



# **Pipeline CSI**

## **Compliance Surveillance Initiative**

*December 18, 2018*

## **TOP-TEN OBSERVABLE NONCOMPLIANCE ISSUES**

Construction of large pipelines across the Appalachian region unavoidably results in noncompliance with runoff control requirements. This is due to failure to properly install and maintain runoff control measures, as well as due to the limitations of available and practicable control measures in steep mountain landscape.

Many types of noncompliance that should result in enforcement action by regulatory agencies are readily observable both onsite and through photographic and/or video evidence. The following Top-Ten List highlights types of noncompliance that are among the most frequent. The purpose of this listing is to guide oversight of pipeline construction by citizen volunteers working with the Allegheny Blue Ridge Alliance (ABRA) Pipeline Compliance Surveillance Initiative (CSI). The Top-Ten List also provides a basis for organizing and reporting incidents of noncompliance in the [CSI Mapping System](#).

It's important to note that regulatory requirements vary among states and agencies. Pipeline construction and operation in West Virginia and Virginia are regulated by the Department of Environmental Protection (DEP) and the Department of Environmental Quality (DEQ) respectively. Each state has a set of regulations and guidelines that can be accessed online.

### **West Virginia**

[Construction Stormwater General Permits](#)

[General Water Pollution Control Permit for Stormwater Associated with Oil and Gas Related Activities](#)

[Erosion and Sediment Control Best Management Practice Manual, Revised 2016](#)

### **Virginia**

[Erosion and Sediment Control Regulations](#)

[Stormwater Management Program \(VSMP\) Regulations](#)

[Virginia Erosion and Sediment Control Handbook \(1992\)](#)

The Top-Ten List takes into account the rules for both states, as well as FERC and the U.S. Forest Service. Additional information on regulatory requirements and project-specific ACP review and approvals is available on the CSI [Environmental Review](#) page.

Note – this document is a work in progress that is likely to change as noncompliance incidents are documented and agency responses are tracked. So please check back regularly.

## **The Top-Ten List**

- 1.** Failure to install, or delayed installation of, erosion and sediment control (ESC) measures.
- 2.** Deviation from approved ESC and construction plans.
- 3.** Missing, failed, damaged, or improperly installed or maintained silt fences, filter socks, or other perimeter control devices.
- 4.** Missing, failed, damaged, or improperly constructed right-of-way diversions (water bars or slope breakers) and outlet structures.
- 5.** Formation of earthen slips or downslope gullies within or at the perimeter of the construction right-of-way.
- 6.** Sediment deposition off-site or outside of the permitted limits of disturbance.
- 7.** Sediment discharge into streams and wetlands.
- 8.** Failure to stabilize construction areas, bare ground, and stockpiles of spoil or topsoil after active disturbance.
- 9.** Failure to construct and properly maintain construction entrances at public roads.
- 10.** Failure to contain petrochemicals.

The following pages provide additional information and example photos obtained of Atlantic Coast Pipeline (ACP), Mountain Valley Pipeline (MVP), and other pipeline construction in the region.

*Photo sources: Mountain Valley Watch, WV Rivers Coalition, Pipeline Air Force, U.S. Forest Service, and WV Department of Environmental Protection.*

# 1. Failure to install, or delayed installation of, erosion and sediment control (ESC) measures.

- *Installation of ESC measures must occur as the first step during construction activity.*

