Legal Department

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

October 7, 2020

The Honorable Sam
Randazzo, Chairman
Ohio Power Siting Board
180 East Broad Street
Columbus, Ohio 43215-3793

Tanner S. Wolffram
Christen M. Blend
Senior Counsel –
Regulatory Services
(614) 716-2914 (P)
(614) 716-1915 (P)
tswolffram@aep.com
cmblend@aep.com

RE: Proof of Compliance with Conditions
Case No. 20-0709-EL-BNR
Conesville Transmission Station Expansion Project

Dear Chairman Randazzo:

In satisfaction of Condition (2) of the Staff Report of Investigation for this Project, Ohio Power Company ("AEP Ohio") submits this notice and attachment to inform you that, based on visual survey, no Bald Eagles or Bald Eagle nests were found within a half-mile radius of the Project area.

Additionally, in satisfaction of Condition (3) of the Staff Report of Investigation for this Project, AEP Ohio has obtained the Special Flood Hazard Area Development Permit for the above-referenced Project, which is attached.

Finally, in satisfaction of Condition (4), the Ohio Environmental Protection Agency National Pollutant Discharge Elimination System-Construction Site Stormwater General Permit has been approved for the above-referenced Project and is attached.

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

Respectfully submitted,

/s/ Tanner S. Wolffram
Christen M. Blend (0086881), Counsel of Record
Tanner S. Wolffram (0097789)
Counsel for Ohio Power Company

From: Allison R Wheaton
To: Allison R Wheaton
Subject: FW: AEP Conesville Station Expansion
Date: Tuesday, October 6, 2020 1:27:33 PM

From: Scott Denham <SDenham@envsi.com>
Sent: Friday, June 12, 2020 10:48 AM
To: Allison R Wheaton <arwheaton@aep.com>
Cc: Michael Wellman <mwellman@envsi.com>
Subject: [EXTERNAL] RE: AEP Conesville Station Expansion

This is an **EXTERNAL** email. **STOP**. **THINK** before you CLICK links or OPEN attachments. If suspicious please click the '**Report to Incidents**' button in Outlook or forward to incidents@aep.com from a mobile device.

Allison,

An ESI biologist went out to the site and did a visual survey for Bald Eagles and nests within a ½ mile radius of the site. No nest was found at the FWS location or within the ½ mile radius. Our Biologist did stay around the area for a while just to confirm no sightings.

We will update the RTE section of the NWP with this information and I will pass it back to you for a quick review. Let me know if you need anything else!

Have a great weekend!

-Scott

Scott Denham II, M.S
Wetlands & Permitting Manager
Environmental Solutions & Innovations, Inc.
4300 Lynn Rd,Suite 205 | Ravenna, OH 44266
office: 513.451.1777 **fax:** 513.451.3321
cell: 419.351.9050
sdenham@envsi.com | www.envsi.com

Receipt # 813472

Permit No. 2020091101

SPECIAL FLOOD HAZARD AREA DEVELOPMENT PERMIT APPLICATION

Application is hereby made for a DEVELOPMENT PERMIT as required by the Flood Damage Prevention Resolution No. 2010-13 of the County of Coshocton for development in an identified flood hazard area. All activities shall be completed in accordance with the requirements of said Resolution. The development to be performed is described below and in attachments hereto. The applicant understands and agrees that:

. this permit is issued on the conditions and facts described;
. any permit may be repealed if conditions or facts change;
. permit void if the activity has not begun within 180 days of the issuance date;
. the permit will remain valid for one year from date of issuance.

Owner's Name: AEP Ohio Transmission Co. Inc
Address: 8600 Smith's Mill Road New Albany, OH 43054
Phone: Aimee Toole: 614-933-2060

Builder: AEP Ohio Transmission Co. Inc.
Address: 8600 Smith's Mill Road
Phone: _____

NOTE: In addition to completion of this form the applicant agrees to submit any additional information required by the administrator in order to determine that the proposed development is compliant with the local and federal flood damage prevention criteria of the National Flood Insurance Program. Additional information may include but is not limited to: site specific plans to scale showing the nature, location, dimensions and elevations of the area and structure(s) in question.

DESCRIPTION OF WORK

1. Location of proposed development site address: 40.183101°, -81.878321° - Existing Conesville 345kV Station
   Legal description: _____

2. Kind of development proposes:

new building		existing structure		filling/grading	x
residential		alteration		mining/dredging	
nonresidential	x	addition		watercourse	x
installation		accessory		alteration other*	
manufactured home		materials storage			

* Describe activity AEP proposes to expand the existing gravel pad at the Conesville Substation. The existing station fence will be removed and replaced as part of the project, and fill will be placed in one stream for the expansion. The stream is a discharge channel previously created to serve facility operations. A location map and preliminary grading plans are included for reference.

3. If the proposed construction is an alteration, addition or improvement to an existing structure, indicate the cost of proposed construction $_____. What is the estimated market value of the existing structure $_____?

NOTE: An existing structure must comply with the flood protection standards if it is substantially improved (an improvement equal to or greater than 50% of the market value of the structure). FEMA maintains that the "substantial improvement" definition applies to existing structures only and that once a structure meets the definition of "new construction" any further improvements to that structure must meet "new construction" requirements. For floodplain management purposes "new construction" means structures for which "start of construction" began on or after the effective date of the initial Flood Insurance Rate Map issued by FEMA for the community.

4. Does proposed development involve a subdivision or other development containing at least 50 lots or 5 acres (whichever is less) Yes_____ No____X___?

NOTE: If yes, base flood elevation data is required from applicant if it has not been provided by FEMA.

I AGREE THAT ALL STATEMENTS IN AND ATTACHMENTS TO THIS APPLICATION ARE A TRUE DESCRIPTION OF THE EXISTING PROPERTY AND THE PROPOSED DEVELOPMENT ACTIVITY. I UNDERSTAND THE DEVELOPMENT REQUIREMENTS FOR SPECIAL FLOOD HAZARD AREA ACTIVITIES PER THE APPROPRIATE RESOLUTION AND AGREE TO ABIDE THERETO. I UNDERSTAND IT IS MY RESPONSIBILITY TO OBTAIN ALL APPLICABLE FEDERAL, STATE AND LOCAL PERMITS.

Applicant's Signature: A Toole

Date 9 / 8 / 2020

ADMINISTRATIVE

NOTE: The following is to be completed by the local floodplain administrator. All references to elevations are in feet mean sea level (m.s.l.). The term base flood elevation means the same as the 100-year elevation.

5. Is the proposed development in:

_____ an identified floodway
_X_ a flood hazard area where base flood elevations exist with no identified floodway
_____ an area within the floodplain fringe
_____ an approximate flood hazard area (Zone A). If yes, complete only 6a in the following question. See No. 9.

NOTE: Floodway development must demonstrate through hydrologic and hydraulic analysis, performed in accordance with standard engineering practice, that no increase in base flood elevation will result during occurrence of the base flood discharge. If base flood elevations exist with no floodway delineation, hydrologic and hydraulic analysis is required to demonstrate not more than one foot increase at any point to the water surface elevation of the base flood.

6a. N.A. Does proposed development meet NFIP and local General Standards at Section 4 of your regulations?

_____Construction materials and methods resistant to flood damage_____Anchored properly
_____ Subdivision designed to minimize flood damage _____Utilities safe from flooding

6b. Does proposed development meet NFIP and local Specific Standards at Section_____of your regulations?

_X_ Encroachments – proposed action will not obstruct flood waters.
_____ Proposed site grade elevations if fill or topographic alteration is planned.
_____ Proposed lowest floor elevation expressed in feet mean sea level.
_____ Proposed floodproofed elevation expressed in feet mean sea level (non residential only).

7. Base flood elevation (100-year) at proposed site 737 feet m.s.l.
Date source Flood Insurance Rate Map
Map effective date March 2, 2010 Community-Panel No. 39031 - 0345 C

8. N.A. Does the structure contain:

____ Basement _____ enclosed area other than basement below lowest floor?

9. N.A. For structures in approximate A zones (no BFE available) the structure's lowest floor is _____ feet above the highest grade adjacent to the structure.

10. The proposed development is in compliance with applicable floodplain standards.
PERMIT ISSUED ON 9/11/2020.

11. N.A. The proposed development is not in compliance with applicable floodplain standards.
PERMIT DENIED ON _____.

NOTE: All structures must be built with the lowest floor, including the basement, elevated or floodproofed to or above the base flood elevation (100-year) unless a variance has been granted. Only nonresidential structures may be floodproofed.

12. The proposed development is exempt from the floodplain standards per Section_____of the Flood Damage Prevention Resolution No. 2010-13.

Administrator's Signature: Frederick J. Stachitti Date: 9/11/2020

13. The certified as-built elevation of the structure's lowest floor is_____feet above msl.*

14. The certified as-built floodproofed elevation of the structure is_____feet above msl.*

Note: **Certification by registered engineer or land surveyor documenting these elevations is necessary if elevations are provided by applicant.*

Proposed work approved. No further information needed.

Fred Stachitti
740-622-2135

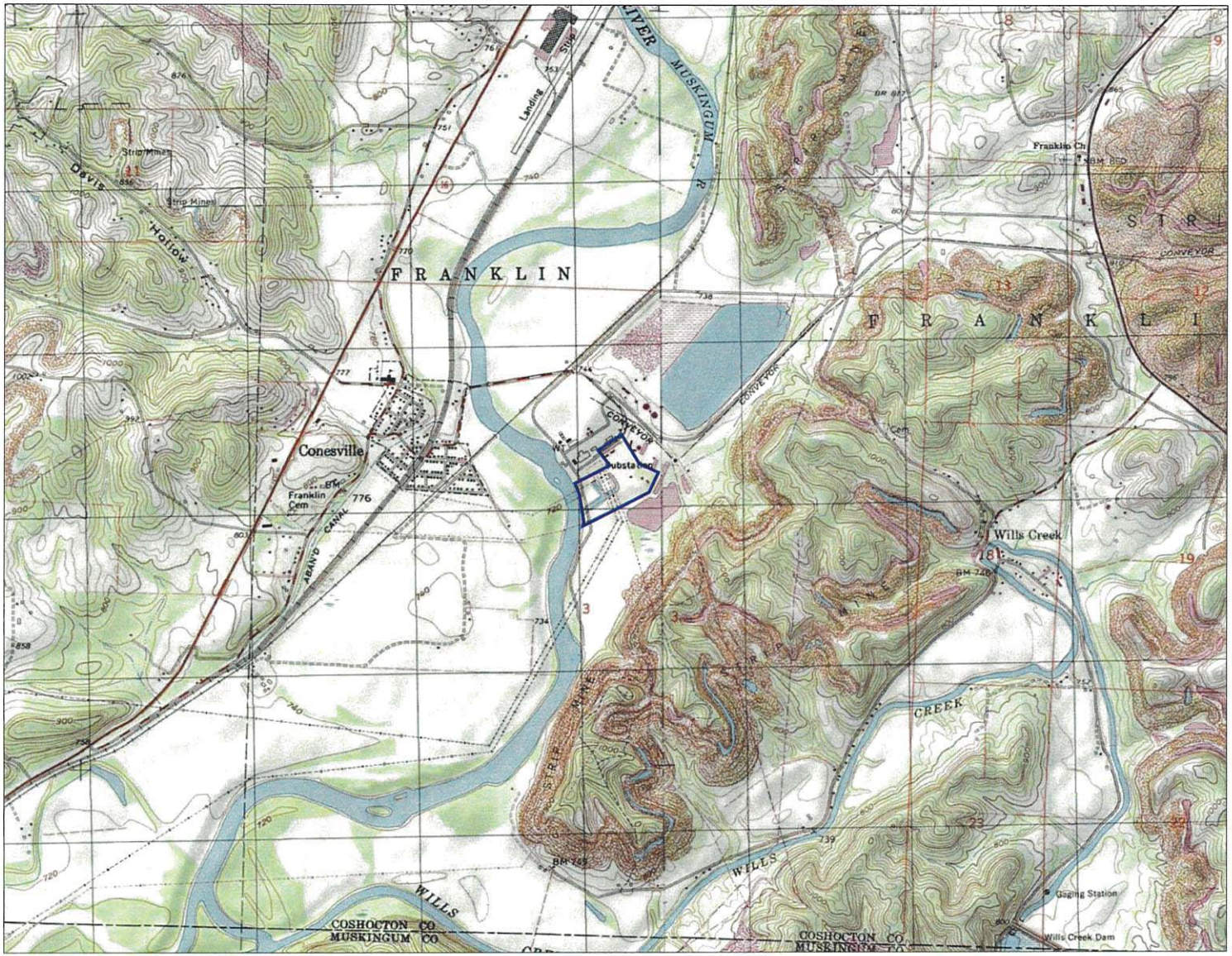


Figure No.
1

Title
Project Location Map

Client/Project
AEP Ohio Transmission Company, Inc.
Conesville Station Expansion Project

Project Location
Coshocton County, OH

193705639
Prepared by JLH on 2017-09-22
Technical Review by MT on 2017-12-13
Independent Review by JB on 2017-12-19

0 1,000 2,000 Feet
1:24,000 (At original document size of 11x17)

N

Legend
Project Area (Substation

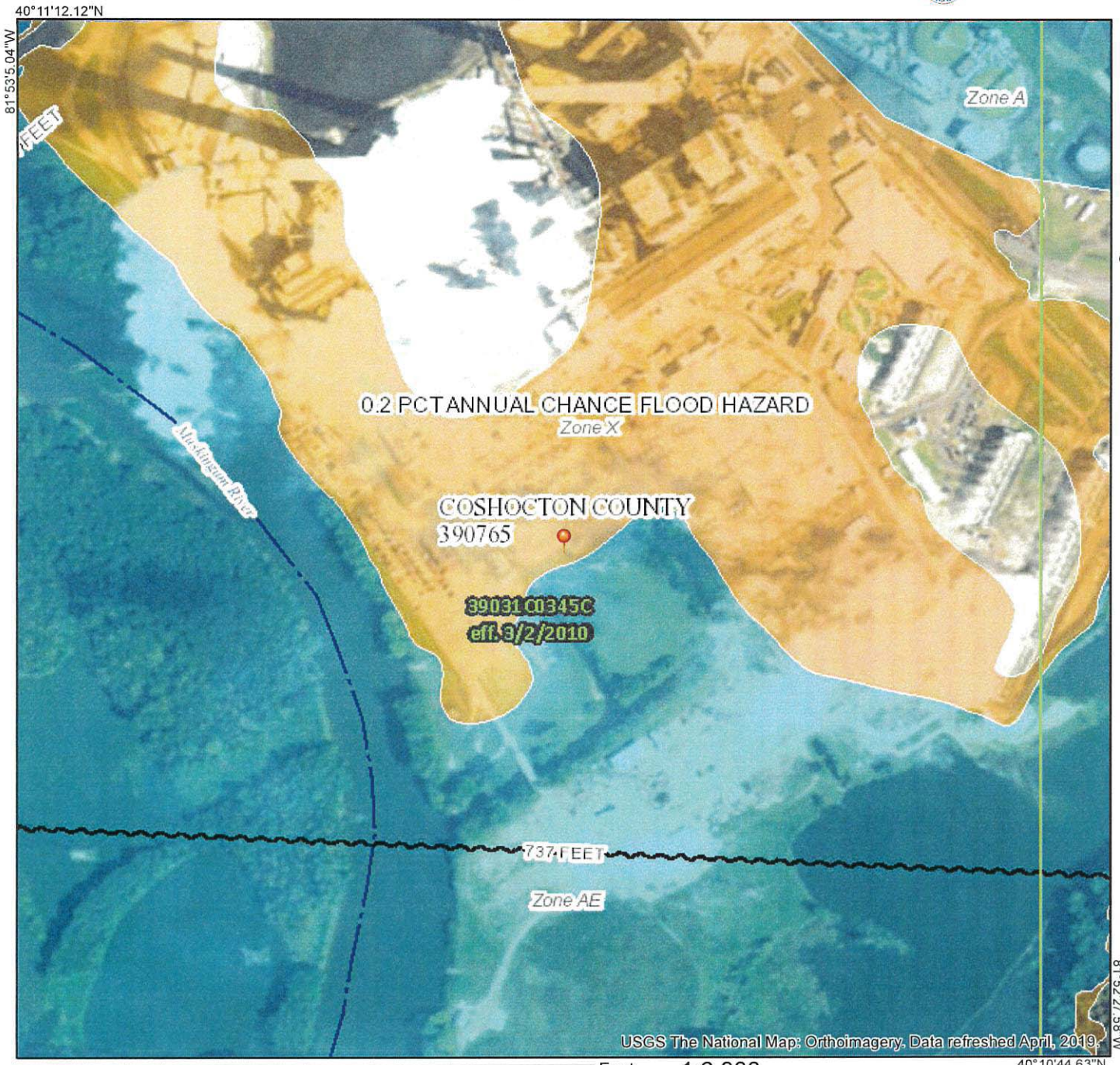
Notes
1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources Include: Stantec, AEP, NAD5
3. Background: USGS 7.5' Topographic Quadrangles - Conesville, OH (1978), Wills Creek, OH (1986)

Stantec

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

National Flood Hazard Layer FIRMette

FEMA



0 250 500 1,000 1,500 2,000 Feet 1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- B 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- B Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

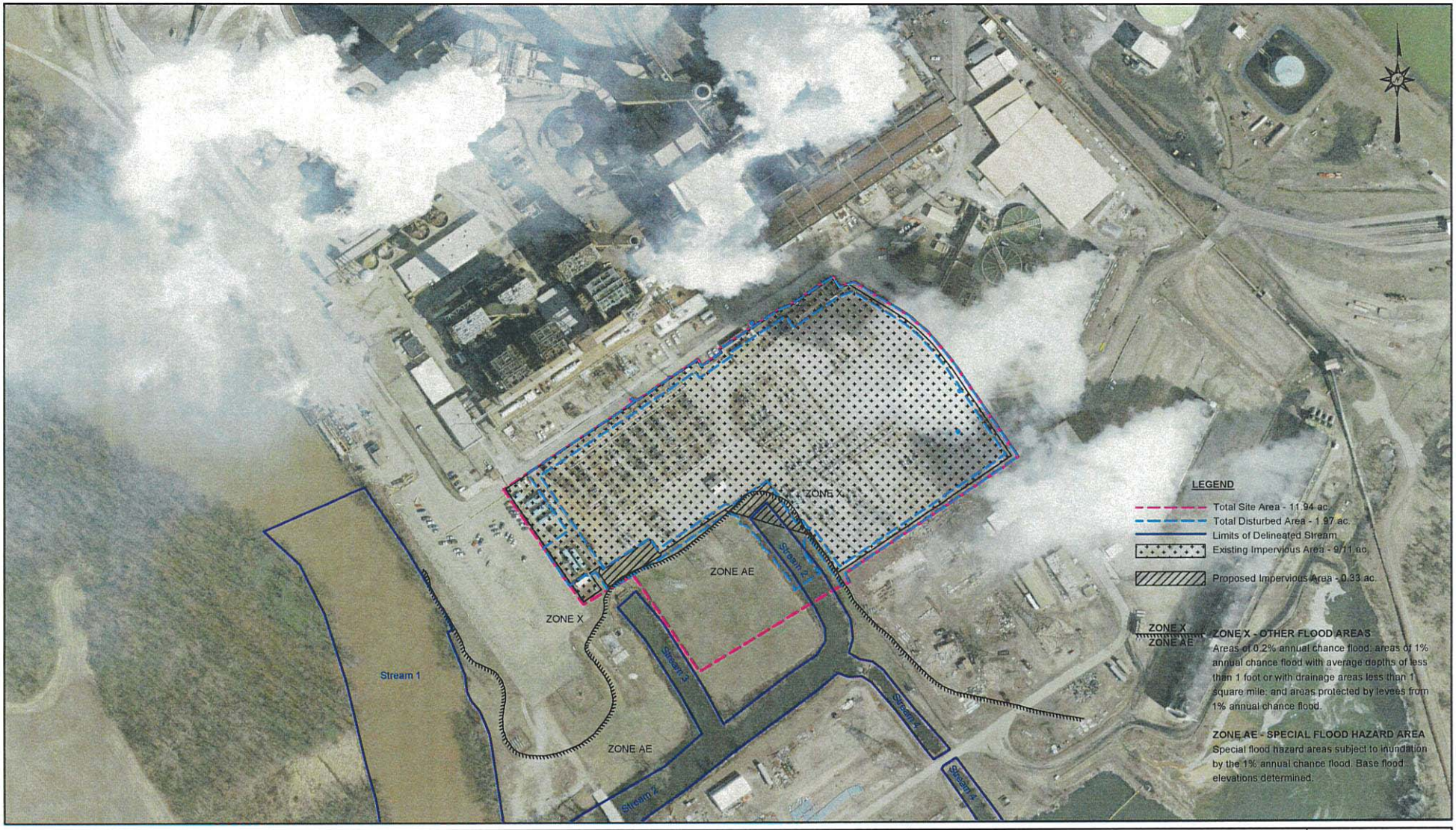
N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/22/2020 at 2:23:41 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



REV	DATE

BAIR, GOODIE AND ASSOCIATES, INC.
153 NORTH BROADWAY STREET
NEW PHILADELPHIA, OH 44663
TEL: 330.343.3499 FAX: 330.343.9505
WWW.BAIRGOODIE.COM

BAIR GOODIE

AMERICAN ELECTRIC POWER

HORIZONTAL
0 100' 200'
0 100' 200'
VERTICAL

LOCATED IN
THIRD QUARTER, T-4, R-6
TOWNSHIP OF FRANKLIN,
COUNTY OF COSHOCTON,
STATE OF OHIO

SITE MAP
CONESVILLE 345kV STATION EXPANSION

DATE: 08/18/2020	
FILE ID: AEP-CPL104d	
SCALE: AS NOTED	
SHEET: 1 OF 1	REV 0

American Electric Power
8600 Smith's Mill Road
New Albany, OH 43054

September 8, 2020

Mr. Frederick Wachtel
County Engineer
Coshocton County Engineer
23194 County Road 621
Coshocton, Ohio 43812

Re: AEP Ohio Transmission Company, Inc.
Special Flood Hazard Area Development Permit Application
Conesville 345 kV Station Expansion

Dear Mr. Wachtel:

Please find enclosed a copy of the Coshocton County Special Flood Hazard Area Development Permit Application for the Conesville 345 kV Station Expansion Project (Project) located in Coshocton County, Ohio. The Project involves filling a portion of the existing discharge canal (identified as Stream 2), adding two areas of gravel pad to the existing station, re-grading an existing containment area, removing six (6) monopoles within the existing station, removing an existing building, and replacing the existing fence.

Impacts associated with the Project are proposed within a Federal Emergency Management Agency (FEMA) mapped floodplain. This area is shown on the enclosed Site Map. To assist with your review of this application, enclosed is a FEMA Flood Insurance Rate Map (FIRM) covering the project area.

The U.S. Army Corps of Engineers (USACE) has authorized conditional approval under Nationwide Permit 39 (NWP 39), and a Director's Authorization application is under review by the Ohio EPA. A Notice of Intent (NOI) application has also been approved for the Project.

If you have any questions concerning this submittal, please contact me at (380) 205-5126 or arwheaton@aep.com.

Sincerely,

Allison R. Wheaton
Environmental Specialist Principal
American Electric Power, Water and Ecological Resources Services

Enclosures – Special Flood Hazard Area Development Permit Application, Figures

Ohio EPA 9/14/2020
Entered Directors Journal

Ohio Environmental Protection Agency

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

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

By: Date

9/14/2020

Re: Conesville 345kV Station Expansion
Permit - Intermediate
Approval
401 Wetlands
Coshocton
DSW401206917D

September 14, 2020

Aimee Toole
AEP Ohio Transmission Company, Inc.
8600 Smith's Mill Road
New Albany, OH 43054
artoole@aep.com

Subject: Approval of a Director's Authorization Application to Exceed 401 WQC Thresholds of Nationwide Permit (NWP) No. 39
Conesville 345kV Station Expansion
Corps Project No. LRH-2020-500-MUS-UNT to Muskingum River
Ohio EPA ID No. 206917D

Dear Ms. Toole:

On August 4, 2020, the Ohio Environmental Protection Agency (Ohio EPA) received a Director's Authorization application to exceed thresholds listed under the 401 Water Quality Certification (WQC) for Nationwide Permit (NWP) No. 39, issued on March 17, 2017. You requested to impact 170 linear feet of an unnamed tributary of the Muskingum River for the purpose of facility expansion located in Franklin Township in Coshocton County (40.183101ºN/ -81.878321ºW).

In accordance with Part One (D)(1) of the 401 WQC certifying the NWPs, based upon the information provided in the application, Ohio EPA has determined that the impacts to water quality are minimal. An individual 401 WQC is not necessary provided all other terms and conditions of the 401 WQC certifying the NWPs have been met. This Director's Authorization shall remain valid and in effect as long as the provisional NWP authorization issued on July 23, 2020 is valid.

For your reference a copy of the 401 WQC for the 2017 Nationwide Permits is available online at:
http://www.epa.ohio.gov/Portals/35/401/Final%20Signed%20401%20WQC%20NWP%202017.pdf.

You are hereby notified that this action of the director is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within 30 days after notice of the director's action. The appeal must be accompanied by a filing fee of $70.00, made payable to "Treasurer, State of Ohio," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the director within three days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
30 East Broad St, 4th Floor
Columbus, Ohio 43215

Sincerely,

Laurie A. Stevenson
Director

ec: Rachel King, Rachel.A.King@usace.army.mil, Department of the Army, Huntington District, Corps of Engineers
Carol Siegley, Carol.Siegley@epa.ohio.gov, Ohio EPA, DSW, 401/Wetlands Section
Scott Denham, sdenham@envsi.com, ESI

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, HUNTINGTON DISTRICT
502 8TH STREET
HUNTINGTON, WV 25701

REPLY TO
ATTENTION OF

July 23, 2020

Regulatory Division
North Branch
LRH-2020-500-MUS-UNT to Muskingum River

PROVISIONAL NATIONWIDE PERMIT NO. 39 VERIFICATION

Ms. Aimee Toole
AEP Ohio Transmission Company, Inc.
8600 Smith's Mill Road
New Albany, Ohio 43054

Dear Ms. Toole:

I refer to the pre-construction notification (PCN), submitted on your behalf by Environmental Solutions & Innovations, Inc. (ESI), and received in this office on June 26, 2020, concerning the discharge of dredged and/or fill material into waters of the United States associated with the *Conesville 345kV Station Expansion Project*. The project site is located within the Conesville Power Plant, in Franklin Township, Coshocton County, Ohio (40.183101 latitude, -81.878321 longitude). On-site waters flow to the unnamed tributary (UNT) of the Muskingum River, an indirect tributary of the Muskingum River, a navigable water of the United States. We have assigned the following file number to your PCN: LRH-2020-500-MUS. Please reference this file number on all future correspondence related to this subject proposal.

The United States Army Corps of Engineers' (Corps) authority to regulate waters of the United States is based on the definitions and limits of jurisdiction contained in 33 CFR 328, including the amendment to 33 CFR 328.3 (85 Federal Register 22250), and 33 CFR 329. Section 404 of the Clean Water Act (Section 404) requires a DA permit be obtained prior to discharging dredged and/or fill material into waters of the United States, including wetlands. Section 10 of the Rivers and Harbors Act of 1899 (Section 10) requires a DA permit be obtained for any work in, on, over or under a navigable water.

The proposed project, as described in the submitted information, has been reviewed in accordance with Section 404 and Section 10. Based on your description of the proposed work, and other information available to us, it has been determined that this project will not involve activities subject to the requirements of Section 10. However, this project will include the discharge of dredged and/or fill material into waters of the United States subject to the requirements of Section 404.

In the submitted PCN materials, you have requested a DA authorization for the permanent discharge of dredged and/or fill material into approximately 170 linear feet (0.21 acre) of Stream 2, in conjunction with the *Conesville 345kV Station Expansion Project*. The proposed project will include the extension of flow pipes A, B, C, and D and installation of a rock apron and rip-

rap within Stream 2 in order to provide outlet protection. Excess material will be used to cover the exposed flow pipes and a 60-inch concrete circulating water discharge pipe will be plugged. All work will be conducted in accordance with the PCN materials received in this office on June 26, 2020.

Based on your description of the proposed work, and other information available to us, it has been determined the proposed discharge of fill material into waters of the United States in conjunction with the proposed project meets the criteria for Nationwide Permit (NWP) No. 39 (enclosed) under the January 6, 2017 Federal Register, Issuance and Reissuance of NWPs (82 FR 1860) provided you comply with all terms and conditions of the enclosed material and the enclosed special conditions. Please be aware this NWP verification does not obviate the requirement to obtain any other federal, state or local assent required by law for the activities.

An individual Section 401 Water Quality Certification (401 WQC) or a waiver must be obtained from the Ohio Environmental Protection Agency (Ohio EPA) to validate this NWP verification. **No work in waters of the United States in association with this project may commence until you receive the required 401 WQC (or waiver) from the Ohio EPA.** The Ohio EPA may be contacted at:

Ohio EPA, Division of Surface Water
Lazarus Government Center
50 West Town Street, Suite 700
Columbus, Ohio 43215

Once you have successfully completed the 401 WQC process, you must forward a copy of the project specific 401 WQC or waiver to this office (the Corps office address is provided in the top margin of the first page of this correspondence). If the project remains unchanged it is not necessary to contact this office for re-verification of your project and you may commence work. If your project is modified during the Ohio EPA's 401 WQC process, you must contact this office to determine if the modified project is still authorized by the enclosed NWP or if a new PCN must be submitted to this office.

This verification is valid until the expiration date of the NWPs, unless the NWP authorization is modified, suspended, or revoked. The verification will remain valid if the NWP authorization is reissued without modification or the activity complies with any subsequent modification of the NWP authorization. All of the existing NWPs are scheduled to be modified, reissued, or revoked on March 18, 2022. Prior to this date, it is not necessary to contact this office for re-verification of your project unless the plans for the proposed activity are modified. Furthermore, if you commence or under contract to commence this activity before March 18, 2022, you will have twelve (12) months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this NWP.

A copy of the NWP and this verification letter must be kept at the site during construction. Upon completion of the activities authorized by this NWP verification, the enclosed certification must be signed and returned to this office. A copy of this letter will be provided to your agent, Ms. Allison Wheaton of AEP Ohio Transmission Company, Inc. If you have any questions

concerning the above, please contact Rachel King of the North Branch at 304-399-6902, by mail at the above address, or by email at Rachel.A.King@usace.army.mil.

Sincerely,

Kayla Adkins

Digitally signed by Kayla Adkins
Date: 2020.07.23 13:50:48 -04'00'

Kayla N. Adkins
Regulatory Project Manager
North Branch

Enclosures

cc:
Allison Wheaton (via email)
arwheaton@aep.com

SPECIAL CONDITIONS FOR NATIONWIDE PERMIT NO. 39 VERIFICATION
CONESVILLE 345KV STATION EXPANSION PROJECT
LRH-2020-500-MUS-UNT TO MUSKINGUM RIVER
PAGE 1 of 2

1. All work will be conducted in accordance with the submitted pre-construction notification information for the Conesville 345kV Station Expansion Project received in this office on June 26, 2020.

2. Upon completion of the activity authorized by this Nationwide Permit verification, the enclosed certification must be signed and returned to this office along with as-built drawings showing the location and configuration, as well as all pertinent dimensions and elevations of the activity authorized under this nationwide permit verification.

3. Enclosed is a copy of Nationwide Permit 39, which will be kept at the site during construction. A copy of the nationwide permit verification, special conditions, and the submitted construction plans must be kept at the site during construction. The permittee will supply a copy of these documents to their project engineer responsible for construction activities.

4. Construction activities will be performed during low flow conditions. Additionally, appropriate site specific best management practices for sediment and erosion control will be fully implemented during construction activities at the site.

5. Should new information regarding the scope and/or impacts of the project become available that was not submitted to this office during our review of the proposal, the permittee will submit written information concerning proposed modification(s) to this office for review and evaluation, as soon as practicable.

6. In the event any previously unknown historic or archaeological sites or human remains are uncovered while accomplishing the activity authorized by this nationwide permit verification, the permittee must cease all work in waters of the United States immediately and contact local, state and county law enforcement offices (only contact law enforcement on findings of human remains), the Corps at 304-399-5210 and the Ohio State Historic Preservation Office at 614-298-2000. The Corps will initiate the Federal, state and tribal coordination required to comply with the National Historic Preservation Act and applicable state and local laws and regulations. Federally recognized tribes are afforded a government-to-government status as sovereign nations and consultation is required under Executive Order 13175 and 36 CFR Part 800.

7. Section 7 obligations under Endangered Species Act must be reconsidered if new information reveals impacts of the project that may affect federally listed species or critical habitat in a manner not previously considered, the proposed project is subsequently modified to include activities which were not considered during Section 7 consultation with the United States Fish and Wildlife Service, or new species are listed or critical habitat designated that might be affected by the subject project.

SPECIAL CONDITIONS FOR NATIONWIDE PERMIT NO. 39 VERIFICATION
CONESVILLE 345KV STATION EXPANSION PROJECT
LRH-2020-500-MUS-UNT TO MUSKINGUM RIVER
PAGE 2 of 2

8. The project site lies within the range of the Indiana bat (*Myotis sodalis*), a federally listed endangered species and the northern long-eared bat (*Myotis septentrionalis*), a federally listed threatened species. Several factors have contributed to the two (2) species decline, including habitat loss, fragmentation of habitat and the disease White Nose Syndrome. During winter, the two (2) bat species hibernate in caves and abandoned mines. Suitable summer habitat for Indiana bats and northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags ≥3 inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of other forested/wooded habitat. The permittee will preserve wooded/forested habitats exhibiting any of the characteristics listed above wherever possible. Should suitable habitat be present that cannot be saved during construction activities, any trees ≥3 inches dbh will only be cut between October 1 – March 31.

9. The permittee must obtain individual water quality certification (or a waiver) from the Ohio Environmental Protection Agency for the project. No work in waters of the United States in association with this project may commence until the required certification (or waiver) is obtained. All conditions attached to or contained within the certification are hereby incorporated by reference as being special conditions of the Corps Nationwide Permit 39 verification.

COMPLETION OF WORK FORM

Permit: LRH-2020-500-MUS-UNT to Muskingum River
AEP Ohio Transmission Company, Inc.
Section 404

Name of Permittee: Ms. Aimee Toole
AEP Ohio Transmission Company, Inc.
8600 Smith's Mill Road
New Albany, Ohio 43054

Date of Issue: July 23, 2020

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

Huntington District
U.S. Army Corps of Engineers
502 8th Street
Huntington, WV 25701-2070
Attn: Rachel King RD-N

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by above referenced permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation was completed in accordance with the permit conditions.

