These are documents that Delaware Riverkeeper Network received from our Freedom of Information Act Request (FOIA) request on August 10, 2022 from the Delaware River Basin Commission.
<table>
<thead>
<tr>
<th>Agency</th>
<th>Permit/Approval</th>
<th>Date Applied</th>
<th>Review Time</th>
<th>Date Approved</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Army Corps of Engineers (USACE)</td>
<td>Nationwide Permit 12</td>
<td>6/11/20</td>
<td>90 Days</td>
<td></td>
<td>Pending additional information tied to the need for SHPO to review on 2/8/21 for approval</td>
</tr>
<tr>
<td>National Marine Fisheries Service</td>
<td>Project review and coordination concerning fish resources in the Delaware River done in conjunction with the USACE Individual Permit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U.S. Fish &amp; Wildlife Service (NJ)</td>
<td>Federal threatened/ endangered (T/E) species review (NJ)</td>
<td>6/2/20</td>
<td></td>
<td></td>
<td>Short nosed sturgeon listed on results. Due to ongoing to clear these species.</td>
</tr>
<tr>
<td>U.S. Fish &amp; Wildlife Service (PA)</td>
<td>Federal T/E species review (PA)</td>
<td>5/22/19</td>
<td></td>
<td></td>
<td>Clearance received 5/22/19</td>
</tr>
<tr>
<td>Delaware and Raritan Canal Commission</td>
<td>Assess impacts to the watershed of the Delaware and Raritan Canal</td>
<td>July 2020</td>
<td></td>
<td></td>
<td>NJ Historic Preservation Office clearance required</td>
</tr>
<tr>
<td>Delaware and Raritan Canal State Park</td>
<td>Access impacts to tow path</td>
<td>August 2020</td>
<td>60 days</td>
<td></td>
<td>NJ Historic Preservation Office clearance required</td>
</tr>
</tbody>
</table>
| New Jersey Department of Environmental Protection (NJDEP) | • Wetland Permit-GP 2  
• Flood Hazard Permit                                                                 | 4/22/20      | 90 Days     | 7/22/20       | 1106-20-0001.1  
Section 106 consultation follow up to earlier coordination included finalized plans and detailed project description  
SHPO has agreed to review Phase 1A sampling ongoing. |
|                                                      | State T/E species review                                                        | 6/2/20       |             | 6/15/20       | Variety of state threatened and endangered species ongoing to clear these species. |
| New Jersey Water Supply Authority                    | Impacts to water within the canal (or beneath it)                               |              |             |               | Agreed upon terms included in Division of Fish & Wildlife protection is included |

Jacobs Creek Relocation Project  
Sunoco Pipeline L.P.
<table>
<thead>
<tr>
<th>Organization/Department</th>
<th>License/Permission</th>
<th>Date</th>
<th>Duration</th>
<th>Notes/Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>NJDEP State Parks</td>
<td>License to occupy lands within the State Park</td>
<td></td>
<td></td>
<td>Agreed upon terms included in Division of Facilities and Construction plan, construction is scheduled</td>
</tr>
<tr>
<td>Mercer County Soil Conservation District</td>
<td>Erosion and Sediment Control Plan</td>
<td>10/20/20</td>
<td>30 days</td>
<td>Review Letter Issued 10/23/2021, Lost in Mercer County Soil Conservation District</td>
</tr>
<tr>
<td>Ewing Township</td>
<td>Notification of project</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hopewell Township</td>
<td>• Tree removal ordinance from environmental committee</td>
<td></td>
<td></td>
<td>Tree removal proposed for 1st or 2nd quarter, are documented in township ordinance. Sunoco Pipeline L.P. has an NJ arborist. STV has a NJ arborist on staff and STV will coordinate local historical approval.</td>
</tr>
<tr>
<td></td>
<td>• Land Use ordinance from Paul</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Road open permit from public works</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Permit from local historic preservation office</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pennsylvania Department of Environmental Protection (PADEP) Bureau of Watershed Management</td>
<td>General Permit – 5</td>
<td>10/29/20</td>
<td>50 Days</td>
<td>STV received a comment letter from PADEP attached to their General Permit. The permit was submitted 12/30. PADEP followed up reviewing the regulations and multiple comments by returning the approval. STV is making final modifications to License Information for the reviewer to continue their review.</td>
</tr>
<tr>
<td>PADEP Bureau of Water Quality Protection</td>
<td>PAG-10 Authorization to Discharge under the NPDES - General Permit for Discharges Resulting from Hydrostatic Testing of Tanks and Pipelines</td>
<td>3rd Quarter 2020</td>
<td>43 Business Days</td>
<td></td>
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<tr>
<td>PA Fish &amp; Boat Commission (PAFBC)</td>
<td>State T/E species review</td>
<td>5/22/19</td>
<td></td>
<td>Clearance Received</td>
</tr>
<tr>
<td>agency</td>
<td>review type</td>
<td>date</td>
<td>permit details</td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>-------------</td>
<td>------</td>
<td>----------------</td>
<td></td>
</tr>
<tr>
<td>PA Game Commission (PGC)</td>
<td>State T/E species review</td>
<td>5/22/19</td>
<td>Clearance Received on 5/22/20</td>
<td></td>
</tr>
<tr>
<td>PA Department of Conservation and Natural Resources (DCNR)</td>
<td>State T/E species review</td>
<td>5/22/19</td>
<td>Clearance Received on 5/22/20</td>
<td></td>
</tr>
<tr>
<td>Bucks County Conservation District</td>
<td>E&amp;S Control Plan Review</td>
<td>1/15/2021</td>
<td>22 Business Days</td>
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<tr>
<td>Upper Makefield Township</td>
<td>Road Occupancy Permit to shut down Oakdale Avenue Notify Neighbors within 500 feet.</td>
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<td></td>
</tr>
<tr>
<td>Location</td>
<td>Drainage Length</td>
<td>Slope</td>
<td>Size</td>
<td></td>
</tr>
<tr>
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<td>12524</td>
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<td>2756</td>
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<td>8</td>
<td>10124</td>
<td>24</td>
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<td></td>
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<td>3305</td>
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<tr>
<td>10</td>
<td>2453</td>
<td>12</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
AASHTO #57
5/6 HEIGHT OF DIVERSION BERM
HEIGHT OF ROCK FILTER = WOOD STAKES
DIVERSION BERM
NOTE:
SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE OUTLET.
1 MIN
1 MIN
UP-SLOPE FACE
ROCK FILTER OUTLETS
NOTE:
SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE OUTLET.
1 MIN
1 MIN
SUNOCO PIPELINE L.P.
### Compost Filter Sock Table

<table>
<thead>
<tr>
<th>Slope, (ft/ft)</th>
<th>Slope Length Above Measure, (ft)</th>
<th>Sock Size, (in)</th>
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</thead>
<tbody>
<tr>
<td>0.0125</td>
<td>0</td>
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<td>0.0135</td>
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<td>20</td>
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<tr>
<td>0.19</td>
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<td>20</td>
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<td>0.20</td>
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<td>0.21</td>
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<td>20</td>
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<td>0.22</td>
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<td>0.23</td>
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<td>20</td>
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<td>0.24</td>
<td>12</td>
<td>20</td>
</tr>
<tr>
<td>0.25</td>
<td>12</td>
<td>20</td>
</tr>
</tbody>
</table>

**Table Source:** PA DEP E&S Manual, March 2012 - Figure 4.2
### Table 4.1: Composite Buck Footing Minimum Specifications

<table>
<thead>
<tr>
<th>Material Type</th>
<th>3 in. HDPE</th>
<th>5 in. HDPE</th>
<th>6 in. HDPE</th>
<th>Multi-Filament Polymer Composite (MPFC)</th>
<th>Heavy-Duty Multi-Filament Polymer Composite (MDPFC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material Characteristics</td>
<td>Photo: degradable</td>
<td>Photo: degradable</td>
<td>Photo: degradable</td>
<td>Photo: degradable</td>
<td>Photo: degradable</td>
</tr>
<tr>
<td>Deck Diameter</td>
<td>18&quot;</td>
<td>26&quot;</td>
<td>28&quot;</td>
<td>26&quot;</td>
<td>28&quot;</td>
</tr>
<tr>
<td>Max Diameter</td>
<td>25&quot;</td>
<td>36&quot;</td>
<td>36&quot;</td>
<td>36&quot;</td>
<td>36&quot;</td>
</tr>
<tr>
<td>Back Opening Diameter</td>
<td>5&quot;</td>
<td>8&quot;</td>
<td>8&quot;</td>
<td>8&quot;</td>
<td>8&quot;</td>
</tr>
<tr>
<td>Overall Height</td>
<td>20&quot;</td>
<td>36&quot;</td>
<td>36&quot;</td>
<td>36&quot;</td>
<td>36&quot;</td>
</tr>
<tr>
<td>Minimum Functional</td>
<td>8 months</td>
<td>9 months</td>
<td>9 months</td>
<td>6 months</td>
<td>6 months</td>
</tr>
<tr>
<td></td>
<td>6 months</td>
<td>1 year</td>
<td>1 year</td>
<td>1 year</td>
<td>2 years</td>
</tr>
<tr>
<td>Technologies</td>
<td>Photo: degradable</td>
<td>Photo: degradable</td>
<td>Photo: degradable</td>
<td>Photo: degradable</td>
<td>Photo: degradable</td>
</tr>
</tbody>
</table>

### Table 4.2: Multi Application Rates

<table>
<thead>
<tr>
<th>Match Type</th>
<th>Per Area</th>
<th>Per 1,000 sq. yd.</th>
<th>Per 1,000 sq. ft.</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gravel</td>
<td>Units</td>
<td>140 lb.</td>
<td>1,240 lb.</td>
<td></td>
</tr>
<tr>
<td>Sand Gravel</td>
<td>Units</td>
<td>140 lb.</td>
<td>1,240 lb.</td>
<td></td>
</tr>
<tr>
<td>Sand</td>
<td>Units</td>
<td>140 lb.</td>
<td>1,240 lb.</td>
<td></td>
</tr>
<tr>
<td>Wood Chips</td>
<td>Units</td>
<td>100 - 375 lb.</td>
<td>1,000 - 3,750 lb.</td>
<td>May prevent generation of material damage</td>
</tr>
<tr>
<td>Woodchips</td>
<td>Units</td>
<td>20 - 100 lb.</td>
<td>200 - 1000 lb.</td>
<td>Woodchips damage</td>
</tr>
</tbody>
</table>

### Table 4.3: Recommended Seed Mixtures for Stabilizing Disturbed Areas

<table>
<thead>
<tr>
<th>Material</th>
<th>Size (in.)</th>
<th>Mix</th>
<th>Seed Rate (lbs/1000 sq. ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grass seed</td>
<td>1&quot;</td>
<td>1 part</td>
<td>1.5 lb/1000 sq. ft.</td>
</tr>
<tr>
<td>Ryegrass seed</td>
<td>1&quot;</td>
<td>1 part</td>
<td>1.5 lb/1000 sq. ft.</td>
</tr>
<tr>
<td>Tall fescue seed</td>
<td>1&quot;</td>
<td>1 part</td>
<td>1.5 lb/1000 sq. ft.</td>
</tr>
<tr>
<td>Red fescue seed</td>
<td>1&quot;</td>
<td>1 part</td>
<td>1.5 lb/1000 sq. ft.</td>
</tr>
<tr>
<td>Timothy seed</td>
<td>1&quot;</td>
<td>1 part</td>
<td>1.5 lb/1000 sq. ft.</td>
</tr>
</tbody>
</table>

### Table 4.4: Recommended Seed Mixtures for Seeding Subgrade Mixtures

<table>
<thead>
<tr>
<th>Material</th>
<th>Size (in.)</th>
<th>Mix</th>
<th>Seed Rate (lbs/1000 sq. ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grass seed</td>
<td>1&quot;</td>
<td>1 part</td>
<td>1.5 lb/1000 sq. ft.</td>
</tr>
<tr>
<td>Ryegrass seed</td>
<td>1&quot;</td>
<td>1 part</td>
<td>1.5 lb/1000 sq. ft.</td>
</tr>
<tr>
<td>Tall fescue seed</td>
<td>1&quot;</td>
<td>1 part</td>
<td>1.5 lb/1000 sq. ft.</td>
</tr>
<tr>
<td>Red fescue seed</td>
<td>1&quot;</td>
<td>1 part</td>
<td>1.5 lb/1000 sq. ft.</td>
</tr>
<tr>
<td>Timothy seed</td>
<td>1&quot;</td>
<td>1 part</td>
<td>1.5 lb/1000 sq. ft.</td>
</tr>
</tbody>
</table>

### Table 4.5: Compaction Specifications

<table>
<thead>
<tr>
<th>Material Type</th>
<th>Density (pcf)</th>
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</thead>
<tbody>
<tr>
<td>3 in. HDPE</td>
<td>60</td>
</tr>
<tr>
<td>5 in. HDPE</td>
<td>65</td>
</tr>
<tr>
<td>6 in. HDPE</td>
<td>70</td>
</tr>
</tbody>
</table>

### Table 4.6: Composite Bridge Footing Minimum Specifications

<table>
<thead>
<tr>
<th>Material Type</th>
<th>3 in. HDPE</th>
<th>5 in. HDPE</th>
<th>6 in. HDPE</th>
<th>Multi-Filament Polymer Composite (MPFC)</th>
<th>Heavy-Duty Multi-Filament Polymer Composite (MDPFC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material Characteristics</td>
<td>Photo: degradable</td>
<td>Photo: degradable</td>
<td>Photo: degradable</td>
<td>Photo: degradable</td>
<td>Photo: degradable</td>
</tr>
<tr>
<td>Deck Diameter</td>
<td>18&quot;</td>
<td>26&quot;</td>
<td>28&quot;</td>
<td>26&quot;</td>
<td>28&quot;</td>
</tr>
<tr>
<td>Max Diameter</td>
<td>25&quot;</td>
<td>36&quot;</td>
<td>36&quot;</td>
<td>36&quot;</td>
<td>36&quot;</td>
</tr>
<tr>
<td>Back Opening Diameter</td>
<td>5&quot;</td>
<td>8&quot;</td>
<td>8&quot;</td>
<td>8&quot;</td>
<td>8&quot;</td>
</tr>
<tr>
<td>Overall Height</td>
<td>20&quot;</td>
<td>36&quot;</td>
<td>36&quot;</td>
<td>36&quot;</td>
<td>36&quot;</td>
</tr>
<tr>
<td>Minimum Functional</td>
<td>8 months</td>
<td>9 months</td>
<td>9 months</td>
<td>6 months</td>
<td>6 months</td>
</tr>
<tr>
<td></td>
<td>6 months</td>
<td>1 year</td>
<td>1 year</td>
<td>1 year</td>
<td>2 years</td>
</tr>
<tr>
<td>Technologies</td>
<td>Photo: degradable</td>
<td>Photo: degradable</td>
<td>Photo: degradable</td>
<td>Photo: degradable</td>
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</tbody>
</table>

### Table 4.7: Multi Application Rates

<table>
<thead>
<tr>
<th>Match Type</th>
<th>Per Area</th>
<th>Per 1,000 sq. yd.</th>
<th>Per 1,000 sq. ft.</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gravel</td>
<td>Units</td>
<td>140 lb.</td>
<td>1,240 lb.</td>
<td></td>
</tr>
<tr>
<td>Sand Gravel</td>
<td>Units</td>
<td>140 lb.</td>
<td>1,240 lb.</td>
<td></td>
</tr>
<tr>
<td>Sand</td>
<td>Units</td>
<td>140 lb.</td>
<td>1,240 lb.</td>
<td></td>
</tr>
<tr>
<td>Wood Chips</td>
<td>Units</td>
<td>100 - 375 lb.</td>
<td>1,000 - 3,750 lb.</td>
<td>May prevent generation of material damage</td>
</tr>
<tr>
<td>Woodchips</td>
<td>Units</td>
<td>20 - 100 lb.</td>
<td>200 - 1000 lb.</td>
<td>Woodchips damage</td>
</tr>
</tbody>
</table>

### Table 4.8: Recommended Seed Mixtures for Stabilizing Disturbed Areas

<table>
<thead>
<tr>
<th>Material</th>
<th>Size (in.)</th>
<th>Mix</th>
<th>Seed Rate (lbs/1000 sq. ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grass seed</td>
<td>1&quot;</td>
<td>1 part</td>
<td>1.5 lb/1000 sq. ft.</td>
</tr>
<tr>
<td>Ryegrass seed</td>
<td>1&quot;</td>
<td>1 part</td>
<td>1.5 lb/1000 sq. ft.</td>
</tr>
<tr>
<td>Tall fescue seed</td>
<td>1&quot;</td>
<td>1 part</td>
<td>1.5 lb/1000 sq. ft.</td>
</tr>
<tr>
<td>Red fescue seed</td>
<td>1&quot;</td>
<td>1 part</td>
<td>1.5 lb/1000 sq. ft.</td>
</tr>
<tr>
<td>Timothy seed</td>
<td>1&quot;</td>
<td>1 part</td>
<td>1.5 lb/1000 sq. ft.</td>
</tr>
</tbody>
</table>

### Table 4.9: Recommended Seed Mixtures for Seeding Subgrade Mixtures

<table>
<thead>
<tr>
<th>Material</th>
<th>Size (in.)</th>
<th>Mix</th>
<th>Seed Rate (lbs/1000 sq. ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grass seed</td>
<td>1&quot;</td>
<td>1 part</td>
<td>1.5 lb/1000 sq. ft.</td>
</tr>
<tr>
<td>Ryegrass seed</td>
<td>1&quot;</td>
<td>1 part</td>
<td>1.5 lb/1000 sq. ft.</td>
</tr>
<tr>
<td>Tall fescue seed</td>
<td>1&quot;</td>
<td>1 part</td>
<td>1.5 lb/1000 sq. ft.</td>
</tr>
<tr>
<td>Red fescue seed</td>
<td>1&quot;</td>
<td>1 part</td>
<td>1.5 lb/1000 sq. ft.</td>
</tr>
<tr>
<td>Timothy seed</td>
<td>1&quot;</td>
<td>1 part</td>
<td>1.5 lb/1000 sq. ft.</td>
</tr>
</tbody>
</table>
HDD Inadvertent Return Assessment, Preparedness, Prevention & Contingency Plan

for the

14-inch Twin Oaks to Newark Jacobs Creek Pipeline Relocation Project

Upper Makefield Township, Bucks County, Pennsylvania
Ewing & Hopewell Townships, Mercer County, New Jersey
HDD INADVERTENT RETURN ASSESSMENT, PREPAREDNESS, PREVENTION AND CONTINGENCY PLAN

14-INCH TWIN OAKS TO NEWARK JACOBS CREEK PIPELINE RELOCATION

Located In:

UPPER MAKEFIELD TOWNSHIP, BUCKS COUNTY, PA EWIN & HOPEWELL TOWNSHIPS, MERCER COUNTY, NJ

Prepared For:

SUNOCO PIPELINE LP (SPLP)
100 GREEN STREET
MARCUS HOOK, PA 19061-4800

FEBRUARY 2021

Prepared By:
STV Energy Services, Inc.
205 West Welsh Drive
Douglassville PA, 19518
610-385-8200
STV Project Number: 38-16332
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## APPENDICES

Appendix A – Initial Inadvertent Report Forms
1. **PROJECT DESCRIPTION**

SPLP owns and operates a 14-inch welded steel high-pressure petroleum products pipeline that transports product from SPLP’s Twin Oaks Terminal to their Newark Facility. Near the confluence of Jacobs Creek and the Delaware River in Ewing and Hopewell Townships, Mercer County, New Jersey and Upper Makefield Township, Bucks County, Pennsylvania, the existing pipeline is located within the stream beds of the Delaware River and Jacobs Creek. The pipeline travels across the Delaware River from Pennsylvania and then up the Jacobs Creek streambed, through a large concrete and stone arch culvert which supports the Delaware and Raritan Canal and State Route 29. At this location, the pipeline is exposed within the stream bed of Jacobs Creek.

The Delaware and Raritan Canal parallels the Delaware River and New Jersey State Route 29 at this location, with Jacobs Creek bisecting them within a 24-foot wide rock and concrete arch culvert. The pipeline is exposed a total length of 301 feet within Jacobs Creek: 169-foot within the culvert, 3-feet upstream of the culvert and 129-feet downstream of the culvert. The creek bed is located approximately 30-35 feet below the highway and canal surface.

Horizontal directional drill (HDD) installation techniques will be used to install the proposed pipeline across the Delaware River and up Jacob’s Creek. The proposed HDD installation will be a 14-inch pipeline approximately 2,515-feet in length and approximately 85-feet deep under the Delaware and Jacob’s Creek stream beds, the concrete arch culvert and approximately 110-120 feet under the Delaware Raritan Canal and SR029.

Going from PA into NJ in a west to east direction, the proposed HDD will cross under PA SR 32/River Road, the Delaware River, Jacobs Creek and the concrete culvert that supports Route 29 and the Delaware/Raritan Canal.

The proposed HDD will be installed from both the PA and NJ sides of the Delaware River.

On the PA side, the HDD entry point will be within a private residential property and the (3) 855-foot HDD pipeline strings will be assembled and tested within the same private residential and an additional residential/farm property. On the NJ side the HDD exit point will be within an existing Gristmill private property and once the HDD drill and reaming process has been completed from the PA side the HDD drill rig will move to the NJ side or an additional smaller HDD rig will be installed on the NJ side to pull-back the 14-inch pipeline string that has been assembled on the PA side.

Access on the NJ side to the Gristmill property will be through a residential property off Creek Rim Drive and from an existing Gristmill property driveway of off NJ SR029. The contractor will travel down the driveway and continue around the back of another private residence on the same property. Large construction equipment will use the other access location through an existing private residence property located off Creek Rim Drive.

Access on the PA side to the PA residential and residential farm properties will be off Oakdale Avenue.

The proposed HDD will be tied into the existing pipeline using trench installation techniques located landside and outside of Jacob’s Creek and the Delaware River. On the NJ side approximately 394 feet of trenched pipe will be needed to tie-in the HDD installation Grist Mill
property and on the PA side approximately 121 feet of trenched pipe will be needed to tie in the HDD installation within Oakdale Avenue.

Approximately 316 feet of the exposed pipe and 199-feet of exposed casing will be removed from Jacob’s Creek and the remaining existing pipeline will be abandoned in place and filled with grout. Access to the eastern end of the exposed pipe will be from the gristmill property into the middle of Jacob’s creek. Jacob’s Creek will be dammed off using sandbags or a port-a-dam to allow access into the stream and to the exposed pipe which will be cut and capped at this location. Access to the western end of the exposed pipe will along an existing Delaware Raritan Canal macadam path/road and down an existing cleared embankment into the middle of Jacob’s creek. Jacob’s Creek will be dammed off using sandbags or a port-a-dam to allow access into the stream and to the exposed pipe which will be cut and capped at this location. Once the exposed pipeline ends have been cut, the cut pipeline will be pulled through the culvert onto the Gristmill property where it will be cut into 20-foot joints and placed into roll-offs which will be hauled off-site and disposed of. All exposed pipeline removal activities will occur on the NJ side of the river. The remaining existing/abandoned pipeline will be grouted from the HDD land-side tie-in locations to the capped ends of the removed pipeline.

2. **INADVERTANT DRILLING FLUID RETURN**

For the purpose of this document and the 14-Inch Twin Oaks to Newark Jacobs Creek Pipeline Relocation Project (Jacobs Creek), an inadvertent drilling fluid release will be defined as the unintentional or inadvertent loss of drilling fluids from the HDD bore hole to the surface onshore, other than the area of the bore entry and exit points. Drilling fluids loss to subsurface geological formations may result in a reduction of drilling return fluids and materials but will not be considered an inadvertent release until drilling fluids are observed at the ground surface.

2.1 **DRILLING FLUID**

Drilling fluids consist of a mixture of water, bentonite and additives. This mixture has a unit weight slightly higher than that of fresh water. Bentonite is a naturally occurring, non-toxic, inert substance that meets American National Standards Institute / National Science Foundation International (ANSI/NSF) Standard 60 Drinking Water Additive Standards and is frequently used for drilling portable water wells. Drilling solely with fresh water is not ideal for an HDD installation, as water is not capable of suspending and transporting the cuttings produced from the bore and provides little to no capacity to stabilize the bore. If the generated cuttings cannot be removed, then the fluid-filled bore cannot be properly developed and maintained, and the product pipe cannot be installed.

3. **PURPOSE OF THE PLAN**

This document establishes a plan for monitoring, preventing and responding to an inadvertent release of drilling fluids that may occur during HDD of the Jacobs Creek Project. This plan identifies the activities to monitor and the responses that would be appropriate to minimize a possible release of drilling fluid. The purpose of the plan is to outline actions to be taken for various sizes of inadvertent releases under various conditions, should inadvertent releases occur, and to establish monitoring and response criteria that will reduce and minimize any environmental effects of the HDD operations.
4. INADVERTANT RETURN PREVENTION

The objective to prevent inadvertent returns shall be managed through reasonable construction practices, including:

4.1 CONTROLLED TOOL ADVANCE

During pilot hole activities the rate of advancement of the tool head will be conservative to allow for the clearing of cuttings from the annular space, this will prevent and blockages of the annular space that could result in a build-up of pressure that could increase the risk of IR. If the rate of returns is decreased or if the downhole pressure is increased the rate of advanced will be further slowed or stopped and appropriate measures will be taken to try to clean the hole through reversing direction to try to clear the annular space.

4.2 DOWN HOLE PRESSURE

Pumping pressure while the directional drill is in operation will be kept at a minimum to maintain positive circulation of drilling fluid to facilitate clearing of cuttings. Reductions of circulation events may require the adjustment of drill fluid properties (e.g. viscosity, density) and drill tool advancement changes.

During drilling pressure will be continually monitored utilizing a downhole pressure probe located at the head of the drill, the measured pressure will be compared against the predicted pressures and the maximum allowable pressures. These differences should give indications of the circular flow rate and the specific geology being encountered by the tool head. The drill rig operator, or driller, is responsible for monitoring the pressures.

5. INADVERTANT RELEASE MONITORING

Ultimate responsibility for monitoring the site and HDD alignment for inadvertent drilling fluid release lies with the HDD superintendent.

5.1 CIRCULATION RATE

The drilling fluid circulation rate and the quantity of returns to the HDD entry returns pit will be continuously monitored and quantified. Any differences between the rate of drilling fluid returns and drilling fluid pumping rates may indicate an inadvertent drilling fluid release. The drill rig operator, or driller, is responsible for visually monitoring the returns pit for loss of circulation indications.

5.2 INSPECTION

The surface of the ground will be inspected visually along the HDD alignment for signs of Inadvertent Release. Visual inspection of watercourses while the HDD is operating under them is required. If pressure and advancement indications of inadvertent release are noticed, then a visual inspection of the HDD alignment shall be continuous until the source of the indications is identified. Reasonable efforts must be made to search for any location where drilling fluid may have reached the surface.
5.3 VIBRATORY MONITORING

Preconstruction vibratory monitoring of the subsurface has been conducted and will be used to compare to vibratory monitoring during construction. Differences in these values along with other indications of loss of circulation could be used to detect possible Inadvertent Returns. Vibratory Monitoring is conducted by E2PM.

6. TEMPORARY CASING

At the entry point of the HDD on the Pennsylvania side a temporary casing will be installed to facilitate the smooth flow of drilling fluid returns to the entry bore pit. The temporary casing will be installed from the surface to the rock interface and will provide additional inadvertent return protection at this location. The casing will also provide additional protection due to the increase in flow rate and pressure at the tool head during rock drilling operations. The casing will be removed when the HDD has been completed.

7. INADVERTANT RETURN RESPONSE

If an inadvertent drilling fluid return is observed the flow of drilling fluid shall immediately cease and the designated general contractor representative shall be notified immediately. The HDD Superintendent and general contractor representative shall determine the appropriate action to take depending on the volume and location of the inadvertent release.

1. If the inadvertent return is minor, easily contained, has not reached the surface and is not threatening sensitive resources, a leak-stopping compound shall be used to block the release. Any material contaminated with drilling fluid shall be removed to a depth of 2 feet from the surface and properly disposed of site as required by law. If the inadvertent return occurs within the limit of disturbance and is containable, the drilling operations may be restarted with environmental inspector and SPLP approval.

2. If an inadvertent return reaches the surface and becomes widespread, the HDD Superintendent shall authorize a readily accessible vacuum truck to assist in the removal of materials contaminated by bentonite.

3. If an inadvertent return releases in Hough’s Creek tributary, Jacobs Creek, or the Delaware River, the HDD Contractor will make every possible attempt to reduce, eliminate and contain the release. At the Environmental Inspector and/or PADEP inspector or NJDEP inspector’s direction the HDD Contractor will deploy floating silt booms, anchored in place over the location of the inadvertent return. The purpose is to contain and confine the suspended solids until observable settling can occur. The floating silt boom will remain in place until the inadvertent return has completely stopped. The Environmental Inspectors will characterize the environmental impacts from the release of drilling fluids following completion of the drill, including the extent of the plume, the area affected by recover efforts, changes to hydrology and whether the impacts are permanent or temporary. A report of the assessment will be provided to the PADEP representative and NJDEP representative as required for determination of any further action.

Every reasonable effort to reduce, eliminate and contain the inadvertent return will be made. Until the release is contained drilling operations to advance the directional drill shall not be resumed, however the operator may take steps to preserve the integrity of the bore hole. These
actions may include but are not limited to, adding pre-approved loss circulation materials to the drilling fluid, circulating the bore hole with drilling fluid and removing the drill string from the bore hole.

Appropriate materials to control inadvertent release must be kept on site and these materials may include but are not limited to:

- Pre-approved LCMs
- Wood stakes
- Plastic sheeting
- Corrugated plastic pipe
- Sandbags
- Silt fence
- Silt sock
- Plastic tarp(s)
- Orange safety fence
- Metal posts
- Hand tools (e.g. shovels, buckets, rakes, push brooms)
- Storage Tanks (If needed)
- Pumps, vacuum trucks

8. **GENERAL CONDITIONS**

- This Inadvertent Returns plan must be present on-site during drilling operations and be made available to all agencies involved in the project.

- All required permits and material Safety Data Sheets must be onsite and made available to PADEP.

8.1 **PADEP CONDITIONS**

- The permittee shall notify DEP, in writing, of the proposed time for commencement of work at least 15 days prior to the commencement of construction.

- The project site shall always be available for inspection by authorized officers and employees of the Pennsylvania Fish and Boat Commission. Prior to commencement and upon completion of the work authorized by this permit, the permittee shall notify the Pennsylvania Fish and Boat Commission’s Southeast Regional Office, Box 8, Elm, PA 17521; telephone 717.626.0228.

8.2 **NJDEP CONDITIONS**

- The permittee (SPLP) shall immediately inform NJDEP (department) of any unanticipated adverse effects on the environment that are not described in the application or in the conditions of the NJDEP permit. The department may, upon discovery of such unanticipated adverse effects, and upon the failure of the permittee to submit a report thereon, notify the permittee of its intent to suspend the permit.

- The permittee (SPLP) shall immediately inform the Department by telephone at (877-927-6337 (WARN DEP hotline) of any noncompliance that may endanger public health,
and welfare, or the environment. The permittee (SPLP) shall inform the Division of Land Resource Protection by telephone at (609)-777-0454 of any other noncompliance within two working days of the time the permittee became aware of the noncompliance, and in writing within five working days of the time the permittee becomes aware of the noncompliance. Such notice shall not, however, serve as a defense to enforcement action if the project is found to be in violation of this chapter (105). The written notice shall include:

a. A description of the noncompliance and its cause;

b. The period of noncompliance, including exact dates and times;

c. If the noncompliance has not been corrected, the anticipated length of time it is expected to continue; and

d. The steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

- The permittee (SPLP) shall submit written notification to the Bureau of Coastal and Land Use Compliance and Enforcement, 401 East State Street, 4th Floor, PO Box 420, Mail Code 401-04C, Trenton, NJ 08625, at least three working days prior to the commencement of regulate activities.

9. TRAINING OF PERSONNEL

All HDD contractor personnel onsite will receive training in preventing, monitoring and response to inadvertent returns. This training will include:

- The details of this plan
- Specific permitting conditions and requirements
- Communication organization
- Order of authority and responsibility
- Contact names and phone numbers of appropriate individuals
- Reportable events
APPENDIX A
Initial Inadvertent Report Forms
<table>
<thead>
<tr>
<th>REPORT DATE:</th>
<th>HDD ALIGNMENT #:</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROJECT SITE:</td>
<td>HDD COMPANY:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DATE AND TIME WHEN IR WAS DISCOVERED</th>
<th>DATE:</th>
<th>TIME:</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOCATION: STREET</td>
<td>LATITUDE (decimal):</td>
<td>LONGITUDE (decimal):</td>
</tr>
<tr>
<td>MUNICIPALITY:</td>
<td>FROM STATION:</td>
<td>TO STATION</td>
</tr>
<tr>
<td>COUNTY:</td>
<td>POND / LAKE NAME:</td>
<td>WETLAND NAME:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CORPS PERMIT NO:</th>
<th>IR TRACKING ID:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>LISTED IN WHICH EXHIBIT</th>
<th>DESCRIPTION IN EXHIBIT</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>BACKGROUND INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. NAME OF ALL PERSON(S) PROVIDING INFORMATION FOR THIS REPORT AND CONTACT INFORMATION</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B. MATERIAL(a) RELEASED</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>C. DESCRIPTION OF THE RELEASE (PROVIDE DATES, TIMES, AND DURATION OF IF KNOWN, INCLUDE ROOT CAUSES)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>D. ESTIMATED QUANTITY OF MATERIAL RELEASED</th>
</tr>
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</table>

<table>
<thead>
<tr>
<th>E. ESTIMATED AERIAL EXTENT OF MATERIAL RELEASED</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>F. HAS IR BEEN CONTAINED WITHIN THE LIMIT OF DISTURBANCE? (PROVIDE DATE AND TIME)</th>
<th>NOTE:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>G. T &amp; E / BOG TURTLE AREA?</th>
<th>NOTE:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>H. TROUT STREAM?</th>
<th>NOTE:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>I. EV WATER</th>
<th>NOTE:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>J. EV WETLAND</th>
<th>NOTE:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>K. ANY DOWNSTREAM IMPACTS? (PROVIDE DESCRIPTION, DATES, TIMES, AND DURATION)</th>
<th>NOTE:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>K1. Did a Fish Kill Occur? (PROVIDE DATES AND TIMES)</th>
<th>NOTE:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>K2. Has the Substrate Been Coated?</th>
<th>NOTE:</th>
</tr>
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</table>

<table>
<thead>
<tr>
<th>K3. Where any Water Supplies Impacted? (PROVIDE DATES AND TIMES)</th>
<th>NOTE:</th>
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</table>

<table>
<thead>
<tr>
<th>K4. If water supplies were impacted, were the owners of the water supplies notified? Has anything been provided to the owners of the impacted water supplies? (Provide dates and times)</th>
<th>NOTE:</th>
</tr>
</thead>
</table>

MAP:
### II. Verbal Notifications

<table>
<thead>
<tr>
<th>PADEP Emergency Notification:</th>
<th>WHO MADE THE CALL ON BEHALF OF SPLP?</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHONE NUMBER CALLED:</td>
<td></td>
</tr>
<tr>
<td>DATE:</td>
<td></td>
</tr>
<tr>
<td>TIME:</td>
<td></td>
</tr>
<tr>
<td>PERSON CALLED:</td>
<td></td>
</tr>
<tr>
<td>NOTES:</td>
<td></td>
</tr>
<tr>
<td>VM#?</td>
<td>NOTE:</td>
</tr>
</tbody>
</table>

List any notifications of incident made to water intakes, water well owners and landowners, including date and time when each notification occurred:

<table>
<thead>
<tr>
<th>NAME:</th>
<th>DATE:</th>
<th>TIME:</th>
<th>PUBLIC OR PRIVATE:</th>
<th>NOTE:</th>
</tr>
</thead>
<tbody>
<tr>
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<table>
<thead>
<tr>
<th>COUNTY Conservation District Notification:</th>
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</thead>
<tbody>
<tr>
<td>PHONE NUMBER CALLED:</td>
<td></td>
</tr>
<tr>
<td>DATE:</td>
<td></td>
</tr>
<tr>
<td>TIME:</td>
<td></td>
</tr>
<tr>
<td>PERSON CALLED:</td>
<td></td>
</tr>
<tr>
<td>NOTES:</td>
<td></td>
</tr>
<tr>
<td>VM#?</td>
<td>NOTE:</td>
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<table>
<thead>
<tr>
<th>USEC Regulatory Notification:</th>
<th>WHO MADE THE CALL ON BEHALF OF SPLP?</th>
</tr>
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<tbody>
<tr>
<td>PHONE NUMBER CALLED:</td>
<td></td>
</tr>
<tr>
<td>DATE:</td>
<td></td>
</tr>
<tr>
<td>TIME:</td>
<td></td>
</tr>
<tr>
<td>PERSON CALLED:</td>
<td></td>
</tr>
<tr>
<td>NOTES:</td>
<td></td>
</tr>
<tr>
<td>VM#?</td>
<td>NOTE:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fish and Boat Commission Notification:</th>
<th>WHO MADE THE CALL ON BEHALF OF SPLP?</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHONE NUMBER CALLED:</td>
<td></td>
</tr>
<tr>
<td>DATE:</td>
<td></td>
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<tr>
<td>TIME:</td>
<td></td>
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<td>PERSON CALLED:</td>
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<tr>
<td>NOTES:</td>
<td></td>
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<td>VM#?</td>
<td>NOTE:</td>
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<table>
<thead>
<tr>
<th>OTHER Notification:</th>
<th>WHO MADE THE CALL ON BEHALF OF SPLP?</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHONE NUMBER CALLED:</td>
<td></td>
</tr>
<tr>
<td>DATE:</td>
<td></td>
</tr>
<tr>
<td>TIME:</td>
<td></td>
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<tr>
<td>PERSON CALLED:</td>
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</tr>
<tr>
<td>NOTES:</td>
<td></td>
</tr>
<tr>
<td>VM#?</td>
<td>NOTE:</td>
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</table>

### III. Actions Taken/Follow Up

**Immediate Action Taken:**

A. WHEN DID THE RELEASE OCCUR?

B. DATE AND TIME OF CESSION OF DRILLING:

C. WAS DRILLING RESUMED?

D. WAS DRILLING RESUMED?

**Corrective Measures Summary:**

A. WAS THE IR CEASED?

B. WAS THE IR CONTAINED?

C. WAS THE IR/DRILLING FLUID RECOVERED?

D. IF SO, WHAT MODIFICATIONS TO THE HRD PROCESS WERE USED?

E. IF SO, HAS ANOTHER RELEASE OCCURRED?
<table>
<thead>
<tr>
<th>IF INTERIM, SEE NOTE ABOVE.</th>
<th>NOTES:</th>
</tr>
</thead>
<tbody>
<tr>
<td>REPORT DATE:</td>
<td>HDD ALIGNMENT #</td>
</tr>
<tr>
<td>PROJECT SITE:</td>
<td>HDD COMPANY:</td>
</tr>
<tr>
<td>DATE AND TIME WHEN IR WAS INITIALLY DISCOVERED</td>
<td></td>
</tr>
<tr>
<td>LOCATION: STREET</td>
<td>MUNICIPALITY:</td>
</tr>
<tr>
<td>LOCATION: LATITUDE (decimal):</td>
<td>COUNTY:</td>
</tr>
<tr>
<td>LOCATION: LONGITUDE (decimal):</td>
<td></td>
</tr>
<tr>
<td>LOCATION: FROM STATION: TO STATION:</td>
<td></td>
</tr>
<tr>
<td>LOCATION: STREAM NAME: POND / LAKE NAME: WETLAND NAME:</td>
<td></td>
</tr>
<tr>
<td>DEP PERMIT No. Corp. Permit No.</td>
<td></td>
</tr>
<tr>
<td>IR TRACKING ID:</td>
<td></td>
</tr>
<tr>
<td>IS AUGUST 8, 2017 ORDER APPLICABLE?</td>
<td></td>
</tr>
<tr>
<td>LISTED IN WHICH EXHIBIT?</td>
<td></td>
</tr>
<tr>
<td>DESCRIPTION IN EXHIBIT</td>
<td></td>
</tr>
</tbody>
</table>

**COMPLETE THE FOLLOWING QUESTIONS IF APPLICABLE:**

1. **IS THE IR ON-GOING?** Provide dates, times, and duration of all IRs. **NOTE:**

2. **HAS THE IR CEASED?** Provide date and time for each IR. **NOTE:**

3. **WHEN WAS DRILLING STOPPED?** Provide date and time for each IR. **NOTE:**

4. **VOLUME OF IR (CURRENT ESTIMATE)?** **NOTE:**

4A. **DOES THIS VOLUME RELEASE REPRESENT A TOTAL VOLUME RELEASED SINCE THE RELEASE BEGAN?** **NOTE:**

5. **HAS THIS VOLUME CHANGED SINCE THE LAST REPORT? IF SO, HOW?** **NOTE:**

6. **WHAT IS THE DURATION OF EACH IR?** Provide dates and times. **NOTE:**

7. **WHAT STEPS WERE TAKEN TO STOP EACH IR?** Provide dates and times. **NOTE:**

8. **WHAT REVISIONS TO THE DRILLING WERE IMPLEMENTED PRIOR TO EACH RESUMPTION OF DRILLING?** Provide dates and times. **NOTE:**

8a. What was the technical basis for resuming drilling? **NOTE:**

9. **WAS THE DRILLING RESUMED?** Provide dates, times, and duration for each IR. **NOTE:**

9A. **IF SO, HAS ANOTHER IR OCCURRED?** IF YES, provide dates and times for each IR. **NOTE:**

9B. **HAS IR BEEN CONTAINED?** IF YES, Provide dates, times, and measures for each IR. **NOTE:**

10. **HAS A FISH KILL OCCURRED?** IF YES, Provide dates, times, and measures for each IR. **NOTE:**

11. **ARE FISH AND OR OTHER AQUATIC LIFE IN DISTRESS?** **NOTE:**

13. **AS OF THE DATE OF THIS REPORT, DOES DRILLING FLUID REMAIN IN THE WETLAND OR WATERCOURSE?** **NOTE:**

14. **IS THERE NOTICEABLE HIGH LEVELS OF TURBIDITY IN THE WATERCOURSE?** IF YES, Provide dates, times, and duration for each IR. **NOTE:**

15. **HAS FLUID LOSS OCCURRED? (IF KNOWN)** IF YES, Provide dates, times, and duration for each loss of fluid. **NOTE:**

16. **CORRECTIVE MEASURES IMPLEMENTED NOT PREVIOUSLY LISTED ABOVE?** Provide dates and times for each IR. **NOTE:**

17. **DESCRIPTION OF IMPACTS INCLUDING TIMES, DATES, AND DURATION OF EACH IMPACT.** **NOTE:**
# LIST ANY NOTIFICATIONS OF INCIDENT MADE TO WATER INTAKES, WATER WELL OWNERS AND LANDOWNERS, INCLUDING DATE AND TIME WHEN EACH NOTIFICATION OCCURRED:

<table>
<thead>
<tr>
<th>NAME:</th>
<th>DATE:</th>
<th>TIME:</th>
<th>PUBLIC OR PRIVATE:</th>
<th>NOTE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAME:</td>
<td>DATE:</td>
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<td>PUBLIC OR PRIVATE:</td>
<td>NOTE:</td>
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<td>NAME:</td>
<td>DATE:</td>
<td>TIME:</td>
<td>PUBLIC OR PRIVATE:</td>
<td>NOTE:</td>
</tr>
</tbody>
</table>

# NAME OF ALL PERSON(S) PROVIDING INFORMATION FOR THIS REPORT AND CONTACT INFORMATION

<table>
<thead>
<tr>
<th>NAME:</th>
<th>PHONE:</th>
<th>EMAIL:</th>
<th>TITLE:</th>
</tr>
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<tbody>
<tr>
<td>NAME:</td>
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<td>NAME:</td>
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</tbody>
</table>

# IMPACTED RESOURCE(S)

<table>
<thead>
<tr>
<th>RESOURCE:</th>
<th>SURFACE WATER CLASSIFICATION OR WETLAND TYPE:</th>
<th>WHAT STEPS HAVE BEEN TAKEN TO ELIMINATE OR MITIGATE THE IMPACTS?</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESOURCE:</td>
<td>SURFACE WATER CLASSIFICATION OR WETLAND TYPE:</td>
<td>WHAT STEPS HAVE BEEN TAKEN TO ELIMINATE OR MITIGATE THE IMPACTS?</td>
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<td>WHAT STEPS HAVE BEEN TAKEN TO ELIMINATE OR MITIGATE THE IMPACTS?</td>
</tr>
</tbody>
</table>

# ADDITIONAL INFORMATION

<table>
<thead>
<tr>
<th>IF DRILLING RESUMED DOES IT INVOLVE A CHANGE IN EQUIPMENT, DEPTH OR ALIGNMENT?</th>
<th>NOTE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUBLIC OR PRIVATE WATER SUPPLY - PROXIMITY TO DOWNSTREAM WATER INTAKES?</td>
<td>NOTE:</td>
</tr>
<tr>
<td>PROXIMITY TO PUBLIC OR PRIVATE WATER SUPPLIES AND WELLS?</td>
<td>NOTE:</td>
</tr>
<tr>
<td>LIST AND DESCRIBE MATERIAL(S) RELEASED:</td>
<td>NOTE:</td>
</tr>
<tr>
<td>HAS THE ESTIMATED QUANTITY OF THE RELEASE INCREASED SINCE THE LAST REPORT? IF SO, HOW?</td>
<td>NOTE:</td>
</tr>
<tr>
<td>ESTIMATED AERIAL EXTENT OF RELEASE</td>
<td>NOTE:</td>
</tr>
<tr>
<td>EXTENT (LINEAR FEET/MILES) OF DOWNSTREAM EDGE OF RELEASE, IF ANY</td>
<td>NOTE:</td>
</tr>
<tr>
<td>DESCRIBE ROOT CAUSE(S) OF IR</td>
<td>NOTE:</td>
</tr>
<tr>
<td>OTHER COMMENTS; NOTE ANY MATERIAL CHANGE IN THE INFORMATION FROM PRIOR REPORTS</td>
<td>NOTE:</td>
</tr>
<tr>
<td>HAVE THE IMPACTS FROM THE IR BEEN REMEDIATED? Please provide date of remediation.</td>
<td>NOTE:</td>
</tr>
</tbody>
</table>

# PRINTED NAME, TITLE AND SIGNATURE OF PERSON(S) COMPLETING THIS REPORT

<table>
<thead>
<tr>
<th>NAME:</th>
<th>TITLE:</th>
<th>SIGNATURE:</th>
<th>DATE:</th>
</tr>
</thead>
</table>

# PADEP USE ONLY

| AUTHORIZATION FROM PADEP OR CCD TO RESUME HDD REQUIRED? | NOTE: |
| PERMIT AMENDMENT? | NOTE: |

| PADEP / CCD REVIEWER NAME: | DATE: |
In accordance with the laws and regulations of the State of New Jersey, the Department of Environmental Protection hereby grants this permit to perform the activities described below. This permit is revocable with due cause and is subject to the terms, conditions, and limitations listed below and on the attached pages. For the purpose of this document, “permit” means “approval, certification, registration, authorization, waiver, etc.” Violation of any term, condition, or limitation of this permit is a violation of the implementing rules and may subject the permittee to enforcement action.

<table>
<thead>
<tr>
<th>Permit Number(s):</th>
<th>Approval Date</th>
<th>Expiration Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1106-20-00001.LUP200001</td>
<td>July 21, 2020</td>
<td>July 20, 2025</td>
</tr>
<tr>
<td>1100-20-0003.1 - LUP200001</td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of Approval(s):</th>
<th>Governing Rule(s):</th>
</tr>
</thead>
<tbody>
<tr>
<td>FHA Individual Permit</td>
<td>N.J.A.C. 7:13-1.1(b)</td>
</tr>
<tr>
<td>FWW General Permit No. 2 – Underground Utility Lines</td>
<td>N.J.A.C. 7:7A-1.1(a)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Permitee:</th>
<th>Site Location:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunoco Pipeline, LP.</td>
<td>Blocks &amp; Lots:</td>
</tr>
<tr>
<td>c/o Colleen Armstrong</td>
<td>In Ewing: [99.01, 6], [99.01, 9], [99.01, 10], [427, 1], [438, 2]; and</td>
</tr>
<tr>
<td>100 Green Street</td>
<td>In Hopewell: [137, 1], [137, 1.01], [137, 7], [437, 3.01]</td>
</tr>
<tr>
<td>Marcus Hook, PA 19061</td>
<td>Right-of-ways: NJ State Rt. 29 and Creek Rim Drive</td>
</tr>
<tr>
<td></td>
<td>Municipalities: Ewing and Hopewell Townships</td>
</tr>
<tr>
<td></td>
<td>County: Mercer</td>
</tr>
</tbody>
</table>

Description of Authorized Activities:

This document authorizes the replacement and relocation of a 14-inch, welded steel, high-pressure petroleum pipeline which is exposed for approximately 301 linear feet within Jacob’s Creek, next to the stream’s confluence with the Delaware River. The proposed pipeline will be installed via horizontal directional drilling adjacent to the existing exposed pipeline, which will be cut, grouted, capped, and abandoned in place. After the pipeline exits the ground on the New Jersey side of the Delaware River, the directionally drilled line will tie back into the existing pipeline outside and above the watercourses through open trenching.

A total of approximately 2,510 feet will be directionally drilled 80-85 feet below the Delaware River streambed, 35-80 feet deep under Jacob’s Creek stream bed, and 75-85 feet below the 24-foot wide concrete arch culvert running over Jacob’s Creek which carries NJ State Route 29, the D&R Canal, and the canal’s adjacent towpath. Staging and drilling will occur on the parcels referenced above, as depicted on the plans approved herein.

Prepared by:

Erin Signor, Environmental Engineer

Received and/or Recorded by

County Clerk:

If the permittee undertakes any regulated activity, project, or development authorized under this permit, such action shall constitute the permittee’s acceptance of the permit in its entirety as well as the permittee’s agreement to abide by the requirements of the permit and all conditions therein.

This permit is not valid unless authorizing signature appears on the last page.
STATEMENT OF AUTHORIZED IMPACTS:

The authorized activities allow for the permittee to undertake impacts to regulated areas as described below. Additional impacts to regulated areas without prior Department approval shall constitute a violation of the rules under which this document is issued and may subject the permittee and/or property owner to enforcement action, pursuant to N.J.A.C. 7:13-2.1; N.J.A.C. 7:7A-2.1

<table>
<thead>
<tr>
<th>FWW GP2 Underground Utility Lines</th>
<th>Permanent Disturbance (Acres)</th>
<th>Temporary Disturbance (Acres)</th>
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</thead>
<tbody>
<tr>
<td>Freshwater wetlands</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Transition areas</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>State open waters</td>
<td>0</td>
<td>0.543</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Riparian Zone Vegetation</th>
<th>Area of riparian zone (Acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permanent Disturbed</td>
<td>0</td>
</tr>
<tr>
<td>Temporary Disturbed</td>
<td>0.615</td>
</tr>
</tbody>
</table>

PRE-CONSTRUCTION CONDITIONS:

1. This document does not authorize any proposed activities in the State of Pennsylvania and does not approve any work on/under the Pennsylvania bank of the Delaware River depicted on any plans related to this project or otherwise.

2. On the plan entitled, “14-INCH TWIN OAKS TO NEWARK JACOBS CREEK PIPELINE RELOCATION; PIPELINE REMOVAL; NEW JERSEY PLAN AND PROFILE; HOPEWELL AND EWING TOWNSHIPS MERCER COUNTY, NEW JERSEY; UPPER MAIKEFIELD TOWNSHIP BUCKS COUNTY, PENNSYLVANIA”, Sheet 2 of 2, all references to the existing floodway and 100-year flood hazard area have not been verified by the Department and are not approved alongside this application.

FLOOD HAZARD AREA AND RIPARIAN ZONE SPECIAL CONDITIONS:

1. The Division has determined that the riparian zone adjacent to Jacobs Creek is 50 feet and that the riparian zone adjacent to the Delaware River is 50 feet. This permit authorizes 0.615 acres (26,789 SF) of riparian zone disturbance, as shown on the approved plans. Upon completion of the project, all temporarily disturbed areas shall be replanted with indigenous, non-invasive vegetation in accordance with N.J.A.C. 7:13-11.2(z) where applicable. Any additional disturbance to the riparian zone shall be considered a violation of the Flood Hazard Area Control Act Rules (FHACAR) unless a permit is obtained, prior to the start of the disturbance, from the Division Land Resource Protection.

2. Prior to the commencement of any site preparation, clearing, grading or construction the applicant is responsible for installing and maintaining a silt fence sediment barrier around all soils disturbed by construction, which are sufficient to prevent the sedimentation of Jacobs Creek. These fences shall serve as both a siltation and debris barrier as well as a physical barrier protecting the undisturbed regulated areas from encroachment by construction vehicles or activities. All sediment barriers and other soil erosion control measures shall be maintained on a daily basis in proper working condition throughout the entire duration of the project until such time that the site is stabilized.
3. In order to protect general game fish within the watercourse, no construction, excavation, filling, or grading is permitted within the watercourse onsite between May 1 through July 31. In addition, no construction, excavation, filling, or grading is permitted within the riparian zone of this watercourse or tributaries, which would introduce sediment into said watercourse or which could cause more than a minimum increase in the natural level of turbidity, unless the applicant demonstrates that appropriate soil erosion and sediment control measures, as determined by the local Soil Conservation District having jurisdiction over the site, are in place to prevent sediment from reaching the channel. The Department reserves the right to require additional soil conservation measures if it becomes evident that additional soil conservation measures are required to protect State regulated resources or to suspend all regulated activities on-site should it be determined that the applicant has not taken proper precautions to ensure continuous compliance with this condition.

4. All demolition and construction debris shall be disposed of in a lawful manner and outside of any regulated flood hazard area riparian zone, open water, freshwater wetland and adjacent transition area.

5. The applicant shall be responsible for preserving and minimizing vegetation disturbances within regulated areas. All temporary disturbances around the proposed construction shall be replanted with native herbaceous and woody vegetation where applicable.


7. The regulated activity shall not expose unset or raw cement to flowing water within any channel or regulated water during construction.

8. All riparian zone vegetation that is temporarily cleared, cut, and/or removed to conduct a regulated activity, access an area where regulated activities will be conducted, or otherwise accommodate a regulated activity shall be replanted immediately after completion of the regulated activity, unless prevented by seasonal weather, in which case the vegetation shall be replanted as soon as conditions permit. The vegetation to be replanted shall:
   a. Consist of vegetation of equal or greater ecological function and value as the vegetation that was cleared, cut, or removed. For example, herbaceous vegetation may be replaced with the same type of vegetation or with trees, but the trees in forested areas must be replaced with trees of equal or greater density and ecological function and value;
   b. Consist of native, non-invasive vegetation, except in an actively disturbed area. In an actively disturbed area, the vegetation may be replaced with the same type of vegetation that was cleared, cut, or removed, or with another kind of vegetation typical of an actively disturbed area. For example, lawn grass may be replaced with garden plants or agricultural crops; and
   c. In cases where replanting would interfere with continued access to or maintenance of a structure that is required by Federal, State, or local law, the vegetation replanted shall meet the requirements to the extent feasible.

9. Construction equipment shall not be stored, staged or driven within any channel, freshwater wetland or transition area, unless expressly approved by this permit and/or described on the approved plans.

10. After all in-channel activities are completed, native stream bed material shall be replaced within the channel. This material shall be contoured to mimic the original physical characteristics of the channel (such as its shape, width, slope,thalweg, meander, and ratio of shallow areas to deep areas,) in order to provide low-flow aquatic passage throughout the entire disturbed area.
11. De-watering of cofferdams must include properly sized temporary sediment basins or other filtering methods to reduce turbidity. The stream area to receive return water discharged from cofferdams must be encompassed by a turbidity barrier. The turbidity barrier must be located parallel to the stream banks and anchored to the shoreline to maintain free flow of the stream center. In order to avoid obstruction of stream flows or fish passage, turbidity barriers must not be placed across the entire stream channel.

12. Construction may only occur while the stream area is dry or in a de-watered condition. No work may be performed where the stream channel is wet.

13. The sections of watercourse where work is authorized under this permit shall be accessed only in the areas specifically shown on the approved drawing(s). The maximum limit of bank disturbance shown shall be observed and no additional disturbance to the channel is authorized.

SPECIAL CONDITIONS FOR A FRESHWATER WETLANDS PERMIT:

1. The total amount of disturbance associated with this authorization shall not exceed 0.543 acres (23,653 SF) of State open water for the removal of an existing exposed pipe within Jacobs Creek.

2. The permittee will be responsible for the installation of a sediment barrier around all disturbed soils, which is sufficient to prevent the sedimentation of the remaining State open water.

3. The permanently maintained clearing over the utility line shall be no wider than 6 feet.

4. The trench into which the utility line is placed shall be no wider than necessary to comply with the Federal O.S.H.A. safety standards.

5. Temporary disturbance, as defined at N.J.A.C. 7:7A-1.4, such as temporary storage of dirt or equipment, shall be the minimum size necessary for compliance with applicable laws.

6. Any pipes laid shall be properly sealed so as to prevent leaking or infiltration and designed so as not to form or provide a conduit for groundwater to be discharged or drained from the wetlands.

7. The applicant shall be responsible for ensuring that the back-filling activities do not interfere with the natural hydraulic characteristics of the wetland, such as flow characteristics of groundwater on the site.

8. All temporary disturbances must be permanently discontinued within six months after they are begun, and all temporary disturbed areas must be restored to their original condition.

9. In order to protect fishery resources within the watercourse, no construction, excavation, filling, or grading is permitted within the watercourse onsite between May 1 through July 31. In addition, no construction, excavation, filling, or grading is permitted within in the riparian zone of this watercourse or tributaries, which would introduce sediment into said watercourse or which could cause more than a minimum increase in the natural level of turbidity, unless the applicant demonstrates that appropriate soil erosion and sediment control measures, as determined by the local Soil Conservation District having jurisdiction over the site, are in place to prevent sediment from reaching the channel. The Department reserves the right to require additional soil conservation measures if it becomes evident that additional soil conservation measures are required to protect State regulated resources or to suspend all regulated activities on-site should it be determined that the applicant has not taken proper precautions to ensure continuous compliance with this condition.
10. **Material Disposal:** All excavated material and construction debris shall be disposed of in a lawful manner. The material shall be placed outside of any flood hazard area, riparian zone, regulated water, freshwater/coastal wetlands and adjacent transition area, and in such a way as to not interfere with the positive drainage of the receiving area.

11. If the permittee, before or during the work authorized, encounters a possible historic property, as described at N.J.A.C. 7:7A-19.5(I), that is or may be eligible for listing in the New Jersey or National Register, the permittee shall preserve the resource, and immediately notify the Department and proceed as directed.

**STANDARD CONDITIONS:**

1. The issuance of a permit shall in no way expose the State of New Jersey or the Department to liability for the sufficiency or correctness of the design of any construction or structure(s). Neither the State nor the Department shall, in any way, be liable for any loss of life or property that may occur by virtue of the activity or project conducted as authorized under a permit.

2. The issuance of a permit does not convey any property rights or any exclusive privilege.

3. The permittee shall obtain all applicable Federal, State, and local approvals prior to commencement of regulated activities authorized under a permit.

4. A permittee conducting an activity involving soil disturbance, the creation of drainage structures, or changes in natural contours shall obtain any required approvals from the Soil Conservation District or designee having jurisdiction over the site.

5. The permittee shall take all reasonable steps to prevent, minimize, or correct any adverse impact on the environment resulting from activities conducted pursuant to the permit, or from noncompliance with the permit.

6. The permittee shall immediately inform the Department of any unanticipated adverse effects on the environment not described in the application or in the conditions of the permit. The Department may, upon discovery of such unanticipated adverse effects, and upon the failure of the permittee to submit a report thereon, notify the permittee of its intent to suspend the permit.

