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November 21, 2013

Via Electronic Filing

Ms. Betty McCauly
Public Utilities Commission of Ohio
Administration/Docketing
180 East Broad Street, 11th Floor
Columbus, OH 43215-3793

**Re: Notification of Compliance for Northwest Ohio Wind Energy, LLC,
OPSB Case No. 13-197-EL-BGN**

Dear Ms. McCauly:

Joint Exhibit 2 to the October 28, 2013 Joint Stipulation and Recommendation by Northwest Ohio Wind Energy, LLC ("Northwest"), the Ohio Power Siting Board Staff ("OPSB Staff") and the Ohio Farm Bureau Federation identified an agreed upon set of conditions and commitments pertaining to select access roads to be constructed after a first pre-construction conference.

Within this set of conditions and commitments, Condition # 27, requires

At least seven days prior to the preconstruction conference, the Applicant shall submit to Staff, for review and acceptance, a copy of all NPDES permits including its approved SWPPP, approved SPCC procedures, and its erosion and sediment control plan. Any soil issues must be addressed through proper design and adherence to the Ohio EPA BMPs related to erosion and sedimentation control.

Attached to this letter are copies of (1) the Notice of Intent for Coverage Under Ohio Environmental Protection Agency General NPDES Permit, mailed to the Ohio EPA on November 20, 2013; (2) a check for the filing fee at Ohio EPA dated November 21, 2013; and (3) a copy of the Stormwater Pollution Prevention Plan (SWPPP) of which Attachment B to the plan contains a copy of the General NPDES Permit.

The company is awaiting the acknowledgement letter from the Ohio EPA confirming that the General NPDES Permit applies to this project.

Ms. Betty McCauly
November 21, 2013
Page 2

Additionally, the company will not be using any above ground fuel tanks for the road construction phase 1, so no approved SPCC procedures are involved.

If you have any questions please call at the number listed above.

Sincerely,

A handwritten signature in cursive script, reading "Sally W. Bloomfield".

Sally W. Bloomfield

Attachment

cc: Grant Zeto (w/Attachment)
Christina Burri (w/Attachment)



Division of Surface Water - Notice of Intent (NOI) For Coverage Under Ohio Environmental Protection Agency General NPDES Permit

(Read accompanying instructions carefully before completing this form.)

Submission of this NOI constitutes notice that the party identified in Section I of this form intends to be authorized to discharge into state surface waters under Ohio EPA's NPDES general permit program. Becoming a permittee obligates a discharger to comply with the terms and conditions of the permit. Complete all required information as indicated by the instructions. Do not use correction fluid on this form. Forms transmitted by fax will not be accepted. A check for the proper amount must accompany this form and be made payable to "Treasurer, State of Ohio." (See the fee table in Attachment C of the NOI Instructions for the appropriate processing fee.)

I. Applicant Information/Mailing Address

Company (Applicant) Name: Northwest Ohio Wind Energy, LLC

Mailing (Applicant) Address: 706 Second Avenue South, Suite 1200

City: Minneapolis

State: MN

Zip Code: 55402

Contact Person: Matthias Weigel

Phone: 612-746-6648

Fax: 888-867-0688

Contact E-mail Address: mweigel@nationalwind.com

II. Facility/Site Location Information

Facility Name: Northwest Ohio Wind Project

Facility Address/Location: see coordinates for approx. center of project

City: Paulding

State: Ohio

Zip Code: 45879

County(ies): Paulding

Township(s): Blue Creek and Latty

Facility Contact Person: Matthias Weigel

Phone: 612-746-6648

Fax: 888-867-0688

Facility Contact E-mail Address: mweigel@nationalwind.com

Latitude: 41.0467

Longitude: -84.5849

(For Construction & Coal, must complete lat/long & attach map)

Receiving Stream or MS4: Auglaize River, Prairie Creek, Burt Lake - Little Auglaize River

III. General Permit Information

General Permit Number: OHC000004 Construction Storm Water

Initial Coverage: ☒

Renewal Coverage: ☐

Type of Activity: All Construction Storm Water - 17 to 17.99 acres disturbed Fee = \$440

SIC Code(s): 4911

Existing NPDES Permit Number:

ODNR Coal Mining Application Number:

If Household Sewage Treatment System, is system for: ☐ new home construction or ☐ replacement of failed existing system

Outfall:	Design Flow (MGD):	Associated Permit Effluent Table:	Latitude:	Longitude:
		Choose an Item.		
		Choose an Item.		
		Choose an Item.		
		Choose an Item.		

Are These Permits Required?

PTI No

Individual 401 Water Quality Certification No

Isolated Wetland No

U.S. Army Corp Nationwide Permit No

Individual NPDES No

Proposed Project Start Date: 12/17/2013

Estimated Completion Date: 12/31/2013

Total Land Disturbance (Acres): 17.5

MS4 Drainage Area (Sq. Miles): n/a

IV. Payment Information

Check #:

Check Amount:

Date of Check:

For Ohio EPA Use Only

Check ID (OFA):

ORG #:

Rev ID:

DOC #:

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

Applicant Name:

Matthias Weigel

Title:

Director of Project Dev.

Applicant Signature:

[Signature]

Date:

11/20/13

NORTHWEST OHIO WIND ENERGY, LLC
706 2ND AVE S STE 1200
MINNEAPOLIS, MN 55402-3012

WELLS FARGO BANK, N.A.
www.wellsfargo.com
17-1/910

10178

PAY TO THE
ORDER OF
Treasurer of the State of Ohio

11/21/2013

\$

**440.00

Four Hundred Forty and 00/100***** DOLLARS

Treasurer of the State of Ohio
347 N Dunbridge Rd
Bowling Green, OH 43402

MEMO

Handwritten Signature

AUTHORIZED SIGNATURE

MP

NORTHWEST OHIO WIND ENERGY, LLC

Treasurer of the State of Ohio
Date 11/19/2013
Type Reference Bill
SWPPP Permit

10178

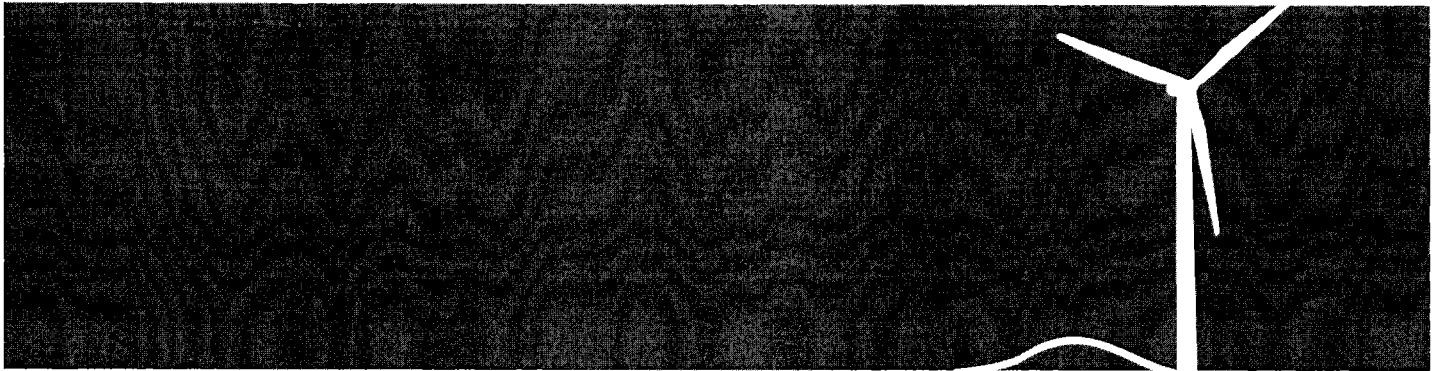
11/21/2013
Discount
Check Amount
Balance Due
440.00

Payment
440.00
440.00

Details on Back



Security Features Included

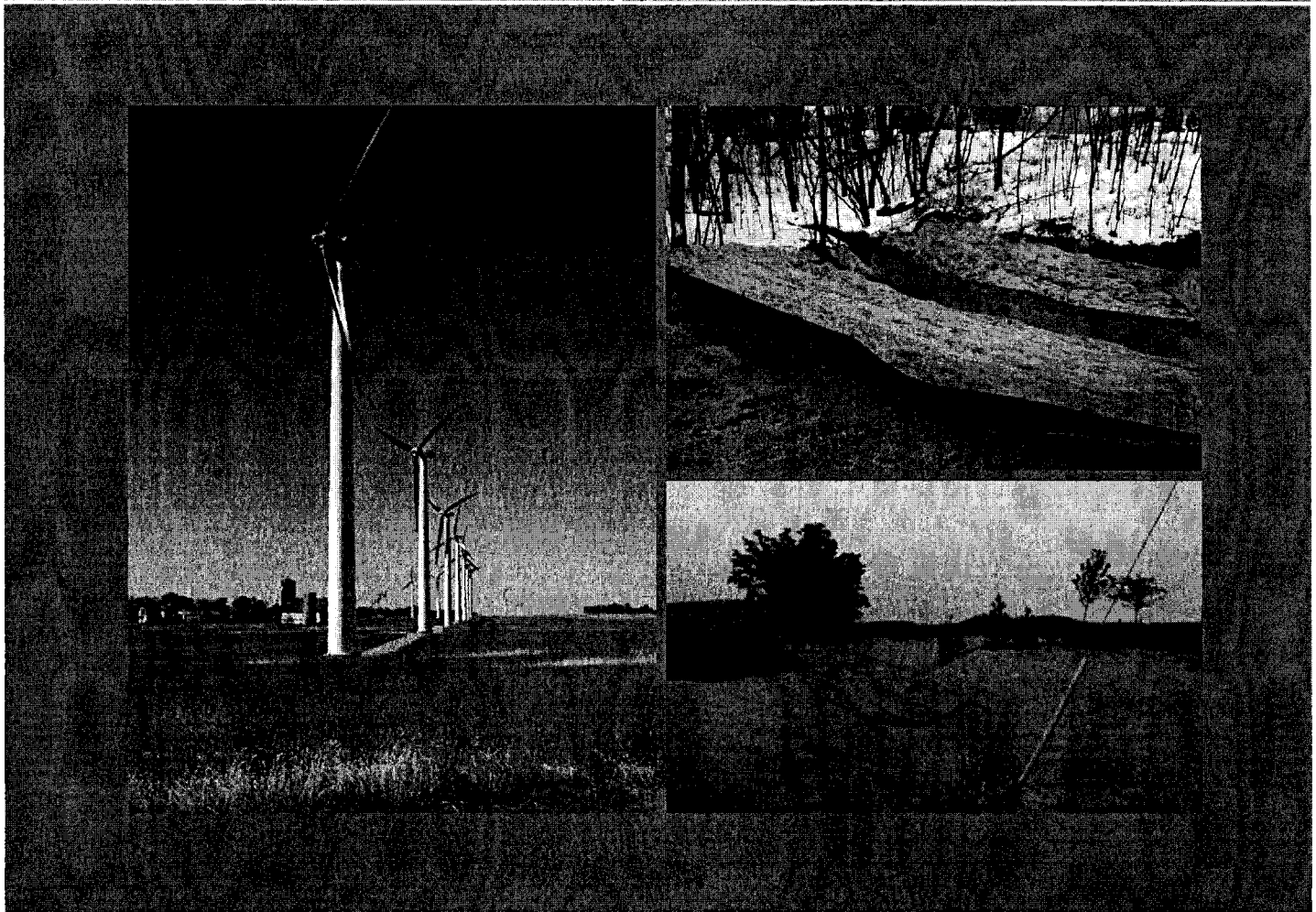


STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

Northwest Ohio Wind Project

Paulding County, OH

November 12, 2013



Prepared For:

Northwest Ohio Wind Energy, LLC
706 2nd Avenue S, Suite 1200
Minneapolis, MN 55402

Prepared By:

7699 Anagram Drive
Eden Prairie, MN 55344
Contact: Aaron Mlynek, 952-697-5710



Stormwater Pollution Prevention Plan (SWP3)



Northwest Ohio Wind Project

Paulding County, OH

November 12, 2013

Prepared for:

Northwest Ohio Wind Energy, LLC
706 2nd Avenue S, Suite 1200
Minneapolis, MN 55402

Prepared by:

Westwood Professional Services, Inc.
7699 Anagram Drive
Eden Prairie, MN 55344
(952) 937-5150
Contact: Aaron Mlynek, CPESC (#3344)

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Attachments

- A. SWP3 Maps
 - Site Location, Topography, Surface Waters and Soil Map
 - Construction Drawings, Erosion and Sediment Control Plan and Details
- B. NPDES Permit and Correspondence
 - NPDES NOI
 - NPDES General Permit Authorization
 - NPDES/SDS General Stormwater Permit for Construction Activity (Ohio State NPDES Permit)
 - Other Correspondence
- C. SWP3 Certification, Delegation and Notification
 - SWP3 Certification
 - SWP3 Delegation Letters
 - Contractor Certification
- D. NPDES/SWP3 Logs
 - Inspection Form/Log
 - Inspection/Rainfall Log
 - Subcontractor Authorization Log
 - Grading and Stabilization Log
 - BMP Installation Log
 - SWP3 Amendment Log
 - Maintenance Log
- E. NPDES Permit Forms
 - NPDES Permit Application (NOI) (blank copy)
 - NPDES Co-Permittee NOI (blank copy)
 - NPDES Notice of Termination (NOT) (blank copy)
- F. Endangered Species Act
 - Endangered Species Documentation
- G. SHPO/Cultural Resources
 - SHPO/Cultural Resources Documentation
- H. TMDL/303(d)/Special Waters/Wetland and 404 Determination
 - TMDL/303(d) Waters Documentation
 - Wetland and 404 Documentation
- I. Inspection Reports (Insert Completed Reports)

NORTHWEST OHIO WIND PROJECT - SWPPP

J. Training/Certification Documentation

K. Local Requirements/Rules/Ordinances and Permits

L. Permanent Stormwater

Summary of Drainage Calculations (If applicable)

Grassed Filter Strip BMP

Grassed Swale BMP

Ground Water Conditions

SWP3 NARRATIVE

1.0 Introduction

This SWP3 is prepared in accordance with National Pollutant Discharge Elimination System (NPDES) regulations as established by the U.S. EPA pursuant to the Clean Water Act and as administered by the State of Ohio, Environmental Protection Agency Construction General Permit OHC000004 (April 21, 2013). This SWP3 is for the Northwest Ohio Wind Project – 2013 Construction Area. The activity for this permit is described in section 2.2 Project Description below. Future wind farm construction activity encompassing additional turbines, roads, and support activities will be planned under an additional SWP3, civil plan and separate permit. Alternatively, an amendment to this SWP3 and permit could be completed to include the future wind farm activity in its entirety. This report shall be on site at all times during construction. The Operator must also keep this SWP3 on file for three years after submittal of the notice of termination. The following issues are outlined in this SWP3:

- Control measures for storm water pollution prevention prior to and during construction
- Control measures for storm water pollution prevention after construction
- Sources of storm water and non-storm water pollution
- Inspection and maintenance procedures
- Additional BMP information and notes

2.0 Project Information

2.1 Project Location

The Northwest Ohio Wind Project is located in Paulding County, OH approximately 6 miles south of Paulding, OH. The latitude/longitude (41.0467/-84.5849) is the approximate center of the project area for 2013 Construction:

Township	Range	Sections
1N	2E	8, 23
1N	3E	15,22

2.2 Project Description

The 2013 Construction Area is approximately 665 acres. Access roads are the only disturbance.

Project Activity Descriptions:

1. Access road construction activity and phasing information:
 - a. Strip and stockpile top soil along one or both sides of the road in a linear berm
 - b. Install culvert as called for in plan; apply perimeter sediment controls and temporary stabilization of ditch (erosion control blanket)
 - c. Compact subgrade
 - d. Apply gravel base
 - e. Following turbine erection the soils should be decompacted
 - f. Apply topsoil for non-aggregate areas during final grade
 - g. Apply final gravel cap to road
 - h. Maintain pre-construction drainage patterns and runoff
 - i. Restore all drainage features to pre-construction condition and drainage patterns
 - j. Stabilize and restore disturbed areas to pre-construction conditions.

NORTHWEST OHIO WIND PROJECT - SWPPP

Construction Activity	Amount	Factor	Disturbance (ac)
Wine Turbine(s)	NA	1.5 Ac Each	0.00
Access Road(s)	15,210 LF	50 Feet Wide	17.46
Met Tower	NA	Xx Ac Each	0.00
Crane Walk	NA	Xx Feet Wide	0.00
Underground Electric	NA	Xx Feet Wide	0.00
Overhead Electric	NA	Xx Ac Each	0.00
Lay Down Yard	NA	Xx Ac Each	0.00
Batch Plant	NA	Xx Ac Each	0.00
Substation	NA	Xx Ac Each	0.00
O&M Facility	NA	Xx Ac Each	0.00
Total Disturbance			17.46

NOTE: All sensitive areas shall be marked prior to start of soil disturbing activities. If any subsurface and/or surface drainage features are altered during construction, restore to pre-construction conditions and drainage patterns. Coordinate the work with the Land Owner.

Project Schedule:

Activity	Start Date*	**End Date
Overall Project	12/2/2013	5/31/2014
Roads/Grading	12/2/2013	12/31/2013
Turbine Foundations	NA	NA
Lay Down Yard	NA	NA
Concrete Batch Plant	NA	NA
Turbine Erection	NA	NA
Substation	NA	NA
Electrical (underground)	NA	NA
Transmission Line	NA	NA
O&M Building	NA	NA

*Subject to change due to field conditions and unknown factors

**Temporary stabilization schedule is subject to permit requirements; permanent stabilization implemented before or on End Date listed

2.3 Operator Information

Project Operator: Northwest Ohio Wind Energy, LLC
 706 2nd Avenue S, Suite 1200
 Minneapolis, MN 55402

2.4 Project Contact Information

Title	Company	Name	Phone Number
Operator	Northwest Ohio Wind Energy, LLC		
General Contractor			
Project Engineer			
Site inspector			
Emergency Response (HazMat Leaks/Environmental Spills)	Ohio EPA	N/A	1-800-282-9378
State Inspector/Coordinator	Ohio EPA, Division of Storm Water	Patricia Tebbe	419-373-3016
SWP3 Author/NPDES Assistance	Westwood Professional Svcs	Aaron Mlynek, CPESC	612-363-6146

2.5 Operator Responsibilities

Chain of responsibility: A chain of responsibility must be developed by the Operator to ensure the SWP3 will be implemented and remains in effect until (1) the project is complete, (2) final stabilization has been achieved, and (3) a notice of termination (NOT) has been submitted to Ohio EPA.

Operator: The Operator must submit a complete and accurate NPDES application form (Notice of Intent–NOI). The Operator must identify a person knowledgeable and experienced in the application of erosion prevention and sediment control BMP's who will oversee implementation of the SWP3, and the installation, inspection and maintenance of the erosion prevention and sediment control BMP's before and during construction. The Operator is responsible for compliance with all terms and conditions of the NPDES Permit OHC000004. Additional conditions may be assigned to the project through Ohio Power Siting Board jurisdiction.

The Operator is responsible for implementation of the SWP3 and BMP's to minimize sediment, contaminated stormwater, and non-stormwater discharges from the site. The Operator shall identify all subcontractors that will perform work that will result in soil disturbance and include documentation that such work is authorized by the Operator, in the Subcontractor Log in Attachment D. All contractors and subcontractors identified in the plan must sign a copy of the certification statement, located in Attachment C.

The Operator shall update the SWP3 as needed during the life of the project. Prior to completing the update/revision of the SWP3, the Operator shall submit and request prior approval from the Facility NPDES contact and the SWP3 Author.

The Operator is responsible to post or retain a copy of the permit NOI letter and a copy of the Ohio EPA authorization letter in a conspicuous location and to retain a copy of the SWP3 and records on site during business hours throughout the life of the project.

Co-Permittee: There can be more than one Operator at a site. A General Contractor, or other party, that has operational control of activities that require compliance with the SWP3 *can* be considered a Co-Permittee. In such a case, an additional Operator(s) is required to submit a "Co-Permittee NOI" to the OH EPA. Refer to Attachment E for the Co-Permittee NOI.

Pre-construction Meeting: The Ohio EPA recommends the site Operator, National Wind, LLC, review the SWP3 with the primary contractor or general contractor (TBD) prior to the start of construction. Documentation of the meeting shall be inserted into Attachment J.

2. 6 SWP3 Delegation

Certification, delegation and notification of the NPDES permit are located in Attachment C.

2. 7 Training and Certification

All applicable training and certification documentation for the personnel overseeing, planning, implementing, and inspecting NPDES/SWP3 related activities are located in Attachment J.

2. 8 Endangered Species Information

At the time of SWP3 completion, there was no information available on endangered species. If more information becomes available, the SWP3 will be amended and documentation will be inserted into Attachment F.

2. 9 SHPO/Cultural Resources Information

According to a Phase 1 Archaeological Investigation by Weller and Associates (7/7/13, see Attachment G), there is one location of notable cultural resource in the overall Northwest Ohio Wind Project area. It is not in proximity to the 2013 Construction Area, and will not be impacted by any associate construction.

3. 0 Site Information, Stormwater and Non-stormwater BMPs

3. 1 Pre-Development Site Conditions and Soils Information

Pre-Development Site Conditions: The site primarily consists of farmland/agricultural land (>80% of the area), and to a lesser extent grasslands, wetland, hay land, farmstead. The following land uses comprise less than 1% for each use within the project area: residential, gravel pit, and roads. The surface coverage consists of a mixture of row crops and cover crops. The site area is very flat with an elevation of approximately 780 feet above sea level. Most of the land is privately owned.

Soils Information: A soils map (See Attachment A) and information was generated from the website *Web Soil Survey 2.1; Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture*. Available online at <http://websoilsurvey.nrcs.usda.gov/> accessed [11/13/13]. The major soil type is, by a large margin, silty clay with some areas of clay. The soils are listed as a "Slight" erosion hazard which is the lowest hazard level for disturbed areas in the entire area of the 2013 construction project area. The soils are moderately susceptible to wind erosion. Dust controls will be needed during construction with application of water as necessary. The soils are listed as C and D hydrologic soil groups which means they are very poorly drained; ground water elevations may vary from 0 – 12 inches from the surface.

3. 2 Post-Development Site Conditions

Post-developed conditions will consist of primarily the same as pre-development conditions. The main changes include the addition of gravel access roads. Drainage areas and paths will remain mostly unchanged.

3. 3 Receiving Waters

The project area discharges water from three (3) drainage areas. An area drainage map is in Attachment A and contains the latitude/longitude for five (5) discharge points.

Drainage Area	Primary Receiving Water	Area of Disturbance	Location w/in Site	Ultimate Receiving Waters	HUC 12 Number
Lower Blue Creek	Auglaize River	8.91 ac	W & N	Maumee River – Lake Erie	041000071004
Hagerman Creek	Prairie Creek	0.00 ac	S Central	Maumee River – Lake Erie	041000070701
Prairie Creek	Burt Lake – Little Auglaize River	8.55 ac	NE	Maumee River – Lake Erie	041000070703

3. 4 TMDL/303(d) Impaired Waters, Special Waters and Wetland/404

Impaired Waters: The OH EPA, Division of Surface Waters website was searched for TMDL and Impaired Water information. There are no impaired waters within, or in proximity, to the project area. See attachment H for the three drainage area receiving water summaries from the online search.

Clean Water Act Sections 404/401 (Wetland) Permitting: Westwood Professional Services completed a Wetland Delineation Report (5/23/13, See Attachment H). Several wetlands were identified within the overall project area. In the 2013 Construction area, one wetland was identified and delineated in proximity to a proposed access road in the northeast of the area. This wetland will be avoided and there will be no permanent impact. Appropriate BMPs will be employed prior to construction to minimize or eliminate the potential for discharge during construction.

3. 5 Storm Water Management Plan

Temporary Stormwater Management: Runoff during construction is not anticipated to have a contiguous 10 acres of disturbed area contributing to a common point of discharge. Therefore temporary sediment settling ponds are not required.

Permanent Stormwater Management: The project will add permanent semi-pervious and impervious surfaces from access. Changes or alterations to pre-construction drainage patterns within fields should not be adversely affected. Runoff should be allowed to drain into fields and infiltrate into the topsoil and any drain tile systems. The use of surface drainage across slopes of less than 3% should promote infiltration into the topsoil with drainage through the soil and discharging through subsurface drain tile. There might be areas, however, where culverts will be needed to convey runoff and minimize impacts to the roads. Culverts will be installed at intersections of access roads with local, county and state roads and highways. Culverts shall be sized based on the immediate downstream culvert size. The Operator will consult with Paulding County regarding culvert sizes, as needed.

Other areas throughout the project which may necessitate a drainage feature crossing will take the following three best management practices (BMP's) into consideration:

1. A direct overland flow crossing with the road area
2. Installation of a "Low Water Crossing"
3. Installation of a culvert

The following table summarizes impervious surfaces as well as pre- and post-development runoff coefficients for each watershed of the project. **Note: Total drainage area includes only parcels that are scheduled for construction in 2013. Additional phases of the project in 2014 will include much larger areas with proportionally less % increase in impervious. Overall project increase in impervious is estimated at 0.2% including 2014 phases.*

NORTHWEST OHIO WIND PROJECT - SWPPP

Watershed Name (See Attachment A for Map)	Total Drainage Area	Existing Impervious Area	Proposed Increase Impervious	% Increase of Impervious	Runoff Coefficients	
					Pre	Post
Lower Blue Creek	301.8 ac	1.58	2.85	0.9%	0.3	0.3
Prairie Creek	352.4 ac	4.2	2.73	0.8%	0.3	0.3
Hagerman Creek	10.7 ac	0.14	0	0.0%	0.3	0.3

Permanent stormwater runoff treatment from roads will be directed into adjacent farm fields for infiltration, and to existing vegetated ditches. Information on Grass Filter Strip and Grass Swale BMP's for permanent stormwater treatment, including maintenance information, can be found in Attachment L. The BMPs are from *Rainwater and Land Development*, Third Edition 2006, Ohio Department of Natural Resources Division of Soil and Water Conservation.

3.6 Erosion/Sediment Control Prevention Measures (BMPs)

The following BMPs are anticipated and, upon implementation and maintenance, will contribute to meeting the main objectives of this SWP3, including:

1. **Site Planning** (minimize disturbance, stage and phase activities and temporary or permanently cover exposed soils)
2. **Erosion Control** (minimize and prevent soil movement from water and wind)
3. **Runoff Management** (divert stormwater runoff from fill slopes and other exposed soils as possible; apply catchment structures, diversion berms, check dams and similar)
4. **Soil Stabilization** (apply hydromulch, soil stabilizers, erosion control blanket, mulch or tarps to temporarily or permanently stabilize soils disturbed by construction activity).
5. **Sediment Control** (controls to contain sediment on site and minimize discharge of sediment from the project boundaries to adjacent watercourses and surface waters).

Construction Activity	Associated BMPs for Activity
Wind Turbines	Phasing, silt fence, topsoil berm, rock weeper, fiber logs, rock exit, sweeping, riprap at culverts, dewatering of foundations, mulch/hydromulch, bonded fiber matrix, temporary and permanent seeding, concrete washout
Access Roads	Phasing, silt fence, fiber logs, rock exit, sweeping, riprap at culverts, erosion control blankets, bonded fiber matrix, seed, rock lined ditches
Crane Walk	Timber Mats as necessary, erosion control blanket for disturbed road ditches, temporary and permanent seed, bonded fiber matrix, silt fence, fiber logs
Underground Collection	Fiber logs, silt fence, direction boring pits and containment, mulch and seed, erosion control blanket and temporary bonded fiber matrix, and permanent seed, dewatering
Lay Down Area	Phasing, silt fence, fiber logs, rock exit, sweeping, riprap at culverts, mulch/hydromulch, bonded fiber matrix, temporary and permanent seeding, rock base, secondary containment, secure storage, concrete washout
Concrete Batch Plant	Phasing, silt fence, fiber logs, rock exit, sweeping, riprap at culverts as designed, dewatering as needed, mulch/hydromulch, bonded fiber matrix, temporary and permanent seeding, rock base, concrete washout area

Temporary (T) and permanent (P) erosion and sediment control BMP's, with the procedures to establish additional temporary BMP's as necessary for site conditions during construction are identified on the site grading and erosion control plan prepared for this project, and in the SWP3.

Some specific sediment control and prevention measures include but are not limited to:

1. (T) Project Phasing/Design: Access roads have generally been designed to be located higher elevations to minimize stormwater flowing over new gravel surfaces and avoid sediment washing.
2. (T) Silt Fence: Silt fence will be used as perimeter control down gradient of exposed soils to capture suspended sediment particles to the extent possible. Silt fence will be installed near the access road, where it intersects with an existing road, to protect ditches from sediment laden runoff. Silt fence will also be used:
 - a. In smaller watershed areas where the contributing areas are typically less than ¼ acre of drainage per 100 feet of standard silt fence.
 - b. For stockpiles which are approximately 8 feet high and 3:1 slopes and not already contained within existing silt fence or other perimeter controls. The silt fence should provide adequate protect if placed 3 – 5 feet from the toe of the stockpile.
 - c. At the four corners of the turbine road stream crossing location(s) to protect the stream/ditch from sediment runoff of road construction
 - d. Where exposed soils are within 200 linear feet of a surface water, conveyance, ditch, or wetland and are located up slope. The silt fence could be located at the construction disturbance limit or at the up-gradient limit of the water resource.

Standard silt fence should not be used in areas of highly erodible soils, steep slopes (greater than 1:3) or in areas of existing or potential concentrated flowing water.
3. (T) Mulch Log/Fiber Roll: Fiber rolls may be used in place of silt fence in small watershed areas (less than 3 acres) for perimeter control, or to temporarily protect an open field intake/drain tile inlet. Fiber rolls could be used as ditch checks if used in succession in a vegetated ditch, to control sediment. Typically, fiber rolls are 6" tubes of fiber in netting which are trenched into the soil 2 inches and staked 2' on center with 2"x2" wooden posts.
4. (T) Silt Fence J-Hook: J-hooks will be used for standard and heavy duty silt fence as needed. J-hooks are used to increase the effectiveness of silt fence in areas where slope will cause water to concentrate along the fence as it descends down slope. J-hooks should suffice on slopes of 3:1 and flatter to break the watershed area per linear foot of silt fence, and allow for smaller areas of sediment accumulation. J-hooks will be used in all soil types.
5. (T) Rock Exit/Exit Tracking Control: Rock construction exits will be installed adjacent to paved surfaces to minimize sediment tracking. The rock exit pads may not be needed if the contractor can sequence the road/access construction to apply the permanent aggregate material to the road prior to vehicles exiting the area.
6. (T) Street Scraping/Sweeping: Street scraping and sweeping will be used to retrieve tracked or washed sediment onto paved surfaces at the end of the working day or as needed.
7. (T) Dewatering: A temporary sump and rock base should be used where a pump is used to remove accumulated water. The pump intake shall be elevated to draw water from the top of the water to limit sediment intake. Energy dissipation should be applied to the end of the pump hose. Water should be discharged to a large flat vegetated area for filtration/infiltration prior to flowing into receiving waters. If discharge is turbid, dewatering bags, temporary traps, rock weepers, or other adequate BMP might be needed to reduce turbidity.
8. (T) Temporary Stream Crossing(s): Temporary stream crossing BMPs should consist of underground boring, topsoil berms and/or silt fence.
9. (T) Erosion Control Blanket and Seed: Seed and blanket will be applied in areas such as ditches, swales and similar areas around culverts for temporary or permanent vegetative growth. Erosion control blanket will be used on slopes of 4:1 and steeper, and in areas of concentrated flow. Blanket is typically wood fiber with double-sided netting deemed appropriate for slopes 4:1 and steeper which are 50+ feet in length, and in ditches with gradients of 3% or less.

10. (T) Temporary Mulch and Seed: Temporary mulch cover (hydromulch, corn based material or weed free mulch) will be applied at 2 tons per acre to provide temporary erosion protection on slopes flatter than or equal to 4:1. Seed for temporary stabilization will be applied with the mulch. Mulch is used for all soil types with no concentrated flows. Mulch is disc-anchored to the soil to keep it from blowing away. In sandy soils the use of tackifier may be needed to supplement disc anchoring if the mulch cannot be secured to the sandy soils.
11. (P) Permanent Seed and Mulch and/or Erosion Control Blanket: In areas of final grade, permanent seed will be applied. Mulch and/or blanket will be applied to areas of permanent seeding to provide erosion protection until permanent vegetation is established.

3.7 Temporary and Permanent Vegetation Establishment

Temporary Seed Mixes

Seeding Dates	Species	Lb./1000 ft ²	Lb./Acre
March 1 to August 15	Oats	3	128 (4 Bushel)
	Tall Fescue	1	40
	Annual Ryegrass	1	40
	Perennial Ryegrass	1	40
	Tall Fescue	1	40
	Annual Ryegrass	1	40
	Annual Ryegrass	1.25	55
	Perennial Ryegrass	3.25	142
	Creeping Red Fescue	0.4	17
	Kentucky Bluegrass	0.4	17
August 16th to November	Oats	3	128 (3 bushel)
	Tall Fescue	1	40
	Annual Ryegrass	1	40
	Rye	3	112 (2 bushel)
	Tall Fescue	1	40
	Annual Ryegrass	1	40
	Wheat	3	120 (2 bushel)
	Tall Fescue	1	40
	Annual Ryegrass	1	40
	Perennial Rye	1	40
	Tall Fescue	1	40
	Annual Ryegrass	1	40
	Annual Ryegrass	1.25	40
	Perennial Ryegrass	3.25	40
	Creeping Red Fescue	0.4	40
	Kentucky Bluegrass	0.4	40
November 1 to Feb. 29	Use mulch only or dormant seeding		

Note: Other approved species may be substituted.

Permanent Seed Mixes

Seed Mix	Seeding Rate		Notes:
	Lbs./acre	Lbs./1,000 Sq. Feet	
General Use			
Creeping Red Fescue	20-40	1/2-1	For close mowing & for waterways with <2.0 ft/sec velocity
Domestic Ryegrass	10-20	1/4-1/2	
Kentucky Bluegrass	20-40	1/2-1	
Tall Fescue	40-50	1-1 1/4	
Turf-type (dwarf) Fescue	90	2 1/4	
Steep Banks or Cut Slopes			
Tall Fescue	40-50	1-1 1/4	
Crown Vetch	10-20	1/4-1/2	Do not seed later than August
Tall Fescue	20-30	1/2-3/4	
Flat Pea	20-25	1/2-3/4	Do not seed later than August
Tall Fescue	20-30	1/2-3/4	
Road Ditches and Swales			
Tall Fescue	40-50	1-1 1/4	
Turf-type (Dwarf) Fescue	90	2 1/4	
Kentucky Bluegrass	5	0.1	
Lawns			
Kentucky Bluegrass	100-120	2	
Perennial Ryegrass		2	
Kentucky Bluegrass	100-120	2	For shaded areas
Creeping Red Fescue		1-1/2	

All permeable surfaces will be vegetated for final stabilization. In agricultural areas, return disturbed soils to predevelopment condition. See BMPs 9-11 in Section 3.6. Slopes $\geq 4:1$ shall be restored with erosion control blanket. Erosion control blanket shall be wood fiber with 2 sided netting and shall include seeding prior blanket installation. Slopes $< 4:1$ shall be restored with seed and disc-anchored mulch. Apply mulch should be 4000 lbs/ac. The site shall be stabilized with a site-appropriate seed mixtures specified in this SWP3, or by an equal seed mix determined by the Operator.

3. 8 Potential Pollutants and Sources

By implementation of these BMP's, the potential pollutant sources are not reasonably expected to affect storm water discharges from the site. Construction materials and chemicals used or stored on-site are kept in small quantities whenever possible. A spill prevention, control, and countermeasure plan will likely be needed should materials or tanks be present on site with ability to contain more than 1,320 gallons of petroleum products. When not in use, they will be stored in sealed containers and under cover to prevent direct contact with storm water. Any inadvertent spills will be cleaned up immediately upon discovery and the materials will be disposed of in accordance with local, state and federal requirements. Contractors will have spill kits available on site for rapid deployment to contain and cleanup spills.

SPILL REPORTING: Spills shall be reported to Ohio EPA (1-800-282-9378). Spills of 25 gallons or more of petroleum products shall be reported to Ohio EPA (1-800-282-9378), the local fire department, and the Local Emergency Planning Committee within 30 min. of the discovery of the release. All spills, which result in contact with waters of the state, must be reported to OHIO EPA's Hotline.

Potential Pollutant	Location	Control Measure*
Antifreeze	Vehicle/Equipment	S.C./Dripan
Diesel Fuel	Vehicle/Equipment/Fuel Tank	S.C./Dripan
Gasoline	Vehicle/Equipment/Fuel Tank	S.C./Dripan

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Hydraulic Oils/Fluids	Vehicle/Equipment	S.C./Dripan
Grease	Vehicle/Equipment	S.C./Dripan
Sanitary Waste Restrooms	Portable	Service Provider To Secure Units From Tipping
Trash And Construction Debris	Various	Dumpster
Paints	Contractor	S.C. and secure/covered storage.
Glue/Adhesives/Curing Compounds	Contractor	S.C. and secure/covered storage.
Soil Amendments	Various	S.C. and secure/covered storage.
Landscaping Materials Fertilizer	Various	S.C. and secure/covered storage.
Concrete Mortar	Mobile Mixer	S.C./Washout Area and secure/covered storage
Concrete	Trucks/Washout	Washout Area/S.C.
Bentonite	Directional Boring/Utility Contractor	S.C./Sump area

*S.C. refers to secure secondary containment unit or area.

3.9 Potential Non-Stormwater Pollutants/Management

Non-storm water discharges shall be eliminated or reduced to the extent feasible, with the exception of those necessary for completion of certain construction activities. Allowable non-stormwater discharges include:

Type of Allowable Non-Stormwater Discharge	Likely to be Present at Site?
Discharges from emergency fire-fighting activities	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Uncontaminated fire hydrant flushing	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Landscape irrigation, lawn watering	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Water used to wash vehicles and equipment	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
Water used to control dust	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
Potable water including uncontaminated water line flushing	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Routine external building wash down	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Pavement wash water	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Uncontaminated air conditioning or compressor condensate	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Uncontaminated, non-turbid discharges of ground - or spring- water	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Foundation or footing drains	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO

These authorized non-storm water discharges should be conducted in accordance with the requirements of the Construction General Permit (CGP), and every effort should be made to minimize non storm water runoff from these site activities. Contractors are responsible to implement the following BMP's and management for non-stormwater discharges.

The BMPs for non-storm water discharges from this site are:

Washing of vehicles and equipment (without detergents): Washing components consists of using high powered sprayers to clean off accumulated earthen materials. Washing should take place within the turbine foundation area. Existing BMPs and infiltration will likely control associated runoff. If existing BMPs are overloaded or not functional, maintenance or additional perimeter controls (such as silt fence) may be needed at the discretion of the inspector.

Water used for Dust Control: This is not anticipated to be a contamination/pollution issue. During dry times, if dust control is needed, the minimal amount of water is anticipated to be absorbed into the soil. If runoff does occur, standard BMP's (such as silt fence, mulch and erosion control blanket, inlet controls, and stormwater traps) should adequately control runoff from reaching off site surface waters.

