Wetland Biological Conditions EA Report

Project Name	H-600 Pipeline Spread C	**AFE**	124300131	**Spread**	H-600 Pipeline Spread C
Contractor	Precision			**Report #**	85
Environmental Auditor	Jeffrey Arbogast			**Date/Time**	10/13/2023 12:34 PM

Wetland ID	W-H67	**Crossing Start Date**	10/12/2023	**Crossing Completion Date**	10/19/2023
Milepost	93.17	**Pre-Con Assessment Date**	9/11/2023	**Post-Con Assessment Date**	10/20/2023
Station	4919+60	**Cowardin Classification**	PFO	**Wetland Impact Area(acres)**	0.0908
State	WV				
County	Webster				

	Resource Post-Crossing Conditions	
1	Were equipment mats or other suitable methods utilized under heavy equipment to minimize soil compaction and disturbance in wetlands?	Yes
2	Was the existing vegetation removed prior to initiating land disturbance within the resource?	Yes
3	Was the top 1-foot (12-inches) of wetland soil segregated and stockpiled separate from trench spoils?	Yes
4	Was excess material not needed for backfill removed and disposed of in an upland area?	N/A
5	Was the top 12-inches of backfill made with clean native wetland topsoil?	Yes
6	Were standard decompaction practices (disking, plowing, cultivating, tilling, or incorporation of organic matter into the topsoil horizon) implemented prior to applying seed?	Yes
7	Was wetland topsoil replaced and temporarily seeded?	Yes
8	Was permanent seed applied to unsaturated wetlands?	Yes
9	Was equipment/timber matting removed from the wetland area properly by vertically lifting, and not pulling through the impact area?	Yes
10	Were impervious trench breakers/plugs properly installed within 25-feet of the resource to prevent subsurface erosion to or from the resource area?	Yes
11	Was the pre-construction survey data utilized during restoration in attempt to maintain the original surface hydrology, and were contours re-established to pre-construction conditions to maintain overland flow patterns?	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	Was the time of disturbance minimized by conducting resource work continuously to completion?	Yes
14	Does the post-construction square footage of wetland area appear to be restored to meet or exceed the pre-construction area square footage?	Yes
15	Are bareroot saplings required and/or scheduled to be planted for the dormant season (10/1 – 4/30) in PFO classified wetlands?	See Below
16	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
17	**Wetland Saturation:** Are surface waters, the water table, and/or overall soil saturation present? (Select Yes or No)	No	No
18	**Resource Alterations:** Are the wetland soil conditions visibly disturbed? **Examples:** Livestock presence, haul roads, farm traffic, drain tiles, recent mowing/clear cutting, recent excavating/disking of soils, etc. **Rating:** 1-Negligible (undisturbed/natural resource), 2-Minor (20-40% of resource disturbed by alterations), 3-Moderate (40-80% of resource disturbed), 4-Poor (>80% of resource disturbed)	1	4
19	**Is vegetation present within the permitted impact area prior to disturbance? (Pre-Con)Are areas properly seeded and stabilized after restoration? (Post-Con)** **Rating:** 1-Optimal (60-100% heavy vegetative cover), 2-Sub-optimal (30-60% mixed vegetative coverage), 3-Marginal (<30% vegetative coverage), 4-Poor (Mowed/maintained area or farmland, impervious area, sparsely vegetative coverage, etc.)	1	4

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Additional Notes

Conditions 18 and 19 were given a post-construction rating of 4 due to the lack of vegetation in the disturbed permitted impact area following completion of the crossing and restoration efforts. The W-H67 PFO topsoil has been properly stabilized and the disturbed area was seeded with the appropriate permanent seed mix in accordance with Appendix B: Restoration Work Plan of the Mountain Valley Pipeline Comprehensive Stream and Wetland Monitoring, Restoration and Mitigation Framework.

Expanded notes for question 15: Wetland W-H67 is a PFO but is listed as a permanent conversion, so bare root plantings are not required.

The erosion and sediment control plans show that the mainline crosses wetland W-H67 from station 4919+62 to 4920+29, which includes a stream crossing S-H108.

10/12/2023: The ditch was excavated from the loose end to just inside of the wetland boundary on the coming-in side (CIS) at station 4919+69. This small section of the wetland topsoil was removed and segregated within an undisturbed area within the wetland boundary. The subsoil was segregated onto geo-tech fabric in an upland area.

10/13/2023: A section of pipe was lowered in on the CIS of wetland W-H67 and welded, while stream restoration on S-H105 was completed.

10/14/2023: Outside of the trench, the next section of pipe was welded, x-rayed, coated, and rock shields were applied in preparation for lowering in. The topsoil was stripped from the going away side (GAS) of the wetland, from station 4920+03 to 4920+29, and stockpiled on geo-tech fabric in an upland area.

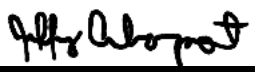
10/16/2023: The last 10’ of wetland topsoil that buffered the GAS high water marks of stream S-H108 was removed before the segregation of the stream substrate. The blasting crew set charges and shot through both the wetland and the stream channel. Ditch excavation was conducted from approximately station 4919+69 to 4920+00.

10/17/2023: Once the ditch line excavation was completed, the tie-in section of pipe was lowered into the trench, and one weld was made and x-rayed.

10/18/2023: The final welds were made and passed x-ray inspection. The two welds were being coated, and rock shields were applied, while trench breaker construction and final backfill began.

10/19/2023: Trench breakers were completed at a distance of 6’ from the CIS and 10’ from the GAS of the wetland boundary. The trench was backfilled with native wetland subsoil before the wetland topsoil was replaced; all elevations and contours were confirmed by survey. Erosion and sediment control devices such as jute matting and silt fence were installed and the approved wetland seed mix was applied.

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
Jeffrey Arbogast		SWCA	10/20/2023

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Required Photos

GPS Location	See Caption in Photo
Description	View of permitted resource impact area during pre-construction assessment. Photo taken from the CIS

GPS Location	See Caption in Photo
Description	At edge of LOD, view of unimpacted resource area conditions during pre-construction assessment. Photo taken from the LOD on the left side of ROW.

GPS Location	See Caption in Photo
Description	View of permitted resource impact area during post-construction assessment. Photo taken from the CIS.

GPS Location	See Caption in Photo
Description	At edge of LOD, view of unimpacted resource area conditions during post-construction assessment. Photo taken from the LOD on the left side of ROW.

GPS Location	See Caption in Photo
Description	Topsoiling the wetland down to the 10-foot stream buffer on the CIS.

GPS Location	See Caption in Photo
Description	Lowering in the first pipe section on the CIS of the wetland.

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Optional Photos

GPS Location	See Caption in Photo
Description	Blasting crew preparing to shoot the ditch line.

GPS Location	See Caption in Photo
Description	Using a hammer to remove rock from the bottom of the ditch that the explosives did not reach.

GPS Location	See Caption in Photo
Description	Wetland subsoil being segregated and stored at an upland location.

GPS Location	See Caption in Photo
Description	Bentonite breaker just outside of the CIS boundary of the wetland.

GPS Location	See Caption in Photo
Description	Wetland topsoil being replaced.

GPS Location	See Caption in Photo
Description	View of wetland from the GAS, post construction.