7. The permittee shall immediately inform the Department by telephone at (877) 927-6337 (WARN DEP hotline) of any noncompliance that may endanger public health, safety, and welfare, or the environment. The permittee shall inform the Division of Land Resource Protection by telephone at (609) 777-0454 of any other noncompliance within two working days of the time the permittee becomes aware of the noncompliance, and in writing within five working days of the time the permittee becomes aware of the noncompliance. Such notice shall not, however, serve as a defense to enforcement action if the project is found to be in violation of this chapter. The written notice shall include:
   a. A description of the noncompliance and its cause;
   b. The period of noncompliance, including exact dates and times;
   c. If the noncompliance has not been corrected, the anticipated length of time it is expected to continue; and
   d. The steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.
8. Any noncompliance with a permit constitutes a violation of this chapter and is grounds for enforcement action, as well as, in the appropriate case, suspension and/or termination of the permit.

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

10. The permittee shall employ appropriate measures to minimize noise where necessary during construction, as specified in N.J.S.A. 13:1G-1 et seq. and N.J.A.C. 7:29.

11. The issuance of a permit does not relinquish the State's tidelands ownership or claim to any portion of the subject property or adjacent properties.

12. The issuance of a permit does not relinquish public rights to access and use tidal waterways and their shores.

13. The permittee shall allow an authorized representative of the Department, upon the presentation of credentials, to:
   a. Enter upon the permittee's premises where a regulated activity, project, or development is located or conducted, or where records must be kept under the conditions of the permit;
   b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
   a. Inspect, at reasonable times, any facilities, equipment, practices, or operations regulated or required under the permit. Failure to allow reasonable access under this paragraph shall be considered a violation of this chapter and subject the permittee to enforcement action; and
   c. Sample or monitor at reasonable times, for the purposes of assuring compliance or as otherwise authorized by the Federal Act, by the Freshwater Wetlands Protection Act, or by any rule or order issued pursuant thereto, any substances or parameters at any location.

14. The permittee shall not cause or allow any unreasonable interference with the free flow of a regulated water by placing or dumping any materials, equipment, debris or structures within or adjacent to the channel while the regulated activity, project, or development is being undertaken. Upon completion of the regulated activity, project, or development, the permittee shall remove and dispose of in a lawful manner all excess materials, debris, equipment, and silt fences and other temporary soil erosion and sediment control devices from all regulated areas.

15. The permittee and its contractors and subcontractors shall comply with all conditions, site plans, and supporting documents approved by the permit.

16. All conditions, site plans, and supporting documents approved by a permit shall remain in full force and effect, so long as the regulated activity, project, or development, or any portion thereof, is in existence, unless the permit is modified pursuant to the rules governing the herein approved permits.

17. The permittee shall perform any mitigation required under the permit in accordance with the rules governing the herein approved permits.

18. If any condition or permit is determined to be legally unenforceable, modifications and additional conditions may be imposed by the Department as necessary to protect public health, safety, and welfare, or the environment.
19. Any permit condition that does not establish a specific timeframe within which the condition must be satisfied (for example, prior to commencement of construction) shall be satisfied within six months of the effective date of the permit.

20. A copy of the permit and all approved site plans and supporting documents shall be maintained at the site at all times and made available to Department representatives or their designated agents immediately upon request.

21. The permittee shall provide monitoring results to the Department at the intervals specified in the permit.

22. A permit shall be transferred to another person only in accordance with the rules governing the herein approved permits.

23. A permit can be modified, suspended, or terminated by the Department for cause.

24. The submittal of a request to modify a permit by the permittee, or a notification of planned changes or anticipated noncompliance, does not stay any condition of a permit.

25. Where the permittee becomes aware that it failed to submit any relevant facts in an application, or submitted incorrect information in an application or in any report to the Department, it shall promptly submit such facts or information.

26. The permittee shall submit written notification to the Bureau of Coastal and Land Use Compliance and Enforcement, 401 East State Street, 4th Floor, PO Box 420, Mail Code 401-04C, Trenton, NJ 08625, at least three working days prior to the commencement of regulated activities.

27. The permittee shall record the permit, including all conditions listed therein, with the Office of the County Clerk (the Registrar of Deeds and Mortgages, if applicable) of each county in which the site is located. The permit shall be recorded within 30 calendar days of receipt by the permittee, unless the permit authorizes activities within two or more counties, in which case the permit shall be recorded within 90 calendar days of receipt. Upon completion of all recording, a copy of the recorded permit shall be forwarded to the Division of Land Resource Protection at the address listed on page one of this permit.

APPROVED PLAN(S):

The drawings hereby approved consist of six sheets prepared by STV Inc., dated April 17, 2020, unrevised, and entitled:

"14-INCH TWIN OAKS TO NEWARK JACOBS CREEK PIPELINE RELOCATION; HOPEWELL AND EWING TOWNSHIPS MERCER COUNTY, NEW JERSEY; UPPER MAIKEFIELD TOWNSHIP BUCKS COUNTY, PENNSYLVANIA":

"PLAN AND PROFILE STA. 8+00 TO STA. 16+00", Sheet 2 of 4;
"PLAN AND PROFILE STA. 16+00 TO STA. 24+00", Sheet 3 of 4;
"PLAN AND PROFILE STA. 24+00 TO STA. 30+03.35", Sheet 4 of 4;
"PIPELINE REMOVAL; NEW JERSEY PLAN AND PROFILE", Sheet 2 of 2;
"CONSTRUCTION DETAILS", Sheet 1 of 1; and
"NEW JERSEY POST CONSTRUCTION; STORMWATER MANAGEMENT PLAN", Sheet 15 of 16.
APPEAL OF DECISION:

Any person who is aggrieved by this decision may submit an adjudicatory hearing request within 30 calendar days after public notice of the decision is published in the DEP Bulletin (available at www.nj.gov/dep/bulletin). If a person submits the hearing request after this time, the Department shall deny the request. The hearing request must include a completed copy of the Administrative Hearing Request Checklist (available at www.nj.gov/dep/landuse/forms.html). A person requesting an adjudicatory hearing shall submit the original hearing request to: NJDEP Office of Legal Affairs, Attention: Adjudicatory Hearing Requests, Mail Code 401-04L, P.O. Box 402, 401 East State Street, 7th Floor, Trenton, NJ 08625-0402. Additionally, a copy of the hearing request shall be submitted to the Director of the Division of Land Resource Protection at the address listed on page one of this permit. In addition to your hearing request, you may file a request with the Office of Dispute Resolution to engage in alternative dispute resolution. Please see www.nj.gov/dep/odr for more information on this process.

If you need clarification on any section of this permit or conditions, please contact the Division of Land Resource Protection's Technical Support Call Center at (609) 777-0454.

Approved By:

[Signature]

Patrick Ryan
Date: 2020.07.21
15:23:23 -04'00'

Patrick Ryan, Environmental Supervisor
Division of Land Resource Protection

c: Municipal Clerk, Hopewell Township
Municipal Construction Official, Hopewell Township
Municipal Clerk, Ewing Township
Municipal Construction Official, Ewing Township
Agent (original) – James McGinley
NJDEP Freshwater Wetlands General Permit 2

and

Individual Flood Hazard Permit

for the

Jacobs Creek Pipeline Relocation Project

Ewing and Hopewell Townships, Mercer County, New Jersey
Attachment 1 – Forms and Checklists

Attachment 2 – Project Description/Flood Hazard Environmental Report/Wetland Consistency Statements

Attachment 3 – Public Notices/Property Ownership
   - Property Ownership Information
   - Municipal Letters
   - Property Owner Notification within 200’

Attachment 4 – Project Site Plan

Attachment 5 – Photos

Attachment 6 – Threatened/Endangered Species Coordination

Attachment 7 – Flood Hazard Engineering Report

Attachment 8 – Project Figures

Attachment 9 – Wetland Delineation Report

Attachment 10 – SHPO Coordination
ATTACHMENT 1
Forms and Checklists
State of New Jersey
Department of Environmental Protection
Division of Land Use Regulation
Application Form for Permit(s)/Authorization(s)
501 E. State Street Mail Code 501-02A P.O. Box 420
Trenton, NJ 08625-0420
Phone #: (609) 777-0454 Web: www.nj.gov/dep/landuse

Please print legibly or type the following: Complete all sections and pages unless otherwise noted. Is this project a NJDOT Priority 1 Repair Project? Yes ☐ No ☐
Is this project a NJDOT Priority 2 Repair Project? Yes ☐ No ☐

1. Applicant Name: Mr./Ms./Mrs. Donald Samala
   Address: 2480 Main Street
   City/State: Whitehall, PA
   E-Mail: dosamala@energytransfer.com
   Daytime Phone: 610-438-7219 Ext. __________
   Zip Code 18052-4607 Cell Phone: __________

2. Agent Name: Mr./Ms./Mrs. James McGinley
   Firm Name: STV Energy Services
   Address: 265 West Welsh Drive
   City/State: Douglassville, PA
   E-Mail: jim.mcginley@stvinc.com
   Daytime Phone: 610-365-8443 Ext. __________
   Zip Code 19518 Cell Phone: 610-766-7554

3. Property Owner: Mr./Ms./Mrs. Sunoco Pipeline, L.P.
   Address: 525 Fritstown Road
   City/State: Sinking Spring, PA
   E-Mail: __________
   Daytime Phone: __________ Ext. __________
   Zip Code 19608 Cell Phone: __________

4. Project Name: Jacobs Creek Pipeline Replacement
   Municipality: Hopewell Township
   Block(s): 438, 427, 99.01
   Watershed: Central Delaware
   Nearest Waterway: Jacobs Creek

5. Project Description: Replacement of 14 inch petroleum pipeline via horizontal directional drill under the Delaware River

Provide if applicable: Previous LUR File # (s): ____________________________
Waiver request ID # (s): ____________________________

A. SIGNATURE OF APPLICANT (required):
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining and preparing the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment. If the applicant is an organization such as a corporation, municipal entity, home-owners association etc., the party responsible for the application shall sign on behalf of the organization.

Signature of Applicant ____________________________
Date ____________
Print Name ____________________________

4/13/2020
B. PROPERTY OWNER'S CERTIFICATION

I hereby certify that the undersigned is the owner of the property upon which the proposed work is to be done. This endorsement is certification that the owner/easement holder grants permission for the conduct of the proposed activity. In addition, written consent is hereby given to allow access to the site by representatives or agents of the Department for the purpose of conducting a site inspection(s) or survey(s) of the property in question.

In addition, the undersigned property owner hereby certifies:

1. Whether any work is to be done within an easement? (If answer is "Yes" – Signature/Title of responsible party is required below) Yes ☒ No ☐
2. Whether any part of the entire project will be located within property belonging to the State of New Jersey? Yes ☒ No ☐
3. Whether any work is to be done on any property owned by any public agency that would be encumbered by Green Acres? Yes ☐ No ☒
4. Whether this project requires a Section 106 (National Register of Historic Places) Determination as part of a federal approval? Yes ☒ No ☐

Signature of Owner

Date

Print Name

Signature of Owner/Easement Holder

4/13/2020

Date

Donald Samala Staff Engineer Sunoco Pipeline LP

Print Name/Title

C. APPLICANT'S AGENT

I, Donald Samala ____________, the Applicant/Owner and ________________ co-Applicant/Owner authorize to act as my agent/representative in all matters pertaining to my application the following person:

James McGinley

Name of Agent

Environmental Scientist

Occupation/Profession of Agent

AGENT'S CERTIFICATION:

I agree to serve as agent for the above-referenced applicant:

Signature of Agent

STV Energy Services

Name of Firm

D. STATEMENT OF PREPARER OF PLANS, SPECIFICATIONS, SURVEYOR'S OR ENGINEER'S REPORT

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining and preparing the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment.

Signature

Print Name

Position & Name of Firm

Professional License # 4/20/20

E. STATEMENT OF PREPARER OF APPLICATION, REPORTS AND/OR SUPPORTING DOCUMENTS (other than engineering)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining and preparing the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment.

Signature

Print Name

Environment Scientist STV Energy Services, Inc.

Position & Name of Firm

Professional License # 4/20/20

Date
**FEE CALCULATION TIPS:**

- Whenever the calculation requires an acreage figure (including the Stormwater calculations), you will need to round up to the nearest whole number, for example: 0.25 acres gets rounded up to one (1) acre or 2.61 acres gets rounded up to three (3) acres.
- The maximum fee for a CAFRA Individual permit, an Upland Waterfront Development permit, or an In-Water Waterfront Development permit is $30,000 per permit type. For example: if you are applying for both an upland and an in-water Waterfront Development the maximum fee is applied to each permit for a maximum total of $60,000 plus any applicable stormwater review fee.
- The stormwater review fee is applied only one time per project, maximum of $20,000, regardless of multiple applications.

**APPLICATION(S) FOR:** Please check each permit/authorization that you are applying for and fill in the calculated fee (for each) in the "Fee Paid" column

### Coastal General Permits

<table>
<thead>
<tr>
<th>General Permit Description</th>
<th>Fee Amount</th>
<th>Fee Paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>CZMGP1 Amusement Pier Expansion</td>
<td>$1,000.00</td>
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</tr>
<tr>
<td>CZMGP2 Beach/Dune Activities</td>
<td>$1,000.00</td>
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<tr>
<td>CZMGP3 Voluntary Reconstruction of Certain Residential/Commercial Dev.</td>
<td>$1,000.00</td>
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<tr>
<td>CZMGP4 Development of one or two SFH or Duplexes</td>
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<tr>
<td>CZMGP5 Expansion or Reconstruction of SFH/Duplexes</td>
<td>$1,000.00</td>
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<tr>
<td>CZMGP6 New Bulkhead or Fill Lagoon</td>
<td>$1,000.00</td>
<td></td>
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<tr>
<td>CZMGP7 Retention at SFH/Duplex</td>
<td>$1,000.00</td>
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<tr>
<td>CZMGP8 Gabions at SFH/Duplex</td>
<td>$1,000.00</td>
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<tr>
<td>CZMGP9 Support Facilities at a Marina</td>
<td>$1,000.00</td>
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<tr>
<td>CZMGP10 Reconstruction of Existing Bulkhead</td>
<td>$1,000.00</td>
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<tr>
<td>CZMGP11 Hazard Waste Clean-up</td>
<td>$1,000.00</td>
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<tr>
<td>CZMGP12 Landfill of Utilities</td>
<td>$1,000.00</td>
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<tr>
<td>CZMGP13 Recreation Facility at Public Park</td>
<td>$1,000.00</td>
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<tr>
<td>CZMGP14 Bulkhead Construction &amp; Fill Placement</td>
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<tr>
<td>CZMGP15 Construction of Piers/Docks/Karups in Lagoons</td>
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<tr>
<td>CZMGP16 Minor Maintenance Dredging in Lagoons</td>
<td>$1,000.00</td>
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<tr>
<td>CZMGP17 Eroded Shoreline Stabilization</td>
<td>$1,000.00</td>
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<tr>
<td>CZMGP18 Avian Nesting Structures</td>
<td>$1,000.00</td>
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<tr>
<td>CZMGP19 Modification of Electrical Substations</td>
<td>$1,000.00</td>
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</tr>
<tr>
<td>CZMGP20 Legalization of the Filing of Tidelands</td>
<td>$1,000.00</td>
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<tr>
<td>CZMGP21 Construction of Telecommunication Towers</td>
<td>$1,000.00</td>
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<tr>
<td>CZMGP22 Construction of Tourism Structures</td>
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<tr>
<td>CZMGP23 Geotechnical Survey Boring</td>
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<tr>
<td>CZMGP24 Habitat Creation, Restoration, Enhancement, Living Shorelines</td>
<td>No Fee</td>
<td>No Fee</td>
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<tr>
<td>CZMGP25 1 to 3 Turbines &lt; 200 Feet</td>
<td>$1,000.00</td>
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<tr>
<td>CZMGP26 Wind Turbines &lt; 250 Feet</td>
<td>$1,000.00</td>
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<tr>
<td>CZMGP27 Dredge Lagoon (post storm event)</td>
<td>$1,000.00</td>
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</tr>
<tr>
<td>CZMGP28 Dredge post Bulkhead Failure</td>
<td>$1,000.00</td>
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<tr>
<td>CZMGP29 Dredge Marina (post storm event)</td>
<td>$1,000.00</td>
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<tr>
<td>CZMGP30 Aquaculture Activities</td>
<td>$1,000.00</td>
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<tr>
<td>CZMGP31 Placement of Shell (shellfish areas)</td>
<td>$1,000.00</td>
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<tr>
<td>CZMGP32 Application of Herbicide in Coastal Wetlands</td>
<td>$1,000.00</td>
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</tr>
<tr>
<td>CZM Permit-by-Certification (On-line application ONLY)</td>
<td>$1,000.00</td>
<td></td>
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</tbody>
</table>

### Coastal Individual Permits

<table>
<thead>
<tr>
<th>Individual Permit Description</th>
<th>Fee Amount</th>
<th>Fee Paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAFRA - IP SFH or Duplex</td>
<td>$2,000</td>
<td></td>
</tr>
<tr>
<td>CAFRA - IP Residential not SFH/Duplex</td>
<td>$3,000 x ___ # of units</td>
<td></td>
</tr>
<tr>
<td>CAFRA - IP Commercial, Industrial or Public</td>
<td>$3,000 x ___ acres of the site</td>
<td></td>
</tr>
<tr>
<td>WID - IP SFH or Duplex (Upland/Landward of MNFL)</td>
<td>$2,000</td>
<td></td>
</tr>
<tr>
<td>WID - IP Residential not SFH/Duplex (Upland/Landward of MNFL)</td>
<td>$3,000 x ___ # of units</td>
<td></td>
</tr>
<tr>
<td>WID - IP Commercial, Industrial or Public Development (Upland/Landward of MNFL)</td>
<td>$3,000 x ___ acres of the site</td>
<td></td>
</tr>
<tr>
<td>WID - IP SFH or Duplex (Waterward of MNFL)</td>
<td>$2,000</td>
<td></td>
</tr>
<tr>
<td>WID - IP Residential not SFH/Duplex (Waterward of MNFL)</td>
<td>$3,000 x ___ acres of water area impacted</td>
<td></td>
</tr>
<tr>
<td>WID - IP Commercial, Industrial or Public Development (Waterward of MNFL)</td>
<td>$3,000 x ___ acres of water area impacted</td>
<td></td>
</tr>
<tr>
<td>CSW - IP SFH or Duplex</td>
<td>$2,000</td>
<td></td>
</tr>
<tr>
<td>CSW - IP All Development not SFH/Duplex</td>
<td>$3,000 x ___ acres of wetlands disturbed</td>
<td></td>
</tr>
</tbody>
</table>

### Additional Coastal Authorizations

<table>
<thead>
<tr>
<th>Authorization Description</th>
<th>Fee Amount</th>
<th>Fee Paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modification of a Coastal GP</td>
<td>$500</td>
<td></td>
</tr>
<tr>
<td>Minor Technical Modification of a Coastal Wetland Permit</td>
<td>$500 x ___ # of items to be revised</td>
<td></td>
</tr>
<tr>
<td>Minor Technical Modification of a CAFRA IP</td>
<td>$500 x ___ # of items to be revised</td>
<td></td>
</tr>
<tr>
<td>Minor Technical Modification of a Waterfront IP</td>
<td>$500 x ___ # of items to be revised</td>
<td></td>
</tr>
<tr>
<td>Major Technical Modification of a Coastal Wetland Permit</td>
<td>0.30 x ___ original fee + Fee (Minimum $500)</td>
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</tr>
<tr>
<td>Major Technical Modification of a Waterfront IP</td>
<td>0.30 x ___ original fee + Fee (Minimum $500)</td>
<td></td>
</tr>
<tr>
<td>Major Technical Modification of a Coastal Wetland Permit</td>
<td>0.30 x ___ original fee + Fee (Maximum $500)</td>
<td></td>
</tr>
<tr>
<td>Zoning Letter (Waterfront Development Exemption)</td>
<td>$500</td>
<td></td>
</tr>
<tr>
<td>CAFRA Exemption Request</td>
<td>$500</td>
<td></td>
</tr>
<tr>
<td>CZM General Permit Extension</td>
<td>$240 x ___ # of GP's to be extended</td>
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<tr>
<td>Waterfront Development Individual Permit - Extension (Waterward of MNFL)</td>
<td>0.25 x ___ original fee + Fee (Maximum $3,000)</td>
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<tr>
<td>Meadowlands District Water Quality Certificate</td>
<td>$5,000 + ($2,500 x ___ acres regulated area disturbed)</td>
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<tr>
<td>Individual Permit Equivalency/CERCLA</td>
<td>No Fee</td>
<td>No Fee</td>
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</table>

### Consistency Determination

<table>
<thead>
<tr>
<th>Determination Description</th>
<th>Fee Amount</th>
<th>Fee Paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Quality Certificate (NOTE: No fee required under the coastal program)</td>
<td>$5,000 + ($2,500 x ___ acres regulated area disturbed)</td>
<td></td>
</tr>
<tr>
<td>Federal Consistency</td>
<td>No Fee</td>
<td>No Fee</td>
</tr>
</tbody>
</table>
### Freshwater Wetlands General Permits

<table>
<thead>
<tr>
<th>Permit</th>
<th>Fee Amount</th>
<th>Fee Paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>FWGP1 Main. &amp; Repair Ext Feature</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FWGP2 Underground Utility Lines</td>
<td>$1,000.00</td>
<td>1,000</td>
</tr>
<tr>
<td>FWGP3 Discharge of Return Water</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FWGP4 Hazard Site Invest/Cleanup</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FWGP5 Landfill Closures</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FWGP6 Filling of Non-tributary Wetlands</td>
<td>$1,000.00</td>
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</tr>
<tr>
<td>FWGP8A TA Adj. to Non-tributary Wetlands</td>
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</tr>
<tr>
<td>FWGP7 Human-made Ditches/Swales in Headwaters</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FWGP8 House Additions</td>
<td>$1,000.00</td>
<td></td>
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<tr>
<td>FWGP9 Airport Sight-line Clearing</td>
<td>$1,000.00</td>
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</tr>
<tr>
<td>FWGP10A Very Minor Road Crossings</td>
<td>$1,000.00</td>
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<tr>
<td>FWGP10B Minor Road Crossings</td>
<td>$1,000.00</td>
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</tr>
<tr>
<td>FWGP11 Outfalls / Intakes Structures</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FWGP12 Surveying and Investigating</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FWGP13 Lake Dredging</td>
<td>$1,000.00</td>
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</tr>
<tr>
<td>FWGP14 Water Monitoring Devices</td>
<td>$1,000.00</td>
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<tr>
<td>FWGP15 Mosquito Control Activities</td>
<td>$1,000.00</td>
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<tr>
<td>FWGP16 Creation/Restoration/Enhancement Habitat</td>
<td>No Fee</td>
<td>No Fee</td>
</tr>
<tr>
<td>FWGP17 Trails / Boardwalks</td>
<td>$1,000.00</td>
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</tr>
<tr>
<td>FWGP17A Non-Motorized Multi-Use Paths</td>
<td>$1,000.00</td>
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</tr>
<tr>
<td>FWGP18 Dam Repairs</td>
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</tr>
<tr>
<td>FWGP19 Docks and Piers</td>
<td>$1,000.00</td>
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</tr>
<tr>
<td>FWGP29 Bank Stabilization</td>
<td>$1,000.00</td>
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<tr>
<td>FWGP21 Above Ground Utility Lines</td>
<td>$1,000.00</td>
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<tr>
<td>FWGP22 Expansion Cranberry Growing (Pineyards)</td>
<td>No Fee</td>
<td>No Fee</td>
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<tr>
<td>FWGP23 Spring Developments</td>
<td>$1,000.00</td>
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<tr>
<td>FWGP24 Malfunctioning Individual Septic Systems</td>
<td>No Fee</td>
<td>No Fee</td>
</tr>
<tr>
<td>FWGP25 Minor Channel / Stream Cleaning</td>
<td>$1,000.00</td>
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</tr>
<tr>
<td>FWGP26 Redevelop Previously Disturbed Site</td>
<td>$1,000.00</td>
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</tr>
<tr>
<td>FWGP27 Application of herbicide in wetlands</td>
<td>$1,000.00</td>
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</tbody>
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### Freshwater Individual Permits

<table>
<thead>
<tr>
<th>Permit</th>
<th>Fee Amount</th>
<th>Fee Paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>FWIP-SFH Duplex Wetlands</td>
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<tr>
<td>FWIP Wetlands (not SFH Duplex)</td>
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<tr>
<td>FWIP-SFH Duplex - Open Water</td>
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<tr>
<td>FWIP Open Water (not SFH Duplex)</td>
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### Freshwater Wetlands Transition Area Waivers

<table>
<thead>
<tr>
<th>Permit</th>
<th>Fee Amount</th>
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<tbody>
<tr>
<td>TAW Averaging Plan</td>
<td>With valid LOI</td>
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<tr>
<td>TAW Hardship Reduction</td>
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<tr>
<td>TAW Reduction per N.J.A.C. 7:7A-8.1(d)</td>
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<tr>
<td>TAW Special Activity Individual Permit</td>
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<td>No Fee</td>
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<tr>
<td>TAW Special Activity Linear Development</td>
<td>Without valid LOI</td>
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<tr>
<td>TAW Special Activity Redevelopment</td>
<td>$100 x (100 x # of acres)</td>
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<tr>
<td>TAW Special Activity Stormwater</td>
<td>No Fee</td>
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### Letter of Interpretation

<table>
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<tr>
<th>Permit</th>
<th>Fee Amount</th>
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<tbody>
<tr>
<td>LOI Presence Absence</td>
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<tr>
<td>LOI Footprint of Disturbance (3 Maximum)</td>
<td>$1,000.00</td>
<td>$1,000.00 each</td>
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<tr>
<td>LOI Delineation &lt; 1.00 Acres</td>
<td>$1,000.00</td>
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</tr>
<tr>
<td>LOI Verification</td>
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</tr>
<tr>
<td>LOI Partial Site Verification</td>
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<tr>
<td>LOI Extension Presence/Absence</td>
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<tr>
<td>LOI Extension Line Verification (Re-issuance)</td>
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### Additional Freshwater Wetlands Authorizations

<table>
<thead>
<tr>
<th>Permit</th>
<th>Fee Amount</th>
<th>Fee Paid</th>
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<tbody>
<tr>
<td>FWGP Administrative Modification</td>
<td>No Fee</td>
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</tr>
<tr>
<td>FWGP Minor technical modification</td>
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<tr>
<td>FWGP Major technical modification</td>
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<td>No Fee</td>
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<tr>
<td>Individual Permit Administrative Modification</td>
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<td>No Fee</td>
</tr>
<tr>
<td>Individual Permit Minor Technical Modification</td>
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<tr>
<td>Individual Permit Major Technical Modification</td>
<td>$100 x (current fee)</td>
<td>$100</td>
</tr>
<tr>
<td>TAW Administrative Modification</td>
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<td>No Fee</td>
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<tr>
<td>TAW Minor Technical Modification</td>
<td>$500.00</td>
<td>No Fee</td>
</tr>
<tr>
<td>TAW Major Technical Modification</td>
<td>$500.00</td>
<td>No Fee</td>
</tr>
<tr>
<td>FWGP Extension</td>
<td>$500 x (100 x # of items)</td>
<td>$500</td>
</tr>
<tr>
<td>Individual Permit/Open Water Permit Extension</td>
<td>$100 x (original fee)</td>
<td>$100</td>
</tr>
<tr>
<td>TAW Extension</td>
<td>$500 x (100 x # of items)</td>
<td>$500</td>
</tr>
<tr>
<td>Freshwater Wetlands Exemption</td>
<td>$500.00</td>
<td></td>
</tr>
<tr>
<td>TAW Exemption</td>
<td>$500.00</td>
<td></td>
</tr>
<tr>
<td>Permit Equivalency/CFERCLA</td>
<td>No Fee</td>
<td>No Fee</td>
</tr>
</tbody>
</table>

### Highlands

<table>
<thead>
<tr>
<th>Permit</th>
<th>Fee Amount</th>
<th>Fee Paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-application Meeting</td>
<td>$500.00</td>
<td></td>
</tr>
<tr>
<td>Resource Area Determination Presence/Absence</td>
<td>$500.00</td>
<td></td>
</tr>
<tr>
<td>Resource Area Determination &lt; one acre</td>
<td>$500.00</td>
<td></td>
</tr>
<tr>
<td>Resource Area Determination &gt; one acre</td>
<td>$750 + ($100 x # of acres)</td>
<td>$750</td>
</tr>
<tr>
<td>Resource Area Determination Extension</td>
<td>$750 + (100 x # of acres)</td>
<td>$750</td>
</tr>
<tr>
<td>HPAAGP 1/ Habitat Creation/Enhance</td>
<td>No Fee</td>
<td>No Fee</td>
</tr>
<tr>
<td>HPAAGP 2 Bank Stabilization</td>
<td>$500.00</td>
<td></td>
</tr>
<tr>
<td>Preservation Area Approval (PAA)</td>
<td>No Fee</td>
<td>No Fee</td>
</tr>
<tr>
<td>PAA with Waiver (Specify type below)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waiver Type:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HPAA Extension</td>
<td>$1,000</td>
<td></td>
</tr>
</tbody>
</table>
## Flood Hazard Area General Permits

<table>
<thead>
<tr>
<th>Item</th>
<th>Fee Amount</th>
<th>Fee Paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>FHAGP1 Channel Clean with Sediment Removal</td>
<td>No Fee</td>
<td></td>
</tr>
<tr>
<td>FHAGP1 Channel Clean with Sediment Removal</td>
<td>No Fee</td>
<td></td>
</tr>
<tr>
<td>FHAGP2 Mosquito Control</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FHAGP3 Scour Protection Bridges/Culverts</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FHAGP4 Creation/Restoration/Enhancement of Habitat and Water Quality Values and Functions</td>
<td>No Fee</td>
<td></td>
</tr>
<tr>
<td>FHAGP5 Reconstruction and/or Elevation of Building in a Floodway</td>
<td>No Fee</td>
<td></td>
</tr>
<tr>
<td>FHAGP6 Construction of One SFH/Duplex and Driveway</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FHAGP7 Relocation of Manned Roadside Ditches for Public Roadway Improvements</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FHAGP8 Placement of Storage Tanks</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FHAGP9 Construction/Reconstruction of Bridge/Culvert Across Water &lt; 50 Acres</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FHAGP10 Construction/Reconstruction of Bridge/Culvert Across Water &gt; 50 Acres</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FHAGP11 Stormwater Outfall Along Regulated Water &lt;50 Acres</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FHAGP12 Construction of Footbridges</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FHAGP13 Construction of Trails and Boardwalks</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FHAGP14 Application of herbicide in riparian zone</td>
<td>$1,000.00</td>
<td></td>
</tr>
</tbody>
</table>

## Flood Hazard Area Individual Permits

<table>
<thead>
<tr>
<th>Item</th>
<th>Fee Amount</th>
<th>Fee Paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>FHA - IP SFH and/or Accessory Structures</td>
<td>$2,000</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>Fee Amount</th>
<th>Fee Paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>FHA - IP Utility</td>
<td>$3,000 Base Fee + ($1,000 x .5 # of water crossings)</td>
<td>$3,000</td>
</tr>
<tr>
<td>FHA - IP Bank/Channel (No Calculation Review)</td>
<td>$1,000</td>
<td></td>
</tr>
<tr>
<td>FHA - IP Bank/Channel (With Calculation Review)</td>
<td>$4,000 + $400 x # linear ft</td>
<td></td>
</tr>
<tr>
<td>FHA - IP Bridge/Culvert/Footbridge/Low Dam (No Calculation Review)</td>
<td>($1,000 x # of structures)</td>
<td></td>
</tr>
<tr>
<td>FHA - IP Bridge/Culvert/Footbridge/Low Dam (With Calculation Review)</td>
<td>($4,000 x # of structures)</td>
<td></td>
</tr>
<tr>
<td>FHA - Review of Flood Storage Displacement (net fill) Calculations</td>
<td>$4,000</td>
<td></td>
</tr>
<tr>
<td>Total IP Review Fee</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Stormwater Review Fee (Maximum Fee = $20,000)

<table>
<thead>
<tr>
<th>Item</th>
<th>Fee Amount</th>
<th>Fee Paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stormwater Review (Fee is calculated by adding the base fee to the specific elements below)</td>
<td>$3,000 Base Fee + $250 x # acres disturbed + $250 x # acres impervious surface</td>
<td></td>
</tr>
<tr>
<td>Review of Groundwater Calculations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Review of Runoff Quantity Calculations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Review of Water Quality Calculations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Stormwater Review Fee</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Applicability Determination

<table>
<thead>
<tr>
<th>Item</th>
<th>Fee Amount</th>
<th>Fee Paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coastal Applicability Determination</td>
<td>No Fee</td>
<td>No Fee</td>
</tr>
<tr>
<td>Flood Hazard Applicability Determination</td>
<td>No Fee</td>
<td>No Fee</td>
</tr>
<tr>
<td>Highlands Jurisdictional Determination</td>
<td>No Fee</td>
<td>No Fee</td>
</tr>
<tr>
<td>Executive Order 215</td>
<td>No Fee</td>
<td>No Fee</td>
</tr>
</tbody>
</table>

**TOTAL FEE:** 6,000

**CHECK NUMBER:** 6,000

*Fee not applicable to (1) SFH*
### APPLICATION FORM - APPENDIX I

**Section 1:** Please provide the following information for the overall project site. All area measurements shall be recorded in **acres to the nearest thousandth** (0.001 acres).

<table>
<thead>
<tr>
<th>Proposed:</th>
<th>Preserved</th>
<th>Undisturbed</th>
<th>Disturbed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Riparian Zone</strong></td>
<td></td>
<td></td>
<td>0.615</td>
</tr>
<tr>
<td><strong>CZMRA Forested</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(CZMRA IP – Only)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>E &amp; T Habitat</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Endangered and/or Threatened</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Freshwater Wetlands</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Section 2:** Please provide the following information for each permit/authorization requested pursuant to the Freshwater Wetlands Protection Act. All area measurements shall be recorded in **acres to the nearest thousandth** (0.001 acres). Use additional sheets if necessary.

<table>
<thead>
<tr>
<th>Permit Type</th>
<th>FHAIP</th>
<th>Wetland Type</th>
<th>Resource Classification</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Proposed Disturbance:</th>
<th>Wetlands</th>
<th>Transition Area</th>
<th>SOW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excavated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cleared</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temporary Disturbance</td>
<td></td>
<td>0.543</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Permit Type</th>
<th>FWGP2</th>
<th>Wetland Type</th>
<th>Resource Classification</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Proposed Disturbance:</th>
<th>Wetlands</th>
<th>Transition Area</th>
<th>SOW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excavated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cleared</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temporary Disturbance</td>
<td></td>
<td>0.543</td>
<td></td>
</tr>
</tbody>
</table>
CALL NJDEP AT (609) 777-0454 IF YOU HAVE ANY QUESTIONS

To apply for a flood hazard area individual permit, please submit the information below to:

<table>
<thead>
<tr>
<th>Postal Mailing Address</th>
<th>Street Address (Courier &amp; Hand Carry Only)</th>
<th>Electronic Submission</th>
</tr>
</thead>
<tbody>
<tr>
<td>NJ Department of Environmental Protection Division of Land Use Regulation P.O. Box 420, Code 501-02A Trenton, New Jersey 08625-0420 Attn: Application Support</td>
<td>NJ Department of Environmental Protection Division of Land Use Regulation 501 East State Street Station Plaza 5, 2nd Floor Trenton, New Jersey 08609 Attn: Application Support</td>
<td>Access the submission system at <a href="https://njdeponline.com">https://njdeponline.com</a>. Follow the registration process and create an account. To submit an application, select the service “Apply for a Land Use Permit or Authorization.”</td>
</tr>
</tbody>
</table>

CALL NJDEP AT (609) 777-0454 IF YOU HAVE ANY QUESTIONS

1. A completed [application form](#) (Paper submissions ONLY) See Attachment 1

2. A completed [Property Owner Certification form](#) (Electronic submissions ONLY)
   - Acceptable file formats include pdf, jpg, and png. N/A

3. Public notice:
   - **Electronic Submissions**: A completed [Public Notice form](#). Documentation that notice of the application has been provided in accordance with N.J.A.C. 7:13-19 must be attached to the form (see below for details). Acceptable file formats include pdf, jpg, and png.
   - **Paper Submissions**: Documentation that notice of the application has been provided in accordance with N.J.A.C. 7:13-19 (see below for details) See Attachment 3

Both electronic and paper submissions require documentation of public notice as follows:

i. **Notice to municipal clerk (N.J.A.C. 7:13-19.3(a))**
   A copy of the entire application, as submitted to the Department, must be provided to the municipal clerk in each municipality in which the site is located. For electronic submissions, the application consists of a description of the project, the specific permit(s)/authorization(s) being sought, and all items that will be uploaded to the online service, including all required items on this checklist.
   - Documentation of compliance with this requirement shall consist of a copy of the certified United States Postal Service white mailing receipt, or other written receipt, for each copy of the application sent.
ii. Notice to governmental entities and property owners (N.J.A.C. 7:13-19.3(b) and (c))

A brief description of the proposed project, a legible copy of the site plan, and the form notice letter described at N.J.A.C. 7:13-19.3(d)1iii must be sent to the following recipients:

A. The construction official of each municipality in which the site is located;
B. The environmental commission, or other government agency with similar responsibilities, of each municipality in which the site is located;
C. The planning board of each municipality in which the site is located;
D. The planning board of each county in which the site is located;
E. The local Soil Conservation District if the regulated activity or project will disturb 5,000 square feet or more of land; and
F. Adjacent property owners:

If the application is for one of the following projects (listed at N.J.A.C 7:13-19.3(c)1-6), notice shall be sent to all owners of real property, including easements, located within 200 feet of any proposed above-ground structure, except for any conveyance lines suspended above the ground or small utility support structures (e.g. telephone poles):

- A linear project of one-half mile or longer
- A public project on a site of 50 acres or more
- An industrial or commercial project on a site of 100 acres or more
- A project to remove sediment or debris from a channel of one-half mile or longer

For any other project, notice shall be sent to all owners of real property, including easements, located within 200 feet of the site of the proposed regulated activity.

The owners of real property, including easements, shall be those on a list that was certified by the municipality, with a date of certification no more than one year prior to the date the application is submitted.

- Documentation of compliance with this requirement shall consist of:
  1. A copy of the certified United States Postal Service white mailing receipt for each public notice that was mailed, or other written receipt;
  2. A certified list of all owners of real property, including easements, located within 200 feet of the property boundary of the site (including name, mailing address, lot, and block) prepared by the municipality for each municipality in which the project is located. The date of certification of the list shall be no earlier than one year prior to the date the application is submitted to the Department; and
  3. A copy of the form notice letter.

- The form notice letter required under N.J.A.C. 7:13-19.3(d)1iii shall read as follows:

  “This letter is to provide you with legal notification that an application for a flood hazard area individual permit <<has been/will be>> submitted to the New Jersey Department of Environmental Protection, Division of Land Use Regulation for the development shown on the enclosed plan(s). A brief description of the proposed project follows: <<INSERT DESCRIPTION OF THE PROPOSED PROJECT>>

  The complete permit application package can be reviewed at either the municipal clerk’s office in the municipality in which the site subject to the application is located, or by appointment at the Department’s Trenton Office. The Department of Environmental Protection welcomes comments and any information that you may provide concerning the proposed development and site. Please submit your written comments within 15 calendar days of receiving this letter to:
iii. **Newspaper notice (N.J.A.C. 7:13-19.4)**

Newspaper notice, in the form of a legal notice or display advertisement in the official newspaper of the municipality(ies) in which the project site is located, or if no official newspaper exists, in a newspaper with general circulation in the municipality(ies), is required for the following projects:

- A linear project of one-half mile or longer
- A public project on a site of 50 acres or more
- An industrial or commercial project on a site of 100 acres or more
- A project to remove sediment or debris from a channel of one-half mile or longer

If your project is not one listed above, newspaper notice is not required.

- Documentation of newspaper notice shall consist of:
  1. A copy of the published newspaper notice; and
  2. The date and name of the newspaper in which notice was published.

- The newspaper notice may be either a legal notice or display advertisement and must read as follows:

  “Take notice that an application for a flood hazard area individual permit<<has been/will be>> submitted to the New Jersey Department of Environmental Protection, Division of Land Use Regulation for the development described below:

  **APPLICANT:**
  
  **PROJECT NAME:**
  
  **PROJECT DESCRIPTION:**
  
  **PROJECT STREET ADDRESS:**
  
  **BLOCK:**  **LOT:**
  
  **MUNICIPALITY:**  **COUNTY:**

  The complete permit application package can be reviewed at either the municipal clerk’s office in the municipality in which the site subject to the application is located, or by appointment at the Department’s Trenton Office. The Department of Environmental Protection welcomes comments and any information that you may provide concerning the proposed development and site. Please submit your written comments within 15 calendar days of the date of this notice to:

  New Jersey Department of Environmental Protection
  Division of Land Use Regulation
  P.O. Box 420, Code 501-02A
  501 East State Street
  Trenton, New Jersey 08625
  Attn:  (Municipality in which the property is located) Supervisor”
iv. **Notice for an individual permit based on a hardship exception**

For an application for an individual permit based on a hardship exception, the notice letter (and newspaper notice, if applicable) must contain the following information in the project description:

A. A description of the nature of the hardship; and

B. The citation and subject matter of each requirement in this chapter for which the hardship exception is being requested.

v. **Notice for projects located in the Pinelands Area**

For a project in the Pinelands Area as designated under the Pinelands Protection Act at N.J.S.A. 13:18A-11.a, documentation showing that a copy of the application form has been provided to the New Jersey Pinelands Commission. For electronic submissions, the “application form” will consist of a description of the project, including the lot, block, municipality, and county, and the specific permit(s)/authorization(s) being sought.

4. **Application fees:**

- **Electronic Submissions:** The appropriate application fee, as specified in N.J.A.C. 7:13-20.1, payable through the online service via credit card or e-check, or to receive a bill, select “Bill Me” on the payment screen. Bills will be sent to the Fee Billing Contact identified in the service and must be paid directly to the Department of Treasury.

- **Paper Submissions:** The appropriate application fee, as specified in N.J.A.C. 7:13-20.1, in the form of a check (personal, bank, certified, or attorney), money order, or government purchase order made payable to “Treasurer State of New Jersey.”

5. **Site plans:**

All site plans must include the scale of the site plans, a north arrow, the name of the person who prepared the plans, date the site plans were prepared, and the applicant’s name and the block, lot, and municipality in which the site is located. In addition, the site plans shall include the following information, both on and adjacent to the site, in accordance with N.J.A.C. 7:13-18.4(a):

i. **Existing features such as lot lines, structures, land coverage, and vegetation;**

ii. **All proposed regulated activities such as changes in lot lines; the size, location, and details of any proposed structures, roads, or utilities; details of any clearing, grading, filling, and excavation; the location and area of any riparian zone vegetation that will be disturbed; cross-sections of regulated waters or water control structures being analyzed; and the anticipated limits of disturbance;**

iii. **Topography:**

   A. Existing and proposed topography where necessary to demonstrate that the proposed regulated activity or project meets the requirements of this chapter. All topography must reference NGVD or include the appropriate conversion factor to NGVD.

iv. **Soil erosion and sediment control:**

   A. Details of any proposed soil erosion and sediment control measures.

v. **Riparian zone:**

   A. The location of any riparian zone onsite (see N.J.A.C 7:13-4.1); and

   B. The limits of the regulated water including the “top of bank” and the “centerline” for linear waters. Where the top of bank is not discernible, show the limits of the two-year flood, for a linear regulated water that has a drainage area of 150 acres or more.

   C. Details of proposed mitigation in accordance with N.J.A.C. 7:13-13).
vi. Metes and bounds description:
   A. A metes and bounds description of any existing and proposed flood hazard area and floodway limits onsite; and
   B. Identification of the method at N.J.A.C. 7:13-3 that was used to determine these limits.

vii. Flood hazard area/floodway information:
   A. If the entire site lies within a flood hazard area and/or floodway, the site plans shall indicate this; and
   B. The elevation(s) of the flood hazard area design flood throughout the site.

viii. Details of construction proposed in a regulated water:
   A. A thorough description of proposed construction methods;
   B. A timetable for construction; and
   C. Details of any trenching, diversionary channels, temporary piping, and other disturbances to the regulated water.

• **Electronic Submissions:** Acceptable file formats include pdf and zip. Site plans must be certified in accordance with N.J.A.C. 7:13-18.2(j) and prepared according to the Department’s site plan specifications for electronic site plans. All plans must be digitally signed and sealed by a New Jersey licensed professional engineer, surveyor, or architect, as appropriate, pursuant to N.J.A.C. 13:40-7.2 through 7.4, with signatures and seals that meet the requirements of N.J.A.C. 13:40-8.1. Site plans with electronic signatures, such as scans of site plans with a handwritten signature, will not be accepted.

• **Paper Submissions:** Three sets of site plans certified in accordance with N.J.A.C. 7:13-18.2(j). Prior to issuance of any permit, the Department will require four to five sets of final site plans. The site plans must be signed and sealed by a New Jersey licensed professional engineer, surveyor, or architect, as appropriate, pursuant to N.J.A.C. 13:40-7.2 through 7.4.

**NOTE:** In accordance with N.J.A.C. 7:13-18.2(h) et seq., an applicant may elect to prepare his or her own plan if both of the following are true: (1) the applicant proposes the construction of a single-family home or duplex or an accessory structure, such as a patio, garage, or shed on his or her own property for his or her own use and (2) the proposed regulated activity or project is one for which no survey, topography, or calculations are necessary to demonstrate the requirements of this chapter are met.

6. Photographs:  **See Attachment 5**
   i. Color photographs depicting:
      A. The entire project area; and
      B. Any sections of channel or riparian zone that will be disturbed by the project.
   ii. A photo location map showing the location and direction from which each photograph was taken.

• **Electronic Submissions:** Acceptable file formats include pdf, doc, docx, jpg, zip, ppt, and pptx.

• **Paper Submissions:** One set of photographs mounted on 8½-inch by 11-inch paper. Copies of photographs are acceptable provided they are color copies. Black and white copies of photographs are not acceptable.

7. An engineering report prepared in accordance with N.J.A.C. 7:13-18.5 that includes:  **See Attachment 7**
   i. The signature and seal of an engineer;
   ii. The name, address, and telephone number of the engineer, as well as any other person designated by the engineer to answer questions about the report;
iii. All supporting hydrologic, hydraulic, flood storage volume, stormwater and structural calculations that are necessary to demonstrate that the application meets the requirements of N.J.A.C. 7:13;

iv. A narrative that explains the submitted calculations and describes why each particular calculation or methodology was used;

v. All maps, references, and other supporting materials that were used to prepare the submitted calculations;

vi. The total area of impervious surface proposed and the total land area that will be disturbed;

vii. For an application for an individual permit for which the Department is reviewing a stormwater management plan pursuant to N.J.A.C. 7:13-12.2, the following information where applicable:
   A. An explanation of how nonstructural stormwater management strategies have been maximized on site, as required at N.J.A.C. 7:8-5.3;
   B. A demonstration of how the regulated activity and/or project meets the groundwater recharge standards at N.J.A.C. 7:8-5.4(a)2;
   C. A table which compares existing and proposed stormwater discharges for the two-year, 10-year, and 100-year storm in order to demonstrate compliance with the runoff quantity standards at N.J.A.C. 7:8-5.4(a)3; and
   D. An explanation of how the regulated activity and/or project meets the water quality standards at N.J.A.C. 7:8-5.5;

viii. For an application for an individual permit for a project located in the Central Passaic Basin that relies on fill credits, as described at N.J.A.C. 7:13-11.4(s) and (t), documentation that the fill credits have been purchased by the applicant prior to the submittal of the application; and

ix. For all applications, the certification set forth at N.J.A.C. 7:13-18.2(j).

- **Electronic Submissions:** Acceptable file formats include pdf and zip. Engineering reports must be digitally signed and sealed by a New Jersey licensed professional engineer. Digital signatures and seals must meet the requirements of N.J.A.C. 13:40-8.1A. Engineering reports with electronic signatures, such as scans of reports with a handwritten signature, will not be accepted.

- **Paper Submissions:** Three copies of the engineering report are required.

8. An environmental report prepared in accordance with N.J.A.C. 7:13-18.6 that includes: **See Attachment 2**
   i. A narrative describing the proposed design and the construction techniques that will be used;
   ii. The following maps:
      A. Maps that provide an environmental inventory of the site such as the freshwater wetlands maps and the USDA soil survey; and
      B. A copy of a Department flood hazard area map or FEMA flood insurance rate map with the site clearly outlined to scale, if such mapping exists.
   iii. For projects proposing disturbance to the riparian zone, include a chart which details the proposed regulated activity, the maximum allowable area of vegetation disturbance as set forth in N.J.A.C. 7:13-11, the proposed areas of disturbance, whether the disturbance is temporary or permanent, the amount of mitigation required, and the amount of mitigation proposed. Provide total area for riparian zone disturbance (permanent & temporary) and mitigation required and proposed. Disturbance and mitigation amounts should be provided in square feet and acres; and
   iv. An analysis of any potential temporary and/or permanent adverse environmental impact(s), whether onsite or offsite, of the proposed regulated activity or project on regulated waters, channels, riparian zones, fishery resources, and threatened or endangered species and their habitat, which includes:
      A. A justification for the proposed regulated activity or project, including an explanation of why any proposed regulated activity or project and its location is the most appropriate for the
site, and how the proposed location and design minimizes adverse environmental impact(s) to the resources;

B. An analysis of alternatives to the proposed regulated activity or project, including a no-build alternative;

C. A description of all measures to be taken to reduce any potential adverse environmental impact(s) to the resources;

D. A plan to mitigate the effects of all adverse environmental impacts; and

E. Any monitoring or reporting methods that will be used.

v. For an individual permit for activities which are likely to either disturb an area known to contain a threatened or endangered species or disturb any habitat that could support a threatened or endangered species, a survey for threatened or endangered species and their habitat. This survey shall be performed by a person with education and experience in wildlife biology, zoology, and/or botany, as appropriate, and shall include:

A. The name, address, and qualifications of all persons participating in the survey;

B. The acreage of the surveyed area;

C. A USGS quad map with the surveyed area for each threatened or endangered species and their habitat outlined;

D. A description of each habitat and cover type onsite including vegetation, hydrology, soils, and natural communities. These habitats shall be assessed for suitability and compatibility to the life history of the threatened or endangered species being investigated. If no threatened or endangered species are observed, a discussion of the site's suitability for such species shall be provided;

E. The date and time of the investigation (including total number of hours spent by each observer for species observation);

F. The number of observers present on the site at any one time, including their location on the site relative to one another;

G. Site conditions during the survey, such as precipitation, temperature, wind speed and direction, artificial or natural noise, and nearest onsite or offsite human activity or development;

H. If the survey reveals the presence or evidence of a threatened or endangered species, detailed information regarding each sighting, including:

- Whether the subject was sighted directly or identified by call, track, scat, remains, or other indirect evidence of presence;
- The date(s) and time(s) of each such sighting or discovery of evidence;
- The relative age and condition of any indirect evidence observed and its location on the property;
- A description of the techniques and methodologies employed by the observer during the site investigation;
- If a wildlife species is observed directly, the number of each species observed, likely age, observed activity, gender, location on or near the site, and proximity to the observer at each sighting; and
- If a plant species is observed directly, the number of each species observed and its location on or near the site; and


vi. For regulated activities requiring an individual permit where activities are proposed within the inner 150 feet of the 300-foot riparian zone, provide documentation that demonstrates:
A. There is no practicable alternative to the regulated activity that would have less adverse impact on the regulated areas and which would not significantly compromise other environmental resources;
B. The regulated activity results in the minimum feasible alteration or impairment of the riparian or aquatic ecosystem;
C. The regulated activity complies with the applicable water quality standards and requirements; and
D. The regulated activity is in the public interest, including consideration of the following:
   • The practicability of using reasonable alternative locations and methods to accomplish the purpose of the proposed regulated activity;
   • The functions and values provided by the riparian zone proposed to be impacted; and
   • The probable individual and cumulative impacts of the regulated activity on public health, safety, and welfare, and the environment.

vii. For an activity or project in the Pinelands Area as designated by Section 10(a) of the Pinelands Protection Act, N.J.S.A. 13:18-1 et seq., a Certificate of Filing, a Certificate of Completeness, or a resolution approving an application for public development, issued by the NJ Pinelands Commission.

• **Electronic Submissions**: Acceptable file formats include pdf, doc, docx, rtf, and zip.

• **Paper Submissions**: Three copies of the environmental report are required.

9. Color copies of the following maps: [See Attachment 8]
   i. The tax map for the property;
   ii. A copy of the portion of the county road map showing the property location; and
   iii. A copy of the USGS quad map(s) that include the site, with the site clearly outlined to scale.

   • **Electronic Submissions**: The required maps should be uploaded with the compliance statement under the attachment type “Environmental Report with Site Location Maps.” Acceptable file formats include pdf, doc, docx, rtf, and zip.

10. Calculations and analyses: **N/A**
   i. If the project is a major development as defined by N.J.A.C. 7:8-1.2, a demonstration of compliance with the requirements of the Stormwater Management Rules, N.J.A.C. 7:8.

   All calculations or analyses submitted as part of an application must include the certification set forth at N.J.A.C. 7:7-23.2(j). Any necessary stormwater calculations must be signed and sealed by a New Jersey licensed professional engineer.

   • **Electronic Submissions**: Acceptable file formats include pdf, doc, docx, rtf, and zip unless stormwater calculations are necessary. Stormwater calculations must be digitally signed and sealed in accordance with N.J.A.C. 13:40-8.1A. Stormwater calculations with electronic signatures, such as scans of calculations with a handwritten signature, will not be accepted. Therefore, when calculations are necessary, the acceptable file formats are limited to pdf and zip.

11. Natural Heritage Program Letter: [See Attachment 6]

   A copy of an NJDEP, Office of Natural Lands Management Natural Heritage Database data request response for endangered or threatened species of flora or fauna, including a Landscape Map report, if available.
12. Mitigation: N/A

For an activity that requires mitigation in accordance with N.J.A.C. 7:13, the applicant may submit a mitigation proposal as part of the application for the individual permit. If the applicant does not submit a mitigation proposal with the application, the applicant must submit the mitigation proposal at least 90 calendar days before the start of activities authorized by the permit, in accordance with N.J.A.C. 7:13-13.

Electronic Submissions: If a mitigation proposal is available at the time of submission, the service will provide an attachment type for “Mitigation Proposal.” Alternatively, it may be uploaded separately at a later time through the service “Submit Additional Information for a Land Use Permit or Authorization.” Acceptable file formats include pdf, doc, docx, rtf, and zip.

13. Additional requirements: N/A

i. Highlands applicability determination (highlands exemption) – applies only if the project is located within the Highlands Preservation Area

   • Electronic Submissions: Acceptable file formats include pdf, jpg, and png.

ii. Conservation restriction – applies only if the proposed project is subject to an existing conservation restriction

   • Electronic Submissions: Acceptable file formats include pdf, jpg, and png.

iii. Written consent from municipality – applies only if the project includes a gas pipeline and any section of that pipeline is located within a municipally-owned right-of-way. Written consent shall consist of one of the following:

   A. Written consent from the municipality in the form of a resolution of the governing body or an ordinance

   B. A municipal designation of the route pursuant to N.J.S.A. 48:9-25.4

   C. A Board of Public Utilities designation of route pursuant to N.J.S.A. 48:9-25.4

   • Electronic Submissions: Acceptable file formats include pdf, jpg, and png.

14. A computer disk containing a copy of the entire application (Paper submissions ONLY)

   Included
ii. Notice to governmental entities and property owners (N.J.A.C. 7:7A-17.3(b) and (c))

A brief description of the proposed project, a legible copy of the site plan, and the form notice letter described at N.J.A.C. 7:7A-17.3(e)1iii must be sent to the following recipients:

A. The construction official of each municipality in which the site is located;
B. The environmental commission, or other government agency with similar responsibilities, of each municipality in which the site is located;
C. The planning board of each municipality in which the site is located;
D. The planning board of each county in which the site is located;
E. The local Soil Conservation District if the regulated activity or project will disturb 5,000 square feet or more of land; and
F. Adjacent property owners:

If the application is for one of the following projects (listed at N.J.A.C 7:7A-17.3(c)1-5), notice shall be sent to all owners of real property, including easements, located within 200 feet of any proposed above-ground structure, except for any conveyance lines suspended above the ground or small utility support structures (e.g. telephone poles):

- A linear project of one-half mile or longer
- A trail or boardwalk of one-half mile or longer
- A public project on a site of 50 acres or more
- An industrial or commercial project on a site of 100 acres or more
- A project to remove sediment or debris from a channel of one-half mile or longer

For any other project, notice shall be sent to all owners of real property, including easements, located within 200 feet of the site of the proposed regulated activity.

The owners of real property, including easements, shall be those on a list that was certified by the municipality, with a date of certification no more than one year prior to the date the application is submitted.

- Documentation of compliance with this requirement shall consist of:
  1. A copy of the certified United States Postal Service white mailing receipt for each public notice that was mailed, or other written receipt;
  2. A certified list of all owners of real property, including easements, located within 200 feet of the property boundary of the site (including name, mailing address, lot, and block) prepared by the municipality for each municipality in which the project is located. The date of certification of the list shall be no earlier than one year prior to the date the application is submitted to the Department; and
  3. A copy of the form notice letter.

- The form notice letter required under N.J.A.C. 7:7A-17.3(e)1iii shall read as follows:

“This letter is to provide you with legal notification that an application for an authorization under freshwater wetlands general permit 2 <<has been/will be>> submitted to the New Jersey Department of Environmental Protection, Division of Land Use Regulation for the development shown on the enclosed plan(s). A brief description of the proposed project follows: <<INSERT DESCRIPTION OF THE PROPOSED PROJECT>>

The complete permit application package can be reviewed at either the municipal clerk’s office in the municipality in which the site subject to the application is located, or by appointment at the Department’s Trenton Office. The Department of Environmental Protection welcomes comments and any information that you may provide concerning the proposed development and site. Please submit your written comments within 15 calendar days of receiving this letter to:
New Jersey Department of Environmental Protection  
Division of Land Use Regulation  
P.O. Box 420, Code 501-02A  
Trenton, New Jersey 08625  
Attn: (Municipality in which the property is located) Supervisor”

iii. Newspaper notice (N.J.A.C. 7:7A-17.4)  
Newspaper notice, in the form of a legal notice or display advertisement in the official newspaper of the municipality(ies) in which the project site is located, or if no official newspaper exists, in a newspaper with general circulation in the municipality(ies), is required for the following projects:

A. A linear project of one-half mile or longer
B. A shore protection development, including beach nourishment, beach and dune maintenance, or dune creation of one-half mile or longer
C. A public project on a site of 50 acres or more
D. An industrial or commercial project on a site of 100 acres or more
E. Maintenance dredging of a State navigation channel of one-half mile or longer

If your project is not one listed above, newspaper notice is not required.

- Documentation of newspaper notice shall consist of:
  1. A copy of the published newspaper notice; and
  2. The date and name of the newspaper in which notice was published.

- The newspaper notice may be either a legal notice or display advertisement and must read as follows:

  “Take notice that an application for an authorization under freshwater wetlands general permit 2 <<has been/ will be>> submitted to the New Jersey Department of Environmental Protection, Division of Land Use Regulation for the development described below:

  APPLICANT:
  PROJECT NAME:
  PROJECT DESCRIPTION:
  PROJECT STREET ADDRESS:
  BLOCK: LOT:
  MUNICIPALITY: COUNTY:

The complete permit application package can be reviewed at either the municipal clerk’s office in the municipality in which the site subject to the application is located, or by appointment at the Department’s Trenton Office. The Department of Environmental Protection welcomes comments and any information that you may provide concerning the proposed development and site. Please submit your written comments within 15 calendar days of the date of this notice to:

New Jersey Department of Environmental Protection  
Division of Land Use Regulation  
P.O. Box 420, Code 501-02A  
501 East State Street  
Trenton, New Jersey 08625  
Attn: (Municipality in which the property is located) Supervisor”
4. Application fees:  Attached

- **Electronic Submissions**: The appropriate application fee, as specified in N.J.A.C. 7:7A-18.1, payable through the online service via credit card or e-check, or to receive a bill, select “Bill Me” on the payment screen. Bills will be sent to the Fee Billing Contact identified in the service and must be paid directly to the Department of Treasury.

