Stream Biological Conditions EA Report

Project Name	H-600 Pipeline Spread C	**AFE**	124300131	**Spread**	H-600 Pipeline Spread C
Contractor	Precision			**Report #**	38
Environmental Auditor	Roderick Grills			**Date/Time**	8/16/2023 8:09 AM

Stream ID	S-QR30	**Crossing Start Date**	8/16/2023	**Crossing Completion Date**	8/21/2023
Milepost	70.18	**Pre-Con Assessment Date**	8/15/2023	**Post-Con Assessment Date**	8/25/2023
Station	3705+27	**Bankfull Width (ft.)**	4.8	**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	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	2

Additional Notes

8/16/23
Question 15 expanded notes - The substrate of the channel is 2-10” cobbles with many larger boulder intra-mixed at the surface, subsurface, and into the banks.

De-watering structure location off the LOD on the right side of the coming in side of the LOD at station 3704+41. Construction crews started stockpiling the larger rocks form the stream bed and setting up the dam for the stream pump around. The top 12” of soil from the stream channel was segregated and stored in super-sacks just upstream from the crossing location on the going away side. The topsoil 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. Preparations for blasting took several hours of the day due to the heavy equipment needing to be cable in to positioned to drill the blasting holes. After the blasting, the construction crew started excavating the coming in side of the trench in preparation for the digging the stream bed the following day. A roughly 24” flume pipe was installed for channeling the stream water over night.

8/17/23
The trench plug was removed on the coming in side of the crossing and the contractor padded the trench with bags of sand in preparation for lowering the pipe later in the day. The coming in side section of pipe was lowered in the late morning and welding operation commenced. The flume was removed and the stream pump around was re-established. Excavation continued into the embankment on the going away side of the stream where they encountered a large boulder that needed to be hammered out. At the stream location the trench started to fill with ground water and de-watering of the trench was required. The contractor setup for overnight dewatering of the trench by bringing in light plants. At the end of the shift the contractor reinstalled the flume to channel the stream water for the over night.

8/18/23
The flume was removed and the stream pump around was re-established prior to starting excavation. Excavation went slow today due to hitting large rock shelf and the hammer-head on the excavator broke. By the end of the day the trench on the going away side of the crossing was completed enough to lower pipe for the fallowing day. X-ray, sand blasting, and coating were completed on the pipe section that was lowered the day before. The trench water had slowed down enough that de-watering over night was not needed. At the end of the shift the contractor reinstalled the flume to channel the stream water for the over night.

8/19/23
The contractor started the day by removing the flume and re-establishing the pump around prior to trenching the remaining trench line. The trench was then padded prior to lowering the pipe and welding started shortly after. The X-ray crew came in late in the day and took longer than expected to get the shots required, pushing the back filling to commence on Monday. At the end of the shift the contractor reinstalled the flume to channel the stream water until Monday. Light plants were being turned on at the end of the shift for de-watering as needed overnight.
8/21/23
A de-watering crew tended to the trench water from Saturday evening through to Monday morning. The contractor started by removing the flume and re-establishing the stream pump around. By using a sifting bucket on one of the excavator, rock free fill was placed around the pipe at the beginning of back filling the trench. Around 1pm the trench had been back filled enough to start re-constructing the stream basin. The surveyor was called in and work in conjunction with the contractor to obtain the correct elevations of the stream bed and rock features. S-QR30 is a very low flow stream, so when the dam was removed the water took over night to reach the other side of the LOD. Trench plugs had not been installed by the end of the day and the EA will check in with survey in the days to come.

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	8/25/2023

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Required Photos

GPS Location	Location in the upper left corner of photo.
Description	Downstream view of permitted impact area during pre-construction assessment. Photo taken from the LOD boundary up stream looking down stream

GPS Location	Location in the upper left corner of photo.
Description	Downstream view of unimpacted area during pre-construction assessment. Photo taken form the matted bridge looking down stream off of LOD.

GPS Location	Location in the upper left corner of photo.
Description	Downstream view of permitted impact area during post-construction assessment. Looking from the left side of the LOD down stream of S-QR30 during a rain event.

GPS Location	Location in the upper left corner of photo.
Description	Downstream view of unimpacted area during post-construction assessment. Looking from the right side of the LOD down stream of S-QR30 during a rain event.

GPS Location	Location in the upper left corner of photo.
Description	De-watering structure just off LOD on right side of the coming in side of ROW (Sta.# 3704+41)

GPS Location	Location in the upper left corner of photo.
Description	Looking from the going away side of the S-QR30, start of excavation on the coming in side of the crossing after blasting activities.

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Optional Photos

GPS Location	Location in the upper left corner of photo.
Description	Looking form the going away side to S-QR30, flume being installed for over night stream water flow.

GPS Location	Location in the upper left corner of photo.
Description	Looking form the going away side of S-QR30, welding a section of pipe on the coming in side.

GPS Location	Location in the upper left corner of photo.
Description	Looking from bridge at the left side of the LOD at the dam and pump around setup of S-QR30.

GPS Location	Location in the upper left corner of photo.
Description	Looking form the coming side of S-QR30, sifting excavator putting in clean fill around the pipe.

GPS Location	Location in the upper left corner of photo.
Description	Looking up stream from the left edge of LOD of turbid water entering the LOD

GPS Location	Location in the upper left corner of photo.
Description	Looking from the bridge at trench breaker on the going away side of S-QR30.