



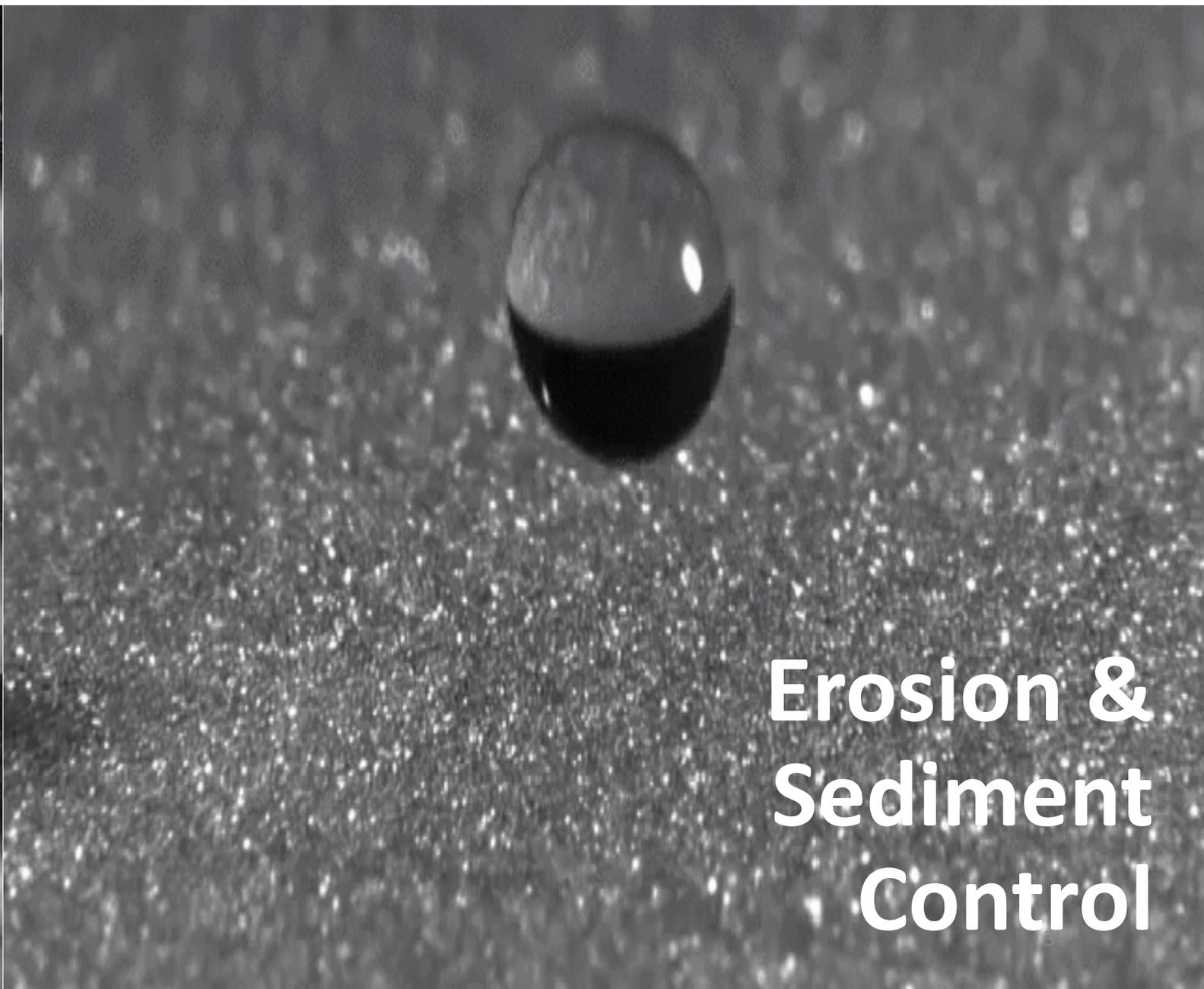
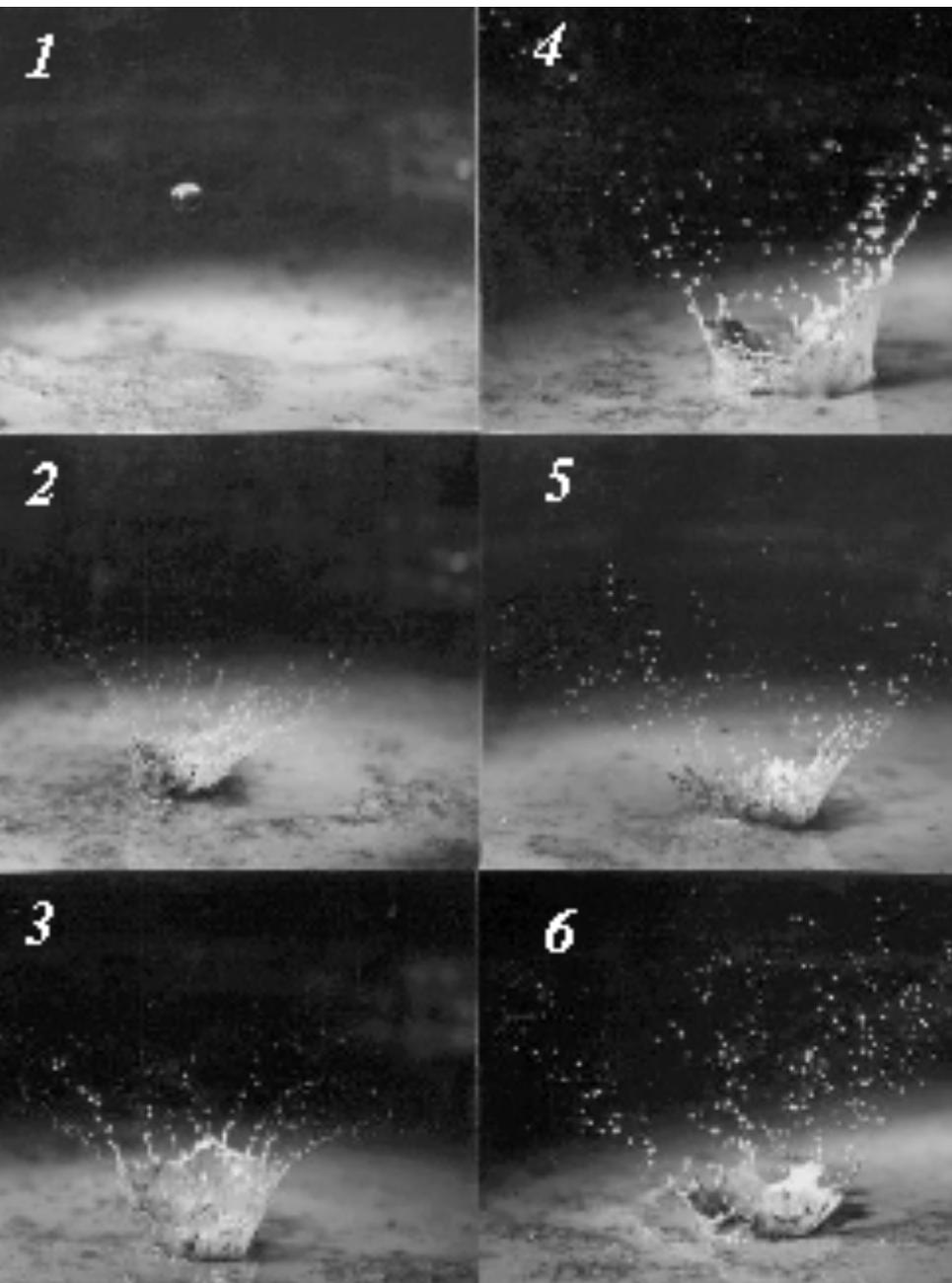
**Bureau of
Development
Services** FROM CONCEPT
TO CONSTRUCTION

LUNCH & LEARN

Title 10

Erosion and Sediment Control Regulations for Residential Development

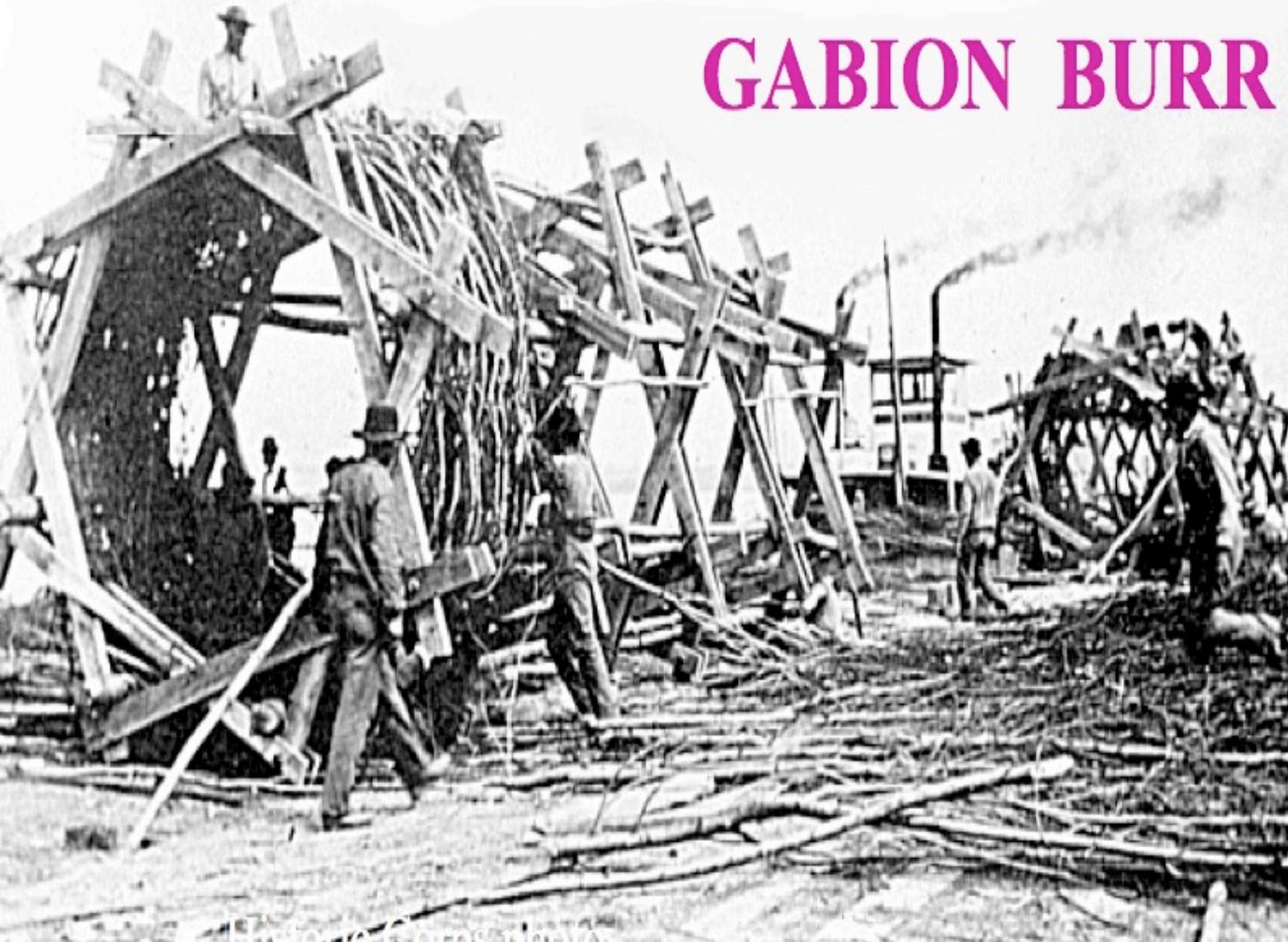
October 19, 2018



Erosion & Sediment Control

MISSOURI RIVER 1925-1930

GABION BARR



The earliest soil erosion research in the United States was conducted on overgrazed rangeland in central Utah beginning in 1912 by A.W. Sampson and associates.

