

ATTACHMENT # D-1.2

**Erosion and Sediment Control - Drawings
General Requirements**

Item A. The project designer may use this form to create Erosion and Sediment Control Drawings; use the "Submitted" column and fill out the check boxes to document your items. This form shall then be submitted to Development Engineering along with the Erosion and Sediment Control Drawings.

Item B. Prior to obtaining final approval from Development Engineering, the owner/contractor is required to obtain a CDPS Stormwater Construction Permit from CDPHE and submit a copy of the approval letter and certification page to the assigned Adams County project Development Review Engineer. Stormwater Regulatory Compliance will only sign off once all required documents have been submitted and reviewed.

ITEM C. Record CD's shall be submitted to Development Engineering AFTER approval and sign off.

Case No.: _____ Project Name: _____

Date: _____ Reviewed By: _____

County Only: SWMP - Approved Resubmit Rejected; resubmit

	Submitted	County Use Only		Drawing Contents and Requirements
		Approved	Rejected	
1.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Required Copies – Submit four (4) copies of the entire SWMP. At final approval, submit an electronic copy on a single CD in Adobe PDF format containing the approved SWMP report and Erosion and Sediment Control drawings (ESCD).</p> <p>Comments: _____</p>
2.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Sheet Size – The Erosion and Sediment Control Drawing size shall be 11" x 17" bound.</p> <p>Comments: _____</p>
3.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Drawing Title Sheet – Include a title block with the following information:</p> <ul style="list-style-type: none"> – Project name and location of proposed project/development – Project vicinity map – Submittal date – Title of drawing and sheet number – Project designer signature with engineering stamp, date, signature – Project owner
4.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Drawing Information – Include the following:</p> <ul style="list-style-type: none"> – North Arrow – Drawing Scale 1" = 100' (maximum). Larger scales may be required where necessary to clearly present details – Symbol Legend

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5.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Phased BMP Implementation – The ESCDs shall clearly delineate the sequencing between the separate phases of construction, and the implementation and maintenance of both structural and non-structural BMPs.</p> <p>The ESCD must identify the BMPs to be implemented during the following three project phases. <i>One sheet per phase must be included in addition to a Detail sheet.</i></p> <p>Phases of Construction – delineate which BMPs will be used for each of the following phases of construction:</p> <ul style="list-style-type: none"> – Initial Construction <ul style="list-style-type: none"> - Phase I – Locations of all initial BMPs Examples of activities include: protect specified vegetation, construction staging/parking/storage, clearing, grubbing, tree and scrub removal, top soil stripping and stock piling temporary roads, and site access points. – Interim Construction <ul style="list-style-type: none"> - Phase II – Locations of all interim BMPs Examples of activities include: removal of existing pipe, earthwork (excavation/embankment), dewatering, construction of utilities & structures, rip rap, and placement of top soil. – Final Construction <ul style="list-style-type: none"> - Phase III – Locations of all final BMPs Examples of activities include: final topsoil placement, sod, seeding, mulching, permanent landscaping, pavement, sod, seed and mulching. – Detail Sheet A detail must be included for all BMPs. <p>Note: Phase stabilization so that any areas completed during that phase, should be permanently stabilized before commencing to the next phase of construction.</p> <p>Comments:</p>

