



Stream Biological Conditions EA Report


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|------------------------------|-------------------------|----------------------------------|------------------|---------------------------------------|-------------------------|
| Project Name | H-600 Pipeline Spread E | AFE | 124300134 | Spread | H-600 Pipeline Spread E |
| Contractor | Price Gregory | Report # | 215 | | |
| Environmental Auditor | Allyson Kincaid | Date/Time | 9/6/2023 1:30 PM | | |
| Stream ID | S-I22 | Crossing Start Date | 9/7/2023 | Crossing Completion Date | 10/18/2023 |
| Milepost | 149.93 | Pre-Con Assessment Date | 9/6/2023 | Post-Con Assessment Date | 10/18/2023 |
| Station | 7916+30 | Bankfull Width (ft.) | 6.0 | Riffle:Pool Complexes Present? | No |
| State | WV | Stream Classification | Intermittent | | |
| County | Greenbrier | 303(d) Impairment Listing | No | | |

Resource Post-Crossing Conditions

| | | |
|----|--|-----|
| 1 | Were all applicable resource specific crossing conditions satisfied? | N/A |
| | Time of Year Restrictions (TOYR)? <u> N/A </u> Mussel Relocation? <u> N/A </u> | |
| 2 | This question is not applicable in WV. | |
| 3 | Which crossing methods were utilized during the stream crossing? (If so select one or more) Dam & Pump Flume <input checked="" type="checkbox"/> Cofferdam Conventional Bore Horizontal Directional Drill (HDD) Bore | |
| 4 | Was the top 1-foot (12-inches) of streambed substrate segregated and stockpiled separate from trench spoils? | Yes |
| 5 | Was excess material not needed for backfill removed and disposed of in an upland area? | Yes |
| 6 | Was the top 12-inches of backfill made with clean native stream substrate? | Yes |
| 7 | Was the pre-construction survey data utilized during restoration in attempt to re-establish pre-construction contours? | Yes |
| 8 | Were any field modifications to the stream implemented by project or regulatory personnel to address potential drainage or bank restoration limitations? | No |
| 9 | Were impervious trench breakers/plugs properly installed within 25-feet of top-of-bank to prevent subsurface erosion to or from the resource area? | Yes |
| 10 | Was permanent seed and stabilization material (straw or matting) applied to riparian areas and stream banks prior to re-establishing flow to the impact area of the channel? | Yes |
| 11 | Was the time of disturbance minimized by conducting resource work continuously to completion? | Yes |
| 12 | Have civil surveys been scheduled to verify as-built conditions meet pre-construction conditions in accordance with the project Mitigation Framework and federal/state permit requirements? | Yes |
| 13 | Are bareroot saplings required and/or scheduled to be planted for the dormant season (10/1 - 4/30)? | N/A |
| 14 | Did any unauthorized discharges to unpermitted resources occur during the crossing? If so, explain the corrective actions implemented in the Comments section and include additional photos. | No |

Biological Conditions

| | | Pre-Con | Post-Con |
|----|--|---------------|---------------|
| 15 | Predominant Substrate Type (select one): Bedrock, Boulder (>10"), Cobble (2-10"), Gravel (0.1-2"), Sand (<0.1"), Mud/Silt/Clay | Mud/Silt/Clay | Mud/Silt/Clay |
| 16 | Channel Conditions: Rating: 1-Optimal (80-100% stable banks), 2-Sub-optimal (60-80% stable banks), 3-Marginal (40-60% stable banks), 4-Poor (20-40% stable banks), 5-Severe (0-20% stable banks, highly eroded or unvegetated banks) | 1 | 1 |
| 17 | Riparian Buffer Zone within ROW and ≤50 ft. from Stream Top-of-Bank: Rating: 1-Optimal (60-100% heavy vegetative cover), 2-Sub-optimal (30-60% mixed vegetated coverage), 3-Marginal (<30% vegetative coverage), 4-Poor (Mowed/maintained area or farmland, impervious area, sparsely vegetated coverage, etc.) | 1 | 4 |

