Stream Biological Conditions EA Report

Project Name	H-600 Pipeline Spread E	**AFE**	124300134	**Spread**	H-600 Pipeline Spread E
Contractor	Price Gregory			**Report #**	191
Environmental Auditor	Tim Ferguson			**Date/Time**	8/22/2023 8:41 AM

Stream ID	S-L26	**Crossing Start Date**	8/24/2023	**Crossing Completion Date**	9/13/2023
Milepost	144.36	**Pre-Con Assessment Date**	8/22/2023	**Post-Con Assessment Date**	9/13/2023
Station	7622+21	**Bankfull Width (ft.)**	5.0	**Riffle:Pool Complexes Present?**	No
State	WV	**Stream Classification**	Perennial		
County	Greenbrier	**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?	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	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	2	5
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.)	3	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)	3	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	1

Additional Notes

Pre-Construction Notes
Pre-Construction Meeting - (8/21/2023 @ 1000)
Pre-Construction Assessment Completed (8/22/2023)

Day 1 (8/24/2023)
Stream substrate removed (Photo 1) and segregated in upland area (Photo 2).

Day 2 (8/25/2023)
Heavy rain - no work (0.52")

Day 3 and Day 4 (8/26/2023 and 8/27/2023)
Trenching began in resources (Photo 3).

Day 5 through Day 8 (8/28/2023-8/31/2023)
Work occurred outside the resource including trenching, pumping, welding, blasting, sand blasting, and other maintenance activities. Rain event occurred on 8/28/2023.

Day 9 and Day 10 (9/1/2023 and 9/2/2023)
Trench prepared for pipe installation and pipe lowered into trench in stream (Photo 4). Welding and x-ray ongoing in trench.

Holiday Weekend - No work 9/3/2023 and 9/4/2023

Day 11 through Day 14 (9/5/2023-9/8/2023)
Work occurred outside the resource including trenching, pumping, welding, blasting, sand blasting, padding, lowering the pipe into the trench, and other maintenance activities.

Day 15 (9/9/2023)
Began backfilling. Day called due to thunderstorms.

Day 16 (9/112023)
Began to installed trench breakers adjacent to resource.

Day 17 (9/12/2023)
Finished installing trench breakers and filling resource (Photo 5). Site graded. Survey work began.

Day 18 (9/13/2023)
Contouring channel (Photo 6). Survey staked out stream boundary and elevations (Photo 7). Stream substrate restored. Curlex installed (Photo 8). Resource crossing complete. Post construction form completed.

Post Construction Notes
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
Tim Ferguson		Potesta & Associates, Inc.	9/13/2023

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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	Photo 1: Removing substrate from S-H64.

GPS Location	See Photo
Description	Photo 2: Segregated stream substrate in upland area.

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Optional Photos

GPS Location	See Photo
Description	Photo 3: Trenching through aquatic resources.

GPS Location	See Photo
Description	Photo 4: Pipe lowered into aquatic resources

GPS Location	See Photo
Description	Photo 5: Trench breakers at aquatic resources.

GPS Location	See Photo
Description	Photo 6: Contouring the stream channel.

GPS Location	See Photo
Description	Photo 7: Survey staking out aquatic resources.

GPS Location	See Photo
Description	Photo 8: Installing Curlex.