
Regulatory Requirements

A. National Pollutant Discharge Elimination System (NPDES)

The Clean Water Act established a set of requirements called the National Pollutant Discharge Elimination System (NPDES). The NPDES regulates stormwater discharges associated with industrial activities, municipal storm sewer systems, and construction sites. The purpose of these regulations is to reduce pollution of the nation's waterways. At the present time there are no specific loss monitoring requirements. Uses of Best Management Practices (BMP) identified in an approved Stormwater Pollution Prevention Plan (SWPPP) have been identified as the means and methods to meet the NPDES requirements. On-going discussions indicate that in the future where NPDES authorities determine that construction discharges have the reasonable potential to cause or contribute to a water quality standard excursion, numeric effluent limitations may be imposed. In the future, specific emphasis will be placed on containing soil erosion and minimizing soil compaction.

The intent of this section is to describe the regulations and permitting requirements of the NPDES as they relate to construction sites. Refer to [Chapter 2 - Stormwater](#) for additional information.

Federal Construction and Development Effluent Guidelines for all sites and activities required to be authorized under NPDES permits shall comply with the following federal effluent guidelines as applicable to each site and activity. These requirements will be implemented by the Iowa Department of Natural Resources in conjunction with the General Permit No. 2 requirements.

1. **Erosion and Sediment Controls:** Design, install, and maintain effective erosion controls and sediment controls to minimize the discharge of pollutants. At a minimum such controls must be designed, installed, and maintained to:
 - a. Control stormwater volume and velocity to minimize soil erosion in order to minimize pollutant discharges.
 - b. Control stormwater discharges including both peak flow rates and total stormwater volume, to minimize channel and streambank erosion and scour in the immediate vicinity of discharge points.
 - c. Minimize the amount of soil exposed during construction activity.
 - d. Minimize the disturbance of steep slopes.
 - e. Minimize sediment discharges from the site. The design, installation, and maintenance of erosion and sediment controls must address factors such as the amount, frequency, intensity, and duration of precipitation, the nature of the resulting stormwater runoff and soil characteristics including the range of soil particle sizes expected to be present on the site.
 - f. Provide and maintain natural buffers around waters of the United States, direct stormwater to vegetated areas, and maximize stormwater infiltration to reduce pollutant discharges, unless infeasible.

2. **Soil Compaction and Topsoil Preservation:** Implement practices to minimize soil compaction and preserve topsoil according to Part IV D of the General Permit No. 2.

3. **Soil Stabilization:** Stabilization of disturbed areas must, at a minimum, be initiated immediately whenever any clearing, grading, excavating, or other earth disturbing activities have permanently ceased on any portion of the site or temporarily ceased on any portion of the site and will not resume for 14 calendar days. In drought stricken areas and areas that have recently received such high amounts of rain that seeding with field equipment is impossible and initiating vegetative stabilization is infeasible, alternative stabilization measures must be employed as specified by the regulatory agency. In limited circumstances, stabilization may not be required if the intended function of a specific area of the site necessitates that it remain disturbed.
4. **Dewatering:** Discharges from dewatering activities, including discharges from dewatering trenches and excavations, are prohibited unless managed by appropriate controls.
5. **Pollution Prevention Measures:** Design, install, and maintain effective pollution prevention measures to minimize discharge of pollutants. At a minimum such measures must be designed, installed, and maintained to:
 - a. Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash water. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge.
 - b. Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on the site to precipitation and stormwater. Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a discharge of pollutants, or where exposure of a particular material or product poses little risk of stormwater contamination, such as final products and materials intended for outside use.
 - c. Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures.
6. **Prohibited Discharges:** The following discharges are prohibited:
 - a. Wastewater from wash out and cleanout of stucco, paint, form release oil, curing compounds, and other construction materials.
 - b. Fuels, oils, and other pollutants used in vehicle and equipment operation and maintenance.
 - c. Soaps or solvents used in vehicle and equipment washing.
7. **Surface Outlets:** When discharging from basins and impoundments, utilize outlet structures that withdraw water from the surface, unless infeasible.

