



Stream Biological Conditions EA Report

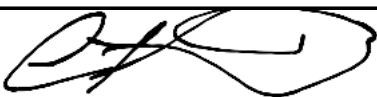
Project Name	H-600 Pipeline Spread E	AFE	124300134	Spread	H-600 Pipeline Spread E
Contractor	Price Gregory	Report #	214		
Environmental Auditor	Allyson Kincaid	Date/Time	9/5/2023 1:27 PM		
Stream ID	S-I21 (2)	Crossing Start Date	9/6/2023	Crossing Completion Date	9/23/2023
Milepost	149.92	Pre-Con Assessment Date	9/5/2023	Post-Con Assessment Date	9/23/2023
Station	7915+78	Bankfull Width (ft.)	9.3	Riffle:Pool Complexes Present?	No
State	WV	Stream Classification	Perennial		
County	Greenbrier	303(d) Impairment Listing	None		

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?	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?	See Below
8	Were any field modifications to the stream implemented by project or regulatory personnel to address potential drainage or bank restoration limitations?	Yes
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?	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)?	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	Cobble (2-10")	Cobble (2-10")
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	3
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.)	1	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)			2	3	
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	3	
Additional Notes						
<p>Pre-Construction Notes *Bankfull Width measured at OHWM stakes within proposed trench area. Pre-Construction Meetings - 9/5/2023 @ 1000 Pre-Construction Assessment Completed (9/5/2023) Flow was present in S-I21(2); Travel lane was not included in assessment.</p> <p>Day 1 (9/6/2023) Stream substrate removed (Photo 1) and segregated in an upland area (Photo 2). Dams and pumps put in place.</p> <p>Days 2 and 3 (9/7/2023 and 9/8/2023) Drilling and blasting occurred in and around the aquatic resources. Blasting mats were utilized. Heavy rain occurred in late afternoon/early evening on 9/7/2023.</p> <p>Day 4 (9/9/2023) Trench area lined in preparation for excavating aquatic resources. Pipe brought down to resource to confirm proper alignment before trenching of aquatic resource area begins (Photo 3). Rain event late afternoon.</p> <p>Days 5-10 (9/11/2023-9/16/2023) Pipe was moved to upland area (9/11/2023). Other work that occurred in and around aquatic resources included drilling, hammering, excavation of trench and pumping from trench (Photo 4). Welding occurred outside of aquatic resources as well as x-ray, sand blasting, and coating. Rain event on 9/16/2023.</p> <p>Day 11 and Day 12 (9/18/2023 and 9/19/2023) Pipe lowered into trench. Additional work to adjust for pipes alignment (Photo 5).</p> <p>Day 13 and Day 14 (9/20/2023 and 9/21/2023) Welding, x-ray, sand blasting and coating occurred outside of aquatic resource area. Trench breakers installed on both sides of aquatic resources (Photo 6). Began filling trench with padding dirt.</p> <p>Day 15 (9/22/2023) Padding dirt was sifted into the trench and aquatic resource areas were backfilled.</p> <p>Day 16 (9/23/2023) Placement of segregated substrate and topsoil placed back into stream. Survey confirmed contours and OHWM (Photo 7). Dam was removed and flow was restored. Seeding of banks and riparian corridor on both RDB and LDB (Photo 8). Post Construction Assessment Completed.</p> <p>Post Construction Notes 16., 17. Crossing and riparian areas have been recently restored. These areas will be monitored until 80% vegetative coverage has been achieved and areas that do not have 80% vegetative cover within 30 days will be reseeded. 19. Does not include timber mats that remain in place for travel lane.</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.						
Name		Signature		Company		
Allyson Kincaid				Potesta		
				Date		
				9/23/2023		