Foundation/Footing Dewatering: Clean water should be discharged to a vegetated area, ditch, or other conveyance via hose. Do not dewater if there is contamination of form release oils, curing compounds, or concrete material. Energy dissipation should be applied to the discharge location to minimize scour. Alternatively, uncontaminated water could be discharged to receiving waters as allowed by local permits and regulations, or as long as positive drainage is provided, the water could be discharged into surrounding agricultural fields and allowed to infiltrate or drain along existing drainage patterns provided that the water does not cause flooding or crop damage.

4. 0 Construction Phasing and Notes

4. 1 Stockpile of Materials

It is highly recommended that the contractor maintain a stockpile of erosion control devices and sediment control BMP's on site at all times for immediate usage.

4.2 Timing of BMP installation

Erosion prevention and sediment control BMP's shall be installed to minimize erosion and capture sediment. Sediment controls (such as silt fences) shall be installed prior to disturbing up-gradient soils. Rock exit pads shall be installed prior to vehicles entering or exiting from/to paved surfaces. Effective BMP's shall be installed where significant run-on is expected. Erosion control BMPs (mulch or erosion control blanket and seed) shall be installed within the time frames of the Construction General Permit as listed below (from OH CGP):

Permanent Stabilization

Permanent Stabilization	
Area Requiring Permanent Stabilization	Time Frame to Apply Erosion Controls
Area(s) that will lie dormant for one year or more	Within 7 days of most recent disturbance
Area(s) within 50 feet of a surface water, at final grade	Within 2 days of reaching final grade
Any other areas at final grade	Within 7 days of reaching final grade in that area
Temporary Stabilization	
Area Requiring Permanent Stabilization	Time Frame to Apply Erosion Controls
Area(s) within 50 feet of a surface water, not at final grade, will remain idle for 14 days or more	Within 2 days of most recent disturbance

Areas(s) not within 50 feet of a surface water, not at final grade, will remain idle 14 days \geq 1 year	Within 7 days of most recent disturbance
Area(s) that will remain idle over the winter	Prior to onset of winter weather

Where vegetative stabilization techniques may cause structural instability, or are otherwise unobtainable, alternative stabilization techniques must be employed.

4.3 Before construction

The following erosion prevention and sediment control measures are shown in the plans and shall be implemented prior to construction:

1. Install perimeter sediment controls as shown on the plans prior to soil disturbance, and where the inspector indicates due to field conditions.
2. Install gravel construction entrances as shown on the plans prior to accessing a construction area. See Section 4.4, Item 8 for additional information.
3. Install sediment protection as shown on plans or as field conditions dictate within 200 feet of construction limits.

4.4 During construction

The following erosion prevention and sediment control and pollution prevention measures are shown in the plans and shall be implemented during construction:

1. Phase grading work to minimize the duration that any disturbed soil is exposed; only expose soils in areas which should be actively worked within a 14 day period. Additionally, utilize and protect existing vegetated areas to the extent possible for use as sediment control.
2. Install Temporary Stabilization measures in accordance with Sections 3.7 and 4.2.
3. Temporary protection shall be disc anchored mulch, erosion control blanket, tackifier, hydroseed, bonded fiber matrix, or an approved equal. If an approved equal is used; it should be noted as an amendment to the SWP3 in Attachment D.
4. Re-application of native topsoil over vegetation re-establishment areas and agricultural areas is needed when construction activity is complete.
5. Install silt fence or fiber logs around all temporary stockpiles prior to placing material within 200-feet of surface waters, and/or which could result in sediment discharge to surface waters.
6. When dewatering is needed, a temporary sump and rock base should be used at the pump location. Energy dissipation should be applied to the end of the pump hose. Water should be discharged to a large flat vegetated area for filtration/infiltration prior to flowing into receiving waters. If water is turbid, dewatering bags, temporary traps and rock weepers, or other adequate BMP is needed.
7. Construction of access roads with immediate application of rock base (if sequencing of activity is possible) could result in no rock pad being needed to control tracking on paved roads.
8. Remove any sediment that has been tracked onto public streets at the end of the day.
9. Generation of dust shall be controlled through the use of water application, or other approved dust palliatives such as calcium chloride.

10. Collect all construction debris in dumpsters and roll-off boxes. Dumpsters should include a plug to control potential discharge of contaminated water from the dumpster if material in dumpster poses stormwater contamination potential. Empty dumpsters when debris reaches top of dumpster.
11. Repair silt fences, rock checks, gravel construction entrances, terraces, and other erosion and sediment controls as needed to maintain working order. Maintenance activities should be done to maintain continued effectiveness of stormwater controls and prior to the next rainfall. If maintenance prior to the next rain event is impractical, document why the maintenance cannot be done, and perform maintenance as soon as possible.
12. The contractor shall provide a designated and contained concrete truck washout, and must indicate washout areas on the plan set. The washout area shall be constructed according to the detail provided in the plan set, or an approved equal. If an approved equal is used the SWP3 shall be amended to provide information on washout BMPs used. Washout areas shall be located away from watercourses, drainage ditches, and field drains. Washout of concrete trucks and related equipment should not occur during rain events. See Section 7.8.
13. Store hazardous materials (e.g. paints, solvents, petroleum, and concrete), in a secure location, out of potential contact with stormwater. If the material container will be in contact with stormwater, it must be air-tight and stored within secondary containment devices.

4. 5 After Construction

The following erosion prevention and sediment control measures are shown in the plans and shall be implemented upon completion of construction activities:

1. Remove, cleanup and stabilize any accumulated sediment material from the temporary sediment controls during final stabilization measures and removal of temporary BMPs.
2. Install Permanent Vegetation Establishment in accordance with Sections 3.7 and 4.2.
3. Remove all silt fences and other temporary erosion and sediment control devices after vegetation is 70% established by uniform perennial vegetation cover over the entire pervious surface area or following the disturbed areas restored to predevelopment conditions in agricultural areas. Repair and restore all areas disturbed during removal of BMPs.
4. Submit Notice to terminate the permit shall be done when construction activity is complete and areas of disturbance have been permanently stabilized with gravel base or areas which will be vegetated have been covered with 70% density cover of 100% of the area. Notice to terminate the permit shall be done with NOT Form and mailed to OH EPA within 45 days of completion of construction activities and establishment of permanent stabilization. See Attachment E for NOT form.

5. 0 SWP3 Documentation and Records

5. 1 SWP3 Inspections

During active construction activities, inspections shall be conducted by the contractor or other qualified personnel designated by the Operator every seven (7) days and within 24 hours of the end of a storm that is 0.5 inches or greater. Inspections can be reduced to once per calendar month where runoff is unlikely due to winter conditions (snow covered or ground is frozen) or if the entire site is temporarily stabilized.

A waiver of inspection requirements is available until one month before thawing conditions are expected to result in a discharge if all of the following conditions are met:

1. The project is located in an area where frozen conditions are anticipated to continue for more than one month.
2. Land disturbance activities have been suspended.
3. Documentation of the beginning and ending dates of the waiver period are documented in Attachment D, Inspection Log.

Areas which have final stabilization established and recorded in Attachment D, Stabilization Log, do not need further inspection.

If an inspection is scheduled during a period of flooding or other uncontrollable circumstances which prohibit access, inspections may be delayed until access is safe and practicable. Should this situation occur, document the reasons and dates in the inspection report. The following shall be completed during each inspection, and the report is signed/certified by the inspector:

1. Record date and time of inspection
2. Name of person(s) conducting inspection, title of the person and qualifications
3. Record rainfall/weather information since the most recent inspection, including an estimate of the time of storm events, duration of storm events, and amount of rainfall for each storm event.
4. Record a location/description of any discharges since the previous inspection
5. Inspect the site for excess erosion and sedimentation
6. Inspect site for debris, trash, and spills
7. Inspect temporary erosion and sedimentation control devices
8. Inspect construction entrances for sediment tracking onto paved streets.
9. Inspect adjacent streets and areas for sediment, litter, and construction debris.
10. Inspect site runoff outfall or discharge areas
11. Record findings of inspection, including recommendations for corrective actions, locations of BMPs that need maintenance, locations of BMPs that failed, and BMPs which are needed but were not implemented at the time of inspection. Where no identification of non-compliance are found or recorded, the report must contain a certification that the facility or site is in compliance with the SWP3 and the construction general permit.
12. Record corrective actions taken (including dates, times, and party completing maintenance activities in the Maintenance Log located in Attachment D)
13. Record changes made to the SWP3, as required in the Construction General Permit.

5. 2 Maintenance of BMPs

The Operator is responsible for the operation, maintenance, and inspection of temporary and permanent water quality management BMPs, as well as all erosion prevention and sediment control BMP's, for the duration of construction. The controls in place should be maintained in working order to ensure compliance with the TPDES permit. Maintenance of BMPs must be done in a timely manner to maintain effectiveness, and prior to next rain event; unless the inspector deems maintenance needs to be completed sooner due to extenuating circumstances such as forecasted rain, potential for sediment discharge, or other circumstances deemed critical during an inspection/field observation. At that time, the inspector should inform the contractor of the required timeframe within which the maintenance/corrective action needs to be completed, which may be as soon as immediate, or within 24 hours.

If the inspection reveals that a BMP failed, is disabled, run-over, or removed, or if a BMP was not implemented as needed according to the SWP3; the BMP must be replaced or installed immediately upon discovery. If a control is used incorrectly or is inadequate, corrective action should be done as soon as practicable. "As soon as practicable" means prior to the next routine inspection, or prior to a rain event, whichever is sooner.

The following guidelines should be used to determine if the erosion and sediment control devices require maintenance, repair, or replacement:

1. If sediment control devices such as silt fence or fiber rolls are filled to **1/2 of the height of the control device**, the contractor shall remove accumulated sediment.

2. If the gravel construction entrances are filled with sediment, or is not controlling tracking adequately, the contractor shall either replace the entrance or add additional gravel.
3. If sediment from the site is observed on paved adjacent streets or other properties, the contractor shall remove the sediment and stabilize disturbed areas on adjacent properties.
4. If sediment is discharged from the site, the contractor shall identify the source and location of the sediment and implement additional erosion and sediment controls at those locations. Sediment must be retrieved within **3 days (or prior to the next forecasted rain event, whichever is sooner)** unless additional regulatory approval is needed for removal from a surface water. The Operator is responsible to contact local, state, and federal authorities to obtain applicable permits prior to conducting work to remove sediment.
5. If mulch, or blanket, and seed does not establish adequately, over-seeding and re-mulching or blanketing may be necessary. Proper establishment is dependent upon time of year, 70% vegetation density is the bench mark.

5. 3 Sampling Requirements/Effluent Limitations

Sampling requirements are not applicable to this project as the State of OH Construction Site General Permit nor do local requirements exist for sampling requirements.

5. 4 SWP3 Amendments and Archiving Documentation

SWP3 Amendments: The SWP3 must be amended if there is a change in the design, construction, operation, or maintenance at the Site that has or could have a significant effect on the discharge of pollutants to surface water. The SWP3 also must be amended if regulatory officials inspecting the Site determine that the SWP3 is ineffective in eliminating or significantly minimizing pollutants in storm water. And, the SWP3 must be amended within 10 days if any routine inspection indicates that additional or modified BMPs are needed at the construction site. Such additional or modified BMPs must be implemented within 10 days of the inspection. The SWP3 amendment should be noted/drawn into the SWP3 plan sheets and noted within this SWP3 document as necessary. A SWP3 Amendment Log is located in Attachment D.

Archiving Documentation: The Operator shall archive all SWP3 documentation contained within this narrative and SWP3 plan/maps and inspection records for a period of three (3) years after submittal of the Notice of Termination (NOT). The SWP3 information archived, including other permit information for the project; records of inspections and maintenance conducted during construction; permanent operation and maintenance agreements (ROW/Contracts/ Covenants/Other Maintenance); required calculations for design of the temporary and permanent storm water management systems; will be done as required.

6. 0 Post Construction Stormwater BMPs and Activities

6. 1 BMP(s) Locations and Descriptions

There are no permanent stormwater BMPs associated with this project.

6.2 MS4 Information and Contact(s)

There are no MS4s in proximity to the project area.

7. 0 Additional BMPs and Housekeeping

7. 2 Vehicle Maintenance

- Routine maintenance of vehicles shall occur in staging areas only.

- Vehicle washing shall be avoided. If washing is necessary, runoff from the washing will be contained in a lined sediment trap and the wash water shall be properly disposed of at a treatment facility.
- Engine degreasing shall be avoided. If degreasing is necessary, runoff from the operation will be contained in a lined sediment trap and properly disposed of at a treatment facility.

7. 3 Fueling

- Any fuel tank/truck on the project site shall be protected by a secondary containment system.
- Fueling areas shall not be washed or rinsed with water since this could cause fuel spills to be discharged into storm water systems.
- Absorbent materials shall be available on site for use in cleaning up small spills.

7. 4 Hazardous materials

- Hazardous materials shall be properly stored to prevent vandalism or unauthorized access.
- Containment units shall be installed in accordance with federal, state, and local regulations.
- No hazardous material shall be stored within 200 feet of an identified critical area.
- Absorbent materials shall be available on site for use in cleaning up small spills.
- If building materials, chemicals, or general refuse is being used, stored, disposed of, or otherwise managed inappropriately, the contractor shall correct such defects within 24 hours of detection or notification.

7. 5 Chemical Containment

- Gasoline, oil, paint, solvents, and other chemicals necessary for construction are not allowed to contact the ground surface, be exposed to groundwater or be released to a surface or groundwater except in minimal quantities.
- All products shall be kept in their original container, with original labels still attached, unless the container is not resalable.
- Hazardous materials shall be returned to the HazMat storage area at the end of each day.
- An effort should be made to store only enough products to do the required job.
- The contractor shall provide tanks to collect liquid byproducts that pose a pollution hazard.
- The pollutants shall be removed from the site on a weekly basis and disposed of in accordance with federal, state and local regulations.
- All spills shall be cleaned up immediately after discovery, in accordance with the manufacture's recommended methods.

7. 6 Solid Waste

- Solid waste shall be stored in appropriate containers and properly disposed of on a regular basis.
- Containers shall be covered to prevent wind blowing the waste around the site.
- OH EPA disposal requirements will be followed for all solid waste.

7. 8 Stockpiles (Temporary and Permanent)

- Locate stockpiles a minimum of 100 feet from site drainage routes.
- Perimeter controls such as silt fence shall be installed around all stockpiles if not placed within existing silt fences or other sediment controls.
- Temporary seed and mulch shall be used to stabilize the stockpiles and the stockpiles shall be shaped to facilitate seeding and minimize erosion and shall be seeded within 14 days.
- If temporary seed and mulch cannot be used, then the stockpiles shall be covered with hydromulch, tarps or plastic sheeting as approved by the Operator.

7. 9 Winter Stabilization

- Cover exposed soils on or around November 15th and/or prior to termination of construction activities for winter
- All exposed soils to be covered with 2 tons of corn mulch or clean weed free - straw/hay mulch
- All exposed soils to be seeded with temporary seed mix
- All low points in roads to be adequately drained in accordance with NPDES dewatering requirements.
- Perimeter silt fence or other controls to be installed 3-5 feet from the back of the plowed snow area.
- If work has occurred near or in streams or other surface waters, the exposed soils shall be stabilized to protect against flooding and spring runoff to the 100-yr flood elevation.
- All temporary and permanent stormwater basins and sediment basins should have outlets and stabilized emergency overflows installed as per the plan set and at the approval of the Operator.

ATTACHMENT A



Data Source(s): TeleAtlas North America (2008), OHNOT, ERD, World Imagery via Esri WMS (reprocessed 2013), National Wind (2013), Westwood (2013).

Northwest Ohio Wind Energy

Paulding County, Ohio

Vicinity Map

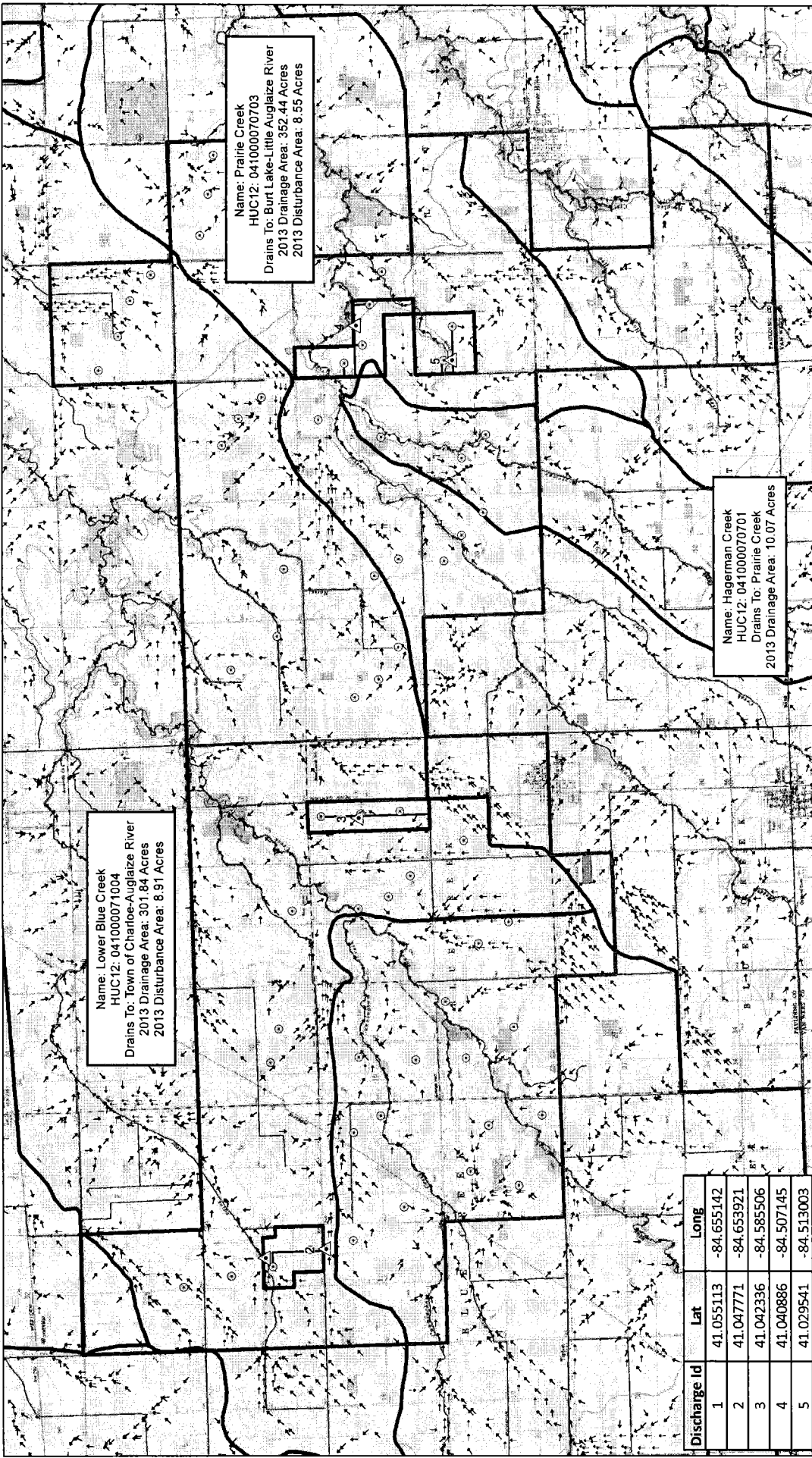
November 13, 2013

Legend

- 2013 Congressional District Area
- US Highway
- Future Considerations
- City Boundary
- County Boundary
- State Boundary

Westwood Professional Services, Inc.
Eden Prairie, MN 55344
PHONE: 952-327-5180
FAX: 952-327-5222
EMAIL: info@westwoodps.com
www.westwoodps.com






Name: Lower Blue Creek
HUC12: 041000071004
Drains To: Town of Charloe-Auglaize River
2013 Drainage Area: 301.84 Acres
2013 Disturbance Area: 8.91 Acres

Name: Prairie Creek
HUC12: 041000070703
Drains To: Burt Lake-Little Auglaize River
2013 Drainage Area: 352.44 Acres
2013 Disturbance Area: 8.55 Acres

Name: Hagerman Creek
HUC12: 041000070701
Drains To: Prairie Creek
2013 Drainage Area: 10.07 Acres









Discharge Id	Lat	Long
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2	41.047771	-84.653921
3	41.042336	-84.585506
4	41.040886	-84.507145
5	41.029541	-84.513003

Base Source: USGS (2012, USGS) Topo and Elevation (2013), National Wind (2013), Westwood (2013).



Westwood
Westwood Professional Service, Inc.
10000 Peachtree Industrial Blvd.
Atlanta, GA 30339
PHONE 404.257.5150
FAX 404.257.5150
TOLL FREE 1-800-257-5150
www.westwoodga.com

Legend

-  Discharge Point
-  Drainage Direction
-  NHD Flowline
-  HUC12 Boundary
-  2013 Access Road
-  Future Turbine Location
-  2013 Construction Permit Area
-  Future Construction



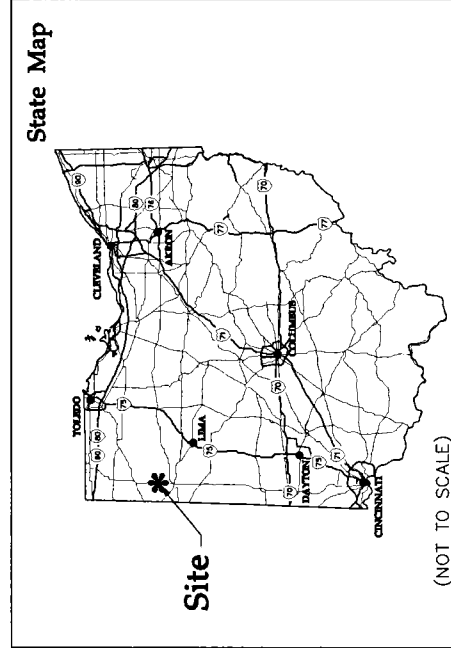
Civil Construction Plans

for

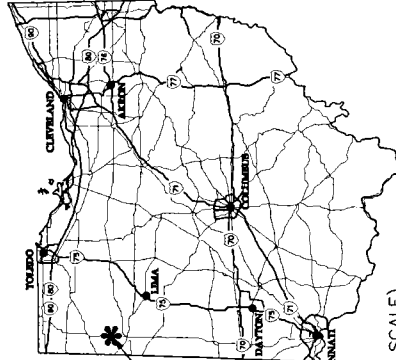
Access Roads, Drainage and Erosion Control

for

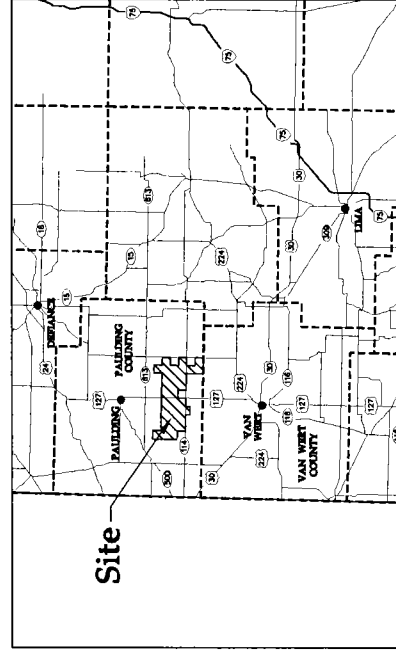
Northwest Ohio Wind Project Paulding County, Ohio



State Map



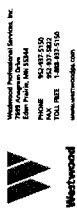
Vicinity Map



**Northwest
Ohio Wind
Project**
Paulding County, Ohio

Cover

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Army Date: 11/14/2013
Date: 11/14/2013
Sheet: 1 of 9



Designed:	WPM/MS
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Approved:	WPM/MS
Project:	WPM/MS
Client:	WPM/MS
Address:	WPM/MS
City:	WPM/MS
State:	WPM/MS
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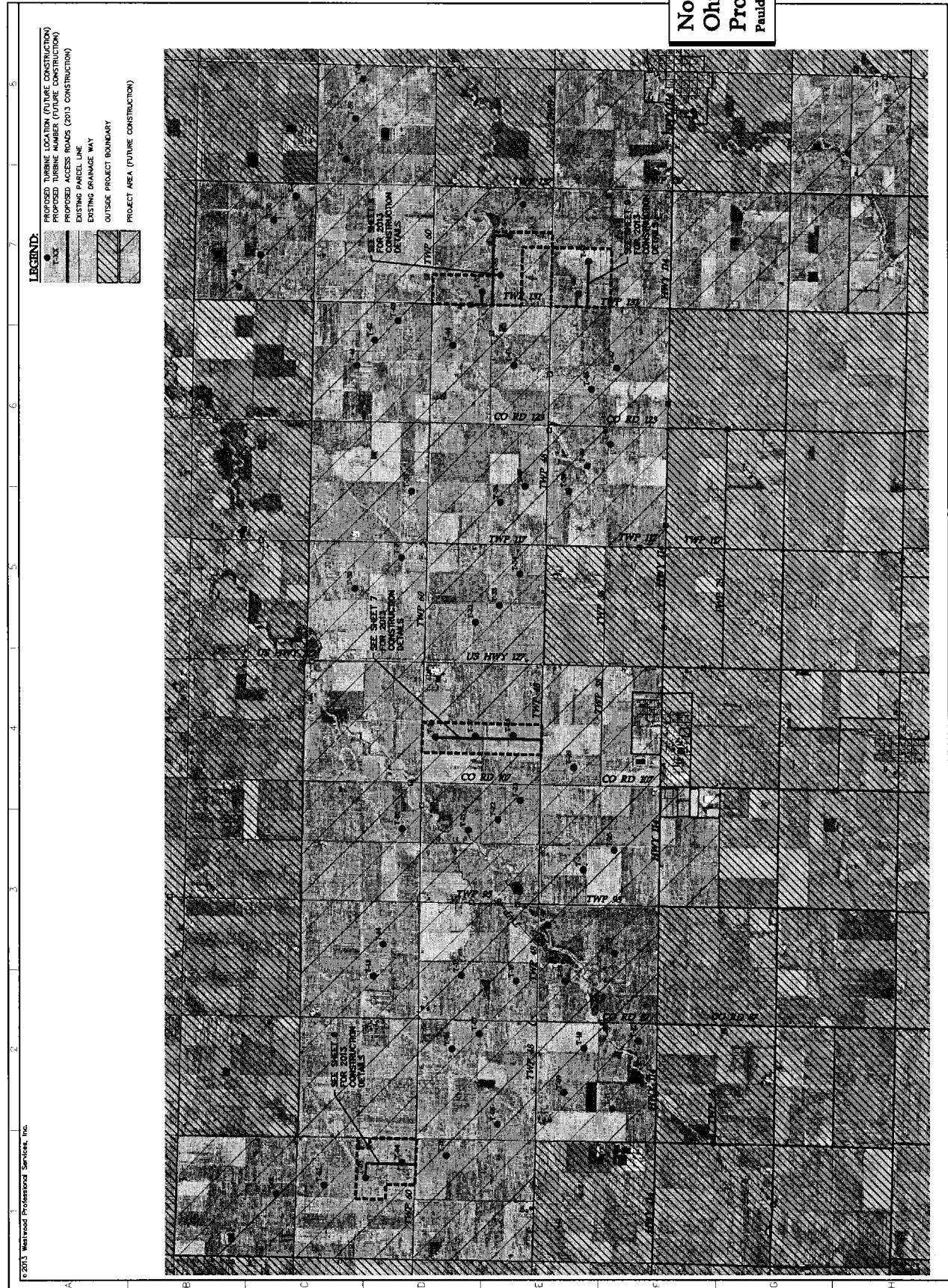
NATIONALWIND
775 2nd Ave. S. Suite 1200
Minneapolis, MN 55402

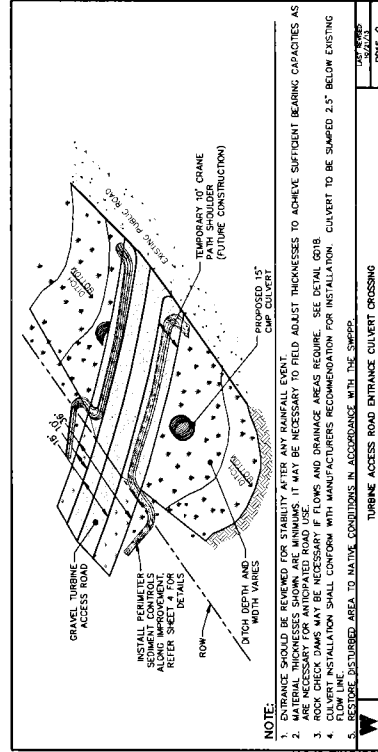
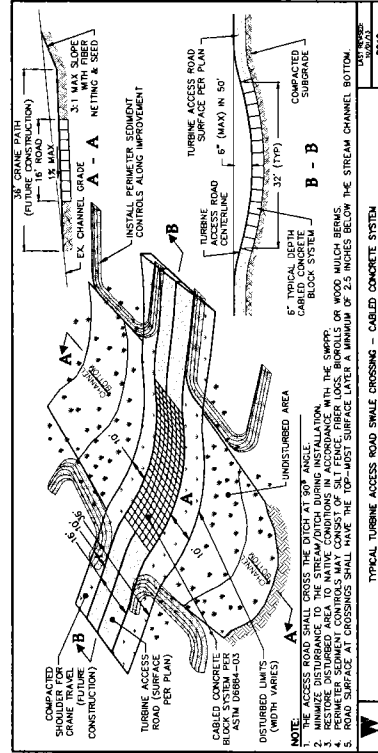
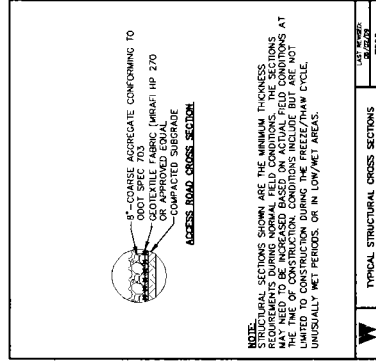
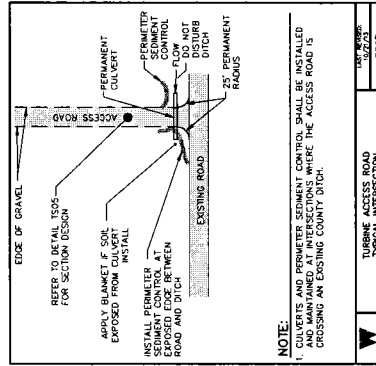
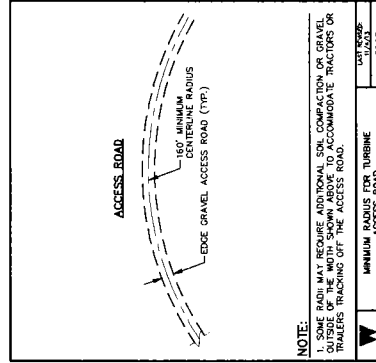
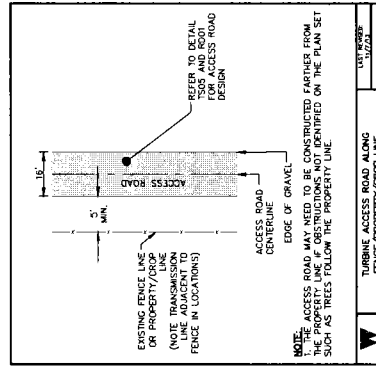
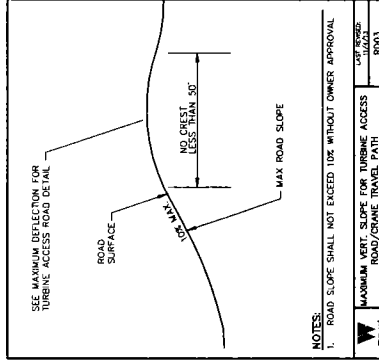
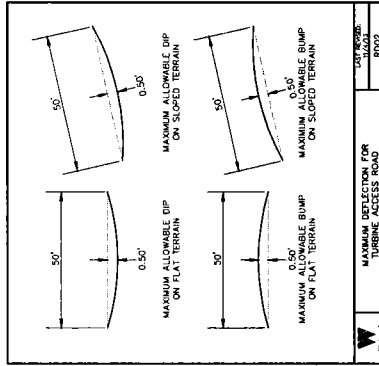
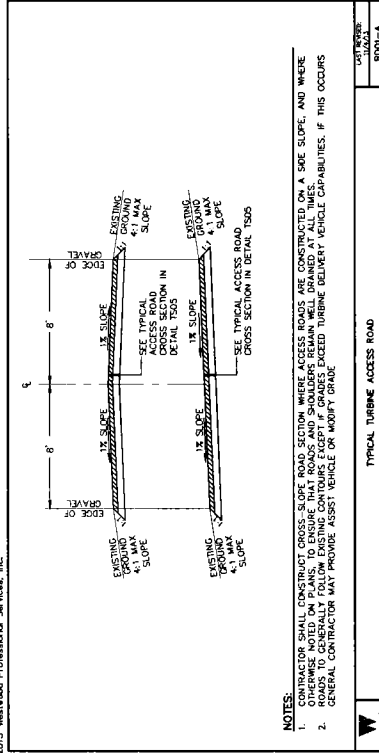
Sheet Number	Sheet Title
1	Cover
2	Overall Civil Site Plan
3	Construction Details
4	Construction Details
5	Construction Details
6	Civil Site Plan - 03-04
7	Civil Site Plan - 05-06
8	Civil Site Plan - 07-08
9	Civil Site Plan - 09-10

NO.	DATE	REVISION	SHEETS
0	11/14/2013	ISSUED FOR CONSTRUCTION	ALL

Data Set Information

DATA FILE	FILE NAME	PROVIDER	DATE
TURBINE ARRAY	APR2013_71-14.dwg	WESTWOOD	04/17/13
LAND CONTROL	DYN-LAND-THIN-6410.dwg	STATE OF OHIO	04/09/13
TOPO	Northwest_Ohio_Wind_Project.dwg	WESTWOOD	04/17/13
AERIAL	NW_Informational-130520.apr	WESTWOOD	04/20/13





**Northwest
Ohio Wind
Project**

Construction Details

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Array Date: 11/14/2013
Date: 11/14/2013

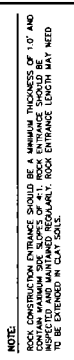
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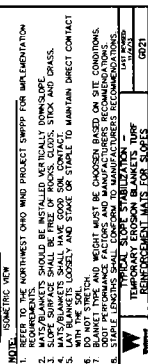
- INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN ACCUMULATED TO 1/3 THE HEIGHT OF THE FENCING OR MORE.
- REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
- SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE FLOODING EFFICIENCY.
- ALL ENDS OF THE SILT FENCE SHALL BE WRAPPED UPDROPE SO THE ELEVATION OF THE BOTTOM OF FABRIC IS HIGHER THAN "FLOODING HEIGHT."

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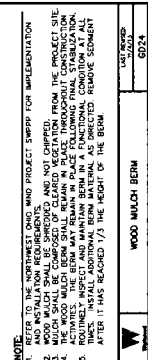


<p> ROCK CONSTRUCTION EN RANGE </p>	<p>GD05</p>
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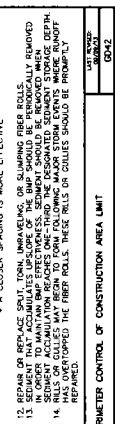
"WOOD MULCH HERE SHALL BE USED WHERE NEEDED AS A FILTER MEDIA OR WHERE EROSION CONTROL BLANKETS DO NOT PROVIDE



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NOTE: - PERIMETER SEDIMENT CONTROL OPTIONS SHALL CONSIST OF SILT FENCE, FIBER LOGS (BIOROLLS), WOOD MULCH BERMS, OR TOPSOIL BERMS TO BE UTILIZED AND INSTALLED PER THE CONTRACTOR'S DISCRETION.



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Northwest Ohio Wind Project

Construction Details

ROAD DESIGN PARAMETERS

1. THE ROAD HAS BEEN DESIGNED TO ACCOMMODATE LIGHT DUTY TRUCKS FOR LOW VOLUME USE. THE ROAD DESIGN IS NOT INTENDED FOR ALL WEATHER USE FOR HEAVY TRUCKS.
2. DURING CONSTRUCTION PERIOD, THE ROAD DESIGN IS NOT INTENDED FOR ALL WEATHER USE FOR HEAVY TRUCKS, HIGH VOLUME, CONSTRUCTION LOADS.
3. ROAD MAINTENANCE CAN BE EXPECTED OVER THE LIFE OF THE PERMANENT FACILITY AND MAY INCLUDE BLADING AND REPLACEMENT OF AGGREGATE MATERIAL.
4. ROAD WAS DESIGNED FOR PRIVATE ACCESS ROAD DESIGN AND NOT INTENDED FOR PUBLIC ACCESS.
5. CONTRACTOR SHALL CONTINUE ROAD SECTIONS REQUIRED FOR TURBINE COMPONENT DELIVERY.

