GUIDANCE DOCUMENT FOR WELL CONSTRUCTION AND WELL SERVICE DISCHARGES

FOR

GENERAL PERMIT NO. 6

A BRIEF GUIDE TO DEVELOPING A
WELL WATER POLLUTION PREVENTION PLAN (WWPPP)
AND
USING BEST MANAGEMENT PRACTICES (BMPS)
TO TREAT WELL RELATED WASTEWATER

SUMMARY GUIDANCE

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GLOSSARY

"*Acutely Toxic Substances*" means that level of pollutants which would rapidly induce a severe and unacceptable impact on organisms.

"*Best Management Practices*" ("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. With regard to well construction and well services these include structural devices or non-structural practices that are designed to prevent pollutants from entering water or to direct the flow of water.

"*Contractor(s) and/or Subcontractor(s)*" means any individual or entity who performs work on the well construction site involved in installing, managing, and altering BMPs intended to manage and treat well construction wastewater, or whose on-site work may alter the effectiveness of the BMPs that have been deployed, increase the amount of discharge wastewater, or reduce the quality of the discharge wastewater.

"*CWA*" or "*Clean Water Act*" means the Federal Water Pollution Control Act.

"***Controls"*** The term "*controls*" refers to: methods, practices or measures to minimize or prevent erosion; methods, practices or measures, either structural or non-structural methods, practices or measures to control and treat well discharge wastewater.

"Co-permittee" means any individual who performs work on the well construction site involved in installing, managing, and/or altering BMPs intended to manage and treat well construction wastewater or whose on-site work may alter the effectiveness of the BMPs that have been deployed, increase the amount of discharge wastewater, or the reduce the quality of the discharge wastewater. Planning and design activities related to development or modification of the WWPPP, by themselves, do not constitute co-permittee status.

"*Department*" means the Iowa Department of Natural Resources.

"*Drilling Fluid and Drilling Mud*" means naturally developed and/or artificially mixed colloidal, polymer, or other water-based fluids used in the drilling process to enhance the carrying capacity of the fluid to lift borehole cuttings to the ground surface and stabilize the well borehole.

"*Hazardous Condition*" means any situation involving the actual, imminent, or probable spillage, leakage, or release of a hazardous substance on to 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. 455B.381(2) 1991, Code of Iowa.

"*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, in confinement, generates pressure through decomposition, heat, or other means. The following are examples of substances which, in sufficient quantity may be hazardous: acids; alkalis; explosives; fertilizers; heavy metals such as chromium, arsenic, mercury, lead and cadmium; industrial chemicals; paint thinners; paints; pesticides; petroleum products; poisons, radioactive materials; sludges; and organic solvents. "Hazardous substances" 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 (49 CFR 172.101). 455B.381(1), 1991 Code of Iowa, and 40 CFR Part 116 pursuant to section 311 of the Clean Water Act.

"*Municipality*" means a city, town, borough, county, parish, district, association, or other public body created by or

under State law.

"Permittee" means the owner of the water supply well.

"Plan" means Well Water Pollution Prevention Plan (WWPPP)

"Waters of the United States" means**:**

(a) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
(b) All interstate waters, including interstate "wetlands;''
(c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, "wetlands,'' sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
    (1) Which are or could be used by interstate or foreign travelers for recreational or other purposes;
    (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
    (3) Which are used or could be used for industrial purposes by industries in interstate commerce;
(d) All impoundments of waters otherwise defined as waters of the United States under this definition;
(e) Tributaries of waters identified in paragraphs (a) through (d) of this definition;
(f) The territorial sea; and
(g) "Wetlands'' adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR §423.11(m) which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. (See Note 1 of this section.)

"Well Service(s)" means any service that meets the following definitions: "*construction"* of a water well, "*water well"* and "*well reconstruction"* as found in Iowa Code 455B.171, "*water services"* as found in 567 Iowa Administrative Code Chapter 49, and for all well construction performed in accordance with 567 Iowa Administrative Code Chapter 43. Examples of water well and well services include but are not limited to: well drilling and well construction for private and public water supply wells, well servicing, well development, well rehabilitation, well repair, and test pumping of all types of water supply wells, well drilling and construction for geothermal production supply wells, borehole drilling and heat exchanger installation for vertical geothermal closed loop heat exchangers, and any other water well services related activity that generates wastewater.

