

Seattle Permits

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

Grading and Retaining Wall Construction Near or Adjacent to Property Lines

December 7, 2005

The purpose of this Tip is to provide graphic examples of grading and retaining wall construction activities located in close proximity to property lines and/or the public place (right-of-way). Refer to the exhibits on pages 4-11 for these examples.

Some of these construction activities may require a permit issued by the Seattle Department of Construction and Inspections (Seattle DCI). All grading and construction activities must comply with the Seattle Municipal Code (SMC), Seattle Building Code (SBC), and other applicable codes, even when no permit or approval is required. It is important to note that this Tip should not serve as a substitute for codes and regulations; you should consult SDCI staff before beginning construction.

Existing codes

- SMC 22.804.030 A.3, "Grading Near Public Places, Stormwater, Grading and Drainage Control Code"
- SMC 22.804.100, "Protection of Adjoining Property, Stormwater, Grading and Drainage Control Code"
- SMC 25.09.080 D, "Bonds and Insurance, Environmental Critically Areas Ordinance"
- SBC 106.2, "Seattle Building Code"

Definitions

Unless otherwise defined, all technical and material terminology used in this Tip is to be given meaning as commonly accepted in the grading and retaining wall trade.

1H:1V Slope: SMC 22.804.100 defines this as a slope that changes in grade by 1 horizontal foot for every foot of vertical distance. For example, a 1H:1V slope would exist if a 10-foot vertical change occurs over a distance of 10 feet horizontally, or 5 feet vertically over a 5-foot horizontal distance, etc. Note that the 1H:1V slope shown on the attached figures is the minimum slope dictated by the grading code. It may not be appropriate for protection of adjacent property if difficult soil and/or groundwater and surface water conditions exist at the site. A private geotechnical engineer should be consulted if the property owner suspects that difficult conditions may be present.

2H:1V Slope: SMC 22.804.040 defines this as a slope that changes in grade by 2 horizontal feet for every foot of vertical distance. For example, a 2H:1V slope would exist if a 10-foot vertical change occurs over a distance of 20 feet horizontally, or 5 feet vertically over a 10-foot horizontal distance, etc.

3H:1V Slope: SMC 22.804.030 defines this as a slope that changes in grade by 3 horizontal feet for every foot of vertical distance. For example, a 3H:1V slope would exist if a 10-foot vertical change occurs over a distance of 30 feet horizontally, or 5 feet vertically over a 15-foot horizontal distance, etc.

Earthwork: The cumulative volume of grubbing, cuts and fills for a site (25 cubic yards in an environmentally critical area [ECA]; 100 cubic yards in a non-ECA).

Ecology Block Wall: A wall built with large, interlocking concrete blocks where the blocks are generally on the order of 4 to 6 feet long, 2 feet wide, and 2 feet high or more.

Environmentally Critical Area (ECA): Land that has been designated and protected as required by the Washington State Growth Management Act (GMA). The GMA requires the City to consider the "best available science" in developing codes and policies. It also requires cities to give special consideration to the habitat requirements of anadromous fish, such as salmon.

Final Grade: The configuration of the ground surface, in terms of elevation, following completion of construction activities such as fill or excavation.

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Grading: Any earth disturbance including grubbing, excavations and fills. Note that grading volume calculations are cumulative, i.e., the volume must be calculated for the total grading for grubbing, excavations and fills.

Grading Permit Required: A stand-alone grading permit from Seattle DCI must be approved before work can begin. If the project contains elements that require a building permit, then grading is permitted through a grading approval that is conducted as part of the review for the building permit, and a stand-alone separate grading permit is not issued.

Influence Line: The influence line is shown on the diagrams as a line projecting downward from an adjacent structure at a 1H:1V slope. It is considered to be a minimum influence line where steeper slopes generally are not stable and flatter slopes are typically stable. Difficult soil and/or groundwater and surface water conditions could create a situation where a 1H:1V influence line is not appropriate. Also, surcharge loads (e.g., adjacent ground sloping toward the property line, structures close to the property line, etc.) might create a situation where the 1H:1V influence line is not appropriate. A private geotechnical engineer should be consulted if the property owner suspects that difficult conditions may be present.

No Grading Permit Required: All grading must comply with the “Grading” subtitle (SMC Chapter 22.804) and with federal, state and local laws and regulations, even where no permit or approval is required. Other permit(s) may still be required even if a grading permit is not required. All grading and construction activities shall comply with SMC, SBC, Temporary Erosion Sediment Control (TESC) Standard Plan, and other applicable codes even where no permit or approval is required. SDCI Tips, product manufacturers' specifications and other industry standards are helpful in providing guidance for completing successful projects.

P/L: Property line.

Public Place: Land that is intended for public streets, sidewalks, utilities and similar public improvements needed to serve the community.

R.O.W.: Right-of-way.

