

Module 3: Inspections During Construction

Module Objectives

After completing this module, you will be able to:

- Correlate Construction General Permit conditions to VSMP inspections
- Identify compliant and non-compliant pollution prevention activities
- Articulate why the VSMP inspector must *also* understand erosion and sediment control

Module Contents

3a. Overview of the Construction GP

3b. Common Compliance Problems

3a. Overview of the Construction GP

The Construction General Permit (GP) Regulation ([9VAC25-880](#)) governs stormwater discharges from regulated construction activities (i.e., what the permittee must do). This module provides an overview of the permit terms that become effective on [July 1, 2014](#) and extend for five years (June 30, 2019).

As a VSMP inspector, the terms of the Construction GP and the VSMP and ESC Regulations outline inspection criteria. Please take some time to familiarize yourself with the entire permit by reviewing 9VAC25-880.

Authorization to discharge ([9VAC25-880-30](#))

DEQ will grant coverage to an operator under the Construction GP after the following has been completed:

- ✓ Complete and accurate registration statement has been submitted to the VSMP authority and accepted by DEQ (Not required for construction of single-family residence separately build, disturbing less than one acre and part of a larger common plan of development or sale, provided that the stormwater management plan for the larger common plan of development or sale provides permanent control measures encompassing the single family residence. See 9VAC25-880-50(A)(1)(c).)
- ✓ Any required permit fees have been submitted
- ✓ Operator complies with the applicable requirements of the permit
- ✓ Operator obtains approval of:
 - ESC plan, “agreement in lieu of a plan”, or prepares ESC plan in accordance with annual standards and specifications approved by the Department
 - SWM plan, or prepares a SWM plan for the project in accordance with annual standards and specifications approved by DEQ

Remember!

Coverage under the Construction GP does not relieve any operator of the responsibility to comply with any other applicable federal, state or local statute, ordinance or regulations ([9VAC25-880-30\(G\)](#)).

Support activities

This general permit also authorizes stormwater discharges from support activities (e.g., concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, borrow areas) located on-site or off-site provided the support activity is exclusively for the main construction activity and does not serve multiple construction activities. See [9VAC25-880-30\(C\)](#) for more information.

General permit ([9VAC25-880-70](#))

The entire Construction GP is contained within section 70 of the Regulation. The following Stormwater Pollution Prevention Plan (SWPPP) requirements in Part II of the permit provide an outline for VSMP inspections since the operator is required to provide for, implement, and update the following.

See Appendix I –Sample VSMP Construction Inspection Checklist for a VSMP inspector checklist

Part II Stormwater Pollution Prevention Plan (SWPPP)

SWPPP contents: Part II(A)

- Signed copy of the registration statement, copy of notice of coverage letter, copy of permit: Part II(A)1.a-c
- Narrative description of the nature of the construction activity, including the function of the project (e.g., low density residential, shopping mall, highway, etc.): Part II(A)1.d
- Legible site plan: Part II(A)1.e
- Approved ESC plan, "agreement in lieu of a plan", or ESC plan prepared in accordance with department approved annual standards and specifications: Part II(A)2
- New construction: Approved SWM plan, or SWM plan prepared in accordance with department approved annual standards and specifications
Existing construction: Approved SWM plan compliant with 9VAC25-870-93 through 9VAC25-870-99 (Part II C technical criteria): Part II(A)3
- Pollution prevention plan: Part II(A)4
- Requirements for discharges to impaired waters, surface waters with an applicable TMDL waste load allocation established and approved prior to term of permit, and exceptional waters: Part II(A)5
- Contact information for qualified personnel conducting inspections: Part II(A)6
- Name, phone number, and qualifications of the qualified personnel conducting inspections: Part II(A)7
- Signature and date: Part II(A)8

SWPPP amendments, modifications, and updates: Part II(B)

- The operator must amend the SWPPP whenever there is a change in design, construction, operation, or maintenance that has a significant effect on the discharge of pollutants to surface waters and that has not been previously addressed in the SWPPP: Part II(B)1
- The SWPPP must be amended if self-inspections or regulatory compliance inspections determine that existing control measures are ineffective in minimizing pollutant discharges from the construction activity: Part II(B)2
- The SWPPP must clearly identify the contractor(s) that will implement and maintain each control measure identified in the SWPPP: Part II(B)3
- The SWPPP must be updated no later than **seven days** following any modification to its implementation. All modifications or updates to the SWPPP must be noted and shall include the following items: Part II(B)4
 - a. Record of dates when:
 - (1) Major grading activities occur
 - (2) Construction activities temporarily or permanently cease on a portion of the site; and
 - (3) Stabilization measures are initiated
 - b. Documentation of replaced or modified controls where periodic inspections or other information have indicated that the controls have been used inappropriately or incorrectly and where modified as soon as possible
 - c. Areas that have reached final stabilization and where no further SWPPP or inspection requirements apply
 - d. All properties that are no longer under the legal control of the operator and the dates on which the operator no longer had legal control over each property
 - e. The date of any prohibited discharges, the discharge volume released, and what actions were taken to minimize the impact of the release
 - f. Measures taken to prevent the reoccurrence of any prohibited discharge
 - g. Measures taken to address any evidence identified as a result of a self-inspection required under Part II(F)
- Amendments, modifications, or updates must signed in accordance with Part III(K): Part II(B)5

