# **Iowa State University**

# Standard Operating Procedures for Development of NPDES Construction Permits

Compiled 2004 Revised July 2006

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### **DEFINITIONS**

**Discharge** – Any addition or release of any pollutant, storm water or other substance whatsoever into the storm drainage system

Construction Example: storm water from a construction site

**EH&S** – Iowa State University's Environmental Health and Safety Specialist assigned to NPDES coordination

**FP&M** – Iowa State University's Facilities Planning and Management Project Manager and Construction Manager assigned to a specific project

**Hazardous Condition** – 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, because of the quantity, strength and toxicity of the hazardous substance, its mobility in the environment and its persistence, creates an immediate or potential danger to the public health or safety or to the environment.

**Hazardous Substance** – 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 (e.g. chromium, arsenic, mercury, lead and cadmium), industrial chemicals, paint thinners, paints, pesticides, petroleum products, poisons, radioactive materials, sludge and organic solvents <a href="http://www.cicacenter.com/index.cfm">http://www.cicacenter.com/index.cfm</a>

**IDNR** – Iowa Department of Natural Resources

**NPDES** – National Pollutant Discharge Elimination System

**PPP** – Pollution Prevention Plan

**Pollutant** – Any type of industrial, municipal, and agricultural waste discharged into water; some examples are dredged soil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste

**Release** – To dump, spill, leak, pump, pour, emit, empty, inject, dispose or otherwise introduce into the storm drainage system

Construction example: the pouring of terrazzo wash water into the storm sewer system

**Storm Water Discharge Associated with Construction Activity** – Refers to a discharge of pollutants in storm water runoff from areas where soil disturbing activities (e.g. clearing, grading, or excavation) construction materials or equipment storage or maintenance (e.g. fill piles, borrow areas, concrete truck washout, fueling) or other industrial storm water directly related to the construction process are located

### PROJECT DESIGN DEVELOPMENT STEPS

#### **Overview**

#### **SCHEMATIC DESIGN**

- Initial determination of need for Pollution Prevention Plan. Identification of 'Best Management Practices' (BMPs) for site plan.
- No documentation of Pollution Prevention Plan (PPP) for NPDES permit is required in this phase of design.

#### **DESIGN DEVELOPMENT**

- FP&M will submit a set of Design Development Documents to EH&S for their review and comments.
- Preliminary Pollution Prevention Plan is completed in the Design Development project phase and submitted to EH&S for their review and comments, example in <a href="Exhibit B">Exhibit B</a>.

#### CONSTRUCTION DOCUMENTS

- FP&M will submit a set of Construction Documents to EH&S for their review and comments.
- EH&S will coordinate with FP&M and direct the completion of the Notice of Intent (NOI). Note that the Final Pollution Prevention Plan for the project site is to be developed before the NOI is submitted.

## **Project Summary Checklist**

Project Phase	Responsible Team Member	Responsible Department	Task	
Schematic Design	Project Manager	FP&M Project Management Services	Consult with EH&S to determine if the project requires an NPDES Construction Storm Water Pern If a permit is required see page 8 – verify.	
Dasian	Davies	ED@M Dusis at	Discuss and and approach for DDD as most of Davies	
Design Development	Design Professional	FP&M Project Management Services	Discuss need and approach for PPP as part of Design Development Phase.  Using ISU design standards prepare PPP sheet layout, list appropriate details and materials then submit as part of DD documentation (see Exhibit B).	
Design Development	Project Manager	FP&M Project Management Services	Direct the completion of the Preliminary Pollution Prevention Plan (coordinate for EH&S and CM to review and comment)	
Design Development	Project Manager	FP&M Project Management Services	Submit a set of Design Development Documents to EH&S for their review and comments	