- **Paper Submissions**: The appropriate application fee, as specified in N.J.A.C. 7:7A-18.1, in the form of a check (personal, bank, certified, or attorney), money order, or government purchase order made payable to “Treasurer State of New Jersey.”

5. Site plans:  See Attachment 4

All site plans must include the scale of the site plans, a north arrow, the name of the person who prepared the plans, date the site plans were prepared, and the applicant’s name and the block, lot, and municipality in which the site is located. In addition, the site plans shall include the following information, both on and adjacent to the site, in accordance with N.J.A.C. 7:7A-16.7(a)4:

i. Existing features:
   A. Lot Lines and right of-way lines;
   B. Delineation of wetlands, transition areas, and State open waters;
   C. Buildings and structures;
   D. Any existing utility lines; and
   E. Land cover and vegetation.

ii. Proposed regulated activities:
   A. Changes in lot lines;
   B. Location and area of any freshwater wetlands, transition areas, and State open waters that will be disturbed, including permanent and temporary disturbance;
   C. Size, location, and detail of any proposed utility line;
   D. Size, location, and detail of permanently maintained clearing;
   E. Size, location, and detail of any proposed manholes or siphons;
   F. Size, location, and detail of any proposed trenches or pits; and
   G. Details of any planting to restore temporarily disturbed areas in accordance with N.J.A.C. 7:7A-11.8.

iii. Topography:
   A. Existing and proposed topography. All topography must reference NGVD or include the appropriate conversion factor to NGVD.

iv. Soil erosion and sediment control:
   A. Details of any proposed soil erosion and sediment control measures.

- **Electronic Submissions**: Acceptable file formats include pdf and zip. Site plans must be certified in accordance with N.J.A.C. 7:7A-16.2(j) and prepared according to the Department’s site plan specifications for electronic site plans. All plans must be digitally signed and sealed by a New Jersey licensed professional engineer, surveyor, or architect, as appropriate, pursuant to N.J.A.C. 13:40-7.2 through 7.4, with signatures and seals that meet the requirements of N.J.A.C. 13:40-8.1A. Site plans with electronic signatures, such as scans of site plans with a handwritten signature, will not be accepted.

- **Paper Submissions**: Three sets of site plans, certified in accordance with N.J.A.C. 7:7A-16.2(j). Prior to issuance of any permit, the Department will require four to five sets of final site plans. The site plans
must be signed and sealed by a New Jersey licensed professional engineer, surveyor, or architect, as appropriate, pursuant to N.J.A.C. 13:40-7.2 through 7.4.

6. Photographs: See Attachment 5
   i. Color photographs depicting:
      A. The existing site conditions; and
      B. The location of the proposed utility line or utility line maintenance.
   ii. A photo location map showing the location and direction from which each photograph was taken.

   - **Electronic Submissions:** Acceptable file formats include pdf, doc, docx, jpg, zip, ppt, and pptx.
   - **Paper Submissions:** One set of photographs mounted on 8½-inch by 11-inch paper. Copies of photographs are acceptable provided they are color copies. Black and white copies of photographs are not acceptable.

7. A compliance statement that includes the following: See Attachment 2
   i. A description of the characteristics of the site and the location of all proposed regulated activities, potential impacts from the construction process, and, as applicable, any monitoring or reporting methods that will be used;
   ii. The total area, in acres, of wetlands and State open waters on the site before the regulated activity is performed, and the total area, in acres, of wetlands and State open waters, on the site that will remain after the regulated activity is performed;
   iii. A list of all limits and requirements of general permit 2 at N.J.A.C. 7:7A-7.2 that apply to the proposed activities and an explanation of how the activities comply with each requirement;
   iv. A list of all limits and requirements at N.J.A.C. 7:7A-5.7, Conditions applicable to an authorization pursuant to a general permit-by-certification or a general permit, that apply to the proposed activities and an explanation of how the activities comply with each requirement;
   v. If a site is known or suspected to be contaminated with toxic substances, and if the Department requests it, a laboratory analysis of representative samples of the soil or sediment on the site;
   vi. Documentation regarding when the lot that is the subject of the general permit was created by subdivision;
   vii. A history of the ownership of the property beginning June 30, 1988 to present;
   viii. A listing of contiguous lots that were in common ownership with the lot on which the activities are proposed and the ownership history of each lot beginning June 30, 1988 to present;
   ix. If the site is located in a municipality with the endangered plant known as swamp pink (*Helonias bullata*), which are listed in Known Locations of Swamp Pink in NJ, a signed statement from the applicant certifying that the proposed activities will not result in any direct or indirect adverse impacts to swamp pink or its documented habitat;
   x. If the site is located in a municipality with the endangered bog turtle (these municipalities are listed in Known Locations of Bog Turtles in NJ), a signed statement from the applicant, certifying that the proposed activities will not result in any direct or indirect adverse impacts to bog turtles or to their documented habitat; and
   xi. If the site is located in an area designated a Wild and Scenic River, or under study for such designation, a letter from the National Park Service approving the proposed activities.

   - **Electronic Submissions:** The compliance statement should be uploaded under the attachment type “Environmental Report with Site Location Maps.” Acceptable file formats include pdf, doc, docx, rtf, and zip.
8. Color copies of the following maps: **See Attachment 8**
   i. The tax map for the property;
   ii. A copy of the portion of the county road map showing the property location; and
   iii. A copy of the USGS quad map(s) that include the site, with the site clearly outlined to scale.

   - **Electronic Submissions:** The required maps should be uploaded with the compliance statement under the attachment type “Environmental Report with Site Location Maps.” Acceptable file formats include pdf, doc, docx, rtf, and zip.

9. Location of wetlands: **See Attachment 4**

   The location of wetlands must be provided through one of the following:
   i. Documentation that a line delineation or line verification Letter of Interpretation (LOI) has been issued for the site; or
   ii. All information necessary for a line delineation or line verification LOI as required by the appropriate LOI checklist, covering the portion of the site that will be affected by the general permit activity.

   - **Electronic Submissions:** Acceptable file formats for an LOI include pdf, jpg, and png. If an appropriate LOI has not been issued for the site, the information required for a line delineation or line verification LOI should be included with the compliance statement under the attachment type “Environmental Report with Site Location Maps.”

10. Calculations and analyses: **N/A**

   i. If the project is a major development as defined by N.J.A.C. 7:8-1.2, a demonstration of compliance with the requirements of the Stormwater Management Rules, N.J.A.C. 7:8.

   All calculations or analyses submitted as part of an application must include the certification set forth at N.J.A.C. 7:7-23.2(j). Any necessary stormwater calculations must be signed and sealed by a New Jersey licensed professional engineer.

   - **Electronic Submissions:** Acceptable file formats include pdf, doc, docx, rtf, and zip unless stormwater calculations are necessary. Stormwater calculations must be digitally signed and sealed in accordance with N.J.A.C. 13:40-8.1A. Stormwater calculations with electronic signatures, such as scans of calculations with a handwritten signature, will not be accepted. Therefore, when calculations are necessary, the acceptable file formats are limited to pdf and zip.

11. Natural Heritage Program Letter: **See Attachment 6**

   A copy of an NJDEP, Office of Natural Lands Management Natural Heritage Database data request response for endangered or threatened species of flora or fauna, including a Landscape Map report, if available

   - **Electronic Submissions:** Acceptable file formats include pdf, jpg, and png.

12. Mitigation: **N/A**

   i. For permanent disturbance of less than 0.1 acres: a demonstration that all activities have been designed to avoid and minimize impacts to wetlands. If this demonstration is not provided, a mitigation plan that meets the requirements of N.J.A.C. 7:7A-11 must be submitted at least 90 calendar days before commencing any approved activities; and
ii. For permanent disturbance of 0.1 acres or greater, a mitigation plan that meets the requirements of N.J.A.C. 7:7A-11 must be submitted at least 90 calendar days before commencing any approved activities.

- **Electronic Submissions**: If a mitigation plan is necessary and is available at the time of submission, the service will provide an attachment type for "Mitigation Proposal." Alternatively, it may be uploaded separately at a later time through the service "Submit Additional Information for a Land Use Permit or Authorization." Acceptable file formats include pdf, doc, docx, rtf, and zip. If the demonstration that all activities have been designed to avoid and minimize impacts to wetlands is applicable, it should be included with the compliance statement and uploaded under the attachment type “Environmental Report with Site Location Maps.”

13. Additional requirements:

   i. Proof of ownership, such as a deed, if available – applies only if the current owner purchased the property before June 30, 1988 **See Attachment 3**
      - **Electronic Submissions**: Acceptable file formats include pdf, jpg, and png.

   ii. A Phase IA historical and archaeological survey, and an architectural survey, defined at N.J.A.C. 7:7A-1.3 – applies only if the application reflects any of the characteristics at N.J.A.C. 7:7A-19.5(l) **See Attachment 11**
      - **Electronic Submissions**: Acceptable file formats include pdf, doc, docx, rtf, and zip.

   iii. Highlands applicability determination (highlands exemption) – applies only if the project is located within the Highlands Preservation Area **N/A**
      - **Electronic Submissions**: Acceptable file formats include pdf, jpg, and png.

   iv. Conservation restriction – applies only if the proposed project is subject to an existing conservation restriction **N/A**
      - **Electronic Submissions**: Acceptable file formats include pdf, jpg, and png.

   v. Written consent from municipality – applies only if the project includes a gas pipeline and any section of that pipeline is located within a municipally-owned right-of-way. Written consent shall consist of one of the following: **N/A**
      - Written consent from the municipality in the form of a resolution of the governing body or an ordinance
      - A municipal designation of the route pursuant to N.J.S.A. 48:9-25.4
      - A Board of Public Utilities designation of route pursuant to N.J.S.A. 48:9-25.4
      - **Electronic Submissions**: Acceptable file formats include pdf, jpg, and png.

14. A computer disk containing a copy of the entire application (Paper submissions ONLY) **Included**
ATTACHMENT 2
Project Description/Flood Hazard Environmental Report/Wetland Consistency Statements
SXL Jacobs Creek Environmental Report

Project Narrative

Sunoco Pipeline L.P. (SXL) owns and operates a 14-inch welded steel high-pressure petroleum products pipeline that transports product from SXL’s Twin Oaks Terminal to their Newark Facility. Near the confluence of Jacobs Creek and the Delaware River in Ewing and Hopewell Townships, Mercer County, New Jersey and Upper Makefield Township, Bucks County, Pennsylvania, the existing pipeline is located within the stream beds of the Delaware River and Jacobs Creek. The pipeline travels across the Delaware then up the Jacobs Creek streambed, through a large concrete and stone arch culvert which supports the Delaware and Raritan Canal and State Route 29.

The project area is located near the confluence of the Delaware River and Jacobs Creek. At this location, the pipeline is within the stream bed of Jacobs Creek, running parallel to the creek. The Delaware and Raritan Canal parallels the Delaware River and New Jersey State Route 29 at this location, with Jacobs Creek bisecting them within a 24-foot wide rock and concrete arch culvert. The pipeline is exposed a total length of 301 feet within Jacobs Creek, 169-foot within the culvert, 3-feet upstream and 129-feet downstream of the culvert. The creek bed is located approximately 30-35 feet below the highway and canal surface.

Horizontal directional drill (HDD) installation techniques will be used to install an approximately 2,500 foot of pipeline across the Delaware River and up Jacob’s Creek, to replace the portion of exposed pipeline. The proposed HDD installation will be a 14-inch pipeline that will be approximately 35-40 feet deep under the Delaware and Jacob’s Creek stream beds, the concrete arch culvert and approximately 75-85 feet under the Delaware Raritan Canal and SR029.

Going from PA into NJ in a west to east direction, the proposed HDD will cross under PA SR 32/River Road, the Delaware River, Jacobs Creek and the concrete culvert that supports Route 29 and the Delaware/Raritan Canal.

The proposed HDD will be installed from both the PA and NJ sides of the Delaware River. On the PA side, the HDD entry point will be within a private residential property. Two(2) 1250-foot HDD pipeline strings will be assembled and tested within the same private residential and an additional residential/farm property. Access to the PA residential and residential farm property will be off Oakdale Avenue.

On the NJ side, the HDD exit point will be on what if referred to as the Gristmill property (see Figure 4). Access to the Gristmill property will be through a residential property off Creek Rim Drive and the existing Gristmill driveway of off NJ SR029. The contractor will travel down the driveway and continue around the back of another private residence on the same property. Large construction equipment will use an additional access location through an existing private residence property located on Creek Rim Drive.

The proposed HDD will be tied into the existing pipeline using trench installation techniques located land-side and outside of Jacob’s Creek and the Delaware River. On the NJ side the HDD installation will be tied in on the Grist Mill property and on the PA side it will be tied in within Oakdale Avenue.
The entire length of the abandoned pipeline from the location of the new tie ins will be grouted in place. Upon completion of the grouting approximately 350 feet of the exposed abandoned/existing pipeline will be removed from Jacob’s Creek and the remaining existing/abandoned pipeline will remain in place. Jacob’s Creek will be dammed off using sand bags or a port-a-dam to allow access into the stream and to the exposed pipe which will be cut and capped at this location. Access to the western end of the exposed pipe will along an existing Delaware Raritan Canal gravel tow path down an existing cleared embankment the confluence to creek and Delaware River and Jacob’s Creek. Once the exposed pipeline ends have been cut, the cut pipeline will be pulled through the culvert onto the Gristmill property where it will be cut into 20-foot joints and placed into roll-offs which will be hauled off-site and disposed of. All exposed pipeline removal activities will occur on the NJ side of the river.

As directed by NJDEP the scour hole under the existing pipe will not be filled. Upon removal of the existing pipeline construction disturbance will be restored and no further impacts to Jacob’s creek are proposed.

As directed by DEP a tree clearing moratorium from April 1 to August 31 will be enacted in order to protect nesting birds. Also as directed by NJDEP in stream work will not take place between March 1 and June 30 in order to protect anadromous fish.

Please refer to Attachment 8 for maps illustrating USGS topography, NJDEP and NWI wetlands, soils, and the FEMA floodplain.

**Project Impacts**

A wetland delineation was performed by STV on October 25, 2019; no wetlands or wetland transition areas were identified within the proposed project limit of disturbance.

Replacement of the pipeline within the Jacob’s Creek will result in 0.543 acres of open water impacts during removal of the exposed pipeline. Following construction, disturbance will be restored and no further impacts to Jacob’s creek are proposed.

The project will result in 0.615 acres of impacts to the 50-foot riparian zone.
Impact Table

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<th>Permanent Impact</th>
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<td>State Open Water</td>
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<td>N/A</td>
</tr>
<tr>
<td>50 Foot Riparian Buffer</td>
<td>0.615 acres</td>
<td>N/A</td>
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</table>

**Alternatives**

Alternate construction methods were investigated, and it was determined that the use of a Horizontal Directional Drill (HDD) would be the least impactful approach to replace the exposed pipeline. Alternatives included lowering in place and installation of revetment matting over the exposed line. Both of these alternatives were excluded as the impacts to Jacob’s Creek would be such as to not be allowable under NJDEP permitting guidelines.

Locating the pipeline in an alternate location outside of the stream channel is not feasible since the project is repairing an existing pipeline. The pipeline does not coincide with a bridge or road in this location, making co-location in one of these locations infeasible. It is not feasible to construct the line outside of the riparian zone, since the washout occurs directly within the stream channel, and it is not feasible to construct the line 25 feet from the top of bank or edge of water due to site constraints. Therefore, the conditions of N. J. A. C. 7.13-11.1 have been met. There is no feasible alternative that would result in less environmental damage.

The No-Build Alternative is not viable as the exposed segments of pipeline are required to be fixed. Once completed, the prescribed improvement will enhance public safety and site will be restored to pre-construction conditions.

**Riparian Zone**

The width of the riparian zone for this project is 50 feet, as the Jacobs Creek is not a category one waterway, does not support trout, does not support threatened or endangered species and is not within an acid-producing soil area. The existing riparian zone is a mix of forested and residential maintained land to the north and forested land to the south.

Restoration of the riparian zone will follow NJDEP and Conservation District guidelines and result in an upgrade to existing conditions as the exposed pipeline will be removed allowing for more natural flow of water through Jacob’s Creek.

All necessary measures will be taken to protect the environmental resources in the project area. Pursuant to the Flood Hazard Control Act Rules N. J. A. C. 7.13-11.2 (Table 11.2), utility line maintenance has no limit to the amount of allowable vegetation disturbance to the riparian zone.
Riparian Zone Chart

<table>
<thead>
<tr>
<th>Regulated Activity</th>
<th>Maximum Allowable Area of Vegetated Disturbance</th>
<th>Temporary Disturbance</th>
<th>Permanent Disturbance</th>
<th>Required Mitigation</th>
<th>Proposed Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utility Line Maintenance</td>
<td>No limit if disturbance is justified</td>
<td>0.615</td>
<td>0</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Environmental Impacts**

**Channels**

The pipeline replacement will take place within the same footprint or slightly off center of the existing pipeline. There will be no permanent negative impacts to the upstream/downstream channel or aquatic habitat. Post construction conditions will allow for a more natural unencumbered flow of water through Jacob’s Creek as the existing exposed pipeline will be removed. Erosion and sedimentation control measures will be in place during construction to reduce increases in sedimentation to the greatest extent possible. The proposed structure will not cause or exacerbate bank erosion.

**Fish Resources**

Jacob’s Creek and the Delaware River are listed as a FW2-NT stream in the NJDEP’s Surface Water Quality Standards. As Jacobs Creek and the Delaware River support general game fish, no in-stream activity is permitted to take place between March 1 and June 30.

**Threatened and Endangered Species**

The New Jersey Natural Heritage Program was contacted to obtain information on the presence or absence of threatened and endangered species in the project area. According to the New Jersey Natural Heritage Program *Agastache nepetoides* (Yellow- Giant Hyssop) has the potential to be present within the proposed limit of disturbance. Based on final design and authorization by the NJDEP Office of Leases and Concessions coordination with NEW Jersey Natural Heritage Program is ongoing, as directed by NJDEP.

**Regulated Waters**

There will be no adverse effects on water quality due to storm water run-off. There will be no increase in impervious surface coverage. Water quality will be maintained by implementation of the erosion and sedimentation plan. Acid producing soils are not expected to be encountered during construction. If they are encountered they will be handled in the proper fashion following the *Standards for Soil Erosion and Sedimentation Control in New Jersey May 2012 Standard for Management of High Acid Producing Soils*. Potential for erosion will be minimized installing the proper sedimentation and erosion devices prior to earth work and removed after the project is complete.
Mitigation and Measures to Reduce Impacts

As stated above in the Alternatives Analysis, there are no feasible alternative locations or construction methodologies that would further minimize adverse environmental impacts.

Temporary erosion will be controlled through the use of erosion and sedimentation pollution control devices included in the New Jersey Department of Agriculture – State Soil Conservation District (NJDA-SSCC) The Standards for Soil Erosion and Sediment Control in New Jersey (7th Edition, January 2014). Erosion and sedimentation control measures designated for use during proposed construction include sediment barriers, stabilized construction access, dewatering with a filter bag, and restoration of disturbed areas. Temporary measures shall be installed and maintained during construction with permanent measures in place at the end of construction.

Wetland Consistency Statements

The following is a statement of compliance statement with the Freshwater Wetlands Protection Act Rules (N.J.A.C. 7:7A) as it applies to the proposed project.

General Permit No. 2 – Underground Utility Lines

(a) General permit 2 authorizes activities in freshwater wetlands, transition areas, and/or State open waters necessary for the construction and/or maintenance of an underground utility line, provided all applicable requirements at N.J.A.C. 7:7A-5.7 and 20.3 are met and:

1. Permanent above-ground disturbance of wetlands, transition area, and/or State open waters is no greater than 0.5 acre. Anything that changes the character of the existing wetland, even if only to a different wetland type, is permanent disturbance. For example, maintained clearing over a utility line is permanent disturbance. For the purposes of this section, installation of a utility line in scrub shrub or emergent wetlands shall not be considered permanent disturbance.
   **There are no permanent impacts associated with the proposed project. Furthermore, there are no changes to vegetation type proposed as part of this project. All impacts are limited to temporary disturbances and all areas will be returned to preconstruction conditions.**

2. Permanently maintained clearing over the utility line is no wider than 20 feet unless a wider area is required by law;
   **Mowing of the area over the pipeline will be limited to the existing right of way. No additional clearing is proposed after construction.**

3. The trench into which the utility line is placed is no wider than necessary to comply with the United States Occupational Safety and Health Administration safety standards for excavations, set forth at 29 CFR Part 1926, Subpart;
   **The proposed pipeline is being installed via HDD, and not trenched. The only trenching taking place is at the proposed tie in locations and is designed to create minimal impacts while remaining compliant with United States Occupational Safety and Health Administration safety standards for excavations, set forth at 29 CFR Part 1926, Subpart P.**
4. Temporary disturbance, such as temporary construction clearing or temporary storage of dirt or equipment, is the minimum size necessary for compliance with applicable laws; **Temporary disturbances including clearing, temporary material and equipment storage has been reduced to the greatest extent possible.** Clearing is only proposed within the areas necessary for right of way maintenance and to set up the directional drill rig. Due to the location of the existing line within the riparian zone impacts are unavoidable.

5. The activities shall not cause any change in preconstruction elevation of a freshwater wetland, transition area, or State open water; **There are no wetlands or transition areas. All impacted areas will be returned to preexisting grade.** As directed by NJDEP no filling of the existing stream bed or scour hole is proposed. The exposed pipeline will be removed, and the stream will be allowed to reestablish natural contours.

6. The activities shall not cause any change in preconstruction elevation of a freshwater wetland, transition area, or State open water; **There are no wetlands or transition areas. All impacted areas will be returned to preexisting grade.** As directed by NJDEP no filling of the existing stream bed or scour hole is proposed. The exposed pipeline will be removed and the stream will be allowed to reestablish natural contours.

(b) If a utility line is jacked or directionally drilled underground, so that there is no surface disturbance of any freshwater wetlands, transition areas, or State open waters and there is no draining or dewatering of freshwater wetlands, no Department approval is required under this chapter. Jacking or directional drilling is regulated under this chapter if any disturbance occurs to the ground surface in the freshwater wetlands, transition area, or State open water; for example, if the drilling is conducted from a pit located in a freshwater wetland or transition area.

**Disturbance to State Open Waters is limited to the removal of the abandoned pipeline. HDD will result in no impacts to freshwater wetlands or State Open Waters.**

(c) In order to minimize environmental impact, a permittee shall:

1. Dispose of any excess soil or bedding material immediately upon completion of construction. This material shall be disposed of outside of freshwater wetlands, transition areas, State open waters, and areas regulated under the Department's Flood Hazard Area Control Act rules at N.J.A.C. 7:13; **All excavated material will be replaced on site, restoring the project area to preconstruction conditions.**

2. Backfill the uppermost 18 inches of any excavation with the original topsoil material; **The upper 18 inches of excavations at the drill tie in location will be replaced with onsite native material.**

3. Replant the disturbed area with indigenous wetlands plants; **Riparian areas will be restored with native seed mixes as described in the replanting plan in Attachment 4.**
4. Stabilize the disturbed area in accordance with the requirements of the appropriate Soil Conservation District
   All areas will be restored in accordance with applicable Soil Conservation District guidelines.

5. Ensure that the activities do not interfere with the natural hydraulic characteristics of the wetland, such as the flow characteristics of groundwater on the site.
   Not applicable no impacts to freshwater wetlands are proposed.

(d) Any pipes laid through wetlands, transition areas, or State open waters shall be:

1. Properly sealed so as to prevent leaking or infiltration;
   All pipes will be tested prior to activation of the pipeline to ensure there are no leaks or sources of infiltration.

2. Designed so as not to form or provide a conduit for groundwater to be discharged or drained from the wetland;
   The proposed pipeline will be installed and right of way restored so as to ensure there are no conduits for groundwater discharge.

3. Placed entirely beneath the pre-existing ground elevation in order to allow free passage of surface and ground water, unless the applicant shows that placing some or all of the pipe above ground would be more environmentally beneficial.
   The proposed pipeline is to be installed entirely underground.

(e) Mitigation shall be performed for all permanent loss and/or disturbance of 0.1 acres or greater of freshwater wetlands or State open waters. Mitigation shall be performed for all permanent loss and/or disturbance of less than 0.1 acres of freshwater wetlands or State open waters unless the applicant demonstrates to the Department that all activities have been designed to avoid and minimize impacts to wetlands. For purposes of this subsection, “minimize” means that the project is configured so that most or all of it is contained in the uplands on the site, and that the wetlands are avoided to the greatest extent possible. An applicant is not required to reduce the scope of the project or to consider offsite alternatives to comply with this requirement.

1. The mitigation shall meet the substantive and procedural requirements at N.J.A.C. 7:7A-11 and shall be submitted to the Department for review and approval no later than 90-calendar days prior to the initiation of regulated activities authorized by this general permit.
   No impacts to wetlands are proposed.

The project will comply with all applicable requirements at N.J.A.C. 7:7A-5.7 as follows:

- The proposed activities do not occur in the proximity of a public water supply intake.
- The activities will not destroy, jeopardize or adversely modify a documented habitat for threatened or endangered species or jeopardize the existence of any local population of a threatened or endangered species.
- The activities will not adversely affect a component of a Federal or State Wild and Scenic River System or a designated study river area.
The activities will not adversely affect properties that are listed or are eligible for listing on the National or State Register of Historic Places.

- Excavation in the regulated area will be monitored for the acid-producing deposits. If deposits are encountered, appropriate mitigation measures will be implemented.
- The proposed activities will not result in a violation of the Flood Hazard Area Control Act or implementing rules.
- The activities authorized under this General Permit do not include dredging.
- The proposed regulated activities are in full compliance with the Standards for Soil Erosion and Sediment Control in New Jersey.
- Best Management Practices shall be employed whenever applicable.

**Commitment of Resources**

The proposed activity includes the replacement of an exposed section of pipe located within an actively flowing stream. Due to the necessity of this pipeline replacement to complete the project, there is no alternative. All appropriate measures will be taken to protect the environmental area in which the project is located. By replacing the exposed section of pipe, the threat of impacts to the local environmental resources located within the project area will be minimized.

**Utility Line Consistency Statements**

7:13-11.1 Requirements for a regulated activity in a channel

(a) This section sets forth specific design and construction standards that apply to any regulated activity proposed in a channel.

(b) The Department shall issue an individual permit for a regulated activity in a channel only if the following requirements are satisfied:

1. The applicant describes in detail the regulated activities proposed within the channel, including the equipment proposed to be utilized, and demonstrates that the basic purpose of the project cannot be accomplished without the disturbance to the channel; **All regulated activities have been fully described in the site plans included in the application.** Attachment 4.

2. Disturbance to the channel is eliminated where possible; where not possible to eliminate, disturbance is minimized through methods including relocating the project and/or reducing the size or scope of the project; **Impacts to streams have been reduced to the greatest extent possible. Given the nature of the work (pipeline restoration within a stream bed) some stream impacts are required. Stream beds will be restored to original grade after completion of pipeline replacement.** See Attachment 4

3. All roadway, railroad, pedestrian, utility and other crossings are constructed as nearly perpendicular to the channel as possible; **the proposed pipeline repair involves replacement of an existing line along the same corridor. Crossing angle is limited to the current route and as such a perpendicular crossing of Jacob’s Creek is not possible. Furthermore, the proposed crossing will be installed via HDD and require no direct impacts to Jacob’s Creek or the Delaware River.**
4. All disturbed sections of the channel are properly stabilized, with special attention given to changes in slope, channel width and hydraulic capacity; **The stream channel will be restored and stabilized post construction to meet flow requirements to ensure stability post construction. See Attachments 4 and 7.**

5. If stabilization measures such as rip-rap or scour holes are proposed in the channel, the applicant demonstrates that such measures are necessary to stabilize the channel and/or to withstand scour along a bridge or culvert, and cannot be avoided through alternative designs, such as construction of deeper abutment footings or a larger bridge opening. Any rip-rap shall be embedded in the channel bed in such a way as to provide low-flow aquatic passage and withstand velocities associated with bank-full flows; **The stream channel will be restored to meet flow requirements to ensure stability post construction. See Attachments 4 and 7.**

6. No mining of the channel is proposed. This does not preclude the incidental use or sale of material removed as a result of lake dredging, channel cleaning or other regulated activities authorized by the Department and performed for purposes other than mining; **No mining of the stream channel is proposed.**

7. All temporarily disturbed sections of the channel are restored to pre-construction conditions immediately after completion of the disturbance. Characteristics that shall be replicated include channel shape, width, and meandering, ratio of shallow areas to deep areas, anticipated flow rate and velocity, and substrate type; **The stream channel will be restored and stabilized post construction to match existing grade and meet flow requirements to ensure stability post construction. See Attachments 4 and 7.**

8. Aquatic habitat is preserved where possible; **Proposed impacts have been minimized to the greatest extent possible and proposed restoration involves returning the stream channel to preexisting conditions in order to preserve aquatic habitat to the greatest extent possible.**

9. Aquatic habitat is enhanced where preservation is not possible, such as through the placement of habitat enhancement devices, replacement of vegetation removed during construction, creation of tree canopy along the channel where no canopy exists, and/or enhancement of existing tree canopy along the channel; and **Proposed impacts have been minimized to the greatest extent possible and proposed restoration involves returning the stream channel to preexisting conditions in order to preserve aquatic habitat to the greatest extent possible.**

10. The project does not expose unset or raw cement to flowing water within any channel or regulated water during construction; **No cement is proposed as part of construction activities associated with this project.**

(c) The Department shall issue an individual permit for a channel modification only if the applicant demonstrates that, in addition to meeting the requirements of (b) above, the channel modification meets at least one of the following requirements: **Not applicable no channel modification is proposed.**
1. The channel modification is necessary to improve the ecological health of the regulated water and its riparian zone, or to control existing flooding or erosion which poses an immediate threat to life, property or a lawfully existing structure; or **Not applicable no channel modification is proposed.**

2. The channel modification is necessary for the construction of a bridge or culvert, and the following requirements are satisfied: **Not applicable, there is not bridge or culvert associated with this project.**

(d) The Department shall authorize the use of construction equipment to perform regulated activities in a channel (whether situated in a channel, reaching into a channel, or driven across a channel) only if, in addition to meeting the requirements of (b) above, the following requirements are satisfied:

1. There is no feasible alternative that will result in less environmental damage; **Stream impacts have been limited to only removal of the exposed pipeline within Jacobs Creek. No feasible alternative route exists to access the exposed line.**

2. The bed is firm, the approaches are stable and the proposed construction activities will not cause or exacerbate bank erosion; **The remaining pipe will be grouted from the tie in locations. Once grouted. The exposed pipeline ends will be cut, the cut pipeline will be pulled through the culvert onto the Gristmill property where it will be cut into 20-foot joints and placed into roll-offs which will be hauled off-site and disposed of. All exposed pipeline removal activities will occur on the NJ side of the river. So as to minimize instream work within Jacob’s Creek. See Attachment 4**

3. Contact with flowing water is minimized to the maximum extent practicable through the use of temporary bridges, culverts, coffer dams, and/or sediment control devices, which are removed from the channel as soon as possible after completion of the disturbance; **Flowing water will only be impacted during pipe removal utilizing a diversion dam and as such impacts will be minimal. See Attachment 4**

4. Fording the channel is avoided to the maximum extent practicable; **No fording of the channel is proposed**

5. Where unavoidable, fording is made as nearly perpendicular to the channel as possible; and **No fording of the channel is proposed**

6. Adequate precautions are taken to prevent sediment, petroleum products and other pollutants from entering the channel. **Necessary erosion and sedimentation controls will be installed to prevent sediment and petroleum products from entering the stream. See Attachment 4.**

(e) A person shall not drive or operate a vehicle within a channel except in the following cases:

1. It is necessary to operate construction equipment in or across a channel as described in (d) above as part of a temporary construction activity; **Limited construction equipment is**
proposed only during pipeline removal. Diversion dams will be installed and no flowing water is to impact construction equipment.

2. An emergency vehicle must access a site that has no other feasible means of entry. This does not include repeated visits to the same site by delivery trucks; or Emergency vehicle access to the site will not require instream crossings.

3. The vehicle is driven across a lawfully existing and stable ford that was either constructed prior to October 2, 2006, or which is constructed on agricultural lands and authorized under this chapter. In stream work will be limited to areas within diversion dams no fording of the stream is proposed.

(f) No person shall dump or discard into a channel any material that could be carried away during a storm and/or obstruct the normal flow of water, such as trash, debris, construction material, leaf piles, lawn clippings, and landscaping material. No materials will be discarded into the channel during construction.

Requirements that apply to all regulated activities

(a) This section sets forth design and construction standards that apply to any regulated activity proposed in any regulated area.

(b) The Department shall issue an individual permit for a regulated activity only if it determines that the regulated activity is not likely to cause significant and adverse effects on the following:

1. Water quality; Construction and restoration design involves minimization of impacts, restoration to preexisting conditions, and the use of Best Management Practices (BMPs) during construction, so as to minimize impact to ensure adverse impacts to water quality are unlikely.

2. Aquatic biota; Construction and restoration design involves minimization of impacts, restoration to preexisting conditions, and the use of BMPs during construction, so as to minimize impact to ensure adverse impacts to aquatic biota are unlikely.

3. Water supply; Construction and restoration design involves minimization of impacts, restoration to preexisting conditions, and the use of BMPs during construction, so as to minimize impact to ensure adverse impacts to aquatic biota are unlikely.

4. Flooding; Construction and restoration design involves minimization of impacts and restoration to preexisting conditions so as to minimize impact to ensure adverse impacts to flooding are unlikely. Post construction conditions will result in a reduction in stream impingement as the exposed pipeline within Jacobs Creek and the culvert will be removed.

5. Drainage; Construction and restoration design involves minimization of impacts, restoration to preexisting conditions, and the use of BMPs during construction, so as to minimize impact to ensure adverse impacts to aquatic biota are unlikely.
6. Channel stability; Construction and restoration design involves minimization of impacts and restoration to preexisting conditions so as to minimize impact to ensure adverse impacts to channel stability are unlikely. The HDD will not impact channel stability. Pipeline removal will occur during low flow conditions. Impacts to the channel will be minimized utilizing divers to cut the exposed pipeline and limiting impacts only to the ends of the exposed pipeline with no excavation of the currently buried pipeline proposed within the stream channel. Post construction conditions will result in a reduction in stream impingement as the exposed pipeline within Jacobs Creek and the culvert will be removed.

7. Threatened and endangered species or their current or documented historic habitats; No impacts to threatened and endangered species are anticipated. See Attachment 6

6. Navigation;

7. Energy production; and This project supports energy production by repairing an existing, exposed pipeline.

8. Fishery resources. Construction and restoration design involves minimization of impacts and restoration to preexisting conditions as well as a March 1 to June 30 instream work moratorium to avoid impacts to anadromous fish so as to minimize impact to ensure adverse impacts to fishery resources are unlikely.

(c) A permittee shall obtain all necessary approvals from the local Soil Conservation District prior to commencing any activity approved in an individual permit issued under this chapter. All required Soil Conservation District approvals will be acquired prior to construction.

(d) A permittee shall obtain all necessary approvals from the USDA Natural Resource Conservation Service prior to commencing any activity designed or overseen by the NRCS, which is approved in an individual permit issued under this chapter. Mercer County Conservation District approvals will be acquired prior to commencement of construction.

(e) If neither the Soil Conservation District nor the USDA Natural Resource Conservation Service has jurisdiction over an activity approved in an individual permit issued under this chapter, the permittee shall commence the activity only if the following requirements are met:

1. Sediment control measures shall be installed around the proposed construction sufficient to prevent sediment from entering any riparian zone or channel outside the construction area; Mercer County Conservation District approvals will be acquired prior to commencement of construction. Sufficient erosion and sedimentation controls will be installed at the start of the proposed repair work and will remain in place until soil stability has been achieved.

2. If construction is proposed in a channel, sediment control measures, such as coffer dams, shall be installed around the activity sufficient to prevent flowing water from coming in contact with construction for the duration of the project where feasible; Diversion damming
of the stream will be required during pipe removal, damming will be constructed so as to avoid flowing water coming in contact with any construction equipment. See Attachment 4.

3. All slopes shall be graded and stabilized to prevent post-construction erosion; **Grading and stabilization will return the site to preexisting conditions so as to prevent post-construction erosion.**

4. Permanent, native, non-invasive plant species shall be established on all exposed soils immediately following construction. The applicant shall monitor and maintain all such vegetation for at least three growing seasons to ensure proper establishment and survival. **Permanent native species will be established upon completion of excavation and restoration.** See Attachment 4

(f) The Department shall issue an individual permit for a regulated activity that adversely impacts a property not owned by an applicant as set forth in (g) below, only if the applicant demonstrates that one or more of the following requirements are satisfied for each adversely impacted property:

1. The applicant is a public entity that intends to appropriate the adversely impacted property through its power of eminent domain; **Not applicable**

2. The applicant has entered into a contract to purchase the adversely impacted property; **Purchase agreements for affected properties along with signed access agreements are included in Attachment 3.**

3. The applicant has obtained an easement that encompasses the entire area that will be adversely impacted by the proposed activity, which specifically allows the applicant to undertake the proposed activity; or **Sunoco Pipeline L.P. has an existing easement within the proposed work area. Easement documents included.**

4. The applicant has obtained written permission from the owners of the adversely impacted property. Written permission shall include the following: **Written permission to perform proposed activities has been included with the permit application. Included with the permissions is an explanation of the nature and purpose of the project, an estimate of the length of time regulated activities will occur and an estimate of the extent to which the adversely impacted property will be affected by flooding or stormwater discharges and the frequency at which these impacts are expected to occur.**

(g) The Department shall consider a regulated activity to adversely impact a property not owned by an applicant if the activity meets one or more of the following. For the purpose of determining compliance with (g)4 and 5 below, calculations shall be rounded to the nearest 0.1 feet:

1. The regulated activity is situated, in whole or in part, on property that is not owned by the applicant; **Proposed construction is to take place within an existing Sunoco Pipeline L.P. easement.**
2. A stormwater discharge is directed overland onto property that is not owned by the applicant and the Department determines that the discharge will significantly increase or concentrate overland flow and/or cause erosion or increased flooding on the property not owned by the applicant; **Proposed stormwater discharge is within an existing Sunoco Pipeline L.P. easement utilizing best management practices and with the approval of the Mercer County Conservation District.**

3. The applicant relocates a regulated water or otherwise alters its top of bank such that the limit of the riparian zone encroaches further onto an offsite property; **No relocation of regulated waters is proposed.**

4. The applicant proposes to undertake one or more of the following regulated activities:
   
   i. The construction of a new bridge or culvert, which does not meet the offsite flood requirements of N.J.A.C. 7:13-12.7(d)1; **No bridges or culverts are proposed.**
   
   ii. The reconstruction of an existing bridge or culvert, which does not meet the offsite flood requirements of N.J.A.C. 7:13-12.7(e)1; or **No bridges or culverts are proposed.**
   
   iii. The restoration of a regulated water to a natural condition, which does not meet the offsite flood requirements of N.J.A.C. 7:13-12.14(d); **All restoration is designed to meet offsite flooding requirements.**

5. The applicant proposes to undertake a regulated activity not listed in (g)4 above, and the regulated activity will result in one or more of the following offsite impacts during any flood event described in (i) below:

   i. The regulated activity subjects any offsite habitable building, railroad, roadway, or parking area to increased depth or frequency of flooding; **Not applicable.**

   ii. The regulated activity increases offsite flood depths by more than 0.2 feet, in cases where the applicant owns or has development rights on both sides of a regulated water; or **No increase to offsite flood depths is proposed.**

   iii. The regulated activity increases offsite flood depths by more than 0.1 feet, in cases where the applicant owns or has development rights on only one side of a regulated water. **No increase to offsite flood depths is proposed.**

(h) If a project results in a significant change in the cross-sectional area and/or hydraulic capacity of a channel or floodway, the Department shall presume that the project has the potential to adversely impact a property not owned by the applicant, as described at (g) above. In such a case, the Department shall require the applicant to provide hydrologic and/or hydraulic calculations that identify the properties that would be adversely impacted, or which demonstrate that such impacts will not in fact occur. Examples of projects that may require such an analysis include a channel modification, flood control project, the construction or removal of a water control structure, and the placement of a significant volume of fill in a
floodway. Not applicable no significant changes in the cross-sectional and/or hydraulic capacity of the stream are proposed.

(i) Where this chapter requires consideration of potential offsite flooding impacts, the following flood events shall be analyzed: Flood Hazard Engineering Report include in Attachment 7. No potential impacts proposed.

1. The flood hazard area design flood; Flood Hazard Engineering Report include in Attachment 7. No potential impacts proposed.

2. The 100-year flood; Flood Hazard Engineering Report include in Attachment 7. No potential impacts proposed.

3. The 50-year flood; Flood Hazard Engineering Report include in Attachment 7. No potential impacts proposed.

4. The 25-year flood; Flood Hazard Engineering Report include in Attachment 7. No potential impacts proposed.

5. The 10-year flood; Flood Hazard Engineering Report include in Attachment 7. No potential impacts proposed.


Requirements for excavation, fill, and grading activities

(a) This section sets forth specific design and construction standards that apply to any excavation, fill and/or grading proposed in any regulated area.

(b) The Department shall issue an individual permit for excavation, fill and/or grading only if the following requirements are satisfied:

1. The overland flow of stormwater is not impeded and floodwaters can freely enter and exit the disturbed area, unless the area is graded to impound water for a stormwater management structure that meets the requirements of the Stormwater Management rules at N.J.A.C. 7:8; Overland flow of water will not be impeded by construction activities. See Attachment 4 for erosion and sedimentation plans.

2. Any slope of greater than 50 percent (a ratio of two horizontal to one vertical) is stabilized using soil bioengineering, retaining walls, rip-rap or other appropriate slope protection; No slopes over 50 percent grade exist on site or are proposed.

3. The excavation, fill and/or grading does not endanger the integrity of any existing structure; and No structures exist within the limit of disturbance.

4. All excavated material is disposed of lawfully. All excavated material will be stored onsite and properly stabilized until pipeline repair is complete at which time it will be used to backfill the excavation and restore the site. No disposal is proposed.
7:13-12.8 Requirements for a utility line

(a) This section sets forth specific design and construction standards that apply to any utility line proposed in any regulated area.

(b) The Department shall issue an individual permit to construct or reconstruct a utility line in a regulated area only if the following requirements are satisfied:

1. All disturbed areas in the flood hazard area are restored to pre-construction topography; **All disturbed areas will be regraded, stabilized and restored to preconstruction conditions. As directed by NJDEP the scour hole under the exposed pipeline will not be filled. Restoration will be limited to construction disturbance.**

2. The applicant provides an engineering certification confirming that any utility line that conveys a gas or liquid is sealed to ensure that there will be no leakage or discharge in a regulated area; and **The repaired line segments will be pressure tested by the pipeline’s owner/operator (Sunoco Pipeline L.P.) before said line is placed back in service. Sunoco Pipeline L.P. can provide such certification upon completion of the proposed work and associated testing.**

3. Except in the immediate vicinity of a crossing of a regulated water, the utility line shall not be constructed within 10 feet of any top of bank, unless the project lies adjacent to a lawfully existing bulkhead, retaining wall, or revetment along a tidal water. **All repairs are limited to the immediate crossing of the regulated stream.**

(c) The Department shall issue an individual permit to construct or reconstruct a utility line across or under a channel or water only if the following requirements are satisfied, as applicable:

1. The applicant demonstrates that it is not feasible to directionally drill or "jack" the proposed utility line under the channel or water under permit-by-rule 36 at N.J.A.C. 7:13-7.36; **Pipeline will be installed via horizontal directional drill.**

2. The applicant demonstrates that it is not feasible to construct the utility line within a roadway that already crosses the channel or water under permit-by-rule 37 at N.J.A.C. 7:13-7.37; **No roadways cross the waterway at the location of the repairs.**

3. The applicant demonstrates that it is not feasible to attach the utility line to a bridge that already crosses the channel or water under permit-by-rule 38 at N.J.A.C. 7:13-7.38; **No bridges cross the waterway at the location of the repairs.**

4. The excavation of an open trench across a channel or water resulting in contact with flowing water is avoided. If the excavation of an open trench is unavoidable, the following requirements shall be met; **See Attachment 4.**
i. Any trench in a channel, water or riparian zone, is no more than 20 feet wide, unless the applicant demonstrates that such a width is not feasible and a wider trench is necessary for safe construction;

*No trenching is proposed within a channel. The only trenching associated with the project is to tie-in the ends of the HDD to the existing pipeline.*

ii. The normal flow of the channel or water is piped or diverted around the open trench during construction where possible so that sediment cannot enter the regulated water; and

*Diversion damming will be installed during pipeline removal so as to avoid sediment entering regulated waters.*

iii. The trench is backfilled to the pre-excavation ground elevation using native substrate upon completion of the crossing; *Trenching associated with pipeline tie-ins and removal will be restored to preconstruction elevations utilizing native materials.*

5. A utility line that conveys a gas or liquid is protected in one of the following ways:

i. It is covered by at least four feet of stable material consisting of native substrate in the channel or water; *The new pipeline segments will be at least 4 feet below the bottom of the stream channel.*

6. A utility line that does not convey a gas or liquid is covered by at least three feet of stable material consisting of native substrate in the channel or water, where feasible; **Not Applicable**

7. The following requirements are satisfied for each utility line that crosses a channel or water, unless the applicant demonstrates that one or more of these requirements is not feasible or that another configuration would pose less risk to life, property and the environment:

i. Each utility line is placed nominally horizontal under the entire channel or water and remains so beyond each bank for a distance equal to twice the height of the bank, or 10 feet, whichever is greater. If there is no discernible bank, the utility line shall remain nominally horizontal for at least 10 feet beyond the normal edge of water; **The new pipeline segments will extend at least 10 feet beyond the edge of the stream channel/bank.**

ii. The inclined portion of each utility line approaching the channel or water has a slope no greater than 50 percent (a ratio of two horizontal to one vertical); **Utility line slope under the channel will not exceed 50 percent.**

iii. Encasement extends under the entire channel or water and 10 feet beyond each top of bank. If there is no discernible bank, the utility line shall be encased for at least 10 feet beyond the normal edge of water. **Due to the nature of the installation (HDD under the Delaware River) encasement of the entire line is not feasible.**

(d) **The Department shall issue an individual permit to construct or reconstruct a utility line above a channel or floodway, which is not attached to a roadway or railroad crossing,** or
which is attached to such a crossing but does not meet permit-by-rule 38 at N.J.A.C. 7:13-7.38, only if the following requirements are satisfied: Not Applicable

1. The applicant demonstrates that it is not feasible to attach the utility line to a bridge that already crosses the channel or water under permit-by-rule 38;

2. The utility line does not create any obstruction to the flow of floodwaters;

3. The utility line is protected from damage by impact from floating debris;

4. The utility line is placed at least one foot above the flood hazard area design flood elevation.

(e) The Department shall issue an individual permit to construct or reconstruct a manhole associated with a utility line in a regulated area only if the following requirements are satisfied: Not Applicable

1. The manhole is constructed at least 10 feet from any top of bank;

2. Any manhole in a flood hazard area has a watertight cover;

3. The top of a manhole in a floodway is flush with the ground; and

4. The top of a manhole in a flood fringe is flush with the ground, where possible.

(f) The Department shall issue an individual permit for the placement of a cable directly on the bed of a channel or water only if the following requirements are satisfied: Not Applicable

1. The channel or water is large enough in both width and depth that the cable will not interfere with navigation and/or the normal flow of the channel or water; and

2. The cable is laid with enough slack so that it can be easily moved.

(g) The Department shall issue an individual permit that allows, over the five-year term of the permit, the necessary and periodic maintenance, repair, or replacement of any section of a lawfully existing above or below ground utility line in a regulated area only if the following requirements are satisfied: Not Applicable. Proposed work is for an individual pipeline repair and will not require continued maintenance.

1. The applicant submits an application for an individual permit which, in addition to the normal application requirements, includes the following:
   i. The exact location of the utility line network that is the subject of the application, identified on USGS quad maps; and
   ii. A detailed description of the types of maintenance, repair, and/or replacement activities that can be expected to occur during the duration of the individual permit, such as construction details of typical, anticipated activities and associated construction sequences;
ATTACHMENT 3
Public Notices/Property Ownership
Jacobs Creek Pipeline Replacement
Hopewell and Ewing Township, Mercer County, New Jersey

Public Notice Requirements

List of Public Notice Recipients

Hopewell Township

- Laurie Grumpf, Municipal Clerk (complete copy of application)
- Hopewell Township Planning Board Chair
- Hopewell Township Environmental Commission
- Hopewell Township Construction Official

Ewing Township

- Kim Macellaro, Municipal Clerk (complete copy of application)
- Ewing Township Planning Board Chair
- Ewing Township Environmental Commission
- Ewing Township Construction Official

Mercer County

- Paula Sollami Covello, Esq, Mercer County Clerk
- Mercer County Planning Board Chair
- Mercer County Conservation District
- Property Owners Within 200 feet (see attached list)
Municipal Letters
April 22, 2020

Ms. Laurie E. Grumpf  
Hopewell Township Municipal Clerk  
201 Washington Crossing Pennington Road  
Titusville, NJ 08560

Subject: Application for Individual Flood Hazard Area/Freshwater Wetland Permit

Reference: Sunoco Logistics Partners LP. Jacobs Creek Emergency Repair Project  
Ewing and Hopewell Townships, Mercer County, NJ

STV Project No.: 38-16332

Ms. Grumpf:

This letter is to provide you with legal notification that an Individual Flood Hazard Area/Freshwater Wetland permit application and a copy of the permit application for public review has been submitted to the New Jersey Department of Environmental Protection, Division of Land Use Regulation for the development shown on the enclosed figure. A brief description of the proposed development follows:

Sunoco Logistics Partners, L.P. (SXL) owns and operates a 14-inch welded steel high-pressure petroleum products pipeline that transports product from SXL’s Twin Oaks Terminal to their Newark Facility. Near the confluence of Jacobs Creek and the Delaware River in Ewing and Hopewell Townships, Mercer County, New Jersey and Upper Makefield Township, Bucks County, Pennsylvania, the existing pipeline is located within the stream beds of the Delaware River and Jacobs Creek. The pipeline travels across the Delaware then up the Jacobs Creek streambed, through a large concrete and stone arch culvert which supports the Delaware and Raritan Canal and State Route 29.

The project area is located near the confluence of the Delaware River and Jacobs Creek. At this location, the pipeline is within the stream bed of Jacobs Creek, running parallel to the creek. The Delaware and Raritan Canal parallels the Delaware River and New Jersey State Route 29 at this location, with Jacobs Creek bisecting them within a 24-foot wide rock and concrete arch culvert. The pipeline is exposed a total length of 301 feet within Jacobs Creek, 169-foot within the culvert, 3-feet upstream and 129-feet downstream of the culvert. The creek bed is located approximately 30-35 feet below the highway and canal surface.

Horizontal directional drill (HDD) installation techniques will be used to install an approximately 2,500 foot of pipeline across the Delaware River and up Jacob’s Creek, to replace the portion of exposed pipeline. The proposed HDD installation will be a 14-inch pipeline that will be approximately 35-40 feet deep under the Delaware and Jacob’s Creek stream beds, the concrete arch culvert and approximately 75-85 feet under the Delaware Raritan Canal and SR029.
Going from PA into NJ in a west to east direction, the proposed HDD will cross under PA SR 32/River Road, the Delaware River, Jacobs Creek and the concrete culvert that supports Route 29 and the Delaware/Raritan Canal.

The proposed HDD will be installed from both the PA and NJ sides of the Delaware River. On the PA side, the HDD entry point will be within a private residential property. Two (2) 1250-foot HDD pipeline strings will be assembled and tested within the same private residential and an additional residential/farm property. Access to the PA residential and residential farm property will be off Oakdale Avenue.

The complete permit application package can be reviewed at either the municipal clerk’s office or by appointment at the Department’s Trenton Office. The Department of Environmental Protection welcomes comments and any information that you may provide concerning the proposed development and site. Please submit your written comments within 15 calendar days of the date of this letter to:

New Jersey Department of Environmental Protection
Division of Land Use Regulation
P.O. Box 420, Mail Code 501-02A,
Trenton, New Jersey 08625
Attn: Mercer County Bureau Chief

If you have questions, you can contact me at 610-385-8443.

Sincerely,

James McGinley
Senior Environmental Scientist
STV Energy Services Inc.
205 West Welsh Drive, Douglassville, PA
April 22, 2020

Chairman
Hopewell Township Planning Board
201 Washington Crossing Pennington Road
Titusville, NJ 08560

Subject: Application for Individual Flood Hazard Area/Freshwater Wetland Permit

Reference: Sunoco Logistics Partners LP. Jacobs Creek Emergency Repair Project
Ewing and Hopewell Townships, Mercer County, NJ

STV Project No.: 38-16332

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April 22, 2020

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Senior Environmental Scientist
STV Energy Services Inc.
205 West Welsh Drive, Douglassville, PA
April 22, 2020

Construction Official
Hopewell Township
201 Washington Crossing Pennington Road
Titusville, NJ 08560

Subject: Application for Individual Flood Hazard Area/Freshwater Wetland Permit

Reference: Sunoco Logistics Partners LP. Jacobs Creek Emergency Repair Project
Ewing and Hopewell Townships, Mercer County, NJ

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Sincerely,

James McGinley
Senior Environmental Scientist
STV Energy Services Inc.
205 West Welsh Drive, Douglassville, PA
April 22, 2020

Ms. Kim Macellaro
Municipal Clerk
2 Jake Garzio Drive
Ewing, NJ 08628

Subject: Application for Individual Flood Hazard Area/Freshwater Wetland Permit

Reference: Sunoco Logistics Partners LP. Jacobs Creek Emergency Repair Project
Ewing and Hopewell Townships, Mercer County, NJ

STV Project No.: 38-16332

Ms. Macellaro:

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James McGinley  
Senior Environmental Scientist  
STV Energy Services Inc.  
205 West Welsh Drive, Douglassville, PA
April 22, 2020

Chairman
Ewing Township Planning Board
2 Jake Garzio Drive
Ewing, NJ 08628

Subject: Application for Individual Flood Hazard Area/Freshwater Wetland Permit

Reference: Sunoco Logistics Partners LP. Jacobs Creek Emergency Repair Project
Ewing and Hopewell Townships, Mercer County, NJ

STV Project No.: 38-16332

Dear Interested Party:

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Sincerely,

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Senior Environmental Scientist
STV Energy Services Inc.
205 West Welsh Drive, Douglassville, PA
April 22, 2020

Chairman
Ewing Township Environmental Commission
2 Jake Garzio Drive
Ewing, NJ 08628

Subject: Application for Individual Flood Hazard Area/Freshwater Wetland Permit

Reference: Sunoco Logistics Partners LP. Jacobs Creek Emergency Repair Project
Ewing and Hopewell Townships, Mercer County, NJ

STV Project No.: 38-16332

Dear Interested Party:

This letter is to provide you with legal notification that an Individual Flood Hazard Area/Freshwater Wetland permit application has been submitted to the New Jersey Department of Environmental Protection, Division of Land Use Regulation for the development shown on the enclosed figure. A brief description of the proposed development follows:

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Sincerely,

James McGinley
Senior Environmental Scientist
STV Energy Services Inc.
205 West Welsh Drive, Douglassville, PA
April 22, 2020

Construction Official
Ewing Township Municipal Building
2 Jake Garzio Drive
Ewing, NJ 08628

Subject: Application for an Individual Flood Hazard Area/Freshwater Wetland General Permit #2

Reference: Sunoco Logistics Partners LP. Jacobs Creek Emergency Repair Project Ewing and Hopewell Townships, Mercer County, NJ

STV Project No.: 38-16332

Dear Interested Party:

This letter is to provide you with legal notification that an Individual Flood Hazard Area/General Freshwater Wetland Permit #2 application is being submitted to the New Jersey Department of Environmental Protection, Division of Land Use Regulation for the proposed project shown on the enclosed figure. A brief description of the project is as follows:

Sunoco Logistics Partners, L.P. (SXL) owns and operates a 14-inch welded steel high-pressure petroleum products pipeline that transports product from SXL’s Twin Oaks Terminal to their Newark Facility. Near the confluence of Jacobs Creek and the Delaware River in Ewing and Hopewell Townships, Mercer County, New Jersey and Upper Makefield Township, Bucks County, Pennsylvania, the existing pipeline is located within the stream beds of the Delaware River and Jacobs Creek. From Pennsylvania, the pipeline travels across the Delaware then up the Jacobs Creek streambed, through a large concrete and stone arch culvert which supports the Delaware and Raritan Canal and State Route 29.

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There should be a statement of associated impacts. Also need to talk about the pipeline removal, since that probably has more impacts than the HDD.

New Jersey Department of Environmental Protection
Division of Land Use Regulation
P.O. Box 420, Mail Code 501-02A,
Trenton, New Jersey 08625
Attn: Mercer County Bureau Chief

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Sincerely,

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Senior Environmental Scientist
STV Energy Services Inc.
205 West Welsh Drive, Douglassville, PA
April 22, 2020

Ms. Paula Sollami Covello, Esq  
Mercer County Clerk  
209 South Broad Street  
Trenton, NJ 08608

Subject: Application for Individual Flood Hazard Area/Freshwater Wetland Permit

Reference: Sunoco Logistics Partners LP. Jacobs Creek Emergency Repair Project  
Ewing and Hopewell Townships, Mercer County, NJ

STV Project No.: 38-16332

Ms. Sollami Covello:

This letter is to provide you with legal notification that an Individual Flood Hazard Area/Freshwater Wetland permit application has been submitted to the New Jersey Department of Environmental Protection, Division of Land Use Regulation for the development shown on the enclosed figure. A brief description of the proposed development follows:

Sunoco Logistics Partners, L.P. (SXL) owns and operates a 14-inch welded steel high-pressure petroleum products pipeline that transports product from SXL’s Twin Oaks Terminal to their Newark Facility. Near the confluence of Jacobs Creek and the Delaware River in Ewing and Hopewell Townships, Mercer County, New Jersey and Upper Makefield Township, Bucks County, Pennsylvania, the existing pipeline is located within the stream beds of the Delaware River and Jacobs Creek. The pipeline travels across the Delaware then up the Jacobs Creek streambed, through a large concrete and stone arch culvert which supports the Delaware and Raritan Canal and State Route 29.

The project area is located near the confluence of the Delaware River and Jacobs Creek. At this location, the pipeline is within the stream bed of Jacobs Creek, running parallel to the creek. The Delaware and Raritan Canal parallels the Delaware River and New Jersey State Route 29 at this location, with Jacobs Creek bisecting them within a 24-foot wide rock and concrete arch culvert. The pipeline is exposed a total length of 301 feet within Jacobs Creek, 169-foot within the culvert, 3-feet upstream and 129-feet downstream of the culvert. The creek bed is located approximately 30-35 feet below the highway and canal surface.

Horizontal directional drill (HDD) installation techniques will be used to install an approximately 2,500 foot of pipeline across the Delaware River and up Jacob’s Creek, to replace the portion of exposed pipeline. The proposed HDD installation will be a 14-inch pipeline that will be approximately 35-40 feet deep under the Delaware and Jacob’s Creek stream beds, the concrete arch culvert and approximately 75-85 feet under the Delaware Raritan Canal and SR029.
Going from PA into NJ in a west to east direction, the proposed HDD will cross under PA SR 32/River Road, the Delaware River, Jacobs Creek and the concrete culvert that supports Route 29 and the Delaware/Raritan Canal.

