Stream Biological Conditions EA Report

Project Name	H-600 Pipeline Spread D	**AFE**	124300134	**Spread**	H-600 Pipeline Spread D
Contractor	Precision			**Report #**	222
Environmental Auditor	Josh Guy			**Date/Time**	8/22/2023 1:26 PM

Stream ID	S-E50s	**Crossing Start Date**	8/22/2023	**Crossing Completion Date**	9/1/2023
Milepost	109.68	**Pre-Con Assessment Date**	8/19/2023	**Post-Con Assessment Date**	9/2/2023
Station	5791+10	**Bankfull Width (ft.)**	1.2	**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?	N/A
	Time of Year Restrictions (TOYR)? N/A Mussel Relocation? N/A Fish Relocation?	
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 X 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	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	1

Additional Notes

A flume and dam/pump around were utilized throughout the crossing as needed.

8/22/23 - Contractor stripped the required top 12” of substrate between S-E50s high water marks and stockpiled it in the upland area. Blasting operations were conducted before trenching could continue.

8/23/23 - Crew started ditching efforts and began conveying sub-soils to the upland area. The contractor ran into solid rock conditions that required the blasting crew to be brought back in order to re-drill and blast the crossing; afterwards trenching continued.

8/24/23 – A hammer hoe was required to break up the larger boulders in the ditch line. Hammer hoe had minor hydraulic leak within the ditch and a Vac-Tron pump truck was required to hydro excavate all contaminates from the ditch before trenching continued.

8/25/23 - Rained out day.

8/26/23 - Crew lowered in stream/wetland section and began and completed welding efforts on going away side (GAS) of the resource.

8/27/23 – Trench breakers were installed and surveyed on the GAS of S-E50s and backfilling began on S-E50s and W-E18-PSS.

8/28/23 - Rained out day.

8/29/23 - Contractor decided not to restore topsoil on this day due to recent rain event.

8/30/23 – The contractor was informed by the on-site Environmental Inspector (EI) that the coming in side (CIS) would need to be tied in and trench breaker installed before the wetlands topsoil could be established. The contractor completed the tie in on the CIS of S-E50s and W-E18-PSS by the end of the day.

8/31/23 - No activity within resource.

9/1/23 – The contractor installed the trench breaker on the CIS of resource boundary prior to working with survey to restore S-E50s banks and topsoil to pre-construction specifications. Natural flow was re-established by mid-afternoon.

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
Josh Guy		SWCA	9/2/2023

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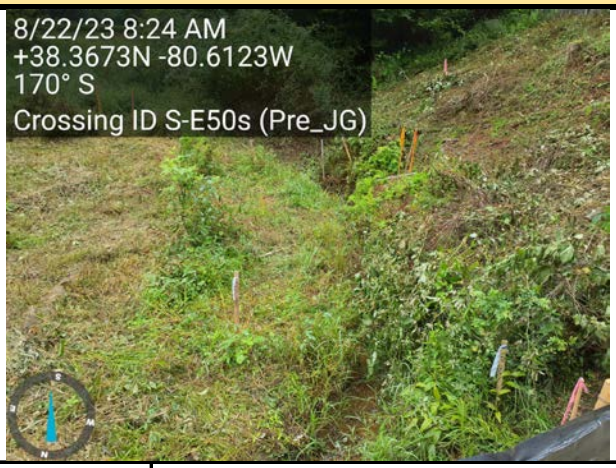
Required Photos



GPS Location	See above in photo
Description	Downstream view of permitted impact area during pre-construction assessment. Downstream on bridge LOD looking downstream pre-construction.

GPS Location	See above in photo
Description	Downstream view of unimpacted area during pre-construction assessment. Downstream LOD unimpacted area pre-construction.

GPS Location	See above in photo
Description	Downstream view of permitted impact area during post-construction assessment. Downstream on bridge LOD looking downstream post-construction.

GPS Location	See above in photo
Description	Downstream view of unimpacted area during post-construction assessment. Downstream LOD uimpacted downstream post-construction.

GPS Location	See above in photo
Description	Downstream LOD looking upstream during construction. View of top 12in of stream bed/bank removal.

GPS Location	See above in photo.
Description	Upstream on bridge looking downstream during construction. View of flume installed with sandbag seal.

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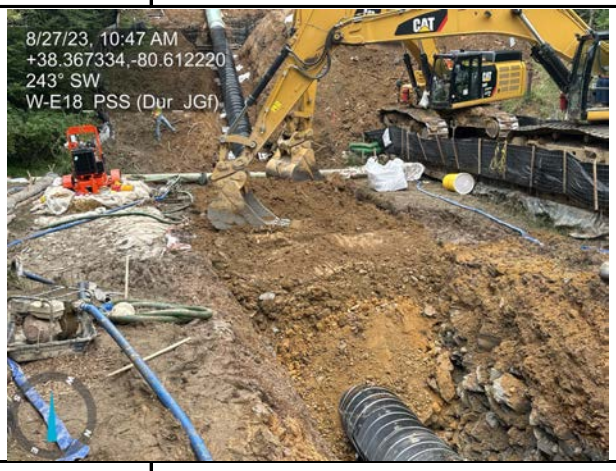
Optional Photos

GPS Location	See above in photo
Description	Viewing from bridge on CIS of resource. View of contractor dewatering ditch line and ditching S-E50s.

GPS Location	See above in photo
Description	Viewing from bridge on CIS of resource. View of contractor dewatering ditch line and ditching S-E50s.

GPS Location	See above in photo
Description	Viewing from upland area on GAS of resource. View of excavated ditch dewatering and bottom pad installation.

GPS Location	See above in photo
Description	Downstream LOD looking upstream. View of resource pipe section being lowered in.



GPS Location	See above in photo
Description	Viewing from CIS wetland W-E18-PSS boundary. View of contractor backfilling S-E50s/W-E18-PSS combo.

GPS Location	See above in photo
Description	Downstream LOD looking upstream. View of survey crew identifying resource channel, toe and top of bank.