# **Project Summary Checklist (continued)**

Project Phase	Responsible	Responsible	Task		
110,0001111100	Team	Department	2 40.00		
	Member				
Construction	Design	FP&M Project	Publish Construction Documents to the Owner's		
Documents	Professional	Management	project web site for review by the Owner's		
		Services	Representative. PPP can be published prior to 100% review for early feedback.		
			A PPP Survey or Project Specific Notes can be		
			referenced by the Design Professional in this		
			document, see page 9. At 100% CD this submission		
			shall include:		
			PPP, see example sheet layout and content in		
			Exhibit B.		
			Prepare a Notice of Intent Form (NOI).		
			Prepare a Public Notice of Storm Water		
			Discharge for publishing in the Ames Tribune		
			and Des Moines Register by EH&S		
Construction/Bid	Project	FP&M Project	Project Manager forwards 100% CD's including PPP,		
Issue Documents	Manager	Management	NOI and Public Notice information to EH&S for		
		Services	review and comment. EH&S may request revisions to		
			the NOI and Public Notice documents and will copy		
			the Project Manager on all communication with the		
			design professional. Revisions shall be re-submitted		
			to EH&S.		
Construction/Bid	EH&S	EH&S	EH&S receives a copy of bid documents		
Issue Documents			Public Notice of Storm water discharge is		
			published in Ames Tribune and Des Moines		
			Register by EH&S.		
			EH&S sends copy of published public notice,		
			PPP and signed (by EH&S) NOI form to IDNR and		
			arranges for issue of check for IDNR fees.		
			Copies of submittal are filed with EH&S and		
			routed to Mr. McCormick for project file.		
			EH&S copy the Project Manager on all project		
			communication with the design professional.		

# **Project Summary Checklist (continued)**

Project Phase	Responsible Team	Responsible Department	Task
	Member	Department	
Pre Construction	EH&S	EH&S	IDNR will send EH&S a letter stating that the NOI was received and will assign it a permit authorization number. EH&S will provide a copy of the letter and permit number to the Project Team.
Pre Construction	Construction Manager	FP&M Construction Management Services	Direct the contractor to certify (by signing) the Pollution Prevention Plan that has been previously developed by FP&M as part of the Storm water discharge permit requirements and maintain a current PPP throughout the life of the project.
Pre Construction	Construction Manager & Contractor	FP&M Construction Management Services	Direct the contractor to maintain a copy of the current Pollution Prevention Plan and the Inspection Report on site throughout the life of the project and verify compliance. PPP maybe modified to reflect changing conditions on the site with EH&S approval.
Final Project Close-out	Construction Manager	FP&M Construction Management Services	Direct the contractor to provide FP&M a copy of all changes made to the Pollution Prevention Plan during construction and a copy of the Inspection Report for FP&M's records. FP&M will provide these to EH&S for filing as part of the project close-out procedures.
Final Project Close-out	Construction Manager	FP&M Construction Management Services	When all site work has been completed FP&M shall notify EH&S and arrange a meeting to review site conditions and confirm required stabilization has been received.
Final Project Close-out	Construction Manager	FP&M Construction Management Services	At building turn-over, EH&S will be notified and EH&S will take over responsibility for the Inspection Report until Notice of Discontinuation.
Post Project Close-out	EH&S	EH&S	Within 30 days final stabilization of the site submit a Notice of Discontinuation to the IDNR
Post Project Close-out	EH&S	EH&S	EH&S shall retain copies of the Pollution Prevention Plan, the Notice of Intent, and the Inspection Report, copy of discontinuation form and correspondence for at least 3 years after the site is finally stabilized.

### POLLUTION PREVENTION PLAN

#### Overview

A Pollution Prevention Plan will be included as a requirement of the Construction Documents. A complete Pollution Prevention Plan will contain, at a minimum, the following (*see Exhibit B*: Sample Pollution Prevention Plan): Pollution Prevention Plan will be posted to the project website.

- Define the minimum "Inspection Report" contents
  - Contractor's certification statement
  - Dates when major grading activities occurred and when stabilized
  - Name of the inspector
  - Title of the inspector
  - Date of inspection
  - Scope of inspection
  - Any actions required based on the inspection
- When and how the Inspection Report is submitted, maintained
- Responsibilities for
  - Maintenance of, amendments to and submittal responsibilities for the Pollution Prevention Plan
  - Erosion control measures
  - Inspections and reporting
  - Compliance with IDNR.
- Site description
  - Total area impacted (define current land cover)
  - Soil types
  - Slope
  - Current land use
  - Run-off coefficients
  - Drainage patterns (including designation of potential wetlands) and drainage outlet
- Erosion and Sediment Controls
  - Stabilization
    - O Define measures to be taken to control run-off from the site during and following construction
  - Structural Controls
    - Define measures to be taken to stabilize the site during and following construction
  - Other prevention Measures
- Pollution Prevention Plan certification statement with signature blocks

#### **General Notes**

The IDNR may notify EH&S at any time that the PPP does not meet minimum requirements. After such notification and direction from EH&S and FP&M, the design professional shall amend the PPP within 7 days of INDR notification. EH&S shall submit to the IDNR a written certification that the requested changes have been made. The PPP shall be amended whenever there is a change in design, construction, operation, or maintenance that has a significant effect on storm water discharges.

