

Delaware Department of Transportation
ES2M Inspection Rating Form Guidance_20180619_v1
(For Informational Purposes Only)

CCR & EPS TECHNICIAN GUIDE TO THE
CONSTRUCTION GENERAL PERMIT (FEDERAL & STATE)

Delaware and Federal Requirements under the E & S Program

The Delaware Construction General Permit (DE-CGP) of 2008 has been Administratively Extended until such time that the newest revision is promulgated by the EPA. The conditions in DE-CGP are the requirements under which we operate and are the basis for the NPDES permit. Federal authority has determined the DE-CGP supports all aspects provided in the Federal CGP 2012. The ES2M Form is directly tied to the requirements of the law, permits, regulations, etc. and guides you in your observations of construction project sites.

This guide will tie ES2M inspection observations to the above requirements of the following Federal, State, Tribal and/or Local Laws and Regulations:

Delaware Construction General Permit (DE CGP)

<http://www.dnrec.delaware.gov/swc/Drainage/Documents/Sediment%20and%20Stormwater%20Program/Sediment%20and%20Stormwater%20Policies/Part%202%20SPECIAL%20CONDITIONS%20FOR%20STORM%20WATER%20DISCHARGES%20ASSOCIATED%20WITH%20CONSTRUCTION%20ACTIVITIES.pdf>

Federal Construction General Permit (FED CGP 2012) <https://www.epa.gov/npdes/stormwater-discharges-construction-activities#overview>

Title 7 Administrative Code §5101 Delaware Sediment and Stormwater Regulations (DSSR) & Technical Document <http://regulations.delaware.gov/register/may2016/emergency/19%20DE%20Reg%20963%2005-01-16.htm>

Delaware Erosion & Sediment Control Handbook (DE-ESC)

<http://www.dnrec.delaware.gov/swc/Drainage/Documents/Sediment%20and%20Stormwater%20Program/Technical%20Document/Latest%20Version%20of%20all%20Articles/3.06.1%20Delaware%20ESC%20Handbook.pdf>

Delaware Code <http://delcode.delaware.gov/>

Title 7 Chapter 40 Sediment & Stormwater

Title 7 Chapter 60 Environmental Control

Title 3 Chapter 24 Noxious Weed

Title 3 Chapter 27 Nuisance Plant

Delaware Administrative Code <http://regulations.delaware.gov/AdminCode/>

Title 7 Natural Resources and Environmental Control

Delaware Department of Transportation Standard Construction Specifications and Standard Construction Details (All 2014 updates).

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(901) Erosion, Sediment and Stormwater Management.

This section reviews the overall Stormwater Management and Pollution Prevention Plan (SWPPP) and practices governed by regulations, permits, policies, and procedure relating to Erosion and Sediment Control and Stormwater Management applicable to all DelDOT Contracts, and as directed by the Engineer.

(902) Dewatering

This operation is to comply with the requirements of the MOA and 902.

The CCR will be verifying that the dewatering operation is set up according to the specification. The Contractor shall install an instantaneous/totalizing flow meter, sump pit, and approved filtering device (PST or Dewatering bag) as per plan in accordance with the requirements of the MOA and 902. This operation is to be continuous until completed and removed.

The CCR will determine if the Contractor is within the maximum limits under the Statewide General Dewatering Permit (**1,000,000** gallons per day maximum). Points are assigned or deducted in other sections for the specific devices. Read through the specific statements that apply to the specification (902.03.A-J). Exceeding the **1,000,000** gallons per day without acquiring a well pumping permit will not be grounds to fail the project. DelDOT does not enforce DNREC Well Section regulations. The CCR will notify the Stormwater Engineer's office upon discovery and document in the notes section of the weekly report. Weekly supporting photo documentation will include but is not limited to the meter reading during the operation.

The CCR will verify with the DelDOT Project Supervisor that DNREC Water Resources has been contacted prior to commencing dewatering operations. DNREC notification 48 hours prior to commencing: Water Supply 739-9945 and Subaqueous Lands & Wetlands 739-9943. To be documented in the notes section of the weekly report at the beginning of each dewatering operation.

(Refer to 906 for required Installation and Maintenance of applicable devices.)

EXAMPLE SITUATION: "Clean" water from the sump pit can be discharged directly to a stabilized outfall.

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Section 1. Stormwater Management and Pollution Prevention Plan a.k.a. the approved SWPPP.