B. NPDES Construction Site Permitting

1. **Permit Requirements:** For construction projects, an NPDES permit from the Iowa DNR is required for any site that disturbs and exposes one acre of land or more. A permit is also required for projects that will disturb one or more acres as part of a common plan of development, even if there will not be one acre of disturbed ground exposed at any given time. In addition to the Iowa DNR, many local agencies also have a permit process. It is necessary to check with the Jurisdictional Engineer to determine what, if any, information is needed for the local agency permit.

An example of a common plan of development would be a property owner who has two acres of land that he plans to divide up into four half-acre lots. Even though each half-acre lot will be graded and sold off individually, an NPDES permit is required because the grading of the individual lot is part of an overall plan to grade and develop two acres of land.

Additional information regarding projects that require an NPDES permit can be obtained from the [Iowa DNR's website](#).

2. **Permitting Process:** For most construction projects, coverage under the NPDES program will be obtained from the Iowa DNR through General Permit No. 2. The steps required to obtain coverage under this permit are as follows:
- a. **Prepare a Stormwater Pollution Prevention Plan:** A Stormwater Pollution Prevention Plan (SWPPP) describes the site and identifies potential sources of pollution. The SWPPP also provides a description of the practices that will be implemented to mitigate erosion and sediment loss from the site. The SWPPP must be prepared prior to submittal of the Notice of Intent. Detailed information on the required SWPPP content is provided later in this section.
 - b. **Publish a Public Notice:** Arrange for publication of a public notice of stormwater discharge that states the applicant's intention to file a Notice of Intent for coverage under the General Permit No. 2. This notice must be published for at least one day in the one newspaper with the largest circulation in the area of the discharge. A link to Iowa DNR for a copy of a typical public notice is contained in the Appendix.
 - c. **Notice of Intent:** Complete and sign a "Notice of Intent for NPDES Coverage Under General Permit" form. Note that there are specific restrictions on which individuals are authorized to sign the Notice of Intent (NOI). The Notice of Intent must be signed by an authorized individual (see Part VI.G of the NPDES permit for a list of individuals authorized to sign the permit). Also note that that the form contains an area to fill in information for a contact person. This is the person to whom all future correspondence will be sent. This person does not need to be the owner or other authorized signatory, but should be a person who will be involved with the project for the duration of the permitting period. A link to Iowa DNR for a Notice of Intent is contained in the Appendix.

Acceptable proof of publication consists of an affidavit from the publisher or a newspaper clipping of the NOI that includes the date of publication and newspaper name.

Construction may not be initiated until the Iowa DNR issues a construction authorization.

- d. **Notice of Discontinuation:** The final step in the NPDES General Permit No. 2 process is to file a Notice of Discontinuation (NOD) with the Iowa DNR. The NOD ends the coverage of the site under the permit, relieving the permittees from the responsibilities of the permit and the possibility of enforcement actions against the permittees for violating the requirements of the permit.

An NOD should be filed with the Iowa DNR within 30 days after the site reaches final stabilization. Final stabilization means that all soil-disturbing activities are completed, and that a permanent vegetative cover with a density of 70% or greater has been established over the entire site. It should be noted that the 70% requirement does not refer to the percent of the site that has been vegetated (i.e. 7 out of 10 acres). In order to file a Notice of Discontinuation, 100% of the disturbed areas of the site must be vegetated. The density of the vegetation across the site must be at least 70% and sufficient to preclude erosion from the entire site. The NRCS Line-Transect method can be used to determine vegetation density if actual measurements are required.

Like the Notice of Intent, the Notice of Discontinuation must be signed by an authorized individual and must contain a specific certification statement. A link to Iowa DNR for a Notice of Discontinuation is provided in the Appendix.

