



May 14, 2019

**Via Email
and
CERTIFIED MAIL NO. 7018 1130 0001 4475 7032**

Thomas Glisson
ETC Northeast Pipeline, LLC
6051 Wallace Run Extension
Wexford, PA 15090

Re: Order
ETC Northeast Pipeline, LLC – Revolution Pipeline

Dear Mr. Glisson:

Enclosed is an Order from the Department. If you have any questions regarding this matter, feel free to contact me at 412.442.4006

Sincerely,

A handwritten signature in blue ink, consisting of several overlapping loops and a long horizontal stroke extending to the right.

Daniel F. Counahan
District Oil and Gas Manager
Southwest District Oil and Gas Operations

cc: Regional file
D. Counahan
R. Watling

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION**

In The Matter Of:

ETC Northeast Pipeline, LLC	:	Violations of The Clean Streams Law
6051 Wallace Road Extension, 3 rd Floor	:	Dam Safety and Encroachments Act
Wexford, PA 15090	:	Oil & Gas Act of 2012
	:	Erosion and Sediment Control
	:	Regulations, Chapter 102
	:	Dam Safety and Waterway
	:	Management Regulations, Chapter 105

ORDER

NOW, this 14th day of May 2019, the Commonwealth of Pennsylvania, Department of Environmental Protection (“Department”), has made and determined the following FINDINGS and enters the following ORDER:

A. The Department is the agency with the duty and authority to administer and enforce The Clean Streams Law, Act of June 22, 1937, P.L. 1987, *as amended*, 35 P.S. §§ 691.1 – 691.1001 (“The Clean Streams Law”); the Oil and Gas Act, Act of February 14, 2012, P.L. 87, No. 13, 58 Pa. C.S. §§ 3201 – 3274 (“2012 Oil and Gas Act”); the Dam Safety and Encroachments Act, Act of November 26, 1978, P.L. 1375, *as amended*, 32 P.S. §§ 693.1 – 693.27 (“Dam Safety Act”); Section 1917-A of the Administrative Code of 1929, Act of April 9, 1929, P.L. 177, *as amended*, 71 P.S. § 510-17 (“Administrative Code”); and the rules and regulations (“Regulations”) promulgated thereunder.

B. ETC Northeast Pipeline, LLC (“ETC”) is a Delaware limited liability company doing business in Pennsylvania and maintains a local mailing address of 6051 Wallace Road Extension, 3rd Floor, Wexford, PA 15090. ETC owns and operates numerous pipelines in Pennsylvania used to transport petroleum and natural gas products.

C. At all times relevant to the matters set forth in this Order, ETC has been a “person” and the “owner” and “operator” of the Revolution Pipeline, as those terms are defined in Section 1 of The Clean Streams Law, 35 P.S. § 691.1, Section 3 of the Dam Safety Act, 32 P.S. § 693.3, and Sections 102.1 and 105.1 of the Regulations, 25 Pa. Code §§ 102.1 and 105.1.

D. The Revolution Pipeline is located in Jackson Township, Butler County; New Sewickley, Conway, Center, Raccoon, and Independence Townships, Beaver County; Findlay Township, Allegheny County; and Robinson and Smith Townships, Washington County. The Revolution Pipeline project is approximately 40.5 miles in length and covers approximately 700 acres. Construction of the Revolution Pipeline commenced in 2017 and is continuing as of the date of this Order.

E. Earth disturbances necessary for the construction of the Revolution Pipeline are subject to Erosion and Sedimentation Control General Permit authorizations, numbers ESG 00007160001, ESG 000716001, and ESG 00007170002 (“ESCGPs”). Each of the ESCGPs contains the same terms and conditions. Each of the ESCGPs provides that “[a]ny permit non-compliance constitutes a violation of The Clean Streams Law, the 2012 Oil and Gas Act” The ESCGPs require ETC to assure that the all earth disturbance activity is done in accordance with the drawings, terms, and conditions permitted by the ESCGPs.

F. The ESCGPs include the boundary within which ETC is permitted to perform earth disturbance activities (including installation of best management practices (“BMPs”)) to construct the Revolution Pipeline (“Limit of Disturbance”). The earth disturbance permitted under the ESCGPs generally included the installation of the BMPs to minimize accelerated erosion and sedimentation and manage stormwater, moving earth to install the pipeline, and stabilizing the site.