Field erosion plot research began in 1917 at the Missouri Agricultural Experiment Station in Columbia, Missouri by M.F. Miller and his colleagues.

Hugh Hammond Bennett

His highly influential 1928 publication “Soil Erosion: A National Menace” influenced Congress to create the first federal soil erosion experiment stations in 1929.

The National Industrial Recovery Act was part of Roosevelt's "New Deal" program, and it established the Soil Erosion Service (SES) under the Department of the Interior in 1933, with the purpose of employing men on erosion control projects. H.H. Bennett headed the new agency, and also utilized workers from the Civilian Conservation Corps (CCC) to build drop inlets, grass waterways, fix gullies, and plant trees to control erosion. These programs implemented a tremendous number of erosion control practices using labor from young men needing work in the depressed economy. The SES set up soil conservation demonstrations in almost every state to show farmers how to conserve their soil.

Are these new requirements? No.

- Early documented projects – 1912 and 1917, Utah and Missouri
- Soil Erosion: A National Menace - Published– 1928
- Federal Water Pollution Control Act - 1948
- The National Environmental Policy Act (NEPA) - January 1, 1970
- Clean Water Act (CWA) – 1972
- **Nationwide Urban Runoff Program – 1979-1983**
- City of Portland Phase 1 NPDES Permit - 1995 (First term)
- City of Portland Title 10 – March 1, 2000

We Love Acronyms!

- CWA – Clean Water Act
- NPDES – National Pollutant Discharge Elimination System
- MS4 – Municipal Separate Storm Sewer System
- SWMP – Stormwater Management Plan
- ESCM – Erosion and Sediment Control Manual
- ESCP – Erosion and Sediment Control Plan
- BMP – Best Management Practice

Why does it seem like these are new requirements?

In 2015 BDS began taking steps to ensure that the areas of concern identified in an EPA audit of the City's MS4 program are being addressed. These steps have provided the baseline for a more visible and effective program.

Why do I have a new type of inspector on my site?

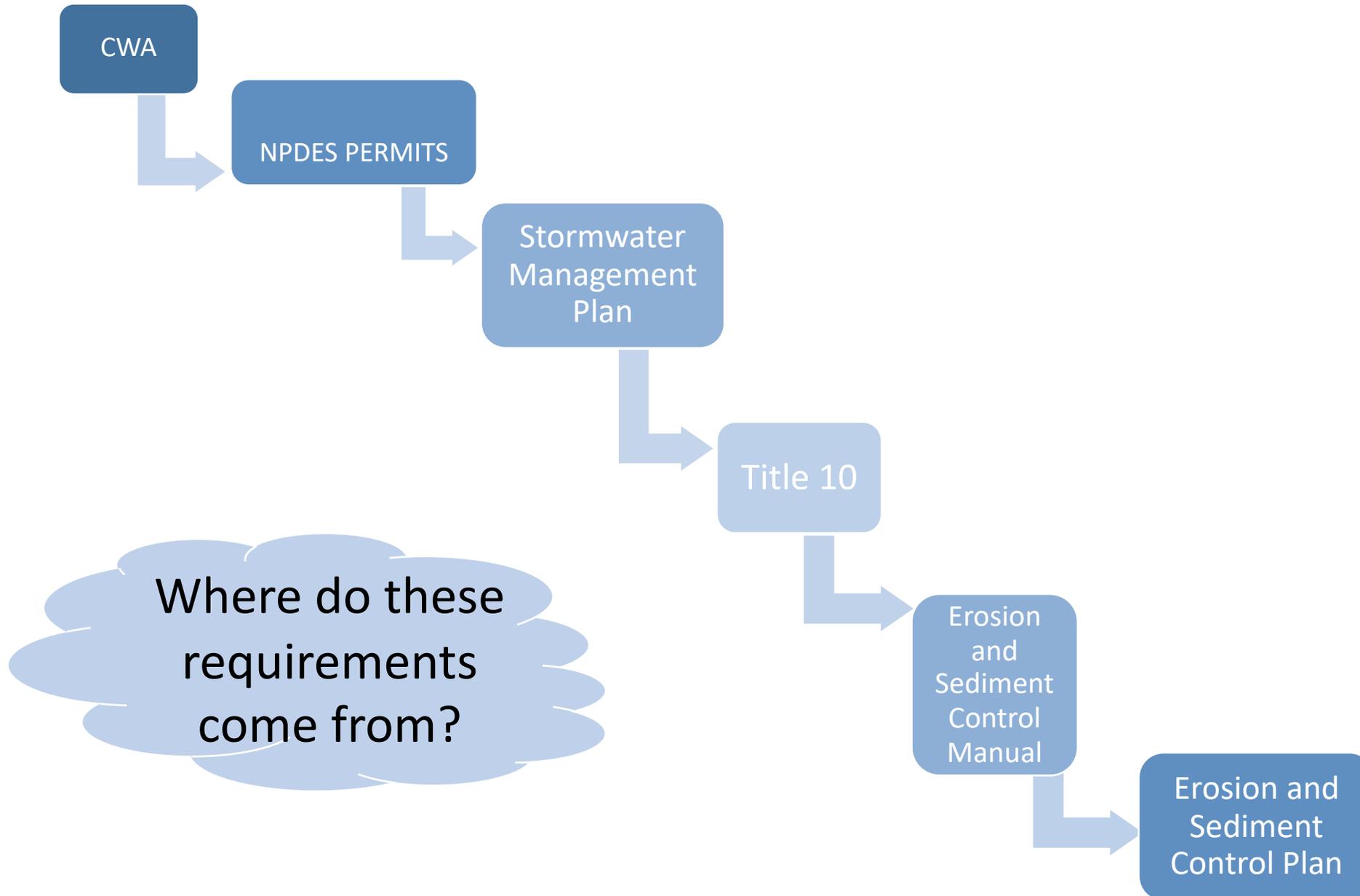
One major improvement has been to hire staff who specialize in erosion and sediment control inspections for construction activity.

ESC inspections for CO and RS development permits are now performed by specialized staff. This change is providing an increased presence in the field.

Specialized inspectors are more capable of providing education, identifying compliance issues, and performing enforcement as needed.

Administrative Structure

- EPA requires municipalities to obtain an NPDES permit (Phase I or Phase II)
- EPA/Oregon DEQ Administers MS4 permits
- Portland Bureau of Environmental Services maintains permit requirements using the Stormwater Management Plan
- Portland Bureaus are designated to perform certain Minimum Control Measures (BDS = Title 10)
- BDS reports compliance information back to BES who then submits annual compliance reporting to DEQ/EPA
- EPA conducts audits of the City's MS4 Program – Last audit 2013 with final report issued 2015
- Last audit identified several areas of concern associated with Title 10 enforcement and administration.



Guiding Documents and Permits

- [Phase 1 NPDES MS4 Permit](#)
- [City of Portland Stormwater Management Plan](#)
- Portland City Code [Title 10](#)
- [Erosion and Sediment Control Manual](#)
- [Erosion Control Illustrations](#)

Purpose of Title 10

10.10.020

10.10.020 –

Reduce the sediment and pollutants contained in erosion caused by construction and development

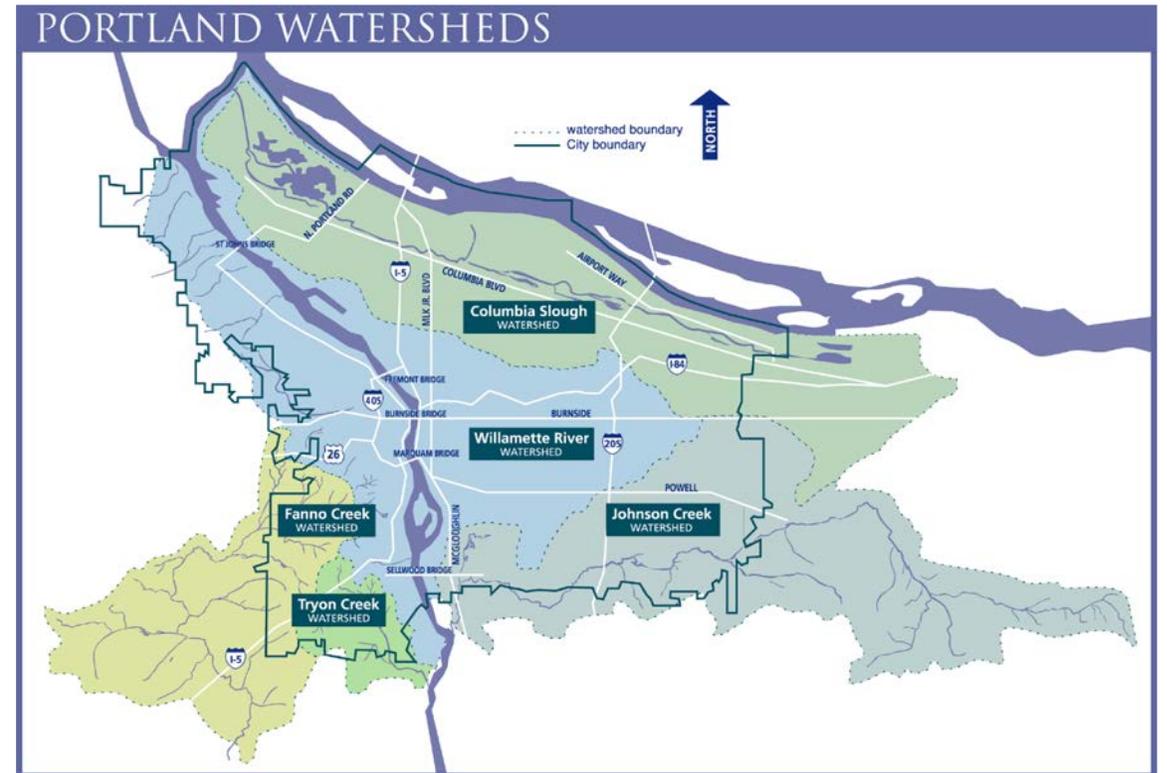
"Pollutant" means any substance which is prohibited or limited by the provisions of Chapter 17.39 of the City Code, released or discharged in conjunction with development.

- **A.** Reduce the sediment and pollutants contained in erosion caused by construction and development;
- **B.** Reduce the amount of sediment and pollutants entering storm drainage systems and surface waters from all ground disturbing activity;
- **C.** Reduce the amount of erosion placing dirt and mud on the public right-of-way and surrounding properties during construction and development; and,
- **D.** Reduce the amount of soil and dust placed into the air during ground disturbing activity.