- e. **Local Requirements:** As part of the NPDES regulations, some communities are required to review SWPPPs for land-disturbing activities that occur within their communities. Other communities may have elected to pass erosion and sediment control ordinances that must be adhered to. The designer should check with the local jurisdiction to determine if local requirements exist.
3. **Compliance with NPDES General Permit No. 2:** Once a Notice of Intent has been filed, activities at the site must comply with the requirements of NPDES General Permit No. 2. These requirements include:
 - a. Implement pollution prevention practices as detailed on the SWPPP.
 - b. Maintain the SWPPP and keep it current by noting significant changes.
 - c. Inspecting the site and pollution prevention measures at the required intervals.
 - d. Contractors and subcontractors, identified in the SWPPP, are required to sign on as co-permittees.
 - e. Note changes of ownership or transfer of the permit responsibilities.
 - f. If there is a construction trailer, shed, or other covered structure located on the property, retain a copy of the SWPPP required by this permit 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, retain a copy of the plan from the date of project initiation to the date of final stabilization at a readily available alternative site approved by Iowa DNR and provide it for inspection upon request.
 - g. Retain copies of the SWPPP and all reports required by this permit, and records of all data used to complete the Notice of Intent covered by this permit, for a period of at least 3 years from the date that the site is finally stabilized and a Notice of Discontinuation has been submitted to Iowa DNR.

C. Stormwater Pollution Prevention Plans (SWPPP)

1. **Purpose:** The NPDES General Permit No. 2 requires that a Stormwater Pollution Prevention Plan (SWPPP) be developed. The practices described in the SWPPP designed to reduce contamination of stormwater that can be attributed to activities on a construction site. Construction creates the potential for contamination of stormwater from many different sources. Grading removes protective vegetation, rock, pavement, and other ground cover, exposing the soil to the elements. This unprotected soil can erode and be carried off by stormwater runoff to lakes and streams. In addition, construction often involves 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 stormwater running off of the site.

The SWPPP must clearly identify all potential sources of stormwater pollution and describe the methods to be used to reduce or remove contaminants from stormwater runoff.

The SWPPP is not intended to be a static document; rather it must be updated as necessary to account for changing site conditions that have a significant impact on the potential for stormwater contamination. The SWPPP must also be revised if the current plan proves to be ineffective at significantly minimizing pollutants.

2. **Preparation of a SWPPP:** The individual preparing the SWPPP should have a thorough understanding of the project and the probable sequence of construction operations.

The process of preparing a SWPPP should begin by reviewing the existing site, and identifying the work required to complete the desired improvements. Next, the project should be broken down into major components or phases (e.g. clearing, grading, utility work, paving, home building, etc.). The specific phasing may vary for each project, depending on the scope of the work. On large projects with multiple areas that will be completed in stages, each stage of construction should be broken down separately.

Next, a system of erosion and sediment controls should be designed for each phase of construction. The system of controls should take into account the anticipated condition of the site during each stage. For example, at the end of the grading phase, it is likely that the entire site will be stripped and highly vulnerable to erosion; temporary seeding and/or other stabilization practices may be the major control employed at this stage. At the end of the utility phase, the site may now have storm sewer and other drainage structures installed. This creates a direct route for sediment-laden runoff to easily leave the site. Implementing sediment retention may be an important control at this stage.

An individual erosion or sediment control practice should not be utilized as the sole method of protection. Each phase of construction should incorporate multiple erosion and sediment control practices. Utilizing a variety of both erosion control and sediment control practices is an effective and efficient method of preventing stormwater pollution.

Once the phasing has been determined, and the methods of protection have been selected, a SWPPP can be developed. The following section summarizes the elements of a SWPPP that are required by General Permit No. 2.

3. **Required Content of the SWPPP:** Part IV of the Iowa DNR NPDES General Permit No. 2 contains a description of the specific items that must be included within the SWPPP. A summary of those items is provided below.
 - a. **Site Description:** The first step in preparing a SWPPP is to provide a detailed description of the site. This description must include the following items:
 - 1) The nature of the construction activity (e.g. roadway construction, utility construction, single family residential construction, etc.) and major soil-disturbing activities (i.e. clearing, grading, utility work, paving, home building, etc.).
 - 2) An estimate of the total area of the project site and the area that is expected to be disturbed by construction.
 - 3) An estimate of the runoff coefficient for the site after construction (See [Chapter 2 - Stormwater](#) for determination of runoff coefficients).
 - 4) A summary of available information describing the existing soil and soil properties (e.g. type, depth, infiltration, erodibility, etc.).
 - 5) Information describing the quality of the stormwater runoff currently discharged from the site (required only if data exists, it is not necessary to collect and analyze runoff).
 - 6) The name of the receiving waters and ultimate receiving waters of runoff from the site. If the site drains into a municipal storm sewer system, identify the system, and indicate the receiving waters to which the system discharges.
 - 7) A site map that includes limits of soil-disturbing activities, existing drainage patterns, drainage areas for each discharge location (including off-site drainage), proposed grading, surface waters and wetlands, and locations where stormwater is discharged to surface water.
 - 8) Approximate slopes after major grading activities.