G. ETC received general permit authorizations (“Encroachment Permits”), issued pursuant to the Dam Safety Act, for limited “encroachments” upon specified “waters of the Commonwealth,” as those terms are defined in Section 3 of the Dam Safety Act, 32 P.S. § 693.3, 25 Pa. Code § 105.1, and Section 1 of The Clean Streams Law, 35 P.S. § 691.1, respectively. (The permit numbers for the Encroachment Permits are identified in Exhibit A.)

H. On or before the date of this Order, while constructing the Revolution Pipeline project, ETC, *inter alia*:

i. Eliminated at least twenty-three (23) streams by removing and/or filling the stream channels with soil during construction activities, resulting in a loss of approximately 1,857 linear feet of stream channel;

ii. Changed the length of at least one hundred twenty (120) streams by manipulating and/or filling the stream channels with soil during construction activities resulting in a net loss of approximately 1,310 feet of stream channel; and,

iii. Eliminated at least seventeen (17) and altered seventy (70) wetland areas by manipulating and/or filling wetlands with soil.

These encroachments and water obstructions are collectively referred to herein as the “Unpermitted Water Obstructions and Encroachments.” (The list of ETC’s stream and wetland impacts identified to date is attached as Exhibit B.)

I. The Unpermitted Water Obstructions and Encroachments were not identified in ETC’s application materials for the Encroachment Permits.

J. The Unpermitted Water Obstructions and Encroachments were not permitted in either the ESCGPs or the Encroachment Permits.

K. As of this date, ETC has not performed a full assessment to determine all wetlands and streams adversely affected by ETC's construction of the Revolution Pipeline.

L. By causing the Unpermitted Water Obstructions and Encroachments, ETC:

i. Violated Section 6 of the Dam Safety Act, 32 P.S. § 693.6, and 25 Pa. Code § 105.11(a) by encroaching upon waters of the Commonwealth without a permit;

ii. Violated 25 Pa. Code §§ 78a.53 and 102.4(d) by conducting earth disturbance activities, including the manipulation, removal, and/or filling of streams and wetlands with soil during construction activities, without a permit; and

iii. Violated Section 401 of The Clean Streams Law, 35 P.S. § 691.401, by polluting waters of the Commonwealth by filling streams and wetlands with soil, resulting in their alteration and/or elimination.

M. The violations described in Paragraph L constitute unlawful conduct under Section 611 of The Clean Streams Law, 35 P.S. § 691.611, Section 18 of the Dam Safety Act, 32 P.S. § 693.18, and Section 3259 of the 2012 Oil and Gas Act, 58 Pa. C.S. § 3259; and a statutory nuisance under Section 402(b) of The Clean Streams Law, 35 P.S. § 691.402(b) and Section 19 of the Dam Safety Act, 32 P.S. § 693.19.

ORDER

NOW, THEREFORE, pursuant to Sections 5, 316, and 610 of The Clean Streams Law, 35 P.S. §§ 691.5, 691.316, and 691.610; Section 3253 of the 2012 Oil and Gas Act, 58 Pa. C.S. § 3253; Section 20 of the Dam Safety Act, 32 P.S. § 693.20; and Section 1917-A of the Administrative Code, 71 P.S. § 510-17, the Department hereby ORDERS the following:

1. ETC shall take the following corrective actions:

a. On or before July 30, 2019, ETC shall:

i. Identify all waters of the Commonwealth affected by any earth disturbance activity or work related thereto associated with the Revolution Pipeline, whether within or outside of the Limit of Disturbance (“Impacted Waters”), through an investigation of the entire length of the Revolution Pipeline. To identify the Impacted Waters, ETC shall:

1. Physically inspect all land disturbed during the construction of the Revolution Pipeline, whether within or outside of the Limit of Disturbance, using personnel qualified to perform aquatic resource identification, determination, delineation and related field work; and

2. Utilize, at a minimum, public records and any other available records and information (including but not limited to records and information in the possession or control of ETC, its affiliates, associates, contractors, agents, subcontractors, landowners, and any persons that worked or contributed to the work on the construction and/or earth disturbance associated with the Revolution Pipeline); and

ii. Submit a comprehensive report to the Department summarizing the results of its investigation performed pursuant to Paragraph 1.a.i., above (“Waters Investigation Report”). The Waters Investigation Report shall include:

