## Section 7 - Erosion Control Details

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1. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE SITED, DESIGNED, CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MOST RECENT CITY OF LONGVIEW STANDARD PLANS AND SPECIFICATIONS, AND THE WASHINGTON STATE DEPARTMENT OF ECOLOGY STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON.

2. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AND IN WORKING CONDITION PRIOR TO ANY LAND DISTURBING ACTIVITY, INCLUDING BUT NOT LIMITED TO CLEARING, GRADING, FILLING, EXCAVATION OR ANY CHANGE IN THE EXISTING SOIL COVER (BOTH VEGETATIVE AND NON-VEGETATIVE). EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AND APPROVED BY THE CITY PRIOR TO COMMENCEMENT OF WORK. ADDITIONAL MEASURES MAY BE REQUIRED IF THE APPROVED MEASURES ARE INSUFFICIENT AS CONSTRUCTION PROGRESSES AND/OR SEASONAL CONDITIONS Dictate.

3. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REGULARLY INSPECTED AND MAINTAINED TO ENSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION THROUGHOUT THE DURATION OF THE PROJECT. INSPECTIONS SHALL OCCUR DAILY ON ACTIVE SITES, ONCE PER WEEK ON INACTIVE SITES, AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH OR GREATER RAIN EVENT. THE CONTRACTOR SHALL MAINTAIN A LOG OF EROSION AND SEDIMENT CONTROL MEASURE INSPECTIONS AND MAINTENANCE. THE CONTRACTOR SHALL PROVIDE A 24-HOUR CONTACT NUMBER FOR EMERGENCY MAINTENANCE AND REPAIR OF SITE MEASURES.

4. PRIOR TO ANY LAND DISTURBING ACTIVITIES, CLEARING AND WORK AREA LIMITS SHALL BE CLEARLY DELINEATED AND MARKED. ALL SENSITIVE AND CRITICAL AREAS (WETLANDS, STEEP SLOPES, WATERWAYS, TREES TO BE PRESERVED, ETC.) AND THEIR BUFFERS SHALL BE CLEARLY DELINEATED AND MARKED, AND PROTECTED WITH APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES.

5. PRIOR TO ANY LAND DISTURBING ACTIVITIES, STORM DRAIN INLETS WITHIN OR DOWNSLOPE OF THE PROJECT AREA SHALL BE PROTECTED. INLET PROTECTION SHALL BE CLEANED OR REPLACED AS NEEDED TO MAINTAIN DRAINAGE AND ENSURE CONTINUED PERFORMANCE. ALL INLET PROTECTION SHALL BE REMOVED PROMPTLY FOLLOWING COMPLETION OF THE PROJECT.

6. PRIOR TO ANY LAND DISTURBING ACTIVITIES, CONSTRUCTION ACCESS SHALL BE ESTABLISHED PER STANDARD PLAN EC-010 ALONG WITH OTHER EROSION AND SEDIMENT CONTROL MEASURES NECESSARY TO MINIMIZE TRACKING OF SEDIMENT ONTO PUBLIC STREETS AND ROADWAYS.

7. TO THE MAXIMUM EXTENT PRACTICABLE, MINIMIZE THE DISTURBANCE OF NATURAL VEGETATION, SOILS AND SLOPES.

8. ALL RECENTLY UNWORKED DISTURBED AND EXPOSED SOILS SHALL BE STABILIZED BY THE APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES.
9. STOCKPILES SHALL BE STABILIZED BY IMPLEMENTING APPROPRIATE EROSION AND PERIMETER SEDIMENT CONTROL MEASURES, AND SHALL BE LOCATED AWAY FROM STORM DRAIN INLETS, DRAINAGE DITCHES AND WATERWAYS.

10. SEDIMENT OR DEBRIS SHALL NOT BE ALLOWED TO ENTER NEWLY INSTALLED OR EXISTING STORMWATER INLETS, CATCH BASINS, PIPES, DRAINAGE DITCHES, OR PERMANENT STORMWATER MANAGEMENT FACILITIES THAT ARE ON-SITE OR ADJACENT TO THE PROJECT. IF THIS OCCURS, THE CONTRACTOR SHALL REMOVE ALL ACCUMULATED SEDIMENT AND MAKE APPROPRIATE REPAIRS.