EXPECTATION

- A. CLEARING AND GRUBBING.
 1. THE CONTRACTOR SHALL BE REQUIRED TO GRUB/MULCH ALL TREES, STUMPS, BRUSH, AND DEBRIS WITHIN THE GRADING AREAS SHOWN ON THE PLANS. THE CONTRACTOR IS TO MAINTAIN THE EXISTING GRADING SURFACE AND TO PROTECT THE EXISTING UTILITIES. THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO AVOID DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL EXERCISE EXTREME CARE AROUND EXISTING TREES TO BE SAVED.
- B. TOPSOIL STRIPPING.
 1. TOPSOIL SHALL BE STRIPPED FROM ALL ROADWAY AREAS THROUGH THE ROOT ZONE (TYPICAL B-1 TO 17'). TOPSOIL SHALL NOT BE STRIPPED OUTSIDE OF THE DESIGNATED AREA.
 2. ANY TOPSOIL THAT HAS BEEN STRIPPED, SHALL BE RE-SPREAD OR STOCKPILED WITHIN GRADING AREAS AND/OR USED AS FILL OUTSIDE OF THE DISTURBED AREAS, AS DETERMINED BY THE ENGINEER. THE CONTRACTOR SHALL MAINTAIN THE EXISTING OWNER'S OWNERSHIP OF WHERE IT ORIGINATED FROM.
- C. EMBANKMENT CONSTRUCTION.
 1. THE EMBANKMENT SHALL BE CONSTRUCTED OF THE FOLLOWING OF SUITABLE FULL MATERIALS.
 - A. AFTER TOPSOIL STRIPPING, ABOVE THE EXISTING GRADE, GENERALLY, EMBANKMENTS SHALL HAVE COMPACTED SUPPORT SLOPES OF FOUR FOOT HORIZONTAL TO ONE FOOT VERTICAL.
 - B. THE EMBANKMENT SHALL BE CONSTRUCTED TO A MINIMUM OF ONE FOOT VERTICAL TO ONE FOOT HORIZONTAL.
 - C. THE MATERIAL FOR EMBANKMENT CONSTRUCTION SHALL BE OBTAINED FROM THE ACCESS ROAD/TURBINE EXCAVATION (SEE GEOTECHNICAL REPORT FOR CONDITIONS), OR ANTIPODORF EXCAVATION (SEE DISTRICT ONE/ANTIPDORF SITE FOR CONDITIONS), OR ANTIPODORF EXCAVATION IMPROVED BY THE DRAINER. THIS MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 6".
 - D. SLOPE GRADIENTS GREATER THAN 3:1 WILL NOT BE PERMITTED. UNLESS OTHERWISE NOTED ON

STORM WATER DESIGN PARAMETERS

1. IT IS EXPECTED THAT CULVERTS WILL BE OVERSTRESS DURING SOME STORMS AND MAINTENANCE WILL BE REQUIRED THROUGH THE LIFE OF THE PROJECT.
2. WHEN INSTALLING DRAINAGE CULVERTS THE CONTRACTOR SHALL USE JUDGMENT IN SETTING THE FLOW LINE ELEVATIONS AND CULVERT LONGITUDINAL SLOPE. TYPICALLY THE FLOW LINE ELEVATIONS AND LONGITUDINAL SLOPE OF CULVERTS SHOULD MATCH THE NATURAL GROUND ELEVATIONS AND LONGITUDINAL SLOPE OF THE ADJACENT ROADWAY. WHEN POSSIBLE, ALL CULVERTS SHOULD BE PLACED AT A MINIMUM 4% GRADE.
3. ANTICIPATED CULVERT CROSSSECTIONS ARE SHOWN ON THE CONSTRUCTION PLAN. ADDITIONAL CULVERTS MAY NEED TO BE INSTALLED IN AREAS WHERE CONCENTRATED FLOW IS EXPECTED.
4. IN ORDER TO MINIMIZE THE RISK OF OVERSTRESS DURING STORMS, ALL CULVERTS SHALL BE DESIGNED AND CONSTRUCTED BY A PROFESSIONAL ENGINEER. THE CONTRACTOR SHALL INFORM THE ENGINEER OF ANY PROPOSED

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

1. THE CONTRACTOR SHALL PROVIDE EMISSION CONTROL MEASURES AS PLANNED AND SPECIFIED FOLLOWING BEST MANAGEMENT PRACTICES AS OUTLINED BY THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) AND BEING IN CONFORMANCE WITH THE NATIONAL POLLUTANT DISCHARGE ELIMINATION ACT (NPDES) PERMIT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR THE NORTHWEST OHIO WIND PROJECT, PREPARED BY WESTWOOD PROFESSIONAL SERVICES, FOR EMISSION CONTROL, AND RESTORATION SPECIFICATIONS, SEDIMENT AND EMISSION CONTROL PROCEDURES, LOCATIONS OF ALL PASTURES AND DRAINAGE SWALES DISTURBED DURING CONSTRUCTION ACTIVITIES AND NOT ALL PASTURES AND DRAINAGE SWALES SHALL BE SEEDED IN ACCORDANCE WITH THE SWPPP CONCERNED BY ROAD SURFACING MATERIALS.
- 2.
- 3.

SEIVE SIZE	PERCENT PASSING
2"	(100)
1 1/2"	(90-100)
1"	(20-55)
3/4"	(0-15)
3/8"	(0-5)

•TABLE 2: RECOMMENDED INCREASES
TO ROAD BASE THICKNESS FOR

DOF INDEX (MM/BLOW)	SUBGRADE DOF TEST FAILURES	ADDITIONAL GRAVEL THICKNESS (INCHES) (W/GEOTEXTILE FABRIC)
<25	—	
26-35	2	
36-45	4	
46-55	6	
56-65	8	
66-75	12	
>76	16	

TABLE 2 IS INTENDED FOR USE AS AN APPROXIMATE GUIDE. FINAL RECOMMENDATIONS WILL BE MADE BY FIELD GEOTECHNICAL ENGINEER.

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TESTING

1. TESTING SHALL BE PERFORMED BY A DESIGNATED INDEPENDENT TESTING AGENCY.
2. SUBMIT ONE SET OF TESTING AND INSPECTION RECORDS SPECIFIED TO THE CIVIL ENGINEER OF RECORD.

CONCLUSIONS

- SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT RECOMMENDATIONS AND IN THE PRESENCE OF THE GEOTECHNICAL ENGINEER OR QUALIFIED GEOTECHNICAL REPRESENTATIVE USING A FULLY LOADED TANDDEM AXLE DUMP TRUCK OR WATER TRUCK WITH A MINIMUM GROSS WEIGHT OF 25 TONS OF A FULLY LOADED BELLY DUMP WITH AN EQUIVALENT AXLE LOADING. PROOF-ROLLING ACCEPTANCE STANDARDS INCLUDE NO RUTTING GREATER THAN 1.5 INCHES, AND NO "PUMPING" OF THE SOIL BEHIND THE LOADED TRUCK.

2. SEVE ANALYSIS:
 - SHALL BE CONDUCTED IN ACCORDANCE WITH ASHTO T27
3. PROCTORS:
 - SHALL BE DETERMINED IN ACCORDANCE WITH ASHTO T99
4. ATTERBERG LIMITS:
 - SHALL BE DETERMINED IN ACCORDANCE WITH ASHTO T89 AND T60
5. MOISTURE DENSITY (NUCLEAR DENSITY):
 - SHALL BE DONE IN ACCORDANCE WITH ASHTO T310
6. DYNAMIC CONE PENETROMETER (DCP) TESTING:

SHALL BE DON

1. FILL MATERIAL: a. FILL MATERIAL SHALL BE TESTED FOR MOISTURE, MAXIMUM MOISTURE, MAXIMUM PLASTICITY INDEX, MAXIMUM ORGANIC CONTENT, PROCTOR TESTS, AND GEOTECHNICAL REPORT RECOMMENDATIONS.
- b. IN ROADWAY CUT AREAS, OR WHERE EMBANKMENT CONSTRUCTION REQUIRES LESS THAN 12 INCHES OF SUBGRADE, THE SUBGRADE SHALL BE EXCAVATED TO THE SUBGRADE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY. THE SCARIFICATION DEPTH SHALL BE ADJUSTED SUCH THAT THE COMBINED THICKNESS OF THE EMBANKMENT FILL MATERIAL AND SUBGRADE SCARIFICATION DEPTH SHALL BE 12 INCHES OR GREATER.
2. COMPACTED SUBGRADE: a. THE ENTIRE SUBGRADE SHALL BE PROOF-ROLLED PRIOR TO THE PLACEMENT OF THE SUBGRADE. b. PROCTOR TESTING OF SUBGRADE SHALL BE REQUIRED. THE SUBGRADE STABILIZATION CANNOT BE ACHIEVED BY PROOF-ROLLING. c. THE SUBGRADE SHALL BE PROOF-ROLLED TO THE FOLLOWING CRITERIA: i. PERFORM 3 DYNAMIC CONE PENETROMETER (DCP) TESTS PER ACCESS ROAD SPUR, OR ONE TEST PER 1,000' L² OF ROAD. WHICHEVER IS GREATER. ii. THE PROCTOR TEST SHALL BE CONDUCTED WITHIN 100' OF THE ACCESS ROAD. iii. THE PROCTOR TEST SHALL BE CONDUCTED TO DETERMINE WHEN OF THE FOLLOWING ALTERNATIVES WILL BE IMPLEMENTED: 1. SCARIFY, DRY, AND RECOMPACT SUBGRADE AND PERFORM ADDITIONAL PROOF ROLL. 2. ADD FILL MATERIAL AND REPLACE WITH 3 INCH MIXES THICKNESS. 3. AGGREGATE BASE. d. INCREASE ROAD BASE THICKNESS. e. THE SPEEDED ROAD BASE THICKNESS MAY BE INCREASED. f. PROVIDE 3 MOISTURE MOISTURE COMPACTION TESTS PER ACCESS ROAD SPUR, OR ONE FOR EVERY 1,000' L² OF ROAD LENGTH. WHICHEVER IS GREATER. g. COMPACTED SUBGRADE MUST BE 100% OF THE SUBGRADE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY. h. THE OPTIMUM MOISTURE CONTENT FOR GRANULAR SOILS AND 1-1 TO 1.5% OF THE OPTIMUM MOISTURE CONTENT FOR COHESIVE SOILS.
3. AGGREGATE BASE: a. ROLLING DETERMINES THAT THE ROAD IS UNSTABLE. ADDITIONAL AGGREGATE SHALL BE ADDED UNTIL THE UNSTABLE SECTION IS ABLE TO PASS A PROOF ROLL. b. COMPACT TO ACHIEVE A PENETRATION ROLL VALUE LESS THAN OR EQUAL TO 25. WHICHEVER MAY/BLOW OR EQUIVALENT TO A CBR VALUE GREATER OR EQUAL TO 25. WHICHEVER c. PROVIDE 1 SURVEY ANCHORS (PROVIDE 1' OF 200 PSI 2000 CY OF 200 PSI RAS) PLACED

PRODUCTS

1. ROAD BASE SHALL CONSIST OF SIZE NO. 4 COARSE AGGREGATE GRADATION, MEETING THE GRADATION PROVIDED IN TABLE 1.
2. SUBGRADE SHALL CONSIST OF COMPACTED NATIVE SOILS.
3. GEOTEXTILE FABRIC FOR ROAD BASE MATERIAL SEPARATION SHALL BE MINIRAP HP2700 OR APPROVED EQUAL.
4. CULVERTS. SEE PLAN FOR CULVERT LOCATIONS. CULVERTS SHALL MEET THE MINIMUM SPECIFICATIONS SET FORTH BY THE OHIO DEPARTMENT OF TRANSPORTATION AND/OR PAULDING COUNTY. ALL CULVERTS SHALL BE MANUFACTURED OF 16-INCH CORRUGATED METAL PIPE (UNLESS NOTED OTHERWISE).

GENERAL NOTES:

- [illegible]

PROJECT CONTACT INFORMATION

TITLE	COMPANY	NAME	CONTACT NUMBER
OWNER	NORTHWEST OHIO WIND ENERGY, LLC	MATTHIAS WEDEL	912-746-8848
PROJECT MANAGER	WESTWOOD	CHRIS CARDA	912-337-3150
ENGINEER OF RECORD	WESTWOOD	DANIEL BECKMANN	912-808-7424
CONTRACTOR	TBD	X	X
OHIO EPA			800-350-7518

LOCATION	TEST	FREQUENCY
STRUCTURAL FILL	GRAIN SIZE ANALYSIS, MOISTURE CONTENT, ORGANIC MATTER, AND FRICTION	1 PER MAJOR SOIL TYPE
COMPACTED SUBGRADE	PROOF-ROLL	ENTIRE LENGTH
	MOISTURE DENSITY TEST (NUCLEAR DENSITY)	1 PER 1000 FT. OR MIN. 3 PER ROAD
	DSP (NOT REQUIRED UNLESS PROOF ROLL FAILS)	2 PER 1000 FT
AGGREGATE BASE	PROOF-ROLL	ENTIRE AREA
	SPOKE ANALYSIS, LL, PL, AND WET BALL MILL	1 PER 2,500 CY
	SPC. TESTS	1 PER 1000 L.F. OF ROAD

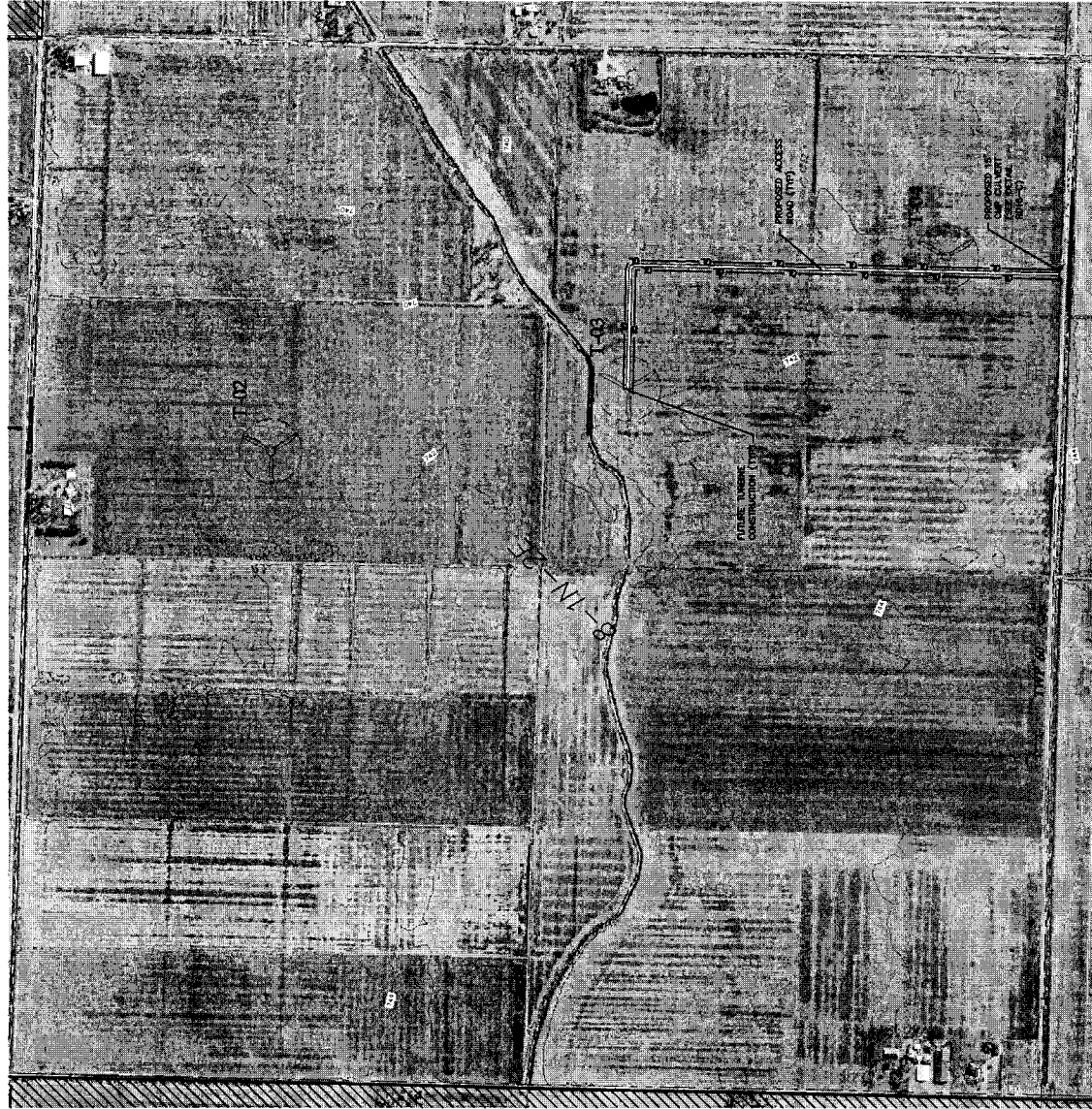
Construction Notes

Northwest Ohio Wind Project

706 2nd Ave S, Suite 1200
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 Array Date: 11/14/2013
 Date: 11/14/2013
 Sheet: 5 OF 9

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LEGEND:



TURBINE LOCATION (FUTURE CONSTRUCTION)
TURBINE NUMBER (FUTURE CONSTRUCTION)
PROPOSED ACCESS ROADS
PROPOSED DISTURBANCE LIMITS
EXISTING OVERHEAD POWER
EXISTING OIL/GAS PRELIME
EXISTING 10' CONTOURS
EXISTING 2' CONTOURS
DELIMITED WETLAND
EXISTING ROAD
OUT OF PROJECT BOUNDARY
PROPOSED CULVERT

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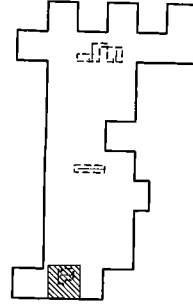
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Northwest Ohio Wind Project

Civil Site Plan
T-03-T-04



KEY MAP

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Date: 11/14/2013
Sheet: 6 OF 9



Client:	PAULING CO.
Project:	PAULING CO. PROJECT
Location:	PAULING CO. PROJECT
Scale:	1" = 100'
Sheet:	6 OF 9
Prepared by:	PAULING CO.

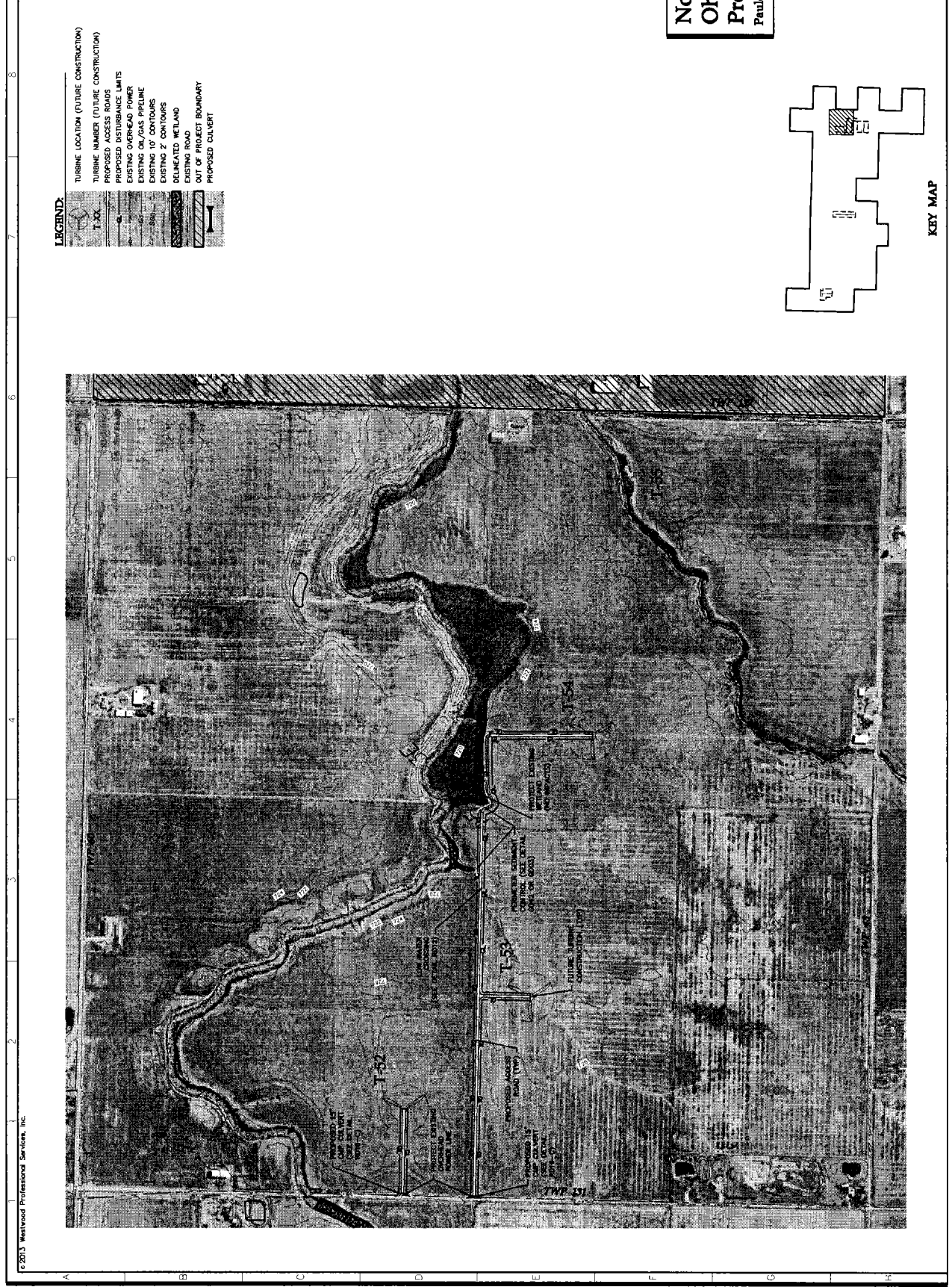
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 700 2nd Ave. S. Suite 1200
 Minneapolis, MN 55402



**Northwest
 Ohio Wind
 Project**
 Paulding County, Ohio

Civil Site Plan
 T-52-T-54

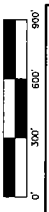
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 Date 11/14/2013
 Sheet 6 OF 9





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Project:	Northwest Ohio Wind Project
Location:	Paulding County, Ohio
Prepared by:	Wellwood Professional Services, Inc.
Checked by:	
Approved by:	
Date:	11/14/2013
Scale:	As Shown
Sheet:	9 of 9

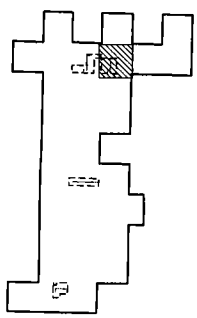
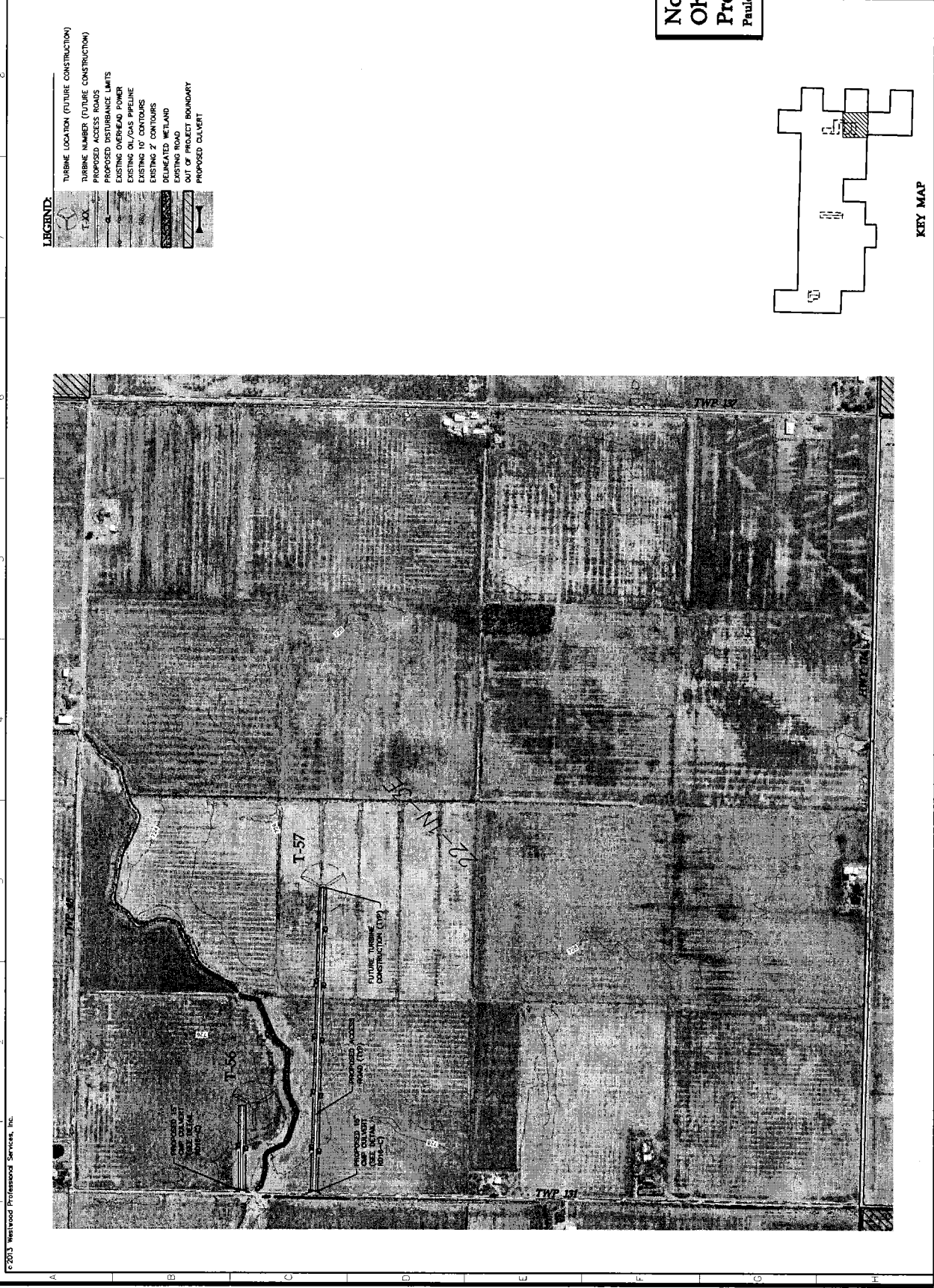
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Northwest Ohio Wind Project Paulding County, Ohio

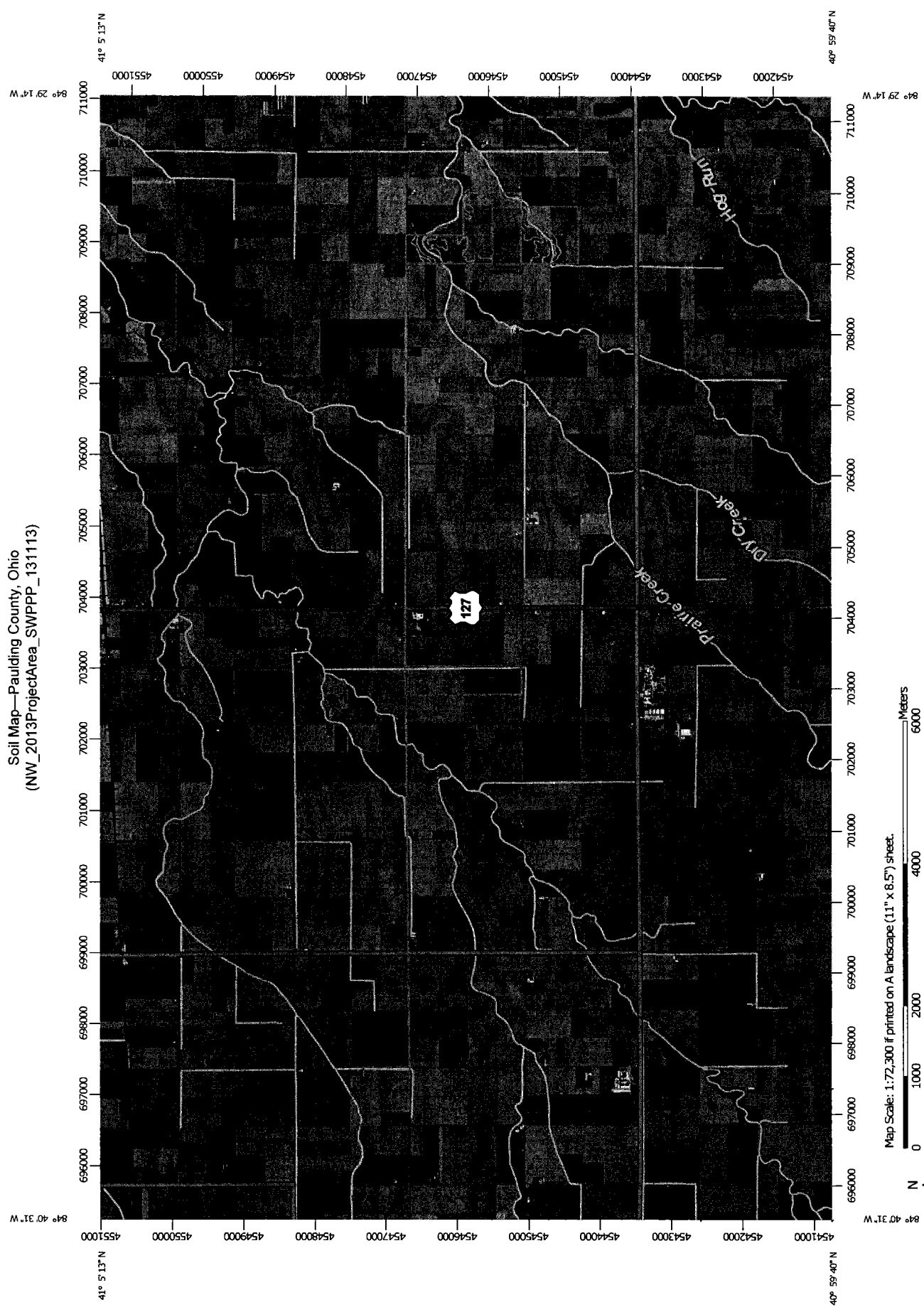
Civil Site Plan
 T-56-T-57

ISSUED FOR CONSTRUCTION
 Army Date 11/14/2013
 Date 11/14/2013
 Sheet 9 of 9

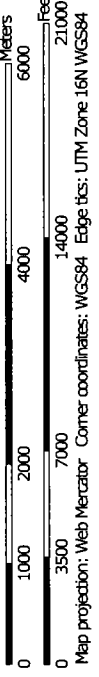


KEY MAP

Soil Map—Paulding County, Ohio
(NW_2013ProjectArea_SWPPP_131113)






















































Map Scale: 1:72,300 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

 Area of Interest (AOI)	 Soil Map Unit Polygons	 Soil Map Unit Lines	 Soil Map Unit Points	 Special Point Features	 Water Features	 Streams and Canals	 Transportation	 Rails	 Interstate Highways	 US Routes	 Major Roads	 Local Roads	 Background	 Aerial Photography				
 Blowout	 Borrow Pit	 Clay Spot	 Closed Depression	 Gravel Pit	 Gravelly Spot	 Landfill	 Lava Flow	 Marsh or swamp	 Mine or Quarry	 Miscellaneous Water	 Perennial Water	 Rock Outcrop	 Saline Spot	 Sandy Spot	 Severely Eroded Spot	 Sinkhole	 Slide or Slip	 Sodic Spot
 Spoil Area	 Stony Spot	 Very Stony Spot	 Wet Spot	 Other	 Special Line Features	 Special Point Features	 Water Features	 Streams and Canals	 Transportation	 Rails	 Interstate Highways	 US Routes	 Major Roads	 Local Roads	 Background	 Aerial Photography		

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000. Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: Web Mercator (EPSG:3857)

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Soil Survey Area: Paulding County, Ohio
Survey Area Data: Version 10, Apr 27, 2012

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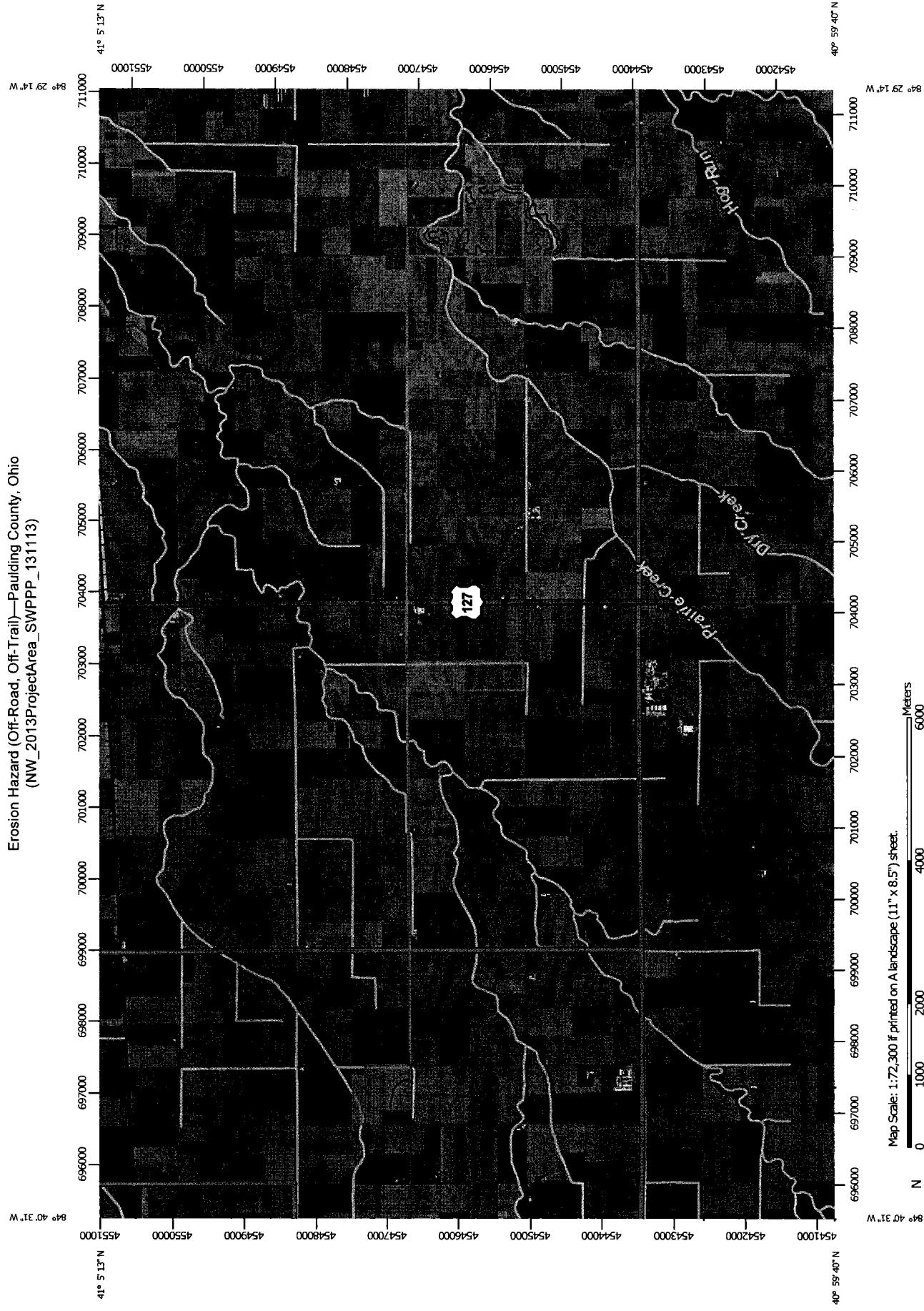
Date(s) aerial images were photographed: Jul 11, 2010—Jun 1, 2011

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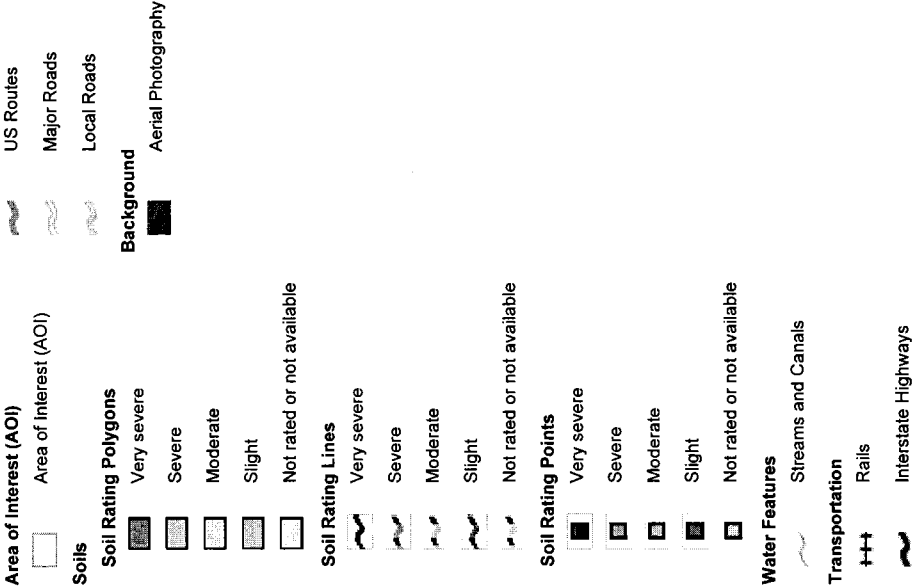
Map Unit Legend

Paulding County, Ohio (OH125)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Db	Defiance silty clay loam, occasionally flooded	0.1	0.0%
HtA	Hoytville silty clay, 0 to 1 percent slopes	23.9	3.5%
Lc	Latty silty clay	378.0	55.7%
NnA	Nappanee loam, 0 to 2 percent slopes	0.0	0.0%
NpA	Nappanee silty clay loam, 0 to 2 percent slopes	81.8	12.0%
NpB	Nappanee silty clay loam, 2 to 6 percent slopes	13.2	2.0%
NpB2	Nappanee silty clay loam, 2 to 6 percent slopes, eroded	11.9	1.8%
Pc	Paulding clay	132.8	19.6%
Sb	Saranac silty clay loam, occasionally flooded	36.8	5.4%
SuC3	St. Clair silty clay, 6 to 12 percent slopes, severely eroded	0.1	0.0%
Totals for Area of Interest		678.7	100.0%

Erosion Hazard (Off-Road, Off-Trail)—Paulding County, Ohio
(NW_2013ProjectArea_SWPPP_131113)



MAP LEGEND



MAP INFORMATION

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Erosion Hazard (Off-Road, Off-Trail)

Erosion Hazard (Off-Road, Off-Trail)— Summary by Map Unit — Paulding County, Ohio (OH125)						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
Db	Defiance silty clay loam, occasionally flooded	Slight	Defiance (93%)		0.1	0.0%
HtA	Hoytville silty clay, 0 to 1 percent slopes	Slight	Hoytville (92%) Nappanee (8%)		23.9	3.5%
Lc	Latty silty clay	Slight	Latty (95%)		378.0	55.7%
NnA	Nappanee loam, 0 to 2 percent slopes	Slight	Nappanee (93%)		0.0	0.0%
NpA	Nappanee silty clay loam, 0 to 2 percent slopes	Slight	Nappanee (90%)		81.8	12.0%
NpB	Nappanee silty clay loam, 2 to 6 percent slopes	Slight	Nappanee (95%)		13.2	2.0%
NpB2	Nappanee silty clay loam, 2 to 6 percent slopes, eroded	Slight	Nappanee (95%)		11.9	1.8%
Pc	Paulding clay	Slight	Paulding (95%)		132.8	19.6%
Sb	Saranac silty clay loam, occasionally flooded	Slight	Saranac (90%)		36.8	5.4%
SuC3	St. Clair silty clay, 6 to 12 percent slopes, severely eroded	Slight	St. Clair (95%)		0.1	0.0%
Totals for Area of Interest					678.7	100.0%

Erosion Hazard (Off-Road, Off-Trail)— Summary by Rating Value		
Rating	Acres in AOI	Percent of AOI
Slight	678.7	100.0%
Totals for Area of Interest	678.7	100.0%

Description

The ratings in this interpretation indicate the hazard of soil loss from off-road and off-trail areas after disturbance activities that expose the soil surface. The ratings are based on slope and soil erosion factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance.