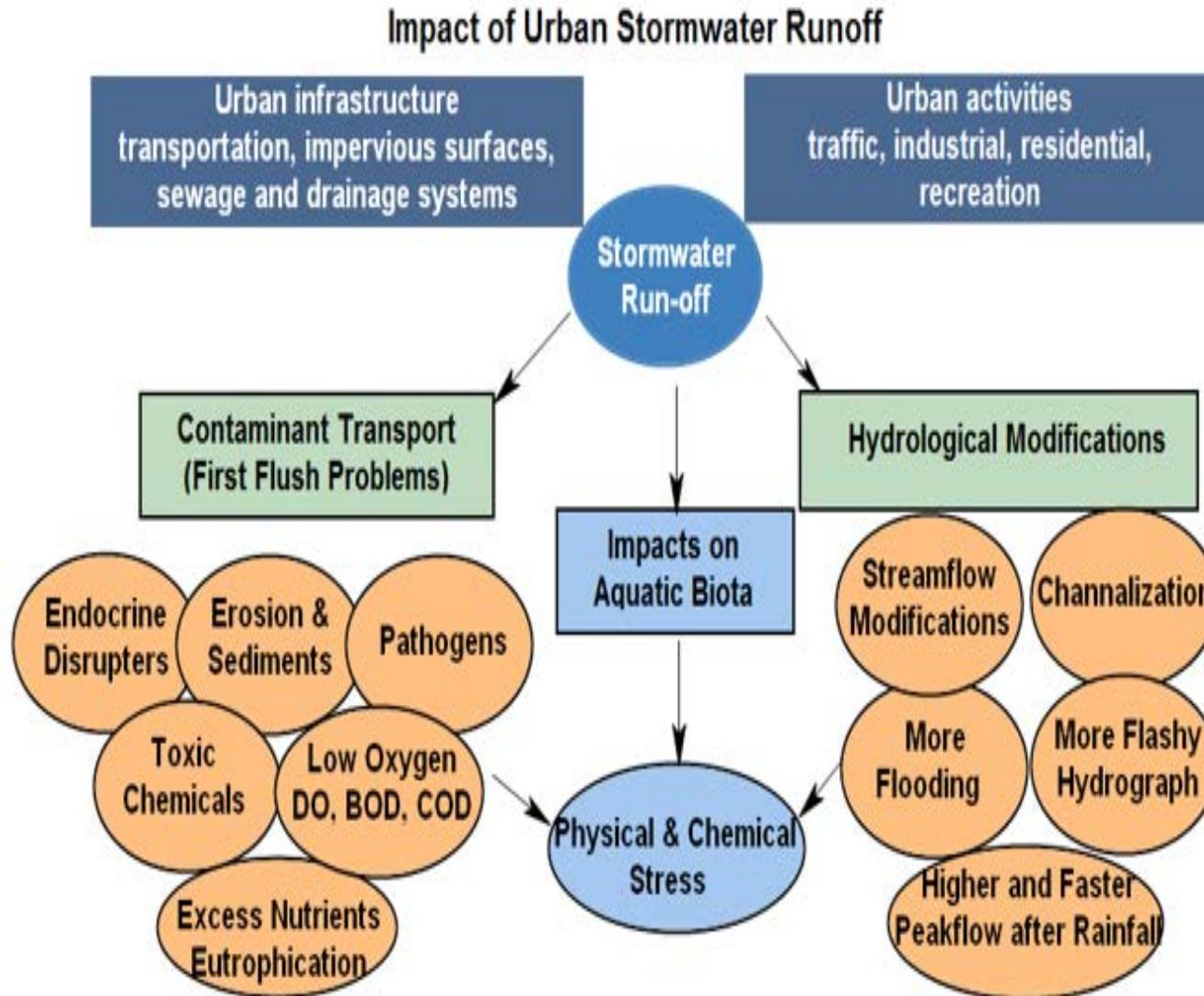
Pollutants of Concern

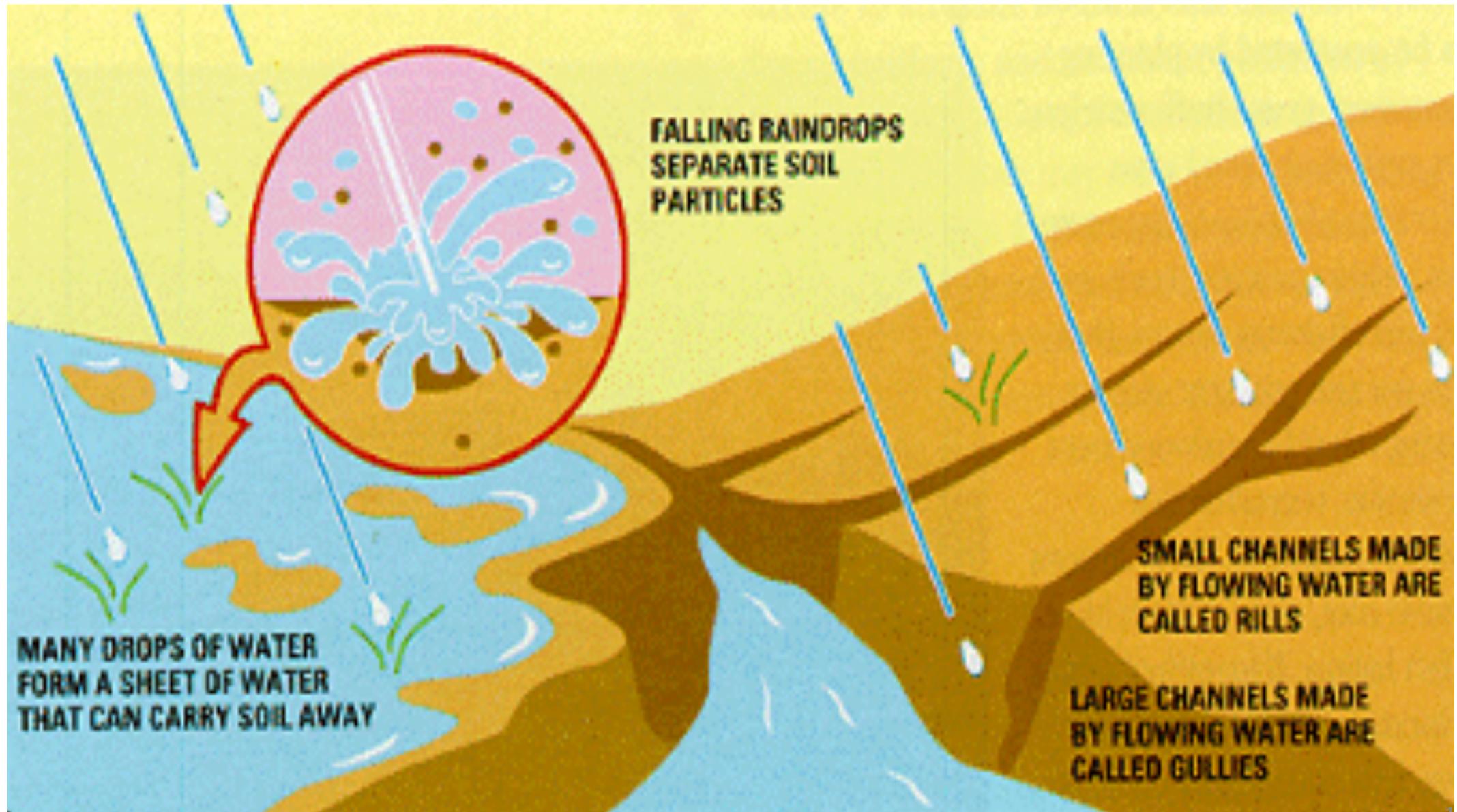
- Sediment – As a surrogate pollutant or physical sedimentation(water borne and air borne)
- Gross Solids – Litter & Debris
- Chemical Pollutants – Hydrocarbons, Metals & Organic Compounds, Concrete waste and saw cutting slurry (solvents, curing agents, sealing compounds, paint thinners) – bind to sediments.

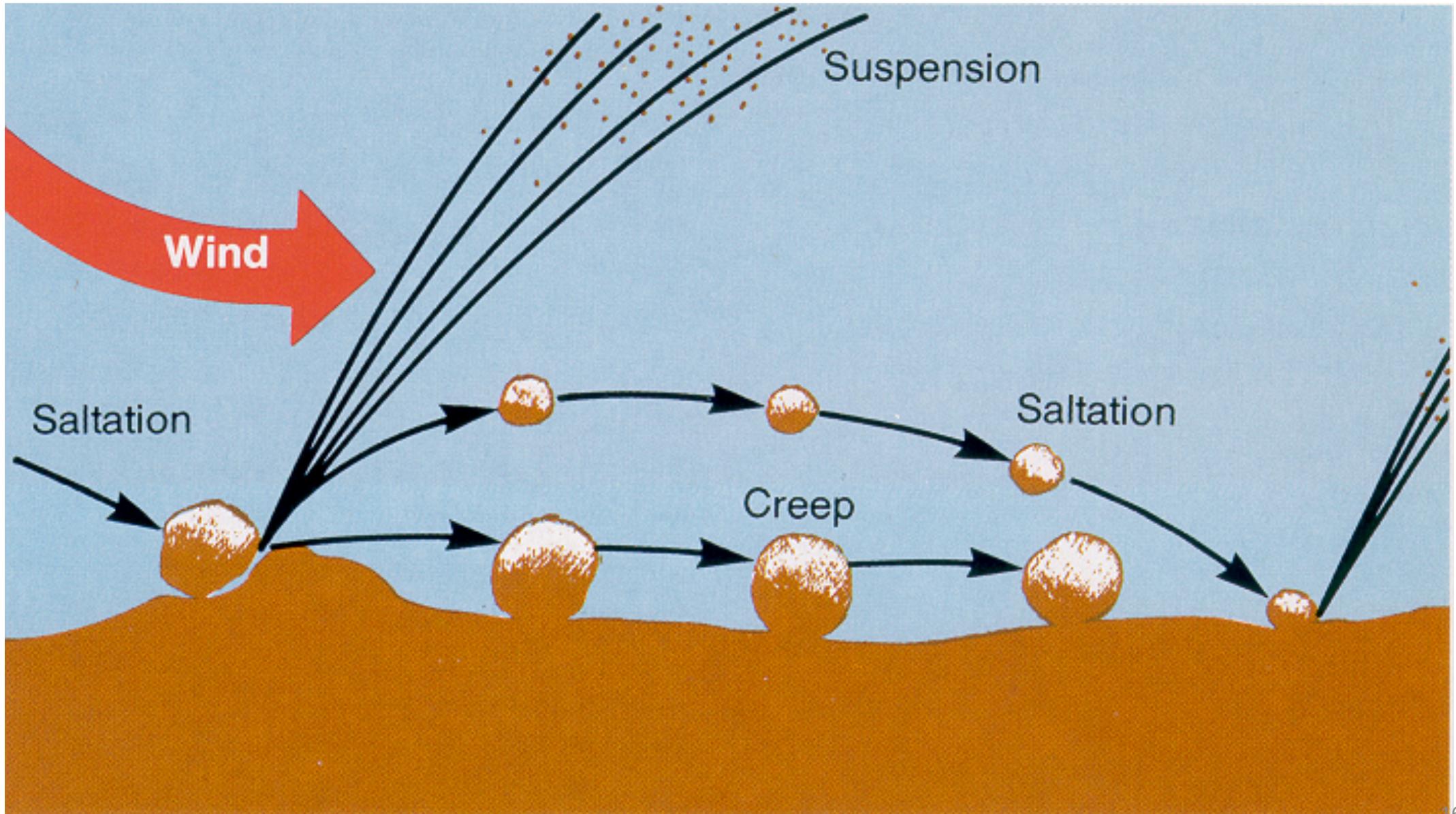
What are we protecting?



What are we protecting against?