11. ANY SOIL, SEDIMENT OR DEBRIS TRANSPORTED ONTO ROADWAYS, SIDEWALKS OR ANY PUBLIC RIGHT-OF-WAY SHALL BE REMOVED IMMEDIATELY BY SHOVELING AND/OR SWEEPING. WASHING SHALL NOT BE UTILIZED UNLESS SPECIFICALLY APPROVED IN WRITING BY THE CITY.

12. STRAW MULCH USED FOR TEMPORARY EROSION CONTROL SHALL BE CERTIFIED AS WEED FREE UNLESS APPROVED BY THE CITY IN WRITING. SEED MIX USED IN THE PUBLIC RIGHT-OF-WAY SHALL ALSO BE PRE-APPROVED BY THE CITY IN WRITING PRIOR TO USE.

13. DEWATERING PLANS NEED TO BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL A MINIMUM OF ONE WEEK PRIOR TO PLANNED USE. DEWATERING DISCHARGE SHALL HAVE AN APPROVED POINT OF DISCHARGE OR MEANS OF PROPER DISPOSAL.

14. DURING DRY WEATHER CONSTRUCTION PERIODS, THE CONTRACTOR SHALL IMPLEMENT DUST CONTROL MEASURES WHICH SHALL BE MAINTAINED UNTIL ALL DISTURBED AREAS ARE STABILIZED.

15. DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE OR GIVEN A PERMANENT COVER TREATMENT WITHIN 30 DAYS OF THE EXPOSURE SHALL HAVE AN APPROVED TEMPORARY SEEDING MIXTURE APPLIED AT A MINIMUM RATE OF 180 LBS/ACRE OR APPLY MULCH PLACED TO STABILIZE THE SOIL AND REDUCE EROSION.

16. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER SITE STABILIZATION IS ACHIEVED OR AFTER MEASURES ARE NO LONGER NEEDED.

17. CONSTRUCTION SHALL NOT BE CONSIDERED COMPLETE AND ACCEPTABLE UNTIL ALL DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED. FOLLOWING STABILIZATION AND PRIOR TO COMPLETION AND/OR OCCUPANCY, THE PERMANENT STORMWATER DRAINAGE SYSTEM SHALL BE CLEANED WITH A VACUUM SYSTEM (WITH NO DISCHARGE TO THE MUNICIPAL STORM SYSTEM) OR OTHER METHOD AS APPROVED BY THE CITY.
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NOTES:

1. Install woven geotextile fabric to prevent sub-soil pumping.
2. The City inspector may require the entrance to be paved to the edge of the right-of-way prior to the installation of a construction entrance to avoid damage to the existing roadway.
3. Top dress the pad with clean 3" rock when the construction entrance becomes clogged with sediment.
4. Any sediment tracked from the site onto the street shall be cleaned up immediately. Pressure washing not allowed. Sweeping is the preferred method.
5. Refer to BMP C105 in volume II of the Stormwater Management Manual for Western Washington for more information.

* 50' MINIMUM PAD LENGTH FOR SITES WITH LESS THAN 1 ACRE OF LAND DISTURBANCE. A 20' MINIMUM PAD LENGTH AND 8" MINIMUM PAD DEPTH MAY BE ACCEPTABLE AS APPROVED FOR SINGLE FAMILY & DUPLEX RESIDENTIAL.
ATTACH FILTER FABRIC TO POSTS USING STAPLES, RING WIRES, OR EQUIVALENT

2" x 2" BY 14 GA. WIRE OR EQUIVALENT BACKING

FILTER FABRIC MATERIAL
(36" WIDE ROLLS)

BURY FILTER FABRIC 6"

8" MAX
(6" IF NOT USING WIRE MESH BACKING)

