with a small hand-held trowel, weed fork, or garden hoe. In order to eliminate weeds, it is important to remove their root systems. **Do not use herbicides.** 

**NOTE:** After removing a weed, gently pat down the soil to prevent air pockets that expose the roots of established plants. Loose soils can also encourage new weeds.





If you are unsure whether a plant is a weed, please do not remove it because it may be a desirable plant. City maintenance crews will address it on their next routine visit. Also, please do not remove plants that appear dead.

> City crews will evaluate these plants and replace them if necessary. The City keeps track of dead plants.

#### **RECORD YOUR MAINTENANCE ACTIVITIES**

Keep track of the maintenance activities you do each time you go out to your facility. Log your work either on paper or electronically (see page 10).

#### **OPTIONAL ACTIVITY FOR STEWARDS OF GREEN STREET FACILITIES**

## **Enhancing your Green Street by Adding Plants**

Green street stewards have an option to enhance their adopted green street by adding **additional** plants. Stewards who are interested in adding plants to their adopted green street should read the information below and then complete Form A at the back of this guide. Please do not begin work until your request has been reviewed and approved by the City.

Before making your planting plan, we recommend that you contact Green Street Steward Coordinator Svetlana Pell by email at svetlana.pell@portlandoregon.gov or call 503-823-8764.

You must be a **registered steward** to participate in this activity. If you are not yet registered, please sign up at **www.portlandoregon.gov/bes/GreenStreetSteward**.

#### **GUIDELINES FOR ADDING PLANTS TO A FACILITY:**

- All new plantings require permission from the City.
- New plants can be added to areas of the facility with no vegetation. Exceptions are grassy swales. See special guidelines on page 8. No plants can be removed from a facility in order to add new plants.
- Height of additional plants at maturity cannot exceed 36 inches. Find a suggested list at www.portlandoregon.gov/bes/GSSplants.
- Edible plants and invasive species are not allowed. To learn more about which plants are invasive, visit **www.portlandoregon.gov/bes/invasives**.
- Stewards must purchase the additional plants from a licensed nursery in Oregon or Washington.
- Only facilities that are in the long-term maintenance phase have the option for adding additional plants.
- Stewards must maintain new plants (provide summer water, weed around them, keep them at acceptable size).
- The City may need to remove plants if they compete with existing plants or for other maintenance reasons.



Example before enhancement



Example of possible enhancement

## **Remove and Plant Vegetation in a Grassy Swale**

Grassy swales are a particular kind of green street. The City may allow stewards to remove grass and weeds from their facilities in addition to adding vegetation. Stewards who are interested in removing and planting new vegetation in a grassy swale should read the information below and then complete Form B at the back of this guide.

Before making your planting plan, we recommend that you contact the Green Street Steward Coordinator, Svetlana Pell, at svetlana.pell@portlandoregon.gov or call 503-823-8764.

You must be a **registered steward** to participate in this activity. If you are not yet registered, please sign up at **www.portlandoregon.gov/bes/GreenStreetSteward**.

## GUIDELINES FOR REMOVING AND PLANTING VEGETATION IN GRASSY SWALES: PREPARATION-

- Draft your planting plan and submit it to the coordinator for review and approval.
- After approval from the coordinator, remove all grass and weeds from the swale.
- Replace soil with city-approved stormwater facility soil, which is available at:
  - **3-Way BES Compost Blend** from City Bark & Recycling, 2419 NE Andresen Rd, Vancouver, WA. Contact is Janel Welch. Information online at www.compostproducts.com.
  - City of Portland Stormwater Facility Blended Soil from S&H Landscape Supplies and Recycling, 2020 SW Stafford Rd, Tualatin, OR. Contact is Will Gehr at 971-224-4561 or online at www.shbark.com.

#### **PLANTING GUIDELINES-**

- Zone A (see diagram) is the bottom of the swale. This area has seasonally moist to wet soils. Plants located in Zone A must be tolerant of inundation and must be selected from the City's Stormwater Management Manual (SWMM). Find the list of plants to choose from at www.portlandoregon.gov/bes/swmm.
- Plants in Zone B (see diagram) may be selected from the SWMM or from the Green Street Steward Suggested Plant Guide (www.portlandoregon.gov/bes/GSSplants). All selections must be approved by the coordinator.
- Edible plants and invasive species are not allowed. Check the city's list of invasive plants at www.portlandoregon.gov/bes/invasives
- Height of new vegetation at maturity cannot exceed 36 inches.
- Trees and plants shall not be removed from any swale.



Example of a grassy swale before replanting



Example of a grassy swale after replanting

#### Cross section of grassy swale



Green Street Zones:

Zone A is the bottom of the swale. This area has moist to wet soils. Plants located in Zone A must tolerate mild inundation.

Zone B includes the side slopes from the designated high water line of the swale up to the edge (street or sidewalk). This area typically has dry to moist soil

## Get to know and love the plants

The City uses native and specially selected plants that can adapt to green street conditions and that require minimal care. Native plants provide food and habitat for native birds and wildlife. These are some commonly found, desirable plants in many Portland green streets.



