



Erosion and Sediment Control Techniques

BP-19A

Department of Building and Planning

Provisions for erosion and sediment control are often necessary on construction projects to prevent runoff of soils onto other properties, county right-of-way or waters of the state. Following are suggestions on ways minor land disturbing activities can meet Erosion and Sediment Control Ordinance performance standards when a full erosion and sediment control plan is not required.

- Access for construction vehicles should be limited to one route whenever possible. The access route must be stabilized to minimize the tracking of sediment onto public roads.
 - Gravel access and parking areas
 - Restrict access to approved road approaches
 - Install culverts as required by the Division of Engineering & Roads
- All exposed soils should be stabilized to prevent soils from eroding and depositing sediment on the public way or downstream.
 - Only remove vegetation as needed
 - Place plastic sheets on stockpiled soils
 - Re-seed or vegetate as soon as possible
- Adjacent properties, water bodies and public/private roads need to be protected from erosion and sediment deposits. The intent is to keep sediment on the project site and not allow it to reach adjacent properties, water bodies, or public/private roads.
 - Place straw bales, mulch and/or netting to minimize water flow from denuded areas
 - Care should be taken to maintain existing drainage courses
- Downstream inlets to drywells, catch basins, drainage swales and other stormwater management facilities need to be protected.
 - Create temporary dikes to mitigate runoff into inlets during construction and until the site is stabilized
 - Straw bales may be used to aid in damming
- Designate the location of a slurry pit where concrete trucks and equipment can be washed out. Slurry pits shall not be located in a swale, drainage area, stormwater facility or water body, nor in an area where a stormwater facility is proposed.
- Identify a location for storage/stockpile areas for any soil, earthen and landscape material which will minimize potential erosion problems.
- Delineation of all clearing limits, sensitive/critical areas, buffers, trees to be preserved and drainage courses as well as design, construction and installation of sediment ponds and traps, perimeter dikes, hay bales, gravel, sediment barriers and other on-site sediment trapping devices should be completed as necessary prior to the start of land disturbing activities.
- Design and construct cut and fill slopes in a manner that will minimize erosion.
- Design, construct, and stabilize all temporary on-site conveyance channels to prevent erosion from the velocity of runoff from storms under developed conditions. Design, construct, and stabilize all temporary conveyance system

outlets to prevent erosion of stormwater facilities, adjacent stream banks, slopes and down stream reaches.

A final note. . .

Remember, Spokane County does not enforce the provisions of this Ordinance for violations that effect private properties with the exception of discharges to waters of the state. Therefore, no performance standards have been established with respect to the deposit of soil, dirt, mud or debris from a project site onto adjacent private property. Private property owners, however, may have the ability to seek judicial relief for such actions. Consideration and mitigation of the effects and impacts of increased and concentrated runoff from land disturbing activities on downstream properties as well as water bodies, and public and private roads, as discussed above needs to be considered.

Regular inspection and maintenance of all erosion and sediment control devices is necessary to ensure successful performance. All temporary sediment control facilities should be removed within 30 days after final site stabilization or after the temporary control facilities are no longer needed. Trapped sediment needs to be removed from the project site or stabilized on-site. Also, disturbed soil areas resulting from removal of the temporary control facilities needs to be stabilized.

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SEDIMENT CONTROL TECHNIQUES (VEGETATIVE STABILIZATION)			
BMP*	PURPOSE	RESTRICTIONS	P/T
Mulching	<ul style="list-style-type: none"> Comprised of straw or mixture of straw/wood Prevents raindrop erosion Stabilizes bare and disturbed soils Protects seeds from predators 	<ul style="list-style-type: none"> Slopes >3:1 needs anchoring: punch-in, tackify, or incorporate Deterioration 	Temporary
Hydro-seeding	<ul style="list-style-type: none"> Establish vegetation on steep/critical slopes with low runoff Easy application of seed, mulch, fertilizer and tackifier Uniform coverage Quick germination Good for all areas with good soil 	<ul style="list-style-type: none"> Needs to be kept moist for proper germination Steep slopes may be problematic – should sod instead 	Either
Blankets and Mats	<ul style="list-style-type: none"> Protects critical areas with high erosion potential Steep slopes with high runoff Used where planting would be slow 	<ul style="list-style-type: none"> Need to seed before blanket installation 	Temporary
Vegetated Buffer Strip	<ul style="list-style-type: none"> Dense areas of vegetation Ideal for stream banks, steep/unstable slopes, next to wetlands and flood plains Use at perimeter of site disturbance 	<ul style="list-style-type: none"> Avoid areas of concentrated flow 	Permanent