LINE TRENCH WITH FILTER FABRIC AND BACKFILL WITH NATIVE SOIL OR 3/4" - 1.5" CLEAN GRAVEL

2" x 2" WOOD POSTS, STEEL FENCE POSTS, REBAR, OR EQUIVALENT

FILTER FABRIC MATERIAL
MINIMUM 6"x 6" TRENCH

6"

6" FILTER FABRIC MATERIAL
(6' IF NOT USING WIRE MESH BACKING)

BURY FILTER FABRIC 6"

NOTES:

1. SEDIMENT FENCE SHALL BE INSTALLED TO FOLLOW CONTOURS WHERE FEASIBLE.
2. FENCE POSTS SHALL BE SPACED A MAXIMUM OF 8 FEET APART (6 FEET IF NOT USING WIRE SUPPORT BACKING) AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 18 INCHES.
3. PREPARE A 6" X 6" TRENCH ON THE UPHILL SIDE OF THE POSTS FOR STAPLED FENCING AND ON THE DOWNHILL SIDE OF THE POSTS FOR FENCING WITH STITCHED LOOP.
4. LINE TRENCH WITH FILTER FABRIC AND BACKFILL WITH NATIVE SOIL OR 3/4" TO 1.5" CLEAN GRAVEL AND COMPACT SO THAT THE FILTER FABRIC LIES 6" VERTICALLY BELOW FINISHED GRADE.
5. WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A 2" X 2" BY 14 GA WIRE SUPPORT BACKING (OR EQUIVALENT) SHALL BE USED. WHEN EXTRA-STRENGTH FILTER FABRIC AND CLOSER POST SPACING ARE USED, THE WIRE BACKING MAY BE ELIMINATED.
6. FASTEN FILTER FABRIC AND BACKING SECURELY TO THE POSTS USING HEAVY-DUTY WIRE STAPLES AT LEAST 1 INCH LONG, RING WIRES OR EQUIVALENT. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
7. WHEN JOINTS ARE NECESSARY, FILTER FABRIC SHALL BE SPICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP, AND BOTH ENDS SECURELY FASTENED TO THE POST.
8. SEDIMENT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. SEDIMENT DEPOSITS MUST BE REMOVED WHEN THEY REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE FENCE. DAMAGED FENCE SHALL BE REMOVED AND REPLACED PROMPTLY.
9. SEDIMENT FENCES SHALL ONLY BE REMOVED WHEN THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.
10. REFER TO BMP C233 IN VOLUME II OF THE STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON FOR MORE INFORMATION.
NOTES:
1. THE SIDEWALK SUBGRADE AND CURB CAN SERVE AS A TEMPORARY SEDIMENT TRAP FOR SMALL RESIDENTIAL AND COMMERCIAL CONSTRUCTION SITES LESS THAN 0.25 ACRES IN SIZE WITH MILD SLOPES.
2. PREPARE A SUBBASE OF AT LEAST 2 INCHES OF APPROVED MATERIAL AND PLUG ALL WEEP HOLES IN THE EXISTING CURB. THE SIDEWALK SUBGRADE SHALL BE AT LEAST 4 FEET WIDE AND 4 INCHES BELOW THE TOP OF CURB.
3. INSPECT ONCE PER WEEK AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT.
4. REMOVE SEDIMENT FROM THE SUBGRADE WHEN IT IS 2" BELOW THE TOP OF THE CURB.
NOTES:

1. SEDIMENT TRAPS SHALL BE LIMITED TO DRAINAGE AREAS OF LESS THAN 3 ACRES. FOR DRAINAGE AREAS GREATER THAN 3 ACRES, SEE EC-070 (SEDIMENT BASIN).

2. THE SEDIMENT TRAP IS TO BE LOCATED IN A LOW AREA WHERE THE TRAP WILL INTERCEPT ALL OR MOST OF THE RUNOFF FROM THE DISTURBED AREA.