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6.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Permitted Area Boundary – Delineation of the boundary in which all construction activity will take place under the CDPS Stormwater Construction Permit.</p> <p>Please use a solid, bold line similar to: _____</p>														
7.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>100-Yr Floodplain – Delineate the FEMA 100-yr floodplain limits on each Phase.</p>														
8.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Ground Surface Disturbance – Locate, on each phase, the following disturbances; examples which include, but are not limited to the following construction activities:</p> <p><i>(Plan Designer to check items included in submittal.)</i></p> <p>✓ Applicable Items</p> <table border="0"> <tr> <td>– Clearing</td> <td>– Grading</td> </tr> <tr> <td>– Excavation</td> <td>– Demolition</td> </tr> <tr> <td>– Haul Roads</td> <td>– Access Roads</td> </tr> <tr> <td>– Staging Areas</td> <td>– Stockpiles</td> </tr> </table> <p><i>ALL items listed that are to be located by the contractor, shall be noted on the Erosion and Sediment Control Drawing.</i></p>	– Clearing	– Grading	– Excavation	– Demolition	– Haul Roads	– Access Roads	– Staging Areas	– Stockpiles						
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9.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Topography – Locate, on each Phase, existing and proposed contour lines at a maximum of two (2) foot intervals, extended beyond project limits as appropriate. Elevations and flow arrow <u>must</u> be shown.</p>														
10.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Material Storage Areas – Delineate, on each Phase, all areas used for storage of the following:</p> <p><i>(Plan Designer to check items included in submittal.)</i></p> <p>✓ Applicable Items</p> <table border="0"> <tr> <td>– Building Materials</td> <td>– Fuel</td> </tr> <tr> <td>– Stockpiles</td> <td>– Contaminated Soils</td> </tr> <tr> <td>– Fertilizer</td> <td>– Pesticides</td> </tr> <tr> <td>– Herbicides</td> <td>– Solvents</td> </tr> <tr> <td>– Detergents</td> <td>– Oil</td> </tr> <tr> <td>– Hydraulic Fluid</td> <td>– Construction Waste</td> </tr> <tr> <td>– Dumpsters</td> <td>– Other: _____</td> </tr> </table> <p><i>ALL items listed that are to be located by the contractor, shall be noted on the Erosion and Sediment Control Drawing.</i></p>	– Building Materials	– Fuel	– Stockpiles	– Contaminated Soils	– Fertilizer	– Pesticides	– Herbicides	– Solvents	– Detergents	– Oil	– Hydraulic Fluid	– Construction Waste	– Dumpsters	– Other: _____
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11.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Structural BMP Practices – Each Phase of the ESCD shall identify all structural site BMPs that will be used to minimize erosion and sediment transport. Such practices may include:</p> <p><i>(Plan Designer to check items included in submittal.)</i></p> <p>✓ Applicable Items</p> <table border="0"> <tr> <td>– Vehicle Tracking Control VTC*</td> <td>– Sediment Control Logs SCL</td> </tr> <tr> <td>– Concrete Washout CWA</td> <td>– Silt Fence SF</td> </tr> <tr> <td>– Rock Sock RS</td> <td>– Inlet Protection IP</td> </tr> <tr> <td>– Stabilized Construction Roadway SCR</td> <td>– Temp Diversion Channel DV</td> </tr> <tr> <td>– Paving and Grading Operations PGO</td> <td>– Stream Bank Stabilization SS</td> </tr> <tr> <td>– Outlet Protection OP</td> <td>– Temp Stream Crossing TSC</td> </tr> <tr> <td>– Sediment Basin SB</td> <td>– Temp Batch Plant TBP</td> </tr> <tr> <td>– Sediment Trap ST</td> <td>– Protect Existing Veg PV</td> </tr> <tr> <td>– Dewatering Operations DW</td> <td>– Check Dams CD</td> </tr> <tr> <td>– Other: _____</td> <td>– Other: _____</td> </tr> </table> <p><i>ALL items listed that are to be located by the contractor, shall be noted on the Erosion and Sediment Control Drawing.</i></p> <p>Staff Comments:</p>	– Vehicle Tracking Control VTC*	– Sediment Control Logs SCL	– Concrete Washout CWA	– Silt Fence SF	– Rock Sock RS	– Inlet Protection IP	– Stabilized Construction Roadway SCR	– Temp Diversion Channel DV	– Paving and Grading Operations PGO	– Stream Bank Stabilization SS	– Outlet Protection OP	– Temp Stream Crossing TSC	– Sediment Basin SB	– Temp Batch Plant TBP	– Sediment Trap ST	– Protect Existing Veg PV	– Dewatering Operations DW	– Check Dams CD	– Other: _____	– Other: _____
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*Key – 2010 UDFCD Vol. III Construction BMP Plan Symbols																								