The proposed HDD will be installed from both the PA and NJ sides of the Delaware River. On the PA side, the HDD entry point will be within a private residential property. Two(2) 1250-foot HDD pipeline strings will be assembled and tested within the same private residential and an additional residential/farm property. Access to the PA residential and residential farm property will be off Oakdale Avenue.

The complete permit application package can be reviewed at either the municipal clerk’s office or by appointment at the Department’s Trenton Office. The Department of Environmental Protection welcomes comments and any information that you may provide concerning the proposed development and site. Please submit your written comments within 15 calendar days of the date of this letter to:

New Jersey Department of Environmental Protection
Division of Land Use Regulation
P.O. Box 420, Mail Code 501-02A,
Trenton, New Jersey 08625
Attn: Mercer County Bureau Chief

If you have questions, you can contact me at 610-385-8443.

Sincerely,

James McGinley
Senior Environmental Scientist
STV Energy Services Inc.
205 West Welsh Drive, Douglassville, PA
April 22, 2020

Mercer County Planning Board
209 South Broad Street
Trenton, NJ 08608

Subject: Application for Individual Flood Hazard Area/Freshwater Wetland Permit

Reference: Sunoco Logistics Partners LP. Jacobs Creek Emergency Repair Project
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Interested Party:

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Sincerely,

James McGinley  
Senior Environmental Scientist  
STV Energy Services Inc.  
205 West Welsh Drive, Douglassville, PA
April 22, 2020

Chairman
Mercer County Conservation District
590 Hughes Drive
Hamilton Square, NJ 08690

Subject: Application for Individual Flood Hazard Area/Freshwater Wetland Permit

Reference: Sunoco Logistics Partners LP. Jacobs Creek Emergency Repair Project
Ewing and Hopewell Townships, Mercer County, NJ

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Sincerely,

James McGinley  
Senior Environmental Scientist  
STV Energy Services Inc.  
205 West Welsh Drive, Douglassville, PA
April 22, 2020

County and Local Officials
Property Owners within 200 feet of the Subject Property

Reference: Sunoco Logistics Partners LP. Jacobs Creek Emergency Repair Project Ewing and Hopewell Townships, Mercer County, NJ

Subject: Application for Freshwater Wetlands General Permits 1 and Flood Hazard Area Individual Permit

STV Project No. 38-16332

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P.O. Box 420, Mail Code 501-02A,  
Trenton, New Jersey 08625  
Attn: Mercer County Bureau Chief

When the NJDEP has decided whether or not this application qualifies for approval under the Freshwater Wetlands Protection Act rules, NJDEP will notify the municipal clerk of the final decision on this application. If you have questions, you can contact our agent, James McGinley, Environmental Scientist at STV Energy Services at (610) 385-8443.

Sincerely,

James McGinley  
STV Energy Services, Inc.
ATTACHMENT 4
Project Site Plan
AASHTO #57

5/6 HEIGHT OF DIVERSION BERM
HEIGHT OF ROCK FILTER =

NOTE:
SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE OUTLET.

1 MIN

1 MIN

UP-SLOPE FACE
ROCK FILTER OUTLETS
NOTE:
SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE OUTLET.

SECTION A-A
SECTION B-B

NO SCALE

ROCK FILTER OUTLETS

TYPICAL STREAM CROSSING WITH PUMP INLET

PORTION - FLEXIBLE CURTAIN SYSTEM

NO SCALE

NOTE:
THE STREAM DIVERSION SHALL BE PERFORMED BY THE INSTALLATION OF A PORTION FLEXIBLE CURTAIN OF APPROVED DESIGN.

14-INCH THICK TEES TO NEHITEN JACOBS (DEER POINT) ELEVATION
30.9 FT

EROSION AND SEDIMENT CONTROL DETAILS
IN CONFORMITY WITH THE WASHA 02-04 REGULATIONS

SANDS/STONES
R-3 ROCK
6" MIN.
AASHTO #57

WOOD STAKES
DIVERSION BERM
HEIGHT OF ROCK FILTER = 5/6 HEIGHT OF DIVERSION BERM

4" MIN.
ASHTO #57

3" MIN.
ATTACHMENT 5

Photos
Canal Access & Temporary Workspace
PHOTOGRAPH 1

PHOTOGRAPH 2
SUNOCO LOGISTICS PARTNERS, L.P.

Jacob’s Creek Photo Log

PHOTOGRAPH 9
East Side at Culvert
PHOTOGRAPH 12

PHOTOGRAPH 13
East Side at Drill Set Up, Tie-In
West Side at Culvert
ATTACHMENT 6
Threatened/Endangered Species Coordination
Joseph Kopajtic  
STV Energy Services, Inc.  
7125 Ambassador Road, Suite 200  
Baltimore, MD 21244  

Re: Sunoco Logistics Partners - Jacobs Creek Crossing  
Block(s) - 427, Lot(s) - 1  
Ewing and Hopewell Townships, Mercer County  

Dear Mr. Kopajtic:  

Thank you for your data request regarding rare species information for the above referenced project site in Ewing Township, Mercer County. 

Searches of the Natural Heritage Database and the Landscape Project (Version 3.1) are based on a representation of the boundaries of your project site in our Geographic Information System (GIS). We make every effort to accurately transfer your project bounds from the topographic map(s) submitted with the Request for Data into our Geographic Information System. We do not typically verify that your project bounds are accurate, or check them against other sources. 

We have checked the Landscape Project habitat mapping and the Biotics Database for occurrences of any rare wildlife species or wildlife habitat on the referenced site. The Natural Heritage Database was searched for occurrences of rare plant species or ecological communities that may be on the project site. Please refer to Table 1 (attached) to determine if any rare plant species, ecological communities, or rare wildlife species or wildlife habitat are documented on site. A detailed report is provided for each category coded as ‘Yes’ in Table 1. 

We have also checked the Landscape Project habitat mapping and Biotics Database for occurrences of rare wildlife species or wildlife habitat in the immediate vicinity (within ¼ mile) of the referenced site. Additionally, the Natural Heritage Database was checked for occurrences of rare plant species or ecological communities within ¼ mile of the site. Please refer to Table 2 (attached) to determine if any rare plant species, ecological communities, or rare wildlife species or wildlife habitat are documented within the immediate vicinity of the site. Detailed reports are provided for all categories coded as ‘Yes’ in Table 2. These reports may include species that have also been documented on the project site. 

The Natural Heritage Program reviews its data periodically to identify priority sites for natural diversity in the State. Included as priority sites are some of the State’s best habitats for rare and endangered species and ecological communities. Please refer to Tables 1 and 2 (attached) to determine if any priority sites are located on or in the vicinity of the site. 

A list of rare plant species and ecological communities that have been documented from the project site, referenced above, can be downloaded from http://www.state.nj.us/dep/parksandforests/natural/heritage/countylist.html. If suitable habitat is present at the project site, the species in that list have potential to be present. 

Status and rank codes used in the tables and lists are defined in EXPLANATION OF CODES USED IN NATURAL HERITAGE REPORTS, which can be downloaded from http://www.state.nj.us/dep/parksandforests/natural/heritage/nhpcodes_2010.pdf.
If you have questions concerning the wildlife records or wildlife species mentioned in this response, we recommend that you visit the interactive NJ-GeoWeb website at the following URL, http://www.state.nj.us/dep/gis/geowebsplash.htm or contact the Division of Fish and Wildlife, Endangered and Nongame Species Program at (609) 292-9400.


Thank you for consulting the Natural Heritage Program. The attached invoice details the payment due for processing this data request. Feel free to contact us again regarding any future data requests.

Sincerely,

Robert J. Cartica
Administrator

c: NHP File No. 15-4007437-8156
**Invoice**

Mail Code 501-04  
Department of Environmental Protection  
State Forestry Services  
Office of Natural Lands Management  
P.O. Box 420 Trenton, New Jersey 08625-0420  
(609) 984-1339        Fax: (609) 984-1427

<table>
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<th>Date</th>
<th>Invoice #</th>
</tr>
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<tbody>
<tr>
<td>8/25/2015</td>
<td>8156</td>
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</table>

**Bill to:**  
STV Energy Services, Inc.  
7125 Ambassador Road, Suite 200  
Baltimore, MD 21244

**Make check payable to:**  
*Office of Natural Lands Management*  
And forward with a copy of this statement to:  
*Mail Code 501-04*  
*Office of Natural Lands Management*  
P.O. Box 420 Trenton, New Jersey 08625-0420

<table>
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<th>Description</th>
<th>Rate (per hr.)</th>
<th>Amount</th>
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<td>$ 70.00</td>
<td>$ 70.00</td>
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**PAID:** This Invoice has been paid with Check Number 108040.

Joseph Kopajtic  
Project Name: Sunoco Logistics Partners - Jacobs Creek Crossing  

| Total          | $ 70.00 |

NHP File No. 15-4007437-8156
Table 1: On Site Data Request Search Results (7 Possible Reports)

<table>
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<tr>
<th>Report Name</th>
<th>Included</th>
<th>Number of Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Possibly on Project Site Based on Search of Natural Heritage Database:</td>
<td>No</td>
<td>0 pages included</td>
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<tr>
<td>Rare Plant Species and Ecological Communities Currently Recorded in the</td>
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<td></td>
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<tr>
<td>New Jersey Natural Heritage Database</td>
<td></td>
<td></td>
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<tr>
<td>2. On or In the Immediate Vicinity of the Project Site Based on Search of</td>
<td>Yes</td>
<td>1 page(s) included</td>
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<td>the Natural Heritage Database: Rare Plant Species and Ecological Communities</td>
<td></td>
<td></td>
</tr>
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<td>Currently Recorded in the New Jersey Natural Heritage Database</td>
<td></td>
<td></td>
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<td>3. Natural Heritage Priority Sites On Site</td>
<td>No</td>
<td>0 pages included</td>
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<td>4. Rare Wildlife Species or Wildlife Habitat on the Project Site Based on</td>
<td>Yes</td>
<td>1 page(s) included</td>
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<tr>
<td>Search of Landscape Project 3.1 Species Based Patches</td>
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<td>5. Vernal Pool Habitat on the Project Site Based on Search of Landscape</td>
<td>No</td>
<td>0 pages included</td>
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<td>Project 3.1</td>
<td></td>
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<tr>
<td>6. Rare Wildlife Species or Wildlife Habitat on the Project Site Based on</td>
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<td>0 pages included</td>
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<tr>
<td>Search of Landscape Project 3.1 Stream Habitat File</td>
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<td></td>
</tr>
<tr>
<td>7. Other Animal Species On the Project Site Based on Additional Species</td>
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<td>0 pages included</td>
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<tr>
<td>Tracked by Endangered and Nongame Species Program</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scientific Name</td>
<td>Common Name</td>
<td>Federal Protection Status</td>
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<tr>
<td>-----------------</td>
<td>-------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>Agastache nepetoides</td>
<td>Yellow Giant-hyssop</td>
<td>HL</td>
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<th>State Protection Status</th>
<th>Grank</th>
<th>Srank</th>
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<tr>
<td></td>
<td>Rare Wildlife Species or Wildlife Habitat on the Project Site Based on Search of Landscape Project 3.1 Species Based Patches</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aves</td>
<td>Bald Eagle</td>
<td>Haliaeetus leucocephalus</td>
<td>Foraging</td>
<td>4</td>
<td>NA</td>
<td>State Endangered</td>
<td>G5</td>
<td>S1B,S2N</td>
</tr>
<tr>
<td></td>
<td>Cliff Swallow</td>
<td>Petrochelidon pyrrhonota</td>
<td>Breeding Sighting</td>
<td>2</td>
<td>NA</td>
<td>Special Concern</td>
<td>G5</td>
<td>S3B,S3N</td>
</tr>
<tr>
<td></td>
<td>Cliff Swallow</td>
<td>Petrochelidon pyrrhonota</td>
<td>Breeding Sighting-Confirmed</td>
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<td>NA</td>
<td>Special Concern</td>
<td>G5</td>
<td>S3B,S3N</td>
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<tr>
<td></td>
<td>Great Blue Heron</td>
<td>Ardea herodias</td>
<td>Foraging</td>
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<td>NA</td>
<td>Special Concern</td>
<td>G5</td>
<td>S3B,S4N</td>
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<tr>
<td>Osteichthyes</td>
<td>Shortnose Sturgeon</td>
<td>Acipenser brevirostrum</td>
<td>Migration Corridor - Adult Sighting</td>
<td>5</td>
<td>Federally Listed Endangered</td>
<td>State Endangered</td>
<td>G3</td>
<td>S1</td>
</tr>
<tr>
<td></td>
<td>Shortnose Sturgeon</td>
<td>Acipenser brevirostrum</td>
<td>Nursery Area - Larvae Sighting</td>
<td>5</td>
<td>Federally Listed Endangered</td>
<td>State Endangered</td>
<td>G3</td>
<td>S1</td>
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<tr>
<td></td>
<td>Shortnose Sturgeon</td>
<td>Acipenser brevirostrum</td>
<td>Spawning Area - Egg Sighting</td>
<td>5</td>
<td>Federally Listed Endangered</td>
<td>State Endangered</td>
<td>G3</td>
<td>S1</td>
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<tr>
<td></td>
<td>Shortnose Sturgeon</td>
<td>Acipenser brevirostrum</td>
<td>Summering Area - Adult Sighting</td>
<td>5</td>
<td>Federally Listed Endangered</td>
<td>State Endangered</td>
<td>G3</td>
<td>S1</td>
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</table>
### Table 2: Vicinity Data Request Search Results (6 possible reports)

<table>
<thead>
<tr>
<th>Report Name</th>
<th>Included</th>
<th>Number of Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Immediate Vicinity of the Project Site Based on Search of Natural Heritage Database Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database</td>
<td>Yes</td>
<td>1 page(s) included</td>
</tr>
<tr>
<td>2. Natural Heritage Priority Sites within the Vicinity</td>
<td>No</td>
<td>0 pages included</td>
</tr>
<tr>
<td>3. Rare Wildlife Species or Wildlife Habitat Within the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.1 Species Based Patches</td>
<td>Yes</td>
<td>1 page(s) included</td>
</tr>
<tr>
<td>4. Vernal Pool Habitat In the Immediate Vicinity of Project Site Based on Search of Landscape Project 3.1</td>
<td>No</td>
<td>0 pages included</td>
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<tr>
<td>5. Rare Wildlife Species or Wildlife Habitat In the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.1 Stream Habitat File</td>
<td>Yes</td>
<td>2 page(s) included</td>
</tr>
<tr>
<td>6. Other Animal Species In the Immediate Vicinity of the Project Site Based on Additional Species Tracked by Endangered and Nongame Species Program</td>
<td>No</td>
<td>0 pages included</td>
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</tbody>
</table>
## Immediate Vicinity of the Project Site

Based on Search of Natural Heritage Database

**Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database**

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Federal Protection Status</th>
<th>State Protection Status</th>
<th>Regional Status</th>
<th>Grank</th>
<th>Srank</th>
<th>Identified</th>
<th>Last Observed</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agastache nepetoides</td>
<td>Yellow Giant-hyssop</td>
<td>HL</td>
<td>G5</td>
<td>S2</td>
<td>Y</td>
<td>Yes</td>
<td>1932-10-14</td>
<td>Along the Delaware River, Somerset.</td>
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Total number of records: 1
### Rare Wildlife Species or Wildlife Habitat Within the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.1 Species Based Patches

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<th>Scientific Name</th>
<th>Feature Type</th>
<th>Rank</th>
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Total number of records: 11
State of New Jersey  
Mail Code 501-04  
Department of Environmental Protection  
Natural Heritage Data Request Form  
The New Jersey Natural Heritage Program  
DEP-Office of Natural Lands Management  
P.O. Box 420, Trenton, New Jersey 08625-0420  
(609) 984-1339  
Fax No.: (609) 984-1427

PLEASE PRINT AND SUBMIT COMPLETED FORM WITH ATTACHMENTS TO THE ADDRESS ABOVE  
(Fields shown in bold font must be completed in order for data request to be processed.)

1. Name: James McGinley  
Agency/Company: STV

Address: 205 West Welsh Drive  
City: Douglassville

State: PA  
Zip: 19518  
Daytime Phone: 610-385-8443  
Ext.: 

Cell Phone: 610-65-7654  
Email: jim.mcginley@stvinc.com

2. Project Name: Jacob's Creek Pipeline Replacement Project

Municipality(ies): Hopewell and Ewing Townships  
County(ies): Mercer

Block(s):  
Lot(s): 

N.A.D. 1983 State Plane Coordinates (feet) 6 digits only: E (x): 40.278104  
N (y): -74.854279

3. Project Description: Sunoco Logistics proposes replacement of section of a 14-inch carbon steel liquid products 

pipeline located in Jacob's Creek, Hopewell Township. The pipeline is conveyed under 

River Road by means of a culvert, then proceeds underneath the D&R Canal and Delaware River.

4. USGS Quad: X

A copy of a USGS quad map(s) that clearly indicates the site boundary is included with this form. Specify name of USGS quad(s): Lambertville and Pennington NJ-PA

(USGS quad maps are required, unless prior arrangements have been made to submit site boundaries in an alternate format. Responses will be delayed if site locations are not delineated in a suitable format.)

5. Flood Hazard Control Act Use: Is this request submitted as part of a Flood Hazard Area Control Act rule (N.J.A.C. 7:13) application? Yes X No ___

6. Acknowledgement & Signature: Any material supplied by the Office of Natural Lands Management will not be published without crediting the Natural Heritage Database as the source of the material. It is understood that there will be a charge of $70.00 per hour for the services requested. An invoice will be sent with the request response and payment should be made by check or money order payable to “Office of Natural Lands Management.”

Signed ___________________________ Date 4/20/20

Time Frame for Response:  
Data requests are processed in the order in which they are received; please allow 30 days for response. If you would like to send in your data request via email, you may do so by sending it to Natlands@dep.nj.gov. Due to the number of attachments, we cannot fax results. Unless you specifically request that your response be mailed or the response is unusually large, your response will be emailed to the address you provide.

FOR OFFICE USE ONLY

DATE RECEIVED ______________________

Item Code: REG _____ ST _____ RTC _____ NC _____ RE GEO _____ STEO _____ RTCEO _____ NCEO _____

Hrs: ______________

Project Code: _________________________ Inv. #: ___________ ______
ATTACHMENT 7
Flood Hazard Engineering Report
MEMORANDUM

DATE: April 20, 2020
TO: Project File
FROM: Christopher D. Antoni PE, P.Eng
SUBJECT: Jacobs Creek Pipeline Replacement - Permitting

On behalf of our client, Sunoco Pipeline L.P. (Sunoco), STV Energy Services, Inc. (STV) is responsible for permitting the replacement of the 14-inch petroleum pipeline (a.k.a. the Twin Oaks to Newark Pipeline) located within Jacobs Creek and the Delaware River, Ewing and Hopewell Township, Mercer County, NJ. Due to the erosion of Jacobs Creek, the existing pipeline has become exposed thereby necessitating the pipeline be replaced via Horizontal Directional Drill.

Since the pipeline is being replaced via a directional drill, there will not be any change in elevations or contours of the existing right-of-way furthermore the existing exposed pipeline within Jacobs creek will be removed allowing for more unencumbered flow of Jacobs Creek. Therefore, there will not be any change in the hydrologic, hydraulic, flood flows/elevations, stormwater runoff, etc. There will not be any permanent best management practices remaining in place from an erosion or stormwater standpoint. The area will be re-vegetated and returned to its pre-construction conditions.

Based on the above, the existing hydraulic capacity of the stream channel will not be changed and it will be restored back to its existing conditions.

If there are any further questions, please feel free to contact me at:

Christopher D. Antoni PE, P. Eng
Senior Vice President
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: (610) 385-8233
Cell: (610) 698-9722
Email: Christopher.Antoni@stvinc.com
ATTACHMENT 8

Project Figures
**Resource Information:**

- New Jersey Geographic Information Network (NJGIN) - Open Data Site
- United States Census Bureau (TIGER/Line Data)
- Esri ArcGIS Online Web Map Service

**Created By:** STV Energy Services, Inc.

**Document Path:** I:\Projects\3816332\3816332_0001\90_CAD Models and Sheets\04_C_Civil\GIS\JacobsCreek_Parcels.mxd

**Drawn By:**

**Approved By:**

**Date:**

**Project Number:** 38-16332JJC III

**Revision Number:**

**Comments:**

**Project Location:**

- Mercer County, NJ
- Bucks County, PA

**Proposed Horizontal Directional Drill (HDD)**

- Existing 14-inch SXL Pipeline

**Property Parcel (affected properties labeled)**

- State Border

- Municipality Border

**Parcels Map**

**Location:**

- Proposed HDD Entry Point
- Proposed Tie-in to Existing 14-inch SXL Pipeline
- Project HDD
- Proposed HDD Exit Point
- Proposed Tie-in to Existing 14-inch SXL Pipeline

**Parcels Information:**

- 47-024-001 Thomas D Oliver
- 47-024-001-001 Thomas D Oliver
- 47-024-002-001 Richard D & Jamie K Kelly
- 47-024-006 Nelson E Rodriguez
- 47-024-007 Richard D & Jamie K Kelly
- 47-024-023 Upper Makefield Twp
- 47-025-068 Nelson E Rodriguez
- 1102_427_1 State of NJ - Department of Environmental Protection
- 1102_437_3.01 Kathleen M Massimo
- 1102_437_3.02 Jesse Leigh Miller
- 1102_438_2 State of New Jersey
- 1106_137_1 State of NJ - Conservation and Economic Development
- 1106_137_1.01 State of NJ - Conservation and Economic Development
- 1106_137_7 State of NJ - Department of Environmental Protection
- 1106_99.01_10 Roehling Trust C/O Conroy
- 1106_99.01_6 Kathleen M Massimo
- 1106_99.01_9 Oliver & Susanne Giller

**SCALE:** 1" = 300 Feet

**LOCATOR MAP**

- Sunoco Logistics Partners L.P.
PROPOSED TIE-IN TO EXISTING 14-INCH SXL PIPELINE

PROJECT HDD

PROPOSED HDD ENTRY POINT

PROPOSED TIE-IN TO EXISTING 14-INCH SXL PIPELINE

PROPOSED HDD EXIT POINT

DELAWARE RIVER

UPPER MAKEFIELD TOWNSHIP

HOPEWELL TOWNSHIP

NEW JERSEY

PENNSYLVANIA

WATER

WATER

LOCATOR MAP

14-INCH TWIN OAKS TO NEWARK JACOBS CREEK HORIZONTAL DIRECTIONAL DRILL PIPELINE RELOCATION HOPEWELL AND EWING TOWNSHIPS (MERCER COUNTY, NJ) UPPER MAKEFIELD TOWNSHIP (BUCKS COUNTY, PA)

SUNOCO LOGISTICS PARTNERS L.P.

NRCS SOIL SURVEY MAP

12/19/2018

CREATED BY: STV Energy Services, Inc.

DRAWN BY:

APPROVED BY:

DATE: PROJECT NUMBER:

COMMENTS:
ATTACHMENT 9
Wetland Delineation Report
MEMORANDUM

DATE: October 26, 2019
TO: Project File
FROM: James McGinley
SUBJECT: Jacobs Creek Pipeline Replacement - Permitting

Sunoco Logistics Partners, L.P. (Sunoco) owns and operates a 14-inch steel high-pressure petroleum products pipeline that transports product from Sunoco’s Twin Oaks Terminal to their Newark Facility. Near the confluence of Jacobs Creek and the Delaware River in Ewing and Hopewell Townships, Mercer County, New Jersey, the existing pipeline is located within the creek bed of Jacobs Creek. The pipeline travels up stream within the rock streambed, through a large culvert which supports the Delaware and Raritan Canal and State Route 29. The pipeline is exposed through the 165-foot-long culvert and for a distance of approximately 50 feet downstream of the culvert. Within this segment, the pipeline is installed within approximately 200 feet of 18-inch casing to protect the line. However, over the years the casing has begun to degrade and is no longer providing adequate protection. Therefore, this section of pipeline must be replaced.

To support permitting efforts, STV conducted a wetlands investigation of the project area and at a minimum 50 foot beyond the proposed limit of disturbance to determine the presence or absence of wetlands on October 25, 2019. James McGinley and Peter Gaskins conducted the investigation. Mr. McGinley and Mr. Gaskins both have over 15 years of wetlands delineation experience.

Areas within the proposed limit of disturbance and at a minimum 50 feet beyond were investigated for wetlands. Dominant hydric vegetation, hydric soils and hydrology were not present within these areas. There is one stream present on the project site, Jacobs Creek.

In conclusion, the area investigated did not meet the vegetation, hydrology or soil requirements to be classified as a wetland as defined by the 1989 Corps of Engineers Wetlands Delineation Manual and Supplement, therefore it was determined that the project area that was investigated does not contain wetlands. There was one stream, Jacobs Creek, located within the project area.

If there are any further questions, please feel free to contact me at:

James McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: (610) 385-8443
Email: jim.mcginley@stvinc.com
ATTACHMENT 10
SHPO Coordination
January 23, 2019

Mr. Daniel Saunders
Administrator and Deputy State Historic Preservation Officer
New Jersey Department of Environmental Protection
Mail-code 501-04B
P.O. Box 420
Trenton, NJ 08625-0420

Reference: Energy Transfer Partners
ETP Jacobs Creek Pipeline Washout Repair
Ewing and Hopewell Townships, Mercer County, NJ
Upper Makefield, Bucks County, PA

Subject: Section 106 of the National Historic Preservation Act Consultation

To Mr. Saunders:

STV Energy Services, Inc. (STV) was retained by Energy Transfer Partners (ETP) to obtain environmental permits associated with the replacement of a pipeline within Jacobs Creek, Ewing and Hopewell Townships, Mercer County, New Jersey across the Delaware River via horizontal direction drill to Upper Makefield Township, Bucks County, Pennsylvania.

ETP owns and operates a 14-inch welded steel high-pressure petroleum products pipeline that transports product from SXL’s Twin Oaks Terminal to their Newark Facility. The project area is located near the confluence of the Delaware River and Jacobs Creek. At this location, the pipeline is within the stream bed of Jacobs Creek, running parallel to the creek. The Delaware and Raritan Canal parallels the Delaware River and New Jersey State Route 29 at this location, with Jacobs Creek bisecting them within a 24-foot wide rock and concrete arch culvert. The pipeline is exposed a total length of 301 feet within Jacobs Creek, 169-foot within the culvert, 3-feet upstream and 129-feet downstream of the culvert. The creek bed is located approximately 30-35 feet below the highway and canal surface. The pipeline travels across the Delaware to Upper Makefield Township, Bucks County, PA.

Excavation within the New Jersey side of the Delaware River will be limited to an approximately 300 foot, previously disturbed, section between the proposed drill entry point and the proposed tie in location depicted in the included site plan. No above ground structures are proposed as part of this relocation and all impacts will be temporary.

STV performed historical and archeological research on New Jersey’s CRGIS Online Viewer and with the New Jersey State Museum. This research found the following above and below ground resources in the area of the proposed work.
Delaware and Raritan Canal Historic District Contributing Resources:

- Drains
- Millers House
- Early 19th Century House
- Water Intake
- Mercer and Somerset Branch Railroad Crossing and Somerset Station Site
- Late 19th Century House
- Somerset Roller Mills/Jacobs Creek Grist Mill
- Site 28-ME-18 (Approximately 3000 feet north of the APE)
- Site-28-ME-258 (Approximately 5000 feet forth of the APE)

Background research, environmental data, and a visual inspection of the Area of Potential Effect (APE) indicated that the entirety of the APE has been previously disturbed. This disturbance includes the installation of the existing ETP pipeline and corresponding ROW maintenance reducing the potential for impacts to below ground resources. Furthermore, installation methodology (Horizontal Directional Drill) minimizes the need for earth disturbance. Also, the resulting piping will be located entirely underground at the completion of the project therefore resulting in no effect to the viewshed of the surrounding above ground resources.

The purpose of this letter is to request your concurrence that this project will not impact cultural or historic resources.

If you have any questions, please contact me at (610) 385-8443 or at jim.mcginley@stvinc.com. Thank you for your attention to this project.

Sincerely,

James McGinley
Environmental Scientist
February 27, 2019

James McGinley
Environmental Scientist
STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, Pennsylvania 19518-8713

Re: Mercer County, Hopewell and Ewing Townships
Jacobs Creek Pipeline Washout Repair
Energy Transfer Partners

Dear Mr. McGinley:

Thank you for providing the Historic Preservation Office (HPO) the opportunity to review and comment on the potential for the above-referenced project to affect historic and archaeological resources. According to the documentation submitted, Energy Transfer Partners (ETP) owns and operates a 14-inch welded steel high-pressure petroleum products pipeline within the stream bed of Jacobs Creek, running parallel to the creek. The pipeline is exposed a total length of 301 feet within Jacobs Creek: 169-foot within the culvert, 3-feet upstream of the culvert, and 129-feet downstream of the culvert. ETP is proposing to install a new pipeline across the Delaware River by means of horizontal directional drill (HDD) and will tie-in to the existing pipeline on Block 99.01, Lot 6 in Hopewell Township.

Based on the documentation submitted, background research, environmental data, and a visual inspection of the Area of Potential Effect (APE) indicated that the entirety of the APE has been previously disturbed. Furthermore, the resulting pipe will be located entirely underground at the completion of the project therefore resulting in no effect to the viewshed of the surrounding above-ground resources. STV therefore concludes that the proposed project will have no effect on historic properties. *The HPO does not have enough information to concur with this assessment at this time.*

According to the documentation submitted, this information is being submitted pursuant to Section 106 of the National Historic Preservation Act. However, it is unclear from the documentation submitted what the Federal involvement is that would necessitate review under Section 106. The HPO requests

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*This information is provided as informal notes to you and does not constitute identification level cultural resources survey under Section 106 of the National Historic Preservation Act or other law or regulation. These notes do not constitute project review under any state or federal law. The absence of previously identified cultural resources does not imply that there are no potential historic properties within the subject location. As noted above, further identification of cultural resources may be required under one or more historic preservation review processes depending on project funding, licensing or permitting.*

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clarification of this matter. Please note, it is the Federal agency’s responsibility to consult with the HPO under Section 106 of the National Historic Preservation Act.

Based on the documentation submitted, it is unclear what the purpose and need is for the proposed undertaking. STV has indicated that the existing pipeline is currently exposed within Jacobs Creek. How will the installation of a new pipeline address this issue? Will the new pipeline replace the use of the existing pipeline? Will the existing pipeline be abandoned in place? If so, how will this be accomplished? Or will the existing pipeline crossing be removed? If so, how will this be accomplished? Further information is needed to fully assess the proposed impacts associated with this undertaking.

Based on the information provided, the undertaking is located within the boundaries of the Delaware and Raritan Canal Historic District, as well as the Somerset Roller Mills (Jacobs Creek Grist Mill), each of which are listed in both the New Jersey and National Registers of Historic Places. Based on the project’s topographic setting, a well-drained landform adjacent to a tributary of Jacobs Creek, the subject property is consistent with current archaeological models for locations containing Native American archaeological deposits. In light of this information, the APE exhibits a high sensitivity for both Native American and historic-period archaeological resources.

According to the documentation submitted, the proposed HDD exit point is located approximately 560 feet upstream from New Jersey Route 29 on Block 99.01, Lot 6 in Hopewell Township. The pipe will then continue another approximately 300 feet to the proposed tie-in location with the existing 14-inch SXL pipeline. However, no details are provided regarding the proposed installation beyond the HDD exit point. The HPO requests additional information regarding how the proposed new pipe will be installed in this location.

Exhibit 1 details proposed temporary workspaces on Block 99.01, Lots 6, 9, and 10, Block 137, Lots 1, 1.01, and 7 in Hopewell Township, and Block 427, Lot 1 in Ewing Township. However, the documentation submitted does not detail the proposed need for these temporary workspaces or how they will be utilized. STV states that the APE has been previously disturbed, however, this is not supported by the information provided. Further information is necessary regarding the nature and extent of these proposed temporary workspaces and any prior disturbances within the APE.

New Jersey Register of Historic Places Act

According to the documentation submitted, temporary workspace is located on Block 137, Lots 1, 1.01, and 7 in Hopewell Township, and Block 427, Lot 1 in Ewing Township. These subject parcels are owned by the New Jersey Department of Environmental Protection as part of Delaware and Raritan Canal State Park and are located within the Delaware and Raritan Canal Historic District, which was listed on the New Jersey Register of Historic Places on November 30, 1972. The New Jersey Register of Historic Places Act, Chapter 268, Laws of 1970, requires prior written authorization from the Commissioner of the Department of Environmental Protection for any state, county, or municipal, (or any agent thereof), undertaking which may affect properties listed on the New Jersey Register. Therefore, since portions of the proposed undertaking will take place on land owned and managed by the New Jersey State Park Service (SPS), permission from the SPS to utilize the land will be required.

This information is provided as informal notes to you and does not constitute identification level cultural resources survey under Section 106 of the National Historic Preservation Act or other law or regulation. These notes do not constitute project review under any state or federal law. The absence of previously identified cultural resources does not imply that there are no potential historic properties within the subject location. As noted above, further identification of cultural resources may be required under one or more historic preservation review processes depending on project funding, licensing or permitting.
As a result, it will be necessary for the SPS to submit an Application for Project Authorization to the HPO for this undertaking.

If the project is found to be in compliance with the Secretary of the Interiors Standards and Guidelines for Archeology and Historic Preservation, then it will be administratively approved at the HPO. If the project is found not to meet the Standards, then it will constitute an encroachment under the Act.

Once a project has been determined to be an encroachment, it will be placed on the agenda of the next regularly scheduled Historic Sites Council meeting, where the project will be presented. These meetings are open to the public, and interested individuals are given an opportunity to speak regarding the projects of concern to them. On the basis of the staff and applicant presentations, the Historic Site Council makes a recommendation to the Commissioner of the Department of Environmental Protection. Finally, the Commissioner makes a final decision to: 1) authorize the project; 2) authorize the project with conditions, or 3) deny the project. The Commissioner must act within 120 days of receipt of a technically complete application.

The Application for Project Authorization, instructions, and information regarding the New Jersey Register of Historic Places Act is available on our website for your information and use at: http://www.nj.gov/dep/hpo/2protection/njreview.htm

Additional Comments

Thank you for providing this opportunity to review and comment on this proposed project. The HPO looks forward to further consultation regarding the development and implementation of the proposed undertaking. If additional consultation with the HPO is needed for this undertaking, please reference the HPO project number 19-0615 in any future calls, emails, submissions or written correspondence to help expedite your review and response. If you have any questions, please feel free to contact Jesse West-Rosenthal (609-984-6019) of my staff with questions regarding archaeology.

Sincerely,

Katherine J. Marcopul
Deputy State Historic Preservation Officer

Cc: Patricia Kallesser, NJDEP-State Park Service (via e-mail)
    John Hutchison, DRCC (via e-mail)
    Marc Brooks, NJWSA (via e-mail)

KJM/MBB/JWR

This information is provided as informal notes to you and does not constitute identification level cultural resources survey under Section 106 of the National Historic Preservation Act or other law or regulation. These notes do not constitute project review under any state or federal law. The absence of previously identified cultural resources does not imply that there are no potential historic properties within the subject location. As noted above, further identification of cultural resources may be required under one or more historic preservation review processes depending on project funding, licensing or permitting.
MEETING MINUTES

DATE: April 9, 2019
FILE CODE: 203.00
ATTENTION: Don Samala, Project Engineer
ADDRESS: Sunoco Logistics Partners, L.P.
525 Fritztown Road
Sinking Spring, PA 19608
REFERENCE: Jacobs Creek Washout Project
Mercer County, NJ
SUBJECT: NJDEP Preapplication Meeting
April 9, 2019
STV PROJECT NO.: 38-16332

PARTICIPANTS: STV
Ed Weirsky
Mark Struss
Jim McGinley
NJDEP
David Pepe
Kelly Davis
Erin Signor
Tina Wolff
Dwayne Koby
Akin Ode
Jesse West-Rosenthal
Robin Madden

Sunoco
Don Samala
Monica Styles
Ed Hazzouri
Justin Stitt

ITEMS OF DISCUSSION

The following items were discussed in regard to the above-referenced project:

1. STV introduced the project history, the condition of the exposed pipeline within Jacobs Creek, the emergency work completed to date and the proposed Horizontal Direction Drill designed to replace the existing line and provide adequate cover for this line in the future.
2. NJDEP asked about the product type within the line currently. STV stated the line currently carries refined petroleum products.

3. NJDEP Natural and Historic Resources (Robbin Madden - RM) discussed the following items:
   a. RM asked whether the current line is in place through the park land with an easement or a license. STV stated Sunoco has a license in this area.
   b. RM stated that land management has their own review process
   c. RM requested GIS shape files of the proposed line
   d. RM stated Sunoco will need a right of entry permit to perform the proposed work
   e. RM stated that if Sunoco does not have an easement a lease will be required moving forward.
   f. RM stated there is a 30-day review process for required permits.
   g. RM stated DNR Canal Commission has their own review process.
   h. RM stated to start the required permitting process Sunoco/STV will need to access the division website.

4. NJDEP Fish and Wildlife (Kelly Davis KD) discussed the following items:
   a. KD stated the area is bald eagle foraging area but there are no nearby nests. No impacts to the bald eagle are anticipated from the proposed project.
   b. KD stated that there would be instream work moratorium to protect anadromous fish from 3/1 to 6/30
   c. KD stated that there would be a tree clearing moratorium from 4/1 to 8/31 to protect nesting birds
   d. STV discussed the Yellow Giant Hyssop record from the 2015 Natural Heritage database previously researched for this project.
      i. KD stated that Fish and Wildlife does not handle plant concerns and STV will need to coordinate with Natural Heritage for this species.

5. NJ Historic Preservation Office (Jess West-Rosenthal – JWR) discussed the following items:
   a. JWR stated 106 coordination will be required for federal authorization
   b. JWR stated land use permit will require HPO coordination as well
   c. JWR stated that HPO will require detailed information related to the disturbed area including excavation areas and depths, access routes and work space.
   d. JWR instructed Sunoco/STV to reach out to the State Park Service Superintendent to begin the application process as this process will require SPS to coordinate with the HPO.

6. NJDEP Division of Land Use Regulation (Erin Signor – ES and Tina Wolff TW) discussed the following items:
   a. ES/TW stated that since the proposed project is over one acre of disturbance a Permit by Rule is not applicable.
   b. ES/TW stated that an Individual Flood Hazard Permit will be required.
   c. ES/TW stated Sunoco/STV must meet the requirements of 17:13 12-8.
   d. ES/TW stated that work in the riparian zone must address the reconstruction upgrade.
   e. ES/TW stated a GP2 for wetlands impacts would be required for this project
f. ES/TW requested the depth of the original line be included in the permit application

h. ES/TW stated newspaper notice would not be required.

i. ES/TW stated tidelands license would not be required.

j. ES/TW stated tree removal within riparian zone should be kept under ¼ acre

7. NJDEP Dwayne Koby (DK) and Akin Ode (AO) discussed the following erosion and sedimentation items:
   a. DK/AO asked where dewatered trench water would be discharged. STV stated that any trench water would be discharged to grade through a filter bag
   b. WK/AO state a temporary discharge permit would be required if rates exceed 70 gallons per minute.
   c. DK/AO stated a SG3 stormwater construction permit would be required
   d. Dk/AO stated a Bureau of Surface water hydrostatic General permit would be required for the testing of the pipe if discharge in NJ.

8. The following additional items were discussed:
   a. DLUR stated if an EA is required by the Army Corps this document should be submitted with the DLUR permits
   b. STV stated no tree removal was planned on state lands.

STV is proceeding on the above basis. Should there be any exceptions or questions, please contact me at (609) 530-0020.

Sincerely,

Edward Weirsky
Sr. Project Manager
Mr. McGinley,

All of the requested modifications by Sunoco have been accepted and the attached document has been approved to form by our representative in the Division of Law (DOL). Additional changes to the name of the Grantee was made in the first paragraph of the document (“by Sunoco Logistics Partners Operations GP LLC, its general partner,” was added into the paragraph). A fee was also added under Subparagraph 5B since Sunoco will be accessing State Park property for the Project on areas outside of the existing easement.

As identified before, our office cannot begin the signature process until a finalized set of plans are submitted to our office so we can update the plan dates in the Agreement. Any additional edits or changes made to the document or plans will have to go back to DOL for review.

Please let me know if you have any questions.

Thank you,

Amy Timmerman
Department of Environmental Protection
Natural & Historic Resources
Office of Leases & Concessions
Office: 609-777-0237
Fax: 609-984-0836
Email: Amy.Timmerman@dep.nj.gov

Good morning Amy,

I have attached the comments/modifications requested by Sunoco’s right of way agent for the referenced right of entry permit. Please let me know if these modifications are acceptable or if you have any questions related to the changes.

Thank you,
From: Timmerman, Amy <Amy.Timmerman@dep.nj.gov>
Sent: Monday, November 4, 2019 1:23 PM
To: Gunson, Joe <Joe.Gunson@dep.nj.gov>; McGinley, James X. <Jim.McGinley@stvinc.com>
Cc: Chidley, George <George.Chidley@dep.nj.gov>
Subject: RE: Sunoco - Jacob's Creek Project

**This e-mail is from outside STV**

Good afternoon Jim,

Attached for review by Sunoco Logistics Partners, L.P. is the Right of Entry Agreement for the Sunoco Pipeline Replacement Project that has been reviewed and approved by our representative in the Division of Law (DOL). Any edits/changes/revisions proposed will need to go back to DOL. Additionally, our office will need a finalized set of Plans before we can proceed with any execution process.

Please contact our Office if you have any questions.

Sincerely,
Amy Timmerman
Department of Environmental Protection
Natural & Historic Resources
Office of Leases & Concessions

From: Gunson, Joe <Joe.Gunson@dep.nj.gov>
Sent: Friday, September 20, 2019 8:58 AM
To: McGinley, James X. <Jim.McGinley@stvinc.com>
Cc: Chidley, George <George.Chidley@dep.nj.gov>; Timmerman, Amy <Amy.Timmerman@dep.nj.gov>; Julie Shelley (jshelley@njwsa.org) <jshelley@njwsa.org>
Subject: RE: Sunoco - Jacob's Creek Project

Jim

Our Office provided the New Jersey Water Supply Authority the updated site plan and design documents that you submitted. Their representative, Ms. Julie Shelly (copied on this email and contact information provided below), asked that you reach out to her to discuss NJWSA requirements for their engineering review and the lease processes for the new pipeline.

Julie Shelly, Property & Permit Administrator
New Jersey Water Supply Authority
1851 State Route 31
P.O. Box 5196
Clinton, NJ 08809
From: Gunson, Joe  
Sent: Wednesday, September 18, 2019 1:07 PM  
To: McGinley, James X.  
Subject: RE: Sunoco - Jacob's Creek Project

Jim

Finally got an answer and wanted to follow up with you on this. The Right of Entry that will be executed with the NJDEP will grant you use and access on the NJDEP property. Your approval for access into the stream would be part of your Land Use Application.

Joe

From: McGinley, James X.  
Sent: Tuesday, September 10, 2019 2:04 PM  
To: Gunson, Joe  
Subject: [EXTERNAL] RE: Sunoco - Jacob's Creek Project

Thank you much. One other question. I know we will need a right of entry permit to go into the stream for the removal but will that be necessary for the install of the new line as it will be a drill and all on the ground work will take place off of state property?

Thank you,

Jim McGinley  
Senior Environmental Scientist, Associate  
STV Energy Services Inc  
205 West Welsh Drive  
Douglassville, PA 19518  
Office: 610-385-8443  
Cell: 610-655-7654  
Fax: 610-385-8510

From: Gunson, Joe  
Sent: Tuesday, September 10, 2019 2:00 PM  
To: McGinley, James X.  
Cc: Chidley, George; Timmerman, Amy  
Subject: RE: Sunoco - Jacob's Creek Project

**This e-mail is from outside STV**

Jim
Only thing we have been able to come up with is a map of the D&R Canal in that area. Other options available are to:
1. Check with New Jersey Department of Transportation on their maps for the Route 29 Right of Way.
2. Check with the Delaware River Joint Toll Bridge Commission. As part of the Scudders Falls Bridge Project they may have identified a corner.
3. Research the original deeds for the property that go back to 1865 +/-

Sincerely, Joe

From: McGinley, James X. <Jim.McGinley@stvinc.com>
Sent: Tuesday, September 10, 2019 8:07 AM
To: Gunson, Joe <Joe.Gunson@dep.nj.gov>
Cc: Chidley, George <George.Chidley@dep.nj.gov>; Timmerman, Amy <Amy.Timmerman@dep.nj.gov>
Subject: [EXTERNAL] RE: Sunoco - Jacob's Creek Project

Good morning Joe,

We are finalizing plans to send over with the question responses. One question I do have is would it be your office or could you direct me to the correct person to find any property corner information on state lands. Our surveyors will be completing the boundary survey in the area shortly and any information you have to help tie in the survey would be extremely helpful.

Thank you,

Jim McGinley
Senior Environmental Scientist, Associate
STV Energy Services Inc
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

From: Gunson, Joe <Joe.Gunson@dep.nj.gov>
Sent: Wednesday, September 4, 2019 10:40 AM
To: McGinley, James X. <Jim.McGinley@stvinc.com>
Cc: Chidley, George <George.Chidley@dep.nj.gov>; Timmerman, Amy <Amy.Timmerman@dep.nj.gov>
Subject: RE: Sunoco - Jacob's Creek Project

**This e-mail is from outside STV**

Mr. McGinley

Attached is a copy of the Lease and drawings from our files for the existing pipeline. If the new pipeline is outside of the existing 25 foot width of state land effected Sunoco will need to execute a new agreement that conforms to current state policy with the NJDEP and the New Jersey Water Supply Authority.

Sincerely,
Joe Gunson
Good morning Mr. Gunson,

STV has completed answers to the majority of questions but one item I need further clarification on. Under miscellaneous items you references the new pipeline being outside the existing easement. It is our understanding that the existing line (to be removed) is not in a defined easement but rather is there by license which we would need to apply for a new license for this line. Is this correct understanding or do you have additional documents defining an easement for the existing line?

Thank you,

Jim McGinley
Senior Environmental Scientist, Associate
STV Energy Services Inc
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

Mr. McGinley

The Office of Leases & Concessions will be drafting the Right of Entry Agreement for Sunoco’s Project along Jacob’s Creek. We have reviewed the information on the project and have some questions (see attached) in regards to the use of State Property for the project and identified in the plans attached. Once we have a finalized the draft of the agreement our Office will submit it to our representative in the Attorney General’s Office for review prior to sending it to Sunoco for review.

Thanks in advance and contact our Office if you have any questions.

Sincerely,
Joseph Gunson, Superintendent
Department of Environmental Protection
Natural & Historic Resources
Office of Leases & Concessions
Office: 609-984-1409
Fax: 609-984-0836
Email: Joe.Gunson@dep.nj.gov

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RIGHT OF ENTRY AGREEMENT

This Right of Entry Agreement (hereinafter “Agreement”) is made this ___ day of __________________, 2020 (“Effective Date”), by and between the New Jersey Department of Environmental Protection, Division of Parks and Forestry (“Department”) and the New Jersey Water Supply Authority (“Authority”), (collectively hereinafter referred to as “Grantors”), and Sunoco Pipeline L.P., by Sunoco Logistics Partners Operations GP LLC, its general partner, (hereinafter referred to as “Grantee”). This Agreement authorizes Grantee, its affiliates, together with its environmental consultants, experts, engineers and contractors (collectively “Contractors”) to enter a portion of the properties on Block 427, Lot 1, and Block 438, Lot 2 on the Tax Map of the Township of Ewing, County of Mercer, State of New Jersey and Block 137, Lots 1, 1.01 and 7 on the Tax Map of the Township of Hopewell, County of Mercer, State of New Jersey (the “Property”), for the replacement, removal and abandonment of portions of the existing petroleum product pipeline located within the stream beds of the Delaware River and Jacobs Creek (“Sunoco Pipeline Replacement Project”).

WHEREAS, the Property is owned by Department and the Authority has a 99-year lease on the Property for all lands and improvements that comprise Delaware and Raritan Canal Transmission Complex necessary to operate and maintain the canal as a water supply facility; and

WHEREAS, the Property is administered by Department as part of the Delaware and Raritan Canal State Park (the “Park”); and

WHEREAS, the Department, the Authority, and the Delaware and Raritan Canal Commission (“Commission”) executed an “Agreement for the Development, Maintenance and Operation of the Delaware and Raritan Canal Transmission Complex as a Water Supply Facility and for Public Recreation, Conservation and Historic Purposes as Part of the Delaware and Raritan Canal State Park,” (“Canal Agreement)” dated June 17, 1986; and

WHEREAS, under the Canal Agreement, the Authority may operate and maintain the components of the canal transmission complex in a manner that preserves, protects and recognizes the historic, natural and recreational purposes of the Delaware and Raritan State Park; and

WHEREAS, pursuant to Paragraph IV(C) of the Canal Agreement, the Department shall administer all easements and other right-of-way agreements which affect the designated areas within the Transmission Complex managed by Department for recreation, conservation or historic purposes and/or adjoining State-owned property comprising part of the Delaware & Raritan Canal State Park; and

WHEREAS, the Authority and Grantee executed an “Agreement for the construction, maintenance and operation of a fourteen inch (14”) pipeline for the transportation of petroleum and refined petroleum products under the Delaware and Raritan Canal and across the canal property at Jacob’s Creek in Hopewell Township, Mercer County; and under the canal and along
the canal property in Princeton and West Windsor Townships, Mercer County, and in Plainsboro and South Brunswick Townships, Middlesex County, and in Franklin Township, Somerset County; and under and across canal property to the Raritan River in Franklin Township, Somerset County,” ("Pipeline Agreement") dated July 6, 1956; and

WHEREAS, it is necessary for Grantee to obtain temporary access to portions of the Property in order to perform any and all activities for the Sunoco Pipeline Replacement Project including, but not limited to, horizontal directional drilling for the installation of a fourteen-inch (14’”) pipeline and the removal of approximately three hundred sixteen feet (316’) of the exposed/abandoned existing petroleum product pipeline, previously constructed under the Pipeline Agreement; and

WHEREAS, Grantee has requested temporary access and use of a portion of the Property identified on the Map of the Access Area, attached as Exhibit A, as the “Canal Tow Path Route” and the “Temporary Workspace Area” (collectively, the “Access Area”) for the Sunoco Pipeline Replacement Project; and

WHEREAS, Grantors have determined that Grantee requires the use of the Access Area for the duration of the Sunoco Pipeline Replacement Project; and

WHEREAS, if the work cannot be located in the Temporary Workspace Area depicted in Exhibit A, Grantee must obtain written approval from Grantors on the new location before undertaking any work.

NOW THEREFORE, for the purposes set forth above and in consideration of the recitals, mutual promises contained herein, Grantors and Grantee agree as follows:

1. Grantors hereby grant Grantee and its Contractors a non-exclusive, non-transferable right to enter on, occupy and use of the Access Area only for the purposes set forth in the Agreement as described as follows:

   (a) Access along the Canal Tow Path Route and use of the Temporary Workspace Area identified on Exhibit A; and

   (b) All work associated with the Sunoco Pipeline Replacement Project shall comply with the requirements described in plans entitled “14-INCH TWIN OAKS TO NEWARK JACOBS CREEK PIPELINE RELOCATION (PROJECT NO. 38-16332) dated [Enter Date]”, and attached hereto as Exhibit B; and

   (c) In-stream work within Jacobs Creek and the Delaware River confluence area shall not occur prior to October 15th or after April 15th without the prior written approval from the New Jersey Department of Environmental Protection, Division of Fish and Wildlife; and
(d) Grantee and its Contractors shall not stage or store any equipment, vehicles, supplies, tools or materials on the Property, other than the Temporary Workspace Area, and can only do so with the prior written approval of Grantors.

(e) Access to the Temporary Workspace Area shall only be along the Canal Tow Path Route identified in Exhibit A.

2. As a condition precedent and concurrent to allowing Grantee and its Contractors to perform the Sunoco Pipeline Replacement Project, Grantee agrees that:

(a) Grantee will notify Grantors at least seven (7) days in advance of commencing any work or access for the Sunoco Pipeline Replacement Project within the Access Area. Notification shall be provided to:

   (i) George A. Chidley, Manager, Office of Leases & Concessions via email at George.Chidley@dep.nj.gov or phone at (609)633-7860; and

   (ii) Marc Brooks, Chief Engineer, New Jersey Water Supply Authority via email at mbrooks@njwsa.org or phone at (908)638-6121 extension 255; and

   (iii) Patricia Kallesser, Superintendent, Delaware and Raritan Canal State Park via email at Patricia.Kallesser@dep.nj.gov or phone at (609) 924-5705

(b) Prior to commencing any work associated with the Sunoco Pipeline Replacement Project, Grantee shall provide Grantors copies of all permits and approvals issued by the Historic Preservation Office.

(c) Prior to commencing any work associated with the Sunoco Pipeline Replacement Project, Grantee shall provide Grantors copies of all permits and approvals issued by the New Jersey Water Supply Authority.

(d) Prior to commencing any work associated with the Sunoco Pipeline Replacement Project, Grantee shall provide Grantors copies of all permits and approvals issued by the Delaware and Raritan Canal Commission.

(e) Prior to commencing any work associated with the Sunoco Pipeline Replacement Project, Grantee shall provide Grantors copies of all permits and approvals issued by any other applicable Local, County, State or Federal agency.

(f) Grantee will provide Grantors with copies of any approvals or permits that identify and place timing restrictions on any work associated with the Sunoco Pipeline Replacement Project.
(g) Grantee and its Contractors shall ensure that all gates to the Canal Tow Path Route are closed and locked when leaving the Access Area, where applicable.

(h) Grantee and its Contractors will have access to the Access Area only during regular posted Park hours unless otherwise approved in writing by the Park Superintendent.

(i) The Access Area shall be maintained and repaired by Grantee and its Contractors if it is damaged or disturbed by Grantee or its Contractors during the Sunoco Pipeline Replacement Project to substantially the same condition as of the Effective Date of this Agreement subject to the final approval of Grantors, which approval shall not be unreasonably withheld.

(j) Grantee and its Contractors will clearly mark/stake the area where Grantee and its Contractors are performing any work on the Access Area.

(k) Before commencing the Sunoco Pipeline Replacement Project, Grantee and its Contractors shall conduct a geophysical survey to identify any underground structure in the area and on the Access Area.

(l) No work shall be performed between the banks of the Delaware and Raritan Canal or within the water.

3. Grantee and its Contractors shall conduct the work associated with the Sunoco Pipeline Replacement Project on the Access Area in a good and workmanlike manner and in accordance with all applicable prevailing industry standards.

4. Grantee and its Contractors, in exercising the rights granted hereunder, shall not unreasonably interfere with the Grantors’ and the public’s access to safely use, or occupy the Property and Access Area. During construction of the Sunoco Pipeline Replacement Project, access by the public along the Canal Tow Path Route must be maintained, to the greatest extent possible, subject to temporary closure for safety reasons arising during construction/drilling, and/or to address emergency situations. Grantee and its Contractors shall permit the public to access the Canal Tow Path Route except when active construction events raise public safety concerns. Grantee and its Contractors shall reasonably notify Grantors as soon as practical in the event of a Canal Tow Path Route closure for emergency situations. Grantee and its Contractors shall reasonably notify the public of any restriction of public access or public use of the Property and Access Area.

5. (a) This Agreement shall expire two (2) years from the Effective Date, unless sooner terminated. Grantee may elect to renew the term of this Agreement for an additional one (1) year period by giving Grantors written notice of Grantee’s election to renew no less than sixty (60) days prior to the expiration of this Agreement. In the event of a breach of the Agreement, Grantors shall give Grantee notice of the breach. Grantee shall then have thirty (30) days from the date of notice to begin to cure the breach, and an additional thirty (30) days to substantially
cure said breach. If Grantee does not commence in good faith to cure the breach within sixty (60) days, Grantors reserve the right to terminate this Agreement immediately, upon ten (10) days advance notice. In the event of an unsafe condition or emergency affecting the public health, safety or welfare, Grantors may restrict Grantee and its Contractors’ access to the Access Area immediately until such time that access can be safely reinstituted. Such restriction shall not constitute a breach of the Agreement on the part of Grantors.

(b) Grantee shall pay an annual access fee (the “Fee”) in the amount of Eight Hundred and Fifty-Three Dollars ($853.00). The Fee for the first (1st) year shall be due when Grantee returns this Agreement, signed by Grantee, to Department for signature. For every year thereafter, the Fee shall be payable on the Effective Date of this Agreement. The Fee will increase annually by Two and One-Half Percent (2.5%) on the anniversary of the Effective Date and all Fee(s) shall be paid by check made payable to "Treasurer-State of New Jersey" and sent to:

Department of Environmental Protection
Natural & Historic Resources
Administrator, Office of Leases & Concessions
Mail Code 501-04C
PO Box 420
Trenton, New Jersey 08625-042

6. The Sunoco Pipeline Replacement Project shall be performed in a workmanlike manner, and appurtenances shall be maintained in good condition and repair. Grantee and its Contractors shall, in all activities undertaken pursuant to this Agreement, comply with all federal, State, and local laws, statutes, orders, ordinances, rules, and regulations. Grantee and its Contractors shall obtain, maintain, and comply with any and all licenses, permits, and approvals which may be required by any federal, State, or local governmental entity having jurisdiction over the Sunoco Pipeline Replacement Project, including but not limited to the New Jersey Department of Environmental Protection, Natural and Historic Resources, Historic Preservation Office, and the Delaware and Raritan Canal Commission, as may be applicable.

7. The rights and obligations under this Agreement may not be transferred or assigned by any party without prior written notice to and approved by the other parties, which shall not be unreasonably withheld, conditioned or delayed.

8. Grantee and its Contractors shall take all reasonable precautions to minimize damage or disturbance to the Access Area and Property from the Sunoco Pipeline Replacement Project. Prior to completion of the Sunoco Pipeline Replacement Project or termination of this Agreement, Grantee and its Contractors shall restore the Access Area, including Grantors’ personal property damaged by the Sunoco Pipeline Replacement Project to substantially the same condition as practicable, as of the Effective Date of this Agreement subject to the final approval of the Grantors, which approval shall not be unreasonably withheld, conditioned or delayed.
9. Grantee and its Contractors shall release and hold Grantors harmless for loss of or damage to property and equipment of Grantee and its Contractors while such property or equipment is in or on the Access Area.

10. Grantee shall hold harmless Grantors from all Claims asserted against Grantors which result from Grantee or Grantee’s Contractors’ negligence or willful misconduct in performance under this Agreement. “Claim(s)” are defined as “claims, demands and causes of action asserted by any person (including Grantors, Grantee, and Grantee’s Contractors or any other third party) for personal injury or death or for loss of or damage to property arising from the Sunoco Pipeline Replacement Project.”

All Claims shall be provided to all parties within a reasonable time of receipt.

11. All notices to be provided to Grantors and Grantee pursuant to this Agreement shall be sent to:

**Grantors:**
Department of Environmental Protection  
Natural & Historic Resources  
Office of Leases & Concessions  
Attn. George A. Chidley, Manager  
Mail Code 501-04C  
PO Box 420  
Trenton, New Jersey 08625-0420  
George.Chidley@dep.nj.gov

New Jersey Water Supply Authority  
Marc Brooks, Chief Engineer  
1851 Highway 31  
PO Box 5196  
Clinton, New Jersey 08809-5196  
mbrooks@njwsa.org

And copy to: Delaware and Raritan Canal State Park  
c/o Patricia Kallesser, Superintendent  
145 Mapleton Road  
Princeton, New Jersey 08540  
Patricia.Kallesser@dep.nj.gov

**Grantee:**
Sunoco Pipeline L.P.  
525 Fritztown Road  
Sinking Spring, PA 19608
12. Grantee will be responsible for personal injuries and property damage caused by the negligent actions of Grantee and its employees which occur on the Access Area and Property identified in this Agreement.

