STORM WATER MANAGEMENT
NPDES STORM WATER GENERAL PERMIT NO. 2
Storm Water Discharge Associated with Construction Activities

A BRIEF GUIDE TO

DEVELOPING STORM WATER POLLUTION PREVENTION PLANS AND BEST MANAGEMENT PRACTICES

SUMMARY GUIDANCE

DECEMBER 2022

IOWA DEPARTMENT OF NATURAL RESOURCES
NPDES Section
502 E. 9th Street
Des Moines, Iowa 50319-0034

GENERAL PERMIT NO. 2 SUMMARY GUIDANCE - INDEX

GLOSSARY

"*Best Management Practices*" or *"BMPs"* means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

"***Controls*"** means methods, practices or measures to minimize or prevent erosion; methods, practices or measures, either structural or non-structural, to control sedimentation; methods, practices or measures for storm water control; or, methods, practices or measures to minimize contaminants from other types of waste or materials at construction sites

"Final Stabilization" means that all soil disturbing activities at the site have been completed, and that a uniform perennial vegetative cover with a density of 70%, sufficient to preclude erosion, for the entire disturbed area of the permitted project has been established or equivalent stabilization measures have been employed, or which is covered by a permanent structure that ensures the ground surface will not be eroded or otherwise impacted by precipitation or runoff, or which has been returned to agricultural production.

"Hazardous condition" means any situation involving the actual, imminent, or probable spillage, leakage, or release of a hazardous substance onto the land, into a water of the state, or into the atmosphere, which creates an immediate or potential danger to the public health or safety or to the environment. See Iowa Code § 455B.381(4)

"*Hazardous substance*" means any substance or mixture of substances that presents a danger to the public health or safety and includes but is not limited to a substance that is toxic, corrosive, or flammable, or that is an irritant or that generates pressure through decomposition, heat, or other means. "Hazardous substance" may include any hazardous waste identified or listed by the administrator of the United State Environmental Protection Agency under the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976, or any toxic pollutant listed under section 307 of the federal Water Pollution Control Act as amended to January 1, 1977, or any hazardous substance designated under section 311 of the federal Water Pollution Control Act as amended to January 1, 1977, or any hazardous material designated by the secretary of transportation under the Hazardous Materials Transportation Act. See Iowa Code § 455B.381(5)

"Municipality" means a city, town, borough, county, parish, district, association, or other public body created by or under State law.

"SWPPP" means storm water pollution prevention plan.

INTRODUCTION

A. ABOUT THIS DOCUMENT

This document contains a step-by-step explanation of the development of an effective storm water pollution prevention plan (SWPPP) for construction activities in the State of Iowa. This document is referred to as the Summary Guidance because its primary focus is on the development of the SWPPP. This guidance is consistent with the requirements in Iowa's NPDES General Permit No. 2 for *Storm Water Discharge Associated with Industrial Activity for Construction Activities.* The general permit contains the legal requirements for permitted construction sites.

Any suggestions or comments on improvements to this document should be forwarded to the to the Storm Water Coordinator at the address on the cover of this document. Questions relating to Iowa's storm water program should also be directed to the Storm Water Coordinator.

B. WHAT TYPE OF CONSTRUCTION ACTIVITY REQUIRES A STORM WATER DISCHARGE PERMIT?

Federal regulations require that storm water discharges from certain construction activities be covered under an NPDES permit. Construction activities which disturb the land, such as clearing, grading or excavation, except for disturbances of less than one acre of total land area which are not part of a larger common plan of development or sale, are required to be covered by an NPDES permit. **In other words, if the overall project will cause a land disturbance of one or more acres, any storm water runoff from any portion of the project requires NPDES permit coverage.** The NPDES permit, a federal waste water discharge permit, is required for storm water or snow melt runoff that drains from areas where construction activities occur. These requirements became effective on March 10, 2003.

C. HOW DOES ONE OBTAIN A NPDES PERMIT FOR A CONSTRUCTION PROJECT?

Iowa's General Permit No. 2 covers storm water discharges from construction activities (land disturbances). The general permit is a generic NPDES permit that can cover most construction (land disturbing) activities. The general permit contains the terms and conditions for covered discharges, but the permit is not applicable to any storm water discharge until a completed Notice of Intent (NOI) is submitted to the Iowa Department of Natural Resources (Department) and an authorization has been issued. The issued authorization ties a construction activity to the general permit.