3. THE SEDIMENT TRAP MAY BE FORMED COMPLETELY BY EXCAVATION OR BY CONSTRUCTION OF A COMPACTED EMBANKMENT.

4. SEDIMENT TRAPS ARE TO HAVE A LEVEL BOTTOM, 3:1 OR FLATTER SIDE SLOPES AND A LENGTH-TO-WIDTH RATIO OF 3.

5. THE SEDIMENT TRAP SHALL DISCHARGE TO A STABILIZED CONVEYANCE, OUTLET OR LEVEL SPREADER. A SEDIMENT FENCE SHALL BE CONSTRUCTED IMMEDIATELY DOWNSTREAM OF THE OUTFLOW POINT.

6. INSPECT ONCE PER WEEK AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT.

7. REMOVE SEDIMENT FROM THE TRAP WHEN IT REACHES 1 FOOT IN DEPTH.

8. REFER TO BMP C240 IN VOLUME II OF THE STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON FOR MORE INFORMATION.
NOTES:
1. SEDIMENT BASINS MAY BE CONSTRUCTED BY BERMS OR BY PARTIAL OR COMPLETE EXCAVATION. BASIN LENGTHS SHALL BE 3 TO 6 TIMES THE MAXIMUM BASIN WIDTH.
2. GRADE BOTTOM OF BASIN AS LEVEL AS POSSIBLE.
3. ALL INLETS AND OUTLETS SHALL BE PROTECTED BY RIP-RAP. OVERFLOW SPILLWAY SHALL BE LINED WITH 2" - 4" ROCK.
4. PERFORATED PIPE TRENCH SHALL BE COMPLETELY LINED WITH FILTER FABRIC.
5. THE SEDIMENT BASIN SHALL DISCHARGE TO A STABILIZED CONVEYANCE, OUTLET OR LEVEL SPREADER. A SEDIMENT FENCE SHALL BE CONSTRUCTED IMMEDIATELY DOWNSTREAM OF THE OUTFLOW POINT.
6. INSPECT ONCE PER WEEK AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT.
7. REMOVE SEDIMENT FROM THE BASIN WHEN IT REACHES 1 FOOT IN DEPTH.
8. SEDIMENT BASINS SHALL BE SIZED AND DESIGNED BY A LICENSED CIVIL ENGINEER.
9. STRUCTURES HAVING A MAXIMUM STORAGE CAPACITY AT THE TOP OF BERM OF 10 ACRE-FT (435,600 FT³) OR MORE ARE SUBJECT TO THE WASHINGTON DAM SAFETY REGULATIONS (CHAPTER 173-175 WAC).
10. REFER TO BMP C241 IN VOLUME II OF THE STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON FOR MORE INFORMATION.
NOTES:

1. SWALES OR DIKES ARE DESIGNED TO INTERCEPT STORMWATER RUNOFF TO EITHER PREVENT IT FROM ENTERING A DISTURBED AREA OR TO REDIRECT SEDIMENT-LADEN WATER LEAVING A DISTURBED AREA.

2. INTERCEPTOR SWALES SHALL MEET THE FOLLOWING CRITERIA:
   A. BOTTOM WIDTH: 2 FEET MINIMUM
   B. DEPTH: 1 FOOT MINIMUM

3. INTERCEPTOR DIKES SHALL MEET THE FOLLOWING CRITERIA:
   A. TOP WIDTH: 2 FEET MINIMUM
   B. HEIGHT: 1.5 FEET MINIMUM ON BERM

4. SIDE SLOPES OF SWALES/DIKES SHALL BE NO GREATER THAN 2:1.

5. MAXIMUM SLOPE OF FLOW PATH ALONG SWALES AND PERPENDICULAR TO DIKES SHALL BE EQUAL TO OR LESS THAN 5 PERCENT.

6. HORIZONTAL SPACING OF SWALES/DIKES BASED ON SITE SLOPE:

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<th>Slope</th>
<th>3-5%</th>
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<td>Distance</td>
<td>300 FT</td>
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7. FLOWS SHOULD DISCHARGE TO A SUITABLE OUTLET (SUCH AS A SEDIMENT TRAP OR SEDIMENT BASIN).

