

StormwaterWise Landscapes: Pavement Removal and Planting Specifications

Purpose & Benefits

- Stormwater runoff and pollution reduction
- Groundwater recharge
- Creates an attractive landscaping feature, with native flowering plants
- Promotes healthy soils & air quality

Description

Pavement removal increases the amount of area on your property where rainwater can soak into the ground. After the pavement is removed, compost or leaf mulch are tilled or dug into the soil to reduce soil compaction. The addition of compost or leaf mulch will improve the quality of the soil and encourage water to soak into the ground. Native plants and mulch are added to further improve the soil and encourage water to soak into the ground. Examples of areas where pavement could be removed include:

- Unused play areas
- Sections of a driveway that are not used for parking
- Patios and walkways that are no longer in use

What to Expect

Pavement removal will replace an unused surface with a native plant conservation landscape. The design of the landscape can match the aesthetic preferences and maintenance skills of the property owner. Designs can range from natural-looking meadows or wooded strips to more traditional mulched landscape beds.



1. Submittals

The following items must be submitted to the Arlington County StormwaterWise program as part of a pavement removal project.

Prior to Construction:

- Plan view of the site, depicting the dimensions and area of the pavement removal area.
- Type of soil amendment to be used.
- Plant list and planting plan. Include the number of plants of each species to be installed. (If you need to modify the approved planting plan due to plant availability or cost, the changes must be approved prior to installation.)
- Project Budget Estimate

After Construction:

- Photographs of the soil amendments and tilling in progress.
- Photographs of the completed conservation landscape.

2. Location, Feasibility, and Design

The following must be considered when implementing a pavement removal project:

Size -Pavement removal projects must be a minimum of 150 square feet for a residential project, 300 square feet for an HOA project.

Proximity to Utilities- Always call Miss Utility before digging. Most pavement removal projects will disturb the uppermost 6 to 12 inches of the soil, and may interfere with shallow utilities. Also, be aware that Miss Utility may not always mark private cable, propane, and similar lines, so some additional site work may be necessary to locate these.

Pavement Removal Methods – Pavement removal should be done using a jackhammer or excavation equipment. It is recommended that a concrete saw be used if there is adjacent pavement that will remain. A saw cut will provide a clean edge for the remaining pavement.

Disposal – The pavement and any underlying gravel will need to be removed from the site and disposed of properly. Arlington County's Inert Materials and Scrap Metal Drop Off Facility will accept concrete, asphalt, stone, and dirt, but this service is limited to one 3 cubic yards (or one pickup truck load) per month. Other pavement recycling options may be available.

Soil Preparation – After the pavement and underlying gravel have been removed, the soil will need to be amended and turned to reduce the soil compaction. If the soil is not amended and turned to reduce the compaction, it will not allow rainwater to infiltrate and may remain nearly as impervious as the original pavement area. Compost makes an excellent soil amendment, and it can be mixed into the soil using a

rototiller or by hand using a technique such as double digging. Turning the soil will help aerate it and reduce the compaction, and will also distribute the compost throughout the soil. Leaf mulch can also be used as a soil amendment. See the *StormwaterWise Landscapes: Conservation Landscaping Specifications* for more information on compost amendments and soil preparation.

Stepping Stones – Some projects may include stepping stone pathways in place of the removed pavement. Stepping stones can either be set directly on top of the amended soil, or they can be placed on a layer of sand or gravel for improved stability. The maximum width of stepping stone paths is two feet.

Planting- Pavement removal areas must be replaced with conservation landscapes. See the *StormwaterWise Landscapes: Conservation Landscaping Specifications* for more information on plant selection.

Erosion Control - Depending on the size of the pavement removal project, anticipated weather, and number of days needed for implementation -- it may be advisable to place silt fence or hay bales downhill from pavement removal area. Take all precautions necessary to not contribute sediment to downhill storm drainage systems and waterways.

3. Construction

Step 1 – Outline the pavement removal area: Mark the boundaries of the pavement removal area. Call Miss Utility before any excavation and also check for private cable, propane, electric, and other lines. Also try to identify private propane, cable, electric, and other small lines. Make sure to have a plan and phone numbers of who to call in case there is any damage to utilities.

Step 2 – Remove the pavement: Saw-cut the edges of pavement to be removed, if applicable. Break up pavement with a jackhammer or backhoe. Remove the pavement and underlying gravel, and dispose of properly.

Step 3 – Amend the Soil: Till the area to be planted to a depth of approximately 6 to 12 inches, using a rotary tiller (or, for small areas, by hand using shovels and forks). Add 2-4 inches of a suitable compost mix or leaf mulch evenly across the conservation landscape while tilling. The soil amendment process is a critical step to improve the soil's ability to infiltrate water, and is required.

Step 4 – Install Stone, if applicable: If the volume and speed of water flowing into the landscape appears to have the potential to cause erosion, add cobble stone at downspouts and any other inlets or edges where water is concentrated.

Step 5 – Install Plants and Mulch: Install native plants per grower's instructions, aiming for about one plant every 2 square feet for herbaceous plants, with more space provided for trees and shrubs. The planting plan should aim for 100% coverage at maturity. Add 2 – 3 inches of hardwood or composted leaf mulch around the plants to retain soil moisture and reduce weed growth.

Step 6 – Water: Water plants immediately, then approximately once every three days for the first month (depending on rainfall).

4. Maintenance

Maintenance of conservation landscapes is very similar to the maintenance of traditional landscape beds. Those performing maintenance on conservation landscapes need to be able to differentiate between native plants and non-native plants to know which are desirable and undesirable. The following maintenance should be performed to keep conservation landscapes functioning properly:

- During the first few months, water new plants to ensure establishment. New trees should be watered during dry periods for the first two years following installation.
- In the spring or fall, replace dead plants and divide plants that are exceeding their allotted space.
- Do not add chemical fertilizers, herbicides, or pesticides.
- Remove any weeds by hand pulling.
- Check for signs of erosion and address as needed by adding cobble or gravel.
- For “meadow” type conservation landscapes consisting of grasses, mow to 6-8 inches in early spring
- For other types of landscapes, check for winter damage and add mulch to bare spots as desired (2–3 inches)
- Trees and shrubs may need occasional pruning and perennials may need deadheading, depending on species.
- Keeping seed heads on plants through the winter can provide additional habitat value.

5. Resources

Alliance for Chesapeake Bay, *BayScapes Homeowners' Guide to Designing Your Property*. Available at: <http://allianceforthebay.org>

Chesapeake Conservation Landscaping Council, *Conservation Landscaping Guidelines: The Eight Essential Elements of Conservation Landscaping*. Available at: <http://www.chesapeakelandscape.org>

U.S. Fish and Wildlife Service, *Native Plants for Wildlife Habitat and Conservation Landscaping*. Available at: <http://www.nps.gov/plants/pubs/chesapeake/>

Virginia Cooperative Extension, *For the Birds, Butterflies & Hummingbirds: Creating Inviting Habitats*. Available at: (www.pubs.ext.vt.edu/HORT/HORT-59/HORT-59.html).