

## Sunoco Pipeline L.P.

### Administrative Order – Paragraph 4

#### **I. Exhibit 2 to the Administrative Order**

In accordance with paragraph 4 of the Administrative Order that was issued to Sunoco Pipeline L.P. (“SPLP”) on January 3, 2018, SPLP has completed Exhibit 2 to the Administrative Order and is submitting that document with this Report. Please note that there are three tabs to Exhibit 2, as follows:

- 1) “AR Crossings with Method Changes” – This tab identifies crossings of wetlands and streams that differ from the “permitted method” (i.e., the crossing method specified in the Aquatic Resource Table (“AR Table”) submitted with the Chapter 105 permit application).<sup>1</sup> This tab lists crossings where the permit specified: (a) an open cut or dry crossing and the construction methodology used was horizontal directional drill (“HDD”) or bore; (b) a bore and the construction methodology used was an open cut/dry crossing or HDD; or (c) an HDD and the construction methodology used was an open cut/dry crossing or bore.
- 2) “AR Bore Method Variations” – This tab identifies crossings of wetlands and streams where the permitted method was a “bore” and SPLP utilized a “conventional bore” trenchless construction methodology other than “conventional auger bore” as specified in the “Trenchless Construction Methodologies” document previously submitted to DEP in response to paragraph 2 of the Administrative Order (i.e., the methodology used was either a “guided auger bore,” a “guided bore” or a “FlexBor”).
- 3) “Upland In-Progress Bores with Variation” – This tab identifies crossings in uplands that were in-progress at the time the Administrative Order was issued and either: (a) were permitted as a “bore” and a construction method other than “conventional auger bore” was being used, or (b) were not permitted as a “bore” but a type of bore method was being used. Only one circumstance (of the second category) has been identified.

#### **II. Methodology to Identify “Unpermitted Changes” and the Bore Variations Requested by Paragraph 4 of the Administrative Order**

The following description responds to the request in Paragraph 4 of the Administrative Order to “document all steps taken by Sunoco to determine if unpermitted changes have occurred.” In order to identify (a) “unpermitted changes,” (b) bores that varied from “conventional auger bore” methodology, and (c) in-progress upland bores that either were not

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<sup>1</sup> In a few circumstances where there was ambiguity between the AR Table and the Erosion and Sediment plan sheets (the “ES sheets”) submitted to the Pennsylvania Department of Environmental Protection (“DEP”), we have relied on the crossing method in the ES sheets as the “permitted method.”

permitted as a bore or used a methodology other than conventional auger bore, the steps identified below were taken.

The dates for construction set forth on the attached tabs were determined as described in the response to Paragraph 3 of the Administrative Order.

**A. Wetland and Stream Crossings**

**1. Crossings with As-Built Information**

Wherever possible, the review relied on as-built information. Initially, the coordinates for each crossing from the AR Tables were plugged into KMZ files which show survey data, including weld x-ray data, plotted onto Google earth. In particular, the data reviewed was:

- a) Weld x-ray data which shows the width of the pipe to the east of the weld. Generally, thicker pipe (0.456/0.438) is used for bores and HDDs, while thinner pipe (0.380/0.375) is used for open cut/dry crossings. In addition, the weld x-ray data identifies “tie-in” points, which is where transitions in construction methodology typically occur.
- b) As-built survey data which specifies where field bends, trench breakers and rock shields are located. These items would only be located where an open cut/dry crossing construction methodology was used.

From this initial review, a certain number of crossings were identified where the thickness of the pipe or presence of field bends, trench breakers and rock shields were not consistent with the crossing methodology identified in the AR Table. This initial list was circulated to Spread Managers and reviewed with construction and field personnel to verify the actual construction method used.

When the initial review of KMZ files was performed, certain crossings did not yet have as-built information in the database. Accordingly, for these crossings, follow-up was undertaken to determine whether these crossings had not been started, were in-progress or had been completed.

