

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER DIVISION

SOUTHWEST REGIONAL OFFICE

355-A Deadmore Street

Abingdon, VA 24210

SUBJECT: Land disturbance associated with Spearhead Trails

TO: Case File

FROM: Jason R. McCroskey, Stormwater Compliance Specialist
Jeff Kite, Stormwater Compliance Specialist

DATE: September 9, 2020

COPIES: Jonathan Chapman, Enforcement Specialist, DEQ-SWRO
Shawn Lindsey, Executive Director, Southwest Regional Recreation Authority
Jeff Hurst, Regional Director, DEQ-SWRO

On November 27, 2018, August 5, 2019, August 6, 2019, February 4, 2020, July 1, 2020, July 7, 2020, July 8, 2020, and August 10, 2020, staff from the Virginia Department of Environmental Quality's Southwest Regional Office (DEQ-SWRO) conducted site visits on recreational trails crossing multiple locality jurisdictions throughout Southwest Virginia. All trails visited are operated by the Southwest Regional Recreation Authority (SRRA), under the name Spearhead Trails, and include ATV/UTV, pedestrian, and equestrian trails. The site visits were conducted as a combination of providing compliance assistance to SRRA, providing regulatory guidance to The Nature Conservancy, and in response to formally reported citizens' complaints.

This memorandum is intended to provide a summary of potential violations observed by DEQ-SWRO staff during the site visits. The observations contained within this memorandum appeared to be the result of either new trail construction, the upgrading of existing trails/roads, trail maintenance, or erosion from sustained trail usage. The observations documented below, and where applicable the regulatory requirements associated with each, are a combination of regulatory requirements set forth by the Virginia Erosion and Sediment Control Law and Regulations, the Virginia Stormwater Management Program Law and Regulations, and the Virginia Watershed Protection Program Regulations.

Observations made by DEQ-SWRO staff and, if applicable, the associated law and regulation requirements are as follows:

- **Not obtaining ESC Plan/Permits when required** - DEQ-SWRO staff observed land-disturbing activities equaling or exceeding 10,000 square feet, as defined by § 62.1-44.15:51 of the Virginia Erosion and Sediment Control (VESC) Law. Va. Code § 62.1-44.15:55(A) states, in part: "... no person shall engage in any land disturbing activity until he has submitted to the Virginia Erosion and Sediment Control Program (VЕСP) authority an erosion and sediment control plan for the land-disturbing activity and the plan has been reviewed and approved."
- **Not obtaining SWM Plan/Permits when required** - DEQ-SWRO staff observed land-disturbing activities, as defined by § 62.1-44.15:24 of the Virginia Stormwater Management (VSM) Act and 9VAC25-870-10 of the Virginia Stormwater Management Program (VSMP) Regulations, in an area

subject to stormwater runoff exceeding one acre without permit coverage. Va. Code § 62.1-44.15:34(A) states: “A person shall not conduct any land-disturbing activity until he has submitted a permit application to the VSMP authority that includes a state VSMP permit registration statement, if such statement is required, and, after July 1, 2014, a stormwater management plan or an executed agreement in lieu of a stormwater management plan, and has obtained VSMP authority approval to begin land disturbance.”