13. (a) While accessing and performing the Sunoco Pipeline Replacement Project on the Property, Grantee shall, at its sole cost and expense, obtain and maintain at all times during the term of this Agreement, insurance for damages arising out of the access or the Sunoco Pipeline Replacement Project provided under this Agreement, of the types and in the amounts hereinafter provided:

   (i) **Workers' Compensation** – Workers’ Compensation Insurance covering full benefits afforded under New Jersey Statute and **Employers Liability** with a limit of $1,000,000. A waiver of subrogation in favor of Grantors is required if available from the insurer. United States Longshoremens’ and Harbor Workers Act coverage is to be included.

   (ii) **Automobile Bodily Injury & Property Damage** – Commercial Automobile Liability Insurance covering owned, leased, hired and non-owned vehicles with limit of at least $1,000,000 Combined Single Limit (CSL) per occurrence. If hauling contaminants, vehicles and their operators must adhere to Sections 29 and 30 of Motor Carrier Act, which shall include Form MCS-90. If applicable, grantee shall also be insured in the minimum limits required by the Motor Carrier Act of 1980.

   (iii) **Commercial General Liability** – Commercial General Liability Insurance on an ‘occurrence’ based form with limits of $1,000,000 Combined Single Limit (CSL) per occurrence for bodily injury and/or property damage; $2,000,000 General Aggregate per project; $2,000,000 Products/Completed Operations Aggregate; and $1,000,000 Personal/Advertising Injury Aggregate. Explosion, Collapse & Underground (XCU) perils are not to be excluded.

   (iv) **Umbrella Liability** – Commercial Umbrella Liability Insurance on an ‘occurrence’ based form with limits of $10,000,000 Combined Single Limit (CSL) per occurrence and in the aggregate, providing excess coverage over Commercial General Liability, Automobile Liability and Employers Liability. Explosion, Collapse & Underground (XCU) perils are not to be excluded.

   (v) **Watercraft Liability** – Watercraft liability insurance with a limit of no less than $5,000,000 Combined Single Limit (CSL) per occurrence and in the aggregate, if watercraft are to be used.

   (vi) **Commercial Pollution/Environmental Liability** – Commercial Pollution/Environmental Liability Insurance with a limit of no less than
$5,000,000 providing that the Insured becomes legally obligated to pay as a result of Claims for Third Party Bodily Injury or Property Damage, and for Clean-up Costs or Corrective Action from an environmental event.

(vii) **Contractors Equipment Insurance** - Contractor’s Equipment Insurance for mobile equipment and machinery owned/leased by Grantee and utilized during the course of any construction activity (including but not limited to installing, removing, maintaining, or repairing the pipelines). A waiver of subrogation in favor of the "Department of Environmental Protection, the New Jersey Water Supply Authority and the State of New Jersey and its agencies, employers and officers” shall be included.

(viii) Such other insurance and in such amounts as may from time to time be reasonably required by Grantors.

(b) Grantee shall require that its Contractors secure and maintain in force at all times during the Sunoco Pipeline Replacement Project or any service and/or conduct of any activity thereon as part of Grantee’s access to and use of the Access Area, insurance coverage of the types and in at least the minimum amount required under subparagraph (a).

(c) All insurance coverage required to be maintained by Grantee and its Contractors in accordance with this Agreement shall be issued by an insurance company authorized to conduct business in the State of New Jersey, and shall include the “State of New Jersey, Department of Environmental Protection and New Jersey Water Supply Authority LE20-014” as additional insureds on a certificate of insurance as their interest may appear.

(d) Grantee expressly understands and agrees that any insurance protection required by this Agreement shall in no way limit Grantee’s indemnification obligations assumed in this Agreement and shall not be construed to relieve Grantee from liability in excess of such coverage, nor shall it preclude Grantors from taking such other actions as are available to them under any provision of this Agreement and as otherwise provided for at law or in equity.

(e) In the event (i) Grantee’s Contractors fail or refuse to renew any of its insurance policies or to provide Grantors with timely certificates of insurance showing that Grantee’s Contractors are maintaining insurance coverage in full force and effect to the extent required by this Agreement, or (ii) any policy is canceled, terminated, or modified so that the insurance does not meet the requirements of this Agreement, Grantors shall consider Grantee to be in default and to have breached this Agreement.

14. Prior to entering the Property under this Agreement and prior to the initiation of the Sunoco Pipeline Replacement Project, Grantee’s Contractors shall provide to Grantors in form satisfactory to Grantors a certificate of insurance evidencing that the insurance coverage required under this Agreement is in effect for each entity. Grantee and its Contractors shall ensure that the certificates of insurance are endorsed to provide thirty (30) days’ notice, in
writing, to Grantors prior to any cancellations, expiration, or non-renewal during the term the insurance. All Certificates of Insurance shall become part of this Agreement as part of Exhibit C.

15. In lieu of the requirements in paragraph 13(a) above, Grantee may provide the Department and Authority with a written certification of self-insurance with coverage commensurate with the insurance requirements herein and naming the State of New Jersey, Department of Environmental Protection and the New Jersey Water Supply Authority under Right of Entry Agreement #LE20-014 as additional insureds, Grantee shall be allowed to self-insure the above stated amounts during the term of this Agreement. If Grantee chooses to provide proof of self-insurance, Grantee shall provide either (i) a certificate of insurance or (ii) a letter, from Grantee or Grantee’s agent advising that Grantee is self-insured at least up to the amount required in Paragraph 13(a) of this Agreement. The certificate of insurance or the letter shall become part of this Agreement as part of Exhibit C. The requirements of Paragraph 14 regarding proof of insurance shall apply to the certification of self-insurance except that Grantee shall not be bound to the notice provisions related to cancellation and/or termination of insurance policies thereunder. However, should Grantee procure insurance for any of the coverage required hereunder, all such notice provisions shall remain in full force and effect. Further, Grantee shall provide to Department thirty (30) days’ written notice before any cessation of self-insurance and shall keep Department in constant possession of documentation that Grantee is maintaining continuous insurance coverage as required herein, either through self-insurance or through an insurance policy.

16. It is expressly understood that this Agreement does not in any way whatsoever grant or convey any permanent easement, lease, fee, or other interest in the Property to Grantee or to its Contractors.

17. Grantee or its Contractors shall not permit to be placed against the Property, or any part thereof, any design professionals’, mechanics’, materialmen’s, contractors’, or subcontractors’ liens with regard to Sunoco Pipeline Replacement Project on the Access Area. Grantee shall cause Grantee’s Contractors to hold Grantors harmless for any loss or expense, including reasonable attorneys’ fees and costs, arising from any such liens which might be filed against the Access Area.

18. This Agreement is binding upon and inures to the benefit of Grantors and Grantee and their respective executors, administrators, personal representatives, successors, transferees, lessees, and assigns. Grantors agree that, while this Agreement is in effect, any new lease, sublease, or conveyance of the Access Area will specifically recognize the existence of this Agreement. Grantors will require future tenants and subtenants to comply with the terms of this Agreement. Grantors shall provide prior written notice to Grantee of any conveyance.

19. This Agreement constitutes the parties’ entire agreement on this subject. There are no written or oral representations or understandings that are not fully expressed in this Agreement. No change, waiver, or discharge is valid unless in writing and signed by the party against whom it is sought to be enforced.
20. This Agreement is not and shall not be construed as an admission of any issue of fact or law or as an admission or adjudication of any liability and shall not be admissible in any other suit or proceeding, except a suit or proceedings to enforce the terms herein.

21. Grantors and Grantee acknowledge that this Agreement has been negotiated at arms-length and therefore agree that any rule of construction of contracts resolving any ambiguities against the drafting party is waived and shall be inapplicable to this instrument.

22. Grantors represent and agree that the only parties having present ownership interest in or control of the Property are Grantors and that no other person or entity has any present legal or equitable title to or any leasehold interest, other than the Pipeline Agreement, in such Property. To the best of Grantors’ knowledge, there are no known claims against the Property or liens which would interfere with Sunoco Pipeline Replacement Project.

23. If any part of this Agreement is for any reason found to be unenforceable, all other portions nevertheless shall remain enforceable.

24. The waiver of any breach of any term or condition of this Agreement does not waive any other breach of that term or condition or of any other term or condition.

25. This Agreement must be construed and its performance shall be enforced under New Jersey law, without regard to choice of law principles.

26. Each person executing this Agreement represents that the party on whose behalf the person is executing this Agreement has duly authorized the execution of this Agreement and that such person is authorized to execute the Agreement on behalf of such party.

27. This Agreement, executed in triplicate originals, shall be effective as of the Effective Date, upon the date of Grantors’ signature below.

Exhibit List

A – Map of the Access Area

B – 14-INCH TWIN OAKS TO NEWARK JACOBS CREEK PIPELINE RELOCATION (PROJECT NO. 38-16332) dated Enter Date

C - Certificates of Insurance
IN WITNESS WHEREOF, the parties hereto are authorized and have executed this Agreement on the day and year first written below.

GRANTORS:

NEW JERSEY WATER SUPPLY AUTHORITY

Dated: ________________ By: ________________________________
Beth Gates, Executive Director

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Dated: ________________ By: ________________________________
Ray Bukowski, Assistant Commissioner
Natural & Historic Resources

GRANTEE:

SUNOCO PIPELINE L.P.

By: Sunoco Logistics Partners Operations GP LLC,
its general partner

Dated: ________________ By: ________________________________
Kevin Taliaferro, Sr. Director Right of Way

This agreement has been reviewed and approved as to legal form by:
Gurbir S. Grewal
ATTORNEY GENERAL
STATE OF NEW JERSEY

By: ________________________________
Jason Brandon Kane
Deputy Attorney General
1. Applicant’s Statement – Project Review Fee
1. Applicant Name: ___________ ____________________ Docket Number: __________________

2. Applicant Address: 100 Green Street, Marcus Hook, PA 19061

This completed form must be submitted with all applications. For purposes of calculating the appropriate project review fees, projects are classified as: (A) Water Allocation Projects, (B) Discharge Projects or (C) Other Projects (projects where there are no ongoing withdrawals or discharges i.e. impoundments, linear infrastructure such as pipelines, bridges, highways, etc.). Complete only one of the applicable sections (A, B or C) of Part 3 based on the project type. Project sponsors applying only for a name change or transfer of an existing approval should use The Request for Name Change or Transfer of an Approval Form NCTOA17 instead.

3. A. WATER ALLOCATION DOCKET APPLICATION FILING FEE: Includes new projects and renewals or modifications of existing water allocation approvals (surface water and groundwater withdrawals, consumptive use approvals and the importation/exportation of water and wastewater). The total allocation is the total requested water allocation expressed in million gallons per month (mgm). An exportation of water is water taken from within the Delaware River Basin and transferred to an area outside of the Basin and not returned to the basin. Project review fees are doubled for the portion of the allocation that is exported from the Delaware River Basin.

   i. Total Requested Allocation (mgm): N/A
   ii. Portion of Total Allocation exported: _______ mgm x $418 per mgm x 2 = $____________
   iii. Portion of Total Allocation not exported: _______ mgm x $418 per mgm = $____________

   WATER ALLOCATION REVIEW FEE: Sum of ii. and iii., not to exceed $15,687 = $____________

B. WASTEWATER DISCHARGE DOCKET APPLICATION FILING FEE: Includes new projects and renewals or modifications of existing wastewater discharge approvals. Select the appropriate project type below and enter the corresponding fee.

   ☐ Private Projects, $1,046.......................................................... N/A
   ☐ Public Projects, $523.............................................................. $________

C. OTHER PROJECTS APPLICATION FILING FEE: Complete all lines using “0” where applicable. Supporting documentation may be required.

   Design .................................. $ 0 Supervision of Construction .. $ 0
   Legal Services ................... $ 0 Contract Administration ....... $ 0
   Land.................................... $ 0 Materials ................................ $ 0
   Construction ....................... $ 0 Other .................................. $ 0

   TOTAL ESTIMATED PROJECT COST $ 9,000,000

   (1) Multiply project cost up to $10,000,000 by 0.004 $36,000
   (2) Multiply project cost above $10,000,000 by 0.0012 $__________________

   OTHER PROJECT REVIEW FEE: ADD (1) & (2), not to exceed $78,433 = $36,000

   (See next page)
4. **ADDITIONAL FEES:**
   - Emergency Approval ($5,000) ........................................... $ 0
   - Late Filed Renewal Surcharge ($2,000) ................................. $ 0

5. **TOTAL PROJECT REVIEW FEE** = sum of 3A, B or C added to 4. **  $ 36,000

6. **Filing Fee Required with Application:**
   Please enclose completed form and check in the amount calculated above (No. 5) with appropriate application. Application forms are available on the Commission’s website. Make check payable to Delaware River Basin Commission.

   Submit completed form and check to:
   Delaware River Basin Commission
   PO Box 7360
   25 Cosey Road
   West Trenton, NJ 08628-0360

   Colleen Armstrong
   Name of Certifying Official (please type or print)
   [Signature]
   Signature of Certifying Official

   Project Manager, Sunoco Pipeline, L.P. ................................. 10-13-20
   Title                                                      Date

**In all cases, if the fixed fee or fee calculated in accordance with the prescribed formulas is deemed by the Executive Director to be insufficient due to exceptional costs associated with the Commission review, the Commission may charge the applicant an Alternate Review Fee equal to 100% of all costs as deemed by the Executive Director to be exceptional.
2. Project Description
JACOB'S CREEK PIPELINE RELOCATION PROJECT
PROJECT DESCRIPTION

Sunoco Pipeline L.P. (SXL) owns and operates a 14-inch welded steel high-pressure petroleum products pipeline that transports product from SXL’s Twin Oaks Terminal to their Newark Facility. Near the confluence of Jacobs Creek and the Delaware River in Ewing and Hopewell Townships, Mercer County, New Jersey and Upper Makefield Township, Bucks County, Pennsylvania, the existing pipeline is located within the stream beds of the Delaware River and Jacobs Creek. The pipeline travels across the Delaware then up the Jacobs Creek streambed, through a large concrete and stone arch culvert which supports the Delaware and Raritan Canal and State Route 29.

The project area is located near the confluence of the Delaware River and Jacobs Creek. At this location, the pipeline is within the stream bed of Jacobs Creek, running parallel to the creek. The Delaware and Raritan Canal parallels the Delaware River and New Jersey State Route 29 at this location, with Jacobs Creek bisecting them within a 24-foot wide rock and concrete arch culvert. The pipeline is exposed a total length of 301 feet within Jacobs Creek, 169-foot within the culvert, 3-feet upstream and 129-feet downstream of the culvert. The creek bed is located approximately 30-35 feet below the highway and canal surface.

Horizontal directional drill (HDD) installation techniques will be used to install an approximately 2,500 foot of pipeline across the Delaware River and up Jacob’s Creek, to replace the portion of exposed pipeline. The proposed HDD installation will be a 14-inch pipeline that will be approximately 35-40 feet deep under the Delaware and Jacob’s Creek stream beds, the concrete arch culvert and approximately 75-85 feet under the Delaware Raritan Canal and SR029.

Going from PA into NJ in a west to east direction, the proposed HDD will cross under PA SR 32/River Road, the Delaware River, Jacobs Creek and the concrete culvert that supports Route 29 and the Delaware/Raritan Canal.

The proposed HDD will be installed from both the PA and NJ sides of the Delaware River. On the PA side, the HDD entry point will be within a private residential property. Two(2) 1250-foot HDD pipeline strings will be assembled and tested within the same private residential and an additional residential/farm property. Access to the PA residential and residential farm property will be off Oakdale Avenue.

On the NJ side, the HDD exit point will be on what if referred to as the Gristmill property (see Figure 4). Access to the Gristmill property will be through a residential property off Creek Rim Drive and the existing Gristmill driveway of off NJ SR029. The contractor will travel down the driveway and continue around the back of another private residence on the same property. Large construction equipment will use an additional access location through an existing private residence property located on Creek Rim Drive.

The proposed HDD will be tied into the existing pipeline using trench installation techniques located land-side and outside of Jacob’s Creek and the Delaware River. On the NJ side the HDD installation will be tied in on the Grist Mill property and on the PA side it will be tied in with in Oakdale Avenue.

The entire length of the abandoned pipeline from the location of the new tie ins will be grouted in place. Upon completion of the grouting approximately 350 feet of the exposed abandoned/existing pipeline will be removed from Jacob’s Creek and the remaining existing/abandoned pipeline will remain in place. Jacob’s Creek will be dammed off using sandbags or a port-a dam to allow access into the stream and to the exposed pipe which will be cut and capped at this location. Access to the western end of the exposed pipe will along an existing Delaware Raritan Canal gravel tow path down an existing cleared embankment the confluence to creek and Delaware River and Jacob’s Creek. Once the exposed pipeline
ends have been cut, the cut pipeline will be pulled through the culvert onto the Gristmill property where it will be cut into 20-foot joints and placed into roll-offs which will be hauled off-site and disposed of. All exposed pipeline removal activities will occur on the NJ side of the river.

As directed by NJDEP the scour hole under the existing pipe will not be filled. Upon removal of the existing pipeline construction disturbance will be restored and no further impacts to Jacob’s creek are proposed.

As directed by DEP a tree clearing moratorium from April 1 to August 31 will be enacted in order to protect nesting birds. Also as directed by NJDEP in stream work will not take place between March 1 and June 30 in order to protect anadromous fish.

1.0 PURPOSE AND NEED

The project area is located near the confluence of the Delaware River and Jacobs Creek. At this location, the pipeline is within the stream bed of Jacobs Creek, running parallel to the creek. The Delaware and Raritan Canal parallels the Delaware River and New Jersey State Route 29 at this location, with Jacobs Creek bisecting them within a 24-foot wide rock and concrete arch culvert. The pipeline is exposed a total length of 301 feet within Jacobs Creek, 169-foot within the culvert, 3-feet upstream and 129-feet downstream of the culvert. The creek bed is located approximately 30-35 feet below the highway and canal surface.

2.0 PROJECT FACILITIES

The proposed Project consists of a number of components that are all necessary to ensure proper and safe operation of a pipeline SPLP has thoroughly assessed the Project needs and has identified the minimal facilities necessary to successfully and safely complete this project. This section provides a brief description of the required Project facilities.

2.1 PIPELINE FACILITIES

The Project involves the Horizontal directional drill (HDD) installation of a new approximately 2,500-foot 14 inch across the Delaware River and up Jacob’s Creek, to replace the portion of exposed pipeline. The proposed HDD installation will be approximately 35-40 feet deep under the Delaware and Jacob’s Creek stream beds, the concrete arch culvert and approximately 75-85 feet under the Delaware Raritan Canal and SR029.

2.2 ABOVEGROUND FACILITIES

No above ground facilities are proposed as part of the Jacobs Creek Pipeline Relocation Project.

2.3 SUPPORT SITES - ACCESS ROADS AND PIPE / CONTRACTOR YARDS

As part of the Project, SPLP has identified a number of existing public roads that will be used for temporary construction access to the mainline pipeline Right-of-Way. All necessary township approvals will be secured prior to access to the site. All proposed work will take place within the proposed limit of disturbance. No off-site contractor yards are proposed.

3.0 ENVIRONMENT – LAND REQUIREMENTS

As previously stated, the proposed Project consists of the Horizontal directional drill (HDD) installation of a new approximately 2,500-foot 14 inch across the Delaware River and up Jacob’s Creek, to replace the portion of exposed pipeline. The proposed HDD installation will be approximately 35-40 feet deep under the Delaware and Jacob’s Creek stream beds, the concrete arch
culvert and approximately 75-85 feet under the Delaware Raritan Canal and SR029. The proposed limit of disturbance has been reduced to the greatest extent possible and trenchless construction methods are proposed to avoid direct impacts to environmental resources during installation. Pipeline removal will involve 0.543 acres of temporary disturbance to Jacobs Creek, but these proposed impacts are temporary in nature and the final result of this project will result in the removal of an obstruction from Jacobs Creek.

The Project will not permanently alter, modify, or obstruct any watercourses; therefore, there are no potential threats to life or property, safe navigation, and/or property or riparian rights of owners upstream, downstream, or adjacent to the Project. Similarly, SPLP does not have any reasonably foreseeable future actions associated with this Project and is committed to limiting the land requirements (impacts) to those identified in the Resource Tables.

4.0 PUBLIC HEALTH AND SAFETY

Liquid pipeline facilities, such as SPLP’s Project, that are designed and maintained in accordance with U.S. Department of Transportation (DOT) regulations and industry standards have an excellent record of public safety and reliability. Specifically, for hazardous liquids pipeline systems and pump stations in general, empirical information illustrates an extremely low potential for public hazard for incidents associated with the operation of interstate hazardous liquids pipeline facilities such as the proposed Project.

The proposed Project will be designed, constructed, operated, and maintained in accordance with DOT federal safety standards, 49 CFR Part195. The regulations are intended to ensure adequate protection for the public from hazardous liquids pipeline failures. Part 195 Sub Part C specifies material selection and qualification, design requirements, protection from internal, external, and atmospheric corrosion. In addition, SPLP will implement and/or adhere to the safety practices outlined below:

- SPLP will perform regular leak detection surveys in accordance with DOT regulations.
- SPLP’s cathodic protection system is inspected at regular intervals to ensure proper operating conditions consistent with DOT requirements for corrosion mitigation.
- Any potential hazards will be minimized by emergency shutdown and pressure restriction in any necessary section of pipeline.
- Under DOT regulations provided in 49 CFR. §195.402(E), SPLP will establish an Emergency Plan that provides written procedures to minimize hazards from a gas pipeline emergency.
- SPLP has a Computational Pipeline Monitoring (CPM) leak detection system in place as required by 49 CFR 195.134.
3. Project Location
a. Map
14-INCH TWIN OAKS to NEWARK JACOBS CREEK HORIZONTAL DIRECTIONAL DRILL PIPELINE RELOCATION HOPEWELL and EWING TOWNSHIPS (MERCER COUNTY, NJ) UPPER MAKEFIELD TOWNSHIP (BUCKS COUNTY, PA) SUNOCO LOGISTICS PARTNERS L.P. PROJECT LOCATION MAP (12/19/2018) 3816332 2018-0001 90_CAD Models and Sheets 04_C_Civil GIS JacobsCreek_PrjLoc_USGS.mxd DRAWN BY: APPROVED BY: DATE: PROJECT NUMBER: REVISION NUMBER:
b. Detailed Location Description
PROJECT LOCATION

Sunoco Pipeline L.P. (SXL) owns and operates a 14-inch welded steel high-pressure petroleum products pipeline that transports product from SXL’s Twin Oaks Terminal to their Newark Facility. Near the confluence of Jacobs Creek and the Delaware River in Ewing and Hopewell Townships, Mercer County, New Jersey and Upper Makefield Township, Bucks County, Pennsylvania, the existing pipeline is located within the stream beds of the Delaware River and Jacobs Creek. The pipeline travels across the Delaware then up the Jacobs Creek streambed, through a large concrete and stone arch culvert which supports the Delaware and Raritan Canal and State Route 29.
c. Detailed Location of Aboveground Facilities
ABOVEGROUND STRUCTURES

No above ground structures are proposed as part of the Jacobs Creek Pipeline Replacement Project.
4. List of Pending Permits and Approvals
<table>
<thead>
<tr>
<th>Agency</th>
<th>Permit/Approval</th>
<th>Date Applied</th>
<th>Status</th>
<th>Identification Number/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Army Corps of Engineers (USACE)</td>
<td>Nationwide Permit 12</td>
<td>6/11/20</td>
<td>Pending</td>
<td>Initial comments received from ACOE. Permit type switched from individual to NWP12</td>
</tr>
<tr>
<td>National Marine Fisheries Service</td>
<td>Project review and coordination concerning fish resources in the Delaware River done in conjunction with the USACE Individual Permit</td>
<td></td>
<td>Pending</td>
<td></td>
</tr>
<tr>
<td>U.S. Fish &amp; Wildlife Service (NJ)</td>
<td>Federal threatened/endangered (T/E) species review (NJ)</td>
<td>6/2/20</td>
<td>No further coordination</td>
<td>Short nosed sturgeon listed on results. Due to nature of the project impacts not anticipated.</td>
</tr>
<tr>
<td>U.S. Fish &amp; Wildlife Service (PA)</td>
<td>Federal T/E species review (PA)</td>
<td>5/22/19</td>
<td>Approved</td>
<td>Clearance received 5/22/19</td>
</tr>
<tr>
<td>Delaware and Raritan Canal Commission</td>
<td>Assess impacts to the watershed of the Delaware and Raritan Canal</td>
<td>July 2020</td>
<td>Pending</td>
<td></td>
</tr>
<tr>
<td>Delaware and Raritan Canal State Park</td>
<td>Access impacts to tow path</td>
<td>July 2020</td>
<td>Pending</td>
<td></td>
</tr>
</tbody>
</table>
| New Jersey Department of Environmental Protection (NJDEP) | • Wetland Permit-GP 2  
• Flood Hazard Permit                                                                 | 4/22/20      | Approved  | 1106-20-0001.1                                                                               |
<p>|                                             | Section 106 consultation                                                       | 5/21/20      | Pending   |                                                                                           |
|                                             | State T/E species review                                                       | 6/2/20       | Cleared   |                                                                                           |</p>
<table>
<thead>
<tr>
<th>Agency</th>
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</tr>
</thead>
<tbody>
<tr>
<td>NJDEP State Parks</td>
<td>License to occupy lands within the State Park</td>
<td></td>
<td>Coordination ongoing</td>
<td></td>
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<tr>
<td>Mercer County Soil Conservation District</td>
<td>Erosion and Sediment Control Plan</td>
<td></td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td>Ewing Township</td>
<td>Notification of project</td>
<td></td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td>Hopewell Township</td>
<td>• Tree removal ordinance from environmental committee</td>
<td></td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Land Use ordinance from Paul</td>
<td></td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Road open permit from public works</td>
<td></td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Permit from local historic preservation office</td>
<td></td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td>Pennsylvania Department of Environmental Protection (PADEP) Bureau of Watershed Management</td>
<td>General Permit – 5</td>
<td>10/28/20</td>
<td>Pending</td>
<td>Authorization ID 1331709</td>
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<tr>
<td>PADEP Bureau of Water Quality Protection</td>
<td>PAG-10 Authorization to Discharge under the NPDES - General Permit for Discharges Resulting from Hydrostatic Testing of Tanks and Pipelines</td>
<td>3rd Quarter 2020</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PA Fish &amp; Boat Commission (PAFBC)</td>
<td>State T/E species review</td>
<td>5/22/19</td>
<td>Clearance Received</td>
<td></td>
</tr>
<tr>
<td>PA Game Commission (PGC)</td>
<td>State T/E species review</td>
<td>5/22/19</td>
<td>Clearance Received on 5/22/20</td>
<td></td>
</tr>
<tr>
<td>PA Department of Conservation and Natural Resources (DCNR)</td>
<td>State T/E species review</td>
<td>5/22/19</td>
<td>Clearance Received on 5/22/20</td>
<td></td>
</tr>
<tr>
<td>Bucks County Conservation District</td>
<td>E&amp;S Control Plan Review</td>
<td>3rd Quarter 2020</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5. Water Source and Discharge Information
Water Source and Discharge Information

This project will require water for dust control, pipeline cleaning, horizontal directional drilling and hydrostatic testing of the pipeline and mainline valves. All water for these activities within the Delaware River Basin will be sourced from municipal water sources. No surface water withdrawal within the Delaware River Basin is proposed for this project.

All water used for hydrostatic testing of the pipeline will be discharged to grade through approved erosion and sedimentation control measures. No effects to waters of the Delaware River Basin are anticipated.
6. Area Serve Information
Area Served

No temporary water withdrawal is proposed within the Delaware River Basin for the Jacobs Creek Pipeline Replacement Project. All water for these activities, within the Delaware River Basin will be sourced from municipal water sources.
7. Physical Features
a. Design Criteria
**Design Criteria**

Sunoco Pipeline L.P. (SXL) owns and operates a 14-inch welded steel high-pressure petroleum products pipeline that transports product from SXL’s Twin Oaks Terminal to their Newark Facility. Near the confluence of Jacobs Creek and the Delaware River in Ewing and Hopewell Townships, Mercer County, New Jersey and Upper Makefield Township, Bucks County, Pennsylvania, the existing pipeline is located within the stream beds of the Delaware River and Jacobs Creek. The pipeline travels across the Delaware then up the Jacobs Creek streambed, through a large concrete and stone arch culvert which supports the Delaware and Raritan Canal and State Route 29.

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Going from PA into NJ in a west to east direction, the proposed HDD will cross under PA SR 32/River Road, the Delaware River, Jacobs Creek and the concrete culvert that supports Route 29 and the Delaware/Raritan Canal.

The proposed HDD will be installed from both the PA and NJ sides of the Delaware River. On the PA side, the HDD entry point will be within a private residential property. Two(2) 1250-foot HDD pipeline strings will be assembled and tested within the same private residential and an additional residential/farm property. Access to the PA residential and residential farm property will be off Oakdale Avenue.

On the NJ side, the HDD exit point will be on what if referred to as the Gristmill property (see Figure 4). Access to the Gristmill property will be through a residential property off Creek Rim Drive and the existing Gristmill driveway of off NJ SR029. The contractor will travel down the driveway and continue around the back of another private residence on the same property. Large construction equipment will use an additional access location through an existing private residence property located on Creek Rim Drive.

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will be tied in on the Grist Mill property and on the PA side it will be tied in with in Oakdale Avenue.

The entire length of the abandoned pipeline from the location of the new tie ins will be grouted in place. Upon completion of the grouting approximately 350 feet of the exposed abandoned/existing pipeline will be removed from Jacob’s Creek and the remaining existing/abandoned pipeline will remain in place. Jacob’s Creek will be dammed off using sandbags or a port-a dam to allow access into the stream and to the exposed pipe which will be cut and capped at this location. Access to the western end of the exposed pipe will along an existing Delaware Raritan Canal gravel tow path down an existing cleared embankment the confluence to creek and Delaware River and Jacob’s Creek. Once the exposed pipeline ends have been cut, the cut pipeline will be pulled through the culvert onto the Gristmill property where it will be cut into 20-foot joints and placed into roll-offs which will be hauled off-site and disposed of. All exposed pipeline removal activities will occur on the NJ side of the river.

As directed by NJDEP the scour hole under the existing pipe will not be filled. Upon removal of the existing pipeline construction disturbance will be restored and no further impacts to Jacob’s creek are proposed.

As directed by DEP a tree clearing moratorium from April 1 to August 31 will be enacted in order to protect nesting birds. Also as directed by NJDEP in stream work will not take place between March 1 and June 30 in order to protect anadromous fish.
b. Facilities
Facilities

This project will require water for dust control, pipeline cleaning, horizontal directional drilling and hydrostatic testing of the pipeline. All water for these activities will be sourced from municipal water sources. No surface water withdrawal within the Delaware River Basin is proposed for this project.

All water used for hydrostatic testing of the pipeline will be discharged to grade through approved erosion and sedimentation features. No adverse impact to waters of the Delaware River Basin are proposed.
c. Hydrostatic Test Water Discharge Approval Information
Hydrostatic Test Water Discharge Approval

All water used for hydrostatic testing of the pipeline and mainline valves will be discharged to grade through approved erosion and sedimentation controls. No adverse impacts to waters of the Delaware River Basin are anticipated.
8. Special Protection Waters
Special Protection Waters

In 1992, the DRBC adopted Special Protection Waters requirements, as part of the DRBC Water Quality Regulations (WQR), designed to protect existing high-water quality in applicable areas of the Delaware River Basin. One hundred twenty miles of the Delaware River from Hancock, New York downstream to the Delaware Water Gap were classified by the DRBC as SPW. This stretch includes the sections of the river federally designated as "Wild and Scenic" in 1978 -- the Upper Delaware Scenic and Recreational River and the Delaware Water Gap National Recreation Area -- as well as an eight-mile reach between Milrift and Milford, Pennsylvania which is not federally designated. The SPW regulations apply to this 120-mile stretch of the river and its drainage area.

On July 16, 2008, the DRBC approved amendments to its Water Quality Regulations that provide increased protection for waters that the Commission classifies as Special Protection Waters. The portion of the Delaware River and its tributaries within the boundary of the Lower Delaware River Management Plan Area was approved for Special Protection Waters designation and clarity on definitions and terms were updated for the entire program.

Article 3.10.3A.2.e.1) and 2) of the Water Quality Regulations, Administrative Manual -Part III, states that projects subject to review under Section 3.8 of the Compact that are located in the drainage area of Special Protection Waters must submit for approval a Non-Point Source Pollution Control Plan that controls the new or increased non-point source loads generated within the portion of the project’s service area which is also located within the drainage area of Special Protection Waters. The project is located within in the drainage area of Special Protection Waters. Since this project entails construction, there are potentially new or increased non-point source loads associated with this approval, and accordingly the non-point source pollution control plan requirement is applicable at this time.

Sunoco Pipeline, L.P. will construct, restore, and maintain the Jacobs Creek Pipeline Project according to the measures described in its project-specific Erosion and Sediment Control Plan (E&S Plan) and Spill Prevention, Control, and Countermeasures Plan (SPCC Plan). These plans will be reviewed and approved by the PADEP Southeast regional office.

Final E&S Plans and Restoration Plans will be submitted to the Commission and all State, County and Federal Permits prior to any site clearing or construction.
9. Surface Water Withdrawal Locations, Procedures and Schedules
Surface Water Withdrawal Locations, Procedures and Schedule

This project will require water for dust control, pipeline cleaning, horizontal directional drilling and hydrostatic testing of the pipeline. All water for these activities, within the Delaware River Basin will be sourced from municipal water sources. No surface water withdrawal within the Delaware River Basin is proposed for this project.

All water used for hydrostatic testing of the pipeline will be discharged to grade utilizing approved erosion and sedimentation control measures. No adverse impacts to the waters of the Delaware River Basin are anticipated.
10. Land Disturbance Description
Land Disturbance

Erosion and Sedimentation Control General Permit approvals for Mercer County and Southeast Regional Office of the Pennsylvania Department of Environmental Protection will be submitted in the 3rd Quarter of 2020. Construction of the pipeline Temporary workspace areas will be restored and allowed to revert back to preconstruction conditions. The permanent right of way will be maintained as part of normal pipeline operations.
11. Impacts to Waters
Impacts to Surface Waters

Impacts to waters within the Delaware River Basin are limited to the removal of the existing exposed pipeline. No wetlands are located within the proposed limit of disturbance, the installation of the new pipeline will be via horizontal directional drill installed from upland areas. The removal of the exposed line will result in 0.543 acres of temporary impacts for pipe removal. Minimal excavation is proposed as all pipe to be removed is currently exposed.
12. Reservoir, Proposed Reservoir or Recreation Project Areas
Reservoir, Proposed Reservoir or Recreation Project Areas

The Jacobs Creek Pipeline Replacement Project does not cross any reservoir, proposed reservoir or recreation project areas designated in the Commission’s Comprehensive Plan.
July 7, 2021

Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360

Reference: Sunoco Pipeline L.P.
Jacobs Creek Replacement Project (DRBC D-1998-035-2)
Upper Makefield Twp, Bucks Co, PA
Hopewell & Ewing Twp, Mercer Co, NJ

Subject: DRBC D-1998-035-2 Response Letter

Attention: Eric L. Engle, P.G.

STV Project No.: 38-16332

Mr. Engle,

STV Energy Services, Inc. (STV), on behalf of Sunoco Pipeline L.P. (SPLP), respectfully submits the following responses and documentation addressing the comments in your e-mail dated June 24, 2021 regarding the above referenced submission.

1. This is in response to your letter dated June 9, 2021 that provided partial responses to DRBC’s comments regarding the proposed HDD activities at the Jacobs Creek Pipeline Relocation Project. You indicate that some of the requested information is the responsibility of the drilling contractor and the information can be finalized and submitted upon award of the bid. This information includes a drilling plan, contingency plan and pullback plan. When will the contact be awarded so that this additional information can be made available for DRBC’s review?

   It is anticipated that the contract will be awarded in mid to late August. The information will be provided shortly thereafter. Our intent is to provide this information for review and approval well in advance of construction.

2. Also, regarding the Report of Geotechnical Investigation prepared by Earth Engineering Inc, dated January 7, 2020 (“Geotechnical Report”). Boring logs in the report indicate that an additional bed of red siltstone was encountered between 57 feet and 80.5 feet in boring SB-4. The red siltstone was not encountered in borings SB-1 or SB-2. Based on the Geologic Map of Central and Southern New Jersey (1998), the 3 borings appear to be aligned generally along strike and therefore should show a similar lithology. The same map shows numerous faults in the area. Please provide additional information regarding the correlation of the strata encountered in the borings and discuss the possibility of a fault or other structure located between borings SB-3 and SB-4. Please also assess the need to further characterize the lithology between borings SB-3 and SB-4 with additional boring(s).
3. The boring logs were numbered SB-1, SB-3 and SB-4. Was an additional boring (SB-2) planned or not completed?
   **An additional boring was planned, but not completed due to coordination and access complications.**

4. The boring logs in the Geotechnical Report contain information on the relative dip. In each note 2 dip angles are provided. Please describe what the 2 dip angles represent.
   **Please refer to EEI letter dated July 2, 2021 Question #2 on page 2.**

5. The Geotechnical report describes the shale bedrock as having extremely close spaced fractures, laminated and medium hard to very hard. The rock was additionally characterized to be broken to massive with degrees of weathering ranging from highly weathered to fresh. Information in the HDD Drill Analysis Report, prepared by STV, dated January 2021 indicated that the rock cores taken from the geotechnical borings on site show very little to no fracturing. Please provide more information on the frequency and nature of the fractures/joints encountered at the site.
   **Please refer to EEI letter dated July 2, 2021 Question #5 on page 2.**

6. The Geotechnical Report indicated that slightly weathered to fresh bedrock of fair to excellent quality encountered in borings SB-1, SB-3 and SB-4 is characterized as “Difficulties May Occur” per the referenced publication. Please describe what difficulties may occur and what Sunoco plans to avoid or minimize these difficulties.
   **Please refer to EEI letter dated July 2, 2021 Question #6 on page 3.**

7. The Equipment Recommendations Section of the HDD Analysis Report requires the installation of temporary casing at the entry point on the Pennsylvania side to facilitate the return of drilling fluid and circulation to reduce the risk of inadvertent returns. Why is a temporary pipe not recommended on the New Jersey side?
   **The current plan, mostly due to available workspace, is to have the entry point in PA. Therefore the rig will be set up at the entry in PA and perform the pilot hole, reaming, and swabbing activities as necessary. Once everything is ready for pullback, the rig will be moved to the NJ side and carrier pipe, which will be strung out on the PA side, will be pulled toward NJ. The temporary casing is only relevant at the entry point.**
Included with the response is the aforementioned letter from EEI (Project No. 31585.00) dated July 2, 2021. Thank you in advance for your time and attention to our submission. If you have any questions, please contact the project manager, Ed Weirsky, at 609-439-7603 or Edward.Weirsky@stvinc.com.

Sincerely,

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518
You've been sent large files


Files

DRBC Reponse Letter.pdf (239.7 KB)
31585.00 - Jacobs Creek Pl... Letter.pdf (22.5 MB)

Download Files

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Good Afternoon,

Attached please find our responses from your email dated June 24, 2021 for your review.

Thanks,

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518

Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

From: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Sent: Thursday, June 24, 2021 7:43 AM
To: Wills, Henry D. <Henry.Wills@stvinc.com>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

**This e-mail is from outside STV**

Good morning Mr. Wills,

This is in response to your letter dated June 9, 2021 that provided partial responses to DRBC’s comments regarding the proposed HDD activities at the Jacobs Creek Pipeline Relocation Project. You indicate that some of the requested information is the responsibility of the drilling contractor and the information can be finalized and submitted upon award of the bid. This information includes a drilling plan, contingency plan and pullback plan. When will the contact be awarded so that this additional information can be made available for DRBC’s review?

Also, regarding the Report of Geotechnical Investigation prepared by Earth Engineering Inc, dated January 7, 2020 (“Geotechnical Report”). Boring logs in the report indicate that that an additional bed of red siltstone was encountered between 57 feet and 80.5 feet in boring SB-4. The red siltstone was not encountered in borings SB-1 or SB-2. Based on
the Geologic Map of Central and Southern New Jersey (1998), the 3 borings appear to be aligned generally along strike and therefore should show a similar lithology. The same map shows numerous faults in the area. Please provide additional information regarding the correlation of the strata encountered in the borings and discuss the possibility of a fault or other structure located between borings SB-3 and SB-4. Please also assess the need to further characterize the lithology between borings SB-3 and SB-4 with additional boring(s).

The boring logs were numbered SB-1, SB-3 and SB-4. Was an additional boring (SB-2) planned or not completed?

The boring logs in the Geotechnical Report contain information on the relative dip. In each note 2 dip angles are provided. Please describe what the 2 dip angles represent.

The Geotechnical report describes the shale bedrock as having extremely close spaced fractures, laminated and medium hard to very hard. The rock was additionally characterized to be broken to massive with degrees of weathering ranging from highly weathered to fresh. Information in the HDD Drill Analysis Report, prepared by STV, dated January 2021 indicated that the rock cores taken from the geotechnical borings on site show very little to no fracturing. Please provide more information on the frequency and nature of the fractures/joints encountered at the site.

The Geotechnical Report indicated that slightly weathered to fresh bedrock of fair to excellent quality encountered in borings SB-1, SB-3 and SB-4 is characterized as “Difficulties May Occur” per the referenced publication. Please describe what difficulties may occur and what Sunoco plans to avoid or minimize these difficulties.

The Equipment Recommendations Section of the HDD Analysis Report requires the installation of temporary casing at the entry point on the Pennsylanania side to facilitate the return of drilling fluid and circulation to reduce the risk of inadvertent returns. Why is a temporary pipe not recommended on the New Jersey side?

We will await your responses and the submittal of the detailed Drilling Plan, Contingency Plan and Pullback Plan from the contractor when selected. Our concerns regarding the HDD below the Delaware River must be fully addressed prior to our recommendation for approval by the Commissioners.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

---

From: Wills, Henry D. <Henry.Wills@stvinc.com>
Sent: Wednesday, June 9, 2021 13:53
To: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <jim.McGinley@stvinc.com>
Subject: [EXTERNAL] NJDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

I'm using Mimecast to share large files with you. Please see the attached instructions.

Mr. Engle,
Attached please find responses to your email dated June 3. Please contact us with additional questions or coordination as necessary.

Thanks,

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518

Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

From: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Sent: Thursday, June 3, 2021 10:10 AM
To: McGinley, James X. <Jim.McGinley@stvinc.com>; Armstrong, Colleen <COLLEEN.ARMSTRONG@energytransfer.com>
Subject: NJDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

**This e-mail is from outside STV**

Good morning Jim,

Attached are comments we received from the New Jersey Department of Environmental Protection regarding the Sunoco Pipeline LP - Jacobs Creek Replacement Project. The comments pertain to the HDD installation process and the Inadvertent Return Assessment, Preparedness, Prevention & Contingency Plan dated February 2021 submitted to DRBC.

NJDEP recommended that Sunoco Pipeline LP implement lessons learned from recent IRs in New Jersey and requested that Sunoco revise its DRBC application with changes to the HDD drilling proposal and the IR contingency plan. DRBC staff concur with NJDEP’s recommendations. We request that Sunoco provide the Commission with responses to New Jersey’s Comments and submit its revised drilling plan and IR contingency plan.

If you should have any questions, please email us and we will coordinate with New Jersey staff.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.Engle@drbc.gov
Know what's below before you dig. Call R

14-INCH TWIN OAKS TO NEWARK
JACOBS CREEK PIPELINE RELOCATION

HOPEWELL AND EWING TOWNSHIPS MERCER COUNTY, NEW JERSEY
UPPER MAKEFIELD TOWNSHIP BUCKS COUNTY, PENNSYLVANIA

ISSUED FOR PERMITTING
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<th>Socket Size, (in)</th>
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<td>24</td>
<td>12</td>
</tr>
<tr>
<td>32</td>
<td>12</td>
</tr>
</tbody>
</table>

**Compost Filter Sock Table**

- **Slope, (ft/ft)**
  - 0.0125
  - 0.0135

- **Slopes**
  - Maximum Slope Length Above Perimeter Control:
    - 1
      - HDD Area: 520
      - Pullback Area: 700
    - 5
      - 350
    - 10
      - 250
    - 15
      - 150
    - 20
      - 140
    - 25
      - 100
    - 30
      - 80
    - 35
      - 40
    - 40
      - 40
    - 45
      - 30
    - 50
      - 25

*Taken From: PA DEP E&S Manual, March 2012 - Figure 4.2*
Horizontal Directional Drill Analysis Report

for the

14-inch Twin Oaks to Newark Jacobs Creek Pipeline Relocation Project

Upper Makefield Township, Bucks County, Pennsylvania
Ewing & Hopewell Townships, Mercer County, New Jersey
HORIZONTAL DIRECTIONAL DRILL (HDD) ANALYSIS REPORT

14-INCH TWIN OAKS TO NEWARK JACOBS CREEK PIPELINE RELOCATION

Located In:

UPPER MAKEFIELD TOWNSHIP, BUCKS COUNTY, PA
EWING & HOPEWELL TOWNSHIPS, MERCER COUNTY, NJ

Prepared For:

SUNOCO PIPELINE LP (SPLP)
100 GREEN STREET
MARCUS HOOK, PA 19061-4800

JANUARY 2021

Prepared By:
STV Energy Services, Inc.
205 West Welsh Drive
Douglassville PA, 19518
610-858-2652
STV Project Number: 38-16332
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## APPENDICES

- Appendix A – HDD Pullback Calculations
- Appendix B – HDD Breakover Calculations
- Appendix C – Hydrofracture Analysis
- Appendix D – Drilling Fluid Estimate
- Appendix E – Hydrostatic Test Water Estimate
- Appendix F – Compound Curve Calculation

**Plan/Profile Drawings (Bound Separately)**

**Project Report of Geotechnical Investigation (Bound Separately)**
1. **HDD DESIGN STANDARDS**

Horizontal directional drills (HDD) are designed to several standards, some regulatory and some industry. Below is a list of all the standards considered when planning this directional drill.

- **Regulatory Standards**
  - CFR Title 49, Part 195 Transportation of Hazardous Liquids By Pipeline.
  - Federal, State and Local standards will need to be followed.

- **Industry Standards**
  - ASME B31.4 – Pipeline Transportation Systems for Liquids and Slurries
  - API Specification 5L – Specifications for Line Pipe
  - PRCI Installation of Pipelines by Horizontal Directional Drill – An Engineering Design Guide
  - Interim Guidelines for Horizontal Directional Drilling (HDD) Under the Property and Track(s) of CSX Transportation, INC.
  - American Railway Engineering and Maintenance-of Way Association Manual (AREMA)
  - API RP M1102 – Steel Pipelines Crossing Railroads and Highways
  - API RP 7G – Drill Stem Design and Operating Limits
  - API STD. 1104 – Welding of Pipelines and Related Facilities
  - ISO 13500 – Drilling Fluids Materials – Specifications and Tests

In addition to regulatory and industry standards, the plan and profile was designed in accordance to Sunoco Pipeline L.P. Standards.

2. **PROJECT LOGISTICS AND CONSTRUCTABILITY**

In general, the location and installation of the HDD along the project alignment is restricted by access to the entry and exit sites, the available pullback space, streams, and the availability of temporary construction easement. None of these factors prevent the installation of the HDD’s.

The Geotechnical Analysis and Investigation revealed that the proposed pipeline alignment is underlain with a variety of Shale and Siltstone. The Project Report of Geotechnical Investigation Soil Borings and Information was used to develop the Hydrofracture Analysis, discussed in Section 11 of this report.

3. **EQUIPMENT RECOMMENDATIONS**

The HDD drill rig should be selected by the HDD contractor; however, we have calculated the pullback forces that will be needed for the installation of the drill. The HDD drill rig should be able to pull at least the force calculated. The maximum force experienced for the HDD will be approximately 95,000 lbs. (See Appendix A – HDD Pullback Calculations)

Typical bore design standards call for a total bore dimension of 1.5 times the installed pipe diameter. A 21” diameter final dimension to the bore hole will be appropriate for the 14” carrier pipe.

Instillation of temporary casing at the entry point in Pennsylvania will be required to bottom out on rock strata before continuing pilot hole through rock. Temporary casing will facilitate the return of drilling fluid and circulation, reducing the risk of inadvertent returns.
A mud motor is likely required for this HDD due to the presence of very hard rock throughout the most length of the drill.

4. GUIDENCE

Use of down hole steering methods such as “TRU-TRACKER” and “ParaTrack” should be utilized due to the depth of the drill. If complications arise installing those systems, a Gyroscopic steering device should be utilized. Survey and installation of the appurtenances necessary to complete steering activities would be the contractor’s obligation. Serious deviations in the steering of the drill should be reported to the owner and owner representative immediately as they will affect pullback and pipeline installation Contractor shall maintain and provide to Owner, upon request, the data generated by the downhole survey tools in a form suitable for independent calculation of the pilot hole profile.

4.1 STEERING METHODOLOGY

The steering methodology will depend on the device, the rig, and steering device chosen by the contractor. Generally, the profile radius is measured on a running three-joint average using the drill stem length and the measured depth from the steering devices.

4.2 STEERING CAPABILITY

The directional drill should have a Monel Drill Collar behind the drill head. Monel Drill Collars have a slight bend which forces the drill head to move on an angle tangential to the drilling direction when the head engages with the ground material. This eccentricity allows for the profile to achieve the desired radius.

5. POSITION OF EQUIPMENT

STV has also provided breakover calculations for the proposed HDD. These estimate the placement of the equipment needed for pullback support activities (i.e. cranes put in place to support pipe as it is being pulled into the reamed pilot hole). See Appendix B – HDD Breakover Calculations for additional information.

6. PIPE STRESS CALCULATIONS

The HDD installation calculations were performed in accordance with PRCI engineering design guide listed in Section 1. There is a compound curve for approx. 1000’ of the 2515’ drill comprised of a 1600’ horizontal curve and 2800’ radius vertical curve resulting in a 1389’ radius compound curve. This compound curve was factored into the installation calculations and does not limit the installation. The pullback forces anticipated during pipeline installation is 95,000 lbs. The cause of friction on the pipeline during installation is primarily due to the pipeline sinking and contacting the bottom of the bore hole. See the pipe stress calculations for details. (See Appendix A – HDD Pullback Calculations)

7. ROLLER SPACING

The rollers for pullback on the pipe string will need to be placed no more than 54 feet apart. See the break over calculations (Appendix B – HDD Breakover Calculations).
8. BOREHOLE STABILITY

The Geotechnical Investigation and Analysis performed for this drill shows that no running sands or cobbles are anticipated during HDD drilling. Because of this, it is unlikely that bore stability during pilot hole activities should be an issue.

9. WATER USAGE FOR PILOT HOLE ACTIVITIES

The approximate water usage for the directional drill is 380,000 gallons (see Appendix D – Drilling Fluid Estimate). Water usage calculations while drilling is highly variable because the circulation loss rates will be very low during the rock drill section. All excess drilling fluid will be hauled offsite for disposal at an SPLP approved facility.

10. HYDROFRACTURE ANALYSIS

The hydrofracture analysis was performed in accordance with the “Horizontal Directional Drilling Guidelines, Third Edition”. Utilizing the available geotechnical information, idealized soil profiles were generated. These profiles were used to conduct a hydrofracture analysis (Attachment C – Hydrofracture Analysis) on the proposed drill profile. This risk-based model assesses where areas of the designed profile may lack the necessary soil strength to prevent an inadvertent return during the drilling process. Cohesion is a primary consideration in this analysis meaning it is only applicable to soils, sands and gravels. The analysis is not applicable to areas of the drill where the drilled material is rock.

The proposed directional drill is driven through an idealized soil profile consisting of Low cohesion sand that vary in mixtures of silt and clay. These soils are underlain with extremely hard competent rock that varies in-depth from 9 ft below the surface to 26 feet below the surface, this depth to rock is illustrated on the Hydrofracture analysis sheet. Unconfined compressive strengths of rock cores taken from the geotechnical borings on site have varied in experimental testing from 13,000 psi to 28,000 psi. Rock cores taken from the geotechnical borings on site show very little to no fracturing, and have very high RQD values, an indication that the material is very competent and unlikely to provide preferential pathways for the migration of drilling fluids to cause inadvertent returns, resulting in a low probability of inadvertent return when drilling through the rock features. The analysis determined that this while the drill is operating in soils there is low risk of inadvertent return. The risk is further mitigated by the installation of a temporary casing at the entry point in Pennsylvania. The calculations use a Safety Factor of 2 in soils.

11. INADVERTENT RETURN RESPONSE PLAN

Sunoco Pipeline LP will develop a site-specific inadvertent return response plan in accordance with their company standards.

12. HYDROSTATIC TESTING

Potable water will be purchased for the hydrostatic test. The test will be conducted in accordance with company and federal regulation. All hydrostatic test waters will be hauled off site and discharged in a SPLP approved facility. Nearly 3,000 ft of new 14-inch steel pipe will be required to complete the project resulting in approximately 21,000 gal of hydrostatic test water (see Appendix E – Hydrostatic Test Water Estimate).
APPENDIX A
HDD Pullback Calculations
HDD Installation Stresses

Proposed 14-Inch Pipe

- Outside Diameter of Pipe, OD = 14 in
- Wall Thickness, w = 0.5 in
- SMYS = 52,000 psi
- Weight of Pipe = 72.09 lb/ft From API-5L
- Water Unit Weight = 0.00 lb/ft³, for buoyancy control - use 0 for none, 62.4 for water
- Volume in Pipe = 0.92 ft³/ft
- Weight of Water = 0.00 lb/ft³
- Modulus of Elasticity for Steel, E = 30,000,000 psi
- Moment of Inertia, I = 483.09 in⁴
- Pipe Face Surface Area, A = 21.21 in²
- Diameter to Wall Thickness Ratio, D/w = 28.00
- Poisson’s Ratio, v = 0.30
- Effective (submerged) Weight of Pipe + Contents = -23.86 lb/ft + indicates down
- Mud Weight = 89.76 lb/ft³ 66 pcf assume 3% solids by weight (8.7 ppg)
- Coefficient of Friction for Soil, μ⁺sand = 0.30 89.76 pcf (12 ppg mud weight)
- Fluid Drag Coefficient, μfluid = 0.05 psi
- Mud Weight = 12.00 ppg
- Entry Elevation (F) = 40.00 ft
- Exit Elevation (A) = 42.19 ft

Point F-E Tangent
- Entry Angle = 13.00 °
- Tangent Length = 320.07 ft Elevation (E) = 4.15

Point E-D Curve
- Radius of Curvature, R = 1,389.00 ft
- Arc Length = 315.15 ft Elevation (D) = -67.61

Point D-C Tangent
- Tangent Length = 1,256.69 ft Elevation (tangent) = -67.61
- Angle of Inclination = 0.00 ° + if pullback is downhill

Point C-B Curve
- Radius of Curvature, R = 1,389.00 ft
- Arc Length = 315.15 ft Elevation (C) = -67.61

Point B-A Tangent
- Exit Angle = 13.00 °
- Tangent Length = 328.96 ft Elevation (B) = 5.33
## HDD Installation Stresses

### Analysis of Loads for Straight Section Pulled Downslope

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<th>Parameter</th>
<th>Value</th>
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<tr>
<td>Angle of Inclination</td>
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<tr>
<td>Drag Forces from Mud</td>
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<tr>
<td>Friction from Soil</td>
<td>2,294.80 lb</td>
</tr>
<tr>
<td>Effective Weight of Pipe</td>
<td>-1,765.99 lb</td>
</tr>
<tr>
<td>Tension on Section</td>
<td>12,741.83 lb</td>
</tr>
<tr>
<td>Cumulative Force at B</td>
<td>12,741.83 lb</td>
</tr>
</tbody>
</table>

### Analysis of Loads for Curvilinear Section Pulled Downslope

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measured Length</td>
<td>315.15 ft</td>
</tr>
<tr>
<td>Change in Inclination Angle</td>
<td>13 °</td>
</tr>
<tr>
<td>Radius of Curvature</td>
<td>1,389.00 ft</td>
</tr>
<tr>
<td>Center Displacement, h</td>
<td>8.93 ft</td>
</tr>
<tr>
<td>Assumed Average Tension, $T_{\text{ave}}$</td>
<td>20,000.00 lb</td>
</tr>
<tr>
<td>Normal Force, $N$</td>
<td>8,502.63 lb</td>
</tr>
<tr>
<td>Drag Force From Mud</td>
<td>8,316.61 lb</td>
</tr>
<tr>
<td>Friction From Soil</td>
<td>2,550.79 lb</td>
</tr>
<tr>
<td>Effective Weight of Pipe</td>
<td>-851.40 lb</td>
</tr>
<tr>
<td>Tension on Section</td>
<td>14,269.58 lb</td>
</tr>
<tr>
<td>Average Tension on Section</td>
<td>20,000.00 lb</td>
</tr>
<tr>
<td>Cumulative Force at C</td>
<td>27,011.42 lb</td>
</tr>
<tr>
<td>$T_{\text{ave}}$</td>
<td>19,876.63 lb</td>
</tr>
<tr>
<td>% Difference</td>
<td>-0.62 %</td>
</tr>
</tbody>
</table>

The % Difference is less than 10.00, indicating that the assumption for $T_{\text{ave}}$ is acceptable.