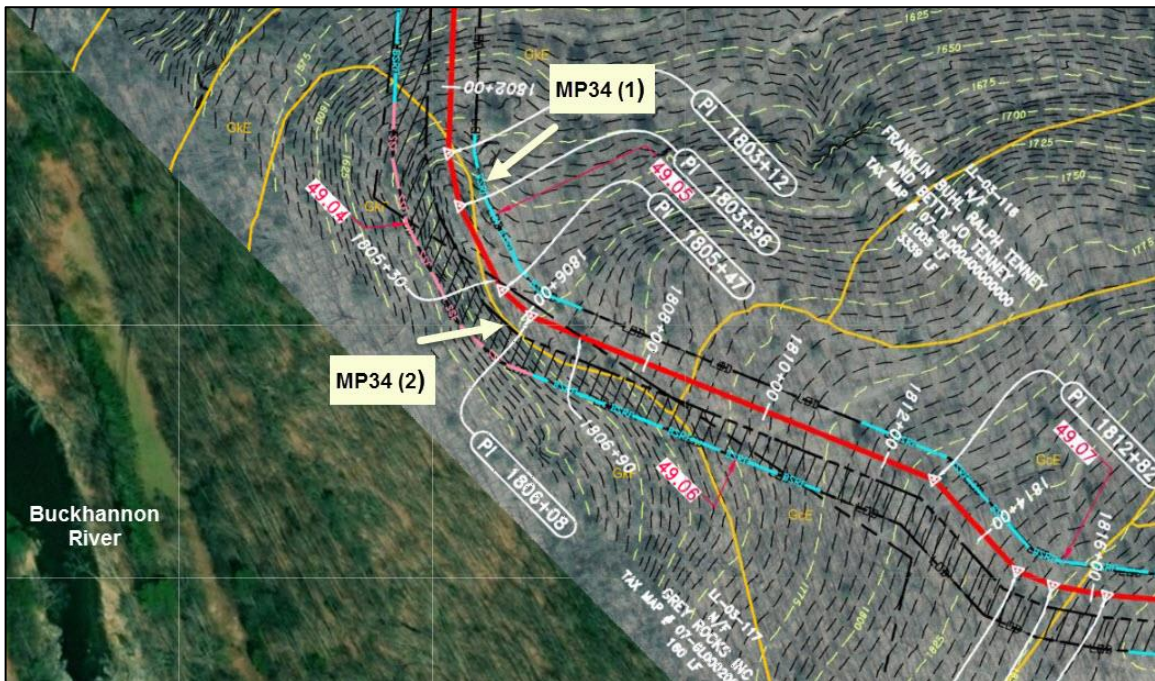


Early-stage construction activity at location indicated as MP34 (1) on Construction Alignment Sheet below. Tree removal has been completed and rough grading and excavation are underway. The perimeter controls, the Belted Silt Retention Fence and Super Silt Fence shown on the Construction Alignment Sheet, have not been installed. (ACP, Upshur County, WV, 6/8/18)





Early-stage construction activity at location indicated as MP34 (2) on Construction Alignment Sheet below. Tree removal has been completed and rough grading and excavation are underway. The perimeter controls, the Belted Silt Retention Fence and Super Silt Fence shown on the Construction Alignment Sheet, have not been installed. (ACP, Upshur County, WV, 6/8/18)



Approved ACP Construction Alignment Sheet indicating required perimeter controls for locations shown in photos above.





Tree clearing, steep-slope equipment use, and initial grading underway in Seneca State Forest. Perimeter controls indicated in approved plans are missing. (ACP, Pocahontas County, WV, 7/15/18)