The ratings are both verbal and numerical. The hazard is described as "slight," "moderate," "severe," or "very severe." A rating of "slight" indicates that erosion is unlikely under ordinary climatic conditions; "moderate" indicates that some erosion is likely and that erosion-control measures may be needed; "severe" indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and "very severe" indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified aspect of forestland management (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

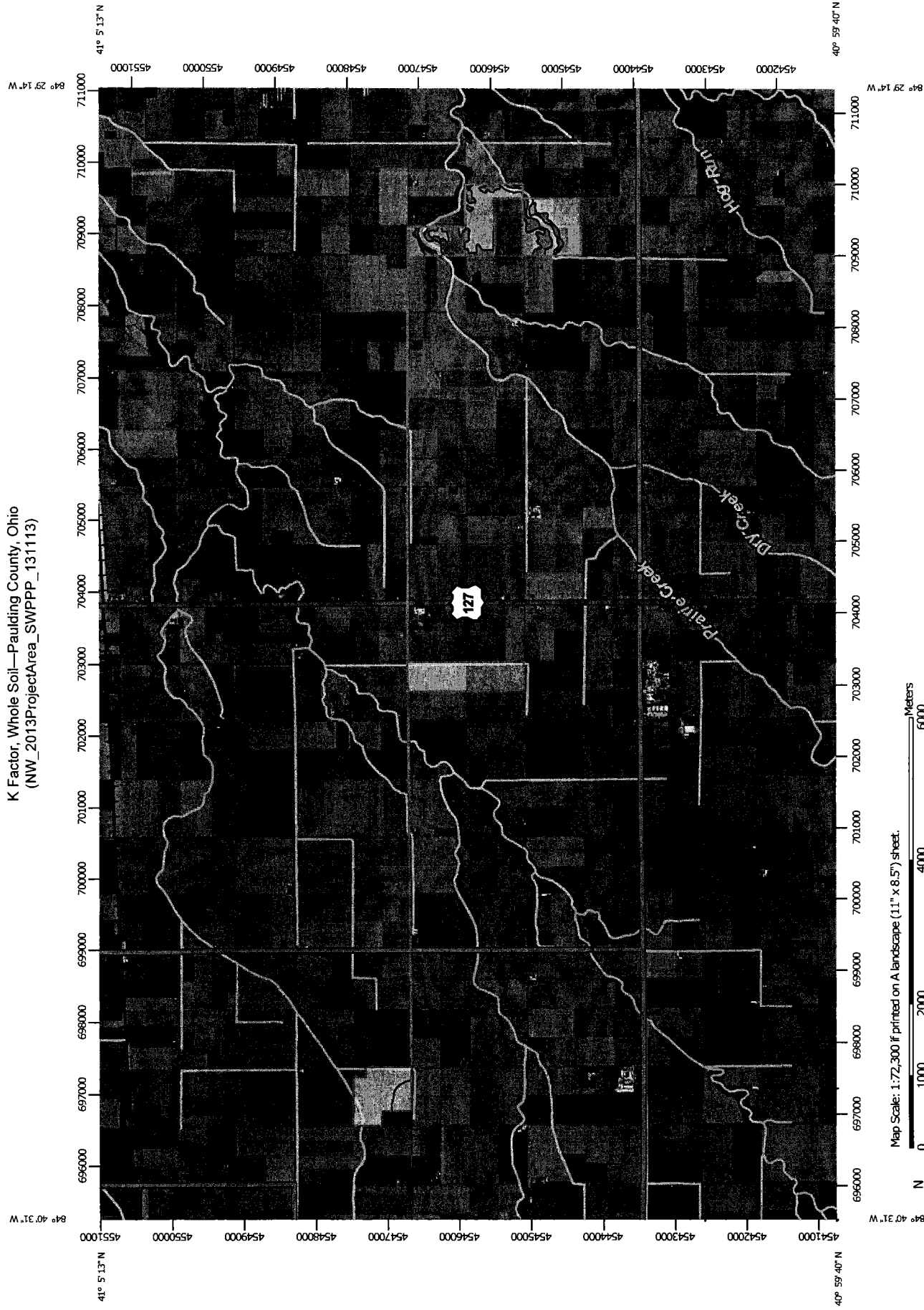
Rating Options

Aggregation Method: Dominant Condition


Component Percent Cutoff: None Specified

Tie-break Rule: Higher

K Factor, Whole Soil—Paulding County, Ohio
(NW_2013ProjectArea_SWPPP_131113)



MAP LEGEND

Area of Interest (AOI)
 Area of Interest (AOI)

Soils

Soil Rating Polygons

 .02

 .05

 .10

 .15

 .17

 .20

 .24

 .28

 .32

 .37

 .43

 .49

 .55

 .64

 Not rated or not available

Soil Rating Lines

 .02

 .05


 .10

 .15

 .17

 .20

Water Features

 Not rated or not available

MAP INFORMATION

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 Streams and Canals


Transportation

 Rails


 Interstate Highways


 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

 Not rated or not available

Soil Rating Points


 .02

 .05

 .10

 .15


 .17

 .20

 .24

 .28

 .32

 .37

 .43

 .49

 .55

 .64

 Not rated or not available

K Factor, Whole Soil

K Factor, Whole Soil— Summary by Map Unit — Paulding County, Ohio (OH125)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Db	Defiance silty clay loam, occasionally flooded	.37	0.1	0.0%
HtA	Hoytville silty clay, 0 to 1 percent slopes	.17	23.9	3.5%
Lc	Latty silty clay	.28	378.0	55.7%
NnA	Nappanee loam, 0 to 2 percent slopes	.37	0.0	0.0%
NpA	Nappanee silty clay loam, 0 to 2 percent slopes	.43	81.8	12.0%
NpB	Nappanee silty clay loam, 2 to 6 percent slopes	.43	13.2	2.0%
NpB2	Nappanee silty clay loam, 2 to 6 percent slopes, eroded	.43	11.9	1.8%
Pc	Paulding clay	.28	132.8	19.6%
Sb	Saranac silty clay loam, occasionally flooded	.28	36.8	5.4%
SuC3	St. Clair silty clay, 6 to 12 percent slopes, severely eroded	.32	0.1	0.0%
Totals for Area of Interest			678.7	100.0%

Description

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

"Erosion factor Kw (whole soil)" indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Rating Options

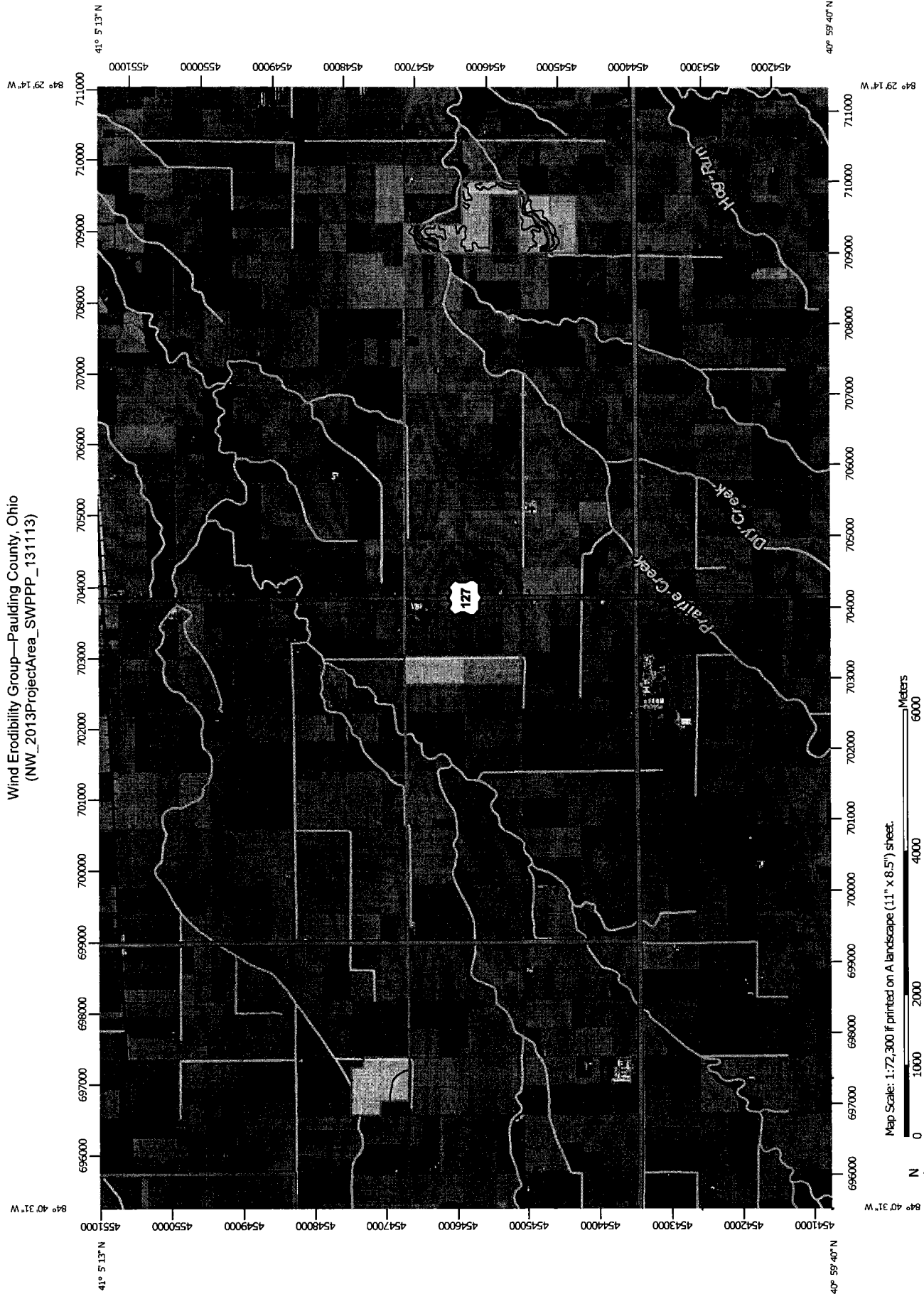
Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

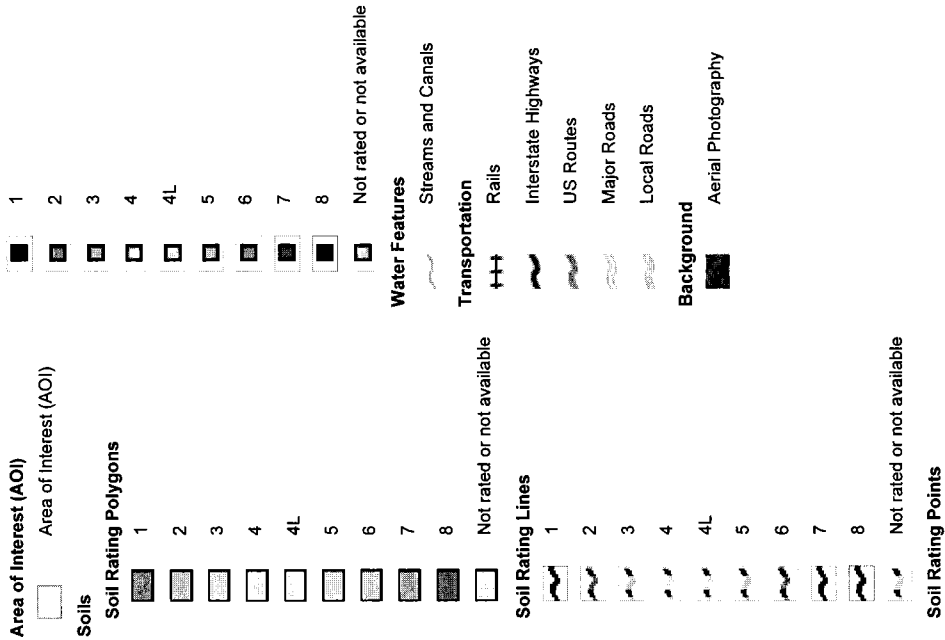
Tie-break Rule: Higher

Layer Options (Horizon Aggregation Method): Surface Layer (Not applicable)

Wind Erodibility Group—Paulding County, Ohio
(NW_2013ProjectArea_SWPPP_131113)



MAP LEGEND



MAP INFORMATION

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Wind Erodibility Group

Wind Erodibility Group— Summary by Map Unit — Paulding County, Ohio (OH125)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Db	Defiance silty clay loam, occasionally flooded	7	0.1	0.0%
HtA	Hoytville silty clay, 0 to 1 percent slopes	4	23.9	3.5%
Lc	Latty silty clay	4	378.0	55.7%
NnA	Nappanee loam, 0 to 2 percent slopes	6	0.0	0.0%
NpA	Nappanee silty clay loam, 0 to 2 percent slopes	4	81.8	12.0%
NpB	Nappanee silty clay loam, 2 to 6 percent slopes	4	13.2	2.0%
NpB2	Nappanee silty clay loam, 2 to 6 percent slopes, eroded	4	11.9	1.8%
Pc	Paulding clay	4	132.8	19.6%
Sb	Saranac silty clay loam, occasionally flooded	7	36.8	5.4%
SuC3	St. Clair silty clay, 6 to 12 percent slopes, severely eroded	4	0.1	0.0%
Totals for Area of Interest			678.7	100.0%

Description

A wind erodibility group (WEG) consists of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible.

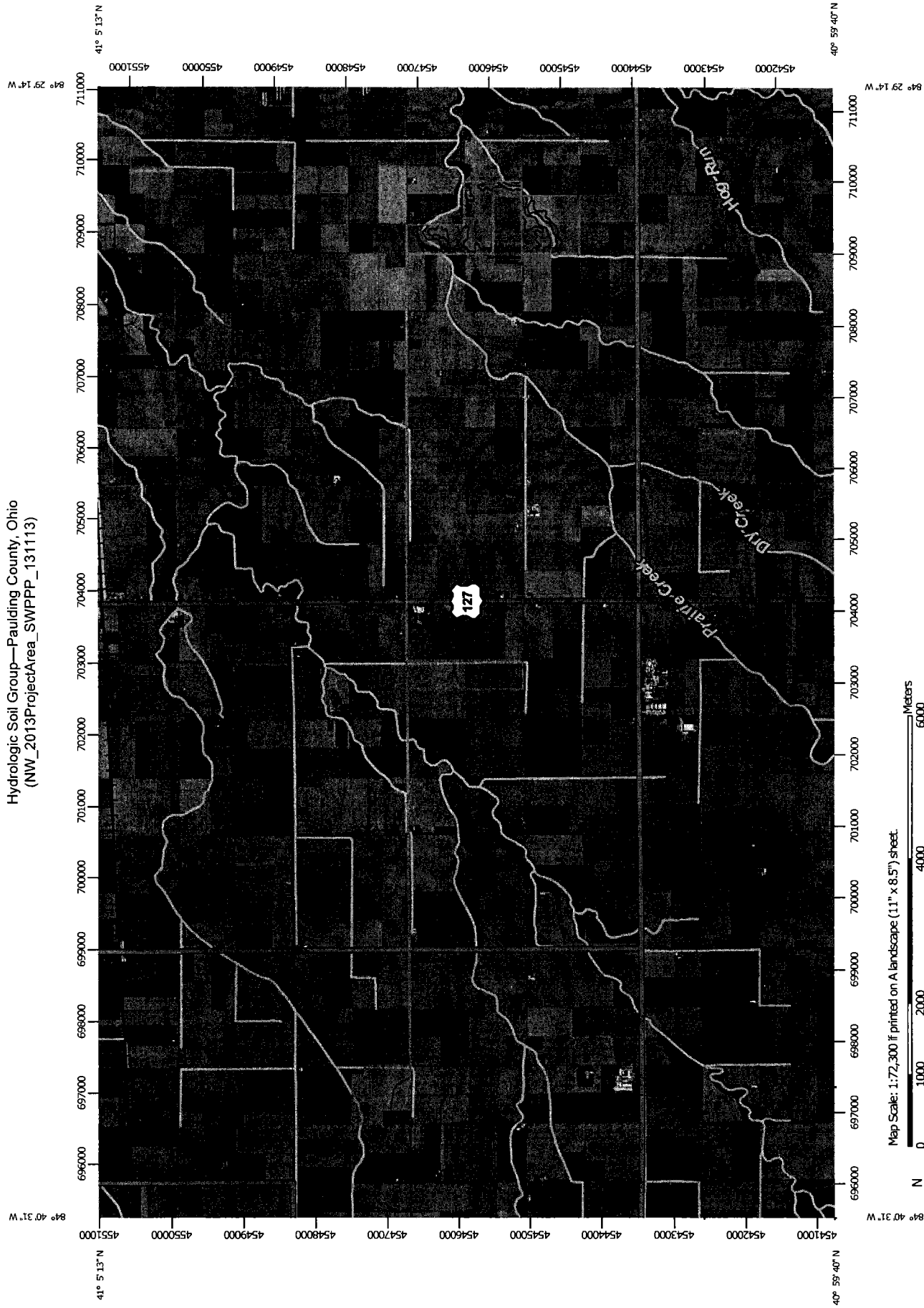
Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Hydrologic Soil Group—Paulding County, Ohio
(NW_2013ProjectArea_SWPPP_131113)

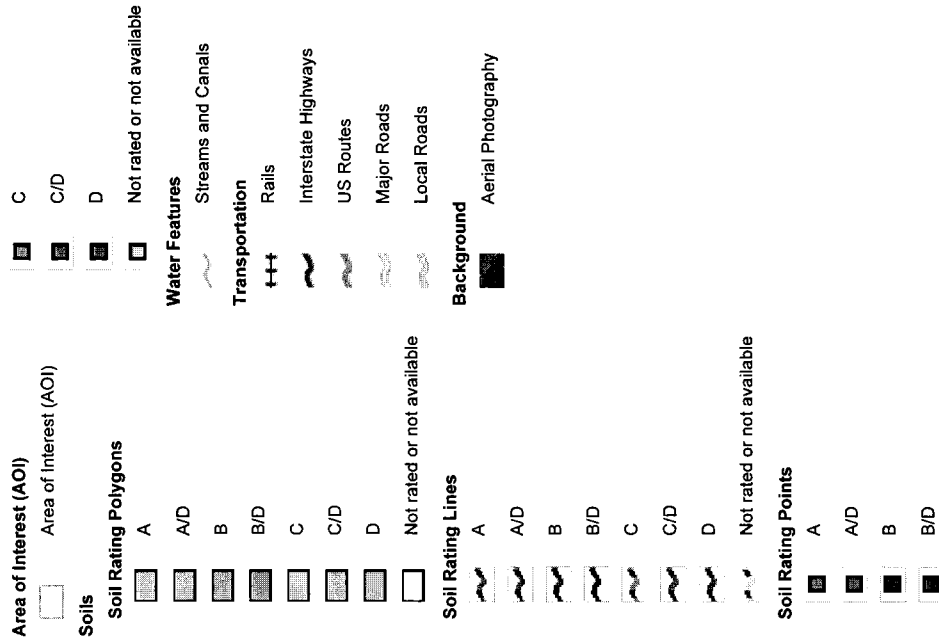


Map Scale: 1:72,300 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge ties: UTM Zone 16N WGS84

MAP LEGEND



MAP INFORMATION

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Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
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Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — Paulding County, Ohio (OH125)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Db	Defiance silty clay loam, occasionally flooded	C/D	0.1	0.0%
HtA	Hoytville silty clay, 0 to 1 percent slopes	C/D	23.9	3.5%
Lc	Latty silty clay	C/D	378.0	55.7%
NnA	Nappanee loam, 0 to 2 percent slopes	D	0.0	0.0%
NpA	Nappanee silty clay loam, 0 to 2 percent slopes	D	81.8	12.0%
NpB	Nappanee silty clay loam, 2 to 6 percent slopes	D	13.2	2.0%
NpB2	Nappanee silty clay loam, 2 to 6 percent slopes, eroded	D	11.9	1.8%
Pc	Paulding clay	D	132.8	19.6%
Sb	Saranac silty clay loam, occasionally flooded	C/D	36.8	5.4%
SuC3	St. Clair silty clay, 6 to 12 percent slopes, severely eroded	D	0.1	0.0%
Totals for Area of Interest			678.7	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Paulding County, Ohio

Lc—Latty silty clay

Map Unit Setting

Elevation: 570 to 990 feet

Mean annual precipitation: 27 to 39 inches

Mean annual air temperature: 45 to 54 degrees F

Frost-free period: 140 to 165 days

Map Unit Composition

Latty and similar soils: 95 percent

Minor components: 5 percent

Description of Latty

Setting

Landform: Flats, depressions, drainageways

Parent material: Clayey glaciolacustrine deposits

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Very poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low (0.01 to 0.06 in/hr)

Depth to water table: About 0 to 12 inches

Frequency of flooding: None

Frequency of ponding: Frequent

Calcium carbonate, maximum content: 25 percent

Available water capacity: Moderate (about 6.4 inches)

Interpretive groups

Farmland classification: Prime farmland if drained

Land capability (nonirrigated): 3w

Hydrologic Soil Group: C/D

Typical profile

0 to 11 inches: Silty clay

11 to 42 inches: Clay

42 to 80 inches: Silty clay

Minor Components

Fulton

Percent of map unit: 3 percent

Landform: Lake plains

Landform position (two-dimensional): Summit, shoulder

Landform position (three-dimensional): Rise

Down-slope shape: Convex

Across-slope shape: Convex

Nappanee

Percent of map unit: 2 percent

Landform: Lake plains

Landform position (two-dimensional): Summit, shoulder

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Linear

Data Source Information

Soil Survey Area: Paulding County, Ohio

Survey Area Data: Version 10, Apr 27, 2012

Paulding County, Ohio

NpA—Nappanee silty clay loam, 0 to 2 percent slopes

Map Unit Setting

Elevation: 600 to 800 feet

Mean annual precipitation: 27 to 36 inches

Mean annual air temperature: 45 to 52 degrees F

Frost-free period: 140 to 170 days

Map Unit Composition

Nappanee and similar soils: 90 percent

Minor components: 10 percent

Description of Nappanee

Setting

Landform: Lake plains

Landform position (two-dimensional): Summit, shoulder

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Till

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water

(Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 12 to 24 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 20 percent

Available water capacity: Moderate (about 6.8 inches)

Interpretive groups

Farmland classification: Prime farmland if drained

Land capability (nonirrigated): 3w

Hydrologic Soil Group: D

Typical profile

0 to 10 inches: Silty clay loam

10 to 27 inches: Silty clay

27 to 80 inches: Silty clay loam

Minor Components

Latty

Percent of map unit: 10 percent

Landform: Depressions, drainageways

Data Source Information

Soil Survey Area: Paulding County, Ohio
Survey Area Data: Version 10, Apr 27, 2012

Paulding County, Ohio

Pc—Paulding clay

Map Unit Setting

Elevation: 720 to 1,100 feet

Mean annual precipitation: 27 to 37 inches

Mean annual air temperature: 45 to 55 degrees F

Frost-free period: 140 to 165 days

Map Unit Composition

Paulding and similar soils: 95 percent

Minor components: 5 percent

Description of Paulding

Setting

Landform: Flats, depressions, drainageways

Parent material: Clayey glaciolacustrine deposits

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Very poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low (0.01 to 0.06 in/hr)

Depth to water table: About 0 to 12 inches

Frequency of flooding: None

Frequency of ponding: Frequent

Calcium carbonate, maximum content: 25 percent

Available water capacity: Low (about 5.6 inches)

Interpretive groups

Farmland classification: Not prime farmland

Land capability (nonirrigated): 3w

Hydrologic Soil Group: D

Typical profile

0 to 6 inches: Clay

6 to 48 inches: Clay

48 to 80 inches: Clay

Minor Components

Roselms

Percent of map unit: 5 percent

Landform: Lake plains, lake plains

Landform position (two-dimensional): Shoulder, summit, backslope

Landform position (three-dimensional): Side slope, rise

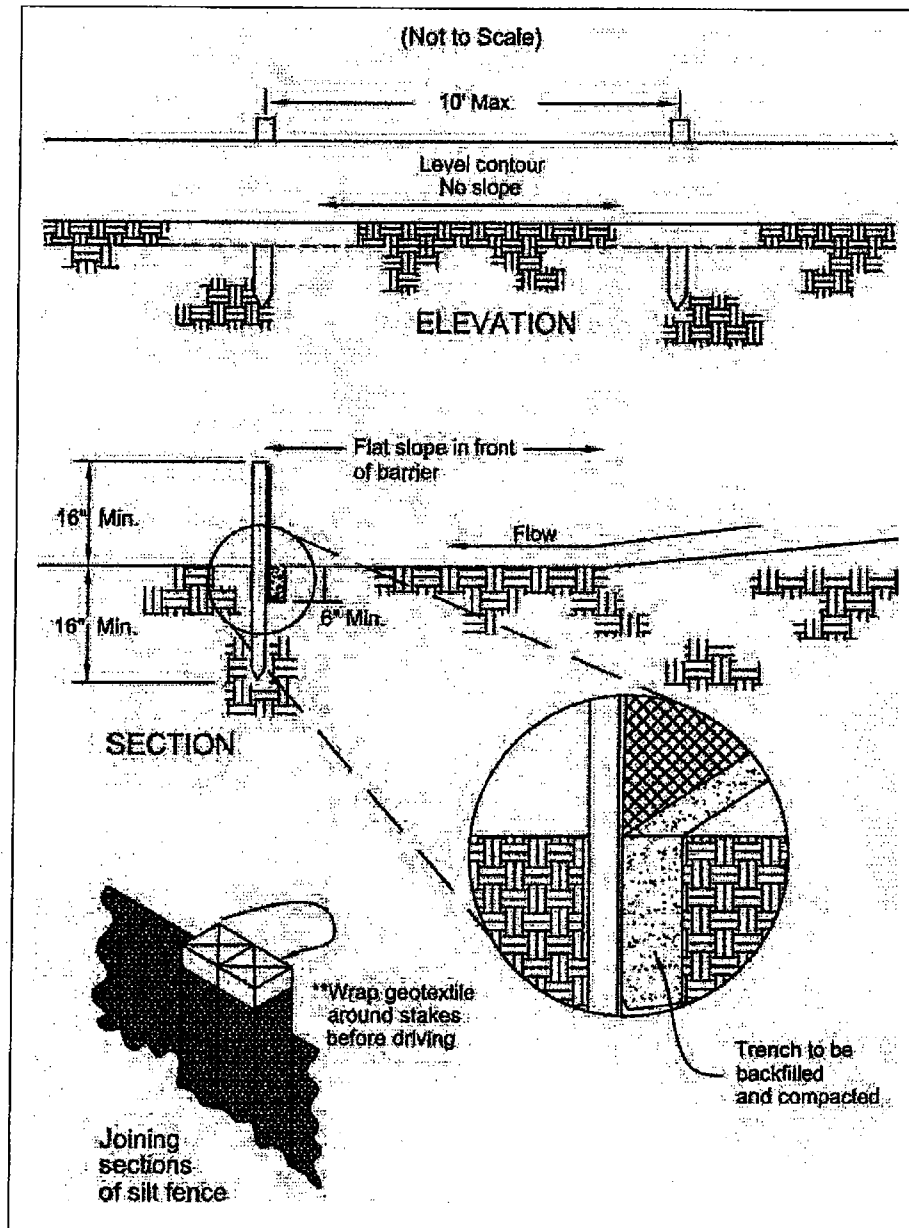
Down-slope shape: Convex, linear

Across-slope shape: Convex, linear

Data Source Information

Soil Survey Area: Paulding County, Ohio
Survey Area Data: Version 10, Apr 27, 2012

Specifications
for
Silt Fence



Specifications for Silt Fence

1. Silt fence shall be constructed before upslope land disturbance begins.
2. All silt fence shall be placed as close to the contour as possible so that water will not concentrate at low points in the fence and so that small swales or depressions that may carry small concentrated flows to the silt fence are dissipated along its length.
3. Ends of the silt fences shall be brought upslope slightly so that water ponded by the silt fence will be prevented from flowing around the ends.
4. Silt fence shall be placed on the flattest area available.
5. Where possible, vegetation shall be preserved for 5 feet (or as much as possible) upslope from the silt fence. If vegetation is removed, it shall be reestablished within 7 days from the installation of the silt fence.
6. The height of the silt fence shall be a minimum of 16 inches above the original ground surface.
7. The silt fence shall be placed in an excavated or sliced trench cut a minimum of 6 inches deep. The trench shall be made with a trencher, cable laying machine, slicing machine, or other suitable device that will ensure an adequately uniform trench depth.
8. The silt fence shall be placed with the stakes on the downslope side of the geotextile. A minimum of 8 inches of geotextile must be below the ground surface. Excess material shall lay on the bottom of the 6-inch deep trench. The trench shall be backfilled and compacted on both sides of the fabric.
9. Seams between sections of silt fence shall be spliced together only at a support post with a minimum 6-in. overlap prior to driving into the ground, (see details).
10. Maintenance—Silt fence shall allow runoff to pass only as diffuse flow through the geotextile. If runoff overtops the silt fence, flows under the fabric or around the fence ends, or in any other way allows a concentrated flow discharge, one of the following shall be performed, as appropriate: 1) the layout of the silt fence shall be changed, 2) accumulated sediment shall be removed, or 3) other practices shall be installed.

Sediment deposits shall be routinely removed when the deposit reaches approximately one-half of the height of the silt fence.

Silt fences shall be inspected after each rainfall and at least daily during a prolonged rainfall. The location of existing silt fence shall be reviewed daily to ensure its proper location and effectiveness. If damaged, the silt fence shall be repaired immediately.

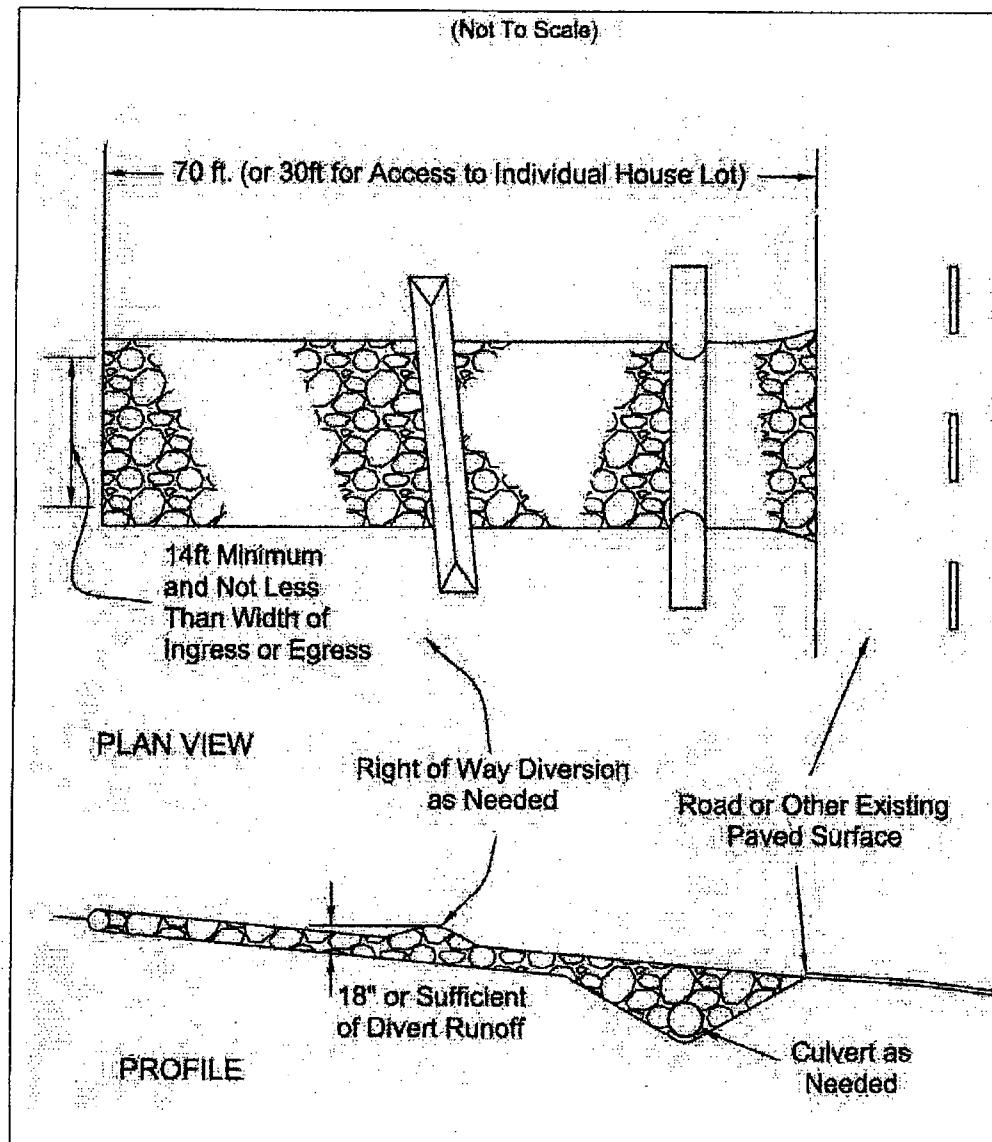
Criteria for silt fence materials

1. Fence post – The length shall be a minimum of 32 inches. Wood posts will be 2-by-2-in. nominal dimensioned hardwood of sound quality. They shall be free of knots, splits and other visible imperfections, that will weaken the posts. The maximum spacing between posts shall be 10 ft. Posts shall be driven a minimum 16 inches into the ground, where possible. If not possible, the posts shall be adequately secured to prevent overturning of the fence due to sediment/water loading.
2. Silt fence fabric – See chart below.

Table 6.3.2 Minimum criteria for Silt Fence Fabric (ODOT, 2002)

FABRIC PROPERTIES	VALUES	TEST METHOD
Minimum Tensile Strength	120 lbs. (535 N)	ASTM D 4632
Maximum Elongation at 60 lbs	50%	ASTM D 4632
Minimum Puncture Strength	50 lbs (220 N)	ASTM D 4833
Minimum Tear Strength	40 lbs (180 N)	ASTM D 4533
Apparent Opening Size	≤ 0.84 mm	ASTM D 4751
Minimum Permittivity	1X10 ⁻² sec.-1	ASTM D 4491
UV Exposure Strength Retention	70%	ASTM G 4355

Specifications
for
Construction Entrance



Specifications for Construction Entrance

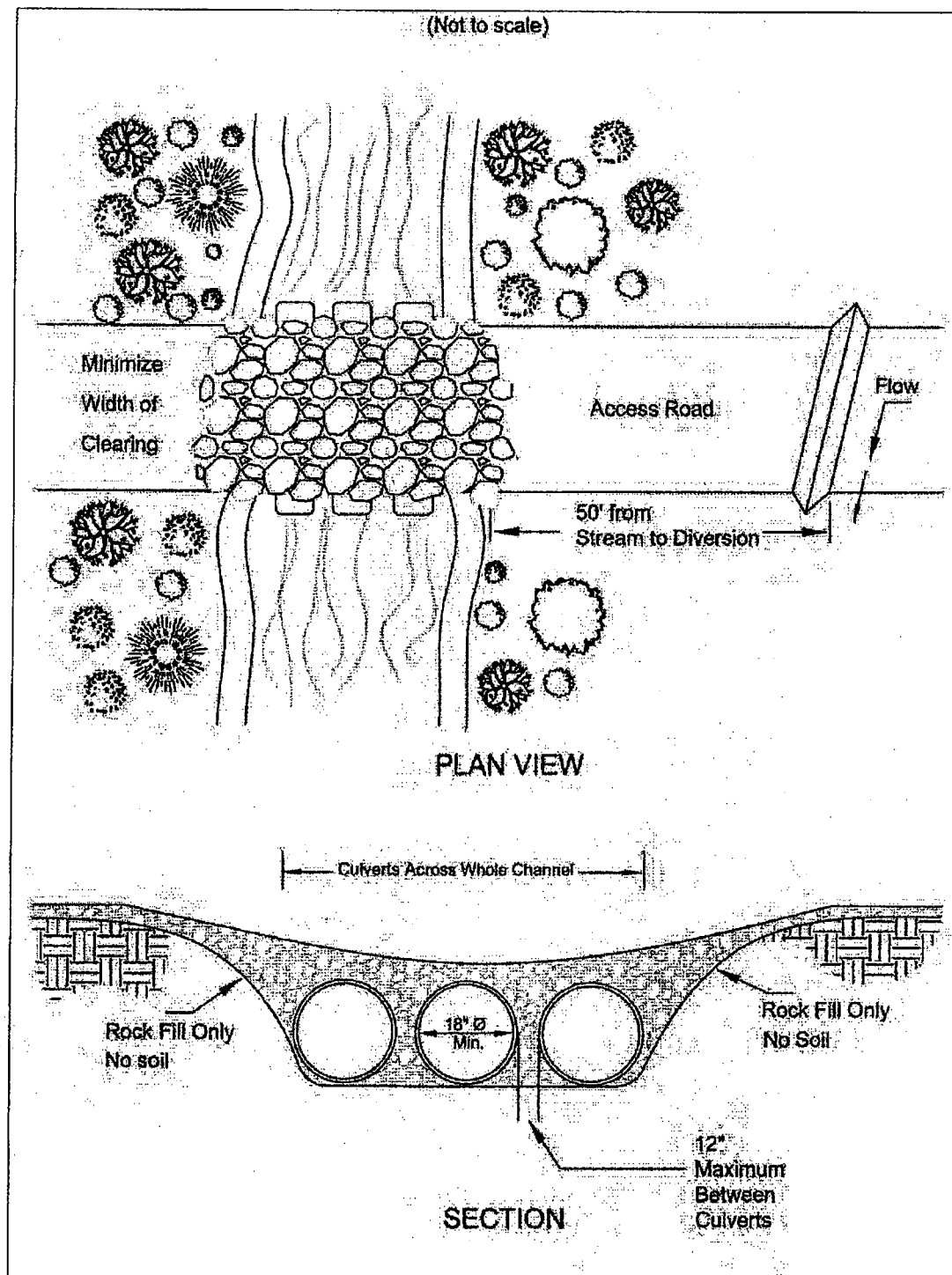
1. **Stone Size**—ODOT # 2 (1.5-2.5 inch) stone shall be used, or recycled concrete equivalent.
2. **Length**—The Construction entrance shall be as long as required to stabilize high traffic areas but not less than 70 ft. (exception: apply 30 ft. minimum to single residence lots).
3. **Thickness** -The stone layer shall be at least 6 inches thick for light duty entrances or at least 10 inches for heavy duty use.
4. **Width** -The entrance shall be at least 14 feet wide, but not less than the full width at points where ingress or egress occurs.
5. **Geotextile** -A geotextile shall be laid over the entire area prior to placing stone. It shall be composed of strong rot-proof polymeric fibers and meet the following specifications:
6. **Timing**—The construction entrance shall be installed as soon as is practicable before major grading activities.
7. **Culvert** -A pipe or culvert shall be constructed under the entrance if needed to prevent surface water from flowing across the entrance or to prevent runoff from being directed out onto paved surfaces.
8. **Water Bar** -A water bar shall be constructed as part of the construction entrance if needed to prevent surface runoff from flowing the length of the construction entrance and out onto paved surfaces.
9. **Maintenance** -Top dressing of additional stone shall be applied as conditions demand. Mud spilled, dropped, washed or tracked onto public roads, or any surface where runoff is not checked by sediment controls, shall be removed immediately. Removal shall be accomplished by scraping or sweeping.

Figure 7.4.1

Geotextile Specification for Construction Entrance	
Minimum Tensile Strength	200 lbs.
Minimum Puncture Strength	80 psi.
Minimum Tear Strength	50 lbs.
Minimum Burst Strength	320 psi.
Minimum Elongation	20%
Equivalent Opening Size	EOS < 0.6 mm.
Permittivity	1×10 ⁻³ cm/sec.

10. Construction entrances shall not be relied upon to remove mud from vehicles and prevent off-site tracking. Vehicles that enter and leave the construction-site shall be restricted from muddy areas.
11. **Removal**—the entrance shall remain in place until the disturbed area is stabilized or replaced with a permanent roadway or entrance.