1.1 Project conforms to the approved Sediment & Stormwater Management Plan? <i>Deduct 1.1 as per guidance in the sections 1.1.1 – 1.1.6.</i>		Project compliance is dependent on answering 1.1.1 through 1.1.6.
The SWPPP is referred to generally as the Plan. It includes the General Notes, Special Provisions, Plans, Supplemental Specifications, Standard Construction Details and Standard Construction Specifications. Any changes occurring to the approved SWPPP and/or directly affecting the erosion, sediment & stormwater controls, must be reviewed by the Stormwater Engineer and approved within 7 c.d. of initiation in the field. The approved Plan expires after five (5) years from the date they are signed by the Stormwater Engineer.		Implementation and maintenance of best management practices (bmps) is a requirement of the SWPPP. Failure to implement and maintain is a deduction in 1.1 Failure to install or make operational downgradient sediment controls prior to earth-disturbing activities in any portion of your site is non-compliance with the SWPPP – automatic deduction in 1.1
1.1.1	Have all ES2M changes been approved by the SW Engineer? <i>All redlines & revisions are due prior to the inspection. Changes must be approved within 7 c.d. of initiation in the field.</i>	Changes to the SWPPP can be from two approved sources: Redline Field Revisions: Can be initiated by the Project Supervisor (PS) while adjusting to field conditions during construction. They are limited to scope and include but not limited to adding or deleting up gradient SF, IP, SCDs, etc. Revisions: Shall follow the Department’s chain of action for resolution. The PS or AE will elevate issues through the designer and to the SW Engineer as needed. Final approval for all things Stormwater is the SW Engineer.
1.1.2	Have the approved changes been implemented? <i>If redline or revisions are not implemented at the appropriate time in the sequence then a deduction is warranted in 1.1.2 & 1.1.</i>	Once a redline or revision becomes part of the SWPPP, it must be implemented as the SWPPP indicates (sequence or phase). <i>(7 c.d. due date)</i>
1.1.3	Are E & S controls in place prior to disturbing the intended area? <i>Immediate deduction of 1.1.3 & 1.1.</i>	Non-negotiable immediate deduction.

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1.1.4	Are E & S controls (i.e., ST, SBD, and SF) removed as directed by the Engineer and/or concurrence with the SW Engineer per the SWPPP and/or meeting conditions for the NOT? <i>7 c.d.</i>	<p>Write a deficiency to remove and allow <i>7 c.d. to complete. EXAMPLE SITUATIONS during active construction vs. project final:</i></p> <ul style="list-style-type: none"> • <i>Redline to delete SF.</i> • <i>Left in place, do not rate unless it is the final inspection. 7 c.d.</i> • <i>Removed & left in location, score as construction debris. 7 c.d.</i> • <i>To reuse, must be undamaged and moved to Staging Area or consider construction debris</i>
1.1.5	Are disturbed areas contained within the LOC? <i>Immediate deduction 1.1.5 & 1.1.</i>	Earth disturbance outside the LOC is prohibited, this is not to say that use of the TCE is prohibited.
1.1.6	Was 48 hour notification provided at commencement of BMP Facility construction? <i>Immediate deduction 1.1.6 & 1.1.</i>	Deduct for the week of occurrence only unless multiple facilities are involved.
1.2 Are stockpile locations approved and protected from the influence of stormwater? <i>7 c.d.</i>		<ul style="list-style-type: none"> • Stockpile locations require perimeter controls to prevent run-on and run-off of stormwater. • Areas must be designated and approved by the Engineer within the Project Limits prior to use. • A redline on the plans will satisfy this requirement. • During active construction, stockpile height and size is not observed as long as it is located within the operational ROW. <p>Stockpiles located outside the project limits will not be inspected by the CCR.</p>

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<p>1.3 Has a sediment discharge occurred to impaired waters? <i>Immediate deduction if a prior deficiency exists for bmp devices not maintained prior to the discharge; 7 c.d. if bmp devices are installed & maintained.</i></p>	<ul style="list-style-type: none"> • E & S controls must be implemented & maintained to warrant 7 c.d. due date. No fault to the contractor if rain is severe enough to cause a discharge. • If site is not maintained prior to the rain event in accordance with the SWPPP (controls installed & maintained) and a discharge occurs then deduction is immediate.
<p>1.4 Are points of egress and ingress out of the Project onto publically accessed roadways free of sediments? <i>See explanation of gray area.</i></p>	<ul style="list-style-type: none"> • It does depend on the severity of the tracking and impact on the public whether it is immediate or 7 c.d. • Minor tracking of loose sediment or sand <i>7 c.d.</i> • Any occurrence that is a public safety issue (e.g., heavy mud or stones or rocks) <i>Immediate</i>