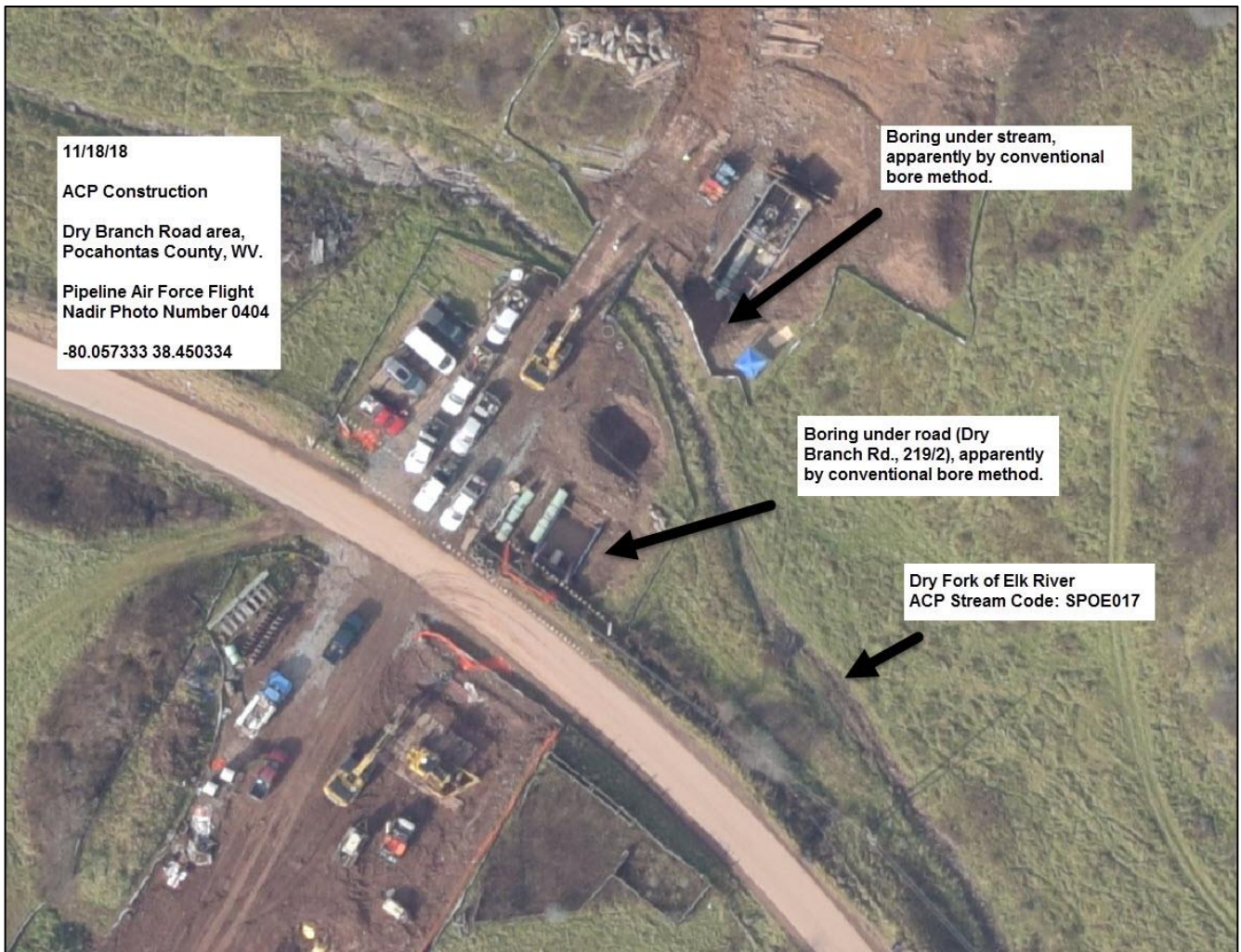


## 2. Deviation from approved ESC and construction plans.

- *Erosion and sediment control (ESC) and construction practices must conform to submitted and approved plans and design sheets.*



The downslope diversion ditch along the right side of the construction corridor does not conform to approved Construction Alignment Sheet. (ACP, Doddridge County, WV, 9/5/18)



Nonconforming stream crossing. The approved construction plans indicate that the Dry Fork of Elk River will be crossed by the dam and pump or flume method instead of the conventional bore method. (ACP, Pocahontas County, WV, 11/18/18)



### 3. Failed, damaged, missing, improperly installed, or poorly maintained silt fences, filter socks, or other perimeter control devices.

- *Muddy water can flow under, over the top of, or bypass improperly maintained silt fences and filter socks.*
- *Practices during construction must comply with ESC regulations, as well as requirements indicated in agency ESC guidance and handbooks.*
- *Control measures can fail when runoff exceeds performance capability.*



Sediment laden water overtopping an improperly installed or poorly maintained filter sock. (MVP, Franklin County, VA, 9/9/18)





Failed perimeter controls. (ACP, Randolph County, WV, 7/30/18)



Failed perimeter controls. (MVP, Franklin County, VA, 9/23/18)



#### 4. Missing, failed, damaged, or improperly constructed or spaced right-of-way diversions (water interceptor diversions, water bars, slope breakers, and outlet structures).

- *Right-of-way diversions are required to prevent the concentration of downslope runoff by conveying runoff to undisturbed vegetated areas to the side of the construction corridor.*
- *The spacing of right-of-way diversions is determined by slope, with closer spacing required on steeper slopes.*
- *West Virginia, Virginia, and FERC apply different spacing and design criteria.*
- *Damage to right-of-way diversions by equipment traffic must be repaired by the end of each day.*
- *Outlet structures (check dams, silt fences, or filter socks) are required to prevent sediment transport off the construction corridor and to convert (spread) concentrated runoff to sheet flow.*
- *Failures of right-of-way diversions and outlet structures result in concentrated flow and erosion of gullies and sediment transport either on or adjacent to the construction corridor.*



Failed outlet structure at end of right-of-way diversion. (ACP, Upshur County, WV, 6/28/18)





Steep slope construction without properly spaced right-of-way diversions. (ACP, Pocahontas County, WV, 11/18/18)



Failed permanent right-of-way diversions on steep slope corridor section. (ACP, Randolph County, WV, 11/18/18)





Steep slope construction without right-of-way diversions. (Stonewall Gathering Pipeline, Doddridge County, WV, 6/22/15)



## 5. Formation of earthen slips and downslope gullies within or at the perimeter of the construction right-of-way.

- *Failed or missing runoff control structures result in concentrated flow and erosion of gullies and sediment transport either on or adjacent to the construction corridor.*
- *Pipeline construction on extreme slopes presents a high risk of earthen slips or landslides both during and post construction.*
- *With few exceptions, site-specific plans for slope stabilization have not been provided for ACP construction.*