REQUIREMENTS FOR DEVELOPING AND IMPLEMENTING A WELL WATER POLLUTION PREVENTION PLAN FOR WATER WELL CONSTRUCTION AND WELL SERVICE DISCHARGES

INTRODUCTION OF SUMMARY GUIDANCE

ABOUT THIS DOCUMENT

This document contains a step-by-step explanation of the development of a Well Water Pollution Prevention Plan (WWPPP) for wastewater discharges associated with water well construction and water well service related activities in the State of Iowa. This document's focus is not intended to specify what best management practices (BMPs) should be used, but only to help guide an individual on the development process that can help a well construction project successfully implement a WWPPP. The guidance contained within this guidance document is consistent with the requirements in Iowa's National Pollution Discharge Elimination System (NPDES) General Permit No. 6 for *Well Construction and Well Service Discharges.*

Any questions, comments, or suggestions for improvements to this document should be forwarded to the Water Well Discharge Coordinator at the address on the cover of this document.

INTRODUCTION

When is a Well Discharge Wastewater General Permit Required?

New state regulations require that well construction and well services related wastewater discharges be covered under an NPDES permit. These requirements became effective on March 17, 2010. Anytime the discharge wastewater generated by well construction or well service activities reaches Waters of the United States, you are automatically covered by NPDES General Permit No. 6 and must adhere to the terms and conditions contained within the general permit. If the well construction or well services related wastewater does not reach Waters of the United States, you are not subject to General Permit #6.

What is A Well Water Pollution Prevention Plan?

Iowa's NPDES General Permit No. 6 requires that a site-specific well water pollution prevention plan (also known as WWPPP or Plan) for each site where the discharge reaches a Water of the United States and that the local DNR Field Services Office be notified using the Field Office Notification Form or FON (located at the back of this document.) A WWPPP for the well construction or service event is designed to address the anticipated treatment needs for the wastewater that will be generated by the well project and then provide guidance for the implementation, inspection, and maintenance of any BMPs or controls specified in the Plan. The Plan shall allow for adequate treatment of the wastewater before it enters conveyances, streams, rivers, and other waterways before it causes environmental problems.

Well construction discharge wastewater normally consists of drilling fluids and/or groundwater, and contain particles of natural materials like, sand, silt, colloids (clays), limestone and dolomite, and various chemical additives. When left un-managed, the wastewater will continue to flow with the suspended particles until provided an opportunity to settle out of suspension through slowing of the water as it enters waterways or until it encounters various natural structures like grass-ways, or depressions.

Artificial structures such as BMPs can be placed to help define treatment and create areas that facilitate the retaining, slowing, settling, and disbursing of the wastewater. Left untreated, wastewater carrying suspended solids eventually reaches a stream, river or a lake where it slows down, allowing the particles to settle out of suspension. This results in sedimentation and long-term changes and damage to the waterway. In addition, drilling fluid additives and other products used in well construction and well services may contain substances that are acutely toxic or hazardous. These products can chemically and physically change the receiving water and cause additional problems such as killing aquatic life that is present in the stream and inhibiting the life processes for all species that depend on the water as part of their daily needs.

A WWPPP must be developed for each construction site covered under General Permit No. 6. The Plan shall address the potential quantities and qualities of wastewater that may be generated during the construction/service related activities

so adequate BMPs can be designed and then applied at the site to adequately address the required wastewater treatment. The plan shall also describe the strategic locations for BMP placement and the BMPs required in each location to ensure that any pollutants contained within the wastewater will be adequately treated before the wastewater enters a Water of the United States. Ultimately, the WWPPP shall be written to ensure compliance with the terms and conditions contained within the general permit. The Permittee must implement the provisions of the WWPPP as a required condition of the permit and any individual or entity that installs, manages, or modifies the on-site BMPs or affectively changes the quantity or quality of the wastewater discharged from the site shall be a co-permittee and as such shall adhere to the conditions set forth in the general permit.

What Does this Document Contain?

