



Stream Biological Conditions EA Report


Project Name	H-600 Pipeline Spread C	AFE	124300131	Spread	H-600 Pipeline Spread C
Contractor	Precision	Report #	299		
Environmental Auditor	Jeffrey Arbogast	Date/Time	10/16/2023 1:04 PM		
Stream ID	S-H108	Crossing Start Date	10/16/2023	Crossing Completion Date	10/19/2023
Milepost	93.18	Pre-Con Assessment Date	9/11/2023	Post-Con Assessment Date	10/20/2023
Station	4919+79	Bankfull Width (ft.)	6.3	Riffle:Pool Complexes Present?	No
State	WV	Stream Classification	Perennial		
County	Webster	303(d) Impairment Listing	No		







Resource Post-Crossing Conditions

1	Were all applicable resource specific crossing conditions satisfied? Time of Year Restrictions (TOYR)? <u>Yes</u> Mussel Relocation? <u>N/A</u>	See Below
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 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?	N/A
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?	See Below
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	Cobble (2-10")	Cobble (2-10")
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	2
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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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)			1	2	
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	2	
Additional Notes						
<p>Stream S-H108 location is listed on the alignment sheet as being from station no. 4919+79 to 4919+93.</p> <p>A dam and pump around was built prior to any disturbance within the 10' stream buffer. A ditch dewatering system was set up and was used as needed throughout the stream crossing.</p> <p>Expanded notes for question 1: Stream S-H108 has a time of year restriction (TOYR) prohibiting construction between Sept. 15th and March 31st. A waiver has been obtained from the appropriate agencies to allow construction within this window.</p> <p>Expanded notes for question 9: The stream S-H108 crossing is completely within the boundary of wetland W-H67, therefore the trench breakers must be built on the wetland boundary and not within the normal placement guidelines. The bentonite trench breakers placements are as follows; 25 feet from top of bank on the coming in side (CIS) and 37 feet from top of bank on the going away side (GAS).</p> <p>Condition on question 17 was given a post-construction rating of 4, due to the lack of vegetation in the disturbed permitted impact area following completion of the crossing and restoration efforts. Stream S-H108 buffers are within wetland W-H67 and fall under wetland reclamation standards. The topsoil has been properly stabilized and the disturbed area has been seeded with the appropriate permanent seed mix in accordance with Appendix B: Restoration Work Plan of the Mountain Valley Pipeline Comprehensive Stream and Wetland Monitoring, Restoration and Mitigation Framework.</p> <p>10/16/2023: A dam and pump was setup prior to the topsoil from the 10' stream buffer being excavated and stockpiled on geo-tech fabric. The top 12" of streambed substrate was placed in super sacks and stored in an upland area. The blasting crew drilled, set charges, and shot the ditch line through the stream before the excavation of the ditch started. The native subsoil from the trench was segregated during excavation and will be used to backfill the stream.</p> <p>10/17/2023: Once the ditch line excavation was completed, the tie in section of pipe was lowered in, and one weld was made and x-rayed.</p> <p>10/18/2023: The final welds were made and passed x-ray inspection. The two welds were being coated, and rock shielded while trench breaker construction and final backfill began.</p> <p>10/19.2023: Trench breakers and backfilling were completed prior to a layer of bentonite product call Aqua Block being added within the subsoil to help seal the streambed. The 10' buffers were reconstructed and then the top 12" of stream substrate was replaced. All stream elevations, widths, and contours were confirmed via survey data, baseline drawings, and pre-construction photos. Jute blankets were used for stabilization within the 10' buffer since they are within a wetland.</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		
Jeffrey Arbogast				SWCA		
				Date		
				10/20/2023		

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Required Photos					
 <p>10/16/2023 08:16:06 +38.549317,-80.539400 302° NW S-H108 (Pre-JA)f</p>		 <p>10/16/2023 08:19:17 +38.549508,-80.539597 269° W S-H108 (Pre-JA)f</p>			
GPS Location	See caption in photo		GPS Location	See caption in photo	
Description	Downstream view of permitted impact area during pre-construction assessment. Photo taken standing on left side of LOD facing downstream.		Description	Downstream view of unimpacted area during pre-construction assessment. Photo taken standing on right side of LOD facing downstream.	
 <p>10/19/2023 18:34:48 +38.549283,-80.539182 308° NW S-H108 (Post-JA)</p>		 <p>10/20/2023 15:27:58 +38.549393,-80.539407 271° W S-H108 (Post-JA)</p>			
GPS Location	See caption in photo		GPS Location	See caption in photo	
Description	Downstream view of permitted impact area during post-construction assessment. Photo taken standing on left side of LOD facing downstream.		Description	Downstream view of unimpacted area during post-construction assessment. Photo taken standing on right side of LOD facing downstream.	
 <p>10/16/2023 08:17:12 +38.549247,-80.539308 200° S S-H108 (Pre-JA)f</p>		 <p>10/16/2023 08:14:48 +38.549258,-80.539209 41° NE S-H108 (Pre-JA)f</p>			
GPS Location	See caption in photo		GPS Location	See caption in photo	
Description	View from CIS of crossing, facing SSW. Pre-Construction.		Description	View from GAS of crossing, facing NE. Pre-Construction.	

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Optional Photos

	
GPS Location See caption in photo	GPS Location See caption in photo
Description View from CIS of crossing, facing SW. Post-Construction.	Description View from GAS of crossing, facing NE. Post-Construction.
	
GPS Location See caption in photo	GPS Location See caption in photo
Description Bentonite trench breaker on CIS of stream.	Description Aqua Block layer being added to subsoil under stream.
	
GPS Location See caption in photo	GPS Location See caption in photo
Description Stream bank an 10' buffer being rebuilt with the assistance of a civil survey crew.	Description Crews restoring stream bed details by hand while survey crew stands by to check progress.