Stream Biological Conditions EA Report

Project Name	H-600 Pipeline Spread F	**AFE**	124300135	**Spread**	H-600 Pipeline Spread F
Contractor	Price Gregory			**Report #**	477
Environmental Auditor	Charles Haden			**Date/Time**	1/2/2024 11:49 AM

Stream ID	S-E41	**Crossing Start Date**	1/3/2024	**Crossing Completion Date**	1/15/2024
Milepost	192.20	**Pre-Con Assessment Date**	1/2/2024	**Post-Con Assessment Date**	1/15/2024
Station	10148+27	**Bankfull Width (ft.)**	6.6	**Riffle:Pool Complexes Present?**	No
State	WV	**Stream Classification**	Intermittent		
County	Monroe	**303(d) Impairment Listing**	No		

	Resource Post-Crossing Conditions	
1	Were all applicable resource specific crossing conditions satisfied?	N/A
	Time of Year Restrictions (TOYR)? N/A Mussel Relocation? 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 X Flume Cofferdam Conventional Bore Horizontal Directional Drill (HDD) Bore	
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?	Yes
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?	See Below
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	**Predominant Substrate Type (select one):** Bedrock, Boulder (>10"), Cobble (2-10"), Gravel (0.1-2"), Sand (<0.1"), Mud/Silt/Clay	Mud/Silt/Clay	Mud/Silt/Clay
16	**Channel Conditions:Rating:** 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	2	2
17	**Riparian Buffer Zone within ROW and ≤50 ft. from Stream Top-of-Bank: Rating:** 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.)	4	4

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	Biological Conditions Continued	Pre-Con	Post-Con
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, 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)	4	4
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)	4	4

Additional Notes

Pre-Construction Notes
Pre-Construction Assessment - 1/2/2024
15. Predominant substrate is mud/sand/loam.
16. Banks are stable within the LOD.
17. Riparian zone on both sides of resource is mowed/maintained agricultural field.
18. Habitat conditions poor throughout reach. No flow.
19. Aquatic resource appears to be man-made and built to drain a wet area in adjacent agricultural field.
The confluence with S-E40 occurs on the ROW near the pipeline centerline.

1/3/2024 - No Flow. Top 12" of substrate excavated (Photo 1) and stored in an upland area on coming-in side (northern). Checked stream substrate and riparian topsoil piles were segregated and stored properly. Drilled and prepped for blasting through aquatic resource and adjacent riparian buffers (Photo 2).
1/4/2024 - Drilled for blasting. Placed dynamite. Drilled again and placed dynamite again. Placed blasting mats. Stopped pumps. Blasted. Removed mats and restarted pumps.
1/5/2024 - Frosty conditions. Frozen standing water in the aquatic resource area and aquatic resource still has no flow. Excavated trench through aquatic resource (Photo 3). Sandbags added to trench for padding. Pipe lowered into aquatic resource (Photo 4). Made cut. Aligned pipe and began weld.
1/6/2024 - Rain out. - Checked and photographed aquatic resources.
1/7/2024 - Flooding overnight. Trench full of water. Actively pumping water from trench. Repaired ECDs and other structures. Added pumps. Welded outside aquatic resource area. X-rayed.
1/8/2024 - Continued site cleanup from flooding event. Lined up pipe for welding, made cut, and started weld. X-rayed. Prepped site for second storm event.
1/9/2024 - Rain out.
1/10/2024 - Site flooded during storm. Pumped water from ditch. General clean-up. No work in aquatic resource or in trench outside of aquatic resource area.
1/11/2024 - Water actively being pumped from trench. River weights removed. Sandblasted, jeeped, recoated, and added rock guard. Survey onsite.
1/12/2024 - Water actively being pumped from trench. Rain/Hail. Survey onsite checking elevations. River weights added to trench. Site prepped for storm.
1/13/2024 - Constructed trench breakers (Photo 5). Backfilled trench with padding dirt. Backfilled trench in aquatic resource area with subsoil (Photo 6).
1/14/2024 - Finished backfilling trench in aquatic resource area. Contoured subsoils. Added topsoil to buffers (Photo 7). Survey onsite, shot elevations. Added substrate (Photo 8). Removed US dam. Seeded*. Added curlex to a portion of the buffer area.
1/15/2024 - Completed adding curlex to 10-foot buffer and removed sandbags from banks of channel.

