



# Stream Biological Conditions EA Report

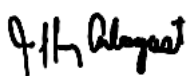
<b>Project Name</b>	H-600 Pipeline Spread D	<b>AFE</b>	124300132	<b>Spread</b>	H-600 Pipeline Spread D
<b>Contractor</b>	Precision	<b>Report #</b>	481		
<b>Environmental Auditor</b>	Jeffrey Arbogast	<b>Date/Time</b>	1/21/2024 8:52 AM		
<b>Stream ID</b>	S-A64	<b>Crossing Start Date</b>	1/21/2024	<b>Crossing Completion Date</b>	1/27/2024
<b>Milepost</b>	116.65	<b>Pre-Con Assessment Date</b>	1/18/2024	<b>Post-Con Assessment Date</b>	1/27/2024
<b>Station</b>	6159+30	<b>Bankfull Width (ft.)</b>	7.0	<b>Riffle:Pool Complexes Present?</b>	No
<b>State</b>	WV	<b>Stream Classification</b>	Ephemeral		
<b>County</b>	Nicholas	<b>303(d) Impairment Listing</b>	No		

### Resource Post-Crossing Conditions

1	Were all applicable resource specific crossing conditions satisfied? Time of Year Restrictions (TOYR)? <u>  N/A  </u> Mussel Relocation? <u>  N/A  </u>	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 <input checked="" type="checkbox"/> Flume <input type="checkbox"/> Cofferdam <input type="checkbox"/> Conventional Bore <input type="checkbox"/> Horizontal Directional Drill (HDD) Bore <input type="checkbox"/>	
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?	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	<b>Predominant Substrate Type (select one):</b> Bedrock, Boulder (>10"), Cobble (2-10"), Gravel (0.1-2"), Sand (<0.1"), Mud/Silt/Clay	Mud/Silt/Clay	Mud/Silt/Clay
16	<b>Channel Conditions: Rating:</b> 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	<b>Riparian Buffer Zone within ROW and ≤50 ft. from Stream Top-of-Bank: Rating:</b> 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

<b>AFE</b>	124300132	<b>Date/Time</b>	1/21/2024 8:52 AM	<b>Report #</b>	481	
<b>Biological Conditions Continued</b>					<b>Pre-Con</b>	<b>Post-Con</b>
18	<b>Instream Habitat Conditions:</b> 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	3	
19	<b>Channel Alterations:</b> 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	
<b>Additional Notes</b>						
<p>The stream channel begins at the edge of the ditch line so only a small section was disturbed. A dam/pump around was staged at S-A64, although there was no flow during the crossing. A ditch dewatering system was built and used as needed throughout the stream crossing.</p> <p>1/21/2024: Topsoil from the 10' stream buffer zone was stripped and segregated on plastic sheeting, while the stream substrate was placed in super sacks, and both were stored in an upland area. Native stream subsoil was separated so it could be used as backfill material. Excavation of the ditch began at the loose end on the coming in side (CIS).</p> <p>1/22/2024: Excavation of the ditch line was not completed by the end of the day due to subsurface rock that needed to be hammered out.</p> <p>1/23/2024: Excavation of the ditch line was completed late in the day, and then the stream section of pipe was lowered in.</p> <p>1/24/2024: A weld was made connecting the stream pipe section with the CIS loose end.</p> <p>1/25/2024: Rain out.</p> <p>1/26/2024: The tie in section was lowered in on the going away side (GAS) and welded onto the loose end.</p> <p>1/27/2024: The final tie in weld was completed while bentonite breakers were built 18' from the CIS and 15' from the GAS ordinary high-water marks. The ditch was backfilled to pre-construction elevations with the native material removed during ditch excavation, and prior to the stream substrate being replaced. The stream channel, banks, and buffer zones were reconstructed, and all contours, elevations, and other significant points were verified by civil survey. The stream banks were properly seeded prior to installing erosion control blankets, straw mulch, and silt fence.</p> <p>The 50ft. buffers on either side of the stream have been temporarily restored due to winter weather conditions. Permanent restoration of the 50ft. buffers will be conducted during the spring when soil conditions and weather are more favorable.</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>						
<b>Name</b>		<b>Signature</b>		<b>Company</b>		
Jeffrey Arbogast				SWCA		
				Date		
				1/27/2024		


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**Required Photos**

			
<b>GPS Location</b>	See Caption in Photo	<b>GPS Location</b>	See Caption in Photo
<b>Description</b>	Downstream view of permitted impact area during pre-construction assessment. Stream channel starts at the edge of the rail car bridge.	<b>Description</b>	Downstream view of unimpacted area during pre-construction assessment.
			
<b>GPS Location</b>	See Caption in Photo	<b>GPS Location</b>	See Caption in Photo
<b>Description</b>	Downstream view of permitted impact area during post-construction assessment. Stream channel starts at the edge of the rail car bridge.	<b>Description</b>	Downstream view of unimpacted area during post-construction assessment.
			
<b>GPS Location</b>	See Caption in Photo	<b>GPS Location</b>	See Caption in Photo
<b>Description</b>	View from the GAS standing on centerline, Pre-construction.	<b>Description</b>	View from the GAS standing on centerline, Post-construction.



**Optional Photos**

			
<b>GPS Location</b>	See Caption in Photo	<b>GPS Location</b>	See Caption in Photo
<b>Description</b>	Stream buffer topsoil being removed.	<b>Description</b>	Stream substrate being placed in super sacks.
			
<b>GPS Location</b>	See Caption in Photo	<b>GPS Location</b>	See Caption in Photo
<b>Description</b>	Lowering the stream section of pipe.	<b>Description</b>	Lowering in the tie in section on the GAS.
			
<b>GPS Location</b>	See Caption in Photo	<b>GPS Location</b>	See Caption in Photo
<b>Description</b>	View of both bentonite trench breakers and backfilling of the ditch.	<b>Description</b>	Survey checking elevation of subsoil near the stream channel.