Stream Biological Conditions EA Report

Project Name	H-600 Pipeline Spread D	**AFE**	124300132	**Spread**	H-600 Pipeline Spread D
Contractor	Precision			**Report #**	248
Environmental Auditor	Roderick Grills			**Date/Time**	9/22/2023 6:29 PM

Stream ID	S-E49	**Crossing Start Date**	9/15/2023	**Crossing Completion Date**	9/21/2023
Milepost	110.00	**Pre-Con Assessment Date**	9/8/2023	**Post-Con Assessment Date**	9/21/2023
Station	5808+20	**Bankfull Width (ft.)**	3.3	**Riffle:Pool Complexes Present?**	No
State	WV	**Stream Classification**	Ephemeral		
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	
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?	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?	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	1
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)	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)	1	2

Additional Notes

Expanded notes for question 15 - The predominant substrate type for S-E49 appeared to be a dry dark brown soil with equal amounts of sand, silt, and clay.

9/15/23 - A dam & pump around was installed at station 5808+20, although there was no flow in the feature. The stream (S-E49) topsoil was excavated, segregated, and stockpiled on geo-textile fabric on the right-hand side of coming in side (CIS) of the right of way (ROW). Blasting operations commenced in the ditch line area and once completed a flume pipe was installed for overnight conveyance of potential flow.

9/16/23 - Trenching was completed and the pipe was lowered in by the end of the day. The trench was de-watered throughout the day as needed.

9/18/23 - The days operations commenced with the lining up of the pipe on the CIS and welding operations continued throughout the rest of the day.

9/19/23 - The days operations commenced with the lining up of the pipe on the going away side (GAS) and welding operations continued throughout the rest of the day. X-ray and coating operations took place on the CIS end of the tie in.

9/20/23 - The X-ray crew verified the previous days welds by noon and steps to start installing trench breakers commenced. Trench breakers were installed within 25 feet of either side of the high-water marks. The pipe was padded with sifted soil and backfilled to within the top 12 inches of top grade by the end of the day. Coating was finishing with the last weld on the GAS at the end of the day.

9/21/23 - All segregated topsoil from the stream and banks were replaced to pre-construction elevations and verified to survey specifications. Seeding, Curlex, and environmental control devices (ECD) were put in place and all restoration requirements mentioned in Appendix B; Sections 3.4 and 4.1 of the Mitigation Framework were met. Stream S-E49 at the time of completion still did not have flow.

The 50-foot riparian buffer was not completed at the time the dam and pump were removed due to the pipe still needed to be coated and padded in that area.

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
Roderick Grills		SWCA	9/22/2023

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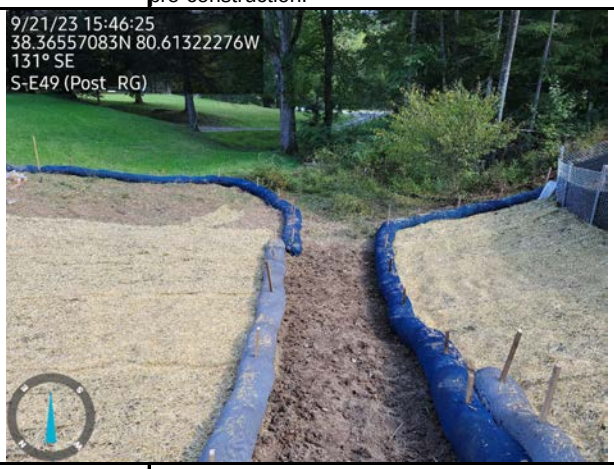
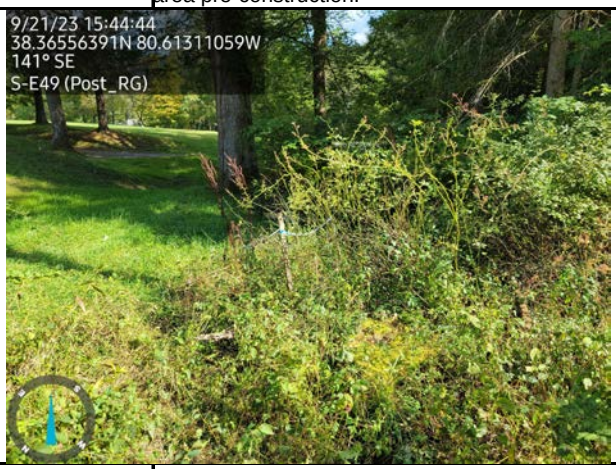
Required Photos

