

STREAM BIOLOGICAL CONDITIONS ENVIRONMENTAL AUDITOR REPORT

Version 2.3



Stream ID: S-IJ50	Crossing Start Date: 01/19/2024	Crossing Completion Date: 03/15/2024
Milepost: 239.5	Pre-Con Assessment Date: 01/03/2024	Post-Con Assessment Date: 03/16/2024
Station: 12655+75	Stream Classification: Perennial (Perennial, Intermittent, Ephemeral)	Bankfull Width (ft.): 25
County: Roanoke	303(d) Impairment Listing: Not Impaired	Riffle:Pool Complexes Present? No

Item #	Resource Crossing Conditions	N/A	YES	NO
1.	Were all applicable resource specific crossing conditions satisfied? Time of Year Restrictions (TOYR)? <u>Yes</u> Fish Relocation? <u>Yes</u> Mussel Relocation? <u>N/A</u>		X	
2.	Is this resource designated a wild or stockable trout stream?			X
3.	Which crossing methods were utilized during the stream crossing? <i>(Select one or more)</i> Dam & Pump, Flume, Cofferdam, Conventional Bore, Horizontal Directional Drill (HDD) Bore?	Dam & Pump		
4.	Was the top 1-foot (12-inches) of streambed substrate segregated and stockpiled separate from trench spoils?		X	
5.	Was excess material not needed for backfill removed and disposed of in an upland area?		X	
6.	Was the top 12-inches of backfill made with clean native stream substrate?		X	
7.	Was the pre-construction survey data provided and utilized during restoration in attempt to re-establish pre-construction contours?		X	
8.	Were any field modifications to the stream implemented by project or regulatory personnel to address potential drainage or bank restoration limitations?		X	
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?		X	
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?		X	
11.	Was the time of disturbance minimized by conducting resource work continuously to completion?		X	
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?		X	
13.	Are bareroot saplings required and/or scheduled to be planted for the dormant season (10/1 – 4/30)?	X		
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.			X

Item #	Biological Conditions	Pre-Con	Post-Con
15.	Predominant Substrate Type (select one): <i>Bedrock, Boulder (>10"), Cobble (2-10"), Gravel (0.1-2"), Sand (<0.1"), Mud/Silt/Clay</i>	Boulder (>10")	Boulder (>10")
16.	Channel Conditions: Rating: 1-Optimal (80-100% stable banks), 2-Suboptimal (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 - Suboptimal	1 - Optimal
17.	Riparian Buffer Zone within ROW and ≤50 ft. from Stream Top-of-Bank: Rating: 1-Optimal (60-100% heavy vegetative cover), 2-Suboptimal (30-60% mixed vegetated coverage), 3-Marginal (<30% vegetative coverage), 4-Poor (Mowed/maintained area or farmland, impervious area, sparsely vegetated coverage, etc.)	2 - Suboptimal	3 - Marginal
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, 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)	2 - Suboptimal	2 - Suboptimal
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 - Negligible	2 - Minor

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Comments/Remarks

01/03/24- The pre-construction meeting was conducted. The MVP EI is Austin Malner, and Dylan Hooper. The anticipated start date for the resource is 01/08/24. -T. Brodbeck

01/13/24 – The anticipated start date has moved to 01/15/24 - T. Brodbeck

01/18/24 – The anticipated start date has moved to 01/19/24 - T. Brodbeck

01/19/24 – The biologist checked for fish in the stream. No fish were relocated. The pumps were installed but were not operating. The crew is waiting for new pumps to arrive and worked on the mainline. - T. Brodbeck

01/20/24 – The pumps arrived onsite. Crews continued to work on the mainline. The pump around was constructed and is anticipated to begin on 01/21. The pump around was constructed without the EI or the auditor present. MVP self-reported and notified contractor of compliance requirement that an EI or auditor be present during all in-stream activity. - T. Brodbeck

01/22/24 – The topsoil was excavated from the buffer zone on the Coming In Side (CIS). Geotech and timber mats were installed over the stream. The crew drilled with Jon Henry and blasted. No debris impacted the stream- T. Brodbeck

01/23/24 – The blasting crew drilled, found mostly boulders, and called off blasting. The crossing was postponed due to the forecasted heavy rain. The environmental crew installed P1 fencing and removed the dam and pump. The crew left the two lowest water bars installed during the weather delay. - T. Brodbeck

01/24/24 – 01/27/24- No construction due to rain out. - T. Brodbeck

01/29/24 - No construction. The ground is saturated, and no equipment is traveling down the mountain. The water bars remain in place. - T. Brodbeck