Slough Sedge, Carex obnupta



Camas, Camassia



Spreading Rush, Juncus patens





Kelsey dogwood, Cornus kelseyii



Goldflame Spiraea, Spiraea japonica



Oregon grape, Mahonia repens



Moon Bay, Nandina domestica



Lily Turf, Liriope muscari



Sedge, Carex morrowii 'Ice Dance'

## Weeds!

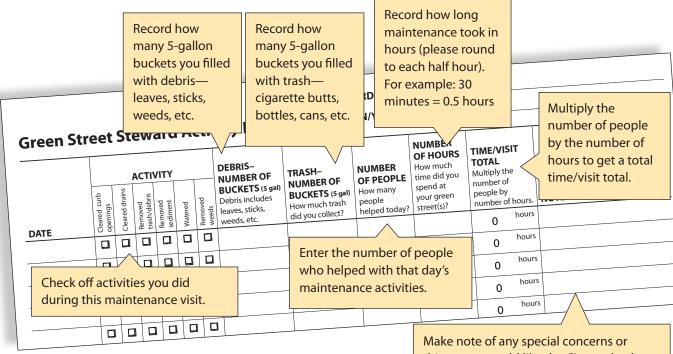
The City has developed a field guide to help stewards identify many common weeds at their various stages of development. Find the guide at: www.portlandoregon.gov/bes/ StewardWeedGuide



## **Reporting your work**

As a steward, we need to hear about the great work you are doing. Please use the activity log on page 11 to record your activities or use the electronic version available online at www.portlandoregon.gov/bes/StewardResources. The electronic version will automatically calculate totals for you.

Send each completed activity log to Svetlana.Pell@portlandoregon.gov. We will check in with you at the end of each season via email.



things you would like the City to check.

Be sure to call 503-823-1700 for problems that threaten public safety or property, or for substance spills.

See page 3 for when to call 503-823-1424 about non-emergency maintenance issues.

## **Additional Resources**

In addition to information on the program site, check out these other helpful resources for information on plant identification, etc.

#### **Green Street Steward Program** www.portlandoregon.gov/bes/ GreenStreetSteward

#### Plant and weed identification GardenSmart Oregon: A Guide to non-invasive plants www.portlandoregon.gov/bes/

gardensmart

East Multnomah Soil & Water Conservation District weed identification www.emswcd.org/weeds

West Multnomah Soil & Water Conservation District common weeds www.wmswcd.org/programs/ common-weeds/

**Invasive Species** www.portlandoregon.gov/bes/ invasives

**Native Plants** www.portlandoregon.gov/bes/ **NativePlants** 

#### Portland Plant List

Both native and nuisance species lists www.portlandoregon.gov/bes/ plantlist

# Thank you!

Finally, give yourself a pat on the back for a job well done—and don't forget to tell us about it!

#### STEWARD NAME:

## **Green Street Steward Activity Log**

SEASON/YEAR:

	ΑCΤΙVΙΤΥ				DEBRIS-	TRASH-		NUMBER OF HOURS	TIME/VISIT			
DATE	Cleared curb openings	Cleared drains	Removed trash/debris	Removed sediment	Watered	Removed weeds	NUMBER OF BUCKETS (5 gal) Debris includes leaves, sticks, weeds, etc.	NUMBER OF BUCKETS (5 gal) How much trash did you collect?	NUMBER OF PEOPLE How many people helped today?	How much time did you spend at your green street(s)?	<b>TOTAL</b> Multiply the number of people by number of hours.	NOTES
											hours	
											hours	
											hours	
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											hours	
											hours	
TOTALS											hours	