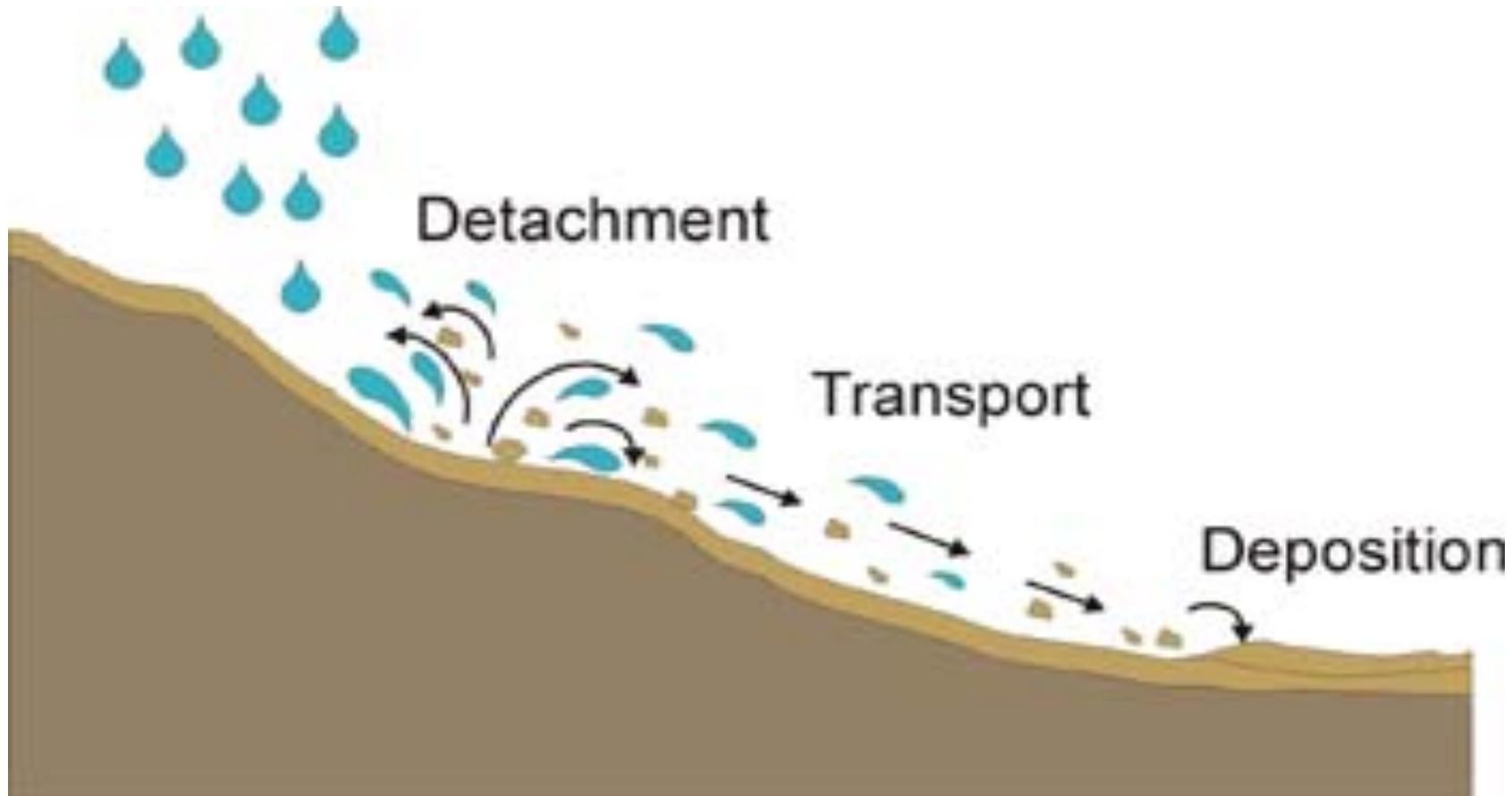




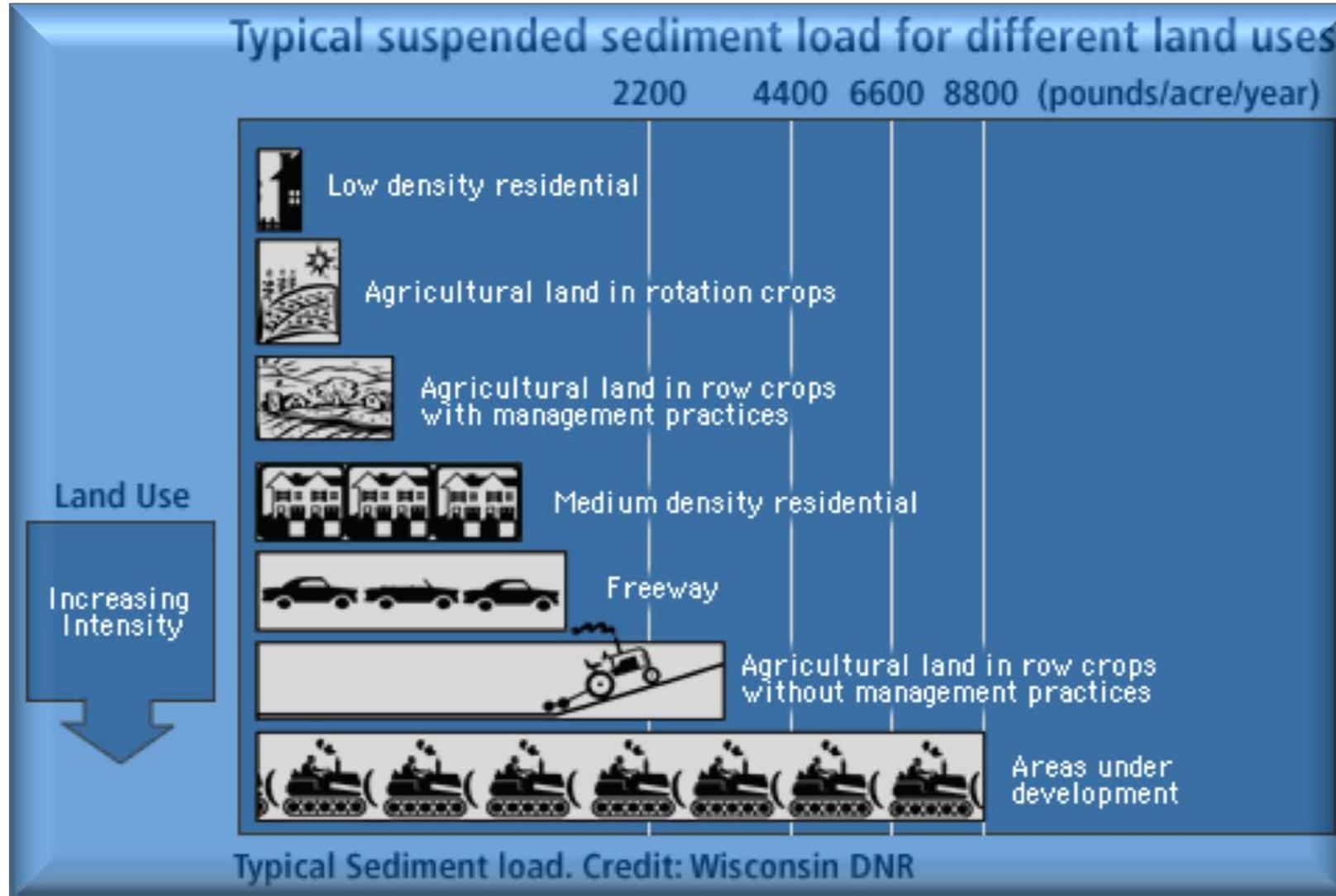
Sediment Control vs Erosion Control

Erosion controls are the bmps utilized to stop/reduce detachment

Sediment controls are those bmps which seek to interrupt transport and cause deposition

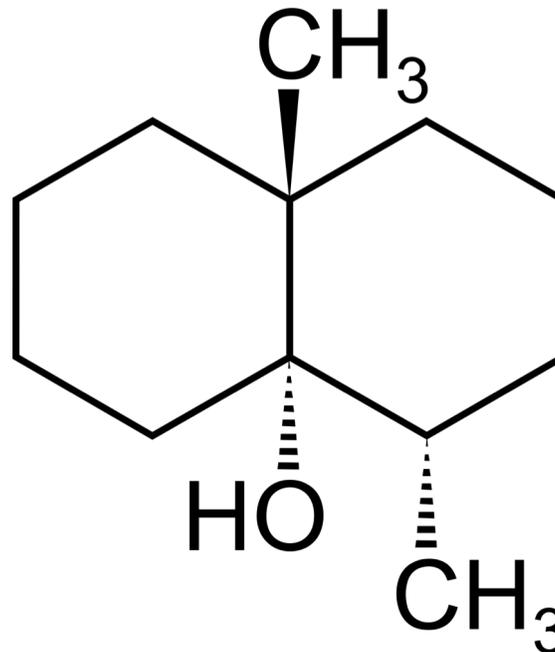


Sediment Load



Take a Breath

Geosmin is an organic compound with a distinct earthy flavor and aroma produced by certain bacteria, and is responsible for the earthy taste of beets and a contributor to the strong scent (petrichor) that occurs in the air when rain falls after a dry spell of weather or when soil is disturbed



10.30.010

This Title applies to all ground disturbing activities whether or not a permit is required, unless such activities otherwise are exempted by Portland City Code. All non-permitted ground disturbing activities shall comply with this Title unless otherwise noted.

B. Exemptions:

- 1.** Installation of signs is exempt from this Title.
- 2.** Emergencies: Development which is subject to Subsection A. may commence without complying with the requirements of this Title if the Director determines that there is a hazard posing imminent danger to life or property, such as substantial fire hazards, risk of flood or other emergency. However, upon a determination by the Director that such emergency has passed, the provisions of this Title shall apply.

Planning and Permitting: Erosion Control Plans

- The responsible party shall submit an erosion, sediment and pollutant control plan for permitted development projects to the Director for review if:
 - **1.** The disturbance area is 500 square feet or greater in area; or
 - **2.** The disturbance area is in a special site (see Section 10.30.030 A. for definition).
- **B.** An erosion, sediment, and pollutant control plan is not required for work that does not require a permit or for planting of trees or other vegetation by hand held tools, unless otherwise required by the terms of a compliance order or land use decision.
- **C.** Where a plan is required, the responsible party shall not commence any development before the Director has approved the proposed plan.

Simple Site Form – When does it apply?

This form may only be used for simple sites:

- 1. Flat (less than 10% slope before development)
- 2. More than 50 feet from a wetland or waterbody
- 3. Outside an environmental or greenway zone
- 4. Less than 10,000 sq. ft. of ground disturbance
- 5. Not a land division of 10,000 sq. ft. or more

This form does not exempt the site from any Title 10 requirements; it only replaces the ESCP as a requirement for permit issuance.

BDS Inspections – PCC 10.50.030

- **#200** – Pre Construction Erosion Control – Scheduled by the contractor after bmps are installed prior to any site disturbance
- **#205** – Interim Inspection – May be requested by contractor as a consult, scheduled by an inspector for compliance check-in during construction, or triggered by citizen concern
- **#210** – Permanent Measures – Scheduled by the contractor after all site work is completed: seeding, landscaping, hardscape and trees are installed

Sites with Tree Preservation Requirements

**IF YOU HAVE TREE PRESERVATION REQUIREMENTS ON YOUR SITE
INSTALL FENCING AND REQUEST A #507 INSPECTION FIRST**

**#507 TREE PRESERVATION INSPECTION MUST BE APPROVED
BEFORE #200 INSPECTION CAN BE APPROVED**

Important Process Change

**#200 INSPECTIONS ARE NO LONGER BUNDLED WITH SETBACKS,
FOOTINGS, AND FOUNDATION INSPECTIONS**

**DO NOT BEGIN GRADING AND EXCAVATION BEFORE RECEIVING
#200 PRE-CONSTRUCTION EROSION CONTROL APPROVAL**

What We're Inspecting

#200 – Pre-Construction Erosion and Site Controls

- Only grading and excavation necessary to install the sediment control measures is allowed prior to #200 approval
- No grading or excavation has occurred on site
- Approved plans are available
- The erosion concerns hotline sign is posted w/ permit number
- A stabilized exit is installed
- Perimeter sediment controls are installed and functional
- First downstream catch basin and all on site basins have inserts
- Any overlay and protection zones are delineated

You get a checklist – and you get a checklist..



BDS has developed a handy, inspection-prep checklist to help ensure that you have a successful inspection.

This handout will be available on our website.



Erosion and Site Controls Inspection Checklists for Residential Sites

Please note that the best management practices (BMPs) outlined below are for a typical Simple Site and this checklist is not meant to be an all-inclusive or limiting list.

References:

- Simple Site Form - <https://www.portlandoregon.gov/bds/article/99201>
- Title 10 Erosion and Sediment Control Regulations - <https://www.portlandoregon.gov/citycode/28835>
- Erosion and Sediment Control Manual 2008 - <https://www.portlandoregon.gov/bds/article/192327>
- Erosion Control Illustrations - <https://www.portlandoregon.gov/bds/48104>

Prior to Ground Disturbing Activity - Pre-construction Erosion and Site Controls Inspection (IVR #200)

Review conditions at your site and use the checklist below to determine if the site is ready for a #200 inspection. Ensure that a #200 inspection is requested and approved prior to initiating ground disturbing activity.