- **Not installing sediment trapping controls (ESC) prior to land disturbing activities** - DEQ-SWRO staff observed areas of land disturbance with no sediment trapping controls in place to filter sediment laden flows prior to discharging from the site. VESC Regulation 9VAC25-840-40(4) states: “Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment shall be constructed as a first step in any land-disturbing activity and shall be made functional before upslope land disturbance takes place.” See Figures 1-2 in the attached Photo Log for representative photos.
- **Lack of ESC control maintenance** - DEQ-SWRO staff observed erosion and sediment control measures installed in some areas that had not been maintained in an effective operating condition. VESC Regulation 9VAC25-840-60(A) states, in part: “All erosion and sediment control structures and systems shall be maintained, inspected and repaired as needed to insure continued performance of their intended function...” See Figures 3-4 in the attached Photo Log for representative photos.
- **Stabilization timeframes exceeded** - DEQ-SWRO staff observed areas of land disturbance which had exceeded the regulatory timeframe for stabilization. VESC Regulation 9VAC25-840-40(1) states: “Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain dormant for longer than 14 days. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year.” See Figures 5-6 in the attached Photo Log for representative photos.
- **Lack of permanent vegetation establishment outside perpetual riding lanes** - DEQ-SWRO staff observed areas of land disturbance outside the travel lane of the trail that lacked a permanent vegetative cover. VESC Regulation 9VAC25-840-40(3) states: “A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved that is uniform, mature enough to survive and will inhibit erosion.” See Figures 7-8 in the attached Photo Log for representative photos.
- **Cut and fill slopes not adequately stabilized to prevent or correct excessive erosion** - DEQ-SWRO staff observed areas where cut and fill slopes had not been adequately stabilized to prevent excessive erosion. VESC Regulation 9VAC25-840-40(3) states: “A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved that is uniform, mature enough to survive and will inhibit erosion.” In addition, VESC Regulation 9VAC25-840-40(7) states: “Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes that are found to be eroding excessively within one year of permanent stabilization shall be provided with additional slope stabilizing measures until the problem is corrected.” See Figures 9-10 in the attached Photo Log for representative photos.
- **Cut and fill slopes not designed/constructed in a manner to minimize erosion** - DEQ-SWRO staff observed areas where cut and fill slopes had not been designed/constructed in a manner to minimize erosion. It was observed that areas of fill material had been pushed over the slope without proper compaction, leading to material sloughing off the slope and promoting erosion. VESC Regulation 9VAC25-840-40(7) states: “Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes that are found to be eroding excessively within one year of permanent stabilization shall be provided with additional slope stabilizing measures until the problem is corrected.” See Figures 11-12 in the attached Photo Log for representative photos.

- **Concentrated stormwater runoff not directed to an adequate receiving channel or converted to sheet flow** - DEQ-SWRO staff observed areas where stormwater runoff had been concentrated and not discharged to an adequate receiving channel or returned to a sheet flow condition. Areas resulting in a concentration of flows were observed as the result of ditches, water bars, window cuts, and areas of rill and gully erosion associated with the installation and maintenance of trails. Additionally, in some areas the trails themselves effectively concentrated flows based on the surrounding topography. VESC Regulation 9VAC25-840-40(19) states in part: “Properties and waterways downstream from development sites shall be protected from sediment deposition, erosion and damage due to increases in volume, velocity and peak flow rate of stormwater runoff... a. Concentrated stormwater runoff leaving a development site shall be discharged directly into an adequate natural or man-made receiving channel, pipe or storm sewer system...”. See Figures 13-14 in the attached Photo Log for representative photos.
- **Concentrated stormwater runoff directed down fill slopes and not contained within an adequate slope conveyance resulting in slope erosion and off-site sediment loss** - DEQ-SWRO staff observed areas where concentrated stormwater runoff discharged down fill slopes not contained in an adequate conveyance. Areas resulting in a concentration of flows were observed as a result of ditches, water bars, window cuts, and areas of rill and gully erosion associated with the installation and maintenance of trails. VESC Regulation 9VAC25-840-40(8) states: “Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume or slope drain structure.” See Figures 15-16 in the attached Photo Log for representative photos.
- **Lack of outlet protection and permanent ditch linings** - DEQ-SWRO staff observed stormwater conveyances that did not have adequate outlet protection installed to prevent erosion. Additionally, ditches were observed that did not have permanent ditch linings installed to prevent erosion. VESC Regulation 9VAC25-840-40(11) states: “Before newly constructed stormwater conveyance channels or pipes are made operational, adequate outlet protection and any required temporary or permanent channel lining shall be installed in both the conveyance channel and receiving channel.” See Figures 17-18 in the attached Photo Log for representative photos.
- **Inadequate trail closures allowing riders to access closed trails** - DEQ-SWRO staff observed trail users on a section of trail that was marked on both ends with “Trail Closed” signs. While the signs were present, there were no physical barriers across the trail to prohibit riders from accessing the trail. When trails are found to be located within the streambed, and closures are necessary to prevent further impacts, a more robust and effective means of trail closure should be utilized. See Figures 19-20 in the attached Photo Log for representative photos.
- **Lack of USACOE/VWP Permits**- DEQ-SWRO staff observed areas of trails where culverts had been installed. Based on conversations with SRRA staff, DEQ staff, and USACOE, no record of applicable permits could be found regarding the installation of said culverts in these potentially jurisdictional waters. Additionally, DEQ-SWRO staff is not aware of any jurisdictional determinations being performed which would indicate that these permits are not required. 9VAC25-210-50 of the Virginia Water Protection Permit Program Regulation states “except in compliance with a VWP permit, unless the activity is otherwise exempted or excluded, no person shall dredge, fill, or discharge any pollutant into, or adjacent to surface waters; withdraw surface water; otherwise alter the physical, chemical, or biological properties of state waters regulated under this chapter and make them detrimental to the public health, to animal or aquatic life, or to the uses of such waters for domestic or industrial consumption, for recreation, or for other uses; excavate in wetlands...”. See Figures 21-24 in the attached Photo Log for representative photos.
- **Improper culvert installation** - DEQ-SWRO staff observed culvert installations that were not countersunk and did not contain outlet protection in accordance to VWP Regulations. 9VAC25-680-100, Part I.B.2 states that “...Pipes and culverts placed in streams must be installed to maintain low flow conditions and shall be countersunk at both inlet and outlet ends of the pipe or culvert, unless specifically