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12.	<input type="checkbox"/>	<input type="checkbox"/>	<p><u>Non-Structural BMP Practices</u> – Each Phase of the ESCD shall identify all non-structural interim and permanent stabilization practices, including site-specific scheduling of the implementation of the practices. Site plans should ensure that existing vegetation is preserved where possible and that disturbed areas are stabilized. Non-structural practices may include:</p> <p><i>(Plan Designer to check items included in submittal.)</i></p> <p>✓ Applicable Items</p> <table border="0"> <tr> <td>– Temporary Seeding TS*</td> <td>– Permanent Seeding PS</td> </tr> <tr> <td>– Mulching MU</td> <td>– Surface Roughening SR</td> </tr> <tr> <td>– Rolled Erosion Control Products RECP</td> <td>– Stabilized Staging Area SSA</td> </tr> <tr> <td>– Terracing TER</td> <td>– Sediment Trap ST</td> </tr> <tr> <td>– Wind Erosion and Dust Control DC</td> <td>– Good Housekeeping Practices GH</td> </tr> <tr> <td>– Earth Dikes ED</td> <td>– Protect Existing Veg. PEV</td> </tr> <tr> <td>– Vegetated Buffer VB</td> <td>– Drainage Swales DS</td> </tr> <tr> <td>– Street Sweeping Vacuuming SS</td> <td>– Temp Diversion Channel TDC</td> </tr> </table> <p><i>ALL items listed that are to be located by the contractor, shall be noted on the Erosion and Sediment Control Drawing.</i></p> <p>Staff Comments:</p>	– Temporary Seeding TS*	– Permanent Seeding PS	– Mulching MU	– Surface Roughening SR	– Rolled Erosion Control Products RECP	– Stabilized Staging Area SSA	– Terracing TER	– Sediment Trap ST	– Wind Erosion and Dust Control DC	– Good Housekeeping Practices GH	– Earth Dikes ED	– Protect Existing Veg. PEV	– Vegetated Buffer VB	– Drainage Swales DS	– Street Sweeping Vacuuming SS	– Temp Diversion Channel TDC
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13.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Water Features – Show locations as applicable, on each Phase, of all existing and proposed stormwater conveyance system which may include:</p> <p style="text-align: center;"><i>(Plan Designer to check items included in submittal.)</i></p> <p>✓ Applicable Items</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">– Catch Basins</td> <td style="width: 50%;">– Curbs</td> </tr> <tr> <td>– Gutters</td> <td>– Ditches</td> </tr> <tr> <td>– Man-made Channels</td> <td>– Swales</td> </tr> <tr> <td>– Drainageways</td> <td>– Storm Sewer</td> </tr> <tr> <td>– Culvert</td> <td>– Outfall Point</td> </tr> <tr> <td>– Surface Water</td> <td>– Wetlands</td> </tr> </table> <p style="text-align: center;"><i>ALL items listed that are to be located by the contractor, shall be noted on the Erosion and Sediment Control Drawing.</i></p> <p>Staff Comments:</p>		– Catch Basins	– Curbs	– Gutters	– Ditches	– Man-made Channels	– Swales	– Drainageways	– Storm Sewer	– Culvert	– Outfall Point	– Surface Water	– Wetlands
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14.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p><u>Erosion and Sediment Control Plan Engineer’s Certification</u> - Certification by a licensed engineer is required on all Erosion and Sediment Control Plans and shall be stated as follows:</p> <p>“I hereby certify that this Erosion Control Drawing for <u>Name of Development</u> was prepared by me (or under my direct supervision) in accordance with the provisions of Adams County Storm Drainage Design and Stormwater Quality Regulations for the Owners thereof.”</p> <p style="text-align: right;">_____ Registered Professional Engineer State of Colorado No. _____ (Affix Seal)</p>													

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Standard Erosion and Sediment Control Drawing Notes - The following General Notes shall be included on the Erosion and Sediment Control Plan as applicable to the BMPs implemented under the Stormwater Management Plan (SWMP) and/or the Erosion and Sediment Control Drawings.