1. Is a stabilized exit installed with >1.5" clean rock or approved alternative? <i>Mark N/A if the site access is paved.</i>	Yes	No	N/A
2. Is inlet protection in place at the nearest downstream inlet(s) and inlets onsite?	Yes	No	N/A
3. Have perimeter controls been installed? <i>This may include sediment fence, sediment tubes ("wattles"), or other approved alternative. Note that perimeter controls are required on flat sites too.</i>	Yes	No	N/A
4. Is the Erosion Concerns Hotline sign posted and filled out?	Yes	No	N/A
5. Are sensitive areas protected? <i>Examples include required environmental zone boundaries and tree protection areas.</i>	Yes	No	N/A
6. Are the approved erosion control plans onsite and available for review? <i>Mark N/A if site is utilizing Simple Site EC form.</i>	Yes	No	N/A

Once Ground Disturbing Activity Has Begun - Erosion Control Interim Compliance Check (IVR #205)

In addition to the items above, the following erosion control measures must be followed once ground disturbing activity has begun and may be evaluated by BDS inspectors during construction.

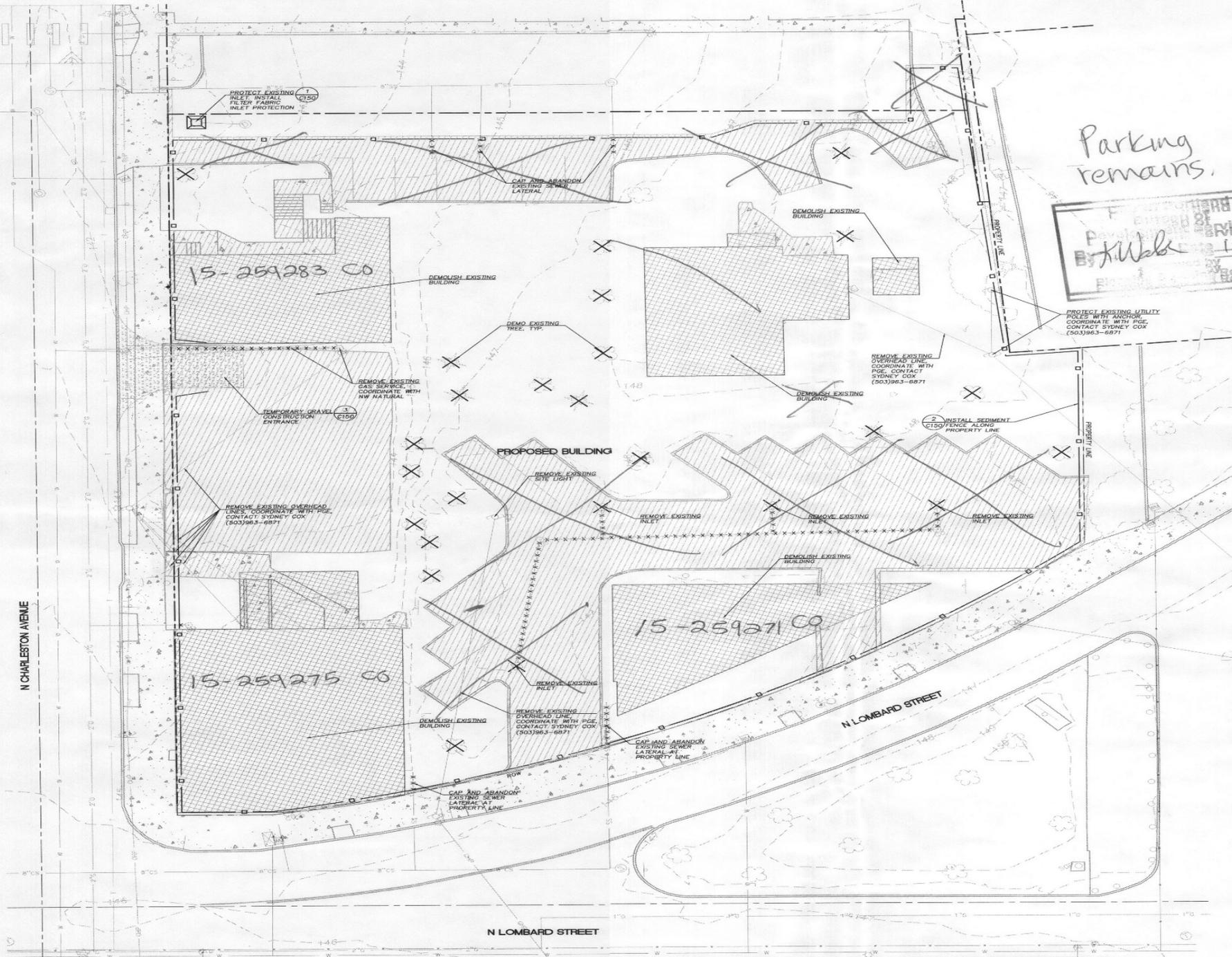
1. Is the site free of visible/measurable offsite sedimentation, vehicle track-out, or other signs of sediment leaving the site?	Yes	No	N/A
2. Is dust control being performed?	Yes	No	N/A
3. Are perimeter sediment and erosion control measures in place and properly maintained? <i>This includes perimeter BMPs, inlet protection, etc.</i>	Yes	No	N/A

4. Are inactive stockpiles covered by plastic, mulch, or vegetation?	Yes	No	N/A
5. Are trash, debris, and hazardous chemicals/materials properly managed?	Yes	No	N/A
6. Are concrete, stucco, and paint washouts provided and utilized?	Yes	No	N/A
7. Are sensitive areas protected? <i>Examples include required environmental zone boundaries and tree protection areas.</i>	Yes	No	N/A
8. Is an erosion control log maintained and available for review? <i>Projects Utilizing Simple Site EC form:</i> <i>Dry Season (May 1-Sep 30) – inspection after rain event</i> <i>Wet Season (Oct 1-Apr 30) – inspection weekly</i> <i>Projects Not Utilizing Simple Site EC form:</i> <i>Dry Season (May 1-Sep 30) – inspection after rain event</i> <i>Wet Season (Oct 1-Apr 30) – inspection daily</i>	Yes	No	N/A
9. Are the approved erosion control plans onsite and available for review? <i>Mark N/A if site is utilizing Simple Site EC form.</i>	Yes	No	N/A

Required for Final Inspection Approval - Permanent Erosion Control Measures (IVR #210)

This inspection is conducted at the end of the project and evaluates final stabilization measures, landscaping, and ensures all temporary BMPs have been removed.

1. Are grading and ground disturbing activities complete?	Yes	No	N/A
2. Have all temporary erosion and sediment control BMPs been removed? <i>This includes perimeter controls and inlet protection.</i>	Yes	No	N/A
3. Is all bare soil stabilized with vegetation, mulch, clean gravel, or paved in accordance with the approved plans? <i>Note that straw alone cannot be used for final stabilization.</i>	Yes	No	N/A
4. Is any required landscaping installed in accordance with the approved plan?	Yes	No	N/A
5. Is the site and adjacent properties free of construction debris?	Yes	No	N/A
6. Are discharge points free of sediment and trash?	Yes	No	N/A



SHEET LEGEND	
	DEMOLISH A.C. PAVEMENT, CURB AND SIDEWALK TO SAWCUT LINE
	DEMOLISH EXISTING BUILDING
	TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
	FILTER FABRIC INLET PROTECTION
	SEDIMENT FENCE
	ABANDON EXISTING UTILITY LINE
	SAWCUT LINE

SHEET NOTES

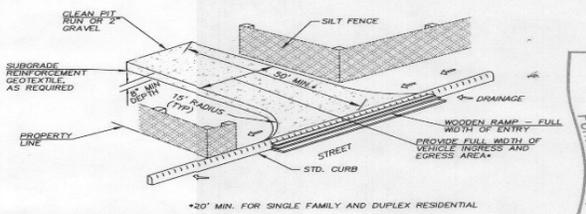
NOTES:

- SEE SEPARATE PUBLIC WORKS PERMIT PLANS FOR ALL WORK IN PUBLIC RIGHT OF WAY.
- CAP AND ABANDON ALL EXISTING UTILITY LATERALS AT PROPERTY LINE.

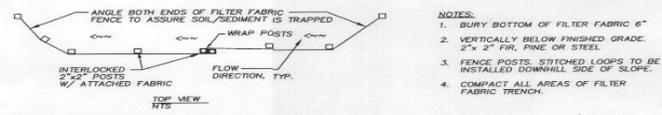
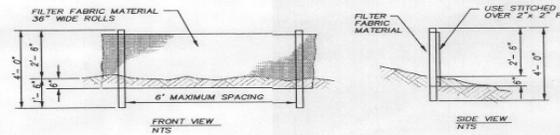
Parking remains.

By *AWB* 4/2/15

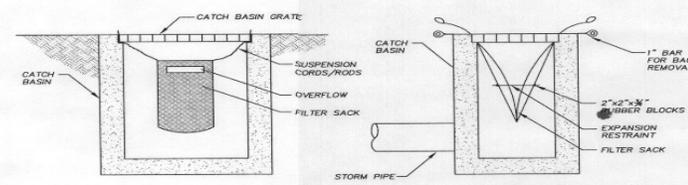
Review



3 TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
NTS



2 SEDIMENT FENCE
NTS



1 FILTER FABRIC INLET PROTECTION
NTS

Street trees may be required after site visit.
Call Urban Forestry with questions at (503) 823-4489.
Permit 15-259275



- No visible and measurable sediment or pollutant shall exit the site, enter the public right-of-way or be deposited into any water body or storm drainage system.
- Ground disturbing activities requiring a permit shall provide adequate public notification of the City's Erosion Control Complaint Hotline

EROSION CONCERNS?



Call the Bureau of Development Services:

503-823-0900

Permit # / Address:

Stabilized Exit



All materials spilled, dropped, washed, or tracked from vehicles onto roadways or into the stormwater collection system shall be removed or cleaned up immediately, and no later than end of the work day.

- First site BMP installed after fencing off areas of no disturbance and establishing perimeter controls.
- No removal of stripped material is allowed until after the rock entrance is established.
- Material shall be “clean” (less than 5 percent passing the US Standard No. 200 sieve).
- Material shall be at least 1½ inch on all sites. Larger rock (2 to 6 inches) is necessary for industrial, commercial, and subdivision sites or in conjunction with wheel wash facilities.
- Not to be installed at low points
- Typically needs geotextile underlayment to stop pumping of sediments through the rock



Alternative Track Out Controls



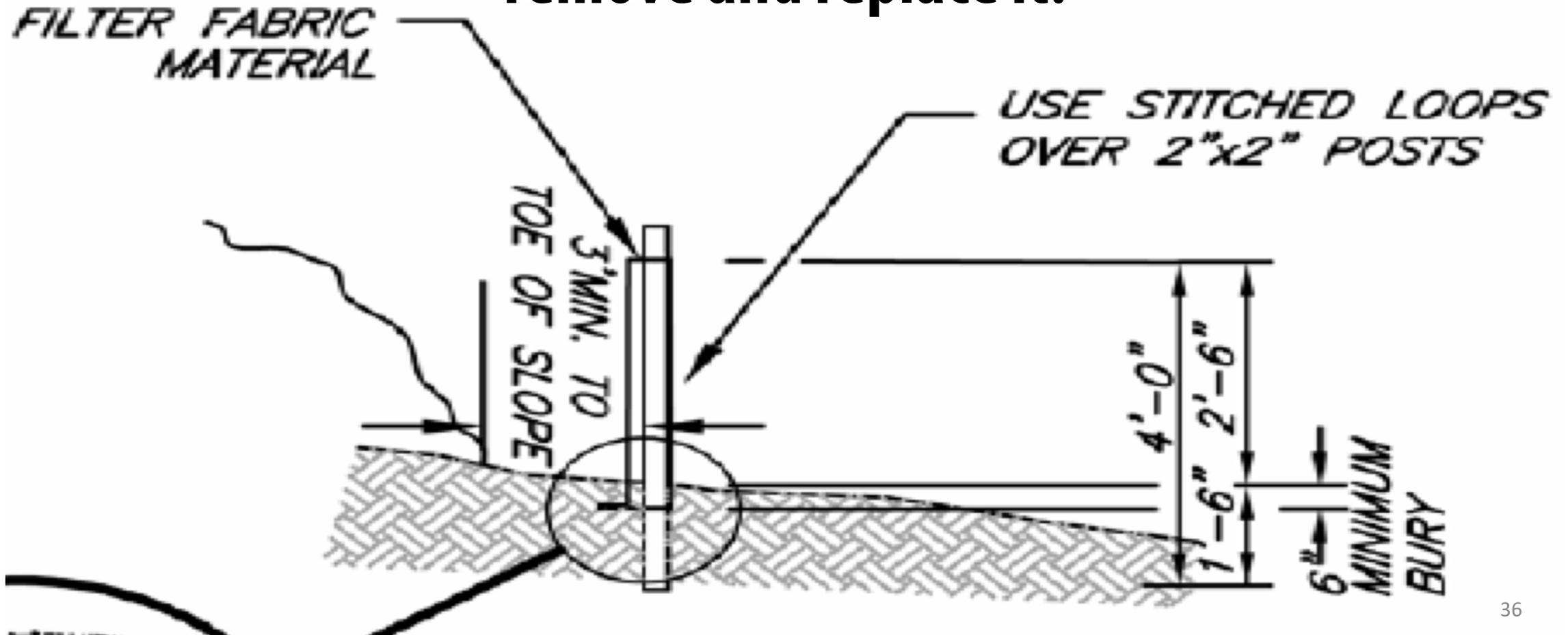
Crushed rock / road base is not acceptable



