Legal Department

American Electric Power
1 Riverside Plaza
Columbus, OH 43215-2373
AEP.com

September 16, 2022

Ms. Tanowa Troupe, Secretary
Ohio Power Siting Board
180 East Broad Street
Columbus, Ohio 43215-3793

Hector Garcia
Senior Counsel –
Regulatory Services
(614) 716-3410 (P)
hgarcia1@aep.com

RE: Proof of Compliance with Condition
Case No. 22-0488-EL-BLN
Cosgray Station Project

Dear Ms. Troupe:

In satisfaction of Condition (2) of the Staff Report for this Project, Ohio Power Company submits this notice and attachments to inform you that the Ohio Environmental Protection Agency National Pollutant Discharge Elimination System-Construction Site Stormwater General Permit has been approved for the above-referenced Project.

If you have any questions regarding this information, please do not hesitate to contact me.

Respectfully submitted,

/s/ *Hector Garcia*
Hector Garcia (0084517), Counsel of Record
Counsel for Ohio Power Company

cc: John Jones, Counsel OPSB Staff
Jon Pawley, OPSB Staff

Ohio Environmental Protection Agency

Mike DeWine, Governor
Jon Husted, Lt. Governor
Laurie A. Stevenson, Director

August 16, 2022

AEP, Ohio Transmission Company, Inc.
Kelli Boren
212 E. 6th Street
Tulsa OK 74119

Re: Approval Under Ohio EPA National Pollutant Discharge Elimination System (NPDES) – Construction Site Stormwater General Permit – OHC000005

Dear Applicant,

Your NPDES Notice of Intent (NOI) application is approved for the following facility/site. Please use your Ohio EPA Facility Permit Number in all future correspondence.

Facility Name:	ABD CMH 91 Station
Facility Location:	5000 Leppert Road
City:	Hilliard
County:	Franklin
Township:	Norwich
Ohio EPA Facility Permit Number:	4GC08652*AG
Permit Effective Date:	August 16, 2022
Permit Expiration Date:	April 22, 2023

Please read and review the permit carefully. The permit contains requirements and prohibitions with which you must comply. A copy of the general permit may be viewed or downloaded from here. Coverage under this permit will remain in effect until a renewal of the permit is issued by the Ohio EPA.

If more than one operator (defined in the permit) will be engaged at the site, each operator shall seek coverage under the general permit. Additional operator(s) shall submit a Co-Permittee NOI to be covered under this permit. There is no fee associated with the Co-Permittee NOI form.

Please be aware that this letter only authorizes discharges in accordance with the above referenced General Permit. The placement to fill into regulated waters of the state may require a 401 Water Quality Certification and/or Isolated Wetlands Permit from Ohio EPA. Failure to obtain the required permits in advance is a violation of Ohio Revised Code 6111 and potentially subjects you to enforcement and civil penalties.

If you need assistance or have questions, please call (614) 644-2001 and ask for Construction Site Stormwater General Permit support or visit our website at epa.ohio.gov.

Sincerely,

Laurie A. Stevenson
Director

3800 Municipal Way, Hilliard, OH 43026
614.334.2449 | www.hilliardohio.gov
ENGINEERING DIVISION

CIVIL SITE PLAN APPROVAL

This permit indicates that Civil Site Plans for this site have been approved by the City of Hilliard.

Address or Project Location: **CMH91 Station**
Description of Development Activity: **SWPPP Station Construction**
Permit Number: CIV-22-14

The permittee understands and agrees that:

The permit is issued on the representations made herein and on the application for permit;

The permit may be revoked because of any breach of representation;

Once a permit is revoked all work shall cease until the permit is reissued or a new permit is issued;

The permit will not grant any right or privilege to erect any structure or use any premises described for any purposes or in any manner prohibited by the codes or regulations of the community;

The permit will expire if no work is commenced within one year of issuance.

Date: September 12, 2022

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: AEP, Ohio Transmission Company, Inc.

Mailing (Applicant) Address: 212 E. 6th Street

City: Tulsa	**State :** OK	**Zip Code:** 74119

Country: USA

Contact Person: Kelli Boren	**Phone:** (918) 691-0435	**Fax:**

Contact E-mail Address: kdboren@aep.com

II. Facility/Site Location Information

Facility/Site Name: ABD CMH 91 Station

Facility Address: 5000 Leppert Road

City: Hilliard	**State:** OH	**Zip Code:** 43026

County: Franklin	**Township:** Norwich

Facility Contact Person: Brandon Morrison	**Phone:** (614) 307-9196	**Fax:**

Facility Contact E-mail Address: BWMorrison@aep.com

Latitude: 40.046942	**Longitude:** -83.174147	**Facility/Map Attachment** ABD CMH 70 Location map.pdf

Receiving Stream or MS4:

III. General Permit Information

General Permit Number: OHC000005	**Coverage Type:** New
Type of Activity: Construction Site Stormwater General Permit	**SIC Code(s):**
Existing NPDES Facility Permit Number: 4GC08652*AG	**ODNR Coal Mining Application Number:**
If Household Sewage Treatment System, is system for:	**New Home Construction:** / **Replacement of failed existing system:**

Outfall	Design Flow (MGD):	Associated Permit Effluent Table:	Receiving Water :	Latitude	Longitude

Are These Permits Required?	**PTI:** NO	**Individual 401 Water Quality Certification:** NO
Individual NPDES: NO	**Isolated Wetland:** NO	**U.S. Army Corp Nationwide Permit:** NO
Proposed Project Start Date(if applicable): August 30, 2022		**Estimated Completion Date(if applicable):** December 29, 2022
Total Land Disturbance (Acres): 4		**MS4 Drainage Area (Sq. Miles):**
SWP3 Attachment(s): <None>		

IV. Payment Information

Check #:	**For Ohio EPA Use Only**
Check Amount:	**Check ID(OFA):**_____ **ORG #:**_____
Date of Check:	**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: Kelli Boren	**Title:** Project Environmental Support Manager

Signature: Electronically submitted by 75001975	**Date:** Electronically submitted on 07/27/2022

ADDITIONAL INFORMATION

Please add any additional comments or attachments below.

CMH91 STATION

HILLIARD, OHIO / COSGRAY ROAD

LAT/LONG: 40.046942°,-83.174147°

STORM WATER POLLUTION PREVENTION PLAN (SWP3)

Prepared for:

AEP Ohio Transmission Company, Inc.
8500 Smith's Mill Road
New Albany, OH 43054

Prepared by:

Earth Environmental and Civil, Inc.
235 Claiborne Avenue
Rocky Mount, VA 24151

Site Contact: Brandon W. Morrison
Phone: 614-307-9196
E-mail: bwmorrison@aep.com

REV 0 / June 10, 2022

Project Start Date: AUGUST 2022
Project End Date: DECEMBER 2022

CMH91 STATION

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.”

Name: Kelli Boren

Title: Environmental Support Manager

Signature: Kelli Boren

Date: 7/27/2022

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APPENDIX 1 – Ohio EPA General Permit No. OHC000005

APPENDIX 2 – Project Location Map, Soil Erosion and Sediment Control Plan, USDA Soils Map, Watershed (HUC-12) Map, and ODNR Rainwater and Land Development Manual Details

APPENDIX 3 – SWP3 Inspection Form and SWP3 Amendments, Grading, and Stabilization Log

APPENDIX 4 – Duty to Inform Contractors and Subcontractors Signature Form

APPENDIX 5 – Storm Water Calculations Report

APPENDIX 6 – Long-term Maintenance Plan

I. Site Description

A. Description of Construction Activity

AEP Ohio Transmission Company, Inc. (AEP) is proposing to conduct construction activities for the CMH91 Station Project (Project) located in the City of Hilliard, Franklin County, Ohio. The Project consists of adding an approximate 3.00-acre gravel pad and access road within an existing approved SWPPP Project (Permit No: 4GC08128*AG). Construction activities will include grading, gravel placement, and substation construction. A proposed station fence will be placed and access to the Project is provided through the approved SWPPP Project (Permit No: 4GC08128*AG) off Cosgray Road and Leppert Road.

B. Disturbed Area

Total Area of the Site – 103.19 acres (Permit No: 4GC08128*AG)

Total Disturbed Area – 4.00 acres

Table 1: Disturbed Area

County	Township/Village/City	Disturbance Acreage
Franklin County	City of Hilliard Norwich Township	4.00

C. Impervious Area

The station will result in 3.27 acre of additional impervious surface. As this project is a planned development within an existing approved SWPPP, all permanent post-construction best management practices (BMPs) have been implemented under permit (Permit No: 4GC08128*AG). See Section II.D.5 of this SWP3 for post-construction storm water management requirements.

Table 2: Impervious Area

	Impervious Acreage	% Imperviousness
Existing	0.0	0%
New	3.27	100%
Total	3.27	100%

D. Storm Water Calculations

Pre- and post-development runoff curve numbers have been calculated based on the pre- and post-estimates for impervious surfaces within the existing facility. The proposed station will be covered in clean, washed stone and does not include the addition of impermeable materials such as concrete, asphalt, or other hard surfaces. While there will be an increase in overall impermeability on this site, as mentioned previously, this project lies within the SWPPP Project (Permit No: 4GC08128*AG) and all permanent post-construction best management practices (BMPs) have been implemented under permit (Permit No: 4GC08128*AG). Therefore, this project does not warrant the need for additional post-construction best management practices (BMPs).

Drainage Area A:
Pre-development runoff curve number – 80
Post-development runoff curve number – 91

E. Existing Soil Data

The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey was used to determine soil types within the Project area. A copy of the web-based soil map is included in Appendix 2. Soils in the Project area are shown in Table 3.

Table 3: Soil Types

Map Unit Symbol	Map Unit Description	Drainage Class	Hydric Soil?
CrA	Crosby silt loam, Southern Ohio Till Plain, 0 to 2 percent slopes	Somewhat poorly drained	No[1]
Ko	Kokomo silty clay loam, 0 to 2 percent slopes	Very poorly drained	Yes
LeB	Lewisburg-Crosby complex, 2 to 6 percent slopes	Moderately well drained	No

[1] Contains hydric inclusions.

F. Prior Land Uses

The Project is located on existing farmland in the City of Hilliard, Ohio. Prior land use was farmland and previously undeveloped land.

G. On-site Streams and Receiving Streams and Surface Waters

1. On-Site Waterbodies

Table 4: Delineated Streams

Stream ID	Stream Name	Flow Regime	Ohio EPA 401 Permitting Eligibility	Stream Stability
No streams are present within this site				

Table 5: Delineated Wetlands and Ponds

Wetland ID	Cowardin Classification	ORAM Category
No wetlands are present within this site		

2. Receiving Waters

The Project is located in the Hayden Run – Scioto River Watershed (HUC-12: 050600011204). The receiving streams may include Hayden Run. The site is located within an urban MS4 area Permit Number 4GQ10008*DG – City of Hilliard.

H. Implementation Schedule

A construction log will be kept at the Project site to record major dates of grading and stabilization. The general order of construction is provided in Table 6 below and will begin in July 2022 and is estimated to end in December 2022.

Table 6: Implementation Schedule

Task	Date
Identify environmental avoidance areas in the field [i.e. wetlands, 50' stream buffers, other environmental commitments]	August 2022
Mobilize construction equipment	August 2022
Forestry clearing/grubbing to begin	August 2022
Install [erosion controls/BMPs] filter sock, timber matting, and temporary construction entrances, as needed	August 2022
Excavate foundations for new poles, install new poles	September 2022
Install temporary seed and mulch, as needed, during Project activities	October 2022
Grade pole locations to pre-existing conditions	September 2022
Install permanent seed and mulch	October 2022
Remove matting and temporary BMPs	November 2022
Repair/restore all remaining disturbed areas	November 2022
Seed and mulch all remaining disturbed areas	November 2022
Construction demobilization	December 2022
Inspection with AEP and SWP3 contractor	December 2022

I. Subdivided Development Drawing

Not applicable.

J. Dedicated Asphalt and Concrete Plant Discharges

Not applicable.

K. Log of Grading and Stabilization Activities

A log for documenting grading and stabilization activities and amendments to the SWP3 is included in Appendix 3.

L. Site Map

A vicinity of the Project area is included in Appendix 2, along with the Soil Erosion and Sediment Control Plan and details. The Soil Erosion and Sediment Control Plan shows the Project boundaries and contours, the limits of construction, and the locations of the erosion and sediment control features.

M. Permit Requirements

The permit requirements can be reviewed in the Ohio EPA General Permit No. OHC000005 which has been included as Appendix 1.

II. Storm Water Pollution Prevention Plan

The SWP3 was developed to meet the objectives in Part II. Non-numeric Effluent Limitations and Part III. Storm Water Pollution Prevention Plan (SWP3) of Ohio EPA General Permit No. OHC000005.

A. SWP3 Availability

This Plan, a copy of the Notice of Intent (NOI), and the Ohio EPA authorization shall be made available on-site immediately upon request of the director or an authorized representative during working hours. Per Ohio EPA, an electronic copy is an acceptable format for on-site availability and review.

B. Amendments

The SWP3 is a living document that will be updated as needed. The SWP3 shall be amended whenever there is a change in design, construction, operation or maintenance, or if the SWP3 proves to be ineffective in controlling pollutants in storm water discharges associated with construction activity. A log for documenting amendments is included in Appendix 3.

AEP Environmental Services shall be notified prior to any significant modifications to the SWP3, such as changes to the access roads, disturbance acreage, culvert installations, etc., to ensure the Project remains in compliance with Ohio EPA General Permit No. OHC000005.

C. Duty to Inform Contractors

All contractors and subcontractors who will be involved in implementation of the SWP3 shall review and understand the conditions and responsibilities of the SWP3 and document their acknowledgement by signing the form included in Appendix 4.

D. Controls

Timing: Temporary erosion and sediment control measures shall be installed prior to earth-disturbing activity. Temporary control measures will not be removed until final site stabilization, in the form of permanent gravel cover or perennial vegetative cover with a density of at least 70%, is achieved.

The locations of the control methods are shown on the Soil Erosion and Sediment Control Plans in Appendix 2. Maintenance and inspections requirements for these controls can be found in Section II.D.6 of this SWP3. The control measures for this Project include the following:

1. Preservation Methods

   Existing natural conditions shall be preserved as much as feasible. Such practices may include: preserving existing vegetation, vegetative buffer strips, and existing soil profile and topsoil; minimizing soil compaction; minimizing disturbance of steep slopes; phasing of construction operations to minimize the amount of disturbed land at any one time; and protective clearing or grubbing practices. For all construction activity adjacent to surface waters of the state, a 50-foot undisturbed natural buffer will be maintained as measured from the ordinary high water mark (OHWM).

2. Erosion, Sediment, and Runoff Controls

   a. *Stabilization and Seeding*

      Disturbed areas will be stabilized as specified in tables 7 and 8 below per the Soil Erosion and Sediment Control Plan and BMP detail sheets in Appendix 2. Mulch shall be applied to all exposed soil that has been seeded in an effort to facilitate seed germination and development.

Table 7: 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 calendar days of the most recent disturbance.
Any areas within 50 feet of a surface water of the state and at final grade.	Within two calendar days of reaching final grade.
Other areas at final grade.	Within seven calendar days of reaching final grade within that area.

Table 8: 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 calendar days of the most recent disturbance if the area will remain idle for more than 14 calendar days.
Any disturbed areas that will be dormant for more than 14 calendar days but less than one year, and not within 50 feet of a surface water of the state.	Within seven calendar 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.

   b. *Sediment Barriers and Diversions*

      Filter sock will be installed to encompass the entire site at all appropriate locations to filter sediment from site runoff. Orange barrier fencing will be used as needed and to protect wetland areas and 50-foot natural stream buffers. After Project completion, the posts, fencing, and ties shall be removed from the Project site and transported to an appropriate off-site disposal facility.

c. *Wetland and Stream Crossings*

No wetlands or streams are present on site.

d. *Temporary Construction Entrances*

Construction entrances consisting of a stabilized pad of aggregate will be installed where construction vehicles leave active construction areas and enter public roadways to reduce the amount of sediment tracked offsite. Temporary construction entrance locations and details are provided in Appendix 2.

e. *Sediment Settling Ponds / Sediment Basins*

Sediment Settling Ponds and/or Sediment Basins are included as part of the existing approved SWPPP Project (Permit No: 4GC08128*AG). No additional Sediment Settling Ponds and/or Sediment Basins are proposed as part of this project.

3. Surface Water Protection

No direct discharge to surface waters is proposed for this Project. Surface waters will be protected through the erosion and sediment controls outlined in the sections above.

4. Other Controls

a. *Non-sediment Pollutant Controls*

Waste disposal containers shall be provided for proper collection of all waste material including sanitary garbage, petroleum products and any materials to be used onsite (excluding inert waste/materials such as construction debris that would not be expected to contribute pollution to storm water). Containers shall be covered and not leaking. No construction waste materials shall be buried on-site. All waste materials shall be disposed of in the manner specified by local or state regulations or by the manufacturer. No solid or liquid wastes will be discharged in storm water runoff.

b. *Off-site Traffic and Dust Control*

Any paved roads adjacent to the site entrance shall be swept to remove any excess mud, dirt, or rock tracked from the site, as necessary. Dump trucks hauling materials to or from the site shall be covered with a tarpaulin. Dust control shall be observed both on and off the site for the duration of the Project. Dust and sedimentation will be minimized by limiting earth-moving activities, site traffic, and soil and vegetation disturbances throughout the site. Chemical stabilizers and adhesives will not be used unless written permission is received from AEP Environmental Representative. Dust control details can be found in Appendix 2.

c. *Concrete Washouts*

Concrete washouts will be located in upland areas outside of wetlands or flood zones. Under no circumstances will concrete trucks wash out into a drainage channel, storm sewer or surface water.

d. *Wash Water*

Water from vehicle washing, wheel washing, and other wash waters will be treated appropriately prior to discharge to minimize pollutants. Spills and leaks will be prevented and responded to as necessary.

e. *Compliance with Other Requirements*

This SWP3 is consistent with state and/or local waste disposal, sanitary sewer or septic system regulations including provisions prohibiting waste disposal by open burning. Spill response, disposal of suspect contaminated soils and clean-up activities are initiated by calling the AEP Regional Environmental Coordinator (REC).

f. *Trench and Groundwater Control and Dewatering*

Not applicable.

g. *Contaminated Sediment*

Contaminated soils are not expected to be encountered on this Project. However, if they should exist within the limits of construction, they will be disposed of properly per direction of the AEP Regional Environmental Coordinator (REC).

5. Post-Construction Storm Water Management Requirements

As this project is a planned development within an existing approved SWPPP, all permanent post-construction best management practices (BMPs) have been implemented under permit (Permit No: 4GC08128*AG).]

6. Maintenance and Inspections Requirements

*All temporary and permanent control practices shall be maintained and repaired as needed to ensure continued performance of their intended function. All erosion and sediment control measures shall be inspected:

- Once every seven calendar days; and,
- After any storm event greater than one-half inch of rain per 24-hour period by the end of the next calendar day, excluding weekends and holidays unless work is scheduled.

An inspection report shall be made after each inspection. The SWP3 Inspection Form is included in Appendix 3.

*The Contractor shall select at least two qualified individuals responsible for inspections, maintenance, and repair activities, and filling out the SWP3 Inspection Form and SWP3 Amendments, Grading, and Stabilization Log in Appendix 3. Personnel selected for these responsibilities shall be knowledgeable and experienced in all inspection and maintenance practices necessary for keeping the erosion and sediment controls in good working order.

*If an inspection reveals that a control is in need of repair or maintenance, with the exception of a sediment settling pond, it shall be repaired or maintained within three calendar days of the inspection. Sediment ponds will be repaired or maintained within 10 calendar days of the inspection. If an inspection reveals that a control fails to perform its intended function and that another, more appropriate control is required, the SWP3 shall be amended and the new control shall be installed within 10 calendar days of the inspection. If an inspection reveals a control has been installed inappropriately or incorrectly, the control will be replaced or modified for site conditions.

*When controls are modified, the erosion control drawings associated with the SWP3 will be updated to reflect the modifications, and the changes will be reflected using the SWP3 Amendments, Grading, and Stabilization Log in Appendix 3.

- Silt fence and/or Filter sock shall be inspected for depth of sediment, tears, and to ensure the anchor posts are firmly in the ground. Silt fence and/or filter sock shall also be inspected to ensure they are maintained in the appropriate positions per the plans in Appendix 2. Built up sediment shall be removed from the silt fence when it has reached one-half the height of the fence. Built up sediment shall be removed from the filter sock when it has reached one-third the height of the sock.
- Temporary and permanent seeding shall be inspected for bare spots, washouts, and healthy growth. If seed does not germinate in an area on which it was placed, the area will either be re-seeded or an alternate erosion control method will be employed.
- Locations where vehicles and equipment enter or exit the site shall be inspected for evidence of off-site tracking of sediment. Sediment being tracked onto off-site roadways shall be cleaned up promptly.
- Excess concrete should be removed when the washout system reaches 50 percent of the design capacity. Use of the system should be discontinued until appropriate measures can be initiated to clean out the structure. Prefabricated systems should also utilize this criterion unless the manufacturer has alternative specifications.

*The permittee shall maintain the SWP3 Inspection Forms for three years following the submittal of a notice of termination (NOT) form. The Inspection Forms shall be signed in accordance with Part V.G of Ohio EPA General Permit OHC000005.

III. Approved State or Local Plans

The erosion and sediment control plans were prepared in accordance with Ohio EPA Permit No. OHC000005.

IV. Exceptions

There are no exceptions to the erosion and sediment control practices contained in the Ohio EPA General Permit No. OHC000005.

APPENDIX 1

Ohio EPA General Permit No. OHC000005

Issuance Date: April 23, 2018
Effective Date: April 23, 2018
Expiration Date: April 22, 2023

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, development (and submittal, if applicable) of a complete Storm Water Pollution Prevention Plan (SWP3) and written approval of coverage from the director of Ohio EPA in accordance with Ohio Administrative Code ("OAC") Rule 3745-38-02.

Craig W. Butler
Director

Total Pages: 60

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PART I. COVERAGE UNDER THIS PERMIT

A. Permit Area.

This permit covers the entire State of Ohio. Appendices A and B of this permit contain additional watershed specific requirements for construction activities located partially or fully within the Big Darby Creek Watershed and portions of the Olentangy River Watershed. Projects within portions of the Olentangy River watershed shall seek coverage under this permit following the expiration of OHCO00002 (May 31, 2019).

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 one or more acres. 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 are 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 ceased, 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 3745-38-02. 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 and Storm Water Pollution Prevention Plan (SWP3) if located within the Big Darby Creek watershed or portions of the Olentangy watershed 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, a completed Storm Water Pollution Prevention Plan (SWP3) for projects within the Big Darby Creek and portions of the Olentangy river watersheds and appropriate fee at least 21 days (or 45 days in the Big Darby Creek watershed and portions of the Olentangy watershed) 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 prior to engaging in construction activities. 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. 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. How to submit an NOI. Operators seeking coverage under this permit must submit a complete and accurate Notice of Intent (NOI) application using Ohio EPA's electronic application form which is available through the Ohio EPA eBusiness Center at: **https://ebiz.epa.ohio.gov/**. Submission through the Ohio EPA eBusiness Center will

require establishing an Ohio EPA eBusiness Center account and obtaining a unique Personal Identification Number (PIN) for final submission of the NOI. Existing eBusiness Center account holders can access the NOI form through their existing account and submit using their existing PIN. Please see the following link for guidance: **http://epa.ohio.gov/dsw/ebs.aspx#170669803-streams-guidance**. Alternatively, if you are unable to access the NOI form through the agency eBusiness Center due to a demonstrated hardship, the NOI may be submitted on a paper NOI form provided by Ohio EPA. NOI information shall be typed on the form. Please contact Ohio EPA, Division of Surface Water at (614) 644-2001 if you wish to receive a paper NOI form.

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 shall have continuing coverage under OHC000005 with the submittal of a timely renewal application. Within 180 days from the effective date of this permit, 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 180-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. You shall develop and implement the SWP3 in accordance with Part III of this permit to satisfy these 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 and stream 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
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
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 construction materials, products, and wastes; landscape materials, fertilizers, pesticides, and 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 or all other waste water streams which could be subject to an individual NPDES permit (Part III.G.2.g).

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.)

G. **Post-Construction Storm Water Management Controls**. So that receiving stream's physical, chemical and biological characteristics are protected, and stream functions are maintained, post-construction storm water practices shall provide long-term management of runoff quality and quantity.

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 clearly identify all activities which are required to be authorized under Section 401 and subject to an antidegradation review. 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 and impact of storm water discharges during construction and pollutants associated with the post-construction land use to ensure compliance with ORC Section 6111.04, OAC Chapter 3745-1 and the terms and conditions of this permit.

B. Timing

An acceptable SWP3 shall be completed and submitted to the applicable regulated MS4 entity (for projects constructed entirely within a regulated MS4 area) prior to the timely submittal of an NOI. Projects within the Big Darby Creek and portions of the Olentangy watersheds must submit a SWP3 with the NOI. The SWP3 shall be updated in accordance with Part III.D. Submission of a SWP3 does not constitute review and approval on the part of Ohio EPA. 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.

In order to continue coverage from the previous generations of this permit, the permittee shall review and update the 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, 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.

Examples of OHC000005 permit conditions that would be infeasible for permittees renewing coverage to comply with include:

- OHC000005 post-construction requirements, for projects that obtained NPDES construction storm water coverage and started construction activities prior to the effective date of this permit;

- OHC000005 post-construction requirements, for multi-phase development projects with an existing regional post-construction BMP issued under previous NPDES post-construction requirements. This only applies to construction sites authorized under Ohio EPA's Construction Storm Water Permits issued after April 20, 2003;

- OHC000005 post-construction requirements, for renewing or initial coverage and you have a SWP3 approved locally and you will start construction within 180 days of the effective date of this permit;

- Sediment settling pond design requirements, if the general permit coverage was obtained prior to April 21, 2013 and the sediment settling pond has been installed; or

- Case-by-case situations approved by the Director.

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 7 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 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 earth disturbing activity 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. Specific conditions have been provided in Appendix A (for the Big Darby Creek Watershed) and Appendix B (for portions of the Olentangy river watershed).

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. A measure of the impervious area and percent imperviousness created by the construction activity (existing, new and total impervious area after construction);

    d. Storm water calculations, including the volumetric runoff coefficients for both the pre-construction and post- construction site conditions, and resulting water quality volume; design details for post-construction storm water facilities and pretreatment practices such as contributing drainage areas, capacities, elevations, outlet details and drain times shall be included in the SWP3; and if applicable, explanation of the use of existing post-construction facilities. Ohio EPA recommends the use of data sheets (see Ohio's Rainwater and Land Development manual and Ohio EPA resources for examples);

    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. A description of the condition of any on-site streams (e.g. prior channelization, bed instability or headcuts, channels on public maintenance, or natural channels);

h. An implementation schedule which describes the sequence of major construction operations (i.e., designation of vegetative preservation areas, grubbing, excavating, grading, utilities, infrastructure installation and others) and the implementation of erosion, sediment and storm water management practices or facilities to be employed during each operation of the sequence;

i. 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;

j. For subdivided developments, a detail drawing of individual parcels with their erosion, sediment or storm water control practices and/or a typical individual lot showing standard individual lot erosion and sediment control practices.

   A typical individual lot drawing 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;

k. 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;

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 and/or known contaminated 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. The location of any delineated boundary for required riparian setbacks;

v. Conservation easements or areas designated as open space, preserved vegetation or otherwise protected from earth disturbing activities. A description of any associated temporary or permanent fencing or signage;

vi. 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;

vii. Existing and planned locations of buildings, roads, parking facilities and utilities;

viii. The location of all erosion and sediment control practices, including the location of areas likely to require temporary stabilization during site development;

ix. Sediment traps and basins noting their sediment storage and dewatering (detention) volume and contributing drainage area. Ohio EPA recommends the use of data sheets (see Ohio EPA's Rainwater and Land Development manual and website for examples) to provide data for all sediment traps and basins noting important inputs to design and resulting parameters such as their contributing drainage area, disturbed area, detention volume, sedimentation volume, practice surface area, dewatering time, outlet type and dimensions;

x. The location of permanent storm water management practices (new and existing) including pretreatment practices to be used to control pollutants in storm water after construction operations have been completed along with the location of existing and planned drainage features including catch basins, culverts, ditches, swales, surface inlets and outlet structures;

xi. 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;

xii. The location of designated construction entrances where the vehicles will access the construction site; and

xiii. The location of any areas of proposed floodplain fill, floodplain excavation, stream restoration or known temporary or permanent 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.h: (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. 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, vegetative buffer strips, and existing soil profile and topsoil; phasing of construction operations 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 provide cover over disturbed soils unless an exception is approved in accordance with Part III.G.4. A description of control practices designed to re-establish vegetation or suitable cover on disturbed areas after grading 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, sediment barriers, 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 upslope development area is stabilized with permanent cover. 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 or collected 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; or
- Runoff from drainage areas that exceed the design capacity of inlet protection;

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 (ft^3) per acre of drainage (67 yd^3/acre) with a minimum 48-hour drain time. 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 ft^3 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.

Accumulated sediment shall be removed from the sediment storage zone once it exceeds 50 percent of the minimum required sediment storage design capacity and prior to the conversion to the post-construction practice unless suitable storage is demonstrated based upon over-design. 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. Combining multiple sediment and erosion control measures in order to maximize pollutant removal is encouraged.

iii. **Sediment Barriers and Diversions.** Sheet flow runoff from denuded areas shall be intercepted by sediment barriers 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. For most applications, standard silt fence may be substituted with a 12-inch diameter sediment barrier. The relationship between the maximum drainage area to sediment barrier for a particular slope range is shown in the following table:

Table 3 Sediment Barrier Maximum Drainage Area Based on Slope

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

Placing sediment barriers 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. Diversion practices, 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. 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 long-term 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 is authorized by a CWA 401 water quality certification, CWA 404 permit, or Ohio EPA non-jurisdictional wetland/stream program approval. Note: local jurisdictions may have more stringent post-construction requirements.

Detail drawings and maintenance plans shall be provided for all post-construction BMPs in the SWP3. 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). Maintenance plans shall ensure that pollutants collected within structural post-construction practices are disposed of in accordance with local, state, and federal regulations. To ensure that storm water management systems function as

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; (5) construction drawings or excerpts showing the plan view, profile and details of the outlet(s); and (6) a map showing all access and maintenance easements (7) for table 4a practices, provide relevant elevations and associated volumes that dictate when removal of accumulated sediments must occur. Permittees are responsible for assuring all post-construction practices meet plan specifications and intended post-construction conditions have been met (e.g., sediment removed from, and sediment storage restored to, permanent pools, sediment control outlets removed and replaced with permanent post-construction discharge structures, and all slopes and drainageways permanently stabilized), but 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., park lands), 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.M.1.

For all construction activities that will disturb two or more acres of land, or will disturb less than two acres, that are a part of a larger common plan of development or sale which will disturb two or more acres of land, the post construction BMP(s) chosen shall be able to manage storm water runoff for protection of stream channels, stream stability, and 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 0.90-inch rainfall and shall be determined using the following equations:

$$WQ_v = Rv * P * A / 12 \quad \text{(Equation 1)}$$

where:
WQ_v = water quality volume in acre-feet
Rv = the volumetric runoff coefficient calculated using equation 2
P = 0.90 inch precipitation depth
A = area draining into the BMP in acres

$$Rv = 0.05 + 0.9i \quad \text{(Equation 2)}$$

where i = fraction of post-construction impervious surface)

An additional volume equal to 20 percent of the WQ_v shall be incorporated into the BMP for sediment storage. Ohio EPA recommends BMPs be designed according to the methodology described 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 Tables 4a and 4b below are 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 WQv in less than one-third of the drain time. The WQv is the volume of storm water runoff that must be detained by a post-construction practice as specified by the most recent edition of the Rainwater and Land Development manual.

Post-construction practices shall be sized to treat 100% of the WQv associated with their contributing drainage area. If there is an existing post-construction BMP that treats runoff from the disturbed area, and the BMP meets the post-construction requirements of this permit, no additional post-construction BMP will be required. A regional storm water BMP may be used to meet the post-construction requirement if 1) the BMP meets the design requirements for treating the WQv, and 2) a legal agreement is established through which the regional BMP owner or operator agrees to provide this service in the long term. Design information for such facilities such as contributing drainage areas, capacities, elevations, outlet details and drain times shall be included in the SWP3.

Table 4a Extended Detention Post-Construction Practices with Minimum Drain Times

Extended Detention Practices	**Minimum Drain Time of WQv**
Wet Extended Detention Basin[1,2]	24 hours
Constructed Extended Detention Wetland[1,2]	24 hours
Dry Extended Detention Basin[1,3]	48 hours
Permeable Pavement – Extended Detention[1]	24 hours
Underground Storage – Extended Detention[1,4]	24 hours
Sand & Other Media Filtration - Extended Detention[1, 5]	24 hours

Notes:
1. The outlet structure shall not discharge more than the first half of the WQv in less than one-third of the drain time.
2. Provide a permanent pool with a minimum volume equal to the WQv and an extended detention volume above the permanent pool equal to 1.0 x WQv.
3. Dry basins must include a forebay and a micropool each sized at a minimum of 0.1 x WQv and a protected outlet, or include acceptable pretreatment and a protected outlet.
4. Underground storage must have pretreatment for removal of suspended sediments included in the design and documented in the SWP3. This pretreatment shall concentrate sediment in a location where it can be readily removed. For non-infiltrating, underground extended detention systems, pretreatment shall be 50% effective at capturing total suspended solids according to the testing protocol established in the Alternative Post-Construction BMP Testing Protocol.
5. The WQv ponding area shall completely empty between 24 and 72 hours.

Table 4b Infiltration Post-Construction Practices with Maximum Drain Times

Infiltration Practices	**Maximum Drain Time of WQv**
Bioretention Area/Cell[1,2]	24 hours
Infiltration Basin	24 hours
Infiltration Trench[2]	48 hours
Permeable Pavement – Infiltration[3]	48 hours
Underground Storage – Infiltration[3,4]	48 hours

Notes:
1. Bioretention soil media shall have a permeability of approximately 1 – 4 in/hr. Meeting the soil media specifications in the Rainwater and Land Development manual is considered compliant with this requirement. Bioretention cells must have underdrains unless in-situ conditions allow for the WQv (surface ponding) plus the bioretention soil (to a depth of 24 inches) to drain completely within 48 hours.
2. Infiltrating practices with the WQv stored aboveground (bioretention, infiltration basin) shall fully drain the WQv within 24 hours to minimize nuisance effects of standing water and to promote vigorous communities of appropriate vegetation.
3. Subsurface practices designed to fully infiltrate the WQv (infiltration trench, permeable pavement with infiltration, underground storage with infiltration) shall empty within 48 hours to recover storage for subsequent storm events.
4. Underground storage systems with infiltration must have adequate pretreatment of suspended sediments included in the design and documented in the SWP3 in order to minimize clogging of the infiltrating surface. Pretreatment shall concentrate sediment in a location where it can be readily removed. Examples include media filters situated upstream of the storage or other suitable alternative approved by Ohio EPA. For infiltrating underground systems, pretreatment shall be 80% effective at capturing total suspended solids according to the testing protocol established in the Alternative Post-Construction BMP Testing Protocol.

Small Construction Activities. For all construction activities authorized under this permit which result in a disturbance less than 2 acres, a post-construction practice shall be used to treat storm water runoff for pollutants and to reduce adverse impacts on receiving waters. The applicant must provide a justification in the SWP3 why the use of table 4a and 4b practices are not feasible. The justification must address limiting factors which would prohibit the project going forward should table 4a and 4b practices be required. Please note that additional practices selected will require approval from the regulated MS4. The use of green infrastructure BMPs such as runoff reducing practices is also encouraged.

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 Tables 4a and 4b are not feasible and the following criteria are met: (1) a maintenance agreement or policy is established to ensure operations and treatment long-term; (2) the offsite location discharges to the same HUC-12 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 application.

Previously Developed Areas - Ohio EPA encourages the redevelopment of previously graded, paved or built upon sites through a reduction of the WQv treatment requirement. For a previously developed area, one or a combination of the following two conditions shall be met:

- A 20 percent net reduction of the site's volumetric runoff coefficient through impervious area reduction with soil restoration or replacing impervious roof area with green roof area (for these purposes green roofs shall be considered pervious surface) or
- Treatment of 20 percent of the WQv for the previously developed area using a practice meeting Table 4a/5b criteria.

Where there is a combination of redeveloped areas and new development, a weighted approached shall be used with the following equation:

$$WQv = P * A * [(Rv*0.2) + (Rv2 - Rv1)] / 12 \qquad \text{(Equation 3)}$$

Where

P = 0.90 inches
A = Area draining into the BMP in acres
Rv1 = volumetric runoff coefficient for existing conditions (current site impervious area)
Rv2 = volumetric runoff coefficient for proposed conditions (post-construction site impervious area)

Post-construction practices shall be located to treat impervious areas most likely to generate the highest pollutant load, such as parking lots or roadways, rather than areas predicted to be cleaner such as rooftops.

Runoff Reduction Practices. The size of structural post-construction practices used to capture and treat the WQv can be reduced by incorporating runoff

reducing practices into the design of the site's drainage system. The approach to calculate and document runoff reduction is detailed in the Rainwater and Land Development Manual. BMP-specific runoff reduction volumes are set by specifications in the Rainwater and Land Development Manual for the following practices:

- Impervious surface disconnection
- Rainwater harvesting
- Bioretention
- Infiltration basin
- Infiltration trench
- Permeable pavement with infiltration
- Underground storage with infiltration
- Grass swale
- Sheet flow to filter strip
- Sheet flow to conservation area

A runoff reduction approach may be used to meet the groundwater recharge requirements in the Big Darby Creek Watershed; the runoff reduction practices used for groundwater recharge may be used to reduce the WQv requirement, see appendix A for details on groundwater recharge requirements.

In order to promote the implementation of green infrastructure, the Director may consider the use of runoff reducing 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, e.g., sheet flow from perimeter areas such as the rear yards of residential lots, 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. Alternative post-construction BMPs shall previously have been tested to confirm storm water treatment efficacy equivalent to those BMPs listed in Tables 4a and 4b using the protocol described in this section. BMP testing may include laboratory testing, field testing, or both.

Permittees shall request approval from Ohio EPA to use alternative post-construction BMPs on a case-by-case basis. To use an alternative post-construction BMP, the permittee must demonstrate that a BMP listed in Tables 4a and 4b is not feasible and the proposed alternative post-construction BMP meets the minimum treatment criteria as described in this section. The permittee shall submit an application to Ohio EPA for any proposed alternative post-construction BMP. Where the development project is located within a regulated municipal separate storm sewer system (MS4) community, the use of an alternative practice requires pre-approval by the MS4 before submittal of the Ohio EPA permit application. Ohio EPA requires that approvals for alternative

post-construction BMPs are finalized before permittees submit an NOI for permit coverage.

In addition to meeting sediment removal criteria, the discharge rate from the proposed alternative 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. Discharge rate is considered to have a negligible impact if the permittee can demonstrate that one of the following three 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 storm water drainage system of the development discharges directly into a large river with drainage area equal to 100 square miles or larger upstream of the development site or to a lake where the development area is less than 5 percent of the watershed area, unless a TMDL has identified water quality problems into the receiving surface waters of the state.

If the conditions above that minimize the potential for hydrological impact to the receiving surface water of the state do not exist, then the alternative post-construction BMP must prevent stream erosion by reducing the flow rate from the WQ_V. In such cases, discharge of the WQ_V must be controlled. A second storm water BMP that provides extended detention of the WQv may be needed to meet the post-construction criteria.

Alternative Post-Construction BMP Testing Protocol. For laboratory testing, the alternative BMP shall be tested using sediment with a specific gravity of 2.65, a particle size distribution closely matching the distribution shown in Table 5, and total suspended sediment (TSS) concentrations within 10% of 200 mg/L (180 mg/L – 220 mg/L TSS). For an alternative BMP to be acceptable, the test results must demonstrate that the minimum treatment rate is 80% TSS removal at the design flow rate for the tested BMP.

Table 5 Particle Size Distribution for Testing Alternative Post-Construction BMPs

Particle Size (microns)	Percent Finer (%)
1,000	100
500	95
250	90
150	75
100	60
75	50
50	45
20	35
8	20
5	10
2	5

- For field testing, the alternative BMP shall be tested using storm water runoff from the field, not altered by adding aggregate, or subjecting to unusually high

sediment loads such as those from unstabilized construction disturbance. The storm water runoff used for field testing shall be representative of runoff from the proposed installation site for the alternative BMP after all construction activities have ceased and the ground has been stabilized. The influent and effluent TSS concentrations of storm water runoff must be collected in the field. For an alternative BMP to be acceptable, the test results must demonstrate the minimum treatment rate is 80% TSS removal for influent concentrations equal to or greater than 100 mg/L TSS. If the influent concentration to the proposed alternative BMP is less than 100 mg/L TSS in the field, then the BMP must achieve an average effluent concentration less than or equal to 20 mg/L TSS.

- Testing of alternative post-construction BMPs shall be performed or overseen by a qualified independent, third-party testing organization.

- Testing shall demonstrate the maximum flow rate at which the alternative post-construction BMP can achieve the necessary treatment efficacy, including consideration for the potential of sediment resuspension.

- Testing shall demonstrate the maximum volume of sediment and floatables that can be collected in the alternative post-construction BMP before pollutants must be removed to maintain 80% treatment efficacy.

- Testing shall indicate the recommended maintenance frequency and maintenance protocol to ensure ongoing performance of the alternative post-construction BMP.

The alternative post-construction BMP testing protocol described in this section is similar to testing requirements specified by the New Jersey Department of Environmental Protection (NJDEP) for storm water Manufactured Treatment Devices (MTD) and therefore testing results certified by NJDEP shall be accepted by Ohio EPA. For examples of BMPs that have been tested using New Jersey Department of Environmental Protection's procedures, see the website: www.njstormwater.org.

Another nationally recognized storm water product testing procedure is the Technology Assessment Protocol – Ecology (TAPE) administered by the State of Washington, Department of Ecology. The TAPE testing procedure describes testing to achieve 80% TSS removal using a sediment mix with a particle size distribution with approximately 75% of the mass of the aggregate with particle diameters less than 45 microns. Overall, this particle size distribution is finer than the distribution in Table 6. Therefore, if TAPE testing results are available for a proposed alternative post-construction BMP, those results shall be accepted by Ohio EPA. The State of Washington, Department of Ecology website is www.ecy.wa.gov.

Alternative BMPs that utilize treatment processes such as filtering or centrifugal separation, rather than a detention and settling volume, must be designed to ensure treatment of 90 percent of the average annual runoff volume. For the design of these BMPs, the water quality flow rate (WQF)

considered equivalent to the Water Quality Volume (WQv) shall be determined utilizing the Rational Method (Equation 4) with an intensity (i) appropriate for the water quality precipitation event. This intensity shall be calculated using the table given in Appendix C.

$$WQF = C * i * A \qquad \text{(Equation 4)}$$

Where

WQF = Water Quality Flow Rate in cubic feet per second (cfs)
C = Rational Method Coefficient of Runoff
i = Intensity (in/hr)
A = Area draining to the BMP (acres)

Alternative post-construction BMPs may include, but are not limited to: vegetated swales, vegetated filter strips, hydrodynamic separators, high-flow media filters, cartridge filters, membrane filters, subsurface flow wetlands, multi-chamber treatment trains, road shoulder media filter drains, wetland channels, rain barrels, green roofs, and rain gardens. The Director may also consider non-structural post-construction approaches.

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 or an MS4. 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. The permittee shall assign “qualified inspection personnel” to conduct 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. At a minimum, procedures in a SWP3 shall provide that all controls on the site are inspected:

- after any storm event greater than one-half inch of rain per 24-hour period by the end of the next calendar day, excluding weekends and holidays unless work is scheduled; and
- once every seven calendar days.

The inspection frequency may be reduced to at least once every month for dormant sites if:

- the entire site is temporarily stabilized or
- runoff is unlikely due to weather conditions for extended periods of time (e.g., site is covered with snow, ice, or the ground is frozen).

The beginning and ending dates of any reduced inspection frequency shall be documented in the SWP3.
Once a definable area has achieved final stabilization, the area may be marked on the SWP3 and no further inspection requirements shall apply to that portion of the site.

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.h 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 plan 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. A maintenance plan is in place to ensure all post construction BMPs are adequately maintained in the long-term;

    d. For non-residential developments, 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 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)For residential developments only, temporary stabilization has been completed and the lot, which includes a home, has been transferred to the homeowner; (ii) final stabilization has been completed and the lot, which does not include a home, has been transferred to the property owner; (iii) no stabilization has been implemented on a lot, which includes a home, and the lot has been transferred to the homeowner; or

e. An exception has been granted under Part III.G.4.

C. How to submit an NOT.

To terminate permit coverage, the permitee shall submit a complete and accurate Notice of Termination (NOT) form using Ohio EPA's electronic application form which is available through the Ohio EPA eBusiness Center at: https://ebiz.epa.ohio.gov/. Submission through the Ohio EPA eBusiness Center will require establishing an Ohio EPA eBusiness Center account and obtaining a unique Personal Identification Number (PIN) for final submission of the NOT. Existing eBusiness Center account holders can access the NOT form through their existing account and submit using their existing PIN. Please see the following link for guidance: **http://epa.ohio.gov/dsw/ebs.aspx#170669803-streams-guidance**. Alternatively, if you are unable to access the NOT form through the agency eBusiness Center due to a demonstrated hardship, the NOT may be submitted on paper NOT forms provided by Ohio EPA. NOT information shall be typed on the form. Please contact Ohio EPA, Division of Surface Water at (614) 644-2001 if you wish to receive a paper NOT form.

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. "Bankfull channel" means a channel flowing at channel capacity and conveying the bankfull discharge. Delineated by the highest water level that has been maintained for a sufficient period of time to leave evidence on the landscape, such as the point where the natural vegetation changes from predominantly aquatic to predominantly terrestrial or

the point at which the clearly scoured substrate of the stream ends and terrestrial vegetation begins.

C. "Bankfull discharge" means the streamflow that fills the main channel and just begins to spill onto the floodplain; it is the discharge most effective at moving sediment and forming the channel.

D. "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.

E. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

F. "Channelized stream" means the definition set forth in Section 6111.01 (M) of the ORC.

G. "Commencement of construction" means the initial disturbance of soils associated with clearing, grubbing, grading, placement of fill, or excavating activities or other construction activities.

H. "Concentrated storm water runoff" means any storm water runoff which flows through a drainage pipe, ditch, diversion or other discrete conveyance channel.

I. "Director" means the director of the Ohio Environmental Protection Agency.

J. "Discharge" means the addition of any pollutant to the surface waters of the state from a point source.

K. "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.

L. "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.

M. "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.

N. "General contractor" – for the purposes of this permit, the primary individual or company solely accountable to perform a contract. The general contractor typically supervises activities, coordinates the use of subcontractors, and is authorized to direct workers at a site to carry out activities required by the permit.

O. "Individual Lot NOI" means a Notice of Intent for an individual lot to be covered by this permit (see Part I of this permit).

P. "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.

Q. "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.

R. "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."

S. "Natural channel design" means an engineering technique that uses knowledge of the natural process of a stream to create a stable stream that will maintain its form and function over time.

T. "NOI" means notice of intent to be covered by this permit.

U. "NOT" means notice of termination.

V. "Operator" means any party associated with a construction project that meets either of the following two criteria:

1. The party has day-to-day operational control all activities at a project which are necessary to ensure compliance with a SWP3 for the site and all permit conditions including the ability to authorize modifications to the SWP3, construction plans and site specification to ensure compliance with the General Permit, or

2. Property owner meets the definition of operator should the party which has day to day operational control require additional authorization from the owner for modifications to the SWP3, construction plans, and/or site specification to ensure compliance with the permit or refuses to accept all responsibilities as listed above (Part VII.V.1).

Subcontractors generally are not considered operators for the purposes of this permit. 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.

W. "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.

X. "Owner or operator" means the owner or operator of any "facility or activity" subject to regulation under the NPDES program.

Y. "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.

Z. "Percent imperviousness" means the impervious area created divided by the total area of the project site.

AA. "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.

BB. "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.

CC. "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.

DD. "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.

EE. "Runoff coefficient" means the fraction of total rainfall that will appear at the conveyance as runoff.

FF. "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.

GG. "State isolated wetland permit requirements" means the requirements set forth in Sections 6111.02 through 6111.029 of the ORC.

HH. "Storm water" means storm water runoff, snow melt and surface runoff and drainage.

II. "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.

JJ. "Stream edge" means the ordinary high water mark.

KK. "Subcontractor" – for the purposes of this permit, an individual or company that takes a portion of a contract from the general contractor or from another subcontractor.

LL. "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.

MM. "SWP3" means storm water pollution prevention plan.

NN. "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.

OO. "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.

PP. "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.

Appendix A
Big Darby Creek Watershed

CONTENTS OF THIS APPENDIX

A.1 Permit Area. This appendix to Permit OHC00005 applies to the entire Big Darby Creek Watershed located within the State of Ohio. Please see Attachment A for permit area boundaries.

A.2 This general permit requires control measures/BMPs for construction sites that reflect recommendations set forth in the U.S. EPA approved Big Darby Creek TMDL.

A.3 Sediment settling ponds additional conditions. The sediment settling pond shall be sized to provide a minimum sediment storage volume of 134 cubic yards of effective sediment storage per acre of drainage and maintain a target discharge performance standard of 45 mg/l Total Suspended Solids (TSS) up to a 0.75-inch rainfall event within a 24-hour period. Unless infeasible, sediment settling ponds must be dewatered at the pond surface using a skimmer or equivalent device. The depth of the sediment settling pond must be less than or equal to five feet. Sediment must be removed from the sediment settling pond when the design capacity has been reduced by 40 percent (This is typically reached when sediment occupies one-half of the basin depth).

Silt Fence and Diversions. For sites five or more acres in size, the use of sediment barriers as a primary sediment control is prohibited. Centralized sediment basins shall be used for sites 5 or more acres in size. Diversions shall direct all storm water runoff from the disturbed areas to the impoundment intended for sediment control. The sediment basins and associated diversions shall be implemented prior to the major earth disturbing activity.

The permittee shall sample in accordance with sampling procedures outlined in 40 CFR 136. Sampling shall occur as follows:

i. Occur at the outfall of each sediment settling pond associated with the site. Each associated outfall shall be identified by a three-digit number (001, 002, etc.);

ii. The applicable rainfall event for sampling to occur shall be a rainfall event of 0.25-inch to a 0.75-inch rainfall event to occur within a 24-hour period. Grab sampling shall be initiated at a site within 14 days, or the first applicable rainfall event

thereafter, once upslope disturbance of each sampling location is initiated and shall continue on a quarterly basis. Quarterly periods shall be represented as January - March, April - June, July - September and October - December. Sampling results shall be retained on site and available for inspection.

If any sample is greater than the performance standard of 45 mg/l TSS, the permittee shall modify the SWP3 and install/implement new control practice(s) within 10 days to ensure the TSS performance standard is maintained. Within 3 days of improvement(s), or the first applicable rainfall event thereafter, the permittee shall resample to ensure SWP3 modifications maintain the TSS performance standard target.

For each sample taken, the permittee shall record the following information:

- the outfall and date of sampling;
- the person(s) who performed the sampling;
- the date the analyses were performed on those samples;
- the person(s) who performed the analyses;
- the analytical techniques or methods used; and
- the results of all analyses.

Both quarterly and sampling results following a discharge target exceedance shall be retained on site and available for inspection.

A.4 Riparian Setback Requirements.

The SWP3 shall clearly delineate the boundary of required stream setback distances. No construction activity shall occur, without appropriate mitigation, within the delineated setback boundary except activities associated with restoration or recovery of natural floodplain and channel form characteristics as described in Attachment B, storm water conveyances from permanent treatment practices and approvable utility crossings. Such conveyances must be designed to minimize the width of disturbance. If intrusion within the delineated setback boundary is necessary to accomplish the purposes of a project, then mitigation shall be required in accordance with Appendix A.5 of this permit. Streams requiring protection under this section are defined as perennial, intermittent or ephemeral streams with a defined bed, bank or channel. National Resources Conservation Service (NRCS) soil survey maps should be used as one reference and the presence of a stream requiring protection should also be confirmed in the field. Any required setback distances shall be clearly displayed in the field prior to any construction related activity.

Riparian setbacks distance shall be delineated based upon one of the following two methods:

i. The setback distance shall be sized as the greater of the following:

1. The regulatory 100-year floodplain based on FEMA mapping;

2. A minimum of 100 feet from the top of the streambank on each side; or

3. A distance calculated using the following equation:

$$W = 133DA^{0.43}$$ (Equation 1, Appendix A)

where:
DA = drainage area (mi^2)
W = total width of riparian setback (ft)

W shall be centered over the meander pattern of the stream such that a line representing the setback width would evenly intersect equal elevation lines on either side of the stream.

If the DA remains relatively constant throughout the stretch of interest, then the DA of the downstream edge of the stretch should be used. Where there is a significant increase in the DA from the upstream edge to The downstream edge of the area of interest, the setback width shall increase accordingly.

ii. **Stream Restoration with 100 feet (each side) Riparian Setback**. Each stream segment within the proposed site boundaries can be assessed in accordance with Attachment B, Part 1. In the event the stream segment is classified as a "Previously Modified Low Gradient Headwater Stream", the permittee has the option to restore the stream segment in accordance with Attachment B and include a 100-foot water quality setback distance from the top of the streambank on each side. In the event the stream segment exceeds the minimum criteria in Attachment B to be classified as a "Previously Modified Low Gradient Headwater Stream," this Part III.G.2.b.ii may be considered on a case-by-case basis.

No structural sediment controls (e.g., the installation of sediment barriers or a sediment settling pond) or structural post-construction controls shall be used in a surface water of the State or the delineated setback corridor.

Previously developed projects (as defined in Part III.G.2.e.) located within the delineated setback boundary are exempt from Riparian Setback Mitigation (A.5) provided the proposed project does not further intrude into the delineated setback boundary.

Linear transportation projects which are caused solely by correcting safety related issues, mandates of modern design requirements and/or resulting from other mitigation activities are exempt from Riparian Setback Mitigation (Part III.G.2.c. A.5) if less than one acre of total new right-of-way is associated with the project.

A.5 Riparian Setback Mitigation.

The mitigation required for intrusion into the riparian setback shall be determined by the horizontal distance the intrusion is from the stream. Up to three zones will be used in determining the required mitigation. Zone 1 extends from 0 to 25 feet from the stream edge. Zone 2 extends from 25 to 100 feet from the stream edge, and Zone 3 extends from 100 feet to the outer edge of the setback corridor. Intrusion into these zones will require the following mitigation within the same Watershed Assessment Unit (12-digit HUC scale):

i. Four times the total area disturbed in the stream and within Zone 1 of the site being developed shall be mitigated within Zone 1 of the mitigation location.

ii. Three times the area disturbed within Zone 2 of the site being developed shall be mitigated within Zones 1 and/or 2 of the mitigation location.

iii. Two times the area disturbed within Zone 3 of the site being developed shall be mitigated within any zone of the mitigation location.

In lieu of mitigation ratios found within in this section, linear transportation projects which result in total new right-of-way greater than one acre and less than two acres, which are caused solely by correcting safety related issues, mandates of modern design requirements and/or resulting from other mitigation activities, shall provide Riparian Setback Mitigation at a ratio of 1.5 to 1.

All mitigation shall, at a minimum, include conserved or restored setback zone and should be designed to maximize the ecological function of the mitigation. Including mitigation at the stream edge along with associated setback areas is one way to maximize ecological function. Mitigation shall be protected in perpetuity by binding conservation easements or environmental covenants which must be recorded within 6 months of receiving permit authorization. Granting of binding conservation easements or environmental covenants protected in perpetuity for land outside of disturbed area but within a required riparian setback counts towards required mitigation.