For those crossings identified as completed, the engineering firm’s mapping and survey personnel were asked to determine why as-built information was not yet uploaded to the KMZ files. From this process, a limited amount of additional KMZ and survey information was obtained. Moreover, with respect to HDD crossings, several HDD As-Built Profiles were obtained from which it could be confirmed that an HDD had been used, and if extended or shortened, whether it impacted any wetland or stream.

## **2. Crossings with No As-Built Information**

Crossings that are still in-progress would not yet have as-built information. For these crossings, Spread Managers worked in concert with construction and field personnel to specify the construction methodology used, and for in-progress HDDs or bores, to determine whether they had been lengthened or shortened in a manner that would impact a neighboring wetland or stream.

## **3. Bore Method Variations**

For each crossing where the AR Table specified that “bore” was the permitted crossing method, or for any other wetland or stream crossings where it was determined that a bore had been used, Spread Managers worked in concert with construction and field personnel to identify the type of bore employed. Where any bore methodology other than “conventional auger bore” (as defined in the “Trenchless Construction Methodologies” document) was used, it is identified on Tab 2 of Exhibit 2.

### **B. Upland In-Progress Variations**

Based on discussions between SPLP and DEP, we understood that DEP is requesting information on upland in-progress bores where the methodology varied from conventional auger bore. Accordingly, a complete list of upland bores was reviewed, and those which had been completed or not yet started were removed. For the remaining in-progress bores, the construction method specified in the AR Table was identified, and the Spread Managers specified the type of bore methodology used. From this review, it was determined that for one of these bores, the AR Table specified it should have been open cut. This upland bore is identified on Tab 3 of Exhibit 2.

To verify that completed bores or HDDs of wetlands or streams that had been extended to uplands did not impact nearby aquatic resources, a couple of sources were consulted. A screening of the initial batch of KMZ file information was done to identify the crossings that appeared to be more than 60 feet different than the bore or HDD circle identified (which are rough approximations shown on Google earth of the bore and HDD limits from the ES sheets). Sixty feet was selected as the trigger because it is the length of a typical span of pipe, and one would typically not expect a span of pipe to be cut in the field during the bore or HDD process. For the bores identified, KMZ/ES overlay sheets were reviewed from which it was determined that the majority of tie-in points were actually in the bore pits or were less than 60 feet from the end of the bore pit. Of the subset identified by the initial screening method, only two tie-in’s were more than 60 feet from the location of the bore pit specified on the ES sheet – one tie-in was approximately 68 feet and the other approximately 84 feet from the designed bore pit. None of them affected other aquatic resources. With respect to the HDDs identified, HDD As-Built Profiles were reviewed from which it was determined that the majority of as-built entry/exit points, even if extended or shortened from the designed entry/exit point, were within the limits of the HDD Staging Area as set forth on the ES sheet. Of the subset identified by the initial screening method, only one HDD as-built exit/entry point was significantly beyond the HDD Staging Area. This extended HDD had affected an aquatic resource, but this difference in methodology for a portion of the aquatic resource (a wetland) had already been identified by the earlier KMZ review and is reported on Tab 1 of Exhibit 2.

### **III. Berks HDD Site 4**

On November 28, 2017, SPLP submitted information to DEP in response to two Notices of Violation. This submission indicated that seven pipeline crossings of a water of the Commonwealth along the Mariner East 2 project had been completed and/or initiated using a crossing methodology other than what was authorized by the initial permit approval or amendment. However, after further review of the as-built information identified above, it has been determined that one of these crossings was in fact constructed as indicated in the AR Table.

With respect to State Route 10/Morgantown Road/Reading Road, the November 28 submission stated that construction of the 20" pipeline for crossing of the road was permitted a bore, and a portion of wetland W35 was permitted to be crossed via bore, with the remaining portion of wetland W35 to be crossed via an open cut construction method. (This area is identified as "Berks HDD Site 4" in the Administrative Order.) The November 28 submission, however, inaccurately stated that a field change had been made to extend the bore to encompass the entire area of wetland W35. By reviewing the as-built information, including weld x-rays, it was determined that the pipeline for the remaining portion of wetland W35 was in fact installed using an open cut construction method. The ES sheet for this area indicated that the bore would continue approximately 45 feet into wetland W35, while the as-built data shows that the bore extended into the wetland approximately 60 feet. Accordingly, this minor extension simply constituted a de minimis change. (We acknowledge that a guided bore was used for this crossing.)