Specifications
for
Culvert Stream Crossing



Specifications
for
Culvert Stream Crossing

1. **Stream Disturbance** -Disturbance to the stream shall be kept to a minimum. Streambank vegetation shall be preserved to the maximum extent practical and the stream crossing shall be as narrow as practical.
2. **Clearing** shall be done by cutting NOT grubbing. The roots and stumps shall be left in place to help stabilize the banks and accelerate revegetation.
3. To minimize interference with fish spawning and migration, crossing construction should be avoided where practical from March 15 through June 15.
4. Water shall not be allowed to flow along the road directly to the stream. Diversions and swales shall direct runoff away from the access road to a sediment-control practice.
5. **Placement** -Culverts shall be placed on the existing streambed to avoid a drop or waterfall at the downstream end of the pipe, which would be a barrier to fish migration. Crossings shall be made in shallow areas rather than deep pools where possible.
6. **Culvert Size** -Culvert diameter shall be at least three times the depth of normal stream flow at the point of the stream crossing. If the crossing must be placed in deep, slow-moving pools, the culvert diameter may be reduced to twice the depth of normal stream flow. The minimum size culvert that may be used is 18 in.
7. **Number of Culverts** -There shall be sufficient number of culverts to completely cross the stream channel from streambank to streambank with no more than a 12-in. space between each one.
8. **Fill and Surface Material** -All material placed in the stream channel, around the culverts and on the surface of the crossing shall be stone, rock or aggregate. ODOT No. 1 shall be the minimum acceptable size. To prevent washouts, larger stone and rock may be used and they may be placed in gabion mattresses. NO SOIL SHALL BE USED IN THE CONSTRUCTION OF A STREAM CROSSING OR PLACED IN THE STREAM CHANNEL.
9. **Removal** -Aggregate stone and rock used for this structure does not need to be removed. Care should be taken so that any aggregate left does not create an impoundment or impede fish passage. All pipes, culverts, gabions or structures must be removed.
10. **Stabilization** -Streambanks shall be stabilized. Plantings shall include woody vegetation where practical.

5.7 Dewatering Measures



Description

Dewatering measures provide a stable area for receiving and treating water pumped from excavation or work areas prior to being released off the site. These practices reduce sediment impacts to downstream water resources.

Conditions Where Practice Applies

De-watering measures are used whenever water, either surface or subsurface, prevents or hinders construction activities and has the potential of contributing sediment to streams. This practice is appropriate for any kind of pumping used in conjunction with construction activities.

Planning Considerations

Construction activities often require that water be pumped from an area to facilitate work. This water often has large amounts of suspended sediments. Rather than discharge this water directly to a stream, a means to settle or remove sediment must be provided.

A dewatering plan should be prepared utilizing ground water conditions and soils information to predict areas where de-watering will likely occur. Plans should include the length of time de-watering will occur, the method of de-watering (pumping, siphon...), the discharge point(s), methods to control sediment impacts and the contents of a written log to be kept on-site. These plans may need to be approved by local authorities prior to construction.

All dewatering discharges with suspended solids should pass through a practice to remove sediments. While a vegetated filter areas may be sufficient for some situations (e.g. short duration low pumping rates) many will need additional measures, such as sediment traps,

filter bag or flocculation. All structures must have adequate outlet protection to prevent gully erosion. Please note that the Ohio Environmental Protection Agency will find turbid discharges to the stream resulting from any dewatering activity a violation of Ohio Revised Code 6111.04 independent of the methods employed. Therefore even if one method is selected, additional measures may be required to fully treat turbid water.

The particle size distribution, that is the relative proportion of sands, silts and clays, of a soil that is suspended will determine the difficulty of removing sediments. Soils with coarser particle size distributions (large proportion of sand) will be easier to settle out with filter strips and settling ponds. Finer particle size distributions (predominantly silt and clays) will be increasingly difficult and may need a series of measures.

Ground Water Lowering: Often dewatering wells are established to lower the ground water table for utility installation or construction. Generally, this water is free from suspended solids and may be discharged to waters of the state provided the water is not contaminated.

Measures should be taken to ensure the discharge from the de-watering wells does not flow over disturbed areas and suspend sediments, resulting in contaminated discharge. Waterways established to transport dewatering flow should be protected from erosion from the point of discharge all the way to waters of the state. Extending hoses to waters of the state will ensure the discharge remains free from suspended solids. This practice is recommended for discharges of short duration.

Water pumped from wells is about 55° F, which may cause thermal impacts in some situations. High pumping rates near small streams in summer will have major changes in stream metabolism, i.e., throw off spawning. Where this potential occurs, groundwater should not be discharged directly to the stream but roughed through settling ponds or other shallow holding ponds.

The Ohio Department of Natural Resources, Division of Water requires a Water Withdraw Registration for the de-watering activities in the event the facility has the capacity of pumping in excess of 100, 000 gallons per day. This registration must be submitted to ODNR within 90 days following the completion of the project. A water withdraw registration can be obtained by contacting ODNR, Division of Water at 614-265-6735. Assistance regarding proper well installation and abandonment is also available.

Design Criteria

Vegetated Filter Areas: Densely vegetated areas may offer sufficient conditions to treat short duration discharges provided that: flow is not channelized directly to a water resource and the area encourages infiltration, slow overland flow and settling. A minimum of 100 feet is required to utilize a vegetated area. Dense grass or areas with natural depressions will provide the best conditions. Critical areas like wetlands (e.g. vernal pools) or areas with sensitive vegetation that will be damaged (smothering) by sedimentation should not be used.

Sediment trap or basin: In most cases, contaminated discharge should be directed to a sediment trap where the suspended solids can settle/filter out prior to the discharge to waters of the state. Sediment traps should have sufficient storage to receive all the discharged water from pumping and detain this water a minimum of 24 hours. The sediment storage volume is directly related to the pumping capacity and the amount of turbidity. The sediment pond should be designed to optimize the amount of travel time through the impoundment.

The sediment pond should not be more than 4 feet deep with the distance between the intake and outlet maximized to the extent practical.

Pump intakes should withdraw water from the surface of the trench or work area in order not to re-suspend or continually mix water. Continually drawing water from the floor of the area will draw the muddiest water and increase the amount of sediment that must be removed.

Geotextile Filter Bags are an increasingly common way to remove sediment from dewatering discharge. Commonly discharge is pumped into a filter bag chosen for the predominant sediment size. Filter bags are manufactured products made typically from woven monofilament polypropylene textile (coarse materials, e.g. sands) or non-woven geotextile (silts/clays). They are single use products that must be replaced when they become clogged or half full of sediment.

While they may be useful, they are generally high flow products, which have limited ability to treat fine-grained sediments. Gravity drained filter bags should apply the following:

- They should place outside of a vegetated filter area and not in close proximity to the stream or water resource.
- They must sit on a relatively flat grade so that water leaving the bag does not cause additional erosion. Placing the bag on a flat bed of aggregate will maximize the flow and useful surface area of the bag.
- They should be used in conjunction with a large vegetative buffer or a secondary pond or barrier

Enhanced Treatment Through Multiple Practices. The need for further reduction in turbidity will likely require more than one treatment measure. The following are devices or measures that when used in sequence with others will reduce turbidity.

Filter bags (gravity flow) are highly variable depending on the pore size and flow rate. Typically filter bags are limited to removing large particles (small sands and large silts).

Sediment traps, weir tanks, filter boxes are effective for the removal of large particles such as sand. Their effectiveness increases as detention times increase.

Sand Media Filters effective for removal of smaller particles such as sand and large silts. These often have the ability to backflush and thus maintain effectiveness and flow rate.

Some commercially available additives are available for further decreasing turbidity. Chitosan and chitin based additives have been shown to significantly increase the effectiveness of filtration and settling. Chitosan (Poly-D-glucosamine) is a low-toxicity product extracted from Chitin (Poly-N-acetyl-D-glucosamine), a by-product of the shellfish industry. Other products such as anionic polyacrylamide (anionic PAM) are commercially available to increase settling. Often these are utilized through wet or dry dosing mechanisms or as water runs over a gel block upstream of a settling or filtration practice. Each product should be utilized within the manufacturers specifications and tailored to the soil and site conditions.

Particulate filter units utilizing cartridges or enclosed filter bags can remove smaller particles depending on the filter size. This type of measure is usually necessary to treat clays. Filters may be needed to be changed daily or more frequently.

An example of an enhanced treatment might include: dewatering a trench with a trash pump to a settling tank or pit then pumping from the settling practice to a sand media filter or to a particulate filter.

Common Problems/Concerns

Complete settling of solids within the Sediment Basin does not occur prior to discharge. The length to width ratio of the pond must be increased to lengthen travel time through the structure. In addition, flocculent may be necessary to promote settlement.

Water discharged from subsurface/ground water pumping maybe significantly lower in temperature than that of the receiving stream. The water will need pre-conditioned in order to minimize the biological affects on the stream.

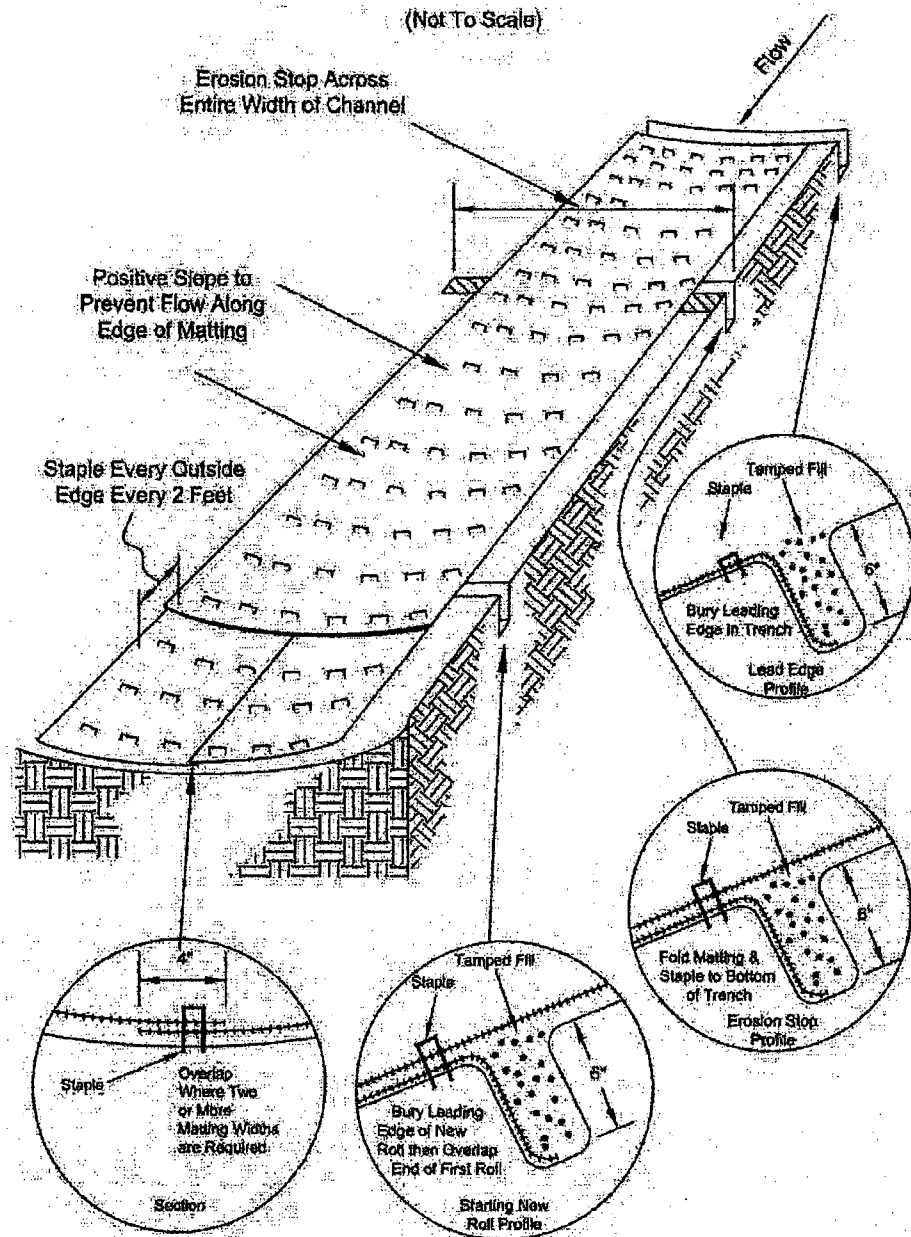
References

Virginia Department of Conservation and Recreation, 2002. *Erosion & Sediment Control Technical Bulletin #2: Application of Anionic Polyacrylimide for soil stabilization and stormwater management*. <http://www.dcr.state.va.us/sw/docs/anoinic.pdf>

Specifications
for
De-Watering

1. A de-watering plan shall be developed prior to the commencement of any pumping activities.
2. The de-watering plan shall include all pumps and related equipment necessary for the dewatering activities and designate areas for placement of practices. Outlets for practices shall be protected from scour either by riprap protection, fabric liner, or other acceptable method of outlet protection.
3. Water that is not discharged into a settling/treatment basin but directly into waters of the state shall be monitored hourly. Discharged water shall be within $\pm 5^{\circ}$ F of the receiving waters.
4. Settling basins shall not be greater than four (4) feet in depth. The basin shall be constructed for sediment storage as outlined in Chapter 6, SEDIMENT BASIN OR SEDIMENT TRAP. The inlet and outlet for the basin shall be located at the furthest points of the storage. A floating outlet shall be used to ensure that settled solids do not re-suspend during the discharge process. The settling basin shall be cleaned out when the storage has been reduced by 50% of its original capacity.
5. All necessary National, State and Local permits shall be secured prior to discharging into waters of the state

Specifications
for
Temporary Rolled Erosion Control Product



Specifications
for

Temporary Rolled Erosion Control Product

1. Channel/Slope Soil Preparation Grade and compact area of installation, preparing seedbed by loosening 2"-3" of topsoil above final grade. Incorporate amendments such as lime and fertilizer into soil. Remove all rocks, clods, vegetation or other debris so that installed RECP will have direct contact with the soil surface.
2. Channel/Slope Seeding Apply seed to soil surface prior to installation. All check slots, anchor trenches, and other disturbed areas must be reseeded. Refer to the Permanent Seeding specification for seeding recommendations.

Slope Installation

3. Excavate top and bottom trenches (12"x6"). Intermittent erosion check slots (6"x6") may be required based on slope length. Excavate top anchor trench 2' x 3' over crest of the slope.
4. If intermittent erosion check slots are required, install RECP in 6"x6" slot at a maximum of 30' centers or the mid point of the slope. RECP should be stapled into trench on 12" centers.
5. Install RECP in top anchor trench, anchor on 12" spacings, backfill and compact soil.
6. Unroll RECP down slope with adjacent rolls overlapped a minimum of 3". Anchor the seam every 18". Lay the RECP loose to maintain direct soil contact, do not pull taught.
7. Overlap roll ends a minimum of 12" with upslope RECP on top for a shingle effect. Begin all new rolls in an erosion check slot if required, double anchor across roll every 12".
8. Install RECP in bottom anchor trench (12"x6"), anchor every 12". Place all other staples throughout slope at 1 to 2.5 per square yard dependant on slope. Refer to manufacturer's anchor guide.

Channel Installation

9. Excavate initial anchor trench (12"x6") across the lower end of the project area.
10. Excavate intermittent check slots (6"x6") across the channel at 30' intervals along the channel.
11. Excavate longitudinal channel anchor slots (4"x4") along both sides of the channel to bury the edges. Whenever possible extend the RECP 2'-3' above the crest of channel side slopes.
12. Install RECP in initial anchor trench (downstream) anchor every 12", backfill and compact soil.
13. Roll out RECP beginning in the center of the channel toward the intermittent check slot. Do not pull taught. Unroll adjacent rolls upstream with a 3" minimum overlap (anchor every 18") and up each channel side slope.
14. At top of channel side slopes install RECP in the longitudinal anchor slots, anchor every 18".
15. Install RECP in intermittent check slots. Lay into trench and secure with anchors every 12", backfill with soil and compact.
16. Overlap roll ends a minimum of 12" with upstream RECP on top for a shingling effect. Begin all new rolls in an intermittent check slot, double anchored every 12".
17. Install upstream end in a terminal anchor trench (12"x6"); anchor every 12", backfill and compact.
18. Complete anchoring throughout channel at 2.5 per square yard using suitable ground anchoring devices (U shaped wire staples, metal geotextile pins, plastic stakes, and triangular wooden stakes). Anchors should be of sufficient length to resist pullout. Longer anchors may be required in loose sandy or gravelly soils.

Specifications for **Mulching**

1. Mulch and other appropriate vegetative practices shall be applied to disturbed areas within 7 days of grading if the area is to remain dormant (undisturbed) for more than 21 days or on areas and portions of the site which can be brought to final grade.
2. Mulch shall consist of one of the following:
 - Straw - Straw shall be unrotted small grain straw applied at the rate of 2 tons/ac. or 90 lb./1,000 sq. ft. (two to three bales). The straw mulch shall be spread uniformly by hand or mechanically so the soil surface is covered. For uniform distribution of hand-spread mulch, divide area into approximately 1,000 sq.ft. sections and place two 45-lb. bales of straw in each section.
 - Hydroseeders - Wood cellulose fiber should be used at 2,000 lb./ac. or 46 lb./1,000 sq. ft.
 - Other - Acceptable mulches include mulch mattings and rolled erosion control products applied according to manufacturer's recommendations or wood mulch/chips applied at 10-20 tons/ac.
3. Mulch Anchoring - Mulch shall be anchored immediately to minimize loss by wind or runoff. The following are acceptable methods for anchoring mulch.
 - Mechanical - Use a disk, crimper, or similar type tool set straight to punch or anchor the mulch material into the soil. Straw mechanically anchored shall not be finely chopped but be left generally longer than 6 inches.
 - Mulch Nettings - Use according to the manufacturer's recommendations, following all placement and anchoring requirements. Use in areas of water concentration and steep slopes to hold mulch in place.
 - Synthetic Binders - For straw mulch, synthetic binders such as Acrylic DLR (Agri-Tac), DCA-70, Petroset, Terra Tack or equal may be used at rates recommended by the manufacturer. All applications of Synthetic Binders must be conducted in such a manner where there is no contact with waters of the state.
 - Wood Cellulose Fiber - Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 lb./acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 lb./100 gal. of wood cellulose fiber.

Specifications
for
Temporary Seeding

Table 7.8.1 Temporary Seeding Species Selection

Seeding Dates	Species	Lb./1000 ft ²	Lb./Acre
March 1 to August 15	Oats	3	128 (4 Bushel)
	Tall Fescue	1	40
	Annual Ryegrass	1	40
	Perennial Ryegrass	1	40
	Tall Fescue	1	40
	Annual Ryegrass	1	40
	Annual Ryegrass	1.25	55
	Perennial Ryegrass	3.25	142
	Creeping Red Fescue	0.4	17
	Kentucky Bluegrass	0.4	17
August 16th to November	Oats	3	128 (3 bushel)
	Tall Fescue	1	40
	Annual Ryegrass	1	40
	Wheat	3	120 (2 bushel)
	Tall Fescue	1	40
	Annual Ryegrass	1	40
	Perennial Rye	1	40
	Tall Fescue	1	40
	Annual Ryegrass	1	40
	Annual Ryegrass	1.25	40
	Perennial Ryegrass	3.25	40
	Creeping Red Fescue	0.4	40
	Kentucky Bluegrass	0.4	
November 1 to Feb. 29	Use mulch only or dormant seeding		

Note: Other approved species may be substituted.

1. Structural erosion and sediment control practices such as diversions and sediment traps shall be installed and stabilized with temporary seeding prior to grading the rest of the construction site.
2. Temporary seed shall be applied between construction operations on soil that will not be graded or reworked for 21 days or greater. These idle areas shall be seeded within 7 days after grading.
3. The seedbed should be pulverized and loose to ensure the success of establishing vegetation. Temporary seeding should not be postponed if ideal seedbed preparation is not possible.
4. Soil Amendments—Temporary vegetation seeding rates shall establish adequate stands of vegetation, which may require the use of soil amendments. Base rates for lime and fertilizer shall be used.
5. Seeding Method—Seed shall be applied uniformly with a cyclone spreader, drill, cultipacker seeder, or hydroseeder. When feasible, seed that has been broadcast shall be covered by raking or dragging and then lightly tamped into place using a roller or cultipacker. If hydroseeding is used, the seed and fertilizer will be mixed on-site and the seeding shall be done immediately and without interruption.

Specifications
for
Temporary Seeding

Mulching Temporary Seeding

1. Applications of temporary seeding shall include mulch, which shall be applied during or immediately after seeding. Seedlings made during optimum seeding dates on favorable, very flat soil conditions may not need mulch to achieve adequate stabilization.
2. Materials:
 - Straw—If straw is used, it shall be unrotted small-grain straw applied at a rate of 2 tons per acre or 90 lbs./ 1,000 sq. ft. (2-3 bales)
 - Hydroseeders—If wood cellulose fiber is used, it shall be used at 2000 lbs./ ac. or 46 lb./ 1,000-sq.-ft.
 - Other—Other acceptable mulches include mulch mattings applied according to manufacturer's recommendations or wood chips applied at 6 ton/ ac.
3. Straw Mulch shall be anchored immediately to minimize loss by wind or water. Anchoring methods:
 - Mechanical—A disk, crimper, or similar type tool shall be set straight to punch or anchor the mulch material into the soil. Straw mechanically anchored shall not be finely chopped but left to a length of approximately 6 inches.
 - Mulch Netting—Netting shall be used according to the manufacturers recommendations. Netting may be necessary to hold mulch in place in areas of concentrated runoff and on critical slopes.
 - Synthetic Binders—Synthetic binders such as Acrylic DLR (Agri-Tac), DCA-70, Petroset, Terra Track or equivalent may be used at rates recommended by the manufacturer.
 - Wood-Cellulose Fiber—Wood-cellulose fiber binder shall be applied at a net dry wt. of 750 lb./ac. The wood-cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 lb. / 100 gal.

Specifications for Permanent Seeding

Site Preparation

1. Subsoiler, plow, or other implement shall be used to reduce soil compaction and allow maximum infiltration. (Maximizing infiltration will help control both runoff rate and water quality.) Subsoiling should be done when the soil moisture is low enough to allow the soil to crack or fracture. Subsoiling shall not be done on slip-prone areas where soil preparation should be limited to what is necessary for establishing vegetation.
2. The site shall be graded as needed to permit the use of conventional equipment for seedbed preparation and seeding.
3. Topsoil shall be applied where needed to establish vegetation.

Seedbed Preparation

1. Lime—Agricultural ground limestone shall be applied to acid soil as recommended by a soil test. In lieu of a soil test, lime shall be applied at the rate of 100 pounds per 1,000-sq. ft. or 2 tons per acre.
2. Fertilizer—Fertilizer shall be applied as recommended by a soil test. In place of a soil test, fertilizer shall be applied at a rate of 25 pounds per 1,000-sq. ft. or 1000 pounds per acre of a 10-10-10 or 12-12-12 analyses.
3. The lime and fertilizer shall be worked into the soil with a disk harrow, spring-tooth harrow, or other suitable field implement to a depth of 3 inches. On sloping land, the soil shall be worked on the contour.

Seeding Dates and Soil Conditions

Seeding should be done March 1 to May 31 or August 1 to September 30. If seeding occurs outside of the above-specified dates, additional mulch and irrigation may be required to ensure a minimum of 80% germination. Tillage for seedbed preparation should be done when the soil is dry enough to crumble and not form ribbons when compressed by hand. For winter seeding, see the following section on dormant seeding.

Dormant Seedlings

1. Seedlings should not be made from October 1 through November 20. During this period, the seeds are likely to germinate but probably will not be able to survive the winter.
2. The following methods may be used for "Dormant Seeding":

- From October 1 through November 20, prepare the seedbed, add the required amounts of lime and fertilizer, then mulch and anchor. After November 20, and before March 15, broadcast the selected seed mixture. Increase the seeding rates by 50% for this type of seeding.
- From November 20 through March 15, when soil conditions permit, prepare the seedbed, lime and fertilize, apply the selected seed mixture, mulch and anchor. Increase the seeding rates by 50% for this type of seeding.
- Apply seed uniformly with a cyclone seeder, drill, cultipacker seeder, or hydro-seeder (slurry may include seed and fertilizer) on a firm, moist seedbed.
- Where feasible, except when a cultipacker type seeder is used, the seedbed should be firmed following seeding operations with a cultipacker, roller, or light drag. On sloping land, seeding operations should be on the contour where feasible.

Mulching

1. Mulch material shall be applied immediately after seeding. Dormant seeding shall be mulched. 100% of the ground surface shall be covered with an approved material.
2. Materials
 - Straw—If straw is used it shall be unrotted small-grain straw applied at the rate of 2 tons per acre or 90 pounds (two to three bales) per 1,000-sq. ft. The mulch shall be spread uniformly by hand or mechanically applied so the soil surface is covered. For uniform distribution of hand-spread mulch, divide area into approximately 1,000-sq.-ft. sections and spread two 45-lb. bales of straw in each section.
 - Hydroseeders—If wood cellulose fiber is used, it shall be applied at 2,000 lb./ac. or 46 lb./1,000 sq. ft.
 - Other—Other acceptable mulches include rolled erosion control mattings or blankets applied according to manufacturer's recommendations or wood chips applied at 6 tons per acre.

3. Straw and Mulch Anchoring Methods

Straw mulch shall be anchored immediately to minimize loss by wind or water.

- **Mechanical**—A disk, crimper, or similar type tool shall be set straight to punch or anchor the mulch material into the soil. Straw mechanically anchored shall not be finely chopped but, generally, be left longer than 6 inches.
- **Mulch Netting**—Netting shall be used according to the manufacturer's recommendations. Netting may be necessary to hold mulch in place in areas of concentrated runoff and on critical slopes.
- **Asphalt Emulsion**—Asphalt shall be applied as recommended by the manufacture or at the rate of 160 gallons per acre.

- **Synthetic Binders**—Synthetic binders such as Acrylic DLR (Agri-Tac), DCA-70, Petroset, Terra Tack or equivalent may be used at rates specified by the manufacturer.

- **Wood Cellulose Fiber**—Wood cellulose fiber shall be applied at a net dry weight of 750 pounds per acre. The wood cellulose fiber shall be mixed with water with the mixture containing a maximum of 50 pounds cellulose per 100 gallons of water.

Irrigation

Permanent seeding shall include irrigation to establish vegetation during dry weather or on adverse site conditions, which require adequate moisture for seed germination and plant growth.

Irrigation rates shall be monitored to prevent erosion and damage to seeded areas from excessive runoff.

Table 7.10.2 Permanent Seeding

Seed Mix	Seeding Rate		Notes:
	Lbs./acre	Lbs./1,000 Sq. Feet	
General Use			
Creeping Red Fescue	20-40	1/2-1	For close mowing & for waterways with <2.0 ft/sec velocity
Domestic Ryegrass	10-20	1/4-1/2	
Kentucky Bluegrass	20-40	1/2-1	
Tall Fescue	40-50	1-1 1/4	
Turf-type (dwarf) Fescue	90	2 1/4	
Steep Banks or Cut Slopes			
Tall Fescue	40-50	1-1 1/4	
Crown Vetch	10-20	1/4-1/2	Do not seed later than August
Tall Fescue	20-30	1/2-3/4	
Flat Pea	20-25	1/2-3/4	Do not seed later than August
Tall Fescue	20-30	1/2-3/4	
Road Ditches and Swales			
Tall Fescue	40-50	1-1 1/4	
Turf-type (Dwarf) Fescue	90	2 1/4	
Kentucky Bluegrass	5	0.1	
Lawns			
Kentucky Bluegrass	100-120	2	
Perennial Ryegrass		2	
Kentucky Bluegrass	100-120	2	For shaded areas
Creeping Red Fescue		1-1/2	

Note: Other approved seed species may be substituted.

Specifications for Dust Control

1. Vegetative Cover and/mulch – Apply temporary or permanent seeding and mulch to areas that will remain idle for over 21 days. Saving existing trees and large shrubs will also reduce soil and air movement across disturbed areas. See Temporary Seeding; Permanent Seeding; Mulching Practices; and Tree and Natural Area Protection practices.
2. Watering – Spray site with water until the surface is wet before and during grading and repeat as needed, especially on haul roads and other heavy traffic routes. Watering shall be done at a rate that prevents dust but does not cause soil erosion. Wetting agents shall be utilized according to manufacturers instructions.
3. Spray-On Adhesives – Apply adhesive according to the following table or manufacturers' instructions.
4. Stone – Graded roadways and other suitable areas will be stabilized using crushed stone or coarse gravel as soon as practicable after reaching an interim or final grade. Crushed stone or coarse gravel can be used as a permanent cover to provide control of soil emissions.
5. Barriers – Existing windbreak vegetation shall be marked and preserved. Snow fencing or other suitable barrier may be placed perpendicular to prevailing air currents at intervals of about 15 times the barrier height to control air currents and blowing soil.
6. Calcium Chloride - This chemical may be applied by mechanical spreader as loose, dry granules or flakes at a rate that keeps the surface moist but not so high as to cause water pollution or plant damage. Application rates should be strictly in accordance with suppliers' specified rates.
7. Operation and Maintenance - When Temporary Dust Control measures are used; repetitive treatment should be applied as needed to accomplish control.

Table 7.5.1 – Adhesives for Dust Control

Adhesive	Water Dilution (Adhesive: Water)	Nozzle Type	Application Rate Gal./Ac.
Latex Emulsion	12.5:1	Fine	235
Resin in Water Acrylic Emulsion (No-traffic)	4:1	Fine	300
Acrylic Emulsion (No-traffic)	7:1	Coarse	450
Acrylic Emulsion (Traffic)	3.5:1	Coarse	350

Street Cleaning - Paved areas that have accumulated sediment from construction should be cleaned daily, or as needed, utilizing a street sweeper or bucket -type endloader or scraper.

Specifications
for

Additional Construction Site Pollution Controls

1. Construction personnel, including subcontractors who may use or handle hazardous or toxic materials, shall be made aware of the following general guidelines regarding disposal and handling of hazardous and construction wastes:
 - Prevent spills
 - Use products up
 - Follow label directions for disposal
 - Remove lids from empty bottles and cans when disposing in trash
 - Recycle wastes whenever possible
 - Don't pour into waterways, storm drains or onto the ground
 - Don't pour down the sink, floor drain or septic tanks
 - Don't bury chemicals or containers
 - Don't burn chemicals or containers
 - Don't mix chemicals together
2. Containers shall be provided for the proper collection of all waste material including construction debris, trash, petroleum products and any hazardous materials used on-site. Containers shall be covered and not leaking. All waste material shall be disposed of at facilities approved for that material. Construction Demolition and Debris (CD&D) waste must be disposed of at an Ohio EPA approved CD&D landfill.
3. No construction related waste materials are to be buried on-site. By exception, clean fill (bricks, hardened concrete, soil) may be utilized in a way which does not encroach upon natural wetlands, streams or floodplains or result in the contamination of waters of the state.
4. **Handling Construction Chemicals.** Mixing, pumping, transferring or other handling of construction chemicals such as fertilizer, lime, asphalt, concrete drying compounds, and all other potentially hazardous materials shall be performed in an area away from any watercourse, ditch or storm drain.
5. **Equipment Fueling and Maintenance,** oil changing, etc., shall be performed away from watercourses, ditches or storm drains, in an area designated for that purpose. The designated area shall be equipped for recycling oil and catching spills. Secondary containment shall be provided for all fuel oil storage tanks. These areas must be inspected every seven days and within 24 hrs. of a 0.5 inch or greater rain event to ensure there are no exposed materials which would contaminate storm water. Site operators must be aware that Spill Prevention Control and Countermeasures (SPCC) requirements may apply. An SPCC plan is required for sites with one single above ground tank of 660

gallons or more, accumulative above ground storage of 1330 gallons or more, or 42,000 gallons of underground storage. Contaminated soils must be disposed of in accordance with Item 8.

6. **Concrete Wash Water** shall not be allowed to flow to streams, ditches, storm drains, or any other water conveyance. A sump or pit with no potential for discharge shall be constructed if needed to contain concrete wash water. Field tile or other subsurface drainage structures within 10 ft. of the sump shall be cut and plugged. For small projects, truck chutes may be rinsed away from any water conveyances.
7. **Spill Reporting Requirements:** Spills on pavement shall be absorbed with sawdust or kitty litter and disposed of with the trash at a licensed sanitary landfill. Hazardous or industrial wastes such as most solvents, gasoline, oil-based paints, and cement curing compounds require special handling. Spills shall be reported to Ohio EPA (1-800-282-9378). Spills of 25 gallons or more of petroleum products shall be reported to Ohio EPA, the local fire department, and the Local Emergency Planning Committee within 30 min. of the discovery of the release. All spills which contact waters of the state must be reported to Ohio EPA.
8. **Contaminated Soils.** If substances such as oil, diesel fuel, hydraulic fluid, antifreeze, etc. are spilled, leaked, or released onto the soil, the soil should be dug up and disposed of at licensed sanitary landfill or other approved petroleum contaminated soil remediation facility. (not a construction/demolition debris landfill). Note that storm water run off associated with contaminated soils are not be authorized under Ohio EPA's General Storm Water Permit associated with Construction Activities.
9. **Open Burning.** No materials containing rubber, grease, asphalt, or petroleum products, such as tires, autoparts, plastics or plastic coated wire may be burned (OAC 3745-19). Open burning is not allowed in restricted areas, which are defined as: 1) within corporation limits; 2) within 1000 feet outside a municipal corporation having a population of 1000 to 10,000; and 3) a one mile zone outside of a corporation of 10,000 or more. Outside of restricted areas, no open burning is allowed within a 1000 feet of an inhabited building on another property. Open burning is permissible in a restricted area for: heating tar, welding, smudge pots and similar occupational needs, and heating for warmth or outdoor barbeques. Outside of restricted areas, open burning is permissible for landscape or land-clearing wastes (plant material, with prior written permission from Ohio EPA), and agricultural wastes, excluding buildings.
10. **Dust Control or dust suppressants** shall be used to prevent nuisance conditions, in accordance with the manufacturer's specifications and in a manner, which prevent a discharge to waters of the state. Sufficient distance must be provided between applications and nearby bridges, catch basins, and other waterways. Application (excluding water) may not occur when rain is imminent as noted in the short term forecast. Used oil may not be applied for dust control.
11. **Other Air Permitting Requirements:** Certain activities associated with construction will require air permits including but not limited to: mobile concrete batch plants, mobile asphalt plants, concrete crushers, large generators, etc. These activities will require specific Ohio EPA Air Permits for installation and operation. Operators must seek authorization from the corresponding district of Ohio EPA. For demolition of all

commercial sites, a Notification for Restoration and Demolition must be submitted to Ohio EPA to determine if asbestos corrective actions are required.

- 12. Process Waste Water/Leachate Management.** Ohio EPA's Construction General Permit only allows the discharge of storm water and does not include other waste streams/discharges such as vehicle and/or equipment washing, on-site septic leachate concrete wash outs, which are considered process wastewaters. All process wastewaters must be collected and properly disposed at an approved disposal facility. In the event, leachate or septage is discharged; it must be isolated for collection and proper disposal and corrective actions taken to eliminate the source of waste water.
- 13. A Permit To Install (PTI)** is required prior to the construction of all centralized sanitary systems, including sewer extensions, and sewerage systems (except those serving one, two, and three family dwellings) and potable water lines. Plans must be submitted and approved by Ohio EPA. Issuance of an Ohio EPA Construction General Storm Water Permit does not authorize the installation of any sewerage system where Ohio EPA has not approved a PTI.

ATTACHMENT B

OHIO E.P.A.

APR 11 2013

ENTERED DIRECTOR'S JOURNAL

Issuance Date: April 11, 2013

Effective Date: April 21, 2013

Expiration Date: April 20, 2018


OHIO ENVIRONMENTAL PROTECTION AGENCY

**GENERAL PERMIT AUTHORIZATION FOR STORM WATER DISCHARGES ASSOCIATED
WITH CONSTRUCTION ACTIVITY UNDER THE NATIONAL POLLUTANT
DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the federal Water Pollution Control Act, as amended (33 U.S.C. Section 1251 et. seq. hereafter referred to as "the Act") and the Ohio Water Pollution Control Act [Ohio Revised Code ("ORC") Chapter 6111], dischargers of storm water from sites where construction activity is being conducted, as defined in Part I.B of this permit, are authorized by the Ohio Environmental Protection Agency, hereafter referred to as "Ohio EPA," to discharge from the outfalls at the sites and to the receiving surface waters of the state identified in their Notice of Intent ("NOI") application form on file with Ohio EPA in accordance with the conditions specified in Parts I through VII of this permit.

It has been determined that a lowering of water quality of various waters of the state associated with granting coverage under this permit is necessary to accommodate important social and economic development in the state of Ohio. In accordance with OAC 3745-1-05, this decision was reached only after examining a series of technical alternatives, reviewing social and economic issues related to the degradation, and considering all public and intergovernmental comments received concerning the proposal.

This permit is conditioned upon payment of applicable fees, submittal of a complete NOI application form and written approval of coverage from the director of Ohio EPA in accordance with Ohio Administrative Code ("OAC") Rule 3745-38-02.



Scott J. Nally
Director

**I certify this to be a true and accurate copy of the
official documents as filed in the records of the Ohio
Environmental Protection Agency.**

By: Jonh Kassir Date: 4-11-13

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PART I. COVERAGE UNDER THIS PERMIT

A. Permit Area.

This permit covers the entire State of Ohio.

B. Eligibility.

1. Construction activities covered. Except for storm water discharges identified under Part I.B.2, this permit may cover all new and existing discharges composed entirely of storm water discharges associated with construction activity that enter surface waters of the state or a storm drain leading to surface waters of the state.

For the purposes of this permit, construction activities include any clearing, grading, excavating, grubbing and/or filling activities that disturb the threshold acreage described in the next paragraph. Discharges from trench dewatering are also covered by this permit as long as the dewatering activity is carried out in accordance with the practices outlined in Part III.G.2.g.iv of this permit.

Construction activities disturbing one or more acres of total land, or will disturb less than one acre of land but are part of a larger common plan of development or sale that will ultimately disturb one or more acres of land will be eligible for coverage under this permit. The threshold acreage includes the entire area disturbed in the larger common plan of development or sale.

This permit also authorizes storm water discharges from support activities (e.g., concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, borrow areas) provided:

- a. The support activity is directly related to a construction site that is required to have NPDES permit coverage for discharges of storm water associated with construction activity;
 - b. The support activity is not a commercial operation serving multiple unrelated construction projects and does not operate beyond the completion of the construction activity at the site it supports;
 - c. Appropriate controls and measures are identified in a storm water pollution prevention plan (SWP3) covering the discharges from the support activity; and
 - d. The support activity is on or contiguous with the property defined in the NOI (offsite borrow pits and soil disposal areas, which serve only one project, do not have to be contiguous with the construction site).
2. Limitations on coverage. The following storm water discharges associated with construction activity are not covered by this permit:
 - a. Storm water discharges that originate from the site after construction activities have been completed, including any temporary support activity, and the site has achieved

final stabilization. Industrial post-construction storm water discharges may need to be covered by an NPDES permit;

- b. Storm water discharges associated with construction activity that the director has shown to be or may reasonably expect to be contributing to a violation of a water quality standard; and
 - c. Storm water discharges authorized by an individual NPDES permit or another NPDES general permit;
3. Waivers. After March 10, 2003, sites whose larger common plan of development or sale have at least one, but less than five acres of land disturbance, which would otherwise require permit coverage for storm water discharges associated with construction activities, may request that the director waive their permit requirement. Entities wishing to request such a waiver must certify in writing that the construction activity meets one of the two waiver conditions:
- a. Rainfall Erosivity Waiver. For a construction site to qualify for the rainfall erosivity waiver, the cumulative rainfall erosivity over the project duration must be five or less and the site must be stabilized with a least a 70 percent vegetative cover or other permanent, non-erosive cover. The rainfall erosivity must be calculated according to the method in U.S. EPA Fact Sheet 3.1 Construction Rainfall Erosivity Waiver dated January 2001 and be found at: http://epa.ohio.gov/portals/35/permits/USEPAfact3-1_s.pdf. If it is determined that a construction activity will take place during a time period where the rainfall erosivity factor is less than five, a written waiver certification must be submitted to Ohio EPA at least 21 days before construction activity is scheduled to begin. If the construction activity will extend beyond the dates specified in the waiver certification, the operator must either: (a) recalculate the waiver using the original start date with the new ending date (if the R factor is still less than five, a new waiver certification must be submitted) or (b) submit an NOI application form and fee for coverage under this general permit at least seven days prior to the end of the waiver period; or
 - b. TMDL (Total Maximum Daily Load) Waiver. Storm water controls are not needed based on a TMDL approved or established by U.S. EPA that addresses the pollutant(s) of concern or, for non-impaired waters that do not require TMDLs, and equivalent analysis that determines allocations for small construction sites for the pollutant(s) of concern or that determines that such allocations are not needed to protect water quality based on consideration of existing in-stream concentrations, expected growth in pollutant contributions from all sources, and a margin of safety. The pollutant(s) of concern include sediment or a parameter that addresses sediment (such as total suspended solids, turbidity or siltation) and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the construction activity. The operator must certify to the director of Ohio EPA that the construction activity will take place, and storm water discharges will occur, within the drainage area addressed by the TMDL or equivalent analysis. A written waiver certification must be submitted to Ohio EPA at least 21 days before the construction activity is scheduled to begin.