The contractor's inspector will prepare a "Inspection Report" (see <u>Exhibit A</u>) which shall include the following certification statement signed by an authorized representative of the Contractor:

"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 gathered and evaluated 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 knowing violations."

It is the responsibility of the contractor to take all actions necessary for the installation of control measures for compliance with the general permit. The contractor is responsible for any fines/penalties imposed by the IDNR related to failure to enforce pollution prevention plan measures.

The contractor shall provide personnel to inspect disturbed areas of the construction site and to inspect the site controls. The general permit requires inspection every 7 days and within 24 hours of the end of a storm of 0.5 inches or greater rainfall or equivalent snow melt. Determination of a rain event shall be by the rain reported at the Ames Municipal Airport.

The Inspection Report shall include dates when major grading activities occurred or ceased in areas and shall include dates when areas were stabilized. At a minimum each report shall include: the name of the inspector, the title of the inspector, date of inspection, scope of inspection, any actions required based on the inspection.

Copies of inspection reports shall be submitted to ISU as work progresses and the Pollution Prevention Plan shall be updated to reflect actions taken.

Maintenance of all temporary and permanent erosion control measures is the responsibility of the contractor. Cleaning of silt control devices shall begin when they have lost 50% of their capacity.

# **Project Specific Notes**

The following is a checklist of information developed by the design professional for the permit application or PPP.

	DLLUTION PREVENTION PLAN SITE SPECIFIC NOTES (project the here)	ect				
SI	TE DESCRIPTION					
1.	This project includes					
	(brief description of proposed construction activities and sequence here)					
	(oriel description of proposed construction activities and sequence here)					
2.	The total project area is acres					
	are the predominant land disturbing activities for the project. The estimated disturbed area for the activities is acres.	hese				
3.	Existing soils on the site are (soil description from a source such as the Story County Soil Survey or other records). The thickness of the topsoil on site will vary, but can be estimated as inches for a reasonable site average. Current soils on site are estimated to have (high,low,moderate) erosive potential. Current land use is					
	(describe). Soils on steeper slopes are susceptible to erosion. In general, slopes on the site are (flat 1-3%, moderate 3-9%, steep 10% +) The construction season (April throug September) generally has 3 to 5 inches of rain per month, peaking in June. The last freezing temperatures are typically recorded in April, and the first freezing temperatures are typically recoin October. Heavy snow melts are likely in March.					
	An estimate of the run-off coefficient of the site after completion of construction activities is					
4.	See the Pollution Prevention Plan map for drainage patterns and slopes, locations of disturbed ar location of structural controls and/or stabilization areas, and surface waters (including potential wetlands).	eas,				
5.	The project site generally drains into (describe out See the Pollution Prevention Plan map for storm drainage outlet locations, as well as general drapatterns.	lets) inage				
ER	ROSION AND SEDIMENT CONTROLS					
	(project name	here)				

#### A. STABILIZATION

- 1. Disturbed areas of the construction site that will not be re-disturbed for 21 days or more must initiate stabilization measures by the 14<sup>th</sup> day after the last disturbance, except as hindered by snow cover.
- 2. Minimize disturbed areas. Match existing land contours when possible. Minimize impervious surfaces. Protect natural vegetation and trees outside of construction areas and disturb to a minimum inside construction areas.
- 3. The project will use staged construction to minimize the amount of land disturbed at any one time. Y/N

## ISU NPDES Construction Permit

	4. 5.	Composting or mulching shall be used in conjunction with seeding for erosion of Temporary or permanent seeding or sodding will be usedY/N		Y/N lescribe)			
	6. 7.	Jute mesh or mats shall be used on steep slopes in conjunction with seeding. Buffer strips of existing vegetation will remain adjacent to construction zones.		Y/N Y/N			
	8.	Geotextile will be used beneath graveled site areas or beneath rip rap.		Y/N			
	9.	Stream/ditch bank stabilization such as riprap or gabions will be used(d	escribe)	Y/N			
	10.	Dust control on the site is required and will consist of	(de	escribe).			
B.	STI	STRUCTURAL CONTROLS					
	1.	Controls shall be placed downstream of disturbed areas as shown on the plan and other areas as determined by ISU or contractor during construction. See the appropriate construction details on the Pollution Prevention Plan.		ired in			
	2.	A sediment basin is required for this project if there is more than 10 Acres of disturbed ground in a common drainage area. See the detail on the Pollution Prevention Plan for correct installation of sediment basin. A sediment basin will be used					
<ul><li>3.</li><li>4.</li><li>5.</li><li>6.</li><li>OT</li><li>7.</li></ul>	3.	Inlet and outlet protection of culverts and storm sewer intakes is required. Protect inlets/outlets with silt fence, rip-rap, compost socks, straw bales, sediment traps, or other approved methods. (describe)					
	4.	Subsurface drains will be installed to artificially lower the water table during con (describe)	nstruction Y/N	n.			
	5.	A permanent storm water retention/detention structure is to be constructed.  (describe)Y/2	N				
	6.	A permanent wetlands detention feature is to be constructed.  (describe)	//N				
	OT	HER PREVENTION MEASURES					
	7.	Construction entrances adjacent to public/private roads shall be graveled immediately to prevent vehicle tracking. Consider use of geotextiles beneath these graveled areas. The contractor shall promptly clean up site material tracked onto adjacent streets/property.					
	8.	Provide waste receptacles at convenient locations and provide regular collection including building material wastes and sanitary sewers.	of waste	es, litter			

