

September 12, 2020

From: Mountain Valley Watch (MVW)
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To: Virginia Department of Environmental Quality
1111 East Main St., Suite 1400
Richmond, VA 23219

SUBJ: Mountain Valley Pipeline Soil Cover Stabilization
Franklin County, VA

To Whom This Concerns,

This is the first in a series of reports on lack of stabilization in the right-of-way of the Mountain Valley Pipeline.

On July 7, 2020, a single engine plane flew a flight over the route of the Mountain Valley Pipeline (MVP) in West Virginia and Virginia. During the flight, the pilot captured several thousand aerial photos of the MVP under construction. Volunteers from the MVW recently reviewed thousands of aerial photos to determine the extent of bare unvegetated soil in the pipeline right of way.

DEQ administers the state Erosion and Sediment Control (ESC) program to prevent destruction of property and natural resources caused by soil erosion, sedimentation and nonagricultural runoff from regulated "land-disturbing activities." ESC regulations specify the "minimum standards" that must be followed on all regulated activities including: criteria, techniques and policies.

All regulated land-disturbing activities must comply with the minimum standards specified in the ESC regulations that are applicable to a specific project. Applicable Minimum Standards should be satisfied for each approved erosion and sediment control plan; however, if a plan is found to be inadequate in the field, the Minimum Standards apply in addition to the provisions of the approved plan, unless a written variance has been granted.

The aerial flyover photos linked in this report show that seeding of disturbed areas in the MVP right-of-way has not met minimum cover requirement standards. The MVW has several aerial photo flights recorded which shows that many of the areas in the photos have remained bare for long periods of time.

ESC Minimum Standards 1, 2, 3, and 5 shown below require the use of vegetation to stabilize soil and prevent erosion.

<p>Minimum Standard 1</p>	<p>Addresses permanent and temporary soil stabilization within 7 days when site is at final grade and on sites that are not at final grade, but will remain dormant for more than 14 days.</p>
<p>Minimum Standard 3</p>	<p>Permanent Stabilization must be applied to areas not otherwise permanently stabilized. Ground cover needs to be uniform, mature enough to survive and inhibit erosion.</p>

In the Virginia Erosion and Sediment Control Handbook, several regulatory Standards and Specifications required for construction projects include:

1. STD & SPEC 3.31 TEMPORARY SEEDING: The establishment of a temporary vegetative cover on disturbed areas by seeding with appropriate rapidly growing annual plants.

Conditions Where Practice Applies

Where exposed soil surfaces are not to be fine graded for periods longer than 14 days. Such areas include denuded areas, soil stockpiles, dikes, dams, sides of sediment basins, temporary road banks, etc. A permanent vegetative cover shall be applied to areas that will be left dormant for a period of more than 1 year.

Sheet erosion, caused by the impact of rain on bare soil, is the source of most fine particles in sediment. To reduce this sediment load in runoff, the soil surface itself should be protected. The most efficient and economical means of controlling sheet and rill erosion is to establish vegetative cover. Temporary seeding also prevents costly maintenance operations on other erosion control systems.

Proper seedbed preparation and the use of quality seed are important in this practice just as in permanent seeding. Failure to carefully follow sound agronomic recommendations will often result in an inadequate stand of vegetation that provides little or no erosion control.

The photo links in this report clearly show inadequate stands of vegetation in many areas of the MVP right-of-way.

2. STD & SPEC 3.32 PERMANENT SEEDING: The establishment of perennial vegetative cover on disturbed areas by planting seed.

Conditions Where Practice Applies

1. Disturbed areas where permanent, long-lived vegetative cover is needed to stabilize the soil.
2. Rough-graded areas which will not be brought to final grade for a year or more.

Vegetation controls erosion by reducing the velocity and the volume of overland flow and protecting the bare soil surface from raindrop impact. The most common and economical means of establishing this cover is by seeding grasses and legumes.

The soil on a disturbed site must be modified to provide an optimum environment for seed germination and seedling growth. The surface soil must be loose enough for water infiltration and root penetration.

Even with careful, well-planned seeding operations, failures can occur. When it is clear that plants have not germinated on an area or have died, these areas must be reseeded immediately to prevent erosion damage.

Vegetation should not be established on slopes that are unsuitable due to inappropriate soil texture, poor internal structure or internal drainage, volume of overland flow, or excessive steepness, until measures have been taken to correct these problems.

In general, a stand of vegetation cannot be determined to be fully established until it has been maintained for one full year after planting. The contractor is required to inspect seeded areas for failure and make necessary repairs and re-seedings within the same season. If a stand has less than 40% cover, re-evaluate choice of plant materials and quantities of lime and fertilizer. Re-establish the stand following seedbed preparation and seeding recommendations.