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

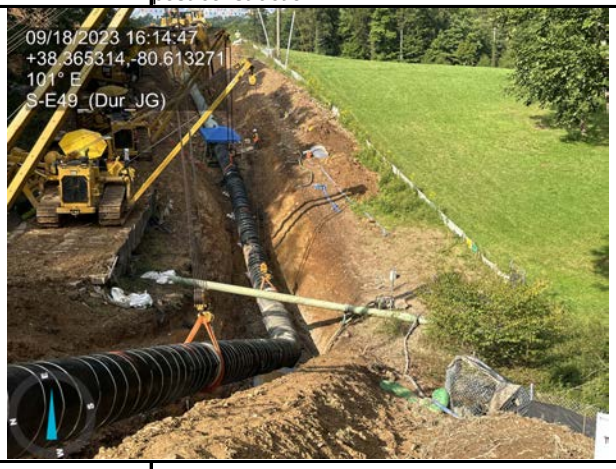
GPS Location	See caption in photo
Description	Downstream view of unimpacted area during pre-construction assessment. Looking downstream from LOD edge of unimpacted area pre-construction.



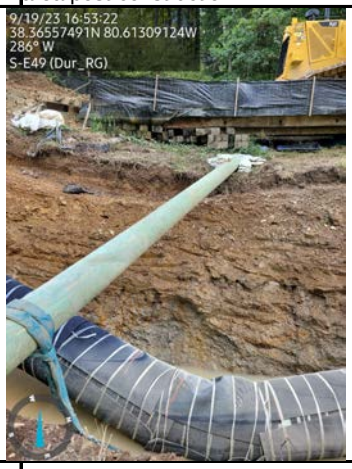
GPS Location	See caption in photo
Description	Downstream view of permitted impact area during post-construction assessment. Looking downstream from bridge of impact area post-construction.



GPS Location	See caption in photo
Description	Downstream view of unimpacted area during post-construction assessment. Looking downstream from LOD edge of unimpacted area post-construction.



GPS Location	See caption in photo
Description	Pipe has been lowered in and weld started on CIS.



GPS Location	See caption in photo
Description	Flume pipe installed for potential flow.

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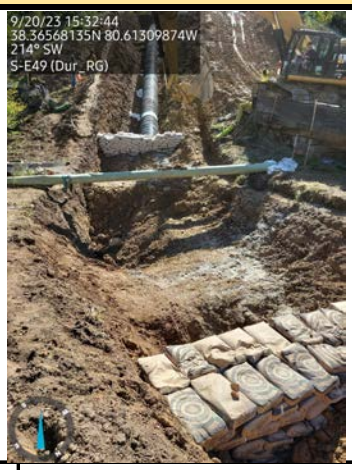
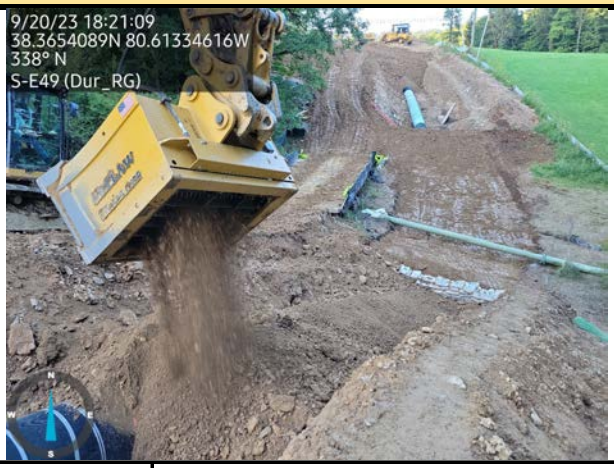
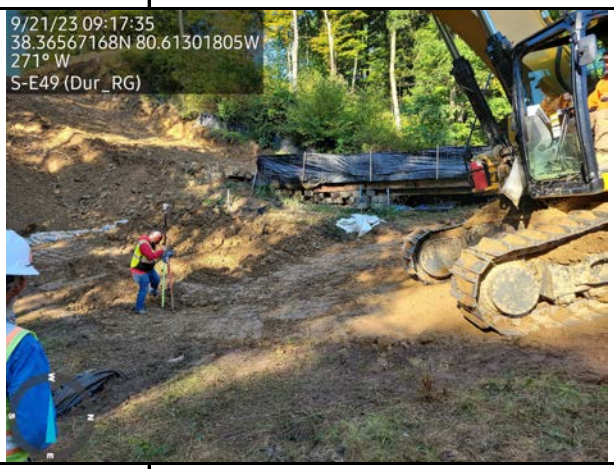
Optional Photos





GPS Location	See caption in photo
Description	Trench breakers installed within 25 feet of high water marks.

GPS Location	See caption in photo
Description	Sifting bucket used for padding the pipe and back filling trench.



GPS Location	See caption in photo
Description	Survey working with contractor to get stream top soil back to pre-construction grade.

Insert image here

GPS Location	
Description	

Insert image here

GPS Location	
Description	

GPS Location	
Description	