_____

Signature of Permittee Date

NATIONWIDE PERMITS FOR THE STATE OF OHIO

**U.S. ARMY CORPS OF ENGINEERS (CORPS) REGULATORY PROGRAM
REISSUANCE AND ISSUANCE OF NATIONWIDE PERMITS
WITH OHIO EPA 401 WATER QUALITY CERTIFICATION
AND OHIO DEPARTMENT OF NATURAL RESOURCES CONSISTENCY
DETERMINATION UNDER THE COASTAL ZONE MANAGEMENT ACT**

NWP 39

39. ***Commercial and Institutional Developments.*** Discharges of dredged or fill material into non-tidal waters of the United States for the construction or expansion of commercial and institutional building foundations and building pads and attendant features that are necessary for the use and maintenance of the structures. Attendant features may include, but are not limited to, roads, parking lots, garages, yards, utility lines, storm water management facilities, wastewater treatment facilities, and recreation facilities such as playgrounds and playing fields. Examples of commercial developments include retail stores, industrial facilities, restaurants, business parks, and shopping centers. Examples of institutional developments include schools, fire stations, government office buildings, judicial buildings, public works buildings, libraries, hospitals, and places of worship. The construction of new golf courses and new ski areas is not authorized by this NWP.

The discharge must not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. The discharge must not cause the loss of more than 300 linear feet of stream bed, unless for intermittent and ephemeral stream beds the district engineer waives the 300 linear foot limit by making a written determination concluding that the discharge will result in no more than minimal adverse environmental effects. The loss of stream bed plus any other losses of jurisdictional wetlands and waters caused by the NWP activity cannot exceed 1/2-acre. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 32.) (Authorities: Sections 10 and 404)

Note: For any activity that involves the construction of a wind energy generating structure, solar tower, or overhead transmission line, a copy of the PCN and NWP verification will be provided to the Department of Defense Siting Clearinghouse, which will evaluate potential effects on military activities.

Corps NWP 39 Specific Regional Condition:

> Whenever a multiple-lot subdivision is submitted to the Corps of Engineers for review, it must be designed such that preserved, restored or established wetlands included as part of a compensatory mitigation plan are not located on the resulting private individual lots.

Ohio 401 Certification Special Limitations and Conditions:

1. Ohio state certification general limitations and conditions apply to this nationwide permit.

2. Individual 401 WQC is required for use of this nationwide permit when temporary or permanent impacts are proposed on or in any of the following waters:

    a. category 3 wetlands;

    b. category 1 and category 2 wetlands when impacts exceed 0.50 acres;

    c. streams located in ineligible areas as depicted in the GIS NWP Stream Eligibility Map, Appendix C;

    d. streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map determined to be high quality through one of the NWP eligibility flowcharts, Appendix C;

    e. state wild and scenic rivers;

    f. national wild and scenic rivers; and

    g. general high quality water bodies which harbor federally and state listed threatened or endangered aquatic species.

3. For an individual stream, while the repair or replacement of an existing culvert of any length is not limited by this certification, any culvert extension shall not exceed 300 linear feet.

Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for a NWP. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR §§ 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR § 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

1. **Navigation.** (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. **Aquatic Life Movements.** No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

3. **Spawning Areas.** Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. **Migratory Bird Breeding Areas. A**ctivities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. **Shellfish Beds.** No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. **Suitable Material.** No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).

7. **Water Supply Intakes.** No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. **Adverse Effects From Impoundments.** If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. **Management of Water Flows.** To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity,

including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. **Fills Within 100-Year Floodplains.** The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. **Equipment.** Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. **Soil Erosion and Sediment Controls.** Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

13. **Removal of Temporary Fills.** Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. **Proper Maintenance.** Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. **Single and Complete Project.** The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. **Wild and Scenic Rivers.** (a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

(b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. The permittee shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the

proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status.

(c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: http://www.rivers.gov/.

17. **Tribal Rights.** No NWP activity may cause more than minimal adverse effects on tribal rights (including treaty rights), protected tribal resources, or tribal lands.

18. **Endangered Species.** (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless ESA section 7 consultation addressing the effects of the proposed activity has been completed. Direct effects are the immediate effects on listed species and critical habitat caused by the NWP activity. Indirect effects are those effects on listed species and critical habitat that are caused by the NWP activity and are later in time, but still are reasonably certain to occur.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that might be affected by the proposed activity or that utilize the designated critical habitat that might be affected by the proposed activity. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have "no effect" on listed species or critical habitat, or until ESA section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific permit conditions to the NWPs.

(e) Authorization of an activity by an NWP does not authorize the “take” of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with “incidental take” provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word “harm” in the definition of “take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required.

(g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their world wide web pages at http://www.fws.gov/ or http://www.fws.gov/ipac and http://www.nmfs.noaa.gov/pr/species/esa/ respectively.

19. **Migratory Birds and Bald and Golden Eagles.** The permittee is responsible for ensuring their action complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting appropriate local office of the U.S. Fish and Wildlife Service to determine applicable measures to reduce impacts to migratory birds or eagles, including whether “incidental take” permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. **Historic Properties**. (a) In cases where the district engineer determines that the activity may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of section 106 of the National Historic Preservation Act. If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect. Where the non-Federal applicant has identified historic properties on which the activity might have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA section 106 consultation has been completed.

(d) For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. **Discovery of Previously Unknown Remains and Artifacts.** If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. **Designated Critical Resource Waters.** Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

23. **Mitigation.** The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation to ensure that the activity results in no more than minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation, since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)).

(e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. Restored riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for

providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation.

(2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f)).

(3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation.

(4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)).

(5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided.

(6) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)).

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs.

(h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP

verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

24. **Safety of Impoundment Structures.** To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. **Water Quality.** Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. **Coastal Zone Management.** In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. **Regional and Case-By-Case Conditions.** The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. **Use of Multiple Nationwide Permits.** The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

29. **Transfer of Nationwide Permit Verifications.** If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to

validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

"When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

_____

(Transferee)

_____

(Date)

30. **Compliance Certification.** Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

(a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

(b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

(c) The signature of the permittee certifying the completion of the activity and mitigation.

The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. **Activities Affecting Structures or Works Built by the United States.** If an NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a "USACE project"), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that

requires section 408 permission is not authorized by NWP until the appropriate Corps office issues the section 408 permission to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

32. **Pre-Construction Notification.** (a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed activity;

(3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;

(4) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures. For single and complete linear projects, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(7) For non-Federal permittees, if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed activity or utilize the designated critical habitat that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

(8) For non-Federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act;

(9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the "study river" (see general condition 16); and

(10) For an activity that requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from the Corps office having jurisdiction over that USACE project.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is an NWP PCN and must include all of the applicable information required in paragraphs (b)(1) through (10) of this general condition. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals.

(d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the activity's adverse environmental effects so that they are no more than minimal.

(2) Agency coordination is required for: (i) all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States; (ii) NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of stream bed; (iii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and (iv) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes.

(3) When agency coordination is required, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or e-mail that they intend to provide substantive,

site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

District Engineer's Decision

1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If a project proponent requests authorization by a specific NWP, the district engineer should issue the NWP verification for that activity if it meets the terms and conditions of that NWP, unless he or she determines, after considering mitigation, that the proposed activity will result in more than minimal individual and cumulative adverse effects on the aquatic environment and other aspects of the public interest and exercises discretionary authority to require an individual permit for the proposed activity. For a linear project, this determination will include an evaluation of the individual crossings of waters of the United States to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings authorized by NWP. If an applicant requests a waiver of the 300 linear foot limit on impacts to streams or of an otherwise applicable limit, as provided for in NWPs 13, 21, 29, 36, 39, 40, 42, 43, 44, 50, 51, 52, or 54, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in only minimal individual and cumulative adverse environmental effects. For those NWPs that have a waivable 300 linear foot limit for losses of intermittent and ephemeral stream bed and a 1/2-acre limit (i.e., NWPs 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52), the loss of intermittent and ephemeral stream bed, plus any other losses of jurisdictional waters and wetlands, cannot exceed 1/2-acre.

2. When making minimal adverse environmental effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. He or she will also consider the cumulative adverse environmental effects caused by activities authorized by NWP and whether those cumulative adverse environmental effects are no more than minimal. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse environmental effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

3. If the proposed activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for NWP activities with smaller impacts, or for impacts to other types of waters (e.g., streams). The district engineer will consider any proposed compensatory mitigation or other mitigation measures the applicant has included in the proposal in determining whether the net adverse environmental effects of the proposed activity are no more than minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are no more than minimal, after considering mitigation, the district engineer will notify the permittee and include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure the NWP activity results in no more than minimal adverse environmental effects. If the net adverse environmental effects of the NWP activity (after consideration of the mitigation proposal) are determined by the district engineer to be no more than minimal, the district engineer will provide a timely written response to the applicant. The response will state that the NWP activity can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

4. If the district engineer determines that the adverse environmental effects of the proposed activity are more than minimal, then the district engineer will notify the applicant either: (a) that

the activity does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (b) that the activity is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal; or (c) that the activity is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse environmental effects, the activity will be authorized within the 45-day PCN period (unless additional time is required to comply with general conditions 18, 20, and/or 31, or to evaluate PCNs for activities authorized by NWPs 21, 49, and 50), with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation plan or a requirement that the applicant submit a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal. When compensatory mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

Further Information

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.

2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.

3. NWPs do not grant any property rights or exclusive privileges.

4. NWPs do not authorize any injury to the property or rights of others.

5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

Nationwide Permits Regional General Conditions

1. Nationwide Permits shall not authorize any activity which negatively impacts bogs and/or fens.

2. No nationwide permit may be used in Lake Erie for purposes of diverting water from the Great Lakes.

3. Nationwide Permits shall not authorize any activity which has an adverse impact on littoral transport within Lake Erie.

4. **In-Water Work Exclusion Dates:** Any regulated work associated with a nationwide permit cannot take place during the restricted period of the following Ohio Department of Natural Resources (ODNR) In-Water Work Restrictions, unless the applicant receives advanced written

approval from the ODNR and notifies the district engineer in accordance with Nationwide Permit General Condition 32 and Regional General Condition 6 and receives written approval from the Corps:

Location	**Restricted Period**
Percid streams a	3/15 - 6/30
Salmonid streams b	9/15 - 6/30
Other streams c	4/15 - 6/30

a. **Great Miami River** (dam south of New Baltimore to mouth), **Hocking River** (falls at White's Mill to mouth), **Little Miami River** (dam at Waynesville to mouth), **Maumee River** (split dam at Grand Rapids to mouth), **Maumee Bay**, **Muskingum River** (Devola Dam No.2 north of Marietta to mouth), **Ohio Brush Creek** (S.R. 32 bridge to mouth), **Ohio River** (entire reach), **Portage River** (entire reach), **Sandusky River** (first dam to mouth), **Sandusky Bay**, **Scioto River** (S.R. 207 bridge north of Chillicothe to mouth), **Toussaint River** (entire reach).

b. **Arcola Creek** (entire reach), **Ashtabula River** (Hadlock Rd. to mouth), **Ashtabula Harbor**, **Aurora Branch** (Chagrin River (RM 0.38 to mouth)), **Big Creek** (Grand River (Girdled Road to mouth)), **Black River** (entire reach), **Chagrin River** (Chagrin Falls to mouth), **Cold Creek** (entire reach), **Conneaut Creek** (entire reach), **Conneaut Harbor**, **Corporation Creek** (Chagrin River (entire reach)), **Cowles Creek** (entire reach), **Ellison Creek** (Grand River (entire reach)), **Euclid Creek** (entire reach), **Grand River** (dam at Harpersfield Covered Bridge Park to mouth), **Fairport Harbor**, **Gulley Brook** (Chagrin River (entire reach)), **Huron River** (East Branch-West Branch confluence to mouth) **Indian Creek** (entire reach), **Kellogg Creek** (Grand River (entire reach)), **Mill Creek** (Grand River (entire reach)), **Paine Creek** (Grand River (Paine Falls to mouth)), **Rocky River** (East Branch-West Branch confluence to mouth), **Smokey Run** (Conneaut Creek (entire reach)), **Turkey Creek** (entire reach), **Vermilion River** (dam at Wakeman upstream of the US 20 & SR 60 bridge to mouth), **Ward Creek** (Chagrin River (entire reach)), **Wheeler Creek** (entire reach), **Whitman Creek** (entire reach).

c. **Exceptional Warmwater Habitat, Cold Water Habitat, Warmwater Habitat,** or streams with known occurrences of threatened and/or endangered (T&E) species. Includes **Lake Erie & bays** not listed above. Special conditions (such as occurrence of T &E species) may mandate local variation of restrictions.

Note 1: To determine the defined Aquatic Life Habitat designation for a stream and project segment, refer to: www.epa.ohio.gov/dsw/rules/3745_1.aspx

Note 2: This condition does not apply to Ohio Department of Transportation projects that are covered under the "Memorandum of Agreement Between The Ohio Department of Transportation, The Ohio Department of Natural Resources, and The United States Fish and Wildlife Service For Interagency Coordination For Projects Which Require Consultation Under the Endangered Species Act, Impact State Listed Species, and/or Modify Jurisdictional Waters 2016 Agreement Number: 19394".

5. **Waters of Special Concern:** PCN in accordance with Nationwide Permit General

Condition 32 and Regional General Condition 6 is required for regulated activities in the following resources:

a. **Endangered Species and Threatened Species:** Due to the potential presence of federally threatened or endangered species or their habitats, Notification in accordance with Nationwide Permit General Condition 32, Regional General Condition 6 and General Condition 18 is required for any regulated activity in jurisdictional waters of the United States in Ohio that includes:

- the removal of trees providing suitable roosting, foraging, or traveling habitat for the federally-listed endangered Indiana bat and the federally-listed threatened northern long-eared bat. Suitable roosting, foraging, and traveling habitat is defined as forests, woodlots, fencerows comprised of trees, riparian forests, or other wooded corridors containing live trees and/or snags ≥3 inches diameter at breast height (dbh). Individual trees may be considered suitable habitat when they are ≥3 inches diameter at breast height (dbh) and have any exfoliating bark, cracks, crevices, hollows and/or cavities and are located within 1,000 feet (305 meters) of other forested/wooded habitat; or

- regulated work in the waterway or township of the corresponding counties listed in Appendix 1.

*__Note 1:__ Applicants must ensure they are referencing the latest version of Appendix 1 by contacting their nearest Corps district office and visiting the online resources identified in General Condition 18(f) of these NWPs, since federally-listed species are continuously listed, proposed for listing, and/or de-listed.

*__Note 2:__ As mentioned in General Condition 18-Endangered Species, Federal Agencies should follow their own procedures for complying with the requirements of the ESA. Federal applicants, including applicants that have received federal funding, must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

*__Note 3:__ Suitable summer habitat for the federally-listed endangered Indiana bat and the federally-listed threatened northern long-eared bat consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags ≥3 inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of other forested/wooded habitat.

*__Note 4:__ Appendix 1 is not applicable to the federally-listed endangered Indiana bat and the federally-listed threatened northern long-eared bat as both of these mammal species are known to occur throughout the State of Ohio. Appendix 1 column 1 is specific to federally-listed

endangered, threatened, or proposed federally-listed endangered or threatened aquatic species (i.e. mussels and fish). Appendix 1 column 2 is specific to federally-listed endangered, threatened, or proposed federally-listed endangered or threatened semi-aquatic and terrestrial species (i.e. insects, birds, reptiles, amphibians).

b. **Critical Resource Waters:**

- In Ohio, two areas have been designated critical habitat for the piping plover (*Charadrius melodus*) and are defined as lands 0.62 mile inland from normal high water line. Unit OH-1 extends from the mouth of Sawmill Creek to the western property boundary of Sheldon Marsh State Natural Area, Erie County, encompassing approximately 2.0 miles. Unit OH-2 extends from the eastern boundary line of Headland Dunes Nature Preserve to the western boundary of the Nature Preserve and Headland Dunes State Park, Lake County, encompassing approximately 0.5 mile.

- In Ohio, three areas have been designated critical habitat for the rabbitsfoot mussel (*Quadrula cylindrica cylindrica*). Unit RF26 includes 17.5 rkm (10.9 rmi) of the Walhonding River from the convergence of the Kokosing and Mohican Rivers downstream to Ohio Highway 60 near Warsaw, Coshocton County, Ohio. Unit RF27 includes 33.3 rkm (20.7 rmi) of Little Darby Creek from Ohio Highway 161 near Chuckery, Union County, Ohio, downstream to U.S. Highway 40 near West Jefferson, Madison County, Ohio. Unit RF29 includes 7.7 rkm (4.8 rmi) of Fish Creek from the Indiana and Ohio State line northwest of Edgerton, Ohio, downstream to its confluence with the St. Joseph's River north of Edgerton, Williams County, Ohio.

- Old Woman Creek National Estuarine Research Preserve.

c. **Oak Openings:** Wetland activities conducted in the Oak Openings Region of Northwest Ohio located in Lucas, Henry, and Fulton counties. For a map of the Oak Openings Region, visit http://metroparkstoledo.com/media/2340/oak-openings-metropark.pdf

6. **PCN Submittals:** In addition to the information required under Nationwide Permit General Condition 32, the following information must be provided with the PCN:

a. **Illustrations/Drawings:** The illustrations/drawings must clearly depict the project boundaries and include all elements and phases of the proposed work, latitude and longitude of the project site, and the county where the proposed work would occur. Three types of illustrations or drawings are required to properly depict the work proposed to be undertaken. These illustrations or drawings are identified as a Vicinity Map (i.e. a location map such as a USGS topographical map), a Plan View and a Typical Cross-Section. Each illustration or drawing should identify the project, the applicant, and the type of illustration (vicinity map, plan view or cross-section). In addition, each illustration or drawing should be identified with a figure or attachment number.

b. **United States Fish & Wildlife Service (USFWS):** Sufficient information must be provided in the PCN to determine the proposed activity's compliance with NWP General

Condition 18. Prior to submitting PCN, it is recommended that the applicant contact the USFWS, Ohio Ecological Services Field Office by phone at (614) 416-8993, by e-mail at ohio@fws.gov, or by writing to 4625 Morse Road, Suite 104, Columbus, Ohio 43230. The USFWS can provide information to assist in complying with Nationwide Permit General Condition 18 pertaining to endangered species and Nationwide Permit General Condition 19 pertaining to migratory birds and bald and golden eagles. The USFWS can also provide project recommendations specific to Federal Candidate species. Federal Candidate species are those for which the USFWS has sufficient information to propose them as endangered or threatened under the Endangered Species Act, but for which a listing proposal is precluded by other higher priority listing activities. All relevant information obtained from the USFWS should be submitted with the Notification.

c. **Cultural Resources:** Sufficient information must be provided in the PCN to determine the proposed activity's compliance with NWP General Condition 20. The PCN should provide justified conclusions concerning whether or not the proposed activity could affect any historic properties listed, determined to be eligible, or which you have reason to believe may be eligible, for listing on the National Register of Historic Places (NRHP). This data will be used by the Corps to determine if the proposed activity has the potential to affect historic properties. Be advised that further effort may be required to take into account the effects the proposed activity may have on historic properties, as required by the National Historic Preservation Act of 1966. To ensure compliance with Nationwide Permit General Condition 20, the following basic project information is needed:

- A detailed description of the project site in its current condition (i.e. prior to construction activities) including information on the terrain and topography of the project site, the acreage of the project site, the proximity of the project site to major waterways, and any known disturbances within the project site. Photographs, keyed to mapping, are also needed which show the site conditions and all buildings or structures both within the project site and on adjacent parcels;

- A detailed description of past land uses in the project site. Particular attention should be given to past activities pertinent to the potential for historic properties to exist in the project area. Photographs and maps supporting past land uses should be provided as available;

- A detailed description of the construction activities proposed to take place on the project site and a comparison of how the site will look after completion of the project compared to how it looked before the project;

- Information regarding any past cultural resource studies or coordination pertinent to the project area, if available; and

- Any other data the applicant deems pertinent.

The applicant is encouraged to consult with the Ohio State Historic Preservation Office (OSHPO) staff and professionals meeting the Professional Qualification Standards as set

forth in the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (48 FR 44716) during this data gathering process. These professionals can assist with compiling the basic project information discussed above and should provide recommendations as to whether or not the proposed project has the potential to affect historic properties and if further effort is required or not required to identify historic properties or assess potential effects to historic properties. These professionals can also compile basic preliminary review information to submit to the district engineer. A preliminary resource review encompasses a search radius of two (2) miles, centered on the project area, and consists of the following resources:

- OSHPO United States Geological Survey (USGS) 7.5' series topographic maps;
- Ohio Archaeological Inventory (OAI) files;
- Ohio Historic Inventory files (OHI);
- OSHPO Cultural Resources Management (CRM)/contract archaeology files;
- NRHP files including Historic Districts; and
- County atlases, histories and historic USGS 15' series topographic map(s).

As an alternative to submitting the information described above, the applicant may choose to complete the OSHPO Section 106 Review Project Summary Form or request comments from the OSHPO and the District Engineer on specific requirements appropriate to the particular circumstances of the project. Similarly, the applicant may choose to hire someone meeting the Professional Qualification Standards as set forth in the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (48 FR 44716) to conduct what they recommend to be appropriate historic property identification efforts (e.g. archaeological survey and/or historic structure inventories) to expedite the review process. Be advised, undertaking identification efforts prior to consideration of the potential of the proposed activity to affect historic properties by the Corps in not without risk. It is possible that previous efforts could be determined insufficient or even potentially unnecessary once reviewed by the Corps and other consulting parties.

Upon receipt and review of the information listed above, the Corps will evaluate the submittal. If Corps determines the proposed activity has the potential to cause effects to a historic property, the Corps will seek consulting parties. In consultation with those parties, the Corps will scope appropriate historic property identification efforts and take into account the effect of the proposed activity on historic properties.

d. **National Wild and Scenic Rivers:** Prior to submitting a PCN for work in a National Wild and Scenic River System, it is recommended that the applicant contact the National Park Service Regional Wild and Scenic Rivers Specialist, at the Midwest Regional Office, 601 Riverfront Drive, Omaha, Nebraska 68102, for assistance in complying with Nationwide Permit General Condition 17. Any determination provided by the National Park Service

should be submitted with the PCN. The following are components of the National Wild and Scenic River System and require PCN to the Corps:

Big and Little Darby Creeks (National Wild and Scenic River System):

- Big Darby Creek from Champaign-Union County line downstream to the Conrail railroad trestle and from the confluence with the Little Darby Creek downstream to the Scioto River.
- Little Darby Creek from the Lafayette-Plain City Road bridge downstream to within 0.8 mile from the confluence with Big Darby Creek.
- Total designation is approximately 82 miles.

Little Beaver Creek (National Wild and Scenic River System):

- Little Beaver Creek main stem, from the confluence of West Fork with Middle Fork near Williamsport to mouth.
- North Fork from confluence of Brush Run and North Fork to confluence of North Fork with main stem at Fredericktown.
- Middle Fork from vicinity of Co. Rd. 901 (Elkton Road) bridge crossing to confluence of Middle Fork with West Fork near Williamsport.
- West Fork from vicinity of Co. Rd. 914 (Y-Camp Road) bridge crossing east to confluence of West Fork with Middle Fork near Williamsport.
- Total designation is 33 miles.

Little Miami (National Wild and Scenic River System)

- Little Miami River - St. Rt. 72 at Clifton to the Ohio River
- Caesar Creek: lower two miles of Caesars Creek.
- Total designation is 94 miles.

e. **Agency Coordination:** To assist in agency coordination, a complete compact disc (CD) copy shall be submitted for any PCN Package greater than 15 pages and/or includes maps, drawings, spreadsheets or other similar materials which are larger than 8.5 inches by 11 inches. All files saved on the CD shall be in .pdf format. A hard copy of any oversized maps, drawings, spreadsheets etc. in the PCN package shall be submitted and accompany the complete CD. An index or table of contents shall be provided and correspond with each file saved on the CD and/or within the PCN hard copy.

APPENDIX 1 TO REGIONAL GENERAL CONDITION 5 (a)		
County	**Waterway (aquatic species)**	**Township (semi-aquatic and terrestrial species)**
Adams	Ohio River, Scioto Brush Creek, South Fork Scioto Brush Creek	Sprigg
Ashtabula	Grand River, Pymatuning Creek	All townships
Athens	Ohio River	Alexander, Ames, Athens, Bern, Dover, Lee, Trimble, Waterloo, York

APPENDIX 1 TO REGIONAL GENERAL CONDITION 5 (a)		
Brown	East Fork Little Miami River, Ohio River	Huntington
Butler	Great Miami River	
Champaign		Mad River, Salem, Urbana
Clark	Little Miami River	All townships
Clermont	East Fork Little Miami River, Little Miami River, Ohio River	Miami, Pierce, Union
Clinton		Chester
Columbiana		Butler, Hanover
Coshocton	Killbuck Creek, Muskingum River, Walhonding River	
Crawford		Auburn, Bucyrus, Cranberry
Cuyahoga		Within 3 miles of the shore of Lake Erie in Brooklyn, Cleveland, Dover, East Cleveland, Euclid, Newburgh, Rockport, West Park
Darke	Stillwater River	
Defiance	St. Joseph River	Milford
Delaware	Mill Creek, Olentangy River	
Erie		Margaretta; within 3 miles of the shore of Lake Erie in Berlin, Huron, Perkins, Sandusky, and Vermillion
Fairfield		Walnut
Fayette		Concord, Green, Jasper, Jefferson
Franklin	Big Darby Creek, Little Darby Creek, Scioto River	
Fulton	Swan Creek	
Gallia	Ohio River	
Greene	Little Miami River	Bath, Spring Valley
Hamilton	Great Miami River, Little Miami River, Ohio River	Colerain, Columbia, Crosby, Miami, Spencer, Sycamore, Symmes, Whitewater
Hancock	Blanchard River	
Hardin	Blanchard River	Blanchard, Hale, Jackson, Roundhead
Hocking		Benton, Green, Laurel, Marion, Starr, Ward, Washington
Holmes		All townships
Huron		New Haven, Richmond
Jackson		Liberty

APPENDIX 1 TO REGIONAL GENERAL CONDITION 5 (a)		
Lake	Grand River	Within 3 miles of the shore of Lake Erie in Madison, Mentor, Painesville, Willoughby
Lawrence	Ohio River	Decatur, Rome, Union
Licking		Union
Logan	Great Miami River	Perry, Stokes, Zane
Lorain		Within 3 miles of the shore of Lake Erie in Amherst, Avon, Black River, Brownhelm, and Sheffield
Lucas	Swan Creek	All townships
Madison	Big Darby Creek, Little Darby Creek	
Mahoning		All townships
Marion	Tymochtee Creek	Big Island, Bowling Green, Grand, Montgomery, Salt Rock
Meigs	Ohio River	
Miami	Great Miami River, Stillwater River	
Montgomery	Great Miami River, Stillwater River	Mad River
Morgan	Muskingum River	Deerfield, Homer, Malta, Marion, Penn, Union
Muskingum	Muskingum River	
Ottawa		All townships
Perry		Bearfield, Coal, Monroe, Pike, Pleasant, Salt Lick
Pickaway	Big Darby Creek, Scioto River	
Pike	Scioto River	
Portage		All townships
Preble		Gasper, Somers
Richland		Plymouth
Ross	Salt Creek, Scioto River	Colerain
Sandusky		All townships
Scioto	Ohio River, Scioto Brush Creek, Scioto River, South Fork Scioto Brush Creek	Nile, Rush, Union
Shelby	Great Miami River	
Summit		Tallmadge
Trumbull	Pymatuning Creek	All townships

APPENDIX 1 TO REGIONAL GENERAL CONDITION 5 (a)		
Union	Big Darby Creek, Little Darby Creek, Mill Creek, Treacle Creek	
Vinton		Brown, Elk, Knox, Madison, Swan
Warren	Great Miami River, Little Miami River	Salem, Turtle Creek, Wayne
Washington	Muskingum River, Ohio River	
Wayne		All townships
Williams	Fish Creek, St. Joseph River	Bridgewater, Center, Florence, Jefferson, Madison, Northwest, St. Joseph, Superior
Wyandot	Tymochtee Creek	Marseilles, Mifflin, Pitt

General Limitations and Conditions for all Ohio EPA 401 Certified Nationwide Permits

A. CULVERTS

For intermittent and perennial streams:

1. When practicable, bottomless or buried culverts are required when culvert size is greater than 36" in diameter. This condition does not apply if the culverts have a gradient of greater than 1% grade or installed on bedrock. A buried culvert means that the bottom 10% by dimension shall be buried below the existing stream bed elevation.

2. The culvert shall be designed and sized to accommodate bankfull discharge and match the existing depth of flow to facilitate the passage of aquatic organisms.

3. When practicable, culverts shall be installed at the existing streambed slope, to allow for the natural movement of bedload and aquatic organisms.

B. BEST MANAGEMENT PRACTICES

1. Unless subject to a more specific storm water National Pollutant Discharge Elimination System (NPDES) permit, all best management practices for storm water management shall be designed and implemented in accordance with the most current edition of the NPDES construction general permit available at: http://www.epa.ohio.gov/dsw/storm/index.aspx, or any watershed specific construction general permit.

2. Sediment and erosion control measures and best management practices must be designed, installed, and maintained in effective operating condition at all times during construction activities as required by applicable NPDES permits. Proper maintenance ensures corrective measures will be implemented for failed controls within 48 hours of discovery.

3. For perennial and intermittent streams, in-stream sediment control measures shall not be utilized, with the exception of turbidity curtains parallel to the stream bank, for the purpose of sediment collection. All sediment and erosion control measures shall be entirely removed and the natural grade of the site restored once construction is completed.

4. All avoided water resources and associated buffers/riparian areas shall be demarcated in the field and protected with suitable materials (e.g., silt fencing, snow fencing, signage, etc.) prior to site disturbance. These materials shall remain in place and be maintained throughout the construction process and shall be entirely removed once construction is completed.

5. Disturbance and removal of vegetation from the project construction area is to be avoided where possible and minimized to the maximum extent practicable. Entry to surface waters shall be through a single point of access to the maximum extent practicable to minimize disturbance to riparian habitat. Unavoidable temporary impacts to forested riparian habitat shall be restored as soon as practicable after in-water work is complete using tree and shrub species native to the specific ecoregion where the project is located.

6. All dredged material placed at an upland site shall be controlled so that sediment runoff to adjacent surface waters is minimized to the maximum extent practicable.

7. Straw bales shall not be used as a form of sediment control unless used in conjunction with another structural control such as silt fencing. Straw bales may be utilized for purposes of erosion control such as ditch checks.

8. Heavy equipment shall not be placed below the ordinary high water mark of any surface water, except when no other alternative is practicable.

9. Temporary fill for purposes of access or staging shall consist of suitable non-erodible material and shall be maintained to minimize erosion.

10. Chromated copper arsenate (CCA) and creosote treated lumber shall not be used in structures that come into contact with waters of the state.

11. All dewatering activities must be conducted in such a manner that does NOT result in a violation of water quality standards.

12. All areas of final grade must be protected from erosion within seven days.

13. All disturbed areas which remain dormant in excess of fourteen days must be protected from erosion within seven days from the last earth disturbing activity.

14. In the event of authorized in-stream activities, provisions must be established to redirect the stream flow around or through active areas of construction in a stabilized, non-erosive manner to the maximum extent possible.

C. MITIGATION

1. Compensatory mitigation is required for the discharge of dredged or fill material into wetlands for permanent impacts exceeding 0.10 acres.

2. When required, compensatory mitigation shall be provided in accordance with chapters 3745-1 and 3745-32 of the Ohio Administrative Code.

3. When compensatory mitigation will be provided wholly or in part at a mitigation bank or through an in-lieu fee program, credit purchase shall only be authorized at those banks or in-lieu fee programs approved by the Interagency Review Team (IRT) and have an active instrument signed by the director of Ohio EPA.

4. Compensatory mitigation for stream impacts, if required, shall be conducted in accordance with the requirements in the applicable Nationwide Permit.

D. DIRECTOR'S AUTHORIZATION

1. In accordance with the procedures outlined in Appendix A, Ohio EPA may grant coverage under this certification for any project that does not meet one or more of the terms and conditions for eligibility of this certification or where the district engineer has been granted authority to waive certain requirements. Coverage may be granted when Ohio EPA determines, consistent with the special limitations and conditions for each certification, and after considering comments received on the requested director's authorization, that a project will have such a minimal impact on water quality that an individual 401 WQC is not necessary provided all other terms and conditions of this certification have been met. If a director's authorization is not granted, an individual 401 WQC must be obtained. In no case may a director's authorization issued under this certification exceed an impact threshold authorized by the Corps' Nationwide Permit.

E. NOTIFICATION TO OHIO EPA

1. For any activity proposed to be authorized under NWPs 3, 4, 5, 6, 7, 12, 13, 14, 15, 16, 18, 22, 23, 25, 27, 29, 30, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 45, 49, 51, 53, and 54, when a PCN is not required by the Corps, notification to Ohio EPA is required for impacts to the following resources:

a. category 3 wetlands;

b. ≥0.10 acres of wetland.

2. Notifications required by E.1 should contain all information required by Nationwide Permit General Condition 32(b) and (c), Regional General Condition 6, and Appendix B.

3. For any activity proposed to be authorized under NWPs 4, 6, 7, 12, 13, 14, 15, 16,

18, 22, 23, 25, 29, 30, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 45, 51, 53, and 54, when a PCN is not required by the Corps, notification to Ohio EPA is required for impacts to streams located in possibly eligible areas as depicted in the GIS NWPs Stream Eligibility Map.

4. Notifications required by E.3 should contain all information required by Nationwide Permit General Condition 32(b) and (c), Regional General Condition 6, and Appendix C.

5. When notification to Ohio EPA is required by conditions E.1 and E.3 above, the applicant shall not begin the activity until either:

a. He or she is notified in writing by Ohio EPA that the activity may proceed under the 401 WQC for the NWP; or

b. 45 calendar days have passed from Ohio EPA's receipt of the notification and the applicant has not received written notice from Ohio EPA that additional information is necessary or that an individual 401 WQC is required.

F. MISCELLANEOUS

1. Authorization under this certification does not relieve the certification holder from the responsibility of obtaining any other federal, state or local permits, approvals or authorizations.

2. For purposes of this certification the Corps' definition of single and complete linear and non-linear projects shall be applied to all conditions regarding impacts, mitigation, and director's authorizations. If a project includes impacts that are ineligible under this certification, an applicant must apply for an individual 401 WQC or a director's authorization for those impacts to resources that do not meet one or more of the terms and conditions within this certification.

