



Stream Biological Conditions EA Report

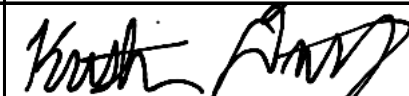
Project Name	H-600 Pipeline Spread E	AFE	124300134	Spread	H-600 Pipeline Spread E
Contractor	Price Gregory	Report #	218		
Environmental Auditor	Kristin Duty	Date/Time	9/6/2023 12:27 PM		
Stream ID	S-L30	Crossing Start Date	9/8/2023	Crossing Completion Date	10/14/2023
Milepost	146.97	Pre-Con Assessment Date	9/6/2023	Post-Con Assessment Date	10/14/2023
Station	7760+02	Bankfull Width (ft.)	8.8	Riffle:Pool Complexes Present?	No
State	WV	Stream Classification	Intermittent		
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)? <u> N/A </u> Mussel Relocation? <u> N/A </u>	
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 <input checked="" type="checkbox"/> 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)	4	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.)	2	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)			4	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						
<p>Pre-construction Notes Pre-Construction Meeting - 9/5/2023 Timber mat in place prior to assessment. OHWM measured in the field. Survey confirmed OHWM (9/7/2023)</p> <p>9/8/2023 - First 12' of substrate removed from streambed (Photo 1). Substrate segregated and placed in upland area (Photo 2). Trenching began in aquatic resource. Rain of approximately 0.1 inches in previous 24 hours.</p> <p>9/9/2023 - 9/12/2023 - Ongoing excavation (Photo 3) and the use of timber mats in the aquatic resource. Substantial rain event (0.9 inches) on 9/11/2023. Began pumping water from trench (as needed) on 9/12/2023. Welding and additional excavations occurring outside of the aquatic resource. Substantial rain event (0.9 inches) on 9/11/2023.</p> <p>9/13/2023 - Excavation in aquatic resource. Pumping ongoing. Rain of approximately 0.1 inches in previous 24 hours.</p> <p>9/14/2023 - Excavation outside aquatic resource. Pumping ongoing.</p> <p>9/15/2023 - Bedding placed within the trench and a portion of the pipe lowered into the trench in the aquatic resource (Photo 4).</p> <p>9/16/2023 - 9/20/2023 - Adjustments made in the trench including lifting pipe to placed additional bedding. Welding and leveling on-going outside of aquatic resource. Trench breaker also constructed outside of aquatic resource.</p> <p>9/23/2023 - 09/24/2023 - Morning showers (09/23/2023). Welding of pipe that runs through aquatic resource. Pumping of trench (outside of resource area). No other work in or adjacent to aquatic resource.</p> <p>9/25/2023 - Survey onsite to verify elevations and depth of cover. Trench breakers directly outside of resource area need adjusted.</p> <p>9/26/2023 - 09/27/2023 - Filing of trench and construction of trench breakers outside of resource area.</p> <p>9/28/2023 - 10/3/2023 - Trench breaker construction completed. Backfill in and adjacent to aquatic resource (Photo 5).</p> <p>10/4/2023 - 10/6/2023 - Survey onsite and established staked OHWM. Excavating and shaping landscape to establish proper elevations for stream restoration (Photo 6).</p> <p>10/7/2023 - 10/13/2023 - Banks contours established and checked by survey. Substate and topsoil restored in new channel. Seeded banks (Photo 7) and ten-foot buffer established (Photo 8). Curlex put in place.</p> <p>10/14/2023 - Jute matting utilized below OHWM. Restoration complete.</p> <p>Post Construction Notes 16., 17. Crossing and riparian areas have been recently restored. These areas will be monitored until 80% vegetative cover has been achieved and areas that no not have 80% vegetative cover within 30 days will be reseeded. 19. Does not include timber mats that remain in place for travel lane.</p>						
<p>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.</p>						
Name		Signature		Company		
Kristin Duty				Potesta		
				Date		
				10/14/2023		

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Required Photos					
GPS Location	See Photo	GPS Location	See Photo		
Description	Downstream view of permitted impact area during pre-construction assessment.	Description	Downstream view of unimpacted area during pre-construction assessment.		
GPS Location	See Photo	GPS Location	See Photo		
Description	Downstream view of permitted impact area during post-construction assessment.	Description	Downstream view of unimpacted area during post-construction assessment.		
GPS Location	See Photo	GPS Location	See Photo		
Description	Photo 1: Removal and segregated transport of top 12" of resource.	Description	Photo 2: Segregation of stream substrate and top 12" of stream bank.		

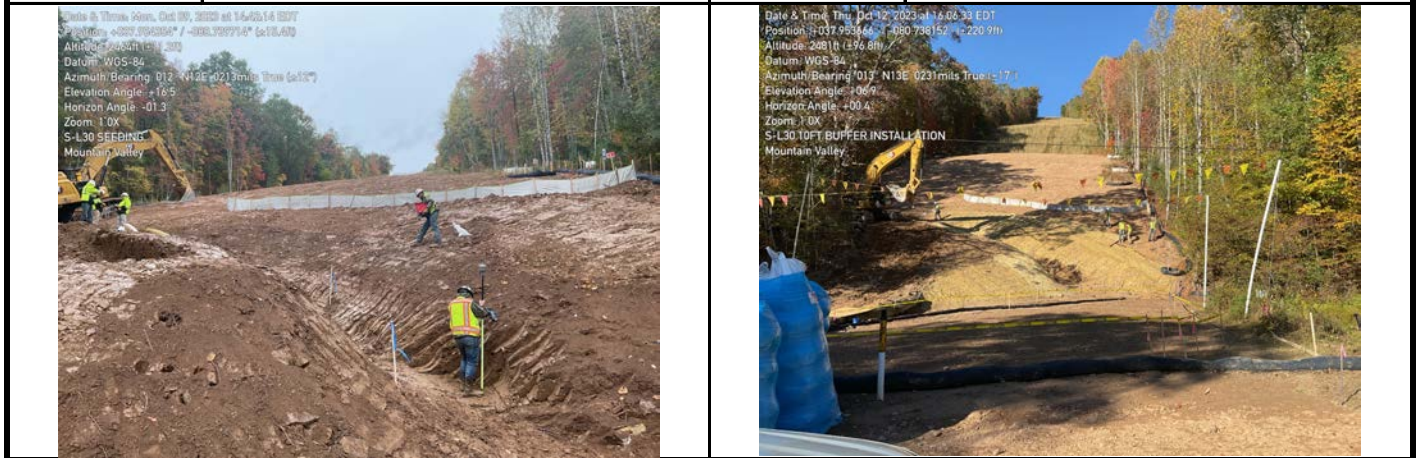
Optional Photos



GPS Location See Photo	GPS Location See Photo
Description Photo 3: Excavation of trench in aquatic resource.	Description Photo 4: Pipe placed into trench in aquatic resource lined with bedding.



GPS Location See Photo	GPS Location See Photo
Description Photo 5: Trench breaker construction complete, backfilling of aquatic resource.	Description Photo 6: Beginning restoration of aquatic resource.



GPS Location See Photo	GPS Location See Photo
Description Photo 7: Seeding stream banks and surveying elevations.	Description Photo 8: Installing curlex on a portion of buffer.