### Analysis of Loads for Horizontal Straight Section

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measured Length</td>
<td>1,256.69 ft</td>
</tr>
<tr>
<td>Drag Forces from Mud</td>
<td>33,163.27 lb</td>
</tr>
<tr>
<td>Friction from Soil</td>
<td>8,997.16 lb</td>
</tr>
<tr>
<td>Effective Weight of Pipe</td>
<td>0.00 lb</td>
</tr>
<tr>
<td>Tension on Section</td>
<td>42,160.43 lb</td>
</tr>
<tr>
<td>Cumulative Force at D</td>
<td>69,171.85 lb</td>
</tr>
</tbody>
</table>
## HDD Installation Stresses

### Analysis of Loads for Curvilinear Section Pulled Upslope

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measured Length</td>
<td>315.15 ft</td>
</tr>
<tr>
<td>Change in Inclination Angle</td>
<td>13 °</td>
</tr>
<tr>
<td>Radius of Curvature</td>
<td>1,389.00 ft</td>
</tr>
<tr>
<td>Center Displacement, h</td>
<td>8.93 ft</td>
</tr>
<tr>
<td>Assumed Average Tension, $T_{ave}$</td>
<td>77,500.00 lb</td>
</tr>
<tr>
<td>$j$</td>
<td>432.44 in</td>
</tr>
<tr>
<td>$U$</td>
<td>8.75</td>
</tr>
<tr>
<td>$X$</td>
<td>729.30 in</td>
</tr>
<tr>
<td>$Y$</td>
<td>1,605,465.93 in$^2$</td>
</tr>
<tr>
<td>Normal Force, $N$</td>
<td>15,651.58 lb</td>
</tr>
<tr>
<td>Drag Force From Mud</td>
<td>8,316.61 lb</td>
</tr>
<tr>
<td>Friction From Soil</td>
<td>4,695.47 lb</td>
</tr>
<tr>
<td>Effective Weight of Pipe</td>
<td>-851.40 lb</td>
</tr>
<tr>
<td>Tension on Section</td>
<td>16,856.16 lb</td>
</tr>
<tr>
<td>Average Tension on Section</td>
<td>77,500.00 lb</td>
</tr>
<tr>
<td>Cumulative Force at E</td>
<td>86,028.01 lb</td>
</tr>
</tbody>
</table>

$T_{ave} = 77,599.93$ lb

% Difference = 0.13 % < 10.00

Okay

### Analysis of Loads for Straight Section Pulled Upslope

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measured Length</td>
<td>320.07 ft</td>
</tr>
<tr>
<td>Angle of Inclination</td>
<td>13.00 °</td>
</tr>
<tr>
<td>Drag Forces from Mud</td>
<td>8,446.45 lb</td>
</tr>
<tr>
<td>Friction from Soil</td>
<td>2,232.78 lb</td>
</tr>
<tr>
<td>Effective Weight of Pipe</td>
<td>-1,718.26 lb</td>
</tr>
<tr>
<td>Tension on Section</td>
<td>8,960.97 lb</td>
</tr>
<tr>
<td>Cumulative Force at F</td>
<td>94,988.98 lb</td>
</tr>
<tr>
<td>Analysis for AB</td>
<td>Axial Tension limited by RP2A-WSD</td>
</tr>
<tr>
<td>----------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td></td>
<td>600.87 psi &lt; 46,800.00 psi</td>
</tr>
<tr>
<td>Longitudinal Bending Limit by RP2A-WSD</td>
<td>0.00 psi &lt; 39,000.00 psi</td>
</tr>
<tr>
<td>External Hoop Stress limited by RP2A-WSD</td>
<td>302.57 psi &lt; 19,640.82 psi</td>
</tr>
<tr>
<td>Combined Stresses, Tensile &amp; Bending, limited by RP2A-WSD</td>
<td>0.01 &lt; 1.00</td>
</tr>
<tr>
<td>Combined Stresses, Tensile, Bending, &amp; Hoop limited by RP2A-WSD</td>
<td>0.00 &lt; 1.00</td>
</tr>
<tr>
<td>A = 0.011</td>
<td>B = 0.023</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analysis for BC</th>
<th>Axial Tension limited by RP2A-WSD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1,273.78 psi &lt; 46,800.00 psi</td>
</tr>
<tr>
<td>Longitudinal Bending Limit by RP2A-WSD</td>
<td>12,598.99 psi &lt; 39,000.00 psi</td>
</tr>
<tr>
<td>External Hoop Stress limited by RP2A-WSD</td>
<td>939.14 psi &lt; 19,640.82 psi</td>
</tr>
<tr>
<td>Combined Stresses, Tensile &amp; Bending, limited by RP2A-WSD</td>
<td>0.35 &lt; 1.00</td>
</tr>
<tr>
<td>Combined Stresses, Tensile, Bending, &amp; Hoop limited by RP2A-WSD</td>
<td>0.12 &lt; 1.00</td>
</tr>
<tr>
<td>A = 0.322</td>
<td>B = 0.072</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analysis for CD</th>
<th>Axial Tension limited by RP2A-WSD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3,261.94 psi &lt; 46,800.00 psi</td>
</tr>
<tr>
<td>Longitudinal Bending Limit by RP2A-WSD</td>
<td>0.00 psi &lt; 39,000.00 psi</td>
</tr>
<tr>
<td>External Hoop Stress limited by RP2A-WSD</td>
<td>939.14 psi &lt; 19,640.82 psi</td>
</tr>
<tr>
<td>Combined Stresses, Tensile &amp; Bending, limited by RP2A-WSD</td>
<td>0.07 &lt; 1.00</td>
</tr>
<tr>
<td>Combined Stresses, Tensile, Bending, &amp; Hoop limited by RP2A-WSD</td>
<td>0.01 &lt; 1.00</td>
</tr>
<tr>
<td>A = 0.067</td>
<td>B = 0.072</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analysis for DE*</th>
<th>Axial Tension limited by RP2A-WSD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4,056.82 psi &lt; 46,800.00 psi</td>
</tr>
<tr>
<td>Longitudinal Bending Limit by RP2A-WSD</td>
<td>12,598.99 psi &lt; 39,000.00 psi</td>
</tr>
<tr>
<td>External Hoop Stress limited by RP2A-WSD</td>
<td>939.14 psi &lt; 19,640.82 psi</td>
</tr>
<tr>
<td>Combined Stresses, Tensile &amp; Bending, limited by RP2A-WSD</td>
<td>0.41 &lt; 1.00</td>
</tr>
<tr>
<td>Combined Stresses, Tensile, Bending, &amp; Hoop limited by RP2A-WSD</td>
<td>0.17 &lt; 1.00</td>
</tr>
<tr>
<td>A = 0.389</td>
<td>B = 0.072</td>
</tr>
<tr>
<td>Analysis for EF</td>
<td>Axial Tension limited by RP2A-WSD</td>
</tr>
<tr>
<td>-------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>Longitudinal Bending</td>
<td>Limit by RP2A-WSD</td>
</tr>
<tr>
<td>External Hoop Stress</td>
<td>limited by RP2A-WSD</td>
</tr>
<tr>
<td>Combined Stresses,</td>
<td>Tensile &amp; Bending, limited by RP2A-WSD</td>
</tr>
<tr>
<td>Combined Stresses,</td>
<td>Tensile, Bending, &amp; Hoop</td>
</tr>
<tr>
<td></td>
<td>limited by RP2A-WSD</td>
</tr>
</tbody>
</table>

*A = 0.104  B = 0.024

* Typically critical portion.
APPENDIX B
HDD Breakover Calculations
HDD Breakover Analysis and Max Pipe Span
WFM PROJECT #G8939 EAST EDISTO PHASES 1-4

Proposed 14-Inch Pipe

Cantilver with Uniform Load

Pipe Outside Diameter, OD = 14 in
Inside Diameter, ID = 13
Pipe Wall Thickness, wt = 0.5 in
Modulus of Elasticity, E = 3.00E+07 psi
Distributed load, w = 72.16 = pipe weight per ft, lb/ft
Filled with Water? No
= 6.01 lb/in
Area Moment of Inertia (Annulus), I = 483.76 in^4
SMYS = 52,000 psi
Safety Factor = 25%
Allowable Bending Stress, \( \sigma_b \) = 13,000 psi

<table>
<thead>
<tr>
<th>Length, L =</th>
<th>547 in</th>
</tr>
</thead>
<tbody>
<tr>
<td>46 ft</td>
<td></td>
</tr>
</tbody>
</table>

Maximum Deflection, \( y_{max} \) = 4.62 in
= 0.39 ft
Maximum Moment, \( M_{max} \) = 898,404.34 lb-in
= 74,867 lb-ft

Maximum Pipe Span Length Without Pressure Modeled as Simply Supported Beam

Max Span Length, L = 1,093 in
= 91 ft
HDD Breakover Analysis and Max Pipe Span

Maximum Pipe Span Length (With or Without Water/Pressure)
Modeled as Simply Supported Beam

e.g. Rollers

Hydrostatic Testing? Yes
Distributed load, w = 129.68 = pipe weight per ft, lb/ft plus water if hydrostatic testing
= 10.81 lb/in
Area Moment of Inertia (Annulus), I = 483.76 in^4
Section Modulus, Z = 69.11 in^3
SMYS = 52,000 psi
Safety Factor = 72% total stresses as percentage of SMYS either while in operation or during testing
%SMYS = 37,440 psi

MOP/Test Pressure = 1,500.00 psi typically 125% of MOP or 90% of SMYS for testing
% of SMYS from Internal Pressure = 40.38% %
Hoop Stress, H = 21,000 psi 37440
Max Allowable Bending Stress, B = -43,226 psi 22,226 psi

Max Allowable Bending Moment, M = 1,536,088 lb-in
= 128,001 lb-ft

Check Bending
Max Span Length, L = 1,066 in
= 89 ft
Deflection, d = 12.54 in

Check Deflection (L/360)
Max Span Length, L = 659 in
= 55 ft
Deflection, d = 1.83 in
HDD Breakover Analysis Summary

Exit Angle, $B = 13.0^\circ$

$= 0.2$ radians

Roller Height = 2.0 ft (assume 2')

$A = 8.66$ ft

$= 8$ ft

$C = 44.39$ ft

$= 44$ ft

$D = 11.86$ ft

$= 12$ ft

$E = 91.11$ ft

$= 91$ ft

$F = 54.94$ ft

$= 54$ ft
APPENDIX C
Hydrofracture Analysis
Note: The Contractor shall also evaluate the results of the geotechnical investigation, as these calculations include variables that are affected by Contractor preferences and equipment. These calculations do not eliminate the need to monitor mud flow rate and pressure during construction activities. This is strictly to evaluate feasibility and identify potential risks.

The Pmax is the maximum allowable drilling fluid pressure in a bore (the annular space) using the cavity expansion model. Pmax FS 1.5 is the maximum allowable drilling pressure in a bore with a factor of safety of 1.5 applied. The maximum allowable calculated pressure at any point is the pressure required to create a plastic zone equal to the depth of soil above the pipeline at that point. These equations do not apply to rock or where fractures, fissures, or other preferential pathways exist. Pmin is the fluid pressure required to return the drilling fluid and cuttings back to the surface at the entry point. The minimum pressure primarily a factor of length, depth of the bore, diameter of the bore, weight of drilling fluid, and flow rate. It is a combination of the drilling fluid head pressure that must be overcome and the friction associated with the bore wall. The factor of safety can be found by dividing Pmax by Pmin. The recommended factor of safety is 1.5 for sand or 2.0 for clay soils.

Methodology from the "HDD Consortium - Horizontal Directional Drilling Good Practices Guidelines (Third Edition)"
APPENDIX D
Drilling Fluid Estimate
## DRILLING FLUID QUANTITY ESTIMATE

### PIPE DATA

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pipe Diameter:</td>
<td>14 inch</td>
</tr>
<tr>
<td>Total Drilled Length:</td>
<td>2500 feet</td>
</tr>
</tbody>
</table>

### PILOT HOLE DRILLING

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drilling Mud Flow Rate:</td>
<td>5 barrels/min</td>
</tr>
<tr>
<td>Pilot Hole Production Rate:</td>
<td>5 feet/hour</td>
</tr>
<tr>
<td>Pumping Factor:</td>
<td>45 min/hour</td>
</tr>
<tr>
<td>Circulation Loss Factor:</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Consumed Total = 5625 barrels

### REAMING

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drilling Mud Flow Rate:</td>
<td>14 barrels/min</td>
</tr>
<tr>
<td>Prereaming Penetration Rate:</td>
<td>2 feet/min</td>
</tr>
<tr>
<td>Circulation Loss Factor:</td>
<td>0.05</td>
</tr>
<tr>
<td>Number of Passes:</td>
<td>3</td>
</tr>
</tbody>
</table>

Consumed Total = 2625 barrels

### PULLING BACK

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drilling Mud Flow Rate:</td>
<td>5 barrels/min</td>
</tr>
<tr>
<td>Pull Back Penetration Rate:</td>
<td>2 feet/min</td>
</tr>
<tr>
<td>Circulation Loss Factor:</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Consumed Total = 312.5 barrels

### ESTIMATED TOTALS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pilot Hole Drilling Total:</td>
<td>5625 barrels</td>
</tr>
<tr>
<td>Reaming Total:</td>
<td>2625 barrels</td>
</tr>
<tr>
<td>Pullback Total:</td>
<td>312.5 barrels</td>
</tr>
<tr>
<td>Volume Remaining in Annulus:</td>
<td>-595 barrels</td>
</tr>
<tr>
<td>Cuttings Removed from Hole:</td>
<td>1076 barrels</td>
</tr>
</tbody>
</table>

**Project Total:** 9,044 barrels

379,857 gallons

### Assumptions:
2. Drilling mud for each phase will be hauled offsite (not recirculated) due to contamination
3. No inadvertent returns have been considered in the volume calculations
APPENDIX E
Hydrostatic Test Water Estimate
### Hydrostatic Test Water Estimates

<table>
<thead>
<tr>
<th>O.D.</th>
<th>14 in</th>
</tr>
</thead>
<tbody>
<tr>
<td>wt</td>
<td>0.500 in</td>
</tr>
<tr>
<td>I.D.</td>
<td>13 in</td>
</tr>
</tbody>
</table>

Cross Sectional Area = \(132.732 \text{ in}^2\)  
= \(0.922 \text{ ft}^2\)
Length = 3000.000 ft

| Volume | 2765 ft\(^3\)  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>= 20686 gal</td>
</tr>
</tbody>
</table>
APPENDIX F
Compound Curve Calculation
Compound Angle Calculations for Directional Drill Installations
14-Inch Twin Oaks to Newark Jacobs Creek Pipeline Relocation Project

Material is 14-inch 0.500-inch wall thickness, API 5L, Grade X52

Enter horizontal and vertical radius for section of interest

\[ R_h = \text{Horizontal Radius} = 1600 \text{ feet} \]
\[ R_v = \text{Vertical Radius} = 2800 \text{ feet} \]
\[ E = 3.00 \times 10^7 \text{ psi} \]

Calculated Compound Radius

\[ R_c = 1389 \text{ feet} \]

\[ R_c = \left( \frac{R_h^2 \times R_v^2}{R_h^2 + R_v^2} \right)^{\frac{1}{2}} \]
HDD Inadvertent Return Assessment, Preparedness, Prevention & Contingency Plan for the 14-inch Twin Oaks to Newark Jacobs Creek Pipeline Relocation Project

Upper Makefield Township, Bucks County, Pennsylvania
Ewing & Hopewell Townships, Mercer County, New Jersey
HDD INADVERTENT RETURN ASSESSMENT, PREPAREDNESS, PREVENTION AND CONTINGENCY PLAN

14-INCH TWIN OAKS TO NEWARK JACOBS CREEK PIPELINE RELOCATION

Located In:

UPPER MAKEFIELD TOWNSHIP, BUCKS COUNTY, PA
EWING & HOPEWELL TOWNSHIPS, MERCER COUNTY, NJ

Prepared For:

SUNOCO PIPELINE LP (SPLP)
100 GREEN STREET
MARCUS HOOK, PA 19061-4800

FEBRUARY 2021

Prepared By:
STV Energy Services, Inc.
205 West Welsh Drive
Douglassville PA, 19518
610-385-8200
STV Project Number: 38-16332
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APPENDICES

Appendix A – Initial Inadvertent Report Forms
1. PROJECT DESCRIPTION

SPLP owns and operates a 14-inch welded steel high-pressure petroleum products pipeline that transports product from SPLP’s Twin Oaks Terminal to their Newark Facility. Near the confluence of Jacobs Creek and the Delaware River in Ewing and Hopewell Townships, Mercer County, New Jersey and Upper Makefield Township, Bucks County, Pennsylvania, the existing pipeline is located within the stream beds of the Delaware River and Jacobs Creek. The pipeline travels across the Delaware River from Pennsylvania and then up the Jacobs Creek streambed, through a large concrete and stone arch culvert which supports the Delaware and Raritan Canal and State Route 29. At this location, the pipeline is exposed within the stream bed of Jacobs Creek.

The Delaware and Raritan Canal parallels the Delaware River and New Jersey State Route 29 at this location, with Jacobs Creek bisecting them within a 24-foot wide rock and concrete arch culvert. The pipeline is exposed a total length of 301 feet within Jacobs Creek: 169-foot within the culvert, 3-feet upstream of the culvert and 129-feet downstream of the culvert. The creek bed is located approximately 30-35 feet below the highway and canal surface.

Horizontal directional drill (HDD) installation techniques will be used to install the proposed pipeline across the Delaware River and up Jacob’s Creek. The proposed HDD installation will be a 14-inch pipeline approximately 2,515-feet in length and approximately 85-feet deep under the Delaware and Jacob’s Creek stream beds, the concrete arch culvert and approximately 110-120 feet under the Delaware Raritan Canal and SR029.

Going from PA into NJ in a west to east direction, the proposed HDD will cross under PA SR 32/River Road, the Delaware River, Jacobs Creek and the concrete culvert that supports Route 29 and the Delaware/Raritan Canal.

The proposed HDD will be installed from both the PA and NJ sides of the Delaware River.

On the PA side, the HDD entry point will be within a private residential property and the (3) 855-foot HDD pipeline strings will be assembled and tested within the same private residential and an additional residential/farm property. On the NJ side the HDD exit point will be within an existing Gristmill private property and once the HDD drill and reaming process has been completed from the PA side the HDD drill rig will move to the NJ side or an additional smaller HDD rig will be installed on the NJ side to pull-back the 14-inch pipeline string that has been assembled on the PA side.

Access on the NJ side to the Gristmill property will be through a residential property off Creek Rim Drive and from an existing Gristmill property driveway off NJ SR029. The contractor will travel down the driveway and continue around the back of another private residence on the same property. Large construction equipment will use the other access location through an existing private residence property located off Creek Rim Drive.

Access on the PA side to the PA residential and residential farm properties will be off Oakdale Avenue.

The proposed HDD will be tied into the existing pipeline using trench installation techniques located landside and outside of Jacob’s Creek and the Delaware River. On the NJ side approximately 394 feet of trenched pipe will be needed to tie-in the HDD installation Grist Mill.
property and on the PA side approximately 121 feet of trenched pipe will be needed to tie in the HDD installation within Oakdale Avenue.

Approximately 316 feet of the exposed pipe and 199-feet of exposed casing will be removed from Jacob’s Creek and the remaining existing pipeline will be abandoned in place and filled with grout. Access to the eastern end of the exposed pipe will be from the gristmill property into the middle of Jacob’s creek. Jacob’s Creek will be dammed off using sandbags or a port-a-dam to allow access into the stream and to the exposed pipe which will be cut and capped at this location. Access to the western end of the exposed pipe will along an existing Delaware Raritan Canal macadam path/road and down an existing cleared embankment into the middle of Jacob’s creek. Jacob’s Creek will be dammed off using sandbags or a port-a-dam to allow access into the stream and to the exposed pipe which will be cut and capped at this location. Once the exposed pipeline ends have been cut, the cut pipeline will be pulled through the culvert onto the Gristmill property where it will be cut into 20-foot joints and placed into roll-offs which will be hauled off-site and disposed of. All exposed pipeline removal activities will occur on the NJ side of the river. The remaining existing/abandoned pipeline will be grouted from the HDD land-side tie-in locations to the capped ends of the removed pipeline.

2. **INADVERTANT DRILLING FLUID RETURN**

For the purpose of this document and the 14-Inch Twin Oaks to Newark Jacobs Creek Pipeline Relocation Project (Jacobs Creek), an inadvertent drilling fluid release will be defined as the unintentional or inadvertent loss of drilling fluids from the HDD bore hole to the surface onshore, other than the area of the bore entry and exit points. Drilling fluids loss to subsurface geological formations may result in a reduction of drilling return fluids and materials but will not be considered an inadvertent release until drilling fluids are observed at the ground surface.

2.1 **DRILLING FLUID**

Drilling fluids consist of a mixture of water, bentonite and additives. This mixture has a unit weight slightly higher than that of fresh water. Bentonite is a naturally occurring, non-toxic, inert substance that meets American National Standards Institute / National Science Foundation International (ANSI/NSF) Standard 60 Drinking Water Additive Standards and is frequently used for drilling portable water wells. Drilling solely with fresh water is not ideal for an HDD installation, as water is not capable of suspending and transporting the cuttings produced from the bore and provides little to no capacity to stabilize the bore. If the generated cuttings cannot be removed, then the fluid-filled bore cannot be properly developed and maintained, and the product pipe cannot be installed.

3. **PURPOSE OF THE PLAN**

This document establishes a plan for monitoring, preventing and responding to an inadvertent release of drilling fluids that may occur during HDD of the Jacobs Creek Project. This plan identifies the activities to monitor and the responses that would be appropriate to minimize a possible release of drilling fluid. The purpose of the plan is to outline actions to be taken for various sizes of inadvertent releases under various conditions, should inadvertent releases occur, and to establish monitoring and response criteria that will reduce and minimize any environmental effects of the HDD operations.
4. INADVERTANT RETURN PREVENTION

The objective to prevent inadvertent returns shall be managed through reasonable construction practices, including:

4.1 CONTROLLED TOOL ADVANCE

During pilot hole activities the rate of advancement of the tool head will be conservative to allow for the clearing of cuttings from the annular space, this will prevent and blockages of the annular space that could result in a build-up of pressure that could increase the risk of IR. If the rate of returns is decreased or if the downhole pressure is increased the rate of advanced will be further slowed or stopped and appropriate measures will be taken to try to clear the hole through reversing direction to try to clear the annular space.

4.2 DOWN HOLE PRESSURE

Pumping pressure while the directional drill is in operation will be kept at a minimum to maintain positive circulation of drilling fluid to facilitate clearing of cuttings. Reductions of circulation events may require the adjustment of drill fluid properties (e.g. viscosity, density) and drill tool advancement changes.

During drilling pressure will be continually monitored utilizing a downhole pressure probe located at the head of the drill, the measured pressure will be compared against the predicted pressures and the maximum allowable pressures. These differences should give indications of the circular flow rate and the specific geology being encountered by the tool head. The drill rig operator, or driller, is responsible for monitoring the pressures

5. INADVERTANT RELEASE MONITORING

Ultimate responsibility for monitoring the site and HDD alignment for inadvertent drilling fluid release lies with the HDD superintendent.

5.1 CIRCULATION RATE

The drilling fluid circulation rate and the quantity of returns to the HDD entry returns pit will be continuously monitored and quantified. Any differences between the rate of drilling fluid returns and drilling fluid pumping rates may indicate an inadvertent drilling fluid release. The drill rig operator, or driller, is responsible for visually monitoring the returns pit for loss of circulation indications.

5.2 INSPECTION

The surface of the ground will be inspected visually along the HDD alignment for signs of Inadvertent Release. Visual inspection of watercourses while the HDD is operating under them is required. If pressure and advancement indications of inadvertent release are noticed, then a visual inspection of the HDD alignment shall be continuous until the source of the indications is identified. Reasonable efforts must be made to search for any location where drilling fluid may have reached the surface.
5.3 VIBRATORY MONITORING

Preconstruction vibratory monitoring of the subsurface has been conducted and will be used to compare to vibratory monitoring during construction. Differences in these values along with other indications of loss of circulation could be used to detect possible Inadvertent Returns. Vibratory Monitoring is conducted by E2PM.

6. TEMPORARY CASING

At the entry point of the HDD on the Pennsylvania side a temporary casing will be installed to facilitate the smooth flow of drilling fluid returns to the entry bore pit. The temporary casing will be installed from the surface to the rock interface and will provide additional inadvertent return protection at this location. The casing will also provide additional protection due to the increase in flow rate and pressure at the tool head during rock drilling operations. The casing will be removed when the HDD has been completed.

7. INADVERTANT RETURN RESPONSE

If an inadvertent drilling fluid return is observed the flow of drilling fluid shall immediately cease and the designated general contractor representative shall be notified immediately. The HDD Superintendent and general contractor representative shall determine the appropriate action to take depending on the volume and location of the inadvertent release.

1. If the inadvertent return is minor, easily contained, has not reached the surface and is not threatening sensitive resources, a leak-stopping compound shall be used to block the release. Any material contaminated with drilling fluid shall be removed to a depth of 2 feet from the surface and properly disposed of site as required by law. If the inadvertent return occurs within the limit of disturbance and is containable, the drilling operations may be restarted with environmental inspector and SPLP approval.

2. If an inadvertent return reaches the surface and becomes widespread, the HDD Superintendent shall authorize a readily accessible vacuum truck to assist in the removal of materials contaminated by bentonite.

3. If an inadvertent return releases in Hough’s Creek tributary, Jacobs Creek, or the Delaware River, the HDD Contractor will make every possible attempt to reduce, eliminate and contain the release. At the Environmental Inspector and/or PADEP inspector or NJDEP inspector’s direction the HDD Contractor will deploy floating silt booms, anchored in place over the location of the inadvertent return. The purpose is to contain and confine the suspended solids until observable settling can occur. The floating silt boom will remain in place until the inadvertent return has completely stopped. The Environmental Inspectors will characterize the environmental impacts from the release of drilling fluids following completion of the drill, including the extent of the plume, the area affected by recover efforts, changes to hydrology and whether the impacts are permanent or temporary. A report of the assessment will be provided to the PADEP representative and NJDEP representative as required for determination of any further action.

Every reasonable effort to reduce, eliminate and contain the inadvertent return will be made. Until the release is contained drilling operations to advance the directional drill shall not be resumed, however the operator may take steps to preserve the integrity of the bore hole. These
actions may include but are not limited to, adding pre-approved loss circulation materials to the drilling fluid, circulating the bore hole with drilling fluid and removing the drill string from the bore hole.

Appropriate materials to control inadvertent release must be kept on site and these materials may include but are not limited to:

- Pre-approved LCMs
- Wood stakes
- Plastic sheeting
- Corrugated plastic pipe
- Sandbags
- Silt fence
- Silt sock
- Plastic tarp(s)
- Orange safety fence
- Metal posts
- Hand tools (e.g. shovels, buckets, rakes, push brooms)
- Storage Tanks (If needed)
- Pumps, vacuum trucks

8. GENERAL CONDITIONS

- This Inadvertent Returns plan must be present on-site during drilling operations and be made available to all agencies involved in the project.
- All required permits and material Safety Data Sheets must be onsite and made available to PADEP.

8.1 PADEP CONDITIONS

- The permittee shall notify DEP, in writing, of the proposed time for commencement of work at least 15 days prior to the commencement of construction
- The project site shall always be available for inspection by authorized officers and employees of the Pennsylvania Fish and Boat Commission. Prior to commencement and upon completion of the work authorized by this permit, the permittee shall notify the Pennsylvania Fish and Boat Commission’s Southeast Regional Office, Box 8, Elm, PA 17521; telephone 717.626.0228.

8.2 NJDEP CONDITIONS

- The permittee (SPLP) shall immediately inform NJDEP (department) of any unanticipated adverse effects on the environment that are not described in the application or in the conditions of the NJDEP permit. The department may, upon discovery of such unanticipated adverse effects, and upon the failure of the permittee to submit a report thereon, notify the permittee of its intent to suspend the permit.
- The permittee (SPLP) shall immediately inform the Department by telephone at (877-927-6337 (WARN DEP hotline) of any noncompliance that may endanger public health,
and welfare, or the environment. The permittee (SPLP) shall inform the Division of Land Resource Protection by telephone at (609)-777-0454 of any other noncompliance within two working days of the time the permittee became aware of the noncompliance, and in writing within five working days of the time the permittee becomes aware of the noncompliance. Such notice shall not, however, serve as a defense to enforcement action if the project is found to be in violation of this chapter (105). The written notice shall include:

a. A description of the noncompliance and its cause;
b. The period of noncompliance, including exact dates and times;
c. If the noncompliance has not been corrected, the anticipated length of time it is expected to continue; and
d. The steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

- The permittee (SPLP) shall submit written notification to the Bureau of Coastal and Land Use Compliance and Enforcement, 401 East State Street, 4th Floor, PO Box 420, Mail Code 401-04C, Trenton, NJ 08625, at least three working days prior to the commencement of regulate activities.

9. **TRAINING OF PERSONNEL**

All HDD contractor personnel onsite will receive training in preventing, monitoring and response to inadvertent returns. This training will include:

- The details of this plan
- Specific permitting conditions and requirements
- Communication organization
- Order of authority and responsibility
- Contact names and phone numbers of appropriate individuals
- Reportable events
APPENDIX A

Initial Inadvertent Report Forms
### 14-INCH TWIN OAK TO NEWARK JACOBS CREEK Pipeline Relocation Project
**Horizontal Directional Drilling - Inadvertent Return Report Form**

<table>
<thead>
<tr>
<th>REPORT DATE:</th>
<th>HDD ALIGNMENT #:</th>
<th>HDD COMPANY:</th>
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<tbody>
<tr>
<td>PROJECT SITE:</td>
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<tr>
<td>DATE AND TIME WHEN IR WAS DISCOVERED</td>
<td>DATE:</td>
<td>TIME:</td>
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<tr>
<td>LOCATION: STREET</td>
<td>MUNICIPALITY:</td>
<td>COUNTY:</td>
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<td>STREAM NAME:</td>
<td>FROM STATION:</td>
<td>TO STATION</td>
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<tr>
<td>POND / LAKE NAME:</td>
<td>WETLAND NAME:</td>
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<tr>
<td>DEP PERMIT No. (18):</td>
<td>CORPS PERMIT No. (18):</td>
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<tr>
<td>SITE TRACKING ID:</td>
<td>LISTED IN WHICH EXHIBIT:</td>
<td>DESCRIPTION IN EXHIBIT</td>
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</tbody>
</table>

### L. Background Information

#### A. Name of all person(s) providing information for this report and contact information

#### B. Material(s) released

#### C. Description of the release (Provide dates, times, and duration of IR if known, include root causes)

#### D. Estimated quantity of material released

#### E. Estimated aerial extent of material released

#### F. IR has been contained within the limit of disturbance? (Provide date and time)

#### G. T & E / Bog Turtle Area?

#### H. Trout Stream?

#### I. EV Water

#### J. EV Wetland

#### K. Any downstream impacts? (Provide description, dates, times, and duration)

#### K1. Did a fish kill occur? (Provide dates and times)

#### K2. Has the substrate been coated?

#### K3. Where any water supplies impacted? (Provide dates and times)

#### K4. If water supplies were impacted, were the owners of the water supplies notified? Has anything been provided to the owners of the impacted water supplies? (Provide dates and times)

#### MAP:
## II. Verbal Notifications

**PADEP Emergency Notification:**
- **Phone Number Called:**
- **Date:**
- **Time:**
- **Person Called:**
- **Notes:**
- **VM?:**
- **Note:**

**List Any Notifications of Incident Made to Water Intakes, Water Well Owners and Landowners, Including Date and Time When Each Notification Occurred:**

### County Conservation District Notification
- **Phone Number Called:**
- **Date:**
- **Time:**
- **Person Called:**
- **Notes:**
- **VM?:**
- **Note:**

### USACE Regulatory Notification
- **Phone Number Called:**
- **Date:**
- **Time:**
- **Person Called:**
- **Notes:**
- **VM?:**
- **Note:**

### Fish and Boat Commission Notification
- **Phone Number Called:**
- **Date:**
- **Time:**
- **Person Called:**
- **Notes:**
- **VM?:**
- **Note:**

### Other Notification
- **Phone Number Called:**
- **Date:**
- **Time:**
- **Person Called:**
- **Notes:**
- **VM?:**
- **Note:**

## III. Actions Taken/Follow Up

### Immediate Action Taken:

### Corrective Measures Summary:

#### A. Was the IR ceased?
- **How and When?**

#### B. Was the IR contained?
- **How and When?**

#### C. Was the IR/drilling fluid recovered?
- **How and When?**

#### D. Was drilling resumed?
- **If so, what modifications to the HDD process were used?**
- **If so, has another release occurred?**
**IF INTERIM, SEE NOTE ABOVE.**

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<tr>
<th>REPORT DATE:</th>
<th>HDD ALIGNMENT #</th>
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<td>PROJECT SITE:</td>
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<th>DATE AND TIME WHEN IR WAS INITIALLY DISCOVERED</th>
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**COMPLETE THE FOLLOWING QUESTIONS IF APPLICABLE:**

1. **IS THE IR ON-GOING?** Provide dates, times, and duration of all IRs. **NOTE:**

2. **HAS THE IR CEASED?** Provide date and time for each IR. **NOTE:**

3. **WHEN WAS DRILLING STOPPED?** Provide date and time for each IR.

4. **VOLUME OF IR (CURRENT ESTIMATE)?**

4A. **DOES THIS VOLUME RELEASE REPRESENT A TOTAL VOLUME RELEASED SINCE THE RELEASE BEGAN?** **NOTE:**

5. **HAS THIS VOLUME CHANGED SINCE THE LAST REPORT?** If so, how? **NOTE:**

6. **WHAT IS THE DURATION OF EACH IR?** Provide dates and times.

7. **WHAT STEPS WERE TAKEN TO STOP EACH IR?** Provide dates and times.

8. **WHAT REVISIONS TO THE DRILLING WERE IMPLEMENTED PRIOR TO EACH RESUMPTION OF DRILLING?** Provide dates and times.

8A. **What was the technical basis for resuming drilling?**

9. **WAS THE DRILLING RESUMED?** Provide dates, times, and duration for each IR. **NOTE:**

9A. **IF SO, HAS ANOTHER IR OCCURRED?** If yes, provide dates and times for each IR. **NOTE:**

10. **HAS IR BEEN CONTAINED?** If yes, Provide dates, times, and measures for each IR. **NOTE:**

11. **HAS A FISH KILL OCCURRED?** If yes, Provide dates, times, and measures for each IR. **NOTE:**

12. **ARE FISH AND OR OTHER AQUATIC LIFE IN DISTRESS?**

13. **AS OF THE DATE OF THIS REPORT, DOES DRILLING FLUID REMAIN IN THE WETLAND OR WATERCOURSE?** **NOTE:**

14. **IS THERE NOTICEABLE HIGH LEVELS OF TURBIDITY IN THE WATERCOURSE?** If yes, Provide dates, times, and duration for each IR. **NOTE:**

15. **HAS FLUID LOSS OCCURRED?** (IF KNOWN) If yes, Provide dates, times, and duration for each loss of fluid. **NOTE:**

16. **CORRECTIVE MEASURES IMPLEMENTED NOT PREVIOUSLY LISTED ABOVE?** Provide dates and times for each IR.

17. **DESCRIPTION OF IMPACTS INCLUDING TIMES, DATES, AND DURATION OF EACH IMPACT.**
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**NAME OF ALL PERSON(S) PROVIDING INFORMATION FOR THIS REPORT AND CONTACT INFORMATION**

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**IMPACTED RESOURCE(S)**

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<th>SURFACE WATER CLASSIFICATION OR WETLAND TYPE</th>
<th>WHAT STEPS HAVE BEEN TAKEN TO ELIMINATE OR MITIGATE THE IMPACTS?</th>
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**ADDITIONAL INFORMATION**

- IF DRILLING RESUMED DOES IT INVOLVE A CHANGE IN EQUIPMENT, DEPTH OR ALIGNMENT? NOTE:
- PUBLIC OR PRIVATE WATER SUPPLY - PROXIMITY TO DOWNSTREAM WATER INTAKES? NOTE:
- PROXIMITY TO PUBLIC OR PRIVATE WATER SUPPLIES AND WELLS? NOTE:
- LIST AND DESCRIBE MATERIAL(S) RELEASED: NOTE:
- HAS THE ESTIMATED QUANTITY OF THE RELEASE INCREASED SINCE THE LAST REPORT? IF SO, HOW? NOTE:
- ESTIMATED AERIAL EXTENT OF RELEASE
- EXTENT (LINEAR FEET/MILES) OF DOWNSTREAM EDGE OF RELEASE, IF ANY
- DESCRIBE ROOT CAUSE(S) OF IR
- OTHER COMMENTS; NOTE ANY MATERIAL CHANGE IN THE INFORMATION FROM PRIOR REPORTS
- HAVE THE IMPACTS FROM THE IR BEEN REMEDIED? Please provide date of remediation.

**PRINTED NAME, TITLE AND SIGNATURE OF PERSON(S) COMPLETING THIS REPORT**

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**PADEP USE ONLY**

- AUTHORIZATION FROM PADEP OR CCD TO RESUME HBD REQUIRED? NOTE:
- PERMIT AMENDMENT? NOTE:

**PADEP / CCD REVIEWER NAME:**

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Files

- Jacobs Creek DRBC Reponse Letter.pdf (175.0 KB)
- 04 Jacobs Creek Inadvertant...ry 2021.pdf (2.1 MB)
- 03 Jacobs Creek HDD Analys...ry 2021.pdf (1.1 MB)
- 02 2021_05_25_Rev_H_Binder.pdf (22.1 MB)
- 01 Jacobs Creek Pipeline R...igation.pdf (4.0 MB)

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June 9, 2021

Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360

Reference: Sunoco Pipeline L.P.
Jacobs Creek Replacement Project (DRBC D-1998-035-2)
Upper Makefield Twp, Bucks Co, PA
Hopewell & Ewing Twp, Mercer Co, NJ

Subject: DRBC D-1998-035-2 Response Letter

Attention: Eric L. Engle, P.G.

STV Project No.: 38-16332

Mr. Engle,

STV Energy Services, Inc. (STV), on behalf of Sunoco Pipeline L.P. (SPLP), respectfully submits the following responses and documentation addressing the comments in your e-mail dated June 3, 2021 regarding the above referenced submission.

A. Previous Experience in New Jersey

Sunoco’s HDD installation protocols and inadvertent returns contingency plan would greatly benefit from the experience gained after the inadvertent release (IR) issues associated with New Jersey Natural Gas’ HDDs in New Jersey in 2020. NJNG took significant steps to increase HDD safety after a major IR. These steps should be added to in Sunoco’s HDD protocols and IR contingency planning.

The steps NJNG took are spelled out in the attached documents:
- New Jersey Natural Gas – Southern Reliability Link Project, Inadvertent Return Events, August 6, 2020
- Letter from Craig Lynch, senior VP of NJNG to Diane Dow, Director, NJDEP, October 23, 2020.

An outline of the steps that should be added to the Sunoco HDD operations and IR contingency plan are:
1) Preconstruction Geological Evaluation
   a) More borings to better define subsurface geology and expected conditions the boreholes will encounter
2) HDD Design
   a) Modified based on observed site geology
3) Operations protocol
   a) Annular pressure monitoring
   b) Circulation and drilling fluid
   c) Trip schedules
   d) Additional measures
   e) Additional positions
      i) Qualified HDD inspector
      ii) Qualified drilling fluid engineers
   f) Construction inspection and oversight
   g) Record keeping
   h) Abandonment plan

Three borings have been performed at predetermined locations for this proposed 2,515-foot HDD. Based on the length of the HDD and the generally consistent nature of the subsurface conditions observed in borings SB-1, SB-2, and SB-3, this is sufficient data to complete a design and evaluate risk.

The HDD design was performed by STV, which is experienced with HDD design and with working in New Jersey, was based on a geotechnical investigation and has been reviewed by Michels Pipelines & Facilities group, an experienced contractor which performs HDDs.

A qualified HDD inspector will be on site during HDD activities and will be responsible for observing the advancement of pilot hole, verifying the geometry, annular pressures, and mud returns. STV has estimated the minimum required pressures to return cuttings to entry point. Since the HDD is in rock, hydrofracture calculations are not applicable. The inspector will typically complete daily reports and track geometry and measured annular pressures against the anticipated minimum pressures.

A drilling fluids engineer is provided by the contractor. Additionally, the contractor that is awarded the bid, is required to provide a drilling plan, contingency plan, and pullback plan. Experiences and resumes can be provided at that time.

B. Specific areas of concern are:

1. Unsuccessful Attempts

Not all HDDs are successful. Collapsing holes may trap drill heads and prevent completion of the HDD and/or removal of some drilling equipment. The submitted contingency plan does not address this possibility. Sunoco must be prepared to deal with unsuccessful attempts. An abandoned borehole after an unsuccessful HDD attempt should be filled with NSF-60 grout approved in NJAC 7:9D and not left unfilled or filled with another material. The contingency plan must address this possibility with an acceptable, and approved, plan of action.

Abandoned bore holes, if necessary, will be grouted. Additionally, there is not an elevated risk of collapsing bore hole or having reamers stuck based on the geotechnical investigation.

2. Filling the old pipeline
The existing pipeline under the Delaware River should be filled with NSF-60 grout approved in NJAC 7:9D after abandonment. It should not be left open or filled with other material. *The existing line is proposed to be grouted and abandoned-in-place.*

3. Monitoring Details

The contingency plan lacks specific details especially on the monitoring. Who is responsible to do the monitoring; how often the monitoring; and how is it done? More details are required. *The contractor is responsible for knowing the project and subsurface conditions, based on the geotechnical investigation, and providing a drilling and contingency plan. The HDD inspector on site will monitor mud returns real time along with annular pressures and geometry typically with every shot.*

4. Drone Surveillance

The drilling contractor should utilize drone surveillance to monitor for signs of inadvertent returns to or adjacent to the Delaware River. An aerial perspective will allow for better and quicker monitoring. *Noted. The alignment will be monitored by whatever means is appropriate/necessary.*

5. Qualified Personnel

Sunoco should engage the services of both a qualified HDD inspector and a qualified drilling fluid engineer who will provide daily oversight of HDD operation. Their CVs should be provided. *Resumes can be provided upon a contractor being awarded the job and schedules developed.*

C. Comments on the Submitted IR Report:

Section 1. Project Description

Pages 1 to 3 describe the project where Sunoco Pipeline LP (SPLP) proposes to install 2,515 feet of 14-inch pipeline under the Delaware River and the Delaware Raritan Canal to replace a segment of the existing pipeline. The depth below the river is to be about 85 feet and about 110 to 120 feet below the canal. The last paragraph of the discussion at the top of page 3, indicates that, on the New Jersey side, 316 feet and 199 feet of exposed pipe, in Jacob’s Creek, will be removed with the remaining pipe being capped and filled in place with grout. This paragraph is a little unclear as to what they are actually grouting. Is Sunoco grouting the abandoned section of pipe between the removed 316-foot piece and the removed 199-foot piece only, or are they grouting that section as well as the abandoned pipe section under the Delaware River from Pennsylvania to New Jersey? *The existing pipeline will be grouted and abandoned-in-place. Sections to be removed will be cut out after the grouting is complete.*
Regarding the removal, there is 316 feet of existing carrier pipe that will be removed, of which 199 feet is cased. Both the carrier and the casing in this area that is exposed is proposed to be removed. This portion is exposed on the New Jersey side in Jacobs Creek.

Section 2. Inadvertent Drilling Fluid Return

This section defines an inadvertent release “… loss of drilling fluids from the HDD bore hole to the surface onshore, other than the area of the bore entry and exit points.” It says “Drilling fluids loss to subsurface geological formations may result in a reduction of drilling return fluids and materials but will not be considered an inadvertent release until drilling fluids are observed at the ground surface.”

Most inadvertent returns occur within a couple hundred feet of the entry and exit points where the drilling fluid pressure is greater than the soil fracture strength. This section also excludes releases of drilling fluids directly to the water bodies from the river or stream bed as being an IR (inadvertent release). According to this document the only IRs would be those that reach the surface on land and those fluid releases directly into the water from the subsurface would not be an IR.

Releases into water, environmental resources, etc. would be considered an IR. Monitoring of the annular pressure and the drilling mud returns along with the surveillance of the alignment will be full time.

A temporary casing is proposed at the entry point to the rock, all on the tangent, which will help reduce the risk for IR.

Hydrofracture is not applicable to rock drills. Instead the rock has to be evaluated qualitatively based on the description, besides the RQD and unconfined compressive strength. The drilling practices, equipment, etc is up to the contractor and their discretion. Drilling through competent rock would reduce the risk of IR.

The variable that most greatly impacts the assessment of the risk and the success of the drill is the depth of cover. The proposed depth of cover is appropriate based on the length of the drill and geotechnical conditions.

Section 4. Inadvertent Return Prevention

This section discusses some of the things Sunoco will do to prevent an IR, such as controlling rate of advancement of the bit, down hole pressure, and rate of penetration.

Note, this plan does not contain the HDD plan, cross section or borings, but based on NJ-Geo-Web the bedrock is the Lockatong Formation, which is a hard, massive light to dark gray, greenish gray and black, fine grained sandstone, siltstone and argillite with some reddish- brown beds. The Lockatong is a tough, hard drilling rock which may require special bits and higher bit pressures so the driller or rig operator will have to be more observant.
A geotechnical investigation was completed for this project. The contractor is required to be familiar with this information and neither eliminates nor reduces the need for monitoring the rate, annular pressure, or mud returns during drilling activities.

The geotechnical report has been included as a part of this response.

Included with the response are the following files:
- Geotechnical report prepared by Earth Engineering, Inc. dated January 7, 2020
- Full plan set dated May 24, 2021 (Rev H)
- Jacobs Creek HDD Analysis dated January 2021
- Jacobs Creek Inadvertent Return Control Plan dated February 2021

Some of the requested information can be finalized and submitted upon award of the bid.

Thank you in advance for your time and attention to our submission. If you have any questions, please contact the project manager, Ed Weirsky, at 609-530-0020 or Edward.Weirsky@stvinc.com.

Sincerely,

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518
Good afternoon Eric,

Quick questions about the instream moratorium statement in the docket Other conditions number 11 copied below. Is this moratorium limited to work in the Delaware River or is this applicable to instream work in Jacob’s Creek as well. We have a 5/1 to 7/31 moratorium from DEP for Jacobs related to “general game fish” and I just want to make sure we are planning work activities to meet all applicable dates.

11. No construction, excavation, filling, or grading is permitted within the watercourse onsite between March 1 through June 30 to protect the anadromous spawning and Sturgeon spawning activities in the Delaware River during removal of the section of pipe in the Jacobs Creek.

Thank you,

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

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proposal and the IR contingency plan. DRBC staff concur with NJDEP’s recommendations. We request that Sunoco provide the Commission with responses to New Jersey’s Comments and submit its revised drilling plan and IR contingency plan.

If you should have any questions, please email us and we will coordinate with New Jersey staff.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

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Good morning David,

Left a voicemail but wasn’t sure if you were in the office. I am available all morning to discuss, 610-655-7654

Thanks,

Jim McGinley  
Senior Environmental Scientist, Associate  
STV  
205 West Welsh Drive  
Douglassville, PA 19518  
Office: 610-385-8443  
Cell: 610-655-7654  
Fax: 610-385-8510

**This e-mail is from outside STV**

I do have time and I would like to discuss. I am free all day tomorrow except from about 1200 to 1300.

David Kovach, P.G.  
Project Review Manager  
Delaware River Basin Commission  
P.O. Box 7360  
25 Cosey Road  
West Trenton, NJ 08628-0360  
P: 609-477-7264  
David.kovach@drbc.gov
I believe we would but if you have time tomorrow or later this week to discuss ahead of submission that would be great.

Jim McGinley  
Senior Environmental Scientist, Associate  
STV  
205 West Welsh Drive  
Douglassville, PA 19518  
Office: 610-385-8443  
Cell: 610-655-7654  
Fax: 610-385-8510

Hi Jim,  
It would be best if you submitted it electronically with the fee form and check submitted as a hard copy by mail. You may also submit it all by hard copy if you desire. We have someone in the office from 0900 to 1700 accepting deliveries and collecting mail.

Are you sure the project requires DRBC review? Would you like to discuss the project in advance of submitting?

David Kovach, P.G.  
Project Review Manager  
Delaware River Basin Commission  
P.O. Box 7360  
25 Cosey Road  
West Trenton, NJ 08628-0360  
P: 609-477-7264  
David.kovach@drbc.gov
To: Kovach, David <David.Kovach@drbc.gov>
Subject: [EXTERNAL] Docket Submission

Good afternoon David,

I have a submission for a pipeline crossing of the Delaware via HDD from upper Makefield, Bucks, PA to Ewing and Hopewell, Mercer, NJ to remedy an expose within Jacobs Creek. Should the application be sent hard copy as we have in the past or are there different protocols in place due to covid for submission.

Thank you,

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
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From: McGinley, James X.
To: Kovach, David
Cc: Engle, Eric
Subject: [EXTERNAL] RE: Docket Submission
Date: Thursday, October 29, 2020 10:33:39 AM
Attachments: Mimecast Large File Send Instructions.msg

I'm using Mimecast to share large files with you. Please see the attached instructions.

Good morning David,

As previously discussed, attached is the NJDEP permit and approval and the DRBC application. Can you take a look at the application fees to make sure I have everything correct before I have Sunoco cut the check.

Thank you,

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

**This e-mail is from outside STV**

Hi Jim,
Attached is the existing docket we have on file for this project.

David Kovach, P.G.
Project Review Manager
Delaware River Basin Commission
P.O. Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
P: 609-477-7264
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Thank you Eric,

We will work on these answers and get them back to you as soon as possible. One related item I had a question on: I am working on our project schedule and matrix of all pending and approved permits. For the DRBC docket, once approved is there a timeline to initiate construction and or an expiration date of the approval.

Thank you,

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

Good morning Mr. Wills,

This is in response to your letter dated June 9, 2021 that provided partial responses to DRBC’s comments regarding the proposed HDD activities at the Jacobs Creek Pipeline Relocation Project. You indicate that some of the requested information is the responsibility of the drilling contractor and the information can be finalized and submitted upon award of the bid. This information includes a drilling plan, contingency plan and pullback plan. When will the contact be awarded so
that this additional information can be made available for DRBC’s review?

Also, regarding the Report of Geotechnical Investigation prepared by Earth Engineering Inc, dated January 7, 2020 (“Geotechnical Report”). Boring logs in the report indicate that that an additional bed of red siltstone was encountered between 57 feet and 80.5 feet in boring SB-4. The red siltstone was not encountered in borings SB-1 or SB-2. Based on the Geologic Map of Central and Southern New Jersey (1998), the 3 borings appear to be aligned generally along strike and therefore should show a similar lithology. The same map shows numerous faults in the area. Please provide additional information regarding the correlation of the strata encountered in the borings and discuss the possibility of a fault or other structure located between borings SB-3 and SB-4. Please also assess the need to further characterize the lithology between borings SB-3 and SB-4 with additional boring(s).

The boring logs were numbered SB-1, SB-3 and SB-4. Was an additional boring (SB-2) planned or not completed?

The boring logs in the Geotechnical Report contain information on the relative dip. In each note 2 dip angles are provided. Please describe what the 2 dip angles represent.

The Geotechnical report describes the shale bedrock as having extremely close spaced fractures, laminated and medium hard to very hard. The rock was additionally characterized to be broken to massive with degrees of weathering ranging from highly weathered to fresh. Information in the HDD Drill Analysis Report, prepared by STV, dated January 2021 indicated that the rock cores taken from the geotechnical borings on site show very little to no fracturing. Please provide more information on the frequency and nature of the fractures/joints encountered at the site.

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The Equipment Recommendations Section of the HDD Analysis Report requires the installation of temporary casing at the entry point on the Pennsylvania side to facilitate the return of drilling fluid and circulation to reduce the risk of inadvertent returns. Why is a temporary pipe not recommended on the New Jersey side?

We will await your responses and the submittal of the detailed Drilling Plan, Contingency Plan and Pullback Plan from the contractor when selected. Our concerns regarding the HDD below the Delaware River must be fully addressed prior to our recommendation for approval by the Commissioners.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
From: Wills, Henry D. <Henry.Wills@stvinc.com>
Sent: Wednesday, June 9, 2021 13:53
To: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J.<Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: [EXTERNAL] NJDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

I’m using Mimecast to share large files with you. Please see the attached instructions.

Mr. Engle,

Attached please find responses to your email dated June 3. Please contact us with additional questions or coordination as necessary.

Thanks,

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518

Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

From: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Sent: Thursday, June 3, 2021 10:10 AM
To: McGinley, James X. <Jim.McGinley@stvinc.com>; Armstrong, Colleen
<COLLEEN.ARMSTRONG@energytransfer.com>
Subject: NJDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

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Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov
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Good Afternoon,

Attached please find our responses from your email dated June 24, 2021 for your review.

Thanks,

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518

Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

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Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
From: Wills, Henry D. <Henry.Wills@stvinc.com>
Sent: Wednesday, June 9, 2021 13:53
To: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: [EXTERNAL] NJDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

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Mr. Engle,

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Thanks,

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518

Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

From: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Sent: Thursday, June 3, 2021 10:10 AM
To: McGinley, James X. <Jim.McGinley@stvinc.com>; Armstrong, Colleen <COLLEEN.ARMSTRONG@energytransfer.com>
Subject: NJDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

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Delaware River Basin Commission
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(e) eric.engle@drbc.gov

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Good morning Eric,

Sorry to keep coming back to this item. I just want to clarify this in stream restriction is for all work including the pipe removal? We have no excavation planned as the pipe is already above grade but I am assuming this would qualify as “construction”.

Thank you

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

Good morning Jim,

Thanks for reviewing the draft docket. Yes the timing restrictions are applicable to work in Jacobs Creek. We are also aware of the differing dates and are verifying that with New Jersey.

Thanks,
Eric

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov
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Good morning Eric,

Thank you for these. STV will have our engineering team review and prepare responses as soon as possible.

Thank you

Jim McGinley
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25 Cosey Road
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(e) eric.engle@drbc.gov
Good afternoon Eric,

I apologize rereading the page 3 item referenced below and clarifying with Sunoco. The question is would that document need to be provided as part of the docket submission. This is typically not something Sunoco releases publicly. A plan is currently in place for the existing line and will carry over into the replacement. Verification of this compliant plan can be provided.

Thank you,

Jim McGinley
Senior Environmental Scientist, Associate
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Fax: 610-385-8510

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ET/Sunoco and STV have reviewed the docket. I have attached a tracked changed version of the docket. The only changes to the text are changing 12 to 14 inch and the removal of the “Natural Gas” references as this is a petroleum liquids line and it was our operating pressure that kicked us into DRBC review.

We did have one question regarding page 3, 2 nd paragraph the 4 th bullet item refences the preparation of an emergency plan associated with this line. As this is an existing we are replacing this plan already exists. Can we provide you a copy of the current emergency plan for this line?
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Attached is a copy of the above referenced draft docket for your review. We tentatively scheduled the docket for the May / June 2021 DRBC public hearing/business meeting agenda. The hearing is scheduled for Wednesday, May 12, 2021 and the business meeting is scheduled for Wednesday, June 9, 2021. Both will be held remotely. Please check the DRBC website for information and updates on the hearing and meeting.

Please review the draft docket and let us know if you have any questions or find any items that may need to be corrected. Please submit any comments or questions to me (by email) at your earliest convenience, but please no later than COB Thursday April 22, 2021. This will allow us time to respond to your comments and make any necessary corrections prior to posting the dockets on our website.

If you would, please email me and confirm receipt of the draft docket. Also, we have Colleen Armstrong, Project Manager listed as the docket holder contact, but do not have her email. Please forward Colleen’s email and phone number. Thanks.

If you should have any questions, please contact me directly (email). Thank you for your assistance.

Sincerely,
Good afternoon Eric,

ET/Sunoco and STV have reviewed the docket. I have attached a tracked changed version of the docket. The only changes to the text are changing 12 to 14 inch and the removal of the “Natural Gas” references as this is a petroleum liquids line and it was our operating pressure that kicked us into DRBC review.

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Thank you,

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

**This e-mail is from outside STV**

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If you should have any questions, please contact me directly (email). Thank you for your assistance.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

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Good afternoon Eric,

I wanted to confirm receipt of the docket and provide Colleen Armstrong’s contact information. I have reattached the docket and CCed her on the email. Her number is 610-859-3358. I will review and provide comments if any early next week.

Thank you again,

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

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Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

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Good afternoon Eric,

Yes this statement is accurate and I cleared that it is acceptable to Sunoco.

Thank you,

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

**This e-mail is from outside STV**

Good afternoon Jim,

Thank you for reviewing and providing comments. I will make the corrections you pointed out including a modification of the bulleted item. I do not believe we will need a copy of the plan, but can verify. Please let me know if the following edit is acceptable and correct:

- Under DOT regulations provided in 49 CFR §195.402(E), SPLP has established an Emergency Plan for the existing system that provides written procedures to minimize hazards from a pipeline emergency and will remain in effect following the replacement project.

Thank you,
Good afternoon Eric,

I apologize rereading the page 3 item referenced below and clarifying with Sunoco. The question is would that document need to be provided as part of the docket submission. This is typically not something Sunoco releases publicly. A plan is currently in place for the existing line and will carry over into the replacement. Verification of this compliant plan can be provided.

Thank you,

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510
Good afternoon Eric,

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Thank you,

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Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

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If you should have any questions, please contact me directly (email). Thank you for your assistance.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

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Good morning Eric,

I wanted to check to see what the drivers are for the additional review and what if anything can be done to keep us in the current agenda. We were anticipating a summer construction schedule for this project and if there is any information or additional data we can provide now please let me know.

Also I have CCed Ed Weirsky the project PM in here as well to keep him in the loop.

Thank you,

Sent from my iPhone

On Apr 28, 2021, at 11:24 AM, Engle, Eric (DRBC) <Eric.Engle@drbc.gov> wrote:

**This e-mail is from outside STV**

Jim and Colleen,

I wanted to inform you that the Commissioners decided to remove the Sunoco Jacobs Creek Replacement Project from the draft agenda to allow additional time for review. The next time it could be included would be the Commission’s August 11, 2021 hearing.

Let me know if you have any questions.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

<image002.jpg>
Good afternoon Eric,

Yes this statement is accurate and I cleared that it is acceptable to Sunoco.

Thank you,

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

---

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Thank you,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

From: McGinley, James X. <Jim.McGinley@stvinc.com>
Sent: Thursday, April 22, 2021 3:13 PM
To: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>; Armstrong, Colleen <COLLEEN.ARMSTRONG@energytransfer.com>

Good afternoon Eric,

I apologize rereading the page 3 item referenced below and clarifying with Sunoco. The question is would that document need to be provided as part of the docket submission. This is typically not something Sunoco releases publicly. A plan is currently
in place for the existing line and will carry over into the replacement. Verification of this compliant plan can be provided.

Thank you,

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

From: McGinley, James X.
Sent: Thursday, April 22, 2021 1:50 PM
To: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>; Armstrong, Colleen <COLLEEN.ARMSTRONG@energytransfer.com>

Good afternoon Eric,

ET/Sunoco and STV have reviewed the docket. I have attached a tracked changed version of the docket. The only changes to the text are changing 12 to 14 inch and the removal of the “Natural Gas” references as this is a petroleum liquids line and it was our operating pressure that kicked us into DRBC review.

We did have one question regarding page 3, 2nd paragraph the 4th bullet item reference the preparation of an emergency plan associated with this line. As this is an existing we are replacing this plan already exists. Can we provide you a copy of the current emergency plan for this line?

Thank you,

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
From: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Sent: Friday, April 16, 2021 12:19 PM
To: McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: Please Review - DRBC Draft Docket No. D-1998-035-2 (Sunoco - Jacobs Creek)

**This e-mail is from outside STV**

Good afternoon,

Attached is a copy of the above referenced draft docket for your review. We tentatively scheduled the docket for the May / June 2021 DRBC public hearing/business meeting agenda. The hearing is scheduled for Wednesday, May 12, 2021 and the business meeting is scheduled for Wednesday, June 9, 2021. Both will be held remotely. Please check the DRBC website for information and updates on the hearing and meeting.

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If you would, please email me and confirm receipt of the draft docket. Also, we have Colleen Armstrong, Project Manager listed as the docket holder contact, but do not have her email. Please forward Colleen’s email and phone number.

Thanks.

If you should have any questions, please contact me directly (email). Thank you for your assistance.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov
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Thank you David,

Tracy

---

Hi Tracey,

DRBC approved the project on 12/8/2021 in Docket Number D-1998-035-2

David Kovach P.G.
Project Review Manager
Delaware River Basin Commission
25 Cosey Road
West Trenton, NJ 08628-0360
609-477-7264

---

Hi David,

I am hoping you can tell me if you know about a project called the Jacobs Creek Pipeline Relocation Project. Attached is a report about it. Does this require DRBC review and approval? I looked at the DRBC’s pending projects file, the new applications file, and the OPOP file and couldn’t find it at those locations.

Thanks,

Tracy

Tracy Carluccio
Deputy Director
Delaware Riverkeeper Network
(mobile): 215.692.2329
Good afternoon Eric,

Just wanted to touch base on the Jacobs Creek crossing to make sure we have gotten you everything you need for review and to see if you possibly have a timeline for which quarter we may end up on the docket.

Thank you much,

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

From: Engle, Eric [DRBC] <Eric.Engle@drbc.gov>
Sent: Monday, July 26, 2021 3:00 PM
To: Wills, Henry D. <Henry.Wills@stvinc.com>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>; Kovach, David [DRBC] <David.Kovach@drbc.gov>
Subject: RE: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

**This e-mail is from outside STV**

Good afternoon Mr. Wills,

We did download the files and are reviewing. Would you please confirm that you received and will provide a response to the additional NJDEP comments that I emailed to you on June 30, 2021? Thank you.

Sincerely,
Eric

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

From: Wills, Henry D. <Henry.Wills@stvinc.com>
Sent: Friday, July 23, 2021 11:03
To: Engle, Eric [DRBC] <Eric.Engle@drbc.gov>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: [EXTERNAL] RE: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

Good Morning,

Just wanted to follow up with you regarding this submission. I see that you accessed the files on July 7. Can you please let us know if you have any additional questions.

Thanks, have a good weekend.
Good Afternoon,

Attached please find our responses from your email dated June 24, 2021 for your review.