Public notification: Part II(C)

At the start of construction, the operator must post the following near the main entrance until termination of permit coverage:

- Copy of notice of coverage letter: Part II(C)
- Information for public access to the electronic format or hard copy of SWPPP: Part II(D)3

*★Linear projects - operator must post notice of coverage letter at a publicly accessible location near an active part of the construction project (e.g., where a pipeline project crosses a public road):
Part II.C*

SWPPP availability: Part II(D)

A copy of the complete SWPPP must be available onsite for operators with day-to-day operational control over SWPPP implementation, must be made available upon request to the department, VSMP authority, EPA, VESCP authority, local government officials, or the operator of a MS4. SWPPP must be available for public review in an electronic format or hard copy.

SWPPP inspections : Part II(F)

The operator is responsible for insuring that the qualified personnel conduct inspections: Part II(F)1

Inspections carried out at required frequency: Part II(F)2

★ Remember, ESC and SWM plans must address phasing of construction projects, and must include the timing of installation for all erosion and sediment control measures and permanent stormwater management facilities

- a.(1) At least once every five business days; or
- a.(2) At least once every 10 business days and no later than 48 hours following a measurable storm event (rainfall event producing 0.25 inches of rain or greater over 24 hours). If event occurs when there are more than 48 hours between business days, inspection must be conducted no later than next business day
- b. Once every month where areas have been temporarily stabilized or LDA is suspended due to continuous frozen ground conditions – provided stormwater discharges are unlikely (if weather conditions make discharges likely, regular inspection schedule resumes)

Inspection requirements being fulfilled: Part II(F)3.a

- (1) Record time and date of inspection and date and rainfall amount of last measurable storm event
- (2) Record information and description of any discharges occurring at time of inspection
- (3) Record any land disturbing activities that occurred outside approved ESC plan
- (4) Inspect erosion and sediment controls installation in accordance with approved ESC plan, identify any maintenance needs and evaluate effectiveness in minimizing sediment discharge, including whether the control has been inappropriately or incorrectly used (see Part II(F)3.a.4(a)-(h))
- (5)-(6) Inspection of areas that have reached final grade or that will remain dormant for **more than 14 days** for initiation of stabilization activities and completion of stabilization activities within **seven days** of reaching grade or stopping work
- (7) Inspection for evidence that ESC plan or “agreement in lieu of a plan” has not been properly implemented (see Part II(F)3.7(a)-(h))
- (8) Inspect pollutant generating activities identified in the pollution prevention plan for the proper implementation, maintenance and effectiveness of the procedures and practices
- (9) Identify any pollutant generating activities not identified in the pollution prevention plan
- (10) Identify and document the presence of any evidence of the discharge of pollutants prohibited by this permit

Inspection report contains necessary information: Part II(F)4

- (a) Date and time of the inspection and date and rainfall amount of the last measurable storm event
- (b) Summarized findings of the inspection
- (c) Location(s) of prohibited discharge
- (d) Location(s) of control measures that require maintenance
- (e) Location(s) of control measures that failed to operate as designed or proved inadequate or inappropriate for a particular location
- (f) Location(s) where any evidence identified under Part II(F)3.a(7) exists
- (g) Location(s) where any additional control measure is needed that did not exist at the time of inspection

- (h) List of corrective actions required (including any changes to the SWPPP that are necessary) as a result of the inspection to maintain permit compliance
- (i) Documentation of any corrective actions required from a previous inspection that has not been implemented
- (j) Date and signature of the qualified personnel and the operator or their duly authorized representative

3b. Common Compliance Problems

Pollution prevention plan (P2 plan)

As noted in the Construction GP section above, the VSMP inspector must inspect for the implementation and updating of the P2 plan. This plan includes good housekeeping practices that are designed to prevent contamination of stormwater from a wide range of materials and waste that are used in and generated by the construction process. P2 plans typically address all or most of the following pollution prevention practices:

- Provide for waste management
- Establish proper building material staging areas
- Designate paint and concrete washout areas
- Establish proper equipment/vehicle fueling and maintenance practices
- Control equipment/vehicle washing and allowable non-stormwater discharges
- Develop a spill prevention and response plan

The tables on the following pages contain compliant and non-compliant examples for each of the six pollution prevention practices listed above. Also included is a checklist of good housekeeping suggestions to guide the VSMP inspector.