D. WHAT IS A STORM WATER POLLUTION PREVENTION PLAN (SWPPP)?

Iowa's NPDES General Permit No. 2 requires that a storm water pollution prevention plan (SWPPP) for the construction activity be developed before a Notice of Intent NOI) is submitted to the Department. The SWPPP is to be implemented with the start of construction. A SWPPP for construction is designed to reduce pollution at the construction site, before it causes environmental problems. Construction activities produce many different kinds of pollutants which may cause storm water contamination problems. Storm water runoff becomes polluted by picking up soil particles and other pollutants from construction materials as it flows over surfaces where construction activities are occurring. Grading activities remove grass, rocks, pavement and other protective ground covers, resulting in the exposure of underlying soil to the elements. Because the soil surface is unprotected, erosion can occur. The water carrying these particles eventually reaches a stream, river or a lake where it slows down, allowing the particles to settle out, which results in sedimentation. In addition, the construction of buildings and roads may require the use of toxic or hazardous materials such as petroleum products, pesticides and herbicides, and building materials such as asphalt, sealants, and concrete which may pollute storm water running off of the construction site.

A SWPPP must be developed for each construction site covered under General Permit No. 2. The SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of the storm water discharge for the construction activities, and it shall describe and ensure the implementation of practices which will be used to reduce the pollutants in storm water discharge from the construction site to assure compliance with the

terms and conditions of the general permit. Facilities must implement the provisions of the SWPPP as a condition of General Permit No. 2.

E. WHAT DOES THIS DOCUMENT CONTAIN?

This document is organized as a step-by-step guide for developing a SWPPP for a storm water discharge covered under General Permit No. 2. A number of steps are identified under different phases in the preparation of the SWPPP. Each phase in this document focuses on a particular type of information relating to the construction activity. The pollution prevention planning process is organized as shown on the chart on the next page.

The six major phases in developing a SWPPP are:

(1) Site evaluation and design development;
(2) Project Assessment;
(3) Control selection and plan design;
(4) Certification and notification;
(5) Construction/implementation; and
(6) Final stabilization and discontinuation.

SIX PHASES FOR DEVELOPING AND IMPLEMENTING A SWPPP

PHASE 1
SITE EVALUATION AND DESIGN DEVELOPMENT

- Collect Site Information
- Describe Construction Activity
- Develop Site Plan Design
- Prepare SWPPP Site Map

PHASE 2
PROJECT ASSESSMENT

- Measure Site Area
- Determine Drainage Areas
- Calculate Runoff Coefficient

PHASE 3
CONTROL SELECTION/PLAN DESIGN

- Review and Incorporate State and Local Requirements
- Select Erosion and Sediment Controls
- Select Other Controls
- Select Storm Water Management Controls
- Indicate Location of Controls on Site Map
- Prepare Inspection and Maintenance Plan
- Prepare Description of Controls
- Prepare Sequence of Major Activities

PHASE 4
SWPPP CERTIFICATION AND NOI SUBMITTAL

- SWPPP Certification
- Submit a Notice of Intent (NOI)
- Deadline for SWPPP Preparation

PHASE 5
CONSTRUCTION/ IMPLEMENTATION

- Implement Controls
- Inspect and Maintain Controls
- Maintain Records of Construction Activities
- Update/Change SWPPP to Keep it Current
- Report Hazardous Conditions and Update SWPPP
- Provide for SWPPP Location and Access

PHASE 6
COVERAGE TRANSFER, FINAL STABILIZATION, AND DISCONTINUATION

- Transferring Coverage Under the Permit
- Final Stabilization
- Notice of Discontinuation (NOD)

PHASE 1
SITE EVALUATION AND DESIGN DEVELOPMENT

The first phase in preparing a Storm Water Pollution Prevention Plan (SWPPP) for a construction project is to define the characteristics of the site and the type of construction that will be occurring. This phase consists of four steps: (A) collect site information, (B) develop the site plan design, (C) describe the construction activity, and (D) prepare the site map.

A. COLLECT SITE INFORMATION

Prior to design, it is necessary to collect information about the existing conditions at the construction site. General Permit No. 2 requires that the SWPPP include the following information:

- **Existing soils information** – Where information or data exists which describes the soils at the construction site, it must be included in the SWPPP. Soils data may include soil type, depth of the soil layer, soil texture, infiltration (percolation rate), or whether the soils are susceptible to erosion. Soil information can be obtained from county Soil Survey Reports, which may be obtained from the local county Soil Conservation Service and Cooperative Extension Office. General Permit No. 2 requires that topsoil be preserved on construction sites.
- **Existing runoff water quality** – If storm water runoff from the proposed construction site has been sampled and analyzed for the presence of any pollutant (e.g., total suspended solids), then the results of the analyses must be included in the SWPPP. It is not necessary to collect or analyze storm water samples if no data is available**.**
- **Location of surface waters on the construction site** – If the construction site includes or is adjacent to surface waters, the location and extent of the surface waters must be determined so that they may be indicated on the site map. Surface waters include lakes, ponds, rivers, streams (both perennial and intermittent), and wetlands.
- **Name of receiving water** – Identify the name and location of the body of water, e.g., stream, creek, run, wetland, river, lake, that will receive the runoff from the construction site. If the storm water discharges into an unnamed tributary, identify the first named body of surface water to which the storm water will flow. This information is usually available on county, State, and/or USGS maps.