Segmental Block Wall: A wall built from small, interlocking masonry units (e.g., “Keystone,” “Pisa,” “Kelly” block walls, etc.). Engineering is usually required if the wall exceeds approximately 4 feet in height, fill material is to be placed behind the wall, and surcharge loads and/or difficult ground conditions exist.

Street Improvement: Grading, pavement, drainage devices or other improvements made to the public place whether on, above or below the ground surface.

Surcharge: A condition that results in additional pressure that is exerted on a cut or retaining wall (e.g., sloping soils, groundwater, adjacent structures, stored materials, etc.)

Access to Information

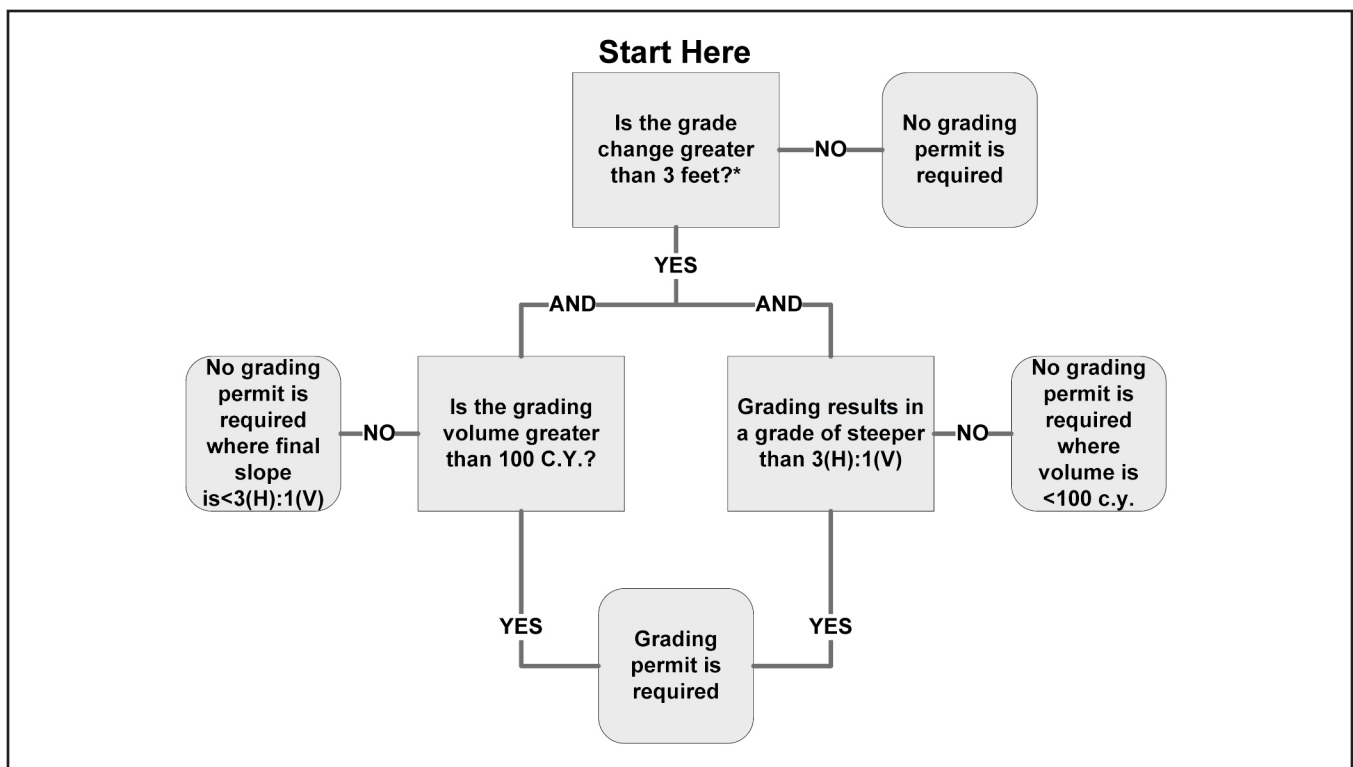
Links to electronic versions of SDCI Tip and commonly used forms are available on the “Tools & Resources” page of our website at www.seattle.gov/sdci. Paper copies of these documents, as well as additional regulations mentioned in this Tip, are available from our Public Resource Center, located on the 20th floor of Seattle Municipal Tower at 700 Fifth Ave. in downtown Seattle, (206) 684-8467.

Permit Requirements—Refer to exhibits on pages 4-11 of this Tip.