Waste management

Non-compliant



Construction debris/trash



Leaky dumpster



Porta-potty over storm drain inlet

Compliant



Proper containment of waste
(Covered is best)

Good housekeeping suggestions for: Waste management

Solid or construction waste:

- ✓ Designated trash and bulk-waste collection area on-site
- ✓ Litter and debris picked up daily
- ✓ Waste collection areas located away from streets, gutters, waterways, and storm drains
- ✓ Secondary containment around waste collection area

Sanitary waste facilities:

- ✓ Convenient, well-maintained, and properly located
- ✓ Inspected, serviced, and cleaned regularly
- ✓ Stabilized and located away from storm drain inlets and waterways

Hazardous materials and waste:

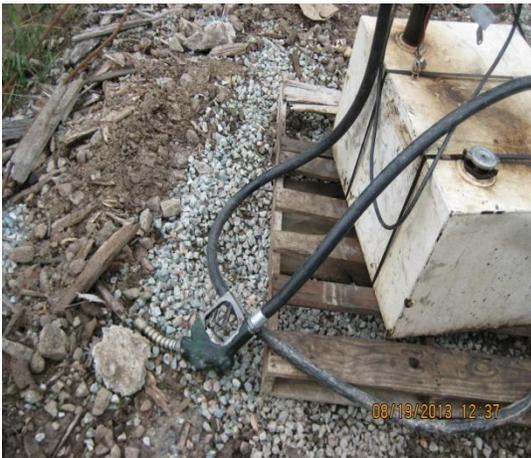
- ✓ Designated hazardous waste collection areas on-site
- ✓ Hazardous and toxic material waste in secondary containment
- ✓ Hazardous waste containers labeled properly and not leaking

Building material handling and staging areas

Non-compliant



Building materials exposed to precipitation



Haphazard fueling operation



Uncovered paint cans

Compliant



Designated site area for storage

Good housekeeping suggestions for: Building material handling and staging areas

Storage:

- ✓ Designated site areas for storage
- ✓ Storage containers are not leaking, corroding, or showing other signs of deterioration
- ✓ Indoor storage or cover provided for paints, solvents, pesticides, fuels and oils, other hazardous materials, or building materials that have the potential to contaminate stormwater
- ✓ Secondary containment techniques such as dikes, berms, curbing, or other containment methods in place to prevent spills from spreading and to protect groundwater
- ✓ Designated staging areas for fueling vehicles and mixing paints, plaster, mortar, etc.

Paint and concrete washout areas

Non-compliant



Paint washout area flows to storm drain inlet



Concrete washout not lined



Wash water not contained

Compliant



Above ground washout structure

Good housekeeping suggestions for: Paint and concrete washout areas

Concrete, paint and stucco

- ✓ Designated and signed washout areas for specific materials
- ✓ Washout areas located at least 50 yards away from storm drains and waterways
- ✓ Use of prefabricated containers; or
- ✓ Adequately constructed washout area:
 - Pit dug out and lined with 10 mil plastic sheeting; or
 - Above ground structure constructed out of straw bales or sandbags with a plastic liner
- ✓ Wash water contained
- ✓ Washout materials disposed of properly

Equipment/vehicle fueling and maintenance practices

Non-compliant



Fuel spills, located next to curb and gutter



Hazardous liquid spill



Improper fueling station

Compliant



Off-site vehicle fueling under covered area



Proper on-site fuel containment

Good housekeeping suggestions for: Equipment/vehicle fueling and maintenance practices

- ✓ Equipment/vehicles fueled and maintained off-site when feasible
- ✓ Clean and dry on-site fueling and maintenance area
 - Located away from drainage facilities and waterways
 - Under covered area if possible
 - Spill kit on-site
- ✓ Spent fluids stored in appropriate labeled containers in proper storage areas

Equipment/vehicle washing

Non-compliant



Vehicle wash water flows to storm drain inlet

Compliant



Good vehicle wash facility

Good housekeeping suggestions for: Equipment/vehicle washing

- ✓ Use of off-site wash facilities
- ✓ Wash in designated, contained areas only
- ✓ No discharges to the storm drain
 - Infiltrate wash water
- ✓ High-pressure water spray used at vehicle washing facilities without any detergents
- ✓ Only vehicle washing occurs in wash area

Spill prevention and response plan

Non-compliant



Improper hazardous material/liquid storage

Compliant



Spill response

Good housekeeping suggestions for: Spill prevention and response plan

- ✓ Spill prevention and response plan incorporated in SWPPP
 - Clear identification of ways to reduce chance of spills;
 - Stop source of spills;
 - Contain and clean up spills; and
 - Dispose of materials contaminated by spills
- ✓ Personnel trained in spill prevention and response
- ✓ Spill prevention control and counter measures plan (if applicable)

Erosion and sediment control plan

The VSMP authority inspector must also look for compliance with the approved erosion and sediment control plan. The order, *erosion* then *sediment* control was chosen for a reason.