Thanks,

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

From: Wills, Henry D.
Sent: Wednesday, July 07, 2021 2:03 PM
To: Eric.Engle@drbc.gov
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

From: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Sent: Thursday, June 24, 2021 7:43 AM
To: Wills, Henry D. <Henry.Wills@stvinc.com>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

**This e-mail is from outside STV**

Good morning Mr. Wills,

This is in response to your letter dated June 9, 2021 that provided partial responses to DRBC’s comments regarding the proposed HDD activities at the Jacobs Creek Pipeline Relocation Project. You indicate that some of the requested information is the responsibility of the drilling contractor and the information can be finalized and submitted upon award of the bid. This information includes a drilling plan, contingency plan and pullback plan. When will the contact be awarded so that this additional information can be made available for DRBC’s review?

Also, regarding the Report of Geotechnical Investigation prepared by Earth Engineering Inc, dated January 7, 2020 ("Geotechnical Report"). Boring logs in the report indicate that that an additional bed of red siltstone was encountered between 57 feet and 80.5 feet in boring SB-4. The red siltstone was not encountered in borings SB-1 or SB-2. Based on the Geologic Map of Central and Southern New Jersey (1998), the 3 borings appear to be aligned generally along strike and therefore should show a similar lithology. The same map shows numerous faults in the area. Please provide additional information regarding the correlation of the strata encountered in the borings and discuss the possibility of a fault or other structure located between borings SB-3 and SB-4. Please also assess the need to further characterize the lithology between borings SB-3 and SB-4 with additional boring(s).

The boring logs were numbered SB-1, SB-3 and SB-4. Was an additional boring (SB-2) planned or not completed?
The boring logs in the Geotechnical Report contain information on the relative dip. In each note 2 dip angles are provided. Please describe what the 2 dip angles represent.

The Geotechnical report describes the shale bedrock as having extremely close spaced fractures, laminated and medium hard to very hard. The rock was additionally characterized to be broken to massive with degrees of weathering ranging from highly weathered to fresh. Information in the HDD Drill Analysis Report, prepared by STV, dated January 2021 indicated that the rock cores taken from the geotechnical borings on site show very little to no fracturing. Please provide more information on the frequency and nature of the fractures/joints encountered at the site.

The Geotechnical Report indicated that slightly weathered to fresh bedrock of fair to excellent quality encountered in borings SB-1, SB-3 and SB-4 is characterized as “Difficulties May Occur” per the referenced publication. Please describe what difficulties may occur and what Sunoco plans to avoid or minimize these difficulties.

The Equipment Recommendations Section of the HDD Analysis Report requires the installation of temporary casing at the entry point on the Pennsylvania side to facilitate the return of drilling fluid and circulation to reduce the risk of inadvertent returns. Why is a temporary pipe not recommended on the New Jersey side?

We will await your responses and the submittal of the detailed Drilling Plan, Contingency Plan and Pullback Plan from the contractor when selected. Our concerns regarding the HDD below the Delaware River must be fully addressed prior to our recommendation for approval by the Commissioners.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

From: Wills, Henry D. <Henry.Wills@stvinc.com>
Sent: Wednesday, June 9, 2021 13:53
To: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: [EXTERNAL] NJDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

I'm using Mimecast to share large files with you. Please see the attached instructions.

Mr. Engle,

Attached please find responses to your email dated June 3. Please contact us with additional questions or coordination as necessary.

Thanks,

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

From: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Sent: Thursday, June 3, 2021 10:10 AM
To: McGinley, James X. <Jim.McGinley@stvinc.com>; Armstrong, Colleen <COLLEEN.ARMSTRONG@energytransfer.com>
Subject: NJDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

**This e-mail is from outside STV**

Good morning Jim,

Attached are comments we received from the New Jersey Department of Environmental Protection regarding the Sunoco Pipeline LP - Jacobs
Creek Replacement Project. The comments pertain to the HDD installation process and the Inadvertent Return Assessment, Preparedness, Prevention & Contingency Plan dated February 2021 submitted to DRBC.

NJDEP recommended that Sunoco Pipeline LP implement lessons learned from recent IRs in New Jersey and requested that Sunoco revise its DRBC application with changes to the HDD drilling proposal and the IR contingency plan. DRBC staff concur with NJDEP’s recommendations. We request that Sunoco provide the Commission with responses to New Jersey’s Comments and submit its revised drilling plan and IR contingency plan.

If you should have any questions, please email us and we will coordinate with New Jersey staff.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

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Good afternoon Eric,

Below is the updated matrix per your request. We were in a holding pattern dealing with land owner issues for several months but recently complete the required archeological surveys and had no on site findings. With that we anticipate SHPO clearance and completion of the remaining NJ and ACOE permits. With this information would getting on the 4th quarter docket be possible assuming we receive the remaining permits in that time frame.

Thank you,

Jim McGinley  
Senior Environmental Scientist, Associate  
STV  
205 West Welsh Drive  
Douglassville, PA 19518  
Office: 610-385-8483  
Cell: 610-455-7854  
Fax: 610-385-8510

<table>
<thead>
<tr>
<th>AGENCY</th>
<th>PERMIT</th>
<th>PERMIT STATUS</th>
<th>September Notes</th>
</tr>
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<tbody>
<tr>
<td>USACE</td>
<td>Nationwide Permit 12</td>
<td>Pending additional information tied to NJSHPO Clearance</td>
<td>Archeological studies performed 9/23/21. Initial reports of no findings NJSIPO coordination ongoing</td>
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<tr>
<td>U.S. Fish &amp; Wildlife Service (NJ)</td>
<td>Federal threatened/endangered (T/E) species review (NJ)</td>
<td>Short nosed sturgeon listed on results. Due to nature of the project impacts not anticipated.</td>
<td></td>
</tr>
<tr>
<td>U.S. Fish &amp; Wildlife Service (PA)</td>
<td>Federal T/E species review (PA)</td>
<td>Clearance received 5/22/19</td>
<td></td>
</tr>
<tr>
<td>Delaware and Raritan Canal Commission</td>
<td>Assess impacts to the watershed of the Delaware and Raritan Canal</td>
<td>NJ Historic Preservation Office clearance required. SHPO coordination ongoing.</td>
<td></td>
</tr>
<tr>
<td>Delaware and Raritan Canal State Park</td>
<td>Access impacts to tow path</td>
<td>NJ Historic Preservation Office clearance required. SHPO coordination ongoing.</td>
<td></td>
</tr>
</tbody>
</table>
| New Jersey Department of Environmental Protection (NJDEP) | Freshwater Wetland General Permit No. 2 - Underground Utility Lines | Approved on July 21, 2020  
Permit No. 1100-20-0003.1 – LUP200001 |
| NJDEP | Flood Hazard Area Individual Permit | Approved on July 21, 2020  
Permit No. 1100-20-0003.1 – LUP200001 |
| NJDEP | Section 106 consultation | Archeological studies performed 9/23/21. Initial reports of no findings NJSHPO coordination ongoing |
| New Jersey Water Supply Authority | Review of impacts to Water Transmission Complex of the Canal, amendment to agreement to relocate the pipeline into a different block/lot | This lease agreement will be granted, and annual fees assessed upon completion of the ongoing property appraisal review being performed and the issuance of the Raritan Canal Commission Permit |
| NJDEP State Parks | License to occupy lands within the State Park | This lease agreement will be granted, and annual fees assessed upon completion of the ongoing property appraisal review being performed and the issuance of the Raritan Canal Commission Permit |
| Mercer County Soil Conservation District | Erosion and Sediment Control Plan Review | Erosion and Sediment Control Plan has been reviewed and approved by mercer county soil conservation district, however the NPDES permit approval has not been applied for. Waiting on estimated construction start time as this is a 30 day review time permit with a finite period in which to complete teh work. |
| Pennsylvania Department of Environmental Protection (PADEP) Bureau of Watershed Management | General Permit – 5 | Approved  
GP50981220-031 and associated SLLA approved July 2021 |
| PA Fish & Boat Commission (PAFBC) | State T/E species review | Clearance Received on 5/22/20 |
| PA Game Commission (PGC) | State T/E species review | Clearance Received on 5/22/20 |
| PA Department of Conservation and Natural Resources (DCNR) | State T/E species review | Clearance Received on 5/22/20 |
| Bucks County Conservation District | Erosion and Sediment Control Plan Review | Approved Permit Number PAC998431 |

Jim McGinley  
Senior Environmental Scientist, Associate  
STV  
205 West Welsh Drive  
Douglassville, PA 19518  
Office: 610-385-8483  
Cell: 610-455-7854  
Fax: 610-385-8510

From: Engle, Eric [DRBC] <Eric.Engle@drbc.gov>  
Sent: Friday, September 3, 2021 2:57 PM  
To: McGinley, James X. <Jim.McGinley@stvinc.com>  
Cc: Kovach, David [DRBC] <David.Kovach@drbc.gov>  
Subject: Re: RE: DRBC Additional RDD Questions and Comments - Spectra Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

Hi Jim,

I copied you on the email to Henry Wills earlier this week. In addition, what is Sunoco’s proposed timeframe for the project now?
Below is a copy of the Federal, State and Local Permits/Approvals Table from the draft docket. Please review and update the permit status information and provide copies of the State and Federal permits if they have already been issued.

Let me know if you have any questions. Thank you and have a nice holiday weekend.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7380
25 Coney Road
West Trenton, NJ 08628-0360
eeric.engle@drbc.gov

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<tr>
<td>Delaware and Raritan Canal Commission</td>
<td>Assessment</td>
<td>Clearance received 5/22/19</td>
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<td>Delaware and Raritan Canal State Park</td>
<td>Access to tow path</td>
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<td>Federal threatened/endangered (T/E) species review (NJ)</td>
<td>Short nosed sturgeon listed on results. Due to nature of the project impacts not anticipated.</td>
</tr>
<tr>
<td>New Jersey Water Supply Authority</td>
<td>Review of Water Transmission Complex of the Canal; amendment to agreement to relocate the pipeline into a different block/lot</td>
<td>Agreed upon terms for access included in Division of Parks and Forestry Agreement. Will need to be finalized once construction is scheduled. Amendment to the agreement to relocate the pipe must be negotiated; has not yet been approved by NJWSA. Agreed upon terms included in Division of Parks and Forestry Agreement. Will need to be finalized once construction is scheduled.</td>
</tr>
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<td>NJDEP State Parks</td>
<td>License to occupy lands within the State Park</td>
<td>Agreement upon terms included in Division of Parks and Forestry Agreement. Will need to be finalized once construction is scheduled.</td>
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<td>Mercer County Soil Conservation District</td>
<td>Erosion and Sediment Control Permit Review</td>
<td>Review Letter Issued 10/23/2021, Lost in Mail, Email Copy Received 2/5/21.</td>
</tr>
<tr>
<td>Pennsylvania Department of Environmental Protection (PADEP) Bureau of Watershed Management</td>
<td>General Permit – 5</td>
<td>RTV is making requested changes to the plans and preparing Submerged Lands License Information for the reviewer to complete the GP-5 approval. New information to be submitted 2/8/21.</td>
</tr>
<tr>
<td>PA Fish &amp; Boat Commission (PAFBC)</td>
<td>State T/E species review</td>
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<td>Erosion and Sediment Control Permit Review</td>
<td>Pending. Permit Number PAC090431</td>
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</table>

From: McGinley, James K. <Jim.McGinley@stvinc.com>
Sent: Monday, August 30, 2021 13:59
To: Engle, Eric [DRBC] <eric.engle@drbc.gov>
Subject: [EXTERNAL] RE: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

Good afternoon Eric,

Just wanted to touch base on the Jacobs Creek crossing to make sure we have gotten you everything you need for review and to see if you possibly have a timeline for which quarter we may end up on the docket.

Thank you much,

Jim McGinley
Senior Environmental Scientist, Associate STV
205 West Welsh Drive
Douglasville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

From: Engle, Eric [DRBC] <eric.engle@drbc.gov>
Sent: Monday, July 26, 2021 1:00 PM
To: Wills, Henry D. <Henry.Wills@energytransfer.com>
Cc: David.Kovach@drbc.gov; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James K. <Jim.McGinley@stvinc.com>; Kovach, David [DRBC] <David.Kovach@drbc.gov>
Subject: RE: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

Good afternoon Mr. Wills,
We did download the files and are reviewing. Would you please confirm that you received and will provide a response to the additional NJDEP comments I emailed to you on June 30, 2021?

Thank you.

Sincerely,
Eric

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Coney Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

From: Wills, Henry D. <Henry.Wills@stvinc.com>
Sent: Friday, July 23, 2021 11:03
To: Engle, Eric [DRBC] <Eric.Engle@drbc.gov>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: [EXTERNAL] RE: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

Good Morning,

Just wanted to follow up with you regarding this submission. I see that you accessed the files on July 7. Can you please let us know if you have any additional questions.

Thanks, have a good weekend.

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

From: Wills, Henry D. 
Sent: Wednesday, July 07, 2021 2:03 PM
To: Eric.Engle@drbc.gov
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

Good Afternoon,

Attached please find our responses from your email dated June 24, 2021 for your review.

Thanks,

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

From: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Sent: Thursday, June 24, 2021 7:43 AM
To: Wills, Henry D. <Henry.Wills@stvinc.com>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

**This e-mail is from outside STV**

Good morning Mr. Wills,

This is in response to your letter dated June 9, 2021 that provided partial responses to DRBC’s comments regarding the proposed HDD activities at the Jacobs Creek Pipeline Relocation Project. You indicate that some of the requested information is the responsibility of the drilling contractor and the information can be finalized and submitted upon award of the bid. This information includes a drilling plan, contingency plan and pullback plan. When will the contact be awarded so that this additional information can be made available for DRBC’s review?

Also, regarding the Report of Geotechnical Investigation prepared by Earth Engineering Inc. dated January 7, 2020 (“Geotechnical Report”). Boring logs in the report indicate that an additional bed of red siltstone was encountered between 57 feet and 80.5 feet in boring SB-4. The red siltstone was not encountered in borings SB-1 or SB-2. Based on the Geologic Map of Central and Southern New Jersey (1998), the 3 borings appear to be aligned generally along strike and therefore should show a similar lithology. The same map shows numerous faults in the area. Please provide additional information regarding the correlation of the strata encountered in the borings and discuss the possibility of a fault or other structure located between borings SB-3 and SB-4. Please also assess the need to further characterize the lithology between borings SB-3 and SB-4 with additional boring(s).

The boring logs were numbered SB-1, SB-3 and SB-4. Was an additional boring (SB-2) planned or not completed?
The boring logs in the Geotechnical Report contain information on the relative dip. In each note 2 dip angles are provided. Please describe what the 2 dip angles represent.

The Geotechnical report describes the shale bedrock as having extremely close spaced fractures, laminated and medium hard to very hard. The rock was additionally characterized to be broken to massive with degrees of weathering ranging from highly weathered to fresh. Information in the HDD Drill Analysis Report, prepared by STV, dated January 2021 indicated that the rock cores taken from the geotechnical boring on site show very little to no fracturing. Please provide more information on the frequency and nature of the fractures/joints encountered at the site.

The Geotechnical Report indicated that slightly weathered to fresh bedrock of fair to excellent quality encountered in borings SB-1, SB-3 and SB-4 is characterized as “Difficulties May Occur” per the referenced publication. Please describe what difficulties may occur and what Sunoco plans to avoid or minimize these difficulties.

The Equipment Recommendations Section of the HDD Analysis Report requires the installation of temporary casing at the entry point on the Pennsylvania side to facilitate the return of drilling fluid and circulation to reduce the risk of inadvertent returns. Why is a temporary pipe not recommended on the New Jersey side?

We will await your responses and the submittal of the detailed Drilling Plan, Contingency Plan and Pullback Plan from the contractor when selected. Our concerns regarding the HDD below the Delaware River must be fully addressed prior to our recommendation for approval by the Commissioners.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

From: Wills, Henry D. <Henry.Wills@stvinc.com>
Sent: Wednesday, June 9, 2021 13:53
To: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: [EXTERNAL] NJDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

I'm using Mimecast to share large files with you. Please see the attached instructions.

Mr. Engle,

Attached please find responses to your email dated June 3. Please contact us with additional questions or coordination as necessary.

Thanks,

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

From: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Sent: Thursday, June 3, 2021 10:10 AM
To: McGinley, James X. <Jim.McGinley@stvinc.com>; Armstrong, Colleen <COLLEEN.ARMSTRONG@energytransfer.com>
Subject: NJDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

*This e-mail is from outside STV*

Good morning Jim,

Attached are comments we received from the New Jersey Department of Environmental Protection regarding the Sunoco Pipeline LP - Jacobs Creek Replacement Project. The comments pertain to the HDD installation process and the Inadvertent Return Assessment, Preparedness, Prevention & Contingency Plan dated February 2021 submitted to DRBC.

NJDEP recommended that Sunoco Pipeline LP implement lessons learned from recent IRs in New Jersey and requested that Sunoco revise its DRBC application with changes to the HDD drilling proposal and the IR contingency plan. DRBC staff concur with NJDEP’s recommendations. We request that Sunoco provide the Commission with responses to New Jersey’s Comments and submit its revised drilling plan and IR contingency plan.

If you should have any questions, please email us and we will coordinate with New Jersey staff.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov
Please consider the environment before printing this e-mail.

Redesigned and rebuilt: visit our new website at www.stvinc.com

to which it is addressed and may contain information that is privileged, confidential and exempt from disclosure under applicable law. If the reader of this message is not the intended recipient, you are informed that any dissemination, copying or disclosure of the material contained herein, in whole or in part, is strictly prohibited. If you have received this transmission in error, please notify STV and purge this message.
Good morning Eric,

We are going to bid middle of next week and anticipate awarding mid November award. Can we conditionally approve the docket for this project or can your office provide a list of requirements we must meet in those documents?

Thank you,
Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

---

Good afternoon Eric,

Below is the updated matrix per your request. We were in a holding pattern dealing with land owner issues for several months but recently completed the required archaeological surveys and had no on site findings. With that we anticipate SHPO clearance and completion of the remaining NJ and ACOE permits. With this information would getting on the 4th quarter docket be possible assuming we receive the remaining permits at that time frame.

Thank you,

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<th>September Notes</th>
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<td>USACE</td>
<td>Nationwide Permit 12</td>
<td>Pending additional information tied to NJSHPO Clearance</td>
<td>Archeological studies performed 9/23/21 - Initial reports of no findings. NJSHPO coordination ongoing</td>
</tr>
<tr>
<td>U.S. Fish &amp; Wildlife Service (NJ)</td>
<td>Federal threatened/endangered (T/E) species review (NJ)</td>
<td>Short nosed sturgeon listed on results. Due to nature of the project impacts not anticipated.</td>
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<td>Clearance received 5/22/19</td>
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<td>Delaware and Raritan Canal Commission</td>
<td>Assess impacts to the watershed of the Delaware and Raritan Canal</td>
<td>NJ Historic Preservation Office clearance required. SHPO coordination ongoing.</td>
<td>Archeological studies performed 9/23/21 - Initial reports of no findings. NJSHPO coordination ongoing</td>
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<td>Delaware and Raritan Canal State Park</td>
<td>Access impacts to tow path</td>
<td>NJ Historic Preservation Office clearance required. SHPO coordination ongoing.</td>
<td>Archeological studies performed 9/23/21 - Initial reports of no findings. NJSHPO coordination ongoing</td>
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<tr>
<td>New Jersey Department of Environmental Protection (NJDEP)</td>
<td>Freshwater Wetland General Permit No. 2 - Underground Utility Lines</td>
<td>Approved on July 21, 2020 Permit No. 1100-20-0083.1 -- LUP200001</td>
<td></td>
</tr>
<tr>
<td>NJDEP</td>
<td>Flood Hazard Area Individual Permit</td>
<td>Approved on July 21, 2020 Permit No. 1100-20-0083.1 -- LUP200001</td>
<td></td>
</tr>
<tr>
<td>NJDEP</td>
<td>Section 106 consultation</td>
<td></td>
<td>Archeological studies performed 9/23/21 - Initial reports of no findings. NJSHPO coordination ongoing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Review of impacts</td>
<td></td>
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</tbody>
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**This e-mail is from outside STV**

Hi Jim,

I copied you on the email to Henry Wills earlier this week.

Below is a copy of the Federal, State and Local Permits/Approvals Table from the draft docket. Please review and update the permit status information and provide copies of the State and Federal permits if they have already been issued.

Let me know if you have any questions. Thank you and have a nice holiday weekend.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
Senior Geologist, Project Review Section

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<td>Approved on July 21, 2020 Permit No. 1100-20-0003.1 – LUP200001</td>
</tr>
<tr>
<td>SHPO has agreed to review Phase 1A sampling plan ahead of formal agency request. SHPO coordination ongoing.</td>
<td></td>
</tr>
<tr>
<td>Varieties of state threatened and endangered species listed in initial coordination. Agency coordination ongoing to clear these species.</td>
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<tr>
<td>SHPO approved the agreement to relocate the pipe must be negotiated; has not yet been approved by NJWSA. Agreed upon terms included in Division of Parks and Forestry Agreement. Will need to be finalized once construction is scheduled.</td>
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Sent: Monday, August 30, 2021 13:59  
To: Engle, Eric [DRBC] <Eric.Engle@drbc.gov>  
Subject: [EXTERNAL] RE: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)  

Good afternoon Eric,  
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Thank you much,  
Jim McGinley  
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Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>; Kovach, David [DRBC] <David.Kovach@drbc.gov>  
Subject: RE: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)  

**This e-mail is from outside STV**  
Good afternoon Mr. Wills,  
We did download the files and are reviewing. Would you please confirm that you received and will provide a response to the additional NJDEP comments that I emailed to you on June 30, 2021? Thank you.  
Sincerely,  
Eric  
Eric L. Engle, P.G.  
Senior Geologist, Project Review Section  
Delaware River Basin Commission  
PO Box 7360  
25 Cosey Road  
West Trenton, NJ 08628-0360  
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Thanks, have a good weekend.  
Henry D. Wills, P.E., S.I.T.  
Civil Engineer | STV Energy Services, Inc.  
205 West Welsh Drive  
 Douglassville, PA 19518  
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Good Afternoon,

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I'm using Mimecast to share large files with you. Please see the attached instructions.

Mr. Engle,

Attached please find responses to your email dated June 3. Please contact us with additional questions or coordination as necessary.

Thanks,

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Good morning Mr. Wills,

This is in response to your letter dated June 9, 2021 that provided partial responses to DRBC's comments regarding the proposed HDD activities at the Jacobs Creek Pipeline Relocation Project. You indicate that some of the requested information is the responsibility of the drilling contractor and the information can be finalized and submitted upon award of the bid. This information includes a drilling plan, contingency plan and pullback plan. When will the contract be awarded so that this additional information can be made available for DRBC's review?

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The boring logs were numbered SB-1, SB-3 and SB-4. Was an additional boring (SB-2) planned or not completed?

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Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
eeric.engle@drbc.gov

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Mr. Engle,

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Thanks,
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Thanks, have a good weekend.

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518

Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

From: Engle, Eric [DRBC] <Eric.Engle@drbc.gov>
Sent: Thursday, July 29, 2021 12:51 PM
To: Wills, Henry D. <Henry.Wills@stvinc.com>
Subject: [EXTERNAL] RE: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

**This e-mail is from outside STV**

No Problem Mr. Wills. Thank you.
-Eric Engle

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Sent: Wednesday, July 28, 2021 13:38
To: Engle, Eric [DRBC] <Eric.Engle@drbc.gov>
Cc: COLLEEN ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>; Kovach, David [DRBC] <David.Kovach@drbc.gov>
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Cell: 610-655-7043
henry.wills@stvinc.com

From: Engle, Eric [DRBC] <Eric.Engle@drbc.gov>
Sent: Monday, July 26, 2021 3:00 PM
To: Wills, Henry D. <Henry.Wills@stvinc.com>
Cc: COLLEEN ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>; Kovach, David [DRBC] <David.Kovach@drbc.gov>
Subject: RE: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

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(e) eric.engle@drbc.gov

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Sent: Friday, July 23, 2021 11:03
To: Engle, Eric [DRBC] <Eric.Engle@drbc.gov>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
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henry.wills@stvinc.com

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Subject: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

Good Afternoon,

Attached please find our responses from your email dated June 24, 2021 for your review.

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Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim McGinley@stvinc.com>
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From: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Sent: Thursday, June 3, 2021 10:10 AM
To: McGinley, James X. <Jim.McGinley@stvinc.com>; Armstrong, Colleen <COLLEEN.ARMSTRONG@energytransfer.com>
Subject: NJDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

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Delaware River Basin Commission
PO Box 7360
25 Casey Road
West Trenton, NJ 08628-0360
e(e) eric.engle@drbc.gov

From: Wills, Henry D. <Henry.Wills@stvinc.com>
Sent: Wednesday, June 9, 2021 13:53
To: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: [EXTERNAL] NJDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

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You shared files with
Eric.Engle@drbc.gov COLLEEN.ARMSTRONG@energytransfer.com Edward.Weirsky@stvinc.com Jim.McGinley@stvinc.com.

File(s):
3185.00 - Jacobs Creek Pipeline Relocation - Question Response Letter.pdf
DRBC Repsonse Letter.pdf

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Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
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To: Engle, Eric [DRBC] <Eric.Engle@drbc.gov>  
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>; Kovach, David [DRBC] <David.Kovach@drbc.gov>  
Subject: [EXTERNAL] RE: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

I apologize for not responding immediately. We did receive and we will be sending out responses in the near future.

Henry D. Wills, P.E., S.I.T.  
**Civil Engineer | STV Energy Services, Inc.**  
205 West Welsh Drive  
Douglassville, PA 19518  
Office: 610-385-8390  
Cell: 610-655-7043  
henry.wills@stvinc.com

From: Engle, Eric [DRBC] <Eric.Engle@drbc.gov>  
Sent: Monday, July 26, 2021 3:00 PM  
To: Wills, Henry D. <Henry.Wills@stvinc.com>  
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>; Kovach, David [DRBC] <David.Kovach@drbc.gov>  
Subject: RE: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

**This e-mail is from outside STV**

Good afternoon Mr. Wills,  

We did download the files and are reviewing. Would you please confirm that you received and will provide a response to the additional NJDEP comments that I emailed to you on June 30, 2021? Thank you.  

Sincerely,  

Eric

Eric L. Engle, P.G.  
Senior Geologist, Project Review Section  
Delaware River Basin Commission  
PO Box 7360  
25 Cosey Road  
West Trenton, NJ 08628-0360  
e (eric.engle@drbc.gov)

From: Wills, Henry D. <Henry.Wills@stvinc.com>
Good Morning,

Just wanted to follow up with you regarding this submission. I see that you accessed the files on July 7. Can you please let us know if you have any additional questions.

Thanks, have a good weekend.

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

From: Wills, Henry D.
Sent: Wednesday, July 07, 2021 2:03 PM
To: Eric.Engle@drbc.gov
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Edward.Weirsky@stvinc.com; Jim.McGinley@stvinc.com
Subject: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

You shared files with Eric.Engle@drbc.gov COLLEEN.ARMSTRONG@energytransfer.com Edward.Weirsky@stvinc.com Jim.McGinley@stvinc.com.

File(s):
31585.00 - Jacobs Creek Pipeline Relocation - Question Response Letter.pdf
DRBC Repsonse Letter.pdf

Good Afternoon,

Attached please find our responses from your email dated June 24, 2021 for your review.

Thanks,

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

From: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Sent: Thursday, June 24, 2021 7:43 AM
To: Wills, Henry D. <Henry.Wills@stvinc.com>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Edward.Weirsky@stvinc.com; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

**This e-mail is from outside STV**

Good morning Mr. Wills,

This is in response to your letter dated June 9, 2021 that provided partial responses to DRBC’s comments regarding the proposed HDD activities
at the Jacobs Creek Pipeline Relocation Project. You indicate that some of the requested information is the responsibility of the drilling contractor and the information can be finalized and submitted upon award of the bid. This information includes a drilling plan, contingency plan and pullback plan. When will the contact be awarded so that this additional information can be made available for DRBC’s review?

Also, regarding the Report of Geotechnical Investigation prepared by Earth Engineering Inc, dated January 7, 2020 ("Geotechnical Report"). Boring logs in the report indicate that an additional bed of red siltstone was encountered between 57 feet and 80.5 feet in boring SB-4. The red siltstone was not encountered in borings SB-1 or SB-2. Based on the Geologic Map of Central and Southern New Jersey (1998), the 3 borings appear to be aligned generally along strike and therefore should show a similar lithology. The same map shows numerous faults in the area. Please provide additional information regarding the correlation of the strata encountered in the borings and discuss the possibility of a fault or other structure located between borings SB-3 and SB-4. Please also assess the need to further characterize the lithology between borings SB-3 and SB-4 with additional boring(s).

The boring logs were numbered SB-1, SB-3 and SB-4. Was an additional boring (SB-2) planned or not completed?

The boring logs in the Geotechnical Report contain information on the relative dip. In each note 2 dip angles are provided. Please describe what the 2 dip angles represent.

The Geotechnical report describes the shale bedrock as having extremely close spaced fractures, laminated and medium hard to very hard. The rock was additionally characterized to be broken to massive with degrees of weathering ranging from highly weathered to fresh. Information in the HDD Drill Analysis Report, prepared by STV, dated January 2021 indicated that the rock cores taken from the geotechnical borings on site show very little to no fracturing. Please provide more information on the frequency and nature of the fractures/points encountered at the site.

The Geotechnical Report indicated that slightly weathered to fresh bedrock of fair to excellent quality encountered in borings SB-1, SB-3 and SB-4 is characterized as “Difficulties May Occur” per the referenced publication. Please describe what difficulties may occur and what Sunoco plans to avoid or minimize these difficulties.

The Equipment Recommendations Section of the HDD Analysis Report requires the installation of temporary casing at the entry point on the Pennsylvania side to facilitate the return of drilling fluid and circulation to reduce the risk of inadvertent returns. Why is a temporary pipe not recommended on the New Jersey side?

We will await your responses and the submittal of the detailed Drilling Plan, Contingency Plan and Pullback Plan from the contractor when selected. Our concerns regarding the HDD below the Delaware River must be fully addressed prior to our recommendation for approval by the Commissioners.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

From: Wills, Henry D. <Henry.Wills@stvinc.com>
Sent: Wednesday, June 9, 2021 13:53
To: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: [EXTERNAL] NJDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

I'm using Mimecast to share large files with you. Please see the attached instructions.

Mr. Engle,

Attached please find responses to your email dated June 3. Please contact us with additional questions or coordination as necessary.

Thanks,

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8390
Good morning Jim,

Attached are comments we received from the New Jersey Department of Environmental Protection regarding the Sunoco Pipeline LP - Jacobs Creek Replacement Project. The comments pertain to the HDD installation process and the Inadvertent Return Assessment, Preparedness, Prevention & Contingency Plan dated February 2021 submitted to DRBC.

NJDEP recommended that Sunoco Pipeline LP implement lessons learned from recent IRs in New Jersey and requested that Sunoco revise its DRBC application with changes to the HDD drilling proposal and the IR contingency plan. DRBC staff concur with NJDEP’s recommendations. We request that Sunoco provide the Commission with responses to New Jersey’s Comments and submit its revised drilling plan and IR contingency plan.

If you should have any questions, please email us and we will coordinate with New Jersey staff.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

Please consider the environment before printing this e-mail.

Redesigned and rebuilt: visit our new website at www.stvinc.com
Good morning Eric,

Also for your records attached are the Mercer and Bucks County E&S Permit approvals for this project.

Jim McGinley  
Senior Environmental Scientist, Associate  
STV  
205 West Welsh Drive  
Douglassville, PA 19518  
Office: 610-385-8443  
Cell: 610-655-7654  
Fax: 610-385-8510

Good afternoon Eric,

Also included for your review is the HDD plan provided Aaron Enterprises Inc. our drilling contractor for this project.

Thank you,

Jim McGinley  
Senior Environmental Scientist, Associate  
STV  
205 West Welsh Drive  
Douglassville, PA 19518  
Office: 610-385-8443
Thank you Jim. Received. We will review the plan.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
609-477-7229

Good morning Eric and David,

Please find attached for your review and approval the most up to date Inadvertent Return Plan for the Jacobs Creek Pipeline Replacement project. If you have any question or require any additional information please let me know.
Thank you,

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654

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Good afternoon Eric,

I have engineering back checking those dates and making sure we get you the most up to date set of plans. Additionally I have submitted our IR and Drilling plan to the DLUR. Also John Hutchison at NJDEP has reviewed both plans as part of the D&R canal coordination.

I will get back to you on the plan set question as soon as I hear from engineering.

Thank you

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

---

From: Engle, Eric [DRBC] <Eric.Engle@drbc.gov>
Sent: Tuesday, August 2, 2022 10:43 AM
To: McGinley, James X. <Jim.McGinley@stvinc.com>
Cc: Kovach, David [DRBC] <David.Kovach@drbc.gov>
Subject: RE: Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2) Inadvertent Return Plan

**This e-mail is from outside STV**

Hello Jim,

Thank you for providing copies of the Mercer and Bucks County Permit approvals. You previously provided us with a set of plans (file name: 02 2021_05_25 Rev_H_Binder.pdf) Dated April 17, 2020, last revised May 24, 2021. Please verify that the Erosion and Sediment Control Plans and Post Construction Stormwater Management Plans included in this submission are the most up to date and final plans for the project. If not, please submit a set of the final plans.

The docket requires that the Drilling Plan, Contingency Plan and Pull Back Plan be submitted to the Commission and NJDEP. Please confirm that these plans have also been submitted to NJDEP.

Let me know if you have any questions. Thank you.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
609-477-7229
Good morning Eric,

Also for your records attached are the Mercer and Bucks County E&S Permit approvals for this project.

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

Good afternoon Eric,

Also included for your review is the HDD plan provided Aaron Enterprises Inc. our drilling contractor for this project.

Thank you,

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510
**This e-mail is from outside STV**

Thank you Jim. Received. We will review the plan.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
609-477-7229

From: McGinley, James X. <Jim.McGinley@stvinc.com>
Sent: Tuesday, July 5, 2022 07:49
To: Engle, Eric [DRBC] <Eric.Engle@drbc.gov>
Cc: Kovach, David [DRBC] <David.Kovach@drbc.gov>
Subject: [EXTERNAL] Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2) Inadvertent Return Plan

Good morning Eric and David,

Please find attached for your review and approval the most up to date Inadvertent Return Plan for the Jacobs Creek Pipeline Replacement project. If you have any question or require any additional information please let me know.

Thank you,

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654

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Good afternoon Eric,

Also included for your review is the HDD plan provided Aaron Enterprises Inc. our drilling contractor for this project.

Thank you,

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

**This e-mail is from outside STV**

Thank you Jim. Received. We will review the plan.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
609-477-7229
From: McGinley, James X. <Jim.McGinley@stvinc.com>
Sent: Tuesday, July 5, 2022 07:49
To: Engle, Eric [DRBC] <Eric.Engle@drbc.gov>
Cc: Kovach, David [DRBC] <David.Kovach@drbc.gov>
Subject: [EXTERNAL] Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)
Inadvertent Return Plan

Good morning Eric and David,

Please find attached for your review and approval the most up to date Inadvertent Return Plan for the Jacobs Creek Pipeline Replacement project. If you have any question or require any additional information please let me know.

Thank you,

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654

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I'm using Mimecast to share large files with you. Please see the attached instructions.

Good morning Eric,

Attached please find the requested information for the Jacob’s creek pipeline project. I wanted to make sure you had the most up to date information as we did some final tweaks based on state and local requests. Additionally I should have the PADEP GP-5 information approval to provide to you shortly as well.

Thank you

1. HDD feasibility evaluation / Geotechnical evaluation reports/information - [Attached]
2. Inadvertent Release Plan - [Attached]
3. Pennsylvania side E&S Plans and Post Construction Plans Most up to date plans for PA and NJ - [Attached]
4. Any updates to the permits summary table in the DRBC Application and copies of permits/approvals received [Attached]
5. Estimates of the volume of water needed for HDD, hydrostatic testing and dust control. We do not currently have an estimate of volume but all water utilized will be municipal water purchased for this project.
6. Proposed hydrostatic test water discharge locations. Where will used drilling mud recovered from drilling pits be disposed? Drilling mud disposal will be dictated by the contractor. STV can provide this information once the contract is awarded. Hydrostatic discharge water will be tanked and disposed of at an approved facility. Again this will be a contractor decision and can be provided once awarded.
7. When is anticipated start and duration of construction for the installation of new pipe/HDD and removal of old pipe? Estimated construction start will be May 2021

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510
Hi Jim,

I hope you are staying well. In support of the Sunoco – Jacobs Creek Pipeline Replacement Project application, please submit the following:

1. HDD feasibility evaluation / Geotechnical evaluation reports/information
2. Inadvertent Release Plan
4. Any updates to the permits summary table in the DRBC Application and copies of permits/approvals received
5. Estimates of the volume of water needed for HDD, hydrostatic testing and dust control
6. Proposed hydrostatic test water discharge locations.
7. Where will used drilling mud recovered from drilling pits be disposed?
8. When is anticipated start and duration of construction for the installation of new pipe/HDD and removal of old pipe?

Please let me know if you have any questions. Since we are still working from home, please contact me initially via email. Thank you.

Sincerely,

Eric

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(p) 609-883-9500 ext. 229
(f) 609-883-9522
(e) eric.engle@drbc.gov

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Good morning Eric and David,

Please find attached for your review and approval the most up to date Inadvertent Return Plan for the Jacobs Creek Pipeline Replacement project. If you have any question or require any additional information please let me know.

Thank you,

Jim McGinley
Senior Environmental Scientist, Associate
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205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654

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Mr. Wills,

NJDEP asked that I forward you these additional comments from their staff regarding the June 9, 2021 STV response letter. Please review and address these comments:

**Page 2, section A.3.** STV makes the comment "Since the HDD is in rock, hydrofracture calculations are not applicable." This is incorrect. There are HDD plans on file at the NJGWS that have hydrofracture calculations done on the entire length of the HDD up to over 4,700 feet of rock drilling. At least two HDDs in rock in New Jersey had inadvertent releases in bedrock with one of them having four different releases. The pump pressures may not get high enough to fracture all the rocks in the state, but they can get high enough to fracture some of the low strength rocks as well as hydrofracture some sheared rock zones such as are noted in the boring logs in the Earth Engineering Incorporated report.

**Page 2, section A.3.** STV says "the contractor that is awarded the bid, is required to provide a drilling plan, contingency plan, and pullback plan." These are significant documents. NJDEP wished to review, and provide comments on, these three plans before the HDD starts. I want to point out that Sunoco's Mariner pipeline installation in southeastern Pa encountered significant problems. I saw the revised contingency plan and was impressed with the number of issues it anticipated. I would hope these new plans would include lessons learned after the Mariner pipeline installation.

**Page 2, section B.1.** STV states "Abandoned bore holes, if necessary, will be grouted." This is unacceptable. All abandoned bore holes need to be properly grouted with an approved grout. No exceptions. This is consistent with how NJ treats abandoned boreholes.

**Page 2, section B.1.** STV states "there is not an elevated risk of collapsing bore hole or having reamers stuck based on the geotechnical investigation." This is wishful thinking. The boreholes indicated the rock was fractured. This may result in partial collapse of the hole while a reamer or drill rod is in it. If all goes well the bore hole won't collapse. But the drilling contractor must prepare for the possibility that it might.

**Page 3, section B.3.** STV states "The contractor is responsible for knowing the project and subsurface conditions, based on the geotechnical investigation, and providing a drilling and contingency plan. The HDD inspector on site will monitor mud returns real time along with annular pressures and geometry typically with every shot." Monitoring and reporting details
should be in the drilling plan. Sufficient monitoring will be necessary to allow the drilling contractor to respond to any difficulty.

Page 4, section C.2. STV states "Hydrofracture is not applicable to rock drill. Instead the rock has to be evaluated qualitatively based on description, besides RQD and unconfined compressive strength. The drilling practices, equipment etc is up to the contractor and their discretion. Drilling through competent rock would reduce the risk of IR.” The comments on this statement are the same as above. In addition, rock is frequently hydrofracked by the gas industry and HDD mud pumps can reach pressures that can and will fracture the weaker compressive strength rocks and will open shear planes and/or jointing in the stronger rocks. A paper by Skonberg and others (2008) show on fig 3 that based on an information request they sent out to HDD contractors that about 1/3 of the responses for rock HDD had IRs and over 50 of the HDDs in unconsolidated materials had IRs.

Page 4, section C.2. The drilling contractor should preposition IR response materials at the site so that if an IR were to occur no time would be wasted gathering these materials.

Note that material previously submitted by STV in support of this HDD confirms the view that the rock at the site is fractured. On page 3 of the Horizontal Directional Drill Analysis Report (January 2021) item '10. Hydrofracture Analysis' indicates that the unconfined compressive strength on the rock core varied between 13,000 psi to 28,000 psi. In the Earth Engineering Incorporated report Appendix boring SB 4, run 3 (22.0 to 27.0 ft) had an unconfined compressive strength of 7,964 psi. This boring is a few hundred feet downhole of the exit point and by strike and dips of the rock on a field map of the area this could also be encounter by the HDD on the Pennsylvania side of the river.

In the next sentence in section ‘10. Hydrofracture Analysis' STV states “Rock cores taken form the geotechnical borings on site show very little to no fracturing, and very high RQD values, an indication that the material is very competent and unlikely to provide preferential pathway for migration of drilling fluid to cause inadvertent returns, resulting in low probability of inadvertent return when drilling through the rock features. In contrast, the three boring logs in the Earth Engineering Incorporated report (January 7, 2020) indicate a fracture rock will be encountered. Every unit descriptions (4) of the rock in SB-1 indicates “… extremely closely jointed/fractured, broken to massive.” For SB-3 the one rock unit description is “… extremely closely fractured, very broken to massive.” One description is “… extremely closely fractured, slightly broken to massive.” Four of the descriptions are “… extremely closely fractured, broken to massive.” For SB-4 one unit is described as “… extremely closely fractured, very broken to massive.” The other five descriptions are “… extremely closely fractured, broken to massive.” The descriptions of all three holes have dips noted which range from 5 degrees up to 90 degrees, but they don’t identify if those are readings on bedding fractures or joints. Holes SB-1 and SB-4 have five (5) RQDs in the upper 20 to 30 feet of the rock which range from 0 % to 48%.

The Hydrofracture Analysis only shows the hydrofracture potential of the overburden, nothing for rock portion of the hole.

References
of Central and Southern New Jersey USGS Miscellaneous Investigations Series Map I-2540-B, Scale 1 to 100,000.


Please let me know if you have any questions regarding the above comments. Thank you.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov
Delaware River Basin Commission
25 Cosey Road • P.O. Box 7360
West Trenton • New Jersey • 08628-0360
www.drbc.gov

Project Review

NOTICE OF COMMISSION ACTION

Date: December 8, 2021

Project Sponsor: Sunoco Pipeline L.P.
Attention: Colleen Armstrong
100 Green Street
Marcus Hook, PA 19061

Project Description: Jacobs Creek Pipeline Relocation Project
An application to approve maintaining an existing 14-inch diameter, welded steel, high-pressure liquid petroleum products pipeline system. The project proposes the installation of approximately 2,500 feet of 14-inch diameter pipeline to replace the portion of the existing pipeline that is currently exposed in Jacobs Creek. The pipeline is located in Upper Makefield Township, Bucks County, Pennsylvania, travels under the Delaware River to Ewing and Hopewell Townships, Mercer County, New Jersey. The project is located in the drainage area to the Lower Delaware Special Protection Waters (SPW).

Action by Commission:
This action is approved pursuant to Section 3.8 of the Delaware River Basin Compact. See docket for terms and conditions.

Explanatory Note:
This action has been taken by the Commission in accordance with its responsibilities under Section 3.8 of the Delaware River Basin Compact. The Commission maintains a comprehensive water resources plan for the Delaware River Basin and reviews water resources projects proposed by other public and private agencies. Review of projects enables the Commission to prevent conflicts among water users and to protect the integrity of the Comprehensive Plan.

Pamela M. Bush, M.R.P., J.D.
Commission Secretary/Assistant General Counsel

3.8
Good morning Mr. Wills,

This is in response to your letter dated June 9, 2021 that provided partial responses to DRBC’s comments regarding the proposed HDD activities at the Jacobs Creek Pipeline Relocation Project. You indicate that some of the requested information is the responsibility of the drilling contractor and the information can be finalized and submitted upon award of the bid. This information includes a drilling plan, contingency plan and pullback plan. When will the contact be awarded so that this additional information can be made available for DRBC’s review?

Also, regarding the Report of Geotechnical Investigation prepared by Earth Engineering Inc, dated January 7, 2020 (“Geotechnical Report”). Boring logs in the report indicate that that an additional bed of red siltstone was encountered between 57 feet and 80.5 feet in boring SB-4. The red siltstone was not encountered in borings SB-1 or SB-2. Based on the Geologic Map of Central and Southern New Jersey (1998), the 3 borings appear to be aligned generally along strike and therefore should show a similar lithology. The same map shows numerous faults in the area. Please provide additional information regarding the correlation of the strata encountered in the borings and discuss the possibility of a fault or other structure located between borings SB-3 and SB-4. Please also assess the need to further characterize the lithology between borings SB-3 and SB-4 with additional boring(s).

The boring logs were numbered SB-1, SB-3 and SB-4. Was an additional boring (SB-2) planned or not completed?

The boring logs in the Geotechnical Report contain information on the relative dip. In each note 2 dip angles are provided. Please describe what the 2 dip angles represent.

The Geotechnical report describes the shale bedrock as having extremely close spaced fractures, laminated and medium hard to very hard. The rock was additionally characterized to be broken to massive with degrees of weathering ranging from highly weathered to fresh. Information in the HDD Drill Analysis Report, prepared by STV, dated January 2021 indicated that the rock cores taken from the geotechnical borings on site show very little to no fracturing. Please provide more information on the frequency and nature of the fractures/joints encountered at the site.

The Geotechnical Report indicated that slightly weathered to fresh bedrock of fair to excellent quality encountered in borings SB-1, SB-3 and SB-4 is characterized as “Difficulties May Occur” per the referenced publication. Please describe what difficulties may occur and what Sunoco plans to avoid or minimize these difficulties.
The Equipment Recommendations Section of the HDD Analysis Report requires the installation of temporary casing at the entry point on the Pennsylvania side to facilitate the return of drilling fluid and circulation to reduce the risk of inadvertent returns. Why is a temporary pipe not recommended on the New Jersey side?

We will await your responses and the submittal of the detailed Drilling Plan, Contingency Plan and Pullback Plan from the contractor when selected. Our concerns regarding the HDD below the Delaware River must be fully addressed prior to our recommendation for approval by the Commissioners.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

From: Wills, Henry D. <Henry.Wills@stvinc.com>
Sent: Wednesday, June 9, 2021 13:53
To: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: [EXTERNAL] NJDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

I'm using Mimecast to share large files with you. Please see the attached instructions.

Mr. Engle,

Attached please find responses to your email dated June 3. Please contact us with additional questions or coordination as necessary.

Thanks,

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518
From: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Sent: Thursday, June 3, 2021 10:10 AM
To: McGinley, James X. <Jim.McGinley@stvinc.com>; Armstrong, Colleen <COLLEEN.ARMSTRONG@energytransfer.com>
Subject: NJDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

**This e-mail is from outside STV**

Good morning Jim,

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NJDEP recommended that Sunoco Pipeline LP implement lessons learned from recent IRs in New Jersey and requested that Sunoco revise its DRBC application with changes to the HDD drilling proposal and the IR contingency plan. DRBC staff concur with NJDEP’s recommendations. We request that Sunoco provide the Commission with responses to New Jersey’s Comments and submit its revised drilling plan and IR contingency plan.

If you should have any questions, please email us and we will coordinate with New Jersey staff.

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(e) eric.Engle@drbc.gov
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Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov
Good afternoon,

Attached is a copy of the above referenced draft docket for your review. We tentatively scheduled the docket for the May / June 2021 DRBC public hearing/business meeting agenda. The hearing is scheduled for Wednesday, May 12, 2021 and the business meeting is scheduled for Wednesday, June 9, 2021. Both will be held remotely. Please check the [DRBC website](http://drbc.gov) for information and updates on the hearing and meeting.

Please review the draft docket and let us know if you have any questions or find any items that may need to be corrected. Please submit any comments or questions to me (by email) at your earliest convenience, but please no later than COB Thursday April 22, 2021. This will allow us time to respond to your comments and make any necessary corrections prior to posting the dockets on our website.

If you would, please email me and confirm receipt of the draft docket. Also, we have Colleen Armstrong, Project Manager listed as the docket holder contact, but do not have her email. Please forward Colleen’s email and phone number. Thanks.

If you should have any questions, please contact me directly (email). Thank you for your assistance.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) [eric.engle@drbc.gov](mailto:eric.engle@drbc.gov)
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Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
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Mr. Engle,

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Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518
From: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>  
Sent: Thursday, June 3, 2021 10:10 AM  
To: McGinley, James X. <Jim.McGinley@stvinc.com>; Armstrong, Colleen <COLLEEN.ARMSTRONG@energytransfer.com>  
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Thank you very much.

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518

Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

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Thanks,
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(e) eric.engle@drbc.gov

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Jim,

The fees are required upon application with some flexibility.

David Kovach, P.G.
Project Review Manager
Delaware River Basin Commission
P.O. Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
P: 609-477-7264
David.kovach@drbc.gov

From: McGinley, James X. <Jim.McGinley@stvinc.com>
Sent: Tuesday, December 01, 2020 8:46 AM
To: Engle, Eric <Eric.Engle@drbc.gov>; Kovach, David <David.Kovach@drbc.gov>
Subject: RE: [EXTERNAL] RE: Docket Submission

Good morning Eric,

Sorry for the delay on this. One question on this application is can the fees be submitted upon approval or are they required as part of the review process. Client is trying to plan 2020 vs 2021 budgets.

Thanks,

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

From: Engle, Eric <Eric.Engle@drbc.gov>
Sent: Thursday, October 29, 2020 11:30 AM
**This e-mail is from outside STV**

Good morning Jim,

I was able to download the files. Based on the listed project cost, the calculated application fee is correct. Thank you.

Sincerely,
Eric

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(p) 609-883-9500 ext. 229
(f) 609-883-9522
(e) eric.engle@drbc.gov

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Good morning David,

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Thank you,

Jim McGinley
Hi Jim,

Attached is the existing docket we have on file for this project.

David Kovach, P.G.
Project Review Manager
Delaware River Basin Commission
P.O. Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
P: 609-477-7264
David.kovach@drbc.gov

---

Good morning David,

Left a voicemail but wasn’t sure if you were in the office. I am available all morning to discuss, 610-655-7654

Thanks,

Jim McGinley
**This e-mail is from outside STV**

I do have time and I would like to discuss. I am free all day tomorrow except from about 1200 to 1300.

David Kovach, P.G.
Project Review Manager
Delaware River Basin Commission
P.O. Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
P: 609-477-7264
David.kovach@drbc.gov

From: McGinley, James X. <Jim.McGinley@stvinc.com>
Sent: Tuesday, October 20, 2020 3:56 PM
To: Kovach, David <David.Kovach@drbc.gov>
Subject: [EXTERNAL] RE: Docket Submission

I believe we would but if you have time tomorrow or later this week to discuss ahead of submission that would be great.

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
From: Kovach, David <David.Kovach@drbc.gov>  
Sent: Tuesday, October 20, 2020 3:54 PM  
To: McGinley, James X. <Jim.McGinley@stvinc.com>  
Subject: RE: Docket Submission

**This e-mail is from outside STV**

Hi Jim,

It would be best if you submitted it electronically with the fee form and check submitted as a hard copy by mail. You may also submit it all by hard copy if you desire. We have someone in the office from 0900 to 1700 accepting deliveries and collecting mail.

Are you sure the project requires DRBC review? Would you like to discuss the project in advance of submitting?

David Kovach, P.G.  
Project Review Manager  
Delaware River Basin Commission  
P.O. Box 7360  
25 Cosey Road  
West Trenton, NJ 08628-0360  
P: 609-477-7264  
David.kovach@drbc.gov

From: McGinley, James X. <Jim.McGinley@stvinc.com>  
Sent: Tuesday, October 20, 2020 1:39 PM  
To: Kovach, David <David.Kovach@drbc.gov>  
Subject: [EXTERNAL] Docket Submission

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I have a submission for a pipeline crossing of the Delaware via HDD from upper Makefield, Bucks, PA to Ewing and Hopewell, Mercer, NJ to remedy an expose within Jacobs Creek. Should the application be sent hard copy as we have in the past or are there different protocols in place due to covid for submission.

Thank you,

Jim McGinley
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Thanks,

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

Good morning Jim,

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Sincerely,
Eric

 Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
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Jim McGinley
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205 West Welsh Drive
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Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

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David Kovach, P.G.
Project Review Manager
Delaware River Basin Commission
P.O. Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
P: 609-477-7264
David.kovach@drbc.gov

---

Good morning David,

Left a voicemail but wasn’t sure if you were in the office. I am available all morning to discuss, 610-655-7654

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Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

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Jim McGinley  
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**STV**  
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Sincerely,

Eric

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McGinley, James X. <Jim.McGinley@stvinc.com>
Sent: Thursday, October 29, 2020 10:32 AM
To: Kovach, David <David.Kovach@drbc.gov>
Cc: Engle, Eric <Eric.Engle@drbc.gov>
Subject: [EXTERNAL] RE: Docket Submission

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David.kovach@drbc.gov

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I will get the check over to you as soon as I can

Jim McGinley  
Senior Environmental Scientist, Associate  
STV  
205 West Welsh Drive  
Douglassville, PA 19518  
Office: 610-385-8443  
Cell: 610-655-7654  
Fax: 610-385-8510

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The fees are required upon application with some flexibility.

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Delaware River Basin Commission  
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Fax: 610-385-8510

From: Kovach, David <David.Kovach@drbc.gov>
Sent: Wednesday, October 21, 2020 10:57 AM
To: McGinley, James X. <Jim.McGinley@stvinc.com>
Cc: Engle, Eric <Eric.Engle@drbc.gov>
Subject: RE: Docket Submission

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P.O. Box 7360
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From: McGinley, James X. <Jim.McGinley@stvinc.com>
Sent: Wednesday, October 21, 2020 9:42 AM
To: Kovach, David <David.Kovach@drbc.gov>
Cc: Engle, Eric <Eric.Engle@drbc.gov>
Subject: [EXTERNAL] RE: Docket Submission

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Fax: 610-385-8510

From: Kovach, David <David.Kovach@drbc.gov>
Sent: Tuesday, October 20, 2020 4:25 PM
To: McGinley, James X. <Jim.McGinley@stvinc.com>
Cc: Engle, Eric <Eric.Engle@drbc.gov>
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Subject: RE: Docket Submission

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Good afternoon Jim,

We are planning to include the draft docket on the May 12 DRBC Hearing agenda. We do have a few additional questions as listed below:

1. What type of petroleum product(s) is/are transported in the pipeline system.
2. Please indicate the municipality and county of the Twin Oaks Terminal and Newark Facility.
3. Are water demand estimates known for dust control, pipeline cleaning, HDD and hydrostatic testing?
4. Have any water suppliers and wastewater treatment facilities been identified?
5. Information in the DRBC application (Section 2 Project Description, page 2 of the narrative) indicates that: “As directed by DEP a tree clearing moratorium from April 1 to August 31 will be enacted in order to protect nesting birds. Also as directed by NJDEP in stream work will not take place between March 1 and June 30 in order to protect anadromous fish.”

     I found that the New Jersey FHA and FWW GP-2 permit denotes instream work restrictions between May 1 and July 31 (not March 1 and June 30). I could not find a tree clearing timing restrictions. Please affirm the instream work timing restrictions and reference the New Jersey approval/permits requiring them.

6. Please confirm the following HDD depth information. The proposed HDD installation will be approximately 85 feet deep under the Delaware River and Jacobs Creek streambeds and concrete culvert and 110 to 120 feet under the Delaware Raritan Canal and SR029.
7. Please update any permit status and provide copies of any approvals.

Thanks Jim. Please let me know if you have any questions.

Sincerely,

Eric
Good afternoon Eric,

I wanted to check on the status of the referenced project and to see if we are on track to be on the May meeting agenda and if not what we still needed to provide to make that meeting.

Thank you,

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

From: Engle, Eric <Eric.Engle@drbc.gov>
Sent: Thursday, February 18, 2021 4:40 PM
To: McGinley, James X. <Jim.McGinley@stvinc.com>

Hello Jim,

I just wanted to let you know that I was able to download the four files. Thank you.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov
From: McGinley, James X. <Jim.McGinley@stvinc.com>
Sent: Wednesday, February 17, 2021 8:50 AM
To: Engle, Eric <Eric.Engle@drbc.gov>

I'm using Mimecast to share large files with you. Please see the attached instructions.

Good morning Eric,

Attached please find the requested information for the Jacob’s creek pipeline project. I wanted to make sure you had the most up to date information as we did some final tweaks based on state and local requests. Additionally I should have the PADEP GP-5 information approval to provide to you shortly as well.

Thank you

1. HDD feasibility evaluation / Geotechnical evaluation reports/information - Attached
2. Inadvertent Release Plan - **Attached**
3. Pennsylvania side E&S Plans and Post Construction Plans **Most up to date plans for PA and NJ attached**
4. Any updates to the permits summary table in the DRBC Application and copies of permits/approvals received **Attached**
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6. Proposed hydrostatic test water discharge locations. Where will used drilling mud recovered from drilling pits be disposed? **Drilling mud disposal will be dictated by the contractor. STV can provide this information once the contract is awarded. Hydrostatic discharge water will be tanked and disposed of at an approved facility. Again this will be a contractor decision and can be provided once awarded.**
7. When is anticipated start and duration of construction for the installation of new pipe/HDD and removal of old pipe? **Estimated construction start will be May 2021**

Jim McGinley
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1. HDD feasibility evaluation / Geotechnical evaluation reports/information
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Please let me know if you have any questions. Since we are still working from home, please contact me initially via email. Thank you.

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8. When is anticipated start and duration of construction for the installation of new pipe/HDD and removal of old pipe?

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(e) eric.engle@drbc.gov

From: McGinley, James X. <Jim.McGinley@stvinc.com>
Sent: Wednesday, February 17, 2021 8:50 AM
To: Engle, Eric <Eric.Engle@drbc.gov>

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Thank you

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Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

From: Engle, Eric <Eric.Engle@drbc.gov>
Sent: Tuesday, December 8, 2020 3:30 PM
To: McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: Sunoco Pipeline, L.P. - Jacobs Creek Relocation Project (DRBC Draft Docket No. D-1998-035-2)

**This e-mail is from outside STV**

Hi Jim,

I hope you are staying well. In support of the Sunoco – Jacobs Creek Pipeline Replacement Project application, please submit the following:

1. HDD feasibility evaluation / Geotechnical evaluation reports/information
2. Inadvertent Release Plan
4. Any updates to the permits summary table in the DRBC Application and copies of
permits/approvals received

5. Estimates of the volume of water needed for HDD, hydrostatic testing and dust control
6. Proposed hydrostatic test water discharge locations.
7. Where will used drilling mud recovered from drilling pits be disposed?
8. When is anticipated start and duration of construction for the installation of new pipe/HDD and removal of old pipe?

Please let me know if you have any questions. Since we are still working from home, please contact me initially via email. Thank you.

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Delaware River Basin Commission
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(p) 609-883-9500 ext. 229
(f) 609-883-9522
(e) eric.engle@drbc.gov

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this transmission in error, please notify STV and purge this message.
Good morning Eric,

I have addressed the questions in red. Please let me know if there is anything else you need.