1. An inventory (including a detailed description of the original condition) of all waters of the Commonwealth that existed prior to the construction of the Revolution Pipeline, including waters of the Commonwealth within the Limit of Disturbance and waters of the Commonwealth within 300 feet of the Limit of Disturbance;

2. An inventory (including a detailed description) of the impacts to all identified Impacted Waters; and

3. The following information for each of the organization(s) and person(s) performing aquatic resource identification, determination, delineation and related field work: Organization name(s), mailing addresses, first and last name of person(s), email address, portions of work completed and qualifications (current CV).

b. On or before August 30, 2019, ETC shall submit a plan and schedule to restore the Impacted Waters to their original conditions as identified in the Waters Investigation Report (“Waters Restoration Plan”). For each Impacted Water, the Waters Restoration Plan shall set forth the following in detail:

i. The permits needed for the restoration;

ii. A schedule of all activities necessary to perform and complete the restoration within twelve (12) months from the date that ETC receives all necessary approvals and/or permits to perform the restoration;

iii. How the restoration work will meet the requirements contained in 25 Pa. Code Chapters 102 and 105;

iv. How the methods to be used for the restoration work will restore the Impacted Waters to their previously existing uses, including but not limited to the planned manipulation of the physical, chemical, or biological characteristics thereof to return the waters to their pre-impact, natural, and historic functions as aquatic resources and waters of the Commonwealth;

v. Quantitative performance measures to evaluate aquatic resources for pre- and post-impact site conditions and pre- and post-restoration conditions, and to measure and establish recovery of the Impacted Waters; and

vi. The identification of Impacted Waters that ETC is unable to restore due to site features or other identified permanent impediments and for which mitigation, as defined in § 105.1 (relating to definitions), cannot be achieved, with a plan and schedule to replace those Impacted Waters at a minimum 4:1 replacement ratio, including new wetland creation and other water resources projects subject to the Department's review and requiring Department approval, as set forth in Paragraph 2, below, and in compliance with laws and Regulations, including but not limited to 25 Pa. Code Chapters 102 and 105.

c. On or before September 30, 2019, ETC shall submit full and complete applications for all permits that ETC identifies in the Water Restoration Plan as needed to restore and replace all Impacted Waters. By that date, ETC shall also submit a plan to monitor ("Monitoring Plan") the success of ETC's restoration and replacement of all Impacted Waters, utilizing the quantitative performance measures required under Paragraph 1.b.v., above.

d. Within thirty (30) calendar days after the Department's approval of all submitted permit applications, ETC shall begin restoration and/or replacement in accordance with the implementation schedule set forth in the Waters Restoration Plan as approved by the Department.

2. ETC shall submit documents required under this Order to the Department for the Department's review and approval, or denial, or approval with modifications, on or before the dates set forth above. After submission, ETC shall:

a. Fully address all comments made and deficiencies noted by the Department within fourteen (14) calendar days from receipt of those comments (unless otherwise extended or modified in writing by the Department);

b. Submit all other reports and documentation requested by the Department within such time-period set forth by the Department, related to the impacts caused or allowed by ETC or the restoration work that has been or is to be performed; and

c. Starting on October 15, 2019, submit progress reports within two weeks after the end of every calendar quarter, explaining in detail the progress that ETC has made complying with this Order, including but not limited to progress regarding planning, restoration, replacement, monitoring, and applying for permits, as required above ("Progress Reports").

3. Any documents submitted pursuant to Paragraph 1, above, and any schedules contained therein, shall, upon approval by the Department (including any modifications made by the Department), become part of this Order for all purposes, including its enforcement.

4. In complying with this Order, ETC shall not cause pollution of any waters of the Commonwealth and shall not affect, by pollution or diminution (temporary or permanent), any water supply.

5. This Order does not alter or waive any requirement to obtain a permit or license under any law or regulation or any other right or power of the Commonwealth or grant or affect any other party's property rights.

