



Stream Biological Conditions EA Report


Project Name	H-600 Pipeline Spread A	AFE	124300129	Spread	H-600 Pipeline Spread A
Contractor	Precision	Report #	230		
Environmental Auditor	Rachel Ellis	Date/Time	9/7/2023 7:09 AM		
Stream ID	S-B2a	Crossing Start Date	9/10/2023	Crossing Completion Date	9/14/2023
Milepost	18.90	Pre-Con Assessment Date	9/7/2023	Post-Con Assessment Date	9/15/2023
Station	998+10	Bankfull Width (ft.)	8.0	Riffle:Pool Complexes Present?	No
State	WV	Stream Classification	Ephemeral		
County	Harrison	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 <input checked="" type="checkbox"/> Flume <input checked="" type="checkbox"/> Cofferdam <input type="checkbox"/> Conventional Bore <input type="checkbox"/> Horizontal Directional Drill (HDD) Bore <input type="checkbox"/>	
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	4
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.)	2	4

AFE	124300129	Date/Time	9/7/2023 7:09 AM	Report #	230	
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)			3	3	
Additional Notes						
<p>Pre-Construction Assessment: 9/7/23 The delineated stream at the area of the stream crossing is an artificial, straightened channel alongside an existing paved roadway that connects to a culvert outside of the permitted workspace area. Some limited vegetation was present on the banks. There was no water or flow present within the stream. The top layer consisted prominently of mixed vegetation, rocks, and leafy debris.</p> <p>9/8/23-9/9/23 No work was done on the crossing, and there were no additional noticeable changes to stream conditions from construction in adjacent areas or post rain event.</p> <p>9/10/23 The crossing of the stream began following installation of the dam and pump and removal of 12" of substrate. The removed substrate was placed in a designated upland area of the workspace, along with a number of larger rocks (9"-18") present in the channel.</p> <p>9/11/23 The excavation through the crossing was completed. The pipe was lowered into the crossing section and construction continued.</p> <p>9/12/23 A flume was installed and removed as needed, while work continued through the upland area and road crossing adjacent to the stream.</p> <p>9/13/23 Prior to backfilling the trench through the adjacent road crossing, flowable fill was placed into the area to replace the street which pushed the installed trench breaker into the stream crossing.</p> <p>9/14/23 The area with dried flowable fill was cut and removed along with the sandbags from the trench breaker and the trench breaker was restored. After removing these materials, the stream was backfilled. The uphill area of the stream bank was not fully compacted, but while restoring the substrate the contractor used an excavator to press in the substrate material to supplement bank stability and as a preventable action for additional erosion impacts. The larger of the stream rocks were restored to previous positions based on pre-construction photos. The stream section was seeded, straw placed, and the dam and pump were removed.</p> <p>Post Construction Assessment: 9/15/23 Numbers 16-17 were rated "poor" due to lack of vegetation in the disturbed permitted impact area following the completion of the crossing and restoration efforts. The stream bank and stream bed substrates have been properly stabilized and the disturbed area has been seeded with the appropriate permanent seed mix in accordance with the Appendix B: Restoration Work Plan of the Mountain Valley Pipeline Comprehensive Stream and Wetland Monitoring, Restoration and Mitigation Framework.</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		Date
Rachel Ellis				ERM		9/18/2023

Required Photos		
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GPS Location Refer to photograph.	GPS Location Refer to photograph.
Description Downstream view of permitted impact area during pre-construction assessment.	Description Downstream view of unimpacted area during pre-construction assessment.



GPS Location Refer to photograph.	GPS Location Refer to photograph.
Description Downstream view of permitted impact area during post-construction assessment.	Description Downstream view of unimpacted area during post-construction assessment.



GPS Location Refer to photograph.	GPS Location Refer to photograph.
Description The dam and pump were prepared as excavation through crossing began.	Description The pipe was lowered into the crossing.

AFE	124300129	Date/Time	9/7/2023 7:09 AM	Report #	230
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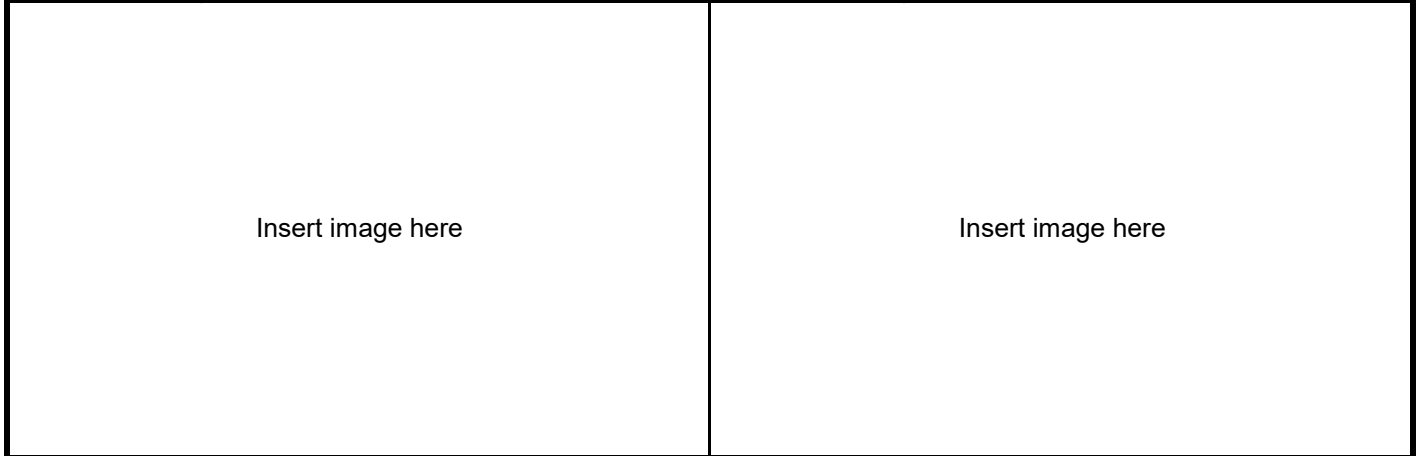
Optional Photos



GPS Location	Refer to photograph.	GPS Location	Refer to photograph.
Description	The flume was installed.	Description	The trench breaker was installed.



GPS Location	Refer to photograph.	GPS Location	
Description	Flowable fill was put in to replace road adjacent to stream and pushed trench breakers into the crossing.	Description	



GPS Location		GPS Location	
Description		Description	