This document is organized as step-by-step instructions for developing a WWPPP. You will see that each step identifies a number of items that should be incorporated into developing a WWPPP to help ensure adequate planning and deployment of the necessary BMPs. As you develop a WWPPP, you should consider a number of steps or phases to help identify important areas which will help you work towards the successful discharge of treated wastewater from the well site. Each phase focuses on a particular type of information relating to the construction activity. The recommended WWPPP process is organized as shown on the chart on the next page. It includes five major phases:

1. Site Evaluation and Design Development
2. BMP Selection and Completing the WWPPP
3. WWPPP Certification and Submitting a Notice for the Field Office
4. Construction/Implementation
5. Record Keeping

FIVE PHASES FOR DEVELOPING AND IMPLEMENTING A WELL DISCHARGE WASTEWATER POLLUTION PREVENTION PLAN

Phase 1
Site Evaluation and Design Development

- Collect information on the well site and the waterways that may be impacted during well construction or well services.
- Develop site plan goals.
- Describe construction activity and potential discharges.
- Prepare WWPPP site map.

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Phase 2
BMP Selection and Completing the WWPPP

- Review and incorporate state and local requirement.
- Select BMPs and sediment controls
- Other potential pollutant sources
- Describe controls and indicate the location of controls on the site map.
- Prepare and inspection and maintenance plan.
- Prepare a sequence of major activities.

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Phase 3
Certification and Notification

- WWPPP Certification.
- Submitting a notice for field office.

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Phase 4
Implementation

- Provide for plan location and access
- Implement BMPs/Controls
- Evaluate performance of BMPs/Controls
- Adjust BMPs/Controls based on the actual wastewater treatment needs - Dependent on the quantity and quality of wastewater.
- Update/Change the BMPs and the WWPPP as discharge quantity or quality changes.
- Inspect and Maintain BMPs/Controls
- Maintain records of construction activities and site inspections.

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Phase 5
Record Keeping

- Assemble a copy of all documents for permittee and department review.
- Maintain a copy of the document for at least 6 months after the end of the well construction or well service project.

PHASE 1 -
SITE EVALUATION AND DESIGN DEVELOPMENT

The first phase in preparing a Well Water Pollution Prevention Plan for a construction project is to define the characteristics of the site and the type of discharge that will be occurring. This phase consists of four steps: (A) Collect Site Information, (B) Examine Site Plan Design Goals, (C) Describe the Well Construction/Service Activity, and (D) Estimate the Maximum Project Discharge, and (E) Prepare Pollution Prevention Plan Site Map.

(A) Collect Site Information

Prior to design, it is necessary to collect information about the existing conditions at the well site.

- **Existing well site information** - Information must be gathered regarding the well site conditions. This information should include a description of the well site topography, ownership boundaries, minor and major waterways that may be impacted. In addition, it may be helpful to fully understand the soil type, depth of the soil layer, soil texture, infiltration (percolation rate), and whether the soils are susceptible to erosion. Soil information can be obtained from county Soil Survey Reports. The Soil Survey Reports may be obtained from the local county Soil Conservation Service and Cooperative Extension Office. This information is important to fully understand the quantity of wastewater that the site can manage naturally before additional BMPs must be implemented to provide additional treatment to the wastewater.
- **Existing runoff water quality** - If Well Discharge Wastewater runoff from the proposed well 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 WWPPP. It is not necessary to collect or analyze Well Discharge Wastewater samples if no data is available**.**
- **Location of surface waters on the well site** - If the well site includes or is adjacent to surface waters then the location and extent of the surface waters must be determined so that they may be indicated on the pollution prevention site map. Surface waters include lakes, rivers, streams (both perennial and intermittent), and wetlands. Also examine the drainage patterns and approximate slopes of the land surrounding the well.
- **Name of receiving water** - Identify the name and location of the body of water, e.g., stream, creek, run, wetland, river, or pond/lake that will receive the runoff from the construction site. If the Well Discharge Wastewater discharges into an unnamed tributary also identify the first named body of surface water to which the Well Discharge Wastewater will flow. This information is usually available from county, State 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) Site Plan Design Goals

In addition to the goals and objectives for the well construction or service work being performed, the designers should also consider objectives which will limit the amount of pollution in Well Discharge Wastewater runoff from the well site, such as:

- **Maintain** the maximum amount of natural elements that will act as BMPs.
- **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 Well Construction/Service Activity

In preparing your plan, you must describe the planned well activity. For example, “Construction of a water supply well approximately 400 feet in depth.” Also include the types of constituents to be generated and products used in the well construction/service activities that may be present in the discharge, for example, “Bentonite drilling fluid, polymers, foaming agents, and etcetera.”