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Sections 2. INSTALLATION AND Section 3. MAINTENANCE. These sections pertain to Installation and Maintenance, respectively, of the project best management practices (bmps) devices. In general, each device has a Standard Detail for the correct construction and proper placement of the device in the field. Maintaining the device is included in the item and shall be provided by the Contractor. *(If no Standard Construction Detail defer to Manufacturer's guidelines for use and installation.)*

(909500) Stream Diversion. This is a lump sum payment item not a device. Each related device within the Stream Diversion has an applicable scoring method.

(903) Pollution Prevention

• **(A) Waste Management Practices.**

- **(1) Waste Collection.** The contractor is required on a daily basis to monitor and clean up all trash and debris including solid waste, i.e. excess asphalt, construction debris, litter etc.
 - Waste Receptacle(s) must be clearly marked & in a designated area within the LOC.
 - *7 c.d. to repair and/or replace*
 - Waste Receptacle Size. The waste receptacle must be of sufficient size to handle the trash being placed in it. This may be different for each project and location. A plastic bag is not a receptacle.
 - *IMMEDIATELY required as part of the SWPPP, deduct points for construction & maintenance.*
 - Waste Receptacle Cover. Each waste receptacle shall have a cover available for use at the end of each work day and/or during a weather event that produces stormwater runoff. Observe and report if a cover is onsite and available for use.
 - *7 c.d. to repair and/or replace*
 - Waste Receptacles are located 50 LF minimum away from stormwater conveyance systems that drain to a water body.
 - *7 c.d. to repair and/or replace*
 - Waste material(s) are routinely picked up and disposed of in the appropriate receptacle(s). Waste Receptacles are emptied when they reach capacity.
 - *7 c.d. to repair and/or replace*
- **(2) Sanitary Facilities.** Observe and report:
 - Sanitary facilities located within the LOC shall be secured to prevent over-turning and well-maintained; must be located a minimum of 50 feet from storm drains and/or waterways whenever possible.
 - *7 c.d. to repair and/or replace*

- **(B) Equipment and Vehicle Fueling and/or Maintenance Practices.**
 - Observe and report the following:
 - Designated and clearly marked areas for on-site fueling operations and/or maintenance
 - *. 7 c.d. to repair and/or replace*
 - Check for a spill kit in these areas.
 - Leaks, spills and/or other sources of water pollutants from vehicles & equipment.
Example: Check surface areas within the LOC and report any active spills to the PS.
 - *Upon discovery, IMMEDIATE clean up using dry methods is required. Do not hose the surface area down. Deduct points in Maintenance for IMMEDIATE.*
 - **EXAMPLE SITUATIONS**
 - *Active: Provide a photo to document active equipment or tank leaks (IMMEDIATE deduction).*
 - *Non-Active: Definitely within the project limits but unable to obtain credible photo of leaking equipment with the spill. (7 c.d due date)*
 - Observe and report spent or excess fluids within the LOC for proper containment & disposal.
 - *7 c.d. to repair and/or replace.*
- **(C) Dewatering Equipment.**
 - Secondary Containment. Pumps and/or various types of stationary equipment located within the ordinary high water limits and/or 50 LF minimum of the water body shall have secondary containment provided. Self-contained systems are permitted outside the actual influence of waters of the US. Have the contractor provide that information if this is the case.
 - ***IMMEDIATE ACTION REQUIRED – deduct points.***
 - *7 c.d. to provide information on self-contained equipment.*
 - Where at all possible, the contractor shall remove fuel & pumps from the influence of waters of the State at the end of each work day. Check only to ensure that the regulation is complied with if you are there at the end of the work day or prior to active work during the day.
 - ***IMMEDIATE ACTION REQUIRED – deduct points.***