3. For purposes of this certification temporary impact means temporary activities which facilitate the nature of the activity or aid in the access, staging, or development of construction that are short term in nature and which are expected, upon removal of the temporary impact, to result in the surface water returning to conditions which support pre-impact biological function with minimal or no human intervention within 12 months following the completion of the temporary impact. Examples of temporary impacts include, but are not limited to access roads, work pads, staging areas, and stream crossings, including utility corridors. Activities that result in a wetland conversion (e.g. forested to non-forested) are not considered temporary impacts.

4. In the event that the issuance of a nationwide permit by the Corps requires individual 401 WQC for an activity that constitutes an emergency as defined in 33 CFR 325.2(e)(4), the limitation and/or condition requiring the individual 401 WQC is not applicable and the project may proceed upon approval by the Corps provided all other terms of this certification, including mitigation, are met.

5. Representatives from Ohio EPA, Division of Surface Water will be allowed to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of this certification. This includes, but is not limited to, access to and copies of any records that must be kept under the conditions of this certification; and, authorization to sample and/or monitor any discharge activity or mitigation site. Ohio EPA will make a reasonable attempt to notify the applicant of its intention to inspect the site in advance of that inspection.

6. Impacts as referenced in this certification consist of waters of the state directly impacted by the placement of fill or dredged material.

7. In accordance with the procedures outlined in Appendix B, and where specifically required in the special limitations and conditions of this certification, an applicant proposing to impact a wetland shall perform a wetland characterization analysis consistent with the Ohio Rapid Assessment Method (ORAM) to demonstrate wetland category for all projects requiring a PCN to the Corps or notification to Ohio EPA.

8. In accordance with the procedures outlined in Appendix C, and where specifically required in the special limitations and conditions of this certification, an applicant proposing to impact a stream shall determine the eligibility of the stream proposed for impact for all projects requiring a PCN to the Corps or notification to Ohio EPA.

Appendix A
Director's Authorization Process

1. To apply for a director's authorization for coverage under this certification, the applicant must provide to Ohio EPA the following:

    a. A completed Director's Authorization Request Form available on the "Director's Authorization" tab located at: http://www.epa.ohio.gov/dsw/401/permitting.aspx;

    b. A copy of the pre-construction notification submitted to the Corps including all attachments;

    c. A copy of the provisional nationwide permit authorization letter issued by the Corps including all attachments and special conditions, if any;

    d. A copy of the mitigation plan as approved by the Corps, if applicable;

    e. A detailed description of the conditions within this certification that are not being met;

    f. A detailed description of any NWP terms and conditions, including impact limits that the Corps district engineer has waived for the project, if applicable;

g. A rationale of how the applicant believes the project will minimally impact water quality for those impacts to resources that do not meet one or more of the terms and conditions within this certification, including reason(s) why the resources are unable to be avoided;

h. Comments received from the Ohio Department of Natural Resources and United States Fish and Wildlife Service regarding threatened and endangered species or comments from an applicant that has been authorized by these entities to make threatened and endangered species determinations;

i. A one-time review fee of $2000 for the project;

j. A detailed description of how the project meets public need, as defined in OAC 3745-1-50, for impacts to category 3 wetlands;

k. Documentation as required under Appendix B and C;

l. Any other documentation as may be required under this certification.

2. Upon receipt of the director's authorization request containing items a. through o. outlined above, excluding item c., the director will post the materials on the Ohio EPA, DSW webpage and invite public comment on the request for 15 days. The director will review and consider the comments received during the public comment period before making a decision on the director's authorization.

Appendix B
ORAM Verification Process

The ORAM results shall be included with the pre-construction notification (PCN) or notification to Ohio EPA if a PCN is not required by the Corps.

For each wetland proposed for impact the applicant must provide the following information for review in accordance with the ORAM verification procedure:

a. Complete ORAM forms prepared in accordance with the current ORAM manual;

b. Wetland delineation prepared in accordance with the current method required by the Corps;

c. A minimum of four high resolution color photographs taken while facing each of the four cardinal directions of each wetland proposed for impact. Photographs must accurately depict the quality of the wetland and may not include a majority of dying or dead vegetation or excessive cover due to seasonal conditions that vegetation and substrates cannot be observed, such as leaf litter, snow, or ice. Photographs deemed to be insufficient of representing the wetland will be required to be retaken once seasonal conditions are appropriate. Photographs shall be clearly labeled with the wetland name, direction, and date;

d. USGS topographical map, National Wetlands Inventory map, Soil Survey map and aerial images (both historical and current) which clearly outline the entire wetland boundary; and

e. Coordination letter from the Ohio Department of Natural Resources (ODNR), Natural Heritage Database indicating the presence or absence of state listed threatened or endangered species or comments from an applicant that has been authorized by ODNR to make threatened and endangered species determinations.

Appendix C
Stream Eligibility Determination Process

1. The stream eligibility results shall be included with the PCN or notification to Ohio EPA if a PCN is not required by the Corps. For each single and complete project with potential impacts to streams, where it is specifically required in the special limitations and conditions of this certification, the applicant shall determine if the streams proposed for impact are eligible for coverage under the 401 WQC for the Nationwide Permits using the following procedure:

   a. Navigate to the Ohio EPA 401 website at: http://www.epa.ohio.gov/dsw/401/permitting.aspx

   b. Click on the "Nationwide Permits" tab and then click on the "Stream Eligibility Web Map" link. To download the shapefile from the web map, click on the in the upper right hand corner of the webpage and select download. To draw project boundaries directly on the web map click on the in the upper left hand corner of the webpage.

   c. Using a GIS program, overlay the project boundary, streams proposed for impact, current aerial imagery, and the stream eligibility layer. If the applicant does not have access to a GIS program, the project boundary should be drawn on the web map and a copy of the map can be printed from the webpage;

      i. If any stream proposed for impact within the project area falls within an ineligible area, impacts to that stream are not eligible for coverage under the 401 WQC for the Nationwide Permits, and the applicant shall apply for an individual 401 WQC or a director's authorization.

      ii. If any stream proposed for impact within the project area falls within a possibly eligible area, the applicant shall take pH values, when applicable, and perform a Qualitative Assessment Habitat Evaluation Index (QHEI) or Headwater Habitat Evaluation Index (HHEI) assessment for the stream. Using the flow charts provided below, the applicant shall determine if impacts to that stream are eligible for coverage under the 401 WQC for the Nationwide Permits or if an individual 401 WQC is required.

iii. If all streams proposed for impact within the project area are located within the eligible area, impacts to that stream are eligible for coverage under the 401 WQC for the Nationwide Permits and no further assessment is necessary.

d. The applicant shall submit the following information with the PCN or notification to Ohio EPA:

i. Color map(s), no smaller than 8”x10”, which clearly shows the project boundary, streams proposed for impact, current aerial imagery, and the stream eligibility GIS layer;

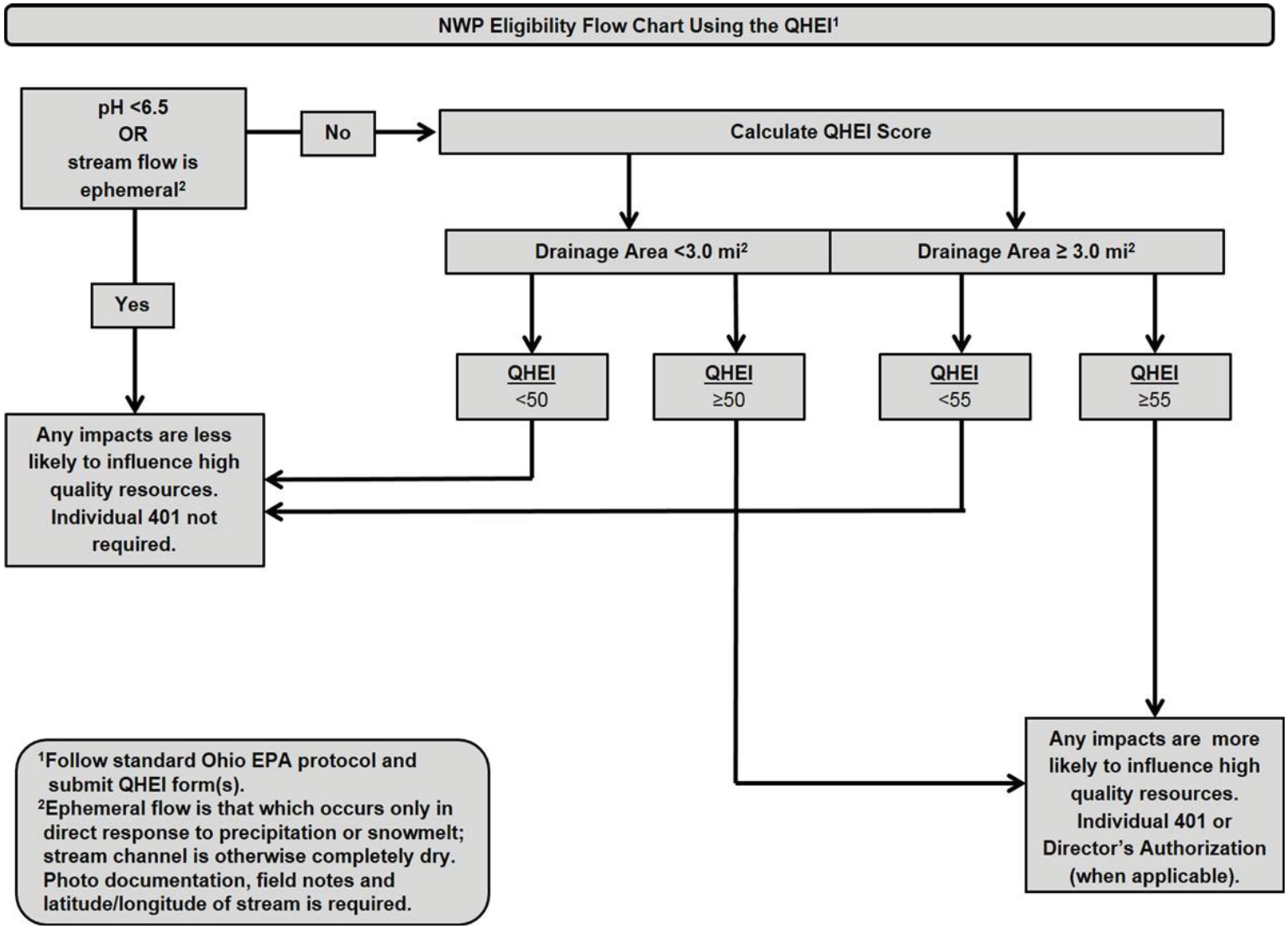
ii. For each stream located in possibly eligible areas;

(1) A minimum of three high resolution color photographs taken of the proposed impact area, including one facing upstream, one facing downstream, and a close up which clearly depicts the substrate composition and size for each stream proposed for impact. Photographs must accurately depict the quality of the stream and may not include excessive cover due to seasonal conditions that substrates cannot be observed such as snow or ice. Photographs deemed to be insufficient of representing the stream will be required to be retaken once seasonal conditions are appropriate. Photographs shall be clearly labeled with the stream name, direction, and date;

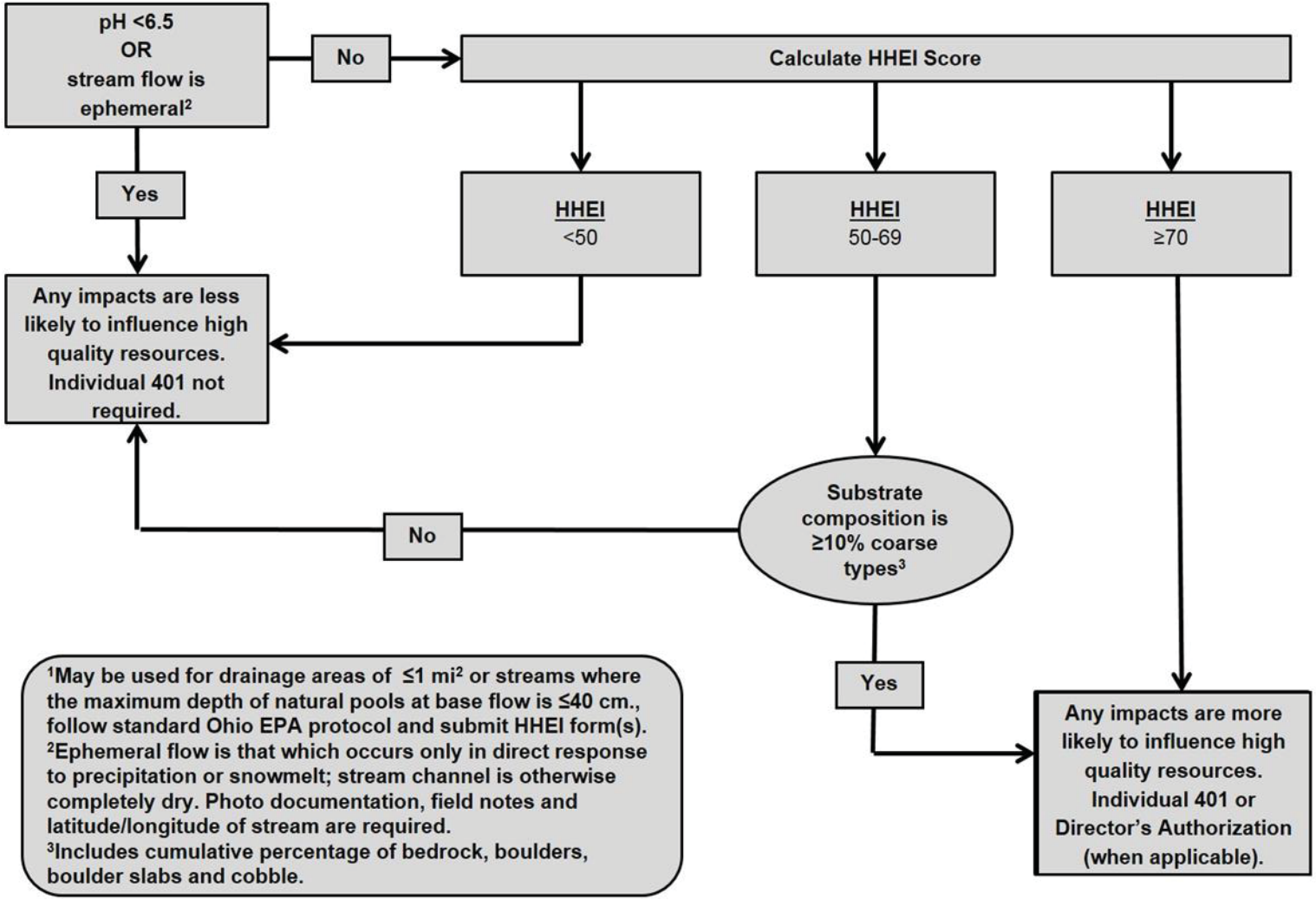
(2) pH values for each stream proposed for impact taken within the proposed project area, where applicable;

(3) Complete QHEI or HHEI sheets prepared in accordance with the current manuals; and

(4) Statement of whether the streams proposed for impact within the project area are eligible for coverage under the 401 WQC for the Nationwide Permits or if an individual 401 WQC or a director’s authorization is required.


NWP Eligibility Flow Chart Using the QHEI[1]
pH <6.5 OR stream flow is ephemeral[2]
No
Calculate QHEI Score
Yes
Drainage Area <3.0 mi²
Drainage Area ≥ 3.0 mi²
QHEI <50
QHEI ≥50
QHEI <55
QHEI ≥55
Any impacts are less likely to influence high quality resources. Individual 401 not required.
Any impacts are more likely to influence high quality resources. Individual 401 or Director's Authorization (when applicable).
[1]Follow standard Ohio EPA protocol and submit QHEI form(s).
[2]Ephemeral flow is that which occurs only in direct response to precipitation or snowmelt; stream channel is otherwise completely dry. Photo documentation, field notes and latitude/longitude of stream is required.

NWP Eligibility Flow Chart Using the HHEI[1]



[1]May be used for drainage areas of ≤1 mi² or streams where the maximum depth of natural pools at base flow is ≤40 cm., follow standard Ohio EPA protocol and submit HHEI form(s).
[2]Ephemeral flow is that which occurs only in direct response to precipitation or snowmelt; stream channel is otherwise completely dry. Photo documentation, field notes and latitude/longitude of stream are required.
[3]Includes cumulative percentage of bedrock, boulders, boulder slabs and cobble.

H. Definitions

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Direct effects: Effects that are caused by the activity and occur at the same time and place.

Discharge: The term "discharge" means any discharge of dredged or fill material into waters of the United States.

Ecological reference: A model used to plan and design an aquatic habitat and riparian area restoration, enhancement, or establishment activity under NWP 27. An ecological reference may be based on the structure, functions, and dynamics of an aquatic habitat type or a riparian area type that currently exists in the region where the proposed NWP 27 activity is located. Alternatively, an ecological reference may be based on a conceptual model for the aquatic habitat type or riparian area type to be restored, enhanced, or established as a result of the proposed NWP 27 activity. An ecological reference takes into account the range of variation of the aquatic habitat type or riparian area type in the region.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Ephemeral stream: An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

High Tide Line: The line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell

or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete non-linear project in the Corps Regulatory Program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Indirect effects: Effects that are caused by the activity and are later in time or farther removed in distance, but are still reasonably foreseeable.

Intermittent stream: An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. The loss of stream bed includes the acres or linear feet of stream bed that are filled or excavated as a result of the regulated activity. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities that do not require Department of the Army authorization, such as activities eligible for exemptions under section 404(f) of the Clean Water Act, are not considered when calculating the loss of waters of the United States.

Navigable waters: Waters subject to section 10 of the Rivers and Harbors Act of 1899. These waters are defined at 33 CFR part 329.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of flowing or standing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of "open waters" include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: An ordinary high water mark is a line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas.

Perennial stream: A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Protected tribal resources: Those natural resources and properties of traditional or customary religious or cultural importance, either on or off Indian lands, retained by, or reserved by or for, Indian tribes through treaties, statutes, judicial decisions, or executive orders, including tribal trust resources.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands next to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects riverine, lacustrine, estuarine, and marine waters with their adjacent wetlands, non-wetland waters, or uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 23.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete linear project: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term "single and complete project" is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Single and complete non-linear project: For non-linear projects, the term "single and complete project" is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one

owner/developer or partnership or other association of owners/developers. A single and complete non-linear project must have independent utility (see definition of "independent utility"). Single and complete non-linear projects may not be "piecemealed" to avoid the limits in an NWP authorization.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a jurisdictional wetland that is inundated by tidal waters. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line.

Tribal lands: Any lands title to which is either: 1) held in trust by the United States for the benefit of any Indian tribe or individual; or 2) held by any Indian tribe or individual subject to restrictions by the United States against alienation.

Tribal rights: Those rights legally accruing to a tribe or tribes by virtue of inherent sovereign authority, unextinguished aboriginal title, treaty, statute, judicial decisions, executive order or agreement, and that give rise to legally enforceable remedies.

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWPs, a waterbody is a jurisdictional water of the United States. If a wetland is adjacent to a waterbody determined to be a water of the United States, that waterbody and any adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of "waterbodies" include streams, rivers, lakes, ponds, and wetlands.

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

Aug 27, 2020

AEP Ohio Transmission Company, Inc.
Aimee Toole
8600 Smith's Mill Road
New Albany, OH 43054

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:	Conesville 345kV Station Expansion
Facility Location:	46793 CR 273
City:	Conesville
County:	Coshocton
Township:	Franklin
Ohio EPA Facility Permit Number:	0GC03620*AG
Permit Effective Date:	Aug 27, 2020

Please read and review the permit carefully. The permit contains requirements and prohibitions with which you must comply. 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 NPDES CGP. 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. Also, a Permit-To-Install (PTI) is required for the construction of sanitary or industrial wastewater collection, conveyance, storage, treatment, or disposal facility; unless a specific exemption by rule exists. 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.

To view your electronic submissions and permits please Logon in to the Ohio EPA's eBusiness Center at http://ebiz.epa.ohio.gov.

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 http://www.epa.ohio.gov.

Sincerely,

Laurie A. Stevenson

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: 8600 Smith's Mill Road

City: New Albany	**State :** OH	**Zip Code:** 43054
Country: USA		
Contact Person: Aimee Toole	**Phone:** (614) 933-2060	**Fax:**
Contact E-mail Address: artoole@aep.com		

II. Facility/Site Location Information

Facility/Site Name: Conesville 345kV Station Expansion

Facility Address: 46793 CR 273

City: Conesville	**State:** OH	**Zip Code:** 43811
County: Coshocton	**Township:** Franklin	
Facility Contact Person: Joe Fraelich	**Phone:** (740) 502-1557	**Fax:**
Facility Contact E-mail Address: jfraelich@aep.com		
Latitude: 40.18292138	**Longitude:** -81.87914632	**Facility/Map Attachment** SiteMap_Conesville Station Expansion_20200818.pdf

Receiving Stream or MS4: Muskingum River

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:	**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:** PENDING
Individual NPDES: NO	**Isolated Wetland:** NO	**U.S. Army Corp Nationwide Permit:** APPROVED
Proposed Project Start Date(if applicable): October 01, 2020		**Estimated Completion Date(if applicable):** October 15, 2021
Total Land Disturbance (Acres): 2		**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: Aimee Toole	**Title:** Transmission Project Environmental Support Manager

Signature:	Date:
Electronically submitted by p000106	Electronically submitted on 08/19/2020

CONESVILLE 345kV STATION EXPANSION

COUNTY ROAD 273, CONESVILLE, OHIO 43811

LAT/LONG: 40.18292138/-81.87914632

STORM WATER POLLUTION PREVENTION PLAN (SWP3)

Prepared for:

AEP Ohio Transmission Company, Inc.
8600 Smith's Mill Road
New Albany, OH 43054

Prepared by:

BAIR, GOODIE AND ASSOCIATES, INC.
153 North Broadway Street
New Philadelphia, Ohio 44663

Site Contact: Joe Fraelich
Phone: 740-502-1557
E-mail: jfraelich@aep.com

AUGUST 2020

Project Start Date: October 2020
Project End Date: October 2021

Conesville 345kV Station Expansion

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: Aimee Toole

Title: Mngr - Project Environmental Support Manager

Signature: AToole

Date: 8-19-2020

TABLE OF CONTENTS

I. Site Description 1

A. Description of Construction Activity 1
B. Disturbed Area 1
C. Impervious Area 1
D. Storm Water Calculations 1
E. Existing Soil Data 2
F. Prior Land Uses 2
G. On-site Streams and Receiving Streams and Surface Waters 2
1. On-Site Waterbodies 2
2. Receiving Waters 2
H. Implementation Schedule 2
I. Subdivided Development Drawing 3
J. Dedicated Asphalt and Concrete Plant Discharges 3
K. Log of Grading and Stabilization Activities 3
L. Site Map 3
M. Permit Requirements 4

II. Storm Water Pollution Prevention Plan 4

A. SWP3 Availability 4
B. Amendments 4
C. Duty to Inform Contractors 4
D. Controls 4
1. Preservation Methods 5
2. Erosion, Sediment, and Runoff Controls 5
a. Stabilization and Seeding 5
b. Sediment Barriers and Diversions 5
c. Wetland and Stream Crossings 6
d. Temporary Construction Entrances 6
e. Sediment Settling Ponds / Sediment Basins 6
3. Surface Water Protection 6
4. Other Controls 6
a. Non-sediment Pollutant Controls 6
b. Off-site Traffic and Dust Control 6
c. Concrete Washouts 6
d. Wash Water 7
e. Compliance with Other Requirements 7
f. Trench and Groundwater Control and Dewatering 7
g. Contaminated Sediment 7
5. Post-Construction Storm Water Management Requirements 7
6. Maintenance and Inspections Requirements 7

III. Approved State or Local Plans 8

IV. Exceptions 8

APPENDIX 1 – Ohio EPA General Permit No. OHC000005

APPENDIX 2 – Project Location Map, Project Site 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 – Construction Plans and Specifications

I. Site Description

A. Description of Construction Activity

AEP Ohio Transmission Company, Inc. (AEP) is proposing to conduct construction activities for the Conesville 345kV Station Expansion Project located in Franklin Township, Coshocton County, Ohio. The Project consists of filling a portion of the existing discharge canal (identified as Stream 2), adding two areas of gravel pad to the existing station totaling approximately 0.33 acres, re-grading an existing containment area, removing six (6) monopoles within the existing station, removing an existing building, and replacing the existing station fence. Construction activities will include filling, grading, vegetation clearing and grubbing, gravel placement, and storm water management. Access to the project will be from the existing station.

B. Disturbed Area

Total Area of the Site – 11.94 acres

Total Disturbed Area – 1.97 acres

Table 1: Disturbed Area

County	Township/Village/City	Disturbance Acreage
Coshocton	Franklin Township	1.97

C. Impervious Area

The station expansion will result in 0.33 acres of additional impervious surface. As a result of the minimal change in overall impervious area, post-construction best management practices (BMPs) are not warranted for this project.

Table 2: Impervious Area

	Impervious Acreage	% Imperviousness
Existing	9.11	76%
New	0.33	3%
Total	9.44	79%

D. Storm Water Calculations

Pre- and post-development runoff coefficients have been calculated based on the pre- and post-estimates for impervious surfaces within the existing and proposed facilities. The proposed expansion does include the addition of impermeable materials such as concrete, asphalt, or other hard surfaces (#304 and #57 stone). The resulting increase in overall impermeability due to the expansion is less than 3%, producing a negligible increase in runoff volume. Therefore, this project does not warrant the need for post-construction best management practices (BMPs).

Pre-development runoff coefficient – 0.72
Post-development runoff coefficient – 0.73

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?
Ug	Udorthents, loamy	Well drained	No

F. Prior Land Uses

The Project is located in a rural area near the village of Conesville in Coshocton County, Ohio and adjacent to the fence line of the existing station. Prior land use is excess station acreage (grass) that was previously graded along with a man-made discharge canal (Stream 2) that is directly connected to the Muskingum River.

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
Stream 1	Muskingum River	Perennial	Ineligible	Stable
Stream 2	UNT to Muskingum River	Perennial	Ineligible	Stable
Stream 3	UNT to Muskingum River	Perennial	Ineligible	Stable
Stream 4	UNT to Muskingum River	Perennial	Ineligible	Stable

2. Receiving Waters

The Project is located within the Robinson Run – Muskingum River Watershed (HUC-12: 050400040301). The receiving water is the Muskingum River.

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 5 below and will begin in October 2020 and is estimated to end in October 2021.

Table 5: Implementation Schedule

Task	Date
Identify environmental avoidance areas in the field [i.e. wetlands, 50' stream buffers, other environmental commitments]	October 2020
Mobilize construction equipment	October 2020

Install [erosion controls/BMPs] filter sock, timber matting, and temporary construction entrances, as needed	October 2020
Remove building and monopoles	November 2020
Install sheet pile wall in discharge canal (Stream 2) to cut off water to project area	November/December 2020
Dewater, clear/grub, over excavate, and extend existing flow pipes in proposed work area	November/December 2020
Install temporary seed and mulch, as needed, during Project activities	November/December 2020
Place fill in dewatered discharge canal (Stream 2) to construct proposed pad and outslope	January 2021
Construct gravel station pad expansion and install riprap at pipe outlets and on outslope	February 2021
Construct new station fence	February-September 2021
Install permanent seed and mulch	September 2021
Remove matting and temporary BMPs	September 2021
Repair/restore all remaining disturbed areas	September 2021
Seed and mulch all remaining disturbed areas	September 2021
Remove sheet pile wall	September 2021
Construction demobilization	October 2021
Inspection with AEP and SWP3 contractor	October 2021

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 Site Map, 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 and MS4 operators or 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 6 and 7 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 6: 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 7: 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 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 will be impacted by the proposed construction activities and therefore no wetland crossings are being proposed. Fill will be placed in approximately 200 feet of a perennial stream to construct the pad expansion. Impacts are limited to the stream shown on the Plans in Appendix 2.

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*

Due to the small area of disturbance and minimal increase in runoff as a result of the proposed project, no sediment settling ponds/sediment basins will be constructed.

3. Surface Water Protection

Sheet piling will be installed across the width of the discharge canal (Stream 2) to isolate the project area and minimize the potential for additional impacts. Riprap will be placed on the outslope of the pad expansion to reduce erosion. Upon completion of the project, the sheet pile wall will be removed. Clean Water Act Section 404/401 permits will be obtained from the U.S. Army Corps of Engineers (USACE) and Ohio EPA for impacts to Stream 2. 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*

If necessary, 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*

Dewatering at this site will occur as sheet piling will be installed across the width of the discharge canal (Stream 2) to isolate the project area. Removing the water has the potential to contribute sediment to surface waters. The water shall be pumped directly into a dewatering device such as a tube or bag that has been sized according to the flow rate of the dewatering pump and the predominant sediment size (woven for sand, non-woven for silt and clay). Upon construction completion, accumulated sediment shall be removed from the dewatering device and either placed in an upland part of the site where it shall then be seeded and mulched or shall be removed to an appropriate off-site disposal facility.

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

Due to the small area of disturbance and minimal increase in runoff as a result of the proposed project, no post-construction storm water management is required.

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.
- Orange barrier fence shall be inspected to ensure the fence is erect and functioning as intended per the plans in Appendix 2.
- 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 EPA/DSW 29/09
Entered Directors Journal

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

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

By: Donna Vassler Date: 4-23-18

TABLE OF CONTENTS

PART I. COVERAGE UNDER THIS PERMIT
A. Permit Area
B. Eligibility
C. Requiring an individual NPDES permit or an alternative general NPDES permit
D. Permit requirements when portions of a site are sold
E. Authorization
F. Notice of Intent Requirements

PART II. NON-NUMERIC EFFLUENT LIMITATIONS
A. Erosion and Sediment Controls
B. Soil Stabilization
C. Dewatering
D. Pollution Prevention Measures
E. Prohibited Discharges
F. Surface Outlets
G. Post-Construction Storm Water Management Controls

PART III. STORM WATER POLLUTION PREVENTION PLAN (SWP3)
A. Storm Water Pollution Prevention Plans
B. Timing
C. SWP3 Signature and Review
D. Amendments
E. Duty to inform contractors and subcontractors
F. Total Maximum Daily Load (TMDL) allocations
G. SWP3 Requirements

PART IV. NOTICE OF TERMINATION REQUIREMENTS
A. Failure to notify
B. When to submit an NOT
C. How to submit an NOT

PART V. STANDARD PERMIT CONDITIONS
A. Duty to comply
B. Continuation of an expired general permit
C. Need to halt or reduce activity not a defense
D. Duty to mitigate
E. Duty to provide information
F. Other information
G. Signatory requirements
H. Certification
I. Oil and hazardous substance liability
J. Property rights
K. Severability
L. Transfers
M. Environmental laws
N. Proper operation and maintenance
O. Inspection and entry
P. Duty to Reapply
Q. Permit Actions
R. Bypass
S. Upset
U. Reporting Requirements

PART VI. REOPENER CLAUSE
PART VII. DEFINITIONS
APPENDICES
A. Big Darby Creek Watershed
B. Portions of the Olentangy Watershed
C. Intensity for Calculation of Water Quality Flow (WQF)

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 washwater, and other washwaters. Washwaters 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, sediment storage 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); (6) a map showing all access and maintenance easements; and (7) for table 4a/4b 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 to 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 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:

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

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

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

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[2]	24 hours
Infiltration Trench[3]	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/4b criteria.

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

$$WQv = P * A * [(Rv_1*0.2) + (Rv_2 - Rv_1)] / 12 \qquad \text{(Equation 3)}$$

where

P = 0.90 inches
A = area draining into the BMP in acres
Rv_1 = volumetric runoff coefficient for existing conditions (current site impervious area)
Rv_2 = 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.

<u>Use of Alternative Post-Construction BMPs.</u> 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 use of 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.

<u>Alternative Post-Construction BMP Testing Protocol.</u> 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 5. 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 https://ecology.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 runoff coefficient
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 washwater, and other washwaters. No detergents may be used to wash vehicles. Washwaters 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.h 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 of 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
A.2 TMDL Conditions
A.3 Sediment Settling Ponds and Sampling
A.4 Riparian Setback Requirements
A.5 Riparian Setback Mitigation
A.6 Groundwater Recharge Requirements
A.7 Groundwater Recharge mitigation

Attachment A-A: Big Darby Creek Watershed Map

Attachment A-B: Stream Assessment and Restoration

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 TMDL Conditions.

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 and Sampling

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:

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

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 Appendix A, Attachment B 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 (Appendix A, 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 A-1 values should be used for land where the underlying geology indicates a potential for downward migration of groundwater. Table A-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 A-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 (Appendix B, A.7) 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 groups 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 the 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)

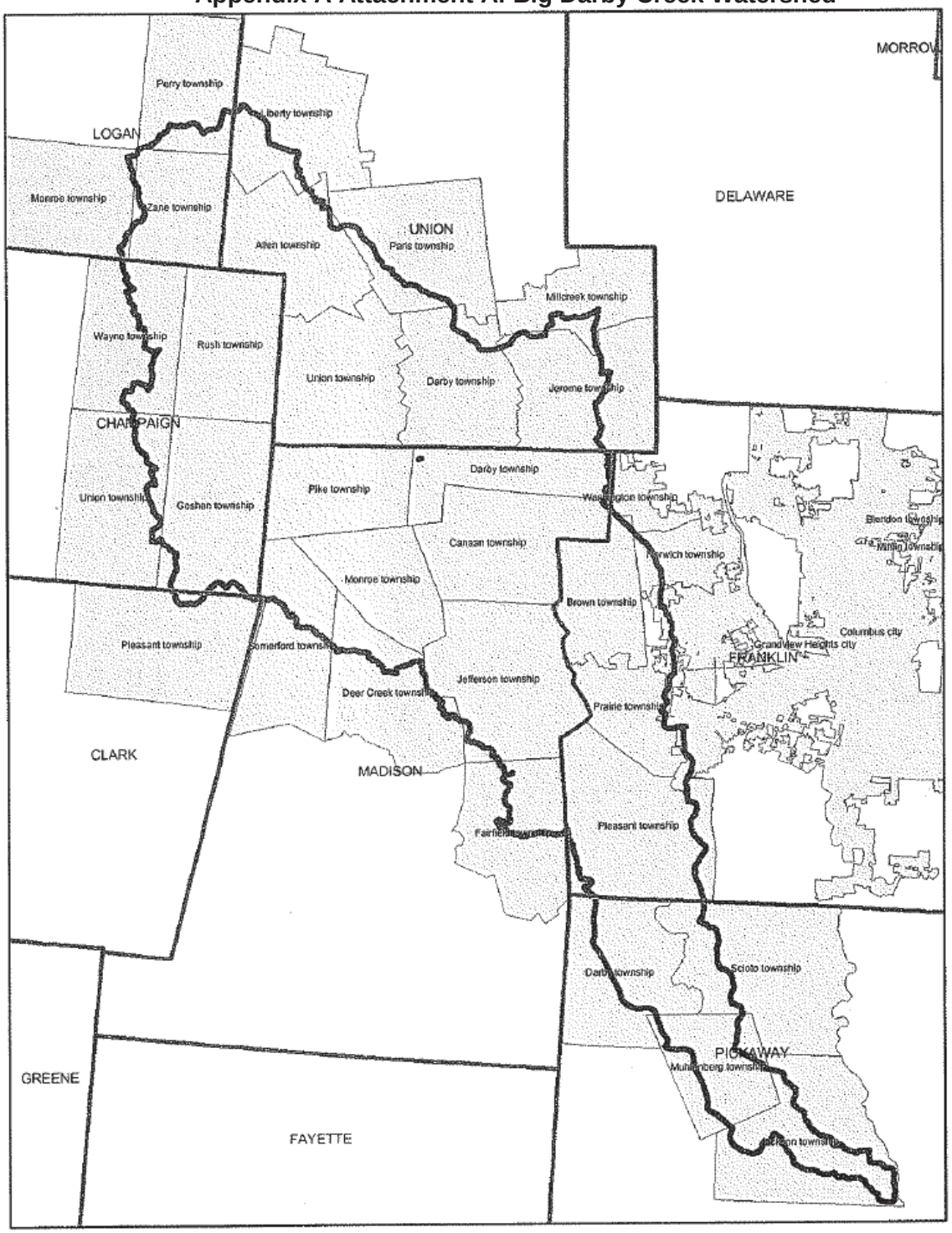
Where,
$V_{retention}$ = volume of runoff retained onsite using an approved infiltration practice
$A_{HSG\text{-}x}$ = area of each hydrologic soil group within the disturbed area

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

Hydrologic Soil Group	HSG A	HSG B	HSG C	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
B.2 TMDL Conditions
B.3 Riparian Setback Requirements
B.4 Riparian Setback Mitigation

Attachment B-A: Area of Applicability for the Olentangy Watershed (Map)

Attachment B-B: Stream Assessment and Restoration

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 TMDL Conditions.

