



## City of Palo Alto

Public Works Engineering  
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## Grading & Drainage Guidelines for Residential Developments

*A Grading and Drainage Plan must be submitted with Building Permit applications for all new single family residences and separate accessory structures associated with single family residences. This plan shall be a separate sheet included with the Building Permit submittal and must be prepared by a qualified licensed engineer, surveyor or architect and be wet-stamped and signed by the same. The plan must comply with the following guidelines and include the information listed below:*

- Show appropriate spot elevations of existing and proposed grades, especially at high & low points. Show elevations at the four corners of the lot. Also provide spot elevations at the back of sidewalk (on the sidewalk surface) and the gutter.
- No more than one foot of fill may be added to the site without triggering a grading permit.
- Provide minimum slopes of 2% where possible to facilitate site drainage. Show this by proposed elevations. Provide flow arrows showing the proposed site drainage pattern as a result of the proposed grading.
- Provide a minimum slope of 2% away from the building foundation. Show this by proposed elevations adjacent to the foundation.
- Design the drainage for surface runoff without the use of area drains and pipe collection systems, if possible.
- If fill is to be added adjacent to the property lines, grades on neighboring properties will need to be obtained to document any potential impacts to these properties. Site grading shall not impede existing drainage from adjacent properties.
- In no case shall the final grading increase the normal sheet flow onto adjacent properties.
- Show where the roof downspouts are located. These downspouts should be directed to approved splash blocks (minimum 2 feet long) that deflect the water away from the building. Show (with arrows) how the water is proposed to move away from the splash blocks.
- Direct roof and site drainage to pervious areas of the site. Design the site drainage to take full advantage of these pervious areas.
- Provide proposed grades showing drainage paths on and from impervious areas (driveways, patios, etc.). This surface water must sheet-flow into a pervious area or toward the street. No catching of this water into area drains may occur.
- If a basement is proposed for the project, a drainage system is required for all exterior basement-level spaces such as lightwells, patios, or stairwells. This system consists of a sump, a sump pump, a backflow preventer, and a closed pipe from the pump to a dissipation device onsite at least 10 feet from back of sidewalk and 3 feet from side and rear property lines, such as a bubbler box in a landscaped area. NOTE: Perforated pipe drainage systems at the exterior of the basement walls or under the slab are not allowed for sites on the bay side of Foothill Expressway.