Stream Biological Conditions EA Report

Project Name	H-600 Pipeline Spread E	**AFE**	124300134	**Spread**	H-600 Pipeline Spread E
Contractor	Price Gregory			**Report #**	39
Environmental Auditor	Allyson Kincaid			**Date/Time**	8/15/2023 9:28 AM

Stream ID	S-H88	**Crossing Start Date**	8/16/2023	**Crossing Completion Date**	8/28/2023
Milepost	130.36	**Pre-Con Assessment Date**	8/15/2023	**Post-Con Assessment Date**	8/28/2023
Station	6883+01	**Bankfull Width (ft.)**	17.0	**Riffle:Pool Complexes Present?**	No
State	WV	**Stream Classification**	Perennial		
County	Nicholas	**303(d) Impairment Listing**	None		

	Resource Post-Crossing Conditions	
1	Were all applicable resource specific crossing conditions satisfied?	Yes
	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 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)?	No
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.	See Below

	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	Bedrock, Boulder (>10")	Bedrock, Boulder (>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	4
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	1
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

Pre-Construction Notes
*Bankfull width measured at OHWM stakes
15. Substrate is composed of larger material with fines interspersed, flow present.
18. Pre-Con - Timber mat present (travel lane)
Pre-Construction Meeting @ 1000 (8/15/2023)
Pre-Construction Assessment Completed; EI for Crossing is Johnny Graham

Day 1 (8/16/2023)
Stream substrate removed (Photo 1) and segregated in upland area (Photo 2). Blasting occurred after substrate removed.

Day 2 and Day 3 (8/17/2023 and 8/18/2023)
Excavating trench (Photo 3), hammering, and pumping from the trench.

Day 4 (8/19/2023)
Lowering pipe into trench.

Day 5 (8/21/2023)
Aligning pipe in trench, welding, and sifting soft fill dirt into the trench.

Days 6, 7, and 8 (8/22/2023 - 8/24/2023)
Additional digging of trench and welding outside riparian buffer, sifting of soft fill dirt into the trench. Trench breaks on both banks installed and stream trench filled (Photos 5 and 6).

Day 9 (8/25/2023)
Significant early morning storm event. Day spent maintaining erosion control, dewatering trench, maintaining pumps, etc.

Day 10 (8/26/2023)
Pumping from trench, general repair work from Friday's storm. Restoring riparian corridor on RDB including streambed. Survey of restored stream channel.

Day 11 (8/27/2023)
Placement of segregated substrate back into stream channel (Photo 7). Continued pumping of trench. Ongoing back filling and soft fill dirt into trench. Seeding of banks and riparian corridor on RDB. Restoring flow.

Day 12 (8/28/2023)
Complete bank restoration on LDB (Photo 8). Stream flowing. Post Construction Assessment Completed.
Post Construction Notes
14. During overnight trench dewatering of the stream crossing, the dewatering structure was inadvertently overtopped allowing sediment to leave the right-of-way and eventually settle within wan adjacent wetland. This was immediately reported to the WVDEP. The area was cleaned up and restored the same day.
16., 17. Crossing and riparian areas have been recently restored. These areas will be monitored until 80% vegetative coverage has been achieved and areas that do not have 80% vegetative cover within 30 days will be reseeded.
19. Does not include timber mats that remain in place for travel lane.

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
Allyson Kincaid		Potesta	8/28/2023

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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. Rain occurring during photo

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

GPS Location	See Photo
Description	Photo 1. Stream substrate being removed.

GPS Location	See Photo coordinates
Description	Photo 2. Stream substrate segregated in upland area.

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Optional Photos

GPS Location	See Photo
Description	Photo 3. Trench through stream OHWM.

GPS Location	See Photo
Description	Photo 4. Pipe being placed into trench.

GPS Location	See Photo
Description	Photo 5. Trench breaks installed on RDB.

GPS Location	See Photo
Description	Photo 6. Streambed portion of trench backfilled, trench breakers on LDB.

GPS Location	See Photo
Description	Photo 7. Streambed substrate restored.

GPS Location	See Photo
Description	Photo 8. Banks seeded and flow restored.