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- **(D) Designated Washout Areas.**
 - Observe and report on the following:
 - Designated and clearly marked areas. Standard Detail E-1/Concrete washout areas. There are no specific requirements for the signage, only that it be clear and visible. Capacity shall not exceed 75% (E-1).
 - The effluent is the pollutant. Hardened concrete is not a deficiency for concrete washout. It is construction debris.
 - *Repair and/or replace the facility if is $\geq 75\%$ of capacity. Deduct points IMMEDIATELY if facility is in use.*
 - *Recommend covering in event of rain, cannot pump excess water off of the facility. If actively pumping is not to an enclosed container, then IMMEDIATE deduction.*
 - These types of facilities are not limited to concrete but include control of paints, solvents, stucco, etc. and are to have their own separate washout facilities. Observe and report on any designated and clearly marked areas for applicable materials. The device and/or constructed BMP require Engineer approval prior to use.
 - Areas must be located a minimum of 50 feet from a storm drain and/or any waterways and **approved by the Engineer prior to use.**
 - *7 c.d. to remove to alternate location or get Engineer approval.*
- **(E) Storage and Staging Areas.**
 - Observe and report on the following:
 - All potential pollutants (paints, solvents, pesticides, fuels, oils, and other hazardous materials) are under cover or secured in areas with secondary containment. Examples: Storage trailers, drums on pallets and covered with a tarp, topsoil stockpiles stabilized and/or covered with perimeter controls, etc.
 - *7 c.d. to repair and/or replace*
 - Fuel tanks above 250 gallons require secondary containment systems. If contractor can prove that the tank container is double-lined tanks then this meets the secondary containment requirement. Example: Placement of tanks exceeding 250 gallons is covered under Delaware Code. Observe and report only if secondary containment has not been provided. Size and conformity is the responsibility of the contractor to comply with any Federal or State Laws and Regulations.
 - *7 c.d. to repair and/or replace*
 - Areas are designated for activities such as fueling, mixing, washing, etc.

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- *7 c.d. to repair and/or replace*
- Areas are maintained.
- *7 c.d. to repair and/or replace.*
- **(F) Equipment/Vehicle Washing.**
 - Observe and report on the following:
 - Designated and clearly marked areas.
 - Areas are a minimum of 50 feet from storm drains and/or waterways.
 - No detergent use.
 - Discharge water is routed to sanitary systems whenever possible.
 - *7 c.d. to install, repair, and/or replace*

(904) Set aside for later use.

(905) Sediment Trapping Practices.

- Silt Fence (905001, 905002). Includes all perimeter controls to include Silt Fence (SF), Reinforced Silt Fence (RSF), Super Silt Fence (SSF) installed & maintained as indicated on the Plans and Standard Construction Details, Silt Fence.
 - Construction/Installation in accordance with 905.03.A.1 & 2.
 - Standard Detail E-2
 - SSF (future Standard Detail), use current DNREC Standard Detail
 - Maintenance & Removal in accordance with 905.03.A.3 & 4.
 - *7 c.d. to repair and/or replace*
- Sediment Trap (905003). Includes construction & maintenance as indicated on the Plans and Standard Construction Detail, Sediment Trap.
 - Construction/Installation in accordance with 905.03.B.1.
 - Standard Detail E-3
 - Maintenance & Removal in accordance with 905.03.B.2 & 3.
 - *7 c.d. to repair and/or replace*

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- Inlet Protection (905004, 905005, 905006). Includes all drainage inlet protection devices to include Inlet Protection, Drainage Inlet; Inlet Protection, at Grade; Inlet Protection, Culvert Inlet. Alternate designs may be submitted to the Stormwater Engineer for approval prior to use.
 - Construction/Installation in accordance with 905.03.C.1.
 - Standard Detail E-4 Drainage Inlet Protection & Curb Inlet Protection
 - Standard Detail E-5 Culvert Inlet Protection
 - Any usage of CFL will be per Manufacturer's guidelines for use and installation
 - Manufacturer information required prior to use
 - Maintenance & Removal in accordance with 905.03.C.2 & 3.
 - *7 c.d. to repair and/or replace.*
 - *Gray Area: An inlet under construction and is ≥ 12 " above grade on all sides and not within a sump area, then the necessity of installation is not required per the SWE until grade is brought to ≤ 12 "..*

(906) Dewatering Practices.