Post Construction Notes
*10. Permanent seed was applied after flow was established to the impact area of the channel. This was done out of sequence due to poor weather conditions and concerns with forecasted weather.
16., 17. Crossing and riparian areas have been recently restored. These areas will be monitored until 80% vegetative cover has been achieved and areas that do not have 80% vegetative cover within 30 days will be reseeded.
18. Low habitat score due to lack of instream diversity and flow.
19. Does not include timber mats that remain in place for travel lane.

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
Charles Haden	Charles Haden	POTESTA	1/15/2024

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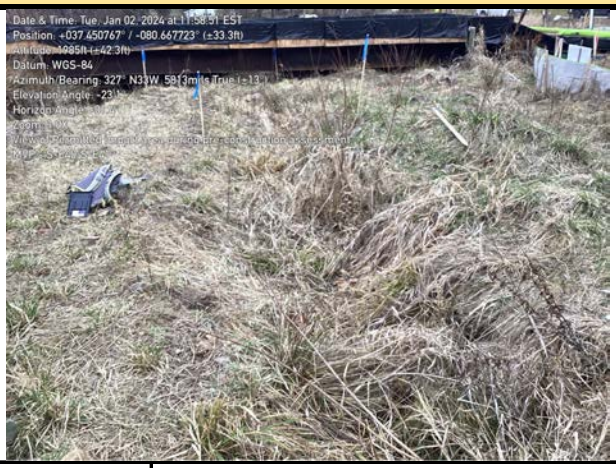
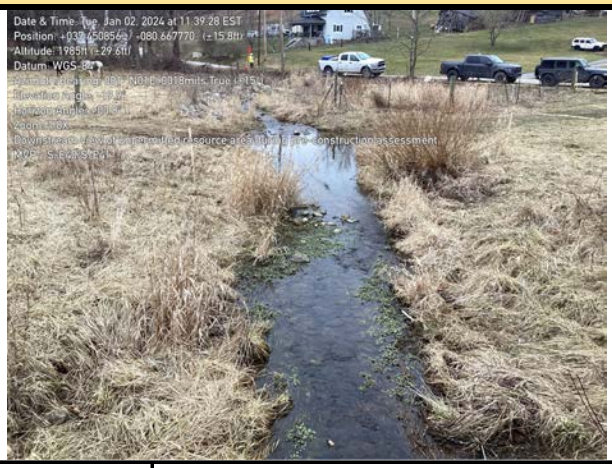
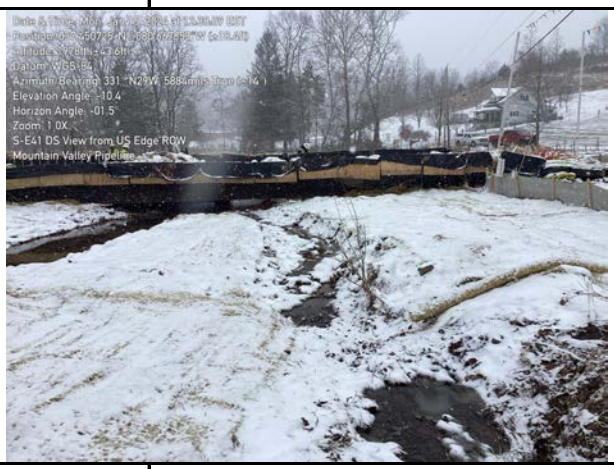
Required Photos