**SEDIMENT CONTROL TECHNIQUES
(STORMWATER MANAGEMENT) continued**

BMP*	PURPOSE	RESTRICTIONS	P/T
Inlet Protection	<ul style="list-style-type: none"> • Prevents sediments from entering a storm drain • Dissipates the energy of the concentrated stormwater flow • 5 basic types: silt fence barriers, straw bale inlet barriers, block and gravel drop inlet filters, block and gravel curb inlet filters, various excavated drop inlet protection measures 	<ul style="list-style-type: none"> • Drainage area of <1 acre • Avoid slopes >5% 	Temporary
Outlet Protection	<ul style="list-style-type: none"> • Prevents erosion and scour at outlet pipes • Dissipates the energy of the concentrated stormwater flow • Generally consist of apron linings made of concrete, riprap, grouted riprap, or other structural materials 	<ul style="list-style-type: none"> • None 	Permanent
Subsurface Drain	<ul style="list-style-type: none"> • Perforated conduits installed below the surface to intercept and transport water • Used to remove excess water from soils 	<ul style="list-style-type: none"> • Avoid installation under heavy vehicle crossings 	Either
Pipe Slope Drain	<ul style="list-style-type: none"> • Discharges runoff to stabilized areas • Carries surface runoff from the top to the bottom of a slope that has already been damaged by, or is at high risk of erosion • Used to drain saturated slopes with the potential for soil slides 	<ul style="list-style-type: none"> • Good for slopes >3% • Drainage area <5 acres 	Either
Reinforced Soil Retaining Systems	<ul style="list-style-type: none"> • Holds soil firmly in place or to confine as much soil as possible within the site boundary • Most are structural, can be vegetative, may be used to protect the safety of workers • Typically used to assist in the stabilization of a cut or fill slope 	<ul style="list-style-type: none"> • None 	Permanent
Temporary Stream Crossing	<ul style="list-style-type: none"> • Structures such as a bridge, pipe, or series of pipes constructed over a stream for use by construction equipment • Protects streams from damage and erosion caused by streambed disturbance 	<ul style="list-style-type: none"> • Avoid use of this practice if other alternatives exist 	Temporary
Temporary Rock Construction Entrance	<ul style="list-style-type: none"> • Stone pad located at the points where vehicles leave a construction site • Designed to allow tires to sink in slightly, which enhances the structures ability to remove mud 	<ul style="list-style-type: none"> • Uneconomical for small sites • Impractical for linear projects 	Temporary

**SEDIMENT CONTROL TECHNIQUES
(STORMWATER MANAGEMENT) continued**

BMP*	PURPOSE	RESTRICTIONS	P/T
Silt Fence	<ul style="list-style-type: none"> • Filter fabric entrenched into soil • Designed to intercept and detain sediment • Good around temporary soil stockpiles 	<ul style="list-style-type: none"> • Maximum slope is 2:1 • Drainage area <.25 acre per 100' of fence • Slope length above fence <100' 	Temporary
Straw Bale Dike	<ul style="list-style-type: none"> • Filter out coarse sediments • Detain storm water flow • Straw bales entrenched and anchored to detain stormwater • Coarse sediments are filtered out • Normally used in perimeter control 	<ul style="list-style-type: none"> • Maximum slope is 10% - placement area not a slope • Not for concentrated flows or live streams • Place 6' from toe of slope to allow for sediment storage • Drainage area <.25 acre per 100' of barrier • Slope length is <150' • Avoid areas of concentrated flow 	Temporary
Sediment Trap	<ul style="list-style-type: none"> • Detain runoff from small drainage areas (<5acres), long enough to allow settling • Increased detention time = higher sediment trapping efficiencies 	<ul style="list-style-type: none"> • Avoid areas with fine soil 	Temporary
Sediment Basin	<ul style="list-style-type: none"> • Detain runoff from disturbed areas (5-100 acres), long enough to allow settling • Intended for use only during construction 	<ul style="list-style-type: none"> • Avoid installation in streams 	Temporary
Earth Dikes and Diversions	<ul style="list-style-type: none"> • Ridge of soil channeling water to a desired location • Can be constructed using materials and equipment present on site • Should be stabilized with vegetation 	<ul style="list-style-type: none"> • Minimum grade of 1% 	Either
Storm Water Conveyance Channel	<ul style="list-style-type: none"> • Permanent water way such as a road ditch • Outlet can be to a sediment trap • Typically paved or lined with stone or appropriate vegetation 	<ul style="list-style-type: none"> • Avoid areas with little grade 	Permanent
Check Dams	<ul style="list-style-type: none"> • Barrier or dam construction across a drainage channel or swale to reduce the velocity of the flow • Erosion potential is reduced, detention times are lengthened • Constructed of stone, gabions, treated lumber or logs 	<ul style="list-style-type: none"> • Drainage area should not exceed 10 acres • Avoid use in streams 	Either

Please note that while every effort is made to assure the accuracy of the information contained in this brochure it is not warranted for accuracy. This document is not intended to address all aspects or regulatory requirements for a project and should serve as a starting point for your investigation. For detailed information on a particular project, permit, or code requirement refer directly to applicable file and/or code/regulatory documents or contact the appropriate division or staff.