Stream Biological Conditions EA Report

Project Name	H-600 Pipeline Spread C	**AFE**	124300131	**Spread**	H-600 Pipeline Spread C
Contractor	Precision			**Report #**	295
Environmental Auditor	Brian Montgomery			**Date/Time**	10/10/2023 10:39 AM

Stream ID	S-F43	**Crossing Start Date**	10/10/2023	**Crossing Completion Date**	10/14/2023
Milepost	82.78	**Pre-Con Assessment Date**	10/6/2023	**Post-Con Assessment Date**	10/16/2023
Station	4370+74	**Bankfull Width (ft.)**	10.0	**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?	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 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	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	2

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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-F43 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.

Dewatering activities were conducted on as needed basis and monitored by the Environmental Inspector throughout the crossing.

10-10-2023. Although there was no flow observed in the stream throughout the crossing, a sandbag dam was constructed upstream of centerline. All prominent boulders were stockpiled on plastic sheeting in an upland area. The top 12 inches of stream bed substrate between the high-water marks was removed and stored in super sacks. After the trench was excavated the pipe was lowered in and welding commenced. A flume pipe was installed for potential stream flow and was used on an as need basis during the crossing.

10-11-2023. Only welding and x-ray operations were conducted throughout the day.

10-12-2023. Welding, x-ray, and coating operations continued throughout the day. A bag weight was installed at Station # 4370+84, as well as the bentonite trench breakers on either side of the stream at Station # 4370+67 & 4371+02.

10-13-2013. Once welding, x-ray, and coating operations were complete, the pipe was padded and the trench was backfilled with remaining subsoil to within 12 inches of grade. The top 12 inches of the banks and stream topsoil were replaced, but the contractor ran out of daylight before survey could verify elevations.

10-14-2023. The final topsoil adjustments were completed and prominent rocks were returned to preconstruction locations. The contours and elevations were confirmed by survey to preconstruction specifications and stream banks were stabilized and seeded with the appropriate permanent seed mix in accordance with Appendix B: Restoration Work Plan of the C 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
Brian Montgomery		SWCA	10/16/2023

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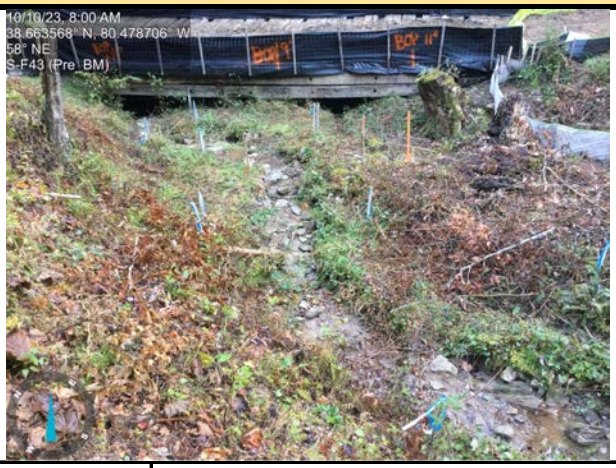
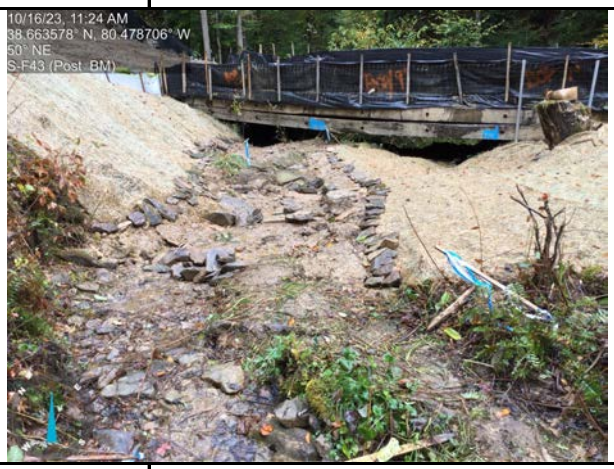
Required Photos