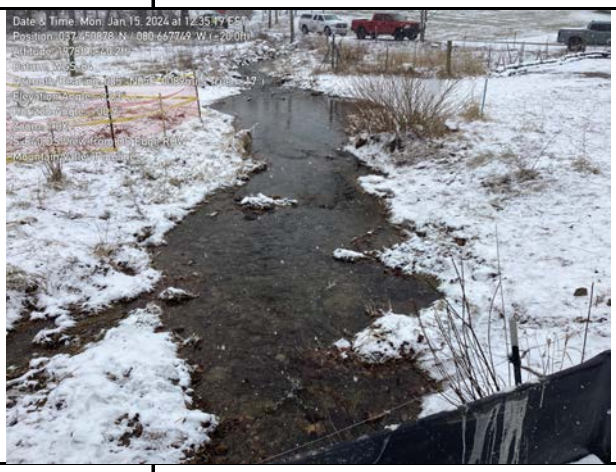
GPS Location	See Photo
Description	Downstream view of permitted impact area during pre-construction assessment.



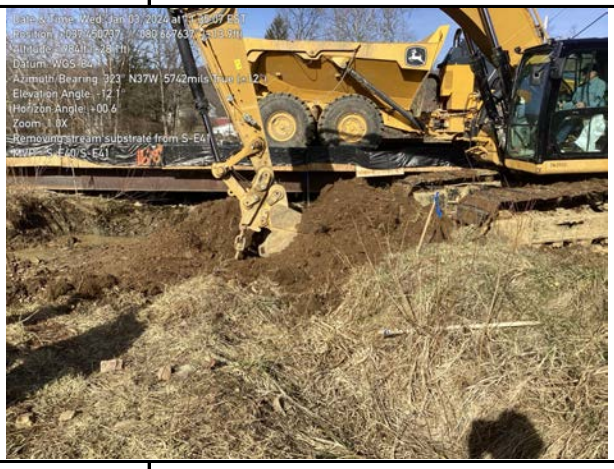
GPS Location	See Photo
Description	Downstream view of unimpacted area during pre-construction assessment.



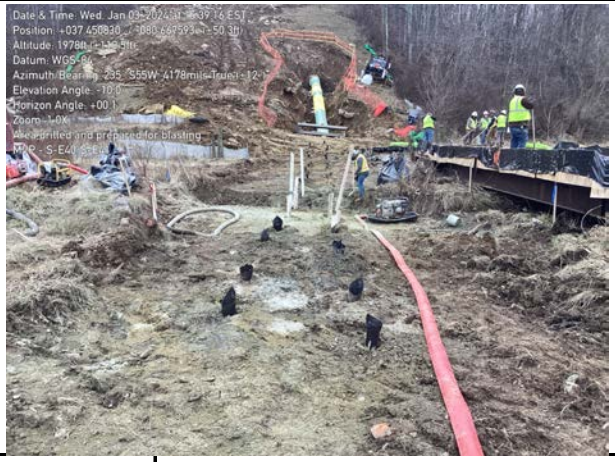
GPS Location	See Photo
Description	Downstream view of permitted impact area during post-construction assessment.



GPS Location	See Photo
Description	Downstream view of unimpacted area during post-construction assessment.



GPS Location	See Photo
Description	Photo 1: Top 12 inches of topsoil removed from aquatic resource.