If the site drains into a municipal separate storm sewer system, identify the system and indicate the receiving water to which the system discharges.

B. DEVELOP SITE PLAN DESIGN

Once the information on the existing site conditions is collected, develop a site plan design. In addition to the goals and objectives for the facilities being constructed, consider objectives which will limit the amount of pollution in storm water runoff from the construction site, such as:

- **Disturb** the smallest area possible.
- **Avoid** disturbance of sensitive areas such as:
  - Steep and/or unstable slopes
  - Areas with soils susceptible to erosion
  - Existing drainage channels
- **Identify** areas to be preserved or left as open space.

C. DESCRIBE THE CONSTRUCTION ACTIVITY

When preparing the SWPPP, describe the purpose or goal of the construction project (e.g., a single family residential development, a multistory office building, a highway interchange) and list the major soil disturbing activities necessary to complete the project. Soil disturbing activities might include clearing, excavation and stockpiling, rough grading, final or finish grading, preparation for seeding or planting, excavation of trenches, demolition, etc.

D. PREPARE A SITE MAP

The final step of the site evaluation and design development phase is to combine the information collected into a comprehensive SWPPP site map. The starting point for the map should be the site plan prepared for the construction design. The map for the construction site should be drawn to scale with topography**.** The scale of the map should be small enough to easily distinguish important features such as drainage swales and control measures.

In addition to the location of surface waters, the following information must be included on the site map:

- **Slopes after grading** – Indicate the approximate steepness of slopes anticipated after major grading activities.
- **Disturbed areas and limit of disturbance** – Indicate the areas of soil disturbing activities or the total area of the site where soil will be disturbed.
  - Draw the limit of disturbance so that any soil disturbing activity, such as clearing, stripping, excavation, backfill, stock piling (topsoil or other fill material), and paving, will be inside of the limit.
  - The limit of disturbance should include roads for construction vehicles, unless those roads are paved or stabilized and have measures to reduce tracking of sediments.
  - Draw an outline of the areas that will not be disturbed.
- **Drainage patterns/discharge points** – Indicate the drainage patterns of the site after the major grading activities and the location of the points where storm water will discharge from the site.
  - To illustrate the drainage pattern of the site, use topographic contour lines or arrows to indicate the direction runoff will flow.
  - Show the location of swales or channels. If there is a new or proposed underground storm drain system on the site, indicate it on the SWPPP site map.

PHASE 2
PROJECT ASSESSMENT

Once the characteristics of the site and the construction have been defined, the next phase in developing a Storm Water Pollution Prevention Plan (SWPPP) is to measure the size of the land disturbance and estimate the impact the project will have on storm water runoff from the site based on information collected in Phase 1. Three things should be done to assess the project: (A) measure the site area, (B) determine the drainage areas, and (C) calculate the runoff coefficient.

A. MEASURE THE SITE AREA

Estimates of the total site area and the area that will be disturbed by excavating, grading or other activities must be included in the SWPPP. The total site area estimate must represent the size of the parcel of property or right of way on which the construction is occurring. The disturbed area estimate must represent the portion of the total site area which will be disturbed over the course of the construction project. These values can be measured from the site map.

B. DETERMINE THE DRAINAGE AREAS

Although the size of each drainage area for each point where concentrated flow will leave the site does not need to be included in the SWPPP, this information will help you select and design the sediment control and storm water management measures for your project in the next phase of the plan. Drainage areas are portions of the site where runoff will flow in one particular direction or to a particular discharge point. Be sure to include off-site water draining onto your site when determining the total size of the drainage basin. Use the drainage patterns indicated on the site map to determine the drainage areas.

C. CALCULATE THE RUNOFF COEFFICIENT

General Permit No. 2 requires an estimate of the runoff coefficient of the site after construction is complete. The runoff coefficient, “c”, is an estimate of the fraction of total rainfall that will appear as runoff.

For example, the “c” value of a lawn area is 0.2, which indicates that only 20 percent of the water that falls on grassed areas will end up as surface runoff. In contrast, the “c” value of a paved area can be 0.9 or higher, indicating that 90 percent or more of the rain falling on this type of surface will run off.

Runoff coefficients for sites with more than one land use are estimated by calculating a weighted average (based upon area) of the runoff coefficients for each land use. Table 1 (next page) lists runoff coefficients for various land uses.

Other recognized and technically accepted runoff determination methods may also be used.