Areas shown in the aerial photos have sparse or No vegetative cover. There are numerous areas within the Mountain Valley Pipeline right-of-way that show little to no vegetative cover in Franklin County, VA. These areas have exceeded the time limit for establishment of vegetative cover and remain unvegetated despite efforts to grow grass.

In addition, the predominant soil type in Franklin County is fine grained red clay soils which are easily detached from ground surfaces during rain events. Most areas are on mild to steep slopes which increases risk of erosion due to gravitational forces. Velocity of runoff is higher on steeper slopes which increases erosion potential.

Photo review of construction of the MVP revealed numerous areas of exposed soils with inadequate ground cover and stabilization measures to protect the bare soil from erosive forces. The table below lists photos with mile post location of areas with no or sparse grass growing in the pipeline right-of-way in Franklin County, VA. Several of these areas are on steep slopes that show erosion occurring. Many of the bare soil areas are adjacent to stream crossings.

The links to the aerial photos are in the right-hand column of the table shown below. Hold down Ctrl and click on the link in the link column to open the photo for review. The photos are High resolution photos and you can zoom in on specific areas to gain a close-up view of an area.

Photo No.	Photo Mile post	Link to photos
1	283.6	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0109.JPG
1	283.2	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0109.JPG
1	281.7	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0109.JPG
1	281.3	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0109.JPG
1	280.5	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0109.JPG
2	280.3	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0110.JPG
2	280.1	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0110.JPG
4	279.7	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0112.JPG
7	279.4	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0115.JPG
7	279.3	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0115.JPG
7	279.1-278.8	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0115.JPG
8	278.4	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0116.JPG
24	276.2	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0132.JPG
27	274.5-274.7	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0135.JPG
31	274.9-275.1	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0139.JPG
33	274.6-274.9	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0141.JPG
43	273.7-274	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0151.JPG
47	273.3-273.5	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0155.JPG
47	273.1	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0155.JPG
50	272.5-272.9	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0158.JPG
66	272-272.3	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0174.JPG

67	271.7-271.9	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0175.JPG
69	271.1-271.4	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0177.JPG
80	269.4-269.6	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0188.JPG
89	268.6	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0197.JPG
92	268.1	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0200.JPG
92	268	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0200.JPG
96	267.5	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0204.JPG
99	267.3	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0207.JPG
1	266.4	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0208.JPG
1	266.3	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0208.JPG
1	266.1	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0208.JPG
2	265.9	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0209.JPG
2	265.8	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0209.JPG
2	265.7	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0209.JPG
5	265.5-265.6	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0212.JPG
	265.3-265.5	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0212.JPG
8	265.2	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0215.JPG
10	264.9-265.1	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0217.JPG
10	264.7-264.9	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0217.JPG
12	264.3-264.7	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0219.JPG
14	263.8-264	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0221.JPG
14	263.3	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0221.JPG
19	263	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0226.JPG
19	262.7-262.8	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0226.JPG
20	262.4-262.5	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0227.JPG
20	262.2-262.3	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0227.JPG
23	261.9-262.2	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0230.JPG
24	261.4-261.8	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0231.JPG
24	261.3-261.4	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0231.JPG
24	261.1-261.3	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0231.JPG
24	261.0-261.1	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0231.JPG
24	260.8-260.9	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0231.JPG

33	260.6-260.8	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0240.JPG
34	260.2-260.6	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0241.JPG
37	259.85-260.2	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0244.JPG
37	259.4-259.8	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0244.JPG
41	258.9	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0248.JPG
41	258.5-258.6	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0248.JPG
50	257.8-258	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0257.JPG
55	257.3-257.6	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0262.JPG
57	256.5-256.65	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0264.JPG
72	254.8-255.4	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0279.JPG
79	254.3-254.8	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0286.JPG
81	253.65-253.9	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0288.JPG
7	251.7-252	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0313.JPG
12	251.4-251.7	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0318.JPG
12	250.75-250.9	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0318.JPG
12	250.7	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0318.JPG
12	250.3	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0318.JPG
44	246.35-248.8	http://newrivergeographics.com/mvw/MVW20200702/100D5301/DSC_0350.JPG

Using Geographic Information system measuring tools, we measured areas that show sparse or no vegetation in the ROW. **The total area with inadequate vegetation in Franklin County is approximately 127.5 acres.**

The photos are conclusive evidence of unvegetated areas that require corrective action for lack of ground cover. We request immediate action to correct these site stabilization violations.

Respectfully,

Kirk A Bowers PE