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.

c. 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.

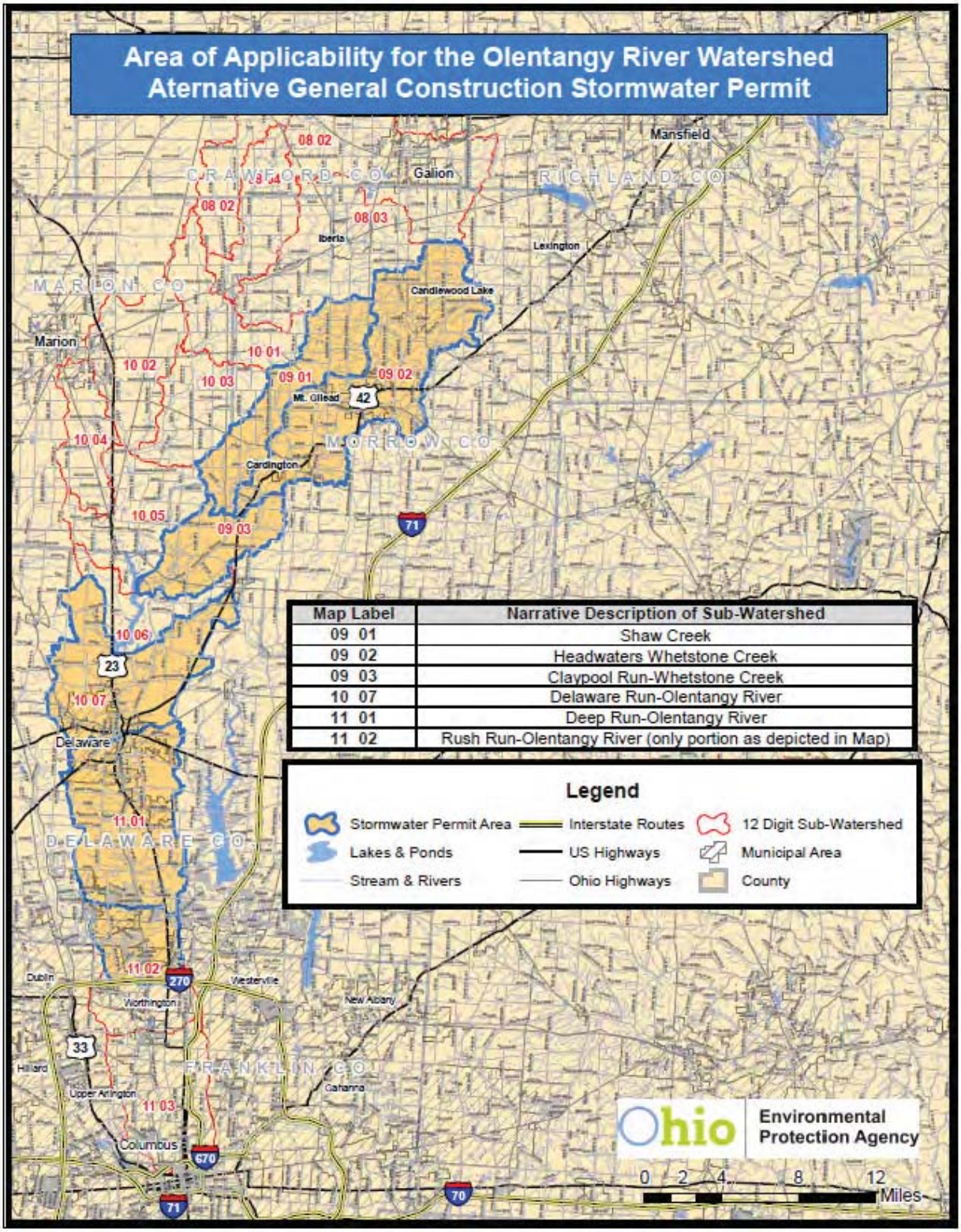
The mitigation required for intrusion into the riparian setback of an **intermittent stream** shall be four (4) times the total area disturbed within the riparian setback of the site being developed shall be mitigated; or two (2) times the total area disturbed within the riparian setback shall be mitigated 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



Map Label	Narrative Description of Sub-Watershed
09 01	Shaw Creek
09 02	Headwaters Whetstone Creek
09 03	Claypool Run-Whetstone Creek
10 07	Delaware Run-Olentangy River
11 01	Deep Run-Olentangy River
11 02	Rush Run-Olentangy River (only portion as depicted in Map)

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.

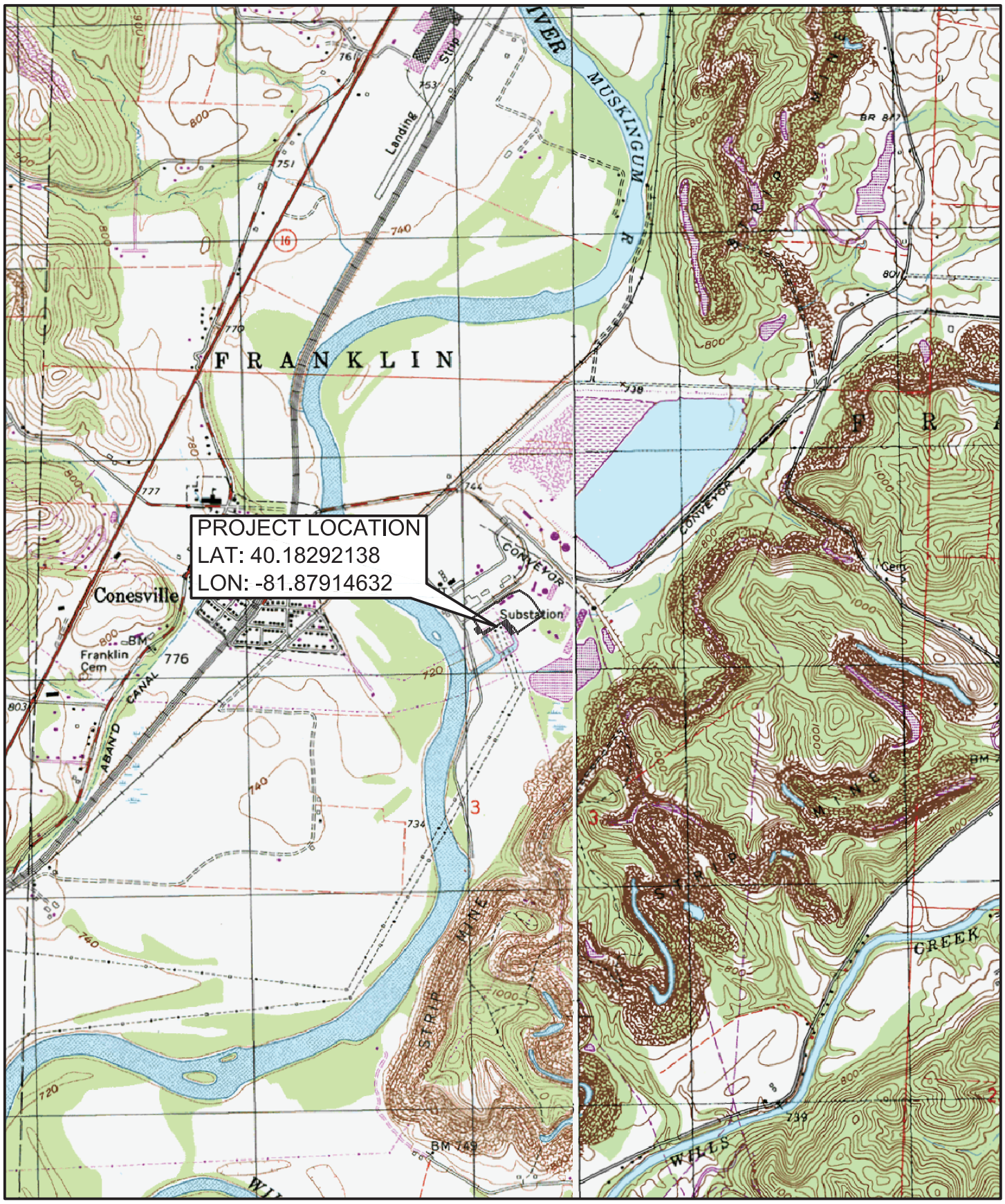
Appendix C Rainfall Intensity for Calculation of Water Quality Flow (WQF)

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



BAIR GOODIE | AMERICAN ELECTRIC POWER

Bair, Goodie and Associates, Inc.
153 North Broadway, New Philadelphia, Ohio 44663
P: 330.343.3499 / E: jpeltz@bairgoodie.com

N W E S

0 1000 2000

Scale: 1" = 2000'

LOCATED IN
THIRD QUARTER, T-4, R-6
TOWNSHIP OF FRANKLIN,
COUNTY OF COSHOCTON,
STATE OF OHIO

CONESVILLE QUADRANGLE

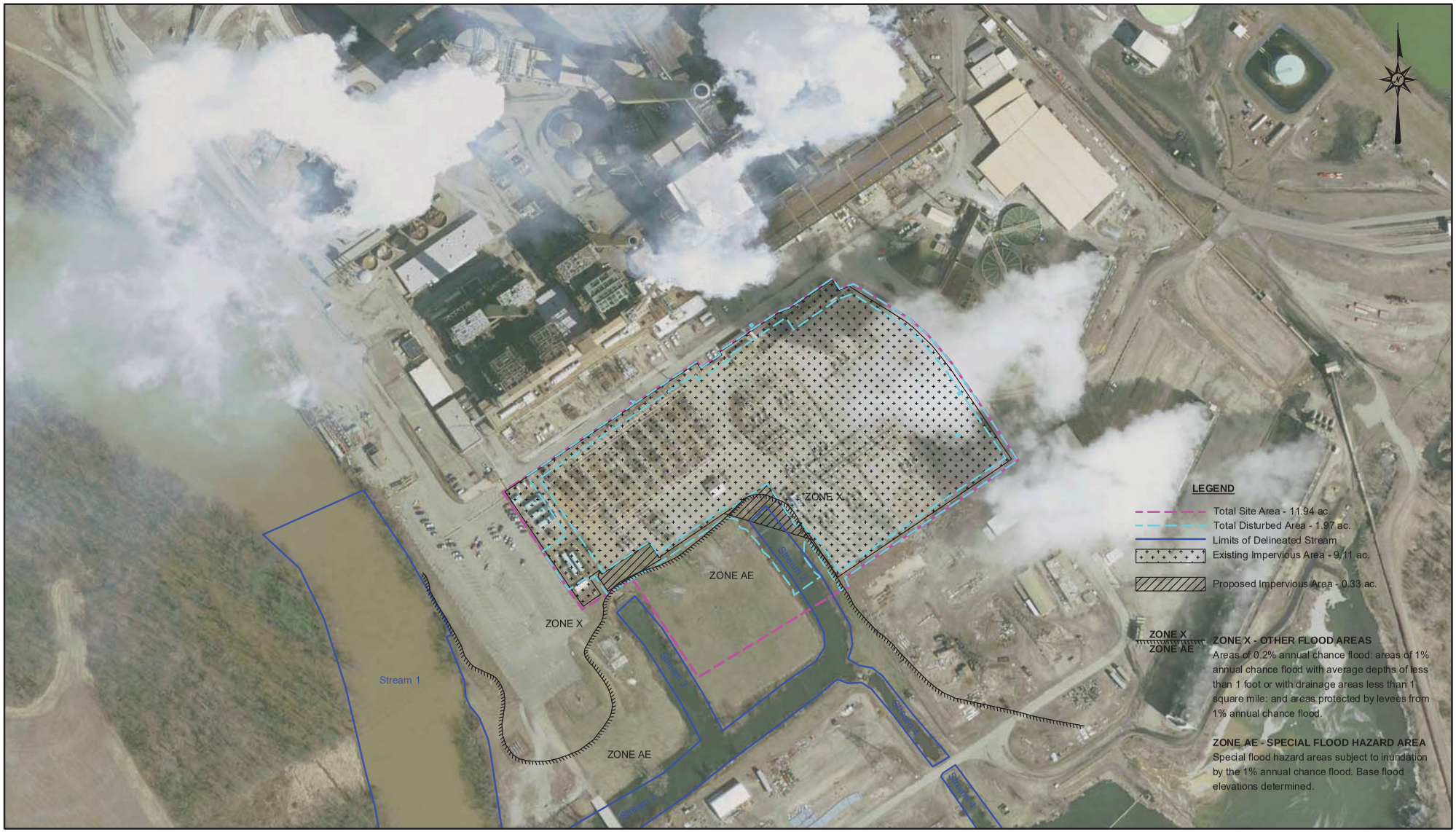
FILE: AEP-CPL104a | DATE: 06/29/2020 | SHEET: 1 OF 1

AEP OHIO TRANSMISSION COMPANY, INC.

APPENDIX 2.

PROJECT LOCATION MAP

CONESVILLE 345kV STATION EXPANSION



REV	DATE

BAIR, GOODIE AND ASSOCIATES, INC.
153 NORTH BROADWAY STREET
NEW PHILADELPHIA, OH 44663
TEL: 330.343.3499 FAX: 330.343.9505
WWW.BAIRGOODIE.COM

BAIR GOODIE | AMERICAN ELECTRIC POWER

HORIZONTAL
0 100' 200'
0 100' 200'
VERTICAL

LOCATED IN
THIRD QUARTER, T-4, R-6
TOWNSHIP OF FRANKLIN,
COUNTY OF COSHOCTON,
STATE OF OHIO

SITE MAP
CONESVILLE 345kV STATION EXPANSION

DATE: 08/18/2020	
FILE ID: AEP-CPL104d	
SCALE: AS NOTED	
SHEET: 1 OF 1	REV 0

Vicinity Map (1"=1 Mile)

Legend

- Existing 1' Contour
- Existing 5' Contour
- Existing Station Fence
- Existing Discharge Canal (Stream 2)
- Existing Flowpipe
- Proposed 1' Contour
- Proposed 5' Contour
- Proposed Limits of Disturbance-1.98 ac.
- Proposed Station Pad
- Proposed Sheet Pile Wall
- Proposed Fence
- Proposed 12" Filter Sock
- Proposed Orange Barrier Fence
- ODOT Type D Rock Lining
- Proposed Flowpipe Extension
- Proposed Concrete Washout
- Proposed Sanitary Facilities
- Proposed Fueling Area
- Proposed Dumpster Location
- Proposed Pole Removal
- Proposed Building Removal

Bearings are oriented to the State Plane Coordinate System (NAD 83).

0' 50' 100'

SCALE: 1" = 100'

Located in
Third Quarter, T-4, R-6
Township of Franklin,
County of Coshocton,
State of Ohio

Bair, Goodie and Associates, Inc.
153 North Broadway Street
New Philadelphia, Ohio 44663
E: jpeltz@bairgoodie.com
P: 330.343.3499

File: CLP104c | Date: 08/14/2020 | Sheet: 1 of 1

Conesville 345kV Station Expansion

Soil Erosion and Sediment Control Plan

BAIR GOODIE

AMERICAN ELECTRIC POWER

Soil Map—Coshocton County, Ohio
(AEP, Conesville Plant Station Boundary)

Map Scale: 1:1,820 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 Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

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: Coshocton County, Ohio
Survey Area Data: Version 15, Sep 16, 2019

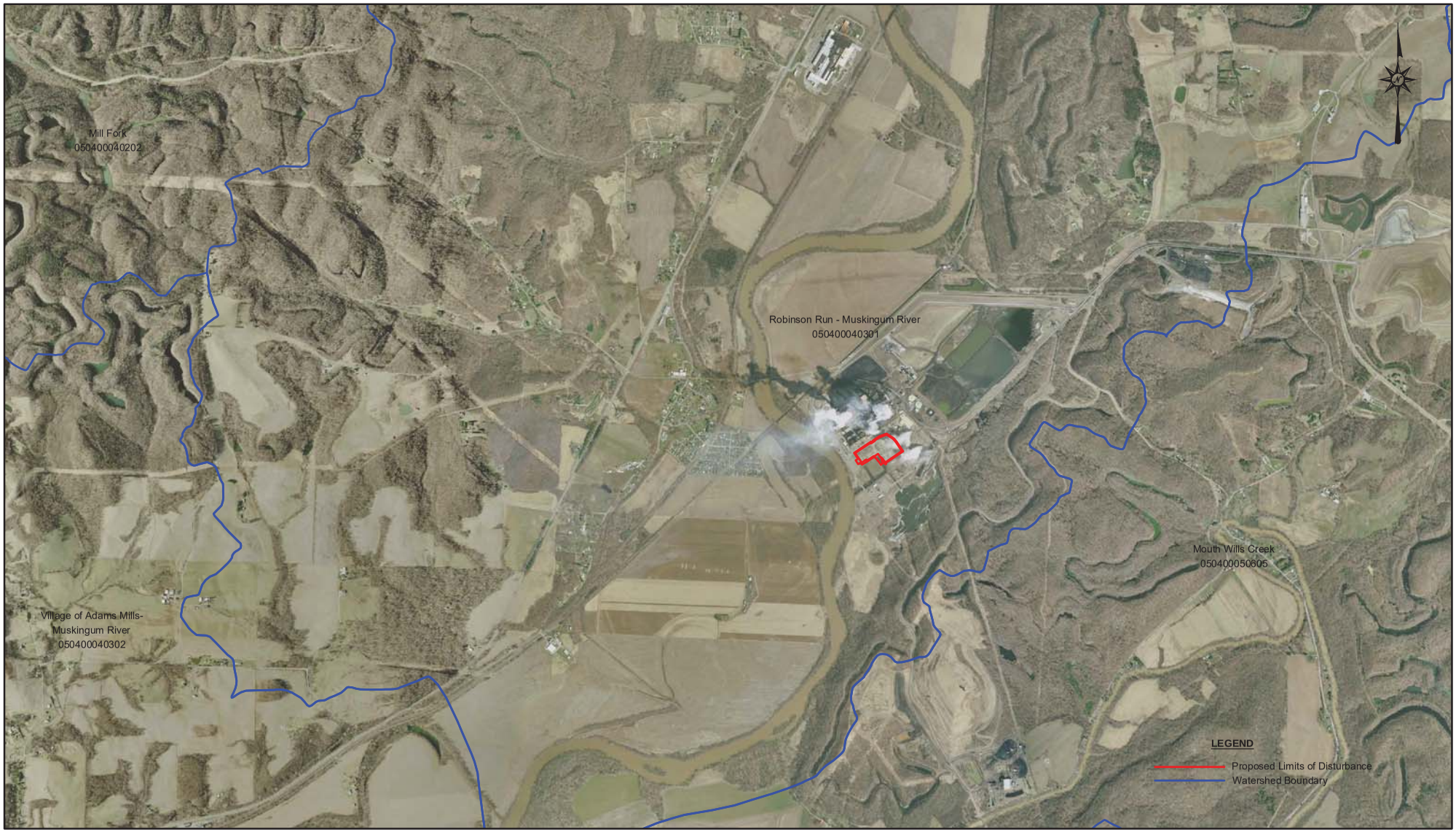
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 5, 2012—Mar 22, 2017

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 Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ug	Udorthents, loamy	9.8	100.0%
Totals for Area of Interest		**9.8**	**100.0%**



REV	DATE

BAIR, GOODIE AND ASSOCIATES, INC.
153 NORTH BROADWAY STREET
NEW PHILADELPHIA, OH 44663
TEL: 330.343.3499 FAX: 330.343.9505
WWW.BAIRGOODIE.COM

BAIR GOODIE

AMERICAN ELECTRIC POWER

HORIZONTAL
0 1000' 2000'
0 1000' 2000'
VERTICAL

LOCATED IN
THIRD QUARTER, T-4, R-6
TOWNSHIP OF FRANKLIN,
COUNTY OF COSHOCTON,
STATE OF OHIO

HUC-12 WATERSHED MAP
CONESVILLE 345kV STATION EXPANSION

DATE: 06/29/2020	
FILE ID: AEP-CPL104b	
SCALE: AS NOTED	
SHEET: 1 OF 1	REV 0

BMP Detail Sheets

Rock Outlet Protection

Filter Sock

Temporary Seeding

Mulching

Permanent Seeding

Concrete Washout

4.4 Rock Outlet Protection

Description

A rock or riprap apron typically needed at the outlet of storm drains, culverts, or open channels. Rock Outlet Protection provides an erosion resistant transition area where concentrated or high velocity flows enters less modified channels or natural streams.

Conditions Where Practice Applies

This practice applies where discharge velocities from channels, storm drains or culverts are high enough to erode receiving streams or areas. Suggested areas of application are:

- Outfalls of stormwater detention facilities or sediment traps or basins.
- Constructed channel outlets
- Culvert outlets

This practice is not intended for use on slopes greater than 10% or at the top of cut or fill slopes. Caution should be used when design flows exceed 100 cubic feet per second (cfs) from a 10-yr.-frequency storm..

Planning Considerations

Rock Outlet Protection may be used in conjunction with other practices, such as level spreaders. Rock Outlet Protection and Level Spreaders can both be used at the end of pipe outlets. This practice should be used alone where flow will continue as concentrated flow. Level Spreaders can be used with Rock Outlet Protection only when flow can be converted to and continue as sheet flow.

Permits

A construction permit may be required by the local government. Additionally, the U.S. Army Corps of Engineers and the Ohio Environmental Protection Agency, through Sections 404 and 401, respectively, of the Clean Water Act, may require a permit for an outlet protection that is located adjacent to a stream.

Water Quality

Rock outlet protection may also provide water quality benefits by providing for channel stability, prevention of excessive erosion, and limiting subsequent downstream sedimentation.

Design Criteria

Runoff

Runoff computation will be based upon the most severe soil and cover conditions that will exist in the area draining into the channel during the planned life of the structure. Use the NRCS Technical Release 55 (TR 55) or other suitable method shall be used to determine peak rate of runoff.

Velocity

Outlet protection shall be designed to be stable for discharge velocity expected from a 10-year frequency storm. Where high-hazard conditions exist, higher frequency storms should be chosen to provide protection compatible with conditions. Outlet protection shall meet the following criteria

Design Velocity

Outlet protection shall be designed to be stable for the velocity of flow expected from a 10-year frequency storm. Outlet protection shall be designed to meet the criteria below or by other accepted engineering methods.

Width

The width of the outlet protection shall be the width of the headwall or 4 feet wider than the pipe diameter (2 feet on each side of the pipe).

Bottom Grade

The outlet protection should be constructed with no slope along it length. The elevation on the downstream end of the outlet protection shall be equal to the elevation of the receiving stream or channel.

Length of Rock Outlet Protection and Rock Size

Use the velocity calculated at the pipe outlet, the pipe diameter, and Figure 4.4.1. Outlet Protection Length, to find the length of outlet protection needed and rock size to use.

Rock Lining

The outlet protection shall consist of the rock riprap layer and an underlying filter or bedding. Minimum thickness of the rock riprap layer shall be the maximum stone size. Stone used for riprap shall be dense and hard enough to withstand exposure to air, water, freezing and thawing. Rock riprap must have a well-graded distribution and be placed to obtain a solid, compact layer of riprap. This may require some hand placing and tamping with construction equipment. Spreading gravel or soil over top of the placed riprap surface will fill the voids by interlocking the riprap together.

Table 4.4.1 Rock Riprap Size

Type of Rock or Riprap (ODOT)	"n" value	Size of Rock	
		50% by weight	85% by weight
Type D	.036	> 6 in.	3 - 12 in.
Type C	.04	> 12 in.	6 - 18 in.
Type B	.043	> 18 in.	12 - 24 in.
Type A	.045	> 24 in.	18 - 30 in.

Filter or Granular Bedding

Filter or granular bedding must be placed beneath all riprap to prevent the underlying soil from eroding and undermining the riprap, and to collect seepage and base flow. Minimum bedding thickness shall be 4 inches. Use of large size riprap may necessitate the use of a thicker bedding layer or 2 differently sized bedding layers. Care should be taken to select granular bedding that that is suitable with the subgrade material.

Geotextile

Geotextile may be used as a filter to be placed beneath the riprap to prevent piping of the soil where wetness, seepage, or prolonged base flow is the reason for lining the channel with riprap. If design of the outlet protection results in high velocities and steep grades, granular bedding should be used instead of geotextile. Care should be taken to properly anchor the geotextile to prevent unraveling under flowing water. Geotextile shall be woven or nonwoven monofilament yarn and shall meet Class I criteria in the attached table "Requirements for Geotextile".

Maintenance

A maintenance program shall be established to maintain riprap, vegetative cover above the riprap, and associated structural components such as pipe outlets, and tile lines. Items to consider in the maintenance program include:

- Determine responsible party to inspect and maintain the outlet protection after construction
- Missing riprap should be replaced as soon as possible.
- Protect the outlet protection from damage by equipment and traffic
- Fertilize the vegetated area annually to and maintain a vigorous stand of grass
- Mow the vegetated area to maintain a healthy and vigorous stand of grass.
- Seed and mulch any bare areas that develop.
- Remove sediment and debris that have accumulated.
- Easements, or other means, should be obtained to ensure the channel is maintained as constructed

References

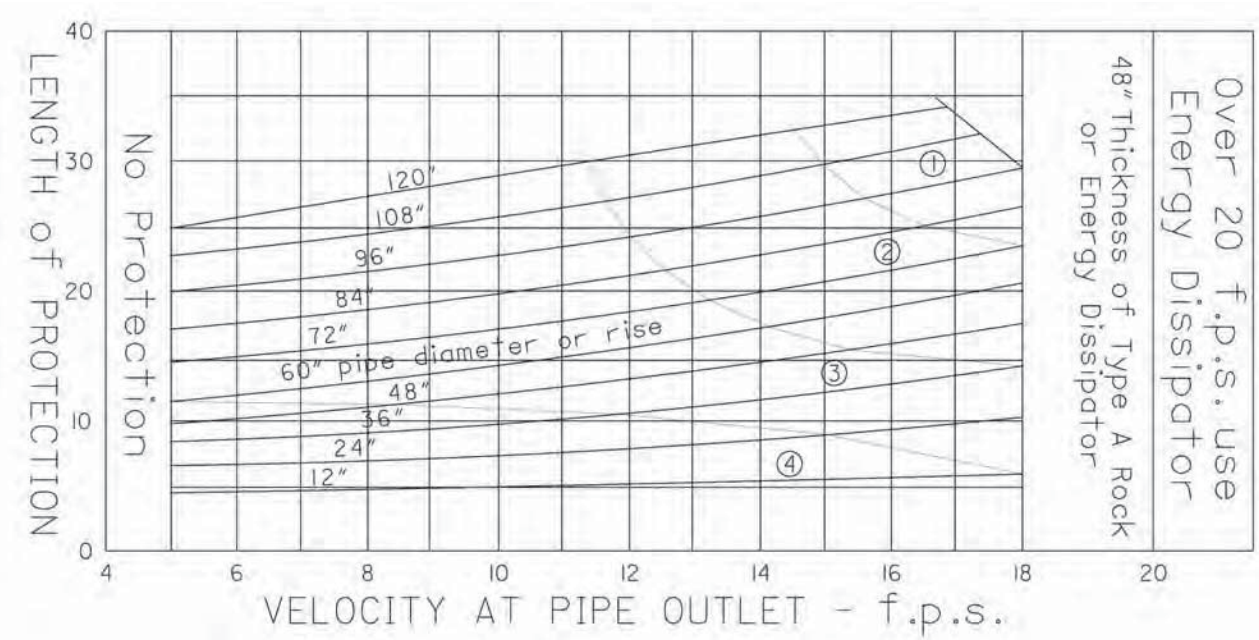
Additional guidance for evaluation, planning, and design of outlet protection is given in:

- NRCS Ohio Practice Standard 468, Lined Waterway Or Outlet
- NRCS Engineering Field Handbook, Chapter 6 - Structures
- NRCS Design Note 24, Guide for Use of Geotextiles
- ODOT Location and Design Manual, Rock Channel Protection at Culvert and Storm Sewer Outlets

Table 4.4.2 Requirements for Geotextiles

Property	Test method	Woven - Class I	Nonwoven - Class I
Tensile strength (pounds) 1/	ASTM D 4632 grab test	200 minimum in any principal direction	180 minimum
Elongation at failure (percent) 1/	ASTM D 4632 grab test	<50	≥ 50
Puncture (pounds) 1/	ASTM D 4833	90 minimum	80 minimum
Ultraviolet light (% residual tensile strength)	ASTM D 4355 150-hr exposure	70 minimum	70 minimum
Apparent opening size (AOS)	ASTM D 4751	As specified, but no smaller than 0.212 mm (#70) 2/	As specified max. #40 2/
Percent open area (percent)	CWO-02215-86	4.0 minimum	----------
Permitivity sec-1	ASTM D 4491	0.10 minimum	0.70 minimum

1/ Minimum average roll value (weakest principal direction).
2/ U.S. standard sieve size.
Note: CWO is a USACE reference.



NOTES

Rock size (6", 12", 18") indicates the square opening on which 85% of the material, by weight, will be retained.

The width of protection shall be the width of the headwall, with 4' being the minimum.

(Where a stream bed will withstand the calculated velocity without erosion, no rock channel protection will be required.)

LEGEND	ROCK TYPE
① 48" of 18" rock	A
② 36" of 18" rock	A
③ 30" of 12" rock	B
④ 18" of 6" rock	C

Source: ODOT Location and Design Manual, Rock Channel Protection at Culvert and Storm Sewer Outlets

Figure 4.4.1 Length of Rock Outlet Protection and Rock Size

6.6 Filter Sock

Description

Filter socks are sediment-trapping devices using compost inserted into a flexible, permeable tube with a pneumatic blower device or equivalent. Filter socks trap sediment by filtering water passing through the berm and allowing water to pond, creating a settling of solids.

Conditions where practice applies

Filter socks are appropriate for limited drainage areas, requiring sediment control where runoff is in the form of sheet flow or in areas that silt fence is normally considered acceptable. The use of filter socks is applicable to slopes up to 2:1 (H:V), around inlets, and in other disturbed areas of construction sites requiring sediment control. Filter socks also may be useful in areas, where migration of aquatic life such as turtles, salamanders and other aquatic life would be impeded by the use of silt fence.

Planning Considerations

Filter socks are sediment barriers, capturing sediment by ponding and filtering water through the device during rain events. They may be a preferred alternative where equipment may drive near or over sediment barriers, as they are not as prone to complete failure as silt fence if this occurs during construction. Driving over filter socks is not recommended; but if it should occur, the filter sock should be inspected immediately, repaired and moved back into place as soon as possible.

Design Criteria

Typically, filter socks can handle the same water flow or slightly more than silt fence. For most applications, standard silt fence is replaced with 12" diameter filter socks. However, proper installation is especially important for them to work effectively.

Materials – Compost/mulch used for filter socks shall be weed free and derived from a well-decomposed source of organic matter. The compost shall be produced using an aerobic composting process meeting CFR 503 regulations, including time and temperature data indicating effective weed seed, pathogen and insect larvae kill. The compost shall be free of any refuse, contaminants or other materials toxic to plant growth. Non-composted products are not acceptable.

Materials should meet the following requirements: pH between 5.0-8.0; 100% passing a 2" sieve and a minimum of 70% greater than the 3/8" sieve; moisture content is less than 60%; material shall be relatively free (<1% by dry weight) of inert or foreign man made materials.

Level Contour – Place filter socks on the level contour of the land so that flows are dissipated into uniform sheet flow. Flow coming to filter socks must not be concentrated and the filter sock should lie perpendicular to flows.

Flat Slopes – When possible, place filter socks at a 5' or greater distance away from the toe of the slopes in order for the water coming from the slopes to maximize space available for sediment deposit (see the illustration). When this is not possible due to construction limitations, additional filter socks may be required upslope of the initial filter sock (see the chart below for appropriate slope lengths and spacing).

Flow Around Ends – In order to prevent water flowing around the ends of filter socks, the ends of the filter socks must be constructed pointing upslope so the ends are at a higher elevation.

Vegetation – For permanent areas, seeding filter socks is recommended to establish vegetation directly in the sock and immediately in front and back of the sock at a distance of 5 feet. Vegetating on and around the filter socks will assist in slowing down water for filtration creating a more effective longer-term sediment control.

Drainage Area: Generally filter socks are limited to ¼ to ½ acre drainage area per 100 foot of the sediment barrier. Specific guidance is given in the chart below.

Table 6.6.1 Maximum Slope Length Above Filter Sock and Recommended Diameter

Slope	Ratio (H:V)	8"	12"	18"	24"
0% - 2%	10% - 20%	125	250	300	350
10% - 20%	50:1 - 10:1	100	125	200	250
2% - 10%	10:1 - 5:1	75	100	150	200
20% - 33%	5:1 - 2:1		50	75	100
>50%	>2:1		25	50	75

Note: For larger drainage areas, see standards for temporary diversions, sediment traps and sediment basins.