General Notes – to be included on plan set:

“The general notes for erosion and sediment control work shall be as follows:

1. Owner/Contractor is responsible for obtaining a State of Colorado, Colorado Department of Public Health and Environment (CDPHE) General Permit for Stormwater Discharges Associated with Construction Activity COR-030000 prior to construction (CDPS Stormwater Construction Permit).
2. The Owner/Contractor shall provide Adams County with a copy of this CDPS Stormwater Construction Permit letter of approval and Certification from the State prior to receiving a County Construction/Building Permit. The Owner/Contractor is responsible for all fees associated with this CDPS Stormwater Construction Permit.
3. A copy of the CDPS Stormwater Construction Permit from CDPHE and the approved Stormwater Management Plan (SWMP) with an Erosion and Sediment Plan shall be kept on site and updated at all times in compliance with the CDPS Stormwater Construction Permit.
4. Owner/Contractor is responsible for filing a CDPHE Inactivation Notice – Construction Stormwater Discharge General Permit Certification; once the construction site has been finally stabilized in compliance with the CDPS Stormwater Construction Permit.
5. The Owner/Contractor shall provide Adams County with a copy of this Inactivation Notice. There will be no fee charged to Adams County for the Inactivation Notice or if the Contractor neglects to file this Notice.
6. The SWMP Administrator is responsible for implementing and maintaining erosion and sediment control measures at all times during construction. The SWMP shall be modified in compliance to the CDPS Stormwater Construction Permit.
7. Standard Inspections - A thorough inspection of the Best Management Practices (BMPs) shall be performed every fourteen (14) calendar days and within twenty-four (24) hours after any precipitation or snowmelt event that causes surface erosion.
8. Use biodegradable erosion control blankets on slopes 3:1 or steeper and in swales or long channels.
9. All soil imported to or exported from the site shall be properly covered to prevent the loss of material during transport. Haul routes must be permitted by the County. No material shall be transported to another site without first obtaining a Hauling Permit from Adams County Planning.
10. The concrete washout containment structure shall contain all concrete washout water. Stormwater shall not carry wastes from the designated concrete washout location and shall be located a minimum of fifty (50) feet horizontal from waters of the State.
11. The actual schedule for implementing erosion and sediment control measures will be determined by project construction progress. Down slope protective measures (i.e. sediment control barriers) must always be in place before soil is disturbed.
12. Install sediment control barriers down slope from construction that disturb site soil. Sediment control barriers should be installed in the locations shown on the Erosion and Sediment Control Drawings, as well as other locations as deemed necessary by the contractor, inspector or owner.”

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Standard Erosion and Sediment Control Drawing Notes - The following Performance Notes shall be included on the Erosion and Sediment Control Plan as applicable to the BMPs implemented under the Stormwater Management Plan (SWMP) and/or the Erosion and Sediment Control Drawings.

Performance Standard Notes – to be included on plan set:

“The general performance requirements for erosion control work shall be as follows:

1. Temporary and/or permanent BMPs intended to control erosion of an earth disturbance operation shall be installed before any earth disturbance operations take place in sequence with proper phasing.
2. Earth disturbances shall be conducted in such a manner so as to minimize disturbed area and protect natural features, soil and vegetation.
3. Persons engaged in earth disturbances shall implement and maintain acceptable soil erosion and sedimentation control measures, in conformance with the erosion control technical standards adopted by Adams County and in compliance with the CDPS Stormwater Construction Permit.
4. Earth disturbances shall be designed, constructed and completed in such a manner so that the exposed area of any disturbed land shall be limited to the shortest possible period of time.
5. Sediment caused by accelerated soil erosion shall be removed from runoff water before it leaves the site of the earth disturbance.
6. Excavated material and other construction debris shall not be stockpiled within the roadway section. Backfill materials up to a maximum of 130 CY may be stockpiled, with appropriate erosion control measure, but must be removed or placed by the end of each work week.
7. Any construction areas, not graded to final grade, require temporary BMPs for site stabilization.
8. As necessary, construct a temporary facility designated for conveyance of stormwater around, through, or from the construction site.
9. Permanent erosion and sediment control measures for all slopes, channels, ditches, or any disturbed land area shall be stabilized immediately after final grading.
10. All spills shall be cleaned up immediately after discovery, or contained until appropriate cleanup methods can be employed. Manufacturer’s recommended methods for spill cleanup shall be followed, along with proper disposal methods.
11. Concrete washouts shall not be placed in low areas, ditches or adjacent to state waters.
12. The Owner/Contractor shall check the capacity for all concrete washout areas. Waste materials must be removed by the contractor and legally disposed of when accumulations amount to two-thirds ($\frac{2}{3}$) of the wet storage capacity of the structure.
13. All concrete washout areas shall be clearly marked. The concrete washout containment structure will include a 2’x3’ sign posted with the words “Concrete Washout”. The concrete washout Area shall be repaired and/or enlarged as necessary to maintain capacity for wasted concrete.
14. At the end of construction, all concrete shall be removed from the site and legally disposed of. Concrete washout waste must not be buried.
15. Disturbed areas and stockpiles which are not at final grade shall be temporarily stabilized immediately after interim grading.
16. Final stabilization is reached when all soil disturbing activities at the site have been completed, and uniform vegetative cover has been established with a density of at least seventy percent (70%) of pre-disturbance levels or equivalent permanent, physical erosion reduction methods has been employed.
17. Records of spills, leaks, or overflows that result in the discharge of pollutants must be documented and maintained. Some spills may need to be reported to the Division immediately: specifically, a release of any chemical, oil, petroleum product, sewage, etc., which may enter Waters of the State, must be reported. More guidance is available on the web at www.cdphe.state.co.us/emp/spillsandreleased.htm. The Division’s toll free 24-hour environmental emergency spill reporting line is 1-877-518-5608. Also immediately call Adams County at 303-.453-8787 and the Tri-County Health Department at 303-220-9200”

