



# Stream Biological Conditions EA Report

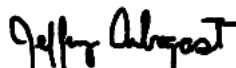
<b>Project Name</b>	H-600 Pipeline Spread D	<b>AFE</b>	124300132	<b>Spread</b>	H-600 Pipeline Spread D
<b>Contractor</b>	Precision	<b>Report #</b>	500		
<b>Environmental Auditor</b>	Jeffrey Arbogast	<b>Date/Time</b>	2/6/2024 2:45 PM		
<b>Stream ID</b>	S-A65	<b>Crossing Start Date</b>	2/6/2024	<b>Crossing Completion Date</b>	2/12/2024
<b>Milepost</b>	116.35	<b>Pre-Con Assessment Date</b>	2/6/2024	<b>Post-Con Assessment Date</b>	2/13/2024
<b>Station</b>	6143+24	<b>Bankfull Width (ft.)</b>	70.0	<b>Riffle:Pool Complexes Present?</b>	No
<b>State</b>	WV	<b>Stream Classification</b>	Perennial		
<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?	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)?	Yes
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



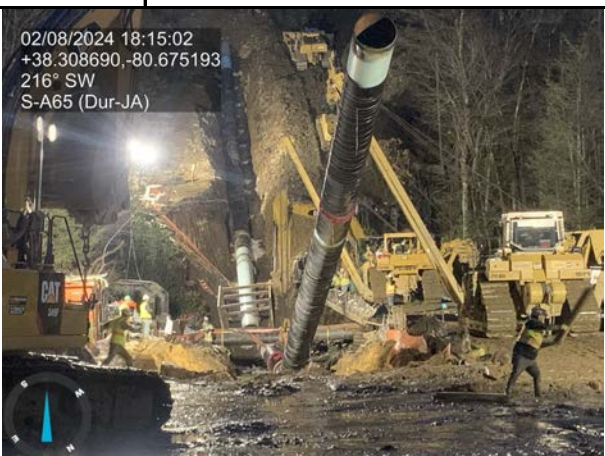



		Pre-Con	Post-Con
15	<b>Predominant Substrate Type (select one):</b> Bedrock, Boulder (>10"), Cobble (2-10"), Gravel (0.1-2"), Sand (<0.1"), Mud/Silt/Clay	Bedrock, Boulder (>10")	Bedrock, Boulder (>10")
16	<b>Channel Conditions: Rating:</b> 1-Optimal (80-100% stable banks), 2-Sub-optimal (60-80% stable 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>	2/6/2024 2:45 PM	<b>Report #</b>	500	
<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)			1	1	
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>A dam and pump around was built prior to any disturbance within the 10' stream buffer. A ditch dewatering system was set up and used as needed throughout the stream crossing.</p> <p>Expanded notes for question 9: The stream's bentonite trench breakers were verified by survey to have been built at station numbers 6143+00 and 6143+97, which were within 25' from top of bank.</p> <p>Expanded notes for question 17: The 50' buffers on either side of the stream will not be restored until the final tie in construction is completed on this section.</p> <p>2/6/2024: A dam and pump around conveyance system was installed and used throughout the crossing.</p> <p>2/7/2024: Topsoil from the 10' stream buffer zone was stripped and stored in an upland area. Stones from the streambed that were large enough to influence flow were set aside so that they could be returned to their place in the channel during restoration. The top 12" of the stream substrate was segregated in a plastic lined containment while the native stream subsoil was placed in an upland area so it could be used as stream backfill material. Progress was slowed due to encountering bedrock during excavation of the ditch.</p> <p>2/8/2024: The ditch excavation was completed, and the stream section of pipe was lowered in.</p> <p>2/9/2024: The stream section had to be removed from the ditch and re-engineered to achieve proper alignment.</p> <p>2/10/2024: The rebuilt stream section of pipe was lowered in, and a weld was started on the going away side (GAS) of the stream.</p> <p>2/11/2024: The GAS weld was completed, and the ditch was backfilled with clean native subsoil.</p> <p>2/12/2024: A bentonite breaker was constructed on the GAS of the crossing and the stream substrate was replaced. The significant stones were returned to their original locations and the stream banks were reconstructed through the 10' buffer. 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. The dam and pump around conveyance system was removed and natural flow was re-established.</p> <p>All appropriate erosion control devices are in place and the 50' buffers on either side of the stream have been temporarily restored due to winter weather conditions. Permanent restoration of the 50' buffer 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		
				2/13/2024		

AFE 124300132		Date/Time	2/6/2024 2:45 PM	Report #	500
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.		<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.		<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 CIS standing on centerline, pre-construction.		<b>Description</b>	View from CIS standing near centerline, post-construction.	

<b>AFE</b> 124300132	<b>Date/Time</b> 2/6/2024 2:45 PM	<b>Report #</b> 500
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**Optional Photos**

<p>02/07/2024 10:32:16 +38.308331,-80.675328 243° SW S-A65 (Dur-JA)</p> 		<p>02/07/2024 11:34:04 +38.308838,-80.675107 163° S S-A65 (Dur-JA)</p> 	
<b>GPS Location</b>	See Caption in Photo.	<b>GPS Location</b>	See Caption in Photo.
<b>Description</b>	Large rocks being removed from stream individually.	<b>Description</b>	Stream substrate being stored in a plastic lined containment.
<p>02/08/2024 18:15:02 +38.308690,-80.675193 216° SW S-A65 (Dur-JA)</p> 		<p>02/11/2024 12:33:05 +38.308268,-80.674137 225° SW S-A65 (Dur-JA)</p> 	
<b>GPS Location</b>	See Caption in Photo.	<b>GPS Location</b>	See Caption in Photo.
<b>Description</b>	Lowering in the stream section.	<b>Description</b>	Backfilling
<p>02/12/2024 13:08:42 +38.308180,-80.675119 63° NE S-A65 (Dur-JA)</p> 		<p>02/12/2024 14:11:56 +38.308290,-80.674096 222° SW S-A65 (Dur-JA)</p> 	
<b>GPS Location</b>	See Caption in Photo.	<b>GPS Location</b>	See Caption in Photo.
<b>Description</b>	Survey overseeing large rock placement and substrate installation.	<b>Description</b>	ECDs being installed on CIS 10' buffer area.