Dispersing flow – Sheet flow and runoff should not exceed berm height or capacity in most storm events. If overflow of the berm is a possibility, a larger filter sock should be installed or an alternative sediment control should be used.

Maintenance – Filter socks should be regularly inspected to make sure they hold their shape, are ponding, and allowing adequate flow through. If ponding becomes excessive, filter socks should be replaced. Used filter socks may be cut and the compost dispersed and seeded to prevent captured sediment from being resuspended.

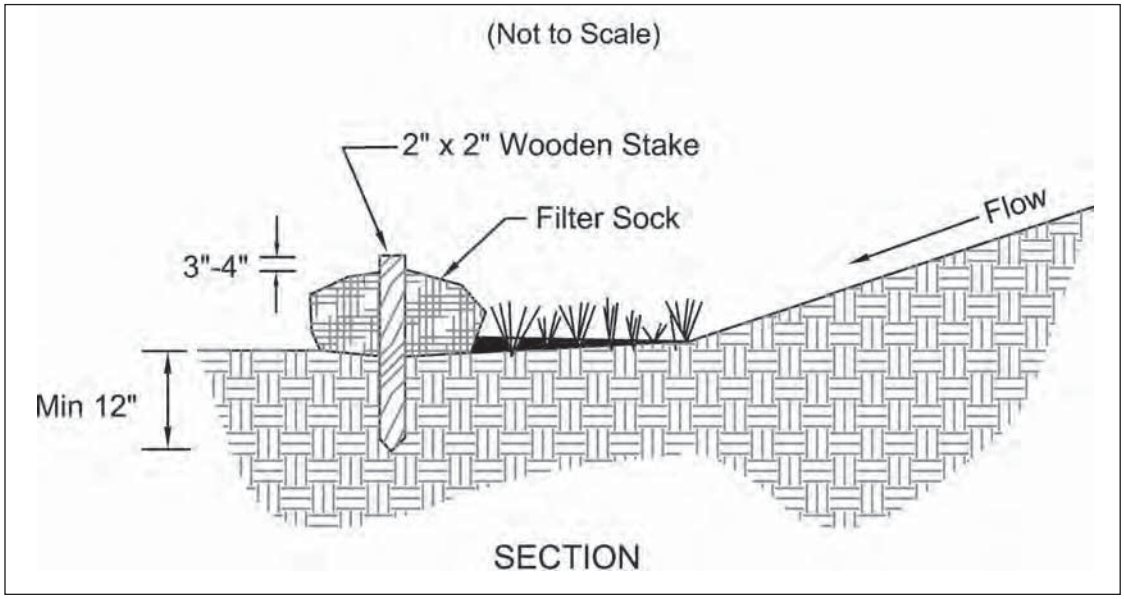
Removal – When construction is completed on site, the filter socks may be cut and dispersed with a loader, rake, bulldozer or other device to be incorporated into the soil or left on top of the soil for final seeding. The mesh netting material will be disposed of in normal trash container or removed by the contractor.

References

Standard Specification for Compost for Erosion/Sediment Control (Filter Berms) AASHTO Designation: MP-9 http://www.iaasla.org/NEWS/FILES/AASHTO-Filterberm6.doc

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.

7.8 Temporary Seeding

Description

Temporary seedings establish temporary cover on disturbed areas by planting appropriate rapidly growing annual grasses or small grains. Temporary seeding provides erosion control on areas in between construction operations. Grasses, which are quick growing, are seeded and usually mulched to provide prompt, temporary soil stabilization. It effectively minimizes the area of a construction site prone to erosion and should be used everywhere the sequence of construction operations allows vegetation to be established.

Conditions Where the Practice Applies

Temporary seeding should be applied on exposed soil where additional work (grading, etc.) is not scheduled for more than 21 days. Permanent seeding should be applied if the areas will be idle for more than one year.

Planning Considerations

This practice has the potential to drastically reduce the amount of sediment eroded from a construction site. Erosion control efficiencies greater than 90% will be achieved with proper applications of temporary seeding. Because practices used to trap sediment are usually much less effective, temporary seeding is to be use even on areas where runoff is treated by sediment trapping practices. Because temporary seeding is highly effective and practical on construction sites, its liberal use is highly recommended.

Design Criteria

Specifications follow these explanations of important aspects of temporary seeding.

Plant Selection: Select the plants appropriate from the table in the Specifications for Temporary seeding. Choose varieties of tall fescue that are endophyte free or have non-toxic endophytes. Seeding rates for dormant seedings are increased by 50 percent. More information on dormant seedings is given in the permanent seeding section.

The length of time the area will idle and the season in which seeding occurs should influence the selection of seeding species. For areas remaining idle for over a year, a mixture containing perennial ryegrass is recommended. Cereal grains (rye, oats and wheat) are included in some of the mixtures as cover crops. These are annual plants that will die after producing seed. Realize that oats will not over-winter and continue to grow as wheat and rye do.

Site preparation: Temporary seeding is best done on a prepared soil seedbed of loose pulverized soil. However, seedings should not be delayed, if additional grading operations are not possible. At a minimum, remove large rock or debris that will interfere with seeding operations. If the ground has become crusted, a disk or a harrow should be used to loosen the soil. Overall the best soil conditions will exist immediately after grading operations cease, when soils remain loose and moist.

Soil amendments: A soil test is necessary to adequately predict the need for lime and fertilizer. Seedings that are expected to be long lasting (over 1-3 months), should have lime and fertilizer applied as recommended by a soil test. In lieu of a soil test, fertilizer can be broadcast and worked into the top inch of soil at the rate of 6 pounds/1000 ft2 or 250 pounds per acre of 10-10-10 or 12-12-12.

Seeding Methods: Seed shall be applied uniformly with a cyclone spreader, drill, cultipacker seeder, or hydroseeder. When feasible, seed that has been broadcast shall be covered by raking or dragging and then lightly tamped into place using a roller or cultipacker. If hydroseeding is used, the seed and fertilizer will be mixed on-site and the seeding shall be done immediately and without interruption.

Maintenance

Areas failing to establish vegetative cover adequate to prevent erosion shall be reseeded as soon as such areas are identified.

Seeding performed during hot and dry summer months shall be watered at a rate of 1 inch per week.

Common Problems / Concerns

- Insufficient topsoil or inadequately tilled, limed, and/ or fertilized seedbed results in poor establishment of vegetation.
- An overly high seeding rate of nurse crop (oat, rye or wheat) in the seed mixture results in over competition with the perennials.
- Seeding outside of seeding dates results in poor vegetation establishment and a decrease in plant hardiness.
- An inadequate rate of mulch results in poor germination and failure.

Specifications
for

Temporary Seeding

Table 7.8.1 Temporary Seeding Species Selection

Lbs/Ac.	Botanical Name	Common Name
32	Avena sativa	Seed Oats
10	Lolium multiflorum	Annual Ryegrass

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

Specifications
for

Temporary Seeding

Mulching Temporary Seeding

1. Applications of temporary seeding shall include mulch, which shall be applied during or immediately after seeding. Seedings made during optimum seeding dates on favorable, very flat soil conditions may not need mulch to achieve adequate stabilization.

2. Materials:

- Straw—If straw is used, it shall be unrotted small-grain straw applied at a rate of 2 tons per acre or 90 lbs./ 1,000 sq. ft. (2-3 bales)
- Hydroseeders—If wood cellulose fiber is used, it shall be used at 2000 lbs./ ac. or 46 lb./ 1,000-sq.-ft.
- Other—Other acceptable mulches include mulch mattings applied according to manufacturer's recommendations or wood chips applied at 6 ton/ ac.

3. Straw Mulch shall be anchored immediately to minimize loss by wind or water. Anchoring methods:

- Mechanical—A disk, crimper, or similar type tool shall be set straight to punch or anchor the mulch material into the soil. Straw mechanically anchored shall not be finely chopped but left to a length of approximately 6 inches.
- Mulch Netting—Netting shall be used according to the manufacturers recommendations. Netting may be necessary to hold mulch in place in areas of concentrated runoff and on critical slopes.
- Synthetic Binders—Synthetic binders such as Acrylic DLR (Agri-Tac), DCA-70, Petroset, Terra Track or equivalent may be used at rates recommended by the manufacturer.
- Wood-Cellulose Fiber—Wood-cellulose fiber binder shall be applied at a net dry wt. of 750 lb./ac. The wood-cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 lb. / 100 gal.

7.9 Mulching

Description

A protective layer of mulch, usually of straw, applied to bare soil is used to abate erosion by shielding it from raindrop impact. Mulch also helps establish vegetation by conserving moisture and creating favorable conditions for seeds to germinate.

Conditions Where Practice Applies

Mulch should be used liberally throughout construction to limit the areas that are bare and susceptible to erosion. Mulch can be used in conjunction with seeding to establish vegetation or by itself to provide erosion control when the season does not allow grass to grow. Mulch and other vegetative practices must be applied on all disturbed portions of construction-sites that will not be re-disturbed for more than 21 days.

Design Criteria

See specifications for Mulching.

Maintenance

Additional mulching is necessary to cover exposed soil conditions when observed during routine maintenance inspections.

Common Problems / Concerns

The application of synthetic binders must be conducted in such a manner as to not be introduced into watercourses.

Weather considerations must be addressed to ensure the application of synthetic binders are not washed away and introduced into watercourses.

The use of a mulch cover is not recommended for areas, which will exhibit higher velocities than 3.5 feet/second. An erosion control matting is recommended for areas which will exhibit higher velocities.

Areas which have been mulched should be inspected and maintained if necessary every 7 days or within 24 hours of a rain event greater than or equal to 0.5 inches to ensure adequate protection.

Specifications
for

Mulching

1. Mulch and other appropriate vegetative practices shall be applied to disturbed areas within 7 days of grading if the area is to remain dormant (undisturbed) for more than 21 days or on areas and portions of the site which can be brought to final grade.
2. Mulch shall consist of one of the following:

- Straw - Straw shall be unrotted small grain straw applied at the rate of 2 tons/ac. or 90 lb./1,000 sq. ft. (two to three bales). The straw mulch shall be spread uniformly by hand or mechanically so the soil surface is covered. For uniform distribution of hand-spread mulch, divide area into approximately 1,000 sq.ft. sections and place two 45-lb. bales of straw in each section.
- Hydroseeders - Wood cellulose fiber should be used at 2,000 lb./ac. or 46 lb./1,000 sq. ft.
- Other - Acceptable mulches include mulch mattings and rolled erosion control products applied according to manufacturer's recommendations or wood mulch/chips applied at 10-20 tons/ac.

3. Mulch Anchoring - Mulch shall be anchored immediately to minimize loss by wind or runoff. The following are acceptable methods for anchoring mulch.

- Mechanical - Use a disk, crimper, or similar type tool set straight to punch or anchor the mulch material into the soil. Straw mechanically anchored shall not be finely chopped but be left generally longer than 6 inches.
- Mulch Nettings - Use according to the manufacturer's recommendations, following all placement and anchoring requirements. Use in areas of water concentration and steep slopes to hold mulch in place.
- Synthetic Binders - For straw mulch, synthetic binders such as Acrylic DLR (Agri-Tac), DCA-70, Petroset, Terra Tack or equal may be used at rates recommended by the manufacturer. All applications of Sythetic Binders must be conducted in such a manner where there is no contact with waters of the state.
- Wood Cellulose Fiber - Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 lb./acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 lb./100 gal. of wood cellulose fiber.

7.10 Permanent Seeding

Description

Perennial vegetation is established on areas that will not be re-disturbed for periods longer than 12 months. Permanent seeding includes site preparation, seedbed preparation, planting seed, mulching, irrigation and maintenance.

Permanent vegetation is used to stabilize soil, reduce erosion, prevent sediment pollution, reduce runoff by promoting infiltration, and provide stormwater quality benefits offered by dense grass cover.

Conditions Where Practice Applies

Permanent seeding should be applied to:

- Any disturbed areas or portions of construction sites at final grade. Permanent seeding should not be delayed on any one portion of the site at final grade while construction on another portion of the site is being completed. Permanent seeding shall be completed in phases, if necessary.
- Areas subject to grading activities but will remain dormant for a year or more.

Planning Considerations

Vegetation controls erosion by reducing the velocity and the volume of overland flow and protects bare soil surface from raindrop impact. A healthy, dense turf promotes infiltration and reduces the amount of runoff. The establishment of quality vegetation requires selection of the right plant materials for the site, adequate soil amendments, careful seedbed preparation, and maintenance.

Soil Compaction— Storm water quality and the amount of runoff both vary significantly with soil compaction. Non-compacted soils improve stormwater infiltration by promoting:

- dense vegetative growth;
- high soil infiltration & lower runoff rates;
- pollutant filtration, deposition & absorption; and
- beneficial biologic activity in the soil.

Construction activity creates highly compacted soils that restrict water infiltration and root growth. The best time for improving soil condition is during the establishment of permanent vegetation. It is highly recommended that subsoilers, plows, or other implements are specified as part of final seedbed preparation. Use discretion in slip-prone areas.

Minimum Soil Conditions— Vegetation cannot be expected to stabilize soil that is unstable due to its texture, structure, water movement or excessively steep slope. The following minimum soil conditions are needed for the establishment and maintenance of a long-lived vegetative cover. If these conditions cannot be met, see the standards and specifications for Topsoiling.

- Soils must include enough fine-grained material to hold at least a moderate amount of available moisture.
- The soil must be free from material that is toxic or otherwise harmful to plant growth.

Design Criteria

See specifications for permanent seeding below.

Maintenance

1. Expect emergence within 4 to 28 days after seeding, with legumes typically following grasses. Check permanent seedlings within 4 to 6 weeks after planting. Look for:
   - Vigorous seedlings;
   - Uniform ground surface coverage with at least 30% growth density;
   - Uniformity with legumes and grasses well intermixed;
   - Green, not yellow, leaves. Perennials should remain green throughout the summer, at least at the plant bases.

2. Permanent seeding shall not be considered established for at least 1 full year from the time of planting. Inspect the seeding for soil erosion or plant loss during this first year. Repair bare and sparse areas. Fill gullies. Re-fertilize, re-seed, and re-mulch if required. Consider no-till planting. A minimum of 70% growth density, based on a visual inspection, must exist for an adequate permanent vegetative planting.

- If stand is inadequate or plant cover is patchy, identify the cause of failure and take corrective action: choice of plant materials, lime and fertilizer quantities, poor seedbed preparation, or weather. If vegetation fails to grow, have the soil tested to determine whether pH is in the correct range or nutrient deficiency is a problem.
- Depending on stand conditions, repair with complete seedbed preparation, then over-seed or re-seed.
- If it is the wrong time of year to plant desired species, over-seed with small grain cover crop to thicken the stand until timing is right to plant perennials or use temporary seeding. See Temporary Seeding standard.

Specifications
for

Permanent Seeding

Site Preparation

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

Seedbed Preparation

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

Seeding Dates and Soil Conditions

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

Dormant Seedings

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

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

Mulching

1. Mulch material shall be applied immediately after seeding. Dormant seeding shall be mulched. 100% of the ground surface shall be covered with an approved material.
2. Materials

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

3. Straw and Mulch Anchoring Methods

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

- Mechanical—A disk, crimper, or similar type tool shall be set straight to punch or anchor the mulch material into the soil. Straw mechanically anchored shall not be finely chopped but, generally, be left longer than 6 inches.
- Mulch Netting—Netting shall be used according to the manufacturer's recommendations. Netting may be necessary to hold mulch in place in areas of concentrated runoff and on critical slopes.
- Asphalt Emulsion—Asphalt shall be applied as recommended by the manufacture or at the rate of 160 gallons per acre.
- Synthetic Binders—Synthetic binders such as Acrylic DLR (Agri-Tac), DCA-70, Petroset, Terra Tack or equivalent may be used at rates specified by the manufacturer.
- Wood Cellulose Fiber—Wood cellulose fiber shall be applied at a net dry weight of 750 pounds per acre. The wood cellulose fiber shall be mixed with water with the mixture containing a maximum of 50 pounds cellulose per 100 gallons of water.

Irrigation

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

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

AEP PERMANENT SEED MIXES

Slope Stability & Natural Corridors Seed Mix

Temporary Matrix		
oz/ac	Grasses	
512	*Avena sativa*	Seed Oats
160	*Lolium multiflorum*	Annual Ryegrass
Permanent Matrix		
oz/acre	Grasses	
16	*Andropogon gerardii*	Big Bluestem
16	*Bouteloua curtipendula*	Side-Oats Grama
48	*Elymus canadensis*	Canada Wild Rye
48	*Elymus virginicus*	Virginia Wild Rye
32	*Schizachyrium scoparium*	Little Bluestem
16	*Sorghastrum nutans*	Indian Grass
oz/acre	Forbs	
1	*Monarda fistulosa*	Bergamot
2	*Coreopsis lanceolata*	Lanceleaf coreopis
4	*Rudbecka hirta*	Black-eyed Susan
2	*Solidago nemoralis*	Grey Goldenrod
2	*Solidago speciosa*	Showy Goldenrod

Lawn Mix – Sun to partial shade

lbs/acre	Grasses	
20	*Lolium multiflorum*	Annual Ryegrass
100	*Poa pratensis*	Kentucky Bluegrass
100	*Lolium perenne*	Perennial Ryegrass

Lawn Mix –Shade

lbs/acre	Grasses	
20	*Lolium multiflorum*	Annual Ryegrass
100	*Poa pratensis*	Kentucky Bluegrass
100	*Festuca rubra*	Creeping Red Fescue

Swale and Retention Area Seed Mix

Temporary Matrix		
oz/ac	Grasses	
512	*Avena sativa*	Seed Oats
160	*Lolium multiflorum*	Annual Ryegrass
Permanent Matrix		
oz/acre	Grasses	
8	*Carex frankii*	Frank's Sedge
2	*Eleocharis obtusa*	BluntSpike Rush
8	*Carex vulpinoidea*	Fox Sedge
32	*Panicum virgatum*	Switchgrass
2	*Scirpus acutus*	Hard Stem Rush
oz/acre	Forbs	
2	Asclepias incarnata	Swamp milkweed
2	Aster novae-angliae	New England Aster
2	Eupatorium perfoliatum	Boneset
1	Helenium autumnale	Autumn Sneezeweed
2	Monarda fistulosa	Bergamot
2	Ratibida pinnata	Yellow Coneflower
2	Rudbeckia subtomentosa	Sweet Black-Eyed Susan

Farm Lane Area Seed Mix

Temporary Matrix		
oz/ac	Grasses	
512	*Avena sativa*	Seed Oats
160	*Lolium multiflorum*	Annual Ryegrass
Permanent Matrix		
oz/acre		
64	*Trifolium pratense*	Red Clover
32	*Trifolium repens*	White Clover

Concrete Washout

Concrete washout *areas are designated locations within a construction site that are either a prefabricated unit or a designed measure that is constructed to contain concrete washout. Concrete washout systems are typically used to contain washout water when chutes and hoppers are rinsed following delivery.*

Purpose

Concrete washout systems are implemented to reduce the discharge of pollutants that are associated with concrete washout waste through consolidation of solids and retention of liquids. Uncured concrete and associated liquids are highly alkaline which may leach into the soil and contaminate ground water or discharge to a waterbody or wetland which can elevate the pH and be harmful to aquatic life. Performing concrete washout in designated areas and into specifically designed systems reduces the impact concrete washout will have on the environment.

Specifications

Site Management

- Complete construction/installation of the system and have washout locations operational prior to concrete delivery.
- Do not wash out concrete trucks or equipment into storm drains, wetlands, streams, rivers, creeks, ditches, or streets.
- Never wash out into a storm sewer drainage system. These systems are typically connected to a natural conveyance system.
- Where necessary, provide stable ingress and egress (see **Temporary Construction Ingress/Egress Pad** on page 17).
- It is recommended that washout systems be restricted to washing concrete from mixer and pump trucks and not used to dispose of excess concrete or

residual loads due to potential to exceed the design capacity of the washout system. Small amounts of excess or residual concrete (not washout water) may be disposed of in areas that will not result in flow to an area that is to be protected.

- Install systems at strategic locations that are convenient and in close proximity to work areas and in sufficient number to accommodate the demand for disposal.
- Install signage identifying the location of concrete washout systems.

Location

- Locate concrete washout systems at least 50 feet from any creeks, wetlands, ditches, karst features, or storm drains/manmade conveyance systems.
- To the extent practical, locate concrete washout systems in relatively flat areas that have established vegetative cover and do not receive runoff from adjacent land areas.
- Locate in areas that provide easy access for concrete trucks and other construction equipment.
- Locate away from other construction traffic to reduce the potential for damage to the system.

General Design Considerations

- The structure or system shall be designed to contain the anticipated washout water associated with construction activities.
- The system shall be designed, to the extent practical, to eliminate runoff from entering the washout system.
- Runoff from a rainstorm or snowmelt should not carry wastes away from the washout location.
- Washout will not impact future land uses (i.e., open spaces, landscaped areas, home sites, parks).
- Washout systems/containment measures may also be utilized on smaller individual building sites. The design and size of the system can be adjusted to accommodate the expected capacity.

Prefabricated Washout Systems/Containers

- Self-contained sturdy containment systems that are delivered to a site and located at strategic locations for concrete disposal.

- These systems are manufactured to resist damage from construction equipment and protect against leaks or spills.
- Manufacturer or supplier provides the containers. The project site manager maintains the system or the supplier provides complete service that includes maintenance and disposal.
- Units are often available with or without ramps. Units with ramps lend themselves to accommodate pump trucks.
- Maintain according to the manufacturer's recommendations.

Designed and Installed Units

These units are designed and installed on site. They tend to be less reliable than prefabricated systems and are often prone to failure. Concrete washout systems can be constructed above or below grade. It is not uncommon to have a system that is partly below grade with an additional containment structure above grade.

- Washout systems shall utilize a pit or bermed area designed and maintained at a capacity to contain all liquid and concrete waste generated by washout operations.
- The volume of the system must also be designed to contain runoff that drains to the system and rainfall that enters the system for a two-year frequency, 24-hour storm event.

■ Below Grade System

- ♦ A washout system installed below grade should be a minimum of ten feet wide by ten feet long, but sized to contain all liquid and waste that is expected to be generated between scheduled cleanout periods. The size of the pit may be limited by the size of polyethylene available. The polyethylene lining should be of adequate size to extend over the entire excavation.
- ♦ Include a minimum 12-inch freeboard to reasonably ensure that the structure will not overtop during a rain event.
- ♦ Line the pit with ten millimeter polyethylene lining to control seepage.
- ♦ The bottom of excavated pit should be above the seasonal high water table.

■ Above Grade System

- ♦ A system designed and built above grade should be a minimum of ten feet wide by ten feet long, but sized to contain all liquid and waste that is expected to be generated between scheduled cleanout periods. The size of the containment system may be limited by the size of

polyethylene available. The polyethylene lining should be of adequate size to extend over the berm or containment system.

- The system design may utilize an earthen berm, straw bales, sandbags, or other acceptable barriers that will maintain its shape and integrity and support the polyethylene lining.
- Include a minimum four-inch freeboard as part of the design.

Washout Procedures

- Do not leave excess mud in the chutes or hopper after the pour. Every effort should be made to empty the chutes and hopper at the pour. The less material left in the chutes and hopper, the quicker and easier the cleanout. Small amounts of excess concrete (not washout water) may be disposed of in areas that will not result in flow to an area that is to be protected.
- At the washout location, scrape as much material from the chutes as possible before washing them. Use non-water cleaning methods to minimize the chance for waste to flow off site.
- Remove as much mud as possible when washing out.
- Stop washing out in an area if you observe water running off the designated area or if the containment system is leaking or overflowing and ineffective.
- Do not back flush equipment at the project site. Back flushing should be restricted to the plant as it generates large volumes of waste that more than likely will exceed the capacity of most washout systems. If an emergency arises, back flush should only be performed with the permission of an on-site manager for the project.
- Do not use additives with wash water. Do not use solvents or acids that may be used at the target plant.

Materials

- Minimum of ten millimeter polyethylene sheeting that is free of holes, tears, and other defects. The sheeting selected should be of an appropriate size to fit the washout system without seams or overlap of the lining **(designed and installed systems)**.
- Signage.
- Orange safety fencing or equivalent.
- Straw bales, sandbags (bags should be ultraviolet-stabilized geotextile fabric), soil material, or other appropriate materials that can be used to construct a containment system **(above grade systems)**.

- Metal pins or staples at a minimum of six inches in length, sandbags, or alternative fastener to secure polyethylene lining to the containment system.
- Non-collapsing and non-water holding cover for use during rain events (optional).

Installation

Prefabricated Washout Systems/Containers

- Install and locate according to the manufacturer's recommendations.

Designed and Installed Systems

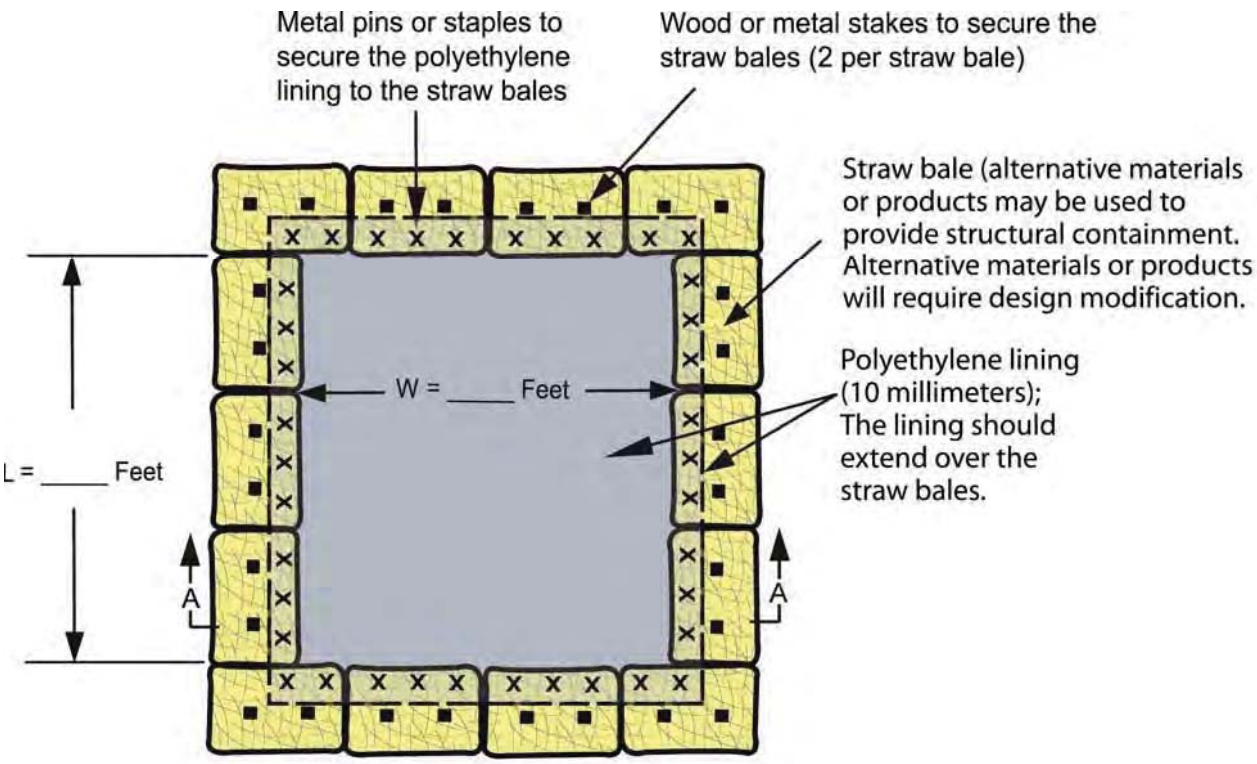
- Utilize and follow the design in the storm water pollution prevention plan to install the system.
- Dependent upon the type of system, either excavate the pit or install the containment system.
- A base shall be constructed and prepared that is free of rocks and other debris that may cause tears or punctures in the polyethylene lining.
- Install the polyethylene lining. For excavated systems, the lining should extend over the entire excavation. The lining for bermed systems should be installed over the pooling area with enough material to extend the lining over the berm or containment system. The lining should be secured with pins, staples, or other fasteners.
- Place flags, safety fencing, or equivalent to provide a barrier to construction equipment and other traffic.
- Place a non-collapsing, non-water holding cover over the washout facility prior to a predicted rainfall event to prevent accumulation of water and possible overflow of the system (optional).
- Install signage that identifies concrete washout areas.
- Post signs directing contractors and suppliers to designated locations.
- Where necessary, provide stable ingress and egress (see **Temporary Construction Ingress/Egress Pad** on page 17) or alternative approach pad for concrete washout systems.

Maintenance

- Inspect daily and after each storm event.
- Inspect the integrity of the overall structure including, where applicable, the containment system.
- Inspect the system for leaks, spills, and tracking of soil by equipment.
- Inspect the polyethylene lining for failure, including tears and punctures.
- Once concrete wastes harden, remove and dispose of the material.
- 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 the structure. Prefabricated systems should also utilize this criterion, unless the manufacturer has alternate specifications.
- Upon removal of the solids, inspect the structure. Repair the structure as needed or construct a new system.
- Dispose of all concrete in a legal manner. Reuse the material on site, recycle, or haul the material to an approved construction/demolition landfill site. Recycling of material is encouraged. The waste material can be used for multiple applications including but not limited to roadbeds and building. The availability for recycling should be checked locally.
- The plastic liner should be replaced after every cleaning; the removal of material will usually damage the lining.
- The concrete washout system should be repaired or enlarged as necessary to maintain capacity for concrete waste.
- Concrete washout systems are designed to promote evaporation. However, if the liquids do not evaporate and the system is near capacity it may be necessary to vacuum or remove the liquids and dispose of them in an acceptable method. Disposal may be allowed at the local sanitary sewer authority provided their National Pollutant Discharge Elimination System permits allow for acceptance of this material. Another option would be to utilize a secondary containment system or basin for further dewatering.
- Prefabricated units are often pumped and the company supplying the unit provides this service.
- Inspect construction activities on a regular basis to ensure suppliers, contractors, and others are utilizing designated washout areas. If concrete waste is being disposed of improperly, identify the violators and take appropriate action.

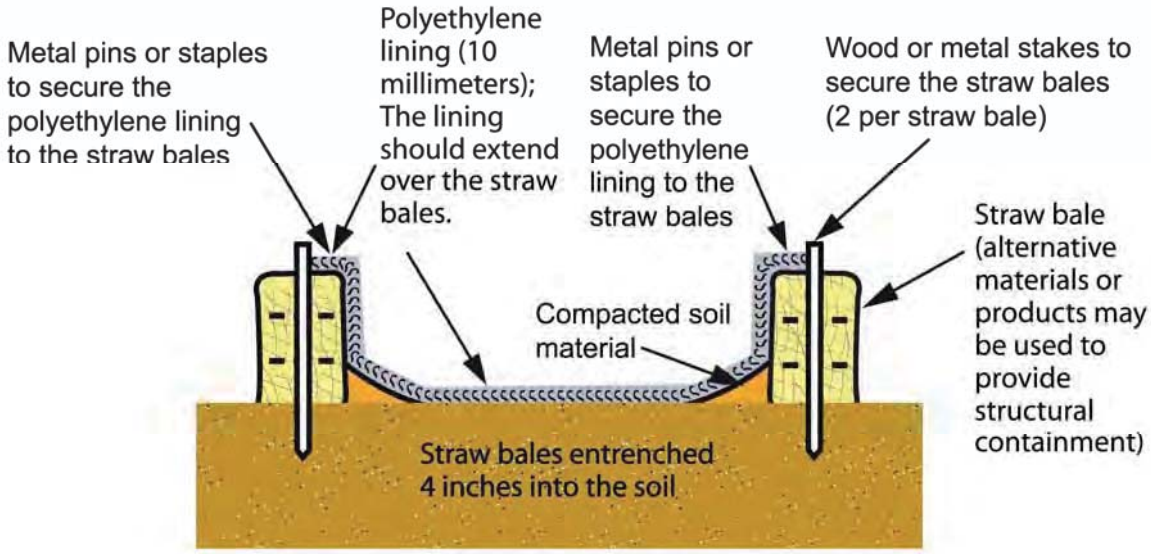
- When concrete washout systems are no longer required, the concrete washout systems shall be closed. Dispose of all hardened concrete and other materials used to construct the system.
- Holes, depressions and other land disturbances associated with the system should be backfilled, graded, and stabilized.