6. All correspondence with the Department concerning this Order shall be addressed as follows:

April A. Weiland
Environmental Group Manager
District Oil and Gas Operations
Pennsylvania Department of Environmental Protection
400 Waterfront Drive
Pittsburgh, PA 15222-4745

Any person aggrieved by this action may appeal the action to the Environmental Hearing Board (Board) pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. § 7514, and the Administrative Agency Law, 2 Pa. C.S. Chapter 5A. The Board's address is:

Environmental Hearing Board
Rachel Carson State Office Building, Second Floor
400 Market Street
P.O. Box 8457
Harrisburg, PA 17105-8457

TDD users may contact the Environmental Hearing Board through the Pennsylvania Relay Service, 800-654-5984.

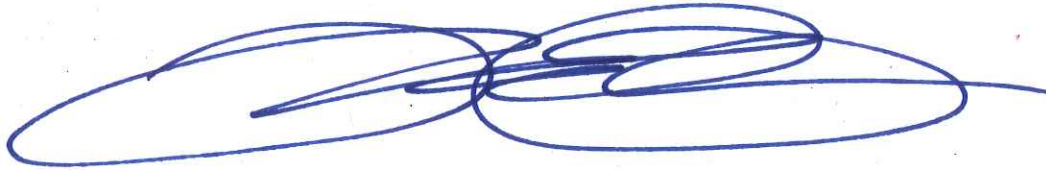
Appeals must be filed with the Board within 30 days of receipt of notice of this action unless the appropriate statute provides a different time. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

A Notice of Appeal form, and the Board's rules of practice and procedure may be obtained online at <http://ehb.courtapps.com> or by contacting the Secretary to the Board at 717-787-3483. The Notice of Appeal form, and the Board's rules are also available in braille and on audiotape from the Secretary to the Board.

IMPORTANT LEGAL RIGHTS ARE AT STAKE. YOU SHOULD SHOW THIS DOCUMENT TO A LAWYER AT ONCE. IF YOU CANNOT AFFORD A LAWYER, YOU MAY QUALIFY FOR FREE PRO BONO REPRESENTATION. CALL THE SECRETARY TO THE BOARD AT 717-787-3483 FOR MORE INFORMATION. YOU DO NOT NEED A LAWYER TO FILE A NOTICE OF APPEAL WITH THE BOARD.

IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST BE FILED WITH AND RECEIVED BY THE BOARD WITHIN 30 DAYS OF RECEIPT OF NOTICE OF THIS ACTION.

**FOR THE COMMONWEALTH OF PENNSYLVANIA,
DEPARTMENT OF ENVIRONMENTAL PROTECTION:**

A handwritten signature in blue ink, consisting of several overlapping loops and a long horizontal stroke extending to the right.

Daniel F. Counahan
District Manager
Southwest District Oil and Gas Operations

Exhibit A

ETC Revolution Pipeline 105 General Permit List ("Encroachment Permits")

Number	County	Municipality	GP#
1	Allegheny	Findlay	GP050216290
2	Allegheny	Findlay	GP080216230
3	Beaver	Center	GP050416234
4	Beaver	Center	GP080416241
5	Beaver	Center	GP080416242
6	Beaver	Center	GP080416243
7	Beaver	Center	GP080416245
8	Beaver	Center	GP050416235
9	Beaver	Center	GP080416246
10	Beaver	Center	GP050416236
11	Beaver	Center	GP080416247
12	Beaver	Center	GP080416248
13	Beaver	Center	GP050416237
14	Beaver	Center	GP080416249
15	Beaver	Center	GP080416250
16	Beaver	Center	GP050416238
17	Beaver	Center	GP080416251
18	Beaver	Center	GP050416239
19	Beaver	Center	GP080416252
20	Beaver	Center	GP050416240
21	Beaver	Center	GP080416253
22	Beaver	Center	GP050416241
23	Beaver	Center	GP080416254
24	Beaver	Center	GP080416255
25	Beaver	Center	GP080416256
26	Beaver	Center	GP080416257
27	Beaver	Center	GP050416242
28	Beaver	Center	GP080416258
29	Beaver	Center	GP080416259
30	Beaver	Center	GP050416243
31	Beaver	Center	GP080416260
32	Beaver	Center	GP050416244/SLLA
33	Beaver	Center	GP050416244
34	Beaver	Center	EP0418203
35	Beaver	Independence	GP050416248
36	Beaver	Independence	GP080416269
37	Beaver	Independence	GP080416290
38	Beaver	Independence	GP080416270
39	Beaver	Independence	GP050416249
40	Beaver	Independence	GP080416271
41	Beaver	Independence	GP080416272
42	Beaver	Independence	GP050416250
43	Beaver	Independence	GP080416273
44	Beaver	Independence	GP080416274
45	Beaver	Independence	GP050416251

