Wetland Biological Conditions EA Report

Project Name	H-600 Pipeline Spread C	**AFE**	124300131	**Spread**	H-600 Pipeline Spread C
Contractor	Precision			**Report #**	48
Environmental Auditor	Jeffrey Arbogast			**Date/Time**	9/11/2023 3:35 PM

Wetland ID	W-H64-PSS	**Crossing Start Date**	9/11/2023	**Crossing Completion Date**	9/22/2023
Milepost	93.31	**Pre-Con Assessment Date**	9/11/2023	**Post-Con Assessment Date**	9/22/2023
Station	4926+65	**Cowardin Classification**	PSS	**Wetland Impact Area(acres)**	0.0422
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?	See Below
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?	N/A
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)	Yes	Yes
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

Expanded explanation for question 7: Wetland topsoil was replaced but permanent seed was applied since soil was not saturated.

A ditch dewatering system was constructed prior to the commencement of construction activities. Pumping was started after the wetland topsoil was removed and will continue as needed until crossing is completed.

9/11/2023: Pre-Construction meeting was conducted at 9 a.m. The crew immediately started removing wetland topsoil and segregating it from all other soils (Ref. MVP Restoration and Rehabilitation Plan Sec. 3.1) before the blasting crew began drilling in preparation for the ditch line to be shot tomorrow. Welding up of pipe sections continued all day. The John Henry rock drill broke down so blasting prep halted outside of the wetland on the going away side (GAS).

9/12/2023: The John Henry remained broken down. The blasting crew shot the section of ditch that was ready on the GAS of the wetlands. Afterward crews began digging the ditch line until weather forced a shutdown of production.

9/13/2023: The blasting crew started drilling but another equipment failure forced them to stop shortly after entering into the W-H64-PSS wetland boundary. A decision was made to shoot the area blasting had finished thus far then try to dig the remaining ditch line without blasting. Subsoil was removed from the adjoining wetland (W-H64-PEM2) and segregated on geo fabric in an upland area. Ditch excavation continued but was slow due to rock. Welders continued making up pipe sections.

9/14/2023: Crews started cleaning up the ditch line that was open outside of the wetland boundary. The pipe arrived for the section between the wetland and the loose end. Two welds were completed and passed X-ray testing. Environmental crews touched up ECDs in the area.

9/15/2023: The crew completed coating, jeep testing and rock coating a section of pipe that was lowered in at the loose end on the GAS of the wetland. A weld was started on the lowered in section late in the day but did not get completed, although two other welds were finished on another three joint sections.

9/16/2023: The leftover weld was completed. The crews built two trench boxes to reinforce ditch walls within wetland areas as needed. The contractor began hammering rock in the bottom of the open ditch within wetland W-H64-PEM2.

9/18/2023: Approximately 2” of rain fell the previous day (Sunday). The coating crew came in and spray coated several joints of pipe. Welders started making up the next pipe section. Operators began padding the pipe that is in the ditch on the GAS of the wetlands. Preparations were made for the blasting crew to arrive tomorrow.

9/19/2023: The crew continued hammering rock in the bottom of the wetland complex. The last of the wetland subsoil was removed and segregated into an upland location. The blasting crew came in and shot another segment of ditch. The crew began cleaning out the blasted material to make room for the next section of pipe. Padding of the section of pipe that is already in the ditch continued.

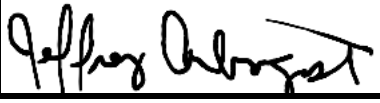
9/20/2023: The crew lowered in the pipe section through the wetlands and welded it into place. X-ray checked two completed welds, then they were coated, and rock shielding was installed. Clay trench plugs were built at 4 ft from the coming in side (CIS) and 7 ft from the GAS of the wetland complex boundary (As per survey crew on site).

9/21/2023: Operators backfilled ditch all day. The wetland subsoil was replaced and brought back to the previous elevation and prepped for topsoil to be replaced in the morning.

9/22/2023: Grade stakes were set by survey as a guide for the operator to follow when replacing the wetland topsoil. Afterward survey confirmed that the wetland contour was accurate then wetland seed mix was applied (Ref. MVP Restoration and Rehabilitation Plan Sec. 2.1), and silt fence was reinstalled on the wetland boundary.

Conditions 18 and 19 were given a rating of 4 due to the lack of vegetation in the disturbed permitted impact area following completion of the crossing and restoration efforts. Wetland W-H64-PSS topsoil has been properly stabilized and the disturbed area has been 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.

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	9/22/2023

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Required Photos

GPS Location	See caption in photo
Description	View of permitted resource impact area during pre-construction assessment. View from GAS of center line looking up LOD pre-construction.

GPS Location	See caption in photo
Description	At edge of LOD, view of unimpacted resource area conditions during pre-construction assessment. View of left LOD edge at unimpacted resource pre-construction.

GPS Location	See caption in photo
Description	View of permitted resource impact area during post-construction assessment. View from GAS of center line looking up LOD post-construction.

GPS Location	See caption in photo
Description	At edge of LOD, view of unimpacted resource area conditions during post-construction assessment. View of left LOD edge at unimpacted resource post-construction.

GPS Location	See caption in photo
Description	Top 12” of wetland topsoil being removed and segregated

GPS Location	See caption in photo
Description	Blasting crew drilling rock in wetland so explosives can be set.

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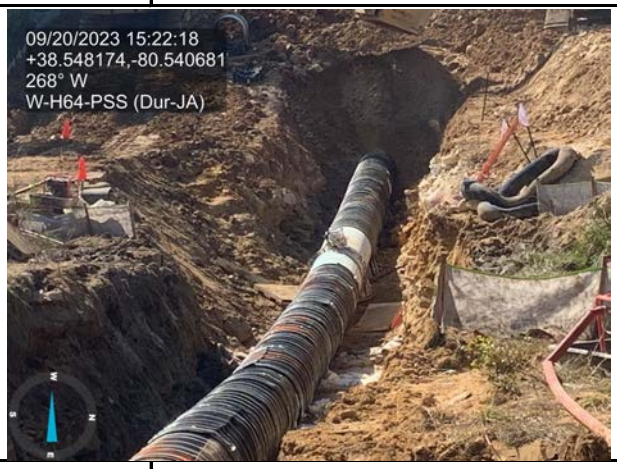
Optional Photos

GPS Location	See caption in photo
Description	Crews hammering rock with the wetland ditch.

GPS Location	See caption in photo
Description	Rock removed, ditch prepped for pipe.



GPS Location	See caption in photo
Description	Pipe section after being lowered into wetland ditch.

GPS Location	See caption in photo
Description	Bentonite trench breakers placed in ditch just outside of the wetland boundary.

GPS Location	See caption in photo
Description	Padding bucket used to backfill. River weights were placed on pipe within wetland for stability.

GPS Location	See caption in photo
Description	Operator replacing wetland topsoil.