TABLE 1 – TYPICAL "C" VALUES (ASCE 1960)

Description of area		Runoff coefficient
Business	Downtown Area	0.70 – 0.95
	Neighborhood Area	0.50 – 0.70
Residential	Single-Family Areas	0.30 – 0.50
	Multi-Units, Detached	0.40 – 0.60
	Multi-Units, Attached	0.60 – 0.75
	Residential (Suburban)	0.25 – 0.40
	Apartment Dwelling Areas	0.50 – 0.70
Industrial	Light Areas	0.50 – 0.80
	Heavy Areas	0.60 – 0.90
Other	Parks, Cemeteries	0.10 – 0.25
	Playgrounds	0.20 – 0.35
	Railroad Yard Areas	0.20 – 0.40
	Unimproved Areas	0.10 – 0.30
	Drives and Walks	0.75 – 0.85
	Roofs	0.75 – 0.95
Streets	Asphalt	0.70 – 0.95
	Concrete	0.80 – 0.95
	Brick	0.70 – 0.95
Lawns – Coarse Textured Soil (Greater than 85 % Sand)	Slope: Flat, 2 %	0.05 – 0.10
	Average, 2 – 7 %	010 – 0.15
	Steep, 7 %	0.15 – 0.20
Lawns – Fine Textured Soil (Greater than 40 % Clay)	Slope: Flat, 2 %	0.13 – 0.17
	Average, 2 – 7 %	0.18 – 0.22
	Steep, 7%	0.25 – 0.35

PHASE 3
CONTROL SELECTION/PLAN DESIGN

After you have collected information and made measurements, the next phase is to design a plan to prevent and control the pollution of storm water runoff from the construction site. The following subsections explain how the controls you select should be described in your SWPPP. To prepare a SWPPP, the steps in this Phase will need to be completed.

A. REVIEW AND INCORPORATE STATE AND LOCAL REQUIREMENTS

A SWPPP prepared for compliance with General Permit No. 2 must also comply with other state and local requirements. Therefore, prior to designing the SWPPP, you must first determine what state and local requirements, if any, exist for sediment and erosion site plans, site permits, or storm water management site plans. Where other state and local requirements exist, they then must be carefully reviewed and incorporated into the SWPPP design.

Any requirements specified in sediment and erosion plans, site permits, or storm water management plans approved by State or local officials that are applicable to protecting surface water resources are, upon submittal of a Notice of Intent, incorporated by reference and are enforceable under General Permit No. 2.

The state requirements pertaining to erosion control plans are shown below.

Iowa Code 161A.64, Erosion control plans required for certain projects.

Prior to initiating a land disturbing activity in a political subdivision which has not adopted sediment control ordinances, a person engaged in the land disturbing activity shall file as signed affidavit with the soil and water conservation district that the project will not exceed the soil loss limits. Land disturbing activity means a land change such as the tilling, clearing, grading, excavating, transporting or filling of land which may result in soil erosion from water or wind and the movement of sediment and sediment related pollutants into the waters of the state or on to lands in the state but does not include the following:

a. Tilling, planting or harvesting of agricultural, horticultural or forest crops.
b. Preparation for single-family residences separately built unless in conjunction with multiple construction in subdivision development.
c. Minor activities such as home gardens, landscaping, repairs and maintenance work.
d. Surface or deep mining.
e. Installation of public utility lines and connections, fenceposts, signposts, telephone poles, electric poles and other kinds of posts or poles.
f. Septic tanks and drainage fields unless they are to serve a building whose construction is a land disturbing activity.
g. Construction and repair of the tracks, right-of-way, bridges, communication facilities and other related structures of a railroad.
h. Emergency work to protect life or property.
i. Disturbed land areas of less than twenty-five thousand square feet unless a political subdivision by ordinance establishes a smaller exception or establishes conditions for this exception.
j. The construction, relocation, alteration or maintenance of public roads by a public body.

B. SELECT EROSION AND SEDIMENT CONTROLS

The SWPPP must include a description of the measures to be used for erosion and sediment controls throughout the construction project. These controls include stabilization measures for controlling erosion from disturbed areas and structural controls to divert runoff and remove sediment. Erosion and sediment controls are implemented during the construction period to prevent and/or control the loss of soil from the construction site into the receiving waters. Your selection of the most appropriate erosion and sediment controls depends on a number of factors but is most dependent on site conditions. The information collected in Phases 1 and 2 is used to select the controls.

- **Stabilization** – Disturbed areas of the construction site that will not be re-disturbed for 21 days or more must initiate stabilization measures by the 14th day after the last disturbance, except as precluded by snow cover. In the event of snow cover, stabilization measures must be initiated as soon as practicable thereafter. Stabilization measures include, but are not limited to, one or more of the following:

- Temporary seeding – the planting of fast-growing grasses to hold down the soils in disturbed areas so that they are less likely to be carried off-site by storm water runoff or wind.
- Permanent seeding and planting – the use of permanent vegetation (grass, trees, or shrubs) to stabilize the soil by holding soil particles in place.
- Mulching – the placement of material such as hay, grass, wood chips, straw, or gravel on the soil surface to cover and hold in place disturbed soils. Mulching often accompanies seeding.
- Other stabilization measures include:
  - Geotextiles
  - Chemical Stabilization
  - Sod Stabilization
  - Vegetative Buffer Strips
  - Protection of Trees
  - Preservation of Natural Vegetation
  - Dust Control
  - Soil Retaining Measures
  - Stream Bank Stabilization