Exhibit No.	Description	Permit Required
1a	Grading that does not require a permit (unless site is in an ECA or in difficult soils or water)	No
1b	Grading that does not require a permit	No
2a	Protection of adjacent property and existing structure, temporary condition	N/A
2b	Protection of adjacent property and existing structures, permanent condition	N/A
3a	Retaining structures in non-ECA site with surcharge slope	Yes
3b	Retaining structures in non-ECA site with surcharge load	Yes
4	Retaining structures in ECA site	Yes
5	Tier retaining structures in non-ECA site	Yes

N/A = Not applicable for a permit, as these activities are reviewed in the building permit process.

Grading Permit Flow Chart



* General sites per SMC 22.804.030A(4)

NOTE: Most grading in environmentally critical areas, shorelines or sites with difficult soils will require a permit; confirm permit requirements with SDCI staff.

LEGAL DISCLAIMER: This Tip should not be used as a substitute for codes and regulations. The applicant is responsible for compliance with all code and rule requirements, whether or not described in this Tip.

Exhibit 1a: Grading that does not require a permit (unless site is in an ECA or in difficult soils or water).

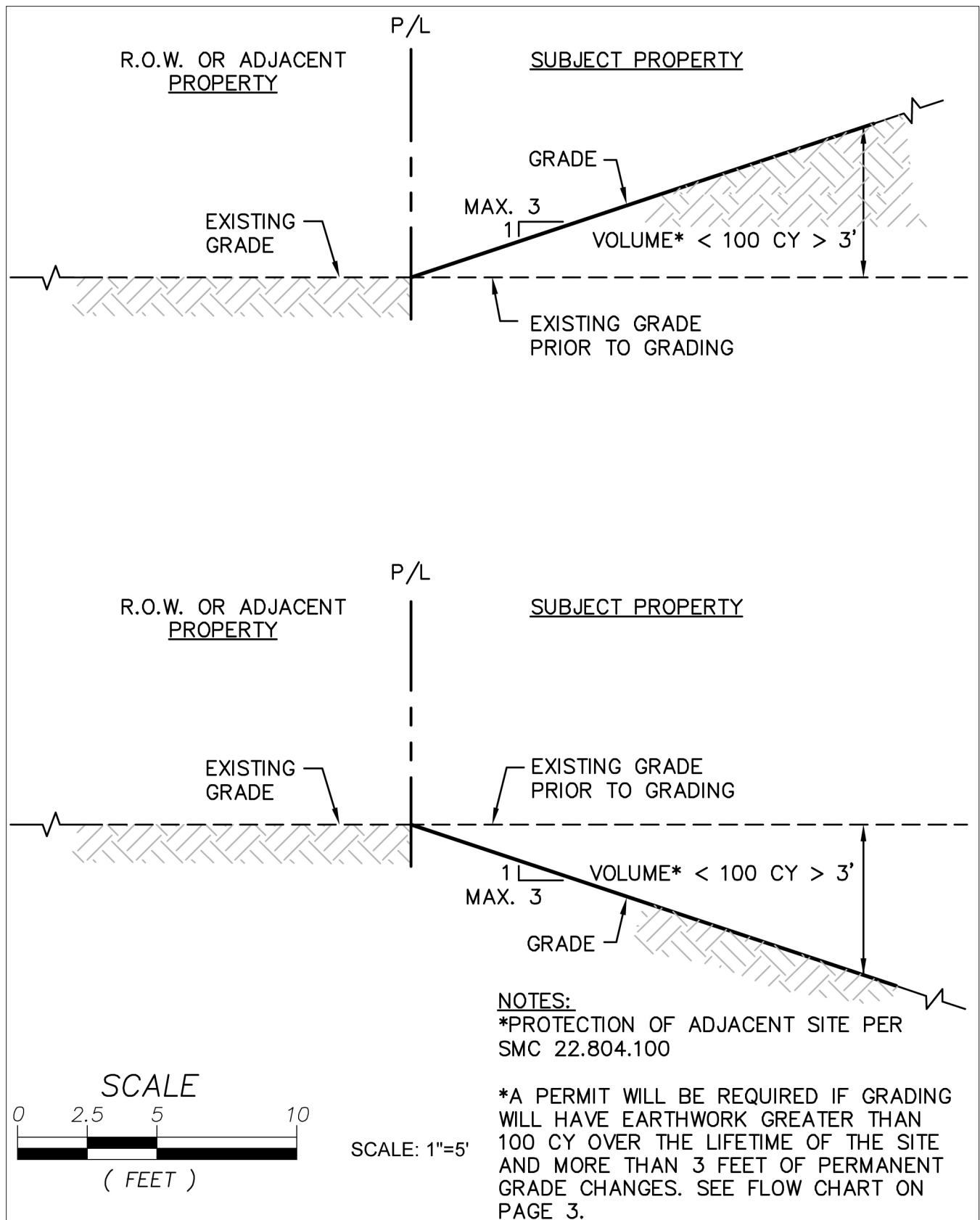


Exhibit 1b: Grading that does not require a permit (unless site is in an ECA or in difficult soils or water).