8. DIKES AND SWALES SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT VEGITATION OR OTHER CHANNEL PROTECTION THROUGHOUT THE CONSTRUCTION PHASE; STEEPER GRADES REQUIRE CHECK DAMS.

9. INSPECT ONCE PER WEEK AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT. REPAIR ANY DAMAGE IMMEDIATELY.

10. REFER TO BMP C200 IN VOLUME II OF THE STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON FOR MORE INFORMATION.
SURFACE ROUGHENING

NOTE:
GROOVE BY CUTTING SERRATIONS ALONG THE CONTOUR. IRREGULARITIES IN THE SOIL SURFACE CATCH RAINWATER, SEED, MULCH AND FERTILIZER AND PREVENT FROM BEING WASHED DOWNHILL.

CONTOUR FURROWS

‘TRACKING’ WITH MACHINERY UP AND DOWN THE SLOPE PROVIDES GROOVES THAT WILL CATCH RAINFALL AND REDUCE RUNOFF.

DOZER TRACKS CREATING GROOVES PERPENDICULAR TO SLOPE

TRACKING

NOTES:

1. ROUGHENING METHODS INCLUDE STAIR-STEP GRADING, GROOVING, CONTOUR FURROWS, AND TRACKING. STAIR STEPS ARE CREATED ON CONTOURS PERPENDICULAR TO THE SLOPE. CONTOUR FURROWS ARE CREATED BY CUTTING GROOVES PERPENDICULAR TO THE SLOPE. TRACKING IS PERFORMED BY RUNNING MACHINERY UP AND DOWN THE SLOPE.

2. AREAS THAT WILL NOT BE STABILIZED IMMEDIATELY MAY BE ROUGHENED TO REDUCE RUNOFF VELOCITY UNTIL SEEDING TAKES PLACE.

3. ALL SLOPES STEEPER THAN 3H:1V AND GREATER THAN 5 VERTICAL FEET REQUIRE SURFACE ROUGHENING TO A DEPTH OF 2 TO 4 INCHES PRIOR TO SEEDING.

4. SLOPES WHERE MOWING IS PLANNED SHOULD NOT BE EXCESSIVELY ROUGHENED.

5. AREAS THAT ARE GRADED IN THIS MANNER SHOULD BE SEEDED AS QUICKLY AS POSSIBLE.

6. REFER TO BMP C130 IN VOLUME II OF THE STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON FOR MORE INFORMATION.

SURFACE ROUGHENING

STANDARD PLAN:
EC-085

CITY ENGINEER APPROVAL:

DATE:
SEPT 2019

K.H.
NOTES:

1. FOR USE ON DROP INLETS LOCATED IN UNSTABILIZED AREAS.
2. ATTACH FILTER FABRIC TO WOOD STAKES LOCATED AT FOUR CORNERS SURROUNDING INLET.
3. BURY FILTER FABRIC TO MINIMUM 6 INCH DEPTH.
4. INSPECT ONCE PER WEEK AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT.
5. REMOVE SEDIMENT FROM BEHIND BARRIERS, AS NEEDED AND AFTER EACH SIGNIFICANT RAIN EVENT.
6. REPAIR OR REPLACE MATERIALS AS NEEDED TO ENSURE PROPER FUNCTION.
NOTES:
1. FOR USE ON DROP INLETS AND CURB INLETS IN PAVED AREAS.
2. POSITION FILTER MAT ON INLET GRATE WITH MINIMUM 1 INCH OVERLAP ON EACH SIDE.
3. ATTACH WITH CABLE TIES. USE A MINIMUM OF 7 TIES FOR CURB INLET GRATES AND 8 FOR FLAT INLET GRATE.
4. INSPECT ONCE PER WEEK AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT.
5. REMOVE DEBRIS AND SEDIMENT BUILDUP FROM BEHIND AND TOP OF MAT.
6. REPLACE WITH NEW FILTER MAT AS NEEDED TO ENSURE PROPER FUNCTION.
NOTES:
1. FOR USE ON DROP INLETS IN BOTH UNSTABILIZED AND PAVED AREAS.
2. NOT ALLOWED IN THE PUBLIC RIGHT OF WAY OR IN AREAS WITH MOVING TRAFFIC.
3. OVERLAP ALL BAG JOINTS 6 INCHES.
4. USE 2 STAKES PER BAG. BAGS ON PAVEMENT SHALL BE SECURED BY ALTERNATE MEANS TO PREVENT MOVEMENT DURING RAIN EVENTS.
5. INSPECT ONCE PER WEEK AND WITHIN 24 HOURS FOLLOWING 0.5 INCH RAIN EVENT.
6. REMOVE DEBRIS AND SEDIMENT BUILDUP FROM BEHIND BAGS.
7. REPLACE BAGS AS NEEDED TO ENSURE PROPER FUNCTION.