Mitigation may also be satisfied by approved pooled mitigation areas and in-lieu fee sponsored mitigation areas. Mitigation resulting from State or Federal environmental regulations may be adjusted in recognition of these requirements.

A.6 Groundwater Recharge Requirements.

The SWP3 shall ensure that the overall site post-development groundwater recharge equals or exceeds the pre-development groundwater recharge. The SWP3 shall describe the conservation development strategies, BMPs and other practices deemed necessary by the permittee to maintain or improve pre-development rates of groundwater recharge. Pre-development and post-development groundwater recharge shall be calculated using the following equation:

i. $Vre_x = A_x * Dre_x / 12$ (Equation 2, Appendix A)

where:

X	=	Represents a land use and hydrologic soil group pair
Vre_x	=	Volume of total annual recharge from land use-soil group X (in acre-ft)
Dre_x	=	Depth of total annual recharge associated with land use-soil group X from Tables 1 or 2 (in inches)
A_x	=	Area of land use-soil group X (in acres)

Table 1 values should be used for land where the underlying geology indicates a potential for downward migration of groundwater. Table 1 values represent the combined total groundwater recharge potential including groundwater contribution to stream baseflow and to the underlying bedrock aquifer. The potential for downward migration can be determined from a comparison of the potentiometric maps for the glacial and bedrock aquifers. Use Table 2 when this potential is unlikely to exist. Detailed potentiometric maps for the Franklin county portion of the Darby watershed, and coarse potentiometric maps for the Darby watershed outside of Franklin County and hydrologic soil group data are available at: http://www.epa.state.oh.us/dsw/permits/GP_ConstructionSiteStormWater_Darby.aspx.

Table A-1 (Appendix A) Annual Average Expected Total Groundwater Recharge[3]

Land Use	Density (DU[1]/acre)	% Impervious	Recharge (inches) by Hydrologic Soil Group2			
			A	B	C	D
Woods / Forest	-	-	17.0	16.6	15.6	14.6
Brush	-	-	17.0	16.6	15.6	14.6
Meadow	-	-	17.0	16.5	15.4	14.4
Managed Wood	-	-	16.9	16.0	14.7	13.4
Pasture	-	-	16.5	15.9	14.4	13.0
Row Crop	-	-	15.8	14.2	11.9	8.1
Urban Grasses	-	-	15.7	15.7	14.2	12.7
Low Density Residential	0.5	12%	15.7	15.7	14.2	12.7
Low Density Residential	1	20%	14.8	14.8	13.7	12.2
Medium Density Residential	2	25%	11.5	11.5	11.5	11.5
Medium Density Residential	3	30%	11.2	11.2	11.2	11.2
Medium Density Residential	4	38%	9.6	9.6	9.6	9.6
High Density Residential	≥5	65%	7.3	7.3	7.3	7.3
Commercial & Road Right-of-Way[4]	-	90%	4.3	4.3	4.3	4.3

[1] DU = Dwelling Units

[2] Hydrologic soil group designations of A/D, B/D, and C/D should be considered as D soils for this application

[3] These values apply when recharge of the aquifer is expected; recharge to the bedrock aquifer can be expected when the potentiometric head of the glacial aquifer is greater than the bedrock aquifer.

[4] The 4.3 infiltration value may only be used for an area as a whole (includes impervious and pervious areas) which includes a minimum of 10 percent pervious area. If all land uses (pervious and impervious) are tabulated separately, then impervious areas have 0 inches of recharge.

Table A-2 (Appendix A) Annual Average Expected Baseflow Recharge[3]

Land Use	Density (DU[1]/acre)	% Impervious	Recharge (inches) by Hydrologic Soil Group2			
			A	B	C	D
Woods / Forest	-	-	11.8	11.4	10.7	9.9
Brush	-	-	11.7	11.4	10.7	9..9
Meadow	-	-	11.8	11.3	10.6	9.8
Managed Wood	-	-	11.7	11.0	10.0	9.1
Pasture	-	-	11.3	11.0	9.9	8.9
Row Crop	-	-	11.1	10.1	9.0	6.2
Urban Grasses	-	-	11.2	11.2	10.3	9.3
Low Density Residential	0.5	12%	11.2	11.2	10.3	9.3
Low Density Residential	1	20%	9.5	9.5	9.0	8.6
Medium Density Residential	2	25%	7.8	7.8	7.8	7.8
Medium Density Residential	3	30%	7.6	7.6	7.6	7.6
Medium Density Residential	4	38%	6.5	6.5	6.5	6.5
High Density Residential	≥5	65%	5.0	5.0	5.0	5.0
Commercial & Road Right-of-Way[4]	-	90%	2.9	2.9	2.9	2.9

[1] DU = Dwelling Units

[2] Hydrologic soil group designations of A/D, B/D, and C/D should be considered as D soils for this application

[3] These values apply when no recharge of the aquifer is expected.

[4] The 2.9 infiltration value may only be used for an area as a whole (includes impervious and pervious areas) which includes a minimum of 10 percent pervious area. If all land uses (pervious and impervious) are tabulated separately, then impervious areas have 0 inches of recharge.

Table A-3 (Appendix A) Land Use Definitions

Land Use	Definition
Woods / Forest	Areas dominated by trees. Woods are protected from grazing and litter and brush adequately cover the soil.
Brush	Brush, weeds, grass mixture where brush is the major element and more than 75% of the ground is covered.
Meadow	Continuous grass, protected from grazing, generally mowed for hay.
Managed Wood	Orchards, tree farms, and other areas planted or maintained for the production of fruits, nuts, berries, or ornamentals.
Pasture	Pasture, grassland, or range where at least 50% of the ground is covered and the area is not heavily grazed.
Row Crop	Areas used to produce crops, such as corn, soybeans, vegetables, tobacco, and cotton.
Urban Grasses	Vegetation (primarily grasses) planted in developed settings for recreation, erosion control, or aesthetic purposes. Examples include parks, lawns, golf courses, airport grasses, and industrial site grasses.
Residential	Areas with a mixture of constructed materials and vegetation; the average % imperviousness and number of dwelling units per acre to determine the appropriate density is specified.
Commercial	Includes infrastructure (e.g. roads, railroads, etc.) and all highly developed areas not classified as High Intensity Residential.

ii. The pre-development ground water recharge volume shall be calculated by determining the area of each land use-soil type pairing on the site of interest. The recharge associated with each such pairing multiplied by the area will give the pre-development volume of total groundwater

recharge. The same shall be done for the post-development land use-soil type pairings.

Any activity that is expected to produce storm water runoff with elevated concentrations of carcinogens, hydrocarbons, metals, or toxics is prohibited from infiltrating untreated storm water from the area affected by the activity. The groundwater recharge mitigation requirement for areas affected by such activities must be met by methods which do not present a risk of groundwater contamination. The following land uses and activities are typically deemed storm water hotspots:

Vehicle salvage yards and recycling facilities

- vehicle service and maintenance facilities (i.e. truck stops, gas stations)
- fleet storage areas (i.e. bus, truck)
- industrial sites subject to industrial storm water permitting requirements
- bulk terminals
- marinas
- facilities that generate or store hazardous materials
- other land uses and activities as designated by individual review

The following land uses and activities are not normally considered hotspots:

- residential streets and rural highways
- residential development
- institutional development
- commercial and office developments
- non-industrial rooftops
- pervious areas, except golf courses and nurseries

The applicant may use structural BMPs within drinking water source protection areas for community public water systems only to the extent that the structural BMP(s) does not cause contaminants in the recharge waters to impact the ground water quality at levels that would cause an exceedance of the drinking water Maximum Contaminant Levels (OAC Section 3745-81 and 3745-82). To obtain a map of drinking water source protection areas for community public water systems contact Ohio EPA's Division of Drinking and Ground Waters at (614) 644-2752.

Linear transportation projects which are caused solely by correcting safety related issues, mandates of modern design requirements and/or resulting from other mitigation activities are exempt from Groundwater Recharge Mitigation (Part III.G.2.e) if less than one acre of total new right-of-way is associated with the project.

Protection of open space (infiltration areas) shall be by binding conservation easements that identify a third-party management agency, such as a homeowners' association/condominium association, political jurisdiction or third-party land trust.

A.7 Groundwater Recharge Mitigation.

If the post-development recharge volume is less than the pre-development recharge volume, then mitigation will be required. Two options are available for most applications:

i. The preferred method is to convert additional land to land use with higher recharge potential. The difference in groundwater recharge between the existing and converted land use recharge is the amount which can be used as recharge credit. Off-site Groundwater Recharge Mitigation shall occur within the same Watershed Assessment Unit (12-digit HUC scale) as the permitted site and preferably up-gradient and within a 2-mile radius.

   Mitigation shall be protected in perpetuity by binding conservation easements or environmental covenants which must be recorded within 6 months of receiving permit authorization. Granting of binding conservation easements or environmental covenants protected in perpetuity for land outside of the disturbed area, but within a required riparian setback counts towards required mitigation.

Mitigation may also be satisfied by approved pooled mitigation areas and in-lieu fee sponsored mitigation areas.

ii. On-site structural and non-structural practices may also be used to achieve groundwater mitigation requirements by retaining and infiltrating on-site a minimum volume of storm water runoff based on the area and hydrologic soil grouping of disturbed soils. If these infiltrating practices are incorporated upstream of the water quality volume treatment practice, the volume of groundwater being infiltrated may be subtracted from the water quality volume for purpose of meeting post-construction requirements. The on-site retention requirement is determined by the following formula:

$$V_{retention} = A_{HSG\text{-}A}*0.90\text{ in} + A_{HSG\text{-}B}*0.75\text{ in} + A_{HSG\text{-}C}*0.50\text{ in} + A_{HSG\text{-}D}*0.25\text{ in}$$

(Equation 3, Appendix A)

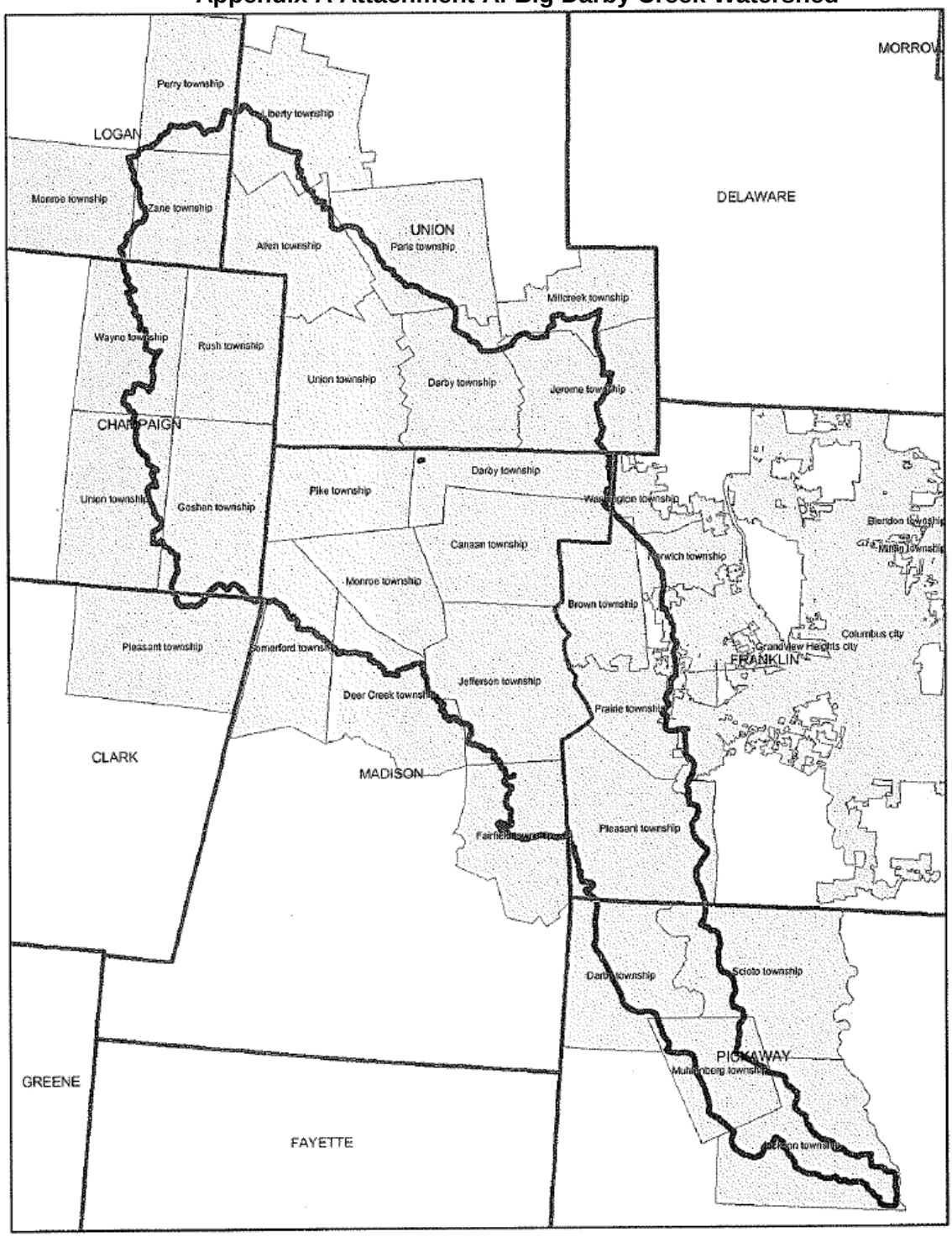
Where,
$V_{retention}$ = Volume of runoff retained onsite using an approved infiltration practice
$A_{HSG\text{-}x}$ = area of each hydrologic soil group within the disturbed area

Table A-4: Hydrologic Soil Groups and On-site Retention Depth per Acre

Hydrologic Soil Group	HSG A	HSG B	HSG C & D	HSG D
Retention Depth (inches)	0.90	0.75	0.50	0.25

Retention volume ($V_{retention}$) provided by selected practices shall be determined using the runoff reduction method criteria as outlined in Part III.G.2.e, Ohio EPA's Runoff Reduction spreadsheet and supporting documentation in the Rainwater and Land Development manual. Hydrologic soil group (HSG) areas are to be determined by using the current version of SURRGO or Web Soil Survey soils information.

Appendix A Attachment A: Big Darby Creek Watershed



A more detailed map can be viewed at:
http://www.epa.state.oh.us/dsw/permits/GP_ConstructionSiteStormWater_Darby.aspx

Appendix A Attachment B

Part 1 Stream Assessment

This assessment will determine if a stream is considered a previously channelized, low-gradient headwater stream (a drainage ditch) which would be applicable for stream restoration in lieu of protecting a setback as per Appendix A. A.4.i and ii.

In the event the assessment of the stream, meets all the criteria listed below, restoration (provided 401/404 permits are authorized) as depicted in Part 2 of this attachment, may be a means of reducing the setback distance required by A.4.i. (Appendix A).

Previously Channelized Low-Gradient Headwater Streams (drainage ditches) shall for the purposes of this permit be defined as having all of the following characteristics:

- Less than 10 square miles of drainage area
- Low gradient and low stream power such that despite their straightened and entrenched condition incision (down-cutting) is not evident
- Entrenched, entrenchment ratio < 2.2
- Straight, sinuosity of the bankfull channel < 1.02

Part 2 Restoration

Restoration shall be accomplished by any natural channel design approach that will lead to a self-maintaining reach able to provide both local habitat and watershed services (e.g. self-purification and valley floodwater storage).

a. Construction of a floodplain, channel and habitat via natural channel design
b. Floodplain excavation necessary to promote interaction between stream and floodplain
c. Include a water quality setback of 100 feet from top of the streambank on each side.

The primary target regardless of design approach shall be the frequently flooded width, which shall be maximized, at 10 times the channel's self-forming width. Five times the self-forming channel width may still be acceptable particularly on portions of the site if greater widths are achieved elsewhere.

Appendix B
Olentangy River Watershed

CONTENTS OF THIS APPENDIX

B.1 Permit Area.

This appendix to Permit OHC00005 applies to specific portions of the Olentangy River Watershed located within the State of Ohio. The permit area includes the following 12-digit Hydrologic Unit Codes (HUC-12) within the Olentangy River Watershed:

12-Digit Hydrologic Unit Codes

12-Digit Hydrologic Unit Codes (HUC)	Narrative Description of Sub-Watershed
05060001 09 01	Shaw Creek
05060001 09 02	Headwaters Whetstone Creek
05060001 09 03	Claypool Run-Whetstone Creek
05060001 10 07	Delaware Run-Olentangy River
05060001 11 01	Deep Run-Olentangy River
05060001 11 02 (Only portion as depicted in Attachment A)	Rush Run-Olentangy River

Please see Attachment A (Appendix B) for permit area boundaries. An electronic version of Attachment A can be viewed at
http://epa.ohio.gov/dsw/permits/GP_ConstructionSiteStormWater_Olentangy.aspx

B.2 This general permit requires control measures/BMPs for construction sites that reflect recommendations set forth in the U.S. EPA approved Olentangy TMDL.

B.3 Riparian Setback Requirements.

The permittee shall comply with the riparian setback requirements of this permit or alternative riparian setback requirements established by a regulated MS4 and approved by Ohio EPA. The SWP3 shall clearly delineate the boundary of required stream setback distances. The stream setback shall consist of a streamside buffer and an outer buffer. No construction activity shall occur, without appropriate mitigation, within the streamside buffer except activities associated with storm water conveyances from permanent treatment practices, approvable utility crossings and restoration or recovery of floodplain and channel form characteristics as described in Attachment B. Storm water conveyances must be designed to minimize the width of disturbance. Construction activities requiring mitigation for intrusions within the outer buffer for the Olentangy River mainstem and perennial streams are described in Appendix B.4

If intrusion within the delineated setback boundary is necessary to accomplish the purposes of a project, then mitigation shall be required in accordance with Appendix B.3. of this permit. Streams requiring protection under this section have a defined bed and bank or channel and are defined as follows:

- The Olentangy River mainstem;
- Perennial streams have continuous flow on either the surface of the stream bed or under the surface of the stream bed;
- Intermittent streams flow for extended periods of time seasonally of a typical climate year; and
- Ephemeral streams are normally dry and only flow during and after precipitation runoff (episodic flow).

National Resources Conservation Service (NRCS) soil survey maps should be used as one reference and the presence of a stream requiring protection should also be confirmed in the field. Any required setback distances shall be clearly displayed in the field prior to any construction related activity.

Riparian setbacks shall be delineated based upon one of the following two methods:

i. The required setback distances shall vary with stream type as follows:

a.The setback distances associated with the mainstem of the Olentangy River shall consist of:

(1) A streamside buffer width of 100 feet as measured horizontally from the ordinary high water mark per side; and

(2) An outer buffer width sized to the regulatory 100-year floodplain based on FEMA mapping. No impervious surfaces shall be constructed without appropriate mitigation and moderate to substantial fill activities with no impervious surface may require appropriate mitigation pending an individual approval by Ohio EPA.

b.The setback distance associated with perennial streams, other than the Olentangy mainstem, shall consist of:

(1) A streamside buffer width of 80 feet per side measured horizontally from the ordinary high water mark; and

(2) An outer buffer width sized to the regulatory 100-year floodplain based on FEMA mapping. In the event the regulatory 100-year floodplain is not established, the outer buffer width shall be calculated using the following equation and measured horizontally from the ordinary high water mark. No impervious surfaces, structure, fill, or activity that would impair the floodplain or stream stabilizing ability of the outer buffer shall occur without appropriate mitigation:

$W = 143DA^{0.41}$ (Equation 1 Appendix B)

where:
DA = drainage area (mi^2)
W = total width of riparian setback (ft)

W shall be centered over the meander pattern of the stream such that a line representing the setback width would evenly intersect equal elevation lines on either side of the stream.

If the DA remains relatively constant throughout the stretch of interest, then the DA of the downstream edge of the stretch should be used. Where there is a significant increase in the DA from the upstream edge to the downstream edge of the area of interest, the setback width shall increase accordingly.

b.The setback distance associated with intermittent streams and ephemeral streams shall be a streamside buffer width of 30 feet per side measured horizontally from the centerline of the stream. No outer buffer is required for intermittent and ephemeral streams.

ii. Stream Restoration with 100 feet (each side) Riparian Setback. Each stream segment within the proposed site boundaries can be assessed in accordance with Attachment B. In the event the stream segment is classified as a "Previously Modified Low Gradient Headwater Stream", the permittee has the option to restore the stream segment in accordance with Attachment B and include a 100 feet water quality setback distance from the top of the streambank on each side. In the event the stream segment exceeds the minimum criteria in Attachment B to be classified as a "Previously Modified Low Gradient Headwater Stream", this may be considered on a case-by-case basis.

No structural sediment controls (e.g., the installation of sediment barriers or a sediment settling pond) or structural post-construction controls shall be used in a stream or the streamside buffer. Activities and controls that would not impair the floodplain or stream stabilizing ability of the outer buffer can be considered.

Redevelopment projects (i.e., developments on previously developed property) located within the delineated setback boundary is exempt from Riparian Setback Mitigation (B.3) provided the proposed project does not further intrude the delineated setback boundary.

B.4 Riparian Setback Mitigation.

The mitigation required for intrusion into the riparian setback of the **Olentangy River mainstem or perennial streams** shall be determined by the horizontal distance the intrusion is from the stream. Up to three zones will be used in determining the required mitigation. Zone 1 extends from 0 to 30 feet from the stream edge. Zone 2 extends from 30 feet to the outer edge of the streamside buffer. Zone 3 extends from the outer edge of the streamside buffer to the outer edge of the outer buffer. Intrusion into these zones will require the following mitigation within the same Watershed Assessment Unit

(12-digit HUC scale). Alternative mitigation, within the permit area, may be considered on a case-by-case basis:

1. Four (4) times the total area disturbed in the stream within Zone 1 of the site being developed shall be mitigated; or, two (2) times the total area disturbed in the stream within Zone 1 shall be mitigated within the watershed of the immediate receiving stream, and the entire required setback of the site shall be protected by binding conservation easements or environmental covenants.

2. Three (3) times the area disturbed within Zone 2 of the site being developed shall be mitigated within Zones 1 and/or 2 of the mitigation location; or, one and one-half (1.5) times the total area disturbed within Zone 2 shall be mitigated within the watershed of the immediate receiving stream, and the entire required setback of the site shall be protected in perpetuity by binding conservation easements or environmental covenants.

3. Two (2) times the area to be mitigated within Zone 3 of the site being developed shall be mitigated within any Zone of the mitigation location; or, one (1) times the total area to be mitigated within any zone shall be mitigated within the watershed of the immediate receiving stream, and the entire required setback of the site shall be protected in perpetuity by binding conservation easements or environmental covenants.

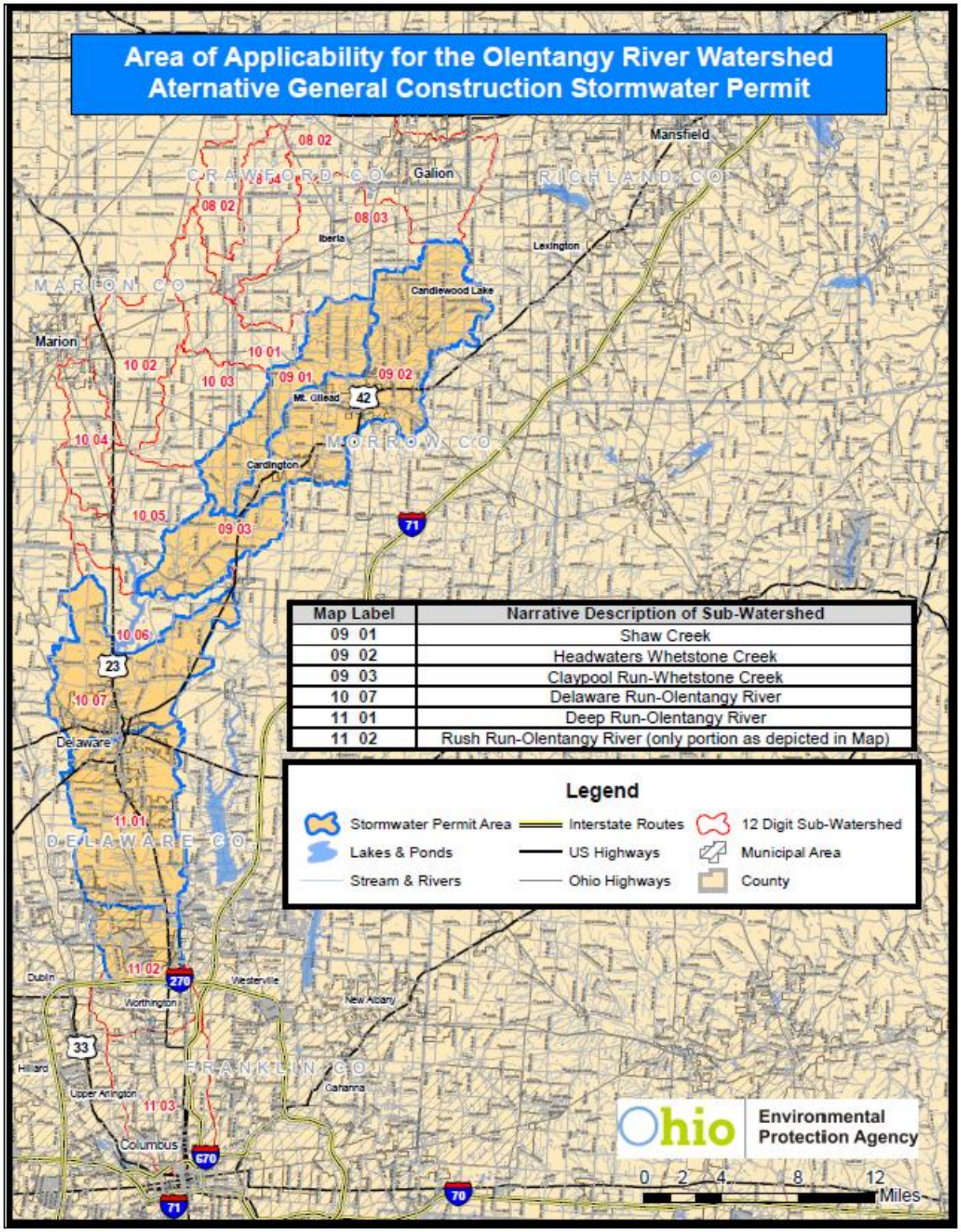
The mitigation required for intrusion into the riparian setback of an **intermittent stream** shall be four (4) times the total area disturbed within the riparian setback of the site being developed shall be mitigated; or two (2) times the total area disturbed within the riparian setback shall be mitigated within the watershed of the immediate receiving stream, and the entire required setback of the site shall be protected in perpetuity by binding conservation easements or environmental covenants.

The mitigation required for intrusion into the streamside buffer of an **ephemeral stream** shall be two (2) times the total area disturbed within the riparian setback of the site being developed shall be mitigated; or one (1) times the total area disturbed within the riparian setback shall be mitigated within the watershed of the immediate receiving stream, and the entire required setback of the site shall be protected in perpetuity by binding conservation easements or environmental covenants.

All mitigation shall, at a minimum, include conserved or restored setback zone, and should be designed to maximize the ecological function of the mitigation. Including mitigation at the stream edge along with associated setback areas is one way to maximize ecological function. Mitigation shall be protected in perpetuity by binding conservation easements or environmental covenants which must be recorded within 6 months of permit authorization. Granting of binding conservation easements or environmental covenants protected for land outside of disturbed area, but within a required riparian setback counts towards required mitigation.

Mitigation may also be satisfied by approved pooled mitigation areas and in-lieu fee sponsored mitigation areas. Mitigation resulting from State or Federal environmental regulations may be adjusted in recognition of these requirements.

Appendix B Attachment A Applicable Portions of the Olentangy Watershed



A more detailed map can be viewed at:
http://epa.ohio.gov/dsw/permits/GP_ConstructionSiteStormWater_Olentangy.aspx

Appendix B Attachment B

Part 1 Stream Assessment

This assessment will determine if a stream is considered a previously channelized, low-gradient headwater stream (a drainage ditch) which would be applicable for stream restoration in lieu of protecting an outer 'no build' setback as per Appendix B B.2i. and ii.

In the event the assessment of the stream meets all the criteria listed below, restoration as depicted in Part 2 of this attachment or natural channel design could be performed, provided 401/404 permits are authorized, and may be a means of reducing the setback distance required by B.2.i. (Appendix B).

Previously Modified, Low-Gradient Headwater Streams shall, for the purposes of this permit, be defined as having all of the following characteristics:

- Less than 10 square miles of drainage area;
- Low gradient and low stream power such that incision (down-cutting) is not evident;
- Entrenched such that the ratio of the frequently flooded width to the bankfull width is less than 2.2; and
- Straight with little or no sinuosity present such that the ratio of the bankfull channel length to the straight-line distance between two points is less than 1.02.

Part 2 Restoration

Restoration shall be accomplished by any natural channel design approach that will lead to a self-maintaining reach able to provide both local habitat and watershed services (e.g. self-purification and valley floodwater storage).

a. Construction of a floodplain, channel and habitat via natural channel design
b. Floodplain excavation necessary to promote interaction between stream and floodplain
c. Include a water quality setback of 100 feet from top of the streambank on each side.

The primary target shall be a frequently flooded width of 10 times the channel's self-forming width. Five times the self-forming channel width may be acceptable if sufficient elements of natural channel design are included in the restoration project.

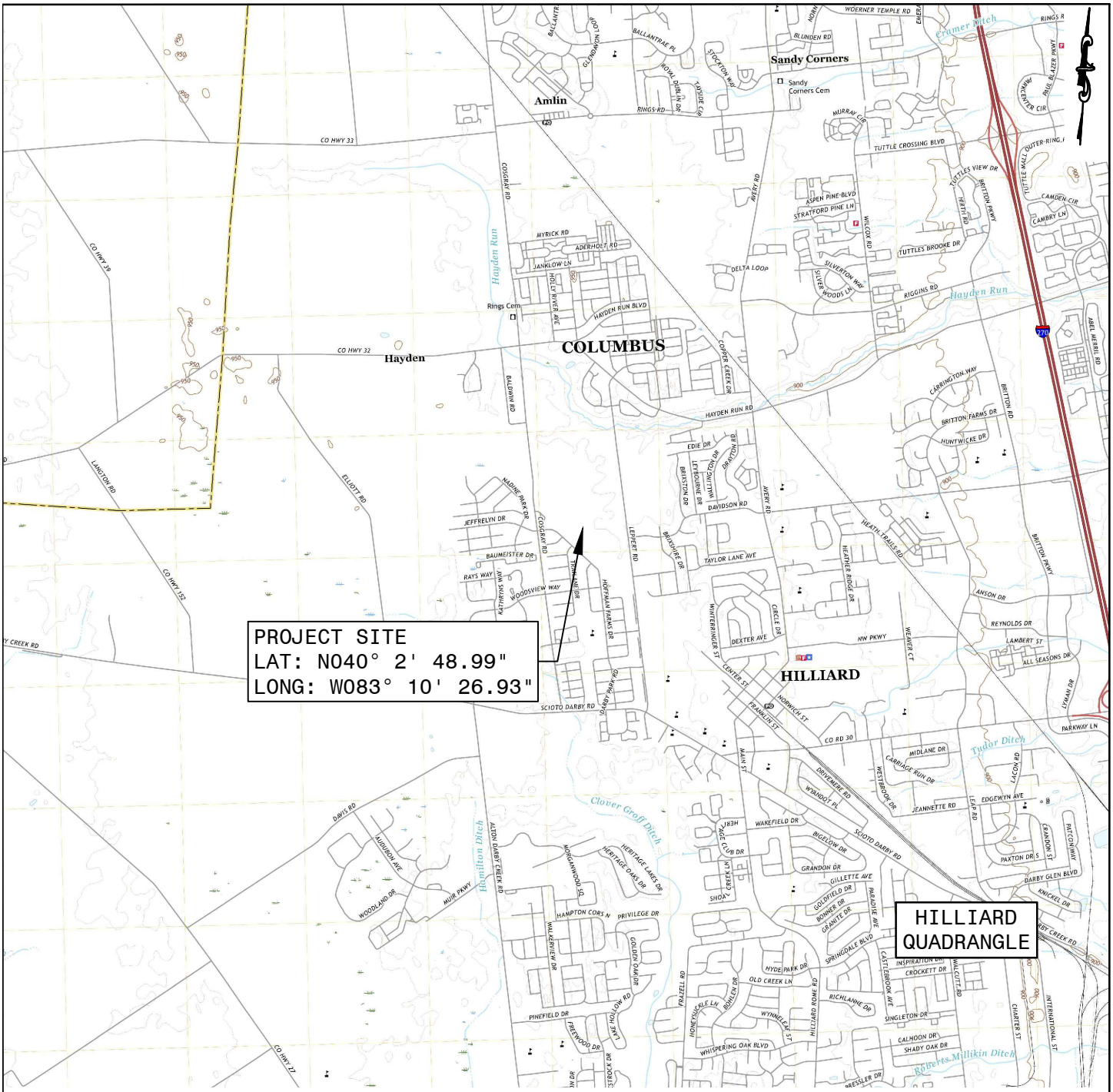
Appendix C Intensity for Calculation of Water Quality Flow (WQF)

DURATION t_c (minutes)	WATER QUALITY INTENSITY [i_{wq}] (inches/hour)	DURATION t_c (minutes)	WATER QUALITY INTENSITY [i_{wq}] (inches/hour)
5	2.37	33	0.95
6	2.26	34	0.93
7	2.15	35	0.92
8	2.04	36	0.90
9	1.94	37	0.88
10	1.85	38	0.86
11	1.76	39	0.85
12	1.68	40	0.83
13	1.62	41	0.82
14	1.56	42	0.80
15	1.51	43	0.78
16	1.46	44	0.77
17	1.41	45	0.76
18	1.37	46	0.75
19	1.33	47	0.74
20	1.29	48	0.73
21	1.26	49	0.72
22	1.22	50	0.71
23	1.19	51	0.69
24	1.16	52	0.68
25	1.13	53	0.67
26	1.10	54	0.66
27	1.07	55	0.66
28	1.05	56	0.65
29	1.03	57	0.64
30	1.01	58	0.64
31	0.99	59	0.63
32	0.97	60	0.62

Note: For t_c < 5 minutes, use i = 2.37 in/hr; for t_c > 60 minutes, use i = 0.62 in/hr. For all other t_c, use the appropriate value from this table.

APPENDIX 2

Project Location Map, Soil Erosion and Sediment Control Plan, USDA Soils Map, Watershed (HUC-12) Map, and ODNR Rainwater and Land Development Manual Details



CMH91 STATION

PROJECT LOCATION MAP

IF THIS DRAWING IS A REDUCTION
GRAPHIC SCALE MUST BE USED

SCALE: 1" = 3500'

3500' 0 3500'

APPALACHIAN POWER COMPANY	CMH91 STATION PROJECT		138kV PROJECT LOCATION MAP USGS OVERLAY
APP'D BY : AJT	DR. BY : DGC	CH. BY : BKS	DATE: 6/10/2022
AEP AMERICAN ELECTRIC POWER	1 RIVERSIDE PLAZA COLUMBUS, OH 43215	WORK ORDER # T10394332	DWG. No. / REV

DWG. NO. E-1220

OWNER / APPLICANT:

AMERICAN ELECTRIC POWER
APPALACHIAN POWER COMPANY
1 RIVERSIDE PLAZA
COLUMBUS, OHIO 43215

PROJECT MANAGER: DENISE BINFORD
PHONE: 614-202-0579
EMAIL: DCBINFORD@AEP.COM

CIVIL ENGINEER: BRAD BONHAM
PHONE: 614-933-2179
EMAIL: BJBONHAM@AEP.COM

STATION ENGINEER: SETH OSWALD
PHONE: 614-286-6619
EMAIL: SMOSWALD@AEP.COM

TCR: BRANDON MORRISON
PHONE: 614-322-5677
EMAIL: BWMORRISON@AEP.COM

AEP WERS: AMY TOOHEY
PHONE: 380-205-5097
EMAIL: AJTOOHEY@AEP.COM

CIVIL/SITE DESIGN CONSULTANT:

EARTH ENVIRONMENTAL AND CIVIL, INC.
235 CLAIBORNE AVENUE
ROCKY MOUNT, VA 24151

BRANDON K. SCOTT, PE
PHONE: (540) 483-5975
EMAIL: BSCOTT@EARTHENV.COM

SURVEY CONSULTANT:

CENTRAL SURVEYING
199 FOXCROFT DRIVE
BLUE RIDGE, VA 24064

NAME: BILL WILLIS
PHONE: 614-864-1100
EMAIL: WWILLISO01@AOL.COM

GEOTECHNICAL CONSULTANT:

TERRACON
800 MORRISON ROAD
GAHANNA, OH 43230

NAME: JOHN ENDERLE
PHONE: 614-863-3113
EMAIL: JOHN.ENDERLE@TERRACON.COM

PROJECT STATISTICS

STATION ADDRESS:
4601 LEPPERT ROAD
HILLIARD, OH 43026

PARCEL NUMBER: 10-5-005
ZONING DESIGNATION: S-1 - SUPPORT FACILITIES DISTRICT

CENTER OF SITE LATITUDE AND LONGITUDE
LAT: 40°2'48.99"N
LONG: 83°10'26.93"W

FLOOD INFORMATION:
FLOOD INSURANCE RATE MAP PANEL: 39049C0151K
EFFECTIVE DATE: 06/17/2008
FLOOD HAZARD ZONE: X
PROJECT LIMITS OF DISTURBANCE: 4.00 ACRES

NWBD HYDROLOGIC UNIT CODE (HUC 12): 050600011204

LEGEND

EXISTING	PROPOSED
PROPERTY LINE	STRUCTURE
PROPERTY MARKER	INDEX CONTOUR
STRUCTURE	INTERMEDIATE CONTOUR
INDEX CONTOUR	GRADE SPOT SHOT
INTERMEDIATE CONTOUR	EDGE OF PAVEMENT
WETLAND	EDGE OF GRAVEL
STREAM	GRAVEL HATCH (ACCESS ROADS)
FLOOD PLAIN	GRAVEL HATCH (SUBSTATION)
EDGE OF PAVEMENT	GRAVEL HATCH (LAYDOWN STORAGE YARD)
EDGE OF GRAVEL	CROSS SECTION
CHAIN LINK FENCE	CHAIN LINK FENCE
TREE LINE	TREE LINE
STORM DRAIN PIPE	STORM DRAIN PIPE
DITCH	STORM DRAIN INLET
OVERHEAD ELECTRIC	STORM DRAIN MANHOLE
UTILITY POLE	STORM WATER OUTFALL STRUCTURE
ELECTRIC TOWER STRUCTURE	CONCRETE CHANNEL/SWALE
DRAINAGE AREA	GRASS CHANNEL/SWALE
DRAINAGE Tc PATH	OVERHEAD ELECTRIC
OVERHEAD TELEPHONE	UTILITY POLE
	ELECTRIC TOWER STRUCTURE
	EROSION AND SEDIMENT CONTROL (SEE ESC LEGEND)
	SILT FENCE
	DRAINAGE AREA
	DRAINAGE Tc PATH
	LIMITS OF DISTURBANCE
	PLAN SHEET MATCH LINE

NOTE: THE LEGEND & SHEET INDEX IS TO BE USED THROUGHOUT THE CONSTRUCTION PLANS. IT HAS NOT BEEN PLACED ON REMAINING PLAN SHEETS FOR THE PURPOSE OF CLARITY AND READABILITY.

NOTIFY UTILITY COMPANIES BEFORE YOU DIG

THE LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE BASED ON ABOVE-GROUND STRUCTURES. LOCATIONS OF UNDERGROUND UTILITIES/STRUCTURES MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES.
IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ACTUAL LOCATION AND DEPTH OF ALL EXISTING UTILITIES. THE OWNER AND THE SURVEYOR SHALL NOT BE RESPONSIBLE FOR ANY OMISSION OR VARIATION FROM THE LOCATION SHOWN. THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 811 TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.

AMERICAN ELECTRIC POWER
FOR OHIO POWER COMPANY

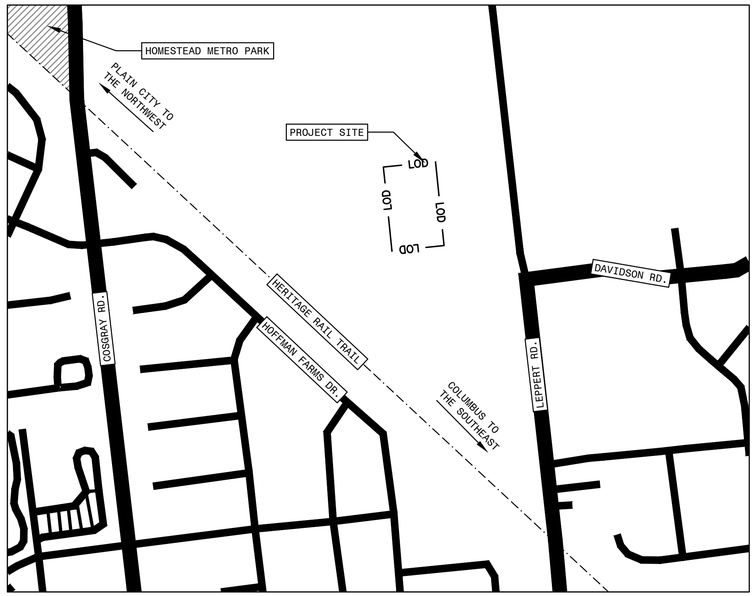
CMH91 - STATION

HILLIARD, OHIO

FRANKLIN COUNTY

SITE/CIVIL GRADING PACKAGE

(STATION COORDINATES: 40.046942°,-83.174147°)



VICINITY MAP

N.T.S.

DRAWING INDEX		
SHEET #	**SHEET TITLE**	**REV 0**
E-1220	COVER SHEET	9/2/2022
E-1221	GENERAL NOTES (WITH MINIMUM STANDARDS)	9/2/2022
E-1222	EROSION AND SEDIMENT CONTROL PLAN (SOILS MAP & DESCRIPTIONS)	9/2/2022
E-1223	STATION LAYOUT PLAN (EXISTING CONDITIONS AND DEMOLITION)	9/2/2022
E-1224	STATION LAYOUT PLAN	9/2/2022
E-1225	GRADING PLAN (EROSION AND SEDIMENT CONTROL PLAN)	9/2/2022
E-1226	EROSION AND SEDIMENT CONTROL PLAN (PRE AND POST DRAINAGE AREAS)	9/2/2022
E-1227	EROSION AND SEDIMENT CONTROL DETAILS	9/2/2022

ESTIMATE OF QUANTITIES (TOTAL)		
SITE WORK & CLEARING/SURVEYING		
EARTHWORK		
DESCRIPTION	UNIT	QUANTITY
GRADING		
CONCRETE WASHOUT:	EACH	1.00
EROSION AND CONTROL MEASURES:		
SILT FENCE - INSTALL/MAINTAIN/REMOVE:	LF	681.00
CONSTRUCTION ENTRANCE	EACH	2.00
TEMPORARY AND PERMANENT SEEDING AND MULCHING		

NOTES:

PROVIDED QUANTITIES ARE ESTIMATED AND NOT GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL UNITS PRIOR TO PREPARING AND SUBMITTING A FORMAL BID.

STATE OF OHIO
JAMES NELSON LOVELL, JR.
75897
REGISTERED
PROFESSIONAL ENGINEER
9/1/2022

OLD DWG :
STD DWG :

OHIO POWER COMPANY
CMH91 - STATION
HILLIARD OHIO
138kV
COVER SHEET

SCALE: NONE	DR: MMW/HC	ENG: DBF	CH: BKS
AMERICAN ELECTRIC POWER "POWERING ROUNDLESS ENERGY"	WO#: T10394332	APPD: BJB	DATE: 9/2/2022
1 RIVERSIDE PLAZA COLUMBUS, OH 43215	DWG. NO. E-1220	REV 0	

NO	DATE	REVISION DESCRIPTION	APPR	DR	ENG	CK	ISSUE#

CM 1 2 3 4 5 6 7 | 3/16 INCH 4 8 12 16 | TENTHS 10 20 30 | INCHES 1 2 3

CADFILEPATH

PLOTTED BY $USER$ ON DD-MMM-YYYY AT HH:MM STATION ENGINEERING

Arch D (24 X 36)

DWG. NO. E-1221

SITE / CIVIL GENERAL NOTES:

1. ALL WORK AND MATERIALS SHALL CONFORM TO THE LATEST EDITION OF AMERICAN ELECTRIC POWER COMPANY DOCUMENT NO. SS-160102, "TECHNICAL SPECIFICATION FOR SUBSTATION AND SWITCHING STATION CONSTRUCTION". HERE IN AFTER KNOWN AS THE "SPECIFICATION" OR THIS SITE GRADING PACKAGE AND PROJECT SPECIFIC SPECIFICATIONS, WHICHEVER IS MOST STRINGENT.
2. THE TOPOGRAPHIC SURVEY WAS PERFORMED BY CENTRAL SURVEYING, 199 FOXCROFT DRIVE, BLUE RIDGE, VA 24064, 614-864-1100, ATTN.: BILL WILLIS, EMAIL: WWILLIS001@AOL.COM, FOR USE IN DESIGN OF THE AEP ELECTRICAL SUBSTATION IN ACCORDANCE WITH OVERALL SITE DEVELOPMENT RULES / REGULATIONS. THIS MAP MEETS THE MINIMUM ACCURACY STANDARDS UNLESS OTHERWISE NOTED.
3. THE EARTHWORK QUANTITIES SHOWN ARE BASED ON CUT/FILL VOLUMES BETWEEN EXISTING AND FINISHED SUBGRADE. EARTHWORK STRIPPING SHALL BE A MINIMUM OF 12" BELOW FINISHED GRADE FOR THE SUBSTATION PAD AND 6" BELOW FINISHED GRADE ON THE REMAINDER OF THE SITE. ALL EXISTING GRAVEL, TOPSOIL AND ORGANIC MATERIAL SHALL BE THOROUGHLY STRIPPED AND REPLACED WITH SUITABLE FILL MATERIAL COMPACTED IN ACCORDANCE WITH ABOVE REFERENCED SPECIFICATION.
4. ELEVATIONS SHOWN ON THE GRADING DRAWING (E-1226) ARE TOP OF FINISHED GRADE ELEVATIONS. THE EXISTING CONTOUR INTERVAL IS ONE (1') FOOT. THE PROPOSED CONTOUR INTERVAL IS ONE (1') FOOT.
5. SIDE SLOPES SHALL BE A MINIMUM OF THREE (3) HORIZONTAL TO ONE (1) VERTICAL, UNLESS OTHER WISE NOTED. STEEPER SIDE SLOPES MAY BE OBTAINED THROUGH GEOTEXTILE MEMBRANE INSTALLATION.
6. ALL DISTURBED AREAS THAT ARE NOT STONED SHALL BE RE SEEDED IN ACCORDANCE WITH THE OHIO DEPARTMENT OF NATURAL RESOURCES RAINWATER AND LAND DEVELOPMENT MANUAL, LATEST EDITION. THE APPLICATION RATES FOR SEEDING, MULCHING, FERTILIZER AND LIME SHALL BE IN ACCORDANCE WITH THIS SPECIFICATION.
7. UNDER ALL ROADWAY AND PARKING AREAS, A GEOTEXTILE FABRIC (MIRAFI 600X, OR APPROVED EQUIVALENT) SHALL BE INSTALLED ON THE PREPARED SUBGRADE AND FASTENED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
8. GRADING CONTRACTOR TO PLACE 3" OF AASHTO #357 STONE FOLLOWING COMPLETION OF PAD. ONCE THE ABOVE AND BELOW GRADE CONSTRUCTION IS COMPLETED THE ABOVE AND BELOW CONTRACTOR IS TO FINISH GRADE THE SITE TO FINAL CONTOUR AND PROVIDE 5" OF DOUBLE WASHED AASHTO #57 STONE.
9. CONTRACTOR SHALL CONTACT O.U.P.S OR OHIO 811 (OR SIMILAR LOCATOR SERVICE) TO CONFIRM UTILITY LOCATIONS BEFORE BEGINNING CONSTRUCTION, CONTRACTOR SHALL VERIFY LOCATIONS AND / OR PRESENCE OF EXISTING UTILITIES.
10. EXCESS SPOIL MATERIAL IS TO BE DISPOSED OF OFFSITE AS PER LOCAL, STATE AND FEDERAL REGULATIONS AT A DUMP SITE APPROVED BY AEP AND THE PLAN APPROVING AUTHORITY.
11. CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING ALL TEMPORARY & PERMANENT DRAINAGE & EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE PLAN.
12. ALL PAVEMENT WITH VERTICAL GRADE GREATER THAN 10% SHALL BE PAVED.
13. FUELS, OILS, CHEMICALS AND OTHER BULK MATERIAL SHALL NOT BE STORED AT THE SITE.
14. SOIL DISTURBED DURING WINTER MONTHS WHEN GRASS CANNOT BE PLANTED SHALL BE TEMPORARILY STABILIZED WITH MULCH.
15. CONTRACTOR SHALL PROVIDE AND HAVE SPILL KITS ON SITE TO BE USED FOR SMALL RELEASES OF PETROLEUM WASTE OF LESS THAN 25 GALLONS. IN THE EVENT OF A LARGER RELEASE OF PETROLEUM WASTE (25 OR MORE GALLONS), OHIO EPA (1-800-282-9378), THE LOCAL FIRE DEPARTMENT, AEP WERS AND LERS CONTACTS, AND THE LOCAL EMERGENCY PLANNING COMMITTEE (LEPC) MUST BE CONTACTED WITHIN 30 MINUTES. PETROLEUM-BASED AND CONCRETE CURING COMPOUNDS MUST HAVE SPECIAL HANDLING PROCEDURES.
16. IF DUST SUPPRESSANTS ARE UTILIZED, APPLICATION AREAS MUST BE AWAY FROM CATCH BASINS FOR STORM SEWERS OR OTHER DRAINAGE WAYS. NOTE: USED OIL MAY NOT BE USED AS A DUST SUPPRESSANT.
17. SEE PLAN SHEET E-1227 FOR NOTES REGARDING ADDITIONAL CONSTRUCTION SITE POLLUTION CONTROLS.

AEP ENVIRONMENTAL/CULTURAL GENERAL NOTES:

1. PRIOR TO CONSTRUCTION, MARK (FENCING AND/OR SIGNAGE) PROTECTED ENVIRONMENTAL RESOURCE BOUNDARIES SUCH AS, BUT NOT LIMITED TO, SPRINGS, WETLANDS, KARST FEATURES (SINKHOLES, FISSURES, CAVES), ABANDONED MINE PORTALS, ARCHAEOLOGICAL SITE, GRAVE SITE, SPECIES HABITAT, HAZARDOUS WASTE AREAS, ETC.
2. CEASE CONSTRUCTION AND CONTACT THE RESPONSIBLE AEP REGIONAL ENVIRONMENTAL SPECIALIST (AMY TOOHEY, 614-565-1480) IF AN UNDOCUMENTED NATURAL RESOURCE IS ENCOUNTERED DURING CONSTRUCTION. FOR EXAMPLE, REPORT IMMEDIATELY ANY OF THE FOLLOWING IN THE AREA OF CONSTRUCTION IF NOT CLEARLY IDENTIFIED ON THE MAPPING: STREAMS, SPRINGS, WETLANDS, KARST FEATURES (SINKHOLES, FISSURES, CAVES), WILDLIFE HABITAT, ETC.
3. WORK COMPLETED WITHIN 100 FEET OF CEMETERIES OR BURIALS SHOULD BE CONSIDERED SENSITIVE. CONTACT THE RESPONSIBLE AEP ENVIRONMENTAL SPECIALIST (AMY TOOHEY, 614-565-1480) BEFORE PROCEEDING WITH ANY WORK.
4. DISCOVERY DURING CONSTRUCTION OF ANY HUMAN OR UNIDENTIFIED ARTIFACTS OR OTHER UNKNOWN OBJECTS THAT ARE UNEARTHED OR OTHERWISE DISCOVERED REQUIRES CONSTRUCTION TO CEASE AND IMMEDIATE NOTIFICATION TO THE RESPONSIBLE AEP ENVIRONMENTAL SPECIALIST (AMY TOOHEY, 614-565-1480).
5. DISCOVERY DURING CONSTRUCTION OF ANY HAZARDOUS WASTE INDICATORS (I.E. TIRES, OIL, LANDFILL, OR OTHER) OR OTHER ISSUE OF POTENTIAL CONCERN (I.E. MINE PORTAL), REQUIRES CONSTRUCTION TO CEASE AND IMMEDIATE NOTIFICATION TO THE RESPONSIBLE AEP ENVIRONMENTAL SPECIALIST (AMY TOOHEY, 614-565-1480).
6. NO WORK, DISTURBANCE, STORAGE OR ANY OTHER ACTIVITY OUTSIDE "LIMITS OF DISTURBANCE" BOUNDARY SHOWN ON PLANS.
7. NO NEW (I) LAY DOWN YARDS, (II) MARSHALLING YARDS, (III) EQUIPMENT STORAGE AREAS, (IV) TIMBER/LOG LANDING AREAS, (V) OTHER GROUND DISTURBANCES ARE PERMITTED UNLESS SHOWN ON THIS PLAN.
8. PROVIDE ANY PROPOSED NEW GROUND DISTURBANCE TO THE PROJECT ENGINEER OR PROJECT MANAGER, IF NOT SHOWN ON THIS PLAN.
9. PROVIDE ANY ACCESS ROAD MODIFICATIONS OR ADDITIONS TO THE PROJECT ENGINEER OR PROJECT MANAGER, IF NOT SHOWN ON THIS PLAN.
10. ANY MODIFICATIONS OR ADDITIONS MUST BE ADDED TO THIS PLAN, FIELD CHECKED, AND PERMITS UPDATED AS NEEDED PRIOR TO CONSTRUCTION.
11. THE CONDITIONS AND RESTRICTIONS SHOWN ON THESE PLANS ARE PART OF THE APPROVED PERMITS AND MUST BE STRICTLY FOLLOWED.
12. THE LOCATION OF ANY CONCRETE WASHOUTS UTILIZED ON-SITE WILL BE ADDED TO THE EROSION AND SEDIMENT CONTROL PLAN (APPENDIX B) BY THE TCR OR HIS/HER DESIGNEE ALONG WITH ANY NECESSARY CONTROLS.