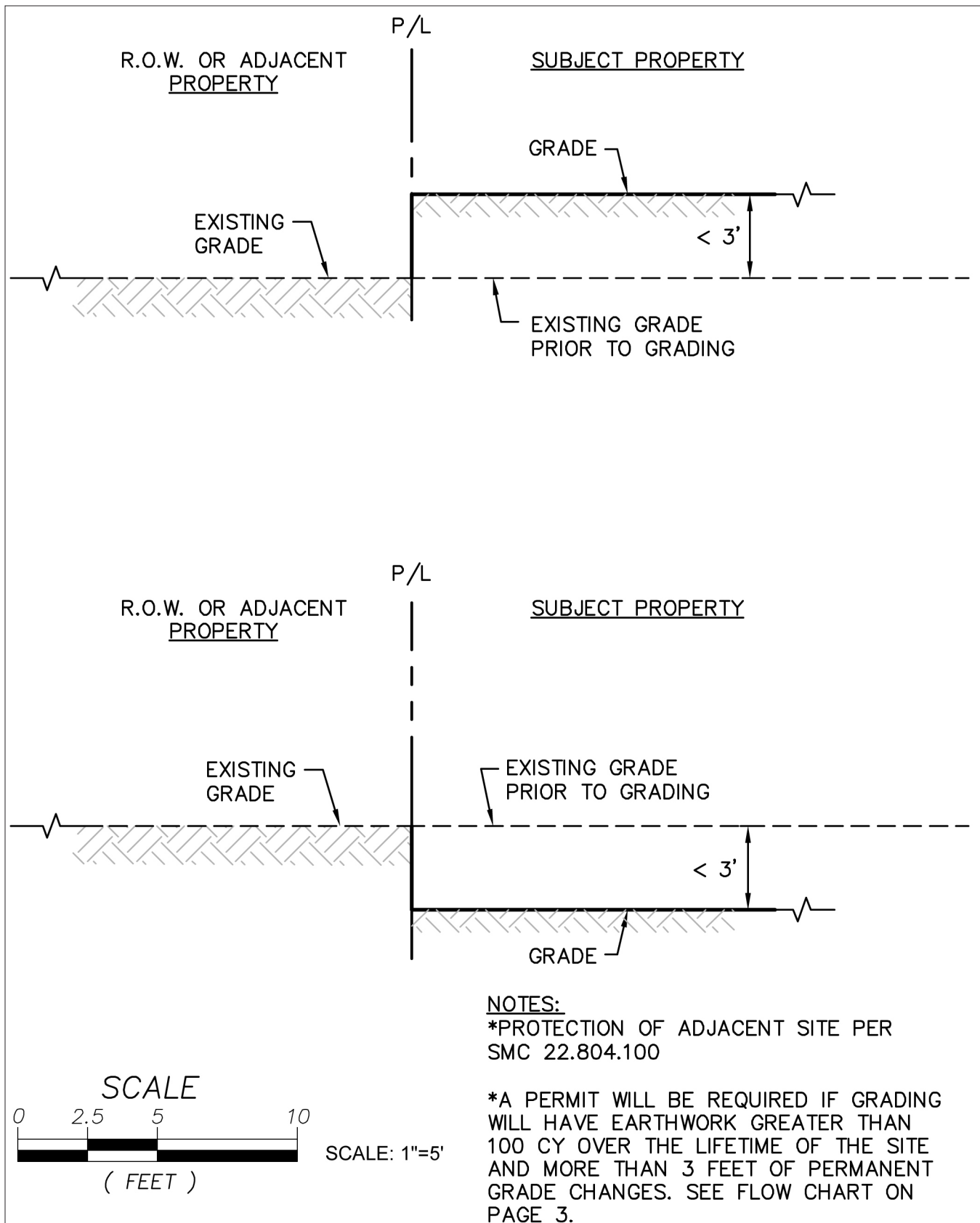


Exhibit 2a: Protection of adjacent property and existing structures. Not applicable for a permit, as these activities are reviewed in the building permit process.