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Standard Erosion and Sediment Control Drawing Notes - The following BMP Maintenance Notes shall be included on the Erosion and Sediment Control Plan as applicable to the BMPs implemented under the Stormwater Management Plan (SWMP) and/or the Erosion and Sediment Control Drawings.

BMP Maintenance Notes – to be included on plan set:

“The general maintenance requirements for BMPs shall be as follows:

1. It is anticipated that the BMPs implemented at the site will have to be modified to adapt to changing conditions or to ensure that potential pollutants are being properly managed at the site. When BMPs are modified, the SWMP must be modified to accurately reflect the actual field conditions.
2. The Owner/Contractor shall continuously maintain all silt fencing so that it functions properly during construction and work suspensions. All silt fencing shall be removed by the Contractor upon substantial permanent stabilization unless otherwise directed by authorized Adams County personnel.
3. Silt fence shall be installed along contours and prior to any grubbing or grading activity. It shall be located to capture overland, low-velocity sheet flows in which it shall be installed at a fairly level grade.
4. It is recommended that silt fence shall be installed five (5) feet away from the toe of the slope or stockpile, and every seventy five (75) to one hundred twenty five (125) feet apart on long slopes.
5. Do not place silt fence in or adjacent to existing wetlands where trenching impacts wetlands.
6. All inlet/outlet protection will be checked for maintenance and failure daily. Sediment shall be removed and properly disposed of once it has accumulated to half the design of the trap or daily during periods of consistent precipitation.
7. The Owner/Contractor shall be responsible for maintaining the Vehicle Tracking Control during construction. The Vehicle Tracking Control shall be removed at the completion of this project unless otherwise directed by authorized Adams County personnel.
8. Temporary sediment traps and basins shall be installed before any land disturbance takes place in the drainage area. The area under the embankment shall be cleared, grubbed, and stripped of all vegetation and root mat. Sediment shall be removed when no longer functional and disposed of at an approved location.
9. All sediment from stormwater infrastructure (i.e. detention ponds, storm sewer pipes, outlets, inlets, roadside ditches, etc.) shall be removed prior to initial acceptance. This sediment shall not be flushed off-site, but shall be captured on-site and disposed of at an approved location.
10. Temporary Rock Check Dam – The maximum height of the check dam at the center should not exceed one half the depth of the ditch or swale. The maximum spacing between dams should be such that the toe of the upstream dam is at the same elevation as the top of the downstream dam.
11. Construction Safety Barrier Fencing (orange construction fence) must be used to protect wetlands and other sensitive areas and to prevent access.
12. Water from dewatering operations shall not be directly discharged into any waters conveyance systems including wetlands, irrigation ditches, canals, rivers, streams or storm sewer systems, unless allowed by a State Construction Dewatering Permit.