EARTHWORK / TRENCHING NOTES:

1. SATISFACTORY SOIL MATERIALS: ASTM D 2487 "COHESIVE" SOIL CLASSIFICATION GROUPS HAVING A PLASTICITY INDEX BETWEEN 10 TO 23. FREE OF ROCK OR GRAVEL LARGER THAN 3 INCHES IN ANY DIMENSION, DEBRIS, WASTE, FROZEN MATERIALS, VEGETATION & OTHER DELETERIOUS MATTER.
2. UNSATISFACTORY SOIL MATERIALS: ASTM D 2487 SOIL CLASSIFICATION GROUP; CH.
3. ENGINEERED BACKFILL & STRUCTURAL FILL MATERIALS: SATISFACTORY SAND AND/OR GRAVEL MATERIALS CONFORMING TO THE REQUIREMENTS OF ODOT SPECIFICATIONS, WELL-GRADED AND GENERALLY MEET UNIFIED SOIL CLASSIFICATION SYSTEM. DESIGNATION; SM, SC, ML, CL.
4. SUBBASE & BASE MATERIAL: NATURALLY OR ARTIFICIALLY GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE CONFORMING TO ASTM D 2940, WITH AT LEAST 95 PERCENT PASSING AN 1-1/2" SIEVE & NOT MORE THAN 8 PERCENT PASSING A NO. 200 SIEVE.
5. ENGINEERED BACKFILL: SUBBASE OR BASE MATERIALS
6. STATION PAD MATERIAL: EVENLY GRADED MIXTURE OF CRUSHED STONE AASHTO #57 WASHED LIMESTONE AGGREGATE.
7. PROVIDE EROSION CONTROL MEASURES TO PREVENT EROSION OR DISPLACEMENT OF SOILS & DISCHARGE OF SOIL-BEARING WATER RUNOFF OR AIRBORNE DUST TO ADJACENT PROPERTIES.
8. PREVENT SURFACE WATER & SUBSURFACE OR GROUND WATER FROM ENTERING EXCAVATIONS, FROM PONDING ON PREPARED SUBGRADES & FROM FLOODING PROJECT SITE & SURROUNDING AREA. PROTECT SUBGRADES & FOUNDATION SOILS FROM SOFTENING & DAMAGE BY RAIN OR WATER ACCUMULATION.
9. "UNCLASSIFIED EXCAVATION" EXCAVATION IS UNCLASSIFIED & INCLUDES EXCAVATION TO REQUIRED SUBGRADE ELEVATIONS REGARDLESS OF THE CHARACTER OF MATERIALS & OBSTRUCTIONS ENCOUNTERED.
10. EXCAVATE SWALES TO INDICATED SLOPES, LINES, DEPTHS & INVERT ELEVATIONS AS INDICATED ON THE GRADING PLAN.
11. DRAINAGE SWALE BOTTOMS: EXCAVATE & SHAPE SWALE BOTTOMS TO PROVIDE UNIFORM BEARING & SUPPORT. SHAPE SUBGRADE TO PROVIDE CONTINUOUS UNIFORMITY. REMOVE STONES & DEBRIS TO ALLOW THE UNIFORM FLOW OF ANY OVERLAND DRAINAGE SURFACE WATER THAT MAY BE PRESENT.
12. STOCKPILE EXCAVATED MATERIALS ACCEPTABLE FOR BACKFILL ALONG WITH FILL SOIL MATERIALS, INCLUDING ACCEPTABLE BORROW MATERIALS. STOCKPILE SOIL MATERIALS IN DESIGNATED AREA. PLACE, GRADE & SHAPE STOCKPILES TO DRAIN SURFACE WATER.
13. PLACE AND COMPACT INITIAL BACKFILL OF SATISFACTORY SOIL MATERIAL OR SUBBASE MATERIAL TO FINAL GRADE AS INDICATED ON THE DRAWINGS. CAREFULLY COMPACT MATERIAL AT THE BOTTOM OF DRAINAGE SWALES AND BRING BACKFILL EVENLY UP ON BOTH SIDES AND ALONG THE FULL LENGTH OF DRAINAGE SWALE.
14. PLACE AND COMPACT FINAL BACKFILL OF SATISFACTORY SOIL MATERIAL TO FINAL SUBGRADE.
15. PLACE BACKFILL AND FILL MATERIALS IN LAYERS NOT MORE THAN 8 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY APPROPRIATE COMPACTION EQUIPMENT AND NOT MORE THAN 4 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS.
16. PERFORM FIELD IN PLACE DENSITY TESTS ACCORDING TO ASTM D 1556 (SAND CONE METHOD), ASTM D 2167 (RUBBER BALLOON METHOD), OR ASTM D 2937 (DRIVE CYLINDER METHOD), AS APPLICABLE.
17. DRAINAGE SWALE BACKFILL: IN EACH COMPACTED INITIAL AND FINAL BACKFILL LAYER, PERFORM AT LEAST ONE FIELD IN PLACE DENSITY TEST FOR EACH 150 FEET OR LESS OF SWALE, BUT NO FEWER THAN TWO TESTS.
18. DISPOSAL: REMOVE SURPLUS SATISFACTORY SOIL AND WASTE MATERIAL, INCLUDING UNSATISFACTORY SOIL, TRASH AND DEBRIS AND DISPOSE OF IT IN SOIL DISPOSAL AREA ON-SITE, UNLESS OTHERWISE AUTHORIZED BY TCR.
19. A GEOTECHNICAL REPRESENTATIVE SHALL BE ON-SITE DURING ALL EXCAVATION WITHIN WETLAND AREAS. THE GEOTECHNIAL REPRESENTATIVE SHALL DETERMINE WHAT ADDITIONAL WETLAND SOILS MUST BE REMOVED AND WHEN ADEQUATE SUBGRADE HAS BEEN REACHED. THE GEOTECHNICAL REPRESENTATIVE SHALL BE PROVIDED BY THE OWNER; HOWEVER, THE CONTRACTOR SHALL COORDINATE WITH THE TCR TO DETERMINE WHEN THE GEOTECHNICAL REPRESENTATIVE SHALL BE ON-SITE.

AEP CONSTRUCTION NOTES

1. COORDINATE PROPOSED DESIGN AND WORK WITH THE CITY OF HILLIARD, THE OHIO DEPARTMENT OF TRANSPORTATION, AND LANDOWNERS.
2. POTENTIAL IMPACTS TO PUBLIC WATER DISTRIBUTION SYSTEMS OR SANITARY SEWAGE COLLECTION SYSTEMS MUST BE VERIFIED BY THE LOCAL UTILITY.
3. IF BEDROCK UNITS OF LIMESTONE/DOLOMITE ARE CONTACTED WITH CONSTRUCTION ACTIVITIES, THESE INTERCEPTIONS OF THE ROCK UNIT SHOULD BE POSITIVELY SEALED TO PREVENT ONGOING TRANSMISSION OF POTENTIAL CONTAMINATES INTO THE SUBSURFACE.
4. MARK AND ENFORCE THE LIMITS OF CONSTRUCTION ACTIVITY TO PREVENT UNNECESSARY IMPACTS AND WHERE APPROPRIATE. FOR EXAMPLE, ALL CONSTRUCTION VEHICLE MOVEMENT OUTSIDE THE AREA OF CONSTRUCTION SHOULD BE RESTRICTED TO PRE-DESIGNATED ACCESS, CONTRACTOR-ACQUIRED ACCESS, OR PUBLIC ROADS. DURING CLEARING OF TREES AND VEGETATION, ACTIVITIES SHOULD BE LIMITED TO THE ROW AREA AND TO DANGEROUS TREES LOCATED ALONG THE EDGE OF THE ROW, WHILE TREES NOT IDENTIFIED FOR REMOVAL SHOULD BE PROTECTED TO THE EXTENT PRACTICAL.
5. WHEREVER FEASIBLE, EXISTING GROUPINGS AND/OR CLUSTERS OF RIGHT-OF-WAY COMPATIBLE TREES AND NATURAL VEGETATION SHOULD REMAIN IN THE RIGHT-OF-WAY TO PROVIDE ESTHETIC AND ENVIRONMENTAL BENEFITS.
6. TREES NOT SLATED FOR REMOVAL CAN BE PROTECTED FROM THE EFFECTS OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH FUTURE CONSTRUCTION. THESE TREES SHOULD BE MARKED AND FENCED AT LEAST TO THE DRIP LINE OR THE END OF THE ROOT SYSTEM, WHICHEVER EXTENDS FARTHER FROM THE STEM. MARKINGS SHOULD BE DONE WITH HIGHLY VISIBLE RIBBON SO THAT EQUIPMENT OPERATORS SEE THE PROTECTED AREAS EASILY.
7. PARKING AND STOCKING OF HEAVY EQUIPMENT AND CONSTRUCTION MATERIALS NEAR TREES CAN DAMAGE ROOT SYSTEMS BY COMPACTING THE SOIL. SOIL COMPACTION, FROM WEIGHT OR VIBRATION, AFFECTS ROOT GROWTH, WATER AND NUTRIENT UPTAKE, AND GAS EXCHANGE. THE PROTECTION MEASURES SUGGESTED ABOVE SHOULD BE USED FOR PARKING AND STACKING AS WELL AS FOR MOVING OF EQUIPMENT AND MATERIALS. IF PARKING AND STACKING ARE UNAVOIDABLE, THE CONTRACTORS SHOULD USE TEMPORARY CROSSING BRIDGES OR MATS TO MINIMIZE SOIL COMPACTION AND MECHANICAL INJURY TO PLANTS.
8. ANY STOCKPILING OF SOIL SHOULD TAKE PLACE AWAY FROM TREES. PILING SOIL AT A TREE STEM CAN KILL THE ROOT SYSTEM OF THE TREE. SOIL STOCKPILES SHOULD BE COVERED, AS WELL, TO PREVENT SOIL EROSION AND FUGITIVE DUST.
9. QUESTIONS PERTAINING TO PROTECTION OF TREES AND FOREST RESOURCES OF THE STATE MAY BE ADDRESSED TO NATE JESTER, ADMINISTRATOR, ODNR DIVISION OF FORESTRY, AT (740) 774-1596.
10. ALL COMMUNICATIONS AND INTERACTIONS WITH PROPERTY OWNERS AND OCCUPANTS OF PROPERTY WILL BE POLITE AND PROFESSIONAL.
11. CONTRACTORS WILL RESPECT AND BE MINDFUL OF THE PROPERTY OWNERS/OCCUPANTS, AND THE PROPERTY YOU ARE ACCESSING. DO NOT LEAVE LITTER OR MESS. REPORT ANY DAMAGES OR ACCIDENTS IMMEDIATELY TO THE AEP TCR.
12. CONTRACTORS WILL REMOVE PROMPTLY SPILLED OR TRACKED DIRT, OTHER MATERIALS ON PAVED STREETS, AND DRIED SEDIMENTS RESULTING FROM SOIL EROSION.
13. SHARED CONSTRUCTION AND PROPERTY OWNER ROADS WILL BE MAINTAINED FOR UNIMPEDED PROPERTY OWNER VEHICLE INGRESS/EGRESS.
14. PROJECT QUESTIONS FROM PROPERTY OWNER ARE TO BE DIRECTED TO THE AEP LAND AGENT TO THE EXTENT PRACTICABLE.
15. ADHERE STRICTLY TO APPLICABLE STATE AND LOCAL LAWS AND REGULATIONS; FOR EXAMPLE, EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT, SEE SOIL & EROSION CONTROL CONSTRUCTION SEQUENCE THIS PAGE.
16. WETLANDS HAVE BEEN DELINEATED AND FLAGGED WITH SIGNAGE, AND PROTECTION BARRIERS WILL BE ERECTED BEFORE CONSTRUCTION. THERE SHALL BE NO MECHANIZED CLEARING WITHIN WETLANDS AND WITHIN 50' OF STREAM BANKS.
17. WETLAND IMPACTS WILL BE LIMITED TO THE CLEARING OF WOODY VEGETATION ONLY; NO SOIL DISTURBANCE WILL BE ALLOWED IN WETLANDS; AND THERE WILL BE NO EQUIPMENT FORGING OF SURFACE WATERS. NO STRUCTURAL FOUNDATIONS WILL BE PROPOSED WITHIN WETLAND AREAS AND EQUIPMENT MATS WILL BE USED DURING CLEARING ACTIVITIES. NON-MECHANIZED CLEARING ONLY IS PERMITTED. SURFACE WATERS SHOULD BE SPANNED.
18. ANY TEMPORARY IMPACTS TO SURFACE WATERS ASSOCIATED WITH THIS PROJECT WILL REQUIRE RESTORATION, AS DETERMINED BY AEP ENVIRONMENTAL AFTER CONSTRUCTION, TO PRE-EXISTING CONDITIONS. RESTORATION IS TO BE UTILIZED USING NON-MECHANIZED METHODS ONLY.
19. NO ACTIVITY MAY SUBSTANTIALLY DISRUPT THE MOVEMENT OF AQUATIC LIFE INDIGENOUS TO THE WATER BODY, INCLUDING THOSE SPECIES THAT NORMALLY MIGRATE THROUGH THE AREA, UNLESS THE PRIMARY PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER. NO CULVERTS ARE TO BE INSTALLED AS STREAM CROSSINGS AND ANY CULVERTS CALLED OUT ON PLANS ARE TO BE USED FOR ROADWAY DRAINAGE ONLY. NO ROADSIDE DITCHES ARE TO BE INSTALLED IN STREAMS. STREAM CROSSINGS ARE BE UTILIZED USING TIMBER MAT BRIDGES AS SPECIFIED IN THE PLANS.
20. EROSION AND SEDIMENTATION CONTROLS WILL BE DESIGNED IN ACCORDANCE WITH THE OHIO DEPARTMENT OF NATURAL RESOURCES RAINWATER AND LAND DEVELOPMENT MANUAL. THOSE CONTROLS WILL BE PLACED PRIOR TO CLEARING AND GRADING AND MAINTAINED IN GOOD WORKING ORDER TO MINIMIZE IMPACTS TO STATE WATERS. THE CONTROLS WILL REMAIN IN PLACE UNTIL THE AREA IS STABILIZED AND WILL THEN BE REMOVED. ANY EXPOSED SLOPES AND STREAM BANKS WILL BE STABILIZED IMMEDIATELY UPON COMPLETION OF WORK IN EACH PERMITTED AREA. ALL DENUDED AREAS WILL BE PROPERLY STABILIZED IN ACCORDANCE WITH THE OHIO DEPARTMENT OF NATURAL RESOURCES RAINWATER AND LAND DEVELOPMENT MANUAL.
21. NO MACHINERY MAY ENTER SURFACE WATERS.
22. HEAVY EQUIPMENT IN TEMPORARILY IMPACTED SURFACE WATERS WILL BE PLACED ON MATS, GEOTEXTILE FABRIC OR OTHER SUITABLE MATERIAL TO MINIMIZE SOIL DISTURBANCE TO THE MAXIMUM EXTENT PRACTICABLE. EQUIPMENT AND MATERIALS WILL BE REMOVED IMMEDIATELY UPON COMPLETION OF WORK.
23. ACTIVITIES WILL BE CONDUCTED IN ACCORDANCE WITH ANY TIME-OF-YEAR RESTRICTION(S) AS RECOMMENDED BY THE OEPA. THE PERMITTEE WILL RETAIN A COPY OF THE AGENCY CORRESPONDENCE CONCERNING THE TIME-OF-YEAR RESTRICTION(S), OR THE LACK THEREOF, FOR THE DURATION OF THE CONSTRUCTION PHASE OF THE PROJECT.
24. ALL CONSTRUCTION, CONSTRUCTION ACCESS AND DEMOLITION ACTIVITIES ASSOCIATED WITH THIS PROJECT WILL BE ACCOMPLISHED IN A MANNER THAT MINIMIZES CONSTRUCTION MATERIALS OR WASTE MATERIALS FROM ENTERING SURFACE WATERS, UNLESS AUTHORIZED BY A PERMIT. WET, EXCESS OR WASTE CONCRETE WILL BE PROHIBITED FROM ENTERING SURFACE WATERS. CONCRETE WASHOUTS ARE TO BE LOCATED IN AREAS THAT DRAIN AWAY FROM WETLANDS AND STREAMS.
25. HERBICIDES USED IN OR AROUND ANY SURFACE WATER OR KARST FEATURE MUST BE APPROVED FOR AQUATIC USE BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) OR THE U.S. FISH AND WILDLIFE SERVICE. THESE HERBICIDES WILL BE APPLIED ACCORDING TO THE LABEL DIRECTIONS BY A LICENSED HERBICIDE APPLICATOR. A NON-PETROLEUM BASED SURFACTANT WILL BE USED IN OR AROUND ANY SURFACE WATERS.
26. OPCO MUST HAVE A CERTIFIED RESPONSIBLE LAND DISTURBER IN CHARGE OF AND RESPONSIBLE FOR CARRYING OUT THE PROJECT-SPECIFIC EROSION AND SEDIMENT CONTROL PLAN AND THE LAND DISTURBING ACTIVITY, INCLUDING RIGHT-OF-WAY CLEARING, GRADING, AND ROAD CONSTRUCTION. OPCO MUST CONTACT THE OEPA TWO WEEKS PRIOR TO LAND DISTURBANCE.
27. OPCO WILL NOT BURN DEBRIS FROM RIGHT-OF-WAY CLEARING OR OTHER CONSTRUCTION-RELATED ACTIVITIES.
28. DURING CONSTRUCTION, FUGITIVE DUST MUST BE KEPT TO A MINIMUM BY USING CONTROL METHODS OUTLINED IN THE OHIO DEPARTMENT OF NATURAL RESOURCES RAINWATER AND LAND DEVELOPMENT MANUAL. THESE PRECAUTIONS INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING: USE, WHERE POSSIBLE, OF WATER OR CHEMICALS FOR DUST CONTROL; INSTALLATION AND USE OF HOODS, FANS, AND FABRIC FILTERS TO ENCLOSE AND VENT THE HANDLING OF DUSTY MATERIALS; COVERING OF OPEN EQUIPMENT FOR CONVEYING MATERIALS; AND PROMPT REMOVAL OF SPILLED OR TRACKED DIRT OR OTHER MATERIALS FROM PAVED STREETS AND REMOVAL OF DRIED SEDIMENTS RESULTING FROM SOIL EROSION.
29. CEASE CONSTRUCTION AND CONTACT AN AEP CONSTRUCTION REPRESENTATIVE IMMEDIATELY IF THE FOLLOWING NATURAL OR CULTURAL RESOURCES OF CONCERN ARE ENCOUNTERED DURING CONSTRUCTION: WETLANDS, KARST FEATURES (SINKHOLE, FISSURES, CAVES, SPRINGS), ABANDONED MINE PORTALS, NATIVE AMERICAN ARTIFACTS, GRAVE SITE, ENDANGERED SPECIES, SUSPECTED HAZARDOUS WASTE OR CONTAMINATED SOILS, ETC. (SEE ENVIRONMENTAL FIELD REFERENCE CARDS, ATTACHMENT 7.12).
30. TO MINIMIZE ADVERSE IMPACTS TO THE AQUATIC ECOSYSTEM, IMPLEMENT AND STRICTLY ADHERE TO APPLICABLE STATE AND LOCAL EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT LAWS AND REGULATIONS.
31. ACCESS ROADS, STORAGE YARDS, STRUCTURES, AND SO ON WILL BE BUILT AS SHOWN ON PLANS; ANY PROPOSED CHANGE OR ALTERATION MAY NEED TO BE VERIFIED WITH THE FOLLOWING ANALYSES: WETLANDS AND STREAMS DELINEATED BY QUALIFIED PERSONNEL, RTE STUDIES, CULTURAL STUDIES, AND LAND AGENT REVIEW. NOTIFY THE TCR IMMEDIATELY OF ANY PROPOSED CHANGE.
32. FOLLOW THE *ACCESS ROAD GUIDELINES AND DETAILS* TO THE EXTENT PRACTICABLE TO MINIMIZE ENVIRONMENTAL IMPACTS OF ROADS.
33. PROMPTLY SEED AND FERTILIZE AREAS OF GROUND DISTURBANCE TO SPEED REVEGETATION, PROVIDE SCREENING, REDUCE EROSION, PROMOTE AND MAINTAIN WILDLIFE HABITAT, REDUCE INVASION PRESSURE BY NON-NATIVE PLANTS, REDUCE BIRD NEST PARASITISM AND PREDATION, AND RESTRICT ACCESS BY OFF-ROAD VEHICLES.
34. KARST FEATURES WILL BE DELINEATED AND FLAGGED WITH SIGNAGE AND PROTECTION BARRIERS WILL BE ERECTED BEFORE CONSTRUCTION. CLEARING WILL BE LIMITED TO HAND CLEARING OF WOODY VEGETATION; NO SOIL DISTURBANCE WILL BE ALLOWED IN SINKHOLES; AND NO EQUIPMENT WILL ENTER SINKHOLES OR KARST FEATURES.
35. NO EQUIPMENT OR MECHANIZED CLEARING OF LAND ALLOWED IN WETLANDS FOR THE RIGHT-OF-WAY OR CONSTRUCTION OF ACCESS ROADS.

ATTENTION:

TO ENSURE ALL PERMITS AND APPROVALS HAVE BEEN OBTAINED PRIOR TO CONSTRUCTION, ANY PROJECT ACTIVITIES SUCH AS THOSE SHOWN BELOW MUST BE APPROVED IN WRITING (OR EMAIL) BY THE PROJECT MANAGER PRIOR TO BEGINNING THE ACTIVITY.

1. PRE-CONSTRUCTION ACTIVITIES
   ~ CORE BORING, TESTING AND STUDIES
   ~ ANY TREE CLEARING FOR PROJECTS REQUIRING NEW RIGHT OF WAY
2. GENERAL CONSTRUCTION ACTIVITIES
   ~ GRADING
   ~ STUMP REMOVAL OR GRINDING
   ~ TOPSOIL REMOVAL OR SPREADING OF SPOILS
   ~ PLACING OR SPREADING GRAVEL (UNLESS GRADING IS NOT REQUIRED)
   ~ CONSTRUCTION OF A LAY DOWN YARD
   ~ A CHANGE IN VEGETATION COVER
3. ACCESS ROADS
   ~ INSTALLATION OF NEW ROADS
   ~ MODIFICATION OF EXISTING ROADS (REPAIRS, WIDENING, MAINTENANCE, ETC)
4. RIGHT OF WAY CLEARING
   ~ ANY MECHANIZED CLEARING IN EXISTING RIGHT OF WAY
   ~ ANY CLEARING OF DEAD/DYING TREES, OR TREES WITH LOOSE OR EXFOLIATING BARK
5. ANY WORK IN OR NEAR (WITHIN 75 FEET) STREAMS, WETLAND, WATER BODIES, FLOOD PLAINS
   ~ CULVERT INSTALLATION
   ~ RIP RAP INSTALLATION
   ~ FORD CROSSINGS AND BANK RESTORATION
6. FACILITY MODIFICATIONS
   ~ CHANGES TO TRANSMISSION LINE STRUCTURES OR CONDUCTORS (INCLUDES REPLACEMENT, RELOCATION, ETC.), STATION EXPANSIONS OR ANY WORK OUTSIDE THE CURRENTLY FENCED, GRAVELED AREA

REFERENCE DRAWING:

E-1220 COVER SHEET
*E-1221 GENERAL NOTES (WITH MINIMUM STANDARDS)
E-1222 EROSION AND SEDIMENT CONTROL PLAN (SOIL MAPS & DESCRIPTIONS)
E-1223 STATION LAYOUT PLAN (EXISTING CONDITIONS)
E-1224 STATION LAYOUT PLAN
E-1225 GRADING PLAN (EROSION AND SEDIMENT CONTROL PLAN)
E-1226 EROSION AND SEDIMENT CONTROL PLAN (PRE AND POST DRAINAGE AREAS)
E-1227 EROSION AND SEDIMENT CONTROL DETAILS

CITY OF HILLIARD
GENERAL NOTES FOR EROSION CONTROL

SITE DATA

OWNER/DEVELOPER:	AMERICAN ELECTRIC POWER COMPANY DENISE BINFORD (SEE COVER SHEET FOR CONTACT INFORMATION)
PLAN DESIGNER:	EARTH ENVIRONMENTAL AND CIVIL, INC. BRANDON SCOTT, PE (SEE COVER SHEET FOR CONTACT INFORMATION)
DEVELOPMENT TYPE:	COMMERCIAL/INDUSTRIAL
SITE ACREAGE:	103.19 (PERMIT NO: 4GC08128*AG)
DISTURBED ACREAGE:	4.00 ACRES
SITE VEGETATION:	GRASSED
ADJACENT AREAS:	MIXED RESIDENTIAL AND FARMLAND
RECEIVING WATERS:	HAYDEN RUN
STORM WATER MANAGEMENT:	THIS PROJECT LIES WITHIN THE SWPPP PROJECT (PERMIT NO: 4GC08128*AG) AND ALL PERMANENT POST-CONSTRUCTION BEST MANAGEMENT PRACTICES (BMPS) HAVE BEEN IMPLEMENTED UNDER PERMIT (PERMIT NO: 4GC08128*AG). THEREFORE, THIS PROJECT DOES NOT WARRANT THE NEED FOR ADDITIONAL POST-CONSTRUCTION BEST MANAGEMENT PRACTICES (BMPS).
STORM WATER QUALITY:	SEE ABOVE

A COPY OF THE SWP3, THE NPDES PERMIT & THE OHIO EPA NOI MUST BE KEPT ON SITE AND CLEARLY DISPLAYED AT ALL TIMES.

SEQUENCE OF CONSTRUCTION:

SEE PLAN SHEET E-1225 FOR DETAILED CONSTRUCTION SEQUENCE

MAINTENANCE NOTES

THE OWNER'S REPRESENTATIVE WILL INSPECT ALL EROSION AND SEDIMENTATION CONTROL MEASURES WEEKLY AND WITHIN 24 HOURS AFTER EACH RAINFALL EVENT TO ASSURE THAT THE MEASURES ARE FUNCTIONING PROPERLY. THE OWNER/CONTRACTOR SHALL KEEP INSPECTION REPORTS, COPIES OF WHICH SHALL BE PROVIDED TO THE CITY OF HILLIARD OR OHIO EPA UPON REQUEST.

THE OWNER/DEVELOPER MUST MAINTAIN A DOCUMENT SIGNED BY ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED IN THE SWP3 IMPLEMENTATION. THE DOCUMENT MUST CERTIFY THAT THE CONTRACTOR(S) HAS READ AND UNDERSTANDS THE SWP3. THE OWNER/DEVELOPER IS TO PROVIDE THE CITY OF HILLIARD WITH A COPY OF THIS DOCUMENT.

CONSTRUCTION ROAD/CONSTRUCTION ENTRANCE:

BOTH TEMPORARY AND PERMANENT ROADS AND PARKING AREAS MAY REQUIRE PERIODIC TOP DRESSING WITH NEW GRAVEL. SEEDED AREAS ADJACENT TO THE ROADS AND PARKING AREAS SHOULD BE CHECKED PERIODICALLY TO ENSURE THAT A VIGOROUS STAND OF VEGETATION IS MAINTAINED. ROADSIDE DITCHES AND OTHER DRAINAGE STRUCTURES SHOULD BE CHECKED REGULARLY TO ENSURE THAT THEY DO NOT BECOME CLOGGED WITH SILT OR OTHER DEBRIS.

FILTER FABRIC FENCE:

FILTER FABRIC FENCES AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.

SEDIMENT THAT IS COLLECTED WILL BE DISTRIBUTED ON THE PROTECTED PORTION OF THE SITE AND STABILIZED. ALL STOCKPILES OF EARTH AND TOPSOIL WILL BE PROTECTED WITH TEMPORARY SEEDING OR OTHER MEANS TO PREVENT EROSION.

SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER IS STILL NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.

SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF (1/2) THE HEIGHT OF THE BARRIER.

ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDED.

INLET PROTECTION:

ALL STORM SEWER INLETS SHALL BE PROTECTED BY SEDIMENT TRAPS (INLET PROTECTION), WHICH WILL BE MAINTAINED AND MODIFIED AS REQUIRED AS CONSTRUCTION PROGRESSES.

THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAINFALL AND REPAIRS MADE AS NEEDED.

SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF (1/2) THE DESIGN OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA IN SUCH A MANNER THAT IT WILL NOT ERODE.

ANY SEDIMENT BLOCKING DRAINAGE AT INLETS THAT CREATES STANDING WATER ON ROADWAYS AND/OR DRIVEWAYS SHALL BE REMOVED IMMEDIATELY.

INLET PROTECTION STRUCTURES SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

GENERAL LAND CONSERVATION NOTES

ALL STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE PLACED PRIOR TO OR AS THE FIRST STEP IN GRADING FOR ALL SITES.

PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED ACCORDING TO THE FOLLOWING OHIO EPA CRITERIA:

- PERMANENT STABILIZATION
  - O AREAS THAT WILL BE DORMANT FOR MORE THAN A YEAR. WITHIN 7 DAYS OF THE MOST RECENT DISTURBANCE.
  - O AREAS WITHIN 50 FT OF A STREAM AND AT FINAL GRADE. WITHIN 2 DAYS OF REACHING FINAL GRADE.
  - O ANY OTHER AREAS AT FINAL GRADE. WITHIN 2 DAYS OF REACHING FINAL GRADE.
- TEMPORARY STABILIZATION
  - O AREAS WITHIN 50 FT OF A STREAM AND NOT AT FINAL GRADE. WITH 2 DAYS OF THE MOST RECENT DISTURBANCE IF THE AREA WILL REMAIN IDLE FOR MORE THAN 14 DAYS.
  - O ANY DISTURBED AREAS THAT WILL BE DORMANT FOR MORE THAN 14 DAYS BUT LESS THAN 1 YEAR, AND NOT WITHIN 50 FT OF A STREAM. WITHIN 7 DAYS OF THE MOST RECENT DISTURBANCE WITHIN THE AREA.
  - O DISTURBED AREAS THAT WILL BE IDLE OVER WINTER SHALL BE STABILIZED PRIOR TO THE ONSET OF WINTER WEATHER.

PERMANENT SEEDING SHALL BE APPLIED AT THE RATE OF 8 POUNDS (LB.) PER 1,000 SQUARE FEET (SF) AND CONSIST OF THE FOLLOWING SEED MIXTURE:

40% TITIAN TALL FESCUE
40% TARHEEL TALL FESCUE
10% DENIM KENTUCKY BLUEGRASS
10% RENAISSANCE PERENNIAL RYE GRASS

FERTILIZER FOR PERMANENT SEEDING SHALL BE A COMMERCIAL-GRADE COMPLETE FERTILIZER OF NEUTRAL CHARACTER, CONSISTING OF FAST, AND SLOW RELEASE NITROGEN, 50% DERIVED FROM NATURAL ORGANIC SOURCES OF UREA-FORM, PHOSPHOROUS, AND POTASSIUM AND SHALL MEET THE FOLLOWING COMPOSITION:
13% NITROGEN, 26% PHOSPHOROUS, AND 12% POTASSIUM BY WEIGHT

FERTILIZER SHALL BE APPLIED AT THE RATE OF 6 POUNDS (LB.) PER 1,000 SQUARE FEET (SF).

ALL STORM SEWER, SANITARY SEWER, WATER MAIN AND SERVICE TRENCHES SHALL BE SEEDED AND MULCHED WITHIN 14 DAYS AFTER BACKFILL IF INSTALLATION IS THROUGH STABILIZED AREAS. NO MORE THAN 250 FEET OF TRENCH WILL BE OPEN AT ANY ONE TIME.

ELECTRICAL POWER, TELEPHONE, CABLE TELEVISION AND GAS SUPPLY TRENCHES SHALL BE COMPACTED, SEEDED AND MULCHED WITHIN 14 DAYS AFTER BACKFILL IF INSTALLATION IS THROUGH STABILIZED AREAS.

ALL TEMPORARY DIVERSIONS, SEDIMENT BASIN EMBANKMENTS AND EARTH STOCKPILES SHALL BE SEEDED AND MULCHED FOR TEMPORARY VEGETATIVE COVER WITHIN 7 DAYS AFTER GRADING.

ANY DISTURBED AREA NOT STABILIZED WITH SEEDING, SODDING, PAVING OR BUILT UPON BY NOVEMBER 1ST, OR AREAS DISTURBED AFTER THAT DATE, SHALL BE MULCHED IMMEDIATELY WITH HYDRO MULCH AT THE RATE OF ONE (1) TON PER ACRE AND OVER-SEEDED BY APRIL 15TH.

AT THE COMPLETION OF CONSTRUCTION, ALL DENUDED AREAS SHALL BE STABILIZED AND TEMPORARY SEDIMENTATION & EROSION CONTROLS SHALL BE REMOVED ONCE THE SITE HAS BEEN STABILIZED.

STATE OF OHIO — JAMES NELSON LOVELL, JR. — 75897 — REGISTERED — PROFESSIONAL ENGINEER
9/2/2022

NO	DATE	REVISION DESCRIPTION	APPR	DR	ENG	CK	ISSUE#

OLD DWG : | STD DWG :

OHIO POWER COMPANY
CMH91 - STATION
HILLIARD — OHIO
138kV
GENERAL NOTES
WITH MINIMUM STANDARDS

SCALE: NONE	DR: MMW/HC	ENG: DBF	CH: BKS
AMERICAN ELECTRIC POWER — BOUNDLESS ENERGY	WO#: T10394332	APPD: BJB	DATE: 9/2/2022
	1 RIVERSIDE PLAZA COLUMBUS, OH 43215	DWG. NO. E-1221	REV 0

STATION ENGINEERING   PLOTTED BY $USER$ ON DD-MMM-YYYY AT HH:MM   Arch D (24 X 36)

CADFILEPATH

Hydrologic Soil Group—Franklin County, Ohio
(AOI)

Hydrologic Soil Group—Franklin County, Ohio
(AOI)

MAP LEGEND

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

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

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 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Franklin County, Ohio
Survey Area Data: Version 20, Sep 7, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 4, 2014—Aug 27, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Description (Brief, Generated)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, provide information on the composition of map units and properties of their components.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

The Map Unit Description (Brief, Generated) report displays a generated description of the major soils that occur in a map unit. Descriptions of non-soil (miscellaneous areas) and minor map unit components are not included. This description is generated from the underlying soil attribute data.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description (Brief, Generated)

Franklin County, Ohio

Map Unit: CrA—Crosby silt loam, Southern Ohio Till Plain, 0 to 2 percent slopes

Component: Crosby (90%)

The Crosby component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on Wisconsin ground moraines, till plains. The parent material consists of silty material or loess over loamy till. Depth to a root restrictive layer, densic material, is 24 to 40 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March. Organic matter content in the surface horizon is about 3 percent. This component is in the F111AY008IN Wet Till Ridge ecological site. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 35 percent.

Component: Kokomo, drained (5%)

Generated brief soil descriptions are created for major soil components. The Kokomo, drained soil is a minor component.

Component: Celina, eroded (4%)

Generated brief soil descriptions are created for major soil components. The Celina, eroded soil is a minor component.

Component: Miamian, eroded (1%)

Generated brief soil descriptions are created for major soil components. The Miamian, eroded soil is a minor component.

Map Unit: Ko—Kokomo silty clay loam, 0 to 2 percent slopes

Component: Kokomo (90%)

The Kokomo component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions, till plains. The parent material consists of loamy glaciofluvial deposits derived from sedimentary rock over loamy till derived from limestone and dolomite. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 5 percent. This component is in the F111AY007IN Till Depression Flatwood ecological site. Nonirrigated land capability classification is 2w. This soil meets hydric criteria.

Component: Celina (5%)

Generated brief soil descriptions are created for major soil components. The Celina soil is a minor component.

Component: Crosby (5%)

Generated brief soil descriptions are created for major soil components. The Crosby soil is a minor component.

Map Unit: LeB—Lewisburg-Crosby complex, 2 to 6 percent slopes

Component: Lewisburg (45%)

The Lewisburg component makes up 45 percent of the map unit. Slopes are 2 to 6 percent. This component is on till plains. The parent material consists of loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 36 inches during January, February, March, April. Organic matter content in the surface horizon is about 2 percent. This component is in the F111AY009IN Till Ridge ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 39 percent.

Component: Crosby (40%)

The Crosby component makes up 40 percent of the map unit. Slopes are 2 to 6 percent. This component is on till plains. The parent material consists of loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during January, February, March, April. Organic matter content in the surface horizon is about 2 percent. This component is in the F111AY008IN Wet Till Ridge ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 25 percent.

Component: Kokomo (15%)

Generated brief soil descriptions are created for major soil components. The Kokomo soil is a minor component.

Component: eroded areas with a clay loam surface layer (%)

Generated brief soil descriptions are created for major soil components. The eroded areas with a clay loam surface layer soil is a minor component.

Data Source Information

Soil Survey Area: Franklin County, Ohio
Survey Area Data: Version 20, Sep 7, 2021

REFERENCE DRAWING:

E-1220 COVER SHEET
E-1221 GENERAL NOTES (WITH MINIMUM STANDARDS)
*E-1222 EROSION AND SEDIMENT CONTROL PLAN (SOIL MAPS & DESCRIPTIONS)
E-1223 STATION LAYOUT PLAN (EXISTING CONDITIONS)
E-1224 STATION LAYOUT PLAN
E-1225 GRADING PLAN (EROSION AND SEDIMENT CONTROL PLAN)
E-1226 EROSION AND SEDIMENT CONTROL PLAN (PRE AND POST DRAINAGE AREAS)
E-1227 EROSION AND SEDIMENT CONTROL DETAILS

STATE OF OHIO
JAMES NELSON LOVELL, JR.
75897
REGISTERED
PROFESSIONAL ENGINEER
9/2/2022

NOTIFY UTILITY COMPANIES BEFORE YOU DIG

THE LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE BASED ON ABOVE-GROUND STRUCTURES. LOCATIONS OF UNDERGROUND UTILITIES/STRUCTURES MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES.
IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ACTUAL LOCATION AND DEPTH OF ALL EXISTING UTILITIES. THE OWNER AND THE SURVEYOR SHALL NOT BE RESPONSIBLE FOR ANY OMISSION OR VARIATION FROM THE LOCATION SHOWN. THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 811 TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.

OLD DWG :	STD DWG :

OHIO POWER COMPANY
CMH91 - STATION
HILLIARD OHIO
138kV

EROSION AND SEDIMENT CONTROL PLAN
SOIL MAPS & DESCRIPTIONS

SCALE: NONE	DR: MMW/HC	ENG: DBF	CH: BKS
AMERICAN ELECTRIC POWER	WO#: T10394332	APPD: BJB	DATE: 9/2/2022
1 RIVERSIDE PLAZA COLUMBUS, OH 43215	DWG. NO. E-1222	REV 0	

NO	DATE	REVISION DESCRIPTION	APPR	DR	ENG	CK	ISSUE#

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CADFILEPATH

STATION ENGINEERING
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DWG. NO. E-1223

CONSTRUCTION NOTES:

1. CONTRACTOR TO MAKE ARRANGEMENTS WITH AMERICAN ELECTRIC POWER TO SHUT OFF ELECTRICAL POWER TO ALL AFFECTED AREAS PRIOR TO PERFORMING CONSTRUCTION OPERATIONS.

2. CONTRACTOR SHALL CONTACT MISS UTILITY (OR SIMILAR LOCATOR SERVICE) TO CONFIRM UTILITY LOCATIONS BEFORE BEGINNING CONSTRUCTION, CONTRACTOR SHALL VERIFY LOCATIONS AND / OR PRESENCE OF EXISTING UTILITIES.

3. VERIFY THAT ELECTRICAL CONNECTIONS AND ANY OTHER UTILITIES HAVE BEEN DISCONNECTED & CAPPED PROPERLY.

4. CONTRACTOR TO PROPERLY GROUND, DISCONNECT, REMOVE, SEAL OR CAP ELECTRICAL EQUIPMENT, WIRING, ETC. BEFORE THE REMOVAL OF STRUCTURAL COMPONENTS.

5. AMERICAN ELECTRIC POWER PERSONNEL SHALL VALIDATE CONTRACTOR'S ELECTRICAL OPERATIONS FOR SAFETY.

6. CONTRACTOR SHALL CONDUCT OPERATIONS IN A MANNER AS TO PREVENT INJURY TO PEOPLE AND DAMAGE TO EXISTING STRUCTURES & FACILITIES DESIGNATED TO REMAIN.

7. ERECT TEMPORARY PROTECTION, AS REQUIRED BY OSHA STANDARDS, LATEST EDITION TO PROTECT SURROUNDING AREAS.

8. ERECT & MAINTAIN DUST CONTROL MEASURES DURING OPERATIONS, SUCH AS WATER MIST, TEMPORARY ENCLOSURES, AND OTHER SUITABLE MATERIALS TO PREVENT THE SPREAD OF DUST & DIRT PARTICLES.

9. PROVIDE TEMPORARY WEATHER PROTECTION, ON EXTERIOR SURFACES OF NEW CONSTRUCTION TO ENSURE NO WATER LEAKAGE OR DAMAGE OCCURS.

10. COVER & PROTECT ALL CONDUIT, WIRING & EQUIPMENT DESIGNATED TO REMAIN.

11. REMOVE STRUCTURAL FRAMING MEMBERS & LOWER TO GROUND BY METHOD SUITABLE TO AVOID FREE FALL AND TO PREVENT GROUND IMPACT OR DUST GENERATION.

12. DO NOT USE CUTTING TORCHES FOR STRUCTURAL DEMOLITION WITHOUT WRITTEN AUTHORIZATION FROM AMERICAN ELECTRIC POWER.

13. DEMOLISH AND/OR REMOVE DRILLED CONCRETE PIER FOUNDATIONS IN SECTION LENGTHS NECESSARY TO AVOID CONFLICT WITH OVERHEAD OR ADJACENT STRUCTURES, WIRES, ETC.

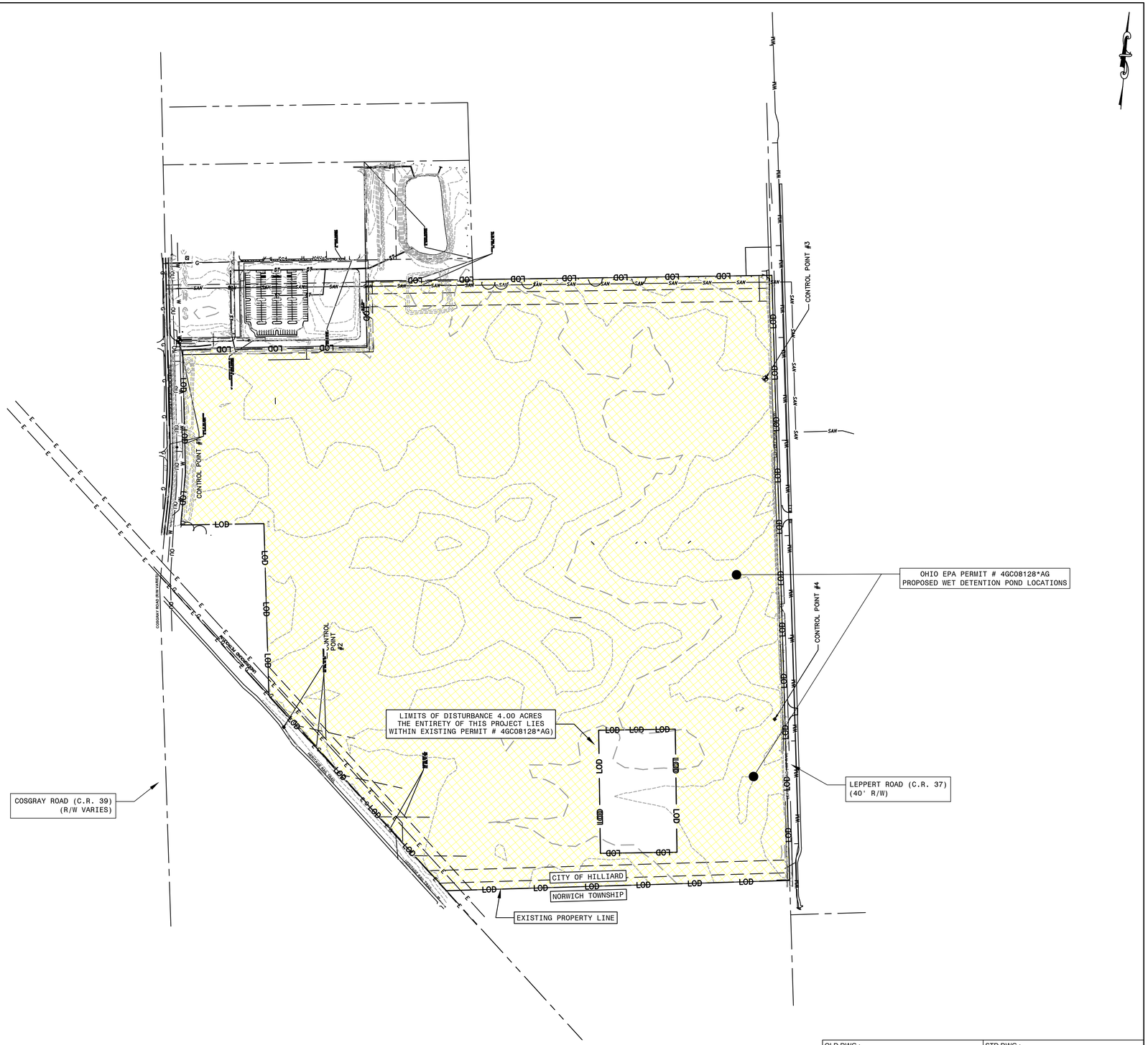
14. BREAK UP & REMOVE CONCRETE SLABS ON GRADE IN PIECES SUITABLE FOR DUMP TRUCK LOADING & DISPOSAL.

15. DISPOSE OF MATERIALS PROPERLY. ON-SITE STORAGE OR SALE OF REMOVED ITEMS IS PROHIBITED.

16. ALL BACKFILL MATERIAL FOR VOIDED AREAS SHALL CONFORM TO THE LATEST EDITION OF THE AMERICAN ELECTRIC POWER DOCUMENT NO. SS-160102, "TECHNICAL SPECIFICATION FOR SUBSTATION AND SWITCHING STATION CONSTRUCTION."

DENOTES AREA OF DISTURBANCE CURRENTLY PERMITTED BY OHIO EPA FACILITY PERMIT NUMBER 4GC08128*AG.

4.00 ACRES OF THIS PROJECT'S LIMITS OF DISTURBANCE LIES WITHIN THE EXISTING OHIO EPA FACILITY PERMIT NUMBER 4GC08128*AG



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E-1227	EROSION AND SEDIMENT CONTROL DETAILS

IF THIS DRAWING IS A REDUCTION GRAPHIC SCALE MUST BE USED

SCALE: 1" = 200'

200' 0 200'

STATE OF OHIO — JAMES NELSON LOVELL, JR. — 75897 — REGISTERED PROFESSIONAL ENGINEER
9/2/2022

NO	DATE	REVISION DESCRIPTION	APPR	DR	ENG	CK	ISSUE#

OLD DWG : | STD DWG :

OHIO POWER COMPANY

CMH91 - STATION

HILLIARD — OHIO

138kV

STATION LAYOUT PLAN

EXISTING CONDITIONS

SCALE: 1" = 200'	DR: MMW/HC	ENG: DBF	CH: BKS
AMERICAN ELECTRIC POWER — BOUNDLESS ENERGY™	WO#: T10394332	APPD: BJB	DATE: 9/2/2022
1 RIVERSIDE PLAZA COLUMBUS, OH 43215	DWG. NO. E-1223		REV 0

CADFILEPATH

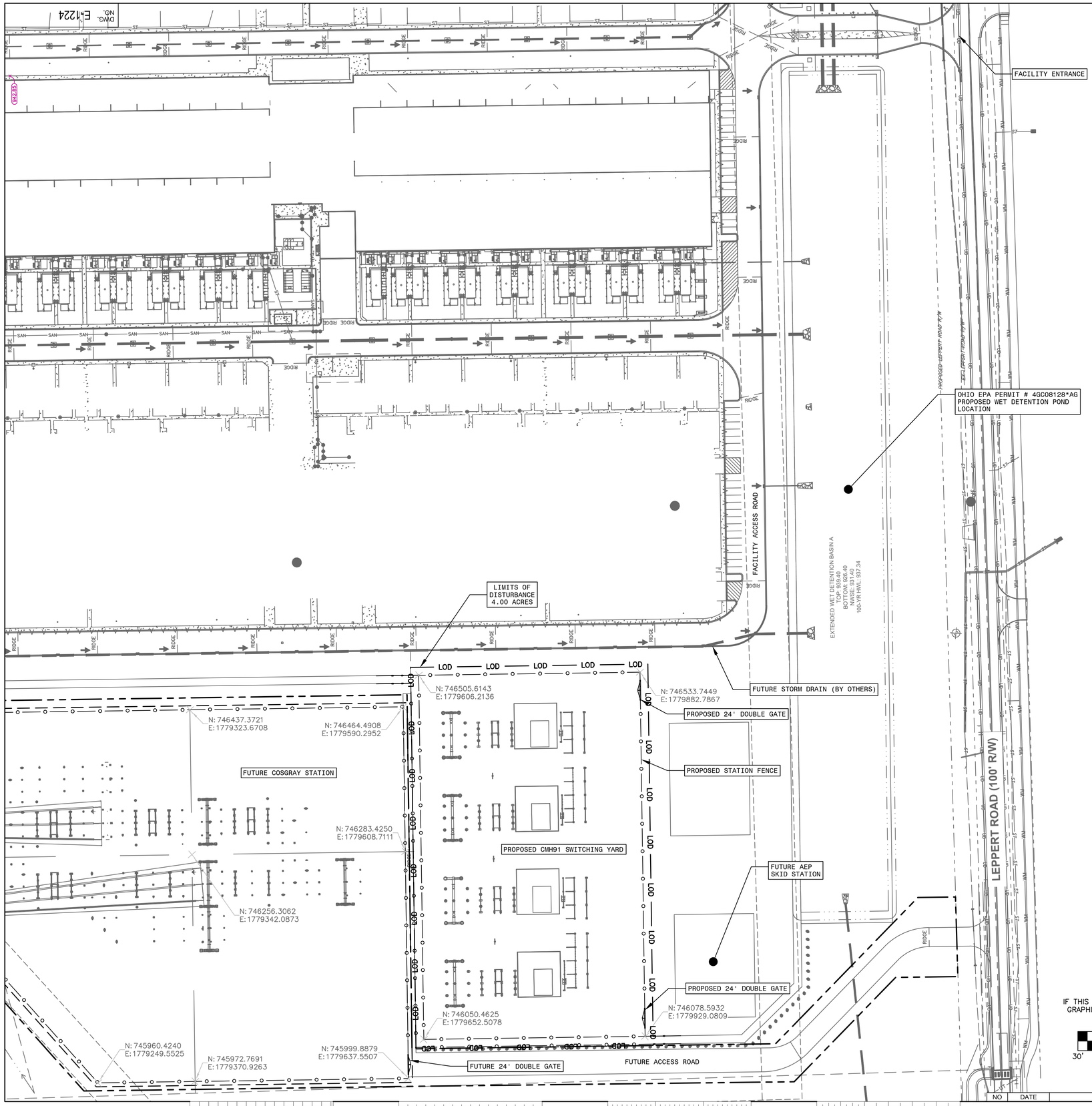
CM 1 2 3 4 5 6 7 | 3/16 INCH 4 8 12 16 | TENTHS 10 20 30 | INCHES 1 2 3

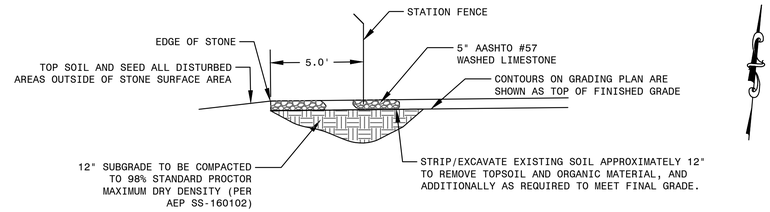
PLOTTED BY $USERS ON DD-MMM-YYYY AT HH:MM

STATION ENGINEERING

Arch D (24 X 36)

DWG. NO. E-1224





TYPICAL STATION YARD DETAIL
N.T.S.

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SCALE: 1" = 30'
30' 0 30'

STATE OF OHIO
JAMES NELSON LOVELL, JR.
75897
REGISTERED
PROFESSIONAL ENGINEER
9/2/2022

NO	DATE	REVISION DESCRIPTION	APPR	DR	ENG	CK	ISSUE#

OLD DWG :
STD DWG :

OHIO POWER COMPANY
CMH91 - STATION
HILLIARD OHIO
138kV
STATION LAYOUT PLAN

SCALE: 1" = 60'	DR: MMW/HC	ENG: DBF	CH: BKS
AMERICAN ELECTRIC POWER BOUNDLESS ENERGY	WO#: T10394332	APPD: BJB	DATE: 9/2/2022
1 RIVERSIDE PLAZA COLUMBUS, OH 43215	DWG. NO. E-1224	REV	0

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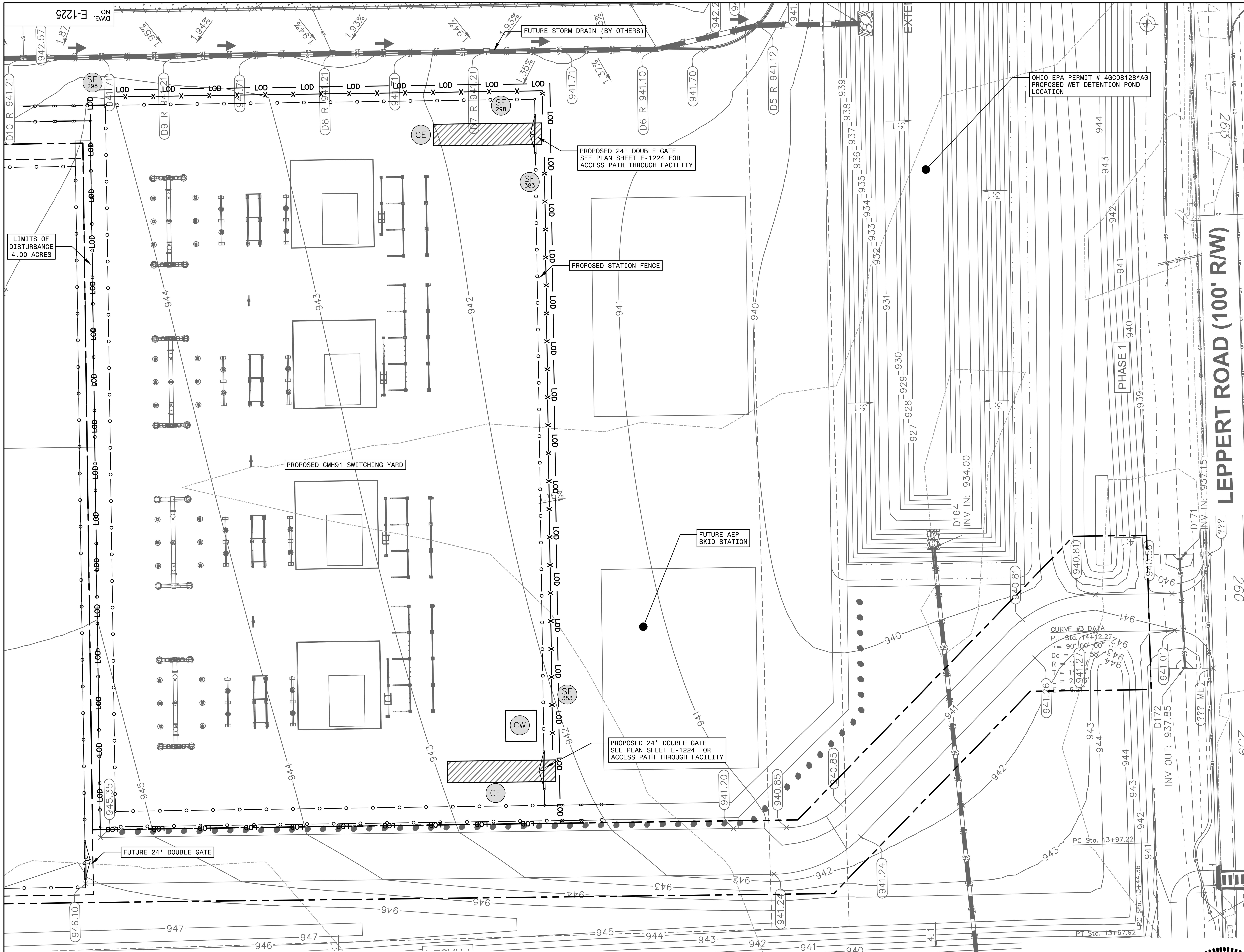
Arch D (24 X 36)

CADFILEPATH



LEGEND

EROSION AND SEDIMENT CONTROL

3.02	TEMPORARY STONE CONSTRUCTION ENTRANCE	CE	
3.05	SILT FENCE	SF LF	—x—
	CONCRETE WASH	CW	

*NOTE:
- FUELS, OILS, CHEMICALS AND OTHER BULK MATERIAL SHALL NOT BE STORED AT THE SITE.
- SOIL DISTURBED DURING WINTER MONTHS WHEN GRASS CANNOT BE PLANTED SHALL BE TEMPORARILY STABILIZED WITH MULCH.