- **Structural control measures** – A SWPPP must include structural practices to divert flows away from disturbed areas, to store flows, or to limit the discharge of pollutants from the site to the degree attainable. Structural controls include, but are not limited to, one or more of the following:
  - Earthen Dike – a mound of stabilized soil which is constructed to divert runoff. Dikes may be used to either divert uncontaminated runoff away from disturbed areas or to divert contaminated runoff into a sediment basin or sediment trap.
  - Silt fence – a temporary measure consisting of posts with filter fabric stretched across them and sometimes with a wire support fence. The fence is installed along the down slope or side slope perimeter of a disturbed area. Runoff passes through the openings in the fabric, while sediment is trapped on the uphill side.
  - Sediment trap – a trap is formed by excavating a pond or by placing an earthen embankment across a low area or drainage swale. It has an outlet or spillway made of large stones or aggregate. The trap retains the runoff long enough to allow the silt to settle out.
  - Sediment basin – a settling pond with a controlled water release structure, e.g., a riser and pipe outlet with a gravel filter, which slows the release of runoff. The basin detains sediment-laden runoff from larger drainage areas long enough for most of the sediment to settle out.
  - Other structural control measures include:
    - Brush barrier
    - Drainage swale
    - Subsurface drains
    - Pipe slope drains
    - Level spreaders
    - Storm drain inlet protection
    - Rock outlet protection
    - Reinforced soil retaining systems
    - Gabions

  A temporary or permanent sediment basin must be installed, where attainable, in any drainage location where more than 10 acres in the upstream drainage area are disturbed at one time. The sediment basin must provide at least 3,600 cubic feet of storage for every acre of land which it drains (flows from upland areas that are undisturbed may be diverted around the basin). Where such a sediment basin is not attainable, other structural sediment controls providing equivalent effectiveness are required for all side slope and down slope boundaries of the construction areas.

  For drainage locations with 10 or fewer disturbed acres, sediment traps, filter fences, or equivalent measures must be installed along the downhill boundary of the construction site.

C. SELECT OTHER CONTROLS

In addition to erosion and sediment controls, the SWPPP must address the other potential pollutant sources that may exist on a construction site. These other potential pollutant sources can be addressed by controls including the proper disposal of construction site waste; compliance with applicable State or local waste disposal, sanitary sewer or septic system regulations; prevention of off-site pollutant tracking; and control of allowable non-storm water discharges; as explained below:

- **Ensure proper disposal of construction site waste materials.** Iowa's solid waste regulations require that construction and demolition waste be taken to a permitted sanitary landfill. No liquids or hazardous waste will be accepted. Contact the local Iowa DNR Field Office to determine the nearest permitted sanitary landfill.
  - Rubble (which is uncontaminated stone, brick, or similar inorganic material), rock and sand may be disposed without a permit in an environmentally safe manner. This means:
    - Waterways and/or drainage is not impeded; and
    - Rubble, rock or sand is not disposed of in flood plains or wetlands without prior approval from the Department.
  - The open burning of trees, tree trimmings, and landscape waste is allowed without a permit provided that:
    - the material originated on the premises,
    - the burning occurs at least one-quarter mile away from any inhabited building,
    - rubber tires are not used to ignite the fire, and
    - burning meets with local requirements.
- **Treat or dispose of sanitary wastes that are generated on-site in accordance with state or local requirements.** Contact the County Sanitarian's office for local requirements regarding the disposal of sanitary wastes. If the county sanitarian cannot be reached, contact the regional Iowa DNR Field Office.
- **Prevent off-site tracking of sediments and generation of dust.** Stabilized construction entrances or vehicle washing racks should be installed at locations where vehicles leave the site. Where dust may be a problem, implement dust control measures.
- **Identify and prevent contamination of non-storm water discharges.** Where non-storm water discharges allowed by the General Permit exist, the SWPPP must identify these discharges and take steps to prevent contamination from these discharges.

D. SELECT STORM WATER MANAGEMENT CONTROLS

Storm water management controls are constructed to prevent or control pollution of storm water after the construction is completed. A SWPPP must include a description of the measures that will be installed to control pollutants in storm water after construction is complete. These controls include, but are not limited to, the following:

- **Retention pond** - A pond that holds runoff in a reservoir without release; except by means of evaporation, infiltration, or emergency bypass.
- **Detention pond** - A pond that holds or detains runoff in a basin for a limited time, releasing it slowly to allow most of the sediments to drop out.
- **Infiltration measures** - Measures that allow the percolation of water though the ground surface into subsurface soil. Specific measures include infiltration trenches, basins, and dry wells.
- **Vegetated swales and natural depressions** - Grass-lined ditches or depressions that transport runoff, filter sediments from the runoff, and enhance runoff infiltration.