INLET PROTECTION BIOFILTER BAGS

STANDARD PLAN: EC - 120
CITY ENGINEER APPROVAL: K.H.
DATE: SEPT 2019
1. CHECK DAMS SHALL BE USED IN TEMPORARY OR PERMANENT CHANNELS ARE NOT YET VEGETATED AND WHERE INSTALLING CHANNEL LINING IS NOT FEASIBLE AND/OR WHEN VELOCITY REDUCTION IS REQUIRED.

2. SPACING TABLE FOR CHECK DAMS (LENGTH 'L'):

<table>
<thead>
<tr>
<th>DITCH GRADE</th>
<th>MINIMUM WEIR DEPTH 'D'</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6 INCH</td>
</tr>
<tr>
<td>6%</td>
<td>NOT ALLOWED</td>
</tr>
<tr>
<td>5%</td>
<td>NOT ALLOWED</td>
</tr>
<tr>
<td>4%</td>
<td>NOT ALLOWED</td>
</tr>
<tr>
<td>3%</td>
<td>L=15 FEET</td>
</tr>
<tr>
<td>2%</td>
<td>L=25 FEET</td>
</tr>
</tbody>
</table>

3. BRIDGE ENTIRE DITCH OR SWALE WIDTH AND ENSURE THE CENTER OF DAM IS THE MINIMUM WEIR DEPTH 'D' LOWER THAN THE OUTER EDGES.

4. KEY STONE INTO CHANNEL BANKS AND EXTEND TO BEYOND THE ABUTMENTS A MINIMUM OF 18 INCHES TO PREVENT FLOW AROUND DAM.

5. FOR HIGHER VELOCITY FLOWS (> 5 FPS) USE 6"-12" RIPRAP AND HAND PLACE LARGER ROCK ON UPSTREAM SIDE OF DAM.

6. INSPECT ONCE PER WEEK AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT.

7. REMOVE SEDIMENT WHEN IT ACCUMULATES BEHIND CHECK DAM OR REACHES ON HALF THE SUMP DEPTH.

8. AN OPTION SUMP CAN BE PROVIDED IMMEDIATELY UPSTREAM OF THE CHECK DAM TO COLLECT SEDIMENT.

9. REFER TO BMP C207 IN VOLUME II OF THE STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON FOR MORE INFORMATION.
GEOTEXTILE ENCASED CHECK DAM

1. GEOTEXTILE-ENCASED CHECK DAMS CAN BE USED FOR DITCH CHECK DAMS, PERIMETER PROTECTION, DROP INLET PROTECTION, TEMPORARY INLET INTERCEPTOR DIKE, AND MAY BE ABLE TO REPLACE SEDIMENT FENCE IN SOME APPLICATIONS.

2. GEOTEXTILE-ENCASED CHECK DAMS SHALL MEET THE REQUIREMENTS OF WSDOT SPECIFICATIONS. FOLLOW MANUFACTURER’S SPECIFICATIONS FOR INSTALLATION.

3. INSPECT ONCE PER WEEK AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT.

4. REMOVE SEDIMENT WHEN IT REACHES ONE HALF THE HEIGHT OF THE DIKE.

5. REFER TO BMP C208 IN VOLUME II OF THE STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON FOR MORE INFORMATION.
1. Erosion control blankets and matting shall be selected and installed per the manufacturer's recommendations and intended use.