SEQUENCE OF CONSTRUCTION:

1. THE OWNER AND REGISTERED LAND DISTURBER (RLD) WILL CONTACT THE OHIO POWER COMPANY (OPCO) WATER AND ENVIRONMENTAL RESOURCE SERVICE (WERS) DEPARTMENT, AMY TOOHEY VIA PHONE AT 614-565-1480, OR EMAIL AT AJTOOHEY@AEP.COM AND (OPCO) PROJECT MANAGER DENISE BINFORD (PHONE: 614-202-0579 / EMAIL: DCBINFORD@AEP.COM) WILL SCHEDULE THE PRE-CONSTRUCTION CONFERENCE TWO WEEKS PRIOR TO THE DESIRED DATE.
2. CONTRACTOR SHALL INSTALL A JOB SITE WORK BOX AND POST THE OEPA CONSTRUCTION GENERAL PERMIT AND EROSION AND SEDIMENT CONTROL PERMIT SO THAT IT IS VISIBLE AT THE SITE ENTRANCE, A COPY OF THE STORMWATER MANAGMENT POLLUTION PREVENTION PLAN (SWPPP) AND APPROVED SET OF CONSTRUCTION PLANS SHALL BE PLACED INSIDE THE JOB SITE WORK BOX. THE SWPPP AND APPROVED CONSTRUCTION PLANS SHALL REMAIN ONSITE THROUGH CONSTRUCTION WITH A LOG OF THE MAJOR GRADING ACTIVITIES, CONSTRUCTION MILESTONES, AND RAIN EVENTS BEING MAINTAINED THROUGH CONSTRUCTION COMPLETION.
3. CONTRACTOR SHALL INSTALL A TEMPORARY STONE CONSTRUCTION ENTRANCE, SILT FENCE, AND CONCRETE WASHOUT. THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS OF CLEANING MUD FROM TRUCKS AND/OR OTHER EQUIPMENT PRIOR TO ENTERING PUBLIC STREETS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT PUBLIC STREETS ARE MAINTAINED IN A CLEAN, MUD AND DUST FREE CONDITION AT ALL TIMES.

STANDARDS FOR FILL PLACEMENT/COMPACTION:

1. ALL UNSUITABLE MATERIAL SHALL BE REMOVED FROM THE CONSTRUCTION LIMITS OF ALL ROADWAYS AND PADS BEFORE PLACING EMBANKMENT MATERIAL. ALL PERMANENT FILL SHOULD CONSIST OF CLEAN SOIL FILL, COMPACTED 6" TO 8" LIFTS TO A MINIMUM COMPACTIVE EFFORT OF 98% OF STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D-698). MOISTURE CONTENT SHOULD BE MAINTAINED WITHIN 2 TO 3 PERCENTAGE POINTS OF OPTIMUM MOISTURE CONTENT TO FACILITATE COMPACTION. A PORTABLE COMPACTOR, SUCH AS A JUMPING JACK, PLATE TAMPER OR TRENCH ROLLER, SHOULD BE USED WITHIN CLOSE PROXIMITY OF THE PIPES TO ENSURE PROPER COMPACTION, WHEREAS HEAVY CONSTRUCTION EQUIPMENT CAN BE USED FOR THE MASS FILL. EACH LIFT OF FILL SHOULD BE TESTED IN ORDER TO CONFIRM THAT THE RECOMMENDED DEGREE OF COMPACTION IS ACHIEVED.
2. NEW FILL SHOULD BE BENCHED WITH A MINIMUM WIDTH OF 15 FEET PARALLEL TO THE TOE OF THE EMBANKMENT AND CUT INTO THE EXISTING SLOPE AS THE FILL PLACEMENT PROCEEDS. THE PURPOSE OF THE BENCHING IS TO CREATE POSITIVE SOIL BOND BETWEEN THE NATURAL SOILS AND THE NEW FILL. TOPSOIL, TREE STUMPS AND ROOT MAT SHOULD BE REMOVED PRIOR TO FILL PLACEMENT. EACH SUCCESSIVE LIFT OF FILL SHOULD BE PLACED HORIZONTALLY AND PARALLEL TO THE SLOPE FACE.
3. COMPACTION OF THE OUTER FACE OF THE SLOPES USING TRACKED EQUIPMENT OR PORTABLE COMPACTORS IS CRITICAL TO MAINTAINING A STABLE SLOPE AND TO MINIMIZE SLOUGHING. IF POSSIBLE, THE SLOPES SHOULD BE OVER FILLED AT LEAST 2 FEET BEYOND THE LIMITS OF THE FILL SLOPE, COMPACTED AND CLIPPED(CUT) WITH A TRACK DOZER TO THE DESIGN GRADES TO ENSURE THAT THE OUTER EDGE OF THE SLOPE IS PROPERLY COMPACTED. EROSION PROTECTION, SUCH AS EROSION MATTING, CAN HELP TO ESTABLISH GRASS AND OTHER VEGETATIVE GROWTH.
4. ALL FILL USED FOR EARTHEN EMBANKMENTS (POND BERMS) SHALL BE CONSTRUCTED USING CLEAN SOIL, FREE OF ROOTS, WOODY VEGETATION, STUMPS, SOD, STONES GREATER THAN 6 INCHES, ROCKS, OR OTHER PERISHABLE OR OBJECTIONABLE MATERIAL. FILL SHOULD CONFORM TO THE UNIFIED SOIL CLASSIFICATION GC, SC, OR CL. CONSIDERATION MAY BE GIVEN TO THE USE OF OTHER MATERIAL IN THE EMBANKMENT BASED ON THE RECOMMENDATIONS OF A GEOTECHNICAL ENGINEER SUPERVISING THE DESIGN AND CONSIDERATION. COMPACTION SHALL MEET THE REQUIREMENTS LISTED ABOVE IN NO. 1 OF THIS SECTION. A CUT-OFF TRENCH SHALL BE EXCAVATED ALONG THE CENTERLINE OF THE EARTH FILL EMBANKMENT (DAM) TO PREVENT EXCESSIVE SEEPAGE AND POSSIBLE INTERNAL EROSION. THE TRENCH MUST EXTEND AT LEAST 1 FOOT INTO A STABLE, IMPERVIOUS LAYER OF SOIL AND HAVE A MINIMUM DEPTH OF 2 FEET. THE CUT-OFF TRENCH SHALL EXTEND UP BOTH ABUTMENTS TO THE RISER CREST ELEVATION. THE MINIMUM WIDTH SHALL BE 4 FEET, BUT ALSO MUST BE WIDE ENOUGH TO PERMIT OPERATION OF COMPACTION EQUIPMENT. THE SIDE SLOPES SHALL BE NO STEEPER THAN 1:1. COMPACTION REQUIREMENTS SHALL BE THE SAME AS THOSE FOR THE EMBANKMENT. THE TRENCH SHALL BE DRAINED DURING THE BACKFILLING/COMPACTING OPERATIONS.

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30' 0 30'

STATE OF OHIO
JAMES NELSON LOVELL, JR.
75897
REGISTERED PROFESSIONAL ENGINEER
9/2/2022

NO	DATE	REVISION DESCRIPTION	APPR	DR	ENG	CK	ISSUE#

OLD DWG : | STD DWG :

OHIO POWER COMPANY

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GRADING PLAN

EROSION AND SEDIMENT CONTROL PLAN

SCALE: 1" = 30'	DR: MMW/HC	ENG: DBF	CH: BKS
AMERICAN ELECTRIC POWER	WO#: T10394332	APPD: BJB	DATE: 9/2/2022
	1 RIVERSIDE PLAZA COLUMBUS, OH 43215	DWG. NO. E-1225	REV 0

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Arch D (24 X 36)

CADFILEPATH

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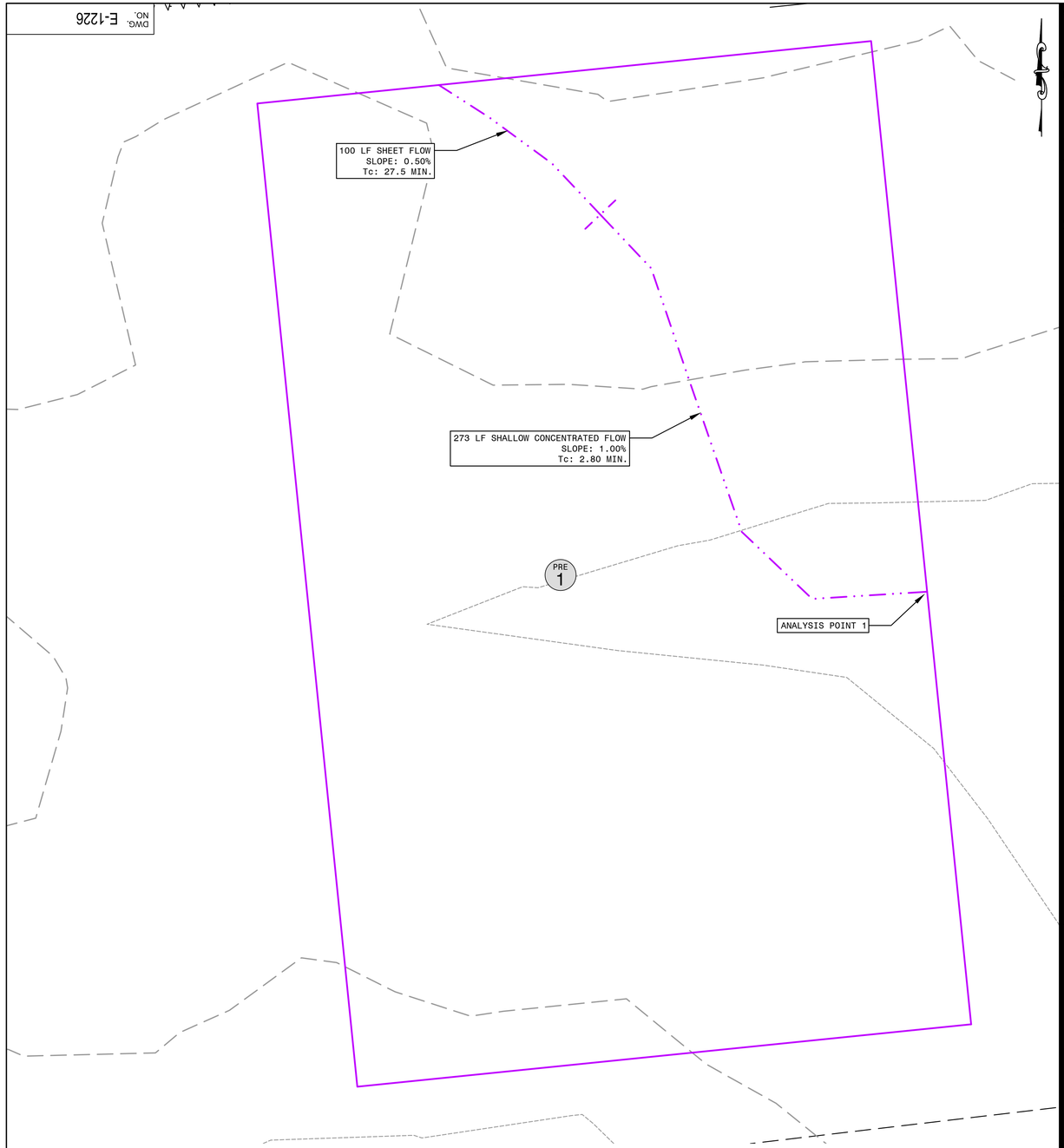

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SCALE: 1" = 30'

30' 0 30'

PRE DA 1				
LAND COVER	AREA (SF)	AREA (AC)	SOIL TYPE	CN
GRASS	142441.77	3.27	D	80
TOTAL	142441.77	3.27		80

POST DA 1				
LAND COVER	AREA (SF)	AREA (AC)	SOIL TYPE	CN
GRAVEL	142441.77	3.27	D	91
TOTAL	142441.77	3.27		91

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STATE OF OHIO
JAMES NELSON LOVELL, JR
75897
REGISTERED
PROFESSIONAL ENGINEER
9/1/2022

NO	DATE	REVISION DESCRIPTION	APPR	DR	ENG	CK	ISSUE#

OLD DWG : STD DWG :

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EROSION AND SEDIMENT CONTROL PLAN

PRE AND POST DRAINAGE AREAS

SCALE: 1" = 30'	DR: DBF	ENG: DBF	CH: BKS
AMERICAN ELECTRIC POWER "BOUNDLESS ENERGY"	WO#: T10394332	APPD: BJB	DATE: 9/2/2022
1 RIVERSIDE PLAZA COLUMBUS, OH 43215	DWG. NO. E-1226	REV 0	

CADFILEPATH

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Arch D (24 X 36)

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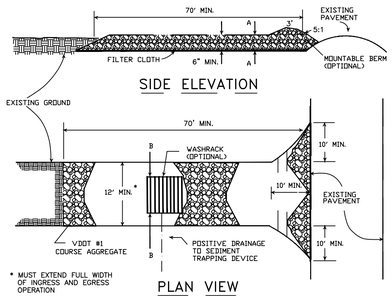
DWG. NO. E-1227

FIGURE 3.02.1

STONE CONSTRUCTION ENTRANCE

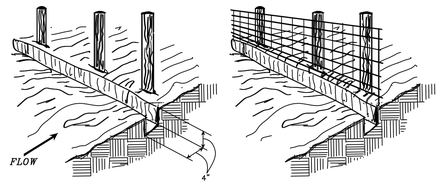


SOURCE: ADAPTED from 1983 Maryland Standards for Soil erosion and Sediment Control, and Va. DSWC

CONSTRUCTION OF A SILT FENCE (WITH WIRE SUPPORT)

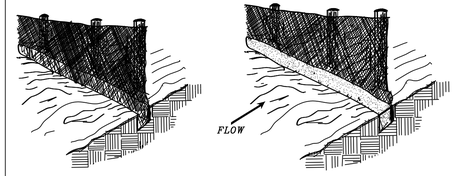
1. SET POSTS AND EXCAVATE A 4"X4" TRENCH UPSLOPE ALONG THE LINE OF POSTS.

2. STAPLE WIRE FENCING TO THE POSTS.

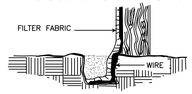


3. ATTACH THE FILTER FABRIC TO THE WIRE FENCE AND EXTEND IT INTO THE TRENCH.

4. BACKFILL AND COMPACT THE EXCAVATED SOIL.

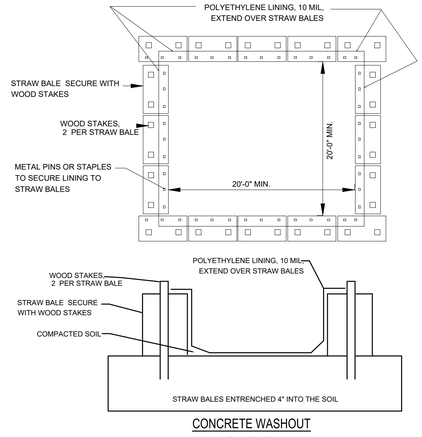


EXTENSION OF FABRIC AND WIRE INTO THE TRENCH.



SOURCE: Adapted from Installation of Straw and Fabric Filter Barriers for Sediment Control, Sherwood & Wyatt

PLATE 3.05-1

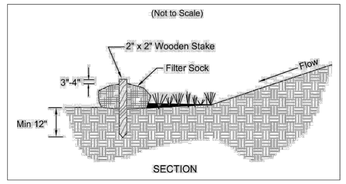


CONCRETE WASHOUT

SCALE: N.T.S.
(TEMPORARY)

Specifications
for
Filter Sock

(Not to Scale)



SECTION

1. Materials – Compost used for filter socks shall be weed, pathogen and insect free and free of any refluse, contaminants or other materials toxic to plant growth. They shall be derived from a well-decomposed source of organic matter and consist of a particles ranging from 3/8" to 2".
2. Filter Socks shall be 3 or 5 mil continuous, tubular, HDPE 3/8" knitted mesh netting material, filled with compost passing the above specifications for compost products.

INSTALLATION:

3. Filter socks will be placed on a level line across slopes, generally parallel to the base of the slope or other affected area. On slopes approaching 2:1, additional socks shall be provided at the top and as needed mid-slope.
4. Filter socks intended to be left as a permanent filter or part of the natural landscape, shall be seeded at the time of installation for establishment of permanent vegetation.
5. Filter Socks are not to be used in concentrated flow situations or in runoff channels.

MAINTENANCE:

6. Routinely inspect filter socks after each significant rain, maintaining filter socks in a functional condition at all times.
7. Remove sediments collected at the base of the filter socks when they reach 1/3 of the exposed height of the practice.
8. Where the filter sock deteriorates or fails, it will be repaired or replaced with a more effective alternative.
9. Removal – Filter socks will be dispersed on site when no longer required in such as way as to facilitate and not obstruct seedings.

Table 7.8.1 Temporary Seeding Species Selection

Seeding Dates	Species	Lb./1000 ft2	Lb/Acre
March 1 to August 15	Oats Tall Fescue Annual Ryegrass	3 1 1	128 (4 Bushel) 40 40
	Perennial Ryegrass Tall Fescue Annual Ryegrass	1 1 1	40 40 40
	Annual Ryegrass Perennial Ryegrass Creeping Red Fescue Kentucky Bluegrass	1.25 3.25 0.4 0.4	55 142 17 17
	Oats Tall Fescue Annual Ryegrass	3 1 1	128 (3 bushel) 40 40
August 16th to November	Rye Tall Fescue Annual Ryegrass	3 1 1	112 (2 bushel) 40 40
	Wheat Tall Fescue Annual Ryegrass	3 1 1	120 (2 bushel) 40 40
	Perennial Rye Tall Fescue Annual Ryegrass	1 1 1	40 40 40
	Annual Ryegrass Perennial Ryegrass Creeping Red Fescue Kentucky Bluegrass	1.25 3.25 0.4 0.4	40 40 40
November 1 to Feb. 29	Use mulch only or dormant seeding		

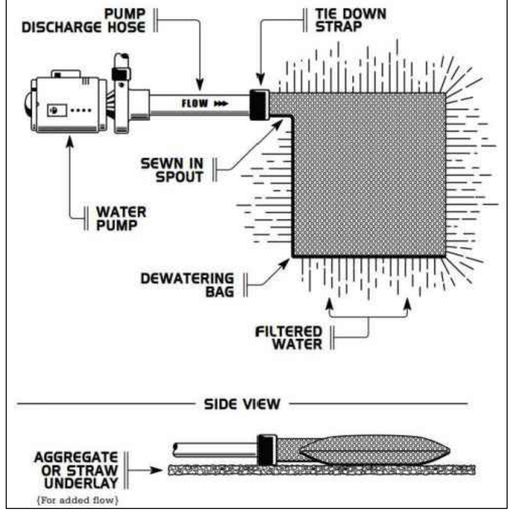
Note: Other approved species may be substituted.

Table 7.10.1Maintenance for Permanent Seedings Fertilization and Mowing

Mixture	Formula	Lbs./ Acre	Lbs./1,000 sq.ft.	Time	Mowing
Creeping Red Fescue Ryegrass Kentucky Bluegrass	10-10-10	500	12	Fall, yearly or as needed	Not closer than 3"
Tall Fescue	10-10-10	500	12		Not closer than 4"
Turf-type Fescue	10-10-10	500	12		
Crown Vetch Fescue	0-20-20	400	10	Spring, yearly following establishment and every 4-7 years thereafter	Do not mow
Flat Pea Fescue	0-20-20	400	10		Do not mow

Note: Following soil test recommendations is preferred to fertilizer rates shown above.

DANDY DEWATERING BAG™



Reducing pollutants other than sediments depends heavily on construction personnel and how they carry out their operations. To help facilitate this, plans should contain standard notes clearly stating requirements to contractors. It also may be appropriate to include requirements for specific provisions for hazardous materials storage, handling and disposal.

Requirements

1. **Educate Construction Personnel**, including subcontractors who may use or handle hazardous or toxic materials, making them aware of the following general guidelines:

Disposal and Handling of Hazardous and Other Construction Waste	
DO:	• 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	• 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. **Waste disposal containers** shall be provided for the proper collection of all waste material including construction debris, sanitary garbage, petroleum products and any hazardous materials to be 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 in accordance with ORC 3714 at an approved Ohio EPA CD&D landfill.

3. **No construction related waste materials are to be buried on-site.** By example, clean fill (bricks, wood, concrete, soil) may be utilized in a way that does not encroach upon natural wetlands, streams or riparian areas. Filling of stream side areas is Fill may not result in the contamination of waters of the state. Unless prohibited by local ordinance or zoning.

4. **Construction and Demolition Debris (CD&D) Disposal.** CD&D waste must be disposed of in accordance with ORC 3714 at an approved Ohio EPA CD&D landfill. CD&D waste is defined as all materials attached to a structure, which is being demolished (for materials containing asbestos see Item 12).

5. **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.

6. **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 aboveground tank of 660 gallons or more, accumulative aboveground storage of 1330 gallons or more, or 42,000 gallons of underground storage. Soils that have become contaminated must be disposed of accordance with Item 8 "Contaminated Soils".

7. **Concrete Wash Water/Wash Outs.** 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 on the lot away from any water conveyances.

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). Be aware that storm water run off associated with contaminated soils are not authorized under Ohio EPA's General Storm Water Permit associated with Construction Activities. In the event there are large extensive areas of contaminated soils additional measures above and beyond the conditions of Ohio EPA's General Construction Storm Water Permit will be required. Depending on the extent of contamination, additional treatment and/or collection and disposal may be required. All storm water discharges associated with the contaminated soils must be authorized under an alternate NPDES (National Pollutant Discharge Elimination System) Permit.

9. **Spill Reporting Requirements:** Spills on pavement shall be absorbed with sawdust, kitty litter or other absorbant material 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 (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.

10. **Open Burning**. No materials may be burned which contain rubber, grease, asphalt, or petroleum products such as tires, cars, autoparts, plastics or plastic coated wire. (See OAC 3745-19) Open burning is not allowed in restricted areas. Restricted areas 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 a restricted area, no open burning can take place within a 1000 feet of an inhabited building located off the property where the fire is set. Open burning is permissible in a restricted area for the following activities: heating tar, welding and acetylene torches, smudge pots and similar occupational needs, and heating for warmth or outdoor barbeques. Outside of restricted areas, open burning is permissible for landscape wastes (plant material), land-clearing wastes (plant material, with prior written permission from Ohio EPA), and agricultural wastes (material generated by crop, horticultural, or livestock production practices. This includes fence posts and scrap lumber, but not buildings).

11. **Dust Control/Suppressants.** Dust control is required to prevent nuisance conditions. Dust controls must be used in accordance with the manufacturer's specifications and not be applied in a manner, which would result in a discharge to waters of the state. Isolation distances from bridges, catch basins, and other drainageways must be observed. Application (excluding water) may not occur when precipitation is imminent as noted in the short term forecast. Used oil may not be applied for dust control.

12. **Other Air Permitting Requirements:** All contractors and sub contractors must be made aware that certain activities associated with construction will require air permits. Activities including but not limited to mobile concrete batch plants, mobile asphalt plants, concrete crushers, large generators, etc., will require specific Ohio EPA Air Permits for installation and operation. These activities must seek authorization from the corresponding district of Ohio EPA. Notification for Restoration and Demolition must be submitted to Ohio EPA for all commercial sites to determine if asbestos corrective actions are required.

13. **Process Waste Water/Leachate Management.** All contractors shall be made aware that Ohio EPA's Construction General Permit only allows the discharge of storm water. Other waste streams/discharges including but not limited to vehicle and/or equipment washing, leachate associated with on-site waste disposal, concrete wash outs, etc are a process wastewater. They are not authorized for discharge under the General Storm Water Permit associated with Construction Activities. All process wastewaters must be collected and properly disposed at an approved disposal facility. In the event there are leachate outbreaks associated with onsite disposal, measures must be taken to isolate this discharge for collection and proper disposal. Investigative measures and corrective actions must be implemented to identify and eliminate the source of all leachate outbreaks.

14. **Permit To Install (PTI) Requirements:** All contractors and sub contractors must be made aware that a PTI must be submitted and approved by Ohio EPA 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. The 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.

NOTE:

THE FOLLOWING NOTES SHALL BE ADHERED TO FOR ADDITIONAL CONSTRUCTION SITE POLLUTION CONTROLS. SPECIFICATIONS NOTED BELOW ARE FOUND ON THIS DETAILS SHEET.

a. HANDLING OF TOXIC OR HAZARDOUS MATERIALS - OHIO RAINWATER AND LAND DEVELOPMENT MANUAL (ORLDM), CHAPTER 8 SPECIFICATIONS 1, 2, 5, AND 6 ADDRESSES THIS ISSUE.
b. WASTE DISPOSAL - ORLDM, CHAPTER 8 SPECIFICATIONS 2, 4, AND 13 ADDRESSES THIS ISSUE.
c. CLEAN HARD FILL – NO CONSTRUCTION RELATED WASTE MATERIALS ARE TO BE BURIED ON-SITE.
d. CONTAMINATED SOILS - ORLDM, CHAPTER 8 SPECIFICATION 8 ADDRESSES THIS ISSUE. MANAGEMENT OF RUNOFF SHOULD ALSO BE ADDRESSED. RECOMMEND INCLUDING OPTIONS LISTED UNDER PART III.2.G.V OF THE CGP IN THE SWPPP.
e. SPILL REPORTING REQUIREMENTS - ORLDM, CHAPTER 8 SPECIFICATION 9 ADDRESSES THIS ISSUE.
f. OPEN BURNING - ORLDM, CHAPTER 8 SPECIFICATION 10 ADDRESSES THIS ISSUE.
g. DUST CONTROLS/SUPPRESSANTS - ORLDM, CHAPTER 8 SPECIFICATION 11 ADDRESSES THIS ISSUE.
h. OTHER AIR PERMITTING REQUIREMENTS - ORLDM, CHAPTER 8 SPECIFICATION 12 ADDRESSES THIS ISSUE.
i. PROCESS WASTEWATER/LEACHATE MANAGEMENT - ORLDM, CHAPTER 8 SPECIFICATION 13 ADDRESSES THIS ISSUE.

- IN THE EVENT OF REGULATED WASTE EVENT OR QUESTIONS PLEASE CONTACT BURAK ERGEZEN, LERS LEAD, 614/582-1522 OR BERGEZEN@AEP.COM.

REFERENCE DRAWING:

E–1220 COVER SHEET
E–1221 GENERAL NOTES (WITH MINIMUM STANDARDS)
E–1222 EROSION AND SEDIMENT CONTROL PLAN (SOIL MAPS & DESCRIPTIONS)
E–1223 STATION LAYOUT PLAN (EXISTING CONDITIONS)
E–1224 STATION LAYOUT PLAN
E–1225 GRADING PLAN (EROSION AND SEDIMENT CONTROL PLAN)
E–1226 EROSION AND SEDIMENT CONTROL PLAN (PRE AND POST DRAINAGE AREAS)
*E–1227 EROSION AND SEDIMENT CONTROL DETAILS

NOTIFY UTILITY COMPANIES BEFORE YOU DIG

THE LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE BASED ON ABOVE-GROUND STRUCTURES. LOCATIONS OF UNDERGROUND UTILITIES/STRUCTURES MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES.
IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ACTUAL LOCATION AND DEPTH OF ALL EXISTING UTILITIES. THE OWNER AND THE SURVEYOR SHALL NOT BE RESPONSIBLE FOR ANY OMISSION OR VARIATION FROM THE LOCATION SHOWN. THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 811 TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.

STATE OF OHIO
JAMES NELSON LOVELL, JR
75897
REGISTERED PROFESSIONAL ENGINEER
9/2/2022

NO	DATE	REVISION DESCRIPTION	APPR	DR	ENG	CK	ISSUE#

OLD DWG : | STD DWG :

OHIO POWER COMPANY
CMH91 - STATION
HILLIARD OHIO
138kV

EROSION AND SEDIMENT CONTROL DETAILS

SCALE: NONE	DR: MMW/HC	ENG: DBF	CH: BKS
AMERICAN ELECTRIC POWER	WO#: T10394332	APPD: BJB	DATE: 9/2/2022
1 RIVERSIDE PLAZA COLUMBUS, OH 43215	DWG. NO. E-1227	REV 0	

CM 1 2 3 4 5 6 7 | 3/16 INCH 4 8 12 16 | TENTHS 10 20 30 | INCHES 1 2 3

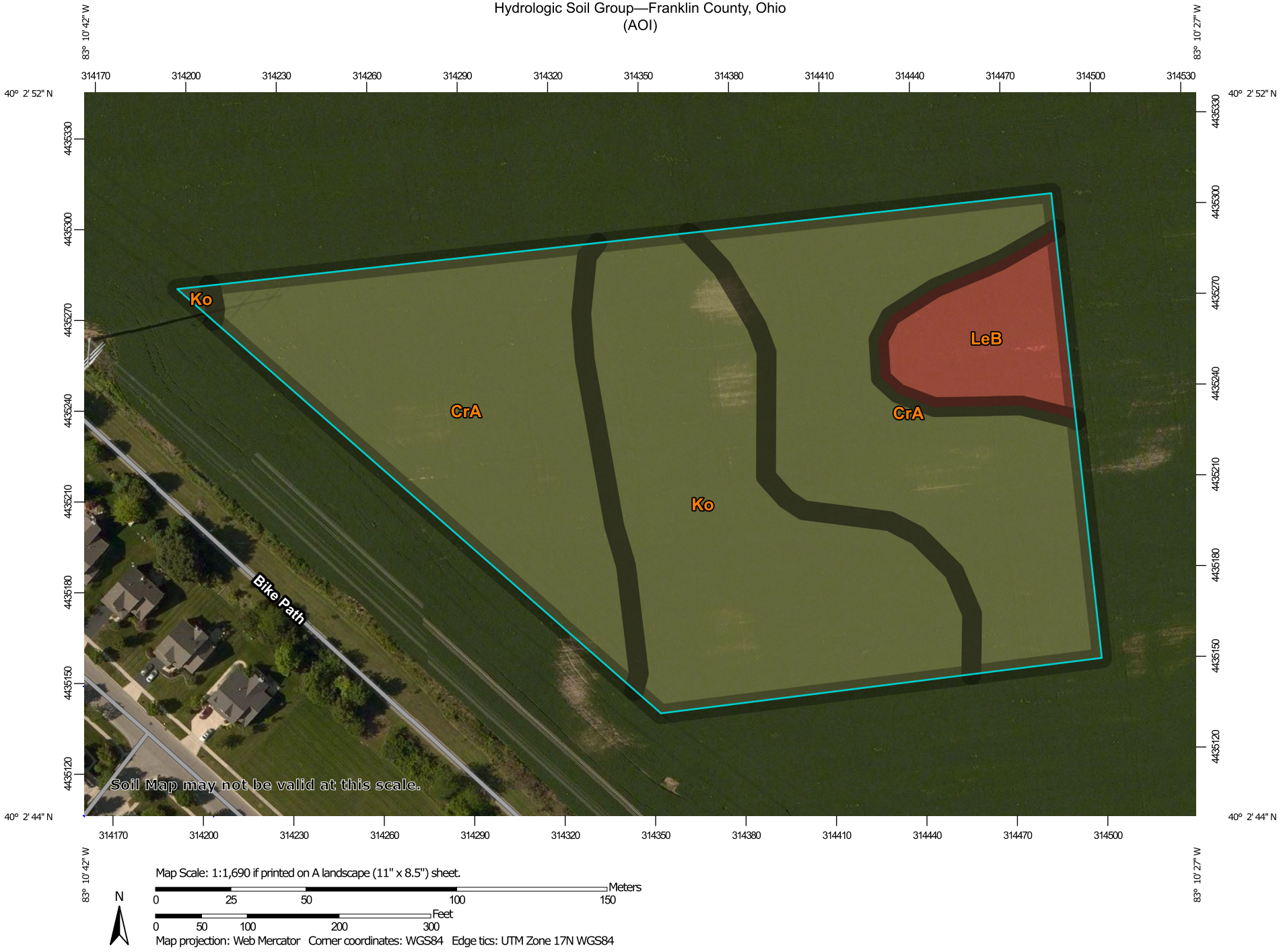
CADFILEPATH

PLOTTED BY %USERS ON DD-MMM-YYYY AT HH:MM

STATION ENGINEERING

Arch D (24 X 36)

Hydrologic Soil Group—Franklin County, Ohio
(AOI)



Map Scale: 1:1,690 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 25 50 100 150

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A
A/D
B
B/D
C
C/D
D
Not rated or not available

Soil Rating Lines

A
A/D
B
B/D
C
C/D
D
Not rated or not available

Soil Rating Points

A
A/D
B
B/D
C
C/D
D
Not rated or not available

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 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Franklin County, Ohio
Survey Area Data: Version 20, Sep 7, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 4, 2014—Aug 27, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CrA	Crosby silt loam, Southern Ohio Till Plain, 0 to 2 percent slopes	C/D	5.0	58.8%
Ko	Kokomo silty clay loam, 0 to 2 percent slopes	C/D	2.8	33.4%
LeB	Lewisburg-Crosby complex, 2 to 6 percent slopes	D	0.7	7.8%
Totals for Area of Interest			**8.5**	**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

Map Unit Description (Brief, Generated)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, provide information on the composition of map units and properties of their components.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

The Map Unit Description (Brief, Generated) report displays a generated description of the major soils that occur in a map unit. Descriptions of non-soil (miscellaneous areas) and minor map unit components are not included. This description is generated from the underlying soil attribute data.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description (Brief, Generated)

Franklin County, Ohio

Map Unit: CrA—Crosby silt loam, Southern Ohio Till Plain, 0 to 2 percent slopes

Component: Crosby (90%)

The Crosby component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on Wisconsin ground moraines, till plains. The parent material consists of silty material or loess over loamy till. Depth to a root restrictive layer, densic material, is 24 to 40 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March. Organic matter content in the surface horizon is about 3 percent. This component is in the F111AY008IN Wet Till Ridge ecological site. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 35 percent.

Component: Kokomo, drained (5%)

Generated brief soil descriptions are created for major soil components. The Kokomo, drained soil is a minor component.

Component: Celina, eroded (4%)

Generated brief soil descriptions are created for major soil components. The Celina, eroded soil is a minor component.

Component: Miamian, eroded (1%)

Generated brief soil descriptions are created for major soil components. The Miamian, eroded soil is a minor component.

Map Unit: Ko—Kokomo silty clay loam, 0 to 2 percent slopes

Component: Kokomo (90%)

The Kokomo component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions, till plains. The parent material consists of loamy glaciofluvial deposits derived from sedimentary rock over loamy till derived from limestone and dolomite. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 5 percent. This component is in the F111AY007IN Till Depression Flatwood ecological site. Nonirrigated land capability classification is 2w. This soil meets hydric criteria.

Component: Celina (5%)

Generated brief soil descriptions are created for major soil components. The Celina soil is a minor component.

Component: Crosby (5%)

Generated brief soil descriptions are created for major soil components. The Crosby soil is a minor component.

Map Unit: LeB—Lewisburg-Crosby complex, 2 to 6 percent slopes

Component: Lewisburg (45%)

The Lewisburg component makes up 45 percent of the map unit. Slopes are 2 to 6 percent. This component is on till plains. The parent material consists of loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 36 inches during January, February, March, April. Organic matter content in the surface horizon is about 2 percent. This component is in the F111AY009IN Till Ridge ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 39 percent.

Component: Crosby (40%)

The Crosby component makes up 40 percent of the map unit. Slopes are 2 to 6 percent. This component is on till plains. The parent material consists of loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during January, February, March, April. Organic matter content in the surface horizon is about 2 percent. This component is in the F111AY008IN Wet Till Ridge ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 25 percent.

Component: Kokomo (15%)

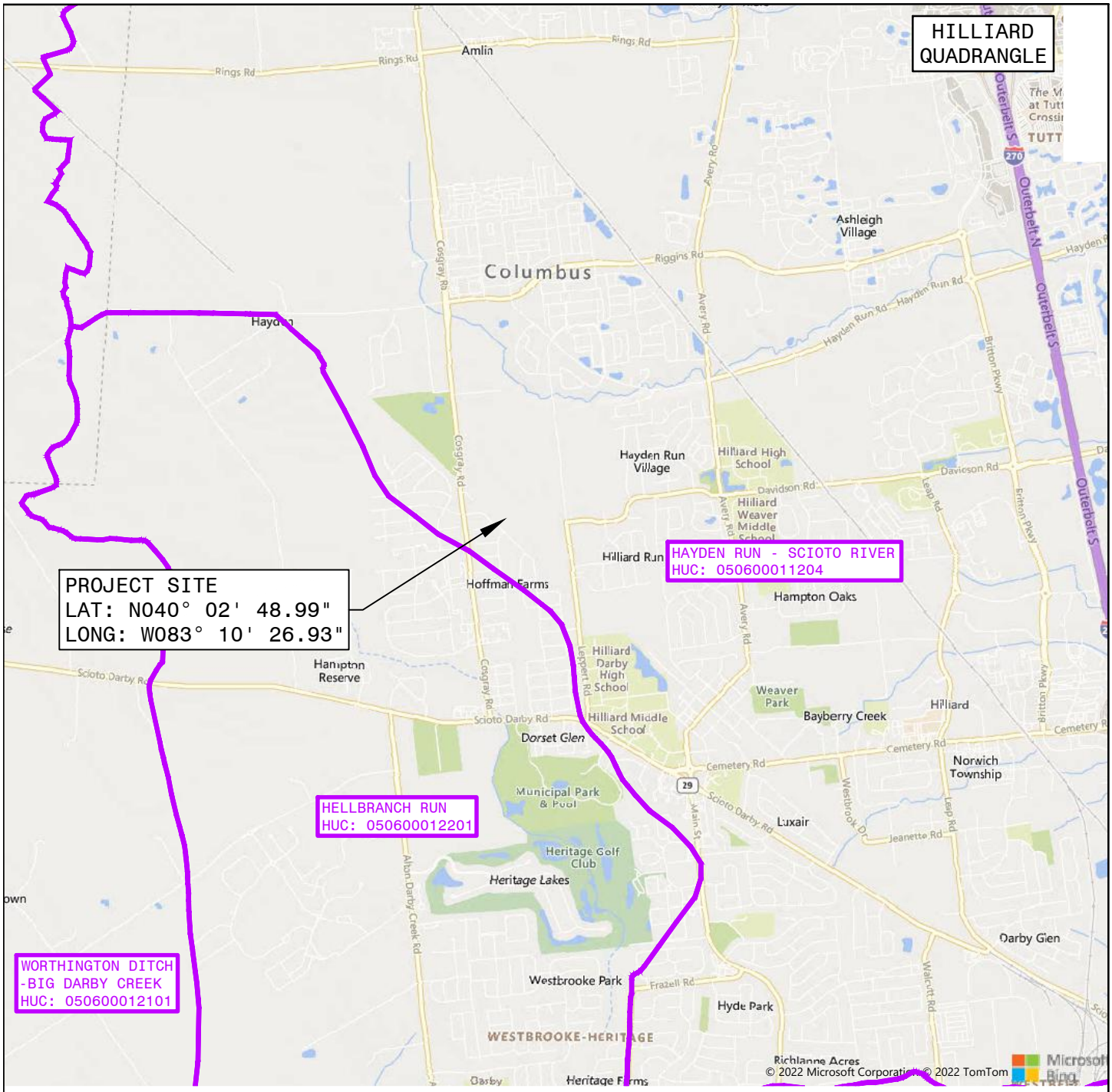
Generated brief soil descriptions are created for major soil components. The Kokomo soil is a minor component.

Component: eroded areas with a clay loam surface layer (%)

Generated brief soil descriptions are created for major soil components. The eroded areas with a clay loam surface layer soil is a minor component.

Data Source Information

Soil Survey Area: Franklin County, Ohio
Survey Area Data: Version 20, Sep 7, 2021



CMH91 STATION

WATERSHED MAP

IF THIS DRAWING IS A REDUCTION
GRAPHIC SCALE MUST BE USED

SCALE: 1" = 3500'

3500' 0 3500'

APPALACHIAN POWER COMPANY	CMH91 STATION PROJECT		CMH91 STATION PROJECT WATERSHED MAP USGS OVERLAY
APP'D BY : AJT	DR. BY : BKS	CH. BY : BKS	DATE: 6/10/2022
AEP AMERICAN ELECTRIC POWER	*1 RIVERSIDE PLAZA* *COLUMBUS, OH 43215*	WORK ORDER # T10394332	DWG. No. / REV

APPENDIX 3

SWP3 Inspection Forms and SWP3 Amendments, Grading, and Stabilization Log

AEP OHIO TRANSMISSION COMPANY, INC.
CMH91 STATION PROJECT
STORM WATER POLLUTION PREVENTION PLAN (SWP3) INSPECTION FORM

Date: _____ Inspector's Name/Title: _____

Inspector's Company: _____

Inspector Qualified in accordance with Part VII.BB of Permit: ☐ Yes ☐ No (Document Qualifications in Appendix 3 of SWP3)

Inspection Type: ☐ Weekly (once every seven calendar days)

☐ Storm Event (0.5 inch or greater) Date: _____ Amount: _____ Duration: _____

Rain Event(s) Since Last Inspection:

Date: _____ Amount: _____ Duration: _____	Date: _____ Amount: _____ Duration: _____
Date: _____ Amount: _____ Duration: _____	Date: _____ Amount: _____ Duration: _____

Did any discharges occur during these events? ☐ No ☐ Yes, Location: _____

Current Weather: ☐ Clear ☐ Cloudy ☐ Fog ☐ Rain ☐ Snow ☐ Sleet ☐ High Winds ☐ Other: _____ Temp: _____

Current Discharges: ☐ No ☐ Yes, Location: _____

Evidence of Sediment/Pollutants Leaving the Site? ☐ No ☐ Yes, Location: _____

Has Seeding Taken Place? ☐ No ☐ Yes, Location/Seed tag photo included: _____

Erosion and Sediment Control Features / BMPs Inspected:

☐ **Silt Fence / Filter Sock (Mark which one applies)**

Location(s) (Structure # (STR#)): _____

Properly anchored/installed: ☐ Yes ☐ No Repairs Needed: ☐ Yes ☐ No

Sediment Removal Required (Sediment one-half height for fence & one-third height for sock): ☐ Yes ☐ No

Action Required/Taken/Location(s): _____

_____

☐ **Orange Barrier Fence**

Location(s) (Wetland / Access Road / STR#): _____

Properly anchored/installed: ☐ Yes ☐ No Repairs Needed: ☐ Yes ☐ No

Action Required/Taken/Location(s): _____

_____

☐ **Construction Entrance**

Location(s) (Reference intersection of road and nearest STR#): _____

Entrance Stabilized: ☐ Yes ☐ No Evidence of mud tracked on roadway: ☐ Yes ☐ No

Action Required/Taken/Location(s): _____

_____

☐ **Material Storage Areas (Including waste containers, fuel areas)**

Material Storage Areas located on site and shown on the SWP3: ☐ Yes ☐ No

Materials properly contained and labeled: ☐ Yes ☐ No Evidence of spills or releases: ☐ Yes ☐ No

Action Required/Taken/Location(s): _____

_____

☐ **Concrete Washouts**

Location(s) (Access Road / STR#): _____

Properly installed and located at least 50 feet from wetlands/streams/ditches/storm drains: ☐ Yes ☐ No

Replacement needed (concrete reaches 50 percent of the system): ☐ Yes ☐ No

Action Required/Taken/Location(s): _____

_____

Comments / Additional Control Measures Recommended: _____

_____

_____

If BMP modifications are made, you must update the SWP3 drawings and document changes on the SWP3 amendment log.

Inspector's Signature: _____ Date: _____

AEP OHIO TRANSMISSION COMPANY, INC.
CMH91 STATION PROJECT

STORM WATER POLLUTION PREVENTION PLAN
AMENDMENTS, GRADING, AND STABILIZATION LOG

Date: _____ Inspector's Name/Title: _____

Location and Description of Grading and Stabilization Activities

_____

_____

_____

_____

Amendments to SWP3:

_____

_____

_____

Date: _____ Inspector's Name/Title: _____

Location and Description of Grading and Stabilization Activities

_____

_____

_____

_____

Amendments to SWP3:

_____

_____

_____

Date: _____ Inspector's Name/Title: _____

Location and Description of Grading and Stabilization Activities

_____

_____

_____

_____

Amendments to SWP3:

_____

_____

_____

AEP OHIO TRANSMISSION COMPANY, INC. CMH91 STATION PROJECT

SUMMARY SWP3 INSPECTION RECORDS – FOR TCRs

I have completed a review of the SWP3 inspections completed on the project for the period of _____ to _____.

The following major observations were made relating to the implementation of the SWP3 and review of the inspection log.

Inspector Qualifications:

☐ The inspections were performed by "qualified inspection personnel" knowledgeable in the principles of erosion and sediment control and skilled in assessing the effectiveness of control measures.

☐ The inspections were NOT performed by "qualified inspection personnel" knowledgeable in the principles of erosion and sediment control and skilled in assessing the effectiveness of control measures.

☐ Corrective Measures were taken on _____ to provide "qualified inspection personnel" at the site.

Permit Compliance Observations:

☐ The project was in compliance with the SWP3 and permit during the review period.

☐ The project was NOT in compliance with the SWP3 and permit during the review period as noted below:

☐ Non-compliance issues included:

_____

_____

_____

_____

_____

_____

_____

_____

☐ Corrective Measures were taken on _____ to correct the above non-compliance issues.

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.

Name: _____

Title: _____

Signature: _____

Date: _____

APPENDIX 4

Duty to Inform Contractors and Subcontractors Signature Form

AEP OHIO TRANSMISSION COMPANY, INC. CMH91 STATION PROJECT

DUTY TO INFORM CONTRACTORS AND SUBCONTRACTORS SIGNATURE FORM

By signing below, I acknowledge that I have been informed of the terms and conditions of the Ohio Environmental Protection Agency's General NPDES Permit for Storm Water Associated with Construction Activity, and have reviewed and understand the conditions and responsibilities of the Storm Water Pollution Prevention Plan for the AEP Ohio Transmission Company, Inc. CMH91 STATION Project. I understand that Inspectors shall meet the qualifications outlined in Part VII.BB. of Ohio EPA Permit No.: OHC000005.

Printed Name	Company	Signature	Date

APPENDIX 5

Storm Water Calculations Report

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	1.751	2	734	8,192	------	------	------	PRE DA 1
2	SCS Runoff	7.249	2	716	14,815	------	------	------	POST DA 1

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	2.595	2	734	11,692	------	------	------	PRE DA 1
2	SCS Runoff	9.270	2	716	19,140	------	------	------	POST DA 1

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	4.952	2	734	21,591	------	------	------	PRE DA 1
2	SCS Runoff	14.37	2	716	30,391	------	------	------	POST DA 1

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	6.567	2	732	28,461	------	------	------	PRE DA 1
2	SCS Runoff	17.61	2	716	37,747	------	------	------	POST DA 1

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	9.422	2	732	40,703	------	------	------	PRE DA 1
2	SCS Runoff	23.08	2	716	50,380	------	------	------	POST DA 1

APPENDIX 6

Long-term Maintenance Plan

LONG-TERM MAINTENANCE PLAN

AEP OHIO TRANSMISSION COMPANY
{CMH91 STATION}

The Long-Term Maintenance Plan for permanent Best Management Practices (BMPs) for storm water management for this site is on file with Amazon and included in the SWPPP for Amazon's permit 4GC08128*AG.

Ohio Environmental Protection Agency

Mike DeWine, Governor
Jon Husted, Lt. Governor
Laurie A. Stevenson, Director

May 16, 2022

AEP, Ohio Transmission Company, Inc.
Kelli Boren
212 E. 6th Street
Tulsa OK 74719

Re: Approval Under Ohio EPA National Pollutant Discharge Elimination System (NPDES) – Construction Site Stormwater General Permit – OHC000005

Dear Applicant,

Your NPDES Notice of Intent (NOI) application is approved for the following facility/site. Please use your Ohio EPA Facility Permit Number in all future correspondence.

Facility Name:	Cosgray Station and Skid
Facility Location:	5000 Leppert Road
City:	Hilliard
County:	Franklin
Township:	Norwich
Ohio EPA Facility Permit Number:	4GC08514*AG
Permit Effective Date:	May 16, 2022
Permit Expiration Date:	April 22, 2023

Please read and review the permit carefully. The permit contains requirements and prohibitions with which you must comply. A copy of the general permit may be viewed or downloaded from here. Coverage under this permit will remain in effect until a renewal of the permit is issued by the Ohio EPA.

If more than one operator (defined in the permit) will be engaged at the site, each operator shall seek coverage under the general permit. Additional operator(s) shall submit a Co-Permittee NOI to be covered under this permit. There is no fee associated with the Co-Permittee NOI form.

Please be aware that this letter only authorizes discharges in accordance with the above referenced General Permit. The placement to fill into regulated waters of the state may require a 401 Water Quality Certification and/or Isolated Wetlands Permit from Ohio EPA. Failure to obtain the required permits in advance is a violation of Ohio Revised Code 6111 and potentially subjects you to enforcement and civil penalties.

If you need assistance or have questions, please call (614) 644-2001 and ask for Construction Site Stormwater General Permit support or visit our website at epa.ohio.gov.

Sincerely,

Laurie A. Stevenson
Director

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: AEP, Ohio Transmission Company, Inc.

Mailing (Applicant) Address: 212 E. 6th Street

City: Tulsa	**State :** OK	**Zip Code:** 74719

Country: USA

Contact Person: Kelli Boren	**Phone:** (918) 691-0435	**Fax:**

Contact E-mail Address: kdboren@aep.com

II. Facility/Site Location Information

Facility/Site Name: Cosgray Station and Skid

Facility Address: 5000 Leppert Road

City: Hilliard	**State:** OH	**Zip Code:** 43026

County: Franklin	**Township:** Norwich

Facility Contact Person: Brandon Morrison	**Phone:** (614) 307-9196	**Fax:**

Facility Contact E-mail Address: bwmorrison@aep.com

Latitude: 40.047222	**Longitude:** -83.177778	**Facility/Map Attachment** Cosgray Location map.pdf

Receiving Stream or MS4:

III. General Permit Information

General Permit Number: OHC000005	**Initial Coverage:** Y **Renewal Coverage:** N
Type of Activity: Construction Site Stormwater General Permit	**SIC Code(s):**
Existing NPDES Facility Permit Number: 4GC08514*AG	**ODNR Coal Mining Application Number:**
If Household Sewage Treatment System, is system for:	**New Home Construction:** / **Replacement of failed existing system:**

Outfall	Design Flow (MGD):	Associated Permit Effluent Table:	Receiving Water :	Latitude	Longitude

Are These Permits Required?	**PTI:** NO	**Individual 401 Water Quality Certification:** NO
Individual NPDES: NO	**Isolated Wetland:** NO	**U.S. Army Corp Nationwide Permit:** NO
Proposed Project Start Date(if applicable): July 31, 2022		**Estimated Completion Date(if applicable):** April 11, 2023
Total Land Disturbance (Acres): 10		**MS4 Drainage Area (Sq. Miles):**

SWP3 Attachment(s): <None>

IV. Payment Information

Check #:	**For Ohio EPA Use Only**
Check Amount:	**Check ID(OFA):**_____ **ORG #:**_____
Date of Check:	**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: Kelli Boren	**Title:** Project Environmental Support Manager

Signature:	**Date:**
Electronically submitted by 75001975	Electronically submitted on 05/11/2022

ADDITIONAL INFORMATION

Please add any additional comments or attachments below.

3800 Municipal Way, Hilliard, OH 43026
614.334.2449 | www.hilliardohio.gov
ENGINEERING DIVISION

CIVIL SITE PLAN APPROVAL

This permit indicates that Civil Site Plans for this site have been approved by the City of Hilliard.

Address or Project Location: **AEP Cosgray Station**
Description of Development Activity: **SWPPP Station Construction**
Permit Number: CIV-22-15

The permittee understands and agrees that:

The permit is issued on the representations made herein and on the application for permit;

The permit may be revoked because of any breach of representation;

Once a permit is revoked all work shall cease until the permit is reissued or a new permit is issued;

The permit will not grant any right or privilege to erect any structure or use any premises described for any purposes or in any manner prohibited by the codes or regulations of the community;

The permit will expire if no work is commenced within one year of issuance.

Date: September 1, 2022

COSGRAY STATION

4601 LEPPERT ROAD

HILLIARD, OHIO

LAT/LONG: 40.047222°,-83.177778°

STORM WATER POLLUTION PREVENTION PLAN (SWP3)

Prepared for:

AEP Ohio Transmission Company, Inc.
8500 Smith's Mill Road
New Albany, OH 43054

Prepared by:

Earth Environmental and Civil, Inc.
235 Claiborne Avenue
Rocky Mount, VA 24151

Site Contact: Brandon Morrison
Phone: 614 307 9196
E-mail:bwmorrison@aep.com

REV 0 / April 14, 2022
REV 1 / June 7, 2022
REV 2 / August 30, 2022

Project Start Date: APRIL 2022
Project End Date: SEPTEMBER 2022

COSGRAY STATION

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.”

Name: Kelli Boren

Title: Project Environmental Support Manager

Signature: Kelli Boren

Date: 5/11/2022

TABLE OF CONTENTS

APPENDIX 1 – Ohio EPA General Permit No. OHC000005

APPENDIX 2 – Project Location Map, Soil Erosion and Sediment Control Plan, USDA Soils Map, Watershed (HUC-12) Map, and ODNR Rainwater and Land Development Manual Details

APPENDIX 3 – SWP3 Inspection Form and SWP3 Amendments, Grading, and Stabilization Log

APPENDIX 4 – Duty to Inform Contractors and Subcontractors Signature Form

APPENDIX 5 – Storm Water Calculations Report

APPENDIX 6 – Long-term Maintenance Plan

I. Site Description

A. Description of Construction Activity

AEP Ohio Transmission Company, Inc. (AEP) is proposing to conduct construction activities for the Cosgray Station Project (Project) located in the City of Hilliard, Franklin County, Ohio. The Project consists of adding an approximate 7.00-acre gravel pad and access road within an existing approved SWPPP Project (Permit No: 4GC08128*AG). Construction activities will include grading, gravel placement, and substation construction. A proposed station fence will be placed and access to the Project is provided through the approved SWPPP Project (Permit No: 4GC08128*AG) off Cosgray Road and Leppert Road.

B. Disturbed Area

Total Area of the Site – 103.19 acres (Permit No: 4GC08128*AG)

Total Disturbed Area – 10.00 acres

Table 1: Disturbed Area

County	Township/Village/City	Disturbance Acreage
Franklin County	City of Hilliard Norwich Township	10.00

C. Impervious Area

The station will result in 8.38 acre of additional impervious surface. As this project is a planned development within an existing approved SWPPP, all permanent post-construction best management practices (BMPs) have been implemented under permit (Permit No: 4GC08128*AG). See Section II.D.5 of this SWP3 for post-construction storm water management requirements.

Table 2: Impervious Area

	Impervious Acreage	% Imperviousness
Existing	0.0	0%
New	8.38	100%
Total	8.38	100%

D. Storm Water Calculations

Pre- and post-development runoff curve numbers have been calculated based on the pre- and post-estimates for impervious surfaces within the existing facility. The proposed station will be covered in clean, washed stone and does not include the addition of impermeable materials such as concrete, asphalt, or other hard surfaces. While there will be an increase in overall impermeability on this site, as mentioned previously, this project lies within the SWPPP Project (Permit No: 4GC08128*AG) and all permanent post-construction best management practices (BMPs) have been implemented under permit (Permit No: 4GC08128*AG). Therefore, this project does not warrant the need for additional post-construction best management practices (BMPs).

Drainage Area A:
Pre-development runoff curve number – 80
Post-development runoff curve number – 91

E. Existing Soil Data

The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey was used to determine soil types within the Project area. A copy of the web-based soil map is included in Appendix 2. Soils in the Project area are shown in Table 3.