Selection of the most appropriate storm water management measures depends upon a number of factors associated with site conditions. Most sites can employ measures to remove 80 percent of the total suspended solids resulting from the construction project. When you select storm water management measures for a development project, consider the impacts of these measures on other environmental media (e.g., land, air, and ground water).

In addition to pollutant removal, the storm water management portion of a SWPPP must address velocity dissipation at discharge locations. Development usually means an increase in speed with which the site will drain because of the addition of paved areas, storm sewers, curbs, gutters, etc. General Permit No. 2 requires that velocity dissipation devices be placed along the length of any outfall where the discharge from the developed area may erode the channel so that the natural physical and biological characteristics and functions are maintained and protected (e.g. maintenance of hydrologic conditions present prior to the initiation of construction activities). The potential for erosion is primarily dependent upon the velocity of the storm water discharge and the type of material that lines the channel. An example of a velocity dissipation device is rip rap outlet protection, which is stone or rip rap placed at the discharge point to reduce the speed of concentrated storm water flows.

E. INDICATE THE LOCATION OF CONTROLS ON THE SITE MAP

Pollution prevention measures must be shown on the SWPPP site map. Include the location of each measure used for erosion and sediment control, storm water management, and other waste controls. When this has been done, the site map is ready to be included in the SWPPP. It may not be feasible to indicate some controls on the site map, e.g., waste control measures.

F. PREPARE AN INSPECTION AND MAINTENANCE PLAN

After the SWPPP is prepared and the necessary controls are installed, you will be responsible for inspecting and maintaining them. General Permit No. 2 requires that you prepare a description of the procedures to maintain, in good and effective operating conditions, vegetation, erosion, and sediment control measures and other identified protective measures. Qualified personnel shall inspect disturbed areas of the construction site that have not reached final stabilization at least once every seven calendar days. An inspection and maintenance checklist for each of the proposed control measures should be included in the SWPPP prior to starting construction.

G. PREPARE A DESCRIPTION OF THE CONTROLS

Once you have finished planning your construction activities and selected the controls, make a list of each type of control you plan to use on the site. Include a description of each control, describe its purpose, and explain why it is appropriate in this location. The description should include specific information about the control such as size, required materials, and methods of installation/use.

H. PREPARE A SEQUENCE OF MAJOR ACTIVITIES

You must prepare a sequence of major activities that includes installation of all the controls, the earth disturbing activities, all stabilization activities, and the maintenance required for the controls. The sequence should clearly indicate the order in which each of the activities described takes place. Several general principles are helpful in developing the sequence of major activities:

- **Install** down slope and side slope perimeter controls **before** the land disturbing activity occurs.
- **Do not disturb** an area until it is necessary for construction to proceed.
- **Remove** and **stockpile** topsoil.
- **Cover** or **stabilize** disturbed areas as soon as possible.
- **Time** construction activities to limit impact from seasonal climate changes or weather events.
- **Delay** construction of infiltration measures until the end of the construction project when upstream drainage areas have been stabilized.
- **Re-spread** topsoil.
- **Do not remove** temporary perimeter controls until **after** all upstream areas are finally stabilized.

PHASE 4
SWPPP CERTIFICATION AND SUBMITTING A NOTICE OF INTENT

Once the Storm Water Pollution Prevention Plan (SWPPP) has been prepared, **each operator must certify the SWPPP by signing it**. After the SWPPP is developed and certified, either the owner or general contractor is ready to submit a Notice of Intent (NOI) for coverage under General Permit No. 2. The pre-construction checklist will be very useful in evaluating whether all the required items are included in your SWPPP prior to certification or submission of an NOI.

A. SWPPP CERTIFICATION

For each control measure, the SWPPP must clearly identify the contractor(s) and or subcontractor(s) that will implement the measure. All contractors and subcontractors identified in the SWPPP, including short-term contractors and subcontractors coming on-site, must sign the following certification statement before conducting any professional service at the site identified in the SWPPP. The certification must be incorporated in the SWPPP and signed in accordance with subrule 567 IAC 64.3(8) as follows:

64.3(8) The person who signs the application for an operation permit shall be:

a. *Corporations*. In the case of corporations, a responsible corporate officer. A responsible corporate officer means: (1) A president, secretary, treasurer, or vice -president in charge of a principal business function, or any other person who performs similar policy or decision-making functions: or (2) The manager of manufacturing, production or operating facilities, if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

b. *Partnerships*. In the case of a partnership, a general partner.

c. *Sole proprietorships*. In the case of a sole proprietorship, the proprietor.

d. *Municipal, state, federal, or other public agency*. In the case of a municipal, state, or other public facility, either the principal executive officer or the ranking elected official. A principal executive officer of a public agency includes: (1) The chief executive officer of the agency, or (2) A senior executive officer having responsibility for the overall operations of a unit of the agency.

e. *Storm water discharge associated with industrial activity from construction activities*. In the case of a storm water discharge associated with construction activity, either the owner of the site or the general contractor.