Also, describe any other development taking place in conjunction with the well activity (e.g., single family residential development, industrial development) 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) Estimate the Maximum Project Discharge

It is important to understand how much wastewater will be generated during the well construction or well service activities. The discharge should be viewed as two components, the quantity of discharge from the well site and the quantity of the discharge that will reach a water of the United States. Dependent on the BMPs chose, the discharge may be calculated in total volume or gallons per minute. If BMPs are to treat the wastewater directly from the well head area, a discharge calculation in gallons per minute would be appropriate. If BMPs include holding and settling capacity, a discharge calculation in total volume of water would be appropriate. When determining how much discharge will reach a water of the United States, recognized and technically accepted runoff determination methods should be used.

(E) Prepare Pollution Prevention Plan Site Map

The final step of the site evaluation and design development phase is to combine the information collected into a comprehensive WWPPP site map. The map should include important features such as drainage swales and BMP/control measures that will be added later. In addition to the location of surface waters, drainage ways, drainage tiles, storm sewers and road culverts, the following information should be included on the site map:

- **Disturbed areas -** Indicate the areas where the well construction/service activity will take place and note any disturbance of existing site features and solids that may influence the adequate treatment of the wastewater. Areas that are disturbed may require additional BMPs.
- **Drainage patterns/discharge points -** Indicate the location of the points where Well Discharge Wastewater will discharge from the site and into a conveyance that reaches a Water of the United States. The location of the discharge, the point of entrance into the water body, and the name of the receiving water(s) must be included on the map. To illustrate the drainage pattern of the site, use topographic contour lines or arrows to indicate the direction runoff will flow and approximate slope.

PHASE 2
BMP SELECTION AND COMPLETING THE WWPPP

After you have finished Phase 1, you should use the information collected and complete Phase 2 – BMP Selection and Completing the WWPPP. This section explains how the controls you select should be described in the Well Water Pollution Prevention Plan.

(A) Review and Incorporate State and Local Requirements

The WWPPP prepared for compliance with Iowa's NPDES General Permit #6 must also comply with the other state and local requirements. Therefore, prior to designing the WWPPP, you must first determine what state and local requirements, if any, exist for sediment and erosion, site permits or Storm Water Pollution Prevention Plans. Where these requirements do exist, they then must be carefully reviewed and incorporated into the plan design.

(B) Select BMPs and Sediment Controls

The Well Water Pollution Prevention Plan must include a description of the BMPs and controls that will be used to treat the well related wastewater discharges. The controls include measures for slowing the discharge to settle suspended solids or filtering the discharge water. Measures for controlling erosion from disturbed areas and structural controls to divert runoff and remove sediment may also be necessary. Your selection of the most appropriate controls will depend on a number of factors like: the construction site conditions, the quantity and quality of the wastewater that will be discharged, and the proximity to Waters of the United States. In some cases, you may need to use several types of controls in series to achieve proper treatment of the wastewater. Iowa's General Permit No. 6 requires that the WWPPP include structural practices to store flows, contain and disperse flows over a larger footprint, slow discharge to allow for settling, filter discharge to remove sediment, or to limit the discharge of pollutants generated on the from the site. The following is a partial list of some of the structural practices which may be used.

BMPs include but are not limited to:

- **Excavated detention pits**

- **Portable frac tanks**
- **Silt bags**
- **Wattles**
- **Straw bales**
- **Rock checks**
- **Geo-textiles/silt fence**
- **Chemical sequestering**
- **Preservation of natural vegetation**
- **Sod or grass mat stabilization**
- **Vegetative buffer strips**
- **Stream bank stabilization for point of discharge entrance**
- **Temporary seeding** - Temporary seeding is 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 Well Discharge Wastewater runoff or wind.
- **Permanent seeding** - Permanent seeding is the use of permanent vegetation to stabilize the soil by holding slow and retain discharge wastewater to allow particles so settle out.
- **Mulching** - Mulching is the placement of material such as hay, grass, wood chips, straw, or gravel on the soil surface to slow, disperse, and allow particles to settle out.
- **Earthen Dike** - An earthen dike is a mound of stabilized soil which is constructed to divert runoff. Earthen 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 silt fence is 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 sediment 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 sediment basin is 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.
- **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 infiltration of the runoff
- **Brush barrier**
- **Drainage swale**
- **Storm drain inlet protection**
- **Rock outlet protection**
- **Reinforced soil retaining systems**
- **Gabions**
- **Innovative alternative methods that adequately slow, retain, disperse, settle, or treat the wastewater.**
- **Combinations of two or more methods listed above.**

For additional information on BMPs please see Iowa DNR document (yet to be finalized)

(C) Other Considerations

In addition to BMPs for treating the wastewater, you may need to consider other potential pollutant sources that may

exist on a well site. These include proper disposal of drilling mud and compliance with applicable State or local waste disposal rules.