Table 3: Soil Types

Map Unit Symbol	Map Unit Description	Drainage Class	Hydric Soil?
CrA	Crosby silt loam, Southern Ohio Till Plain, 0 to 2 percent slopes	Somewhat poorly drained	No[1]
Ko	Kokomo silty clay loam, 0 to 2 percent slopes	Very poorly drained	Yes
LeB	Lewisburg-Crosby complex, 2 to 6 percent slopes	Moderately well drained	No

[1] Contains hydric inclusions.

F. Prior Land Uses

The Project is located on existing farmland in the City of Hilliard, Ohio. Prior land use was farmland and previously undeveloped land.

G. On-site Streams and Receiving Streams and Surface Waters

1. On-Site Waterbodies

Table 4: Delineated Streams

Stream ID	Stream Name	Flow Regime	Ohio EPA 401 Permitting Eligibility	Stream Stability
No streams are present within this site				

Table 5: Delineated Wetlands and Ponds

Wetland ID	Cowardin Classification	ORAM Category
No wetlands are present within this site		

2. Receiving Waters

The Project is located in the Hayden Run – Scioto River Watershed (HUC-12: 050600011204). The receiving streams may include Hayden Run. The site is located within an urban MS4 area Permit Number 4GQ10008*DG – City of Hilliard.

H. Implementation Schedule

A construction log will be kept at the Project site to record major dates of grading and stabilization. The general order of construction is provided in Table 6 below and will begin in April 2022 and is estimated to end in September 2022.

Table 6: Implementation Schedule

Task	Date
Identify environmental avoidance areas in the field [i.e. wetlands, 50' stream buffers, other environmental commitments]	April 2022
Mobilize construction equipment	April 2022
Forestry clearing/grubbing to begin	April 2022
Install [erosion controls/BMPs] filter sock, timber matting, and temporary construction entrances, as needed	April 2022
Excavate foundations for new poles, install new poles	June 2022
Install temporary seed and mulch, as needed, during Project activities	May 2022
Grade pole locations to pre-existing conditions	September 2022
Install permanent seed and mulch	June 2022
Remove matting and temporary BMPs	August 2022
Repair/restore all remaining disturbed areas	August 2022
Seed and mulch all remaining disturbed areas	August 2022
Construction demobilization	September 2022
Inspection with AEP and SWP3 contractor	September 2022

I. Subdivided Development Drawing

Not applicable.

J. Dedicated Asphalt and Concrete Plant Discharges

Not applicable.

K. Log of Grading and Stabilization Activities

A log for documenting grading and stabilization activities and amendments to the SWP3 is included in Appendix 3.

L. Site Map

A vicinity of the Project area is included in Appendix 2, along with the Soil Erosion and Sediment Control Plan and details. The Soil Erosion and Sediment Control Plan shows the Project boundaries and contours, the limits of construction, and the locations of the erosion and sediment control features.

M. Permit Requirements

The permit requirements can be reviewed in the Ohio EPA General Permit No. OHC000005 which has been included as Appendix 1.

II. Storm Water Pollution Prevention Plan

The SWP3 was developed to meet the objectives in Part II. Non-numeric Effluent Limitations and Part III. Storm Water Pollution Prevention Plan (SWP3) of Ohio EPA General Permit No. OHC000005.

A. SWP3 Availability

This Plan, a copy of the Notice of Intent (NOI), and the Ohio EPA authorization shall be made available on-site immediately upon request of the director or an authorized representative during working hours. Per Ohio EPA, an electronic copy is an acceptable format for on-site availability and review.

B. Amendments

The SWP3 is a living document that will be updated as needed. The SWP3 shall be amended whenever there is a change in design, construction, operation or maintenance, or if the SWP3 proves to be ineffective in controlling pollutants in storm water discharges associated with construction activity. A log for documenting amendments is included in Appendix 3.

AEP Environmental Services shall be notified prior to any significant modifications to the SWP3, such as changes to the access roads, disturbance acreage, culvert installations, etc., to ensure the Project remains in compliance with Ohio EPA General Permit No. OHC000005.

C. Duty to Inform Contractors

All contractors and subcontractors who will be involved in implementation of the SWP3 shall review and understand the conditions and responsibilities of the SWP3 and document their acknowledgement by signing the form included in Appendix 4.

D. Controls

Timing: Temporary erosion and sediment control measures shall be installed prior to earth-disturbing activity. Temporary control measures will not be removed until final site stabilization, in the form of permanent gravel cover or perennial vegetative cover with a density of at least 70%, is achieved.

The locations of the control methods are shown on the Soil Erosion and Sediment Control Plans in Appendix 2. Maintenance and inspections requirements for these controls can be found in Section II.D.6 of this SWP3. The control measures for this Project include the following:

1. Preservation Methods

   Existing natural conditions shall be preserved as much as feasible. Such practices may include: preserving existing vegetation, vegetative buffer strips, and existing soil profile and topsoil; minimizing soil compaction; minimizing disturbance of steep slopes; phasing of construction operations to minimize the amount of disturbed land at any one time; and protective clearing or grubbing practices. For all construction activity adjacent to surface waters of the state, a 50-foot undisturbed natural buffer will be maintained as measured from the ordinary high water mark (OHWM).

2. Erosion, Sediment, and Runoff Controls

   a. *Stabilization and Seeding*

      Disturbed areas will be stabilized as specified in tables 7 and 8 below per the Soil Erosion and Sediment Control Plan and BMP detail sheets in Appendix 2. Mulch shall be applied to all exposed soil that has been seeded in an effort to facilitate seed germination and development.

Table 7: 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 calendar days of the most recent disturbance.
Any areas within 50 feet of a surface water of the state and at final grade.	Within two calendar days of reaching final grade.
Other areas at final grade.	Within seven calendar days of reaching final grade within that area.

Table 8: 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 calendar days of the most recent disturbance if the area will remain idle for more than 14 calendar days.
Any disturbed areas that will be dormant for more than 14 calendar days but less than one year, and not within 50 feet of a surface water of the state.	Within seven calendar 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.

   b. *Sediment Barriers and Diversions*

      Filter sock will be installed to encompass the entire site at all appropriate locations to filter sediment from site runoff. Orange barrier fencing will be used as needed and to protect wetland areas and 50-foot natural stream buffers. After Project completion, the posts, fencing, and ties shall be removed from the Project site and transported to an appropriate off-site disposal facility.

c. *Wetland and Stream Crossings*

No wetlands or streams are present on site.

d. *Temporary Construction Entrances*

Construction entrances consisting of a stabilized pad of aggregate will be installed where construction vehicles leave active construction areas and enter public roadways to reduce the amount of sediment tracked offsite. Temporary construction entrance locations and details are provided in Appendix 2.

e. *Sediment Settling Ponds / Sediment Basins*

Sediment Settling Ponds and/or Sediment Basins are included as part of the existing approved SWPPP Project (Permit No: 4GC08128*AG). No additional Sediment Settling Ponds and/or Sediment Basins are proposed as part of this project.

3. Surface Water Protection

No direct discharge to surface waters is proposed for this Project. Surface waters will be protected through the erosion and sediment controls outlined in the sections above.

4. Other Controls

a. *Non-sediment Pollutant Controls*

Waste disposal containers shall be provided for proper collection of all waste material including sanitary garbage, petroleum products and any materials to be used onsite (excluding inert waste/materials such as construction debris that would not be expected to contribute pollution to storm water). Containers shall be covered and not leaking. No construction waste materials shall be buried on-site. All waste materials shall be disposed of in the manner specified by local or state regulations or by the manufacturer. No solid or liquid wastes will be discharged in storm water runoff.

b. *Off-site Traffic and Dust Control*

Any paved roads adjacent to the site entrance shall be swept to remove any excess mud, dirt, or rock tracked from the site, as necessary. Dump trucks hauling materials to or from the site shall be covered with a tarpaulin. Dust control shall be observed both on and off the site for the duration of the Project. Dust and sedimentation will be minimized by limiting earth-moving activities, site traffic, and soil and vegetation disturbances throughout the site. Chemical stabilizers and adhesives will not be used unless written permission is received from AEP Environmental Representative. Dust control details can be found in Appendix 2.

c. *Concrete Washouts*

Concrete washouts will be located in upland areas outside of wetlands or flood zones. Under no circumstances will concrete trucks wash out into a drainage channel, storm sewer or surface water.

d. *Wash Water*

Water from vehicle washing, wheel washing, and other wash waters will be treated appropriately prior to discharge to minimize pollutants. Spills and leaks will be prevented and responded to as necessary.

e. *Compliance with Other Requirements*

This SWP3 is consistent with state and/or local waste disposal, sanitary sewer or septic system regulations including provisions prohibiting waste disposal by open burning. Spill response, disposal of suspect contaminated soils and clean-up activities are initiated by calling the AEP Regional Environmental Coordinator (REC).

f. *Trench and Groundwater Control and Dewatering*

Not applicable.

g. *Contaminated Sediment*

Contaminated soils are not expected to be encountered on this Project. However, if they should exist within the limits of construction, they will be disposed of properly per direction of the AEP Regional Environmental Coordinator (REC).

5. Post-Construction Storm Water Management Requirements

As this project is a planned development within an existing approved SWPPP, all permanent post-construction best management practices (BMPs) have been implemented under permit (Permit No: 4GC08128*AG).]

6. Maintenance and Inspections Requirements

*All temporary and permanent control practices shall be maintained and repaired as needed to ensure continued performance of their intended function. All erosion and sediment control measures shall be inspected:

- Once every seven calendar days; and,
- After any storm event greater than one-half inch of rain per 24-hour period by the end of the next calendar day, excluding weekends and holidays unless work is scheduled.

An inspection report shall be made after each inspection. The SWP3 Inspection Form is included in Appendix 3.

*The Contractor shall select at least two qualified individuals responsible for inspections, maintenance, and repair activities, and filling out the SWP3 Inspection Form and SWP3 Amendments, Grading, and Stabilization Log in Appendix 3. Personnel selected for these responsibilities shall be knowledgeable and experienced in all inspection and maintenance practices necessary for keeping the erosion and sediment controls in good working order.

*If an inspection reveals that a control is in need of repair or maintenance, with the exception of a sediment settling pond, it shall be repaired or maintained within three calendar days of the inspection. Sediment ponds will be repaired or maintained within 10 calendar days of the inspection. If an inspection reveals that a control fails to perform its intended function and that another, more appropriate control is required, the SWP3 shall be amended and the new control shall be installed within 10 calendar days of the inspection. If an inspection reveals a control has been installed inappropriately or incorrectly, the control will be replaced or modified for site conditions.

*When controls are modified, the erosion control drawings associated with the SWP3 will be updated to reflect the modifications, and the changes will be reflected using the SWP3 Amendments, Grading, and Stabilization Log in Appendix 3.

- Silt fence and/or Filter sock shall be inspected for depth of sediment, tears, and to ensure the anchor posts are firmly in the ground. Silt fence and/or filter sock shall also be inspected to ensure they are maintained in the appropriate positions per the plans in Appendix 2. Built up sediment shall be removed from the silt fence when it has reached one-half the height of the fence. Built up sediment shall be removed from the filter sock when it has reached one-third the height of the sock.
- Temporary and permanent seeding shall be inspected for bare spots, washouts, and healthy growth. If seed does not germinate in an area on which it was placed, the area will either be re-seeded or an alternate erosion control method will be employed.
- Locations where vehicles and equipment enter or exit the site shall be inspected for evidence of off-site tracking of sediment. Sediment being tracked onto off-site roadways shall be cleaned up promptly.
- Excess concrete should be removed when the washout system reaches 50 percent of the design capacity. Use of the system should be discontinued until appropriate measures can be initiated to clean out the structure. Prefabricated systems should also utilize this criterion unless the manufacturer has alternative specifications.

*The permittee shall maintain the SWP3 Inspection Forms for three years following the submittal of a notice of termination (NOT) form. The Inspection Forms shall be signed in accordance with Part V.G of Ohio EPA General Permit OHC000005.

III. Approved State or Local Plans

The erosion and sediment control plans were prepared in accordance with Ohio EPA Permit No. OHC000005.

IV. Exceptions

There are no exceptions to the erosion and sediment control practices contained in the Ohio EPA General Permit No. OHC000005.

APPENDIX 1

Ohio EPA General Permit No. OHC000005

Issuance Date: April 23, 2018
Effective Date: April 23, 2018
Expiration Date: April 22, 2023

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, development (and submittal, if applicable) of a complete Storm Water Pollution Prevention Plan (SWP3) and written approval of coverage from the director of Ohio EPA in accordance with Ohio Administrative Code ("OAC") Rule 3745-38-02.

Craig W. Butler
Director

Total Pages: 60

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PART I. COVERAGE UNDER THIS PERMIT

A. Permit Area.

This permit covers the entire State of Ohio. Appendices A and B of this permit contain additional watershed specific requirements for construction activities located partially or fully within the Big Darby Creek Watershed and portions of the Olentangy River Watershed. Projects within portions of the Olentangy River watershed shall seek coverage under this permit following the expiration of OHCO00002 (May 31, 2019).

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 one or more acres. 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 are 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 ceased, 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 3745-38-02. 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 and Storm Water Pollution Prevention Plan (SWP3) if located within the Big Darby Creek watershed or portions of the Olentangy watershed 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, a completed Storm Water Pollution Prevention Plan (SWP3) for projects within the Big Darby Creek and portions of the Olentangy river watersheds and appropriate fee at least 21 days (or 45 days in the Big Darby Creek watershed and portions of the Olentangy watershed) 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 prior to engaging in construction activities. 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. 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. How to submit an NOI. Operators seeking coverage under this permit must submit a complete and accurate Notice of Intent (NOI) application using Ohio EPA's electronic application form which is available through the Ohio EPA eBusiness Center at: **https://ebiz.epa.ohio.gov/**. Submission through the Ohio EPA eBusiness Center will

require establishing an Ohio EPA eBusiness Center account and obtaining a unique Personal Identification Number (PIN) for final submission of the NOI. Existing eBusiness Center account holders can access the NOI form through their existing account and submit using their existing PIN. Please see the following link for guidance: **http://epa.ohio.gov/dsw/ebs.aspx#170669803-streams-guidance**. Alternatively, if you are unable to access the NOI form through the agency eBusiness Center due to a demonstrated hardship, the NOI may be submitted on a paper NOI form provided by Ohio EPA. NOI information shall be typed on the form. Please contact Ohio EPA, Division of Surface Water at (614) 644-2001 if you wish to receive a paper NOI form.

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 shall have continuing coverage under OHC000005 with the submittal of a timely renewal application. Within 180 days from the effective date of this permit, 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 180-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. You shall develop and implement the SWP3 in accordance with Part III of this permit to satisfy these 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 and stream 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
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
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 construction materials, products, and wastes; landscape materials, fertilizers, pesticides, and 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 or all other waste water streams which could be subject to an individual NPDES permit (Part III.G.2.g).

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.)

G. **Post-Construction Storm Water Management Controls**. So that receiving stream's physical, chemical and biological characteristics are protected, and stream functions are maintained, post-construction storm water practices shall provide long-term management of runoff quality and quantity.

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 clearly identify all activities which are required to be authorized under Section 401 and subject to an antidegradation review. 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 and impact of storm water discharges during construction and pollutants associated with the post-construction land use to ensure compliance with ORC Section 6111.04, OAC Chapter 3745-1 and the terms and conditions of this permit.

B. Timing

An acceptable SWP3 shall be completed and submitted to the applicable regulated MS4 entity (for projects constructed entirely within a regulated MS4 area) prior to the timely submittal of an NOI. Projects within the Big Darby Creek and portions of the Olentangy watersheds must submit a SWP3 with the NOI. The SWP3 shall be updated in accordance with Part III.D. Submission of a SWP3 does not constitute review and approval on the part of Ohio EPA. 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.

In order to continue coverage from the previous generations of this permit, the permittee shall review and update the 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, 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.

Examples of OHC000005 permit conditions that would be infeasible for permittees renewing coverage to comply with include:

- OHC000005 post-construction requirements, for projects that obtained NPDES construction storm water coverage and started construction activities prior to the effective date of this permit;

- OHC000005 post-construction requirements, for multi-phase development projects with an existing regional post-construction BMP issued under previous NPDES post-construction requirements. This only applies to construction sites authorized under Ohio EPA's Construction Storm Water Permits issued after April 20, 2003;

- OHC000005 post-construction requirements, for renewing or initial coverage and you have a SWP3 approved locally and you will start construction within 180 days of the effective date of this permit;

- Sediment settling pond design requirements, if the general permit coverage was obtained prior to April 21, 2013 and the sediment settling pond has been installed; or

- Case-by-case situations approved by the Director.

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 7 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 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 earth disturbing activity 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. Specific conditions have been provided in Appendix A (for the Big Darby Creek Watershed) and Appendix B (for portions of the Olentangy river watershed).

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. A measure of the impervious area and percent imperviousness created by the construction activity (existing, new and total impervious area after construction);

    d. Storm water calculations, including the volumetric runoff coefficients for both the pre-construction and post- construction site conditions, and resulting water quality volume; design details for post-construction storm water facilities and pretreatment practices such as contributing drainage areas, capacities, elevations, outlet details and drain times shall be included in the SWP3; and if applicable, explanation of the use of existing post-construction facilities. Ohio EPA recommends the use of data sheets (see Ohio's Rainwater and Land Development manual and Ohio EPA resources for examples);

    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. A description of the condition of any on-site streams (e.g. prior channelization, bed instability or headcuts, channels on public maintenance, or natural channels);

h. An implementation schedule which describes the sequence of major construction operations (i.e., designation of vegetative preservation areas, grubbing, excavating, grading, utilities, infrastructure installation and others) and the implementation of erosion, sediment and storm water management practices or facilities to be employed during each operation of the sequence;

i. 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;

j. For subdivided developments, a detail drawing of individual parcels with their erosion, sediment or storm water control practices and/or a typical individual lot showing standard individual lot erosion and sediment control practices.

   A typical individual lot drawing 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;

k. 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;

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 and/or known contaminated 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. The location of any delineated boundary for required riparian setbacks;

v. Conservation easements or areas designated as open space, preserved vegetation or otherwise protected from earth disturbing activities. A description of any associated temporary or permanent fencing or signage;

vi. 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;

vii. Existing and planned locations of buildings, roads, parking facilities and utilities;

viii. The location of all erosion and sediment control practices, including the location of areas likely to require temporary stabilization during site development;

ix. Sediment traps and basins noting their sediment storage and dewatering (detention) volume and contributing drainage area. Ohio EPA recommends the use of data sheets (see Ohio EPA's Rainwater and Land Development manual and website for examples) to provide data for all sediment traps and basins noting important inputs to design and resulting parameters such as their contributing drainage area, disturbed area, detention volume, sedimentation volume, practice surface area, dewatering time, outlet type and dimensions;

x. The location of permanent storm water management practices (new and existing) including pretreatment practices to be used to control pollutants in storm water after construction operations have been completed along with the location of existing and planned drainage features including catch basins, culverts, ditches, swales, surface inlets and outlet structures;

xi. 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;

xii. The location of designated construction entrances where the vehicles will access the construction site; and

xiii. The location of any areas of proposed floodplain fill, floodplain excavation, stream restoration or known temporary or permanent 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.h: (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. 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, vegetative buffer strips, and existing soil profile and topsoil; phasing of construction operations 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 provide cover over disturbed soils unless an exception is approved in accordance with Part III.G.4. A description of control practices designed to re-establish vegetation or suitable cover on disturbed areas after grading 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, sediment barriers, 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 upslope development area is stabilized with permanent cover. 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 or collected 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; or
- Runoff from drainage areas that exceed the design capacity of inlet protection;

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 (ft^3) per acre of drainage (67 yd^3/acre) with a minimum 48-hour drain time. 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 ft^3 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.

Accumulated sediment shall be removed from the sediment storage zone once it exceeds 50 percent of the minimum required sediment storage design capacity and prior to the conversion to the post-construction practice unless suitable storage is demonstrated based upon over-design. 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. Combining multiple sediment and erosion control measures in order to maximize pollutant removal is encouraged.

iii. **Sediment Barriers and Diversions.** Sheet flow runoff from denuded areas shall be intercepted by sediment barriers 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. For most applications, standard silt fence may be substituted with a 12-inch diameter sediment barrier. The relationship between the maximum drainage area to sediment barrier for a particular slope range is shown in the following table:

Table 3 Sediment Barrier Maximum Drainage Area Based on Slope

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

Placing sediment barriers 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. Diversion practices, 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. 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 long-term 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 is authorized by a CWA 401 water quality certification, CWA 404 permit, or Ohio EPA non-jurisdictional wetland/stream program approval. Note: local jurisdictions may have more stringent post-construction requirements.

Detail drawings and maintenance plans shall be provided for all post-construction BMPs in the SWP3. 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). Maintenance plans shall ensure that pollutants collected within structural post-construction practices are disposed of in accordance with local, state, and federal regulations. To ensure that storm water management systems function as

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; (5) construction drawings or excerpts showing the plan view, profile and details of the outlet(s); and (6) a map showing all access and maintenance easements (7) for table 4a practices, provide relevant elevations and associated volumes that dictate when removal of accumulated sediments must occur. Permittees are responsible for assuring all post-construction practices meet plan specifications and intended post-construction conditions have been met (e.g., sediment removed from, and sediment storage restored to, permanent pools, sediment control outlets removed and replaced with permanent post-construction discharge structures, and all slopes and drainageways permanently stabilized), but 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., park lands), 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.M.1.

For all construction activities that will disturb two or more acres of land, or will disturb less than two acres, that are a part of a larger common plan of development or sale which will disturb two or more acres of land, the post construction BMP(s) chosen shall be able to manage storm water runoff for protection of stream channels, stream stability, and 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 0.90-inch rainfall and shall be determined using the following equations:

$$WQ_v = Rv * P * A / 12 \quad \text{(Equation 1)}$$

where:
WQ_v = water quality volume in acre-feet
Rv = the volumetric runoff coefficient calculated using equation 2
P = 0.90 inch precipitation depth
A = area draining into the BMP in acres

$$Rv = 0.05 + 0.9i \quad \text{(Equation 2)}$$

where i = fraction of post-construction impervious surface)

An additional volume equal to 20 percent of the WQ_v shall be incorporated into the BMP for sediment storage. Ohio EPA recommends BMPs be designed according to the methodology described 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 Tables 4a and 4b below are 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 WQv in less than one-third of the drain time. The WQv is the volume of storm water runoff that must be detained by a post-construction practice as specified by the most recent edition of the Rainwater and Land Development manual.

Post-construction practices shall be sized to treat 100% of the WQv associated with their contributing drainage area. If there is an existing post-construction BMP that treats runoff from the disturbed area, and the BMP meets the post-construction requirements of this permit, no additional post-construction BMP will be required. A regional storm water BMP may be used to meet the post-construction requirement if 1) the BMP meets the design requirements for treating the WQv, and 2) a legal agreement is established through which the regional BMP owner or operator agrees to provide this service in the long term. Design information for such facilities such as contributing drainage areas, capacities, elevations, outlet details and drain times shall be included in the SWP3.

Table 4a Extended Detention Post-Construction Practices with Minimum Drain Times

Extended Detention Practices	**Minimum Drain Time of WQv**
Wet Extended Detention Basin[1,2]	24 hours
Constructed Extended Detention Wetland[1,2]	24 hours
Dry Extended Detention Basin[1,3]	48 hours
Permeable Pavement – Extended Detention[1]	24 hours
Underground Storage – Extended Detention[1,4]	24 hours
Sand & Other Media Filtration - Extended Detention[1, 5]	24 hours

Notes:
1. The outlet structure shall not discharge more than the first half of the WQv in less than one-third of the drain time.
2. Provide a permanent pool with a minimum volume equal to the WQv and an extended detention volume above the permanent pool equal to 1.0 x WQv.
3. Dry basins must include a forebay and a micropool each sized at a minimum of 0.1 x WQv and a protected outlet, or include acceptable pretreatment and a protected outlet.
4. Underground storage must have pretreatment for removal of suspended sediments included in the design and documented in the SWP3. This pretreatment shall concentrate sediment in a location where it can be readily removed. For non-infiltrating, underground extended detention systems, pretreatment shall be 50% effective at capturing total suspended solids according to the testing protocol established in the Alternative Post-Construction BMP Testing Protocol.
5. The WQv ponding area shall completely empty between 24 and 72 hours.

Table 4b Infiltration Post-Construction Practices with Maximum Drain Times

Infiltration Practices	**Maximum Drain Time of WQv**
Bioretention Area/Cell[1,2]	24 hours
Infiltration Basin	24 hours
Infiltration Trench[2]	48 hours
Permeable Pavement – Infiltration[3]	48 hours
Underground Storage – Infiltration[3,4]	48 hours

Notes:
1. Bioretention soil media shall have a permeability of approximately 1 – 4 in/hr. Meeting the soil media specifications in the Rainwater and Land Development manual is considered compliant with this requirement. Bioretention cells must have underdrains unless in-situ conditions allow for the WQv (surface ponding) plus the bioretention soil (to a depth of 24 inches) to drain completely within 48 hours.
2. Infiltrating practices with the WQv stored aboveground (bioretention, infiltration basin) shall fully drain the WQv within 24 hours to minimize nuisance effects of standing water and to promote vigorous communities of appropriate vegetation.
3. Subsurface practices designed to fully infiltrate the WQv (infiltration trench, permeable pavement with infiltration, underground storage with infiltration) shall empty within 48 hours to recover storage for subsequent storm events.
4. Underground storage systems with infiltration must have adequate pretreatment of suspended sediments included in the design and documented in the SWP3 in order to minimize clogging of the infiltrating surface. Pretreatment shall concentrate sediment in a location where it can be readily removed. Examples include media filters situated upstream of the storage or other suitable alternative approved by Ohio EPA. For infiltrating underground systems, pretreatment shall be 80% effective at capturing total suspended solids according to the testing protocol established in the Alternative Post-Construction BMP Testing Protocol.

Small Construction Activities. For all construction activities authorized under this permit which result in a disturbance less than 2 acres, a post-construction practice shall be used to treat storm water runoff for pollutants and to reduce adverse impacts on receiving waters. The applicant must provide a justification in the SWP3 why the use of table 4a and 4b practices are not feasible. The justification must address limiting factors which would prohibit the project going forward should table 4a and 4b practices be required. Please note that additional practices selected will require approval from the regulated MS4. The use of green infrastructure BMPs such as runoff reducing practices is also encouraged.

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 Tables 4a and 4b are not feasible and the following criteria are met: (1) a maintenance agreement or policy is established to ensure operations and treatment long-term; (2) the offsite location discharges to the same HUC-12 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 application.

Previously Developed Areas - Ohio EPA encourages the redevelopment of previously graded, paved or built upon sites through a reduction of the WQv treatment requirement. For a previously developed area, one or a combination of the following two conditions shall be met:

- A 20 percent net reduction of the site's volumetric runoff coefficient through impervious area reduction with soil restoration or replacing impervious roof area with green roof area (for these purposes green roofs shall be considered pervious surface) or
- Treatment of 20 percent of the WQv for the previously developed area using a practice meeting Table 4a/5b criteria.

Where there is a combination of redeveloped areas and new development, a weighted approached shall be used with the following equation:

$$WQv = P * A * [(Rv*0.2) + (Rv2 - Rv1)] / 12 \qquad \text{(Equation 3)}$$

Where

P = 0.90 inches
A = Area draining into the BMP in acres
Rv1 = volumetric runoff coefficient for existing conditions (current site impervious area)
Rv2 = volumetric runoff coefficient for proposed conditions (post-construction site impervious area)

Post-construction practices shall be located to treat impervious areas most likely to generate the highest pollutant load, such as parking lots or roadways, rather than areas predicted to be cleaner such as rooftops.

Runoff Reduction Practices. The size of structural post-construction practices used to capture and treat the WQv can be reduced by incorporating runoff

reducing practices into the design of the site's drainage system. The approach to calculate and document runoff reduction is detailed in the Rainwater and Land Development Manual. BMP-specific runoff reduction volumes are set by specifications in the Rainwater and Land Development Manual for the following practices:

- Impervious surface disconnection
- Rainwater harvesting
- Bioretention
- Infiltration basin
- Infiltration trench
- Permeable pavement with infiltration
- Underground storage with infiltration
- Grass swale
- Sheet flow to filter strip
- Sheet flow to conservation area

A runoff reduction approach may be used to meet the groundwater recharge requirements in the Big Darby Creek Watershed; the runoff reduction practices used for groundwater recharge may be used to reduce the WQv requirement, see appendix A for details on groundwater recharge requirements.

In order to promote the implementation of green infrastructure, the Director may consider the use of runoff reducing 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, e.g., sheet flow from perimeter areas such as the rear yards of residential lots, 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. Alternative post-construction BMPs shall previously have been tested to confirm storm water treatment efficacy equivalent to those BMPs listed in Tables 4a and 4b using the protocol described in this section. BMP testing may include laboratory testing, field testing, or both.

Permittees shall request approval from Ohio EPA to use alternative post-construction BMPs on a case-by-case basis. To use an alternative post-construction BMP, the permittee must demonstrate that a BMP listed in Tables 4a and 4b is not feasible and the proposed alternative post-construction BMP meets the minimum treatment criteria as described in this section. The permittee shall submit an application to Ohio EPA for any proposed alternative post-construction BMP. Where the development project is located within a regulated municipal separate storm sewer system (MS4) community, the use of an alternative practice requires pre-approval by the MS4 before submittal of the Ohio EPA permit application. Ohio EPA requires that approvals for alternative

post-construction BMPs are finalized before permittees submit an NOI for permit coverage.

In addition to meeting sediment removal criteria, the discharge rate from the proposed alternative 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. Discharge rate is considered to have a negligible impact if the permittee can demonstrate that one of the following three 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 storm water drainage system of the development discharges directly into a large river with drainage area equal to 100 square miles or larger upstream of the development site or to a lake where the development area is less than 5 percent of the watershed area, unless a TMDL has identified water quality problems into the receiving surface waters of the state.

If the conditions above that minimize the potential for hydrological impact to the receiving surface water of the state do not exist, then the alternative post-construction BMP must prevent stream erosion by reducing the flow rate from the WQ_V. In such cases, discharge of the WQ_V must be controlled. A second storm water BMP that provides extended detention of the WQv may be needed to meet the post-construction criteria.

Alternative Post-Construction BMP Testing Protocol. For laboratory testing, the alternative BMP shall be tested using sediment with a specific gravity of 2.65, a particle size distribution closely matching the distribution shown in Table 5, and total suspended sediment (TSS) concentrations within 10% of 200 mg/L (180 mg/L – 220 mg/L TSS). For an alternative BMP to be acceptable, the test results must demonstrate that the minimum treatment rate is 80% TSS removal at the design flow rate for the tested BMP.

Table 5 Particle Size Distribution for Testing Alternative Post-Construction BMPs

Particle Size (microns)	Percent Finer (%)
1,000	100
500	95
250	90
150	75
100	60
75	50
50	45
20	35
8	20
5	10
2	5

- For field testing, the alternative BMP shall be tested using storm water runoff from the field, not altered by adding aggregate, or subjecting to unusually high

sediment loads such as those from unstabilized construction disturbance. The storm water runoff used for field testing shall be representative of runoff from the proposed installation site for the alternative BMP after all construction activities have ceased and the ground has been stabilized. The influent and effluent TSS concentrations of storm water runoff must be collected in the field. For an alternative BMP to be acceptable, the test results must demonstrate the minimum treatment rate is 80% TSS removal for influent concentrations equal to or greater than 100 mg/L TSS. If the influent concentration to the proposed alternative BMP is less than 100 mg/L TSS in the field, then the BMP must achieve an average effluent concentration less than or equal to 20 mg/L TSS.

- Testing of alternative post-construction BMPs shall be performed or overseen by a qualified independent, third-party testing organization.

- Testing shall demonstrate the maximum flow rate at which the alternative post-construction BMP can achieve the necessary treatment efficacy, including consideration for the potential of sediment resuspension.

- Testing shall demonstrate the maximum volume of sediment and floatables that can be collected in the alternative post-construction BMP before pollutants must be removed to maintain 80% treatment efficacy.

- Testing shall indicate the recommended maintenance frequency and maintenance protocol to ensure ongoing performance of the alternative post-construction BMP.

The alternative post-construction BMP testing protocol described in this section is similar to testing requirements specified by the New Jersey Department of Environmental Protection (NJDEP) for storm water Manufactured Treatment Devices (MTD) and therefore testing results certified by NJDEP shall be accepted by Ohio EPA. For examples of BMPs that have been tested using New Jersey Department of Environmental Protection's procedures, see the website: www.njstormwater.org.

Another nationally recognized storm water product testing procedure is the Technology Assessment Protocol – Ecology (TAPE) administered by the State of Washington, Department of Ecology. The TAPE testing procedure describes testing to achieve 80% TSS removal using a sediment mix with a particle size distribution with approximately 75% of the mass of the aggregate with particle diameters less than 45 microns. Overall, this particle size distribution is finer than the distribution in Table 6. Therefore, if TAPE testing results are available for a proposed alternative post-construction BMP, those results shall be accepted by Ohio EPA. The State of Washington, Department of Ecology website is www.ecy.wa.gov.

Alternative BMPs that utilize treatment processes such as filtering or centrifugal separation, rather than a detention and settling volume, must be designed to ensure treatment of 90 percent of the average annual runoff volume. For the design of these BMPs, the water quality flow rate (WQF)

considered equivalent to the Water Quality Volume (WQv) shall be determined utilizing the Rational Method (Equation 4) with an intensity (i) appropriate for the water quality precipitation event. This intensity shall be calculated using the table given in Appendix C.

$$WQF = C * i * A \qquad \text{(Equation 4)}$$

Where

WQF = Water Quality Flow Rate in cubic feet per second (cfs)
C = Rational Method Coefficient of Runoff
i = Intensity (in/hr)
A = Area draining to the BMP (acres)

Alternative post-construction BMPs may include, but are not limited to: vegetated swales, vegetated filter strips, hydrodynamic separators, high-flow media filters, cartridge filters, membrane filters, subsurface flow wetlands, multi-chamber treatment trains, road shoulder media filter drains, wetland channels, rain barrels, green roofs, and rain gardens. The Director may also consider non-structural post-construction approaches.

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 or an MS4. 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. The permittee shall assign “qualified inspection personnel” to conduct 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. At a minimum, procedures in a SWP3 shall provide that all controls on the site are inspected:

- after any storm event greater than one-half inch of rain per 24-hour period by the end of the next calendar day, excluding weekends and holidays unless work is scheduled; and
- once every seven calendar days.

The inspection frequency may be reduced to at least once every month for dormant sites if:

- the entire site is temporarily stabilized or
- runoff is unlikely due to weather conditions for extended periods of time (e.g., site is covered with snow, ice, or the ground is frozen).

The beginning and ending dates of any reduced inspection frequency shall be documented in the SWP3.
Once a definable area has achieved final stabilization, the area may be marked on the SWP3 and no further inspection requirements shall apply to that portion of the site.

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.h 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 plan 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. A maintenance plan is in place to ensure all post construction BMPs are adequately maintained in the long-term;

    d. For non-residential developments, 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 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)For residential developments only, temporary stabilization has been completed and the lot, which includes a home, has been transferred to the homeowner; (ii) final stabilization has been completed and the lot, which does not include a home, has been transferred to the property owner; (iii) no stabilization has been implemented on a lot, which includes a home, and the lot has been transferred to the homeowner; or

e. An exception has been granted under Part III.G.4.

C. How to submit an NOT.

To terminate permit coverage, the permitee shall submit a complete and accurate Notice of Termination (NOT) form using Ohio EPA's electronic application form which is available through the Ohio EPA eBusiness Center at: https://ebiz.epa.ohio.gov/. Submission through the Ohio EPA eBusiness Center will require establishing an Ohio EPA eBusiness Center account and obtaining a unique Personal Identification Number (PIN) for final submission of the NOT. Existing eBusiness Center account holders can access the NOT form through their existing account and submit using their existing PIN. Please see the following link for guidance: **http://epa.ohio.gov/dsw/ebs.aspx#170669803-streams-guidance**. Alternatively, if you are unable to access the NOT form through the agency eBusiness Center due to a demonstrated hardship, the NOT may be submitted on paper NOT forms provided by Ohio EPA. NOT information shall be typed on the form. Please contact Ohio EPA, Division of Surface Water at (614) 644-2001 if you wish to receive a paper NOT form.

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. "Bankfull channel" means a channel flowing at channel capacity and conveying the bankfull discharge. Delineated by the highest water level that has been maintained for a sufficient period of time to leave evidence on the landscape, such as the point where the natural vegetation changes from predominantly aquatic to predominantly terrestrial or

the point at which the clearly scoured substrate of the stream ends and terrestrial vegetation begins.

C. "Bankfull discharge" means the streamflow that fills the main channel and just begins to spill onto the floodplain; it is the discharge most effective at moving sediment and forming the channel.

D. "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.

E. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

F. "Channelized stream" means the definition set forth in Section 6111.01 (M) of the ORC.

G. "Commencement of construction" means the initial disturbance of soils associated with clearing, grubbing, grading, placement of fill, or excavating activities or other construction activities.

H. "Concentrated storm water runoff" means any storm water runoff which flows through a drainage pipe, ditch, diversion or other discrete conveyance channel.

I. "Director" means the director of the Ohio Environmental Protection Agency.

J. "Discharge" means the addition of any pollutant to the surface waters of the state from a point source.

K. "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.

L. "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.

M. "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.

N. "General contractor" – for the purposes of this permit, the primary individual or company solely accountable to perform a contract. The general contractor typically supervises activities, coordinates the use of subcontractors, and is authorized to direct workers at a site to carry out activities required by the permit.

O. "Individual Lot NOI" means a Notice of Intent for an individual lot to be covered by this permit (see Part I of this permit).

P. "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.

Q. "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.

R. "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."

S. "Natural channel design" means an engineering technique that uses knowledge of the natural process of a stream to create a stable stream that will maintain its form and function over time.

T. "NOI" means notice of intent to be covered by this permit.

U. "NOT" means notice of termination.

V. "Operator" means any party associated with a construction project that meets either of the following two criteria:

1. The party has day-to-day operational control all activities at a project which are necessary to ensure compliance with a SWP3 for the site and all permit conditions including the ability to authorize modifications to the SWP3, construction plans and site specification to ensure compliance with the General Permit, or

2. Property owner meets the definition of operator should the party which has day to day operational control require additional authorization from the owner for modifications to the SWP3, construction plans, and/or site specification to ensure compliance with the permit or refuses to accept all responsibilities as listed above (Part VII.V.1).

Subcontractors generally are not considered operators for the purposes of this permit. 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.

W. "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.

X. "Owner or operator" means the owner or operator of any "facility or activity" subject to regulation under the NPDES program.

Y. "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.

Z. "Percent imperviousness" means the impervious area created divided by the total area of the project site.

AA. "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.

BB. "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.

CC. "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.

DD. "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.

EE. "Runoff coefficient" means the fraction of total rainfall that will appear at the conveyance as runoff.

FF. "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.

GG. "State isolated wetland permit requirements" means the requirements set forth in Sections 6111.02 through 6111.029 of the ORC.

HH. "Storm water" means storm water runoff, snow melt and surface runoff and drainage.

II. "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.

JJ. "Stream edge" means the ordinary high water mark.

KK. "Subcontractor" – for the purposes of this permit, an individual or company that takes a portion of a contract from the general contractor or from another subcontractor.

LL. "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.

MM. "SWP3" means storm water pollution prevention plan.

NN. "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.

OO. "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.

PP. "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.

Appendix A
Big Darby Creek Watershed

CONTENTS OF THIS APPENDIX

A.1 Permit Area. This appendix to Permit OHC00005 applies to the entire Big Darby Creek Watershed located within the State of Ohio. Please see Attachment A for permit area boundaries.

A.2 This general permit requires control measures/BMPs for construction sites that reflect recommendations set forth in the U.S. EPA approved Big Darby Creek TMDL.

A.3 Sediment settling ponds additional conditions. The sediment settling pond shall be sized to provide a minimum sediment storage volume of 134 cubic yards of effective sediment storage per acre of drainage and maintain a target discharge performance standard of 45 mg/l Total Suspended Solids (TSS) up to a 0.75-inch rainfall event within a 24-hour period. Unless infeasible, sediment settling ponds must be dewatered at the pond surface using a skimmer or equivalent device. The depth of the sediment settling pond must be less than or equal to five feet. Sediment must be removed from the sediment settling pond when the design capacity has been reduced by 40 percent (This is typically reached when sediment occupies one-half of the basin depth).

Silt Fence and Diversions. For sites five or more acres in size, the use of sediment barriers as a primary sediment control is prohibited. Centralized sediment basins shall be used for sites 5 or more acres in size. Diversions shall direct all storm water runoff from the disturbed areas to the impoundment intended for sediment control. The sediment basins and associated diversions shall be implemented prior to the major earth disturbing activity.

The permittee shall sample in accordance with sampling procedures outlined in 40 CFR 136. Sampling shall occur as follows:

i. Occur at the outfall of each sediment settling pond associated with the site. Each associated outfall shall be identified by a three-digit number (001, 002, etc.);

ii. The applicable rainfall event for sampling to occur shall be a rainfall event of 0.25-inch to a 0.75-inch rainfall event to occur within a 24-hour period. Grab sampling shall be initiated at a site within 14 days, or the first applicable rainfall event

thereafter, once upslope disturbance of each sampling location is initiated and shall continue on a quarterly basis. Quarterly periods shall be represented as January - March, April - June, July - September and October - December. Sampling results shall be retained on site and available for inspection.

If any sample is greater than the performance standard of 45 mg/l TSS, the permittee shall modify the SWP3 and install/implement new control practice(s) within 10 days to ensure the TSS performance standard is maintained. Within 3 days of improvement(s), or the first applicable rainfall event thereafter, the permittee shall resample to ensure SWP3 modifications maintain the TSS performance standard target.

For each sample taken, the permittee shall record the following information:

- the outfall and date of sampling;
- the person(s) who performed the sampling;
- the date the analyses were performed on those samples;
- the person(s) who performed the analyses;
- the analytical techniques or methods used; and
- the results of all analyses.

Both quarterly and sampling results following a discharge target exceedance shall be retained on site and available for inspection.

A.4 Riparian Setback Requirements.

The SWP3 shall clearly delineate the boundary of required stream setback distances. No construction activity shall occur, without appropriate mitigation, within the delineated setback boundary except activities associated with restoration or recovery of natural floodplain and channel form characteristics as described in Attachment B, storm water conveyances from permanent treatment practices and approvable utility crossings. Such conveyances must be designed to minimize the width of disturbance. If intrusion within the delineated setback boundary is necessary to accomplish the purposes of a project, then mitigation shall be required in accordance with Appendix A.5 of this permit. Streams requiring protection under this section are defined as perennial, intermittent or ephemeral streams with a defined bed, bank or channel. National Resources Conservation Service (NRCS) soil survey maps should be used as one reference and the presence of a stream requiring protection should also be confirmed in the field. Any required setback distances shall be clearly displayed in the field prior to any construction related activity.

Riparian setbacks distance shall be delineated based upon one of the following two methods:

i. The setback distance shall be sized as the greater of the following:

1. The regulatory 100-year floodplain based on FEMA mapping;

2. A minimum of 100 feet from the top of the streambank on each side; or

3. A distance calculated using the following equation:

$$W = 133DA^{0.43}$$ (Equation 1, Appendix A)

where:
DA = drainage area (mi^2)
W = total width of riparian setback (ft)

W shall be centered over the meander pattern of the stream such that a line representing the setback width would evenly intersect equal elevation lines on either side of the stream.

If the DA remains relatively constant throughout the stretch of interest, then the DA of the downstream edge of the stretch should be used. Where there is a significant increase in the DA from the upstream edge to The downstream edge of the area of interest, the setback width shall increase accordingly.

ii. **Stream Restoration with 100 feet (each side) Riparian Setback**. Each stream segment within the proposed site boundaries can be assessed in accordance with Attachment B, Part 1. In the event the stream segment is classified as a "Previously Modified Low Gradient Headwater Stream", the permittee has the option to restore the stream segment in accordance with Attachment B and include a 100-foot water quality setback distance from the top of the streambank on each side. In the event the stream segment exceeds the minimum criteria in Attachment B to be classified as a "Previously Modified Low Gradient Headwater Stream," this Part III.G.2.b.ii may be considered on a case-by-case basis.

No structural sediment controls (e.g., the installation of sediment barriers or a sediment settling pond) or structural post-construction controls shall be used in a surface water of the State or the delineated setback corridor.

Previously developed projects (as defined in Part III.G.2.e.) located within the delineated setback boundary are exempt from Riparian Setback Mitigation (A.5) provided the proposed project does not further intrude into the delineated setback boundary.

Linear transportation projects which are caused solely by correcting safety related issues, mandates of modern design requirements and/or resulting from other mitigation activities are exempt from Riparian Setback Mitigation (Part III.G.2.c. A.5) if less than one acre of total new right-of-way is associated with the project.

A.5 Riparian Setback Mitigation.

The mitigation required for intrusion into the riparian setback shall be determined by the horizontal distance the intrusion is from the stream. Up to three zones will be used in determining the required mitigation. Zone 1 extends from 0 to 25 feet from the stream edge. Zone 2 extends from 25 to 100 feet from the stream edge, and Zone 3 extends from 100 feet to the outer edge of the setback corridor. Intrusion into these zones will require the following mitigation within the same Watershed Assessment Unit (12-digit HUC scale):

i. Four times the total area disturbed in the stream and within Zone 1 of the site being developed shall be mitigated within Zone 1 of the mitigation location.

ii. Three times the area disturbed within Zone 2 of the site being developed shall be mitigated within Zones 1 and/or 2 of the mitigation location.

iii. Two times the area disturbed within Zone 3 of the site being developed shall be mitigated within any zone of the mitigation location.

In lieu of mitigation ratios found within in this section, linear transportation projects which result in total new right-of-way greater than one acre and less than two acres, which are caused solely by correcting safety related issues, mandates of modern design requirements and/or resulting from other mitigation activities, shall provide Riparian Setback Mitigation at a ratio of 1.5 to 1.

All mitigation shall, at a minimum, include conserved or restored setback zone and should be designed to maximize the ecological function of the mitigation. Including mitigation at the stream edge along with associated setback areas is one way to maximize ecological function. Mitigation shall be protected in perpetuity by binding conservation easements or environmental covenants which must be recorded within 6 months of receiving permit authorization. Granting of binding conservation easements or environmental covenants protected in perpetuity for land outside of disturbed area but within a required riparian setback counts towards required mitigation.

Mitigation may also be satisfied by approved pooled mitigation areas and in-lieu fee sponsored mitigation areas. Mitigation resulting from State or Federal environmental regulations may be adjusted in recognition of these requirements.

A.6 Groundwater Recharge Requirements.

The SWP3 shall ensure that the overall site post-development groundwater recharge equals or exceeds the pre-development groundwater recharge. The SWP3 shall describe the conservation development strategies, BMPs and other practices deemed necessary by the permittee to maintain or improve pre-development rates of groundwater recharge. Pre-development and post-development groundwater recharge shall be calculated using the following equation:

i. $Vre_x = A_x * Dre_x / 12$ (Equation 2, Appendix A)

where:

X	=	Represents a land use and hydrologic soil group pair
Vre_x	=	Volume of total annual recharge from land use-soil group X (in acre-ft)
Dre_x	=	Depth of total annual recharge associated with land use-soil group X from Tables 1 or 2 (in inches)
A_x	=	Area of land use-soil group X (in acres)

Table 1 values should be used for land where the underlying geology indicates a potential for downward migration of groundwater. Table 1 values represent the combined total groundwater recharge potential including groundwater contribution to stream baseflow and to the underlying bedrock aquifer. The potential for downward migration can be determined from a comparison of the potentiometric maps for the glacial and bedrock aquifers. Use Table 2 when this potential is unlikely to exist. Detailed potentiometric maps for the Franklin county portion of the Darby watershed, and coarse potentiometric maps for the Darby watershed outside of Franklin County and hydrologic soil group data are available at: http://www.epa.state.oh.us/dsw/permits/GP_ConstructionSiteStormWater_Darby.aspx.

Table A-1 (Appendix A) Annual Average Expected Total Groundwater Recharge[3]

Land Use	Density (DU[1]/acre)	% Impervious	Recharge (inches) by Hydrologic Soil Group2			
			A	B	C	D
Woods / Forest	-	-	17.0	16.6	15.6	14.6
Brush	-	-	17.0	16.6	15.6	14.6
Meadow	-	-	17.0	16.5	15.4	14.4
Managed Wood	-	-	16.9	16.0	14.7	13.4
Pasture	-	-	16.5	15.9	14.4	13.0
Row Crop	-	-	15.8	14.2	11.9	8.1
Urban Grasses	-	-	15.7	15.7	14.2	12.7
Low Density Residential	0.5	12%	15.7	15.7	14.2	12.7
Low Density Residential	1	20%	14.8	14.8	13.7	12.2
Medium Density Residential	2	25%	11.5	11.5	11.5	11.5
Medium Density Residential	3	30%	11.2	11.2	11.2	11.2
Medium Density Residential	4	38%	9.6	9.6	9.6	9.6
High Density Residential	≥5	65%	7.3	7.3	7.3	7.3
Commercial & Road Right-of-Way[4]	-	90%	4.3	4.3	4.3	4.3

[1] DU = Dwelling Units

[2] Hydrologic soil group designations of A/D, B/D, and C/D should be considered as D soils for this application

[3] These values apply when recharge of the aquifer is expected; recharge to the bedrock aquifer can be expected when the potentiometric head of the glacial aquifer is greater than the bedrock aquifer.

[4] The 4.3 infiltration value may only be used for an area as a whole (includes impervious and pervious areas) which includes a minimum of 10 percent pervious area. If all land uses (pervious and impervious) are tabulated separately, then impervious areas have 0 inches of recharge.

Table A-2 (Appendix A) Annual Average Expected Baseflow Recharge[3]

Land Use	Density (DU[1]/acre)	% Impervious	Recharge (inches) by Hydrologic Soil Group2			
			A	B	C	D
Woods / Forest	-	-	11.8	11.4	10.7	9.9
Brush	-	-	11.7	11.4	10.7	9..9
Meadow	-	-	11.8	11.3	10.6	9.8
Managed Wood	-	-	11.7	11.0	10.0	9.1
Pasture	-	-	11.3	11.0	9.9	8.9
Row Crop	-	-	11.1	10.1	9.0	6.2
Urban Grasses	-	-	11.2	11.2	10.3	9.3
Low Density Residential	0.5	12%	11.2	11.2	10.3	9.3
Low Density Residential	1	20%	9.5	9.5	9.0	8.6
Medium Density Residential	2	25%	7.8	7.8	7.8	7.8
Medium Density Residential	3	30%	7.6	7.6	7.6	7.6
Medium Density Residential	4	38%	6.5	6.5	6.5	6.5
High Density Residential	≥5	65%	5.0	5.0	5.0	5.0
Commercial & Road Right-of-Way[4]	-	90%	2.9	2.9	2.9	2.9

[1] DU = Dwelling Units

[2] Hydrologic soil group designations of A/D, B/D, and C/D should be considered as D soils for this application

[3] These values apply when no recharge of the aquifer is expected.

[4] The 2.9 infiltration value may only be used for an area as a whole (includes impervious and pervious areas) which includes a minimum of 10 percent pervious area. If all land uses (pervious and impervious) are tabulated separately, then impervious areas have 0 inches of recharge.

Table A-3 (Appendix A) Land Use Definitions

Land Use	Definition
Woods / Forest	Areas dominated by trees. Woods are protected from grazing and litter and brush adequately cover the soil.
Brush	Brush, weeds, grass mixture where brush is the major element and more than 75% of the ground is covered.
Meadow	Continuous grass, protected from grazing, generally mowed for hay.
Managed Wood	Orchards, tree farms, and other areas planted or maintained for the production of fruits, nuts, berries, or ornamentals.
Pasture	Pasture, grassland, or range where at least 50% of the ground is covered and the area is not heavily grazed.
Row Crop	Areas used to produce crops, such as corn, soybeans, vegetables, tobacco, and cotton.
Urban Grasses	Vegetation (primarily grasses) planted in developed settings for recreation, erosion control, or aesthetic purposes. Examples include parks, lawns, golf courses, airport grasses, and industrial site grasses.
Residential	Areas with a mixture of constructed materials and vegetation; the average % imperviousness and number of dwelling units per acre to determine the appropriate density is specified.
Commercial	Includes infrastructure (e.g. roads, railroads, etc.) and all highly developed areas not classified as High Intensity Residential.

ii. The pre-development ground water recharge volume shall be calculated by determining the area of each land use-soil type pairing on the site of interest. The recharge associated with each such pairing multiplied by the area will give the pre-development volume of total groundwater

recharge. The same shall be done for the post-development land use-soil type pairings.

Any activity that is expected to produce storm water runoff with elevated concentrations of carcinogens, hydrocarbons, metals, or toxics is prohibited from infiltrating untreated storm water from the area affected by the activity. The groundwater recharge mitigation requirement for areas affected by such activities must be met by methods which do not present a risk of groundwater contamination. The following land uses and activities are typically deemed storm water hotspots:

Vehicle salvage yards and recycling facilities

- vehicle service and maintenance facilities (i.e. truck stops, gas stations)
- fleet storage areas (i.e. bus, truck)
- industrial sites subject to industrial storm water permitting requirements
- bulk terminals
- marinas
- facilities that generate or store hazardous materials
- other land uses and activities as designated by individual review

The following land uses and activities are not normally considered hotspots:

- residential streets and rural highways
- residential development
- institutional development
- commercial and office developments
- non-industrial rooftops
- pervious areas, except golf courses and nurseries

The applicant may use structural BMPs within drinking water source protection areas for community public water systems only to the extent that the structural BMP(s) does not cause contaminants in the recharge waters to impact the ground water quality at levels that would cause an exceedance of the drinking water Maximum Contaminant Levels (OAC Section 3745-81 and 3745-82). To obtain a map of drinking water source protection areas for community public water systems contact Ohio EPA's Division of Drinking and Ground Waters at (614) 644-2752.

Linear transportation projects which are caused solely by correcting safety related issues, mandates of modern design requirements and/or resulting from other mitigation activities are exempt from Groundwater Recharge Mitigation (Part III.G.2.e) if less than one acre of total new right-of-way is associated with the project.

Protection of open space (infiltration areas) shall be by binding conservation easements that identify a third-party management agency, such as a homeowners' association/condominium association, political jurisdiction or third-party land trust.

A.7 Groundwater Recharge Mitigation.

If the post-development recharge volume is less than the pre-development recharge volume, then mitigation will be required. Two options are available for most applications:

i. The preferred method is to convert additional land to land use with higher recharge potential. The difference in groundwater recharge between the existing and converted land use recharge is the amount which can be used as recharge credit. Off-site Groundwater Recharge Mitigation shall occur within the same Watershed Assessment Unit (12-digit HUC scale) as the permitted site and preferably up-gradient and within a 2-mile radius.

   Mitigation shall be protected in perpetuity by binding conservation easements or environmental covenants which must be recorded within 6 months of receiving permit authorization. Granting of binding conservation easements or environmental covenants protected in perpetuity for land outside of the disturbed area, but within a required riparian setback counts towards required mitigation.