The person who signs NPDES reports shall be the same, except that in the case of a corporation or a public body, monitoring reports required under the terms of the permit may be submitted by the person who is responsible for the overall operation of the facility from which the discharge originated.

Upon signing the certification, the contractor or sub-contractor becomes a co-permittee with the owner and other co-permittee contractors. In signing the SWPPP, the authorized representative certifies that the information is true and assumes liability for the SWPPP.

Certification Statement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.

The certification must include the name and title of the person providing the signature; the name, address and telephone number of the contracting firm; the site address or location; and the date the certification is made.

B. SUBMITTING A NOTICE OF INTENT (NOI)

A Notice of Intent can be submitted online using the Online Storm Water General Permit Database at: https://programs.iowadnr.gov/stormwater/pages/eAppIntro.aspx.

A paper NOI can also be obtained on the Department's Storm Water Permits, Forms and Application Materials webpage at: https://www.iowadnr.gov/Environmental-Protection/Water-Quality/NPDES-Storm-Water/Permits-Guidance-Forms.

Either the owner or general contractor can submit a Notice of Intent to the Department for coverage under General Permit No. 2. The NOI links a particular storm water discharge with the terms and conditions found in the general permit. A copy of the NOI must be included in the Pollution Prevention Plan. As additional operators (either contractors or subcontractors) are identified, each operator shall certify (sign) the SWPPP and become co-permittees with the other known operators as described above.

C. DEADLINE FOR SWPPP PREPARATION

The SWPPP shall be completed prior to the submittal of a NOI to the Department to be covered under this permit. The SWPPP shall provide for compliance with the terms and schedule of the SWPPP prior to the initiation of construction activities.

PHASE 5
CONSTRUCTION / IMPLEMENTATION

Once you have prepared a Storm Water Pollution Prevention Plan (SWPPP) and submitted a complete Notice of Intent (NOI), **you must wait for authorization from the Department to begin construction.** You must now do the following things described in your SWPPP: implement controls, inspect and maintain the controls, maintain records of construction activities, update/change the SWPP to keep it current, report any hazardous conditions, provide access to the SWPPP.

A. IMPLEMENT CONTROLS

The first action that should be taken is to construct or perform the controls over erosion, sedimentation and other waste that were selected in the SWPPP. The controls must be constructed in the order indicated in the sequence of major activities identified in Phase 3.

Temporary and permanent stabilization measures shall immediately be initiated on all disturbed areas if construction activity will not occur for a period of 14 or more calendar days, as specified in General Permit No. 2.

To ensure that all controls are adequately implemented, it is important that the work crews who install the measures are experienced and/or adequately trained. Improperly installed controls can have little or no effect and may actually increase the pollution in storm water. All other workers on the construction site be must be made aware of the controls so that they do not inadvertently disturb or remove them.

B. INSPECT AND MAINTAIN CONTROLS

As discussed previously, inspection and maintenance of the protective measures are as important to pollution prevention as proper planning, design/selection, and installation.

- **Inspections** – General Permit No. 2 requires inspections every 7 days. It is recommended that inspections also be conducted within 24 hours of the end of a storm of 0.5 inch or greater of rainfall. All disturbed areas of the site, areas for material storage, locations where vehicles enter or exit the site, all of the erosion and sediment controls, and accessible discharge locations must be inspected. Controls must be in good operating condition until the construction activity is complete and final stabilization has been reached.

  The inspector must prepare a report documenting their inspection of the pollution control measures. The report shall:
  - summarize the scope of the inspection;
  - provide the name(s) and qualifications of personnel making the inspection;
  - include the date(s) of the inspection;
  - identify any damages or deficiencies in the control measures;
  - identify what actions will be taken to modify pollution control practices;
  - include the certification statement in Phase 4 of this guide; and
  - be signed in accordance with the signatory requirements in Phase 4 of this guide.

  Any changes that may be required to correct deficiencies in the Storm Water Pollution Prevention Plan noted during an inspection should be made as soon as practical after an inspection but in no case later than 7 days after the inspection.

- **Maintenance/Repairs** The SWPPP must contain a description of procedures that will be followed to maintain, in good and effective operating condition, all control measures. The inspection reports can be used to record scheduled maintenance.

C. MAINTAIN RECORDS OF CONSTRUCTION ACTIVITIES

In addition to the inspection and maintenance reports, the operator should keep records of the construction activity on the site. In particular, the operator should keep a record of the following information:

- The dates when major grading activities occur in a particular area.
- The dates when construction activities cease in an area, temporarily or permanently.
- The dates when an area is stabilized, temporarily or permanently.

These records can be used to make sure that areas where there is no construction activity will be stabilized within the required time frame. Records shall be retained for a period of at least three years from the date that the site is finally stabilized.