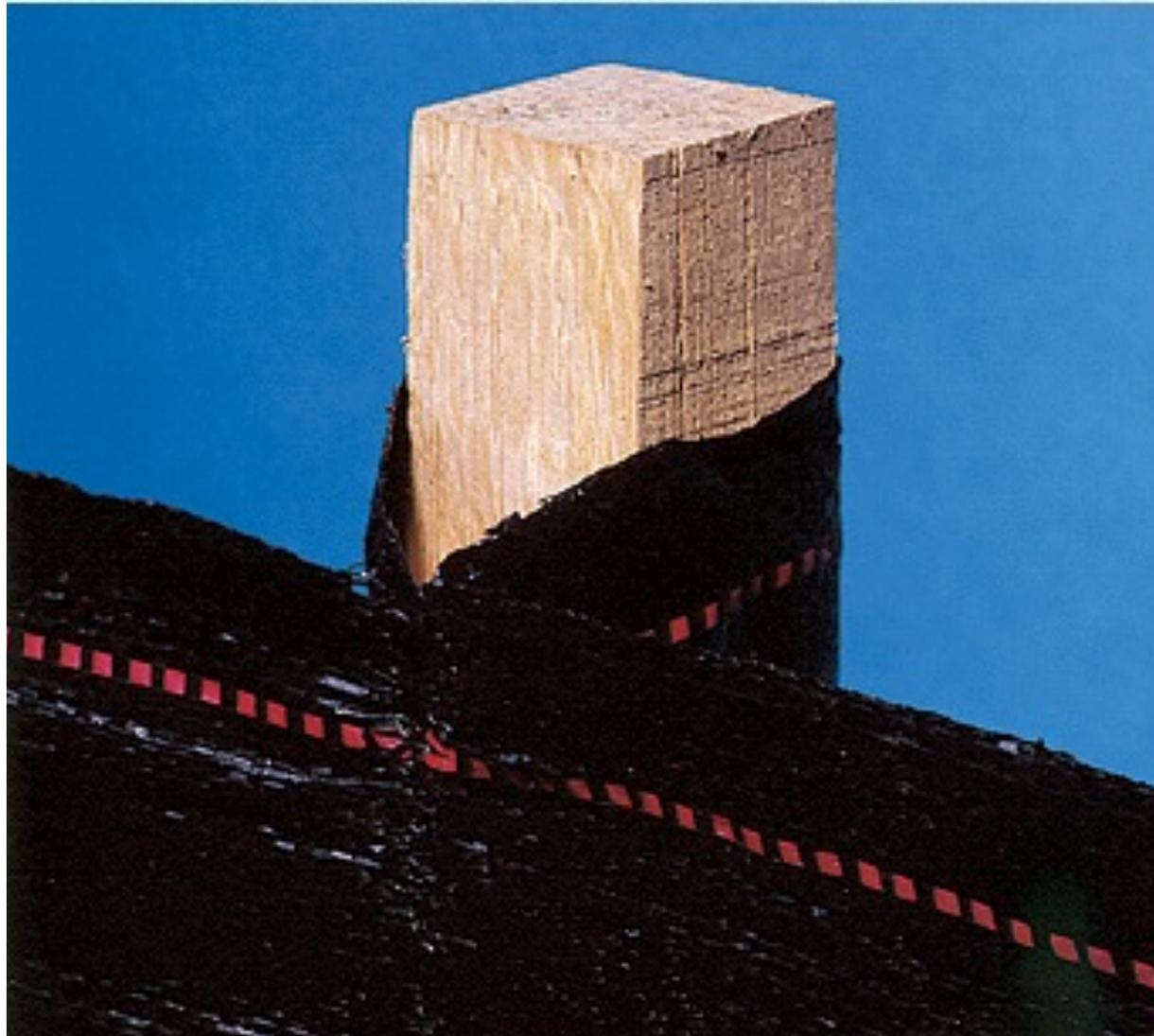
Perimeter Sediment Control BMPs

- Perimeter controls are not water treatment filters; they function as sediment control dams allowing sedimentation and water infiltration to occur.
- Upslope stabilization and other erosion control bmps are also required
- Proper installation and continual maintenance are key to performance.

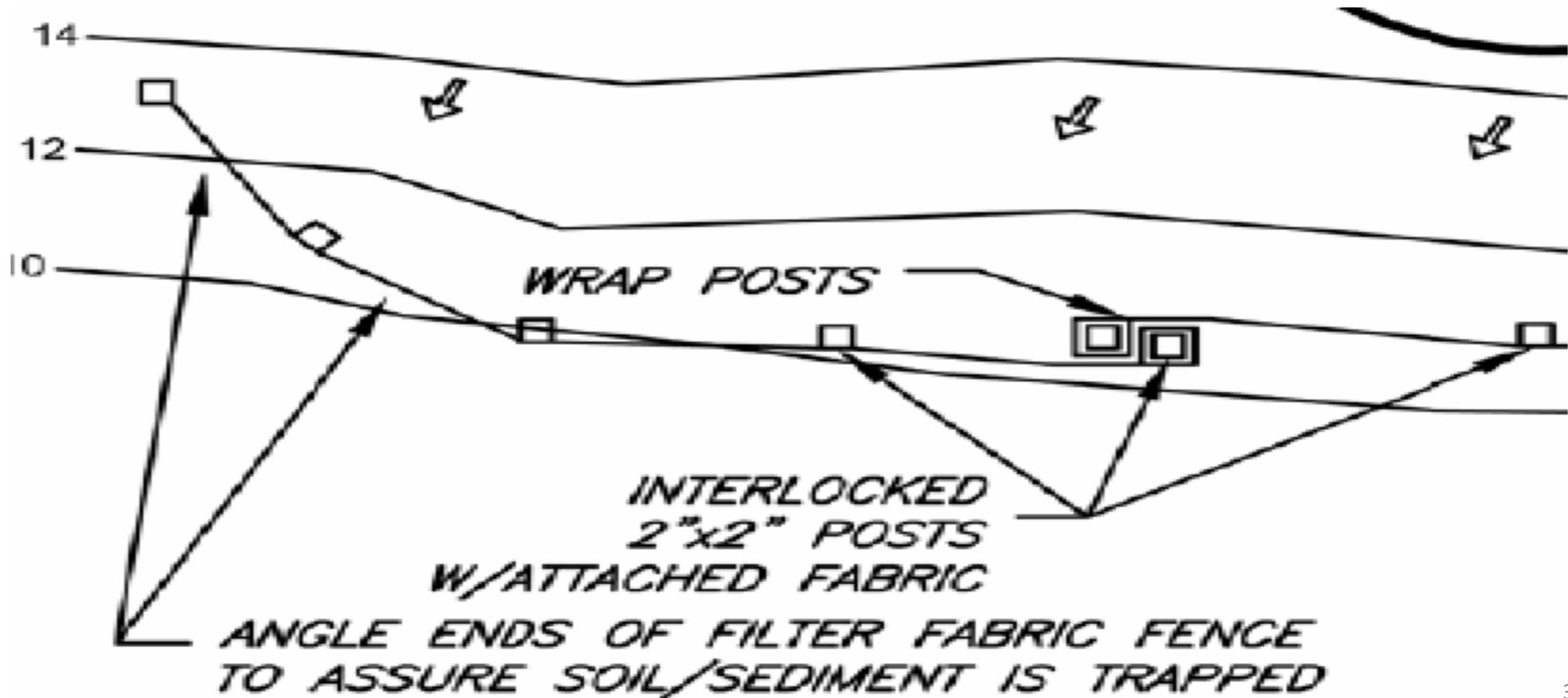
**Stitched loop material is required.
Do not purchase stapled sediment fence, you will have to
remove and replace it!**



Example of stitched loop sediment fence



Turn the ends of the fence upslope. Abutting sections must be interlocked.



Example of properly installed sediment fence



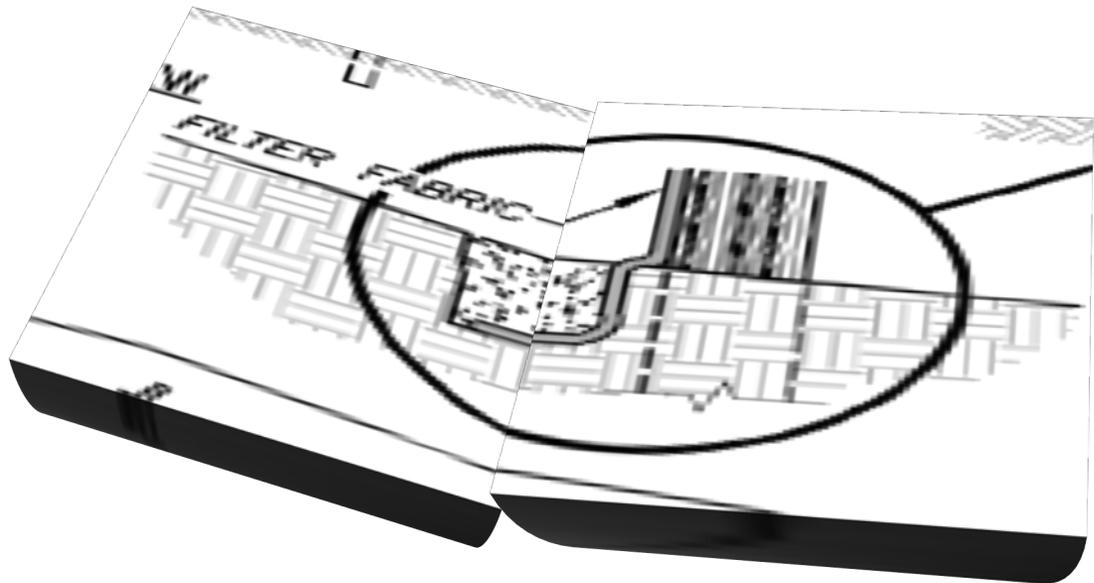
- Stitched loop material
- 2x2 wooden stakes
- Buried to dotted trench line
- Backfilled and compacted
- Ends turned up slope for detention

Incorrect Adjoining Sections



Trench In

Silt fences are most effective for trapping granular or coarse materials and shall not be relied on to reduce turbidity.