- 9) The location of structural and nonstructural controls.
 - 10) The location of areas where stabilization practices are expected to occur.
- b. Controls:** The plan needs to show what erosion and sediment controls and stormwater management practices will be used to reduce or eliminate contamination of stormwater by pollutants.
- 1) **Sequence:** List the anticipated sequence of major construction activities and clearly describe the order for implementation of the control measures. It is not necessary to list anticipated dates for completion of the various stages of construction and implementation of practices; rather the SWPPP should indicate the stage of construction at which individual control measures are to be installed.
 - 2) **Stabilizing Practices:**
 - Describe the temporary and permanent stabilizing practices (protection of existing vegetation, surface roughening, seeding, mulching, compost blankets, Rolled Erosion Control Products (RECPs), sod, vegetative buffer strips, etc.).
 - Note that areas not subject to construction activity for 14 calendar days or more must have stabilizing measures initiated immediately after construction activity has ceased.
 - 3) **Structural Practices:**
 - Describe any structural practices that will be used to divert flows away from disturbed areas, store runoff, limit erosion, or remove suspended particles from runoff (silt fence, filter socks, diversion structures, sediment traps, check dams, slope drains, level spreaders, inlet protection, rip rap, sediment basins, etc.).
 - For sites with more than 10 acres disturbed at one time, which drain to a common location, a sediment basin providing 3,600 cubic feet of storage per acre drained is required where attainable. When sediment basins of the size required are not attainable, other methods of sediment control that provide an equivalent level of protection are required.
 - For disturbed drainage areas smaller than 10 acres, a sediment basin or sediment control along the sideslope and downslope boundaries of the construction area is required. The sediment basin should provide 3,600 cubic feet of storage per acre drained.
 - Unless infeasible, the following measures should be implemented at all sites: utilize outlet structures that withdraw water from the surface when discharging from basins, provide and maintain natural buffers around surface waters, and direct stormwater to vegetated areas to both increase sediment removal and maximize stormwater infiltration.
 - According to General Permit No. 2 Part IV.D.2.A.(2).(c), the permittee(s) shall minimize soil compaction and, unless infeasible, preserve topsoil. "Infeasible" shall mean not technologically possible, or not economically practicable and achievable in light of the best industry practices. "Unless infeasible, preserve topsoil" shall mean that, unless infeasible, topsoil from any areas of the site where the surface of the ground for the permitted construction activities is disturbed, shall remain within the area covered by the applicable General Permit No. 2 authorization. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted. Preserving topsoil is not required where the intended function of a specific area of the site dictates that the topsoil be disturbed or removed. The permittee(s) shall control stormwater volume and velocity to minimize soil erosion in order to minimize pollutant discharges and shall control stormwater discharges, including both peak flowrates and total stormwater volume, to minimize channel and streambank erosion and scour in the immediate vicinity of discharge points. An affidavit signed by the permittee(s) may be submitted to demonstrate compliance.