GPS Location	See Photo
Description	Photo 2: Preparing for blasting

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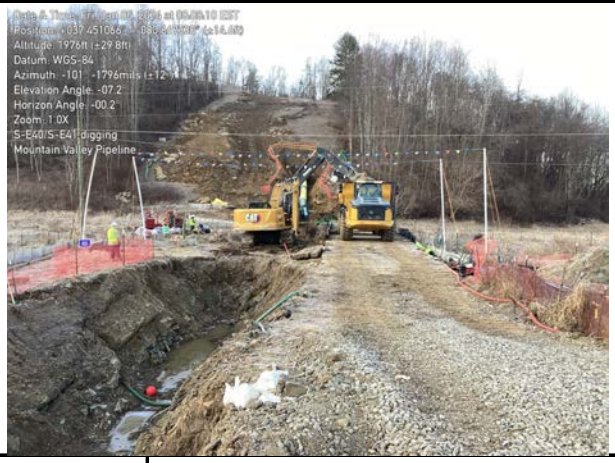
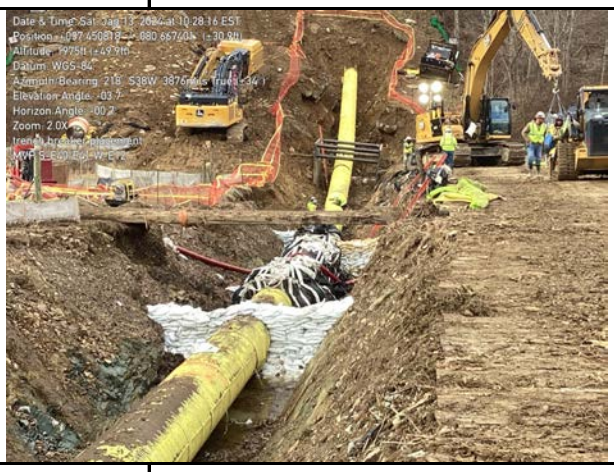
Optional Photos



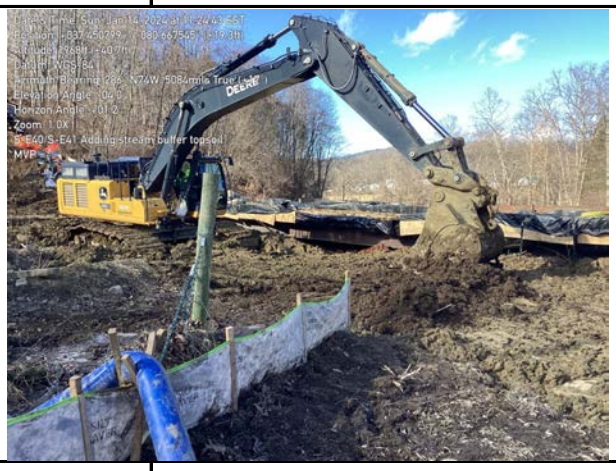
GPS Location	See Photo
Description	Photo 3: Excavating trench through aquatic resource area.

GPS Location	See Photo
Description	Photo 4: Lowering pipe into trench through aquatic resource.

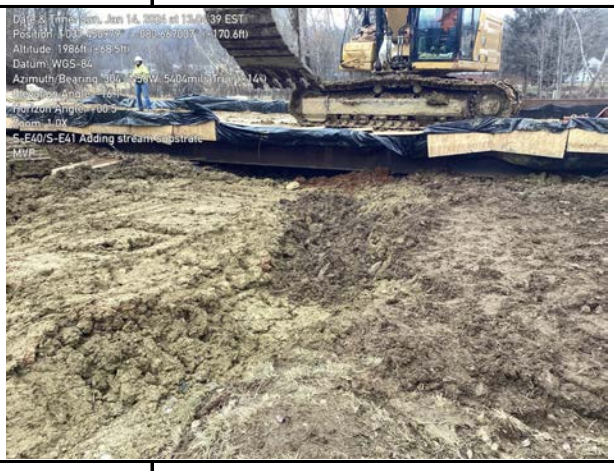


GPS Location	See Photo
Description	Photo 5: Trench breakers being constructed. River weights in place.

GPS Location	See Photo
Description	Photo 6: Adding subsoil to trench.



GPS Location	See Photo
Description	Photo 7: Adding topsoil to aquatic resource area.



GPS Location	See Photo
Description	Photo 8: Substrate restored.