Stream Biological Conditions EA Report

Project Name	H-600 Pipeline Spread C	**AFE**	124300131	**Spread**	H-600 Pipeline Spread C
Contractor	Precision			**Report #**	45
Environmental Auditor	Kaitie Wilms			**Date/Time**	8/14/2023 9:59 AM

Stream ID	S-H117	**Crossing Start Date**	8/16/2023	**Crossing Completion Date**	8/17/2023
Milepost	76.84	**Pre-Con Assessment Date**	8/14/2023	**Post-Con Assessment Date**	8/17/2023
Station	4057+15	**Bankfull Width (ft.)**	17.7	**Riffle:Pool Complexes Present?**	No
State	WV	**Stream Classification**	Perennial		
County	Braxton	**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?	See Below
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	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)	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

8/16/23

Line 9 Additional Information: Trench breaks/plugs were not installed at the time the stream crossing was completed, due to the need to maneuver the pipe to tie it into the stubbed-out sections of pipe on either side of the stream. At the end of the day as of 08/24/2023, the coming inside of the crossing still did not have trench plus installed. The crossing EI sent the Lead EA a photo of the going away side trench plug installed within 50 feet of stream S-H117.

Line 15 Additional Information: The substrate of the channel is 2-10” cobbles with many larger boulders intra-mixed at the surface, subsurface, and into the banks.

Line 17 Additional Information: The 50-foot riparian buffer zone on both sides of the crossing was not re-established at the time the stream channel was completed. At the end of the day as of 08/24/2023, neither side of the streams 50-foot buffer zone had been completed. The contractor has ran into issues with a bad pipe section, rain delays, and needing to replace two welders. This has put the contractor behind schedule for work that needs completion in the riparian buffer zone.

Construction crews started stockpiling all the significant larger rocks and boulders from the stream bed by placing them on clear plastic sheeting off to the side; along with setting up the dam for the stream pump around. The top 12" of soil between the high-water marks from the stream channel was segregated and stored in super-sacks off to the side. The topsoil outside of the high-water marks of the banks was segregated and stockpiled on the going away side of the crossing to the left side of the ROW just up from bank edge. During the excavation of the trench hammering of some bedrock was required on the going away side of the crossing. The trench was padded shortly after the excavation was completed and the pipe section was lowered into the trench crossing the stream channel. River weights were placed onto the pipe and some sifted soil was back filled into the trench before the end of the day. An approximate 24” flume pipe was installed for channeling the stream water overnight. Some ground water was accumulating in the bottom of the trench by the end of the day, but not enough to warrant de-watering operations overnight.

8/17/23

By morning the trench accumulated enough ground water to warrant de-watering. The flume was removed and the stream water pump around was re-established. Surveyor came in and shot the locations of the pipe joints and elevations. Back filling of the trench with sifted soil continued until the pipe was completely covered with clean fill. No welding operations were conducted during the crossing; the section of the pipe that was installed was long enough to extend pass the point of the stream crossing on either side so that the stream and its banks could be put back without the need to weld. Trench breaks/plugs were not installed at the time the stream crossing was completed, due to the need to maneuver the pipe to tie it into the stubbed-out sections of pipe on either side of the stream. The contractor worked with the survey crew to re-establish the streams features and elevations to previous conditions. The pump around dam was removed and the stream flow restored. The banks were seeded and Curlex was installed from the high water marks up the banks as well as all other ECD’s.

8/26/23
The trench breaker on the GAS of S-H117 was surveyed at station number 4057+85, with the top of bank surveyed on the GAS at 4057+60; putting the trench breaker at 25 foot from the top of bank. As of 8/26/23 the trench breaker on the CIS of S-H117 has not been installed. The contractor has ran into issues with a bad pipe section, rain delays, and needing to replace two welders. This has put the contractor behind schedule for tying in the CIS and installing the trench breaker. The Lead Environmental Auditor was informed by the Lead Environmental Inspector for spread C that the trench breaker should be installed by 9/2/23.

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
Kaitie Wilms	K Wilms	SWCA	8/26/2023

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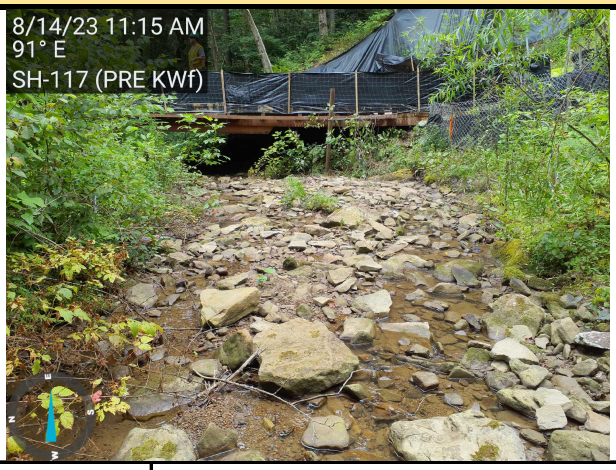
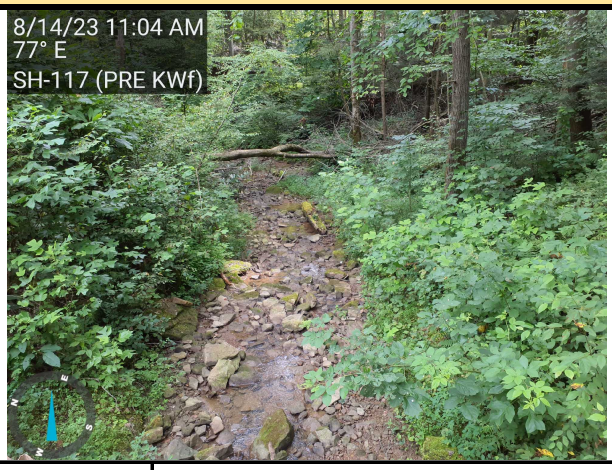
Required Photos