ETC Revolution Pipeline 105 General Permit List ("Encroachment Permits")

46	Beaver	Independence	GP080416275
47	Beaver	Independence	GP080416276
48	Beaver	Independence	GP050416252
49	Beaver	Independence	GP080416277
50	Beaver	Independence	GP050416253
51	Beaver	Independence	GP080416278
52	Beaver	Independence	GP080416279
53	Beaver	Independence	GP050416254
54	Beaver	Independence	GP080416280
55	Beaver	Independence	GP080416255
56	Beaver	Independence	GP080416281
57	Beaver	Independence	GP050416256
58	Beaver	Independence	GP080416282
59	Beaver	Independence	GP080416283
60	Beaver	Independence	GP080416284
61	Beaver	Independence	GP050416257
62	Beaver	Independence	GP080416285
63	Beaver	Independence	GP080416286
64	Beaver	Independence	GP080416287
65	Beaver	Independence	GP050416258
66	Beaver	Independence	GP080416288
67	Beaver	Independence	GP080416289
68	Beaver	Independence	GP050416259
69	Beaver	Independence	GP080416291
70	Beaver	Independence	GP050416260
71	Beaver	Independence	GP080416292
72	Beaver	Independence	GP050416261
73	Beaver	Independence	GP080416293
74	Beaver	Independence	GP050416262
75	Beaver	Independence	GP080416294
76	Beaver	New Sewickley	GP050416223
77	Beaver	New Sewickley	GP080416227
78	Beaver	New Sewickley	GP080416218
79	Beaver	New Sewickley	GP050416263
80	Beaver	New Sewickley	GP080416215
81	Beaver	New Sewickley	GP080416216
82	Beaver	New Sewickley	GP050416217
83	Beaver	New Sewickley	GP080416217
84	Beaver	New Sewickley	GP080416219
85	Beaver	New Sewickley	GP050416218
86	Beaver	New Sewickley	GP080416220
87	Beaver	New Sewickley	GP080416221
88	Beaver	New Sewickley	GP050416219
89	Beaver	New Sewickley	GP080416222
90	Beaver	New Sewickley	GP050416220
91	Beaver	New Sewickley	GP080416223
92	Beaver	New Sewickley	GP080416224

ETC Revolution Pipeline 105 General Permit List ("Encroachment Permits")

93	Beaver	New Sewickley	GP050416221
94	Beaver	New Sewickley	GP080416225
95	Beaver	New Sewickley	GP050416222
96	Beaver	New Sewickley	GP080416226
97	Beaver	New Sewickley	GP050416224
98	Beaver	New Sewickley	GP080416228
99	Beaver	New Sewickley	GP050416225
100	Beaver	New Sewickley	GP080416229
101	Beaver	New Sewickley	GP080416230
102	Beaver	New Sewickley	GP080416231
103	Beaver	New Sewickley	GP050416226
104	Beaver	New Sewickley	GP080416232
105	Beaver	New Sewickley	GP050416227
106	Beaver	New Sewickley	GP080416233
107	Beaver	New Sewickley	GP050416228
108	Beaver	New Sewickley	GP080416234
109	Beaver	New Sewickley	GP080416235
110	Beaver	New Sewickley	GP050416229
111	Beaver	New Sewickley	GP080416236
112	Beaver	New Sewickley	GP050416230
113	Beaver	New Sewickley	GP080416237
114	Beaver	New Sewickley	GP050416231
115	Beaver	New Sewickley	GP080416238
116	Beaver	New Sewickley	GP050416232
117	Beaver	New Sewickley	GP080416239
118	Beaver	New Sewickley	GP050416233
119	Beaver	New Sewickley	GP080416240
120	Beaver	New Sewickley	GP050417220-34
121	Beaver	New Sewickley	GP080417225-39
122	Beaver	New Sewickley	GP050417209-10
123	Beaver	New Sewickley	GP080417213-15
124	Beaver	New Sewickley	GP050417211, 12
125	Beaver	New Sewickley	GP080417216, 17, 18
126	Beaver	Raccoon	GP080416261
127	Beaver	Raccoon	GP050416245
128	Beaver	Raccoon	GP080416262
129	Beaver	Raccoon	GP050416246
130	Beaver	Raccoon	GP080416263
131	Beaver	Raccoon	GP050416247
132	Beaver	Raccoon	GP080416264
133	Beaver	Raccoon	GP080416265
134	Beaver	Raccoon	GP080416266
135	Beaver	Raccoon	GP080416267
136	Beaver	Raccoon	GP080416268
137	Beaver (Ohio River HDD)	Conway	GP050416215
138	Beaver (Ohio River HDD)	Conway	GP080416214
139	Beaver (Ohio River HDD)	Conway/Center	GP050416208