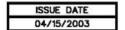
9. Monitor construction vehicle maintenance areas. Washing and fueling operations can generate

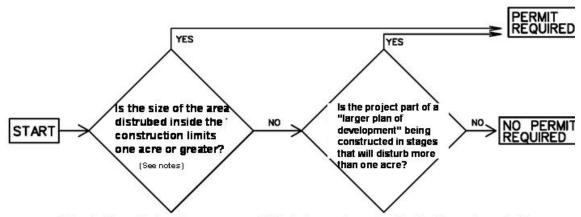
10. Provide designated areas for concrete truck washouts that have controlled outlets.

spills/run-off.

### STORM WATER DISCHARGE PERMIT

## Does The Project Need a Storm Water Discharge Permit?





Note 1: Sites with less than one acre of disturbed ground as calculated by the engineer shall be permitted if FPM concludes that there is a reasonable chance the contractor may disturb more than one acre by unforeseen construction events. FPM shall immediately notify the engineer in any such case.

NOTE 2: Areas that will remain paved throughout the construction period or that are otherwise protected from construction activities may be discounted, unless soil or erodible materials are stored on paving.

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#### Items not classified as a land disturbing activity:

- 1. Geotechnical drilling or construction staking on the site.
- 2. Material storage and/or construction-related vehicular traffic on pre-existing paved areas. If FP&M determines the project requires the acquisition of a permit the Team will notify EH&S; the permit is identified as an Iowa Department of Natural Resources NPDES General Permit No.2 "Storm Water Discharge Associated with Industrial Activity for Construction Activities". The permit expires October 1, 2007.

#### **Notice of Intent**

EH&S shall obtain the permit and is responsible for submitting the Notice of Intent (NOI). The NOI must be submitted to the IDNR at least 24 hours before land disturbing construction activities start.

A completed Notice of Intent must include the following:

- 1. The completed form 1415 entitled "Notice of Intent for NPDES Coverage Under General Permit" A PDF of this form can be found at: http://www.iowadnr.com/water/stormwater/forms.html
- 2. Proof of public notification from the two newspapers in the area with the highest circulation. A PDF form entitled Public Notice of Storm Water Discharge is used for submitting to the newspapers for publication and can be found at: http://www.iowadnr.com/water/stormwater/forms.html

#### **ISU NPDES Construction Permit**

In Ames, the two newspapers are the <u>Ames Daily Tribune (Mailing address: 317 5<sup>th</sup> Street, Ames, Iowa 50010)</u> and the Des Moines Register (Mailing address: P.O. Box 957, Des Moines, Iowa 50304). The newspaper articles themselves may be submitted to the IDNR as proof, or more formal affidavits from each newspaper may be submitted. Contact the Iowa Newspaper Association (515)-244-2145 for circulation information or for assistance in placing the ads themselves (fees apply).

3. Permit fee

#### Mail completed NOI, check payable to IDNR for fee amount, and proof of public notices to

Storm Water Coordinator
Department of Natural Resources
502 E. 9<sup>th</sup> Street
Des Moines, IA 50319-0034

The Storm Water Program Coordinator is Mr. Joe Griffin. If you need assistance, contact the IDNR at 515-281-7017 and ask for "storm water general permit assistance." Or visit the IDNR Storm Water website @ http://www.iowadnr.com/water/stormwater/index.html

When a complete NOI is submitted to the IDNR, the project is assumed to be covered under the General Permit unless otherwise notified by the IDNR. As part of the NOI submittal to the IDNR, proof of public notice of Iowa State University's intent to be covered under the General Permit and payment of the permit fee must be included.