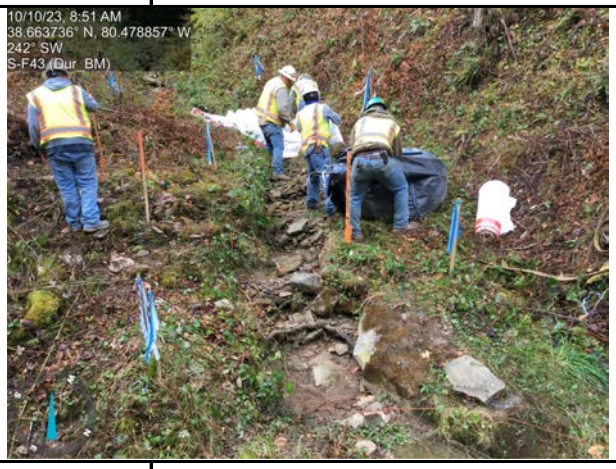
GPS Location	See photo
Description	Downstream view of permitted impact area during pre-construction assessment.

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

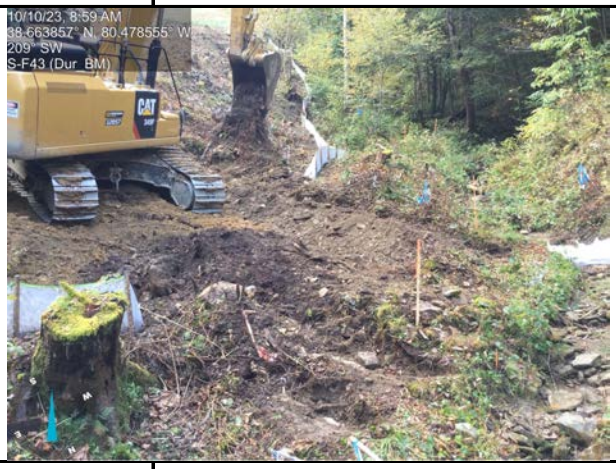


GPS Location	See photo
Description	Downstream view of permitted impact area during post-construction assessment.

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



GPS Location	See photo
Description	Installing the sandbag dam in the stream bed.



GPS Location	See photo
Description	Segregating the topsoil.

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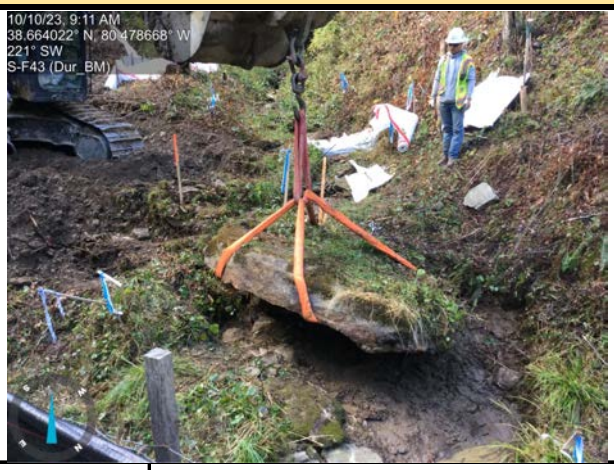
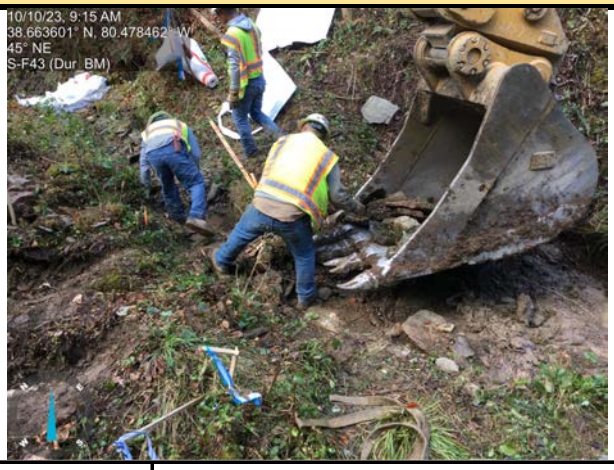
Optional Photos



GPS Location	See photo
Description	Removing prominent rocks from the stream bed.