(D) 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 also include specific information about the control such as size, required materials, and methods of installation/use.

(E) Indicate the Location of Controls on the Site Map

Pollution prevention measures must be shown on the pollution prevention site map, including the location of each measure used for erosion and sediment control, Well Discharge Wastewater management, and other waste controls. When this has been done, the site map is ready to be included in the WWPPP.

(F) Prepare an Inspection and Maintenance Plan

After the Well Water Pollution Prevention Plan is prepared and the necessary BMPs are installed, qualified personnel that are provided by the permittee are responsible for the inspection and maintenance of all devices.

The WWPPP shall include who is responsible for the inspection and the maintenance of each BMP used to treat well discharge wastewater. It is recommended that the WWPPP also include the procedures that are to be used during the inspections.

(G) Prepare a Sequence of Major Activities

You should prepare a sequence of major activities that includes the installation and maintenance of each BMP before and during the well construction and service activity. The department recommends that the sequence 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:

- **If possible,** use the natural features of the landscape to your advantage so that natural filters like grasses are available to help slow, filter, and retain wastewater.
- **Place BMPs** before well construction or well service starts or when discharge into a Water of the United States is imminent.
- **Do not remove** BMPs until after all well construction and well services related activities are completed and BMPs in place for GP6 requirements are no longer needed.
- **Time** construction activities to limit impact from seasonal climate changes or weather events.

PHASE 3
WWPPP CERTIFICATION AND SUBMITTING A NOTICE FOR FIELD OFFICE

(A) Well Water Pollution Prevention Plan (WWPPP Certification)

- **Co-permittees -** The WWPPP must clearly identify for each BMP in the Plan the contractor(s) and/or subcontractor(s) that will install, manage, or alter the BMPs. All contractors and subcontractors identified in a WWPPP shall sign a copy of the following certification statement before conducting any professional service at the site identified in the WWPPP:

"I certify under penalty of law that I understand the terms and conditions of National Pollutant Discharge Elimination System (NPDES) general permit #6 that authorizes well construction and well service discharges from the construction or well services site. 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. As a co- permittee, I understand that I, and my company, are legally required under the Clean Water Act and the Code of Iowa, to ensure compliance with the terms and conditions of the Well Water Pollution Prevention Plan developed under this NPDES permit and other terms and conditions of this NPDES permit."

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 address (or other identifying description) of the site; and the date the certification is made. See the Forms and Guidance Document section at the back of this document for a sample signature page.

- **Engineers -** All well activities that use the services of an engineer shall have the engineer sign the WWPPP with the following certification: "The WWPPP is designed using good engineering practices."

(B) Submitting a Field Office Notification (FON)

The FON shall be faxed to the appropriate Iowa DNR Field Office. There may be instances where the well site discharge boundary is part of two or more DNR Field Services Offices. In this case the FON must indicate all Field Services Offices that are part of the discharge area, and FON's shall be submitted to each Field Office that may respond to the discharge. Either the permittee or the well contractor shall submit the FON. You will find a copy of the FON and a map indicating the Field Office locations and fax numbers in the Forms and Guidance Document section at the back of this document. The permittee must retain a copy of the FON indicating what date and time the document was sent.

PHASE 4
CONSTRUCTION / IMPLEMENTATION

Once you have prepared a WWPPP you may start construction of the project. Remember to follow the requirements for notification to the appropriate DNR Regional Field Services Office. You must also do the following things that are indicated in the Well Water Pollution Prevention Plan: (A) implement controls, (B) inspect and maintain the controls, and (C) update/change the WWPPP to keep it current based on the wastewater discharge quantity and quality and (D) report any hazardous condition to the Iowa DNR Field Services Offices in which you submitted FONs.

(A) Implement Controls

Before any activity is started that will generate discharge which reaches a Water of the United States, the best management practices as outlined in the WWPPP shall be installed to adequately treat the discharge wastewater generated from well construction or well services. The BMPs must be installed in a manner that will ensure each device performs as designed.

