



MASON COUNTY DEPARTMENT OF COMMUNITY DEVELOPMENT

Mason County Bldg. III, 426 West Cedar Street
PO Box 186, Shelton, WA 98584

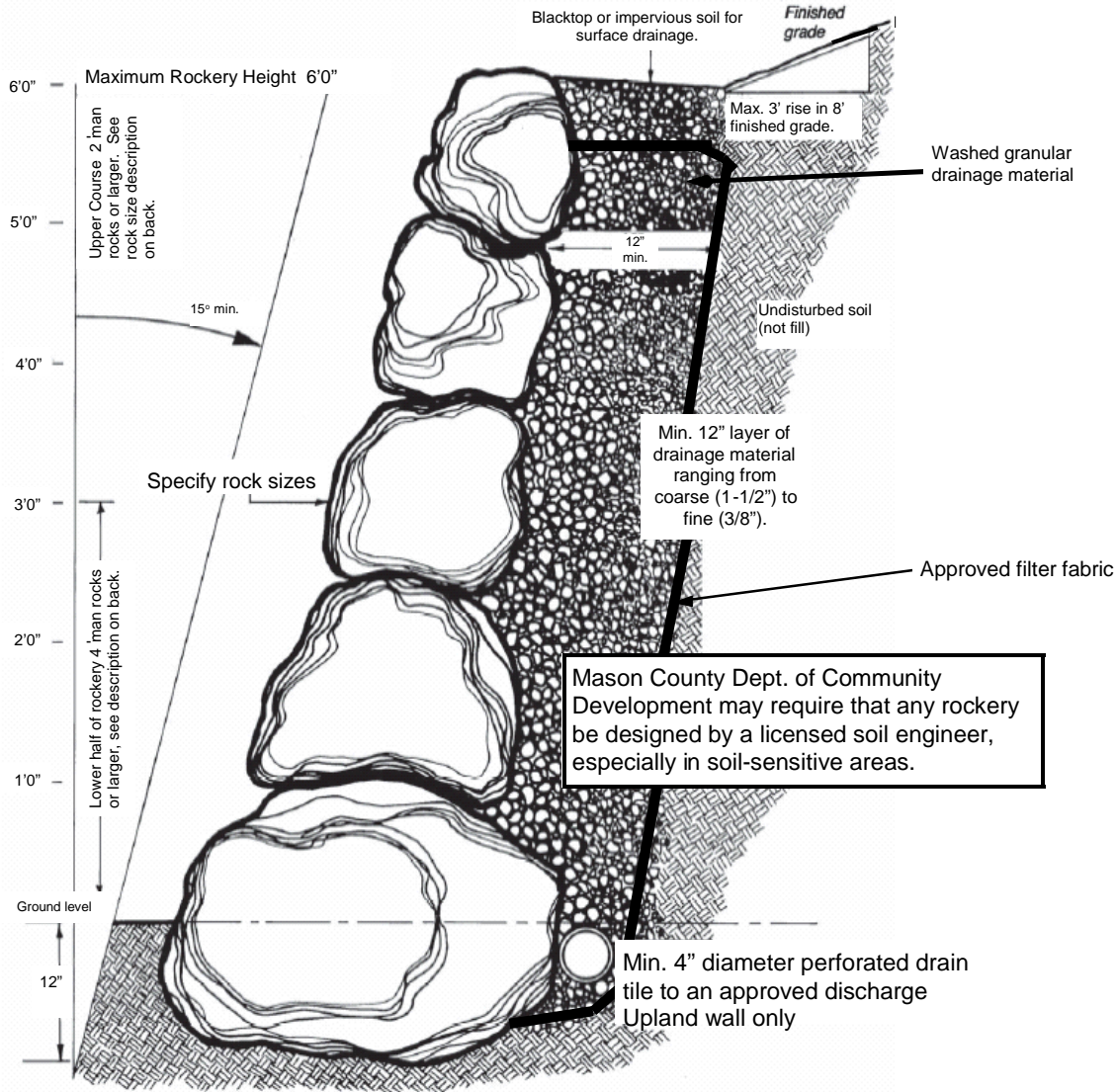
www.co.mason.wa.us

(360) 427-9670

Belfair (360)275-4467

Elma (360)482-5269

UPLAND ROCKERY and SHORELINE BULKHEAD Prescriptive Design and Installation Standard



Permits Required

A building permit is required for all upland rockeries over four feet in height. Rockeries less than four feet in height do not require a permit unless: 1) Located on a site containing an Environmentally Critical Area (See Mason County Critical Area Ordinance. 2) There is a surcharge such as a driveway, building footing, etc, 3) impoundment of Class I, II, or III-A liquids (IBC 105.2) OR #4) Possible failure that could cause damage to adjoining properties or structures.