GPS Location	38.731032, -80.505982
Description	Downstream view of permitted impact area during pre-construction assessment. Downstream view looking from up stream edge LOD pre-construction.



GPS Location	38.730928, -80.506149
Description	Downstream view of unimpacted area during pre-construction assessment. Downstream view looking from downstream edge of LOD pre-construction.

GPS Location	38.7309, -80.5064
Description	Downstream view of permitted impact area during post-construction assessment. Downstream view looking from up stream edge of LOD post construction.

GPS Location	38.7311, -80.5061
Description	Downstream view of unimpacted area during post-construction assessment. Downstream view looking from downstream edge of LOD post construction.

GPS Location	38.731014, -80.506235
Description	Upstream view of dam and pump operations implemented in the unimpacted area during construction.

GPS Location	38.730866, -80.506344
Description	View of significant, surveyed boulders set aside prior to construction.

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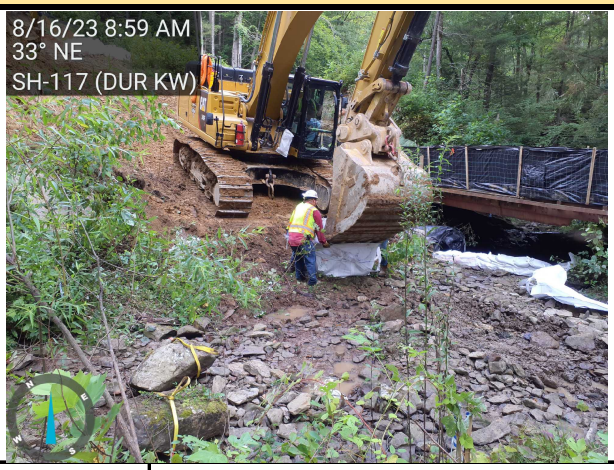
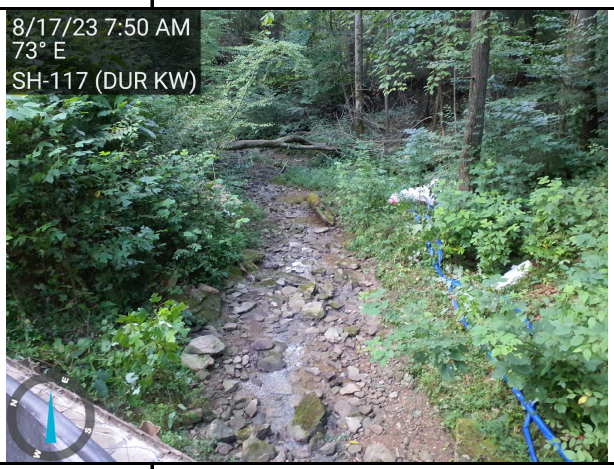
Optional Photos



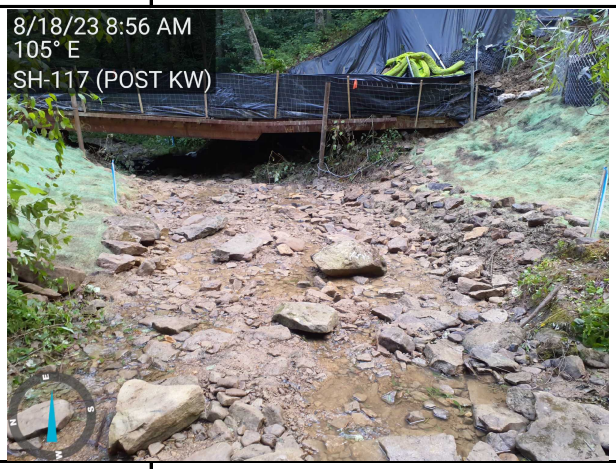
GPS Location	38.730972, -80.506196
Description	Downstream view of top twelve inches of stream substrate being segregated into Super Sacks to be kept separate from trench spoils.

GPS Location	38.730947, -80.506183
Description	Upstream view of the ditch line.

GPS Location	38.731008, -80.506082
Description	Downstream view of the impacted area during construction with the flume in place.



GPS Location	38.731136, -80.506412
Description	Downstream view of the unimpacted area during construction.



GPS Location	38.731031, -80.506335
Description	Downstream view of permitted impact area one day post construction.

GPS Location	38.731114, -80.505684
Description	Downstream view of unimpacted area one day post construction.