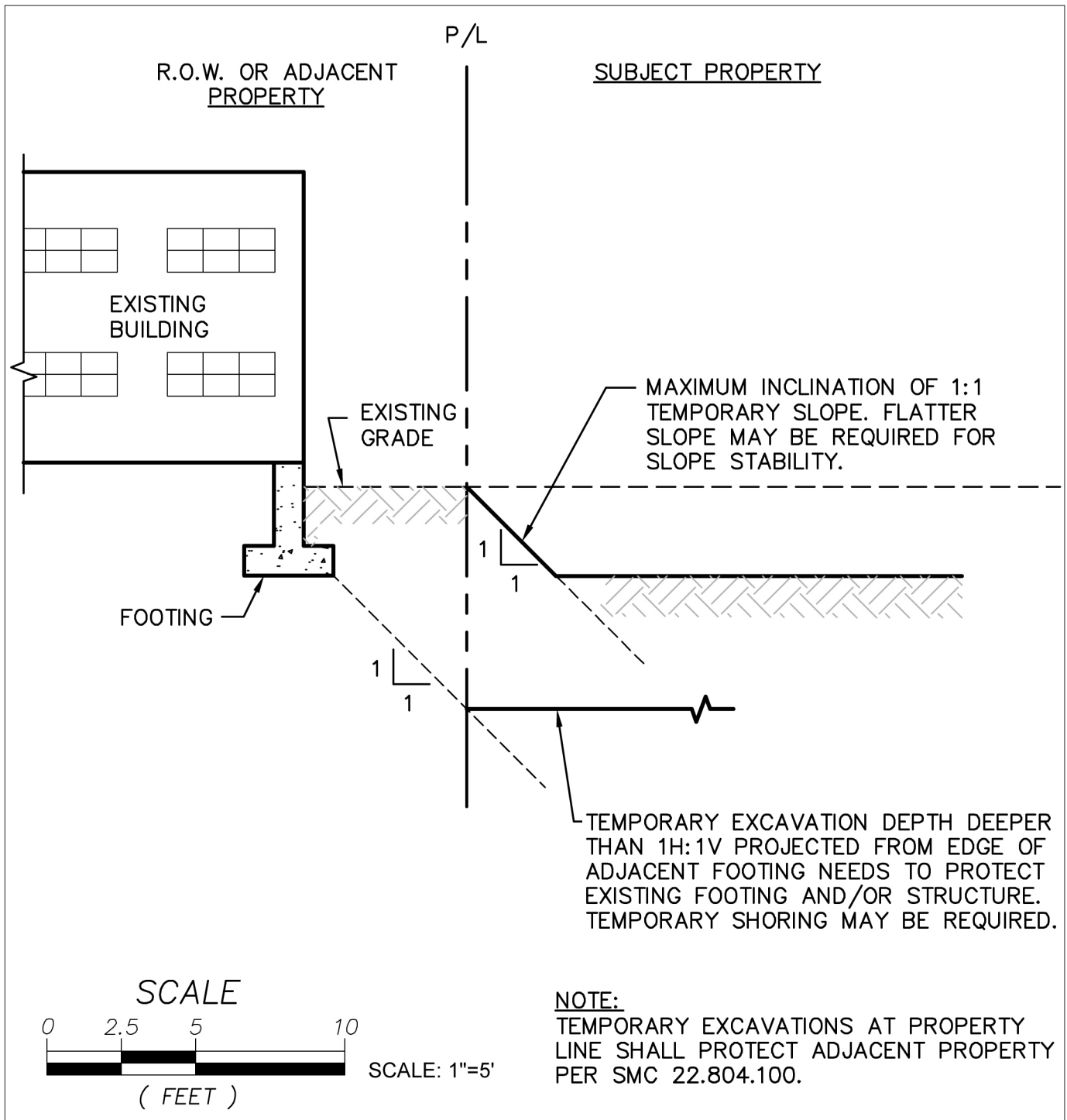


Exhibit 2b: Protection of adjacent property and existing structures with 2H:1V permanent slope. Not applicable for a permit, as these activities are reviewed in the building permit process.