4. Prohibition on non-storm water discharges. All discharges covered by this permit must be composed entirely of storm water with the exception of the following: discharges from firefighting activities; fire hydrant flushings; potable water sources including waterline flushings; irrigation drainage; lawn watering; routine external building washdown which does not use detergents; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; springs; uncontaminated ground water from trench or well point dewatering and foundation or footing drains where flows are not contaminated with process materials such as solvents. Dewatering activities must be done in compliance with Part II.C and Part III.G.2.g.iv of this permit. Discharges of material other than storm water or the authorized non-storm water discharges listed above must comply with an individual NPDES permit or an alternative NPDES general permit issued for the discharge.

Except for flows from firefighting activities, sources of non-storm water listed above that are combined with storm water discharges associated with construction activity must be identified in the SWP3. The SWP3 must identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

5. Spills and unintended releases (Releases in excess of Reportable Quantities). This permit does not relieve the permittee of the reporting requirements of Title 40 of the Code of Federal Regulations ("CFR") Part 117 and 40 CFR Part 302. In the event of a spill or other unintended release, the discharge of hazardous substances in the storm water discharge(s) from a construction site must be minimized in accordance with the applicable storm water pollution prevention plan for the construction activity and in no case, during any 24-hour period, may the discharge(s) contain a hazardous substance equal to or in excess of reportable quantities.

40 CFR Part 117 sets forth a determination of the reportable quantity for each substance designated as hazardous in 40 CFR Part 116. The regulation applies to quantities of designated substances equal to or greater than the reportable quantities, when discharged to surface waters of the state. 40 CFR Part 302 designates under section 102(a) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, those substances in the statutes referred to in section 101(14), identifies reportable quantities for these substances and sets forth the notification requirements for releases of these substances. This regulation also sets forth reportable quantities for hazardous substances designated under section 311(b)(2)(A) of the Clean Water Act (CWA).

C. Requiring an individual NPDES permit or an alternative NPDES general permit.

1. The director may require an alternative permit. The director may require any operator eligible for this permit to apply for and obtain either an individual NPDES permit or coverage under an alternative NPDES general permit in accordance with OAC Rule 3745-38-04. Any interested person may petition the director to take action under this paragraph.

The director will send written notification that an alternative NPDES permit is required. This notice shall include a brief statement of the reasons for this decision, an application

form and a statement setting a deadline for the operator to file the application. If an operator fails to submit an application in a timely manner as required by the director under this paragraph, then coverage, if in effect, under this permit is automatically terminated at the end of the day specified for application submittal.

2. Operators may request an individual NPDES permit. Any owner or operator eligible for this permit may request to be excluded from the coverage of this permit by applying for an individual permit. The owner or operator shall submit an individual application with reasons supporting the request to the director in accordance with the requirements of 40 CFR 122.26. If the reasons adequately support the request, the director shall grant it by issuing an individual NPDES permit.
3. When an individual NPDES permit is issued to an owner or operator otherwise subject to this permit or the owner or operator is approved for coverage under an alternative NPDES general permit, the applicability of this permit to the individual NPDES permittee is automatically terminated on the effective date of the individual permit or the date of approval for coverage under the alternative general permit, whichever the case may be.

D. Permit requirements when portions of a site are sold

If an operator obtains a permit for a development, and then the operator (permittee) sells off lots or parcels within that development, permit coverage must be continued on those lots until a Notice of Termination (NOT) in accordance with Part IV.B is submitted. For developments which require the use of centralized sediment and erosion controls (i.e., controls that address storm water runoff from one or more lots) for which the current permittee intends to terminate responsibilities under this permit for a lot after sale of the lot to a new owner and such termination will either prevent or impair the implementation of the controls and therefore jeopardize compliance with the terms and conditions of this permit, the permittee will be required to maintain responsibility for the implementation of those controls. For developments where this is not the case, it is the permittee's responsibility to temporarily stabilize all lots sold to individual lot owners unless an exception is approved in accordance with Part III.G.4. In cases where permit responsibilities for individual lot(s) will be terminated after sale of the lot, the permittee shall inform the individual lot owner of the obligations under this permit and ensure that the Individual Lot NOI application is submitted to Ohio EPA.

E. Authorization

1. Obtaining authorization to discharge. Operators that discharge storm water associated with construction activity must submit an NOI application form in accordance with the requirements of Part I.F of this permit to obtain authorization to discharge under this general permit. As required under OAC Rule 3745-38-06(E), the director, in response to the NOI submission, will notify the applicant in writing that he/she has or has not been granted general permit coverage to discharge storm water associated with construction activity under the terms and conditions of this permit or that the applicant must apply for an individual NPDES permit or coverage under an alternate general NPDES permit as described in Part I.C.1.
2. No release from other requirements. No condition of this permit shall release the permittee from any responsibility or requirements under other environmental statutes or regulations. Other permit requirements commonly associated with construction activities

include, but are not limited to, section 401 water quality certifications, isolated wetland permits, permits to install sanitary sewers or other devices that discharge or convey polluted water, permits to install drinking water lines, single lot sanitary system permits and disturbance of land which was used to operate a solid or hazardous waste facility (i.e., coverage under this NPDES general permit does not satisfy the requirements of OAC Rule 3745-27-13 or ORC Section 3734.02(H)). The issuance of this permit is subject to resolution of an antidegradation review. This permit does not relieve the permittee of other responsibilities associated with construction activities such as contacting the Ohio Department of Natural Resources, Division of Water, to ensure proper well installation and abandonment of wells.

F. Notice of Intent Requirements

1. Deadlines for notification.
 - a. Initial coverage: Operators who intend to obtain initial coverage for a storm water discharge associated with construction activity under this general permit must submit a complete and accurate NOI application form and appropriate fee at least 21 days prior to the commencement of construction activity. If more than one operator, as defined in Part VII of this general permit, will be engaged at a site, each operator shall seek coverage under this general permit. Coverage under this permit is not effective until an approval letter granting coverage from the director of Ohio EPA is received by the applicant. Where one operator has already submitted an NOI prior to other operator(s) being identified, the additional operator shall request modification of coverage to become a co-permittee. In such instances, the co-permittees shall be covered under the same facility permit number. No additional permit fee is required.
 - b. Individual lot transfer of coverage: Operators must each submit an individual lot notice of intent (Individual Lot NOI) application form (no fee required) to Ohio EPA at least seven days prior to the date that they intend to accept responsibility for permit requirements for their portion of the original permitted development from the previous permittee. The original permittee may submit an Individual Lot NOT at the time the Individual Lot NOI is submitted. Transfer of permit coverage is not granted until an approval letter from the director of Ohio EPA is received by the applicant.
2. Failure to notify. Operators who fail to notify the director of their intent to be covered and who discharge pollutants to surface waters of the state without an NPDES permit are in violation of ORC Chapter 6111. In such instances, Ohio EPA may bring an enforcement action for any discharges of storm water associated with construction activity.
3. Where to submit an NOI. Operators seeking coverage under this permit must submit a signed NOI form, provided by Ohio EPA, to the address found in the associated instructions.
4. Additional notification. NOIs and SWP3s are considered public documents and shall be made available to the public in accordance with Part III.C.2. The permittee shall make NOIs and SWP3s available upon request of the director of Ohio EPA, local agencies approving sediment and erosion control plans, grading plans or storm water management plans, local governmental officials, or operators of municipal separate storm sewer systems (MS4s) receiving drainage from the permitted site. Each operator

that discharges to an NPDES permitted MS4 shall provide a copy of its Ohio EPA NOI submission to the MS4 in accordance with the MS4's requirements, if applicable.

5. Re-notification. Existing permittees having coverage under the previous generations of this general permit (OHC000003, OHC000002 and OHR100000) shall have continuing coverage under OHC000004 with the submittal of a timely renewal application. Existing permittees will receive a renewal application and instructions for how to continue coverage under OHC000004. Within 90 days of receiving a renewal application from Ohio EPA, existing permittees shall submit the completed renewal application expressing their intent for continued coverage. In accordance with Ohio Administrative Code (OAC) 3745-38-02(E)(2)(a)(i), a renewal application fee will only apply to existing permittees having general permit coverage for 5 or more years as of the effective date of this general permit. Permit coverage will be terminated if Ohio EPA does not receive the renewal application within this 90 day period.

Part II. NON-NUMERIC EFFLUENT LIMITATIONS

You shall comply with the following non-numeric effluent limitations for discharges from your site and/or from construction support activities. Part III of this permit contains the specific design criteria to meet the objectives of the following non-numeric effluent limitations.

- A. **Erosion and Sediment Controls**. You shall design, install and maintain effective erosion controls and sediment controls to minimize the discharge of pollutants. At a minimum, such controls shall be designed, installed and maintained to:
 1. Control storm water volume and velocity within the site to minimize soil erosion;
 2. Control storm water discharges, including both peak flowrates and total storm water volume, to minimize erosion at outlets and to minimize downstream channel and streambank erosion;
 3. Minimize the amount of soil exposed during construction activity;
 4. Minimize the disturbance of steep slopes;
 5. Minimize sediment discharges from the site. The design, installation and maintenance of erosion and sediment controls shall address factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting storm water runoff, and soil characteristics, including the range of soil particle sizes expected to be present on the site;
 6. If feasible, provide and maintain a 50-foot undisturbed natural buffer around surface waters of the state, direct storm water to vegetated areas to increase sediment removal and maximize storm water infiltration. If it is infeasible to provide and maintain an undisturbed 50-foot natural buffer, you shall comply with the stabilization requirements found in Part II.B for areas within 50 feet of a surface water; and
 7. Minimize soil compaction and, unless infeasible, preserve topsoil.

- B. Soil Stabilization.** Stabilization of disturbed areas shall, at a minimum, be initiated in accordance with the time frames specified in the following tables.

Table 1: Permanent Stabilization

Area requiring permanent stabilization	Time frame to apply erosion controls
Any areas that will lie dormant for one year or more	Within seven days of the most recent disturbance
Any areas within 50 feet of a surface water of the state and at final grade	Within two days of reaching final grade
Any other areas at final grade	Within seven days of reaching final grade within that area

Table 2: Temporary Stabilization

Area requiring temporary stabilization	Time frame to apply erosion controls
Any disturbed areas within 50 feet of a surface water of the state and not at final grade	Within two days of the most recent disturbance if the area will remain idle for more than 14 days
For all construction activities, any disturbed areas that will be dormant for more than 14 days but less than one year, and not within 50 feet of a surface water of the state	Within seven days of the most recent disturbance within the area For residential subdivisions, disturbed areas must be stabilized at least seven days prior to transfer of permit coverage for the individual lot(s).
Disturbed areas that will be idle over winter	Prior to the onset of winter weather

Where vegetative stabilization techniques may cause structural instability or are otherwise unobtainable, alternative stabilization techniques must be employed.
Permanent and temporary stabilization are defined in Part VII.

- C. Dewatering.** Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, are prohibited unless managed by appropriate controls.
- D. Pollution Prevention Measures.** Design, install, implement and maintain effective pollution prevention measures to minimize the discharge of pollutants. At a minimum, such measures must be designed, installed, implemented and maintained to:
1. Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters shall be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;

2. 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 to storm water; and
3. Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures.

E. Prohibited Discharges. The following discharges are prohibited:

1. Wastewater from washout of concrete, unless managed by an appropriate control;
2. Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
3. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and
4. Soaps or solvents used in vehicle and equipment washing.

F. Surface Outlets. When discharging from sediment basins utilize outlet structures that withdraw water from the surface, unless infeasible. (Note: Ohio EPA believes that the circumstances in which it is infeasible to design outlet structures in this manner are rare. Exceptions may include time periods with extended cold weather during winter months. If you have determined that it is infeasible to meet this requirement, you shall provide documentation in your SWP3 to support your determination.)

PART III. STORM WATER POLLUTION PREVENTION PLAN (SWP3)

A. Storm Water Pollution Prevention Plans.

A SWP3 shall be developed for each site covered by this permit. For a multi-phase construction project, a separate NOI shall be submitted when a separate SWP3 will be prepared for subsequent phases. SWP3s shall be prepared in accordance with sound engineering and/or conservation practices by a professional experienced in the design and implementation of standard erosion and sediment controls and storm water management practices addressing all phases of construction. The SWP3 shall identify potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges associated with construction activities. The SWP3 shall be a comprehensive, stand-alone document, which is not complete unless it contains the information required by Part III.G of this permit. In addition, the SWP3 shall describe and ensure the implementation of best management practices (BMPs) that reduce the pollutants in storm water discharges during construction and pollutants associated with post-construction activities to ensure compliance with ORC Section 6111.04, OAC Chapter 3745-1 and the terms and conditions of this permit.

B. Timing

A SWP3 shall be completed prior to the timely submittal of an NOI and updated in accordance with Part III.D. Upon request and good cause shown, the director may waive the requirement to have a SWP3 completed at the time of NOI submission. If a waiver has been granted, the

SWP3 must be completed prior to the initiation of construction activities. The SWP3 must be implemented upon initiation of construction activities.

If you wish to continue coverage from the previous generations of this permit (OHR100000, OHC000002 and OHC000003) you shall review and update your SWP3 to ensure that this permit's requirements are addressed within 180 days after the effective date of this permit. If it is infeasible for you to comply with a specific requirement in this permit because (1) the provision was not part of the permit you were previously covered under (OHR100000, OHC000002 and OHC000003), and (2) because you are prevented from compliance due to the nature or location of earth disturbances that commenced prior to the effective date of this permit, you shall include documentation within your SWP3 of the reasons why it is infeasible for you to meet the specific requirement. (Note: Ohio EPA believes examples of OHC000004 permit conditions that would be infeasible for permittees renewing coverage to comply with include: (1) Post-Construction Storm Water Management requirements, if general permit coverage was obtained prior to April 21, 2003, and (2) Sediment settling pond design requirements, if the general permit coverage was obtained prior to the effective date of this permit and the sediment settling pond has been installed.)

C. SWP3 Signature and Review.

1. Plan Signature and Retention On-Site. The SWP3 shall include the certification in Part V.H, be signed in accordance with Part V.G., and be retained on site during working hours.
2. Plan Availability
 - a. On-site: The plan shall be made available immediately upon request of the director or his authorized representative and MS4 operators or their authorized representative during working hours. A copy of the NOI and letter granting permit coverage under this general permit also shall be made available at the site.
 - b. By written request: The permittee must provide the most recent copy of the SWP3 within 10 days upon written request by any of the following:
 - i. The director or the director's authorized representative;
 - ii. A local agency approving sediment and erosion plans, grading plans or storm water management plans; or
 - iii. In the case of a storm water discharge associated with construction activity which discharges through a municipal separate storm sewer system with an NPDES permit, to the operator of the system.
 - c. To the public: All NOIs, general permit approval for coverage letters, and SWP3s are considered reports that shall be available to the public in accordance with the Ohio Public Records law. The permittee shall make documents available to the public upon request or provide a copy at public expense, at cost, in a timely manner. However, the permittee may claim to Ohio EPA any portion of an SWP3 as confidential in accordance with Ohio law.

3. Plan Revision. The director or authorized representative may notify the permittee at any time that the SWP3 does not meet one or more of the minimum requirements of this part. Within 10 days after such notification from the director or authorized representative (or as otherwise provided in the notification), the permittee shall make the required changes to the SWP3 and, if requested, shall submit to Ohio EPA the revised SWP3 or a written certification that the requested changes have been made.

D. Amendments

The permittee shall amend the SWP3 whenever there is a change in design, construction, operation or maintenance, which has a significant effect on the potential for the discharge of pollutants to surface waters of the state or if the SWP3 proves to be ineffective in achieving the general objectives of controlling pollutants in storm water discharges associated with construction activity. Amendments to the SWP3 may be reviewed by Ohio EPA in the same manner as Part III.C.

E. Duty to inform contractors and subcontractors

The permittee shall inform all contractors and subcontractors not otherwise defined as "operators" in Part VII of this general permit who will be involved in the implementation of the SWP3 of the terms and conditions of this general permit. The permittee shall maintain a written document containing the signatures of all contractors and subcontractors involved in the implementation of the SWP3 as proof acknowledging that they reviewed and understand the conditions and responsibilities of the SWP3. The written document shall be created and signatures shall be obtained prior to commencement of work on the construction site.

F. Total Maximum Daily Load (TMDL) allocations

If a TMDL is approved for any waterbody into which the permittee's site discharges and requires specific BMPs for construction sites, the director may require the permittee to revise his/her SWP3.

G. SWP3 Requirements

Operations that discharge storm water from construction activities are subject to the following requirements and the SWP3 shall include the following items:

1. Site description. Each SWP3 shall provide:
 - a. A description of the nature and type of the construction activity (e.g., low density residential, shopping mall, highway, etc.);
 - b. Total area of the site and the area of the site that is expected to be disturbed (i.e., grubbing, clearing, excavation, filling or grading, including off-site borrow areas);
 - c. An estimate of the impervious area and percent imperviousness created by the construction activity;

- d. A calculation of the runoff coefficients for both the pre-construction and post-construction site conditions;
- e. Existing data describing the soil and, if available, the quality of any discharge from the site;
- f. A description of prior land uses at the site;
- g. An implementation schedule which describes the sequence of major construction operations (i.e., designation of vegetative preservation areas, grubbing, excavating, grading, utilities and infrastructure installation) and the implementation of erosion, sediment and storm water management practices or facilities to be employed during each operation of the sequence;
- h. The name and/or location of the immediate receiving stream or surface water(s) and the first subsequent named receiving water(s) and the areal extent and description of wetlands or other special aquatic sites at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project. For discharges to an MS4, the point of discharge to the MS4 and the location where the MS4 ultimately discharges to a stream or surface water of the state shall be indicated;
- i. For subdivided developments where the SWP3 does not call for a centralized sediment control capable of controlling multiple individual lots, a detail drawing of a typical individual lot showing standard individual lot erosion and sediment control practices.

This does not remove the responsibility to designate specific erosion and sediment control practices in the SWP3 for critical areas such as steep slopes, stream banks, drainage ways and riparian zones;

- j. Location and description of any storm water discharges associated with dedicated asphalt and dedicated concrete plants covered by this permit and the best management practices to address pollutants in these storm water discharges;
- k. A copy of the permit requirements (attaching a copy of this permit is acceptable);
- l. A cover page or title identifying the name and location of the site, the name and contact information of all construction site operators, the name and contact information for the person responsible for authorizing and amending the SWP3, preparation date, and the estimated dates that construction will start and be complete;
- m. A log documenting grading and stabilization activities as well as amendments to the SWP3, which occur after construction activities commence; and
- n. Site map showing:

- i. Limits of earth-disturbing activity of the site including associated off-site borrow or spoil areas that are not addressed by a separate NOI and associated SWP3;
 - ii. Soils types for all areas of the site, including locations of unstable or highly erodible soils;
 - iii. Existing and proposed contours. A delineation of drainage watersheds expected during and after major grading activities as well as the size of each drainage watershed, in acres;
 - iv. Surface water locations including springs, wetlands, streams, lakes, water wells, etc., on or within 200 feet of the site, including the boundaries of wetlands or stream channels and first subsequent named receiving water(s) the permittee intends to fill or relocate for which the permittee is seeking approval from the Army Corps of Engineers and/or Ohio EPA;
 - v. Existing and planned locations of buildings, roads, parking facilities and utilities;
 - vi. The location of all erosion and sediment control practices, including the location of areas likely to require temporary stabilization during the course of site development;
 - vii. Sediment and storm water management basins noting their sediment settling volume and contributing drainage area. Ohio EPA recommends the use of data sheets (see ODNR's Rainwater and Land Development manual for examples) to provide data for all sediment traps, sediment basins and storm water management treatment practices noting important inputs to design and resulting parameters such as their contributing drainage area, disturbed area, water quality volume, sedimentation volume, practice surface area, facility discharge and dewatering time, outlet type and dimensions;
 - viii. The location of permanent storm water management practices to be used to control pollutants in storm water after construction operations have been completed;
 - ix. Areas designated for the storage or disposal of solid, sanitary and toxic wastes, including dumpster areas, areas designated for cement truck washout, and vehicle fueling;
 - x. The location of designated construction entrances where the vehicles will access the construction site; and
 - xi. The location of any in-stream activities including stream crossings.
2. Controls. In accordance with Part II.A, the SWP3 shall contain a description of the controls appropriate for each construction operation covered by this permit and the operator(s) shall implement such controls. The SWP3 shall clearly describe for each

major construction activity identified in Part III.G.1.g: (a) appropriate control measures and the general timing (or sequence) during the construction process that the measures will be implemented; and (b) which contractor is responsible for implementation (e.g., contractor A will clear land and install perimeter controls and contractor B will maintain perimeter controls until final stabilization). The SWP3 shall identify the subcontractors engaged in activities that could impact storm water runoff. The SWP3 shall contain signatures from all of the identified subcontractors indicating that they have been informed and understand their roles and responsibilities in complying with the SWP3. Ohio EPA recommends that the primary site operator review the SWP3 with the primary contractor prior to commencement of construction activities and keep a SWP3 training log to demonstrate that this review has occurred.

Ohio EPA recommends that the erosion, sediment, and storm water management practices used to satisfy the conditions of this permit should meet the standards and specifications in the most current edition of Ohio's Rainwater and Land Development (see definitions) manual or other standards acceptable to Ohio EPA. The controls shall include the following minimum components:

- a. Non-Structural Preservation Methods. The SWP3 shall make use of practices which preserve the existing natural condition as much as feasible. Such practices may include: preserving existing vegetation and vegetative buffer strips, phasing of construction operations in order to minimize the amount of disturbed land at any one time and designation of tree preservation areas or other protective clearing or grubbing practices. For all construction activities immediately adjacent to surface waters of the state, the permittee shall comply with the buffer non-numeric effluent limitation in Part II.A.6, as measured from the ordinary high water mark of the surface water.
- b. Erosion Control Practices. The SWP3 shall make use of erosion controls that are capable of providing cover over disturbed soils unless an exception is approved in accordance with Part III.G.4. A description of control practices designed to restabilize disturbed areas after grading or construction shall be included in the SWP3. The SWP3 shall provide specifications for stabilization of all disturbed areas of the site and provide guidance as to which method of stabilization will be employed for any time of the year. Such practices may include: temporary seeding, permanent seeding, mulching, matting, sod stabilization, vegetative buffer strips, phasing of construction operations, use of construction entrances and the use of alternative ground cover.
 - i. **Stabilization.** Disturbed areas shall be stabilized in accordance with Table 1 (Permanent Stabilization) and Table 2 (Temporary Stabilization) in Part II.B of this permit.
 - ii. **Permanent stabilization of conveyance channels.** Operators shall undertake special measures to stabilize channels and outfalls and prevent erosive flows. Measures may include seeding, dormant seeding (as defined in the most current edition of the Rainwater and Land Development manual), mulching, erosion control matting, sodding, riprap, natural channel design with bioengineering techniques or rock check dams.

- c. Runoff Control Practices. The SWP3 shall incorporate measures which control the flow of runoff from disturbed areas so as to prevent erosion from occurring. Such practices may include rock check dams, pipe slope drains, diversions to direct flow away from exposed soils and protective grading practices. These practices shall divert runoff away from disturbed areas and steep slopes where practicable. Velocity dissipation devices shall be placed at discharge locations and along the length of any outfall channel to provide non-erosive flow velocity from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected.
- d. Sediment Control Practices. The plan shall include a description of structural practices that shall store runoff allowing sediments to settle and/or divert flows away from exposed soils or otherwise limit runoff from exposed areas. Structural practices shall be used to control erosion and trap sediment from a site remaining disturbed for more than 14 days. Such practices may include, among others: sediment settling ponds, silt fences, earth diversion dikes or channels which direct runoff to a sediment settling pond and storm drain inlet protection. All sediment control practices must be capable of ponding runoff in order to be considered functional. Earth diversion dikes or channels alone are not considered a sediment control practice unless those are used in conjunction with a sediment settling pond.

The SWP3 shall contain detail drawings for all structural practices.

- i. **Timing.** Sediment control structures shall be functional throughout the course of earth disturbing activity. Sediment basins and perimeter sediment barriers shall be implemented prior to grading and within seven days from the start of grubbing. They shall continue to function until the up slope development area is restabilized. As construction progresses and the topography is altered, appropriate controls shall be constructed or existing controls altered to address the changing drainage patterns.
- ii. **Sediment settling ponds.** A sediment settling pond is required for any one of the following conditions:
- Concentrated storm water runoff (e.g., storm sewer or ditch);
 - Runoff from drainage areas, which exceed the design capacity of silt fence or other sediment barriers;
 - Runoff from drainage areas that exceed the design capacity of inlet protection; or
 - Runoff from common drainage locations with 10 or more acres of disturbed land.

The permittee may request approval from Ohio EPA to use alternative controls if the permittee can demonstrate the alternative controls are equivalent in effectiveness to a sediment settling pond.

In accordance with Part II.F, if feasible, sediment settling ponds shall be dewatered at the pond surface using a skimmer or equivalent device. The sediment settling pond volume consists of both a dewatering zone and a sediment storage zone. The volume of the dewatering zone shall

be a minimum of 1800 cubic feet (ft³) per acre of drainage (67 yd³/acre) with a minimum 48-hour drain time for sediment basins serving a drainage area over 5 acres. The volume of the sediment storage zone shall be calculated by one of the following methods:

Method 1: The volume of the sediment storage zone shall be 1000 ft³ per disturbed acre within the watershed of the basin. OR

Method 2: The volume of the sediment storage zone shall be the volume necessary to store the sediment as calculated with RUSLE or a similar generally accepted erosion prediction model.

The accumulated sediment shall be removed from the sediment storage zone once it's full. When determining the total contributing drainage area, off-site areas and areas which remain undisturbed by construction activity shall be included unless runoff from these areas is diverted away from the sediment settling pond and is not co-mingled with sediment-laden runoff. The depth of the dewatering zone shall be less than or equal to five feet. The configuration between inlets and the outlet of the basin shall provide at least two units of length for each one unit of width (> 2:1 length:width ratio); however, a length to width ratio of 4:1 is recommended. When designing sediment settling ponds, the permittee shall consider public safety, especially as it relates to children, as a design factor for the sediment basin and alternative sediment controls shall be used where site limitations would preclude a safe design. The use of a combination of sediment and erosion control measures in order to achieve maximum pollutant removal is encouraged.

- iii. **Silt Fence and Diversions.** Sheet flow runoff from denuded areas shall be intercepted by silt fence or diversions to protect adjacent properties and water resources from sediment transported via sheet flow. Where intended to provide sediment control, silt fence shall be placed on a level contour downslope of the disturbed area. This permit does not preclude the use of other sediment barriers designed to control sheet flow runoff. The relationship between the maximum drainage area to silt fence for a particular slope range is shown in the following table:

Silt Fence Maximum Drainage Area Based on Slope

Maximum drainage area (in acres) to 100 linear feet of silt fence	Range of slope for a particular drainage area (in percent)
0.5	< 2%
0.25	≥ 2% but < 20%
0.125	≥ 20% but < 50%

Placing silt fence in a parallel series does not extend the size of the drainage area. Storm water diversion practices shall be used to keep runoff away from disturbed areas and steep slopes where practicable. Such devices, which include swales, dikes or berms, may receive storm water runoff from areas up to 10 acres.

- iv. **Inlet Protection.** Other erosion and sediment control practices shall minimize sediment laden water entering active storm drain systems, unless the storm drain system drains to a sediment settling pond. All inlets receiving runoff from drainage areas of one or more acres will require a sediment settling pond.
- v. **Surface Waters of the State Protection.** If construction activities disturb areas adjacent to surface waters of the state, structural practices shall be designed and implemented on site to protect all adjacent surface waters of the state from the impacts of sediment runoff. No structural sediment controls (e.g., the installation of silt fence or a sediment settling pond) shall be used in a surface water of the state. For all construction activities immediately adjacent to surface waters of the state, the permittee shall comply with the buffer non-numeric effluent limitation in Part II.A.6, as measured from the ordinary high water mark of the surface water. Where impacts within this buffer area are unavoidable, due to the nature of the construction (e.g., stream crossings for roads or utilities), the project shall be designed such that the number of stream crossings and the width of the disturbance within the buffer area are minimized.
- vi. **Modifying Controls.** If periodic inspections or other information indicates a control has been used inappropriately or incorrectly, the permittee shall replace or modify the control for site conditions.
- e. Post-Construction Storm Water Management Requirements. So that receiving stream's physical, chemical and biological characteristics are protected and stream functions are maintained, post-construction storm water practices shall provide perpetual management of runoff quality and quantity. To meet the post-construction requirements of this permit, the SWP3 shall contain a description of the post-construction BMPs that will be installed during construction for the site and the rationale for their selection. The rationale shall address the anticipated impacts on the channel and floodplain morphology, hydrology, and water quality. Post-construction BMPs cannot be installed within a surface water of the state (e.g., wetland or stream) unless it's authorized by a CWA 401 water quality certification, CWA 404 permit, or Ohio EPA non-jurisdictional wetland/stream program approval. Note: localities may have more stringent post-construction requirements.

Detail drawings and maintenance plans shall be provided for all post-construction BMPs. Maintenance plans shall be provided by the permittee to the post-construction operator of the site (including homeowner associations) upon completion of construction activities (prior to termination of permit coverage). For sites located within a community with a regulated municipal separate storm sewer system (MS4), the permittee, land owner, or other entity with legal control of the property may be required to develop and implement a maintenance plan to comply with the requirements of the MS4. Maintenance plans shall ensure that pollutants collected within structural post-construction practices, be disposed of in accordance with local, state, and federal regulations. To ensure that storm water management systems function as they were designed and constructed, the post-construction operation and maintenance plan shall be a stand-alone

document, which contains: (1) a designated entity for storm water inspection and maintenance responsibilities; (2) the routine and non-routine maintenance tasks to be undertaken; (3) a schedule for inspection and maintenance; (4) any necessary legally binding maintenance easements and agreements; and (5) a map showing all access and maintenance easements. Permittees are not responsible under this permit for operation and maintenance of post-construction practices once coverage under this permit is terminated.

Post-construction storm water BMPs that discharge pollutants from point sources once construction is completed, may in themselves, need authorization under a separate NPDES permit (one example is storm water discharges from regulated industrial sites).

Construction activities that do not include the installation of any impervious surface (e.g., soccer fields), abandoned mine land reclamation activities regulated by the Ohio Department of Natural Resources, stream and wetland restoration activities, and wetland mitigation activities are not required to comply with the conditions of Part III.G.2.e of this permit. Linear construction projects, (e.g., pipeline or utility line installation), which do not result in the installation of additional impervious surface, are not required to comply with the conditions of Part III.G.2.e of this permit. However, linear construction projects shall be designed to minimize the number of stream crossings and the width of disturbance and achieve final stabilization of the disturbed area as defined in Part VII.J.1.

Large Construction Activities. For all large construction activities (involving the disturbance of five or more acres of land or will disturb less than five acres, but is a part of a larger common plan of development or sale which will disturb five or more acres of land), the post construction BMP(s) chosen shall be able to detain storm water runoff for protection of the stream channels, stream erosion control, and improved water quality. The BMP(s) chosen must be compatible with site and soil conditions. Structural post-construction storm water treatment practices shall be incorporated into the permanent drainage system for the site. The BMP(s) chosen must be sized to treat the water quality volume (WQ_v) and ensure compliance with Ohio's Water Quality Standards in OAC Chapter 3745-1. The WQ_v shall be equivalent to the volume of runoff from a 0.75-inch rainfall and shall be determined according to the following equation:

$$WQ_v = C * P * A / 12$$

where:

WQ_v = water quality volume in acre-feet

C = runoff coefficient appropriate for storms less than 1 inch

(Either use the following formula: $C = 0.858i^3 - 0.78i^2 + 0.774i + 0.04$,

where i = fraction of post-construction impervious surface or use Table 1)

P = 0.75 inch precipitation depth

A = area draining into the BMP in acres

Table 1
Runoff Coefficients Based on the Type of Land Use

Land Use	Runoff Coefficient
Industrial & Commercial	0.8
High Density Residential (>8 dwellings/acre)	0.5
Medium Density Residential (4 to 8 dwellings/acre)	0.4
Low Density Residential (<4 dwellings/acre)	0.3
Open Space and Recreational Areas	0.2

Where the land use will be mixed, the runoff coefficient should be calculated using a weighted average. For example, if 60% of the contributing drainage area to the storm water treatment structure is Low Density Residential, 30% is High Density Residential, and 10% is Open Space, the runoff coefficient is calculated as follows $(0.6)(0.3) + (0.3)(0.5) + (0.1)(0.2) = 0.35$.

An additional volume equal to 20 percent of the WQ_v shall be incorporated into the BMP for sediment storage. Ohio EPA recommends that BMPs be designed according to the methodology included in the most current edition of the Rainwater and Land Development manual or in another design manual acceptable for use by Ohio EPA.

The BMPs listed in Table 2 below shall be considered standard BMPs approved for general use. However communities with a regulated MS4 may limit the use of some of these BMPs. BMPs shall be designed such that the drain time is long enough to provide treatment, but short enough to provide storage for successive rainfall events and avoid the creation of nuisance conditions. The outlet structure for the post-construction BMP shall not discharge more than the first half of the WQ_v or extended detention volume (EDv) in less than one-third of the drain time. The EDv is the volume of storm water runoff that must be detained by a structural post-construction BMP. The EDv is equal to 75 percent of the WQ_v for wet extended detention basins, but is equal to the WQ_v for all other BMPs listed in Table 2.

Table 2
Structural Post-Construction BMPs & Associated
Drain (Drawdown) Times

Best Management Practice	Drain Time of WQv
Infiltration Basin or Trench ¹	48 hours
Permeable Pavement – Infiltration ¹	48 hours
Permeable Pavement – Extended Detention	24 hours
Dry Extended Detention Basin ²	48 hours
Wet Extended Detention Basin ³	24 hours
Constructed Wetland (above permanent pool) ⁴	24 hours
Sand & Other Media Filtration ⁵	24 hours
Bioretention Area/Cell ^{5,6}	24 hours
Pocket Wetland ⁷	24 hours

¹ Practices that are designed to fully infiltrate the WQv (basin, trench, permeable pavement) shall empty within 48 hours to provide storage for the subsequent storm events.

² Dry basins must include forebay and micropool each sized at 10% of the WQv.

³ Provide both a permanent pool and an EDv above the permanent pool, each sized at 0.75 WQv.

⁴ Extended detention shall be provided for the WQv above the permanent water pool.

⁵ The surface ponding area (WQv) shall completely empty within 24 hours so that there is no standing water. Shorter drawdown times are acceptable as long as design criteria in Ohio's Rainwater and Land Development manual have been met.

⁶ This would include Grassed Linear Bioretention which was previously called Enhanced Water Quality Swale.

⁷ Pocket wetlands must have a wet pool equal to the WQv, with 25% of the WQv in a pool and 75% in marshes. The EDv above the permanent pool must be equal to the WQv.

The permittee may request approval from Ohio EPA to use alternative structural post-construction BMPs if the permittee can demonstrate that the alternative BMPs are equivalent in effectiveness to those listed in Table 2 above. Construction activities shall be exempt from this condition if it can be demonstrated that the WQv is provided within an existing structural post-construction BMP that is part of a larger common plan of development or if structural post-construction BMPs are addressed in a regional or local storm water management plan. A municipally operated regional storm water BMP can be used as a post-construction BMP provided that the BMP can detain the WQv from its entire drainage area and release it over a 24 hour period.

Transportation Projects. The construction of new roads and roadway improvement projects by public entities (i.e., the state, counties, townships, cities, or villages) may implement post-construction BMPs in compliance with the current version (as of the effective date of this permit) of the Ohio Department of Transportation's "Location and Design Manual, Volume Two Drainage Design" that has been accepted by Ohio EPA as an alternative to the conditions of this permit.

Offsite Mitigation of Post-Construction. Ohio EPA may authorize the offsite mitigation of the post-construction requirements of Part III.G.2.e of this permit on a case by case basis provided the permittee clearly demonstrates the BMPs listed in Table 2 are not feasible and the following criteria is met: (1) a maintenance agreement or policy is established to ensure operations and treatment in perpetuity; (2) the offsite location discharges to the same HUC-14 watershed unit; and (3) the mitigation ratio of the WQv is 1.5 to 1 or the WQv at the point of retrofit, whichever is greater. Requests for offsite mitigation must be received prior to receipt of the NOI applications.

Redevelopment Projects Sites that have been previously developed where no post-construction BMPs were installed shall either ensure a 20 percent net reduction of the site impervious area, provide for treatment of at least 20 percent of the WQv, or a combination of the two. A one-for-one credit towards the 20 percent net reduction of impervious area can be obtained through the use of green roofs. Where projects are a combination of new development and redevelopment, the total WQv that must be treated shall be calculated by a weighted average based on acreage, with the new development at 100 percent WQv and redevelopment at 20 percent WQv.

Non-Structural Post-Construction BMPs The size of the structural post-construction can be reduced by incorporating non-structural post-construction BMPs into the design. Practices such as preserving open space will reduce the runoff coefficient and, thus, the WQv. Ohio EPA encourages the implementation of riparian and wetland setbacks. Practices which reduce storm water runoff include green roofs, rain barrels, conservation development, smart growth, low-impact development, and other site design techniques. For examples, see the Ohio Lake Erie Commission's Balanced Growth Program at <http://balancedgrowth.ohio.gov/>.

In order to promote the implementation of such practices, the Director may consider the use of non-structural practices to demonstrate compliance with Part III.G.2.e of this permit for areas of the site not draining into a common drainage system of the site, i.e., sheet flow from perimeter areas such as the rear yards of residential lots, for low density development scenarios, or where the permittee can demonstrate that the intent of pollutant removal and stream protection, as required in Part III.G.2.e of this permit is being addressed through non-structural post-construction BMPs based upon review and approval by Ohio EPA.