- For construction activity that is part of a larger common plan of development, such as a housing or commercial development project, in which a new owner agrees in writing to be solely responsible for compliance with the provisions of this permit for the property that has been transferred or in which the new owner has obtained authorization under this permit for a lot or lots (as specified in subrule 567-64.6(6) of the Iowa Administrative Code), the topsoil preservation requirements described above must be met no later than at the time the lot or lots have reached final stabilization as described in this permit.
 - In residential and commercial developments, a plat is considered a project. For other large areas that have been authorized for multiple construction sites, including those to be started at a future date such as those located at industrial facilities, military installations, and universities, a new construction project not yet surveyed and platted out is considered a project. This stipulation is intended to be interpreted as requiring the topsoil preservation requirements on development plats and construction activities on other extended areas that may have several construction projects allowed under the same authorization to be implemented on those projects not yet surveyed and platted out prior to October 1, 2012, even if other plats and construction activities in the same development or other extended area were authorized prior to October 1, 2012.
- 4) Stormwater Management:**
- Describe the features that will be installed during construction to control pollutants in stormwater after construction operations are completed.
 - Pollutant removal features may include detention/retention ponds, vegetated swales, and infiltration practices.
 - Post-construction erosion control features may include channel protection/lining and velocity dissipation at outlets.
- 5) Other Controls:**
- Note in the SWPPP that any waste materials from the site must be properly disposed of.
 - Describe practices for preventing hazardous materials that are stored on the site from contaminating stormwater.
 - Describe a method to limit the off-site tracking of sediment by vehicles.
 - Define construction boundaries to limit the disturbance to the smallest area possible.
 - Identify areas to be preserved or left as open space.
- 6) State and Local Requirements:**
- List additional state or local regulations that apply to the project. Note that some local jurisdictions may have an erosion and sediment control ordinance. The requirements of this ordinance must be listed in the SWPPP.
 - List any applicable procedures or requirements specified on plans approved by state or local officials.
 - Section 161A.64 of the Code of Iowa requires that prior to performing any “land-disturbing” activity (not including agricultural activities) in a city or county that does not have an erosion control ordinance and a 28E agreement with the Soil and Water District, a signed affidavit must be filed with the local Soil and Water Conservation District stating that the project will not exceed the soil loss limits stated. It should be noted that this requirement is not a condition of the NPDES General Permit No. 2.
- c. Maintenance:** The SWPPP must describe the maintenance procedures required to keep the controls functioning in an effective manner. For each type of erosion or sediment control practice utilized, a description of the proper methods for maintenance must be provided. In addition, maintenance should include removal of sediment from streets, ditches, or other off-site areas.

- d. Inspections:** The SWPPP must describe the inspection requirements of General Permit No. 2. Inspections are required every 7 calendar days. Check local agency regulations for permit inspection and reporting requirements. The inspections must include the following:
- 1) Inspect disturbed areas and areas used for storage of materials for evidence of pollutants leaving the site and/or entering the drainage system.
 - 2) Inspect erosion and sediment control measures identified in the SWPPP to ensure they are functioning correctly.
 - 3) Inspect discharge locations to ascertain if the current control measures are effective in preventing significant impacts to the receiving waters.
 - 4) Inspect locations where vehicles enter/exit the construction site for signs of sediment tracking.
 - 5) Prepare an inspection report that lists the date, the name of the inspector, and the inspector's qualifications. The report must summarize the inspection and note any maintenance of the controls or changes to the SWPPP that are required.
 - 6) Implement required maintenance or changes to the SWPPP identified during the inspection as soon as practicable after the inspection, but no more than seven calendar days following the inspection. If the permittee determines that making these changes at the construction site or to the plan less than 72 hours after the inspection is impracticable, the permittee shall document in the plan why it is impracticable and indicate an estimated date by which the changes will be made.

The Project Engineer should note that [SUDAS Specifications Section 9040](#) provides for two bid items related to the SWPPP. The first relates to the Contractor preparing the SWPPP. The second bid item involves management of the SWPPP, which includes the actions necessary to comply with the General Permit No. 2, conduct regular inspections, documentation, updates to the SWPPP, and filing of the Notice of Discontinuation.