approved by the Department of Environmental Quality on a case-by-case basis...” In addition, 9VAC25-680-100, Part I.E.2 states “Riprap aprons for all outfalls shall be designed in accordance with the Virginia Erosion and Sediment Control Handbook, Third Edition, 1992.” See Figures 21-24 in the attached Photo Log for representative photos.

- **Sediment deposition onto down gradient properties** - DEQ-SWRO staff observed sediment deposition outside the footprint of the trail on down gradient properties. Primary contributors of sediment appeared to be the lack of sediment trapping controls, lack of stabilization, trail erosion as a result of perpetual riding, and discharge of concentrated stormwater flows without being contained in an adequate conveyance. VESC Regulation 9VAC25-840-40(19) states in part: “Properties and waterways downstream from development sites shall be protected from sediment deposition...” See Figures 25-28 in the attached Photo Log for representative photos.
- **Sediment deposition into potential jurisdictional streams** - DEQ-SWRO staff observed sediment laden stormwater runoff from the trails being discharged directly into potential jurisdictional streams without first being filtered to remove deleterious materials. Primary contributors of sediment appeared to be the lack of sediment trapping controls, lack of stabilization, trail erosion as a result of perpetual riding, discharge of concentrated stormwater flows without being contained in an adequate conveyance, fording streams without the installation of culverts/bridges, and the utilization of stream beds as trails. VESC Regulation 9VAC25-840-40(19) states in part: “Properties and waterways downstream from development sites shall be protected from sediment deposition...” Va. Code § 62.1-44.5(A) states, in part: “Except in compliance with a certificate or permit issued by the Board or other entity authorized by the Board to issue a certificate or permit pursuant to this chapter, it shall be unlawful for any person to...5. Discharge stormwater into state waters from...land disturbing activities.” VESC Regulation 9VAC25-870-310(A) states, in part: “Except in compliance with a state permit issued by the board pursuant to the Virginia Stormwater Management Act, it shall be unlawful for any person to discharge stormwater into state waters from...land disturbing activities. See Figures 29-36 in the attached Photo Log for representative photos.