ETC Revolution Pipeline 105 General Permit List ("Encroachment Permits")

140	Butler	Jackson	GP051016618
141	Butler	Jackson	GP081016606
142	Washington	Robinson & Smith	GP056316253
143	Washington	Robinson & Smith	GP086316231

Exhibit B



ENVIRONMENTAL SOLUTIONS & INNOVATIONS, INC.

1341 Old Freedom Road, Suite 202
Cranberry Township, PA 16066
Phone: 513-451-1777 Fax: 513-451-3321

1277

21 February 2019

Ms. April A. Weiland
Water Quality Specialist Supervisor
PA Department of Environmental Protection / District Oil and Gas Operations
Cambria District Office
286 Industrial Park Road
Ebensburg, PA 15931

FEB 20 2019
DEPT. OF ENVIRONMENTAL PROTECTION
RECEIVED
Oil & Gas

FEB 21 2019

DEF SWDO
OIL & GAS

Dear Ms. Weiland:

RE: Updated Aquatic Resources Delineation and Restoration Plan for the Revolution Pipeline Project – Boundaries inside the LOD

Per the PADEP (Department) Compliance Order dated 29 October 2018, and subsequent communications, the Department requires ETC Northeast Pipeline, LLC (ETC) to report the current extent and condition of aquatic resources within the Revolution Pipeline Project's permitted Limits of Disturbance (LOD). Timing of the Department's request required completion of the updated aquatic resources delineation outside of the growing season. This delineation was completed by ESI biologists in late November, early December 2018, and February 2019. A complete aquatic resource delineation report, given the stated non-optimal review season, is provided as Attachment 1. If required by the Department, aquatic resource verification and their respective boundaries can be completed during the growing season.

A comparison between the updated aquatic resource delineation and the delineation completed prior to construction (2015-2016) reveals newly created aquatic resources, eliminated aquatic resources, and changes in delineated aquatic resource size (lf / sf / acreage). Tables detailing these changes are provided as Attachment 2 (also provided electronically) and summarized in Tables 1 and 2. Figures illustrating resource locations are provided in Attachment 3. Available aquatic resource photographs taken before and after pipeline construction are provided in Attachment 4.

Upland datasheets for wetlands no longer present, as well as datasheets documenting streams with flow regime changes are provided as Attachments 5 and 6, respectively.

www.ENVSI.com

Table 1. Summary of Stream Changes

Change	No. Resources	Total Size (LF)	Average Change per Delineated Stream (LF)
New	8	1,009	-
Absent	23	1,857	-
Length Increased	50	1,790	36
Length Decreased	70	-3,100	-44
Wider TOB	18	-	2.7
Narrower TOB	41	-	-3.1
Perennial to Intermittent	1	-	-
Intermittent to Perennial	1*	-	-
Ephemeral to Intermittent	1	-	-
Intermittent to Ephemeral	1	-	-

*Likely a result of an error in the prior delineation data.