- Portable Sediment Tank (906001). Includes construction & maintenance as indicated on the Plans and Standard Construction Detail, Portable Sediment Tank. Alternate designs must be submitted to the Stormwater Engineer for approval prior to use.
 - Construction/Installation in accordance with 906.03.A.1.
 - Standard Detail E-6
 - Maintenance & Removal in accordance with 906.03.A.2 & 3.
 - *7 c.d. to repair and/or replace.*
- Dewatering Bag (906002). Dewatering Bags are sized according to the pump size. Ensure the proper size bag is installed and that it is maintained to provide sediment free discharge.
 - Construction/Installation in accordance with 906.03.B.1.
 - Manufacturer's recommendations & guidelines for maximum performance.
 - Maintenance & Removal in accordance with 906.03.B.2 & 3.
 - *7 c.d. to repair and/or replace.*

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- Sump Pit (906003)
 - Construction/Installation in accordance with 906.03.C.1.
 - Standard Detail E-7
 - Maintenance & Removal in accordance with 906.03.C.2 & 3.
 - The dewatering system is a tandem of devices and should be judged for maintenance by assessing the discharge. Bottle Test: At the beginning of your inspection, use a bottle to take a sample at the point of discharge then set aside until completion of the inspection. At the end of your inspection, assess the quantity of sediment settled out and whether or not maintenance to the SYSTEM is required to minimize the sediment discharge. IF THE SYSTEM IS INEFFECTIVE or ADDITIONAL PROBLEMS WITH THE SYSTEM ARE OCCURRING THAT AFFECT THE DISCHARGE, CONTACT THE STORMWATER ENGINEER.
 - *7 c.d. to repair and/or replace.*
- Skimmer Dewatering Device (906004)
 - Construction/Installation in accordance with 906.03.D.1.
 - Standard Detail E-8
 - Maintenance & Removal in accordance with 906.03D.2 & 3.
 - *7 c.d. to repair and/or replace.*
- Well Point System (906005). The contractor must apply and receive a permit from DNREC prior to placement. All pumping must comply with Section 902 Dewatering.
 - Construction/Installation in accordance with 906.03.E.1.
 - No Standard Detail – *ask to see the permit.*
 - Maintenance & Removal in accordance with 906.03.D.2 & 3.
 - *7 c.d. to repair and/or replace*

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(907) Water Control Practices.

- Stone Check Dam (907011). Alternate materials, Compost Filter Log (CFL) may be submitted to the Stormwater Engineer for approval prior to use.
 - Construction/Installation in accordance with 907.03.A.1.
 - Standard Detail E-9
 - (CFL) Shall be installed per manufacturer's guidelines for use & installation.
 - Maintenance & Removal in accordance with 907.03.A.2 & 3.
 - (CFL) shall be maintained according to manufacturer's guidelines.
 - *7 c.d. to repair and/or replace.*
- Temporary Slope Drain [(12") 907012, (18") 907013, (21") 907014, (24") 907015, (30") 907016] Diameter of pipes range from 12" up to 30". Ensure that the correct sized pipe is installed in accordance with the Plans, Details and Specifications.
 - Construction/Installation in accordance with 907.03.B.1.
 - Standard Detail E-10
 - Maintenance & Removal in accordance with 907.03.A.2 & 3.
 - *7 c.d. to repair and/or replace.*
- Riprap Energy Dissipater
 - Constructed per the Standard Detail E-20.
 - Maintain as a function of eliminating erosion and scour.
 - *7 c.d. to repair and/or replace.*
- Stone Outlet
 - Constructed per the Standard Detail E-21.
 - Maintain as a function of eliminating erosion and scour.
 - *7 c.d. to repair and/or replace.*

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(908) Soil Stabilization Practices. *Observed under Section 4.*

