

Seattle Permits

— part of a multi-departmental City of Seattle series on getting a permit

Rockeries: Prescriptive Design and Installation Standards

Updated December 21, 2021

This Tip is about how to design and Install rockeries safely. Rockeries are common landscaping and erosion control features in Seattle.

We don't consider rockeries to be retaining walls. Different and stricter structural standards than those contained in this Tip apply to retaining walls. Rockeries require firm, stable soil to provide part of their support and do not have sufficient structural strength to act as retaining walls. The standards in this Tip apply only to rockeries whether constructed of rocks or any other material.

Permits Required

A building permit is required for all rockeries over four feet in height. Rockeries less than four feet in height do not require permits, unless:

- They are located on a site containing an Environmentally Critical Area (Seattle Municipal Code 25.09.020)
- There is a surcharge, impoundment of Class I, II, or III-A liquids (Seattle Residential Code R25.09.012)
- There is a possible failure that could cause damage to adjoining properties or structures (Seattle Residential Code R105.2)

Rockery installers are advised to follow the rockery design principles outlined in this publication even when rockeries do not require a permit.

Permit applications for rockeries must include a site plan showing the location of the rockery and a cross section of the rockery providing the design details of the proposal. Rockery designs must either be prepared by a geotech-

nical engineer or comply with the Prescriptive Rockery Installation Design described below.

You can apply for a simple rockery permit online using the Seattle Services Portal at <https://cosaccela.seattle.gov/Portal/Welcome.aspx>. You will also have to schedule a building inspector to inspect your rockery. You can schedule the inspection using the Seattle Services Portal. (

Rockeries may be available for subject to field inspection (STFI) permits if they aren't in an ECA, are not more than 4 feet tall, and meet prescriptive requirements.

Prescriptive Rockery Installation Design

Height: Maximum of 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 SDCI determines special conditions exist. Any rockery exceeding six feet in height or varying from the prescriptive design requires an engineered design and requires formal permit application by appointment and a thorough plan review.