2. Slope surface shall be smooth before placement to ensure proper soil contact.

3. Amend soil and seed prior to installation (planting of permanent shrubs and trees shall occur after installation).

4. Anchor material at the top of slope in a 6"x6" trench. If there is a berm at the top of slope, anchor upslope of the berm.

5. Matting/blankets should be installed vertically downslope. For slopes of 3:1 or less, blankets may be placed across the slope.

6. Do not stretch blankets/matting tight—allow the rolls to mold to any irregularities.

7. Install and staple/stake per manufacturer's specifications.

8. Inspect once per week and within 24 hours following a 0.5 inch rain event. Repair any damaged areas of the blanket. Staple/stake any areas not in close contact with the ground.

NOTES:

1. EROSION CONTROL BLANKETS AND MATTING SHALL BE SELECTED AND INSTALLED PER THE MANUFACTURER'S RECOMMENDATION AND INTENDED USE.

2. SLOPE SURFACE SHALL BE SMOOTH BEFORE PLACEMENT TO ENSURE PROPER SOIL CONTACT.

3. AMEND SOIL AND SEED PRIOR TO INSTALLATION.

4. OVERLAP BLANKETS LENGTHWISE A MINIMUM OF 12". OVERLAP CROSSWISE A MINIMUM OF 6". AVOID JOINING MATERIAL IN CENTER OF DITCH OR SWALE.

5. DO NOT STRETCH BLANKETS/MATTINGS TIGHT—ALLOW THE ROLLS TO MOLD TO ANY IRREGULARITIES.

6. CHECK SLOTS ARE TO BE CONSTRUCTED PER MANUFACTURER'S SPECIFICATIONS.

7. INSTALL AND STAPLE/STAKE PER MANUFACTURER'S SPECIFICATIONS.

8. INSPECT ONCE PER WEEK AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT. REPAIR ANY DAMAGED AREAS OF THE BLANKET STAKE/STAPLE ANY AREAS NOT IN CLOSE CONTACT WITH THE GROUND.

9. REFER TO BMP C122 IN VOLUME II OF THE STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON FOR MORE INFORMATION.
1. Used to divert runoff away from bare soil areas on slopes.
2. Use diversion dikes or swales to collect water at the top of slope.
3. Thrust blocks shall be installed anytime 90 degree bends are utilized.
4. Pipe shall be secured along its entire length to prevent movement. Install steel "T" posts on both sides of pipe and wire pipe to posts. Posts shall have a minimum spacing of 20 feet.
5. Inlet and all sections must be securely fastened together, fused or have gasketed watertight fittings.
6. Discharge to a stabilized stabilized outlet.
7. Inspect once per week and within 24 hours following a 0.5 inch rain event. Check for clogging and undercutting of the inlet. Outlet shall be free of erosion.
LENGTH VARIES
12" MINIMUM
OVERLAP (TYP.)

SPACING
36" O.C.

CONTOUR LINE (TYP.)

ANGLE TERMINAL END UPHILL 24" TO 48" TO PREVENT FLOW AROUND WATTLE (TYP.)

2" × 2" × 24" WOODEN STAKE (TYP.)

STAGGER OVERLAPS (TYP.)

STRAW ROLLS MUST BE PLACED ALONG SLOPE CONTOURS

SEDIMENT, ORGANIC MATTER, AND NATIVE SEEDS ARE CAPTURED BEHIND THE ROLLS.

SPACING DEPENDS ON SOIL TYPE AND SLOPE STEEPNESS

STRAW ROLLS MUST BE PLACED ALONG SLOPE CONTOURS

1. WATTLE ROLLS ARE INSTALLED PARALLEL TO THE SLOPE CONTOUR, PERPENDICULAR TO THE FLOW OF WATER.

2. ROLLS SHOULD BE PLACED IN SHALLOW TRENCHES DEEP ENOUGH TO ACCOMMODATE HALF THE THICKNESS OF THE ROLL (4'-6" FOR 8'-10" DIAMETER ROLLS).