- Interim and Final Stabilization
 - Interim Stabilization occurs when seeding and mulching has been performed using temporary methods (seed, mulch and/or soil stabilizer if approved). If adequately performed and maintained points are awarded in Section 4.1.1. *(Temporary stabilization - 14 c.d. to provide.)*
 - Final Stabilization occurs when complete permanent vegetation is installed, maintained and meets the level for acceptance (3" height and 70% uniform density over all seeded areas). *(Vegetative Evaluations and/or approval for removal of perimeter controls.)*
- Tracking of all areas including slopes 1v:4h or steeper to prevent gully and sheet erosion. Before seeding items on slopes 1v:4h or steeper, track slopes vertically. The Engineer can specify horizontal tracking in hard to track areas. *(Observed under Section 4.)*
- Temporary Stockpiled Materials shall be placed away from streams and wetlands within the LOC *(see Section 1, 1.2)*, not exceed a vertical height of 20' or the local governing height restriction, tracked, seeded and mulched as per incremental and final stabilization. Stockpiles within the operational ROW may exceed 20' height requirement.
- Permanent Stabilization (908014, 908015, 908016, 908019). This shall be one of the following dry ground, wet ground, subdivision or stream bank seeding. When inspecting for Sections 2 & 3 ensure to observe processes for stabilization:
 - Seedbed prep and topsoil requirements 908.02 & 908.03, vertical tracking of applicable areas (slopes) 908.03.C.
 - Ask if any stabilization work has been completed or being prepped at Pre-Inspection Meeting. Final stabilization occurs within 72 hours of seedbed prep, loosening to a depth of 3". Documentation can be the field discussion when it is observed. If at final grade, *7 c.d to provide permanent stabilization.*
 - Mulching is incidental *(currently but, this will change)* to these items unless specifically called out in the plans (swales get ECB in bottom of the flow channel minimum). Bottom line is mulching must be sufficient to prevent erosion and no bare ground visible 908.03.D.
 - When mulch is called out on the plans it shall be installed per the manufacturer's guidance for maximum performance.
 - Swales (Permanent & Temporary)
 - ECB: installed per the Manufacturer's guidelines for use and installation, or the Standard Detail E-12 if Manufacturer information is not provided.
 - TRM 1 & 2 installed per the Manufacturer's guidelines for use and installation, or the Standard Detail E-13 if Manufacturer information is not provided.
 - *7 c.d. to repair and/or replace, NO BARE GROUND, NO EROSION.*

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- Discuss active stabilization at Pre-Inspection and future schedules during the inspection review.
- Temporary Seeding & Stabilization (908017). This will be applied according to the applicable seed mix in 908.02.
 - 908.01
 - **7 days** to temporary stabilize with seed & mulch upon complete installation of Sediment controls (i.e. ST, ditches).
 - **14 days** from the time land disturbing activities cease in a location. The Department will permit alternative methods of stabilizing the soil without seed and/or mulch with Stormwater Engineer approval (i.e. soil binders or straw mulch no seed). *(See 908.03.C.1.b.ii.)*
 - Any product used for temporary stabilization must be submitted to the Stormwater Engineer for approval prior to use in the field.
 - Should the area in question continue past the 28 calendar days the Contractor must be prepared to temporary seed & mulch. Upon exceeding 28 days it becomes a deficiency. Try to discuss prior to reaching this point. *7 c.d. to install another application or temporary seed & mulch.*
 - If activity has ceased in an area, log a deficiency for temporary stabilization and include a **14 c.d. due date**. The deficiency will remain on the CURRENT list until it becomes past due then point deduction will occur. Running a piece of equipment through an area does not constitute activity. There must be an actual construction activity occurring to remove the deficiency. An inspector's IDR can be used as documentation if an area is questionable.
 - Mulch is incidental to temporary stabilization. The contractor can choose to install any product however, inspect mulch only in reference to NO BARE GROUND, NO EROSION, and NO PLASTIC NETTED RECB (Rolled Erosion Control Blanket). Either one will generate a deficiency for insufficient temporary stabilization. *7 c.d. to repair and/or replace.*
 - Stockpiles are to be stabilized as the pile progresses in accordance with interim stabilization.
- Seed Mixes & Small Bridge/Culvert Replacement Projects
 - Small bridge projects are generally 1/3 of an acre or less in disturbed area. The amount of seed to cover 1/3 Acre is roughly estimated at 145 lbs. of K31 (Streambank Mix) which would be 3/50 lbs. bags of product. The seed tag from the bags are to be removed by the inspector and kept as part of the documented record. Pick your battles, seed is one of those gray areas. Is it worth the argument if there is NO BARE GROUND OR EROSION OCCURRING?
 - The same can be applied to Temporary Seasonal (908017)

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- *7 c.d. to provide the applicable information for “credit”.*
- Stabilized Construction Entrances (908009). These require inspection on a daily basis by DeIDOT Project Staff. Review each point of egress weekly.
 - Construction/Installation in accordance with 908.03.E.1.
 - Standard Detail E-14
 - Maintenance & Removal in accordance with 908.03.E.2 & 3.
 - *7 c.d. to repair and/or replace.*

(909) Waterway Construction Practices.

