Stream Biological Conditions EA Report

Project Name	H-600 Pipeline Spread A	**AFE**	124300129	**Spread**	H-600 Pipeline Spread A
Contractor	Precision			**Report #**	266
Environmental Auditor	Samantha Felix			**Date/Time**	10/4/2023 7:12 AM

Stream ID	S-A11a	**Crossing Start Date**	10/4/2023	**Crossing Completion Date**	10/9/2023
Milepost	21.77	**Pre-Con Assessment Date**	9/30/2023	**Post-Con Assessment Date**	10/9/2023
Station	1149+23	**Bankfull Width (ft.)**	12.0	**Riffle:Pool Complexes Present?**	No
State	WV	**Stream Classification**	Perennial		
County	Harrison	**303(d) Impairment Listing**	Fecal, Iron		

	Resource Post-Crossing Conditions	
1	Were all applicable resource specific crossing conditions satisfied?	N/A
	Time of Year Restrictions (TOYR)? N/A Mussel Relocation? N/A	
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 X Flume 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?	See Below
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	Sand (<0.1")	Sand (<0.1")
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	2	5
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	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	1

Additional Notes

10/4/23 - Commenced crossing of waterbody after installation of dam and pump, 12” of waterbody substrate was segregated and stockpiled in a designated upland area separate from the other spoil. Aquatic organisms were caught and released downstream from construction. Trench excavation was completed near the end of the day. Number 16 was rated a “sub-optimal” rating due to heavily eroded stream banks. -S.Felix

10/5/23 - The pipe was placed in the trench and was welded. -S.Felix

10/6/23 - The pipe was x-rayed and coated, and then the crew started to fill the trench with subsoil. -S.Felix

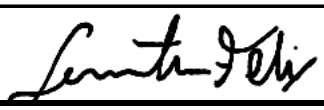
10/7/23 - The trench was backfilled with subsoil. After the subsoil was properly compacted, half of the stream was completed. The 12” of segregated waterbody substrate was placed back into the stream bank to match pre-construction contours. - S.Felix

10/8/23 - Today was Sunday, so no in-stream construction took place. Crew monitored the dam and pump.

10/9/23 - The rest of the 12” of segregated waterbody substrate was placed back into the stream bank to match pre-construction contours. Due to stability concerns, the bank on the east side and west side of the crossing were restored at a shallower angle. -S.Felix

Numbers 16, 17, and 18 were rated "poor", "severe", and "poor" (respectively) due to lack of vegetation in the disturbed permitted impact area following the completion of the crossing and restoration efforts. The S-A11a 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 Appendix B: Restoration Work Plan of the Mountain Valley Pipeline Comprehensive Stream and Wetland Monitoring, Restoration and Mitigation Framework.

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.

Name	Signature	Company	Date
Samantha Felix		ERM	10/9/2023

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Required Photos

GPS Location	See Photo
Description	Downstream view of permitted impact area during pre-construction assessment.

GPS Location	See Photo
Description	Downstream view of unimpacted area during pre-construction assessment.

GPS Location	See Photo
Description	Downstream view of permitted impact area during post-construction assessment.

GPS Location	See Photo
Description	Downstream view of unimpacted area during post-construction assessment.

GPS Location	See above.
Description	In the process of excavating the pit.

GPS Location	See above.
Description	The pipe was lowered into the trench and welded.

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Optional Photos

GPS Location	See above.
Description	Trench being filled with subsoil.

Insert image here

GPS Location	
Description	

Insert image here

GPS Location	
Description	

Insert image here

GPS Location	See above.
Description	Adding waterbody substrate.

Insert image here

GPS Location	
Description	

Insert image here

GPS Location	
Description	