Mitigation may also be satisfied by approved pooled mitigation areas and in-lieu fee sponsored mitigation areas.

ii. On-site structural and non-structural practices may also be used to achieve groundwater mitigation requirements by retaining and infiltrating on-site a minimum volume of storm water runoff based on the area and hydrologic soil grouping of disturbed soils. If these infiltrating practices are incorporated upstream of the water quality volume treatment practice, the volume of groundwater being infiltrated may be subtracted from the water quality volume for purpose of meeting post-construction requirements. The on-site retention requirement is determined by the following formula:

$$V_{retention} = A_{HSG\text{-}A}*0.90\text{ in} + A_{HSG\text{-}B}*0.75\text{ in} + A_{HSG\text{-}C}*0.50\text{ in} + A_{HSG\text{-}D}*0.25\text{ in}$$

(Equation 3, Appendix A)

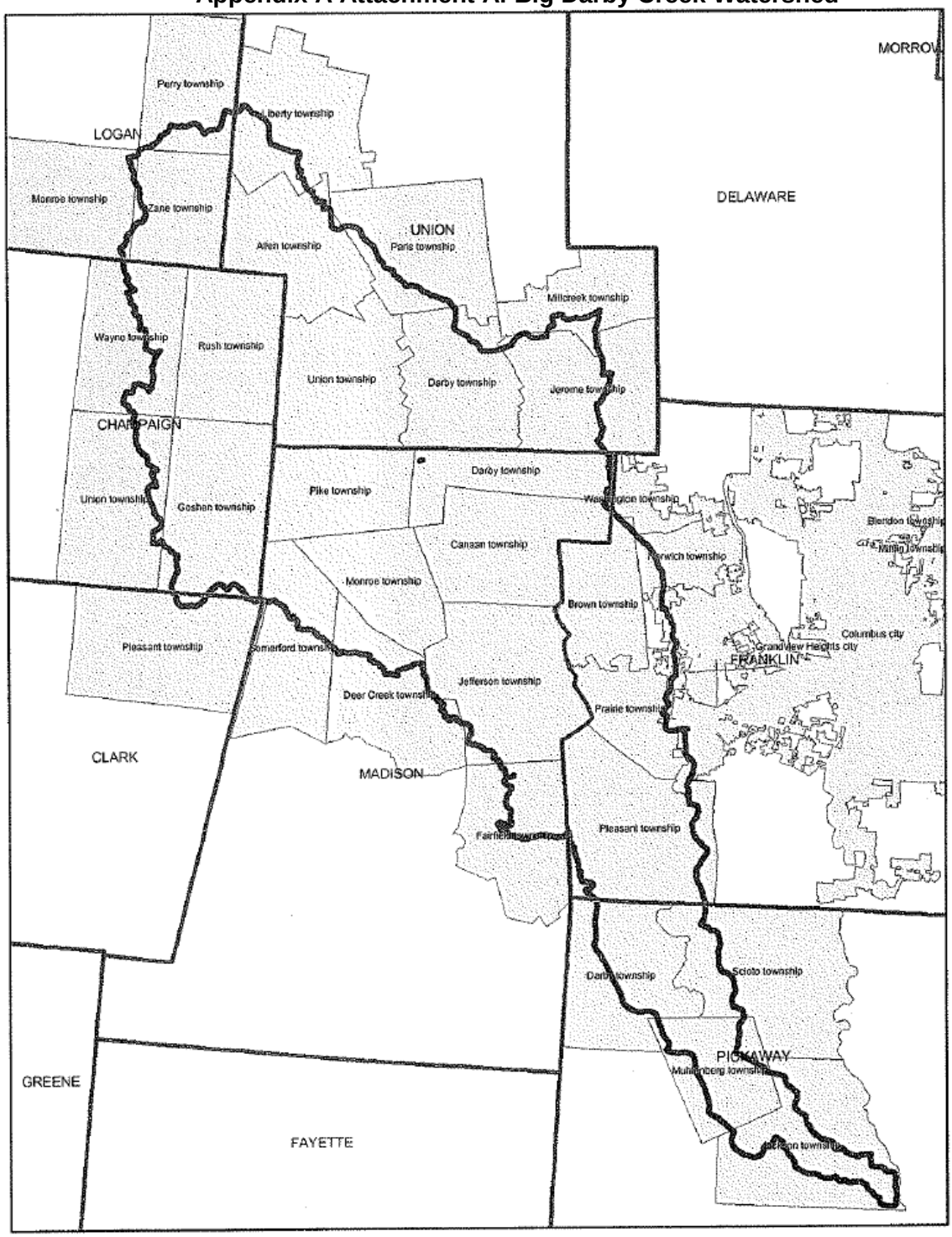
Where,
$V_{retention}$ = Volume of runoff retained onsite using an approved infiltration practice
$A_{HSG\text{-}x}$ = area of each hydrologic soil group within the disturbed area

Table A-4: Hydrologic Soil Groups and On-site Retention Depth per Acre

Hydrologic Soil Group	HSG A	HSG B	HSG C & D	HSG D
Retention Depth (inches)	0.90	0.75	0.50	0.25

Retention volume ($V_{retention}$) provided by selected practices shall be determined using the runoff reduction method criteria as outlined in Part III.G.2.e, Ohio EPA's Runoff Reduction spreadsheet and supporting documentation in the Rainwater and Land Development manual. Hydrologic soil group (HSG) areas are to be determined by using the current version of SURRGO or Web Soil Survey soils information.

Appendix A Attachment A: Big Darby Creek Watershed



A more detailed map can be viewed at:
http://www.epa.state.oh.us/dsw/permits/GP_ConstructionSiteStormWater_Darby.aspx

Appendix A Attachment B

Part 1 Stream Assessment

This assessment will determine if a stream is considered a previously channelized, low-gradient headwater stream (a drainage ditch) which would be applicable for stream restoration in lieu of protecting a setback as per Appendix A. A.4.i and ii.

In the event the assessment of the stream, meets all the criteria listed below, restoration (provided 401/404 permits are authorized) as depicted in Part 2 of this attachment, may be a means of reducing the setback distance required by A.4.i. (Appendix A).

Previously Channelized Low-Gradient Headwater Streams (drainage ditches) shall for the purposes of this permit be defined as having all of the following characteristics:

- Less than 10 square miles of drainage area
- Low gradient and low stream power such that despite their straightened and entrenched condition incision (down-cutting) is not evident
- Entrenched, entrenchment ratio < 2.2
- Straight, sinuosity of the bankfull channel < 1.02

Part 2 Restoration

Restoration shall be accomplished by any natural channel design approach that will lead to a self-maintaining reach able to provide both local habitat and watershed services (e.g. self-purification and valley floodwater storage).

a. Construction of a floodplain, channel and habitat via natural channel design
b. Floodplain excavation necessary to promote interaction between stream and floodplain
c. Include a water quality setback of 100 feet from top of the streambank on each side.

The primary target regardless of design approach shall be the frequently flooded width, which shall be maximized, at 10 times the channel's self-forming width. Five times the self-forming channel width may still be acceptable particularly on portions of the site if greater widths are achieved elsewhere.

Appendix B
Olentangy River Watershed

CONTENTS OF THIS APPENDIX

B.1 Permit Area.

This appendix to Permit OHC00005 applies to specific portions of the Olentangy River Watershed located within the State of Ohio. The permit area includes the following 12-digit Hydrologic Unit Codes (HUC-12) within the Olentangy River Watershed:

12-Digit Hydrologic Unit Codes

12-Digit Hydrologic Unit Codes (HUC)	Narrative Description of Sub-Watershed
05060001 09 01	Shaw Creek
05060001 09 02	Headwaters Whetstone Creek
05060001 09 03	Claypool Run-Whetstone Creek
05060001 10 07	Delaware Run-Olentangy River
05060001 11 01	Deep Run-Olentangy River
05060001 11 02 (Only portion as depicted in Attachment A)	Rush Run-Olentangy River

Please see Attachment A (Appendix B) for permit area boundaries. An electronic version of Attachment A can be viewed at
http://epa.ohio.gov/dsw/permits/GP_ConstructionSiteStormWater_Olentangy.aspx

B.2 This general permit requires control measures/BMPs for construction sites that reflect recommendations set forth in the U.S. EPA approved Olentangy TMDL.

B.3 Riparian Setback Requirements.

The permittee shall comply with the riparian setback requirements of this permit or alternative riparian setback requirements established by a regulated MS4 and approved by Ohio EPA. The SWP3 shall clearly delineate the boundary of required stream setback distances. The stream setback shall consist of a streamside buffer and an outer buffer. No construction activity shall occur, without appropriate mitigation, within the streamside buffer except activities associated with storm water conveyances from permanent treatment practices, approvable utility crossings and restoration or recovery of floodplain and channel form characteristics as described in Attachment B. Storm water conveyances must be designed to minimize the width of disturbance. Construction activities requiring mitigation for intrusions within the outer buffer for the Olentangy River mainstem and perennial streams are described in Appendix B.4

If intrusion within the delineated setback boundary is necessary to accomplish the purposes of a project, then mitigation shall be required in accordance with Appendix B.3. of this permit. Streams requiring protection under this section have a defined bed and bank or channel and are defined as follows:

- The Olentangy River mainstem;
- Perennial streams have continuous flow on either the surface of the stream bed or under the surface of the stream bed;
- Intermittent streams flow for extended periods of time seasonally of a typical climate year; and
- Ephemeral streams are normally dry and only flow during and after precipitation runoff (episodic flow).

National Resources Conservation Service (NRCS) soil survey maps should be used as one reference and the presence of a stream requiring protection should also be confirmed in the field. Any required setback distances shall be clearly displayed in the field prior to any construction related activity.

Riparian setbacks shall be delineated based upon one of the following two methods:

i. The required setback distances shall vary with stream type as follows:

a.The setback distances associated with the mainstem of the Olentangy River shall consist of:

(1) A streamside buffer width of 100 feet as measured horizontally from the ordinary high water mark per side; and

(2) An outer buffer width sized to the regulatory 100-year floodplain based on FEMA mapping. No impervious surfaces shall be constructed without appropriate mitigation and moderate to substantial fill activities with no impervious surface may require appropriate mitigation pending an individual approval by Ohio EPA.

b.The setback distance associated with perennial streams, other than the Olentangy mainstem, shall consist of:

(1) A streamside buffer width of 80 feet per side measured horizontally from the ordinary high water mark; and

(2) An outer buffer width sized to the regulatory 100-year floodplain based on FEMA mapping. In the event the regulatory 100-year floodplain is not established, the outer buffer width shall be calculated using the following equation and measured horizontally from the ordinary high water mark. No impervious surfaces, structure, fill, or activity that would impair the floodplain or stream stabilizing ability of the outer buffer shall occur without appropriate mitigation:

$W = 143DA^{0.41}$ (Equation 1 Appendix B)

where:
DA = drainage area (mi^2)
W = total width of riparian setback (ft)

W shall be centered over the meander pattern of the stream such that a line representing the setback width would evenly intersect equal elevation lines on either side of the stream.

If the DA remains relatively constant throughout the stretch of interest, then the DA of the downstream edge of the stretch should be used. Where there is a significant increase in the DA from the upstream edge to the downstream edge of the area of interest, the setback width shall increase accordingly.

b.The setback distance associated with intermittent streams and ephemeral streams shall be a streamside buffer width of 30 feet per side measured horizontally from the centerline of the stream. No outer buffer is required for intermittent and ephemeral streams.

ii. Stream Restoration with 100 feet (each side) Riparian Setback. Each stream segment within the proposed site boundaries can be assessed in accordance with Attachment B. In the event the stream segment is classified as a "Previously Modified Low Gradient Headwater Stream", the permittee has the option to restore the stream segment in accordance with Attachment B and include a 100 feet water quality setback distance from the top of the streambank on each side. In the event the stream segment exceeds the minimum criteria in Attachment B to be classified as a "Previously Modified Low Gradient Headwater Stream", this may be considered on a case-by-case basis.

No structural sediment controls (e.g., the installation of sediment barriers or a sediment settling pond) or structural post-construction controls shall be used in a stream or the streamside buffer. Activities and controls that would not impair the floodplain or stream stabilizing ability of the outer buffer can be considered.

Redevelopment projects (i.e., developments on previously developed property) located within the delineated setback boundary is exempt from Riparian Setback Mitigation (B.3) provided the proposed project does not further intrude the delineated setback boundary.

B.4 Riparian Setback Mitigation.

The mitigation required for intrusion into the riparian setback of the **Olentangy River mainstem or perennial streams** shall be determined by the horizontal distance the intrusion is from the stream. Up to three zones will be used in determining the required mitigation. Zone 1 extends from 0 to 30 feet from the stream edge. Zone 2 extends from 30 feet to the outer edge of the streamside buffer. Zone 3 extends from the outer edge of the streamside buffer to the outer edge of the outer buffer. Intrusion into these zones will require the following mitigation within the same Watershed Assessment Unit

(12-digit HUC scale). Alternative mitigation, within the permit area, may be considered on a case-by-case basis:

1. Four (4) times the total area disturbed in the stream within Zone 1 of the site being developed shall be mitigated; or, two (2) times the total area disturbed in the stream within Zone 1 shall be mitigated within the watershed of the immediate receiving stream, and the entire required setback of the site shall be protected by binding conservation easements or environmental covenants.

2. Three (3) times the area disturbed within Zone 2 of the site being developed shall be mitigated within Zones 1 and/or 2 of the mitigation location; or, one and one-half (1.5) times the total area disturbed within Zone 2 shall be mitigated within the watershed of the immediate receiving stream, and the entire required setback of the site shall be protected in perpetuity by binding conservation easements or environmental covenants.

3. Two (2) times the area to be mitigated within Zone 3 of the site being developed shall be mitigated within any Zone of the mitigation location; or, one (1) times the total area to be mitigated within any zone shall be mitigated within the watershed of the immediate receiving stream, and the entire required setback of the site shall be protected in perpetuity by binding conservation easements or environmental covenants.

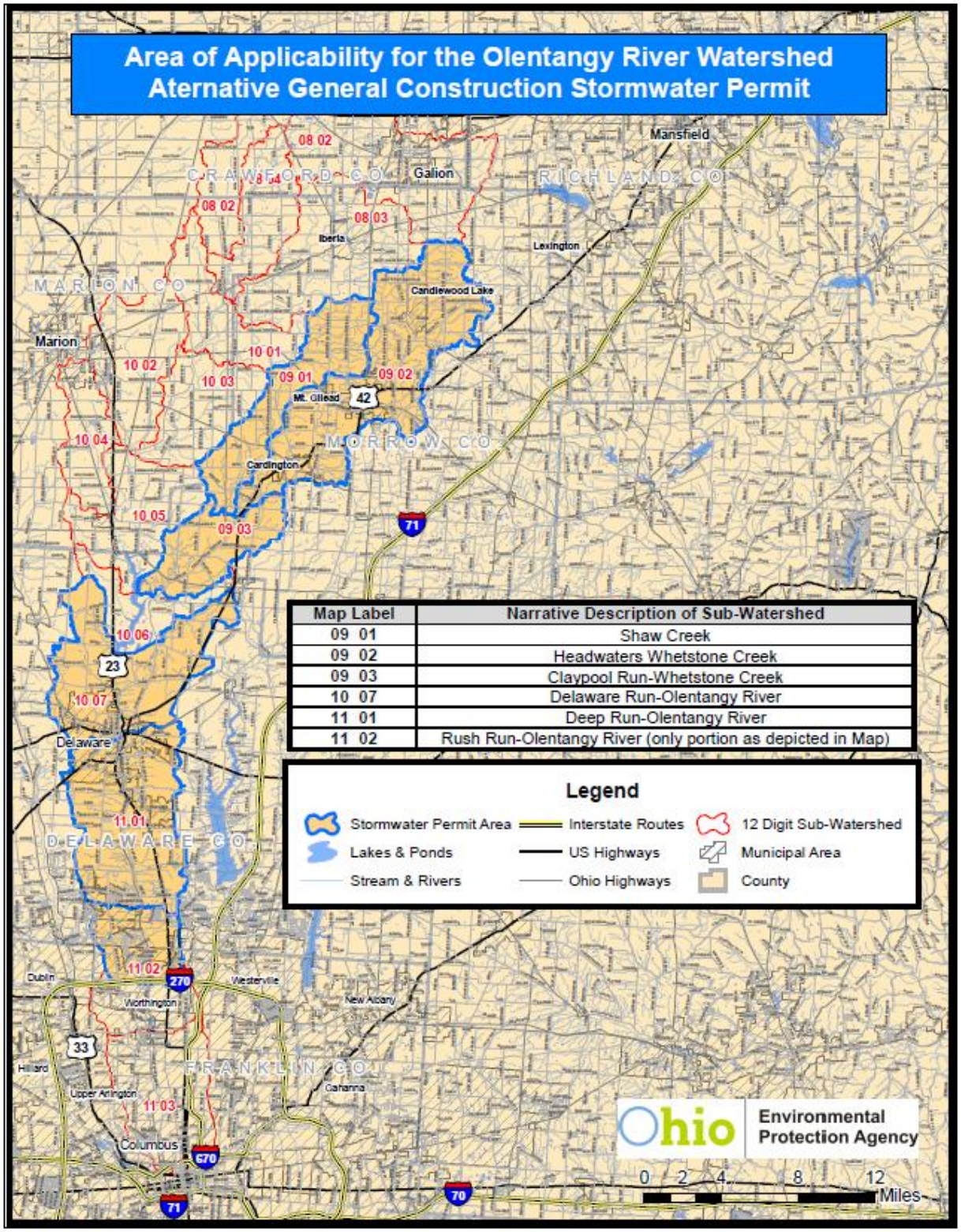
The mitigation required for intrusion into the riparian setback of an **intermittent stream** shall be four (4) times the total area disturbed within the riparian setback of the site being developed shall be mitigated; or two (2) times the total area disturbed within the riparian setback shall be mitigated within the watershed of the immediate receiving stream, and the entire required setback of the site shall be protected in perpetuity by binding conservation easements or environmental covenants.

The mitigation required for intrusion into the streamside buffer of an **ephemeral stream** shall be two (2) times the total area disturbed within the riparian setback of the site being developed shall be mitigated; or one (1) times the total area disturbed within the riparian setback shall be mitigated within the watershed of the immediate receiving stream, and the entire required setback of the site shall be protected in perpetuity by binding conservation easements or environmental covenants.

All mitigation shall, at a minimum, include conserved or restored setback zone, and should be designed to maximize the ecological function of the mitigation. Including mitigation at the stream edge along with associated setback areas is one way to maximize ecological function. Mitigation shall be protected in perpetuity by binding conservation easements or environmental covenants which must be recorded within 6 months of permit authorization. Granting of binding conservation easements or environmental covenants protected for land outside of disturbed area, but within a required riparian setback counts towards required mitigation.

Mitigation may also be satisfied by approved pooled mitigation areas and in-lieu fee sponsored mitigation areas. Mitigation resulting from State or Federal environmental regulations may be adjusted in recognition of these requirements.

Appendix B Attachment A Applicable Portions of the Olentangy Watershed



A more detailed map can be viewed at:
http://epa.ohio.gov/dsw/permits/GP_ConstructionSiteStormWater_Olentangy.aspx

Appendix B Attachment B

Part 1 Stream Assessment

This assessment will determine if a stream is considered a previously channelized, low-gradient headwater stream (a drainage ditch) which would be applicable for stream restoration in lieu of protecting an outer 'no build' setback as per Appendix B B.2i. and ii.

In the event the assessment of the stream meets all the criteria listed below, restoration as depicted in Part 2 of this attachment or natural channel design could be performed, provided 401/404 permits are authorized, and may be a means of reducing the setback distance required by B.2.i. (Appendix B).

Previously Modified, Low-Gradient Headwater Streams shall, for the purposes of this permit, be defined as having all of the following characteristics:

- Less than 10 square miles of drainage area;
- Low gradient and low stream power such that incision (down-cutting) is not evident;
- Entrenched such that the ratio of the frequently flooded width to the bankfull width is less than 2.2; and
- Straight with little or no sinuosity present such that the ratio of the bankfull channel length to the straight-line distance between two points is less than 1.02.

Part 2 Restoration

Restoration shall be accomplished by any natural channel design approach that will lead to a self-maintaining reach able to provide both local habitat and watershed services (e.g. self-purification and valley floodwater storage).

a. Construction of a floodplain, channel and habitat via natural channel design
b. Floodplain excavation necessary to promote interaction between stream and floodplain
c. Include a water quality setback of 100 feet from top of the streambank on each side.

The primary target shall be a frequently flooded width of 10 times the channel's self-forming width. Five times the self-forming channel width may be acceptable if sufficient elements of natural channel design are included in the restoration project.

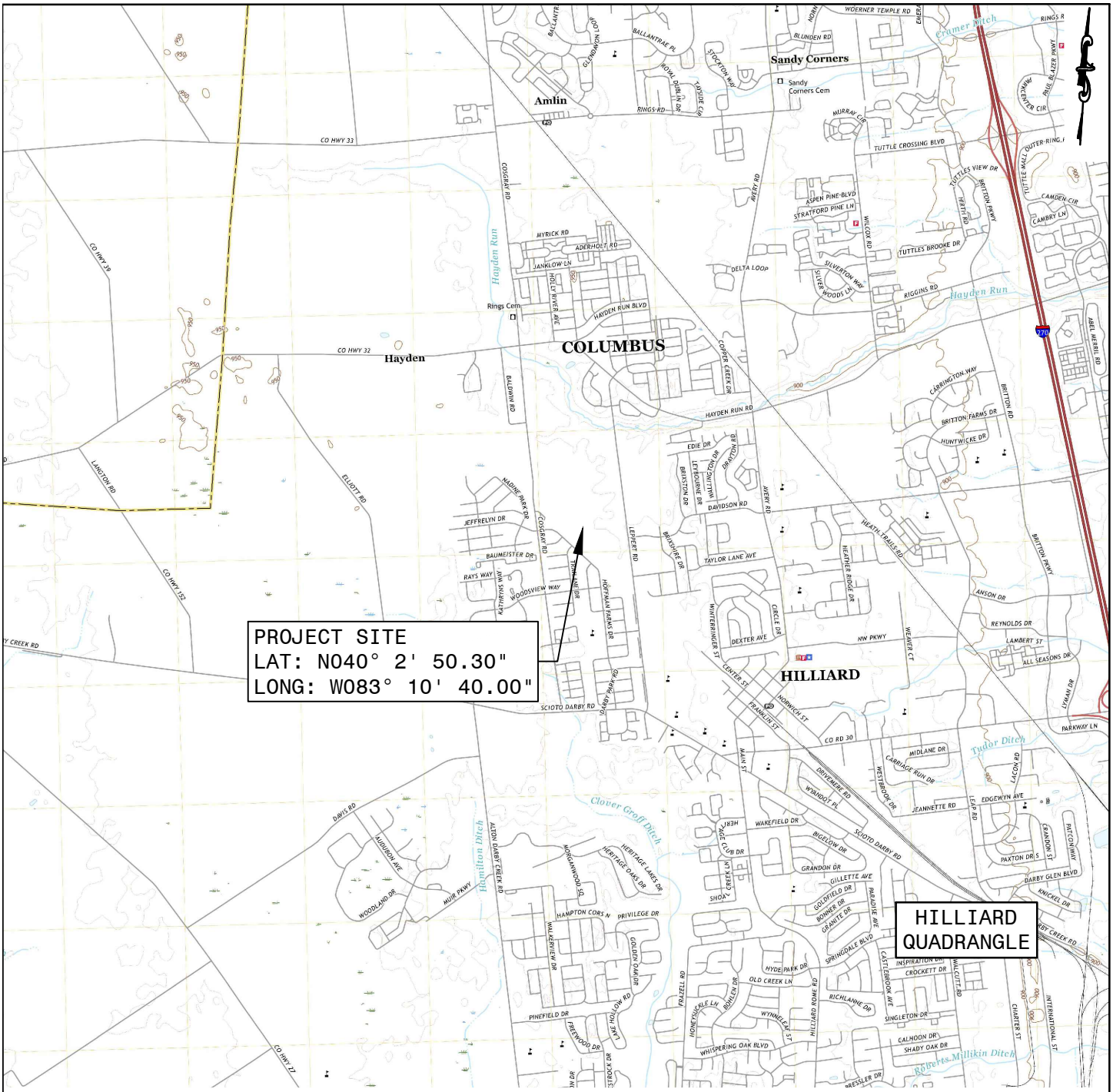
Appendix C Intensity for Calculation of Water Quality Flow (WQF)

DURATION t_c (minutes)	WATER QUALITY INTENSITY [i_{wq}] (inches/hour)	DURATION t_c (minutes)	WATER QUALITY INTENSITY [i_{wq}] (inches/hour)
5	2.37	33	0.95
6	2.26	34	0.93
7	2.15	35	0.92
8	2.04	36	0.90
9	1.94	37	0.88
10	1.85	38	0.86
11	1.76	39	0.85
12	1.68	40	0.83
13	1.62	41	0.82
14	1.56	42	0.80
15	1.51	43	0.78
16	1.46	44	0.77
17	1.41	45	0.76
18	1.37	46	0.75
19	1.33	47	0.74
20	1.29	48	0.73
21	1.26	49	0.72
22	1.22	50	0.71
23	1.19	51	0.69
24	1.16	52	0.68
25	1.13	53	0.67
26	1.10	54	0.66
27	1.07	55	0.66
28	1.05	56	0.65
29	1.03	57	0.64
30	1.01	58	0.64
31	0.99	59	0.63
32	0.97	60	0.62

Note: For t_c < 5 minutes, use i = 2.37 in/hr; for t_c > 60 minutes, use i = 0.62 in/hr. For all other t_c, use the appropriate value from this table.

APPENDIX 2

Project Location Map, Soil Erosion and Sediment Control Plan, USDA Soils Map, Watershed (HUC-12) Map, and ODNR Rainwater and Land Development Manual Details



COSGRAY STATION

PROJECT LOCATION MAP

IF THIS DRAWING IS A REDUCTION
GRAPHIC SCALE MUST BE USED

SCALE: 1" = 3500'

3500' 0 3500'

APPALACHIAN POWER COMPANY	COSGRAY STATION PROJECT		138kV PROJECT LOCATION MAP USGS OVERLAY
APP'D BY : JAW	DR. BY : DGC	CH. BY : JNL	DATE: 3/14/2022
AEP AMERICAN ELECTRIC POWER	1 RIVERSIDE PLAZA COLUMBUS, OH 43215	WORK ORDER # T10343249002	DWG. No. / REV

DWG. NO. E-1220

OWNER / APPLICANT:

AMERICAN ELECTRIC POWER
APPALACHIAN POWER COMPANY
1 RIVERSIDE PLAZA
COLUMBUS, OHIO 43215

PROJECT MANAGER: DENISE BINFORD
PHONE: 614-202-0579
EMAIL: DCBINFORD@AEP.COM

CIVIL ENGINEER: BRAD BONHAM
PHONE: 614-933-2179
EMAIL: BJBONHAM@AEP.COM

STATION ENGINEER: SETH OSWALD
PHONE: 614-286-6619
EMAIL: SMOSWALD@AEP.COM

TCR:
PHONE:
EMAIL:

AEP WERS: AMY TOOHEY
PHONE: 380-205-5097
EMAIL: AJTOOHEY@AEP.COM

CIVIL/SITE DESIGN CONSULTANT:

EARTH ENVIRONMENTAL AND CIVIL, INC.
235 CLAIBORNE AVENUE
ROCKY MOUNT, VA 24151

BRANDON K. SCOTT, PE
PHONE: (540) 483-5975
EMAIL: BSCOTT@EARTHENV.COM

SURVEY CONSULTANT:

CENTRAL SURVEYING
199 FOXCROFT DRIVE
BLUE RIDGE, VA 24064

NAME: BILL WILLIS
PHONE: 614-864-1100
EMAIL: WWILLISO01@AOL.COM

GEOTECHNICAL CONSULTANT:

TERRACON
800 MORRISON ROAD
GAHANNA, OH 43230

NAME: JOHN ENDERLE
PHONE: 614-863-3113
EMAIL: JOHN.ENDERLE@TERRACON.COM

PROJECT STATISTICS

STATION ADDRESS:
4601 LEPPERT ROAD
HILLIARD, OH 43026

PARCEL NUMBER: 10-5-005
ZONING DESIGNATION: S-1 - SUPPORT FACILITIES DISTRICT

CENTER OF SITE LATITUDE AND LONGITUDE
LAT: 40°2'50.30"N
LONG: 83°10' 40.00"W

FLOOD INFORMATION:
FLOOD INSURANCE RATE MAP PANEL: 39049C0151K
EFFECTIVE DATE: 06/17/2008
FLOOD HAZARD ZONE: X
PROJECT LIMITS OF DISTURBANCE: 10.00 ACRES

NWBD HYDROLOGIC UNIT CODE (HUC 12): 050600011204

AMERICAN ELECTRIC POWER
FOR OHIO POWER COMPANY

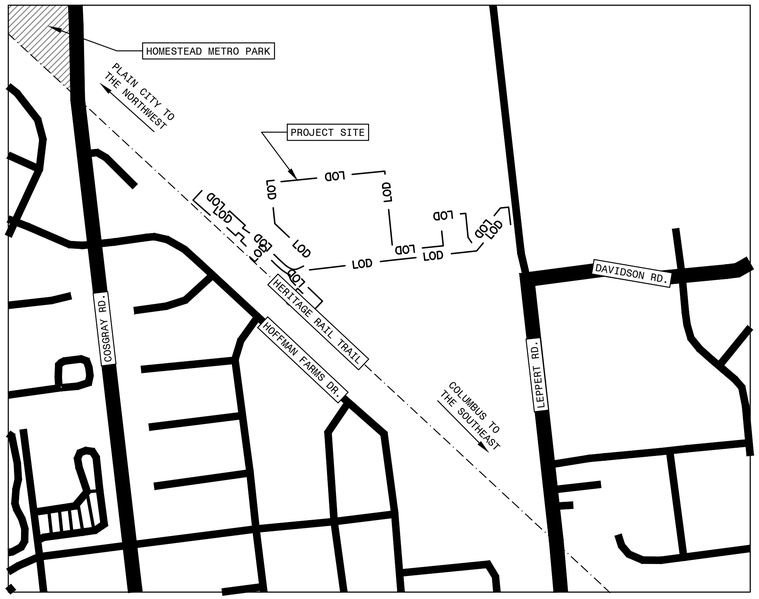
COSGRAY STATION

HILLIARD, OHIO

FRANKLIN COUNTY

SITE/CIVIL GRADING PACKAGE

(STATION COORDINATES: 40.047222°,-83.177778°)



VICINITY MAP

N.T.S.

ESTIMATE OF QUANTITIES (TOTAL)		
SITE WORK & CLEARING/SURVEYING		
EARTHWORK		
DESCRIPTION	UNIT	QUANTITY
EROSION AND CONTROL MEASURES:		
STONE #57 WASHED LIMESTONE - 5" - STATION PAD:	LF	1,665.00
CHAIN LINK FENCE w/ APPURTENANCES PER AEP STANDARDS:	LF	2,008.00
CONSTRUCTION AREAS OF NECESSITY:		
CONCRETE WASHOUT:	EACH	1.00
EROSION AND CONTROL MEASURES:		
SILT FENCE - INSTALL/MAINTAIN/REMOVE:	LF	1,366.00
FILTER SOCK - INSTALL/MAINTAIN/REMOVE:	LF	1,075.00
CONSTRUCTION ENTRANCE	EACH	1.00

NOTES:

PROVIDED QUANTITIES ARE ESTIMATED AND NOT GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL UNITS PRIOR TO PREPARING AND SUBMITTING A FORMAL BID.

LEGEND

EXISTING	PROPOSED
PROPERTY LINE	STRUCTURE
PROPERTY MARKER	INDEX CONTOUR
STRUCTURE	INTERMEDIATE CONTOUR
INDEX CONTOUR	GRADE SPOT SHOT
INTERMEDIATE CONTOUR	EDGE OF PAVEMENT
WETLAND	EDGE OF GRAVEL
STREAM	GRAVEL HATCH (ACCESS ROADS)
FLOOD PLAIN	GRAVEL HATCH (SUBSTATION)
EDGE OF PAVEMENT	GRAVEL HATCH (LAYDOWN STORAGE YARD)
EDGE OF GRAVEL	CROSS SECTION
CHAIN LINK FENCE	CHAIN LINK FENCE
TREE LINE	TREE LINE
STORM DRAIN PIPE	STORM DRAIN PIPE
DITCH	STORM DRAIN INLET
OVERHEAD ELECTRIC	STORM DRAIN MANHOLE
UTILITY POLE	STORM WATER OUTFALL STRUCTURE
ELECTRIC TOWER STRUCTURE	CONCRETE CHANNEL/SWALE
DRAINAGE AREA	GRASS CHANNEL/SWALE
DRAINAGE Tc PATH	OVERHEAD ELECTRIC
OVERHEAD TELEPHONE	UTILITY POLE
	ELECTRIC TOWER STRUCTURE
	EROSION AND SEDIMENT CONTROL (SEE ESC LEGEND)
	SILT FENCE
	DRAINAGE AREA
	DRAINAGE Tc PATH
	LIMITS OF DISTURBANCE
	PLAN SHEET MATCH LINE

NOTE: THE LEGEND & SHEET INDEX IS TO BE USED THROUGHOUT THE CONSTRUCTION PLANS. IT HAS NOT BEEN PLACED ON REMAINING PLAN SHEETS FOR THE PURPOSE OF CLARITY AND READABILITY.

DRAWING INDEX		
SHEET #	SHEET TITLE	REV 1
E-1220	COVER SHEET	8/30/2022
E-1221	GENERAL NOTES (WITH MINIMUM STANDARDS)	8/30/2022
E-1222	EROSION AND SEDIMENT CONTROL PLAN (SOILS MAP & DESCRIPTIONS)	8/30/2022
E-1223	STATION LAYOUT PLAN (EXISTING CONDITIONS AND DEMOLITION)	8/30/2022
E-1224	STATION LAYOUT PLAN	8/30/2022
E-1225	GRADING PLAN (EROSION AND SEDIMENT CONTROL PLAN)	8/30/2022
E-1226	EROSION AND SEDIMENT CONTROL PLAN (PRE AND POST DRAINAGE AREAS)	8/30/2022
E-1227	EROSION AND SEDIMENT CONTROL DETAILS	8/30/2022

NOTIFY UTILITY COMPANIES BEFORE YOU DIG

THE LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE BASED ON ABOVE-GROUND STRUCTURES. LOCATIONS OF UNDERGROUND UTILITIES/STRUCTURES MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES.
IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ACTUAL LOCATION AND DEPTH OF ALL EXISTING UTILITIES. THE OWNER AND THE SURVEYOR SHALL NOT BE RESPONSIBLE FOR ANY OMISSION OR VARIATION FROM THE LOCATION SHOWN. THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 811 TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.

STATE OF OHIO
JAMES NELSON LOVELL, JR.
75897
REGISTERED
PROFESSIONAL ENGINEER
08/30/22

NO	DATE	REVISION DESCRIPTION	APPR	DR	ENG	CK	ISSUE#
1	08/30/22	CITY OF HILLIARD COMMENTS	AJT	BKS	BKS	BKS	T10343249C1

OLD DWG :
STD DWG :

OHIO POWER COMPANY
COSGRAY STATION
HILLIARD OHIO
138kV
COVER SHEET

SCALE: NONE	DR: MMW/HC	ENG: DBF	CH: BKS
AMERICAN ELECTRIC POWER "BOUNDLESS ENERGY"	WO#: T10343249	APPD: BJB	DATE: 08/30/22
1 RIVERSIDE PLAZA COLUMBUS, OH 43215	DWG. NO. E-1220	REV	1

PLOTTED BY $USER$ ON DD-MMM-YYYY AT HH:MM
STATION ENGINEERING
Arch D (24 X 36)
CADFILEPATH

CM 1 2 3 4 5 6 7 | 3/16 INCH 4 8 12 16 | TENTHS 10 20 30 | INCHES 1 2 3

DWG. NO. E-1221

SITE / CIVIL GENERAL NOTES:

1. ALL WORK AND MATERIALS SHALL CONFORM TO THE LATEST EDITION OF AMERICAN ELECTRIC POWER COMPANY DOCUMENT NO. SS-160102, "TECHNICAL SPECIFICATION FOR SUBSTATION AND SWITCHING STATION CONSTRUCTION". HERE IN AFTER KNOWN AS THE "SPECIFICATION" OR THIS SITE GRADING PACKAGE AND PROJECT SPECIFIC SPECIFICATIONS, WHICHEVER IS MOST STRINGENT.
2. THE TOPOGRAPHIC SURVEY WAS PERFORMED BY CENTRAL SURVEYING, 199 FOXCROFT DRIVE, BLUE RIDGE, VA 24064, 614-864-1100, ATTN.: BILL WILLIS, EMAIL: WWILLIS001@AOL.COM, FOR USE IN DESIGN OF THE AEP ELECTRICAL SUBSTATION IN ACCORDANCE WITH OVERALL SITE DEVELOPMENT RULES / REGULATIONS. THIS MAP MEETS THE MINIMUM ACCURACY STANDARDS UNLESS OTHERWISE NOTED.
3. THE EARTHWORK QUANTITIES SHOWN ARE BASED ON CUT/FILL VOLUMES BETWEEN EXISTING AND FINISHED SUBGRADE. EARTHWORK STRIPPING SHALL BE A MINIMUM OF 12" BELOW FINISHED GRADE FOR THE SUBSTATION PAD AND 6" BELOW FINISHED GRADE ON THE REMAINDER OF THE SITE. ALL EXISTING GRAVEL, TOPSOIL AND ORGANIC MATERIAL SHALL BE THOROUGHLY STRIPPED AND REPLACED WITH SUITABLE FILL MATERIAL COMPACTED IN ACCORDANCE WITH ABOVE REFERENCED SPECIFICATION.
4. ELEVATIONS SHOWN ON THE GRADING DRAWING (E-1226) ARE TOP OF FINISHED GRADE ELEVATIONS. THE EXISTING CONTOUR INTERVAL IS ONE (1') FOOT. THE PROPOSED CONTOUR INTERVAL IS ONE (1') FOOT.
5. SIDE SLOPES SHALL BE A MINIMUM OF THREE (3) HORIZONTAL TO ONE (1) VERTICAL, UNLESS OTHER WISE NOTED. STEEPER SIDE SLOPES MAY BE OBTAINED THROUGH GEOTEXTILE MEMBRANE INSTALLATION.
6. ALL DISTURBED AREAS THAT ARE NOT STONED SHALL BE RE SEEDED IN ACCORDANCE WITH THE OHIO DEPARTMENT OF NATURAL RESOURCES RAINWATER AND LAND DEVELOPMENT MANUAL, LATEST EDITION. THE APPLICATION RATES FOR SEEDING, MULCHING, FERTILIZER AND LIME SHALL BE IN ACCORDANCE WITH THIS SPECIFICATION.
7. UNDER ALL ROADWAY AND PARKING AREAS, A GEOTEXTILE FABRIC (MIRAFI 600X, OR APPROVED EQUIVALENT) SHALL BE INSTALLED ON THE PREPARED SUBGRADE AND FASTENED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
8. GRADING CONTRACTOR TO PLACE 3" OF AASHTO #357 STONE FOLLOWING COMPLETION OF PAD. ONCE THE ABOVE AND BELOW GRADE CONSTRUCTION IS COMPLETED THE ABOVE AND BELOW CONTRACTOR IS TO FINISH GRADE THE SITE TO FINAL CONTOUR AND PROVIDE 5" OF DOUBLE WASHED AASHTO #57 STONE.
9. CONTRACTOR SHALL CONTACT O.U.P.S OR OHIO 811 (OR SIMILAR LOCATOR SERVICE) TO CONFIRM UTILITY LOCATIONS BEFORE BEGINNING CONSTRUCTION, CONTRACTOR SHALL VERIFY LOCATIONS AND / OR PRESENCE OF EXISTING UTILITIES.
10. EXCESS SPOIL MATERIAL IS TO BE DISPOSED OF OFFSITE AS PER LOCAL, STATE AND FEDERAL REGULATIONS AT A DUMP SITE APPROVED BY AEP AND THE PLAN APPROVING AUTHORITY.
11. CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING ALL TEMPORARY & PERMANENT DRAINAGE & EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE PLAN.
12. ALL PAVEMENT WITH VERTICAL GRADE GREATER THAN 10% SHALL BE PAVED.
13. FUELS, OILS, CHEMICALS AND OTHER BULK MATERIAL SHALL NOT BE STORED AT THE SITE.
14. SOIL DISTURBED DURING WINTER MONTHS WHEN GRASS CANNOT BE PLANTED SHALL BE TEMPORARILY STABILIZED WITH MULCH.
15. CONTRACTOR SHALL PROVIDE AND HAVE SPILL KITS ON SITE TO BE USED FOR SMALL RELEASES OF PETROLEUM WASTE OF LESS THAN 25 GALLONS. IN THE EVENT OF A LARGER RELEASE OF PETROLEUM WASTE (25 OR MORE GALLONS), OHIO EPA (1-800-282-9378), THE LOCAL FIRE DEPARTMENT, AEP WERS AND LERS CONTACTS, AND THE LOCAL EMERGENCY PLANNING COMMITTEE (LEPC) MUST BE CONTACTED WITHIN 30 MINUTES. PETROLEUM-BASED AND CONCRETE CURING COMPOUNDS MUST HAVE SPECIAL HANDLING PROCEDURES.
16. IF DUST SUPPRESSANTS ARE UTILIZED, APPLICATION AREAS MUST BE AWAY FROM CATCH BASINS FOR STORM SEWERS OR OTHER DRAINAGE WAYS. NOTE: USED OIL MAY NOT BE USED AS A DUST SUPPRESSANT.
17. SEE PLAN SHEET E-1227 FOR NOTES REGARDING ADDITIONAL CONSTRUCTION SITE POLLUTION CONTROLS.

AEP ENVIRONMENTAL/CULTURAL GENERAL NOTES:

1. PRIOR TO CONSTRUCTION, MARK (FENCING AND/OR SIGNAGE) PROTECTED ENVIRONMENTAL RESOURCE BOUNDARIES SUCH AS, BUT NOT LIMITED TO, SPRINGS, WETLANDS, KARST FEATURES (SINKHOLES, FISSURES, CAVES), ABANDONED MINE PORTALS, ARCHAEOLOGICAL SITE, GRAVE SITE, SPECIES HABITAT, HAZARDOUS WASTE AREAS, ETC.
2. CEASE CONSTRUCTION AND CONTACT THE RESPONSIBLE AEP REGIONAL ENVIRONMENTAL SPECIALIST (AMY TOOHEY, 614-565-1480) IF AN UNDOCUMENTED NATURAL RESOURCE IS ENCOUNTERED DURING CONSTRUCTION. FOR EXAMPLE, REPORT IMMEDIATELY ANY OF THE FOLLOWING IN THE AREA OF CONSTRUCTION IF NOT CLEARLY IDENTIFIED ON THE MAPPING: STREAMS, SPRINGS, WETLANDS, KARST FEATURES (SINKHOLES, FISSURES, CAVES), WILDLIFE HABITAT, ETC.
3. WORK COMPLETED WITHIN 100 FEET OF CEMETERIES OR BURIALS SHOULD BE CONSIDERED SENSITIVE. CONTACT THE RESPONSIBLE AEP ENVIRONMENTAL SPECIALIST (AMY TOOHEY, 614-565-1480) BEFORE PROCEEDING WITH ANY WORK.
4. DISCOVERY DURING CONSTRUCTION OF ANY HUMAN OR UNIDENTIFIED ARTIFACTS OR OTHER UNKNOWN OBJECTS THAT ARE UNEARTHED OR OTHERWISE DISCOVERED REQUIRES CONSTRUCTION TO CEASE AND IMMEDIATE NOTIFICATION TO THE RESPONSIBLE AEP ENVIRONMENTAL SPECIALIST (AMY TOOHEY, 614-565-1480).
5. DISCOVERY DURING CONSTRUCTION OF ANY HAZARDOUS WASTE INDICATORS (I.E. TIRES, OIL, LANDFILL, OR OTHER) OR OTHER ISSUE OF POTENTIAL CONCERN (I.E. MINE PORTAL), REQUIRES CONSTRUCTION TO CEASE AND IMMEDIATE NOTIFICATION TO THE RESPONSIBLE AEP ENVIRONMENTAL SPECIALIST (AMY TOOHEY, 614-565-1480).
6. NO WORK, DISTURBANCE, STORAGE OR ANY OTHER ACTIVITY OUTSIDE "LIMITS OF DISTURBANCE" BOUNDARY SHOWN ON PLANS.
7. NO NEW (I) LAY DOWN YARDS, (II) MARSHALLING YARDS, (III) EQUIPMENT STORAGE AREAS, (IV) TIMBER/LOG LANDING AREAS, (V) OTHER GROUND DISTURBANCES ARE PERMITTED UNLESS SHOWN ON THIS PLAN.
8. PROVIDE ANY PROPOSED NEW GROUND DISTURBANCE TO THE PROJECT ENGINEER OR PROJECT MANAGER, IF NOT SHOWN ON THIS PLAN.
9. PROVIDE ANY ACCESS ROAD MODIFICATIONS OR ADDITIONS TO THE PROJECT ENGINEER OR PROJECT MANAGER, IF NOT SHOWN ON THIS PLAN.
10. ANY MODIFICATIONS OR ADDITIONS MUST BE ADDED TO THIS PLAN, FIELD CHECKED, AND PERMITS UPDATED AS NEEDED PRIOR TO CONSTRUCTION.
11. THE CONDITIONS AND RESTRICTIONS SHOWN ON THESE PLANS ARE PART OF THE APPROVED PERMITS AND MUST BE STRICTLY FOLLOWED.
12. THE LOCATION OF ANY CONCRETE WASHOUTS UTILIZED ON-SITE WILL BE ADDED TO THE EROSION AND SEDIMENT CONTROL PLAN (APPENDIX B) BY THE TCR OR HIS/HER DESIGNEE ALONG WITH ANY NECESSARY CONTROLS.

EARTHWORK / TRENCHING NOTES:

1. SATISFACTORY SOIL MATERIALS: ASTM D 2487 "COHESIVE" SOIL CLASSIFICATION GROUPS HAVING A PLASTICITY INDEX BETWEEN 10 TO 23. FREE OF ROCK OR GRAVEL LARGER THAN 3 INCHES IN ANY DIMENSION, DEBRIS, WASTE, FROZEN MATERIALS, VEGETATION & OTHER DELETERIOUS MATTER.
2. UNSATISFACTORY SOIL MATERIALS: ASTM D 2487 SOIL CLASSIFICATION GROUP; CH.
3. ENGINEERED BACKFILL & STRUCTURAL FILL MATERIALS: SATISFACTORY SAND AND/OR GRAVEL MATERIALS CONFORMING TO THE REQUIREMENTS OF ODOT SPECIFICATIONS, WELL-GRADED AND GENERALLY MEET UNIFIED SOIL CLASSIFICATION SYSTEM. DESIGNATION; SM, SC, ML, CL.
4. SUBBASE & BASE MATERIAL: NATURALLY OR ARTIFICIALLY GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE CONFORMING TO ASTM D 2940, WITH AT LEAST 95 PERCENT PASSING AN 1-1/2" SIEVE & NOT MORE THAN 8 PERCENT PASSING A NO. 200 SIEVE.
5. ENGINEERED BACKFILL: SUBBASE OR BASE MATERIALS
6. STATION PAD MATERIAL: EVENLY GRADED MIXTURE OF CRUSHED STONE AASHTO #57 WASHED LIMESTONE AGGREGATE.
7. PROVIDE EROSION CONTROL MEASURES TO PREVENT EROSION OR DISPLACEMENT OF SOILS & DISCHARGE OF SOIL-BEARING WATER RUNOFF OR AIRBORNE DUST TO ADJACENT PROPERTIES.
8. PREVENT SURFACE WATER & SUBSURFACE OR GROUND WATER FROM ENTERING EXCAVATIONS, FROM PONDING ON PREPARED SUBGRADES & FROM FLOODING PROJECT SITE & SURROUNDING AREA. PROTECT SUBGRADES & FOUNDATION SOILS FROM SOFTENING & DAMAGE BY RAIN OR WATER ACCUMULATION.
9. "UNCLASSIFIED EXCAVATION" EXCAVATION IS UNCLASSIFIED & INCLUDES EXCAVATION TO REQUIRED SUBGRADE ELEVATIONS REGARDLESS OF THE CHARACTER OF MATERIALS & OBSTRUCTIONS ENCOUNTERED.
10. EXCAVATE SWALES TO INDICATED SLOPES, LINES, DEPTHS & INVERT ELEVATIONS AS INDICATED ON THE GRADING PLAN.
11. DRAINAGE SWALE BOTTOMS: EXCAVATE & SHAPE SWALE BOTTOMS TO PROVIDE UNIFORM BEARING & SUPPORT. SHAPE SUBGRADE TO PROVIDE CONTINUOUS UNIFORMITY. REMOVE STONES & DEBRIS TO ALLOW THE UNIFORM FLOW OF ANY OVERLAND DRAINAGE SURFACE WATER THAT MAY BE PRESENT.
12. STOCKPILE EXCAVATED MATERIALS ACCEPTABLE FOR BACKFILL ALONG WITH FILL SOIL MATERIALS, INCLUDING ACCEPTABLE BORROW MATERIALS. STOCKPILE SOIL MATERIALS IN DESIGNATED AREA. PLACE, GRADE & SHAPE STOCKPILES TO DRAIN SURFACE WATER.
13. PLACE AND COMPACT INITIAL BACKFILL OF SATISFACTORY SOIL MATERIAL OR SUBBASE MATERIAL TO FINAL GRADE AS INDICATED ON THE DRAWINGS. CAREFULLY COMPACT MATERIAL AT THE BOTTOM OF DRAINAGE SWALES AND BRING BACKFILL EVENLY UP ON BOTH SIDES AND ALONG THE FULL LENGTH OF DRAINAGE SWALE.
14. PLACE AND COMPACT FINAL BACKFILL OF SATISFACTORY SOIL MATERIAL TO FINAL SUBGRADE.
15. PLACE BACKFILL AND FILL MATERIALS IN LAYERS NOT MORE THAN 8 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY APPROPRIATE COMPACTION EQUIPMENT AND NOT MORE THAN 4 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS.
16. PERFORM FIELD IN PLACE DENSITY TESTS ACCORDING TO ASTM D 1556 (SAND CONE METHOD), ASTM D 2167 (RUBBER BALLOON METHOD), OR ASTM D 2937 (DRIVE CYLINDER METHOD), AS APPLICABLE.
17. DRAINAGE SWALE BACKFILL: IN EACH COMPACTED INITIAL AND FINAL BACKFILL LAYER, PERFORM AT LEAST ONE FIELD IN PLACE DENSITY TEST FOR EACH 150 FEET OR LESS OF SWALE, BUT NO FEWER THAN TWO TESTS.
18. DISPOSAL: REMOVE SURPLUS SATISFACTORY SOIL AND WASTE MATERIAL, INCLUDING UNSATISFACTORY SOIL, TRASH AND DEBRIS AND DISPOSE OF IT IN SOIL DISPOSAL AREA ON-SITE, UNLESS OTHERWISE AUTHORIZED BY TCR.
19. A GEOTECHNICAL REPRESENTATIVE SHALL BE ON-SITE DURING ALL EXCAVATION WITHIN WETLAND AREAS. THE GEOTECHNIAL REPRESENTATIVE SHALL DETERMINE WHAT ADDITIONAL WETLAND SOILS MUST BE REMOVED AND WHEN ADEQUATE SUBGRADE HAS BEEN REACHED. THE GEOTECHNICAL REPRESENTATIVE SHALL BE PROVIDED BY THE OWNER; HOWEVER, THE CONTRACTOR SHALL COORDINATE WITH THE TCR TO DETERMINE WHEN THE GEOTECHNICAL REPRESENTATIVE SHALL BE ON-SITE.