3. INSTALL ROLLS AT MINIMUM SPACING OF 10'-40' APART DEPENDING ON THE SLOPE AS FOLLOWS:

<table>
<thead>
<tr>
<th>SLOPE</th>
<th>MINIMUM TRENCH / ROLL SPACING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:1</td>
<td>10 FEET</td>
</tr>
<tr>
<td>2:1</td>
<td>20 FEET</td>
</tr>
<tr>
<td>3:1</td>
<td>25 FEET</td>
</tr>
<tr>
<td>4:1</td>
<td>40 FEET</td>
</tr>
</tbody>
</table>

4. OVERLAP ADJACENT WATTLE ENDS 12" AND SECURELY TIE TOGETHER.

5. STAKE EVERY 3 TO 4 FEET. LEAVE ONLY 1 OR 2 INCHES OF STAKE EXPOSED ABOVE ROLL.

6. INSTALL WATTLES FROM THE BOTTOM OF THE SLOPE AND WORK UP.

7. COMPACT EXCAVATED SOIL AND TRENCHES TO PREVENT UNDERCUTTING.

8. INSPECT ONCE PER WEEK AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT. ENSURE THE ROLLS REMAIN THOROUGHLY ENTRANCED AND IN CONTACT WITH THE SOIL.

9. REFER TO BMP C235 IN VOLUME II OF THE STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON FOR MORE INFORMATION.
PLASTIC SHEETING IS USED TO PROVIDE IMMEDIATE PROTECTION TO SLOPES AND STOCKPILES FROM RAINFALL AND EROSION.

2. OVERLAP SEAMS 2'-4'. TAPE, ROLL AND STAKE THE SEAMS.

3. ANCHOR THE COVERING/SHEETING USING SANDBAGS OR OTHER SUITABLE TETHERED ANCHOR SYSTEM SPACED ON A 10' GRID SPACING IN ALL DIRECTIONS.

4. INSTALL A GRAVEL BERM, RIPRAP, OR OTHER SUITABLE SEDIMENT BARRIER AT THE TOE OF THE SLOPE OR STOCKPILE. PROVIDE ENERGY DISSIPATION AT TOE WHEN NEEDED.

5. SLOPE APPLICATION: INSTALL AN INTERCEPTOR DIKE AT THE TOP OF THE PLASTIC TO DIVERT RUNOFF AWAY FROM PLASTIC SHEETING—ALLOW NO WATER TO GO UNDER THE SHEETING. ANCHOR MATERIAL AT THE TOP OF SLOPE IN A 6'X6' TRENCH. DO NOT USE PLASTIC COVERING UPSLOPE OF AREAS SUCH AS STEEP AND/OR UNSTABLE SLOPES THAT MIGHT BE ADVERSELY AFFECTED BY INCREASED OR CONCENTRATED RUNOFF.

6. INSPECT ONCE PER WEEK AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT. REPLACE TORN SHEETS AND REPAIR OPEN SEAMS. COMPLETELY REPLACE PLASTIC WHEN IT BEGINS TO DETERIORATE.

7. REFER TO BMP C123 IN VOLUME II OF THE STORMWATER MANUAL FOR WESTERN WASHINGTON FOR MORE INFORMATION.
EXCAVATED WASHOUT STRUCTURE

WASHOUT STRUCTURE WITH WOOD PLANKS

NOTES:
1. LOCATE CONCRETE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM STORM DRAIN INLETS, STORMWATER CONVEYANCES, DITCHES AND WATERCOURSES AND WETLANDS.
2. PROVIDE A SIGN IDENTIFYING THE CONCRETE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
3. USE PLASTIC OR OTHER IMPERMEABLE SHEETING FOR EASE OF MAINTENANCE. REPLACE SHEETING IF DAMAGED.
4. EMPTY OR REPLACE A STRUCTURE THAT IS 75% FULL AND DISPOSE OF MATERIAL APPROPRIATELY.
5. REFER TO BMP C154 IN VOLUME II OF THE STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON FOR MORE INFORMATION.