Concrete Washout (Above Grade System) Worksheet



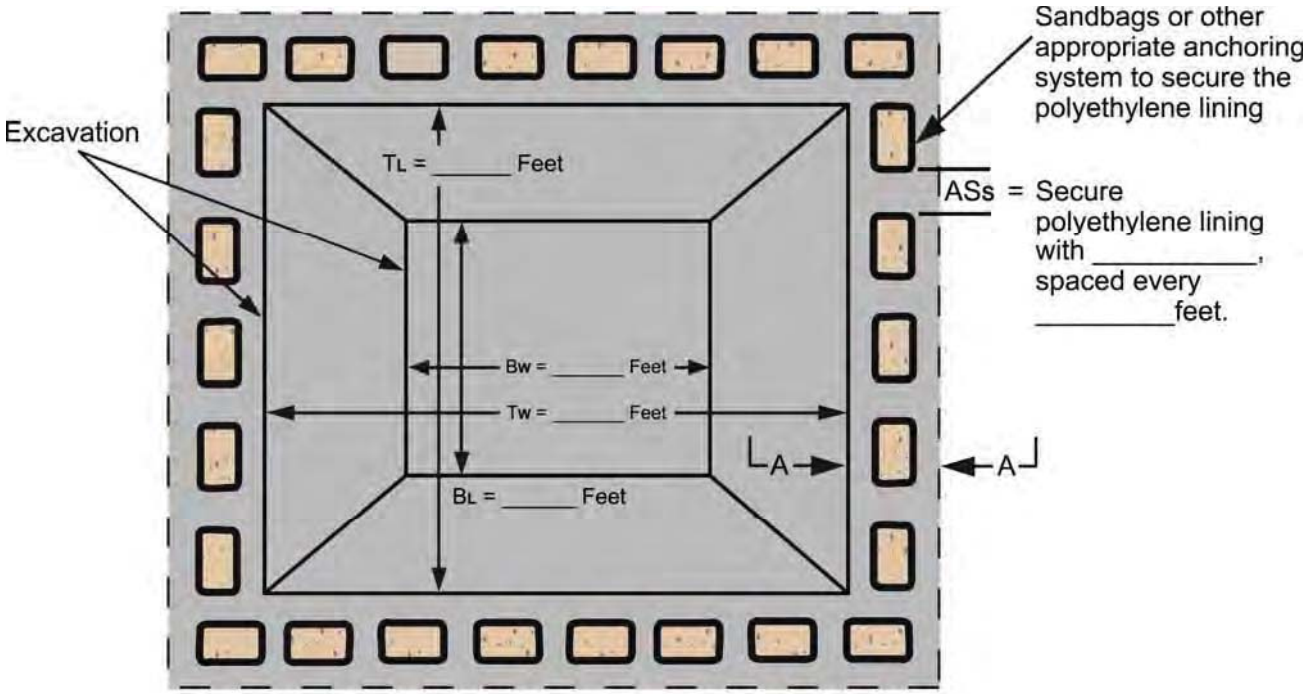
L = inside length
W = inside width

Plan View
Not to Scale



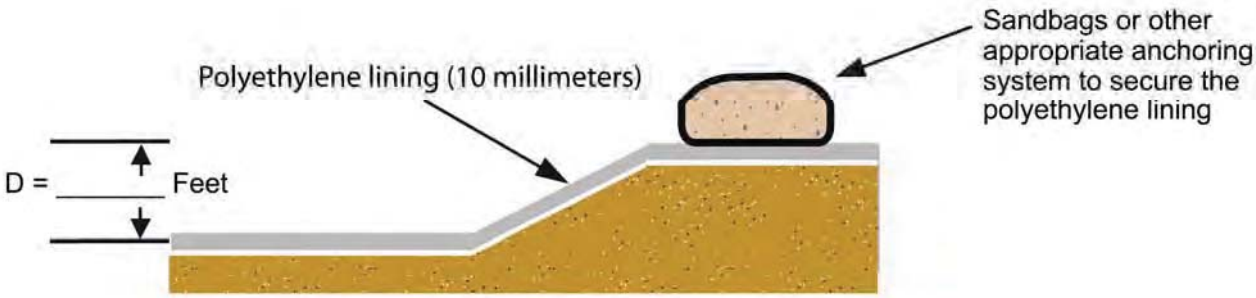
Section A-A
Not to scale

Concrete Washout (Below Grade System) Worksheet



TL = Top Length of Excavation
BL = Bottom Length of Excavation
Tw = Top Width of Excavation
Bw = Bottom Width of Excavation
ASs = Anchoring System type and spacing

Plan View
Not to Scale



Section A-A
Not to Scale

APPENDIX 3

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

AEP OHIO TRANSMISSION COMPANY, INC.
CONESVILLE 345kV STATION EXPANSION 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.
CONESVILLE 345kV STATION EXPANSION 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. CONESVILLE 345kV STATION EXPANSION 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. CONESVILLE 345kV STATION EXPANSION 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. Conesville 345kV Station Expansion 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

Construction Plans and Specifications

AMERICAN ELECTRIC POWER
CONESVILLE PLANT STATION EXPANSION

COUNTY ROAD 273
CONESVILLE, OH 43811

LOCATED IN
THE THIRD QUARTER OF T-4, R-6,
OF THE UNITED STATES MILITARY LANDS,
TOWNSHIP OF FRANKLIN,
COUNTY OF COSHOCTON,
STATE OF OHIO

DRAWING INDEX:

E-1210	COVER SHEET	SHEET 1 OF 8
E-1211	EXISTING CONDITIONS	SHEET 2 OF 8
E-1212	DEMOLITION PLAN	SHEET 3 OF 8
E-1213	SITE DIMENSION PLAN	SHEET 4 OF 8
E-1214	GRADING / EROSION & SEDIMENT CONTROL PLAN	SHEET 5 OF 8
E-1215	STATION CROSS SECTIONS AND DETAILS	SHEET 6 OF 8
E-1216	EROSION & SEDIMENT CONTROL DETAILS - SHEET 1	SHEET 7 OF 8
E-1217	EROSION & SEDIMENT CONTROL DETAILS - SHEET 2	SHEET 8 OF 8

OWNER / APPLICANT:

AMERICAN ELECTRIC POWER
8600 SMITH MILLS ROAD
NEW ALBANY, OHIO 43054
CIVIL ENGINEER: DYLAN THOMPSON
380-205-5134 OFFICE
DMTHOMPSON@AEP.COM

SURVEY:

BAIR, GOODIE AND ASSOCIATES, INC.
153 NORTH BROADWAY STREET
NEW PHILADELPHIA, OHIO 44663

BENCHMARKS:

BM-1
TOP OF CONCRETE MARKED "X"
ELEV.: 739.36'
NORTHING: 188,730'
EASTING: 2,142,196'

GEOTECHNICAL REPRESENTATIVE:

S&ME, INC.
6190 ENTERPRISE COURT
DUBLIN, OHIO 43016
614-793-2226 OFFICE

FLOODPLAIN NOTE:

SUBJECT PROPERTY IS LOCATED IN ZONE X (AREAS OF 0.2% ANNUAL CHANCE FLOOD) AND ZONE AE (SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD, BASE FLOOD ELEVATIONS DETERMINED) IN ACCORDANCE WITH THE FEMA FLOOD INSURANCE RATE MAP: COSHOCTON COUNTY, OHIO (AND INCORPORATED AREAS), PANEL 345 OF 405, MAP NUMBER: 39031C0345C, EFFECTIVE DATE: MARCH 2, 2010.

LOCATION MAP

0 1/2 1

SCALE: 1" = 1/2 MILE

WO # 42727508

AMERICAN ELECTRIC POWER℠

GENERAL NOTES:

(1.) All work shall be performed in accordance with the appropriate articles of the AEP "Technical Specification for Substation and Switching Station Construction" #SS-160102 (Specification) and "Site Preparation Guidelines" #SS-710000.

(2.) The Cut and Fill Earthwork Quantities shown below reflect the minimum earthwork required. This calculation does not include 4" of #57 stone above the station pad or the removal of topsoil. The actual depth of stripping may increase under the station pad depending on site conditions.

(3.) All soft, wet, organic, or otherwise unsuitable material shall be removed and replaced in accordance with the Specification.

(4.) The elevations shown for all graded areas are final elevations (top of pad #57). The contour interval shown is one foot.

(5.) All disturbed areas that will not be stoned shall be seeded in accordance with the Specification.

(6.) Side slopes shall have a maximum gradient of three horizontal to one vertical unless otherwise noted.

(7.) The station pad area shall be covered with 8 inches of ODOT #304 aggregate to 5 feet outside the station fence followed by 4" of #57 stone to 4' outside the station fence.

(8.) All trees and shrubs located within the construction limits shall be removed. Trees and shrubs are not shown on the grading plan for clarity.

(9.) All debris shall be removed from the site.

(10.) All grading work shall be within property lines or the right of way line. Do not disturb adjacent properties.

(11.) Contractor is responsible for construction and maintenance of all erosion control measures.

(12.) Contractor initiated changes shall be submitted in writing to the owners representative for approval prior to fabrication or construction.

(13.) Scales as noted on the details are shown for 30"x46" size sheets.

(14.) Locations of all existing utilities shown on the plan are approximate. Contractor shall verify all existing utility locations prior to construction. Repair of any damaged utility shall be the responsibility of the contractor. Prior to excavation work, contractor shall have all utilities marked in the field.

CONSTRUCTION LIMIT AREA / DISTURBED AREA = 1.89 ACRES (82,542 SQ. FT)
STATION PAD AREA = 0.33 ACRES (14,239 SQ. FT.)

ESTIMATED QUANTITIES:

CONTRACTOR SHALL VERIFY ALL QUANTITIES DURING BID PHASE

EARTHWORK:	
AREA OF DISTURBANCE	1.89 AC.
CLEARING AND GRUBBING	0.86 AC.
TOPSOIL REMOVAL (ASSUMED 6" THICK)	700 C.Y.
TOPSOIL PLACEMENT (4" TO BE SPREAD IN AREAS TO BE SEEDED)	120 C.Y.
TOPSOIL (EXCESS)	580 C.Y.
FILL* (DOES NOT INCLUDE COMPACTION)	3,600 C.Y.
CUT* (DOES NOT INCLUDE SWELL FACTOR)	100 C.Y.

**CUT / FILL QUANTITIES DO NOT INCLUDE STRIPPING OR PLACEMENT OF TOPSOIL.*

MATERIALS:	
ODOT #304 AGGREGATE, 8" THICK FOR STATION PAD	700 TONS
AASHTO #57 WASHED LIMESTONE, 4" THICK FOR STATION PAD	270 TONS
ODOT TYPE D RIPRAP	460 TONS
CHAIN LINK FENCE & APPURTENANCES (EXPANSION AREAS ONLY)	375 LIN. FT.
SEEDING & MULCHING	0.21 AC.
FILTER SOCK (12"Ø MIN.)	570 LIN. FT.
8" Ø PLASTIC FLOWPIPE EXTENSION	67 LIN. FT.
30" Ø CONCRETE FLOWPIPE EXTENSION	74 LIN. FT.
8" Ø STEEL FLOWPIPE EXTENSION	85 LIN. FT.
24" Ø CONCRETE FLOWPIPE EXTENSION	86 LIN. FT.
TEMPORARY SHEET PILE WALL	60 LIN. FT.

DRAWING INDEX

COVER SHEET E-1210
EXISTING CONDITIONS E-1211
DEMOLITION PLAN E-1212
SITE DIMENSION PLAN E-1213
GRADING / EROSION & SEDIMENT CONTROL PLAN E-1214
STATION CROSS SECTIONS AND DETAILS E-1215
EROSION AND SEDIMENT CONTROL DETAILS - SHEET 1 ..... E-1216
EROSION AND SEDIMENT CONTROL DETAILS - SHEET 2 ..... E-1217

STATE OF OHIO JOHN M. PELTZ 63939

7/22/20

ISSUED FOR CONSTRUCTION
07/22/2020

BAIR, GOODIE AND ASSOCIATES, INC.
153 NORTH BROADWAY STREET
NEW PHILADELPHIA, OH 44663
TEL: 330.343.5489 FAX: 330.343.9565
WWW.BAIRGOODIE.COM

UNDER GROUND UTILITIES
TWO WORKING DAYS
CALL BEFORE YOU DIG
Call 800-362-2764 (Toll Free)
OHIO UTILITIES PROTECTION SERVICE

OLD DWG # | STD DWG #

"THIS DRAWING IS THE PROPERTY OF AMERICAN ELECTRIC POWER AND IS CONSIDERED CONFIDENTIAL. THIS DRAWING MAY NOT BE DISTRIBUTED OR REPRODUCED, IN WHOLE OR IN PART, OR USED FOR OTHER THAN THE INTENDED PURPOSE WITHOUT THE WRITTEN CONSENT OF AMERICAN ELECTRIC POWER, OR FOR ANY PURPOSE DETRIMENTAL TO AMERICAN ELECTRIC POWER."

OHIO POWER COMPANY
CONESVILLE PLANT
CONESVILLE OHIO
138/69/34.5 KV
COVER SHEET

SCALE: 1" = 30'	DR: DB/BGA	ENG: JP/BGA	CH: JP/BGA
1 RIVERSIDE PLAZA COLUMBUS, OH 43215	WO#: 42727508	APPD: JP/BGA	DATE: 07/22/2020
	DWG. NO.: E-1210	REV. NO.: 0	

NO	DATE	REVISION DESCRIPTION	APPR	DR	ENG	CK	ISSUE#

SURVEY CONTROL POINT DATA

POINT NO	DESCRIPTION	NORTHING	EASTING	ELEVATION
BM 1	TOP OF CONCRETE EMARKED "X"	887.00'	2143.66'	759.38'

LEGEND - EXISTING FEATURES

- EXISTING OVERHEAD LINE
- EXISTING POWER POLE
- GUY ANCHOR
- 4-LEG LATTICE TOWER
- LIGHT POLE
- BUILDING
- FENCE
- CORNER POST
- GATE
- GATE POST
- STATION FOUNDATION LOCATION
- TOP OF CONCRETE ELEVATION
- STATION ATTACHMENT LOCATION / ELEVATION
- CULVERT
- FLOWLINE
- CORRUGATED METAL PIPE
- CONCRETE PIPE
- STEEL PIPE
- PLASTIC PIPE
- MANHOLE
- UNDERGROUND STORM SEWER
- UNDERGROUND FIBER LINE
- UNDERGROUND FIBER LINE MARKER
- UNDERGROUND FIBER BOX
- UNDERGROUND ELECTRIC LINE
- UNDERGROUND WATER LINE
- UNDERGROUND DIESEL LINE
- UNKNOWN UNDERGROUND CABLE
- FUEL OIL TANK
- MONITORING WELL
- EDGE OF WATER
- 1 FT CONTOUR
- 5 FT CONTOUR
- BM-1 BENCHMARK
- RIPRAP

LEGEND - FEMA FLOOD INSURANCE RATE MAP FEATURES

ZONE X — **ZONE X - OTHER FLOOD AREAS**
AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD.

ZONE AE — **ZONE AE - SPECIAL FLOOD HAZARD AREA**
SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD; BASE FLOOD ELEVATIONS DETERMINED.

LEGEND - SOIL TYPES

Ug - Udorthents , loamy

NOTES

1.) BEARINGS ARE ORIENTED TO THE STATE PLANE COORDINATE SYSTEM, OHIO NORTH (3401) HORIZONTAL DATUM: NAD83 (2011); VERTICAL DATUM: NAVD88.

2.) UTILITIES LOCATED IN THE FIELD BY OBSERVED EVIDENCE COMBINED WITH SOURCE INFORMATION FROM PLANS AND MARKINGS (IF PROVIDED), HOWEVER, LACKING EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE ACCURATELY, COMPLETELY, AND RELIABLY DEPICTED. IN ADDITION, IN SOME JURISDICTIONS, 811 OR OTHER SIMILAR UTILITY LOCATE REQUESTS FROM SURVEYORS MAY BE IGNORED OR RESULT IN AN INCOMPLETE RESPONSE.

3.) DOCUMENTS USED: TAX MAPS, RECORDS AS NOTED AND PLATS OF SURVEYS.

4.) SUBJECT PROPERTY IS LOCATED IN ZONE X (AREAS OF 0.2% ANNUAL CHANCE FLOOD) AND ZONE AE (SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD. BASE FLOOD ELEVATIONS DETERMINED) IN ACCORDANCE WITH THE FEMA FLOOD INSURANCE RATE MAP COSHOCTON COUNTY, OHIO (AND INCORPORATED AREAS), PANEL 345 OF 405, MAP NUMBER: 39031C0285C, EFFECTIVE DATE: MARCH 2, 2010.

5.) IF ANY ADDITIONAL PIPES ARE FOUND DURING CONSTRUCTION ACTIVITIES, CONTRACTOR MUST NOTIFY AN AEP REPRESENTATIVE IMMEDIATELY.

DRAWING INDEX

COVER SHEET E-1210
EXISTING CONDITIONS E-1211
DEMOLITION PLAN E-1212
SITE DIMENSION PLAN E-1213
GRADING / EROSION & SEDIMENT CONTROL PLAN E-1214
EROSION AND SEDIMENT CONTROL DETAILS - SHEET 1 ..... E-1215
EROSION AND SEDIMENT CONTROL DETAILS - SHEET 2 ..... E-1216
EROSION AND SEDIMENT CONTROL DETAILS - SHEET 2 ..... E-1217

BAIR, GOODE AND ASSOCIATES, INC.
153 NORTH BROADWAY STREET
NEW PHILADELPHIA, OH 44663
TEL: 330.343.5489 FAX: 330.343.9565
WWW.BAIRGOODE.COM

UNDER GROUND UTILITIES
TWO WORKING DAYS
CALL BEFORE YOU DIG
Call 800-362-2764 (Toll Free)
OHIO UTILITIES PROTECTION SERVICE

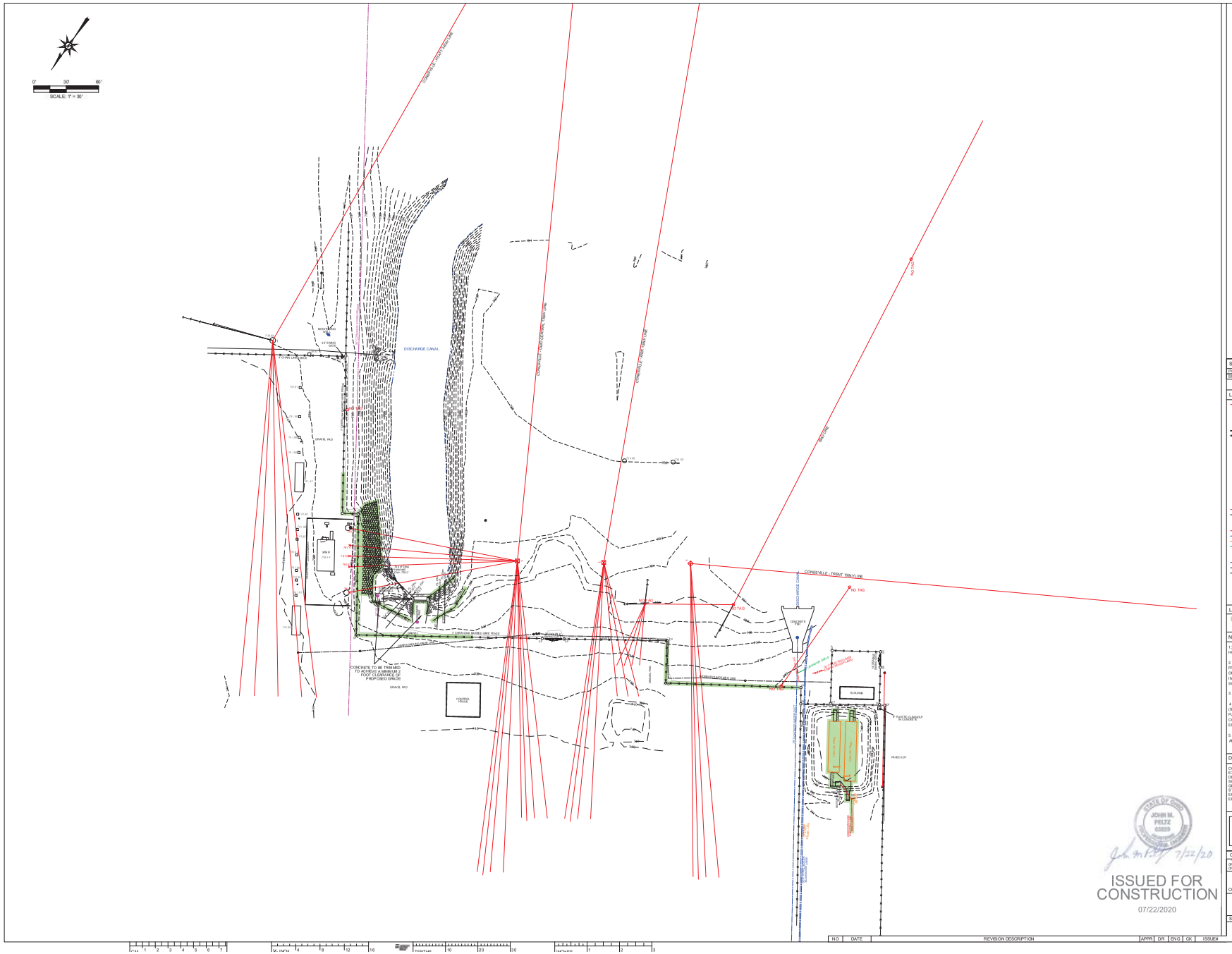
OLD DWG #: STD DWG #:

THIS DRAWING IS THE PROPERTY OF AMERICAN ELECTRIC POWER AND TO BE RETURNED ON CONDITION THAT IT IS NOT TO BE DISTRIBUTED OR REPRODUCED, IN WHOLE OR IN PART, OR USED FOR OTHERWISE AND THAT NOTHING CONTAINED HEREIN IS TO BE CONSTRUED AS GRANTING ANY RIGHT, PRIVILEGE OR LICENSE UNDER ANY PATENT OR PATENT APPLICATION HELD BY US.

OHIO POWER COMPANY
CONESVILLE PLANT
CONESVILLE OHIO
138/12/3.4/kV
EXISTING CONDITIONS

SCALE: 1" = 30'	DR: DB/BGA	ENG: JP/BGA	CH: JP/BGA
	WO#: 427275.00	APPD: JP/BGA	DATE: 07/22/2020
1 RIVERSIDE PLAZA COLUMBUS, OH 43215	DWG. NO.: E-1211	REV. NO.: 0	

NO	DATE	REVISION DESCRIPTION	APPR	DR	ENG	CK	ISSUE#



SURVEY CONTROL POINT DATA

POINT NO	DESCRIPTION	NORTHING	EASTING	ELEVATION
BM-1	TOP OF CONCRETE EMBARKED "X"	897797	2142596	739.56'

LEGEND - EXISTING FEATURES

- EXISTING OVERHEAD LINE
- EXISTING POWER POLE
- GUY ANCHOR
- 4-LEG LATTICE TOWER
- LIGHT POLE
- BUILDING
- FENCE
- CORNER POST
- GATE
- GATE POST
- STATION FOUNDATION LOCATION
- TOP OF CONCRETE ELEVATION
- STATION ATTACHMENT LOCATION / ELEVATION
- CULVERT
- FLOWLINE
- CMP CORRUGATED METAL PIPE
- CP CONCRETE PIPE
- SP STEEL PIPE
- PP PLASTIC PIPE
- MANHOLE
- UNDERGROUND STORM SEWER
- UNDERGROUND FIBER LINE
- UNDERGROUND FIBER LINE MARKER
- UNDERGROUND FIBER BOX
- UNDERGROUND ELECTRIC LINE
- UNDERGROUND WATER LINE
- UNDERGROUND DIESEL LINE
- UNKNOWN UNDERGROUND CABLE
- FUEL OIL TANK
- MONITORING WELL
- EDGE OF WATER
- 1 FT CONTOUR
- 5 FT CONTOUR
- BM-1 BENCHMARK
- RIPRAP

LEGEND - PROPOSED FEATURES

- PROPOSED DEMOLITION / REMOVE ITEMS

NOTES

1.) BEARINGS ARE ORIENTED TO THE STATE PLANE COORDINATES SYSTEM OHIO NORTH (3401) HORIZONTAL DATUM NAD83 (2011), VERTICAL DATUM NAVD88.

2.) UTILITIES LOCATED IN THE FIELD BY OBSERVED EVIDENCE COMBINED WITH SOURCE INFORMATION FROM PLANS AND MARKINGS (IF PROVIDED). HOWEVER, LACKING EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE ACCURATELY, COMPLETELY, AND REGULARLY DEPICTED. IN ADDITION, IN SOME JURISDICTIONS, 811 OR OTHER SIMILAR UTILITY LOCATE REQUESTS FROM SURVEYORS MAY BE IGNORED OR RESULT IN AN INCOMPLETE RESPONSE.

3.) DOCUMENTS USED: TAX MAPS, RECORDS AS NOTED AND PLATS OF SURVEYS.

4.) SUBJECT PROPERTY IS LOCATED IN ZONE X (AREAS OF 0.2% ANNUAL CHANCE FLOOD) AND ZONE AE (SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD. BASE FLOOD ELEVATIONS DETERMINED) IN ACCORDANCE WITH THE FEMA FLOOD INSURANCE RATE MAP: COSHOCTON COUNTY, OHIO (AND INCORPORATED AREAS), PANEL 345 OF 425, MAP NUMBER: 39031C0345C, EFFECTIVE DATE: MARCH 2, 2010.

5.) IF ANY ADDITIONAL PIPES ARE FOUND DURING CONSTRUCTION ACTIVITIES, CONTRACTOR MUST NOTIFY AN AEP REPRESENTATIVE IMMEDIATELY.

DRAWING INDEX

COVER SHEET E-1210
EXISTING CONDITIONS E-1211
DEMOLITION PLAN E-1212
SITE DIMENSION PLAN E-1213
GRADING / EROSION & SEDIMENT CONTROL PLAN E-1214
EROSION AND SEDIMENT CONTROL NOTES AND DETAILS E-1215
EROSION AND SEDIMENT CONTROL DETAILS - SHEET 1 ..... E-1216
EROSION AND SEDIMENT CONTROL DETAILS - SHEET 2 ..... E-1217

BAR, GOODEAND ASSOCIATES, INC.
153 NORTH BROADWAY STREET
NEW WHEATON, OHIO 44663
TEL: 330.343.5489 FAX: 330.343.9565
WWW.BARGOODE.COM

UNDER GROUND UTILITIES
TWO WORKING DAYS
CALL BEFORE YOU DIG
Call 800-362-2764 (Toll Free)
OHIO UTILITIES PROTECTION SERVICE

OLD DWG #: | STD DWG #:

THIS DRAWING IS THE PROPERTY OF AMERICAN ELECTRIC POWER AND TO BE RETURNED ON CONDITION THAT IT IS NOT TO BE DISTRIBUTED OR REPRODUCED, IN WHOLE OR IN PART, OR USED FOR OTHER PURPOSES, AND THAT ON TOKEN OR REVOCATION OF ITS USE IT WILL BE RETURNED. DRAWN FOR INFORMATION, SUGGESTION, OR ESTIMATE ONLY AND IS TO BE RETURNED UPON REQUEST.

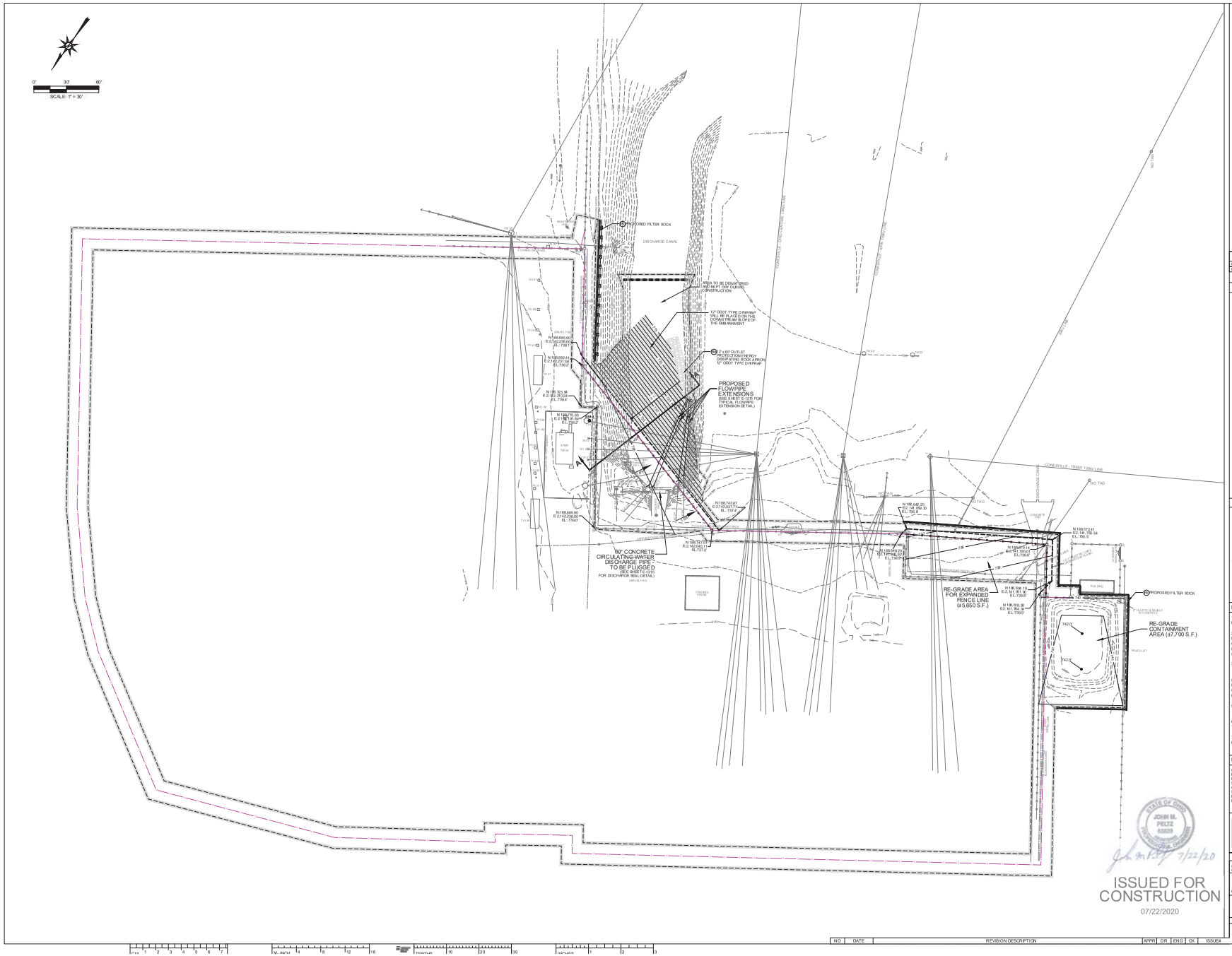
OHIO POWER COMPANY
CONESVILLE PLANT
CONESVILLE OHIO

138KV/345KV
DEMOLITION PLAN

SCALE: 1" = 30'	DR: DB/BGA	ENG: JP/BGA	CH: JP/BGA
	WO#: 427275.00	APPD: JP/BGA	DATE: 07/22/2020
1 RIVERSIDE PLAZA COLUMBUS, OH 43215	DWG. NO.: E-1212	REV: 0	

NO	DATE	REVISION DESCRIPTION	APPR	DR	ENG	CK	ISSUE#

0' 30' 60'
SCALE: 1" = 30'
DISCHARGE CANAL
CONESVILLE - TRENT TRANSMISSION LINE
CONESVILLE - TRENT 138kV LINE
BEAT CORE DRAINED AND KEPT DRY DURING CONSTRUCTION
GRAVEL PAD
CONCRETE PEDESTAL
BUILDING
PAVED LOT
NO TAG
N 188,740.67
E 2,162,851.77
EL. 720.4'
N 188,767.31
E 2,162,863.11
EL. 720.4'
N 188,642.25
E 2,141,859.30
EL. 739.9'
N 188,572.41
E 2,141,789.64
EL. 739.9'
N 188,495.14
E 2,141,785.01
EL. 739.9'
N 188,604.10
E 2,141,791.90
EL. 739.9'
N 188,616.26
E 2,141,794.54
EL. 739.9'
N 188,665.00
E 2,162,036.00
EL. 739.9'
N 188,692.41
E 2,162,201.90
EL. 739.2'
N 188,723.04
E 2,162,210.04
EL. 739.4'
N 188,715.65
E 2,162,167.64
EL. 739.2'
N 188,665.00
E 2,162,236.00
EL. 739.9'
N 188,767.31
E 2,162,863.11
EL. 720.4'
N 188,642.25
E 2,141,859.30
EL. 739.9'
N 188,572.41
E 2,141,789.64
EL. 739.9'
N 188,495.14
E 2,141,785.01
EL. 739.9'
N 188,604.10
E 2,141,791.90
EL. 739.9'
N 188,616.26
E 2,141,794.54
EL. 739.9'
PLASTIC DRAINAGE BOUNDARY
ROTUNDA
ROTUNDA
ROTUNDA



SURVEY CONTROL POINT DATA

POINT NO.	DESCRIPTION	NORTHING	EASTING	ELEVATION
BM 1	TOP OF CONCRETE MARKED "X"	687787	2142166'	739.36'

LEGEND - EXISTING FEATURES

- EXISTING OVERHEAD LINE
- EXISTING POWER POLE
- GUY ANCHOR
- 4-LEG LATTICE TOWER
- LIGHT POLE
- BUILDING
- FENCE
- CORNER POST
- GATE
- GATE POST
- STATION FOUNDATION LOCATION
- TOP OF CONCRETE ELEVATION
- STATION ATTACHMENT LOCATION / ELEVATION
- CULVERT
- FLOWLINE
- CORRUGATED METAL PIPE
- CONCRETE PIPE
- STEEL PIPE
- PLASTIC PIPE
- MANHOLE
- UNDERGROUND STORM SEWER
- UNDERGROUND FIBER LINE
- UNDERGROUND FIBER LINE MARKER
- UNDERGROUND FIBER BOX
- UNDERGROUND ELECTRIC LINE
- UNDERGROUND WATER LINE
- UNDERGROUND DIESEL LINE
- UNKNOWN UNDERGROUND CABLE
- FUEL OIL TANK
- MONITORING WELL
- EDGE OF WATER
- 1 FT. CONTOUR
- 5 FT CONTOUR
- BM 1 BENCHMARK
- RIPRAP

LEGEND - PROPOSED FEATURES

- PROPOSED 1' CONTOUR
- PROPOSED 5' CONTOUR
- PROPOSED FENCE (PER BGA GRADING PLAN)
- PROPOSED FENCE (LOCATION PROVIDED BY AEP) (SEE NOTE 7)
- PROPOSED CORNER POST / GATE POST
- PROPOSED FILTER SOCK
- PROPOSED EDGE OF PAD (0.33 ACRES)
- CONSTRUCTION LIMITS (1.89 ACRES)
- PROPOSED ORANGE BARRIER FENCE
- 1.65% SLOPE DIRECTION
- 742.0' SPOT ELEVATION
- FLOWPIPE EXTENSION
- PROPOSED TEMPORARY SHEET PILE WALL
- 12" ODOT TYPE D RIPRAP

NOTES

1.) BEARINGS ARE ORIENTED TO THE STATE PLANE COORDINATE SYSTEM, OHIO NORTH (3401) HORIZONTAL DATUM: NAD83 (2011), VERTICAL DATUM: NAVD88.

2.) UTILITIES LOCATED IN THE FIELD BY OBSERVED EVIDENCE COMBINED WITH SOURCE INFORMATION FROM PLANS AND MARKINGS (IF PROVIDED). HOWEVER, LAZING EXAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE ACCURATELY, COMPLETELY, AND REGULARLY DEPICTED. IN ADDITION, IN SOME JURISDICTIONS, 811 OR OTHER SIMILAR UTILITY LOCATE REQUESTS FROM SURVEYORS MAY BE IGNORED OR RESULT IN AN INCOMPLETE RESPONSE.

3.) DOCUMENTS USED: TAX MAPS, RECORDS AS NOTED, AND PLATS OF SURVEYS.

4.) SUBJECT PROPERTY IS LOCATED IN ZONE X (AREAS OF 0.2% ANNUAL CHANCE FLOOD) AND ZONE AE (SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD. BASE FLOOD ELEVATIONS DETERMINED). IN ACCORDANCE WITH THE FEMA FLOOD INSURANCE RATE MAP: COSHOCTON COUNTY, OHIO (AND INCORPORATED AREAS), PANEL 345 OF 405, MAP NUMBER: 39031C0345C, EFFECTIVE DATE: MARCH 2, 2010.

5.) IF ANY ADDITIONAL PIPES ARE FOUND DURING CONSTRUCTION ACTIVITIES, CONTRACTOR MUST NOTIFY AN AEP REPRESENTATIVE IMMEDIATELY.