Straw Wattles

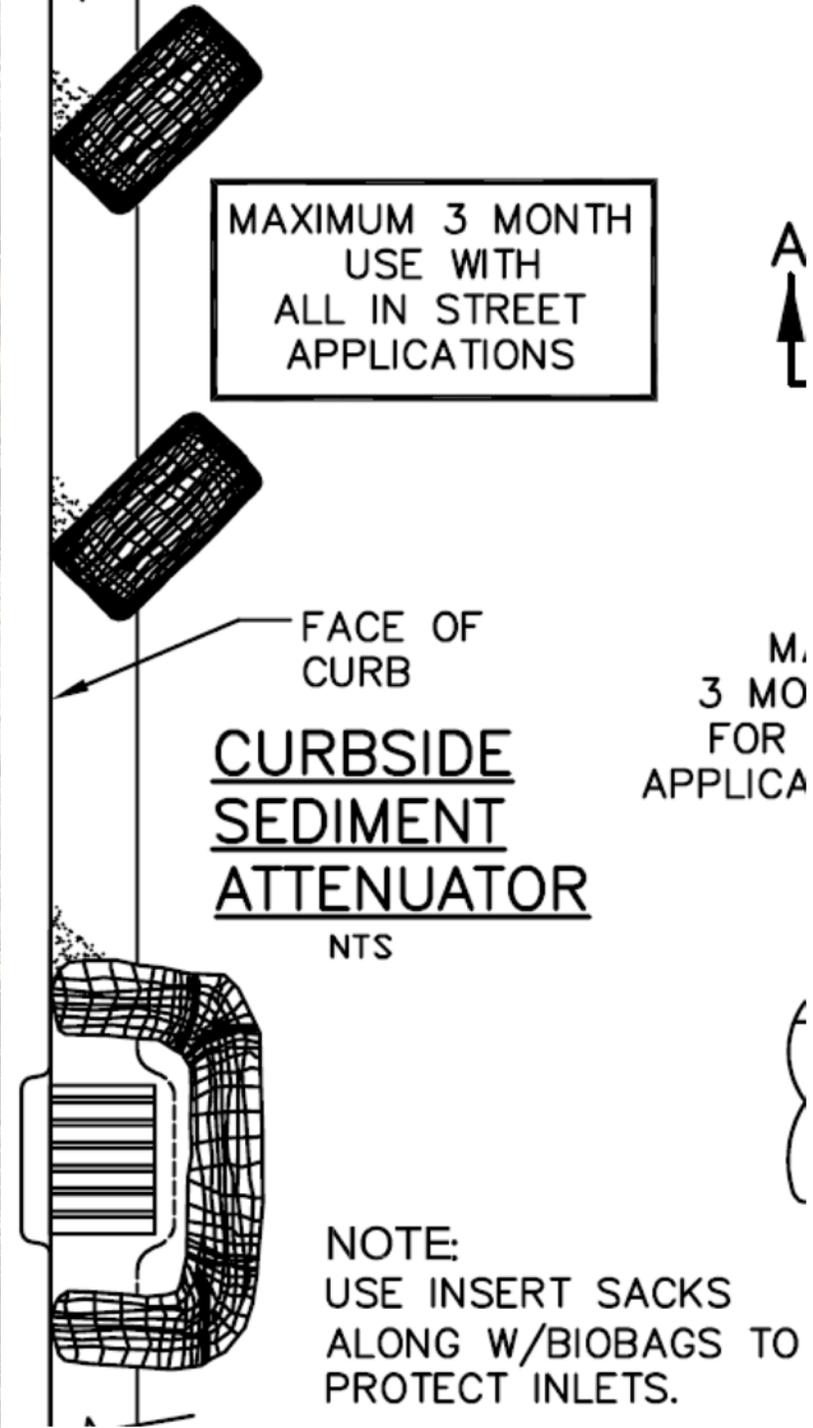
- Must be trenched in and staked
- Flat Sites or as sediment and stormwater velocity checks on slopes
- Ensure that no gaps exist under or between rolls that could bypass flows. Overlap fiber rolls and wattles whenever possible.
- Sediment depth shall not accumulate to more than one-third the height of the fiber roll.
- Fiber rolls may be left onsite as a semi-permanent, biodegradable landscape feature.
- Use weighted wattles to control sediment on paved surfaces.



Catch Basin Protection PCC 10.30.020

- Filter bags and socks shall be replaced at least every 3 months, and more often if necessary to maintain their effectiveness
- Inlet inserts shall be used with additional upslope BMPs, including sweeping of surfaces; they are not effective when used alone.
- Curb inlet protection devices shall be required in addition to inlet inserts where recessed curb inlets are present
- Inlet protection shall be the last BMP removed from the site after construction and cleanup are completed and all erosion and sediment control BMPs are removed.





Catch Basin Protection

PCC 10.30.020

Protect stormwater inlets that are functioning during the course of the development by approved sediment control measures so that sediment-laden water cannot enter the inlets without first being filtered.

- Catch basin inserts are used as a last line of protection against **accidental** discharges.
- Maintain or replace when capacity is reduced by 1/3rd of the design capacity





Provide protection for curb inlets



Failure to maintain – over 3 months old, over 1/3 full



#205 – Interim Erosion Control Inspection

Is the hotline sign still posted

Are there any signs of turbid flows or pollutant discharges

Is the catch basin insert maintained

Is the stabilized exit maintained

Are the perimeter controls still in proper working condition

Has a concrete washout facility been provided and used

Is site trash and debris properly contained

Has temporary stabilization been provided

Are stockpiles protected

Has the ESCP and inspection logbook been maintained

Is the TRPZ in place

Interim inspections by BDS are proactive in nature, which is unlike any other inspection performed by BDS.

Erosion and sediment control is not like building a structure, once a plumbing or structural component is approved by an inspector it typically does not change until a remodel or demolition occurs in the distant future.

With Erosion and Sediment Control, site conditions and pollution concerns change with every vehicle that exits the site, every new construction phase, and every type of trade work.

Interim inspections are an important tool for the City to document compliance with our NPDES permit, document your compliance with your City permits, and provide data for bmps and practices that are effective or ineffective.

We hope these inspections are seen as a tool to help you stay in compliance, receive educational information, and ideally, proactively stop a violation for a discharge by issuing a correction notice for maintenance.

EROSION CONCERNS?



Bureau of
Development
Services FROM CONCEPT
TO CONSTRUCTION

Call the Bureau of Development Services:

503-823-0900

Permit # / Address:



STATEWIDE
RENT-A-FENCE
503-648-6633

Stabilization does not guarantee non turbid discharge.



Catch basin insert maintenance



Track out control maintenance is past due



The use of water trucks to wash the material off the roadway is not allowed. Water trucks may be used immediately before sweepers or vacuum systems to loosen sediment, provided that discharge to the stormwater collection system does not occur.





Perimeter control maintenance

Concrete Waste – PCC 10.30.020

Identify sites where potential pollutants will be stored, used, or disposed. Such sites must provide adequate containment to prevent the release of non-soil pollutants.

Concrete Waste – PCC 10.30.020

Identify sites where potential pollutants will be stored, used, or disposed. Such sites must provide adequate containment to prevent the release of non-soil pollutants.

Why can't I wash out on top of the ground, let it harden, then scoop it up?

- It can run off the construction site to adjoining roads and enter roadside storm drains, which discharge to surface waters such as rivers, lakes, or estuaries
- Harmful to the helpful soil bacteria, fungi, macro-invertebrates, tree root systems, groundwater, and aquifers
- Concrete washout water (or washwater) is a slurry containing toxic metals. It's also caustic and corrosive, having a pH near 12.
- In comparison, Drano liquid drain cleaner has a pH of 13.5. Caustic washwater can harm fish gills and eyes and interfere with reproduction. The safe pH ranges for aquatic life habitats are 6.5 – 9 for freshwater and 6.5 – 8.5 for saltwater...
- Its high pH can increase the toxicity of other substances in the surface waters and soils.
- Since pH is measured on a logarithmic scale, a shift in pH by 1 unit indicates a ten-fold increase or decrease in the concentration.



BMPS for any situation are available

Washout facilities can be as low or high-tech as needed for the site. Some contractors choose to build a wooden box and line it with heavy plastic, some choose to dig a hole then line it and surround it with straw wattles.

Remember that it can be utilized for paint and solvent, grout and mortar, drywall and texture clean up as well. Whatever you choose to use, it should not be in the path of stormwater flows or receive stormwater during rain events, should be kept away from catch basins, and must be regularly maintained.





Erosion Control /Stabilization

PCC 10.30.020

- Between May 1 and September 30, temporary erosion and sediment control measures to reduce dust and sediment transport shall be applied as soon as practicable, but **in no case more than seven days after ground disturbing activity occurs.**
- Between October 1 and April 30, all denuded sites shall be provided with either temporary or permanent soil stabilization as soon as practicable, but **in no case more than two days after ground disturbing activity occurs.**
- Ground cover shall be installed on any portion of a site that is denuded for more than six months. Sports fields or playgrounds surrounded by vegetative cover or permanently installed curbing are exempt from this requirement.

Erosion Control: Temporary Stabilization

- Protects against splash erosion, detachment, and wind erosion
- Helps maintain healthy soil biota (except for plastic)
- First line of defense against sediment transport
- Improves worksite accessibility
- Between October 1 and April 30, all denuded sites shall be provided with either temporary or permanent soil stabilization as soon as practicable, but in no case more than two days after ground disturbing activity occurs.
- Between May 1 and September 30, temporary erosion and sediment control measures to reduce dust and sediment transport shall be applied as soon as practicable, but in no case more than seven days after ground disturbing activity occurs.

Types of temporary stabilization

- Mulching
- Matting and or netting
- Temporary Grasses
- Surface roughening

Straw Mulch

- The ESCM states that straw mulch can be used as temp stabilization during the wet season.
- Dry conditions do not allow for straw to adhere to the soil and will become displaced by wind.
- Ensure a minimum of 2 inches uniformly across the entire site.
- Straw mulch shall be anchored on steeper slopes (greater than 3:1) by working it in by hand or with equipment (rollers, cleat tracks, etc.)







Stockpiles and control of side casting – PCC 10.30.020

- Secure or protect soil stockpiles throughout the project with temporary or permanent soil stabilization measures. The responsible party is accountable for the protection of all stockpiles on the site, and those transported from the site. Depositions of soil may be subject to additional regulations requiring permit, review or erosion and sediment control.



Stockpile placement

Soil stockpiles should not be placed on impervious surfaces, near catch basins, on steep slopes, or adjacent to waterbodies.





Trash and Debris Management





How can the inspector require additional bmps that are not on my plan or after it was approved for a #200 ?

Erosion and Sediment control plans are considered “living documents” the plan must initially meet the minimum requirements for approval with the expectation that the permittee is responsible for identifying any needed updates. The plan must reduce or eliminate erosion and pollution to the maximum extent practicable.

Maximum Extent Practicable - “...is a “term of art” derived from the federal Clean Water Act...no specific definition of the term is provided by statute or in case law. As such, the phrase would most likely be interpreted by an Oregon court based on a simple dictionary definition, with the most important term being “practicable,” which is defined as “possible to practice or perform: capable of being put into practice...**economic consequences or impacts jeopardizing an industry or sector as a whole could constitute a practicable limit on adopting the BMP, but that a cost burden at an individual or business level may not.**”

Examples of circumstances that may require additional bmps or changes to the installed bmps

- Installed bmps are proven ineffective at eliminating turbid discharge or handling sediment yield
- Grading or construction activity has redirected stormwater flow or increased flow velocity
- New pollutant generating activities have begun
- Soil disturbance has occurred outside of the existing bmps

10.60.010 - Revisions

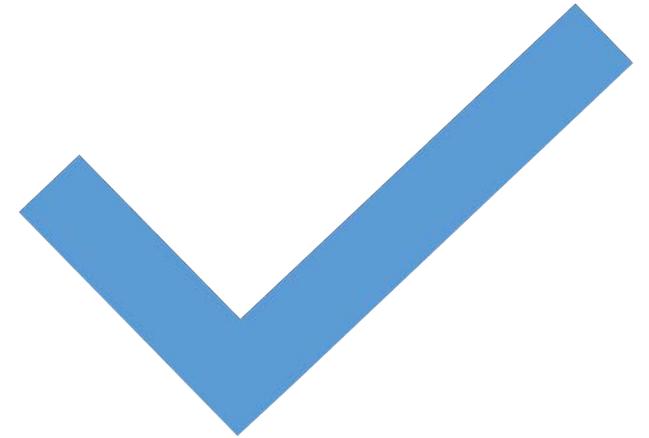
May be required if...