Send completed logs to Svetlana.Pell@portlandoregon.gov

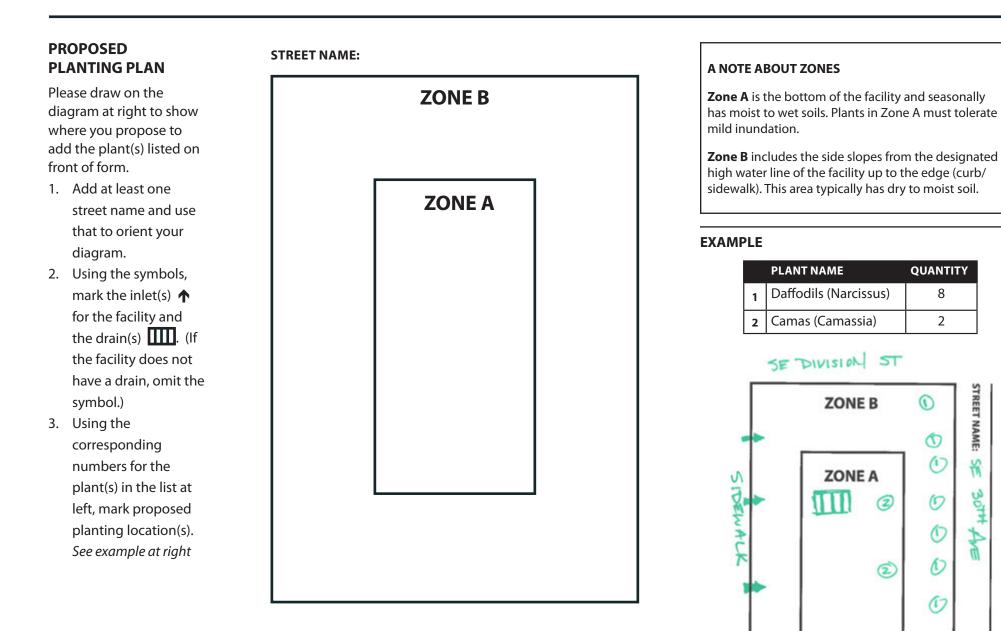


**Green Street Steward Program** 

## **REQUEST FORM**

## **Enhance a Green Street Facility by Adding Plants**

	CONTACT INFORMATION			PRO	POSED PLANT LIST	
STEWARD NAME:	O HOME	O WORK	O MOBILE	add t allow	e list the plants and quantities you would like to your facility. If your list is longer than this sp vs, please attach a separate sheet of paper wit	bace
STEWARD PHONE:				the a	dditional plants.	
STEWARD EMAIL:				1	PLANT NAME QUANTIT	Y
	FACILITY INFORMATION					
				2		
ADDRESS OF THE PR	OPERTY CLOSEST TO FACILITY:			3		
	1			4		
PROPOSED PLANTING DATE:				5		
I have discussed this	<b>request with Environmental Services.</b> O NO	O YES		6		
If yes, my Environmo	ental Services contact person is:			7		
Please do not begi	n work until the City has reviewed and appr	oved your re	quest.	8		
For more information, see page 7 of the Green Street Steward Maintenance Guide or call the				9		
coordinator at 503-82	3-8/64.			10		
FOR OFFICE USE	ONLY			11		
Date received: _		O Approve	d			-
Reviewed by:		O Denied		12		
					Please continue to planting plan on t	)ack.



#### Submit completed forms by

Svetlana.Pell@portlandoregon.gov EMAIL:

**OR MAIL:** City of Portland Environmental Services Attn: Svetlana Pell/Green Street Steward 1120 SW 5th Avenue, Room 1000 Portland, OR 97204

#### Green Street Stewards Maintenance Guide | FORM A

STREET NAME:

K

10g



**Green Street Steward Program** 

## **REQUEST FORM**

## **Remove and Replace Vegetation in a Grassy Swale**

COI	NTACT INFORMATION	P	PRC	POSED PLANT LIST		
STEWARD NAME:		Please list the plants and quantities you would like to add to your facility. If your list is longer than this space allows, please attach a separate sheet of paper with				
STEWARD PHONE:	O HOME O WORK	t t	the additional plants.			
STEWARD EMAIL:				PLANT NAME	QUANTITY	
FAG	CILITY INFORMATION		1			
			2			
ADDRESS OF THE PROPERTY CLOSEST T	O SWALE:		3			
			4			
PROPOSED PLANTING DATE:			5			
I have discussed this request with Env	ironmental Services. O NO O YES		6			
If ves. my Environmental Services con	tact person is:		7			
	-		8			
-	<b>City has reviewed and approved your rec</b> Green Street Steward Maintenance Guide or cal	-	9			
coordinator at 503-823-8764.			10			
FOR OFFICE USE ONLY			11			
Date received:			12			
Reviewed by:	O Denied		12			

Please continue to planting plan on back.

#### PROPOSED PLANTING PLAN

Please draw on the diagram at right to show where you propose to plant the plants listed on the front of this form.

- Add at least one street name and use that to orient your diagram.
- Using the symbols, mark the inlet(s)
   ↑ locations. Mark any and all tree ●

locations.

3. Use the corresponding numbers for the plants in the list at left to mark proposed planting locations.

#### STREET NAME:

## **ZONE B**

No invasive or edible plants. Nothing taller than 36 inches.

List of suggested plants: www.portlandoregon.gov/bes/GSSplants.

## **ZONE A**

Only plants from the City's Stormwater Management Manual.

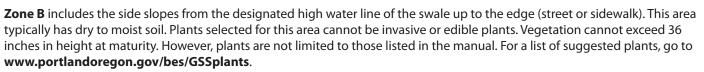
www.portlandoregon.gov/bes/SWMM

#### Submit completed forms by

- **EMAIL:** Svetlana.Pell@ portlandoregon.gov
- OR MAIL: City of Portland Environmental Services Attn: Svetlana Pell/ Green Street Steward 1120 SW 5th Avenue, Room 1000 Portland, OR 97204

#### A NOTE ABOUT ZONES

**Zone A** is the bottom of the swale. This area has moist to wet soils. Plants located in Zone A must tolerate mild inundation and must be selected from the City's Stormwater Management Manual (**www.portlandoregon.gov/bes/SWMM**).



**ZONE B** 

STREET

**ZONF B** 

SIDEWALK

High-water line

**ZONE** A