This miscommunication appears to have occurred as a result of a misreading of notes that indicated this bore had been extended. We apologize for this misunderstanding and miscommunication.

**Exhibit 2 to Administrative Order  
AR Crossings with Method Changes**

| Stream, Wetland, or upland feature ID/# | Coordinates       | Ch. 93 Designated Use (for Streams) or Exceptional Value status (for wetlands), if applicable | Length of affected segment | Stationing at start of change | Stationing at end of change | Spread # | County                 | Municipality            | Date Construction Initiated |             | Date Construction Completed |             | Permitted method of pipe installation | Utilized method of pipe installation             | E&S Plan Sheet Number |
|---|-------------------|---|----------------------------|-------------------------------|-----------------------------|----------|------------------------|-------------------------|-----------------------------|-------------|-----------------------------|-------------|---------------------------------------|--|-----------------------|
|   |                   |   |                            |                               |                             |          |                        |                         | 20" pipe                    | 16" pipe    | 20" pipe                    | 16" pipe    |                                       |  |                       |
| N28                                     | 40.4450, -79.3017 | Other Wetland   | 144                        | 3492+56                       | 3494+00                     | 2        | Westmoreland & Indiana | Derry Twp & Burrell Twp | 7/6/2017                    | 9/19/2017   | 9/13/2017                   | In Progress | HDD/Open Cut                          | HDD  | 2.47.01               |
| BB147, S-BB116                          | 40.4442, -78.5952 | BB147: Other Wetland<br>S-BB116: Drains to CWF  | 124                        | 5583+43                       | 5584+67                     | 2        | Cambria                | Cresson Twp             | 10/16/2017                  | 12/4/2017   | 10/17/2017                  | 12/6/2017   | Bore/Temporary Matting                | Open Cut   | 2.65                  |
| S-L30                                   | 40.3453, -77.8633 | TSF, MF   | 9                          | 7993+93                       | 7994+02                     | 3        | Huntingdon             | Shirley Twp             | 6/6/2017                    | 6/10/2017   | 6/15/2017                   | 6/20/2017   | Dry Crossing                          | Conventional Auger Bore                          | 3.59                  |
| S-H58                                   | 40.1970, -76.8062 | WWF, MF   | 31                         | 11156+78                      | 11157+09                    | 4        | York                   | Fairview Twp            | 7/17/2017                   | Not started | In Progress                 | Not started | Dry Crossing/Temporary Bridge         | HDD/Temporary Bridge (Susquehanna HDD extension) | 4.19, 4.20            |
| S-I32                                   | 40.1923, -76.8749 | CWF, MF   | 74                         | 10948+87                      | 10949+61                    | 4        | York                   | Fairview Twp            | 11/6/2017                   | 11/29/2017  | 11/15/2017                  | 12/5/2017   | Dry Crossing                          | Conventional Auger Bore                          | 4.07                  |
| B31                                     | 40.2297, -75.9572 | EV  | 9                          | 13896+43                      | 13896+52                    | 5        | Berks                  | Brecknock Twp           | 9/17/2017                   | 9/17/2017   | 9/19/2017                   | 9/19/2017   | Bore/Temporary Matting                | Open Cut   | 5.44                  |