- e. Non-stormwater Discharges:** Various non-stormwater related flows are allowed to be discharged into the stormwater system, provided that they are not contaminated by detergents or spills/leaks of toxic/hazardous materials. Allowable non-stormwater discharges include flows from fire hydrant and potable waterline flushing, vehicle washing, external building washdown that does not use detergents, pavement washwater where spills or leaks of toxic or hazardous materials have not occurred, air conditioning condensate, springs, uncontaminated groundwater, and footing drains. When there is a possibility for these types of discharges on the site, they must be identified in the SWPPP and include a description of the measures that will be implemented to prevent these flows from becoming contaminated by hazardous materials or sediment.
- f. Contractors:** The SWPPP must clearly identify all of the contractors or subcontractors that will implement each measure in the plan. Each contractor or subcontractor identified is required to sign a certification statement making them a co-permittee with the owner and other contractors. The certification must read as follows:

"I certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit that authorizes the stormwater discharges associated with industrial activity from the construction site as part of this certification. Further, by my signature, I understand that I am becoming a co-permittee, along with the owner(s) and other contractors and subcontractors signing such certifications, to the Iowa Department of Natural Resources NPDES General Permit No. 2 for "Storm Water Discharge Associated with Industrial Activity for Construction Activities" at the identified site. As a co-permittee, I understand that I, and my company, am legally required under the Clean Water Act and the Code of Iowa, to ensure compliance with the terms and

conditions of the stormwater pollution prevention plan developed under this NPDES permit and the terms of this NPDES permit.”

Under most circumstances, the identity of the contractor and any subcontractors implementing the pollution prevention measures will not be known at the time of SWPPP preparation. The SWPPP should provide a blank certification form and a location to identify who will be responsible for implementing each pollution prevention measure. The contractor responsible for maintaining the SWPPP can then complete this information, as it becomes available.

D. Who is Responsible

- 1. Property Owner:** Coverage under the NPDES General Permit No. 2 is granted to the property owner. The property owner has the ultimate responsibility for ensuring that the conditions of the permit are met. Enforcement actions associated with non-compliance with the permit are normally directed against the property owner.
- 2. Designer:** The project designer typically prepares the initial SWPPP, although the contractor may be required to develop the SWPPP and obtain the NPDES permit if so directed in the contract documents. The designer may continue to review and approve changes to the SWPPP (on behalf of the owner).
- 3. Jurisdiction:** On public improvement projects, the Jurisdiction serves as the owner of the site (see requirements for owners above).

According to Iowa DNR regulations, certain MS4 jurisdictions are required to conduct inspections on public construction projects that require coverage under an NPDES permit. Under most circumstances, these inspections must be conducted utilizing the MS4's own staff. The contractor is not allowed to perform these inspections. The purpose of these inspections is to ensure that contractors are correctly implementing the BMPs identified in the SWPPP and to ensure that the jurisdiction maintains an active role in preventing stormwater contamination from its public improvements projects.

The inspections by the jurisdiction must be conducted every 7 days. These jurisdictional inspections may also be used to satisfy the inspection requirements of the NPDES General Permit No. 2.

The preparer of the SWPPP should check with the local jurisdiction for additional review and permitting requirements.

- 4. Contractor/Builder:** Contractors and builders that are involved in implementing any of the measures identified for controlling pollution of stormwater runoff must sign on as a co-permittee with the owner. As a co-permittee, the contractor is required to comply with all of the requirements of the NPDES permit.

In addition, most owners will contractually assign all responsibility for compliance with the NPDES permit to the contractor. Under this situation, any fines levied against the owner will normally be passed along to the contractor.

E. Transfer of Ownership and Responsibilities

On many construction projects, such as private residential subdivisions or commercial developments, it is common for a developer to sell off individual lots before work on the entire subdivision is complete. Coverage under General Permit No. 2 cannot be discontinued for individual portions of a project; the permit requires that the entire project reach final stabilization before a Notice of Discontinuation can be filed, and coverage for the entire site terminated. This creates a situation where the developer and any co-permittees are responsible for compliance with the permit for land they no longer own or have control over.

A provision within the Iowa Administrative Code [567 IAC 64.6(6)(b)] addresses this situation. This provision allows the developer and new property owner to become co-permittees under the NPDES permit. This provision requires that the new owner be notified, in writing, of the existence and location of the permit and the SWPPP and of their responsibility to comply with the permit.

This provision within the Code also allows the new owner to accept sole responsibility for compliance with the permit for the transferred property. This transfer of responsibility requires written acknowledgement by the new owner that they accept responsibility for complying with the permit for the property in question.

A copy of all property transactions, notifications of coverage, and transfer of responsibility agreements must be included with the SWPPP.