Thank you,

1. What type of petroleum product(s) is/are transported in the pipeline system. **Liquid petroleum products**

2. Please indicate the municipality and county of the Twin Oaks Terminal and Newark Facility

   **Twin Oaks is Upper Chichester Township, PA and Newark is the City of Newark, NJ**

3. Are water demand estimates known for dust control, pipeline cleaning, HDD and hydrostatic testing?  
   **We do not have estimate totals at this time but can provide these numbers as the contractor is selected**

4. Have any water suppliers and wastewater treatment facilities been identified?  
   **Not at this time. The requests for bid for this project will dictate that the bidder identify these locations. This information can be provided to DRBC upon the award of the contract**

5. Information in the DRBC application (Section 2 Project Description, page 2 of the narrative) indicates that: “As directed by DEP a tree clearing moratorium from April 1 to August 31 will be enacted in order to protect nesting birds. Also as directed by NJDEP in stream work will not take place between March 1 and June 30 in order to protect anadromous fish.”

   I found that the New Jersey FHA and FWW GP-2 permit denotes instream work restrictions between May 1 and July 31 (not March 1 and June 30). I could not find a tree clearing timing restrictions. Please affirm the instream work timing restrictions and reference the New Jersey approval/permits requiring them.

   **The tree clearing statement is incorrect and I believe a carry over from a previous project I was using as a template. I have removed the statement and attached a corrected description**

6. Please confirm the following HDD depth information. The proposed HDD installation will be
approximately 85 feet deep under the Delaware River and Jacobs Creek streambeds and concrete culvert and 110 to 120 feet under the Delaware Raritan Canal and SR029. Yes these Depths are correct under the River and the Creek the depths vary between 82 and 85 feet and under the canal we are at 115.

7. Please update any permit status and provide copies of any approvals. We have not received any additional approvals at this time. The Army Corps and PADEP are still pending. STV will provide these documents to DRBC upon receipt.

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

From: Engle, Eric <Eric.Engle@drbc.gov>
Sent: Thursday, April 1, 2021 5:28 PM
To: McGinley, James X. <Jim.McGinley@stvinc.com>

**This e-mail is from outside STV**

Good afternoon Jim,

We are planning to include the draft docket on the May 12 DRBC Hearing agenda. We do have a few additional questions as listed below:

1. What type of petroleum product(s) is/are transported in the pipeline system.
2. Please indicate the municipality and county of the Twin Oaks Terminal and Newark Facility
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6. Please confirm the following HDD depth information. The proposed HDD installation will be approximately 85 feet deep under the Delaware River and Jacobs Creek streambeds and concrete culvert and 110 to 120 feet under the Delaware Raritan Canal and SR029.

7. Please update any permit status and provide copies of any approvals.

Thanks Jim. Please let me know if you have any questions.

Sincerely,
Eric

From: McGinley, James X. <Jim.McGinley@stvinc.com>
Sent: Thursday, April 1, 2021 2:21 PM
To: Engle, Eric <Eric.Engle@drbc.gov>

Good afternoon Eric,

I wanted to check on the status of the referenced project and to see if we are on track to be on the May meeting agenda and if not what we still needed to provide to make that meeting.

Thank you,

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

From: Engle, Eric <Eric.Engle@drbc.gov>
Sent: Thursday, February 18, 2021 4:40 PM
To: McGinley, James X. <Jim.McGinley@stvinc.com>
Hello Jim,

I just wanted to let you know that I was able to download the four files. Thank you.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

---

**From**: McGinley, James X. <Jim.McGinley@stvinc.com>
**Sent**: Wednesday, February 17, 2021 8:50 AM
**To**: Engle, Eric <Eric.Engle@drbc.gov>
**Subject**: [EXTERNAL] RE: Sunoco Pipeline, L.P. - Jacobs Creek Relocation Project (DRBC Draft Docket No. D-1998-035-2)

I'm using Mimecast to share large files with you. Please see the attached instructions.

Good morning Eric,

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Thank you

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Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

From: Engle, Eric <Eric.Engle@drbc.gov>
Sent: Tuesday, December 8, 2020 3:30 PM
To: McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: Sunoco Pipeline, L.P. - Jacobs Creek Relocation Project (DRBC Draft Docket No. D-1998-035-2)

**This e-mail is from outside STV**

Hi Jim,

I hope you are staying well. In support of the Sunoco – Jacobs Creek Pipeline Replacement Project application, please submit the following:

1. HDD feasibility evaluation / Geotechnical evaluation reports/information
2. Inadvertent Release Plan
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Please let me know if you have any questions. Since we are still working from home, please contact me initially via email. Thank you.

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Eric

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Please consider the environment before printing this e-mail.
Hi Jim,

I do have time and I would like to discuss. I am free all day tomorrow except from about 1200 to 1300.

David Kovach, P.G.
Project Review Manager
Delaware River Basin Commission
P.O. Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
P: 609-477-7264
David.kovach@drbc.gov

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
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Office: 610-385-8443
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Hi Jim,
It would be best if you submitted it electronically with the fee form and check submitted as a hard
copy by mail. You may also submit it all by hard copy if you desire. We have someone in the office
from 0900 to 1700 accepting deliveries and collecting mail.

Are you sure the project requires DRBC review? Would you like to discuss the project in advance of
submitting?

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Project Review Manager
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P: 609-477-7264
David.kovach@drbc.gov

From: McGinley, James X. <Jim.McGinley@stvinc.com>
Sent: Tuesday, October 20, 2020 1:39 PM
To: Kovach, David <David.Kovach@drbc.gov>
Subject: [EXTERNAL] Docket Submission

Good afternoon David,

I have a submission for a pipeline crossing of the Delaware via HDD from upper Makefield, Bucks, PA
to Ewing and Hopewell, Mercer, NJ to remedy an expose within Jacobs Creek. Should the
application be sent hard copy as we have in the past or are there different protocols in place due to
covid for submission.

Thank you,

Jim McGinley
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STV
205 West Welsh Drive
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P: 609-477-7264
David.kovach@drbc.gov

Good morning David,

Left a voicemail but wasn’t sure if you were in the office. I am available all morning to discuss, 610-655-7654

Thanks,

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From: McGinley, James X. <Jim.McGinley@stvinc.com>
Sent: Tuesday, October 20, 2020 3:56 PM
To: Kovach, David <David.Kovach@drbc.gov>
Subject: [EXTERNAL] RE: Docket Submission

I believe we would but if you have time tomorrow or later this week to discuss ahead of submission that would be great.

Jim McGinley
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Cell: 610-655-7654
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From: Kovach, David <David.Kovach@drbc.gov>
Sent: Tuesday, October 20, 2020 3:54 PM
To: McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: RE: Docket Submission

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Are you sure the project requires DRBC review? Would you like to discuss the project in advance of submitting?

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David.kovach@drbc.gov

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From: McGinley, James X. <Jim.McGinley@stvinc.com>
Sent: Wednesday, October 21, 2020 9:42 AM
To: Kovach, David <David.Kovach@drbc.gov>
Cc: Engle, Eric <Eric.Engle@drbc.gov>
Subject: [EXTERNAL] RE: Docket Submission

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From: Kovach, David <David.Kovach@drbc.gov>
Sent: Tuesday, October 20, 2020 4:25 PM
To: McGinley, James X. <Jim.McGinley@stvinc.com>
Cc: Engle, Eric <Eric.Engle@drbc.gov>
Subject: RE: Docket Submission

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Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

Hi Jim,

It would be best if you submitted it electronically with the fee form and check submitted as a hard copy by mail. You may also submit it all by hard copy if you desire. We have someone in the office from 0900 to 1700 accepting deliveries and collecting mail.

Are you sure the project requires DRBC review? Would you like to discuss the project in advance of submitting?

David Kovach, P.G.
Project Review Manager
Delaware River Basin Commission
P.O. Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
P: 609-477-7264
David.kovach@drbc.gov

Good afternoon David,
I have a submission for a pipeline crossing of the Delaware via HDD from upper Makefield, Bucks, PA to Ewing and Hopewell, Mercer, NJ to remedy an expose within Jacobs Creek. Should the application be sent hard copy as we have in the past or are there different protocols in place due to covid for submission.

Thank you,

Jim McGinley
Senior Environmental Scientist, Associate

STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

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Thanks Jim,

Construction
The draft docket will contain the standard 3 year from the date of approval to commence operation of the project. We can discuss with the Commissioners and likely extend this in the docket to 5 years if needed. The standard docket condition is as follows:

This approval of the construction of facilities shall expire three years from the date set forth below unless prior thereto the docket holder has commenced operation of the Project or has provided the Executive Director with written notification that the docket holder has expended substantial funds (in relation to the cost of the Project) after the date of this docket approval in reliance upon this docket approval.

Docket Approval Expiration
Commission approval of the Project, will remain in effect for the life of the Project. Therefore, the docket will have no expiration date.

Since the draft docket will contain information regarding Federal, state and local permitting, we would appreciate an update on the status of the permits/approvals.

Thank you,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

[EXTERNAL] RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

Thank you Eric,
We will work on these answers and get them back to you as soon as possible. One related item I had a question on: I am working on our project schedule and matrix of all pending and approved permits. For the DRBC docket, once approved is there a timeline to initiate construction and or an expiration date of the approval.

Thank you,

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

**This e-mail is from outside STV**

Good morning Mr. Wills,

This is in response to your letter dated June 9, 2021 that provided partial responses to DRBC’s comments regarding the proposed HDD activities at the Jacobs Creek Pipeline Relocation Project. You indicate that some of the requested information is the responsibility of the drilling contractor and the information can be finalized and submitted upon award of the bid. This information includes a drilling plan, contingency plan and pullback plan. When will the contact be awarded so that this additional information can be made available for DRBC’s review?

Also, regarding the Report of Geotechnical Investigation prepared by Earth Engineering Inc, dated January 7, 2020 (“Geotechnical Report”). Boring logs in the report indicate that that an additional bed of red siltstone was encountered between 57 feet and 80.5 feet in boring SB-4. The red siltstone was not encountered in borings SB-1 or SB-2. Based on the Geologic Map of Central and Southern New Jersey (1998), the 3 borings appear to be aligned generally along strike and therefore should show a similar lithology. The same map shows numerous faults in the area. Please provide additional information regarding the correlation of the strata encountered in the borings and discuss
the possibility of a fault or other structure located between borings SB-3 and SB-4. Please also assess the need to further characterize the lithology between borings SB-3 and SB-4 with additional boring(s).

The boring logs were numbered SB-1, SB-3 and SB-4. Was an additional boring (SB-2) planned or not completed?

The boring logs in the Geotechnical Report contain information on the relative dip. In each note 2 dip angles are provided. Please describe what the 2 dip angles represent.

The Geotechnical report describes the shale bedrock as having extremely close spaced fractures, laminated and medium hard to very hard. The rock was additionally characterized to be broken to massive with degrees of weathering ranging from highly weathered to fresh. Information in the HDD Drill Analysis Report, prepared by STV, dated January 2021 indicated that the rock cores taken from the geotechnical borings on site show very little to no fracturing. Please provide more information on the frequency and nature of the fractures/joints encountered at the site.

The Geotechnical Report indicated that slightly weathered to fresh bedrock of fair to excellent quality encountered in borings SB-1, SB-3 and SB-4 is characterized as “Difficulties May Occur” per the referenced publication. Please describe what difficulties may occur and what Sunoco plans to avoid or minimize these difficulties.

The Equipment Recommendations Section of the HDD Analysis Report requires the installation of temporary casing at the entry point on the Pennsylvania side to facilitate the return of drilling fluid and circulation to reduce the risk of inadvertent returns. Why is a temporary pipe not recommended on the New Jersey side?

We will await your responses and the submittal of the detailed Drilling Plan, Contingency Plan and Pullback Plan from the contractor when selected. Our concerns regarding the HDD below the Delaware River must be fully addressed prior to our recommendation for approval by the Commissioners.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov
From: Wills, Henry D. <Henry.Wills@stvinc.com>
Sent: Wednesday, June 9, 2021 13:53
To: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: [EXTERNAL] NJDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

I'm using Mimecast to share large files with you. Please see the attached instructions.

Mr. Engle,

Attached please find responses to your email dated June 3. Please contact us with additional questions or coordination as necessary.

Thanks,

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

From: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Sent: Thursday, June 3, 2021 10:10 AM
To: McGinley, James X. <Jim.McGinley@stvinc.com>; Armstrong, Colleen <COLLEEN.ARMSTRONG@energytransfer.com>
Subject: NJDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

**This e-mail is from outside STV**

Good morning Jim,

Attached are comments we received from the New Jersey Department of Environmental Protection regarding the Sunoco Pipeline LP - Jacobs Creek Replacement Project. The comments pertain to the HDD installation process and the Inadvertent Return Assessment, Preparedness, Prevention & Contingency Plan dated February 2021 submitted to DRBC.

NJDEP recommended that Sunoco Pipeline LP implement lessons learned from recent IRs in New Jersey and requested that Sunoco revise its DRBC application with changes to the HDD drilling proposal and the IR contingency plan. DRBC staff concur with NJDEP’s recommendations. We
request that Sunoco provide the Commission with responses to New Jersey’s Comments and submit its revised drilling plan and IR contingency plan.

If you should have any questions, please email us and we will coordinate with New Jersey staff.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov
confidential and exempt from disclosure under applicable law. If the reader of this message is not the intended recipient, you are informed that any dissemination, copying or disclosure of the material contained herein, in whole or in part, is strictly prohibited. If you have received this transmission in error, please notify STV and purge this message.
Dear Matt McCann,

Please be advised that the attached Records Request is currently in process and a response will be sent as soon as possible.

Sincerely,

Denise McHugh

Denise McHugh
Delaware River Basin Commission
Finance & Administration Specialist
25 Cosey Road, PO Box 7360
West Trenton, NJ 08628-0360

I am working remotely. The best way to reach me is by email.

Denise.Mchugh@drbc.gov
www.drbc.gov
Tele: 609-883-9500 x240
Direct Dial 609-477-7240
Fax: 609-883-9522
Good morning Jim,

Thanks for reviewing the draft docket. Yes the timing restrictions are applicable to work in Jacobs Creek. We are also aware of the differing dates and are verifying that with New Jersey.

Thanks,
Eric

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

Good afternoon Eric,

Quick questions about the instream moratorium statement in the docket Other conditions number 11 copied below. Is this moratorium limited to work in the Delaware River or is this applicable to instream work in Jacob’s Creek as well. We have a 5/1 to 7/31 moratorium from DEP for Jacobs related to “general game fish” and I just want to make sure we are planning work activities to meet all applicable dates.

11. No construction, excavation, filling, or grading is permitted within the watercourse onsite between March 1 through June 30 to protect the anadromous spawning and Sturgeon spawning activities in the Delaware River during removal of the section of pipe in the Jacobs Creek.

Thank you,
Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

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...
Jim and Colleen,

I wanted to inform you that the Commissioners decided to remove the Sunoco Jacobs Creek Replacement Project from the draft agenda to allow additional time for review. The next time it could be included would be the Commission’s August 11, 2021 hearing.

Let me know if you have any questions.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov
Yes this statement is accurate and I cleared that it is acceptable to Sunoco.

Thank you,

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

From: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Sent: Thursday, April 22, 2021 3:34 PM
To: McGinley, James X. <Jim.McGinley@stvinc.com>; Armstrong, Colleen <COLLEEN.ARMSTRONG@energytransfer.com>

**This e-mail is from outside STV**

Good afternoon Jim,

Thank you for reviewing and providing comments. I will make the corrections you pointed out including a modification of the bulleted item. I do not believe we will need a copy of the plan, but can verify. Please let me know if the following edit is acceptable and correct:

- Under DOT regulations provided in 49 CFR. §195.402(E), SPLP has established an Emergency Plan for the existing system that provides written procedures to minimize hazards from a pipeline emergency and will remain in effect following the replacement project.

Thank you,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov
Good afternoon Eric,

I apologize rereading the page 3 item referenced below and clarifying with Sunoco. The question is would that document need to be provided as part of the docket submission. This is typically not something Sunoco releases publicly. A plan is currently in place for the existing line and will carry over into the replacement. Verification of this compliant plan can be provided.

Thank you,

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510
ET/Sunoco and STV have reviewed the docket. I have attached a tracked changed version of the docket. The only changes to the text are changing 12 to 14 inch and the removal of the “Natural Gas” references as this is a petroleum liquids line and it was our operating pressure that kicked us into DRBC review.

We did have one question regarding page 3, 2nd paragraph the 4th bullet item references the preparation of an emergency plan associated with this line. As this is an existing we are replacing this plan already exists. Can we provide you a copy of the current emergency plan for this line?

Thank you,

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Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
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Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

---

From: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Sent: Friday, April 16, 2021 12:19 PM
To: McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: Please Review - DRBC Draft Docket No. D-1998-035-2 (Sunoco - Jacobs Creek)

**This e-mail is from outside STV**

Good afternoon,

Attached is a copy of the above referenced draft docket for your review. We tentatively scheduled the docket for the May / June 2021 DRBC public hearing/business meeting agenda. The hearing is scheduled for Wednesday, May 12, 2021 and the business meeting is scheduled for Wednesday, June 9, 2021. Both will be held remotely. Please check the DRBC website for information and updates on the hearing and meeting.

Please review the draft docket and let us know if you have any questions or find any items that may need to be corrected. Please submit any comments or questions to me (by email) at your earliest convenience, but please no later than COB Thursday April 22, 2021. This will allow us time to respond to your comments and make any necessary corrections prior to posting the docket on our website.
If you would, please email me and confirm receipt of the draft docket. Also, we have Colleen Armstrong, Project Manager listed as the docket holder contact, but do not have her email. Please forward Colleen’s email and phone number. Thanks.

If you should have any questions, please contact me directly (email). Thank you for your assistance.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.ingle@drbc.gov

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Thanks Jim.

From: McGinley, James X. <Jim.McGinley@stvinc.com>
Sent: Thursday, April 22, 2021 3:49 PM
To: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>; Armstrong, Colleen
<COLLEEN.ARMSTRONG@energytransfer.com>

Good afternoon Eric,

Yes this statement is accurate and I cleared that it is acceptable to Sunoco.

Thank you,

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

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Thank you,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

From: McGinley, James X. <Jim.McGinley@stvinc.com>
Sent: Thursday, April 22, 2021 3:13 PM
To: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>; Armstrong, Colleen <COLLEEN.ARMSTRONG@energytransfer.com>

Good afternoon Eric,

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Thank you,

Jim McGinley
From: McGinley, James X.
Sent: Thursday, April 22, 2021 1:50 PM
To: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>; Armstrong, Colleen <COLLEEN.ARMSTRONG@energytransfer.com>

Good afternoon Eric,

ET/Sunoco and STV have reviewed the docket. I have attached a tracked changed version of the docket. The only changes to the text are changing 12 to 14 inch and the removal of the “Natural Gas” references as this is a petroleum liquids line and it was our operating pressure that kicked us into DRBC review.

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Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

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If you would, please email me and confirm receipt of the draft docket. Also, we have Colleen Armstrong, Project Manager listed as the docket holder contact, but do not have her email. Please forward Colleen’s email and phone number. Thanks.

If you should have any questions, please contact me directly (email). Thank you for your assistance.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) [eric.engle@drbc.gov](mailto:eric.engle@drbc.gov)

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Thank you,

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Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
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West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov
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205 West Welsh Drive
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Fax: 610-385-8510

From: McGinley, James X.
Sent: Thursday, April 22, 2021 1:50 PM
To: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>; Armstrong, Colleen <COLLEEN.ARMSTRONG@energytransfer.com>

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Thank you,

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Good afternoon,

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Please review the draft docket and let us know if you have any questions or find any items that may need to be corrected. Please submit any comments or questions to me (by email) at your earliest convenience, but please no later than COB Thursday April 22, 2021. This will allow us time to respond to your comments and make any necessary corrections prior to posting the dockets on our website.

If you would, please email me and confirm receipt of the draft docket. Also, we have Colleen Armstrong, Project Manager listed as the docket holder contact, but do not have her email. Please forward Colleen’s email and phone number. Thanks.

If you should have any questions, please contact me directly (email). Thank you for your assistance.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov
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Good afternoon Jim,

We can only say that the issue lies with the preparedness of the states with their own permits/approvals. The Commissioners did not disclose specifically what permits or issues. We are expecting comments on the IR Plan that may result in changes to that plan, but we have not received those comments yet from our partners.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

Good morning eric,

I wanted to check to see what the drivers are for the additional review and what if anything can be done to keep us in the current agenda. We were anticipating a summer construction schedule for this project and if there is any information or additional data we can provide now please let me know

Also I have CCed Ed Weirsky the project PM in here as well to keep him in the loop.

Thank you,

Sent from my iPhone

On Apr 28, 2021, at 11:24 AM, Engle, Eric (DRBC)<Eric.Engle@drbc.gov> wrote:
Jim and Colleen,

I wanted to inform you that the Commissioners decided to remove the Sunoco Jacobs Creek Replacement Project from the draft agenda to allow additional time for review. The next time it could be included would be the Commission’s August 11, 2021 hearing.

Let me know if you have any questions.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

---

From: McGinley, James X. <Jim.McGinley@stvinc.com>
Sent: Thursday, April 22, 2021 3:49 PM
To: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>; Armstrong, Colleen <COLLEEN.ARMSTRONG@energytransfer.com>

Good afternoon Eric,

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We did have one question regarding page 3, 2nd paragraph the 4th bullet item references the preparation of an emergency plan associated with this line. As this is an existing we are replacing this plan already exists. Can we provide you a copy of the current emergency plan for this line?

Thank you,

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Office: 610-385-8443
Cell: 610-655-7654
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From: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Sent: Friday, April 16, 2021 12:19 PM
To: McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: Please Review - DRBC Draft Docket No. D-1998-035-2 (Sunoco - Jacobs Creek)

**This e-mail is from outside STV**

Good afternoon,

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Sincerely,

Eric L. Engle, P.G.
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Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

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Hi Henry,

I will check in with my team and get back to you shortly. Thanks.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov
Mr. Engle,

Attached please find our responses to your email dated June 30, 2021. Please let us know if you have any trouble with the files or if you have additional questions.

The files include:
- Response letter dated July 28, 2021
- Prior correspondence from STV to DRBC dated July 7, 2021
- Prior correspondence from EEI to DRBC dated July 2, 2021

Thanks, have a good weekend.

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

---

No Problem Mr. Wills. Thank you.
-Eric Engle

---

I apologize for not responding immediately. We did receive and we will be sending out responses in the near future.

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com
Good afternoon Mr. Wills,

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Sincerely,
Eric

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Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

---

From: Wills, Henry D. <Henry.Wills@stvinc.com>  
Sent: Friday, July 23, 2021 11:03  
To: Eric.Engle@drbc.gov  
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Edward.Weirsky@stvinc.com; Jim.McGinley@stvinc.com  
Subject: [EXTERNAL] RE: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

Good Morning,

Just wanted to follow up with you regarding this submission. I see that you accessed the files on July 7. Can you please let us know if you have any additional questions.

Thanks, have a good weekend.

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

---

From: Wills, Henry D.  
Sent: Wednesday, July 07, 2021 2:03 PM  
To: Eric.Engle@drbc.gov  
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Edward.Weirsky@stvinc.com; Jim.McGinley@stvinc.com  
Subject: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

Good Afternoon,

Attached please find our responses from your email dated June 24, 2021 for your review.
Good morning Mr. Wills,

This is in response to your letter dated June 9, 2021 that provided partial responses to DRBC’s comments regarding the proposed HDD activities at the Jacobs Creek Pipeline Relocation Project. You indicate that some of the requested information is the responsibility of the drilling contractor and the information can be finalized and submitted upon award of the bid. This information includes a drilling plan, contingency plan and pullback plan. When will the contact be awarded so that this additional information can be made available for DRBC’s review?

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The boring logs were numbered SB-1, SB-3 and SB-4. Was an additional boring (SB-2) planned or not completed?

The boring logs in the Geotechnical Report contain information on the relative dip. In each note 2 dip angles are provided. Please describe what the 2 dip angles represent.

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We will await your responses and the submittal of the detailed Drilling Plan, Contingency Plan and Pullback Plan from the contractor when selected. Our concerns regarding the HDD below the Delaware River must be fully addressed prior to our recommendation for approval by the Commissioners.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(609) 587-3510 ext. 1044
eric.engle@drbc.gov
From: Wills, Henry D. <Henry.Wills@stvinc.com>
Sent: Wednesday, June 9, 2021 13:53
To: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: [EXTERNAL] NJDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

I'm using Mimecast to share large files with you. Please see the attached instructions.

Mr. Engle,

Attached please find responses to your email dated June 3. Please contact us with additional questions or coordination as necessary.

Thanks,

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518

Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

From: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Sent: Thursday, June 3, 2021 10:10 AM
To: McGinley, James X. <Jim.McGinley@stvinc.com>; Armstrong, Colleen <COLLEEN.ARMSTRONG@energytransfer.com>
Subject: NJDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

**This e-mail is from outside STV**

Good morning Jim,

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NJDEP recommended that Sunoco Pipeline LP implement lessons learned from recent IRs in New Jersey and requested that Sunoco revise its DRBC application with changes to the HDD drilling proposal and the IR contingency plan. DRBC staff concur with NJDEP’s recommendations. We request that Sunoco provide the Commission with responses to New Jersey’s Comments and submit its revised drilling plan and IR contingency plan.

If you should have any questions, please email us and we will coordinate with New Jersey staff.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
e eric.engle@drbc.gov
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Redesigned and rebuilt: visit our new website at www.stvinc.com

---

...
Hello Henry,

New Jersey staff are currently reviewing the HDD response information you submitted. Has Sunoco selected a contractor and if so, have they prepared a drilling plan, contingency plan, and pullback plan? We would like an opportunity to review these plans.

Thank you,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov
From: Wills, Henry D. <Henry.Wills@stvinc.com>
Sent: Friday, July 30, 2021 08:13
To: Engle, Eric [DRBC] <Eric.Engle@drbc.gov>
Cc: Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; COLLEEN.ARMSTRONG@energytransfer.com; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: [EXTERNAL] RE: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

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205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

From: Engle, Eric [DRBC] <Eric.Engle@drbc.gov>
Sent: Thursday, July 29, 2021 12:51 PM
To: Wills, Henry D. <Henry.Wills@stvinc.com>
Subject: RE: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

**This e-mail is from outside STV**

No Problem Mr. Wills. Thank you.
-Eric Engle

From: Wills, Henry D. <Henry.Wills@stvinc.com>
Sent: Wednesday, July 28, 2021 13:38
To: Engle, Eric [DRBC] <Eric.Engle@drbc.gov>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>; Kovach, David [DRBC] <David.Kovach@drbc.gov>
Subject: [EXTERNAL] RE: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

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Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

From: Engle, Eric [DRBC] <Eric.Engle@drbc.gov>
Sent: Monday, July 26, 2021 3:00 PM
To: Wills, Henry D. <Henry.Wills@stvinc.com>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>; Kovach, David [DRBC] <David.Kovach@drbc.gov>
Subject: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)
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Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov
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Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518

Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

From: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Sent: Thursday, June 24, 2021 7:43 AM
To: Wills, Henry D. <Henry.Wills@stvinc.com>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

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Senior Geologist, Project Review Section
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PO Box 7360
25 Casey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov
From: Wills, Henry D. <Henry.Wills@stvinc.com>
Sent: Wednesday, June 9, 2021 13:53
To: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: [EXTERNAL] NJDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

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Mr. Engle,

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Thanks,

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518

Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

From: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Sent: Thursday, June 3, 2021 10:10 AM
To: McGinley, James X. <Jim.McGinley@stvinc.com>; Armstrong, Colleen <COLLEEN.ARMSTRONG@energytransfer.com>
Subject: NJDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

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Delaware River Basin Commission
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[60 years 1961-2021]
[DRBC Logo]
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[Redacted]

[Redacted]

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Hi Jim,

I copied you on the email to Henry Wills earlier this week. In addition, what is Sunoco's proposed timeframe for the project now?

Below is a copy of the Federal, State and Local Permits/Approvals Table from the draft docket. Please review and update the permit status information and provide copies of the State and Federal permits if they have already been issued.

Let me know if you have any questions. Thank you and have a nice holiday weekend.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

<table>
<thead>
<tr>
<th>AGENCY</th>
<th>PERMIT</th>
<th>PERMIT STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>USACE</td>
<td>Nationwide Permit 12</td>
<td>Pending additional information tied to PADEP GP-5 Permit</td>
</tr>
<tr>
<td>U.S. Fish &amp; Wildlife Service (NJ)</td>
<td>Federal threatened/endangered species review (NJ)</td>
<td>Short nosed sturgeon listed on results. Due to nature of the project impacts not anticipated.</td>
</tr>
<tr>
<td>U.S. Fish &amp; Wildlife Service (PA)</td>
<td>Federal T/E species review (PA)</td>
<td>Clearance received 5/22/19</td>
</tr>
<tr>
<td>Delaware and Raritan Canal Commission</td>
<td>Assess impacts to the watershed of the Delaware and Raritan Canal</td>
<td>NJ Historic Preservation Office clearance required. SHPO coordination ongoing.</td>
</tr>
<tr>
<td>Delaware and Raritan Canal State Park</td>
<td>Access impacts to tow path</td>
<td>NJ Historic Preservation Office clearance required. SHPO coordination ongoing.</td>
</tr>
<tr>
<td>New Jersey Department of Environmental Protection (NJDEP)</td>
<td>Freshwater Wetland General Permit No. 2 – Underground Utility Lines</td>
<td>Approved on July 21, 2020 Permit No. 1100-20-0003.1 – LUP200001</td>
</tr>
<tr>
<td>NJDEP</td>
<td>Flood Hazard Area Individual Permit</td>
<td>Approved on July 21, 2020 Permit No. 1100-20-0003.1 – LUP200001</td>
</tr>
<tr>
<td>NJDEP</td>
<td>Section 106 consultation</td>
<td>SHPO has agreed to review Phase 1A sampling plan ahead of formal agency request. SHPO coordination ongoing.</td>
</tr>
<tr>
<td>NJDEP</td>
<td>State T/E species review</td>
<td>Variety of state threatened and endangered species listed in initial coordination. Agency coordination ongoing to clear these species.</td>
</tr>
<tr>
<td>New Jersey Water Supply Authority</td>
<td>Review of impacts to Water Transmission Complex of the Canal; amendment to agreement to relocate the pipeline into a different block/lot</td>
<td>Agreed upon terms for access included in Division of Parks and Forestry Agreement. Will need to be finalized once construction is scheduled. Amendment to the agreement to relocate the pipe must be negotiated; has not yet been approved by NJWSA. Agreed upon terms included in Division of Parks and Forestry Agreement. Will need to be finalized once construction is scheduled.</td>
</tr>
<tr>
<td>NJDEP State Parks</td>
<td>License to occupy lands within the State Park</td>
<td>Agreed upon terms included in Division of Parks and Forestry Agreement. Will need to be finalized once construction is scheduled</td>
</tr>
<tr>
<td>Mercer County Soil Conservation District</td>
<td>Erosion and Sediment Control Plan Review</td>
<td>Review Letter Issued 10/23/2021, Lost in Mail, Email Copy Received 2/5/21.</td>
</tr>
<tr>
<td>Pennsylvania Department of Environmental Protection (PADEP)</td>
<td>General Permit – 5</td>
<td>STV is making requested changes to the plans and preparing Submerged Lands License Information for the reviewer to complete the GP-5 approval. New information to be submitted 2/8/21</td>
</tr>
<tr>
<td>PA Fish &amp; Boat Commission (PAFBC)</td>
<td>State T/E species review</td>
<td>Clearance Received on 5/22/20</td>
</tr>
<tr>
<td>PA Game Commission (PGC)</td>
<td>State T/E species review</td>
<td>Clearance Received on 5/22/20</td>
</tr>
<tr>
<td>PA Department of Conservation and Natural Resources (DCNR)</td>
<td>State T/E species review</td>
<td>Clearance Received on 5/22/20</td>
</tr>
<tr>
<td>Bucks County Conservation District</td>
<td>Erosion and Sediment Control Plan Review</td>
<td>Pending. Permit Number PAC090431</td>
</tr>
</tbody>
</table>

---

From: McGinley, James X <Jim.McGinley@stvinc.com>
Sent: Monday, August 30, 2021 13:59
To: Engle, Eric [DRBC]<Eric.Engle@drbc.gov>
Subject: [EXTERNAL] RE: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

Good afternoon Eric,

Just wanted to touch base on the Jacobs Creek crossing to make sure we have gotten you everything you need for review and to see if you possibly have a timeline for which quarter we may end up on the docket.

Thank you much,

Jim McGinley
Senior Environmental Scientist, Associate
Good afternoon Mr. Wills,

We did download the files and are reviewing. Would you please confirm that you received and will provide a response to the additional NJDEP comments that I emailed to you on June 30, 2021? Thank you.

Sincerely,
Eric

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

Good afternoon Madam/AP,

I see that you accessed the files on July 7. Can you please let us know if you have any additional questions.

Thanks,
Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
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We will await your responses and the submittal of the detailed Drilling Plan, Contingency Plan and Pullback Plan from the contractor when selected. Our concerns regarding the HDD below the Delaware River must be fully addressed prior to our recommendation for approval by the Commissioners.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

---

Mr. Engle,

Attached please find responses to your email dated June 3. Please contact us with additional questions or coordination as necessary.

Thanks,

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

---

I’m using MimeoCast to share large files with you. Please see the attached instructions.

Mr. Engle,

Attached please find responses to your email dated June 3. Please contact us with additional questions or coordination as necessary.

Thanks,

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com
Good morning Jim,

Attached are comments we received from the New Jersey Department of Environmental Protection regarding the Sunoco Pipeline LP - Jacobs Creek Replacement Project. The comments pertain to the HDD installation process and the Inadvertent Return Assessment, Preparedness, Prevention & Contingency Plan dated February 2021 submitted to DRBC.

NJDEP recommended that Sunoco Pipeline LP implement lessons learned from recent IRs in New Jersey and requested that Sunoco revise its DRBC application with changes to the HDD drilling proposal and the IR contingency plan. DRBC staff concur with NJDEP’s recommendations. We request that Sunoco provide the Commission with responses to New Jersey’s Comments and submit its revised drilling plan and IR contingency plan.

If you should have any questions, please email us and we will coordinate with New Jersey staff.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

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Hello Jim,

Thank you for the update. We will discuss and get back to you shortly.

Thanks,
Eric Engle

---

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8483
Cell: 610-655-7654
Fax: 610-385-8510

---

**Agency** | **Permit** | **Permit Status** | **September Notes**
---|---|---|---
USACE | Nationwide Permit 12 | Pending additional information tied to NJSHPO Clearance | Archeological studies performed 9/23/21. Initial reports of no findings NJSHPO coordination ongoing

U.S. Fish & Wildlife Service (NJ) | Federal threatened/endangered (T/E) species review (NJ) | Short nosed sturgeon listed on results. Due to nature of the project impacts not anticipated. |  

U.S. Fish & Wildlife Service (PA) | Federal T/E species review (PA) | Clearance received 5/22/19 |  


Delaware and Raritan Canal State Park | Access impacts to tow path | NJ Historic Preservation Office clearance required. SHPO coordination ongoing. | Archeological studies performed 9/23/21. Initial reports of no findings NJSHPO coordination ongoing

New Jersey Department of Environmental Protection (NJDEP) | Freshwater Wetland General Permit No. 2 – Underground Utility Lines | Approved on July 21, 2020 |  

New Jersey Water Supply Authority | Review of impacts to Water Transmission Complex of the Canal; amendment to agreement to relocate the pipeline into a different block/lot | This lease agreement will be granted, and annual fees assessed upon completion of the ongoing property appraisal review being performed and the issuance of the Raritan Canal Commission Permit |  

New Jersey Department of Environmental Protection (NJDEP) | Section 106 consultation | Archeological studies performed 9/23/21. Initial reports of no findings NJSHPO coordination ongoing |  

New Jersey Department of Environmental Protection (NJDEP) | License to occupy lands within the State Park | This lease agreement will be granted, and annual fees assessed upon completion of the ongoing property appraisal review being performed and the issuance of the Raritan Canal Commission Permit |  

Mercer County Soil Conservation District | Erosion and Sediment Control Plan Review | Erosion and Sediment Control Plan has been reviewed and approved by mercer county soil conservation district, however the NPDES permit approval has not been applied for. Waiting on estimated construction start time as this is a 30 day review time period with a finite period in which to complete teh work. |  

Pennsylvania Department of Environmental Protection (PADEP) Bureau of Watershed Management | General Permit – 5 | Approved | GPS0901220.031 and associated SLLA approved July 2021

PA Fish & Boat Commission (PAFBC) | State T/E species review | Clearance Received on 5/22/20 |  

PA Game Commission (PWC) | State T/E species review | Clearance Received on 5/22/20 |  

PA Department of Conservation and Natural Resources (DCNR) | State T/E species review | Clearance Received on 5/22/20 |  

Bucks County Conservation District | Erosion and Sediment Control Plan Review | Approved Permit Number PAC090431 |  

Hi Jim,

I copied you on the email to Henry Wills earlier this week. In addition, what is Sunoco’s proposed timeframe for the project now?

Below is a copy of the Federal, State and Local Permits/Approvals Table from the draft docket. Please review and update the permit status information and provide copies of the State and Federal permits if they have already been issued.

Let me know if you have any questions. Thank you and have a nice holiday weekend.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Coxe Road
West Trenton, NJ 08628-0360
(609) 989-7200
Dhind@drbc.gov

<table>
<thead>
<tr>
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</tr>
</tbody>
</table>

---

From: McGinley, James X. <Jim.McGinley@stvinc.com>
To: Engle, Eric [DRBC] <Eric.Engle@drbc.gov>

Good afternoon Eric,

Just wanted to touch base on the Jacobs Creek crossing to make sure we have gotten you everything you need for review and to see if you possibly have a timeline for which quarter we may end up on the docket.

Thank you much,

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510
From: Engle, Eric [DRBC] <Eric.Engle@drbc.gov>
Sent: Monday, July 26, 2021 3:00 PM
To: Wills, Henry D. <Henry.Wills@stvinc.com>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>; Kovach, David [DRBC] <David.Kovach@drbc.gov>
Subject: RE: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

**This e-mail is from outside STV**

Good afternoon Mr. Wills,

We did download the files and are reviewing. Would you please confirm that you received and will provide a response to the additional NJDEP comments that I emailed to you on June 30, 2021? Thank you.

Sincerely,
Eric

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

From: Wills, Henry D. <Henry.Wills@stvinc.com>
Sent: Friday, July 23, 2021 11:03
To: Engle, Eric [DRBC] <Eric.Engle@drbc.gov>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: [EXTERNAL] RE: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

Good Morning,

Just wanted to follow up with you regarding this submission. I see that you accessed the files on July 7. Can you please let us know if you have any additional questions.

Thanks, have a good weekend.

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

From: Wills, Henry D. <Henry.Wills@stvinc.com>
Sent: Wednesday, July 07, 2021 2:03 PM
To: Eric.Engle@drbc.gov
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

Large File Send

Sent Files

You shared files with Eric.Engle@drbc.gov COLLEEN.ARMSTRONG@energytransfer.com Edward.Weirsky@stvinc.com Jim.McGinley@stvinc.com.

File(s):
31881.00 - Jacobs Creek Pipeline Relocation - Question Response Letter.pdf
DRBC Response Letter.pdf

Good Afternoon,

Attached please find our responses from your email dated June 24, 2021 for your review.

Thanks,

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

From: Engle, Eric [DRBC] <Eric.Engle@drbc.gov>
Sent: Thursday, June 24, 2021 7:43 AM
To: Wills, Henry D. <Henry.Wills@stvinc.com>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

**This e-mail is from outside STV**

Good morning Mr. Wills,
This is in response to your letter dated June 9, 2021 that provided partial responses to DRBC’s comments regarding the proposed HDD activities at the Jacobs Creek Pipeline Relocation Project. You indicate that some of the requested information is the responsibility of the drilling contractor and the information can be finalized and submitted upon award of the bid. This information includes a drilling plan, contingency plan and pullback plan. When will the contract be awarded so that this additional information can be made available for DRBC’s review?

Also, regarding the Report of Geotechnical Investigation prepared by Earth Engineering Inc, dated January 7, 2020 (“Geotechnical Report”). Boring logs in the report indicate that an additional bed of red siltstone was encountered between 57 feet and 80.5 feet in boring SB-4. The red siltstone was not encountered in borings SB-1 or SB-2. Based on the Geologic Map of Central and Southern New Jersey (1998), the 3 borings appear to be aligned generally along strike and therefore should show a similar lithology. The same map shows numerous faults in the area. Please provide additional information regarding the correlation of the strata encountered in the borings and discuss the possibility of a fault or other structure located between borings SB-3 and SB-4. Please also assess the need to further characterize the lithology between borings SB-3 and SB-4 with additional boring(s).

The boring logs were numbered SB-1, SB-3 and SB-4. Was an additional boring (SB-2) planned or not completed?

The boring logs in the Geotechnical Report contain information on the relative dip. In each note 2 dip angles are provided. Please describe what the 2 dip angles represent.

The Geotechnical report describes the shale bedrock as having extremely close spaced fractures, laminated and medium hard to very hard. The rock was additionally characterized to be broken to massive with degrees of weathering ranging from highly weathered to fresh. Information in the HDD Drill Analysis Report, prepared by STV, dated January 2021 indicated that the rock cores taken from the geotechnical borings on site show very little to no fracturing. Please provide more information on the frequency and nature of the fractures/joints encountered at the site.

The Geotechnical Report indicated that slightly weathered to fresh bedrock of fair to excellent quality encountered in borings SB-1, SB-3 and SB-4 is characterized as “Difficulties May Occur” per the referenced publication. Please describe what difficulties may occur and what Sunoco plans to avoid or minimize these difficulties.

The Equipment Recommendations Section of the HDD Analysis Report requires the installation of temporary casing at the entry point on the Pennsylvania side to facilitate the return of drilling fluid and circulation to reduce the risk of inadvertent returns. Why is a temporary pipe not recommended on the New Jersey side?

We will await your responses and the submittal of the detailed Drilling Plan, Contingency Plan and Pullback Plan from the contractor when selected. Our concerns regarding the HDD below the Delaware River must be fully addressed prior to our recommendation for approval by the Commissioners.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
PO Box 7360
Delaware River Basin Commission
Senior Geologist, Project Review Section
25 Cosey Road
PO Box 7360

From: Wills, Henry D.  <Henry.Wills@stvinc.com>
Sent: Wednesday, June 9, 2021 13:53
To: Engle, Eric (DRBC)  <eric.engle@drbc.gov>
Subject: NJDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

I’m using Mimecast to share large files with you. Please see the attached instructions.

Mr. Engle,

Attached please find responses to your email dated June 3. Please contact us with additional questions or coordination as necessary.

Thanks,

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

From: McGinley, James X.  <Jim.McGinley@stvinc.com>
Sent: Thursday, June 3, 2021 10:10 AM
To: Wills, Henry D.  <Henry.Wills@stvinc.com>; McGinley, James X.  <Jim.McGinley@stvinc.com>
Subject: [EXTERNAL] NJDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

"This e-mail is from outside STV"

Good morning Jim,

Attached are comments we received from the New Jersey Department of Environmental Protection regarding the Sunoco Pipeline LP - Jacobs Creek Replacement Project. The comments pertain to the HDD installation process and the Inadvertent Return Assessment, Preparedness, Prevention & Contingency Plan dated February 2021 submitted to DRBC.

NJDEP recommended that Sunoco Pipeline LP implement lessons learned from recent IRs in New Jersey and requested that Sunoco revise its DRBC application with changes to the HDD drilling proposal and the IR contingency plan. DRBC staff concur with NJDEP’s recommendations. We request that Sunoco provide the Commission with responses to New Jersey’s Comments and submit its revised drilling plan and IR contingency plan.

If you should have any questions, please email us and we will coordinate with New Jersey staff.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
Jim,

Has Sunoco selected a contractor and if so, have they prepared a drilling plan, contingency plan, and a pullback plan?

Thank you,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

---

**AGENCY** | **PERMIT** | **PERMIT STATUS** | **September Notes**
--- | --- | --- | ---
USACE | Nationwide Permit 12 | Pending additional information tied to NJSHPO Clearance | Archeological studies performed 9/25/21. Initial reports of no findings NJSHPO coordination ongoing

U.S. Fish & Wildlife Service (NJ) | Federal threatened/endangered (T/E) species review (NJ) | Short nosed sturgeon listed on results. Due to nature of the project impacts not anticipated. | 

U.S. Fish & Wildlife Service (PA) | Federal T/E species review (PA) | Clearance received 5/22/19 | 

Delaware and Raritan Canal Commission | Assess impacts to the watershed of the Delaware and Raritan Canal | NJ Historic Preservation Office clearance required. SHPO coordination ongoing. | Archeological studies performed 9/25/21. Initial reports of no findings SHPO coordination ongoing

Delaware and Raritan Canal State Park | Access impacts to tow path; Discuss access | NJ Historic Preservation Office clearance required. SHPO coordination ongoing. | Archeological studies performed 9/25/21. Initial reports of no findings SHPO coordination ongoing

New Jersey Department of Environmental Protection (NJDEP) | Freshwater Wetland General Permit No 2 - Underground Utility Lines | Approved on July 21, 2020 Permit No. 1100-20-0003.1 – LUP000001 | 

NJDEP | Flood Hazard Area Individual Permit | Approved on July 21, 2020 Permit No. 1100-20-0003.1 – LUP000001 | 

NJDEP | Section 106 consultation | Archeological studies performed 9/23/21. Initial reports of no findings NJSHPO coordination ongoing | 

New Jersey Water Supply Authority | Review of impacts to Water Transmission Complex of the Canal; amendment to agreement to relocate the pipeline into a different block/lot | This lease agreement will be granted, and annual fees assessed upon completion of the ongoing property appraisal review being performed and the issuance of the Raritan Canal Commission Permit | 

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Pennsylvania Department of Environmental Protection (PADEP) Bureau of Watershed Management | General Permit – 5 | Approved | GP0991220-031 and associated SLLA approved July 2021

PA Fish & Boat Commission (PAFBC) | State T/E species review | Clearance Received on 5/22/20 | 

PA Game Commission (PGC) | State T/E species review | Clearance Received on 5/22/20 | 

PA Department of Conservation and Natural Resources (DCNR) | State T/E species review | Clearance Received on 5/22/20 | 

Bucks County Conservation District | Erosion and Sediment Control Plan Review | Approved Permit Number PAC990431 |
Hi Jim,

I copied you on the email to Henry Wills earlier this week. In addition, what is Sunoco’s proposed timeframe for the project now?

Below is a copy of the Federal, State and Local Permits/Approvals Table from the draft docket. Please review and update the permit status information and provide copies of the State and Federal permits if they have already been issued.

Let me know if you have any questions. Thank you and have a nice holiday weekend.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7960
26 Coxe Road
West Trenton, NJ 08628-0360
Fax: 610-385-8510
Cell: 610-655-7654
Office: 610-385-8443

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**Agency** | **Permit** | **Permit Status**
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Good afternoon Mr. Wills,

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Sincerely,
Eric
Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
eeric.engle@drbc.gov

Thank you much,

Jim McGinley
Senior Environmental Scientist, Associate
STV
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8443
Cell: 610-655-7654
Fax: 610-385-8510

From: Engle, Eric [DRBC] <Eric.Engle@drbc.gov>
Sent: Monday, July 26, 2021 3:00 PM
To: Wills, Henry D. <Henry.Wills@stvinc.com>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>; Kovach, David [DRBC] <David.Kovach@drbc.gov>
Subject: RE: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

Good afternoon Mr. Wills,

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Sincerely,
Eric
Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
eeric.engle@drbc.gov

From: Wills, Henry D. <Henry.Wills@stvinc.com>
Sent: Friday, July 23, 2021 11:03
To: Engle, Eric [DRBC] <Eric.Engle@drbc.gov>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: [EXTERNAL] RE: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

Good Morning,

Just wanted to follow up with you regarding this submission. I see that you accessed the files on July 7. Can you please let us know if you have any additional questions.

Thanks, have a good weekend.

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

From: Wills, Henry D. <henry.wills@stvinc.com>
Sent: Wednesday, July 07, 2021 11:03
To: Engle, Eric [DRBC] <Eric.Engle@drbc.gov>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

Good Afternoon,

Attached please find our responses from your email dated June 24, 2021 for your review.

Thanks,

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com
Good morning Mr. Wills,

This is in response to your letter dated June 9, 2021 that provided partial responses to DRBC’s comments regarding the proposed HDD activities at the Jacobs Creek Pipeline Relocation Project. You indicate that some of the requested information is the responsibility of the drilling contractor and the information can be finalized and submitted upon award of the bid. This information includes a drilling plan, contingency plan and pullback plan. When will the contract be awarded so that this additional information can be made available for DRBC’s review?

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The Equipment Recommendations Section of the HDD Analysis Report requires the installation of temporary casing at the entry point on the Pennsylvania side to facilitate the return of drilling fluid and circulation to reduce the risk of inadvertent returns. Why is a temporary pipe not recommended on the New Jersey side?

We will await your responses and the submittal of the detailed Drilling Plan, Contingency Plan and Pullback Plan from the contractor when selected. Our concerns regarding the HDD below the Delaware River must be fully addressed prior to our recommendation for approval by the Commissioners.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7350
25 Cosey Road
West Trenton, NJ 08628-0350
(e) eel.engle@drbc.gov

---

From: Wills, Henry D. <Henry.Wills@stvinc.com>
Sent: Wednesday, June 9, 2021 15:53
To: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: [EXTERNAL] NDDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

I'm using Mimecast to share large files with you. Please see the attached instructions.

Mr. Engle,

Attached please find responses to your email dated June 3. Please contact us with additional questions or coordination as necessary.

Thanks,

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglasville, PA 19118
Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

---

From: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Sent: Thursday, June 3, 2021 10:10 AM
To: McGinley, James X. <Jim.McGinley@stvinc.com>; Armstrong, Colleen <COLLEEN.ARMSTRONG@energytransfer.com>
Subject: [EXTERNAL] NDDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

**This e-mail is from outside STV**

Good morning Mr. McGinley,

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NDDEP recommended that Sunoco Pipeline LP implement lessons learned from recent RIS in New Jersey and requested that Sunoco revise its DRBC application with changes to the HDD drilling proposal and the IR contingency plan. DRBC staff concur with NDDEP’s recommendations. We request that Sunoco provide the Commission with responses to New Jersey’s Comments and submit...
its revised drilling plan and IR contingency plan.

If you should have any questions, please email us and we will coordinate with New Jersey staff.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

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to which it is addressed and may contain information that is privileged, confidential and exempt from disclosure under applicable law. If the reader of this message is not the intended recipient, you are informed that any dissemination, copying or disclosure of the material contained herein, in whole or in part, is strictly prohibited. If you have received this transmission in error, please notify STV and purge this message.
No Problem Mr. Wills. Thank you.

-Eric Engle
Good Afternoon,

Attached please find our responses from your email dated June 24, 2021 for your review.

Thanks,

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8390
Cell: 610-655-7043
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Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Casey Road
West Trenton, NJ 08628-0360
e (e) eric.engle@drbc.gov

From: Wills, Henry D. <Henry.Wills@stvinc.com>
Sent: Wednesday, June 9, 2021 13:53
To: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: [EXTERNAL] NJDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

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Mr. Engle,

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Thanks,

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518

Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

From: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Sent: Thursday, June 3, 2021 10:10 AM
To: McGinley, James X. <Jim.McGinley@stvinc.com>; Armstrong, Colleen <COLLEEN.ARMSTRONG@energytransfer.com>
Subject: NJDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)
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Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
e eric.engle@drbc.gov

Please consider the environment before printing this e-mail.

Redesigned and rebuilt: visit our new website at www.stvinc.com
Good afternoon Mr. Wills,

We did download the files and are reviewing. Would you please confirm that you received and will provide a response to the additional NJDEP comments that I emailed to you on June 30, 2021? Thank you.

Sincerely,
Eric

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

From: Wills, Henry D. <Henry.Wills@stvinc.com>
Sent: Friday, July 23, 2021 11:03
To: Eric.Engle@drbc.gov
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

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Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
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henry.wills@stvinc.com

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Sent: Wednesday, July 07, 2021 2:03 PM
To: Eric.Engle@drbc.gov
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
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henry.wills@stvinc.com

From: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Sent: Thursday, June 24, 2021 7:43 AM
To: Wills, Henry D. <Henry.Wills@stvinc.com>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

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Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Casey Road
From: Wills, Henry D. <Henry.Wills@stvinc.com>
Sent: Wednesday, June 9, 2021 13:53
To: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Cc: COLLEEN.ARMSTRONG@energytransfer.com; Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: [EXTERNAL] NJDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

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Mr. Engle,

Attached please find responses to your email dated June 3. Please contact us with additional questions or coordination as necessary.

Thanks,

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518

Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

From: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Sent: Thursday, June 3, 2021 10:10 AM
To: McGinley, James X. <Jim.McGinley@stvinc.com>; Armstrong, Colleen <COLLEEN.ARMSTRONG@energytransfer.com>
Subject: NJDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

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Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov
Hello Henry,

Confirming receipt. We will review and provide you with any questions. Thanks.

Sincerely,

Eric

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

From: Wills, Henry D. <Henry.Wills@stvinc.com>
Sent: Friday, July 30, 2021 08:13
To: Engle, Eric [DRBC] <Eric.Engle@drbc.gov>
Cc: Weirsky, Edward J. <Edward.Weirsky@stvinc.com>; COLLEEN.ARMSTRONG@energytransfer.com; McGinley, James X. <Jim.McGinley@stvinc.com>
Subject: [EXTERNAL] RE: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

Mr. Engle,

Attached please find our responses to your email dated June 30, 2021. Please let us know if you have any trouble with the files or if you have additional questions.

The files include:
- Response letter dated July 28, 2021
- Prior correspondence from STV to DRBC dated July 7, 2021
- Prior correspondence from EEI to DRBC dated July 2, 2021

Thanks, have a good weekend.

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8390
Cell: 610-655-7043
henry.wills@stvinc.com

From: Engle, Eric [DRBC] <Eric.Engle@drbc.gov>
Sent: Thursday, July 29, 2021 12:51 PM
To: Wills, Henry D. <Henry.Wills@stvinc.com>
Subject: RE: RE: DRBC Additional HDD Questions and Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

**This e-mail is from outside STV**

No Problem Mr. Wills. Thank you.
-Eric Engle
I apologize for not responding immediately. We did receive and we will be sending out responses in the near future.

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
205 West Welsh Drive
Douglassville, PA 19518
Office: 610-385-8390
Cell: 610-655-7043
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Henry D. Wills, P.E., S.I.T.
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From: Wills, Henry D.
Good Afternoon,

Attached please find our responses from your email dated June 24, 2021 for your review.

Thanks,

Henry D. Wills, P.E., S.I.T.
Civil Engineer | STV Energy Services, Inc.
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From: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Sent: Thursday, June 24, 2021 7:43 AM
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Cc: COLLEEN.ARMSTRONG@energytransfer.com; Edward.Weirsky@stvinc.com; Jim.McGinley@stvinc.com
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Subject: [EXTERNAL] NJDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

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From: Engle, Eric (DRBC) <Eric.Engle@drbc.gov>
Sent: Thursday, June 3, 2021 10:10 AM
To: McGinley, James X. <Jim.McGinley@stvinc.com>; Armstrong, Colleen <COLLEEN.ARMSTRONG@energytransfer.com>
Subject: NJDEP Comments - Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2)

**This e-mail is from outside STV**

Good morning Jim,

Attached are comments we received from the New Jersey Department of Environmental Protection regarding the Sunoco Pipeline LP - Jacobs Creek Replacement Project. The comments pertain to the HDD installation process and the Inadvertent Return Assessment, Preparedness, Prevention & Contingency Plan dated February 2021 submitted to DRBC.

NJDEP recommended that Sunoco Pipeline LP implement lessons learned from recent IRs in New Jersey and requested that Sunoco revise its DRBC application with changes to the HDD drilling proposal and the IR contingency plan. DRBC staff concur with NJDEP’s recommendations. We request that Sunoco provide the Commission with responses to New Jersey’s Comments and submit its revised drilling plan and IR contingency plan.
If you should have any questions, please email us and we will coordinate with New Jersey staff.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov

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Hello Jim,

Thank you for providing copies of the Mercer and Bucks County Permit approvals. You previously provided us with a set of plans (file name: 02 2021_05_25 Rev_H_Binder.pdf) Dated April 17, 2020, last revised May 24, 2021. Please verify that the Erosion and Sediment Control Plans and Post Construction Stormwater Management Plans included in this submission are the most up to date and final plans for the project. If not, please submit a set of the final plans.

The docket requires that the Drilling Plan, Contingency Plan and Pull Back Plan be submitted to the Commission and NJDEP. Please confirm that these plans have also been submitted to NJDEP.

Let me know if you have any questions. Thank you.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
609-477-7229
Good morning Eric,

Also for your records attached are the Mercer and Bucks County E&S Permit approvals for this project.

Jim McGinley  
Senior Environmental Scientist, Associate  
STV  
205 West Welsh Drive  
Douglassville, PA 19518  
Office: 610-385-8443  
Cell: 610-655-7654  
Fax: 610-385-8510

Good afternoon Eric,

Also included for your review is the HDD plan provided Aaron Enterprises Inc. our drilling contractor for this project.

Thank you,

Jim McGinley  
Senior Environmental Scientist, Associate  
STV  
205 West Welsh Drive  
Douglassville, PA 19518  
Office: 610-385-8443  
Cell: 610-655-7654  
Fax: 610-385-8510
Thank you Jim. Received. We will review the plan.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
609-477-7229

From: McGinley, James X. <Jim.McGinley@stvinc.com>
Sent: Tuesday, July 5, 2022 07:49
To: Engle, Eric [DRBC] <Eric.Engle@drbc.gov>
Cc: Kovach, David [DRBC] <David.Kovach@drbc.gov>
Subject: [EXTERNAL] Sunoco Pipeline - Jacobs Creek Replacement Project (DRBC D-1998-035-2) Inadvertent Return Plan

Good morning Eric and David,

Please find attached for your review and approval the most up to date Inadvertent Return Plan for the Jacobs Creek Pipeline Replacement project. If you have any question or require any additional information please let me know.

Thank you,
Jim McGinley  
Senior Environmental Scientist, Associate  
STV  
205 West Welsh Drive  
Douglassville, PA 19518  
Office: 610-385-8443  
Cell: 610-655-7654  

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Redesigned and rebuilt: visit our new website at www.stvinc.com
Thank you Jim. Received. We will review the plan.

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
609-477-7229

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Good morning Eric and David,

Please find attached for your review and approval the most up to date Inadvertent Return Plan for the Jacobs Creek Pipeline Replacement project. If you have any question or require any additional information please let me know.

Thank you,

Jim McGinley
Senior Environmental Scientist, Associate
STV
Jim and Colleen,

We included the draft docket on the November DRBC Hearing agenda. Please note that there are a few additional conditions that were not included in draft previously provided to you. Please review the draft docket and provide us with any comments or questions. Thank you.


Link to hearing information: https://www.state.nj.us/drbc/meetings/upcoming/index.html

Sincerely,

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(e) eric.engle@drbc.gov
Hi Jim,

I hope you are staying well. In support of the Sunoco – Jacobs Creek Pipeline Replacement Project application, please submit the following:

1. HDD feasibility evaluation / Geotechnical evaluation reports/information
2. Inadvertent Release Plan
4. Any updates to the permits summary table in the DRBC Application and copies of permits/approvals received
5. Estimates of the volume of water needed for HDD, hydrostatic testing and dust control
6. Proposed hydrostatic test water discharge locations.
7. Where will used drilling mud recovered from drilling pits be disposed?
8. When is anticipated start and duration of construction for the installation of new pipe/HDD and removal of old pipe?

Please let me know if you have any questions. Since we are still working from home, please contact me initially via email. Thank you.

Sincerely,

Eric

Eric L. Engle, P.G.
Senior Geologist, Project Review Section
Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360
(p) 609-883-9500 ext. 229
(f) 609-883-9522
(e) eric.engle@drbc.gov
Jim,

I got your voice mail. Will you be around this afternoon? If so I will give you a call later today.

Thanks,

Eric

Eric L. Engle, P.G.
Geologist, Project Review Section
Delaware River Basin Commission
(609) 883-9500 ext. 229 (phone)
(609) 883-9522 (fax)
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