**Exhibit 2 to Administrative Order  
AR Bore Method Variations**

| Stream, Wetland, or upland feature ID/# | Coordinates   | Ch. 93 Designated Use (for Streams) or Exceptional Value status (for wetlands), if applicable | Length of affected segment | Stationing at start of change | Stationing at end of change | Spread # | County       | Municipality         | Date Construction Initiated           |             | Date Construction Completed |  | Permitted method of pipe installation   | Utilized method of pipe installation                             | E&S Plan Sheet Number |
|---|---|---|----------------------------|-------------------------------|-----------------------------|----------|--------------|----------------------|---------------------------------------|-------------|-----------------------------|--|---|--|-----------------------|
|   |   |   |                            |                               |                             |          |              |                      | 20" pipe                              | 16" pipe    | 20" pipe                    | 16" pipe                               |   |  |                       |
| S149, S150                              | 40.2232, -79.8935;<br>40.2233, -79.8932                       | Drains to WWF   | 9                          | 1235+41                       | 1235+50                     | 1        | Allegheny    | Forward Twp          | 5/20/2017                             | No 16" Pipe | 6/2/2017                    | No 16" Pipe                            | Bore/Travel Lane                        | Guided Bore for 20"  | 1.15                  |
| S125                                    | 40.2390, -80.1126   | HQ-WWF  | 8                          | 556+37                        | 556+45                      | 1        | Washington   | North Strabane Twp   | 9/25/2017                             | No 16" Pipe | 11/18/2017                  | No 16" Pipe                            | Bore/Temporary Bridge                   | FlexBor for 20"  | 1.35                  |
| Q69, S-R90, S-R91                       | 40.4432, -79.3210;<br>40.4425, -79.3219;<br>40.4432, -79.3207 | Q69: Other Wetland<br>S-R90 & S-R91: Drains to CWF  | 226                        | 3426+13                       | 3428+39                     | 2        | Westmoreland | Salem Twp            | 10/31/2017                            | Not started | 11/12/2017                  | Not started                            | Bore                                    | Guided Auger Bore for 20"  | 2.44                  |
| Q70, S-R92                              | 40.4416, -79.3168;<br>40.4408, -79.3186                       | Q70: Other Wetland<br>S-R92: Drains to CWF  | 274                        | 3436+91                       | 3439+65                     | 2        | Westmoreland | Derry Twp            | 10/12/2017                            | Not started | 10/16/2017                  | Not started                            | Bore                                    | Guided Auger Bore for 20"  | 2.44, 2.45            |
| P2                                      | 40.4503, -79.2788   | Other Wetland   | 205                        | 3563+91                       | 3565+96                     | 2        | Indiana      | Burrell Twp          | 6/15/2017                             | Not started | 6/20/2017                   | Not started                            | Bore/Travel Lane                        | Guided Bore for 20"  | 2.04                  |
| M35, S-BB89                             | 40.4322, -78.3348   | M35: EV<br>S-BB89: WWF, MF  | 217                        | 6479+07                       | 6481+24                     | 3        | Blair        | Frankstown Twp       | Conv. Auger                           | 9/15/2017   | Conv. Auger                 | 11/11/2017                             | Bore                                    | Guided Bore for 16"  | 3.42                  |
| H51, S-H61, S-H62                       | 40.1925, -76.8149;<br>40.1923, -76.8144;<br>40.1923, -76.8143 | H51: Other Wetland<br>S-H61 & S-H62: Drains to WWF, MF  | 302                        | 11119+85                      | 11122+87                    | 4        | York         | Fairview Twp         | 10/7/2017                             | 9/26/2017   | 11/21/2017                  | Pilot completed 10/6. No further work. | Bore/Travel Lane/Bore Floodway          | Guided Bore  | 4.17                  |
| B48                                     | 40.3069, -76.0598   | Other Wetland   | 37                         | 13371+43                      | 13371+80                    | 5        | Berks        | South Heidelberg Twp | 7/29/2017                             | 7/29/2017   | 8/8/2017                    | 8/8/2017                               | Bore/Temporary Matting                  | Guided Bore  | 5.10                  |