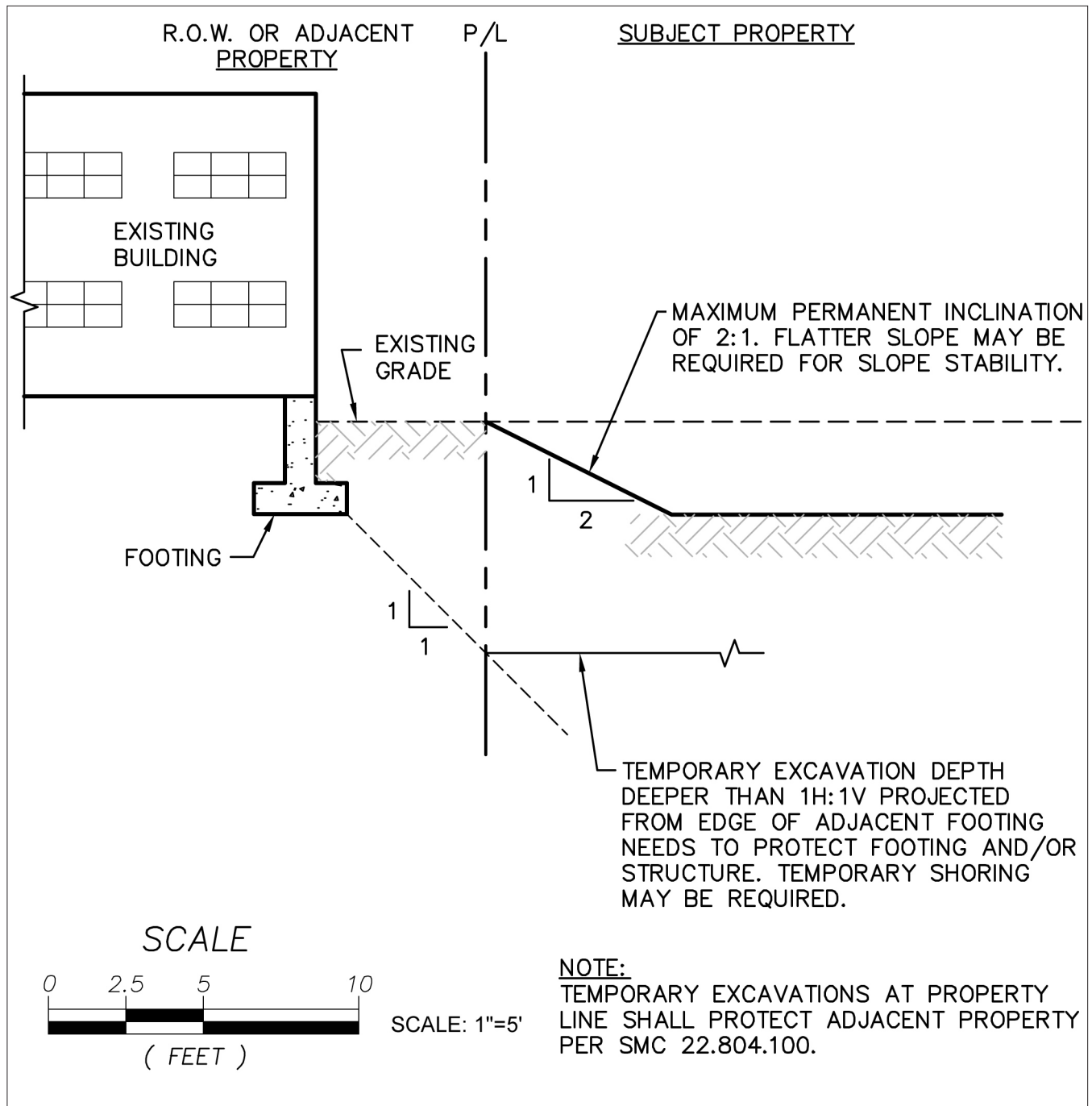


Exhibit 3a: Retaining structures in non-ECA site with surcharge slope. Requires a permit.