01/30/24 - No construction. The crew used quick lime to dry out the travel lane. Per the general foreman, they are not going within 200-feet of the resource. - T. Brodbeck

01/31/24 – The dam was constructed, and a 6-inch pump was installed for the pump around. Ground water was entering the creek, and no impacts to biological conditions or unauthorized discharges were observed. The downstream dam was constructed, and two 6-inch pumps were installed for dewatering. Topsoil was excavated in the buffer zones. The boulders and substrate were removed. - T. Brodbeck

02/01/24 – The second dewatering structure was constructed. Dewatering continued. The topsoil was excavated on the Going Away Side (GAS). Temporary timber mats and visqueen were installed. -T. Brodbeck

02/02/24 - Continued dewatering. Trenching began on the GAS. - T. Brodbeck

02/03/24 – Trench boxes were installed on the GAS. Trenching continued. - T. Brodbeck

02/03/24 – A third dewatering structure was constructed. Dewatering and trenching continued. -T. Brodbeck.

02/04/24 – Trenching and dewatering continued. - T. Brodbeck

02/05/24 – Trenching continued. Constructed the GAS travel lane. Dewatering structures were functioning as designed. - T. Brodbeck

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02/06/24 – The pipe was lowered and set. Trench breakers were installed on the CIS. No impacts to biological conditions or unauthorized discharges observed. - T. Brodbeck

02/07/24 – The GAS trench breaker was installed. The stream was backfilled with sandbags up to 16-inches from where substrate will be added. Continued pump around and dewatering utilizing the third dewatering structure. - T. Brodbeck

02/08/24 – Backfilling continued. The hoses for the pump around were relocated. A slide specialist will arrive in the morning with backfilling plans for the GAS. No impacts to resource. - T. Brodbeck

02/09/24 – The crew began the engineered backfilling operations. 12-inches of riprap was installed over the sandbags at the base of the GAS trench breaker. The site was prepared for the forecasted rain with super silt fence and Curlex installed. - T. Brodbeck

02/10/24 – 02/13/24- No construction due to rain. - T. Brodbeck

02/14/24 – Dewatering continued. The pipe was lowered and set on the GAS. - T. Brodbeck

02/15/24 – Dewatering continued. The pipe was lowered and set on the CIS. Welding began on the GAS. -T. Brodbeck

02/16/24 – Dewatering continued. The crew added additional straw to the dewatering area. The GAS was sandblasted and coated. Welding and coating are anticipated to begin tomorrow at the CIS tomorrow. - T. Brodbeck

02/17/24 – Welded began on the CIS. The crew anticipates constructing the slip mitigation wall on the GAS tomorrow. - T. Brodbeck

02/18/24 – Dewatering continued. The CIS was coated. The GAS was backfilled with sandbags, and construction began on the slip mitigation wall. Due to the steep slope conditions, a slip mitigation wall is to be installed in accordance with MVP Annual Standard and Specification MVP-44A, MVP-44B, and MVP-45 for Slide Mitigation Highwall Revetment & Steep Slope Revetment. - T. Brodbeck

02/19/24 – Construction continued on the slip mitigation wall. The concrete wall began at the high-water mark on the GAS. Daylight drains are installed every 8-10 feet. Backfilling began on the CIS and the soil was padded with a shaker bucket. -T. Brodbeck

02/20/24 – Construction continued on the slip mitigation wall. Restoration began on the creek. The buffer was topsoiled on the CIS. The stream bank was restored on the GAS and the CIS. - T. Brodbeck

02/21/24- Construction continued on the slip mitigation wall. The GAS and CIS stream banks were restored. Super silt fence was installed at the 10-foot buffer zone. Topsoil was applied to the stream banks. A wetland seed mix was applied, and the areas were stabilized with Curlex. The boulders and substrate are expected to be restored tomorrow. - T. Brodbeck

02/22/24 – Construction continued on the slip mitigation wall. The fallen boulders, rock, and debris were removed from the streambed. Boulders and substrate were restored. The dam and pump were removed, and super silt fence was installed at the 50-foot buffers on the CIS and GAS. - T. Brodbeck

02/23/24 - Crews worked in the upland on the GAS. - T. Brodbeck

02/24/24 - No work in the resource. The slip mitigation wall is approximately 50% constructed. - T. Brodbeck

02/26/24 - No work in resource due to inclement weather. - T. Brodbeck

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02/27/24 - No work in resource. The crew worked in the upland before the inclement weather. - T. Brodbeck

02/28/24 - No work in resource due to inclement weather. - T. Brodbeck

02/29/24 -3/5/2024- No work in resource. No work was conducted on the slip mitigation wall as a crew was working in an upland area above the wall. - T. Brodbeck

03/06/24 - No work in resource due to inclement weather. - T. Brodbeck

03/07/24 – Construction continued on the slip mitigation wall. The crews were working outside of the 50-foot buffer. The slip mitigation wall begins at the high-water mark and will continue 100-feet with drains every 8-10 feet on the GAS. - T. Brodbeck

03/08/24 – Construction continued on the slip mitigation wall, and daylight drains were installed. - T. Brodbeck.