Use of Alternative Post-Construction BMPs This permit does not preclude the use of innovative or experimental post-construction storm water management technologies. However, the Director may require these practices to be tested using the protocol outlined in the Technology Acceptance Reciprocity Partnership's (TARP) Protocol for Stormwater Best Management Practice Demonstrations or other approvable protocol. For guidance, see the following:

- <http://www.njstormwater.org>
- <http://www.mastep.net/>

The Director may require discharges from such structures to be monitored to ensure compliance with Part III.G.2.e of this permit. Permittees shall request

approval from Ohio EPA to use alternative post-construction BMPs if the permittee can demonstrate that the alternative BMPs are equivalent in effectiveness to those listed in Table 2 above. To demonstrate this equivalency, the permittee shall show that the alternative BMP has a minimum total suspended solids (TSS) removal efficiency of 80 percent under both laboratory and field conditions. Tests shall be conducted by an independent, third party tester. Also, the WQv discharge rate from the practice shall be reduced to prevent stream bed erosion and protect the physical and biological stream integrity unless there will be negligible hydrological impact to the receiving surface water of the state. The discharges will have a negligible impact if the permittee can demonstrate that one of the following four conditions exist:

- i. The entire WQv is recharged to groundwater;
- ii. The larger common plan of development or sale will create less than one acre of impervious surface;
- iii. The project is a redevelopment project within an ultra-urban setting (i.e., a downtown area or on a site where 100 percent of the project area is already impervious surface and the storm water discharge is directed into an existing storm sewer system); or
- iv. The storm water drainage system of the development discharges directly into a large river (fourth order or greater) or to a lake and where the development area is less than 5 percent of the watershed area upstream of the development site, unless a TMDL identified water quality problems into the receiving surface waters of the state.

The Director shall only consider the use of alternative BMPs on projects where the permittee can demonstrate that the implementation of the BMPs listed in Table 2 is infeasible due to physical site constraints that prevent the ability to provide functional BMP design. Alternative practices may include, but are not limited to, underground detention structures, vegetated swales and vegetated filter strips designed using water quality flow, natural depressions, rain barrels, green roofs, rain gardens, catch basin inserts, and hydrodynamics separators. The Director may also consider non-structural post-construction approaches where no local requirements for such practices exist.

Small Construction Activities For all small land disturbance activities (which disturb one or more, but less than five acres of land and is not a part of a larger common plan of development or sale which will disturb five or more acres of land), a description of measures that will be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed must be included in the SWP3. Structural measures should be placed on upland soils to the degree attainable. Such practices may include, but are not limited to: storm water detention structures (including wet basins); storm water retention structures; flow attenuation by use of open vegetated swales and natural depressions; infiltration of runoff onsite; and sequential systems (which combine several practices). The SWP3 shall include an explanation of the technical basis used to select the practices to control pollution where flows exceed pre-development levels.

- f. Surface Water Protection. If the project site contains any streams, rivers, lakes, wetlands or other surface waters, certain construction activities at the site may be regulated under the CWA and/or state isolated wetland permit requirements. Sections 404 and 401 of the Act regulate the discharge of dredged or fill material into surface waters and the impacts of such activities on water quality, respectively. Construction activities in surface waters which may be subject to CWA regulation and/or state isolated wetland permit requirements include, but are not limited to: sewer line crossings, grading, backfilling or culverting streams, filling wetlands, road and utility line construction, bridge installation and installation of flow control structures. If the project contains streams, rivers, lakes or wetlands or possible wetlands, the permittee shall contact the appropriate U.S. Army Corps of Engineers District Office. (CAUTION: Any area of seasonally wet hydric soil is a potential wetland - please consult the Soil Survey and list of hydric soils for your County, available at your county's Soil and Water Conservation District. If you have any questions about Section 401 water quality certification, please contact the Ohio Environmental Protection Agency, Section 401 Coordinator.)

U.S. Army Corps of Engineers (Section 404 regulation):

- Huntington, WV District (304) 399-5210 (Muskingum River, Hocking River, Scioto River, Little Miami River, and Great Miami River Basins)
- Buffalo, NY District (716) 879-4330 (Lake Erie Basin)
- Pittsburgh, PA District (412) 395-7155 (Mahoning River Basin)
- Louisville, KY District (502) 315-6686 (Ohio River)

Ohio EPA 401/404 and non-jurisdictional stream/wetland coordinator can be contacted at (614) 644-2001 (all of Ohio)

Concentrated storm water runoff from BMPs to natural wetlands shall be converted to diffuse flow before the runoff enters the wetlands. The flow should be released such that no erosion occurs downslope. Level spreaders may need to be placed in series, particularly on steep sloped sites, to ensure non-erosive velocities. Other structural BMPs may be used between storm water features and natural wetlands, in order to protect the natural hydrology, hydroperiod, and wetland flora. If the applicant proposes to discharge to natural wetlands, a hydrologic analysis shall be performed. The applicant shall attempt to match the pre-development hydroperiods and hydrodynamics that support the wetland. The applicant shall assess whether their construction activity will adversely impact the hydrologic flora and fauna of the wetland. Practices such as vegetative buffers, infiltration basins, conservation of forest cover, and the preservation of intermittent streams, depressions, and drainage corridors may be used to maintain wetland hydrology.

- g. Other controls.

- i. **Non-Sediment Pollutant Controls.** In accordance with Part II.E, no solid (other than sediment) or liquid waste, including building materials, shall be discharged in storm water runoff. The permittee must implement all necessary BMPs to prevent the discharge of non-sediment pollutants to the drainage system of the site or surface waters of the state. Under

no circumstance shall wastewater from the washout of concrete trucks, stucco, paint, form release oils, curing compounds, and other construction materials be discharged directly into a drainage channel, storm sewer or surface waters of the state. Also, no pollutants from vehicle fuel, oils, or other vehicle fluids can be discharged to surface waters of the state. No exposure of storm water to waste materials is recommended. The SWP3 must include methods to minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, and sanitary waste to precipitation, storm water runoff, and snow melt. In accordance with Part II.D.3, the SWP3 shall include measures to prevent and respond to chemical spills and leaks. You may also reference the existence of other plans (i.e., Spill Prevention Control and Countermeasure (SPCC) plans, spill control programs, Safety Response Plans, etc.) provided that such plan addresses conditions of this permit condition and a copy of such plan is maintained on site.

- ii. **Off-site traffic.** Off-site vehicle tracking of sediments and dust generation shall be minimized. In accordance with Part II.D.1, the SWP3 shall include methods to minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. No detergents may be used to wash vehicles. Wash waters shall be treated in a sediment basin or alternative control that provides equivalent treatment prior to discharge.
- iii. **Compliance with other requirements.** The SWP3 shall be consistent with applicable State and/or local waste disposal, sanitary sewer or septic system regulations, including provisions prohibiting waste disposal by open burning and shall provide for the proper disposal of contaminated soils to the extent these are located within the permitted area.
- iv. **Trench and ground water control.** In accordance with Part II.C, there shall be no turbid discharges to surface waters of the state resulting from dewatering activities. If trench or ground water contains sediment, it shall pass through a sediment settling pond or other equally effective sediment control device, prior to being discharged from the construction site. Alternatively, sediment may be removed by settling in place or by dewatering into a sump pit, filter bag or comparable practice. Ground water which does not contain sediment or other pollutants is not required to be treated prior to discharge. However, care must be taken when discharging ground water to ensure that it does not become pollutant-laden by traversing over disturbed soils or other pollutant sources.
- v. **Contaminated Sediment.** Where construction activities are to occur on sites with contamination from previous activities, operators shall be aware that concentrations of materials that meet other criteria (is not considered a Hazardous Waste, meeting VAP standards, etc.) may still result in storm water discharges in excess of Ohio Water Quality Standards. Such discharges are not authorized by this permit. Appropriate BMPs include, but are not limited to:

- The use of berms, trenches, and pits to collect contaminated runoff and prevent discharges;
- Pumping runoff into a sanitary sewer (with prior approval of the sanitary sewer operator) or into a container for transport to an appropriate treatment/disposal facility; and
- Covering areas of contamination with tarps or other methods that prevent storm water from coming into contact with the material.

Operators should consult with Ohio EPA Division of Surface Water prior to seeking permit coverage.

- h. Maintenance. All temporary and permanent control practices shall be maintained and repaired as needed to ensure continued performance of their intended function. All sediment control practices must be maintained in a functional condition until all up slope areas they control are permanently stabilized. The SWP3 shall be designed to minimize maintenance requirements. The applicant shall provide a description of maintenance procedures needed to ensure the continued performance of control practices.
- i. Inspections. At a minimum, procedures in an SWP3 shall provide that all controls on the site are inspected at least once every seven calendar days and within 24 hours after any storm event greater than one-half inch of rain per 24 hour period. The inspection frequency may be reduced to at least once every month if the entire site is temporarily stabilized or runoff is unlikely due to weather conditions (e.g., site is covered with snow, ice, or the ground is frozen). A waiver of inspection requirements is available until one month before thawing conditions are expected to result in a discharge if all of the following conditions are met: the project is located in an area where frozen conditions are anticipated to continue for extended periods of time (i.e., more than one month); land disturbance activities have been suspended; and the beginning and ending dates of the waiver period are documented in the SWP3. Once a definable area is finally stabilized, the area may be marked on the SWP3 and no further inspection requirements apply to that portion of the site. The permittee shall assign "qualified inspection personnel" to conduct these inspections to ensure that the control practices are functional and to evaluate whether the SWP3 is adequate and properly implemented in accordance with the schedule proposed in Part III.G.1.g of this permit or whether additional control measures are required.

Following each inspection, a checklist must be completed and signed by the qualified inspection personnel representative. At a minimum, the inspection report shall include:

- i. the inspection date;
- ii. names, titles, and qualifications of personnel making the inspection;
- iii. weather information for the period since the last inspection (or since commencement of construction activity if the first inspection) including a best estimate of the beginning of each storm event, duration of each storm event, approximate amount of rainfall for each storm event (in inches), and whether any discharges occurred;
- iv. weather information and a description of any discharges occurring at the time of the inspection;

- v. location(s) of discharges of sediment or other pollutants from the site;
- vi. location(s) of BMPs that need to be maintained;
- vii. location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location;
- viii. location(s) where additional BMPs are needed that did not exist at the time of inspection; and
- ix. corrective action required including any changes to the SWP3 necessary and implementation dates.

Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of or the potential for pollutants entering the drainage system. Erosion and sediment control measures identified in the SWP3 shall be observed to ensure that those are operating correctly. Discharge locations shall be inspected to ascertain whether erosion and sediment control measures are effective in preventing significant impacts to the receiving waters. Locations where vehicles enter or exit the site shall be inspected for evidence of off-site vehicle tracking.

The permittee shall maintain for three years following the submittal of a notice of termination form, a record summarizing the results of the inspection, names(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the SWP3 and a certification as to whether the facility is in compliance with the SWP3 and the permit and identify any incidents of non-compliance. The record and certification shall be signed in accordance with Part V.G. of this permit.

- i. **When practices require repair or maintenance.** If the inspection reveals that a control practice is in need of repair or maintenance, with the exception of a sediment settling pond, it shall be repaired or maintained within 3 days of the inspection. Sediment settling ponds shall be repaired or maintained within 10 days of the inspection.
- ii. **When practices fail to provide their intended function.** If the inspection reveals that a control practice fails to perform its intended function and that another, more appropriate control practice is required, the SWP3 shall be amended and the new control practice shall be installed within 10 days of the inspection.
- iii. **When practices depicted on the SWP3 are not installed.** If the inspection reveals that a control practice has not been implemented in accordance with the schedule contained in Part III.G.1.g of this permit, the control practice shall be implemented within 10 days from the date of the inspection. If the inspection reveals that the planned control practice is not needed, the record shall contain a statement of explanation as to why the control practice is not needed.

- 3. Approved State or local plans. All dischargers regulated under this general permit must comply, except those exempted under state law, with the lawful requirements of municipalities, counties and other local agencies regarding discharges of storm water from construction activities. All erosion and sediment control plans and storm water

management plans approved by local officials shall be retained with the SWP3 prepared in accordance with this permit. Applicable requirements for erosion and sediment control and storm water management approved by local officials are, upon submittal of a NOI form, incorporated by reference and enforceable under this permit even if they are not specifically included in an SWP3 required under this permit. When the project is located within the jurisdiction of a regulated municipal separate storm sewer system (MS4), the permittee shall certify that the SWP3 complies with the requirements of the storm water management program of the MS4 operator.

4. Exceptions. If specific site conditions prohibit the implementation of any of the erosion and sediment control practices contained in this permit or site specific conditions are such that implementation of any erosion and sediment control practices contained in this permit will result in no environmental benefit, then the permittee shall provide justification for rejecting each practice based on site conditions. Exceptions from implementing the erosion and sediment control standards contained in this permit will be approved or denied on a case-by-case basis.

The permittee may request approval from Ohio EPA to use alternative methods to satisfy conditions in this permit if the permittee can demonstrate that the alternative methods are sufficient to protect the overall integrity of receiving streams and the watershed. Alternative methods will be approved or denied on a case-by-case basis.

PART IV. NOTICE OF TERMINATION REQUIREMENTS

A. Failure to notify.

The terms and conditions of this permit shall remain in effect until a signed Notice of Termination (NOT) form is submitted. Failure to submit an NOT constitutes a violation of this permit and may affect the ability of the permittee to obtain general permit coverage in the future.

B. When to submit an NOT.

1. Permittees wishing to terminate coverage under this permit shall submit an NOT form in accordance with Part V.G. of this permit. Compliance with this permit is required until an NOT form is submitted. The permittee's authorization to discharge under this permit terminates at midnight of the day the NOT form is submitted. Prior to submitting the NOT form, the permittee shall conduct a site inspection in accordance with Part III.G.2.i of this permit and have a maintenance agreement in place to ensure all post-construction BMPs will be maintained in perpetuity.
2. All permittees shall submit an NOT form within 45 days of completing all permit requirements. Enforcement actions may be taken if a permittee submits an NOT form without meeting one or more of the following conditions:
 - a. Final stabilization (see definition in Part VII) has been achieved on all portions of the site for which the permittee is responsible (including, if applicable, returning agricultural land to its pre-construction agricultural use);
 - b. Another operator(s) has assumed control over all areas of the site that have not been finally stabilized;

- c. For residential construction only, temporary stabilization has been completed and the lot, which includes a home, has been transferred to the homeowner. (Note: For individual lots without housing, which are sold by the developer, the individual lot permittee shall implement final stabilization prior to the individual lot permittee terminating permit coverage.); or
- d. An exception has been granted under Part III.G.4.

C. How to submit an NOT.

Permittees shall use Ohio EPA's approved NOT form. The form shall be completed and mailed according to the instructions and signed in accordance with Part V.G of this permit.

PART V. STANDARD PERMIT CONDITIONS.

A. Duty to comply.

The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of ORC Chapter 6111 and is grounds for enforcement action.

Ohio law imposes penalties and fines for persons who knowingly make false statements or knowingly swear or affirm the truth of a false statement previously made.

B. Continuation of an expired general permit.

An expired general permit continues in force and effect until a new general permit is issued.

C. Need to halt or reduce activity not a defense.

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. Duty to mitigate.

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

E. Duty to provide information.

The permittee shall furnish to the director, within 10 days of written request, any information which the director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the director upon request copies of records required to be kept by this permit.

F. Other information.

When the permittee becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in the NOI, SWP3, NOT or in any other report to the director, he or she shall promptly submit such facts or information.

G. Signatory requirements.

All NOIs, NOTs, SWP3s, reports, certifications or information either submitted to the director or that this permit requires to be maintained by the permittee, shall be signed.

1. These items shall be signed as follows:
 - a. For a corporation: By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
 - i. A president, secretary, treasurer or vice-president of the corporation in charge of a principal business function or any other person who performs similar policy or decision-making functions for the corporation; or
 - ii. The manager of one or more manufacturing, production or operating facilities, provided, the manager is authorized to make management decisions that govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
 - b. For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or
 - c. For a municipality, State, Federal or other public agency: By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes (1) the chief executive officer of the agency or (2) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA).
2. All reports required by the permits and other information requested by the director shall be signed by a person described in Part V.G.1 of this permit or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described in Part V.G.1 of this permit and submitted to the director;

- b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator of a well or well field, superintendent, position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
 - c. The written authorization is submitted to the director.
3. Changes to authorization. If an authorization under Part V.G.2 of this permit is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part V.G.2 of this permit must be submitted to the director prior to or together with any reports, information or applications to be signed by an authorized representative.

H. Certification.

Any person signing documents under this section shall make the following certification:

"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."

I. Oil and hazardous substance liability.

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject under section 311 of the CWA or 40 CFR Part 112. 40 CFR Part 112 establishes procedures, methods and equipment and other requirements for equipment to prevent the discharge of oil from non-transportation-related onshore and offshore facilities into or upon the navigable surface waters of the state or adjoining shorelines.

J. Property rights.

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

K. Severability.

The provisions of this permit are severable and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

L. Transfers.

Ohio NPDES general permit coverage is transferable. Ohio EPA must be notified in writing sixty days prior to any proposed transfer of coverage under an Ohio NPDES general permit. The transferee must inform Ohio EPA it will assume the responsibilities of the original permittee transferor.

M. Environmental laws.

No condition of this permit shall release the permittee from any responsibility or requirements under other environmental statutes or regulations.

N. Proper operation and maintenance.

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit and with the requirements of SWP3s. Proper operation and maintenance requires the operation of backup or auxiliary facilities or similar systems, installed by a permittee only when necessary to achieve compliance with the conditions of the permit.

O. Inspection and entry.

The permittee shall allow the director or an authorized representative of Ohio EPA, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;
2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment); and
4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

P. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

Q. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

R. Bypass

The provisions of 40 CFR Section 122.41(m), relating to "Bypass," are specifically incorporated herein by reference in their entirety. For definition of "Bypass," see Part VII.C.

S. Upset

The provisions of 40 CFR Section 122.41(n), relating to "Upset," are specifically incorporated herein by reference in their entirety. For definition of "Upset," see Part VII.GG.

T. Monitoring and Records

The provisions of 40 CFR Section 122.41(j), relating to "Monitoring and Records," are specifically incorporated herein by reference in their entirety.

U. Reporting Requirements

The provisions of 40 CFR Section 122.41(l), relating to "Reporting Requirements," are specifically incorporated herein by reference in their entirety.

PART VI. REOPENER CLAUSE

If there is evidence indicating potential or realized impacts on water quality due to any storm water discharge associated with construction activity covered by this permit, the permittee of such discharge may be required to obtain coverage under an individual permit or an alternative general permit in accordance with Part I.C of this permit or the permit may be modified to include different limitations and/or requirements.

Permit modification or revocation will be conducted according to ORC Chapter 6111.

PART VII. DEFINITIONS

- A. "Act" means Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub. L. 92-500, as amended Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483, Pub. L. 97-117 and Pub. L. 100-4, 33 U.S.C. 1251 et. seq.
- B. "Best management practices (BMPs)" means schedules of activities, prohibitions of practices, maintenance procedures and other management practices (both structural and non-structural) to prevent or reduce the pollution of surface waters of the state. BMP's also include treatment requirements, operating procedures and practices to control plant and/or construction site runoff, spillage or leaks, sludge or waste disposal or drainage from raw material storage.
- C. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
- D. "Commencement of construction" means the initial disturbance of soils associated with clearing, grubbing, grading, placement of fill, or excavating activities or other construction activities.

- E. "Concentrated storm water runoff" means any storm water runoff which flows through a drainage pipe, ditch, diversion or other discrete conveyance channel.
- F. "Director" means the director of the Ohio Environmental Protection Agency.
- G. "Discharge" means the addition of any pollutant to the surface waters of the state from a point source.
- H. "Disturbance" means any clearing, grading, excavating, filling, or other alteration of land surface where natural or man-made cover is destroyed in a manner that exposes the underlying soils.
- I. "Drainage watershed" means for purposes of this permit the total contributing drainage area to a BMP, i.e., the "watershed" directed to the practice. This would also include any off-site drainage.
- J. "Final stabilization" means that either:
 - 1. All soil disturbing activities at the site are complete and a uniform perennial vegetative cover (e.g., evenly distributed, without large bare areas) with a density of at least 70 percent cover for the area has been established on all unpaved areas and areas not covered by permanent structures or equivalent stabilization measures (such as the use of mulches, rip-rap, gabions or geotextiles) have been employed. In addition, all temporary erosion and sediment control practices are removed and disposed of and all trapped sediment is permanently stabilized to prevent further erosion; or
 - 2. For individual lots in residential construction by either:
 - a. The homebuilder completing final stabilization as specified above or
 - b. The homebuilder establishing temporary stabilization including perimeter controls for an individual lot prior to occupation of the home by the homeowner and informing the homeowner of the need for and benefits of, final stabilization. (Homeowners typically have an incentive to put in the landscaping functionally equivalent to final stabilization as quick as possible to keep mud out of their homes and off sidewalks and driveways.); or
 - 3. For construction projects on land used for agricultural purposes (e.g., pipelines across crop or range land), final stabilization may be accomplished by returning the disturbed land to its pre-construction agricultural use. Areas disturbed that were previously used for agricultural activities, such as buffer strips immediately adjacent to surface waters of the state and which are not being returned to their pre-construction agricultural use, must meet the final stabilization criteria in (1) or (2) above.
- K. "Individual Lot NOI" means a Notice of Intent for an individual lot to be covered by this permit (see Part I of this permit).

- L. "Larger common plan of development or sale"- means a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under one plan.
- M. "MS4" means municipal separate storm sewer system which means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels or storm drains) that are:
1. Owned or operated by the federal government, state, municipality, township, county, district(s) or other public body (created by or pursuant to state or federal law) including special district under state law such as a sewer district, flood control district or drainage districts or similar entity or a designated and approved management agency under section 208 of the act that discharges into surface waters of the state; and
 2. Designed or used for collecting or conveying solely storm water,
 3. Which is not a combined sewer and
 4. Which is not a part of a publicly owned treatment works.
- N. "National Pollutant Discharge Elimination System (NPDES)" means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits and enforcing pretreatment requirements, under sections 307, 402, 318 and 405 of the CWA. The term includes an "approved program."
- O. "NOI" means notice of intent to be covered by this permit.
- P. "NOT" means notice of termination.
- Q. "Operator" means any party associated with a construction project that meets either of the following two criteria:
1. The party has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or
 2. The party has day-to-day operational control of those activities at a project which are necessary to ensure compliance with an SWP3 for the site or other permit conditions (e.g., they are authorized to direct workers at a site to carry out activities required by the SWP3 or comply with other permit conditions).
- As set forth in Part I.F.1, there can be more than one operator at a site and under these circumstances, the operators shall be co-permittees.
- R. "Ordinary high water mark" means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.
- S. "Owner or operator" means the owner or operator of any "facility or activity" subject to regulation under the NPDES program.

- T. "Permanent stabilization" means the establishment of permanent vegetation, decorative landscape mulching, matting, sod, rip rap and landscaping techniques to provide permanent erosion control on areas where construction operations are complete or where no further disturbance is expected for at least one year.
- U. "Percent imperviousness" means the impervious area created divided by the total area of the project site.
- V. "Point source" means any discernible, confined and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or the floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.
- W. "Qualified inspection personnel" means a person knowledgeable in the principles and practice of erosion and sediment controls, who possesses the skills to assess all conditions at the construction site that could impact storm water quality and to assess the effectiveness of any sediment and erosion control measures selected to control the quality of storm water discharges from the construction activity.
- X. "Rainwater and Land Development" is a manual describing construction and post-construction best management practices and associated specifications. A copy of the manual may be obtained by contacting the Ohio Department of Natural Resources, Division of Soil & Water Conservation.
- Y. "Riparian area" means the transition area between flowing water and terrestrial (land) ecosystems composed of trees, shrubs and surrounding vegetation which serve to stabilize erodible soil, improve both surface and ground water quality, increase stream shading and enhance wildlife habitat.
- Z. "Runoff coefficient" means the fraction of total rainfall that will appear at the conveyance as runoff.
- AA. "Sediment settling pond" means a sediment trap, sediment basin or permanent basin that has been temporarily modified for sediment control, as described in the latest edition of the Rainwater and Land Development manual.
- BB. "State isolated wetland permit requirements" means the requirements set forth in Sections 6111.02 through 6111.029 of the ORC.
- CC. "Storm water" means storm water runoff, snow melt and surface runoff and drainage.
- DD. "Steep slopes" means slopes that are 15 percent or greater in grade. Where a local government or industry technical manual has defined what is to be considered a "steep slope," this permit's definition automatically adopts that definition.
- EE. "Surface waters of the state" or "water bodies" means all streams, lakes, reservoirs, ponds, marshes, wetlands or other waterways which are situated wholly or partially within the boundaries of the state, except those private waters which do not combine or effect a junction with natural surface or underground waters. Waters defined as

sewerage systems, treatment works or disposal systems in Section 6111.01 of the ORC are not included.

- FF. "SWP3" means storm water pollution prevention plan.
- GG. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- HH. "Temporary stabilization" means the establishment of temporary vegetation, mulching, geotextiles, sod, preservation of existing vegetation and other techniques capable of quickly establishing cover over disturbed areas to provide erosion control between construction operations.
- II. "Water Quality Volume (WQ_v)" means the volume of storm water runoff which must be captured and treated prior to discharge from the developed site after construction is complete. WQ_v is based on the expected runoff generated by the mean storm precipitation volume from post-construction site conditions at which rapidly diminishing returns in the number of runoff events captured begins to occur.

ATTACHMENT C

SWPPP Certification and Signature

Introduction

The Storm Water Pollution Prevention Plan (SWPPP) is prepared to address construction activities and stormwater management for the following project / site:

Name: Northwest Ohio Wind Project

City/Township/County: Paulding County, OH

Location:

The Northwest Ohio Wind Project is located in Paulding County, OH approximately 6 miles south of Paulding, OH. The latitude/longitude (41.0467/-84.5849) is the approximate center of the project area for 2013 Construction:

Township	Range	Sections
1N	2E	8, 23
1N	3E	15,22

There are areas within this general description which are not considered part of the project area. See the USGS plan sheets in Attachment Section A for project areas.

This SWPPP is for: Northwest Ohio Wind Energy, LLC

This SWP3 is prepared in accordance with National Pollutant Discharge Elimination System (NPDES) regulations as established by the U.S. EPA pursuant to the Clean Water Act and as administered by the State of Ohio, Environmental Protection Agency Construction General Permit OHC000004 (April 21, 2013).

The SWPPP is designed to:

1. Identify all potential sources of pollution which may reasonably be expected to affect storm water discharges from the site;
2. Describe the practices to be used to reduce pollutants in storm water discharges from the site;
3. Provide compliance with the terms and conditions of the CGP, a copy of which is provided in Attachment Section B of this SWPPP.

As required and defined by the CGP, the SWPPP will be implemented at the site from the commencement of construction activity until the completion of activity and final stabilization of the site.

The application for coverage under the CGP and, where provided, a copy of the documentation of authorization to discharge is described under the State CGP, the application for coverage is made by submitting the Application for General Storm Water Permit for Construction Activity. By submitting the Notice of Intent (NOI); the site is authorized to discharge stormwater under the State CGP. Copies of the application / NOI are included in Attachment Section B of the SWPPP.

The storm water discharges from the site listed above are not subject to MS4 requirements.

If subject to MS4 requirements, the requirements of the MS4 are covered in the SWPPP located in Attachment Section K and ordinances are included in Section K of the SWPPP.

Owner / Operator Certification

I certify under penalty of law, 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 a fine and imprisonment for knowing violations.

Owner Name: _____ Company: _____

Owner Title: _____ Company Address: _____

Signature: _____

Date: _____ Company Phone #: _____

November 22, 2013

Name / Title: _____

Company: _____

Re: Delegating an "Authorized Representative" for NW Ohio Wind Project to perform
stormwater / NPDES site inspections and to sign stormwater inspection reports
NPDES # (_____)

Dear _____:

This letter designates you or your alternate, as the _____ for
the project reference above to serve as Northwest Ohio Wind Energy, LLC's authorized
representative to perform storm water site inspections and to prepare, sign, and certify
inspection reports as required by the applicable NPDES storm water construction general
permit as the project.

This authorization does not include authority to sign an application for coverage under a
NPDES General Permit (NOI) or a notice of termination (NOT). This authorization will
continue in effect until the earlier of:

1. Completion of construction and final stabilization at the site listed above; OR
2. Until further written notice from Northwest Ohio Wind Energy, LLC.

I certify under penalty of law, 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 a fine and
imprisonment for knowing violations.

Signed: _____

Name: _____

Title: _____

Company: Northwest Ohio Wind Energy, LLC

General Contractor and Subcontractor / Operator Certification Statement

Stormwater Water Discharge Associated with Industrial Activity for Construction Activities

City: Near Paulding

County: Paulding County

Project Name: Northwest Ohio Wind Project Project NPDES Number:

Subcontractor / Operator Certification Statement

"I certify that I, as a representative of the company for which I am employed, have been informed and understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) and project SWPPP that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification and the responsibilities of compliance with the NPDES permit".

"I certify under penalty of law, 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 a fine and imprisonment for knowing violations."

Name: _____ Company: _____

Title: _____ Phone #: _____

Company Address: _____

Signature: _____ Date: _____

ATTACHMENT D

SWPPP Inspection and Rain Event Log

Project Name:

Owner:

Operator:

NPDES Permit ID:

Inspector:

[illegible]

Sample Inspection Report

Instructions

This sample inspection report has been developed as a helpful tool to aid you in completing your site inspections. This sample inspection report was created consistent with EPA's Developing Your Stormwater Pollution Prevention Plan. You can find both the guide and the sample inspection report (formatted in Microsoft Word) at www.epa.gov/npdes/swpppguide

This inspection report is provided in Microsoft Word format to allow you to easily customize it for your use and the conditions at your site. You should also customize this form to help you meet the requirements in your construction general permit related to inspections. **If your permitting authority provides you with an inspection report, please use that form.**

Using the Inspection Report

This inspection report is designed to be customized according to the BMPs and conditions at your site. For ease of use, you should take a copy of your site plan and number all of the stormwater BMPs and areas of your site that will be inspected. A brief description of the BMP or area should then be listed in the site-specific section of the inspection report. For example, specific structural BMPs such as construction site entrances, sediment ponds, or specific areas with silt fence (e.g., silt fence along Main Street; silt fence along slope in NW corner, etc.) should be numbered and listed. You should also number specific non-structural BMPs or areas that will be inspected (such as trash areas, material storage areas, temporary sanitary waste areas, etc).

You can complete the items in the "General Information" section that will remain constant, such as the project name, NPDES tracking number, and inspector (if you only use one inspector). Print out multiple copies of this customized inspection report to use during your inspections.

When conducting the inspection, walk the site by following your site map and numbered BMPs/areas for inspection. Also note whether the overall site issues have been addressed (customize this list according to the conditions at your site). Note any required corrective actions and the date and responsible person for the correction in the Corrective Action Log.

Stormwater Construction Site Inspection Report

General Information			
Project Name			
NPDES Tracking No.		Location	
Date of Inspection		Start/End Time	
Inspector's Name(s)			
Inspector's Title(s)			
Inspector's Contact Information			
Inspector's Qualifications	Insert qualifications or add reference to the SWPPP. (See Section 5 of the SWPPP Template)		
Describe present phase of construction			
Type of Inspection: <input type="checkbox"/> Regular <input type="checkbox"/> Pre-storm event <input type="checkbox"/> During storm event <input type="checkbox"/> Post-storm event			
Weather Information			
Has there been a storm event since the last inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, provide: Storm Start Date & Time: Storm Duration (hrs): Approximate Amount of Precipitation (in):			
Weather at time of this inspection? <input type="checkbox"/> Clear <input type="checkbox"/> Cloudy <input type="checkbox"/> Rain <input type="checkbox"/> Sleet <input type="checkbox"/> Fog <input type="checkbox"/> Snowing <input type="checkbox"/> High Winds <input type="checkbox"/> Other: Temperature:			
Have any discharges occurred since the last inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe:			
Are there any discharges at the time of inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe:			

Site-specific BMPs

- Number the structural and non-structural BMPs identified in your SWPPP on your site map and list them below (add as many BMPs as necessary). Carry a copy of the numbered site map with you during your inspections. This list will ensure that you are inspecting all required BMPs at your site.
- Describe corrective actions initiated, date completed, and note the person that completed the work in the Corrective Action Log.

BMP	BMP Installed?	BMP Maintenance Required?	Corrective Action Needed and Notes
1	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
4	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
5	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
6	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
7	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
8	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
9	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
10	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
11	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

	BMP	BMP Installed?	BMP Maintenance Required?	Corrective Action Needed and Notes
12		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
13		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
14		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
15		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
16		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
17		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
18		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
19		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
20		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Overall Site Issues

Below are some general site issues that should be assessed during inspections. Customize this list as needed for conditions at your site.

	BMP/activity	Implemented?	Maintenance Required?	Corrective Action Needed and Notes
1	Are all slopes and disturbed areas not actively being worked properly stabilized?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2	Are natural resource areas (e.g., streams, wetlands, mature trees, etc.) protected with barriers or similar BMPs?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3	Are perimeter controls and sediment barriers adequately installed (keyed into substrate) and maintained?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
4	Are discharge points and receiving waters free of any sediment deposits?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
5	Are storm drain inlets properly protected?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
6	Is the construction exit preventing sediment from being tracked into the street?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
7	Is trash/litter from work areas collected and placed in covered dumpsters?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
8	Are washout facilities (e.g., paint, stucco, concrete) available, clearly marked, and maintained?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

	BMP/activity	Implemented?	Maintenance Required?	Corrective Action Needed and Notes
9	Are vehicle and equipment fueling, cleaning, and maintenance areas free of spills, leaks, or any other deleterious material?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
10	Are materials that are potential stormwater contaminants stored inside or under cover?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
11	Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
12	(Other)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Non-Compliance

Describe any incidents of non-compliance not described above:

CERTIFICATION STATEMENT

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly 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."

Print name and title: _____

Signature: _____ Date: _____



Construction Site Inspection Checklist

By making use of some simple Best Management Practices (BMPs) a construction site operator can do his or her share to protect Ohio's water resources from the harmful effects of sediment. The topography of the site and the extent of the construction activities will determine which of these practices are applicable to any given site, but the BMPs listed here are applicable to most construction sites. For details on the installation and maintenance of these BMPs, please refer to *Rainwater and Land Development, Ohio's Standards for Storm Water Management, Land Development and Urban Stream Protection* (Ohio Department of Natural Resources, 1996), available from your county Soil and Water Conservation District (SWCD) or by contacting the ODNR Division of Soil and Water Conservation.

Temporary Stabilization

This is the most effective BMP. All disturbed areas that will lie dormant for over 21 days must be stabilized within 7 days of the date the area becomes inactive. The goal of temporary stabilization is to provide cover, quickly. Areas within 50 feet of a stream must be stabilized within 2 days of inactivity. This is accomplished by seeding with fast-growing grasses then covering with straw mulch. Apply only mulch between November 1 and March 31. To minimize your costs of temporary stabilization, leave natural cover in place for as long as possible. Only disturb areas you intend to work within the next 21 days.

Construction Entrances

Construction entrances are installed to minimize off-site tracking of sediments. A stone access drive should be installed at every point where vehicles enter or exit the site. Every individual lot should also have its own drive once construction on the lot begins.

Sediment Ponds

This is the sediment control of choice for areas, which exceed the design capacity of silt fence (see page 119 of the *Rainwater* manual) or to control concentrated runoff. There are two types of sediment ponds: sediment basins and sediment traps. A sediment trap is appropriate where the contributing drainage area is 10 acres or less. The outlet is an earthen embankment with a simple stone spillway. A sediment basin is appropriate for drainage areas larger than 10 acres. The outlet is an engineered riser pipe. Often a permanent storm water management pond, such as a retention or detention basin, can be modified to act as a sediment basin during construction. All sediment ponds, regardless of whether they are a trap or a basin and regardless of whether they will become a permanent storm water pond, must provide a minimum storage of 67 cubic yards per acre of total contributing drainage area. Sediment ponds must be installed within 7 days of first grubbing the area they control.

Silt Fence

This is typically used at the perimeter of a disturbed area. It's only for small drainage areas on relatively flat slopes or around small soil storage piles. Not suitable where runoff is concentrated in a ditch, pipe or through streams. For large drainage areas where flow is concentrated, collect runoff in diversion berms or channels and pass it through a sediment pond prior to discharging it from the site. Combination barriers constructed of silt fence supported by straw bales or silt fence embedded within rock check dams may be effective within small channels. As with all sediment controls, silt fence must be capable of ponding runoff so that sediment can settle out of suspension. Silt fence must be installed within 7 days of first grubbing the area it controls.

Inlet Protection

This must be installed on all yard drains and curb drains when these inlets do not drain to a sediment trap or basin. Even if there is a sediment trap or basin, inlet protection is still recommended, as it will increase the overall sediment removal efficiency. These are best used on roads with little or no traffic. If working properly, inlet protection will cause water to pond. If used on curb inlets, streets will flood temporarily during heavy storms. Check with your municipality before installing curb inlet protection. They may prefer an alternate means of sediment control such as silt fence or ponds.

Permanent Stabilization

All areas at final grade must be permanently stabilized within 7 days of reaching final grade. This is usually accomplished by using seed and mulch, but special measures are sometimes required. This is particularly true in drainage ditches or on steep slopes. These measures include the addition of topsoil, erosion control matting, rock rip-rap or retaining walls. Permanent seeding should be done March 1 to May 31 and August 1 to September 30. Dormant seeding can be done from November 20 to March 15. At all other times of the year, the area should be temporarily stabilized until a permanent seeding can be applied.

Non-Sediment Pollution Control

Although sediment is the pollutant of greatest concern on most construction sites, there are other sources of pollution. Most of these BMPs are easy to implement with a little bit of planning and go a long way toward keeping your site clean and organized. Please be sure to inform all contractors how these BMPs affect their operations on the site, particularly those that will be working near a stream.

Inspection Sheet

INSPECTIONS MUST BE CONDUCTED ONCE EVERY 7 DAYS AND WITHIN 24 HOURS OF A 0.5" OR GREATER RAINFALL. ALL SEDIMENT CONTROLS MUST BE INSTALLED PRIOR TO GRADING AND WITHIN 7 DAYS OF FIRST GRUBBING

TEMPORARY STABILIZATION

Key things to look for ...

	Yes	No
1. Are there any areas of the site that are disturbed, but will likely lie dormant for over 21 days?	<input type="checkbox"/>	<input type="checkbox"/>
2. Have all dormant, disturbed areas been temporarily stabilized in their entireties?	<input type="checkbox"/>	<input type="checkbox"/>
3. Have disturbed areas outside the silt fence been seeded or mulched?	<input type="checkbox"/>	<input type="checkbox"/>
4. Have soil stockpiles that will sit for over 21 days been stabilized?	<input type="checkbox"/>	<input type="checkbox"/>
5. Has seed and mulch been applied at the proper rate? In general, seed is applied at 3 to 5 lbs per 1000 sq ft and straw mulch is applied at 2-3 bales per 1000 sq ft.	<input type="checkbox"/>	<input type="checkbox"/>
6. Has seed or mulch blown away? If so, repair.	<input type="checkbox"/>	<input type="checkbox"/>

Note areas where repairs or maintenance is needed or where this practice needs to be applied:

CONSTRUCTION ENTRANCES

Key things to look for ...