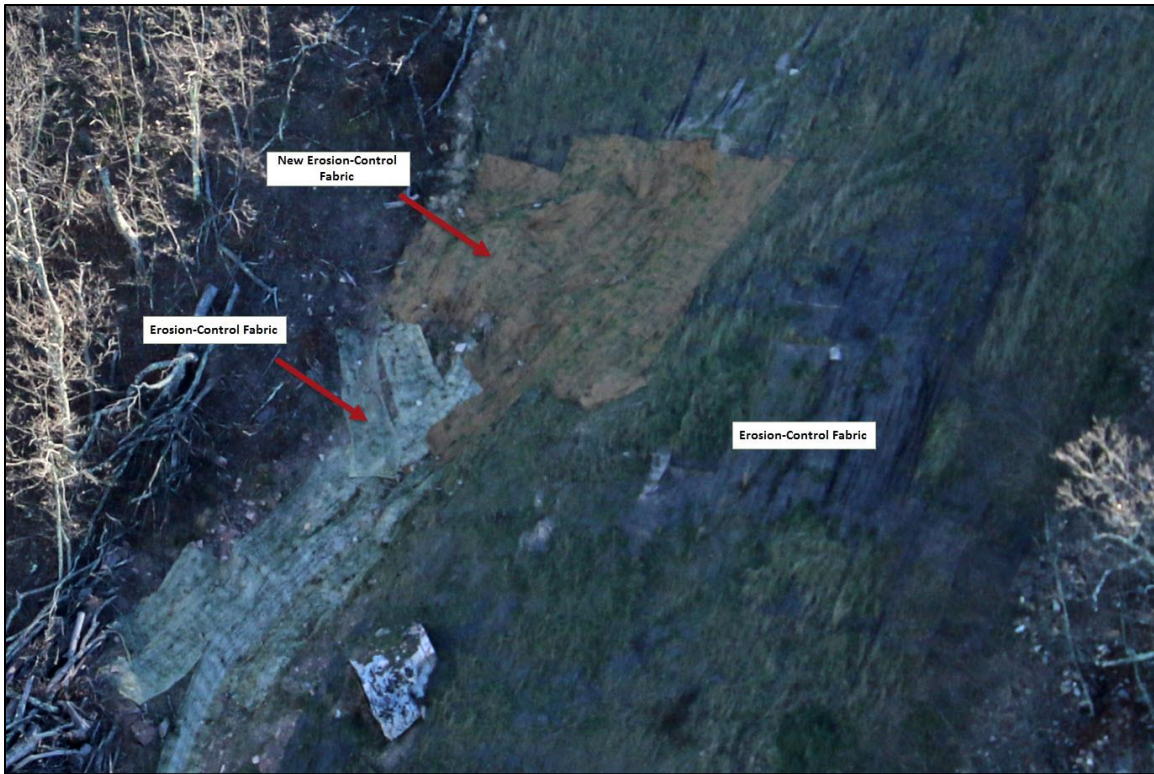
Downslope gully formation due to improperly installed runoff diversions. (MVP, 2018)





Gully formation due to failure of runoff diversions, partially patched with erosion control fabric.  
(Columbia Gas Celanese Pipeline, Giles County, VA, 10/8/15)





Failed slope stabilization, involving multiple layers of erosion-control fabric. (Columbia Gas Celanese Pipeline, Giles County, VA, 10/8/15)



Failed slope stabilization with sediment deposits in stream. (Dominion G-150 Pipeline, Marshall County, WV, 5/15/2013)





Slope failure following final grading. (Stonewall Gathering Pipeline, Doddridge County, WV, 6/22/15)



Gully formation across fill slopes. (Stonewall Gathering Pipeline, Doddridge County, WV, 6/22/15)



## 6. Sediment deposition off-site or outside of the permitted limits of disturbance.

- *Missing, improperly designed, or poorly maintained runoff diversions and perimeter controls result in sediment transport off the construction corridor.*
- *Off-site sediment deposition may be unavoidable in steep slope areas due to the performance limits of practicable control measures.*