D. UPDATE/CHANGE THE SWPPP TO KEEP IT CURRENT

A SWPPP must accurately reflect site features and operations for it to be effective and for a construction activity to be in full compliance with General Permit No. 2. A SWPPP shall be updated:

- To accurately reflect the site features;
- If the operator observes that it is not effective in minimizing pollutant discharge from the site;
- To include contractors identified after the submittal of an NOI (these contractors shall certify the SWPPP and be identified as co-permittees), and
- To identify any change in ownership or transference of the permit and permit responsibilities.

If, at any time during the effective period of General Permit No. 2, the Department finds that a SWPPP does not meet one or more of the minimum standards established in the general permit, the Department will notify the permittee of required changes necessary to bring the SWPPP up to standard. Permittees shall have 7 days after notification to make the necessary changes.

E. REPORT ANY HAZARDOUS CONDITION AND UPDATE THE SWPPP

Because construction activities may include handling of certain hazardous substances over the course of the project, spills of these substances may create a hazardous condition and are required to be reported. The Department and local sheriff's office or the sheriff's office in the affected county must be notified as soon as possible but not more than six hours after the onset of a hazardous condition. Refer to Glossary for definition of a hazardous condition.

The SWPPP must be modified with 14 calendar days of a hazardous condition. The SWPPP shall describe the release and the circumstances leading to the release, and shall identify steps to prevent the reoccurrence of such releases implemented.

F. PROVIDE FOR SWPPP LOCATION AND ACCESS

The general permit has specific requirements regarding SWPPP location and access.

- **Retention of records** - For a period of at least three years from the date of the document or the date the site is finally stabilized and a NOD has been submitted, the permittee shall retain copies of SWPPPs, all reports required by this permit, and all records used to complete the NOI.
- **Plan Location** - If there is a construction trailer, shed or other covered structure located on the property, the permittee shall retain a copy of the SWPPP at the construction site from the date of project initiation to the date of final stabilization. If there is no construction trailer, shed or other covered structure located on the property, the permittee shall retain a copy of the SWPPP from the date of project initiation to the date of final stabilization at a readily available alternative site.
- **Access** – A copy of the SWPPP shall be provided for inspection upon request. If the SWPPP is maintained at an off-site location such as a corporate office, it shall be provided for inspection no later than three hours after being requested. If storm water runoff is discharged to a municipal separate storm sewer system, the SWPPP must be made available upon request to the municipal operator of the system.

PHASE 6
COVERAGE TRANSFER, FINAL STABILIZATION, AND NOTICE OF DISCONTINUATION (NOD)

For storm water discharge associated with industrial activity for construction activities where the ownership changes, the Department must be notified of the title transfer within 30 days. The storm water discharge from a construction activity is no longer considered to be a discharge subject to the storm water permit requirements when final stabilization has been reached and temporary erosion and sediment controls have been or will be removed. A permittee must submit a Notice of Discontinuation (NOD) to inform the Department that storm water discharge no longer needs to be covered by the general permit.

A. TRANSFERRING COVERAGE UNDER THE PERMIT

If the ownership changes for any activity that has a storm water discharge associated with industrial activity for construction activities covered under General Permit No. 2, the new owners are subject to all terms and conditions of the general permit. When the ownership is changed, the Department shall be notified within 30 days with the following information:

(1) Permit authorization number for the storm water discharge that is being transferred.
(2) Name, address, phone number, and email address of the permitted owner.
(3) Name, address, phone number, and email address of the new owner.
(4) Name, address, phone number, and email address of the contact person for the facility.
(5) Date of ownership transfer.

Submit the information to npdes.mail@iowa.dnr.gov.

Both the previous owner(s) and the new owner(s) are responsible for notifying the Department of the transfer and the new owner's name and contact information. This requirement shall be satisfied when the Department receives the notification by either the previous owner(s) or the new owner(s).

B. FINAL STABILIZATION

Final stabilization, as defined in General Permit No. 2, means that all soil disturbing activities at the site have been completed, and that a uniform perennial vegetative cover with a density of 70%, sufficient to preclude erosion, for the entire disturbed area of the permitted project has been established or equivalent stabilization measures have been employed, or which is covered by a permanent structure that ensures the ground surface will not be eroded or otherwise impacted by precipitation or runoff, or which has been returned to agricultural production.

C. NOTICE OF DISCONTINUATION (NOD)

A storm water discharge that is covered under General Permit No. 2 is required to notify the Department that the discharge has been discontinued and is no longer subject to the NPDES permitting requirements. For construction activities, this means that final stabilization has been reached. This notification is made using the Notice of Discontinuation (NOD) form, which is available on the Department's Storm Water Permits, Forms and Application Materials webpage at: https://www.iowadnr.gov/Environmental-Protection/Water-Quality/NPDES-Storm-Water/Permits-Guidance-Forms.

Within 30 days of the discontinuance of the discharge, the operator must submit a NOD to the email address indicated on the form.