- Major changes to the erosion control plan are needed due to changes in site conditions, changes in scope of work, plan is ineffective, increase in disturbed area, existing plan is proven to be ineffective
- Revisions may need to be designed by a CPESC or Registered Engineer

Inspections and Maintenance – PCC 10.30.040

These inspections are performed by the contractor for all sites NOT covered by a Simple Site Erosion Control Form

- The responsible party shall maintain all erosion, sediment and pollutant control measures, temporary and permanent, in **proper functioning order**.
- The responsible party shall inspect, maintain, adjust, repair, and replace erosion, sediment and pollutant control measures **within 24 hours following a storm event** to ensure that the measures are functioning properly.
- During active ground disturbing activity, the responsible party shall inspect and maintain erosion, sediment and pollutant control measures **daily between October 1 and April 30**.
- All inspections conducted by a responsible party in Subsections B. and C. above **shall be noted in an inspection log** indicating the date and time of the inspection. The inspection log shall be made available to the Director upon request.



Temporary alternate standard for residential sites that ARE covered by a Simple Site Erosion Control Form

- The responsible party shall maintain all erosion, sediment and pollutant control measures, temporary and permanent, in proper functioning order.
- May 1 through September 31: Inspect within 24 hours following a 0.25” storm event. Any required maintenance or bmp replacement must occur within 24 hours of inspection
- October 1 through April 30: Inspect within 24 hours following a 0.25” storm event and once every 7 days. Any required maintenance or bmp replacement must occur within 24 hours of inspection
- All inspections conducted by a responsible party in Subsections B. and C. above shall be noted in an inspection log indicating the date and time of the inspection. The inspection log shall be made available to the Director upon request.

This is your time to shine.

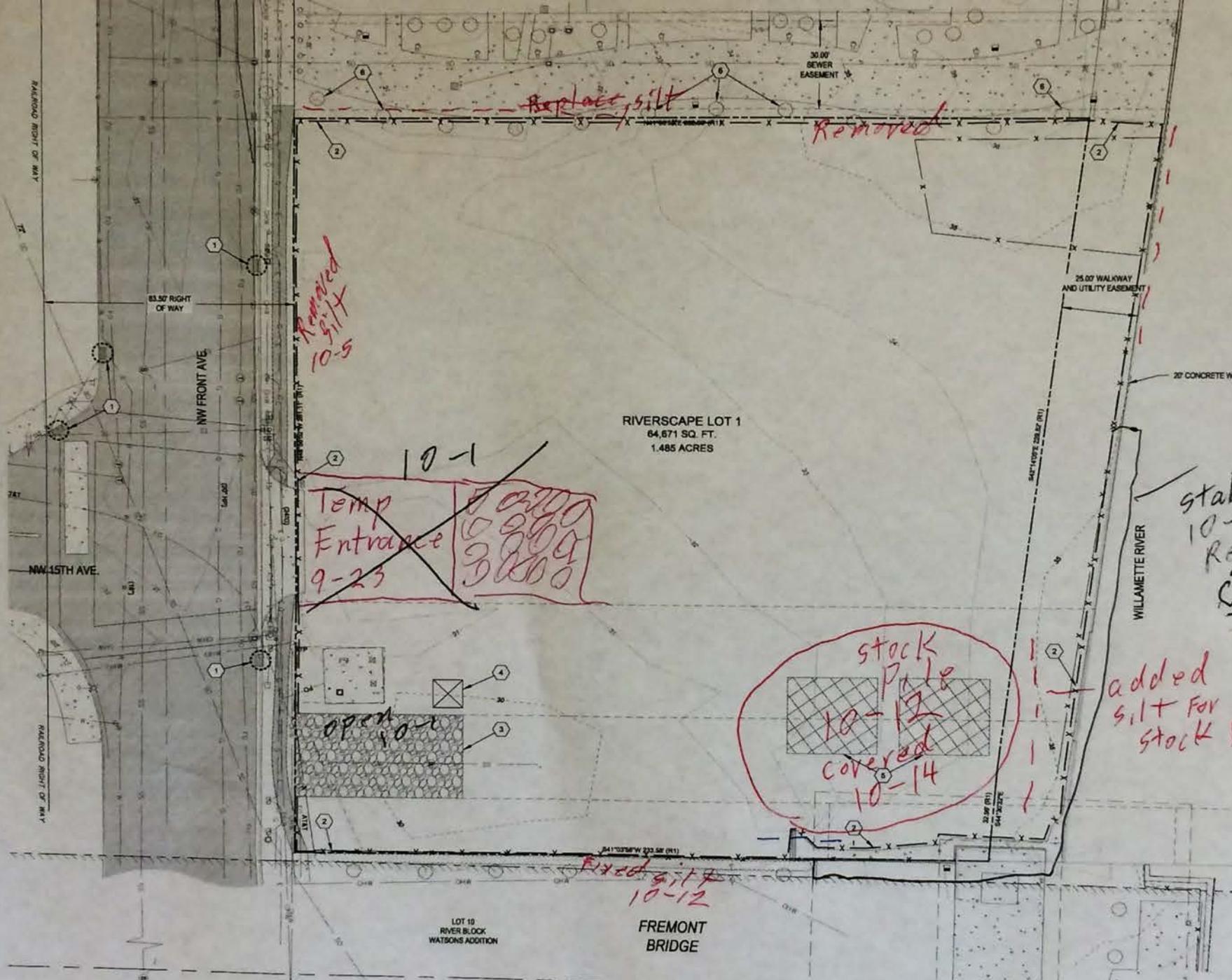
- Property Compliance inspectors will ask to see inspection logs during #205 inspections and provide guidance on how to improve your documentation
- This temporary period is giving the construction community time to re-learn the requirements, become proficient at performing the inspections, and work out internal processes that are effective for you
- BDS will be collecting data about compliance rates in order to support or rescind the standard at the end of the temporary period.
- If at the end of the temporary period it is found that compliance with the alternate standard is not being met then the original daily inspection requirement will be put back in place.

The ESCP logbook

- Provides a documented history of maintenance and compliance if lawsuits, compliance cases, complaints, or inspector concerns arise
- Provides a record of maintenance and labor costs for future bidding and incidental billing
- Provides a place to keep track of required corrections and response dates

Helpful tools for inspections and logbook maintenance.

- Employee Training
- Inspection Checklist
- Photographs
- Site Plan
- Weather Reports
- Rainfall amounts from an official rain gauge close to your project can be found at [HYDRA Rainfall Network](#)



- 0 UNDERGROUND NATURAL GAS LINE
- 0 OVERHEAD WIRE
- EXISTING ASPHALT SURFACE
- EXISTING CONCRETE SURFACE
- SANITARY SEWER MANHOLE
- STORM DRAIN MANHOLE
- CATCH BASIN
- CATCH BASIN - TRAPPED TYPE
- FIRE HYDRANT
- WATER VALVE
- IRRIGATION CONTROL BOX
- GROUND LIGHT
- ACORN/GLOBE LIGHT
- STREET LIGHT (COBRA ARM)
- STREET LIGHT JUNCTION BOX
- ELECTRIC METER
- ELECTRIC JUNCTION BOX
- ELECTRICAL CABINET
- UTILITY POLE
- GUY WIRE
- TELEPHONE RISER
- TELEPHONE MANHOLE
- TRAFFIC SIGNAL POLE
- TRAFFIC SIGNAL POLE AND STREET LIGHT
- PEDESTRIAN SIGNAL POLE
- SIGNAL JUNCTION BOX
- STAND PIPE
- UNKNOWN RISER
- UNKNOWN UTILITY VAULT
- BOLLARD
- GATE POST
- SIGN POST
- RAILROAD SIGN
- DECIDUOUS TREE
- INLET PROTECTION
- CONCRETE WASHOUT
- GRAVEL CONSTRUCTION ENTRANCE
- STOCKPILE AREA
- SEDIMENT FENCE
- STRAW WATTLES
- LIMITS OF DISTURBANCE
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR

EROSION CONTROL NOTES

- 1 INSTALL WOVEN INLET PROTECTION IN EXISTING AREA DRAIN CATCH BASIN. INSPECT, CLEAN AND MAINTAIN PROTECTION TO PREVENT SEDIMENT WATER FROM ENTERING THE STORM SYSTEM THROUGHOUT CONSTRUCTION. REFER TO WOVEN INLET PROTECTION DETAIL ON SHEET C3.0.
- 2 INSTALL AND MAINTAIN SEDIMENT FENCE PARALLEL TO SLOPE CONTOUR. REFER TO SEDIMENT FENCE DETAIL ON SHEET C3.0.
- 3 INSTALL AND MAINTAIN GRAVEL CONSTRUCTION ENTRANCE THROUGHOUT CONSTRUCTION. REFER TO CONSTRUCTION ENTRANCE DETAIL ON SHEET C3.0.
- 4 PROVIDE 10X10' (3 CY MINIMUM CAPACITY) CONCRETE TRUCK WASHOUT. LOCATION MAY VARY DUE TO CONSTRUCTION. CONTRACTOR TO CLEAN AREA AS NECESSARY TO MAINTAIN CAPACITY. DO NOT DISPOSE OF WASHOUT WATER INTO STORM DRAINS, SURFACE WATERS, OR INTO DEWATERING SYSTEMS. REFER TO CONCRETE TRUCK WASHOUT DETAIL ON SHEET C3.0.
- 5 INSTALL CONSTRUCTION STOCKPILE AND LAYDOWN AREAS. CONTRACTOR TO COVER STOCKPILE AREAS WITH PLASTIC SHEETING ABOVE AND BELOW AND PLACE SEDIMENT FENCE AROUND AREA. SEE PLASTIC SHEETING DETAIL ON SHEET C3.0.
- 6 CONTRACTOR TO PROTECT EXISTING TREE IN PLACE THROUGHOUT CONSTRUCTION.





Need Training?

Here a few places to start...

- [International Erosion Control Association Online Learning](#)
- [Northwest Environmental Training Center](#)
- [Envirocert International](#)
- [Certified Stormwater Inspector](#)
- [CISEC Inc.](#)

#210 – Permanent Measures

- Are all ground disturbing activities completed
- Are all temporary bmps removed
- Are there any signs of sediment in the ROW, adjacent properties, or in the storm drainage system
- Has all disturbed soil been permanently stabilized
- Have all required trees and landscaping been installed
- Are preserved trees still in place

The #210 is a “bundled” inspection that may also include...

- Landscaping –

All landscaping will be checked to ensure conformance with approved plans. Any changes that have been made will require a consultation with Planning and Zoning in order to determine if a revision needs to be submitted.

Tree planting (#509) –

When 5 or more trees are required to be planted on site



"Permanent measures" or "permanent stabilization" means a combination of plants, mulch, sod, matting, erosion control blankets, and permanent structures that will provide long-term soil stabilization.

Permanent Measures –

Plant replacement vegetative cover that does not include plants listed in either the Nuisance or the Prohibited Plant List, as set forth in the City of Portland Plant List. Permanent non-permitted ground disturbing activities are exempted from this requirement.



Hydroseeding







Leave identification tags on all trees and shrubs to help expedite the inspection process...it's also a code requirement. PCC 11.60.020. E.1

Enforcement 10.70

Correction Notice – BMP maintenance, sediment removal, logbook, sign replacement, improper installation, etc

Reinspection fees – after 2nd failed inspection

Notice of Violation – Discharge of pollutants to the right of way – Discharges that enter a catch basin are reported to BES for additional enforcement

Stop Work Order – Work without permit, exceeding limits of disturbance, exceeding scope of work, danger to the public or environment

Civil Penalties – Up to \$1000 per day, per violation

Voluntary Compliance Agreement – May be sought in lieu of civil penalties

Summary Abatement – Emergency abatement by BDS

Discussion
and Q/A