Erosion control is often considered a first line of defense - if we can control erosion, we do not need to do sediment control. Sediment control, the second line of defense, catches the sediment from areas where erosion controls could not be installed or where they failed to work properly. The following ESC standards include the 19 minimum standards as laid out in the ESC Regulation and the nine federal effluent guidelines (FEG) that are included in the Construction GP ([9VAC25-880-70 Part II\(A\)2](#)).

Erosion controls (keeping the dirt in place) and minimizing the impact of construction

- Permanent or temporary soil stabilization applied to denuded areas within **seven days** after final grade is reached on any portion of the site. Temporary soil stabilization applied within **seven days** to denuded areas that may not be at final grade but will remain dormant for **longer than 14 days**. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year: MS-1 & FEG-8
- Establish permanent vegetative cover on denuded areas not otherwise permanently stabilized: MS-3
- Stabilize earthen structures: MS-5
- Minimize erosion from cut and fill slopes and disturbance of steep slopes: MS-7 & FEG-4
- Provide adequate drainage or other protection for water seeping from a slope face: MS-9
- Line stormwater conveyance and receiving channels and protect outlets: MS-11
- Control stormwater discharges, including peak flow rates and total stormwater volume, to minimize erosion at outlets and to minimize downstream channel and stream bank erosion: FEG-2
- Minimize encroachment, control sediment transport and stabilize work area when working in a live watercourse (also a sediment control): MS-12
- Provide temporary vehicular stream crossing constructed of non-erodible material when a live watercourse must be crossed by construction vehicles more than twice in any six-month period (also a sediment control): MS-13
- Meet all applicable federal, state and local requirements pertaining to working in or crossing live watercourses: MS-14
- Properly install underground utility lines and trenches: MS-16
- Control the volume and velocity of stormwater runoff within the site: FEG-1
- Minimize soil exposed during construction activity: FEG-3

Sediment controls (the 2nd line of defense)

- Stabilize or protect soil stock piles and borrow areas: MS-2
- Construct sediment basins and traps, perimeter dikes, sediment barriers before upslope land disturbance takes place: MS-4

Sediment controls (continued)

- Design and construct sediment traps and basins based upon the total drainage area to be served by the trap or basin: MS-6
- Contain concentrated runoff flowing down cut or fill slopes in an adequate temporary or permanent channel, flume or slope drain structure: MS-8
- Protect storm drain inlets so that sediment-laden water cannot enter the conveyance system without first being filtered or otherwise treated to remove sediment: MS-10
- Immediately stabilize the bed and banks of a watercourse after work in watercourse is complete: MS-15
- Minimize transport of sediment by vehicular tracking onto paved or public roads: MS-17
- Remove temporary erosion and sediment control measures within 30 days after final site stabilization or after temporary measures are no longer needed: MS-18
- Utilize structures that withdraw stormwater from the surface when discharging from sediment basins or sediment traps: FEG-9
- Minimize sediment discharges from the site in a manner that addresses (i) the amount, frequency, intensity, and duration of precipitation, (ii) nature of resulting stormwater runoff, and (iii) soil characteristics: FEG-5

Stormwater controls

- Minimize soil compaction and preserve topsoil: FEG-7
- Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas, maximize stormwater infiltration: FEG-6
- Control volume and velocity of stormwater flowing onto and through the project: FEG-1

References and Credits

For more information about developing a stormwater pollution prevention plan, visit EPA's Stormwater Pollution Prevention Plan Guidance and Other Help Resources for Construction Activities webpage at cfpub.epa.gov/npdes/stormwater/swppp.cfm.

See the links below for DEQ resources relating to the identification of Virginia impaired waters and approved TMDL reports.

DEQ 2012 Impaired Waters GIS Application:

<http://www.deq.virginia.gov/ConnectWithDEQ/VEGIS/2012WQMAssessmentGISApplications.aspx>

Search for Approved TMDL Reports:

<http://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/TMDL/TMDLDevelopment/ApprovedTMDLReports.aspx>

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