| S-H21                                   | 40.2041, -75.9175   | Drains to HQ-TSF, MF  | 8                          | 14042+33                      | 14042+41                    | 5        | Berks        | Robeson Twp          | 7/31/2017                             | 7/31/2017   | 9/9/2017                    | 8/16/2017                              | Bore/Temporary Bridge                   | FlexBor  | 5.54                  |
| A56, S-A87                              | 40.2826, -76.1581;<br>40.2832, -76.1575                       | A56: EV<br>S-A87: HQ-WWF, MF  | 302                        | 13068+11                      | 13071+13                    | 5        | Lancaster    | West Cocalico Twp    | 6/6/2017                              | 7/19/2017   | 8/26/2017                   | 9/5/2017                               | Bore/Travel Lane/Temporary Bridge       | Guided Bore for 20"; Guided Auger Bore for 16"                   | 1.14, 1.15            |
| B72                                     | 40.2819, -76.1526   | Other Wetland   | 326                        | 13082+91                      | 13086+17                    | 5        | Lancaster    | West Cocalico Twp    | 10/18/2017                            | 11/21/2017  | 11/6/2017                   | 11/28/2017                             | Bore/Travel Lane                        | Guided Auger Bore  | 1.15, 1.16            |
| J54, S-J59                              | 40.2801, -76.1947;<br>40.2797, -76.1947                       | J54: Other Wetland<br>S-J59: HQ-WWF, MF   | 176                        | 12959+24                      | 12961+00                    | 5        | Lancaster    | West Cocalico Twp    | 5/5/2017                              | 5/30/2017   | 10/20/2017                  | 10/30/2017                             | Bore/Travel Lane                        | Guided Bore for 20"; Guided Auger Bore for 16"                   | 1.07, 1.08            |
| B15, S-B15                              | 40.1246, -75.7921;<br>40.1246, -75.7923                       | B15: Other Wetland<br>S-B15: HQ-TSF, MF   | 133                        | 14522+41                      | 14523+74                    | 6        | Chester      | East Nantmeal Twp    | 8/16/2017                             | 9/7/2017    | 9/5/2017                    | 9/18/2017                              | Bore/Temporary Matting/Temporary Bridge | Guided Auger Bore for pilot; Conventional Auger Bore to complete | 6.11                  |
| Q75                                     | 40.0925, -75.7324   | Other Wetland   | 56                         | 14740+70                      | 14741+26                    | 6        | Chester      | Upper Uwchlan Twp    | 9/13/2017<br>Abandoned hole 12/2/2017 | 11/2/2017   | Not finished                | 12/19/2017                             | Bore                                    | Guided Auger Bore for pilot; Conventional Auger Bore to complete | 6.24                  |
| S-A71                                   | 40.1310, -75.8001   | HQ-TSF, MF  | 26                         | 14489+83                      | 14490+09                    | 6        | Chester      | West Nantmeal Twp    | 6/20/2017                             | 5/27/2017   | 7/27/2017                   | 6/20/2017                              | Bore/Temporary Bridge                   | Guided Auger Bore for pilot; Conventional Auger Bore to complete | 6.09                  |

**Exhibit 2 to Administrative Order  
Upland In-Progress Bores with Variations**

| Stream, Wetland, or upland feature ID/# | Coordinates       | Ch. 93 Designated Use (for Streams) or Exceptional Value status (for wetlands), if applicable | Length of affected segment | Stationing at start of change | Stationing at end of change | Spread # | County | Municipality | Date Construction Initiated |             | Date Construction Completed  |             | Permitted method of pipe installation | Utilized method of pipe installation | E&S Plan Sheet Number |
|---|-------------------|---|----------------------------|-------------------------------|-----------------------------|----------|--------|--------------|-----------------------------|-------------|--|-------------|---------------------------------------|--------------------------------------|-----------------------|
|   |                   |   |                            |                               |                             |          |        |              | 20" pipe                    | 16" pipe    | 20" pipe   | 16" pipe    |                                       |                                      |                       |
| Power Pole Bore                         | 40.2123, -75.9312 |   | 824                        | 13989+39                      | 13997+63                    | 5        | Berks  | Brecknock    | 9/30/2017                   | Not Started | Not completed. Stopped work on 11/19/17. 20" ream completed. 24" ream to 810 feet. | Not Started | Open Cut                              | Guided Bore                          | 5.50, 5.51            |