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Required Photos

 <p><small>Date & Time: Wed, Sep 06, 2023 at 09:44:57 EDT Position: +037.918263 / -080.736736 (E=18.7ft) Altitude: 2560ft (E=36.1ft) Datum: WGS-84 Azimuth/Bearing: 258.578W 4587mils True (E=12) Elevation Angle: -20.4 Zoom: 1.0X S-12112-DS-EDGE-DS VIEW Mountain Valley Pipeline</small></p>		 <p><small>Date & Time: Wed, Sep 06, 2023 at 09:48:57 EDT Position: +037.918176 / -080.736957 (E=18.7ft) Altitude: 2560ft (E=36.1ft) Datum: WGS-84 Azimuth/Bearing: 271.189W 4616mils True (E=12) Elevation Angle: -32.2 Zoom: 1.0X S-12112-DS-EDGE-DS VIEW Mountain Valley Pipeline</small></p>	
GPS Location	See photo	GPS Location	See photo
Description	Downstream view of permitted impact area during pre-construction assessment.	Description	Downstream view of unimpacted area during pre-construction assessment.
 <p><small>Date & Time: Sat, Sep 23, 2023 at 17:58:40 EDT Position: +037.917216 / -080.736871 (E=39.4ft) Altitude: 2560ft (E=36.1ft) Datum: WGS-84 Azimuth/Bearing: 270.581W 4640mils True (E=12) Elevation Angle: -11.6 Zoom: 1.0X S-12112-DS-EDGE-DS VIEW POST-CONSTRUCTION Mountain Valley Pipeline</small></p>		 <p><small>Date & Time: Sat, Sep 23, 2023 at 18:00:25 EDT Position: +037.918093 / -080.736950 (E=39.7ft) Altitude: 2566ft (E=36.7ft) Datum: WGS-84 Azimuth/Bearing: 270.590W 4680mils True (E=12) Elevation Angle: -11.6 Zoom: 1.0X S-12112-DS-EDGE-DS VIEW POST-CONSTRUCTION Mountain Valley Pipeline</small></p>	
GPS Location	See photo	GPS Location	See photo
Description	Downstream view of permitted impact area during post-construction assessment.	Description	Downstream view of unimpacted area during post-construction assessment.
 <p><small>Date & Time: Wed, Sep 06, 2023 at 13:36:33 EDT Position: +037.918269 / -080.737023 (E=43.77ft) Altitude: 2672ft (E=194.3ft) Datum: WGS-84 Azimuth/Bearing: 123.557E 2187mils True (E=12) Elevation Angle: -05.2 Zoom: 1.0X S-12112-DS-EDGE-DS VIEW Mountain Valley Pipeline</small></p>		 <p><small>Date & Time: Wed, Sep 06, 2023 at 15:01:34 EDT Position: +037.917396 / -080.736883 (E=66.0ft) Altitude: 2619ft (E=140.1ft) Datum: WGS-84 Azimuth/Bearing: 254.574W 4516mils True (E=12) Elevation Angle: -19.2 Zoom: 1.0X S-12112-DS-EDGE-DS VIEW Mountain Valley Pipeline</small></p>	
GPS Location	See photo	GPS Location	See photo
Description	Photo 1: Stream substrate being removed from aquatic resource.	Description	Photo 2: Stream substrate segregated in an upland area.

Optional Photos

 <p><small>Date & Time: Sat, Sep 09, 2023 at 10:32:38 EDT Position: +037.92562 / -080.75707 (-24158.4ft) Altitude: 2565ft (+815.9m) Datum: WGS-84 Azimuth/Bearing: 323 N33W 57.2mils True (+12°) Elevation Angle: -36.7 Horizon Angle: +00.7 Zoom: 1.0X S-121 115-122 bringing pipe down N slope Mountain Valley Pipeline</small></p>	 <p><small>Date & Time: Fri, Sep 15, 2023 at 11:03:03 EDT Position: +037.917920 / -080.734986 (-89.8ft) Altitude: 2570ft (+80.0ft) Datum: WGS-84 Azimuth/Bearing: 023 N33E 0409mils True (+12°) Elevation Angle: -48.8 Horizon Angle: 00.0 Zoom: 1.0X S-121 115-122 Mountain Valley Pipeline</small></p>
GPS Location See photo	GPS Location See photo
Description Photo 3: Pipe being brought down slope to aquatic resource area to verify proper alignment.	Description Photo 4: Drilling in aquatic resource area.
 <p><small>Date & Time: Tue, Sep 19, 2023 at 11:33:48 EDT Position: +037.918107 / -080.737029 (-43.3ft) Altitude: 2565ft (+826.2ft) Datum: WGS-84 Azimuth/Bearing: 176 S04E 3129mils True (+27°) Elevation Angle: -15.8 Horizon Angle: -01.3 Zoom: 1.0X S-121 HAMMERING IN RESOURCE Mountain Valley Pipeline</small></p>	 <p><small>Date & Time: Thu, Sep 21, 2023 at 13:32:55 EDT Position: +037.921366 / -080.735010 (-28529.4ft) Altitude: 2593ft (+1270.0ft) Datum: WGS-84 Azimuth/Bearing: 003 N08E 087mils True (+32°) Elevation Angle: -16.9 Horizon Angle: -10.8 Zoom: 1.0X S-121 121 5-122 trench breaker in place Mountain Valley Pipeline</small></p>
GPS Location See photo	GPS Location See photo
Description Photo 5: Pipe lowered into trench and making adjustment.	Description Photo 6: Trench breakers placed around aquatic resources.
 <p><small>Date & Time: Sat, Sep 23, 2023 at 16:19:35 EDT Position: +037.917547 / -080.737428 (-89.0ft) Altitude: 2639ft (+811.0ft) Datum: WGS-84 Azimuth/Bearing: 350 N08W 8728mils True (+43°) Elevation Angle: 1.8 Horizon Angle: -02.3 Zoom: 1.0X S-121 211 pulling in pipe from topsoil / survey Mountain Valley Pipeline</small></p>	 <p><small>Date & Time: Sat, Sep 23, 2023 at 17:42:42 EDT Position: +037.922719 / -080.734893 (-20629.4ft) Altitude: 2639ft (+811.0ft) Datum: WGS-84 Azimuth/Bearing: 493 S12W 463mils True (+13°) Elevation Angle: -14.3 Horizon Angle: 01.4 Zoom: 1.0X S-121 212 placing curlex for access Mountain Valley Pipeline</small></p>
GPS Location See photo	GPS Location See photo
Description Photo 7: Survey crew verifying contours.	Description Photo 8: Placement of curlex.