After favorable review, the IDNR will send the applicant (Iowa State University) a letter stating that the NOI was received and will assign it a permit authorization number. This letter will be sent to the person listed under the "contact information" portion of the NOI (EH&S). This number should accompany all further correspondence with the IDNR.

Prior to the start of construction, the contractor shall certify (by signing) the Pollution Prevention Plan that has been previously developed by FP&M as part of the Storm water discharge permit requirements. A copy of the Pollution Prevention Plan shall be maintained on the job site (if possible) and as part of the project records throughout the life of the project.

#### **Notice of Discontinuation**

FP&M will notify EH&S when all site related project activities are complete and the team is ready to vacate the site. At this time the Project Team will notify EH&S and arrange a meeting to review site conditions and officially turn the site over to EH&S.

Within 30 days after final stabilization of the site, EH&S shall submit a Notice of Discontinuation of a Storm Water Discharge No. 2 to the IDNR. See <a href="http://www.iowadnr.com/water/stormwater/forms.html">http://www.iowadnr.com/water/stormwater/forms.html</a> for the PDF form. EH&S will make the final determination of when the site has reached the 30 days following final stabilization and submit the Notice of Discontinuation to the IDNR. EH&S will transmit a copy of the Notice of Discontinuation to FP&M.

As a courtesy, the IDNR will send a letter to ISU approximately one month before coverage under the permit expires. This letter will be sent to the person listed under the "contact information" portion of the NOI (EH&S). At this time, EH&S will notify the Project Team and determine if the permit coverage should be extended or prepare to file the notice of discontinuation.

# **Prohibition on Non-Storm Water Discharges**

All discharges authorized by this permit shall be composed entirely of storm water except for the following allowed non-storm discharges: fire fighting activities, fire hydrant flushing, vehicle washing, potable water source flushing, irrigation drainage, routine external building washing (no detergents), pavement washing (free of detergents, toxic and hazardous materials), air conditioning condensate, natural springs, and foundation/footing drains not contaminated by building processes.

### RETENTION OF RECORDS

The EH&S shall retain copies of the Pollution Prevention Plan, the Notice of Intent, the Inspection Report and the Notice of Discontinuation and correspondence for at least 3 years after the site is finally stabilized. The Contractor shall provide FP&M a copy of all changes made to the Pollution Prevention Plan during construction and a copy of the Inspection Report for FP&M's records. FP&M will submit these to EH&S as part of the Project Close-Out procedures.

A copy of the current records mentioned above shall be filed on site during project construction and be made readily available to the IDNR upon request.

#### STANDARD PERMIT CONDITIONS

The contractor is encouraged to view the listing of Standard Permit Conditions that apply to this general permit. The Summary Guidance for General Permit No. 2 can be viewed on-line at the IDNR website at <a href="http://www.iowadnr.com/water/stormwater/forms.html">http://www.iowadnr.com/water/stormwater/forms.html</a>

The contractor will be provided a copy of the General Permit upon request.

#### REFERENCE INFORMATION

Explanations of Environmental Rules: http://www.cicacenter.com/index.cfm

IDNR Storm Water Program: http://www.iowadnr.com/water/stormwater/index.html

IDNR Notice of Intent for NPDES Coverage (Form 1415): http://www.iowadnr.com/water/stormwater/forms.html

Pubic Notice of Storm Water Discharge: http://www.iowadnr.com/water/stormwater/forms.html

Notice of Discontinuation No. 2: http://www.iowadnr.com/water/stormwater/forms.html

Summary Guidance for General Permit No. 2: <a href="http://www.iowadnr.com/water/stormwater/forms.html">http://www.iowadnr.com/water/stormwater/forms.html</a>

# **EXHIBIT A: Sample NPDES Inspection Report**

Project Name:	Date:		
Name of Inspector:	Title:		
Type of Inspection: Weekly Inspection Storm Inspection (rainfall in last 24 hours	·".)		
Area Inspected:			
	_		
Observations:			
Are any changes necessary to the storm water pollution plan? Yes No If yes, provide details:			
Have any releases occurred since the last inspection report? Yes the following information:	No If yes, provide		
Date of release:			
Circumstances leading to the release:			
Steps taken to prevent reoccurrence of the release:			
Steps taken to prevent reoccurrence of the release.			
Note: If a hazardous condition occurs, contact the Project Construction Manager or Environmental Health and Safety at 294-5359 within six hours of the hazardous condition. If the release occurs after hours, contact Department of Public Safety at 294-4428 and they will contact the EH&S Duty Officer.			

## **EXHIBIT B: Sample Pollution Prevention Plan**

