Reducing Landslide and Stormwater Erosion Damage: What You Can Do

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Each year landslides, erosion and sedimentation cause many thousands of dollars in damage to private and public property. Because of the Puget Sound region’s rainy season and periodic intense storms, many hills and steep slopes are subject to costly slides and erosion. Improper construction and development increase the risks and multiply the damages that storms may cause.

This Tip identifies potential and actual signs of landslide and erosion damage and provides solutions you can act on today.

SYMPTOMS TO LOOK FOR

• After or during a prolonged period of rain or an intense storm, inspect your property to locate points and areas which show evidence of surface water erosion or deposition of silt, sand or mud.
• Check the flow from downspouts, roof drains and drainage ditches on your property and the road or street which serves your property; remove obstructive debris.
• Check for concentrated, or heavy surface flows coming on to your property from adjacent areas.
• Check the ground at the bottom and top of steep slopes for saturated soils or ponded water indicating poor drainage and a potential for earth movement.

SOLUTIONS

Take Preventive Action

• The potential for landslides and destructive erosion can be greatly reduced or prevented with proper development, sound construction techniques,
Your intercepting ditch should be nearly horizontal, with a minimum slope, sufficient to allow water to flow slowly. Smooth the sides of the ditch and plant with rye or lawn grass; keep all ditches free of debris. Obtain the approval for the discharge point from SDCI.

Maintain Ditches and Report Major Problems

- All drainage ditches require maintenance, including annual debris removal and vegetation trimming.
- Report erosion problems not easily corrected to the Seattle Department of Transportation (SDOT) and/or SDCI.

Reduce Landslide Potential

- Preserve natural vegetation, especially on hillsides, steep slopes and stream sides.
- On steep slopes, do not remove vegetation; for view enhancement, trim trees rather than completely remove; obtain permit when required. Direct water away from steep slopes.
- Water or irrigate with care; do not soak lawn or garden areas located on or near steep slopes. Select plants which do not require deep or intensive watering.
- Do not deposit garbage or vegetative debris on steep slopes.
- Maintain single, low-slope trails down or across steep slopes; discourage play areas, caves and excavations on steep slopes.
- If scars develop as a result of earth movement or water run off, immediate remedial action is needed or the condition will worsen. Direct surface water away from the scarred area by ditching or piping.

Subsurface water may also be present in the scarred area and should be directed away from the damaged area. Application of plastic sheeting, or manufactured fabric, adequately anchored, will prevent additional erosion from rainfall. Disturbed areas should be restored and planted during the next growing season. If the disturbed area is large or is located near a building, immediately notify SDCI.

HELPFUL RESOURCES

- For information on environmentally critical areas (ECAs), contact SDCI at (206) 684-8850.
- For general information, existing site drainage, and discharge point approval, call or visit the Drainage & Sewer Review Desk at the SDCI Applicant Services Center, located on the 20th floor of Seattle Municipal Tower, 700 Fifth Ave., (206) 684-5362.
- For online access to the ECA and Seattle Grading and Drainage Control codes, visit www.seattle.gov/sdci/codes/codes-we-enforce-(a-z).
- The Washington State Department of Ecology’s landslide website also provides the following helpful online documents (scroll down to the “Online Resources” section at www.ecy.wa.gov/programs/sea/landslides/help/help.html):
  - Managing Drainage on Coastal Bluffs
  - Managing Vegetation on Coastal Slopes
  - Controlling Erosion Using Vegetation
  - Puget Sound Shorelines

Access to Information

Links to electronic versions of SDCI Tips, Director’s Rules, and Forms 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 Ave. in downtown Seattle, (206) 684-8467.

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.