	Yes	No
1. Has the drive been constructed by placing geotextile fabric under the stone?	<input type="checkbox"/>	<input type="checkbox"/>
2. Is the stone 2-inch diameter?	<input type="checkbox"/>	<input type="checkbox"/>
3. Has the stone been placed to a depth of 6 inches, with a width of 10 feet and a length of at least 50 feet (30 feet for entrances onto individual sublots)?	<input type="checkbox"/>	<input type="checkbox"/>
4. If the drive is placed on a slope, has a diversion berm been constructed across the drive to divert runoff away from the street or water resource?	<input type="checkbox"/>	<input type="checkbox"/>
5. If drive is placed across a ditch, was a culvert pipe used to allow runoff to flow across the drive?	<input type="checkbox"/>	<input type="checkbox"/>

Note areas where repairs or maintenance is needed or where this practice needs to be applied:

SEDIMENT PONDS

Key things to look for ...

	Yes	No
1. Are concentrated flows of runoff directed to a sediment pond?	<input type="checkbox"/>	<input type="checkbox"/>
2. Is sheet-flow runoff from drainage areas that exceed the design capacity of silt fence (generally 0.25 acre or larger) directed to a sediment pond?	<input type="checkbox"/>	<input type="checkbox"/>
3. Is runoff being collected and directed to the sediment pond via the storm sewer system or via a network of diversion berms and channels?	<input type="checkbox"/>	<input type="checkbox"/>
4. Is the sediment pond appropriately sized (67 cubic yards per acre of total drainage area)?	<input type="checkbox"/>	<input type="checkbox"/>
5. Have the embankments of the sediment pond and the areas that lie downstream of the pond been stabilized?	<input type="checkbox"/>	<input type="checkbox"/>
6. For sediment basins that dewater 100% between storms, is the riser pipe wrapped with chicken wire and double wrapped with geotextile fabric?	<input type="checkbox"/>	<input type="checkbox"/>
7. Does the riser have 1-inch diameter holes spaced 4 inches apart, both horizontally and vertically?	<input type="checkbox"/>	<input type="checkbox"/>
8. For sediment basins, which dewater 60% between storms, is the diameter of the dewatering hole per plan (see page 105 of <i>Rainwater</i> manual)?	<input type="checkbox"/>	<input type="checkbox"/>
9. For sediment traps, is there geotextile under the stone spillway and is the spillway saddle-shaped?	<input type="checkbox"/>	<input type="checkbox"/>
10. For sediment traps, which dewater 100% between storms, is the dewatering pipe end-capped, no larger than 6 inches in diameter, perforated and double-wrapped in geotextile?	<input type="checkbox"/>	<input type="checkbox"/>
11. Is the length-to-width ratio between inlet(s) and outlet at least 2:1? NOTE: If not, a baffle should be added to lengthen the distance.	<input type="checkbox"/>	<input type="checkbox"/>
12. Is the depth from the bottom of the basin to the top of the primary spillway no more than 3 to 5 feet?	<input type="checkbox"/>	<input type="checkbox"/>
13. For a modified storm water pond being used as a sediment pond, is the connection between the riser pipe and the permanent outlet water-tight?	<input type="checkbox"/>	<input type="checkbox"/>
14. Was the basin installed prior to grading the site?	<input type="checkbox"/>	<input type="checkbox"/>
15. Is it time to clean-out the sediment pond to restore its original capacity? Generally, sediment should be removed once the pond is half-full. Stabilize the dredged sediments with seed and mulch.	<input type="checkbox"/>	<input type="checkbox"/>

Note areas where repairs or maintenance is needed or where this practice needs to be applied:

SILT FENCE

Key things to look for ...

- | | Yes | No |
|--|--------------------------|--------------------------|
| 1. Is the fence at least 4" to 6" into the ground? | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Is the trench backfilled to prevent runoff from cutting underneath the fence? | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Is the fence pulled tight so it won't sag when water builds up behind it? | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Are the ends brought upslope of the rest of the fence so as to prevent runoff from going around the ends? | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Is the fence placed on a level contour? If not, the fence will only act as a diversion. | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Have all the gaps and tears in the fence been eliminated. | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Is the fence controlling an appropriate drainage area? Refer to page 119 of <i>Rainwater</i> manual.
RULE OF THUMB: Design capacity for 100 linear feet of silt fence is 0.5 acres for slopes < 2%, 0.25 acres for slopes 2% to 20%, & 0.125 acres for slopes 20% or more. Generally, no more than 0.25 acres should lie behind 100 feet of fence at 2% to 10% slope, i.e., the distance between the fence and the top of the slope behind it should be no more than 125 feet. The allowable distance increases on flatter slopes and decreases for steeper slopes. | <input type="checkbox"/> | <input type="checkbox"/> |

Note areas where repairs or maintenance is needed or where this practice needs to be applied:

INLET PROTECTION

Key things to look for ...

- | | Yes | No |
|--|--------------------------|--------------------------|
| 1. Does water pond around the inlet when it rains? | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Has the fabric been replaced when it develops tears or sags? | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. For curb inlet protection, does the fabric cover the entire grate, including the curb window? | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. For yard inlet protection, does the structure encircle the entire grate? | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Is the fabric properly entrenched or anchored so that water passes through it and not under it? | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. For yard inlet protection, is the fabric properly supported to withstand the weight of water and prevent sagging? The fabric should be supported by a wood frame with cross braces, or straw bales. | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Is sediment that has accumulated around the inlet removed on a regular basis? | <input type="checkbox"/> | <input type="checkbox"/> |

Note areas where repairs or maintenance is needed or where this practice needs to be applied:

PERMANENT STABILIZATION

Key things to look for ...

	Yes	No
1. Are any areas at final grade?	<input type="checkbox"/>	<input type="checkbox"/>
2. Has the soil been properly prepared to accept permanent seeding?	<input type="checkbox"/>	<input type="checkbox"/>
3. Has seed and mulch been applied at the appropriate rate (see page 169 of the <i>Rainwater</i> manual)?	<input type="checkbox"/>	<input type="checkbox"/>
4. If rainfall has been inadequate, are seeded areas being watered?	<input type="checkbox"/>	<input type="checkbox"/>
5. For drainage ditches where flow velocity exceeds 3.5 ft/s from a 10-year, 24-hour storm has matting been applied to the ditch bottom?	<input type="checkbox"/>	<input type="checkbox"/>
6. If the flow velocity exceeds 5.0 ft/s, has the ditch bottom been stabilized with rock rip-rap? NOTE: Rock check dams may be needed to slow the flow of runoff.	<input type="checkbox"/>	<input type="checkbox"/>
7. Has rock rip-rap been placed under all storm water outfall pipes to prevent scouring in the receiving stream or erosion of the receiving channel?	<input type="checkbox"/>	<input type="checkbox"/>
8. For sites with steep slopes or fill areas, is runoff from the top of the site conveyed to the bottom of the slope or fill area in a controlled manner so as not to cause erosion?	<input type="checkbox"/>	<input type="checkbox"/>

Note areas where repairs or maintenance is needed or where this practice needs to be applied:

NON-SEDIMENT POLLUTION CONTROL

Key things to look for ...

	Yes	No
1. Has an area been designated for washing out concrete trucks? Washings must be contained on site within a bermed area until they harden. The washings should never be directed toward a watercourse, ditch or storm drain.	<input type="checkbox"/>	<input type="checkbox"/>
2. Is waste and packaging disposed of in a dumpster? Do not burn them on site.	<input type="checkbox"/>	<input type="checkbox"/>
3. Are fuel tanks and drums of toxic and hazardous materials stored within a diked area or trailer and away from any watercourse, ditch or storm drain?	<input type="checkbox"/>	<input type="checkbox"/>
4. Are streets swept as often as necessary to keep them clean and free from sediment? NOTE: Sediment should be swept back onto the lot - not down the storm sewers.	<input type="checkbox"/>	<input type="checkbox"/>
5. Are stockpiles of soil or other materials stored away from any watercourse, ditch or storm drain?	<input type="checkbox"/>	<input type="checkbox"/>
6. Have stream crossings been constructed entirely of non-erodible material?	<input type="checkbox"/>	<input type="checkbox"/>
7. If an area of the site is being dewatered, is it being pumped from a sump pit or is the discharge directed to a sediment pond? NOTE: if you must lower ground water, the water may be discharged to the receiving stream as long as the water remains clean. Be sure not to co-mingle the clean ground water with sediment-laden water or to discharge it off-site by passing it over disturbed ground.	<input type="checkbox"/>	<input type="checkbox"/>

BMP INSTALLATION LOG

Project

Project Name:

Owner:

Operator:

NPDES Permit ID:

Inspector:

[illegible]

GRADING ACTIVITY/STABILIZATION LOG

Project

Name:

Owner:

Operator:

NPDES Permit ID:

Inspector:

[illegible]

Project Name: _____

Operator: _____

Inspector: _____

Owner: _____

NPDES Permit ID: _____

[illegible]

SWPPP Amendment Log

Project

Name:

Owner:

Operator:

NPDES Permit ID:

Inspector:

[illegible]

Subcontractor Authorization Log

Project Name:

Owner:

Operator:

NPDES Permit ID:

Inspector:

[illegible]

ATTACHMENT E



Division of Surface Water - Notice of Intent (NOI) For Coverage Under Ohio Environmental Protection Agency General NPDES Permit

(Read accompanying instructions carefully before completing this form.)

Submission of this NOI constitutes notice that the party identified in Section I of this form intends to be authorized to discharge into state surface waters under Ohio EPA's NPDES general permit program. Becoming a permittee obligates a discharger to comply with the terms and conditions of the permit. Complete all required information as indicated by the instructions. Do not use correction fluid on this form. Forms transmitted by fax will not be accepted. A check for the proper amount must accompany this form and be made payable to "Treasurer, State of Ohio." (See the fee table in Attachment C of the NOI instructions for the appropriate processing fee.)

I. Applicant Information/Mailing Address

Company (Applicant) Name:

Mailing (Applicant) Address:

City:

State:

Zip Code:

Contact Person:

Phone:

Fax:

Contact E-mail Address:

II. Facility/Site Location Information

Facility Name:

Facility Address/Location:

City:

State: Ohio

Zip Code:

County(ies):

Township(s):

Facility Contact Person:

Phone:

Fax:

Facility Contact E-mail Address:

Latitude:

Longitude:

(For Construction & Coal, must complete lat/long & attach map)

Receiving Stream or MS4:

III. General Permit Information

General Permit Number: Choose an item.

Initial Coverage: ☐

Renewal Coverage: ☐

Type of Activity: Choose an item.

SIC Code(s):

Existing NPDES Permit Number:

ODNR Coal Mining Application Number:

If Household Sewage Treatment System, is system for: ☐ new home construction or ☐ replacement of failed existing system

Outfall:	Design Flow (MGD):	Associated Permit Effluent Table:	Latitude:	Longitude:
		Choose an item.		
		Choose an item.		
		Choose an item.		
		Choose an item.		

Are These Permits Required?

PTI Choose one.

Individual 401 Water Quality Certification Choose one.

Isolated Wetland Choose one.

U.S. Army Corp Nationwide Permit Choose one.

Individual NPDES Choose one.

Proposed Project Start Date:

Estimated Completion Date:

Total Land Disturbance (Acres):

MS4 Drainage Area (Sq. Miles):

IV. Payment Information

Check #:

Check Amount:

Date of Check:

For Ohio EPA Use Only

Check ID (OFA): _____ ORG #: _____

Rev ID: _____ DOC #: _____

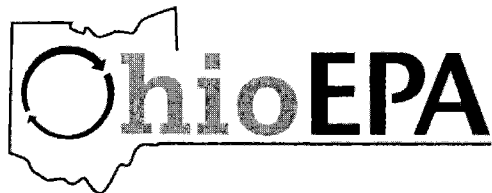
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage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

Applicant Name:

Title:

Applicant Signature:

Date:



Division of Surface Water

Co-Permittee Notice of Intent (NOI) for Coverage Under Ohio EPA Construction Storm Water General Permit

Submission of this NOI constitutes notice that the party identified in Section I of this form intends to be authorized by Ohio's NPDES general permit for storm water associated with construction activity. Becoming a permittee obligates a discharger to comply with the terms and conditions of the permit. NOTE: All necessary information must be provided on this form. Read the accompanying instructions carefully before completing the form. Do not use correction fluid on this form. Forms transmitted by fax will not be accepted. There is no fee associated with submitting this form.

I. Applicant Information/Mailing Address

Company (Applicant) Name:

Mailing (Applicant) Address:

City:

State:

Zip Code:

Contact Person:

Phone:

Fax:

Contact E-mail Address:

II. Facility/Site Location Information

Existing Ohio EPA Facility Permit Number:

Initial Permittee Name:

Facility/Site Name:

City:

State: Ohio

Zip Code:

County(ies):

Township:

Facility Contact Person:

Phone:

Fax:

Facility Contact E-mail Address:

III. Certification

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

Applicant Name (printed or typed):

Title:

Signature:

Date:



**Division of Surface Water - Notice of Termination (NOT) of Coverage Under
Ohio Environmental Protection Agency General NPDES Permit**

(Read accompanying instructions carefully before completing this form.)

Submission of this NOT constitutes notice that the party identified in Section II of this form is no longer authorized to discharge into state waters under the NPDES general permit program. NOTE: All necessary information must be provided on this form. Do not use correction fluid on this form. Forms transmitted by fax will not be accepted. There is no fee associated with submitting this form.

I. Permit Information

NPDES General Permit Number: OH

Facility General Permit Number:

II. Owner/Applicant Information/Mailing Address:

Company (Applicant) Name:

Mailing (Applicant) Address:

City:	State:	Zip Code:
Contact Person:	Phone:	Fax:
Contact E-mail Address:		

III. Facility/Site Location Information

Facility Name:

Facility Address/Location:

City:	State:	Zip Code:
County:	Township:	Section:
Facility Contact Person:	Phone:	Fax:
Contact E-mail Address:		

IV. Reason for Termination

Transfer of Ownership <input type="checkbox"/>	Cease to Discharge <input type="checkbox"/>	Facility Closed <input type="checkbox"/>
Project Completed <input type="checkbox"/>	Obtained Individual Permit <input type="checkbox"/>	

V. Certifications

Standard Certification:

I certify under penalty of law that all discharges authorized by the NPDES general permit have been eliminated or that I am no longer the operator of the facility. I understand that by submitting this NOT, I am no longer authorized to discharge under this general permit and that discharging pollutants to waters of the state without an NPDES permit is unlawful under ORC 6111.

Name (typed):	Title:
Signature:	Date:

Industrial Storm Water and Coal Mining Activity Certification Only:

I certify under penalty of law that all discharges associated with the identified facility that are authorized by the above referenced NPDES general permit have been eliminated, that I am no longer the operator of the facility, or in the case of a coal mine that the SMCRA bond has been released by ODNR-Division of Reclamation. I understand that by submitting this NOT, I am no longer authorized to discharge storm water associated with industrial activity under this general permit, and that discharging pollutants in storm water associated with industrial activity to waters of the state is unlawful under ORC 6111 where the discharge is not authorized by an NPDES permit.

Name (typed):	Title:
Signature:	Date:

Storm Water Construction Activity Certification Only:

I certify under penalty of law that all elements of the storm water pollution prevention plan have been completed, the disturbed soil at the identified facility have been stabilized and temporary erosion and sediment control measures have been removed at the appropriate time, or that all storm water discharges associated with construction activity from the identified facility that are authorized by the above referenced NPDES general permit have otherwise been eliminated. I understand that, by submitting this NOT, I am no longer authorized to discharge storm water associated with construction activity by the general permit, and that discharging pollutants in storm water associated with construction activity to waters of the state is unlawful under ORC 6111 where the discharge is not authorized by an NPDES permit.

Name (typed):	Title:
Signature:	Date:



**Division of Surface Water - National Pollutant Discharge
Elimination System General Permit Coverage
Transfer Application Form**

Instructions: Submit the completed form below with the **original signatures** of the previous and new owners or those responsible for the permit. Send to the following address: Ohio EPA, Division of Surface Water, P.O. Box 1049, Columbus, Ohio 43216-1049. A letter will be sent to the transferee and a copy of the letter will be sent to the transferor after the application is reviewed.

A. Existing Permit Holder Information (Transferor)

1. Facility Permit Number:

2. General Permit Number: OH

3. Corporate (Parent Company) Name:

4. Contact:

5. Division Name:

6. Facility Name:

7. Mailing Address After Transfer:

B. Proposed Permit Holder Information (Transferee)

1. Corporate (Parent Company) Name (New):

2. Phone Number:

3. Division Name (New):

4. Facility Name (New):

5. Mailing Address for all permit related correspondence:

6. Facility Mailing Address (if different):

7. Individual authorized to sign applications and Transfer Agreement pursuant to OAC 3745-33-03(F) (principal executive office, vice president or higher for a corporation; a general partner of a partnership; the proprietor of a proprietorship; principal executive officer, ranking elected official or duly authorized employee of a public entity):

Authorized Individual

8. **Authorization:** Pursuant to 40 CFR Part 122.22(b), the individual or position identified in this space is duly authorized by the individual in Item 7 to sign all reports required by permit and other information that may be required by the Director:

Name/Title/Position

9. **Operator of Facility**

Name:

Address:

10. **Contact Person for facility information or inspections:**

Name:

Phone:

11. Describe any material modifications to production or facilities, subsequent to the transfer, which may alter the volume or characteristics of this discharge (including change of SIC code): (Attach additional pages as necessary)

Agreement to Transfer Permit

_____ as the holder of an NPDES permit which stipulates
(Transferor)

responsibility, coverage and liability for operations involving discharges of wastewater from the facility located at

_____ hereby applies for approval of the Director to transfer the permit
(Facility Location)

responsibility, coverage and liability to _____
(Transferee)

_____ agrees to continue to assume the responsibility for compliance
(Transferor)

with all terms, limitations and conditions and any coverage or liability thereunder for the period ending on

_____ as the proposed new permittee, hereby
(Date) (Transferee)

agrees to assume the responsibility for compliance with the entirety of the coverage, responsibility and liability of the

NPDES permit commencing at _____
(Date)

In witness whereof, the parties have executed this Agreement on _____, it is so agreed.
(Date)

Transferor*(Company name):***By** *(Company Representative signature):***Title:****Transferee***(Company name):***By** *(Company Representative signature):***Title:**

12. By signing this form, I (transferee), certify and acknowledge that I have read and fully understood terms and conditions of General Permit Number: OH

I certify under penalty of law that the information submitted is 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.

Transferee Signature:**Title:****Date:**

ATTACHMENT F

ATTACHMENT G

ATTACHMENT H



Division of Surface Water Home Page

Division of Surface Water Watershed Assessment Unit Summary

[Back to Ohio River Basin list](#)

Overview Information

[Click to view a glossary of terms](#)

Assessment Unit Name: Hagarman Creek
 Hydrologic Unit Code: 04100007 07 01
 Assessment Unit Size: 16.2 square miles
 Priority Points: 0
 Monitoring Scheduled: 2014
 TMDL Scheduled: 2017

Land Use Statistics:

Developed	Forest	Grass/Pasture	Row Crops	Other
8.9%	0.8%	0.7%	89.6%	0%

Aquatic Life Use Assessment

Reporting Category: 3x
 Aquatic Life Uses: MWH-C
 Sampling Years:
 Watershed Score: Not Calculated

Assessment Details:

Headwater Sites <20 sq. mi.	Wading Sites >20 & <50 sq. mi.	Principal Sites >50 & <500 sq. mi.
Sites Assessed: 0 Sites Attaining: 0	Sites Assessed: 0 Sites Attaining: 0	Sites Assessed: 0 Sites Attaining: 0

Causes of Impairment:

- None listed

Sources of Impairment:

- None listed

Comments: None

Recreation Use Assessment

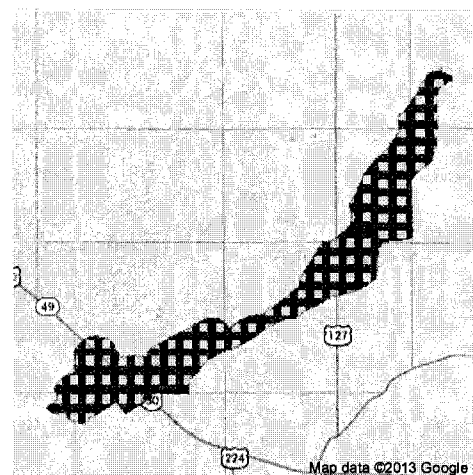
Reporting Category: 3
 Assessment Unit Score: Not calculated

Public Drinking Water Supply Assessment

Reporting Category: No active intakes
 Cause of Impairment: None
 Nitrate Watch List: No
 Pesticide Watch List: No

Fish Tissue Assessment

Reporting Category: 3
 Causes of Impairment: None






Division of Surface Water Home Page

Division of Surface Water Watershed Assessment Unit Summary

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Overview Information

 [Click to view a glossary of terms](#)

Assessment Unit Name: Lower Blue Creek
 Hydrologic Unit Code: 04100007 10 04
 Assessment Unit Size: 48.1 square miles
 Priority Points: 0
 Monitoring Scheduled: 2015
 TMDL Scheduled: 2018

Land Use Statistics:

Developed	Forest	Grass/Pasture	Row Crops	Other
6.1%	2.6%	0.9%	89.8%	0.4%

Aquatic Life Use Assessment

Reporting Category: 3x
 Aquatic Life Uses: WWH,MWH-C
 Sampling Years:
 Watershed Score: Not Calculated

Assessment Details:

Headwater Sites <20 sq. mi.	Wading Sites >20 & <50 sq. mi.	Principal Sites >50 & <500 sq. mi.
Sites Assessed: 0 Sites Attaining: 0	Sites Assessed: 0 Sites Attaining: 0	Sites Assessed: 0 Sites Attaining: 0

Causes of Impairment:

- None listed

Sources of Impairment:

- None listed

Comments: None

Recreation Use Assessment

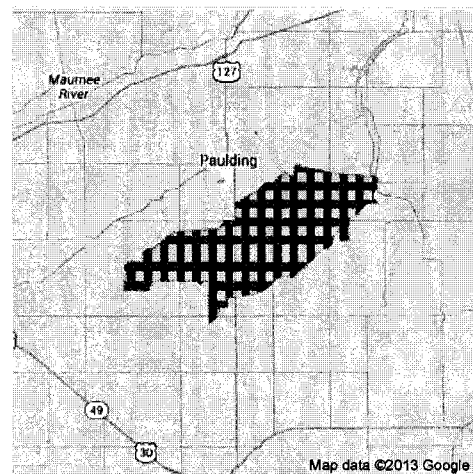
Reporting Category: 3
 Assessment Unit Score: Not calculated

Public Drinking Water Supply Assessment

Reporting Category: No active intakes
 Cause of Impairment: None
 Nitrate Watch List: No
 Pesticide Watch List: No

Fish Tissue Assessment

Reporting Category: 3
 Causes of Impairment: None






Division of Surface Water Home Page

Division of Surface Water Watershed Assessment Unit Summary

[Back to Ohio River Basin list](#)

Overview Information

 [Click to view a glossary of terms](#)

Assessment Unit Name: Prairie Creek
 Hydrologic Unit Code: 04100007 07 03
 Assessment Unit Size: 39.2 square miles
 Priority Points: 0
 Monitoring Scheduled: 2014
 TMDL Scheduled: 2017

Land Use Statistics:

Developed	Forest	Grass/Pasture	Row Crops	Other
6.6%	1.3%	0.4%	91.7%	0.1%

Aquatic Life Use Assessment

Reporting Category: 3x
 Aquatic Life Uses: MWH-C
 Sampling Years:
 Watershed Score: Not Calculated

Assessment Details:

Headwater Sites <20 sq. mi.	Wading Sites >20 & <50 sq. mi.	Principal Sites >50 & <500 sq. mi.
Sites Assessed: 0 Sites Attaining: 0	Sites Assessed: 0 Sites Attaining: 0	Sites Assessed: 0 Sites Attaining: 0

Causes of Impairment:

- None listed

Sources of Impairment:

- None listed

Comments: None

Recreation Use Assessment

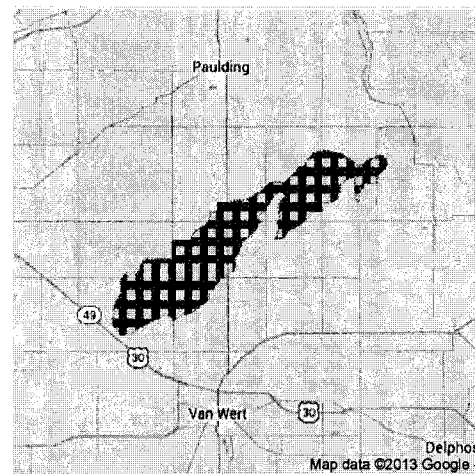
Reporting Category: 3i
 Assessment Unit Score: Not calculated

Public Drinking Water Supply Assessment

Reporting Category: No active intakes
 Cause of Impairment: None
 Nitrate Watch List: No
 Pesticide Watch List: No

Fish Tissue Assessment

Reporting Category: 3
 Causes of Impairment: None



ATTACHMENT I

ATTACHMENT J

The
Application Review Committee
certifies that

Aaron Robert Milpnek

Subscribes to the Code of Ethics and has met the requirements
Established by the CPESC Council as a

Certified Professional in Erosion and Sediment Control

Certification No.: 3344

Certification Date: January 6, 2006

David H. Ward
Executive Director, CPESC, Inc.

Donald W. Lake, Jr.
Chair, Application Review Committee



ATTACHMENT K

CONSTRUCTION SPILL PREVENTION PLAN

Best Management Practices (BMPs) will be implemented during construction of the Northwest Ohio Wind Farm to prevent and contain spills. BMPs will be used to reduce the risk of spills and other accidental exposures that could potentially result in impacts to stormwater quality. The following BMPs will be implemented during all phases of construction to prevent spills, as feasible. Each of the following BMPs are described in this plan:

1. Construction Material Storage
2. Secondary Containment
3. Leak and Integrity Inspections
4. Fueling and Hazardous Materials Handling
5. Spill Response Materials on Hand
6. Refueling and Maintenance Areas
7. Restricted Activities Areas
8. Spill Response

Construction Material Storage

The following structural and nonstructural BMPs will be implemented to prevent the direct release of any potentially polluting product (hazardous or nonhazardous) at material storage areas:

- Only enough potentially polluting products required to do a particular job will be brought onto and stored within the site.
- Products will be securely stored only in containers consistent with the manufacturer's recommendations and sized appropriately for the job.
- All storage will occur 100 feet from any surface water (including wetlands).
- No storage will occur within 200 feet of a private water supply well, or within 400 feet of a municipal water supply well.
- All fuel or hazardous material containers of more than 5 gallons will be stored in designated work areas equipped with secondary containment.
- When not in use, all fuel storage tanks should be secured with a lock.
- All product containers will be stored underneath a roof or cover to prevent release of materials during a storm event.
- All product containers should be stored in a neat and orderly fashion, and should be properly labeled. The labels should be visible, correct, and legible.
- The inventory of all MSDSs for each chemical will be available at each storage location.
- Products will be kept in original containers with the original manufacturer's label still affixed. If the original container is not re-sealable, then the product will be transferred to an appropriate, properly labeled container as recommended by the product manufacturer.

CONSTRUCTION SPILL PREVENTION PLAN

- Drain valves on any temporary storage tanks will be locked to prevent accidental or unauthorized discharges.
- Whenever practical, all contents of a container will be used before it is disposed of.
- Any surplus product will be removed from the site as soon as practicable.
- Disposal will be in accordance with the manufacturer's recommendations, label restrictions, and local, state, and federal regulations and/or permit conditions.
- Chemicals that are not compatible (such as sodium bicarbonate and hydrochloric acid) will be stored in segregated areas so that spilled materials cannot combine and react.
- Adequate garbage, construction waste, and sanitary waste handling and disposal facilities will be provided to keep the site clear of obstruction and functional.

Secondary Containment

- Secondary containment will be provided for all containers larger than 5 gallons, with a minimum containment volume equal to 100 percent of the volume of the largest storage vessel and will include at least 1 foot of freeboard.
- Earthen secondary containment areas will be underlined with plastic sheeting (minimum of 60 mil).
- Polyethylene drum spill skids will be used for storage of 55-gallon drums of fuel or hazardous materials.
- The contractor will construct temporary liners and seamless berms around aboveground bulk storage tanks.
- Secondary containment structures will be constructed as dictated by manufacturer's specifications and/or the construction design drawings. Any accumulated precipitation within the secondary containment structure shall be collected and disposed per OH EPA regulations.

Leak and Integrity Inspections

The contractor will be responsible for daily leak inspection and for the integrity of all construction equipment and vehicles and material storage areas (including secondary containment structures):

- The contractor will visually inspect aboveground tanks daily, and whenever the tank is refilled.
- The contractor will temporarily patch any visible leaks in tanks immediately. Tanks with leaks will be taken out of service and not be refilled until permanently repaired and tested.
- All onsite construction equipment and vehicles will be inspected for leaks daily.
- Once each week during construction activities, the contractor's site superintendent or his designated personnel will conduct leak and integrity inspections of equipment, vehicles, secondary containment areas (tank and drum storage areas), and spill response supply areas.
- The above leak and integrity inspections will be recorded in a logbook kept at the project field office.

CONSTRUCTION SPILL PREVENTION PLAN

Fuels and Hazardous Materials Handling

- Fuels and lubricants will be stored only at designated staging areas and in appropriate service vehicles. The storage area will be at least 100 feet from the edge of the nearest water body (including wetlands), at least 200 feet from the nearest private water supply well, and at least 400 feet from the nearest municipal water supply well.
- The drivers of fuel delivery trucks are responsible for spill prevention during fuel deliveries/unloading. Procedures for loading and unloading fuel trucks will meet the applicable minimum requirements established by the U.S. Department of Transportation (US DOT). Drivers will observe and control fueling operations at all times to prevent overfilling.
- The drivers of fuel trucks will inspect all outlets of the vehicle prior before they leave the construction site to prevent leakage while in transit.
- All fuel nozzles will be equipped with functional automatic shut-off valves.
- All storage tank and equipment fuel fill ports will be permanently marked with the correct American Petroleum Institute (API) color symbol.
- Storage tanks 55 gallons and larger will have their secondary containment protected with bollards from accidental impact from vehicles and equipment.
- All pollutants, including waste materials and demolition debris, that occur on-site during construction will be handled in a way that does not contaminate groundwater or stormwater.
- Application of any fertilizers or pesticides will be conducted in a manner and at application rates that will not result in loss of chemical to stormwater runoff. Manufacturers' recommendations will be followed for application rates and procedures.
- PH-modifying sources will be managed to prevent contamination of runoff and stormwater collected on site. The most common sources of pH-modifying materials are bulk cement, cement kiln dust (CKD), fly ash, new concrete washing and curing waters, waste streams generated from concrete grinding and sawing, exposed aggregate processes, and concrete pumping and mixer washout waters.

Spill Response Materials on Hand

Spill response equipment will be stored onsite in the designated fueling areas and at designated locations throughout the Project area. The minimum materials will be stored onsite:

- A sufficient supply of sorbent and barrier materials will be kept at the construction sites to allow the rapid containment and recovery of a spill. All construction equipment holding over 5 gallons of oil or fuel will be equipped with a shovel, tank patch kit, sorbent materials, plastic bags, and plastic sheeting to contain spills.
- Sorbent and barrier materials will also be used to contain runoff from spill areas.
- Spill kits containing materials and equipment for spill response and clean-up will be maintained at the construction staging area. Each spill kit will contain:
 1. Oil sorbent pads (one bale)
 2. Oil absorbent booms (40 feet)

CONSTRUCTION SPILL PREVENTION PLAN

3. 55 gallon drums (2)
 4. 9-mil plastic bags (10)
 5. Personal protective equipment including goggles, gloves, and boots.
- Shovels and labeled 55-gallon drums will be kept at the construction staging area.
 - Small quantities of soil that has become contaminated will be collected and placed in the drums. Large quantities of contaminated soil will be collected using heavy equipment and stored in properly labeled drums or other suitable containers prior to disposal.

Refueling / Maintenance Areas

The following restrictions apply for all construction activities within designated refueling areas:

- The contractor will refuel equipment and transfer material only in designated areas. The designated areas must be away from all water resources. The minimum distances that must be adhered to are as follows:
 - 500 feet away from any and all surface water sources (including wetlands, ephemeral streams, seasonal streams, lakes, and rivers)
 - 200 feet away from any private water supply well
 - 400 feet away from any municipal water supply well
- The contractor will conduct routine equipment maintenance in the staging area. Repair of all equipment and vehicles involving oil changes, hydraulic system drain down, de-greasing operations, fuel tank drain down and removal, and other activities that may result in the accidental release of contaminants, will be conducted off-site. Materials spilled during maintenance operations will be cleaned up immediately and properly disposed of.
- Personnel trained in spill prevention and mitigation procedures will conduct refueling.
- Refueling of any portable equipment will be performed using approved containers with a maximum volume of 5 gallons.
- Equipment will not be washed in streams or within 150 feet of water bodies, including wetlands.

Restricted Activities Areas

In addition to the restrictions noted in the previous section, a buffer zone of 100 feet, referred to as "Restricted Activities Area," will be established where project construction traverses streams, wetland and other bodies of water. The EM will identify Restricted Areas and verify that signs are in place identifying these areas. Restrictions will include:

- No accumulation of construction debris within the area;
- No pesticides or herbicides will be used without prior consent by the landowner;
- No equipment washing or refueling within the area;
- No storage or any petroleum or chemical material; and
- Pesticides and herbicides will be used in accordance with label restrictions.

CONSTRUCTION SPILL PREVENTION PLAN

Spill Response

- All spills of fuels, oils, petroleum products or hazardous materials will be reported in accordance with OH EPA regulations. **SPILL REPORTING:** Spills shall be reported to Ohio EPA (1-800-282-9378). Spills of 25 gallons or more of petroleum products shall be reported to Ohio EPA (1-800-282-9378), the local fire department, and the Local Emergency Planning Committee within 30 min. of the discovery of the release. All spills, which result in contact with waters of the state, must be reported to OHIO EPA's Hotline.
- All spills will be contained and contaminated soils will be removed in accordance with OH EPA regulations by the designated spill contractor.

Written Follow-up Requirements

After the release or discharge, **written follow-up emergency notice must be submitted within 30 days** to the Ohio EPA, Emergency Response Section and the local planning committee of the planning district(s) in which release or discharge occurred, unless the release was from a vessel, then the report is sent only to the State Emergency Response Commission (SERC). This follow-up emergency notice is your company's opportunity to explain in its own words the circumstances and actions relating to the release of pollutants to the environment. Your written emergency notice should follow the question sequence as indicated below. If any of the questions are not applicable to your incident, indicate N/A (not applicable) for that item.

- 1. When**
 - (a) Actual time, date and duration of the discharge or release
 - (b) Actual time and date of discovery of the release or discharge.
 - (c) Actions taken to respond to and contain the release or discharge.
 - (d) Indicate the spill number assigned by Ohio EPA. (If you do not know this number, call a duty officer during business hours and ask. The telephone number is 614-644-3194.) If the National Response Center was notified, please provide their assigned case number.
- 2. Location**
 - (a) Location of facility from which the release or discharge occurred.
 - (b) Location of release: county, township and city.
 - (c) Longitude and latitude of the release, if know.
 - (d) Distance and direction from nearest intersection or milepost if it was a transportation-related release or discharge.
- 3. Product Release**
 - (a) Common and/or technical name(s) of the material(s) release or discharged and CAS Number(s).
 - (b) What was the quantity and duration of the discharge? Indicate volume(s) in gallons or pounds.
- 4. Environmental Impact**
 - (a) Name of the environmental medium or media affected (i.e., navigable waters, land and/or air). If navigable waters, please identify.
 - (b) What was the length of area of the navigable waterway affected?
 - (c) What was the ground surface area (square feet or yards) and depth of soil contamination?
 - (d) To the extent information is available, identify damage to wildlife and/or vegetation.
 - (e) To the extent information is available, identify impact to human health and safety (i.e., evacuations, exposure, etc.).
 - (f) Where appropriate, identify medical advice provided for exposed individuals and/or local medical personnel.

5. **Monitoring and Detection**
 - (a) If the release or discharge was monitored, indicate the method of detection and concentrations detected.
 - (b) If the release was airborne, how was the wind direction and speed determined?
 - (c) When was the public warned, and if so, how?
6. **Mitigation, Containment Action**
 - (a) How much product or waste was recovered or neutralized?
 - (b) How was the material recovered or neutralized?
 - (c) Were any other actions taken to reduce the impact of the discharge (containment adsorbents, on-site treatment, etc.)?
7. **Prevention Measures**

Please provide plans to prevent recurrence of the discharge or release which may occur at this specific source. This may include: employee training, replacement of equipment, construction or security measures such as lighting, fencing or locks.
8. **Health Risks**

List known or anticipated acute and chronic health risks of exposure associated with the substances which were released.
9. **Permit Numbers**
 - (a) Indicate any air, water or other permit numbers which may be pertinent to this incident (voluntary information).
 - (b) If this is a NPDES/air permit, please enclose a copy of your current effluent/emission limitations.
10. **Chronology**

Provide a chronological review of the incident. Include a chronology of communications with state and local government.
11. **Documentation**

Provide any reports or other documents which pertain to the incident (e.g. accident reports, manifest, bills of lading, laboratory analyses).
12. **Causes**

Describe any extenuating circumstances which caused the discharge.
13. **Economic Impact** – This information is voluntary
 - (a) Estimate the dollar value, if any, of the spilled product.
 - (b) What was the equipment damage cost (estimate)?
 - (c) What was the cost of spill clean-up (estimate)?
 - (d) What are the estimated costs of spill prevention to eliminate possible reoccurrence of this event?

This information is required pursuant to Ohio Revised Code (ORC), Section 3750-06(D) and Ohio Administrative Code (OAC), Rule 3750-25-25(A)(2).

The written emergency notice must be submitted within 30 days of the release of discharge to:

Ohio EPA
Lazarus Government Center
Attn: ER Records Management
50 West Town Street, Suite 700
P. O. Box 1049
Columbus, OH 43216-1049

AND

the appropriate County LEPC Emergency Coordinator.

The statute provides that if significant additional information regarding the mandatory or voluntary information submitted becomes known during the period one (1) year after the release or discharge, the owner or operator shall submit to the LEPC and the Ohio EPA an updated written notice within three (3) days after learning of the additional information.

If this is the second oil spill release at this location within a 12 month period or a release of over 1,000 gallons which has reached water, you must submit a copy of your Spill Prevention Control and Countermeasure Plan (SPCC) to the U.S. EPA Regional Administrator and to Ohio EPA within 60 days from the time of the discharge as required by 40 CFS 112.4. Your SPCC plan may be submitted with your response to the 30-day written follow-up report. You may obtain SPCC information by calling 313-676-6500 or the Ohio EPA at (614) 644-3063.

ATTACHMENT L

NORTHWEST OHIO WIND PROJECT - SWPPP

ATTACHMENT M

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

11/21/2013 3:52:40 PM

in

Case No(s). 13-0197-EL-BGN

Summary: Correspondence of Northwest Ohio Wind Energy, LLC electronically filed by Teresa Orahod on behalf of Sally Bloomfield