- Sandbag Dike/Diversion. This item is usually included within the Stream Diversion item (909005) and Standard Plan.
 - This structure is to be inspected and is included as a portion of the initial controls for the project. Initial inspection is required prior to work above or below Ordinary High Water (OHW). The DeIDOT Project Supervisor can administer the approval of the perimeter control and the commencement of pumping operations to dewater the work area. *Deficiency 7 c.d.*
 - Failure to implement the applicable device or structure will result in deduction in 1.1 & 1.1.1 if a revision has not been approved. Revisions and/or alternate structures must be provided and implemented as approved by the Stormwater Engineer. *Deficiency for 1.1 & 1.1.1.as well as point deduction for missing device.*
 - Construction/Installation in accordance with 909.03. A & 909.03.B.1.
 - Standard Detail E-15 & E-16
 - Maintenance & Removal in accordance with 909.03.2 & 3.
 - *7 c.d. to repair or replace*
 - Thoroughly inspect the upstream & downstream dike/diversion and/or applicable revision each week. Ensure the weir is placed appropriately and elevation.
- Geotextile Lined Channel Diversion (909003). Ensure that the channel mirrors the existing stream conditions & grades.
 - Construction/Installation in accordance with 909.03.C.1
 - Standard Detail E-17
 - Maintenance & Removal in accordance with 909.03.C.2 & 3.
 - *7 c.d. to maintain*

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- Turbidity Curtain, Floating (909004). Manufacturer's drawings & technical specifications are to be submitted to the Engineer prior to installation. Ensure these are provided as part of the item.
 - Construction/Installation in accordance with 909.03.D.1
 - Standard Detail E-18
 - Maintenance & Removal in accordance with 909.03.D.2 & 3.
 - *The turbidity curtain is essentially a perimeter control. Repair must be immediately upon discovery if work activity is in the stream, i.e. IMMEDIATE point deduction.*

- Stilling Well (909006). Inspect and ensure that the intake of the pump is floating and/or surfaces are lined with riprap. Alternate method must be approved by the Stormwater Engineer prior to use in the field.
 - Construction/Installation in accordance with 909.03.F.1
 - Standard Detail E-19
 - Maintenance & Removal in accordance with 909.03.F.2 & 3.
 - *This is an immediate deduction since they cannot pump around without it installed.*

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- Stabilized Outfall (Stream Diversion 909005). Inspect and ensure that the discharge area of a pipe and/or hose is provided a non-erosive surface, i.e. riprap, geotextile, plastic sheeting, etc.
 - Construction/Installation in accordance with the approved plan.
 - Maintenance & Removal in accordance with the approved plan.
 - *This is an IMMEDIATE deduction if scour/erosion is occurring.*

Section 4. STABILIZATION. This section is heavily weighted as critical compliance components. Ratings can be greatly affected by this section. The first part deals strictly with the overall adequate stabilization of the project. Ask questions and make determination through observing outfalls and other applicable areas.

- **ADEQUATE STABILIZATION.** Is the section applicable at this time? This will be a subjective call on the part of the CCR. On a standard bridge project this may not be applicable until placement of permanent stabilization measures. Major projects will use this quite frequently and require assessment throughout the project limits. Looking at the overall project limits ($\geq 75\%$) and not a small area ($\leq 25\%$) within, items requiring adequate stabilization are bare ground areas undisturbed for longer than 14 days, significant erosion and/or sediment discharges, temporary topsoil stockpiles, etc.
- **4.1.2 Areas not meeting final grade.**
 - 4.1.2.a. **Temporary Grass Seeding – Dry Ground (908.02 – Table D.).** Mulch is incidental to this item. Areas that exceed 14 days with no construction disturbance up to 6 months are to receive temporary seeding. *No points until confirmation of temporary seeding is received.. Discuss with PS or Representative during the Pre-Inspection Meeting.*
 - 4.1.2.b. **Temporary Soil Stabilization (908.02.C.b.ii).** *This should only be used when conventional temporary seeding is not used.* There will be weather events and/or conditions (frozen ground, continuous rain events, snow, etc.) that will prevent reasonable efforts by the contractor to meet compliance deadlines for temporary seeding, however these discussions should take place at the time the original deficiency is noted. The expectation is for the Contractor to anticipate project progress and all work on a daily basis. Erosion control is no exception. Acceptable practices for stabilizing the soil will be reviewed and approved by the Stormwater Engineer to provide interim stabilization of the soil surface until such time the contractor can provide temporary seeding, not to exceed 28 calendar days. At that time, reapplication of a product may be necessary.
 - 4.1.2.c. **No bare ground.** Mulching must be sufficient and secured in such a way as to provide soil cover on a temporary basis. *Points are deducted until there has been sufficient mulch coverage provided and/or major rill erosion is remediated.*
- **4.1.3 Areas meeting final grade.**
 - 4.1.3.a – 4.1.3.d. **Permanent Seeding – Dry Ground (908.02 – Table A & Table D for the applicable seasonal nurse crop or Table C with no nurse crop.).** Upon placement & final grading of the topsoil the Contractor shall complete permanent seeding (72 hours).
 - *7 c.d. due date to complete.*