6.) FILTER SOCK WILL BE PLACED AT THE ACTUAL LIMITS OF CONSTRUCTION AND IS SHOWN OFFSET ON THE PLANS FOR CLARITY ONLY.

7.) THE PROPOSED FENCE LOCATION IS FOR REFERENCE ONLY AND FINAL FENCE INSTALLATION SHOULD BE PER THE FENCE PACKAGE PROVIDED BY SSOE GROUP.

DRAWING INDEX

COVER SHEET E-1210
EXISTING CONDITIONS E-1211
DEMOLITION PLAN E-1212
SITE DIMENSION PLAN E-1213
GRADING / EROSION & SEDIMENT CONTROL PLAN E-1214
EROSION AND SEDIMENT CONTROL NOTES AND DETAILS E-1215
EROSION AND SEDIMENT CONTROL DETAILS - SHEET 1 ..... E-1216
EROSION AND SEDIMENT CONTROL DETAILS - SHEET 2 ..... E-1217

BAIR, GOODE AND ASSOCIATES, INC.
153 NORTH BROADWAY STREET
NEW PHILADELPHIA, OH 44663
TEL: 330.343.5489 / FAX: 330.343.5505
WWW.BAIRGOODE.COM

UNDER GROUND UTILITIES
TWO WORKING DAYS
CALL BEFORE YOU DIG
Call 800-362-2764 (Toll Free)
OHIO UTILITIES PROTECTION SERVICE

OLD DWG #:

STD DWG #:

THIS DRAWING IS THE PROPERTY OF AMERICAN ELECTRIC POWER AND IS TO BE RETURNED IN GOOD CONDITION WITHIN 7 DAYS AFTER REQUESTED. IT IS NOT TO BE COPIED, REPRODUCED, IN WHOLE OR IN PART, OR USED FOR OTHER WORK AND MAY BE RETURNED AT ANY TIME. THE RETURN OF THIS DRAWING IS A REQUIREMENT OF ITS ISSUANCE. OR FOR ANY OTHER PURPOSE WHATSOEVER, IS A MANDATORY, AND IT SHALL BE RETURNED UPON REQUEST.

OHIO POWER COMPANY
CONESVILLE PLANT
CONESVILLE OHIO

138kV/345kV

GRADING / EROSION & SEDIMENT CONTROL PLAN

SCALE: 1" = 30'	DR: DB/BGA	ENG: JP/BGA	CH: JP/BGA
	WO#: 4272705	APPD: JP/BGA	DATE: 07/22/2020

1 RIVERSIDE PLAZA
COLUMBUS, OH 43215

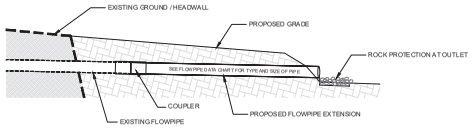
DWG. NO.: E-1214

REV. NO.: 0

NO	DATE	REVISION DESCRIPTION	APPR	DR	ENG	CK	ISSUE#

TYPICAL FLOWPIPE EXTENSION DETAIL

NOT TO SCALE



NOTES:

1. PREPARE GRADE IN AREA WHERE PIPE EXTENSION WILL BE PLACED.

2. CUT END OF EXISTING PIPE AS NECESSARY TO REMOVE ANY DAMAGED PORTION OF PIPE.

3. INSTALL A COUPLER FROM THE MANUFACTURER OF THE PROPOSED PIPE USED FOR EXTENSION TO CONNECT THE EXISTING PIPE TO THE PROPOSED PIPE. FOLLOW ALL MANUFACTURER RECOMMENDATIONS.

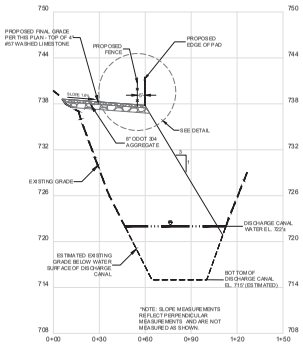
4. USE THE SAME TYPE OF PIPE FOR PROPOSED EXTENSION AS THE EXISTING FLOWPIPE.

5. INSTALL ROCK PROTECTION AT OUTLET OF PIPE TO MINIMIZE DOWNSTREAM EROSION.

FLOWPIPE EXTENSION DATA CHART

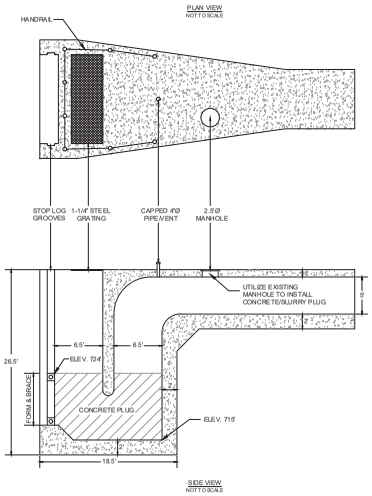
		EXTENDED						INLET			OUTLET		
FLOWPIPE	DIA. (in)	LENGTH* (ft)	INLET ELEV. (ft)	OUTLET ELEV. (ft)	SLOPE (%)	PIPE MATERIAL	TYPE OF PROTECTION	LENGTH OF RCP (ft)	NORTHING	EASTING	TYPE OF PROTECTION	LENGTH OF RCP (ft)	NORTHING	EASTING
A	8	67	725.4	725.0	0.6	PLASTIC	NA	--	188,720'	2,142,096'	ODOT TYPE D	60	188,662'	2,142,130'
B	30	74	724.8	724.0	1.1	CONCRETE	NA	--	188,728'	2,142,097'	ODOT TYPE D	60	188,662'	2,142,131'
C	8	85	729.3	723.0	7.4	STEEL	NA	--	188,746'	2,142,113'	ODOT TYPE D	60	188,663'	2,142,133'
D	24	86	725.1	722.0	3.6	CONCRETE	NA	--	188,748'	2,142,117'	ODOT TYPE D	60	188,663'	2,142,134'

* FLOWPIPES A, B, C, AND D ARE EXTENSIONS OF EXISTING PIPES.



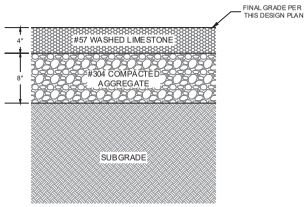
CROSS-SECTION A-A'

HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 6'



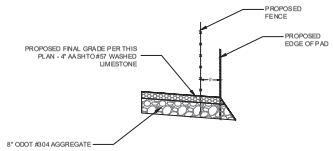
CIRCULATING WATER DISCHARGE SEAL DETAIL

NOT TO SCALE



TYPICAL STATION PAD DETAIL

NOT TO SCALE



TYPICAL EDGE OF STATION PAD DETAIL

NOT TO SCALE

DRAWING INDEX

COVER SHEET E-1210
EXISTING CONDITIONS E-1211
DEMOLITION PLAN E-1212
SITE DIMENSION PLAN E-1213
GRADING / EROSION & SEDIMENT CONTROL PLAN E-1214
CROSS SECTIONS AND DETAILS E-1215
EROSION AND SEDIMENT CONTROL DETAILS - SHEET 1 ..... E-1216
EROSION AND SEDIMENT CONTROL DETAILS - SHEET 2 ..... E-1217

STATE OF OHIO
JOHN M. PELTZ
63939
REGISTERED
PROFESSIONAL ENGINEER

7/22/20

ISSUED FOR CONSTRUCTION

07/22/2020

BAIR, GOODE AND ASSOCIATES, INC.
153 NORTH BROADWAY STREET
NEW PHILADELPHIA, OH 44663
TEL: 330.343.5489 FAX: 330.343.9565
WWW.BAIRGOODE.COM

UNDER GROUND UTILITIES
TWO WORKING DAYS
CALL BEFORE YOU DIG
Call 800-362-2764 (Toll Free)
OHIO UTILITIES PROTECTION SERVICE

OLD DWG #:

STD DWG #:

"THIS DRAWING IS THE PROPERTY OF AMERICAN ELECTRIC POWER AND TO BE RECEIVED IN CONFIDENCE. CONDITIONS THAT IT IS NOT TO BE DISTRIBUTED OR REPRODUCED, IN WHOLE OR IN PART, OR USED FOR OTHER WORK AND MAINTAIN TO ANY PERSON WITHOUT THE WRITTEN CONSENT OF AMERICAN ELECTRIC POWER, OR FOR ANY PURPOSE WHATSOEVER, IS HEREBY INTENDED AND IS TO BE UNDERSTOOD AND ACCEPTED."

OHIO POWER COMPANY
CONESVILLE PLANT
CONESVILLE — OHIO

138KV/345KV

CROSS SECTIONS AND DETAILS

SCALE: 1" = 30'	DR: DB/BGA	ENG: JP/BGA	CH: JP/BGA
	WO#: 427275.09	APPD: JP/BGA	DATE: 07/22/2020
1 RIVERSIDE PLAZA COLUMBUS, OH 43215	DWG. NO.: E-1215	REV. NO.: 0	

NO	DATE	REVISION DESCRIPTION	APPR	DR	ENG	CK	ISSUE#

ADDITIONAL BMP'S

OPEN BURNING

NO MATERIALS MAY BE BURNED WHICH CONTAIN RUBBER, GREASE, ASPHALT, OR PETROLEUM PRODUCTS SUCH AS TIRES, CARS, AUTO PARTS, PLASTICS OR PLASTIC COATED WIRE (SEE OAC 3745-9). OPEN BURNING IS NOT ALLOWED IN RESTRICTED AREAS. RESTRICTED AREAS ARE DEFINED AS:

1. WITHIN CORPORATION LIMITS.
2. WITHIN 1,000 FEET OF A MUNICIPAL CORPORATION.
3. WITHIN A ONE MILE ZONE OUTSIDE OF A CORPORATION OF 10,000 OR MORE.

OUTSIDE THE RESTRICTED AREA, NO OPEN BURNING CAN TAKE PLACE WITHIN 1,000 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 OR WARMTH FOR OUTDOOR BARBEQUES. OUTSIDE OF RESTRICTED AREAS, OPEN BURNING IS PERMISSIBLE FOR LANDSCAPE WASTES (PLANT MATERIAL, WITH PRIOR WRITTEN PERMISSION FROM OHIO EPA), AND AGRICULTURAL WASTES (MATERIAL GENERATED BY CROP, HORTICULTURAL, OR LIVESTOCK PRODUCTION PRACTICES).

DUST CONTROL / SUPRESSANTS

DUST CONTROL IS REQUIRED TO PREVENT NUISANCE CONDITIONS. DUST CONTROLS MUST BE USED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATION 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 DRAINAGE WAYS 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. CHEMICAL STABILIZERS MAY ONLY BE USED WITH AEP PERMISSION.

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. NOTIFICATION FOR RESTORATION AND DEMOLITION MUST BE SUBMITTED TO OHIO EPA FOR ALL COMMERCIAL SITES TO DETERMINE IF ASBESTOS CORRECTIVE ACTIONS ARE REQUIRED.

WASTE DISPOSAL

THE CONTRACTOR SHALL PROVIDE LITTER CONTROL AND COLLECTION OF MATERIALS WITHIN THE PROJECT BOUNDARIES DURING CONSTRUCTION. ALL FERTILIZER, HYDROCARBON, OR OTHER CHEMICAL CONTAINERS SHALL BE DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH THE EPA'S STANDARD PRACTICES. NO SOLID MATERIAL INCLUDING BUILDING AND CONSTRUCTION MATERIAL SHALL BE DISPOSED OF, DISCHARGED OR BURIED ONSITE.

OFFSITE VEHICLE TRACKING

LOADED HAUL TRUCKS SHALL BE COVERED WITH A TARPAULIN. EXCESS DIRT MATERIAL ON THE ROADS SHALL BE REMOVED IMMEDIATELY. HAULING ON UNPAVED SURFACES SHALL BE MONITORED TO MINIMIZE DUST AND CONTROL EROSION. HAUL ROADS SHALL BE WATERED OR OTHER CONTROLS PROVIDED AS NECESSARY TO REDUCE DUST AND CONTROL SEDIMENTS.

SANITARY WASTE

THE CONTRACTOR SHALL PROVIDE PORTABLE SANITARY WASTE FACILITIES. THESE FACILITIES SHALL BE COLLECTED OR EMPTIED BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR AS REQUIRED BY STATE REGULATIONS.

FERTILIZERS AND PESTICIDES

FERTILIZER SHALL BE APPLIED AT A RATE SPECIFIED BY THE SPECIFICATIONS OR THE MANUFACTURER. THE APPLICATION OF FERTILIZERS SHALL BE ACCOMPLISHED IN A MANNER AS DESCRIBED BY THE SPECIFICATION OR MANUFACTURER TO ENSURE THE PROPER INSTALLATION AND TO AVOID OVER FERTILIZING. PESTICIDES ARE NOT ANTICIPATED FOR THIS PROJECT.

ESTABLISH PROPER EQUIPMENT/VEHICLE FUELING AND MAINTENANCE PRACTICES

EQUIPMENT FUELING AND MAINTENANCE, OIL CHANGING, ETC., SHALL BE PERFORMED AWAY FROM THE 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 HOURS OF A 0.5 INCH OR GREATER RAIN EVENT TO ENSURE THERE ARE NO EXPOSED MATERIALS WHICH WOULD CONTAMINATE STORM WATER.

SPILL PREVENTION CONTROL PLAN

SITE OPERATORS MUST BE AWARE THAT SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) REQUIREMENTS APPLY. AN SPCC PLAN IS REQUIRED FOR SITES WITH ONE SINGLE ABOVE GROUND STORAGE TANK OF 1,320 GALLONS OR MORE, OR 42,000 GALLONS OF UNDERGROUND STORAGE. SOILS THAT HAVE BEEN CONTAMINATED MUST BE DISPOSED OF IN ACCORDANCE WITH SECTION "CONTAMINATED SOILS" FOUND BELOW.

SPILLS ON PAVEMENT SHALL BE ABSORBED WITH SAWDUST, CAT LITTER OR OTHER ABSORBENT 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 THE OHIO EPA (1-800-282-9378). SPILLS OF 25 GALLONS OR MORE OF PETROLEUM PRODUCTS SHALL BE REPORTED TO THE OHIO EPA, THE LOCAL FIRE DEPARTMENT, AND THE LOCAL EMERGENCY PLANNING COMMITTEE WITHIN 30 MINUTES 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.

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 A 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 BEING AUTHORIZED UNDER OHIO EPA'S GENERAL STORMWATER 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 STORMWATER PERMIT WILL BE REQUIRED. DEPENDING ON THE EXTENT OF CONTAMINATION, ADDITIONAL TREATMENT AND/OR COLLECTION DISPOSAL MAY BE REQUIRED. ALL STORMWATER DISCHARGES ASSOCIATED WITH CONTAMINATED SOILS MUST BE AUTHORIZED UNDER AN ALTERNATIVE NPDES PERMIT.

FILTER SOCK (FS)

DESCRIPTION

FILTER SOCKS ARE SEDIMENT-TRAPPING DEVICES USING COMPOST INSERTED INTO A FLEXIBLE, PERMEABLE TUBE WITH A PNEUMATIC BLOWER DEVICE OR EQUIVALENT. FILTER SOCKS TRAP SEDIMENT BY FILTERING WATER PASSING THROUGH THE BERM AND ALLOWING WATER TO POND, CREATING A SETTLING OF SOLIDS.

SPECIFICATIONS FOR FILTER SOCK

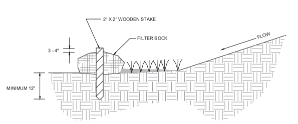
1. MATERIALS - COMPOST USED FOR FILTER SOCKS SHALL BE WEED, PATHOGEN AND INSECT FREE AND FREE OF ANY REFUSE, CONTAMINANTS OR OTHER MATERIALS TOXIC TO PLANT GROWTH. THEY SHALL BE DERIVED FROM A WELL-DECOMPOSED SOURCE OF ORGANIC MATTER AND CONSIST OF A PARTICLE RANGING FROM 3/8" TO 2".
2. FILTER SOCKS 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 A WAY AS TO FACILITATE AND NOT OBSTRUCT SEEDLINGS.



SECTION

TEMPORARY ROLLED EROSION CONTROL PRODUCTS (EROSION CONTROL MATTING)

DESCRIPTION

A TEMPORARY ROLLED EROSION CONTROL PRODUCT (RECP) IS A DEGRADABLE MANUFACTURED MATERIAL USED TO STABILIZE EASILY ERODED AREAS WHILE VEGETATION BECOMES ESTABLISHED. TEMPORARY ROLLED EROSION CONTROL PRODUCTS ARE DEGRADABLE PRODUCTS COMPOSED OF BIOLOGICALLY, PHOTO CHEMICALLY OR OTHERWISE DEGRADABLE MATERIALS. TEMPORARY RECP'S CONSIST OF EROSION CONTROL NETTING, OPEN WEAVE TEXTILES, AND EROSION CONTROL BLANKETS AND MATTINGS. THESE PRODUCTS REDUCE SOIL EROSION AND ASSIST VEGETATIVE GROWTH BY PROVIDING TEMPORARY COVER FORM THE EROSIVE ACTION OF RAINFALL AND RUNOFF WHILE PROVIDING SOIL-SEED CONTACT.

SPECIFICATIONS FOR TEMPORARY ROLLED EROSION CONTROL PRODUCT

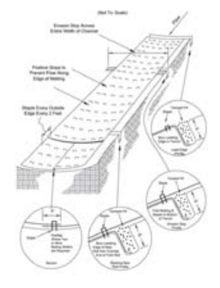
1. CHANNEL/SLOPE SOIL PREPARATION: GRADE AND COMPACT AREA OF INSTALLATION, PREPARING SEEDBED BY LOOSENING 2"-3" OF TOPSOIL ABOVE FINAL GRADE. INCORPORATE AMENDMENTS SUCH AS LIME AND FERTILIZER INTO SOIL. REMOVE ALL ROCKS, CLODS, VEGETATION OR OTHER DEBRIS SO THAT INSTALLED RECP WILL HAVE DIRECT CONTACT WITH THE SOIL SURFACE.
2. CHANNEL/SLOPE SEEDING: APPLY SEED TO SOIL SURFACE PRIOR TO INSTALLATION. ALL CHECK SLOTS, ANCHOR TRENCHES, AND OTHER DISTURBED AREAS MUST BE RESEEDED. REFER TO THE PERMANENT SEEDING SPECIFICATION FOR SEEDING RECOMMENDATIONS.

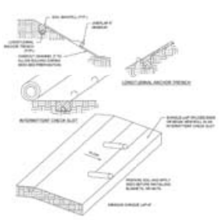
SLOPE INSTALLATION

3. EXCAVATE TOP AND BOTTOM TRENCHES (12"X6"). INTERMITTENT EROSION CHECK SLOTS (6"X6") MAY BE REQUIRED BASED ON SLOPE LENGTH. EXCAVATE TOP ANCHOR TRENCH 2'X3' OVER CREST OF THE SLOPE.
4. IF INTERMITTENT EROSION CHECK SLOTS ARE REQUIRED, INSTALL RECP IN 6"X6" SLOT AT A MAXIMUM OF 30' CENTERS OR THE MID POINT OF THE SLOPE. RECP SHOULD BE STAPLED INTO TRENCH ON 12" CENTERS.
5. INSTALL RECP IN TOP ANCHOR TRENCH, ANCHOR ON 12" SPACINGS, BACKFILL AND COMPACT SOIL.
6. UNROLL RECP DOWN SLOPE WITH ADJACENT ROLLS OVERLAPPED A MINIMUM OF 3". ANCHOR THE SEAM EVERY 18". LAY THE RECP LOOSE TO MAINTAIN DIRECT SOIL CONTACT, DO NOT PULL TAUGHT.
7. OVERLAP ROLL ENDS A MINIMUM OF 12" WITH UPSLOPE RECP ON TOP FOR A SHINGLE EFFECT. BEGIN ALL NEW ROLLS IN AN EROSION CHECK SLOT IF REQUIRED, DOUBLE ANCHOR ACROSS ROLL VERY 12".
8. INSTALL RECP IN BOTTOM ANCHOR TRENCH (12"X6"), ANCHOR EVERY 12". PLACE ALL OTHER STAPLES THROUGHOUT SLOPE AT 1 TO 2.5 PER SQUARE YARD DEPENDENT ON SLOPE. REFER TO MANUFACTURER'S ANCHOR GUIDE.

CHANNEL INSTALLATION

9. EXCAVATE INITIAL ANCHOR TRENCH (12"X6") ACROSS THE LOWER END OF THE PROJECT AREA.
10. EXCAVATE INTERMITTENT CHECK SLOTS (6"X6") ACROSS THE CHANNEL AT 30' INTERVALS ALONE THE CHANNEL.
11. EXCAVATE LONGITUDINAL CHANNEL ANCHOR SLOTS (4"X4") ALONG BOTH SIDES OF THE CHANNEL TO BURY THE EDGES. WHENEVER POSSIBLE EXTEND THE RECP 2'-3' ABOVE THE CREST OF CHANNEL SIDE SLOPES.
12. INSTALL RECP IN INITIAL ANCHOR TRENCH (DOWNSTREAM) ANCHOR EVERY 12", BACKFILL AND COMPACT SOIL.
13. ROLL OUT RECP BEGINNING IN THE CENTER OF THE CHANNEL TOWARD THE INTERMITTENT CHECK SLOT. DO NOT PULL TAUGHT. UNROLL ADJACENT ROLLS UPSTREAM WITH A 3" MINIMUM OVERLAP (ANCHOR EVERY 18") AND UP EACH CHANNEL SIDE SLOPE.
14. AT TOP OF CHANNEL SIDE SLOPES INSTALL RECP IN THE LONGITUDINAL ANCHOR SLOTS, ANCHOR EVERY 18".
15. INSTALL RECP IN INTERMITTENT CHECK SLOTS, LAY INTO TRENCH AND SECURE WITH ANCHORS EVERY 12", BACKFILL WITH SOIL AND COMPACT.
16. OVERLAP ROLL ENDS A MINIMUM OF 12" WITH UPSTREAM RECP ON TOP FOR SHINGLING EFFECT. BEGIN ALL NEW ROLLS IN AN INTERMITTENT CHECK SLOT, DOUBLE ANCHORED EVERY 12".
17. INSTALL UPSTREAM END IN A TERMINAL ANCHOR TRENCH (12"X6"); ANCHOR EVERY 12", BACKFILL AND COMPACT.
18. COMPLETE ANCHORING THROUGHOUT CHANNEL AT 2.5 PER SQUARE YARD USING SUITABLE GROUND ANCHORING DEVICES (U SHAPED WIRE STAPLES, METAL GEOTEXTILE PINS, PLASTIC STAKES, AND TRIANGULAR WOODEN STAKES). ANCHORS SHOULD BE OF SUFFICIENT LENGTH TO RESIST PULLOUT. LONGER ANCHORS MAY BE REQUIRED IN LOOSE SANDY OR GRAVELLY SOILS.





*SEE MANUFACTURER'S LINING INSTALLATION DETAIL FOR STAPLE PATTERNS, AND VEGETATIVE STABILIZATION SPECIFICATIONS FOR SOIL AMENDMENTS, SEED MIXTURES, AND MULCHING INFORMATION. LINING TO BE TENSAR VMAX SC250 OR APPROVED EQUAL.

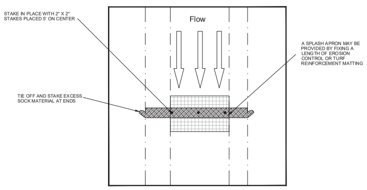
NOTE

1. DAMAGED LINING SHALL BE REPAIRED OR REPLACED WITHIN 48 HOURS OF DISCOVERY.

SLOPE PROTECTION
NOT TO SCALE

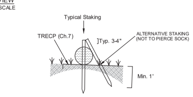
TYPICAL COMPOST SOCK CHECK DAM (CS)

1. COMPOST SOCK NETTING SHALL USE A KNITTED MESH FABRIC WITH 1/8 - 3/8 INCH OPENINGS, AND COMPOST MEDIA WITH PARTICLE SIZES 99% < 3 INCHES, AND 60% > 3/8 INCHES (CONFORMING TO MEDIA DESCRIBED IN CHAPTER 6 OF THE ODNR RAINWATER AND LAND DEVELOPMENT MANUAL).
2. COMPOST SOCK CHECK DAMS SHALL BE USED IN AREAS THAT DRAIN 5 ACRES OR LESS.
3. SEDIMENT SHALL BE REMOVED FROM BEHIND THE SOCK WHEN IT REACHES 1/2 THE HEIGHT OF THE CHECK DAM.
4. COMPOST SOCK CHECK DAMS SHALL BE CONSTRUCTED WITH 12, 18, OR 24 INCH DIAMETER COMPOST SOCKS, AND SHALL COMPLETELY COVER THE WIDTH OF THE CHANNEL. THE MIDPOINT OF THE COMPOST SOCK CHECK DAM SHALL BE A MINIMUM OF 6 INCHES LOWER THAN THE SIDES IN ORDER TO DIRECT FLOW ACROSS THE CENTER AND AWAY FROM THE CHANNEL SIDES. FILTER SOCK CHECK DAMS SHALL BE FILLED TO A DENSITY SUCH THAT THEY SHALL REACH THEIR INTENDED HEIGHT (DIAMETER). AFTER INSTALLATION AND USE, THEY SHALL BE CONSIDERED UNSUITABLE AND IN NEED OF REPLACEMENT AFTER FALLING BELOW 80% OF THEIR MINIMUM REQUIRED HEIGHT (DIAMETER).
5. ALTHOUGH NO TRENCHING IS NECESSARY, COMPOST SOCK CHECK DAMS SHALL BE PLACED ON A GRADED SURFACE WHERE CONSISTENT CONTACT WITH THE SOIL SURFACE IS MADE WITHOUT BRIDGING OVER GAPS, RILLS, GULLIES, STONES OR OTHER IRREGULARITIES.
6. PLACE COMPOST SOCK CHECK DAMS SO THAT THE ENDS EXTEND TO THE TOP OF BANK. STAKING FOR COMPOST SOCK CHECK DAMS SHALL USE 2 INCH X 2 INCH WOODEN STAKES, PLACED 5 FOOT ON CENTER. STAKE LENGTH SHALL ALLOW THEM TO BE DRIVEN 12 INCHES INTO EXISTING SOIL AND ALLOW AT LEAST 2 INCHES ABOVE THE SOCK.
7. SPACE COMPOST SOCK CHECK DAMS SO THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION OR LOWER ELEVATION AS THE TOP OF THE DOWNSTREAM COMPOST SOCK CHECK DAM (AT THE CENTER OF THE CHANNEL). THIS WILL BE INFLUENCED BY THE HEIGHT OF THE SOCK AND GRADIENT OF THE WATERWAY.
8. A SPLASH APRON MAY BE NEEDED WHERE FLOWS OVER THE SOCK MAY ERODE THE CHANNEL AND UNDERCUT THE COMPOST SOCK CHECK DAM. CREATE THE APRON BY FIXING A LENGTH OF TEMPORARY ROLLED EROSION CONTROL PRODUCT (TRECP - EROSION CONTROL MATTING) OR TURF REINFORCEMENT MATTING STARTING UPSTREAM OF THE SOCK A DISTANCE EQUAL TO THE SOCK HEIGHT AND EXTENDING A LENGTH TWO TIMES THE HEIGHT OF THE COMPOST SOCK CHECK DAM. SEE CHAPTER 7 OF THE ODNR RAINWATER AND LAND DEVELOPMENT MANUAL FOR INFORMATION REGARDING THESE MATERIALS. MATERIALS USED SHOULD BE ABLE TO BE LEFT IN PLACE (E.G. BIODEGRADABLE/PHOTODEGRADABLE TRECP) WITHOUT CREATING PROBLEMS FOR FUTURE MOWING OR MAINTENANCE OF THE CHANNEL.



PLAN VIEW
NOT TO SCALE

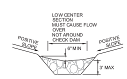
CROSS SECTION VIEW
NOT TO SCALE



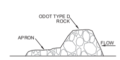
Staking

TYPICAL ROCK CHECK DAM (CD)

1. THE CHECK DAM SHALL BE CONSTRUCTED OF 4-8 INCH DIAMETER STONE, PLACED SO THAT IT COMPLETELY COVERS THE WIDTH OF THE CHANNEL. ODOT TYPE D STONE IS ACCEPTABLE, BUT SHOULD BE UNDERLAIN WITH A GRAVEL FILTER CONSISTING OF ODOT NO. 3 OR 4 OR SUITABLE FILTER FABRIC.
2. MAXIMUM HEIGHT OF CHECK DAM SHALL NOT EXCEED 3.0 FEET.
3. THE MIDPOINT OF THE ROCK CHECK DAM SHALL BE A MINIMUM OF 6 INCHES LOWER THAN THE SIDES IN ORDER TO DIRECT ACROSS THE CENTER AND AWAY FROM THE CHANNEL SIDES.
4. THE BASE OF THE CHECK DAM SHALL BE ENTRENCHED APPROXIMATELY 6 INCHES.
5. SPACING OF CHECK DAMS SHALL BE IN A MANNER SUCH THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM DAM.
6. A SPLASH APRON SHALL BE CONSTRUCTED WHERE CHECK DAMS ARE EXPECTED TO BE IN USE FOR AN EXTENDED PERIOD OF TIME, A STONE APRON SHALL BE CONSTRUCTED IMMEDIATELY DOWNSTREAM OF THE CHECK DAM TO PREVENT FLOWS FROM UNDERCUTTING THE STRUCTURE. THE APRON SHOULD BE 6 INCHES THICK AND ITS LENGTH TWO TIMES THE HEIGHT OF THE DAM.
7. STONE PLACEMENT SHALL BE PERFORMED EITHER BY HAND OR MECHANICALLY AS LONG AS THE CENTER OF CHECK DAM IS LOWER THAN THE SIDES AND EXTENDS ACROSS ENTIRE CHANNEL.
8. SIDE SLOPES SHALL BE A MINIMUM OF 2:1.



CROSS-SECTION



PROFILE

TYPICAL ROCK CHECK DAM
NOT TO SCALE

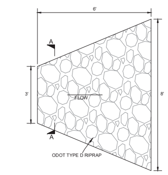
INLET PROTECTION (IP)

STORM DRAIN INLET PROTECTION DEVICES REMOVE SEDIMENT FROM STORM WATER BEFORE IT ENTERS STORM SEWERS AND DOWNSTREAM AREAS. INLET PROTECTION DEVICES ARE SEDIMENT BARRIERS THAT MAY BE CONSTRUCTED OF WASHED GRAVEL OR CRUSHED STONE, GEOTEXTILE FABRICS AND OTHER MATERIALS THAT ARE SUPPORTED AROUND OR ACROSS STORM DRAIN INLETS.

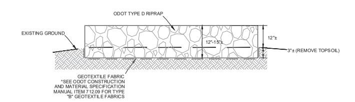
INLET PROTECTION IS INSTALLED TO CAPTURE SOME SEDIMENT AND REDUCE THE MAINTENANCE OF STORM SEWERS AND OTHER UNDERGROUND PIPING SYSTEMS PRIOR TO THE SITE BEING STABILIZED. DUE TO THEIR POORER EFFECTIVENESS, INLET PROTECTION IS CONSIDERED A SECONDARY SEDIMENT CONTROL TO BE USED IN CONJUNCTION WITH OTHER MORE EFFECTIVE CONTROLS.

STORM DRAIN INLET PROTECTION WILL VARY DEPENDING ON THE TYPE OF INLET. DETAILS CAN BE FOUND IN THE ODNR RAINWATER AND LAND DEVELOPMENT MANUAL.

TYPICAL ENERGY DISSIPATING ROCK APRON (RA)

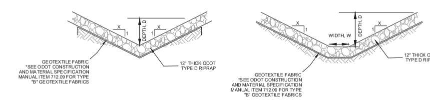


TYPICAL ENERGY DISSIPATING ROCK APRON
PLAN VIEW
NOT TO SCALE



TYPICAL ENERGY DISSIPATING ROCK APRON
SECTION A-A
NOT TO SCALE

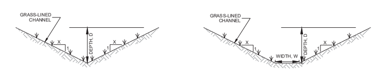
TYPICAL ROCK-LINED DITCH



V-BOTTOM DITCH
NOT TO SCALE

FLAT BOTTOM DITCH
NOT TO SCALE

TYPICAL VEGETATED DITCH



V-BOTTOM DITCH
NOT TO SCALE

TYPICAL VEGETATED FLAT BOTTOM DITCH
NOT TO SCALE

ISSUED FOR CONSTRUCTION
07/22/2020

NO	DATE	REVISION DESCRIPTION	APPR	DR	ENG	CK	ISSUE#

DRAWING INDEX

COVER SHEET E-1210
EXISTING CONDITIONS E-1211
DEMOLITION PLAN E-1212
SITE DIMENSION PLAN E-1213
GRADING / EROSION & SEDIMENT CONTROL PLAN E-1214
STATION CROSS SECTIONS AND DETAILS E-1215
EROSION AND SEDIMENT CONTROL DETAILS - SHEET 1 .... E-1216
EROSION AND SEDIMENT CONTROL DETAILS - SHEET 2 .... E-1217

BAIR GOODIE
BAIR, GOODIE AND ASSOCIATES, INC.
153 NORTH BROADWAY STREET
NEW PHILADELPHIA, OH 44663
TEL: 330.343.3499 FAX: 330.343.9505
WWW.BAIRGOODIE.COM

UNDERGROUND UTILITIES
TWO WORKING DAYS
CALL BEFORE YOU DIG
Call 800-362-2764 (Toll Free)
OHIO UTILITIES PROTECTION SERVICE

OLD DWG #: | STD DWG #:

"THIS DRAWING IS THE PROPERTY OF AMERICAN ELECTRIC POWER AND IS LOANED UPON CONDITION THAT IT IS NOT TO BE COPIED OR REPRODUCED, IN WHOLE OR IN PART, OR USED FOR FURNISHING INFORMATION TO ANY PERSON WITHOUT THE WRITTEN CONSENT OF AMERICAN ELECTRIC POWER, OR FOR ANY PURPOSE DETRIMENTAL TO THEIR INTEREST, AND IS TO BE RETURNED UPON REQUEST"

OHIO POWER COMPANY
CONESVILLE PLANT
CONESVILLE — OHIO

138KV/345KV
EROSION & SEDIMENT CONTROL DETAILS - SHEET 1

SCALE: 1" = 30'	DR: DB/BGA	ENG: JP/BGA	CH: JP/BGA
	WO#: 42727508	APPD: JP/BGA	DATE: 07/22/2020
	1 RIVERSIDE PLAZA COLUMBUS, OH 43215	DWG. NO. E-1216	REV 0

TEMPORARY SEEDING (TS)

DESCRIPTION
TEMPORARY SEEDINGS ESTABLISH TEMPORARY COVER ON DISTURBED AREAS BY PLANTING APPROPRIATE RAPIDLY GROWING ANNUAL GRASSES OR SMALL GRAINS. TEMPORARY SEEDING PROVIDES EROSION CONTROL ON AREAS IN BETWEEN CONSTRUCTION OPERATIONS. GRASSES, WHICH ARE QUICK GROWING, ARE SEEDED AND USUALLY MULCHED TO PROVIDE PROMPT, TEMPORARY SOIL STABILIZATION. IT EFFECTIVELY MINIMIZES THE AREA OF A CONSTRUCTION SITE PRONE TO EROSION AND SHOULD BE USED EVERYWHERE THE SEQUENCE OF CONSTRUCTION OPERATIONS ALLOWS VEGETATION TO BE ESTABLISHED.