Even when rockeries do not require a permit, rockery installers are advised to follow the rockery design principles outlined in this publication. Permit applications for rockeries must include a site plan showing the location of the rockery and a cross section of the rockery showing the proposed design details. Rockery designs must either be prepared by a Washington State licensed engineer or comply with the Prescriptive Rockery Installation Design.

Rockeries over 6-feet in height must be designed by a Washington State licensed engineer or architect to ensure stability against overturning, sliding, excessive foundation pressure and water uplift. Upland rockery retaining walls shall be designed for a safety factor of 1.5 against lateral sliding and overturning IBC 1806.

Rockery and Shoreline Bulkhead

Height: Maximum Six Feet

Rockeries installed in accordance with the prescriptive installation design standards described here and reflected in the diagram need not be designed by an engineer unless the Mason County Building Dept. determines special conditions exist. Any rockery exceeding six feet in height or varying from the prescriptive design requires an engineered design.

Location of Rockery

Rockeries must only be placed against stable slopes, consisting of firm, undisturbed soil. The face of the slope needs to be able to support the rockery. Drainage must be provided as shown. Rockeries must not be placed against fill. No surcharge load, such as a building or driveway, may be placed on the rockery or within a distance equal to the vertical height of the rockery.

Ground Surface Above Rockery

The ground surface above the rockery should be relatively level. A maximum three foot rise over eight feet from the rockery surface is allowed for the slope above the rockery. After installation of the rockery, the ground surface above the rockery should be finished with an impervious material, such as asphalt, starting at the top of the rockery and extending at least far enough back to cover the drainage material plus one foot of the stable, supporting slope.

Angle of the Rockery Face

The face of the rockery shall be at least 15 degrees from the vertical. Maximum slope of the face of the rockery is one horizontal to four vertical.

Rock Sizes

For a rockery between four and six feet in height, the prescriptive standards requires that the lower half be constructed of four-man or larger rocks (defined below). For the upper half, progressively smaller rocks may be used in the installation.

ROCK SIZE DESCRIPTION		
Rock Size	Rock Weight	Average Dimension
1-man	50-200 lbs.	12"-18"
2-man	200-700 lbs.	18"-28"
3-man	700-2,000 lbs.	28"-36"
4-man	2,000-4,000 lbs.	36"-48"
5-man	4,000-6,000 lbs.	48"-54"
6-man	6,000-8,000 lbs.	54"-72"

Rock Placement

The base course of rocks must be embedded into firm undisturbed earth to a minimum depth of 12 inches to provide a secure footing for the rockery. The long dimension of the rocks must extend into the slope behind the rockery to provide maximum stability. Subsequent courses of rocks must be placed to lock into the rocks in the lower course or tier.

Drainage

A minimum of 12 inches of washed granular drainage material shall be placed between the undisturbed soil and the rockery. The drainage materials must be composed of gravel with particle sizes ranging from 1-1/2 inch to 3/8 inch. At the base of the rockery, a perforated drain tile, with at least a four-inch diameter, shall be installed within the drainage materials. The drain tile must drain to a point of discharge, approved by Mason County.

Inspections

The rockery installer must schedule an inspection prior to placement of the base course so the Mason County Inspector may verify the rockery height, soil condition, rock size, and provisions for drainage, A final inspection is also required once all work is complete. To schedule an inspection call the Mason County 24-hour recorded inspection request line at (360)427-7262. Inspections can also be requested online at: www.co.mason.wa.us or by fax at (360) 427-7798. When requesting an inspection please provide the following information:

- 1) Name on permit
- 2) type of inspection
- 3) Permit number
- 4) Site Address
- 5) Type of permit
- 6) Date inspection requested and
- 7) Name and phone number of caller.