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- 4.1.3.e **Mulching** is incidental to the seeding (2014) item unless called out on the plan sheets. (Updated specification in the future will be mulch specific.) No bare ground shall be visible. Mulching must be sufficient, no erosion observed, and no plastic-netted RECB. *7 c.d. to repair and/or replace deficiency.*
 - **ECB Erosion Control Blanket:** shall be installed per the Manufacturer’s guidelines for use and installation, or the Standard Detail E-12 if no guidelines are submitted. Inspect anchor trenches at initial and terminal ends, staggered staple pattern and alignment with the flow channel. The ECB shall be centered in the swale. *7 c.d. to repair and/or replace.*
 - **TRM Type 1 or TRM Type 2:** shall be installed per the Manufacturer’s guidelines for use and installation, or the Standard Detail E-13. Inspect anchor trenches, staggered staple pattern and alignment with the flow channel and/or application. The ECB shall be centered in the swale. *7 c.d. to repair and/or replace.*
- **4.1.4 Best Management Practices**
 - Vertical tracking is essential for minimizing erosion along the face of embankments and slopes in general. *(See horizontal tracking note under 908.)*
 - Perform as per 908.01.
- **STABILIZATION TIME FRAMES.**
- **4.2.1. This section is not applicable at this time.** There will be times when this section is not applicable. Mark “X” in the yes column should this occur.
- **4.2.2. Temporary Stabilization (908.01 Maximum Exposure Times)** If an area is to remain inactive after 14 days and up to 6 months then this item is applicable. Once a project exceeds the 6 months, permanent seeding must implemented. During the Pre-Inspection Meeting, inquire whether there has been any stabilization performed and include in the NOTES.
- **4.2.3. Temporary Soil Stabilization (908.01 Maximum Exposure Times).** As indicated in 4.1.2.c., there will be times when this is applicable. All products will be pre-approved prior to placement in the field and placed per manufacturer’s guidelines for optimum performance. Not to exceed 28 calendar days. During the Pre-Inspection Meeting, inquire whether there has been any stabilization performed and include in the NOTES.
- **4.2.3. Permanent Stabilization (908.01 Maximum Exposure Times).** Inactive areas previously temporarily stabilized and over 6 months inactivity. Areas meeting final grade shall be stabilized within 7 calendar days.
- **4.2.4. Incremental Stabilization (908.01 and Standard Detail E-11.)** *Do not rate this. Use 14 c.d. for temporary stabilization and 7 c.d. for permanent stabilization.*

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Section 5. CORRECTIVE ACTIONS – PREVIOUS DEFICIENCIES. This section primarily addresses the responsibility of the Contractor to make the required corrections in order to maintain compliance with the approved plan. At times, deficiencies may be corrected during the site inspection. It is permissible to log the deficiency and state it was corrected immediately during the inspection and assign the applicable points.

- **5.1** Have all deficiencies been corrected?
- **5.2** Completion by due date (MM/DD/YYYY).
- **5.3** An initial inspection is required upon installation of the perimeter controls.

Current Deficiencies.

- All deficiencies must be supported by a photograph as part of the documentation. Describe the problem as brief as possible and prescribe the repair/fix. Be direct with the approved plan, standard detail and specifications.
- Except for temporary stabilization, most corrections are required to occur within 7 days. “Immediate” corrections, *please note the date (MM/DD/YYYY) initiated with the term “Immediate”*.
- *Temporary stabilization remains a CURRENT DEFICIENCY and no points deduction until it is past due.*
- Any alternative methods are to be recommended not directed.

Previous Deficiencies.

- The Contractor is to provide correction by the due date (MM/DD/YYYY) in order to be compliant.
- Provide a photograph of the deficiency or correction.
- At times deficiencies will occur for the same area repeatedly. If documented that a correction occurred by DelDOT inspection then a new due date (MM/DD/YYYY) for the deficiency will be established and reinserted as a Current Deficiency.

NOTES.

- **New Sheet to be utilized.**
- **Complete the applicable sections.**