Table 2. Summary of Wetland Changes

Change	No. Resources	Total Size (acres)	Average Change per Delineated Wetland (acres)
New	31	1.738	-
Unrestored	17	0.401	-
Reduced*	19	-	-0.661
Expanded**	51	-	5.563
PSS to PEM Conversion	7	0.467 (0.833 PEM in 2018-19)	-
PEM/PSS to PEM Conversion	2	0.502 (0.668 PEM in 2018-19)	-
PEM/PSS to PSS Conversion	1	0.391 (0.282 PEM in 2018-19)	-
PFO to PEM Conversion	7	0.528 (0.829 PEM in 2018-19)	-
PEM/PFO to PEM Conversion	1	0.091 (1.614 PEM in 2018-19)	-

*Does not include wetlands that are no longer present.

**Does not include wetlands that are newly delineated features.

ETC proposes the following summary actions to restore or mitigate aquatic resource impacts:

Streams: ETC will replace streams that are no longer present and restore the condition of those that are decreased in length or have narrower tops of bank by regrading to original contours in their original location. Suitable stream substrate (cobble/gravel) will be installed in any newly restored streambeds, and ETC will contract for 3rd party monitoring by qualified biologists for a minimum of 5 years to verify the restoration of natural functions. This work is proposed for the spring of 2019, to be performed concurrently with implementation of the Post-Construction Restoration Plan and will be supervised to ensure correct completion. Bi-annual reports will be provided to the Department through the monitoring period.

Table 3 summarizes streams that are no longer present, have decreased in length, and/or have a narrower top of bank width.

Table 3. Streams Proposed for Restoration

Stream ID	PADEP Historic Stream Name	No Longer Present?	Decreased in Length? (Y/N)	Narrower TOB Width? (Y/N)
2-7	UNT to Shafers Run	No Longer Present	Y	Y
2-24	Elkhorn Run	No Longer Present	Y	Y
2-29	Trib 36549 To Elkhorn Run	Present	N	Y
9-9	Trib 35020 To Likens Run	Present	Y	Y
9-30	UNT To Raccoon Creek	No Longer Present	Y	Y
9-31	UNT To Raccoon Creek	No Longer Present	Y	Y
9-37	UNT To Trib 33750 To Raccoon Creek	Present	N	Y
9-64	UNT To Frames Run	No Longer Present	Y	Y
9-72	UNT To Trib 34824 To Brush Creek	Present	Y	Y
9-76	UNT To Trib 34824 To Brush Creek	Present	N	Y
9-77	UNT To Trib 34824 To Brush Creek	Present	N	Y
9-81	UNT to Trib 36575 To Crows Run	Present	N	Y
9-82	Trib 36575 To Crows Run	Present	N	Y
9-83	UNT To Trib 36575 To Crows Run	Present	Y	Y
9-85	UNT To Trib 36572 To Crows Run	Present	N	Y
9-91	UNT To Trib 34909 To Glade Run	No Longer Present	Y	Y
9-96	UNT to Trib 35017 to Breakneck Creek	No Longer Present	N	Y
9-97	UNT to Trib 35017 to Breakneck Creek	No Longer Present	Y	Y
9-107	UNT To Trib 33660 To Raccoon Creek	Present	N	Y
9-109	Trib 33673 To Raccoon Creek	Present	N	Y
9-113.1	UNT To Trib 33580 To Raccoon Creek	No Longer Present	Y	Y
	UNT To Trib 33757 To Potato Garden Run			
9-126	Run	No Longer Present	Y	Y
9-127	UNT To Potato Garden Run	No Longer Present	Y	Y
9-137	UNT To UNT To Raccoon Creek	No Longer Present	Y	Y
9-138	UNT To UNT To Raccoon Creek	No Longer Present	Y	Y
9-140	UNT To UNT to Raccoon Creek	No Longer Present	Y	Y
9-142	UNT To UNT To Raccoon Creek	No Longer Present	Y	Y
9-143	UNT To UNT To Raccoon Creek	No Longer Present	Y	Y
9-144	UNT To UNT To Raccoon Creek	No Longer Present	Y	Y
9-147	Trib 33588 To Raccoon Creek	No Longer Present	Y	Y
9-166	UNT To Trib 36575 To Crows Run	Present	N	Y
9-190	UNT To Trib 36575 To Crows Run	Present	N	Y
9-192	UNT To Trib 36572 To Crows Run	Present	N	Y
9-193	UNT To Trib 36572 To Crows Run	Present	N	Y
10-25	UNT To Trib 33581 To Raccoon Creek	No Longer Present	Y	Y
11-5	UNT To Trib 36572 To Crows Run	No Longer Present	Y	Y
11-7	UNT To Crows Run	No Longer Present	Y	Y
11-58	UNT To Trib 36572 To Crows Run	Present	N	Y
13-7	UNT to Trib 36575 To Crows Run	Present	N	Y
13-9	Pine Run	Present	N	Y
13-108	Trib 33673 To Raccoon Creek	No Longer Present	Y	Y