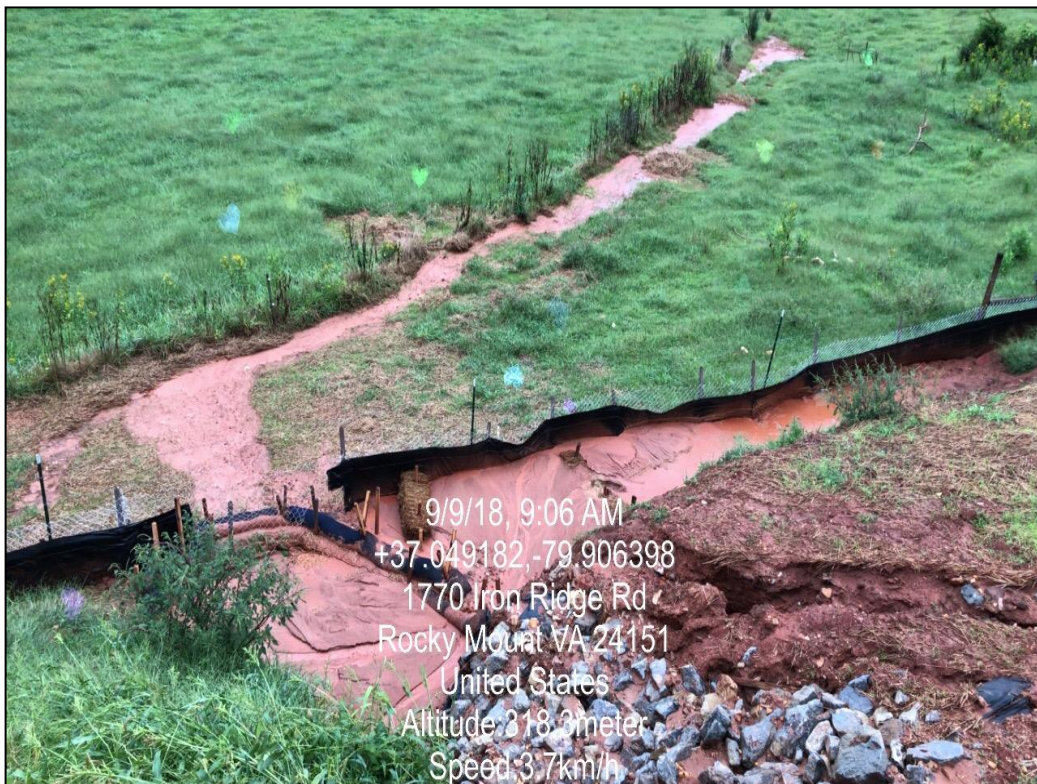


Off-site sediment deposition due to failed perimeter silt fence. (Columbia Gas Celanese Pipeline, Giles County, VA, 2014)





Off-site sediment deposition due to failed perimeter silt fence or failed runoff diversion outlets.  
(ACP, Lewis County, WV, 11/18/18)



Off-site sediment deposition due to failed perimeter silt fence or failed runoff diversion outlets.  
(MVP, Franklin County, VA, 9/9/18)



## 7. Sediment discharge into streams and wetlands.

- *Discharge of sediment to streams and wetlands should be prevented by use of temporary bridges, water interceptor diversions, silt fences, filter socks, and check dams.*
- *Crossing methods, including the use of coffer dams, flumes, pump-around systems, and de-watering devices during trenching and pipe installation are required to prevent sedimentation.*
- *Time-of-year restrictions on instream construction activity have been established to prevent sedimentation in streams during sensitive life stages of certain fish and mussels*



Sediment-laden runoff draining to stream due to failed perimeter runoff controls. (MVP, Franklin County, June 13, 2018)





Two views of sediment-laden water draining to a stream due to failed perimeter runoff controls.  
(ACP, Upshur County, WV, 11/18/18)





Intentional discharge of sediment-laden water into stream and wetland area at road and stream crossing site. A pump was used to dewater pits excavated for boring, by-passing the dewatering device at left-center of photo. (Stonewall Gathering Pipeline, Doddridge County, WV, 6/22/15)



## 8. Failure to stabilize construction areas, bare ground, and stockpiles of spoil or topsoil, after active disturbance.

- *Mulching and seeding is required within 14 days of active earth disturbance to minimize erosion and sediment transport.*



Delayed stabilization of excavated material. (MVP, Monroe County, WV, 7/6/18)



## 9. Failure to construct and properly maintain construction entrances at public roads.

- *Crushed-rock entrance ways, water diversions, and sediment barriers are required to prevent tracking of mud onto public roads by construction equipment.*
- *Mud on roadways can wash into drainage ditches and nearby streams and wetlands.*



Sediment-laden runoff from pipeline corridor flowing across public road. (MVP, Franklin County, VA, 6/10/18)





Extreme sediment deposition on public road below pipeline construction corridor. (MVP, Franklin County, VA, 5/18/18)



## 10. Failure to contain petrochemicals.

- *Storage of fuels and other petrochemicals, as well as refueling of equipment, must be done at specified distances from water bodies, and secondary containment measures must be in place to manage spills.*



Fuel spill incident while refueling equipment. (ACP, Upshur County, WV, 8/27/18)



Absorbent mats used for spilled fuel. (ACP, Upshur County, WV, 8/27/18)