AEP CONSTRUCTION NOTES

1. COORDINATE PROPOSED DESIGN AND WORK WITH THE CITY OF HILLIARD, THE OHIO DEPARTMENT OF TRANSPORTATION, AND LANDOWNERS.
2. DEVELOP THE APPROPRIATE TRAFFIC CONTROL PLAN WITH ODOT AND MUNICIPALITIES AS REQUIRED. COORDINATE THIS PROJECT WITH THE CITY OF HILLIARD AND ODOT ON PLANS CURRENTLY BEING DESIGNED FOR IMPROVEMENTS TO THE TRANSPORTATION CORRIDOR. CONTACT THE ODOT DISTRICT 6 AT 740-833-0000.
3. ENSURE PROPER ODOT ENTRANCE PERMITS ARE OBTAINED (VERIFY WITH EARTH ENVIRONMENTAL AND CIVIL, BRANDON SCOTT; (SEE ATTACHMENT FOR CONTACTS).
4. POTENTIAL IMPACTS TO PUBLIC WATER DISTRIBUTION SYSTEMS OR SANITARY SEWAGE COLLECTION SYSTEMS MUST BE VERIFIED BY THE LOCAL UTILITY.
5. IF BEDROCK UNITS OF LIMESTONE/DOLOMITE ARE CONTACTED WITH CONSTRUCTION ACTIVITIES, THESE INTERCEPTIONS OF THE ROCK UNIT SHOULD BE POSITIVELY SEALED TO PREVENT ONGOING TRANSMISSION OF POTENTIAL CONTAMINATES INTO THE SUBSURFACE.
6. MARK AND ENFORCE THE LIMITS OF CONSTRUCTION ACTIVITY TO PREVENT UNNECESSARY IMPACTS AND WHERE APPROPRIATE. FOR EXAMPLE, ALL CONSTRUCTION VEHICLE MOVEMENT OUTSIDE THE AREA OF CONSTRUCTION SHOULD BE RESTRICTED TO PRE-DESIGNATED ACCESS, CONTRACTOR-ACQUIRED ACCESS, OR PUBLIC ROADS. DURING CLEARING OF TREES AND VEGETATION, ACTIVITIES SHOULD BE LIMITED TO THE ROW AREA AND TO DANGEROUS TREES LOCATED ALONG THE EDGE OF THE ROW, WHILE TREES NOT IDENTIFIED FOR REMOVAL SHOULD BE PROTECTED TO THE EXTENT PRACTICAL.
7. WHEREVER FEASIBLE, EXISTING GROUPINGS AND/OR CLUSTERS OF RIGHT-OF-WAY COMPATIBLE TREES AND NATURAL VEGETATION SHOULD REMAIN IN THE RIGHT-OF-WAY TO PROVIDE ESTHETIC AND ENVIRONMENTAL BENEFITS.
8. TREES NOT SLATED FOR REMOVAL CAN BE PROTECTED FROM THE EFFECTS OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH FUTURE CONSTRUCTION. THESE TREES SHOULD BE MARKED AND FENCED AT LEAST TO THE DRIP LINE OR THE END OF THE ROOT SYSTEM, WHICHEVER EXTENDS FARTHER FROM THE STEM. MARKINGS SHOULD BE DONE WITH HIGHLY VISIBLE RIBBON SO THAT EQUIPMENT OPERATORS SEE THE PROTECTED AREAS EASILY.
9. PARKING AND STOCKING OF HEAVY EQUIPMENT AND CONSTRUCTION MATERIALS NEAR TREES CAN DAMAGE ROOT SYSTEMS BY COMPACTING THE SOIL. SOIL COMPACTION, FROM WEIGHT OR VIBRATION, AFFECTS ROOT GROWTH, WATER AND NUTRIENT UPTAKE, AND GAS EXCHANGE. THE PROTECTION MEASURES SUGGESTED ABOVE SHOULD BE USED FOR PARKING AND STACKING AS WELL AS FOR MOVING OF EQUIPMENT AND MATERIALS. IF PARKING AND STACKING ARE UNAVOIDABLE, THE CONTRACTORS SHOULD USE TEMPORARY CROSSING BRIDGES OR MATS TO MINIMIZE SOIL COMPACTION AND MECHANICAL INJURY TO PLANTS.
10. ANY STOCKPILING OF SOIL SHOULD TAKE PLACE AWAY FROM TREES. PILING SOIL AT A TREE STEM CAN KILL THE ROOT SYSTEM OF THE TREE. SOIL STOCKPILES SHOULD BE COVERED, AS WELL, TO PREVENT SOIL EROSION AND FUGITIVE DUST.
11. QUESTIONS PERTAINING TO PROTECTION OF TREES AND FOREST RESOURCES OF THE STATE MAY BE ADDRESSED TO NATE JESTER, ADMINISTRATOR, ODNR DIVISION OF FORESTRY, AT (740) 774-1596.
12. ALL COMMUNICATIONS AND INTERACTIONS WITH PROPERTY OWNERS AND OCCUPANTS OF PROPERTY WILL BE POLITE AND PROFESSIONAL.
13. CONTRACTORS WILL RESPECT AND BE MINDFUL OF THE PROPERTY OWNERS/OCCUPANTS, AND THE PROPERTY YOU ARE ACCESSING. DO NOT LEAVE LITTER OR MESS. REPORT ANY DAMAGES OR ACCIDENTS IMMEDIATELY TO THE AEP TCR.
14. CONTRACTORS WILL REMOVE PROMPTLY SPILLED OR TRACKED DIRT, OTHER MATERIALS ON PAVED STREETS, AND DRIED SEDIMENTS RESULTING FROM SOIL EROSION.
15. SHARED CONSTRUCTION AND PROPERTY OWNER ROADS WILL BE MAINTAINED FOR UNIMPEDED PROPERTY OWNER VEHICLE INGRESS/EGRESS.
16. PROJECT QUESTIONS FROM PROPERTY OWNER ARE TO BE DIRECTED TO THE AEP LAND AGENT TO THE EXTENT PRACTICABLE.
17. ADHERE STRICTLY TO APPLICABLE STATE AND LOCAL LAWS AND REGULATIONS; FOR EXAMPLE, EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT, SEE SOIL & EROSION CONTROL CONSTRUCTION SEQUENCE THIS PAGE.
18. WETLANDS HAVE BEEN DELINEATED AND FLAGGED WITH SIGNAGE, AND PROTECTION BARRIERS WILL BE ERECTED BEFORE CONSTRUCTION. THERE SHALL BE NO MECHANIZED CLEARING WITHIN WETLANDS AND WITHIN 50' OF STREAM BANKS.
19. WETLAND IMPACTS WILL BE LIMITED TO THE CLEARING OF WOODY VEGETATION ONLY; NO SOIL DISTURBANCE WILL BE ALLOWED IN WETLANDS; AND THERE WILL BE NO EQUIPMENT FORGING OF SURFACE WATERS. NO STRUCTURAL FOUNDATIONS WILL BE PROPOSED WITHIN WETLAND AREAS AND EQUIPMENT MATS WILL BE USED DURING CLEARING ACTIVITIES. NON-MECHANIZED CLEARING ONLY IS PERMITTED. SURFACE WATERS SHOULD BE SPANNED.
20. ANY TEMPORARY IMPACTS TO SURFACE WATERS ASSOCIATED WITH THIS PROJECT WILL REQUIRE RESTORATION, AS DETERMINED BY AEP ENVIRONMENTAL AFTER CONSTRUCTION, TO PRE-EXISTING CONDITIONS. RESTORATION IS TO BE UTILIZED USING NON-MECHANIZED METHODS ONLY.
21. NO ACTIVITY MAY SUBSTANTIALLY DISRUPT THE MOVEMENT OF AQUATIC LIFE INDIGENOUS TO THE WATER BODY, INCLUDING THOSE SPECIES THAT NORMALLY MIGRATE THROUGH THE AREA, UNLESS THE PRIMARY PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER. NO CULVERTS ARE TO BE INSTALLED AS STREAM CROSSINGS AND ANY CULVERTS CALLED OUT ON PLANS ARE TO BE USED FOR ROADWAY DRAINAGE ONLY. NO ROADSIDE DITCHES ARE TO BE INSTALLED IN STREAMS. STREAM CROSSINGS ARE BE UTILIZED USING TIMBER MAT BRIDGES AS SPECIFIED IN THE PLANS.
22. EROSION AND SEDIMENTATION CONTROLS WILL BE DESIGNED IN ACCORDANCE WITH THE OHIO DEPARTMENT OF NATURAL RESOURCES RAINWATER AND LAND DEVELOPMENT MANUAL. THOSE CONTROLS WILL BE PLACED PRIOR TO CLEARING AND GRADING AND MAINTAINED IN GOOD WORKING ORDER TO MINIMIZE IMPACTS TO STATE WATERS. THE CONTROLS WILL REMAIN IN PLACE UNTIL THE AREA IS STABILIZED AND WILL THEN BE REMOVED. ANY EXPOSED SLOPES AND STREAM BANKS WILL BE STABILIZED IMMEDIATELY UPON COMPLETION OF WORK IN EACH PERMITTED AREA. ALL DENUDED AREAS WILL BE PROPERLY STABILIZED IN ACCORDANCE WITH THE OHIO DEPARTMENT OF NATURAL RESOURCES RAINWATER AND LAND DEVELOPMENT MANUAL.
23. NO MACHINERY MAY ENTER SURFACE WATERS.
24. HEAVY EQUIPMENT IN TEMPORARILY IMPACTED SURFACE WATERS WILL BE PLACED ON MATS, GEOTEXTILE FABRIC OR OTHER SUITABLE MATERIAL TO MINIMIZE SOIL DISTURBANCE TO THE MAXIMUM EXTENT PRACTICABLE. EQUIPMENT AND MATERIALS WILL BE REMOVED IMMEDIATELY UPON COMPLETION OF WORK.
25. ACTIVITIES WILL BE CONDUCTED IN ACCORDANCE WITH ANY TIME-OF-YEAR RESTRICTION(S) AS RECOMMENDED BY THE OEPA. THE PERMITTEE WILL RETAIN A COPY OF THE AGENCY CORRESPONDENCE CONCERNING THE TIME-OF-YEAR RESTRICTION(S), OR THE LACK THEREOF, FOR THE DURATION OF THE CONSTRUCTION PHASE OF THE PROJECT.
26. ALL CONSTRUCTION, CONSTRUCTION ACCESS AND DEMOLITION ACTIVITIES ASSOCIATED WITH THIS PROJECT WILL BE ACCOMPLISHED IN A MANNER THAT MINIMIZES CONSTRUCTION MATERIALS OR WASTE MATERIALS FROM ENTERING SURFACE WATERS, UNLESS AUTHORIZED BY A PERMIT. WET, EXCESS OR WASTE CONCRETE WILL BE PROHIBITED FROM ENTERING SURFACE WATERS. CONCRETE WASHOUTS ARE TO BE LOCATED IN AREAS THAT DRAIN AWAY FROM WETLANDS AND STREAMS.
27. HERBICIDES USED IN OR AROUND ANY SURFACE WATER OR KARST FEATURE MUST BE APPROVED FOR AQUATIC USE BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) OR THE U.S. FISH AND WILDLIFE SERVICE. THESE HERBICIDES WILL BE APPLIED ACCORDING TO THE LABEL DIRECTIONS BY A LICENSED HERBICIDE APPLICATOR. A NON-PETROLEUM BASED SURFACTANT WILL BE USED IN OR AROUND ANY SURFACE WATERS.
28. OPCO MUST HAVE A CERTIFIED RESPONSIBLE LAND DISTURBER IN CHARGE OF AND RESPONSIBLE FOR CARRYING OUT THE PROJECT-SPECIFIC EROSION AND SEDIMENT CONTROL PLAN AND THE LAND DISTURBING ACTIVITY, INCLUDING RIGHT-OF-WAY CLEARING, GRADING, AND ROAD CONSTRUCTION. OPCO MUST CONTACT THE OEPA TWO WEEKS PRIOR TO LAND DISTURBANCE.
29. OPCO WILL NOT BURN DEBRIS FROM RIGHT-OF-WAY CLEARING OR OTHER CONSTRUCTION-RELATED ACTIVITIES.
30. DURING CONSTRUCTION, FUGITIVE DUST MUST BE KEPT TO A MINIMUM BY USING CONTROL METHODS OUTLINED IN THE OHIO DEPARTMENT OF NATURAL RESOURCES RAINWATER AND LAND DEVELOPMENT MANUAL. THESE PRECAUTIONS INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING: USE, WHERE POSSIBLE, OF WATER OR CHEMICALS FOR DUST CONTROL; INSTALLATION AND USE OF HOODS, FANS, AND FABRIC FILTERS TO ENCLOSE AND VENT THE HANDLING OF DUSTY MATERIALS; COVERING OF OPEN EQUIPMENT FOR CONVEYING MATERIALS; AND PROMPT REMOVAL OF SPILLED OR TRACKED DIRT OR OTHER MATERIALS FROM PAVED STREETS AND REMOVAL OF DRIED SEDIMENTS RESULTING FROM SOIL EROSION.
31. CEASE CONSTRUCTION AND CONTACT AN AEP CONSTRUCTION REPRESENTATIVE IMMEDIATELY IF THE FOLLOWING NATURAL OR CULTURAL RESOURCES OF CONCERN ARE ENCOUNTERED DURING CONSTRUCTION: WETLANDS, KARST FEATURES (SINKHOLE, FISSURES, CAVES, SPRINGS), ABANDONED MINE PORTALS, NATIVE AMERICAN ARTIFACTS, GRAVE SITE, ENDANGERED SPECIES, SUSPECTED HAZARDOUS WASTE OR CONTAMINATED SOILS, ETC. (SEE ENVIRONMENTAL FIELD REFERENCE CARDS, ATTACHMENT 7.12).
32. TO MINIMIZE ADVERSE IMPACTS TO THE AQUATIC ECOSYSTEM, IMPLEMENT AND STRICTLY ADHERE TO APPLICABLE STATE AND LOCAL EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT LAWS AND REGULATIONS.
33. ACCESS ROADS, STORAGE YARDS, STRUCTURES, AND SO ON WILL BE BUILT AS SHOWN ON PLANS; ANY PROPOSED CHANGE OR ALTERATION MAY NEED TO BE VERIFIED WITH THE FOLLOWING ANALYSES: WETLANDS AND STREAMS DELINEATED BY QUALIFIED PERSONNEL, RTE STUDIES, CULTURAL STUDIES, AND LAND AGENT REVIEW. NOTIFY THE TCR IMMEDIATELY OF ANY PROPOSED CHANGE.
34. FOLLOW THE *ACCESS ROAD GUIDELINES AND DETAILS* TO THE EXTENT PRACTICABLE TO MINIMIZE ENVIRONMENTAL IMPACTS OF ROADS.
35. PROMPTLY SEED AND FERTILIZE AREAS OF GROUND DISTURBANCE TO SPEED REVEGETATION, PROVIDE SCREENING, REDUCE EROSION, PROMOTE AND MAINTAIN WILDLIFE HABITAT, REDUCE INVASION PRESSURE BY NON-NATIVE PLANTS, REDUCE BIRD NEST PARASITISM AND PREDATION, AND RESTRICT ACCESS BY OFF-ROAD VEHICLES.
36. KARST FEATURES WILL BE DELINEATED AND FLAGGED WITH SIGNAGE AND PROTECTION BARRIERS WILL BE ERECTED BEFORE CONSTRUCTION. CLEARING WILL BE LIMITED TO HAND CLEARING OF WOODY VEGETATION; NO SOIL DISTURBANCE WILL BE ALLOWED IN SINKHOLES; AND NO EQUIPMENT WILL ENTER SINKHOLES OR KARST FEATURES.
37. NO EQUIPMENT OR MECHANIZED CLEARING OF LAND ALLOWED IN WETLANDS FOR THE RIGHT-OF-WAY OR CONSTRUCTION OF ACCESS ROADS.

ATTENTION:

TO ENSURE ALL PERMITS AND APPROVALS HAVE BEEN OBTAINED PRIOR TO CONSTRUCTION, ANY PROJECT ACTIVITIES SUCH AS THOSE SHOWN BELOW MUST BE APPROVED IN WRITING (OR EMAIL) BY THE PROJECT MANAGER PRIOR TO BEGINNING THE ACTIVITY.

1. PRE-CONSTRUCTION ACTIVITIES
   ~ CORE BORING, TESTING AND STUDIES
   ~ ANY TREE CLEARING FOR PROJECTS REQUIRING NEW RIGHT OF WAY
2. GENERAL CONSTRUCTION ACTIVITIES
   ~ GRADING
   ~ STUMP REMOVAL OR GRINDING
   ~ TOPSOIL REMOVAL OR SPREADING OF SPOILS
   ~ PLACING OR SPREADING GRAVEL (UNLESS GRADING IS NOT REQUIRED)
   ~ CONSTRUCTION OF A LAY DOWN YARD
   ~ A CHANGE IN VEGETATION COVER
3. ACCESS ROADS
   ~ INSTALLATION OF NEW ROADS
   ~ MODIFICATION OF EXISTING ROADS (REPAIRS, WIDENING, MAINTENANCE, ETC)
4. RIGHT OF WAY CLEARING
   ~ ANY MECHANIZED CLEARING IN EXISTING RIGHT OF WAY
   ~ ANY CLEARING OF DEAD/DYING TREES, OR TREES WITH LOOSE OR EXFOLIATING BARK
5. ANY WORK IN OR NEAR (WITHIN 75 FEET) STREAMS, WETLAND, WATER BODIES, FLOOD PLAINS
   ~ CULVERT INSTALLATION
   ~ RIP RAP INSTALLATION
   ~ FORD CROSSINGS AND BANK RESTORATION
6. FACILITY MODIFICATIONS
   ~ CHANGES TO TRANSMISSION LINE STRUCTURES OR CONDUCTORS (INCLUDES REPLACEMENT, RELOCATION, ETC.), STATION EXPANSIONS OR ANY WORK OUTSIDE THE CURRENTLY FENCED, GRAVELED AREA

REFERENCE DRAWING:

E–1220 COVER SHEET
*E–1221 GENERAL NOTES (WITH MINIMUM STANDARDS)
E–1222 EROSION AND SEDIMENT CONTROL PLAN (SOIL MAPS & DESCRIPTIONS)
E–1223 STATION LAYOUT PLAN (EXISTING CONDITIONS)
E–1224 STATION LAYOUT PLAN
E–1225 GRADING PLAN (EROSION AND SEDIMENT CONTROL PLAN)
E–1226 EROSION AND SEDIMENT CONTROL PLAN (PRE AND POST DRAINAGE AREAS)
E–1227 EROSION AND SEDIMENT CONTROL DETAILS

CITY OF HILLIARD
GENERAL NOTES FOR EROSION CONTROL

SITE DATA

OWNER/DEVELOPER:	AMERICAN ELECTRIC POWER COMPANY DENISE BINFORD (SEE COVER SHEET FOR CONTACT INFORMATION)
PLAN DESIGNER:	EARTH ENVIRONMENTAL AND CIVIL, INC. BRANDON SCOTT, PE (SEE COVER SHEET FOR CONTACT INFORMATION)
DEVELOPMENT TYPE:	COMMERCIAL/INDUSTRIAL
SITE ACREAGE:	103.19 (PERMIT NO: 4GC08128*AG)
DISTURBED ACREAGE:	10.00 ACRES
SITE VEGETATION:	GRASSED
ADJACENT AREAS:	MIXED RESIDENTIAL AND FARMLAND
RECEIVING WATERS:	HAYDEN RUN
STORM WATER MANAGEMENT:	THIS PROJECT LIES WITHIN THE SWPPP PROJECT (PERMIT NO: 4GC08128*AG) AND ALL PERMANENT POST-CONSTRUCTION BEST MANAGEMENT PRACTICES (BMPS) HAVE BEEN IMPLEMENTED UNDER PERMIT (PERMIT NO: 4GC08128*AG). THEREFORE, THIS PROJECT DOES NOT WARRANT THE NEED FOR ADDITIONAL POST-CONSTRUCTION BEST MANAGEMENT PRACTICES (BMPS).
STORM WATER QUALITY:	SEE ABOVE

A COPY OF THE SWP3, THE NPDES PERMIT & THE OHIO EPA NOI MUST BE KEPT ON SITE AND CLEARLY DISPLAYED AT ALL TIMES.

SEQUENCE OF CONSTRUCTION:

SEE PLAN SHEET E-1225 FOR DETAILED CONSTRUCTION SEQUENCE

MAINTENANCE NOTES

THE OWNER'S REPRESENTATIVE WILL INSPECT ALL EROSION AND SEDIMENTATION CONTROL MEASURES WEEKLY AND WITHIN 24 HOURS AFTER EACH RAINFALL EVENT TO ASSURE THAT THE MEASURES ARE FUNCTIONING PROPERLY. THE OWNER/CONTRACTOR SHALL KEEP INSPECTION REPORTS, COPIES OF WHICH SHALL BE PROVIDED TO THE CITY OF HILLIARD OR OHIO EPA UPON REQUEST.

THE OWNER/DEVELOPER MUST MAINTAIN A DOCUMENT SIGNED BY ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED IN THE SWP3 IMPLEMENTATION. THE DOCUMENT MUST CERTIFY THAT THE CONTRACTOR(S) HAS READ AND UNDERSTANDS THE SWP3. THE OWNER/DEVELOPER IS TO PROVIDE THE CITY OF HILLIARD WITH A COPY OF THIS DOCUMENT.

CONSTRUCTION ROAD/CONSTRUCTION ENTRANCE:

BOTH TEMPORARY AND PERMANENT ROADS AND PARKING AREAS MAY REQUIRE PERIODIC TOP DRESSING WITH NEW GRAVEL. SEEDED AREAS ADJACENT TO THE ROADS AND PARKING AREAS SHOULD BE CHECKED PERIODICALLY TO ENSURE THAT A VIGOROUS STAND OF VEGETATION IS MAINTAINED. ROADSIDE DITCHES AND OTHER DRAINAGE STRUCTURES SHOULD BE CHECKED REGULARLY TO ENSURE THAT THEY DO NOT BECOME CLOGGED WITH SILT OR OTHER DEBRIS.

FILTER FABRIC FENCE:

FILTER FABRIC FENCES AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.

SEDIMENT THAT IS COLLECTED WILL BE DISTRIBUTED ON THE PROTECTED PORTION OF THE SITE AND STABILIZED. ALL STOCKPILES OF EARTH AND TOPSOIL WILL BE PROTECTED WITH TEMPORARY SEEDING OR OTHER MEANS TO PREVENT EROSION.

SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER IS STILL NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.

SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF (1/2) THE HEIGHT OF THE BARRIER.

ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDED.

INLET PROTECTION:

ALL STORM SEWER INLETS SHALL BE PROTECTED BY SEDIMENT TRAPS (INLET PROTECTION), WHICH WILL BE MAINTAINED AND MODIFIED AS REQUIRED AS CONSTRUCTION PROGRESSES.

THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAINFALL AND REPAIRS MADE AS NEEDED.

SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF (1/2) THE DESIGN OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA IN SUCH A MANNER THAT IT WILL NOT ERODE.

ANY SEDIMENT BLOCKING DRAINAGE AT INLETS THAT CREATES STANDING WATER ON ROADWAYS AND/OR DRIVEWAYS SHALL BE REMOVED IMMEDIATELY.

INLET PROTECTION STRUCTURES SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

GENERAL LAND CONSERVATION NOTES

ALL STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE PLACED PRIOR TO OR AS THE FIRST STEP IN GRADING FOR ALL SITES.

PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED ACCORDING TO THE FOLLOWING OHIO EPA CRITERIA:

- PERMANENT STABILIZATION
  - AREAS THAT WILL BE DORMANT FOR MORE THAN A YEAR. WITHIN 7 DAYS OF THE MOST RECENT DISTURBANCE.
  - AREAS WITHIN 50 FT OF A STREAM AND AT FINAL GRADE. WITHIN 2 DAYS OF REACHING FINAL GRADE.
  - ANY OTHER AREAS AT FINAL GRADE. WITHIN 2 DAYS OF REACHING FINAL GRADE.
- TEMPORARY STABILIZATION
  - AREAS WITHIN 50 FT OF A STREAM AND NOT AT FINAL GRADE. WITH 2 DAYS OF THE MOST RECENT DISTURBANCE IF THE AREA WILL REMAIN IDLE FOR MORE THAN 14 DAYS.
  - ANY DISTURBED AREAS THAT WILL BE DORMANT FOR MORE THAN 14 DAYS BUT LESS THAN 1 YEAR, AND NOT WITHIN 50 FT OF A STREAM. WITHIN 7 DAYS OF THE MOST RECENT DISTURBANCE WITHIN THE AREA.
  - DISTURBED AREAS THAT WILL BE IDLE OVER WINTER SHALL BE STABILIZED PRIOR TO THE ONSET OF WINTER WEATHER.

PERMANENT SEEDING SHALL BE APPLIED AT THE RATE OF 8 POUNDS (LB.) PER 1,000 SQUARE FEET (SF) AND CONSIST OF THE FOLLOWING SEED MIXTURE:

40% TITIAN TALL FESCUE
40% TARHEEL TALL FESCUE
10% DENIM KENTUCKY BLUEGRASS
10% RENAISSANCE PERENNIAL RYE GRASS

FERTILIZER FOR PERMANENT SEEDING SHALL BE A COMMERCIAL-GRADE COMPLETE FERTILIZER OF NEUTRAL CHARACTER, CONSISTING OF FAST, AND SLOW RELEASE NITROGEN, 50% DERIVED FROM NATURAL ORGANIC SOURCES OF UREA-FORM, PHOSPHOROUS, AND POTASSIUM AND SHALL MEET THE FOLLOWING COMPOSITION:
13% NITROGEN, 26% PHOSPHOROUS, AND 12% POTASSIUM BY WEIGHT

FERTILIZER SHALL BE APPLIED AT THE RATE OF 6 POUNDS (LB.) PER 1,000 SQUARE FEET (SF).

ALL STORM SEWER, SANITARY SEWER, WATER MAIN AND SERVICE TRENCHES SHALL BE SEEDED AND MULCHED WITHIN 14 DAYS AFTER BACKFILL IF INSTALLATION IS THROUGH STABILIZED AREAS. NO MORE THAN 250 FEET OF TRENCH WILL BE OPEN AT ANY ONE TIME.

ELECTRICAL POWER, TELEPHONE, CABLE TELEVISION AND GAS SUPPLY TRENCHES SHALL BE COMPACTED, SEEDED AND MULCHED WITHIN 14 DAYS AFTER BACKFILL IF INSTALLATION IS THROUGH STABILIZED AREAS.

ALL TEMPORARY DIVERSIONS, SEDIMENT BASIN EMBANKMENTS AND EARTH STOCKPILES SHALL BE SEEDED AND MULCHED FOR TEMPORARY VEGETATIVE COVER WITHIN 7 DAYS AFTER GRADING.

ANY DISTURBED AREA NOT STABILIZED WITH SEEDING, SODDING, PAVING OR BUILT UPON BY NOVEMBER 1ST, OR AREAS DISTURBED AFTER THAT DATE, SHALL BE MULCHED IMMEDIATELY WITH HYDRO MULCH AT THE RATE OF ONE (1) TON PER ACRE AND OVER-SEEDED BY APRIL 15TH.

AT THE COMPLETION OF CONSTRUCTION, ALL DENUDED AREAS SHALL BE STABILIZED AND TEMPORARY SEDIMENTATION & EROSION CONTROLS SHALL BE REMOVED ONCE THE SITE HAS BEEN STABILIZED.

STATE OF OHIO
JAMES NELSON LOVELL, JR. 75897
REGISTERED PROFESSIONAL ENGINEER
08/30/22

NO	DATE	REVISION DESCRIPTION	APPR	DR	ENG	CK	ISSUE#
1	08/30/22	CITY OF HILLIARD COMMENTS	AJT	BKS	BKS	BKS	T10343249C1

OLD DWG : | STD DWG :

OHIO POWER COMPANY
COSGRAY STATION
HILLIARD — OHIO
138kV
GENERAL NOTES
WITH MINIMUM STANDARDS

SCALE: NONE	DR: MMW/HC	ENG: DBF	CH: BKS
AMERICAN ELECTRIC POWER	WO#: T10343249	APPD: BJB	DATE: 08/30/22
	1 RIVERSIDE PLAZA COLUMBUS, OH 43215	DWG. NO. E-1221	REV 1

STATION ENGINEERING PLOTTED BY $USER$ ON DD-MMM-YYYY AT HH:MM
Arch D (24 X 36)
CADFILEPATH

MAP LEGEND

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

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

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 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Franklin County, Ohio
Survey Area Data: Version 20, Sep 7, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 4, 2014—Aug 27, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CrA	Crosby silt loam, Southern Ohio Till Plain, 0 to 2 percent slopes	C/D	5.0	58.8%
Ko	Kokomo silty clay loam, 0 to 2 percent slopes	C/D	2.8	33.4%
LeB	Lewisburg-Crosby complex, 2 to 6 percent slopes	D	0.7	7.8%
Totals for Area of Interest			**8.5**	**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

Map Unit Description (Brief, Generated)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, provide information on the composition of map units and properties of their components.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

The Map Unit Description (Brief, Generated) report displays a generated description of the major soils that occur in a map unit. Descriptions of non-soil (miscellaneous areas) and minor map unit components are not included. This description is generated from the underlying soil attribute data.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description (Brief, Generated)

Franklin County, Ohio

Map Unit: CrA—Crosby silt loam, Southern Ohio Till Plain, 0 to 2 percent slopes

Component: Crosby (90%)

The Crosby component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on Wisconsin ground moraines, till plains. The parent material consists of silty material or loess over loamy till. Depth to a root restrictive layer, densic material, is 24 to 40 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March. Organic matter content in the surface horizon is about 3 percent. This component is in the F111AY008IN Wet Till Ridge ecological site. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 35 percent.

Component: Kokomo, drained (5%)

Generated brief soil descriptions are created for major soil components. The Kokomo, drained soil is a minor component.

Component: Celina, eroded (4%)

Generated brief soil descriptions are created for major soil components. The Celina, eroded soil is a minor component.

Component: Miamian, eroded (1%)

Generated brief soil descriptions are created for major soil components. The Miamian, eroded soil is a minor component.

Map Unit: Ko—Kokomo silty clay loam, 0 to 2 percent slopes

Component: Kokomo (90%)

The Kokomo component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions, till plains. The parent material consists of loamy glaciofluvial deposits derived from sedimentary rock over loamy till derived from limestone and dolomite. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 5 percent. This component is in the F111AY007IN Till Depression Flatwood ecological site. Nonirrigated land capability classification is 2w. This soil meets hydric criteria.

Component: Celina (5%)

Generated brief soil descriptions are created for major soil components. The Celina soil is a minor component.

Component: Crosby (5%)

Generated brief soil descriptions are created for major soil components. The Crosby soil is a minor component.

Map Unit: LeB—Lewisburg-Crosby complex, 2 to 6 percent slopes

Component: Lewisburg (45%)

The Lewisburg component makes up 45 percent of the map unit. Slopes are 2 to 6 percent. This component is on till plains. The parent material consists of loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 36 inches during January, February, March, April. Organic matter content in the surface horizon is about 2 percent. This component is in the F111AY009IN Till Ridge ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 39 percent.

Component: Crosby (40%)

The Crosby component makes up 40 percent of the map unit. Slopes are 2 to 6 percent. This component is on till plains. The parent material consists of loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during January, February, March, April. Organic matter content in the surface horizon is about 2 percent. This component is in the F111AY008IN Wet Till Ridge ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 25 percent.

Component: Kokomo (15%)

Generated brief soil descriptions are created for major soil components. The Kokomo soil is a minor component.

Component: eroded areas with a clay loam surface layer (%)

Generated brief soil descriptions are created for major soil components. The eroded areas with a clay loam surface layer soil is a minor component.

Data Source Information

Soil Survey Area: Franklin County, Ohio
Survey Area Data: Version 20, Sep 7, 2021

REFERENCE DRAWING:

E–1220 COVER SHEET
E–1221 GENERAL NOTES (WITH MINIMUM STANDARDS)
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E–1224 STATION LAYOUT PLAN
E–1225 GRADING PLAN (EROSION AND SEDIMENT CONTROL PLAN)
E–1226 EROSION AND SEDIMENT CONTROL PLAN (PRE AND POST DRAINAGE AREAS)
E–1227 EROSION AND SEDIMENT CONTROL DETAILS

NOTIFY UTILITY COMPANIES BEFORE YOU DIG

THE LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE BASED ON ABOVE-GROUND STRUCTURES. LOCATIONS OF UNDERGROUND UTILITIES/STRUCTURES MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES.
IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ACTUAL LOCATION AND DEPTH OF ALL EXISTING UTILITIES. THE OWNER AND THE SURVEYOR SHALL NOT BE RESPONSIBLE FOR ANY OMISSION OR VARIATION FROM THE LOCATION SHOWN. THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 811 TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.

STATE OF OHIO
JAMES NELSON LOVELL, JR.
75897
REGISTERED PROFESSIONAL ENGINEER
08/30/22

NO	DATE	REVISION DESCRIPTION	APPR	DR	ENG	CK	ISSUE#
1	08/30/22	CITY OF HILLIARD COMMENTS	AJT	BKS	BKS	BKS	T10343249C1

OLD DWG : STD DWG :

OHIO POWER COMPANY
COSGRAY STATION
HILLIARD OHIO
138kV
EROSION AND SEDIMENT CONTROL PLAN
SOIL MAPS & DESCRIPTIONS

SCALE: NONE | DR: MMW/HC | ENG: DBF | CH: BKS
AMERICAN ELECTRIC POWER "BOUNDLESS ENERGY"
1 RIVERSIDE PLAZA COLUMBUS, OH 43215
WO#: T10343249 | APPD: BJB | DATE: 08/30/22
DWG. NO. E-1222 | REV 1

CADFILEPATH

PLOTTED BY $USER$ ON DD-MMM-YYYY AT HH:MM STATION ENGINEERING

Arch D (24 X 36)

CM 1 2 3 4 5 6 7
3/16 INCH 4 8 12 16
TENTHS 10 20 30
INCHES 1 2 3

DWG. NO. E-1223

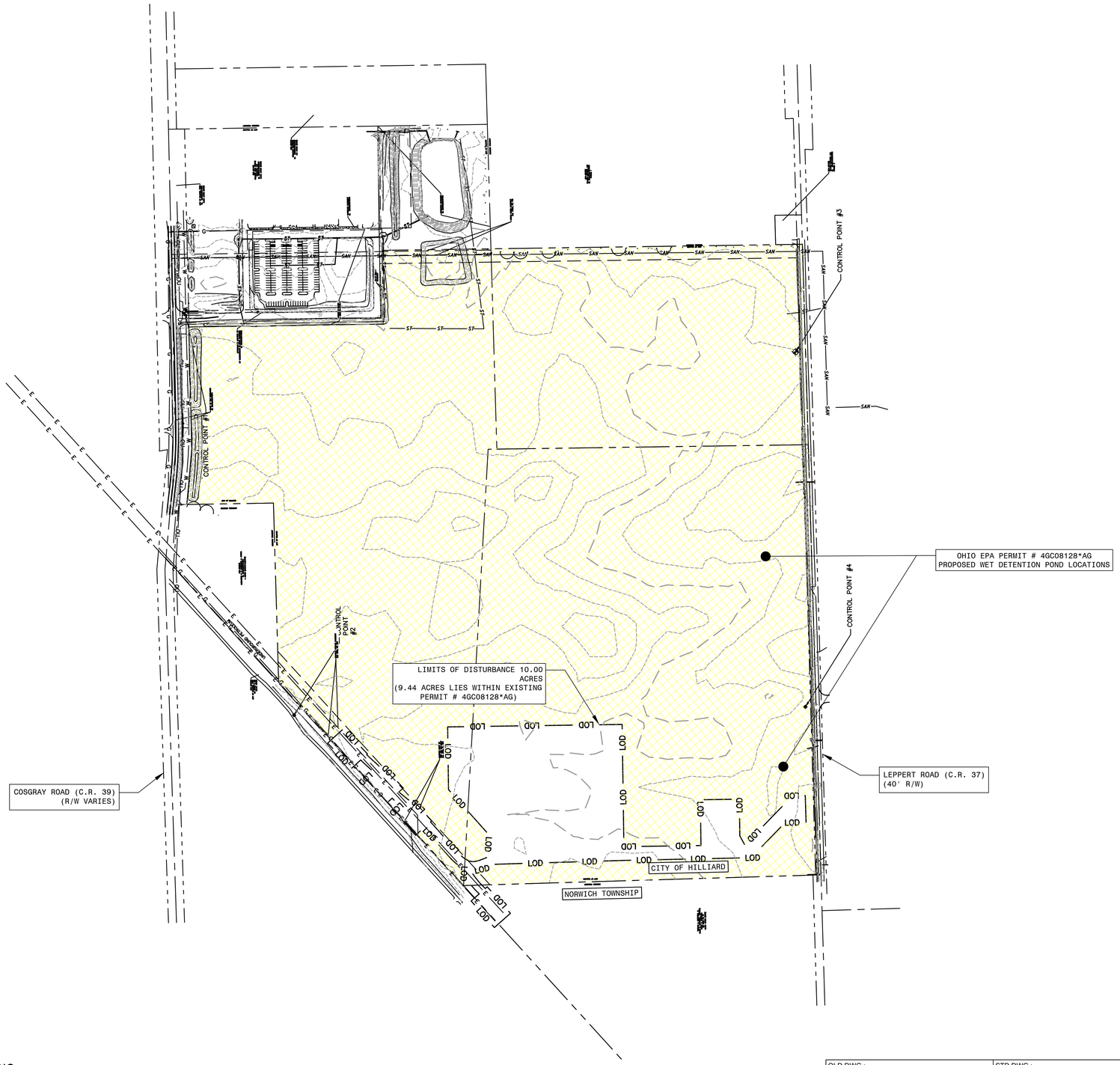
CONSTRUCTION NOTES:

1. CONTRACTOR TO MAKE ARRANGEMENTS WITH AMERICAN ELECTRIC POWER TO SHUT OFF ELECTRICAL POWER TO ALL AFFECTED AREAS PRIOR TO PERFORMING CONSTRUCTION OPERATIONS.
2. CONTRACTOR SHALL CONTACT MISS UTILITY (OR SIMILAR LOCATOR SERVICE) TO CONFIRM UTILITY LOCATIONS BEFORE BEGINNING CONSTRUCTION, CONTRACTOR SHALL VERIFY LOCATIONS AND / OR PRESENCE OF EXISTING UTILITIES.
3. VERIFY THAT ELECTRICAL CONNECTIONS AND ANY OTHER UTILITIES HAVE BEEN DISCONNECTED & CAPPED PROPERLY.
4. CONTRACTOR TO PROPERLY GROUND, DISCONNECT, REMOVE, SEAL OR CAP ELECTRICAL EQUIPMENT, WIRING, ETC. BEFORE THE REMOVAL OF STRUCTURAL COMPONENTS.
5. AMERICAN ELECTRIC POWER PERSONNEL SHALL VALIDATE CONTRACTOR'S ELECTRICAL OPERATIONS FOR SAFETY.
6. CONTRACTOR SHALL CONDUCT OPERATIONS IN A MANNER AS TO PREVENT INJURY TO PEOPLE AND DAMAGE TO EXISTING STRUCTURES & FACILITIES DESIGNATED TO REMAIN.
7. ERECT TEMPORARY PROTECTION, AS REQUIRED BY OSHA STANDARDS, LATEST EDITION TO PROTECT SURROUNDING AREAS.
8. ERECT & MAINTAIN DUST CONTROL MEASURES DURING OPERATIONS, SUCH AS WATER MIST, TEMPORARY ENCLOSURES, AND OTHER SUITABLE MATERIALS TO PREVENT THE SPREAD OF DUST & DIRT PARTICLES.
9. PROVIDE TEMPORARY WEATHER PROTECTION, ON EXTERIOR SURFACES OF NEW CONSTRUCTION TO ENSURE NO WATER LEAKAGE OR DAMAGE OCCURS.
10. COVER & PROTECT ALL CONDUIT, WIRING & EQUIPMENT DESIGNATED TO REMAIN.
11. REMOVE STRUCTURAL FRAMING MEMBERS & LOWER TO GROUND BY METHOD SUITABLE TO AVOID FREE FALL AND TO PREVENT GROUND IMPACT OR DUST GENERATION.
12. DO NOT USE CUTTING TORCHES FOR STRUCTURAL DEMOLITION WITHOUT WRITTEN AUTHORIZATION FROM AMERICAN ELECTRIC POWER.
13. DEMOLISH AND/OR REMOVE DRILLED CONCRETE PIER FOUNDATIONS IN SECTION LENGTHS NECESSARY TO AVOID CONFLICT WITH OVERHEAD OR ADJACENT STRUCTURES, WIRES, ETC.
14. BREAK UP & REMOVE CONCRETE SLABS ON GRADE IN PIECES SUITABLE FOR DUMP TRUCK LOADING & DISPOSAL.
15. DISPOSE OF MATERIALS PROPERLY. ON-SITE STORAGE OR SALE OF REMOVED ITEMS IS PROHIBITED.
16. ALL BACKFILL MATERIAL FOR VOIDED AREAS SHALL CONFORM TO THE LATEST EDITION OF THE AMERICAN ELECTRIC POWER DOCUMENT NO. SS-160102, "TECHNICAL SPECIFICATION FOR SUBSTATION AND SWITCHING STATION CONSTRUCTION."

DENOTES AREA OF DISTURBANCE CURRENTLY PERMITTED BY OHIO EPA FACILITY PERMIT NUMBER 4GC08128*AG.

9.44 ACRES OF THIS PROJECT'S LIMITS OF DISTURBANCE LIES WITHIN THE EXISTING OHIO EPA FACILITY PERMIT NUMBER 4GC08128*AG

THE REMAINING PROJECT ACREAGE IS FOR TEMPORARY TRANSMISSION LINE (LINEAR PROJECT) WORK TO THE WEST OF THE EXISTING PERMITTED AREA. ALL WORK IN THIS AREA IS TEMPORARY AND WILL BE RECLAIMED TO PRE-DEVELOPMENT CONDITIONS.



REFERENCE DRAWING:

E-1220	COVER SHEET
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IF THIS DRAWING IS A REDUCTION GRAPHIC SCALE MUST BE USED

SCALE: 1" = 200'

200' 0 200'

STATE OF OHIO
JAMES NELSON LOVELL, JR. 75897 REGISTERED PROFESSIONAL ENGINEER
08/30/22

NO	DATE	REVISION DESCRIPTION	APPR	DR	ENG	CK	ISSUE#
1	08/30/22	CITY OF HILLIARD COMMENTS	AJT	BKS	BKS	BKS	T10343249G1

OLD DWG : | STD DWG :

OHIO POWER COMPANY

COSGRAY STATION

HILLIARD OHIO

138kV

STATION LAYOUT PLAN

EXISTING CONDITIONS

SCALE: 1" = 200'	DR: MMW/HC	ENG: DBF	CH: BKS
	WO#: T10343249	APPD: BJB	DATE: 08/30/22
AMERICAN ELECTRIC POWER "BOUNDLESS ENERGY"	1 RIVERSIDE PLAZA COLUMBUS, OH 43215	DWG. NO. E-1223	REV 1

CADFILEPATH

CM 1 2 3 4 5 6 7 | 3/16 INCH 4 8 12 16 | TENTHS 10 20 30 | INCHES 1 2 3

PLOTTED BY $USER$ ON DD-MMM-YYYY AT HH:MM STATION ENGINEERING

Arch D (24 X 36)

STATION FENCE
EDGE OF STONE
5.0'
5" AASHTO #57 WASHED LIMESTONE
TOP SOIL AND SEED ALL DISTURBED AREAS OUTSIDE OF STONE SURFACE AREA
CONTOURS ON GRADING PLAN ARE SHOWN AS TOP OF FINISHED GRADE
12" SUBGRADE TO BE COMPACTED TO 98% STANDARD PROCTOR MAXIMUM DRY DENSITY (PER AEP SS-160102)
STRIP/EXCAVATE EXISTING SOIL APPROXIMATELY 12" TO REMOVE TOPSOIL AND ORGANIC MATERIAL, AND ADDITIONALLY AS REQUIRED TO MEET FINAL GRADE.
TYPICAL STATION YARD DETAIL
N.T.S.
FUTURE BUILDING (BY OTHERS)
FUTURE BUILDING (BY OTHERS)
PROPOSED WATER LINE (BY OTHERS)
PROPOSED STORM DRAIN (BY OTHERS)
STATION FENCE
PROPOSED PROPERTY LINE
EXTENDED WET DETENTION BASIN A TOP: 939.40 BOTTOM: 926.40 NWSE: 931.40 100-YR HWL: 937.34
N: 746505.6143 E: 1779606.2136
FUTURE 24' DOUBLE GATE
N: 746533.7449 E: 1779882.7867
N: 746401.5510 E: 1778971.4879
LIMITS OF DISTURBANCE 10.00 ACRES
N: 746437.3721 E: 1779323.6708
N: 746464.4908 E: 1779590.2952
FUTURE STATION FENCE
PROPOSED COSGREY STATION
PROPOSED OVERHEAD ELECTRIC
N: 746220.4851 E: 1778989.9043
PROPOSED STORM DRAIN (BY OTHERS)
N: 746283.4250 E: 1779608.7111
FUTURE CMH91 SWITCHING YARD
TRANSMISSION STRUCTURES TO BE ACCESSED THROUGH CONSTRUCTED EARTHEN BERM AT SOUTHEAST BERM CORNER (SEE ATTACHED TRANSMISSION LINE ACCESS PLAN FOR ACCESS ROADS AND WORK PADS)
PROPOSED STORM DRAIN JUNCTION BOX (BY OTHERS)
N: 746202.5775 E: 1778991.7258
PROPOSED AEP SKID STATION
LEPPERT ROAD (100' R/W)
EXISTING OVERHEAD ELECTRIC
N: 746256.3062 E: 1779342.0873
ELECTRIC R.O.W.
PROPOSED STATION FENCE
HERITAGE RAIL TRAIL
PROPOSED EDGE OF GRAVEL
N: 746050.4625 E: 1779652.5078
FUTURE 24' DOUBLE GATE
N: 746078.5932 E: 1779929.0809
N: 745960.4240 E: 1779249.5525
N: 745972.7691 E: 1779370.9263
N: 745999.8879 E: 1779637.5507
PROPOSED 24' DOUBLE GATE
EXISTING GAS LINE
HERITAGE RAIL TRAIL
EXISTING EDGE OF PAVEMENT
CITY OF HILLIARD
NORWICH TOWNSHIP
PROPOSED TRAIL
EXISTING UTILITY POLE (TYP)
EXISTING ADJACENT PROPERTY LINE
LOD
THOMAS A. MCDOWELL & ALLEN E. MCDOWELL TRUSTEE, DIANE A. MCDOWELL DB 3559 PG 77 12.311 ACRES (DEED)

NO. DWG. E-1224

NOTIFY UTILITY COMPANIES BEFORE YOU DIG

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IF THIS DRAWING IS A REDUCTION GRAPHIC SCALE MUST BE USED

SCALE: 1" = 60'

60' 0 60'

STATE OF OHIO — JAMES NELSON LOVELL, JR. 75897 — REGISTERED PROFESSIONAL ENGINEER — 08/30/22

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OLD DWG : | STD DWG :

OHIO POWER COMPANY

COSGRAY STATION

HILLIARD OHIO

138kV

STATION LAYOUT PLAN

SCALE: 1" = 60'	DR: MMW/HC	ENG: DBF	CH: BKS
AMERICAN ELECTRIC POWER BOUNDLESS ENERGY	WO#: T10343249	APPD: BJB	DATE: 08/30/22
	1 RIVERSIDE PLAZA COLUMBUS, OH 43215	DWG. NO. E-1224	REV 1

STATION ENGINEERING

PLOTTED BY $USERS ON DD-MMM-YYYY AT HH:MM

Arch D (24 X 36)

CADFILEPATH

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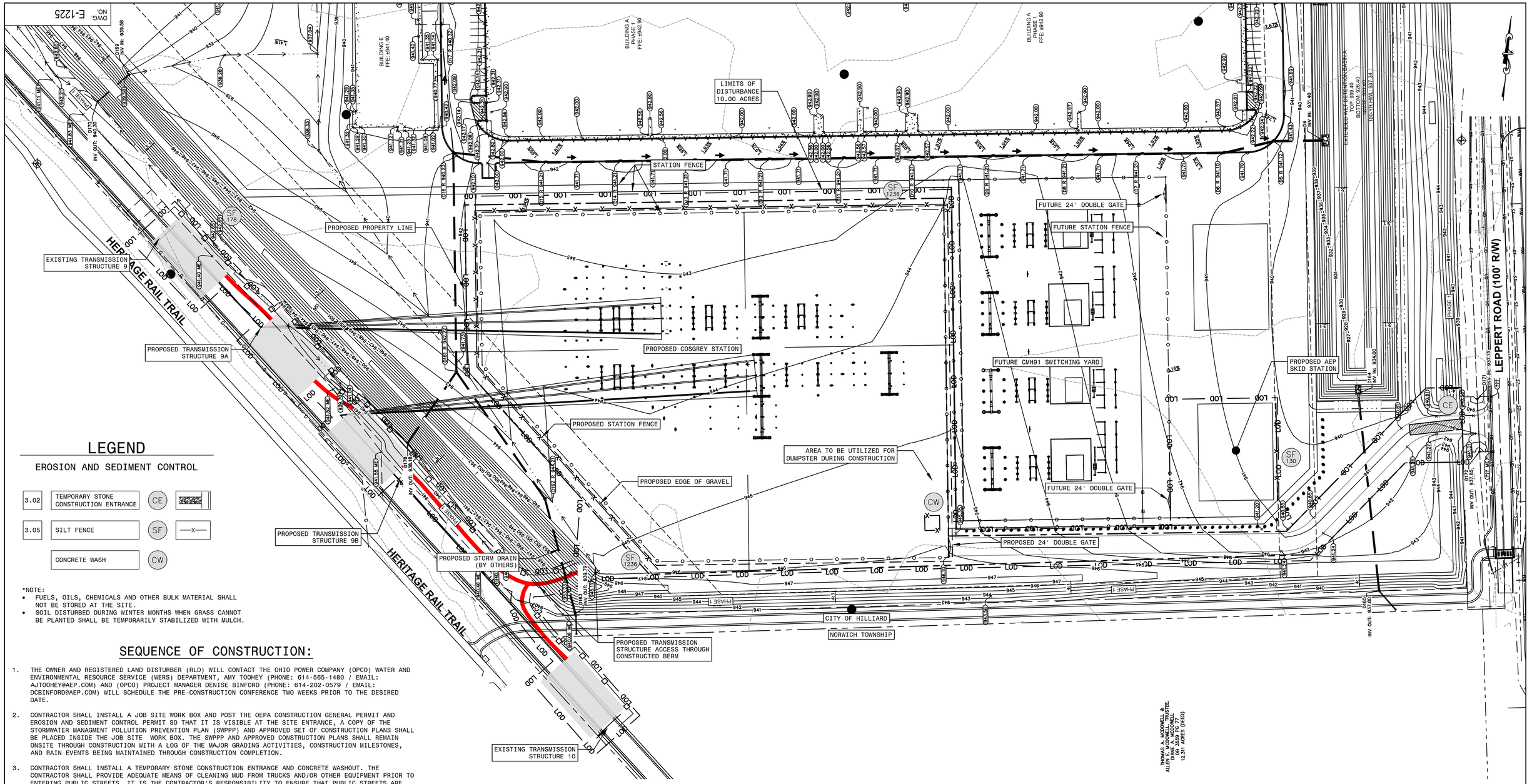
DWG. NO. E-1225



LEGEND

EROSION AND SEDIMENT CONTROL

3.02	TEMPORARY STONE CONSTRUCTION ENTRANCE	CE	
3.05	SILT FENCE	SF	—X—
	CONCRETE WASH	CW	

*NOTE:
- FUELS, OILS, CHEMICALS AND OTHER BULK MATERIAL SHALL NOT BE STORED AT THE SITE.
- SOIL DISTURBED DURING WINTER MONTHS WHEN GRASS CANNOT BE PLANTED SHALL BE TEMPORARILY STABILIZED WITH MULCH.

SEQUENCE OF CONSTRUCTION:

1. THE OWNER AND REGISTERED LAND DISTURBER (RLD) WILL CONTACT THE OHIO POWER COMPANY (OPCO) WATER AND ENVIRONMENTAL RESOURCE SERVICE (WERS) DEPARTMENT, AMY TOOHEY (PHONE: 614-565-1480 / EMAIL: AJTOOHEY@AEP.COM) AND (OPCO) PROJECT MANAGER DENISE BINFORD (PHONE: 614-202-0579 / EMAIL: DCBINFORD@AEP.COM) WILL SCHEDULE THE PRE-CONSTRUCTION CONFERENCE TWO WEEKS PRIOR TO THE DESIRED DATE.
2. CONTRACTOR SHALL INSTALL A JOB SITE WORK BOX AND POST THE OEPA CONSTRUCTION GENERAL PERMIT AND EROSION AND SEDIMENT CONTROL PERMIT SO THAT IT IS VISIBLE AT THE SITE ENTRANCE, A COPY OF THE STORMWATER MANAGMENT POLLUTION PREVENTION PLAN (SWPPP) AND APPROVED SET OF CONSTRUCTION PLANS SHALL BE PLACED INSIDE THE JOB SITE WORK BOX. THE SWPPP AND APPROVED CONSTRUCTION PLANS SHALL REMAIN ONSITE THROUGH CONSTRUCTION WITH A LOG OF THE MAJOR GRADING ACTIVITIES, CONSTRUCTION MILESTONES, AND RAIN EVENTS BEING MAINTAINED THROUGH CONSTRUCTION COMPLETION.
3. CONTRACTOR SHALL INSTALL A TEMPORARY STONE CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT. THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS OF CLEANING MUD FROM TRUCKS AND/OR OTHER EQUIPMENT PRIOR TO ENTERING PUBLIC STREETS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT PUBLIC STREETS ARE MAINTAINED IN A CLEAN, MUD AND DUST FREE CONDITION AT ALL TIMES.

STANDARDS FOR FILL PLACEMENT/COMPACTION:

1. ALL UNSUITABLE MATERIAL SHALL BE REMOVED FROM THE CONSTRUCTION LIMITS OF ALL ROADWAYS AND PADS BEFORE PLACING EMBANKMENT MATERIAL. ALL PERMANENT FILL SHOULD CONSIST OF CLEAN SOIL FILL, COMPACTED 6" TO 8" LIFTS TO A MINIMUM COMPACTIVE EFFORT OF 98% OF STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D-698). MOISTURE CONTENT SHOULD BE MAINTAINED WITHIN 2 TO 3 PERCENTAGE POINTS OF OPTIMUM MOISTURE CONTENT TO FACILITATE COMPACTION. A PORTABLE COMPACTOR, SUCH AS A JUMPING JACK, PLATE TAMPER OR TRENCH ROLLER, SHOULD BE USED WITHIN CLOSE PROXIMITY OF THE PIPES TO ENSURE PROPER COMPACTION, WHEREAS HEAVY CONSTRUCTION EQUIPMENT CAN BE USED FOR THE MASS FILL. EACH LIFT OF FILL SHOULD BE TESTED IN ORDER TO CONFIRM THAT THE RECOMMENDED DEGREE OF COMPACTION IS ACHIEVED.
2. NEW FILL SHOULD BE BENCHED WITH A MINIMUM WIDTH OF 15 FEET PARALLEL TO THE TOE OF THE EMBANKMENT AND CUT INTO THE EXISTING SLOPE AS THE FILL PLACEMENT PROCEEDS. THE PURPOSE OF THE BENCHING IS TO CREATE POSITIVE SOIL BOND BETWEEN THE NATURAL SOILS AND THE NEW FILL. TOPSOIL, TREE STUMPS AND ROOT MAT SHOULD BE REMOVED PRIOR TO FILL PLACEMENT. EACH SUCCESSIVE LIFT OF FILL SHOULD BE PLACED HORIZONTALLY AND PARALLEL TO THE SLOPE FACE.
3. COMPACTION OF THE OUTER FACE OF THE SLOPES USING TRACKED EQUIPMENT OR PORTABLE COMPACTORS IS CRITICAL TO MAINTAINING A STABLE SLOPE AND TO MINIMIZE SLOUGHING. IF POSSIBLE, THE SLOPES SHOULD BE OVER FILLED AT LEAST 2 FEET BEYOND THE LIMITS OF THE FILL SLOPE, COMPACTED AND CLIPPED(CUT) WITH A TRACK DOZER TO THE DESIGN GRADES TO ENSURE THAT THE OUTER EDGE OF THE SLOPE IS PROPERLY COMPACTED. EROSION PROTECTION, SUCH AS EROSION MATTING, CAN HELP TO ESTABLISH GRASS AND OTHER VEGETATIVE GROWTH.
4. ALL FILL USED FOR EARTHEN EMBANKMENTS (POND BERMS) SHALL BE CONSTRUCTED USING CLEAN SOIL, FREE OF ROOTS, WOODY VEGETATION, STUMPS, SOD, STONES GREATER THAN 6 INCHES, ROCKS, OR OTHER PERISHABLE OR OBJECTIONABLE MATERIAL. FILL SHOULD CONFORM TO THE UNIFIED SOIL CLASSIFICATION GC, SC, OR CL. CONSIDERATION MAY BE GIVEN TO THE USE OF OTHER MATERIAL IN THE EMBANKMENT BASED ON THE RECOMMENDATIONS OF A GEOTECHNICAL ENGINEER SUPERVISING THE DESIGN AND CONSIDERATION. COMPACTION SHALL MEET THE REQUIREMENTS LISTED ABOVE IN NO. 1 OF THIS SECTION. A CUT-OFF TRENCH SHALL BE EXCAVATED ALONG THE CENTERLINE OF THE EARTH FILL EMBANKMENT (DAM) TO PREVENT EXCESSIVE SEEPAGE AND POSSIBLE INTERNAL EROSION. THE TRENCH MUST EXTEND AT LEAST 1 FOOT INTO A STABLE, IMPERVIOUS LAYER OF SOIL AND HAVE A MINIMUM DEPTH OF 2 FEET. THE CUT-OFF TRENCH SHALL EXTEND UP BOTH ABUTMENTS TO THE RISER CREST ELEVATION. THE MINIMUM WIDTH SHALL BE 4 FEET, BUT ALSO MUST BE WIDE ENOUGH TO PERMIT OPERATION OF COMPACTION EQUIPMENT. THE SIDE SLOPES SHALL BE NO STEEPER THAN 1:1. COMPACTION REQUIREMENTS SHALL BE THE SAME AS THOSE FOR THE EMBANKMENT. THE TRENCH SHALL BE DRAINED DURING THE BACKFILLING/COMPACTING OPERATIONS.

