Stream Biological Conditions EA Report

Project Name	H-600 Pipeline Spread C	**AFE**	124300131	**Spread**	H-600 Pipeline Spread C
Contractor	Precision			**Report #**	278
Environmental Auditor	Kyle Gillow			**Date/Time**	10/4/2023 11:57 AM

Stream ID	S-A98N	**Crossing Start Date**	10/4/2023	**Crossing Completion Date**	10/10/2023
Milepost	80.92	**Pre-Con Assessment Date**	9/26/2023	**Post-Con Assessment Date**	10/12/2023
Station	4272+46	**Bankfull Width (ft.)**	7.0	**Riffle:Pool Complexes Present?**	No
State	WV	**Stream Classification**	Intermittent		
County	Webster	**303(d) Impairment Listing**	No		

	Resource Post-Crossing Conditions	
1	Were all applicable resource specific crossing conditions satisfied?	See Below
	Time of Year Restrictions (TOYR)? Yes 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 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	3
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

Expanded notes for question 1: Stream S-A98N has a time of year restriction (TOYR) prohibiting construction between Sept. 15th to March 31st. A waiver has been obtained from the appropriate agencies to allow construction within this window.

10/4/23 - Due to stream S-A98N being a dry crossing, the flume along with the pump and dam were setup the day prior to the start crossing date. The top 12" of soil between the high-water marks was placed in super sacks and stockpiled just upstream. Blasting crew drilled and blasted from coming in side of feature through to the going away side. After blasting was completed, crew began trenching through feature.

10/5/23 - Trenching was completed through both S-A97 and S-A98N features, and the ditch was padded with sandbags in preparation for lowering of the pipe. A large section of pipe that extended from the coming in side of S-A97 to the going away side of S-A98N was lowered in and the welding crew completed the welds on the going away side of crossing S-A98N.

10/6/23 - No work was conducted in the feature. Due to the close proximity of the 2 streams on either side of S-A98N, (S-A97 & S-A98S) the section of trench at S-A98N was left open while work was being conducted on stream crossing S-A98S.

10/7/23 – No work was conducted in the feature. Due to the close proximity of the 2 streams on either side of S-A98N, (S-A97 & S-A98S) the section of trench at S-A98N was left open while work was being conducted on stream crossing S-A98S.

10/8/23 - No work was conducted on Sunday.

10/9/23 - Restoration of S-A98N began with padding of the pipe beyond the 10' buffer zones on both sides and the installation of the trench breakers on both the coming in and going away side of the stream.

10/10/23 - Restoration of S-A98N continued with the top 12" of soil being restored between high water marks and verified by survey to the pre-construction specifications. The environmental crew seeded and installed Curlex on the banks with silt fence being installed at the 10' buffer zones on both the coming in and going away side of feature. The flume and pump around were removed with stream S-A98N continuing not to have flow.

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
Kyle Gillow		SWCA	10/12/2023

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Required Photos

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

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

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

GPS Location	See caption in photo.
Description	Downstream view of unimpacted area during post-construction assessment.

GPS Location	See caption in photo.
Description	Lowering in section through feature S-A98N.

GPS Location	See caption in photo.
Description	Welding section onto the coming in side of feature S-98N.

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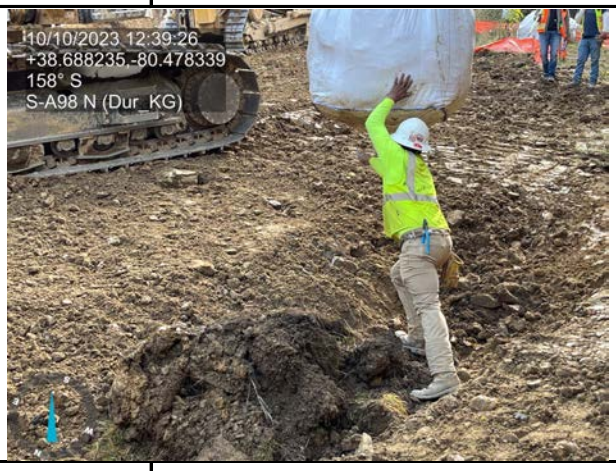
Optional Photos

GPS Location	See caption in photo.
Description	Backfilling trench through feature S-A98N. Installed trench breaker on the going away side of feature.

GPS Location	See caption in photo.
Description	Installed trench breaker on the coming in side of feature.

GPS Location	See caption in photo.
Description	Crew having to truck backfill back in from the coming in side.

GPS Location	See caption in photo.
Description	Establishing the stream banks to pre-construction specifications.



GPS Location	See caption in photo.
Description	Replacing the stream bed substrate.

GPS Location	See caption in photo.
Description	Stream banks seeded and Curlex installed. 10' buffers established with silt fence.