SPECIFICATIONS FOR TEMPORARY SEEDING

LBS / AC	BOTANICAL NAME	COMMON NAME
32	AVENA SATIVA	SEED OATS
10	LOLIUM MULTIFLORUM	ANNUAL RYEGRASS

1. STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS AND SEDIMENT TRAPS SHALL BE INSTALLED AND STABILIZED WITH TEMPORARY SEEDING PRIOR TO GRADING THE REST OF THE CONSTRUCTION SITE.
2. TEMPORARY SEED SHALL BE APPLIED BETWEEN CONSTRUCTION OPERATIONS ON SOIL THAT WILL NOT BE GRADED OR REWORKED FOR 14 DAYS OR GREATER. THESE IDLE AREAS SHALL BE SEEDED WITHIN 7 DAYS AFTER GRADING.
3. THE SEEDBED SHOULD BE PULVERIZED AND LOOSE TO ENSURE THE SUCCESS OF ESTABLISHING VEGETATION. TEMPORARY SEEDING SHOULD NOT BE POSTPONED IF IDEAL SEEDBED PREPARATION IS NOT POSSIBLE.
4. SOIL AMENDMENTS--TEMPORARY VEGETATION SEEDING RATES SHALL ESTABLISH ADEQUATE STANDS OF VEGETATION, WHICH MAY REQUIRE THE USE OF SOIL AMENDMENTS. BASE RATES FOR LIME AND FERTILIZER SHALL BE USED.
5. SEEDING METHOD--SEED SHALL BE APPLIED UNIFORMLY WITH A CYCLONE SPREADER, DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER. WHEN FEASIBLE, SEED THAT HAS BEEN BROADCAST SHALL BE COVERED BY RAKING OR DRAGGING AND THEN LIGHTLYTAMPED INTO PLACE USING A ROLLER OR CULTIPACKER. IF HYDROSEEDING IS USED, THE SEED AND FERTILIZER WILL BE MIXED ON-SITE AND THE SEEDING SHALL BE DONE IMMEDIATELY AND WITHOUT INTERRUPTION.

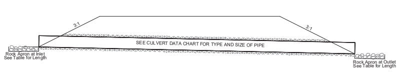
MULCHING TEMPORARY SEEDING
1. APPLICATIONS OF TEMPORARY SEEDING SHALL INCLUDE MULCH, WHICH SHALL BE APPLIED DURING OR IMMEDIATELY AFTER SEEDING. SEEDING MADE DURING OPTIMUM SEEDING DATES ON FAVORABLE, VERY FLAT SOIL CONDITIONS MAY NOT NEED MULCH TO ACHIEVE ADEQUATE STABILIZATION.
2. MATERIALS:
- STRAW--IF STRAW IS USED, IT SHALL BE UNROTTED SMALL-GRAIN STRAW APPLIED AT A RATE OF 2 TONES PER ACRE OR 90 LBS./1,000 SQ. FT. (2-3 BALES)
- HYDROSEEDERS--IF WOOD CELLULOSE FIBER IS USED, IT SHALL BE USED AT 2000 LBS./AC OR 496 LB./1,000-SQ.-FT.
- OTHER--OTHER ACCEPTABLE MULCHES INCLUDE MULCH MATTINGS APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS OR WOOD CHIPS APPLIED AT 6 TON/AC
3. STRAW MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR WATER. ANCHORING METHODS:
- MECHANICAL--A DISK, CRIMPER, OR SIMILAR TYPE TOOL SHALL BE SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED BUT LEFT TO A LENGTH OF APPROXIMATELY 6 INCHES.
- MULCH NETTING--NETTING SHALL BE USED ACCORDING TO THE MANUFACTURES RECOMMENDATIONS. NETTING MAY BE NECESSARY TO HOLD MULCH IN PLACE IN AREAS OF CONCENTRATED RUNOFF AND ON CRITICAL SLOPES.
- SYNTHETIC BINDERS--SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRI-TAC), DCA-70, PETROSET, TERRA TRACK OR EQUIVALENT MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER.
- WOOD-CELLULOSE FIBER--WOOD-CELLULOSE FIBER BINDER SHALL BE APPLIED AT A NET DRY WT. 750 LB./AC. THE WOOD-CELLULOSE FIBER SHALL BE MIXED WITH WATER AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LB./100 GAL.

DUST CONTROL (DC)

DESCRIPTION
DUST CONTROL INVOLVES PREVENTING OR REDUCING DUST FROM EXPOSED SOILS OR OTHER SOURCES DURING LAND DISTURBING, DEMOLITION AND CONSTRUCTION ACTIVITIES TO REDUCE THE PRESENCE OF AIR-BORNE SUBSTANCES WHICH MAY PRESENT HEALTH HAZARDS, TRAFFIC SAFETY PROBLEMS OR HARM ANIMAL OR PLANT LIFE.

SPECIFICATIONS FOR DUST CONTROL
1. VEGETATIVE COVER AND/MULCH - APPLY TEMPORARY OR PERMANENT SEEDING AND MULCH TO AREAS THAT WILL REMAIN IDLE FOR OVER 14 DAYS. SAVING EXISTING TREES AND LARGE SHRUBS WILL ALSO REDUCE SOIL AND AIR MOVEMENT ACROSS DISTURBED AREAS. SEE TEMPORARY SEEDING; PERMANENT SEEDING; MULCHING PRACTICES; AND TREE AND NATURAL AREA PROTECTION PRACTICES.
2. WATERING--SPRAY SITE WITH WATER UNTIL THE SURFACE IS WET BEFORE AND DURING GRADING AND REPEAT AS NEEDED, ESPECIALLY ON HAUL ROADS AND OTHER HEAVY TRAFFIC ROUTES. WATERING SHALL BE DONE AT A RATE THAT PREVENTS DUST BUT DOES NOT CAUSE SOIL EROSION. WETTING AGENTS SHALL BE UTILIZED ACCORDING TO MANUFACTURERS' INSTRUCTIONS.
3. SPRAY-ON ADHESIVES--APPLY ADHESIVE ACCORDING TO MANUFACTURERS' INSTRUCTIONS.
4. STONE--GRADED ROADWAYS AND OTHER SUITABLE AREAS WILL BE STABILIZED USING CRUSHED STONE OR COARSE GRAVEL AS SOON AS PRACTICABLE AFTER REACHING AN INTERIM OR FINAL GRADE. CRUSHED STONE OR COARSE GRAVEL CAN BE USED AS A PERMANENT COVER TO PROVIDE CONTROL OF SOIL EMISSIONS.
5. BARRIERS--EXISTING WINDBREAK VEGETATION SHALL BE MARKED AND PRESERVED. SNOW FENCING OR OTHER SUITABLE BARRIER MAY BE PLACE PERPENDICULAR TO PREVAILING AIR CURRENTS AT INTERVALS OF ABOUT 15 TIMES THE BARRIER HEIGHT TO CONTROL AIR CURRENTS AND BLOWING SOIL.
6. OPERATION AND MAINTENANCE--WHEN TEMPORARY DUST CONTROL MEASURES ARE USED; REPETITIVE TREATMENT SHOULD BE APPLIED AS NEEDED TO ACCOMPLISH CONTROL.
7. STREET CLEANING--PAVED AREAS THAT HAVE ACCUMULATED SEDIMENT FROM CONSTRUCTION SHOULD BE CLEANED DAILY, OR AS NEEDED UTILIZING A STREET SWEEPER OR BUCKET-TYPE END LOADER OR SCRAPER.

TYPICAL CULVERT CROSS-SECTION



TYPICAL CULVERT CROSS-SECTION
NOT TO SCALE

PERMANENT SEEDING (PS)

DESCRIPTION
PERENNIAL VEGETATION IS ESTABLISHED ON AREAS THAT WILL NOT BE RE-DISTURBED FOR PERIODS LONGER THAN 12 MONTHS. PERMANENT SEEDING INCLUDES SITE PREPARATION, SEEDBED PREPARATION, PLANTING SEED, MULCHING, IRRIGATION AND MAINTENANCE.
PERMANENT VEGETATION IS USED TO STABILIZE SOIL, REDUCE EROSION, PREVENT SEDIMENT POLLUTION, REDUCE RUNOFF BY PROMOTING INFILTRATION, AND PROVIDE STORMWATER QUALITY BENEFITS OFFERED BY DENSE GRASS COVER.

SPECIFICATIONS FOR PERMANENT SEEDING

SITE PREPARATION
1. SUBSOILER, PLOW, OR OTHER IMPLEMENT SHALL BE USED TO REDUCE SOIL COMPACTION AND ALLOW MAXIMUM INFILTRATION. (MAXIMIZING INFILTRATION WILL HELP CONTROL BOTH RUNOFF RATE AND WATER QUALITY.) SUBSOILING SHOULD BE DONE WHEN THE SOIL MOISTURE IS LOW ENOUGH TO ALLOW THE SOIL TO CRACK OR FRACTURE. SUBSOILING SHALL NOT BE DONE ON SLIP-PRONE AREAS WHERE SOIL PREPARATION SHOULD BE LIMITED TO WHAT IS NECESSARY FOR ESTABLISHING VEGETATION.
2. THE SITE SHALL BE GRADED AS NEEDED TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION AND SEEDING.
3. TOPSOIL SHALL BE APPLIED WHERE NEEDED TO ESTABLISH VEGETATION.

SEEDBED PREPARATION
1. LIME--AGRICULTURAL GROUND LIMESTONE SHALL BE APPLIED TO ACID SOIL AS RECOMMENDED BY A SOIL TEST. IN LIEU OF SOIL TEST, LIME SHALL BE APPLIED AT THE RATE OF 100 POUNDS PER 1,000-SQ. FT. OR 2 TONS PER ACRE.
2. FERTILIZER--FERTILIZER SHALL BE APPLIED AS RECOMMENDED BY A SOIL TEST. IN PLACE OF SOIL TEST, FERTILIZER SHALL BE APPLIED AT A RATE OF 25 POUNDS PER 1,000-SQ. FT. OR 1000 POUNDS PER ACRE OF A 10-10-10 OR 12-12-12 ANALYSES.
3. THE LIME AND FERTILIZER SHALL BE WORKED INTO THE SOIL WITH A DISK HARROW, SPRING-TOOTH HARROW, OR OTHER SUITABLE FIELD IMPLEMENT TO A DEPTH OF 3 INCHES. ON SLOPING LAND, THE SOIL SHALL BE WORKED ON THE CONTOUR.

SEEDING DATES AND SOIL CONDITIONS
SEEDING SHOULD BE DONE MARCH 1 TO MAY 31 OR AUGUST 1 TO SEPTEMBER 30. IF SEEDING OCCURS OUTSIDE OF THE ABOVE-SPECIFIED DATES, ADDITIONAL MULCH AND IRRIGATION MAY BE REQUIRED TO ENSURE A MINIMUM OF 80% GERMINATION. TILLAGE FOR SEEDBED PREPARATION SHOULD BE DONE WHEN THE SOIL IS DRY ENOUGH TO CRUMBLE AND NOT FORM RIBBONS WHEN COMPRESSED BY HAND. FOR WINTER SEEDING, SEE THE FOLLOWING SECTION ON DORMANT SEEDING.

DORMANT SEEDING
1. SEEDING SHOULD NOT BE MADE FROM OCTOBER 1 THROUGH NOVEMBER 20. DURING THIS PERIOD, THE SEEDS ARE LIKELY TO GERMINATE BUT PROBABLY WILL NOT BE ABLE TO SURVIVE THE WINTER.
2. THE FOLLOWING METHODS MAY BE USED FOR "DORMANT SEEDING":
- FROM OCTOBER 1 THROUGH NOVEMBER 20, PREPARE THE SEEDBED, ADD THE REQUIRED AMOUNTS OF LIME AND FERTILIZER, THEN MULCH AND ANCHOR. AFTER NOVEMBER 20, AND BEFORE MARCH 15, BROADCAST THE SELECTED SEED MIXTURE. INCREASE THE SEEDING RATES BY 50% FOR THIS TYPE SEEDING.
- FROM NOVEMBER 20 THROUGH MARCH 15, WHEN SOIL CONDITIONS PERMIT, PREPARE THE SEEDBED, LIME AND FERTILIZE, APPLY THE SELECTED SEED MIXTURE, MULCH AND ANCHOR. INCREASE THE SEEDING RATES BY 50% FOR THIS TYPE OF SEEDING.
- APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDRO-SEEDER (SLURRY MAY INCLUDE SEED AND FERTILIZER) ON A FIRM, MOIST SEEDBED.
- WHERE FEASIBLE, EXCEPT WHEN A CULTIPACKER TYPE SEEDER IS USED, THE SEEDBED SHOULD BE FIRMED FOLLOWING SEEDING OPERATIONS WITH A CULTIPACKER, ROLLER, OR LIGHT DRAG. ON SLOPING LAND, SEEDING OPERATIONS SHOULD BE ON THE CONTOUR WHERE FEASIBLE.

MULCHING
1. MULCH MATERIAL SHALL BE APPLIED IMMEDIATELY AFTER SEEDING. DORMANT SEEDING SHALL BE MULCHED. 100% OF THE GROUND SURFACE SHALL BE COVERED WITH AN APPROVED MATERIAL.
2. MATERIALS
- STRAW--IF STRAW IS USED IT SHALL BE UNROTTED SMALL-GRAIN STRAW APPLIED AT THE RATE OF 2 TONS PER ACRE OR 90 POUNDS (TWO TO THREE BALES) PER 1,000-SQ. FT. THE MULCH SHALL BE SPREAD UNIFORMLY BY HAND OR MECHANICALLY APPLIED SO THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000-SQ. FT. SECTIONS AND SPREAD TWO 45-LB. BALES OF STRAW IN EACH SECTION.
- HYDROSEEDERS--IF WOOD CELLULOSE FIBER IS USED, IT SHALL BE APPLIED AT 2,000 LB./AC. OR 46 LB./1,000 SQ. FT.
- OTHER--OTHER ACCEPTABLE MULCHES INCLUDE ROLLED EROSION CONTROL MATTINGS OR BLANKETS APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS OR WOOD CHIPS APPLIED AT 6 TONS PER ACRE.
3. STRAW AND MULCH ANCHORING METHODS
STRAW MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR WATER.
- MECHANICAL--A DISK, CRIMPER, OR SIMILAR TYPE TOOL SHALL BE SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED BUT, GENERALLY, BE LEFT LONGER THAN 6 INCHES.
- MULCH NETTING--NETTING SHALL BE USED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. NETTING MAY BE NECESSARY TO HOLD MULCH IN PLACE IN AREAS OF CONCENTRATED RUNOFF AND ON CRITICAL SLOPES.
- ASPHALT EMULSION--ASPHALT SHALL BE APPLIED AS RECOMMENDED BY THE MANUFACTURE OR AT THE RATE OF 160 GALLONS PER ACRE.
- SYNTHETIC BINDERS--SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRI-TAC), DCA-70, PETROSET, TERRA TACK OR EQUIVALENT MAY BE USED AT RATES SPECIFIED BY THE MANUFACTURER.
- WOOD CELLULOSE FIBER--WOOD CELLULOSE FIBER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER WITH THE MIXTURE CONTAINING A MAXIMUM OF 50 POUNDS CELLULOSE PER 100 GALLONS OF WATER.

IRRIGATION
PERMANENT SEEDING SHALL INCLUDE IRRIGATION TO ESTABLISHED VEGETATION DURING DRY WEATHER OR ON ADVERSE SITE CONDITIONS, WHICH REQUIRE ADEQUATE MOISTURE FOR SEED GERMINATION AND PLANT GROWTH.
IRRIGATION RATES SHALL BE MONITORED TO PREVENT EROSION AND DAMAGE TO SEEDED AREAS FROM EXCESSIVE RUNOFF.

PERMANENT SEED MIXES

SLOPE STABILITY AND NATURAL CORRIDORS SEED MIX

TEMPORARY MATRIX		
OZ / AC	GRASSES	
512	AVENA SATIVA	SEED OATS
160	LOLIUM MULTIFLORUM	ANNUAL RYEGRASS
PERMANENT MATRIX		
OZ / AC	GRASSES	
16	ANDROPOGON GERARDII	BIG BLUESTEM
16	BOUTELOUA CURTIPENDULA	SIDE-OATS GRAMA
48	ELYMUS CANADENSIS	CANADA WILD RYE
48	ELYMUS VIRGINICUS	VIRGINIA WILD RYE
32	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM
16	SORGHASTRUM NUTANS	INDIAN GRASS
OZ / AC	FORBS	
1	MONARDA FISTULOSA	BERGAMOT
2	COREOPSIS LANCEOLATA	LANCELOT COREOPIS
4	RUDBECKA HIRTA	BLACK-EYED SUSAN
2	SOLIDAGO NEMORALIS	GREY GOLDENROD
2	SOLIDAGO SPECIOSA	SHOWY GOLDENROD

LAWN MIX - SUN TO PARTIAL SHADE

LBS / AC	GRASSES	
20	LOLIUM MULTIFLORUM	ANNUAL RYEGRASS
100	POA PROTENSIS	KENTUCKY BLUEGRASS
100	LOLIUM PERENNE	PERENNIAL RYEGRASS

LAWN MIX - SHADE

LBS / AC	GRASSES	
20	LOLIUM MULTIFLORUM	ANNUAL RYEGRASS
100	POA PROTENSIS	KENTUCKY BLUEGRASS
100	FESTUCA RUBRA	CREEPING RED FESCUE

SWALE AND RETENTION AREA SEED MIX

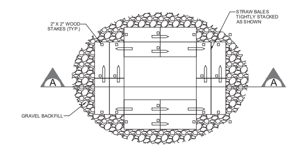
TEMPORARY MATRIX		
OZ / AC	GRASSES	
512	AVENA SATIVA	SEED OATS
160	LOLIUM MULTIFLORUM	ANNUAL RYEGRASS
PERMANENT MATRIX		
OZ / AC	GRASSES	
8	CAREX FRANKII	FRANK'S SEDGE
2	ELEOCHARIS OBTUSA	BLUNT SPIKE RUSH
8	CAREX VULPINOIDEA	FOX SEDGE
32	PANICUM VIRGATUM	SWITCHGRASS
2	SCIRPUS ACUTUS	HARD STEM RUSH
OZ / AC	FORBS	
2	ASCLEPIAS INCARNATA	SWAMP MILKWEED
2	ASTER NOVAE-ANGLIAE	NEW ENGLAND ASTER
2	EUPATORIUM PERFOLIATUM	BONESET
1	HELENIUM AUTUMNALE	AUTUMN SNEEZEWEED
2	MONARDO FISTULOSA	BERGAMOT
2	RATIBIDA PINNATA	YELLOW CONEFLOWER
2	RUDBECKIA SUBTOMENTOSA	SWEET BLACK-EYED SUSAN

FARM LANE AREA SEED MIX

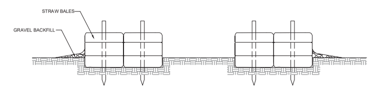
TEMPORARY MATRIX		
OZ / AC	GRASSES	
512	AVENA SATIVA	SEED OATS
160	LOLIUM MULTIFLORUM	ANNUAL RYEGRASS
PERMANENT MATRIX		
OZ / AC	GRASSES	
64	TRIFOLIUM PRATENSE	RED CLOVER
32	TRIFOLIUM REPENS	WHITE CLOVER

CONCRETE WASHOUT (CW)

1. THE RESIDUE OR CONTENTS OF ALL CONCRETE MIXERS, DUMP TRUCKS, OTHER CONVEYANCE EQUIPMENT AND FINISHING TOOLS SHALL BE WASHED INTO CONCRETE CLEAN-OUT STRUCTURES CONSISTING OF A STRAW BALE BARRIER WITH GRAVEL BACKFILL. THE LENGTH AND WIDTH OF THESE STRUCTURES SHALL BE AS DETERMINED BY THE CONTRACTOR TO FACILITATE THE PARTICULAR EQUIPMENT USED. THESE STRUCTURES SHALL BE CONSTRUCTED ON LEVEL GROUND AT LEAST 100' FROM THE NEAREST WATERCOURSE, DRAINAGE SWALE OR INLET. AT NO TIME SHALL THE STRUCTURE BE ALLOWED TO BE MORE THAN 50% FULL. THE CONTRACTOR SHALL MAINTAIN THESE PONDS UNTIL ALL CONCRETE PLACEMENT IS COMPLETE FOR THE PROJECT.
2. EMBED THE STRAW BALES 4" INTO THE SOIL. PROVIDE TWO ROWS OF BALES, AS SHOWN ON THE DETAIL, WITH ENDS AND CORNERS TIGHTLY ABUTTING. ORIENT THE STRAW BALES LENGTHWISE WITH BINDINGS AROUND THE SIDES OF THE BALES SO THE WIRE DOES NOT CONTACT THE SOIL. DRIVE 2" X 2" WOOD STAKES THROUGH EACH BALE, TO SECURELY ANCHOR THE BALE AND CONNECT ADJACENT BALES. GRAVEL BACKFILL SHALL BE PROVIDED AND TAMPED AROUND THE OUTSIDE PERIMETER OF THE BALES TO PREVENT EROSION AND FLOW AROUND THE BALES.
3. THE INTENT OF THESE STRUCTURES IS TO COLLECT ALL CONCRETE WASH OUT WATER AND ALLOW IT TO DRY TO A SOLID MATERIAL. AFTER DRYING, THE SOLID MATERIAL CAN BE REMOVED WITH A LOADER OR EXCAVATOR FOR PROPER DISPOSAL. WASH OUT WILL NOT BE PERMITTED IN ANY OTHER AREAS.
4. USE THE MINIMUM AMOUNT OF WATER TO WASH THE VEHICLES AND EQUIPMENT. NEVER DISPOSE OF WASH OUT INTO THE STREET, STORM INLET, DRAINAGE SWALE OR WATERCOURSE. DISPOSE OF SMALL AMOUNTS OF EXCESS DRY CONCRETE, GROUT AND MORTAR IN THE TRASH. ANY SOAPS THAT ARE UTILIZED SHALL BE PHOSPHATE-FREE AND BIODEGRADABLE.
5. ADDITIONAL CONCRETE CLEAN-OUT STRUCTURES SHALL BE CONSTRUCTED WITHIN THE SPECIFIED AREA AS NEEDED BASED UPON THE VOLUME OF WASH OUT GENERATED DAILY.



PLAN VIEW
NOT TO SCALE



SECTION A-A
NOT TO SCALE

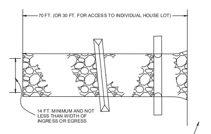
CONSTRUCTION ENTRANCE (CE)

DESCRIPTION
A CONSTRUCTION ENTRANCE IS A STABILIZED PAD OF STONE UNDERLAIN WITH A GEOTEXTILE AND IS USED TO REDUCE THE AMOUNT OF MUD TRACKED OFF-SITE WITH CONSTRUCTION TRAFFIC. LOCATED AT POINTS OF INGRESS/EGRESS, THE PRACTICE IS USED TO REDUCE THE AMOUNT OF MUD TRACKED OFF-SITE WITH CONSTRUCTION TRAFFIC.

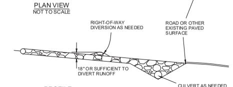
SPECIFICATIONS FOR CONSTRUCTION ENTRANCE
1. STONE SIZE--ODOT #2 (1.5-2.5 INCH) STONE SHALL BE USED, OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH--THE CONSTRUCTION ENTRANCE SHALL BE AS LONG AS REQUIRED TO STABILIZE HIGH TRAFFIC AREAS BUT NOT LESS THAN 70 FT. (EXCEPTION: APPLY 30 FT. MINIMUM TO SINGLE RESIDENCE LOTS.)
3. THICKNESS--THE STONE LAYER SHALL BE AT LEAST 6 INCHES THICK FOR LIGHT DUTY ENTRANCES OR AT LEAST 10 INCHES FOR HEAVY DUTY USE.
4. WIDTH--THE ENTRANCE SHALL BE AT LEAST 14 FEET WIDE, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. GEOTEXTILE--A GEOTEXTILE SHALL BE LAID OVER THE ENTIRE AREA PRIOR TO PLACING STONE. IT SHALL BE COMPOSED OF STRONG ROT-PROOF POLYMERIC FIBERS AND MEET THE FOLLOWING SPECIFICATIONS:

GEOTEXTILE SPECIFICATIONS FOR CONSTRUCTION ENTRANCE	
MINIMUM TENSILE STRENGTH	200 LBS.
MINIMUM PUNCTURE STRENGTH	80 PSI.
MINIMUM TEAR STRENGTH	50 LBS.
MINIMUM BURST STRENGTH	320 PSI.
MINIMUM ELONGATION	20%
EQUIVALENT OPENING SIZE	EOS<0.6 MM.
PERMITTIVITY	1X10-3 CM/SEC.

6. TIMING--THE CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS SOON AS IS PRACTICABLE BEFORE MAJOR GRADING ACTIVITIES.
7. CULVERT--A PIPE OR CULVERT SHALL BE CONSTRUCTED UNDER THE ENTRANCE IF NEEDED TO PREVENT SURFACE WATER FROM FLOWING ACROSS THE ENTRANCE OR TO PREVENT RUNOFF FROM BEING DIRECTED OUT ONTO PAVE SURFACES.
8. WATER BAR-A WATER BAR SHALL BE CONSTRUCTED AS PART OF THE CONSTRUCTION ENTRANCE IF NEEDED TO PREVENT SURFACE RUNOFF FROM FLOWING THE LENGTH OF THE CONSTRUCTION ENTRANCE AND OUT ONTO PAVED SURFACES.
9. MAINTENANCE--TOP DRESSING OF ADDITIONAL STONE SHALL BE APPLIED AS CONDITIONS DEMAND. MUD SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADS, OR ANY SURFACE WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS, SHALL BE REMOVED IMMEDIATELY. REMOVAL SHALL BE ACCOMPLISHED BY SCRAPING OR SWEEPING.
10. CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES AND PREVENT OFF-SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION-SITE SHALL BE RESTRICTED FROM MUDDY AREAS.
11. REMOVAL-THE ENTRANCE SHALL REMAIN IN PLACE UNTIL THE DISTURBED AREA IS STABILIZED OR REPLACED WITH A PERMANENT ROADWAY OR ENTRANCE.



PLAN VIEW
NOT TO SCALE



PROFILE
NOT TO SCALE

TEMPORARY SILT FENCE (SF)

1. SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPE LAND DISTURBANCE BEGINS.
2. ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE SO THAT WATER WILL NOT CONCENTRATE AT LOW POINTS IN THE FENCE AND SO THAT SMALL SWALES OR DEPRESSIONS THAT MAY CARRY SMALL CONCENTRATED FLOWS TO THE SILT FENCE ARE DISSIPATED ALONG ITS LENGTH.
3. ENDS OF THE SILT FENCES SHALL BE BROUGHT UPSLOPE SLIGHTLY SO THAT WATER PONDED BY THE SILT FENCE WILL BE PREVENTED FROM FLOWING AROUND THE ENDS.
4. SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE.
5. WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR 5 FEET (OR AS MUCH AS POSSIBLE) UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE REESTABLISHED WITHIN 7 DAYS FROM THE INSTALLATION OF THE SILT FENCE.
6. THE HEIGHT OF THE SILT FENCE SHALL BE A MINIMUM OF 16 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
7. THE SILT FENCE SHALL BE PLACED IN AN EXCAVATED OR SLICED TRENCH CUT A MINIMUM OF 6 INCHES DEEP. THE TRENCH SHALL BE MADE WITH A TRENCHER, CABLE LAYING MACHINE, SLICING MACHINE, OR OTHER SUITABLE DEVICE THAT WILL ENSURE AN ADEQUATELY UNIFORM TRENCH DEPTH.
8. THE SILT FENCE SHALL BE PLACED WITH THE STAKES ON THE DOWNSLOPE SIDE OF THE GEOTEXTILE. A MINIMUM OF 8 INCHES OF GEOTEXTILE MUST BE BELOW THE GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 6 INCH DEEP TRENCH. THE TRENCH SHALL BE BACKFILLED AND COMPACTED ON BOTH SIDES OF THE FABRIC.
9. SEAMS BETWEEN SECTIONS OF SILT FENCE SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST WITH A MINIMUM 6 INCH OVERLAP PRIOR TO DRIVING INTO THE GROUND.
10. MAINTENANCE - SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. IF RUNOFF OVERTOPS THE SILT FENCE, FLOWS UNDER THE FABRIC OR AROUND THE FENCE ENDS, OR IN ANY OTHER WAY ALLOWS A CONCENTRATED FLOW DISCHARGE, ONE OF THE FOLLOWING SHALL BE PERFORMED AS APPROPRIATE: 1) THE LAYOUT OF THE SILT FENCE SHALL BE CHANGED, 2) ACCUMULATED SEDIMENT SHALL BE REMOVED, OR 3) OTHER PRACTICES SHALL BE INSTALLED.

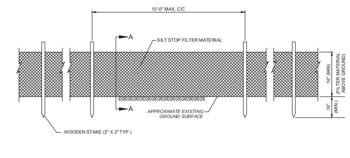
SEDIMENT DEPOSITS SHALL BE ROUTINELY REMOVED WHEN THE DEPOSIT REACHES APPROXIMATELY ONE-HALF OF THE HEIGHT OF THE SILT FENCE.

SILT FENCES SHALL BE INSPECTED AFTER AFTER EACH RAINFALL AND AT LEAST DAILY DURING A PROLONGED RAINFALL. THE LOCATION OF EXISTING SILT FENCE SHALL BE REVIEWED DAILY TO ENSURE ITS PROPER LOCATION AND EFFECTIVENESS. IF DAMAGED, THE SILT FENCE SHALL BE REPAIRED IMMEDIATELY.

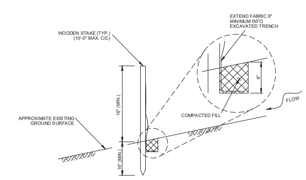
CRITERIA FOR SILT FENCE MATERIALS

1. FENCE POST - THE LENGTH SHALL BE A MINIMUM OF 32 INCHES. WOOD POSTS WILL BE 2-BY-2-IN. NOMINAL DIMENSIONED HARDWOOD OF SOUND QUALITY. THEY SHALL BE FREE OF KNOTS, SPLITS AND OTHER VISIBLE IMPERFECTIONS THAT WILL WEAKEN THE POSTS. THE MAXIMUM SPACING BETWEEN POSTS SHALL BE 10 FEET. POSTS SHALL BE DRIVEN A MINIMUM 16 INCHES INTO THE GROUND, WHERE POSSIBLE. IF NOT POSSIBLE, THE POSTS SHALL BE ADEQUATELY SECURED TO PREVENT OVERTURNING OF THE FENCE DUE TO SEDIMENT/WATER LOADING.
2. SILT FENCE FABRIC - SEE CHART BELOW.

FABRIC PROPERTIES	VALUES	TEST METHOD
MINIMUM TENSILE STRENGTH	120 LBS. (535N)	ASTM D 4632
MAXIMUM ELONGATION AT 60 LBS.	50%	ASTM D 4632
MINIMUM PUNCTURE STRENGTH	50 LBS. (220N)	ASTM D 4833
MINIMUM TEAR STRENGTH	40 LBS. (180N)	ASTM D 4533
APPARENT OPENING SIZE	≤0.84MM	ASTM D 4751
MINIMUM PERMITTIVITY	1X10-2 SEC.-1	ASTM D 4491
UV EXPOSURE STRENGTH RETENTION	70%	ASTM G 4355



BACK VIEW
NOT TO SCALE



SECTION A-A
NOT TO SCALE

ISSUED FOR CONSTRUCTION
07/22/2020

DRAWING INDEX

COVER SHEET E-1210
EXISTING CONDITIONS E-1211
DEMOLITION PLAN E-1212
SITE DIMENSION PLAN E-1213
GRADING / EROSION & SEDIMENT CONTROL PLAN E-1214
STATION CROSS SECTIONS AND DETAILS E-1215
EROSION AND SEDIMENT CONTROL DETAILS - SHEET 1 .... E-1216
EROSION AND SEDIMENT CONTROL DETAILS - SHEET 2 .... E-1217

BAIR GOODIE
BAIR, GOODIE AND ASSOCIATES, INC.
153 NORTH BROADWAY STREET
NEW PHILADELPHIA, OH 44663
TEL: 330.343.3499 FAX: 330.343.9505
WWW.BAIRGOODIE.COM

UNDERGROUND UTILITIES
TWO WORKING DAYS
CALL BEFORE YOU DIG
Call 800-362-2764 (Toll Free)
OHIO UTILITIES PROTECTION SERVICE

OLD DWG #: | STD DWG #:

"THIS DRAWING IS THE PROPERTY OF AMERICAN ELECTRIC POWER AND IS LOANED UPON CONDITION THAT IT IS NOT TO BE COPIED OR REPRODUCED, IN WHOLE OR IN PART, OR USED FOR FURNISHING INFORMATION TO ANY PERSON WITHOUT THE WRITTEN CONSENT OF AMERICAN ELECTRIC POWER, OR FOR ANY PURPOSE DETRIMENTAL TO THEIR INTEREST, AND IS TO BE RETURNED UPON REQUEST"

OHIO POWER COMPANY
CONESVILLE PLANT
CONESVILLE | OHIO
138KV/345KV
EROSION & SEDIMENT CONTROL DETAILS - SHEET 2

SCALE: 1" = 30'	DR: DB/BGA	ENG: JP/BGA	CH: JP/BGA
	WO#: 42727508	APPD: JP/BGA	DATE: 07/22/2020
1 RIVERSIDE PLAZA COLUMBUS, OH 43215	DWG. NO. E-1217		REV 0

NO	DATE	REVISION DESCRIPTION	APPR	DR	ENG	CK	ISSUE#

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

10/7/2020 4:20:33 PM

in

Case No(s). 20-0709-EL-BNR

Summary: Notice Proof of Compliance with Conditions and associated exhibits for the Conesville Transmission Station Expansion Project electronically filed by Tanner Wolffram on behalf of Ohio Power Company