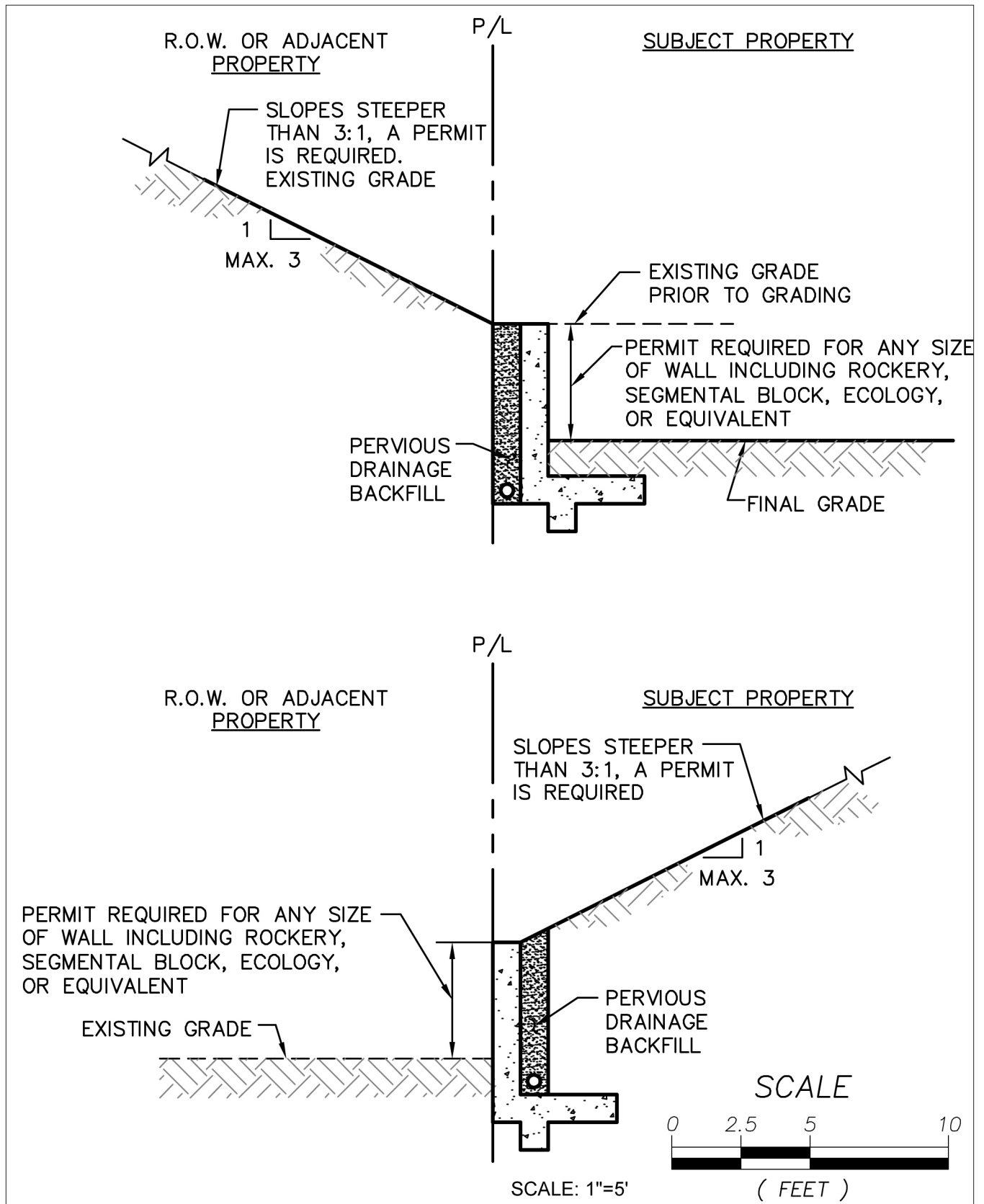


Exhibit 3b: Retaining structures in non-ECA site with surcharge load. Requires a permit.