BMP controls (measures) must be applied within the time frame specified in the general permit.

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 Well Discharge Wastewater. It is also important that all other workers on the construction site be made aware of the controls so that they do not inadvertently disturb or remove any given control.

(B) Inspect and Maintain Controls

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

- **Inspections** - The general permit requires inspection every 6 hours. All of the well discharge controls that were identified as part of the plan, 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 an inspection report 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 and time of the inspection; major observations relating to the performance of the BMPs, and any actions taken to alter the BMPs. A sample inspection report form is included in the Forms and Guidance Document section at the back of this document. Inspection reports shall be signed by the permittee or co-permittee.

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

Any changes that may be required to the well water pollution prevention plan noted during an inspection should be made as soon as possible after an inspection. Any discharge deficiencies that are found during an inspection that are not consistent with the requirements of General Permit #6 require immediate corrective action.

(C) Update/Change the Plan to Keep the Plan Current

For a construction activity to be in full compliance with its NPDES Well Discharge Wastewater general permit, and for the Well Water Pollution Prevention Plan to be effective, the plan must accurately reflect site features and operations. When it does not, the plan must be changed. The plan must also be changed if the operator observes that it is not effective in minimizing pollutant discharge from the site. In addition, the WWPPP shall be updated to include any new co-permittees working on-site and any change in well ownership.

If the DNR finds that the plan does not meet one or more of the minimum standards established in the general permit, the DNR will notify the permittee of the deficiency and require that changes are made to bring the plan up to standards. The permittee shall ensure that the modifications are performed immediately.

(D) Report any Hazardous conditions and Update the Plan

Because well construction and well service 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. Iowa law requires that as soon as possible but not more than six hours after the onset of a hazardous condition the DNR and local sheriff's office or the office of the sheriff of the affected county be notified. (Refer to Glossary for definition of a "hazardous condition").

The Well Water Pollution Prevention Plan must be modified as soon as practical after an occurrence of a hazardous condition. The WWPPP shall describe the release and the circumstances leading to the release. Steps to prevent the reoccurrence of such releases are to be identified in the plan and implemented.

PHASE 5
RECORD KEEPING

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

(A) Plan location

A copy of the WWPPP and all required records must be kept at the well site from the time well construction/service begins until the well work has been completed. If there is no appropriate structure on- site for keeping records, the permittee shall retain the WWPPP and all associated records at a readily available alternative site.

(B) Retention of records

Retention of records requires that copies of the Well Water Pollution Prevention Plan and all other records and reports required by the permit, be retained for 6 months after the completion of well activities.

(C) Access

Although plans and associated records are not necessarily required to be submitted to the DNR, these documents must be made available upon request to the Department of Natural Resources. If Well Discharge Wastewater runoff is discharged to a municipal separate storm sewer system, the plans must also be made available upon request to the municipal operator of the system. If documents are maintained at an off-site location, they shall be provided for inspection no later than three hours after being requested.

SOURCES FOR ADDITIONAL GENERAL PERMIT #6 INFORMATION

Website

Iowa DNR Well Discharge Wastewater Website: https://www.iowadnr.gov/environmental-protection/water-quality/wastewater-permitting-npdes/general-permits/gp6-water-wells

SOURCES FOR INFORMATION REGARDING EROSION CONTROL

Website

Iowa Stormwater Education Partnership - Erosion Control Practices: https://iowastormwater.org/regulations/erosion-control-practices/

Iowa Construction Site Erosion Control Manual: https://www.iowadnr.gov/media/4598/download?inline

FORMS AND GUIDANCE DOCUMENTS

Field Office Notification Form (FON)

Regional Iowa DNR Field Offices

Appendix A: Co-Permittee Roster

Appendix B: Well Discharge Wastewater Inspection Form

TABLE 1 - TYPICAL "C" VALUES
(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
Parks, Cemeteries	0.10 - 0.25
Playgrounds	0.20 - 0.35
Railroad Yard Areas	0.20 - 0.40
Unimproved Areas	0.10 - 0.30
Streets	
Asphalt	0.70 - 0.95
Concrete	0.80 - 0.95
Brick	0.70 - 0.95
Drives and Walks	0.75 - 0.85
Roofs	0.75 - 0.95
Lawns - Course 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