03/09/24 - No work due to inclement weather. - T. Brodbeck

03/10/24 – Construction continued on the slip mitigation wall and the wall is approximately 65% complete. - T. Brodbeck

03/11/24 - Construction continued on the slip mitigation wall and the wall is approximately 75% complete. -T. Brodbeck

03/12/24 – 03/14/24- Construction continued on the slip mitigation wall. - T. Brodbeck

03/15/24- The slip mitigation wall is completed. The wall begins at the stream’s high-water mark and ends approximately 100-feet with drains installed every 8-10 feet per the slip mitigation plans. Construction continues in the steep upland area on GAS. Super silt fence was installed on the 10- and 50-foot buffer. Monitoring will continue while the crew continues to work in the steep upland area and while the timber mat bridge is in place. -T. Brodbeck.

03/16/24 – The post-construction assessment was completed. The timber mat bridge remains in place. Monitoring will continue while construction continues in the steep upland area on the GAS. -T. Brodbeck

Item #8: Resource buffer zone modifications due to wall installation. Potential for 50-foot buffer zone vegetation re-establishment is reduced from preconstruction conditions.

Impacts to biological conditions (riparian buffer vegetation) were observed. No unauthorized discharges were observed during the crossing activities.

In accordance with the Mountain Valley Pipeline Consent Decree, Case No. CL18006874-00, (Issued October 11, 2019) 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.

<i>This report was written by</i>	Troy Brodbeck <hr style="width: 80%; margin: 0 auto;"/> <i>Print Name</i>	 <hr style="width: 80%; margin: 0 auto;"/> <i>Signature</i>	03/18/2024 <hr style="width: 80%; margin: 0 auto;"/> <i>Date</i>
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Required Photos

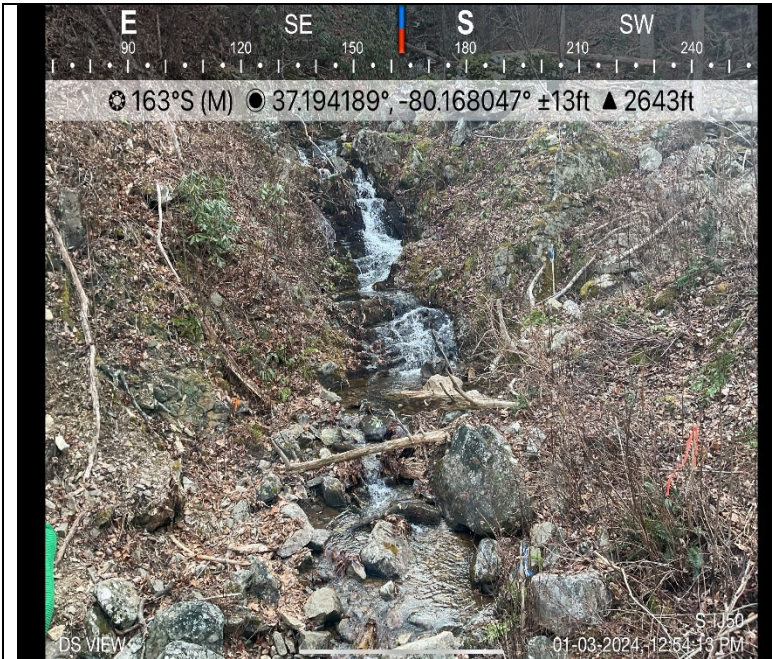


Photo Description: Upstream view of permitted impact area during pre-construction assessment.



Photo Description: Conditions of the downstream area outside the ROW during pre-construction assessment.



Photo Description: Upstream view of permitted impact area during post-construction assessment.



Photo Description: Conditions of the downstream area outside the ROW during post-construction assessment.

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Optional Additional Photos



Photo Description: The fish survey and relocation was conducted.



Photo Description: Super silt fence was installed around the workspace and maintained as needed throughout the crossing duration.



Photo Description: The trench breakers were constructed around the pipe on both the CIS and GAS of the resource.



Photo Description: The slip mitigation wall during construction. Wall construction began outside the OHWM of resource.