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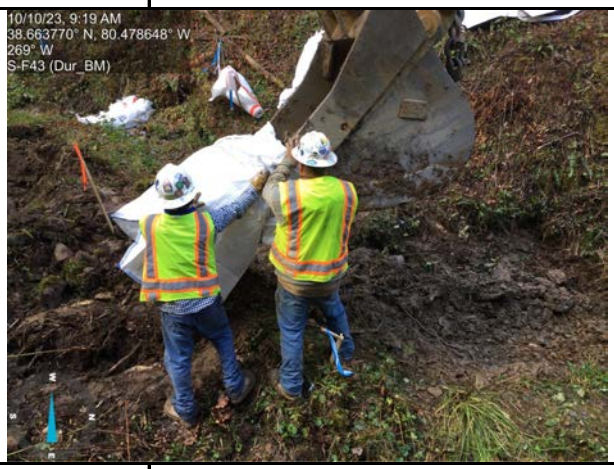
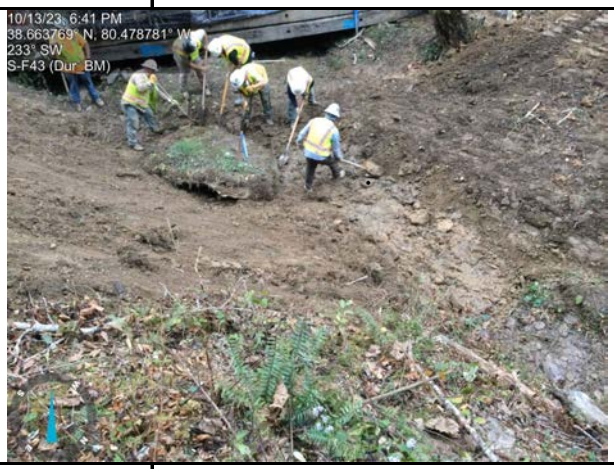
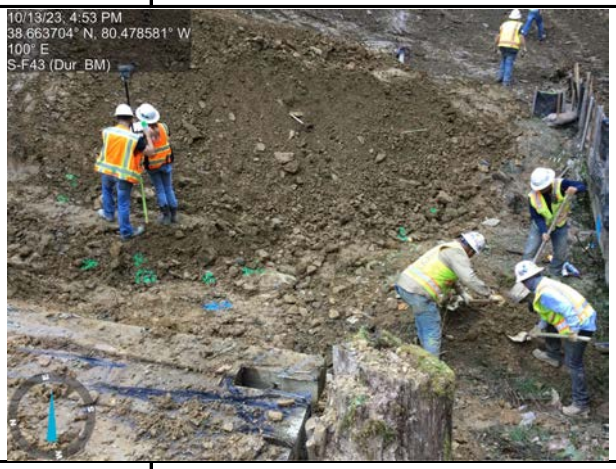
Description	Removing prominent rocks from the stream bed.



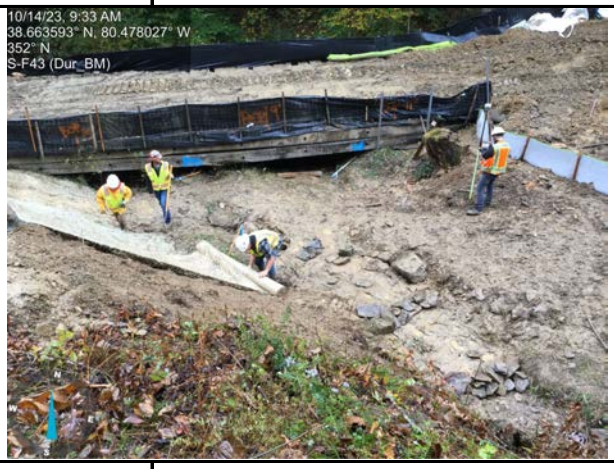
GPS Location	See photo
Description	Removing the stream bed substrate.



GPS Location	See photo
Description	Replacing prominent boulders and restoring the stream bed substrate.



GPS Location	See photo
Description	Checking elevations while restoring the stream banks.



GPS Location	See photo
Description	Checking elevations, and installing stream bank stabilization.