Unrestored Wetlands and Wetland Size Reductions: ETC will restore wetlands by regrading wetlands to original contours in original locations, seeding with native wetland plant mix, and monitoring natural wetland development. This work will be supervised to ensure correct completion and is proposed during Spring 2019. This work will be performed concurrently with implementation of the Post-Construction Restoration Plan and will be supervised to ensure correct completion. Monitoring will occur for 5 years, and bi-annual reports will be provided to the Department for the monitoring period. In the event wetlands cannot be properly restored, the purchase of wetland credits from a wetland bank will be properly negotiated with the Department.

Wetland Conversion: Since the majority of the wetlands within the LOD are PEM, ETC will restore wetlands that have converted from PSS or PFO to PEM by planting native bare-root stock in the wetlands during early winter 2019. The planted trees and shrubs will be offset from the pipeline by 15 and 10 feet, respectively, to allow for pipeline inspection by air or land. Qualified biologists will monitor these locations for 5 years, or until a minimum of 70% survival rate of the new plantings is achieved. Bi-annual reports will be provided to the Department for the monitoring period.

Table 4 summarizes wetlands that are no longer present, reduced in size, and/or have a converted Cowardian class.

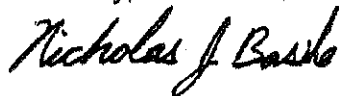
Table 4. Wetlands Proposed for Restoration

Wetland ID	No Longer Present? (Y/N)	Reduced Size? (Y/N)	Converted Wetland? (Y/N)
1-A	Present	N	Y
1-C	Present	Y	N
2-AG	No Longer Present	Y	N
2-F	Present	N	Y
2-J	Present	N	Y
2-N	No Longer Present	Y	N
2-R	Present	Y	N
4-D	Present	Y	N
9-AN	Present	N	Y
9-AM	No Longer Present	Y	N
9-BI	No Longer Present	Y	N
9-BV	Present	N	Y
9-BZ	Present	N	Y
9-CE	Present	Y	N
9-CF	Present	N	Y
9-CI	No Longer Present	Y	N
9-CS	Present	N	Y
9-DF	Present	Y	Y
9-DG	No Longer Present	Y	N
9-DL	Present	Y	Y

Wetland ID	No Longer Present? (Y/N)	Reduced Size? (Y/N)	Converted Wetland? (Y/N)
9-DN	No Longer Present	Y	N
9-DP	No Longer Present	Y	N
9-DX	No Longer Present	Y	N
9-DY	No Longer Present	Y	N
9-EA	Present	N	Y
9-EC	No Longer Present	Y	N
9-EE	No Longer Present	Y	N
9-EI	Present	Y	N
9-EL	Present	Y	N
9-EO	No Longer Present	Y	N
9-EP	Present	Y	N
9-ET	Present	Y	N
9-FJ	Present	Y	N
9-FK	Present	Y	Y
9-J	Present	Y	Y
9-T	Present	Y	N
9-U	Present	N	Y
9-Y	Present	Y	Y
9-Z	Present	Y	N
10-G	Present	Y	Y
10-I	No Longer Present	Y	N
11-H	Present	N	Y
13-AA	Present	Y	Y
13-AD	No Longer Present	Y	N
13-C	No Longer Present	Y	N
13-D	Present	Y	N
WPA-CDK-001/003	Present	N	Y

Thank you for your continued review.

Sincerely,



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- Attachment 1 – Aquatic Resource Delineation Report
- Attachment 2 – Aquatic Resource Delineation Comparison Tables
- Attachment 3 – Aquatic Resource Delineation Comparison Figures
- Attachment 4 – Photos Comparing Aquatic Resources Before & After Construction