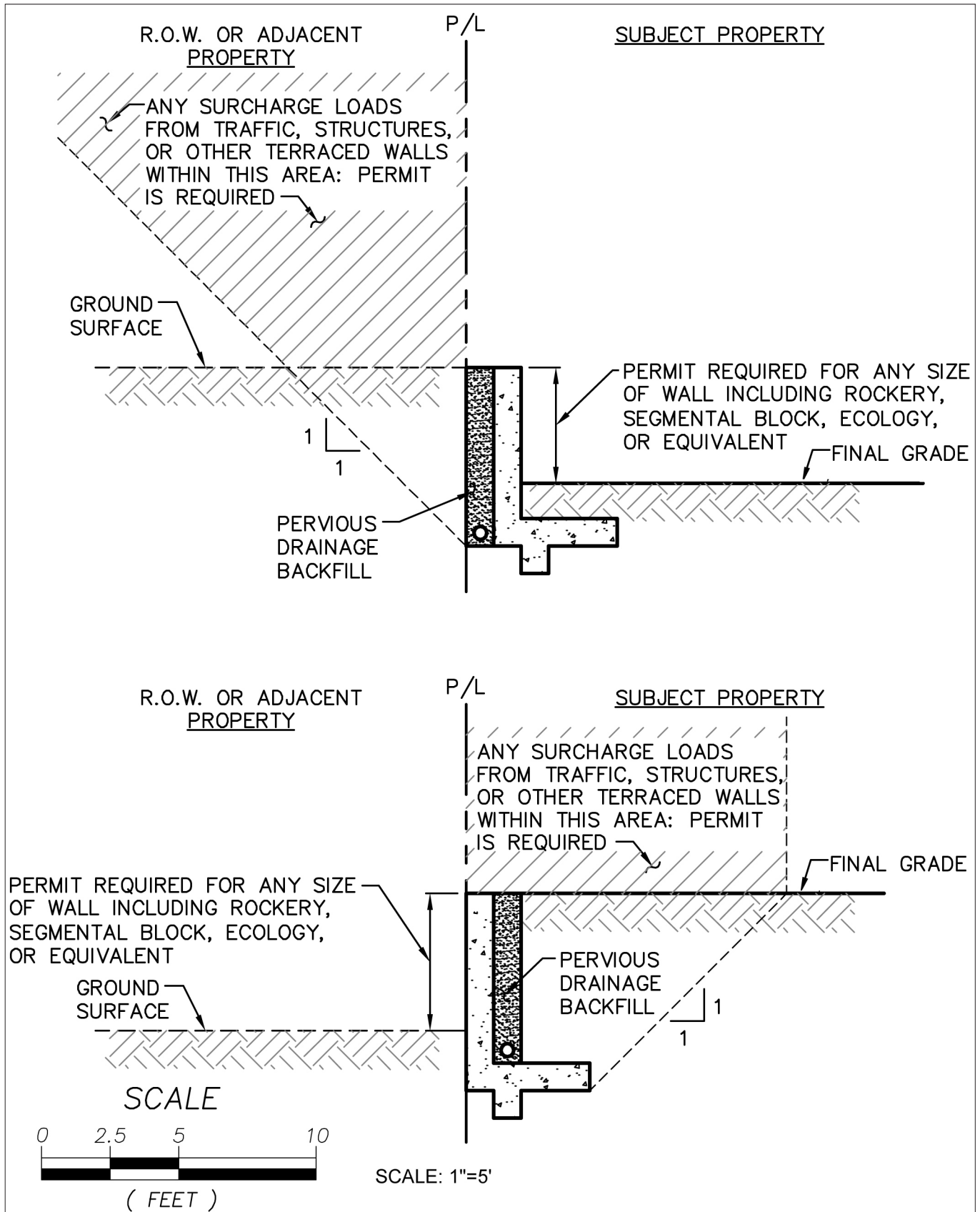


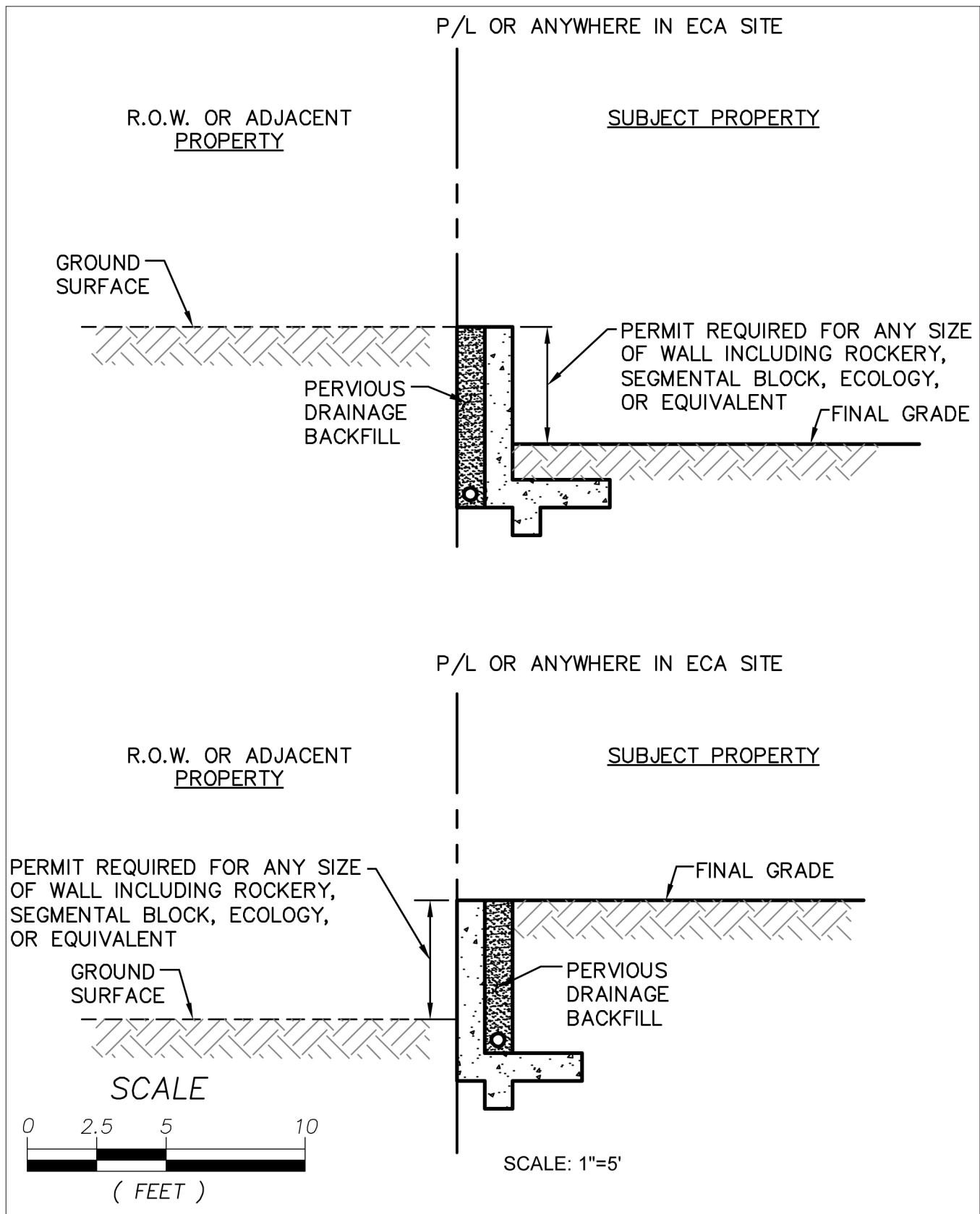
Exhibit 4: Retaining structures in ECA site. Requires a permit.

Exhibit 5: Tier retaining structures in non-ECA site. Requires a permit.