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| AFE | 124300134 | Date/Time | 9/6/2023 1:30 PM | Report # | 215 | |
| Biological Conditions Continued | | | | | Pre-Con | Post-Con |
| 18 | Instream Habitat Conditions: Examples: Varied substrate sizes, varied combination of water velocities & depths, presence of woody/leafy debris, stable substrate with low amount of mobile particles, low embeddedness, shade protection, undercut banks, root mats, Varied combination of water velocities, submerged aquatic vegetation Rating: 1-Optimal (Habitat conditions present in >50% of resource), 2-Suboptimal (Habitat conditions in 30-50% of resource), 3-Marginal (Habitat conditions in 10-30% of resource), 4-Poor (Habitat conditions in 0-10% of resource) | | | 4 | 4 | |
| 19 | Channel Alterations: Examples: Straightened channel, non-MVP stream crossings, non-native riprap/rock along banks, concrete/gabions/concrete block, manmade embankments, constrictions w/in channel, livestock or agricultural impacts Rating: 1-Negligible (unaltered/natural stream), 2-Minor (20-40% of resource disrupted by channel alterations), 3-Moderate (40-80% of resource disrupted), 4-Severe (>80% of resource disrupted) | | | 1 | 3 | |
| Additional Notes | | | | | | |
| <p>Pre-Construction Notes</p> <p>*Bankfull Width measured at OHWM stakes within proposed trench area.</p> <p>18. Habitat score affected by no flow in channel.</p> <p>Pre-Construction Meetings - 9/5/2023 @ 1000</p> <p>Pre-Construction Assessment Completed (9/6/2023)</p> <p>9/7/2023 - Stream substrate removed (Photo 1) and segregated in an upland area (Photo 2). Blasting occurred after substrate was removed. Heavy rain occurred in late afternoon/early evening.</p> <p>9/8/2023 - Drilling and blasting occurred in and around the aquatic resources (Photo 3). Blasting mats were utilized.</p> <p>9/9/2023 - Trench area lined in preparation for excavating aquatic resources. Pipe brought down to resource to confirm proper alignment before trenching of aquatic resource area begins. Rain event late afternoon, no flow.</p> <p>9/11/2023-9/16/2023 - Pipe was moved to upland area (9/11/2023). Other work that occurred in and around aquatic resources included drilling, hammering, excavation of trench and pumping from trench (Photo 4). Welding occurred outside of aquatic resources as well as x-ray, sand blasting, and coating. Rain event on 9/16/2023, no flow was produced in channel.</p> <p>9/18/2023 and 9/19/2023 - Pipe lowered into trench. Additional work to adjust for pipes alignment.</p> <p>9/20/2023 and 9/21/2023 - Welding, x-ray, sand blasting and coating occurred outside of aquatic resource area. Trench breakers installed on both sides of aquatic resources (Photo 5). Began filling trench with padding dirt.</p> <p>9/22/2023 and 9/23/2023 - Padding dirt was sifted into the trench and started backfilling of aquatic resource areas (Photo 6). Backfilling continued on 9/23/2023, and S-l21(2) was restored.</p> <p>9/25/2023 - Placement of segregated substrate and topsoil placed back into stream. Survey confirmed contours and OHWM (Photo 7). Seeding of banks and riparian corridor on both RDB and LDB.</p> <p>10/18/2023 - Site revisited by environmental team to recontour stream using hand-tools. This includes the banks which were revegetated (Photo 8).</p> <p>Post Construction Notes</p> <p>16., 17. Crossing and riparian areas have been recently restored. These areas will be monitored until 80% vegetative coverage has been achieved and areas that do not have 80% vegetative cover within 30 days will be reseeded.</p> <p>18. Low habitat score partially due to no flow in stream.</p> <p>19. Does not include timber mats that remain in place for travel lane.</p> | | | | | | |
| <p>In accordance with the Mountain Valley Pipeline Comprehensive Stream and Wetland Monitoring, Restoration and Mitigation Framework, this independent report was completed to document the on-site monitoring of instream invertebrate and fisheries resources during all construction activity related to waterbody and wetland crossings, and document instream conditions and any impacts to the resources.</p> | | | | | | |
| Name | | Signature | | Company | | |
| Allyson Kincaid | |  | | Potesta | | |
| | | | | Date | | |
| | | | | 10/18/2023 | | |

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| Required Photos | | | | | |
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| |  | |  |
| GPS Location | See photo | GPS Location | See photo |
| Description | Downstream view of permitted impact area during pre-construction assessment. | Description | Downstream view of unimpacted area during pre-construction assessment. |
| |  | |  |
| GPS Location | See photo | GPS Location | See photo |
| Description | Downstream view of permitted impact area during post-construction assessment. | Description | Downstream view of unimpacted area during post-construction assessment. |
| |  | |  |
| GPS Location | See photo | GPS Location | See photo |
| Description | Photo 1: Stream Substrate removal. | Description | Photo 2: Stream substrate segregated in an upland area. |

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| Optional Photos | | | | | |
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| GPS Location | See photo | GPS Location | See photo |
| Description | Photo 3: Drilling in aquatic resource area. | Description | Photo 4: Trenching in aquatic resources. |



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| GPS Location | See photo | GPS Location | See photo |
| Description | Photo 5: Trench breakers both sides of aquatic resources. | Description | Photo 6: Backfilling of aquatic resources. |



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| GPS Location | See photo | GPS Location | See photo |
| Description | Photo 7: Survey being completed and contours being restored. | Description | Photo 8: Spreading jute matting after stream is reworked by hand. |