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60' 0 60'

STATE OF OHIO — JAMES NELSON LOVELL, JR. — 75897 — REGISTERED PROFESSIONAL ENGINEER — 08/30/22

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OLD DWG : | STD DWG :

OHIO POWER COMPANY

COSGRAY STATION

HILLIARD — OHIO

138kV

GRADING PLAN

EROSION AND SEDIMENT CONTROL PLAN

SCALE: 1" = 60'	DR: MMW/HC	ENG: DBF / CH: BKS
	WO#: T10343249	APPD: BJB / DATE: 08/30/22

AMERICAN ELECTRIC POWER — BOUNDLESS ENERGY™

1 RIVERSIDE PLAZA COLUMBUS, OH 43215

DWG. NO. E-1225 — REV 1

STATION ENGINEERING

PLOTTED BY $USERS ON DD-MMM-YYYY AT HH:MM

Arch D (24 X 36)

CADFILEPATH

CM 1 2 3 4 5 6 7 — 3/16 INCH 4 8 12 16 — TENTHS 10 20 30 — INCHES 1 2 3

DWG. NO. E-1226

PRE DA 1				
LAND COVER	AREA (SF)	AREA (AC)	SOIL TYPE	CN
GRASS	365034.26	8.38	D	80
TOTAL	365034.26	8.38		80

POST DA 1				
LAND COVER	AREA (SF)	AREA (AC)	SOIL TYPE	CN
GRAVEL	365034.26	8.38	D	91
TOTAL	365034.26	8.38		91

IF THIS DRAWING IS A REDUCTION GRAPHIC SCALE MUST BE USED

SCALE: 1" = 100'

100' 0 100'

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OHIO POWER COMPANY

COSGRAY STATION

HILLIARD OHIO

138kV

EROSION AND SEDIMENT CONTROL PLAN

PRE AND POST DRAINAGE AREAS

SCALE: 1" = 100' | DR: DBF | ENG: DBF | CH: BKS

AMERICAN ELECTRIC POWER BOUNDLESS ENERGY™

1 RIVERSIDE PLAZA COLUMBUS, OH 43215

WO#: T10343249 | APPD: BJB | DATE: 08/30/22

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Arch D (24 X 36)

CM 1 2 3 4 5 6 7 | 3/16 INCH 4 8 12 16 | TENTHS 10 20 30 | INCHES 1 2 3

CADFILEPATH

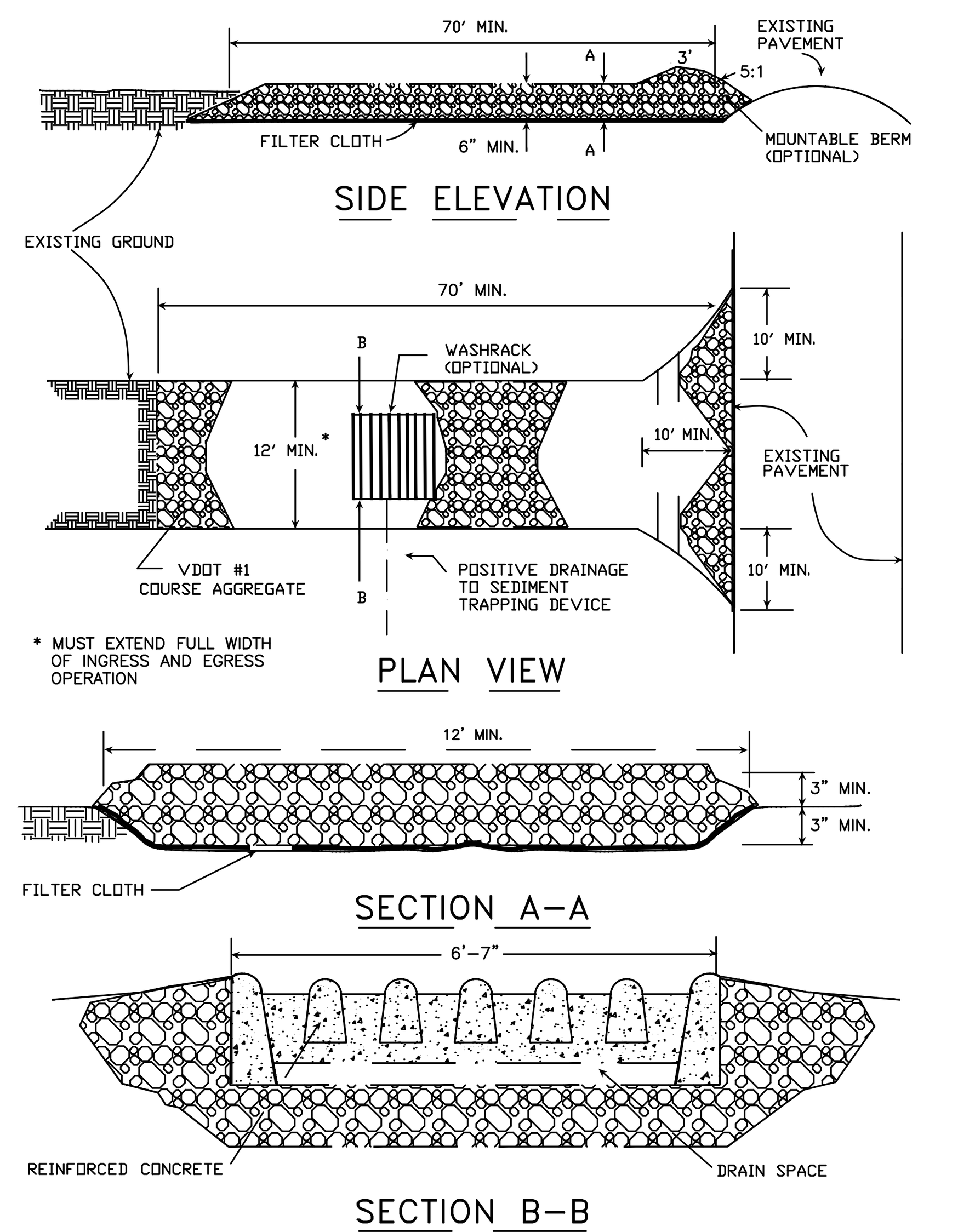
PLOTTED BY $USERS ON DD-MMM-YYYY AT HH:MM

STATION ENGINEERING

DWG. NO. E-1227

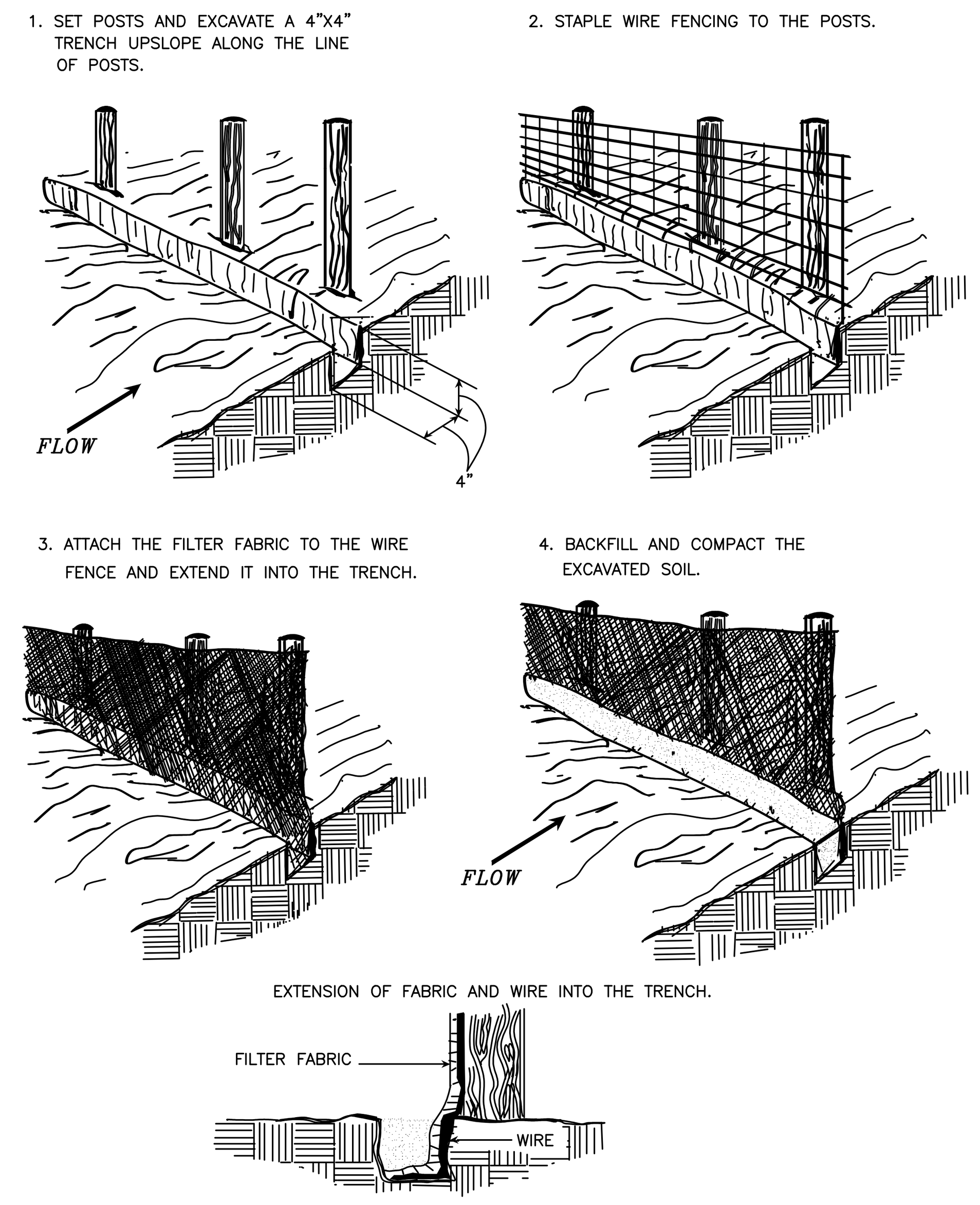
FIGURE 3.02.1

STONE CONSTRUCTION ENTRANCE

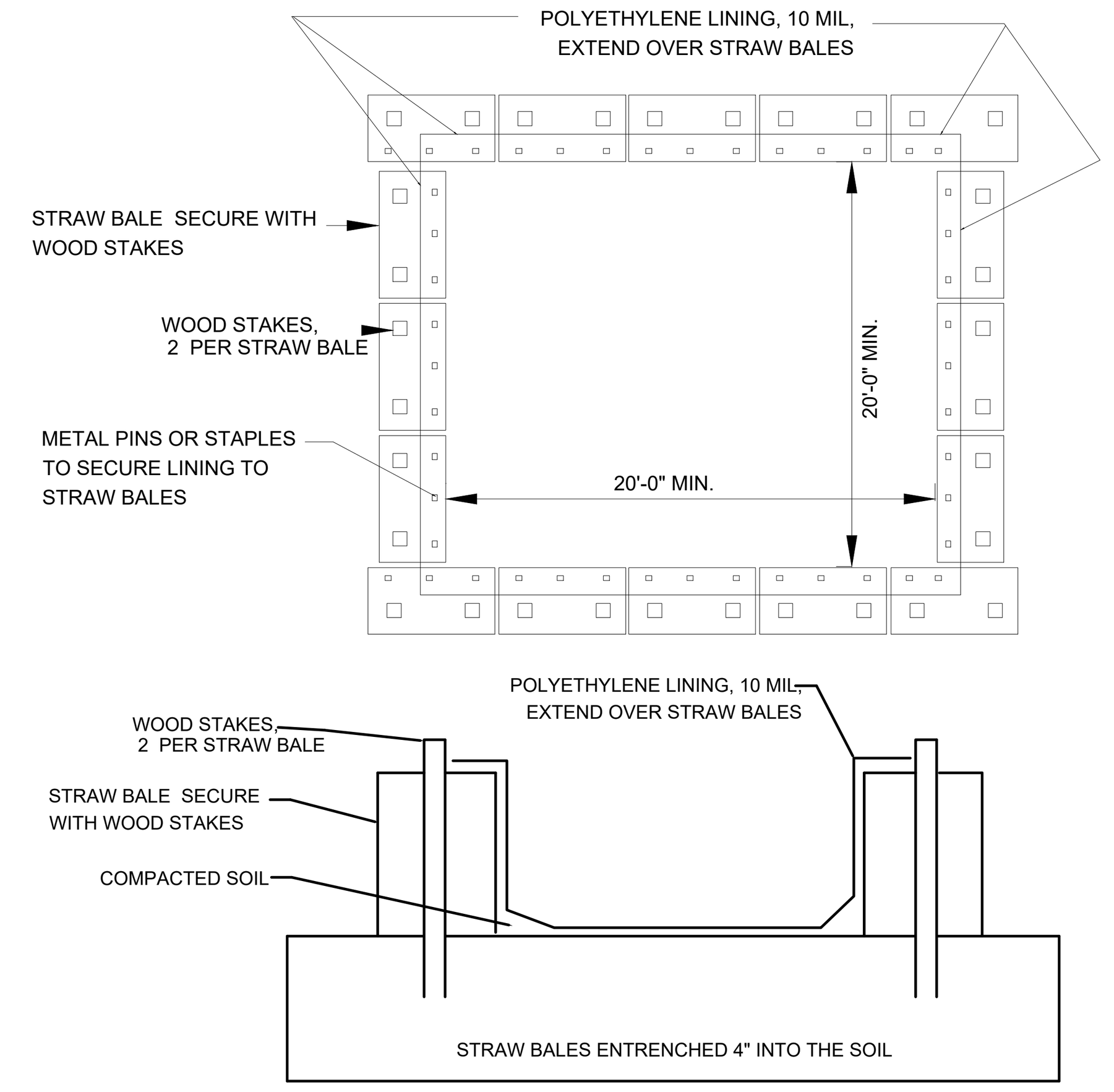


SOURCE: ADAPTED from 1983 Maryland Standards for Soil erosion and Sediment Control, and Va. DSWC

CONSTRUCTION OF A SILT FENCE (WITH WIRE SUPPORT)



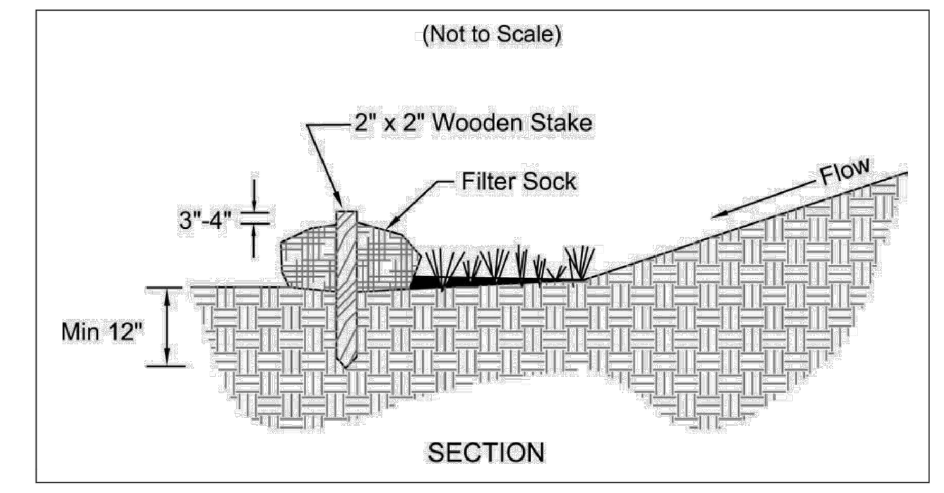
SOURCE: Adapted from Installation of Straw and Fabric Filter Barriers for Sediment Control, Sherwood & Wyant PLATE. 3.05-1



CONCRETE WASHOUT

SCALE: N.T.S.
(TEMPORARY)

Specifications
for
Filter Sock



1. Materials – Compost used for filter socks shall be weed, pathogen and insect free and free of any refuse, contaminants or other materials toxic to plant growth. They shall be derived from a well-decomposed source of organic matter and consist of a particles ranging from 3/8" to 2".
2. Filter Socks shall be 3 or 5 mil continuous, tubular, HDPE 3/8" knitted mesh netting material, filled with compost passing the above specifications for compost products.

INSTALLATION:

3. Filter socks will be placed on a level line across slopes, generally parallel to the base of the slope or other affected area. On slopes approaching 2:1, additional socks shall be provided at the top and as needed mid-slope.
4. Filter socks intended to be left as a permanent filter or part of the natural landscape, shall be seeded at the time of installation for establishment of permanent vegetation.
5. Filter Socks are not to be used in concentrated flow situations or in runoff channels.

MAINTENANCE:

6. Routinely inspect filter socks after each significant rain, maintaining filter socks in a functional condition at all times.
7. Remove sediments collected at the base of the filter socks when they reach 1/3 of the exposed height of the practice.
8. Where the filter sock deteriorates or fails, it will be repaired or replaced with a more effective alternative.
9. Removal – Filter socks will be dispersed on site when no longer required in such as way as to facilitate and not obstruct seedings.

50 CHAPTER 6 Sediment Controls

Table 7.8.1 Temporary Seeding Species Selection

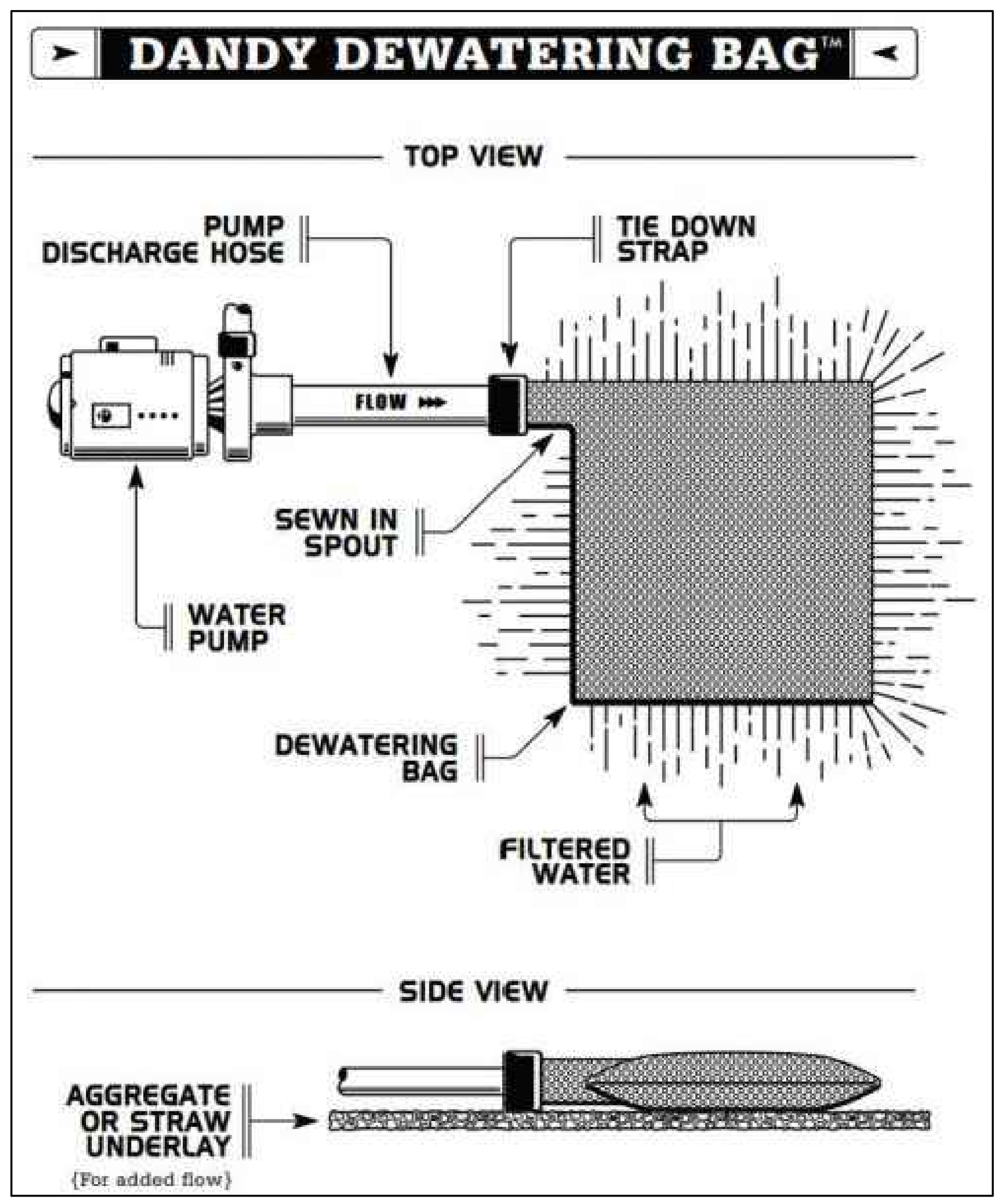
Seeding Dates	Species	Lb./1000 ft2	Lb/Acre
March 1 to August 15	Oats Tall Fescue Annual Ryegrass	3 1 1	128 (4 Bushel) 40 40
	Perennial Ryegrass Tall Fescue Annual Ryegrass	1 1 1	40 40 40
	Annual Ryegrass Perennial Ryegrass Creeping Red Fescue Kentucky Bluegrass	1.25 3.25 0.4 0.4	55 142 17 17
	Oats Tall Fescue Annual Ryegrass	3 1 1	128 (3 bushel) 40 40
August 16th to November	Rye Tall Fescue Annual Ryegrass	3 1 1	112 (2 bushel) 40 40
	Wheat Tall Fescue Annual Ryegrass	3 1 1	120 (2 bushel) 40 40
	Perennial Rye Tall Fescue Annual Ryegrass	1 1 1	40 40 40
	Annual Ryegrass Perennial Ryegrass Creeping Red Fescue Kentucky Bluegrass	1.25 3.25 0.4 0.4	40 40 40
November 1 to Feb. 29	Use mulch only or dormant seeding		

Note: Other approved species may be substituted.

Table 7.10.1Maintenance for Permanent Seedings Fertilization and Mowing

Mixture	Formula	Lbs./ Acre	Lbs./1,000 sq.ft.	Time	Mowing
Creeping Red Fescue Ryegrass Kentucky Bluegrass	10-10-10	500	12	Fall, yearly or as needed	Not closer than 3"
Tall Fescue	10-10-10	500	12		Not closer than 4"
Turf-type Fescue	10-10-10	500	12		
Crown Vetch Fescue	0-20-20	400	10	Spring, yearly following establishment and every 4-7 years thereafter	Do not mow
Flat Pea Fescue	0-20-20	400	10		Do not mow

Note: Following soil test recommendations is preferred to fertilizer rates shown above.



Reducing pollutants other than sediments depends heavily on construction personnel and how they carry out their operations. To help facilitate this, plans should contain standard notes clearly stating requirements to contractors. It also may be appropriate to include requirements for specific provisions for hazardous materials storage, handling and disposal.

Requirements

1. Educate Construction Personnel, including subcontractors who may use or handle hazardous or toxic materials, making them aware of the following general guidelines:

Disposal and Handling of Hazardous and Other Construction Waste	
DO:	• 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	• 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. Waste disposal containers shall be provided for the proper collection of all waste material including construction debris, sanitary garbage, petroleum products and any hazardous materials to be 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 in accordance with ORC 3714 at an approved Ohio EPA 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 that does not encroach upon natural wetlands, streams or their flood plains. Filling of stream side areas is Fill may not result in the contamination of waters of the state unless prohibited by local ordinance or zoning.~~

4. Construction and Demolition Debris (CD&D) Disposal. CD&D waste must be disposed of in accordance with ORC 3714 at an approved Ohio EPA CD&D landfill. CD&D waste is defined as all materials attached to a structure, which is being demolished (for materials containing asbestos see Item 12).

5. 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.

CHAPTER 8 Pollution/Construction 3

6. 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 aboveground tank of 660 gallons or more, accumulative aboveground storage of 1330 gallons or more, or 42,000 gallons of underground storage. Soils that have become contaminated must be disposed of accordance with Item 8 "Contaminated Soils".

7. Concrete Wash Water/Wash Outs. 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 on the lot away from any water conveyances.

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). Please be aware that storm water run off associated with contaminated soils are not authorized under Ohio EPA's General Storm Water Permit associated with Construction Activities. In the event there are large extensive areas of contaminated soils additional measures above and beyond the conditions of Ohio EPA's General Construction Storm Water Permit will be required. Depending on the extent of contamination, additional treatment and/or collection and disposal may be required. All storm water discharges associated with the contaminated soils must be authorized under an alternate NPDES (National Pollutant Discharge Elimination System) Permit.

9. Spill Reporting Requirements: Spills on pavement shall be absorbed with sawdust, kitty litter or other absorbant material 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 (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.

10. Open Burning. No materials may be burned which contain rubber, grease, asphalt, or petroleum products such as tires, cars, autoparts, plastics or plastic coated wire. (See OAC 3745-19) Open burning is not allowed in restricted areas. Restricted areas 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 a restricted area, no open burning can take place within a 1000 feet of an inhabited building located off the property where the fire is set. Open burning is permissible in a restricted area for the following activities: heating tar, welding and acetylene torches, smudge pots and similar occupational needs, and heating for warmth or outdoor barbeques. Outside of restricted areas, open burning is permissible for landscape wastes (plant material), land-clearing wastes (plant material, with prior written permission from Ohio EPA), and agricultural wastes (material generated by crop, horticultural, or livestock production practices. This includes fence posts and scrap lumber, but not buildings).

4 CHAPTER 8 Pollution/Construction

11. Dust Control/Suppressants. Dust control is required to prevent nuisance conditions. Dust controls must be used in accordance with the manufacturer's specifications and not be applied in a manner, which would result in a discharge to waters of the state. Isolation distances from bridges, catch basins, and other drainageways must be observed. Application (excluding water) may not occur when precipitation is imminent as noted in the short term forecast. Used oil may not be applied for dust control.

12. Other Air Permitting Requirements: All contractors and sub contractors must be made aware that certain activities associated with construction will require air permits. Activities including but not limited to mobile concrete batch plants, mobile asphalt plants, concrete crushers, large generators, etc., will require specific Ohio EPA Air Permits for installation and operation. These activities must seek authorization from the corresponding district of Ohio EPA. Notification for Restoration and Demolition must be submitted to Ohio EPA for all commercial sites to determine if asbestos corrective actions are required.

13. Process Waste Water/Leachate Management. All contractors shall be made aware that Ohio EPA's Construction General Permit only allows the discharge of storm water. Other waste streams/discharges including but not limited to vehicle and/or equipment washing, leachate associated with on-site waste disposal, concrete wash outs, etc are a process wastewater. They are not authorized for discharge under the General Storm Water Permit associated with Construction Activities. All process wastewaters must be collected and properly disposed at an approved disposal facility. In the event there are leachate outbreaks associated with onsite disposal, measures must be taken to isolate this discharge for collection and proper disposal. Investigative measures and corrective actions must be implemented to identify and eliminate the source of all leachate outbreaks.

14. Permit To Install (PTI) Requirements: All contractors and sub contractors must be made aware that a PTI must be submitted and approved by Ohio EPA 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. The 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.

CHAPTER 8 Pollution/Construction 5

NOTE:

THE FOLLOWING NOTES SHALL BE ADHERED TO FOR ADDITIONAL CONSTRUCTION SITE POLLUTION CONTROLS. SPECIFICATIONS NOTED BELOW ARE FOUND ON THIS DETAILS SHEET.

a. HANDLING OF TOXIC OR HAZARDOUS MATERIALS - OHIO RAINWATER AND LAND DEVELOPMENT MANUAL (ORLDM), CHAPTER 8 SPECIFICATIONS 1, 2, 5, AND 6 ADDRESSES THIS ISSUE.
b. WASTE DISPOSAL - ORLDM, CHAPTER 8 SPECIFICATIONS 2, 4, AND 13 ADDRESSES THIS ISSUE.
c. CLEAN HARD FILL – NO CONSTRUCTION RELATED WASTE MATERIALS ARE TO BE BURIED ON-SITE.
d. CONTAMINATED SOILS - ORLDM, CHAPTER 8 SPECIFICATION 8 ADDRESSES THIS ISSUE. MANAGEMENT OF RUNOFF SHOULD ALSO BE ADDRESSED. RECOMMEND INCLUDING OPTIONS LISTED UNDER PART III.2.G.V OF THE CGP IN THE SWPPP.
e. SPILL REPORTING REQUIREMENTS - ORLDM, CHAPTER 8 SPECIFICATION 9 ADDRESSES THIS ISSUE.
f. OPEN BURNING - ORLDM, CHAPTER 8 SPECIFICATION 10 ADDRESSES THIS ISSUE.
g. DUST CONTROLS/SUPPRESSANTS - ORLDM, CHAPTER 8 SPECIFICATION 11 ADDRESSES THIS ISSUE.
h. OTHER AIR PERMITTING REQUIREMENTS - ORLDM, CHAPTER 8 SPECIFICATION 12 ADDRESSES THIS ISSUE.
i. PROCESS WASTEWATER/LEACHATE MANAGEMENT - ORLDM, CHAPTER 8 SPECIFICATION 13 ADDRESSES THIS ISSUE.

- IN THE EVENT OF REGULATED WASTE EVENT OR QUESTIONS PLEASE CONTACT BURAK ERGEZEN, LERS LEAD, 614/582-1522 OR BERGEZEN@AEP.COM.

REFERENCE DRAWING:

E–1220 COVER SHEET
E–1221 GENERAL NOTES (WITH MINIMUM STANDARDS)
E–1222 EROSION AND SEDIMENT CONTROL PLAN (SOIL MAPS & DESCRIPTIONS)
E–1223 STATION LAYOUT PLAN (EXISTING CONDITIONS)
E–1224 STATION LAYOUT PLAN
E–1225 GRADING PLAN (EROSION AND SEDIMENT CONTROL PLAN)
E–1226 EROSION AND SEDIMENT CONTROL PLAN (PRE AND POST DRAINAGE AREAS)
*E–1227 EROSION AND SEDIMENT CONTROL DETAILS

NOTIFY UTILITY COMPANIES BEFORE YOU DIG

THE LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE BASED ON ABOVE-GROUND STRUCTURES. LOCATIONS OF UNDERGROUND UTILITIES/STRUCTURES MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES.
IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ACTUAL LOCATION AND DEPTH OF ALL EXISTING UTILITIES. THE OWNER AND THE SURVEYOR SHALL NOT BE RESPONSIBLE FOR ANY OMISSION OR VARIATION FROM THE LOCATION SHOWN. THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 811 TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.

STATE OF OHIO
JAMES NELSON LOVELL, JR.
75897
REGISTERED
PROFESSIONAL ENGINEER
[illegible]
08/30/22

NO	DATE	REVISION DESCRIPTION	APPR	DR	ENG	CK	ISSUE#
1	08/30/22	CITY OF HILLIARD COMMENTS	AJT	BKS	BKS	BKS	T10343249C1

OLD DWG : STD DWG :

OHIO POWER COMPANY
COSGRAY STATION
HILLIARD OHIO
138kV
EROSION AND SEDIMENT CONTROL DETAILS

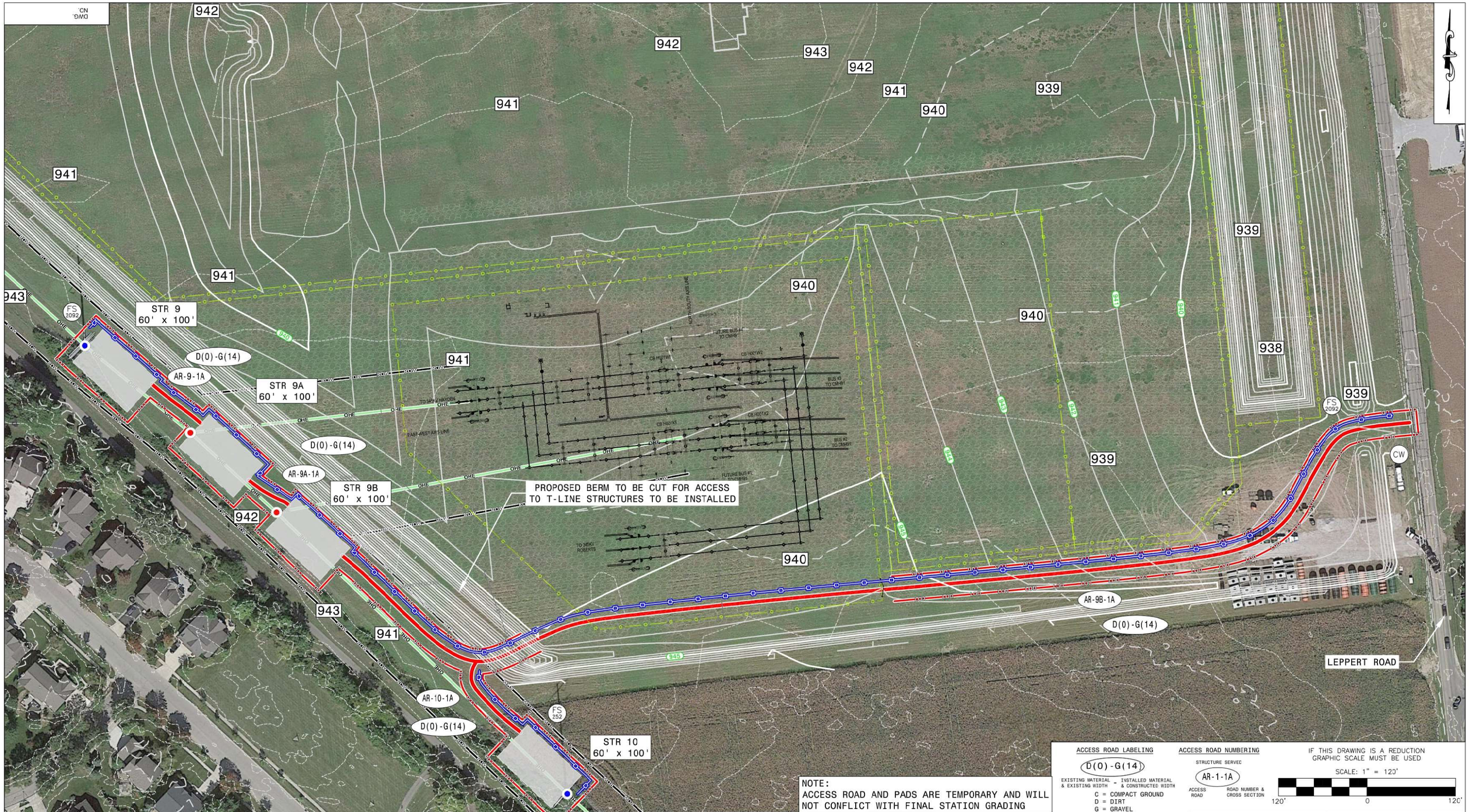
SCALE: NONE | DR: MMW/HC | ENG: DBF | CH: BKS
WO#: T10343249 | APPD: BJB | DATE: 08/30/22
AMERICAN ELECTRIC POWER BOUNDLESS ENERGY
1 RIVERSIDE PLAZA COLUMBUS, OH 43215
DWG. NO. E-1227 REV 1

CADFILEPATH

PLOTTED BY $USER$ ON DD-MMM-YYYY AT HH:MM STATION ENGINEERING

Arch D (24 X 36)

CM 1 2 3 4 5 6 7 ³⁄₁₆ INCH 4 8 12 16 TENTHS 10 20 30 INCHES 1 2 3



NOTE:
ACCESS ROAD AND PADS ARE TEMPORARY AND WILL NOT CONFLICT WITH FINAL STATION GRADING

ACCESS ROAD LABELING

D(0)-G(14)

EXISTING MATERIAL - INSTALLED MATERIAL
& EXISTING WIDTH & CONSTRUCTED WIDTH

C = COMPACT GROUND
D = DIRT
G = GRAVEL
M = MATTING

ACCESS ROAD NUMBERING

STRUCTURE SERVED

AR-1-1A

ACCESS ROAD — ROAD NUMBER & CROSS SECTION

IF THIS DRAWING IS A REDUCTION
GRAPHIC SCALE MUST BE USED

SCALE: 1" = 120'

120' 0 120'

LEGEND

- EXISTING CONTOUR MAJOR (1' AND 5')
- EXISTING CONTOUR MINOR (1' AND 5')
- PROPOSED CONTOUR MAJOR (1' AND 5')
- PROPOSED CONTOUR MINOR (1' AND 5')
- EXISTING PROPERTY LINE
- GRAVEL PAD
- OHE — OVERHEAD ELECTRIC
- ROW — RIGHT OF WAY
- LOD — LIMITS OF DISTURBANCE
- NEW ACCESS ROAD
- UPGRADE ACCESS ROAD
- EXISTING ACCESS ROAD
- 12" FILTER SOCK
- ROW — RIGHT OF WAY
- ORANGE CONSTRUCTION FENCE
- DITCH
- MATTING
- STREAMS
- EMERGENT WETLANDS
- FORESTED WETLANDS
- SCRUB SHRUB WETLANDS
- FLOODPLAIN
- FLOODWAY
- SF LF — SILT FENCE/LENGTH
- FS LF — FILTER SOCK/LENGTH
- CE — CONSTRUCTION ENTRANCE
- 1 TCE — TEMPORARY CONSTRUCTION ENTRANCE PERMIT
- PROPOSED STRUCTURE
- CIP — CULVERT INLET PROTECTION
- OP — OUTLET PROTECTION
- WB — WATER BARS
- CW — CONCRETE WASHOUT
- EXISTING STRUCTURE

NO	DATE	REVISION DESCRIPTION	APPR	DR	ENG	CK	ISSUE#

OLD DWG: | STD DWG:

OHIO POWER COMPANY

COSGRAY STATION T-LINE STRUCTURES

HILLARD — OHIO

138kV

STRUCTURES 9A & 9B

SCALE: 1" = 120'	DR: DGC	ENG: BKS	CH: JNL
AMERICAN ELECTRIC POWER	WO# T10343249002	APPD: AJT	DATE: 6/30/2022
	1 RIVERSIDE PLAZA COLUMBUS, OH 43215	DWG. NO. Sheet 1 of 1	REV 0

CM 1 2 3 4 5 6 7 | 3/16 INCH 4 8 12 16 | TENTHS 10 20 30 | INCHES 1 2 3

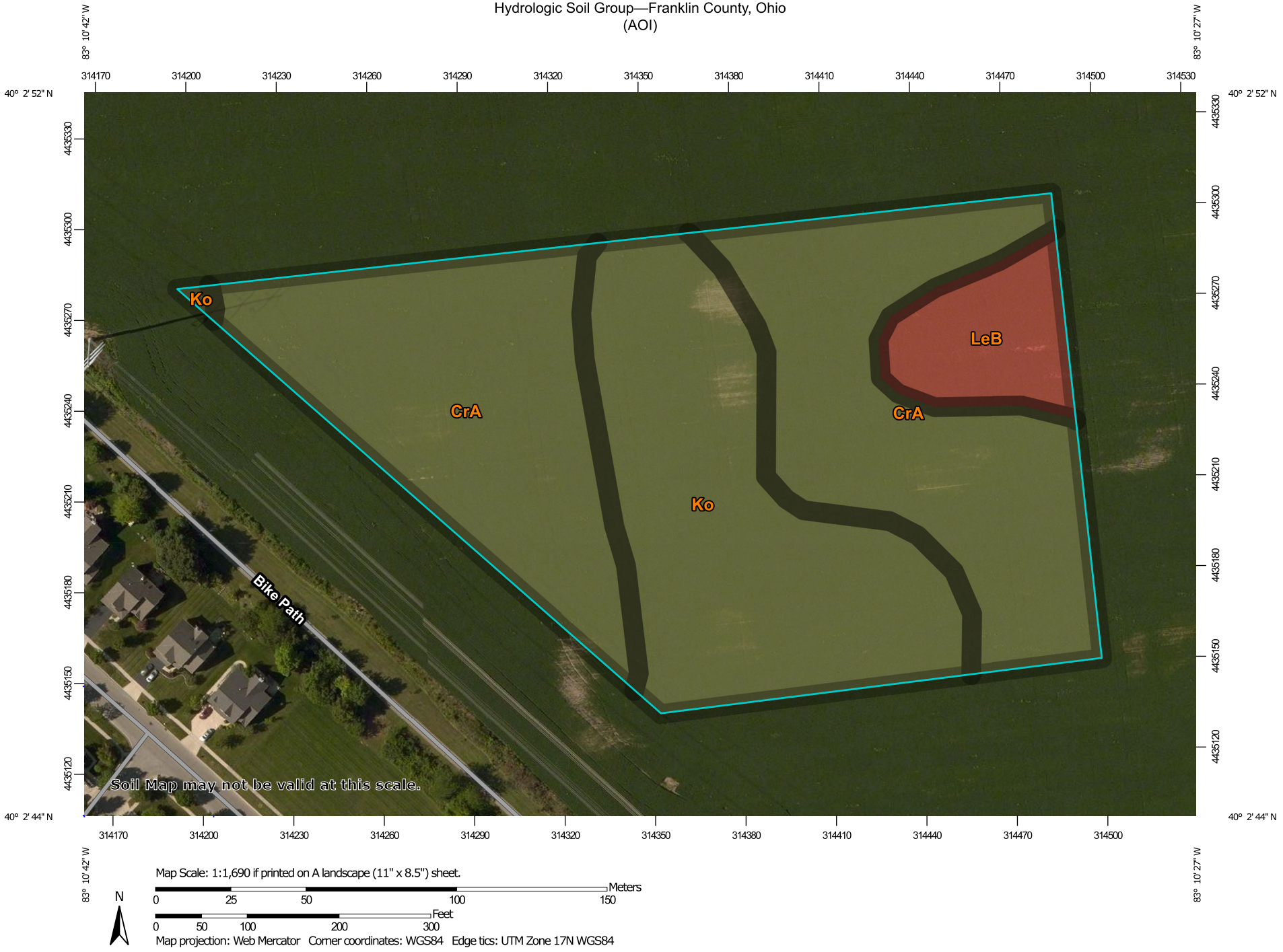
P:\21-070 - Cosgray - Substation\Drawings\Master Drawing\T-Line\21-070 T-Line.dwg

Arch D (24 X 36)

PLOTTED 6/30/2022 AT 16:09

STATION PROJECTS ENGINEERING

Hydrologic Soil Group—Franklin County, Ohio
(AOI)



Map Scale: 1:1,690 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 25 50 100 150

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A
A/D
B
B/D
C
C/D
D
Not rated or not available

Soil Rating Lines

A
A/D
B
B/D
C
C/D
D
Not rated or not available

Soil Rating Points

A
A/D
B
B/D
C
C/D
D
Not rated or not available

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 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Franklin County, Ohio
Survey Area Data: Version 20, Sep 7, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 4, 2014—Aug 27, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CrA	Crosby silt loam, Southern Ohio Till Plain, 0 to 2 percent slopes	C/D	5.0	58.8%
Ko	Kokomo silty clay loam, 0 to 2 percent slopes	C/D	2.8	33.4%
LeB	Lewisburg-Crosby complex, 2 to 6 percent slopes	D	0.7	7.8%
Totals for Area of Interest			**8.5**	**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

Map Unit Description (Brief, Generated)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, provide information on the composition of map units and properties of their components.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

The Map Unit Description (Brief, Generated) report displays a generated description of the major soils that occur in a map unit. Descriptions of non-soil (miscellaneous areas) and minor map unit components are not included. This description is generated from the underlying soil attribute data.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description (Brief, Generated)

Franklin County, Ohio

Map Unit: CrA—Crosby silt loam, Southern Ohio Till Plain, 0 to 2 percent slopes

Component: Crosby (90%)

The Crosby component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on Wisconsin ground moraines, till plains. The parent material consists of silty material or loess over loamy till. Depth to a root restrictive layer, densic material, is 24 to 40 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March. Organic matter content in the surface horizon is about 3 percent. This component is in the F111AY008IN Wet Till Ridge ecological site. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 35 percent.

Component: Kokomo, drained (5%)

Generated brief soil descriptions are created for major soil components. The Kokomo, drained soil is a minor component.

Component: Celina, eroded (4%)

Generated brief soil descriptions are created for major soil components. The Celina, eroded soil is a minor component.

Component: Miamian, eroded (1%)

Generated brief soil descriptions are created for major soil components. The Miamian, eroded soil is a minor component.

Map Unit: Ko—Kokomo silty clay loam, 0 to 2 percent slopes

Component: Kokomo (90%)

The Kokomo component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions, till plains. The parent material consists of loamy glaciofluvial deposits derived from sedimentary rock over loamy till derived from limestone and dolomite. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 5 percent. This component is in the F111AY007IN Till Depression Flatwood ecological site. Nonirrigated land capability classification is 2w. This soil meets hydric criteria.

Component: Celina (5%)

Generated brief soil descriptions are created for major soil components. The Celina soil is a minor component.

Component: Crosby (5%)

Generated brief soil descriptions are created for major soil components. The Crosby soil is a minor component.

Map Unit: LeB—Lewisburg-Crosby complex, 2 to 6 percent slopes

Component: Lewisburg (45%)

The Lewisburg component makes up 45 percent of the map unit. Slopes are 2 to 6 percent. This component is on till plains. The parent material consists of loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 36 inches during January, February, March, April. Organic matter content in the surface horizon is about 2 percent. This component is in the F111AY009IN Till Ridge ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 39 percent.

Component: Crosby (40%)

The Crosby component makes up 40 percent of the map unit. Slopes are 2 to 6 percent. This component is on till plains. The parent material consists of loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during January, February, March, April. Organic matter content in the surface horizon is about 2 percent. This component is in the F111AY008IN Wet Till Ridge ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 25 percent.

Component: Kokomo (15%)

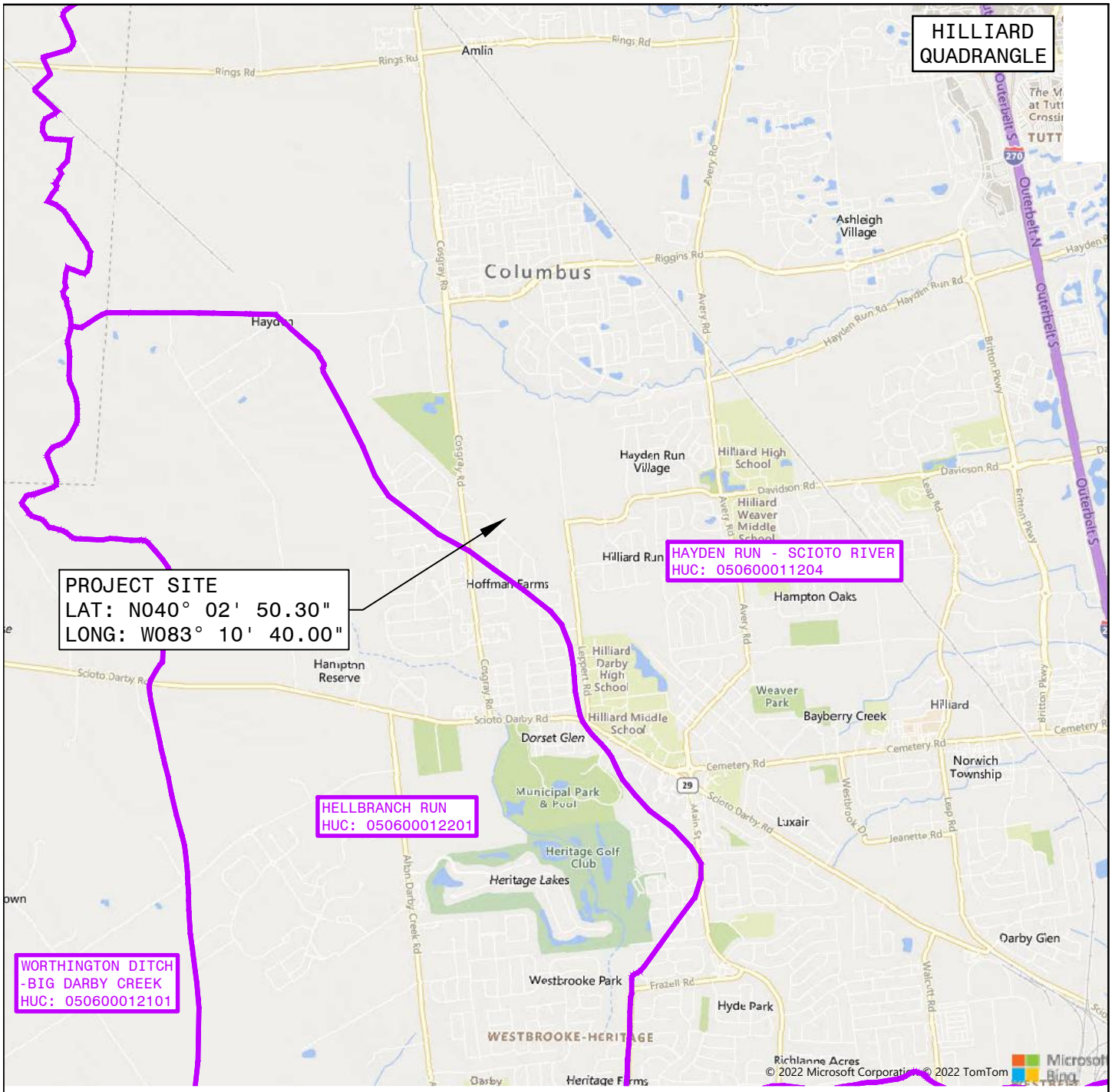
Generated brief soil descriptions are created for major soil components. The Kokomo soil is a minor component.

Component: eroded areas with a clay loam surface layer (%)

Generated brief soil descriptions are created for major soil components. The eroded areas with a clay loam surface layer soil is a minor component.

Data Source Information

Soil Survey Area: Franklin County, Ohio
Survey Area Data: Version 20, Sep 7, 2021



COSGRAY STATION

WATERSHED MAP

IF THIS DRAWING IS A REDUCTION
GRAPHIC SCALE MUST BE USED

SCALE: 1" = 3500'

3500' 0 3500'

APPALACHIAN POWER COMPANY	COSGRAY STATION PROJECT		COSGRAY STATION PROJECT WATERSHED MAP USGS OVERLAY
APP'D BY : AJT	DR. BY : BKS	CH. BY : BKS	DATE: 3/14/2022
AEP AMERICAN ELECTRIC POWER	*1 RIVERSIDE PLAZA* *COLUMBUS, OH 43215*	WORK ORDER # T10343249002	DWG. No. / REV

APPENDIX 3

SWP3 Inspection Forms and SWP3 Amendments, Grading, and Stabilization Log

AEP OHIO TRANSMISSION COMPANY, INC.
COSGRAY STATION PROJECT
STORM WATER POLLUTION PREVENTION PLAN (SWP3) INSPECTION FORM

Date: _____ Inspector's Name/Title: _____

Inspector's Company: _____

Inspector Qualified in accordance with Part VII.BB of Permit: ☐ Yes ☐ No (Document Qualifications in Appendix 3 of SWP3)

Inspection Type: ☐ Weekly (once every seven calendar days)

☐ Storm Event (0.5 inch or greater) Date: _____ Amount: _____ Duration: _____

Rain Event(s) Since Last Inspection:

Date: _____ Amount: _____ Duration: _____	Date: _____ Amount: _____ Duration: _____
Date: _____ Amount: _____ Duration: _____	Date: _____ Amount: _____ Duration: _____

Did any discharges occur during these events? ☐ No ☐ Yes, Location: _____

Current Weather: ☐ Clear ☐ Cloudy ☐ Fog ☐ Rain ☐ Snow ☐ Sleet ☐ High Winds ☐ Other: _____ Temp: _____

Current Discharges: ☐ No ☐ Yes, Location: _____

Evidence of Sediment/Pollutants Leaving the Site? ☐ No ☐ Yes, Location: _____

Has Seeding Taken Place? ☐ No ☐ Yes, Location/Seed tag photo included: _____

Erosion and Sediment Control Features / BMPs Inspected:

☐ **Silt Fence / Filter Sock (Mark which one applies)**

Location(s) (Structure # (STR#)): _____

Properly anchored/installed: ☐ Yes ☐ No Repairs Needed: ☐ Yes ☐ No

Sediment Removal Required (Sediment one-half height for fence & one-third height for sock): ☐ Yes ☐ No

Action Required/Taken/Location(s): _____

_____

☐ **Orange Barrier Fence**

Location(s) (Wetland / Access Road / STR#): _____

Properly anchored/installed: ☐ Yes ☐ No Repairs Needed: ☐ Yes ☐ No

Action Required/Taken/Location(s): _____

_____

☐ **Construction Entrance**

Location(s) (Reference intersection of road and nearest STR#): _____

Entrance Stabilized: ☐ Yes ☐ No Evidence of mud tracked on roadway: ☐ Yes ☐ No

Action Required/Taken/Location(s): _____

_____

☐ **Material Storage Areas (Including waste containers, fuel areas)**

Material Storage Areas located on site and shown on the SWP3: ☐ Yes ☐ No

Materials properly contained and labeled: ☐ Yes ☐ No Evidence of spills or releases: ☐ Yes ☐ No

Action Required/Taken/Location(s): _____

_____

☐ **Concrete Washouts**

Location(s) (Access Road / STR#): _____

Properly installed and located at least 50 feet from wetlands/streams/ditches/storm drains: ☐ Yes ☐ No

Replacement needed (concrete reaches 50 percent of the system): ☐ Yes ☐ No

Action Required/Taken/Location(s): _____

_____

Comments / Additional Control Measures Recommended: _____

_____

_____

If BMP modifications are made, you must update the SWP3 drawings and document changes on the SWP3 amendment log.

Inspector's Signature: _____ Date: _____

AEP OHIO TRANSMISSION COMPANY, INC.
COSGRAY STATION PROJECT

STORM WATER POLLUTION PREVENTION PLAN
AMENDMENTS, GRADING, AND STABILIZATION LOG

Date: _____ Inspector's Name/Title: _____

Location and Description of Grading and Stabilization Activities

_____

_____

_____

_____

Amendments to SWP3:

_____

_____

_____

Date: _____ Inspector's Name/Title: _____

Location and Description of Grading and Stabilization Activities

_____

_____

_____

_____

Amendments to SWP3:

_____

_____

_____

Date: _____ Inspector's Name/Title: _____

Location and Description of Grading and Stabilization Activities

_____

_____

_____

_____

Amendments to SWP3:

_____

_____

_____

AEP OHIO TRANSMISSION COMPANY, INC. COSGRAY STATION PROJECT

SUMMARY SWP3 INSPECTION RECORDS – FOR TCRs

I have completed a review of the SWP3 inspections completed on the project for the period of _____ to _____.

The following major observations were made relating to the implementation of the SWP3 and review of the inspection log.

Inspector Qualifications:

☐ The inspections were performed by "qualified inspection personnel" knowledgeable in the principles of erosion and sediment control and skilled in assessing the effectiveness of control measures.

☐ The inspections were NOT performed by "qualified inspection personnel" knowledgeable in the principles of erosion and sediment control and skilled in assessing the effectiveness of control measures.

☐ Corrective Measures were taken on _____ to provide "qualified inspection personnel" at the site.

Permit Compliance Observations:

☐ The project was in compliance with the SWP3 and permit during the review period.

☐ The project was NOT in compliance with the SWP3 and permit during the review period as noted below:

☐ Non-compliance issues included:

_____

_____

_____

_____

_____

_____

_____

_____

☐ Corrective Measures were taken on _____ to correct the above non-compliance issues.

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.

Name: _____

Title: _____

Signature: _____

Date: _____

APPENDIX 4

Duty to Inform Contractors and Subcontractors Signature Form

AEP OHIO TRANSMISSION COMPANY, INC. COSGRAY STATION PROJECT

DUTY TO INFORM CONTRACTORS AND SUBCONTRACTORS SIGNATURE FORM

By signing below, I acknowledge that I have been informed of the terms and conditions of the Ohio Environmental Protection Agency's General NPDES Permit for Storm Water Associated with Construction Activity, and have reviewed and understand the conditions and responsibilities of the Storm Water Pollution Prevention Plan for the AEP Ohio Transmission Company, Inc. COSGRAY STATION Project. I understand that Inspectors shall meet the qualifications outlined in Part VII.BB. of Ohio EPA Permit No.: OHC000005.

Printed Name	Company	Signature	Date

APPENDIX 5

Storm Water Calculations Report

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	5.186	2	730	20,411	------	------	------	PRE DA 1
2	SCS Runoff	18.03	2	718	43,861	------	------	------	POST DA 1

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	7.647	2	730	29,130	------	------	------	PRE DA 1
2	SCS Runoff	22.05	2	718	54,335	------	------	------	POST DA 1

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	14.55	2	728	53,794	------	------	------	PRE DA 1
2	SCS Runoff	32.03	2	718	80,875	------	------	------	POST DA 1

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	19.30	2	728	70,910	------	------	------	PRE DA 1
2	SCS Runoff	38.35	2	718	97,926	------	------	------	POST DA 1

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	27.63	2	728	101,412	------	------	------	PRE DA 1
2	SCS Runoff	49.02	2	718	126,921	------	------	------	POST DA 1

APPENDIX 6

Long-term Maintenance Plan

LONG-TERM MAINTENANCE PLAN

AEP OHIO TRANSMISSION COMPANY
{COSGRAY STATION}

The Long-Term Maintenance Plan for permanent Best Management Practices (BMPs) for storm water management for this site is on file with Amazon and included in the SWPPP for Amazon's permit 4GC08128*AG.

Summary: Notice Proof of Compliance with Condition electronically filed by Hector Garcia-Santana on behalf of Ohio Power Company