Location of Rockery

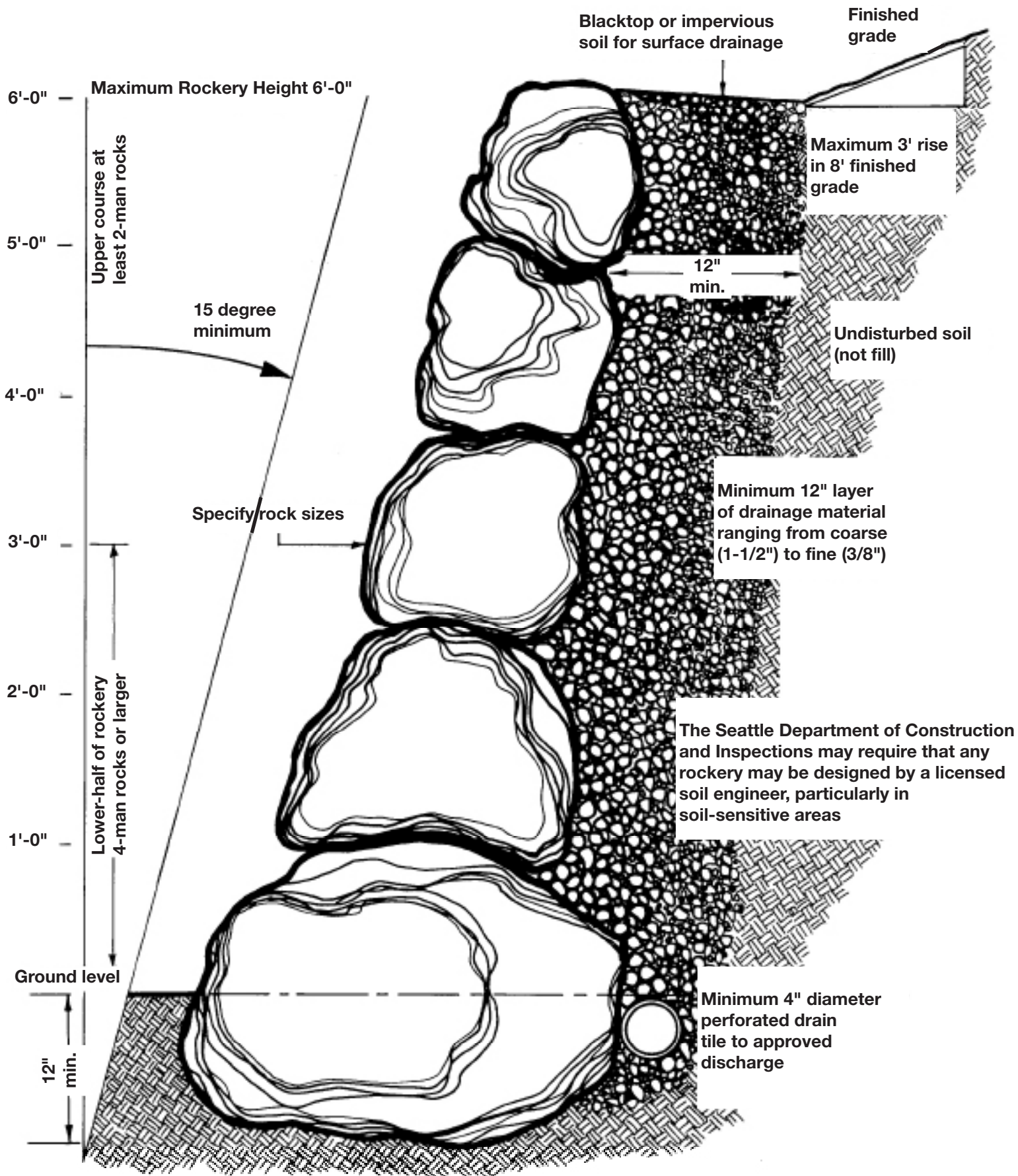
Rockeries must only be placed against stable slopes, consisting of firm, undisturbed soil. The face of the slope needs to be able to support the rockery. Drainage must be provided as outlined on the next page. Rockeries must not be placed against fill. No surcharge load, such as a building or driveway, 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 3 foot rise over 8 feet from the rockery surface is allowed for the slope above the rockery. After you've installed the rockery, you should

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finish the ground surface above the rockery by covering it 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 and 1 foot of the stable, supporting slope.

Angle of Rockery Face

The face of the rockery needs to be at least 15 degrees from the vertical. The maximum slope of the face of the rockery must be 1 horizontal to 4 vertical.

Rock Sizes

For a rockery between four and six feet in height, the prescriptive standard 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, with a minimum size of two-man for the uppermost course. The plans must include the rock sizes to be used in the installation. (See approximate rock sizes in the table below.)

APPROXIMATE ROCK SIZES

Size	Weight	Volume
1-man	58 - 210 lbs.	0.4 - 1.3 cubic ft.
2-man	265 - 580 lbs.	1.6 - 3.6 cubic ft.
3-man	760 - 1,830 lbs.	4.7 - 11.2 cubic ft.
4-man	3,000 - 4,000 lbs.	18.4 - 24.5 cubic ft.
5-man	5,000 lbs.	30.7 cubic ft.
6-man	7,000 lbs.	42.9 cubic ft.

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 granular drainage material needs to 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. You must install a perforated drain pipe, with at least a 4-inch diameter, at the base of the rockery, within the drainage materials. The drain pipe must drain to a point of discharge, approved by SDCI per Seattle Public Utilities (SPU) standards. For further information, please call SDCI's Drainage and Sewer Review Desk at (206) 684-5362 or email sidesewerinfo@seattle.gov.

Inspections

The rockery installer must call our Inspection Services Division at (206) 684-8950 to schedule an appointment prior to placement of the base course so the 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.

Inspections may also be scheduled by calling SDCI's 24-hour recorded inspection request line at (206) 684-8900.

Access to Information

Links to electronic versions of SDCI **Tips, Codes, and other helpful publications** are available on the "Tools & Resources" page of our website at www.seattle.gov/sdci. Paper copies of these documents are available from our Public Resource Center, located on the 20th floor of Seattle Municipal Tower at 700 Fifth Avenue in downtown Seattle, (206) 684-8467.