SPEARHEAD TRAILS REPRESENTATIVE PHOTO LOG

Fig. 1
Description: *Lack of sediment trapping controls down gradient of land disturbance*



Fig. 2
Description: *Lack of sediment trapping controls down gradient of land disturbance*



Fig. 3
Description: *Silt fence not maintained*



Fig. 4
Description: *Silt fence not maintained*



Fig. 5
Description: *Stabilization timeframes exceeded*



Fig. 6
Description: *Stabilization timeframes exceeded*



Fig. 7
Description: *Lack of a permanent stand of vegetation*



Fig. 8
Description: *Lack of a permanent stand of vegetation*



Fig. 9
Description: *Fill slope not adequately stabilized to prevent excessive erosion*



Fig. 10
Description: *Fill slope not adequately stabilized to prevent excessive erosion*



Fig. 11
Description: *Fill slopes not designed/constructed in a manner to minimize erosion (Material pushed over slope with no compaction)*



Fig. 12
Description: *Fill slopes not designed/constructed in a manner to minimize erosion (Material pushed over slope with no compaction)*



Fig. 13
Description: *Concentrated stormwater runoff not directed to an adequate receiving channel or converted to sheet flow*



Fig. 14
Description: *Concentrated stormwater runoff not directed to an adequate receiving channel or converted to sheet flow*



Fig. 15
Description: *Concentrated stormwater runoff directed down fill slope and not contained within an adequate slope conveyance resulting in slope erosion and off-site sediment loss*



Fig. 16
Description: *Concentrated stormwater runoff directed down fill slope and not contained within an adequate slope conveyance resulting in slope erosion and off-site sediment loss*



Fig. 17
Description: *Lack of outlet protection for culvert installed*



Fig. 18
Description: *Cut ditch with no lining and ongoing erosion*



Fig. 19
Description: *Inadequate trail closures allowing riders to access closed trails*



Fig. 20
Description: *Riders on a trail marked as closed in Fig.23. The trail is located within a potential jurisdictional stream*



Fig. 21
Description: *Culvert installation without appropriate permits, culvert not countersunk, and no outlet protection*



Fig. 22
Description: *Culvert installation without appropriate permits, culvert not countersunk, and no outlet protection*



Fig. 23
Description: *Culvert installation without appropriate permits, culvert not countersunk, and no outlet protection*



Fig. 24
Description: *Culvert installation without appropriate permits, culvert not countersunk, and no outlet protection*



Fig. 25
Description: *Off-site Sediment Loss onto down gradient properties from trail erosion due to the lack of sediment trapping controls*



Fig. 26
Description: *Off-site Sediment Loss onto down gradient properties from trail erosion due to the lack of sediment trapping controls*



Fig. 27
Description: *Off-site Sediment Loss onto down gradient properties from trail erosion due to the lack of sediment trapping controls*



Fig. 28
Description: *Off-site Sediment Loss onto down gradient properties from trail erosion due to the lack of sediment trapping controls*



Fig. 29
Description: *Sediment impacts to potential jurisdictional stream due to trail erosion from perpetual riding, lack of sediment trapping controls, lack of stabilization, and fording the stream without the installation of culverts/bridges*



Fig. 30
Description: *Sediment impacts to potential jurisdictional stream due to trail erosion from perpetual riding, lack of sediment trapping controls, lack of stabilization, and fording the stream without the installation of culverts/bridges*



Fig. 31
Description: *Sediment impacts to potential jurisdictional stream due to trail erosion from perpetual riding, lack of sediment trapping controls, and lack of stabilization*



Fig. 32
Description: *Sediment impacts to potential jurisdictional stream due to the utilization of the streambed as a trail*



Fig. 33

Description: *Sediment impacts to potential jurisdictional stream due to trail erosion from perpetual riding, lack of sediment trapping controls, and lack of stabilization*



Fig. 34

Description: *Sediment impacts to potential jurisdictional stream due to trail erosion from perpetual riding, lack of sediment trapping controls, and lack of stabilization*



Fig. 35

Description: *Sediment impacts to potential jurisdictional stream due to trail erosion from perpetual riding, lack of sediment trapping controls, and lack of stabilization*



Fig. 36

Description: *Sediment impacts to potential jurisdictional stream due to trail erosion from perpetual riding, lack of sediment trapping controls, lack of stabilization, and fording the stream without the installation of culverts/bridges*

