Assessing & Managing Storm Impacts to Your Property

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Presentation Overview

- Storm Related Damages & What to Expect
- Hillside Erosion
- Mudslides, Debris Flows & Slope failure
- Emergency Practices - Plastic Sheeting...
- Private Road Damages & Drainage
- Debris Jams & Creekbank failure
- Home Drainage
- Winter/Next Storm Preparedness Tips
Some Things to Expect with Intense/Excessive Rainfall

*Especially following ground saturation*

- Trees falling
- Mudslides/debris flows & other slope failures
- Soil erosion & sedimentation
- Streambank erosion
- Debris/log jams
Some Things to Expect

Continued

- Road and bridge failures
- Widespread flooding
- Localized flooding/drainage issues along roads, around homes and other structures
- Coastal bluff erosion/retreat
- Sink holes
Hillside Erosion
Hillside Erosion & Slope Failure

Erosion/Slope Control Practices

- Limit Disturbance. Do NOT Terrace slopes
- Maintain/Improve Existing Plantings
- Protect Bare/Disturbed Soil (Plants/Mulch)
- Reduce/Manage Runoff over Slopes
- Keep Slopes as Dry as possible
- Monitor Rainfall & Soil Saturation
- Monitor & Maintain Drainage Facilities
  - “Slow it, Sink it, Spread it, Store it”
Mudslides, Debris Flows & Slope Failure
Mudslides and Debris Flows

What to do in an emergency?

- Get professional advice first especially if you think plastic sheeting is the answer.
- Do not disturb the debris accumulation at base of slope if at all possible.
- Make sure drainage is directed away from the debris accumulation. Keep the slide debris as dry as possible.
- Control surface (and subsurface drainage) at the top of the slide.
Mudslides/Debris Flows

What to do in an emergency?

- Remove trees if compromised by mudslide/slope failure that endanger homes/life or create added load on unstable slope. Otherwise, don’t disturb plants.
- Make sure that water does not “pond”/collect in depressions in slide area. Hand dig drainage ditches to drain trapped water.
- Plant willow cuttings or other deep-rooted plant materials in slide toe.
Temporary/Emergency Practices

Some *Types*

- Plastic sheeting
- Sand bags
- Hand dug ditches
- Jute netting/erosion control blankets
- Grass seeding and/or hydro-mulching
- Various other products installed without professional help. Filling eroded areas with cut brush/branches, rock, etc.
Plastic Sheeting Slope Protection

*Use with Extreme Caution!*
Consequences of Plastic Sheeting when used on storm-damaged slopes

- Kills plants and roots under plastic
- Increases runoff & saturates toe causing more to slide or causes other problems
- Retains moisture when the idea is dry out
- May cause others to do wrong thing
- Costly and high maintenance
- Almost never installed right so makes worse
Proper Use of Plastic Sheeting

*if recommended by an certified expert*

- Cover dry soil if possible & only bare uniform slopes
- Remove plastic during winter dry periods
- Ensure a water tight seal & security to slope
- Use clear 6mil plastic. *Nothing less than 4mil.*
- Control surface *(and subsurface drainage if possible)*
- Make sure plastic runoff is safely discharged
- Get expert design and installation help

*Not the right thing in MOST situations*
Temporary/Emergency Practices

*Use with Caution!*

- Can cause other problems. High failure rate.
- Makes problem worse.
- Waste of time & money.
- Short lived.
- High maintenance.
- False sense of security.
Private Road Damages & Drainage

Erosion/Drainage Control Practices
Private Road Damages & Drainage

**Erosion/Drainage Control Practices**

- Work with Road Association/HOA *(if one exists)*
  - Make sure Maintenance Person(s) are identified
- Monitor & Maintain Drainage *(before, during & after)*
  - Fix problems when they are small
- Reduce Runoff before it reaches the road
  - “Slow it, Sink it, Spread it, Store it” around homes
- Repair or Install & Properly Locate New Road Drainage Devices designed by a professional
  - Inlet debris/trash catchments/outlet velocity dissipation
  - Critical dips
Creekbank Loss & Debris Jams
Creekbank Loss & Debris Jams

_Erosion Control/Prevention Practices_

- Don’t Dump Anything over Streambanks
- Work with Streamside Neighbors
  - *Spot Treatment can cause new problems*
- Maintain Bank Vegetation & Buffer
- Reduce Concentrated Flows over Banks
- Consult with Stream & Erosion Experts
- Monitor & Maintain
  - *Watch for debris jams, fallen trees, erosion*
Home Drainage

- **Monitor & Maintain** with every storm
  - Roof/yard/driveway drainage systems.
  - Be prepared with sandbags.

- **Release collected runoff in safe manner**
  - Try not to put all in one place. Spread out. Add “Y”s and energy dissipaters to down drains outlets.
  - Consider removing some gutters.

- **Look beyond fence lines for runoff sources**

- **Consider Upgrading, Oversizing & Safe-guarding** your drainage systems *when the weather permits.*
Take Home Tips

Winter/Next Storm Preparedness

1. **Seek Professional Advice** (design & install)
2. **Work w/ Neighbors, HOA &/or Road Association**
3. **Minimize Disturbance to Soil/Slopes**
   *Especially during the rainfall periods*
   
   Keep damaged areas protected (*maybe not w/plastic)*
4. **Be Proactive ** *Not Reactive*
   
   Treat erosion issues when small. Better yet, prevent problems before they occur.
5. **Monitor & Maintain** *especially drainage facilities*
Take Home Tips

Winter/Next Storm Preparedness

6. Have an Emergency Plan

   *Know when it is not safe to stay in your home*

7. Be Very Careful with Emergency Practices

   *False sense of security. High failure rate.*

8. Think Big. Oversize Everything

   *“When you control water you control nature”.*

9. Take a Holistic Approach

   *“Connect the Dots”. Don’t treat one problem only to cause another.*

10. One Size Does Not Fit All. Don’t copy your neighbor

   *Each issue requires a site specific action*