

**Mountain Valley Pipeline Project**

**Docket No. CP16-10-000**

**Attachment DR5 Geology 7**

DEIS TABLE 4.1.1-11  
(Updated February/March 2017)

**Areas of Landslide Concern along the Mountain Valley Project**

| Start MP | End MP | Distance | Percent Slope <u>a/</u> | Slope Movement <u>b/</u> | Notes <u>c/</u>   |
|----------|--------|----------|-------------------------|--------------------------|---|
| 3.3      | 3.8    | 2,147    | 33                      | No                       | Dormant slide and/or soil prone to movement. Intersects at least three natural drains.  |
| 28.40    | 28.432 | 967      | 29                      | No                       | Near well appurtenances. Side cut would run across at least three natural drains.   |
| 32.54    | 32.76  | 749      | 32                      | No                       | Dormant slide and/or soil prone to movement. Located at toe of slope. Hillside previously cleared.  |
| 33.654   | 33.876 | 570      | 42                      | No                       | Dormant slide and/or soil prone to movement. Located at toe of slope. Hillside previously cleared.  |
| 34.42    | 34.54  | 377      | 28                      | No                       | Moderate side slope, includes slight pipe bend. Cuts across at least one natural drain.   |
| 34.654   | 34.876 | 907      | 28                      | No                       | Downslope of ridge. Cuts across at least three, possibly four or five natural drains and one or two four-wheeler paths.   |
| 35.31    | 35.534 | 869      | 40                      | No                       | Construction equipment may need to be staged on sidehill here. Southeastern side less steep, may be better to stage.  |
| 43.53    | 43.645 | 494      | 30                      | No                       | Steep side slope, but ridge within right-of-way.  |
| 46.2     | 46.5   | 1113     | 15-33                   | Yes                      | Gravitropism and natural drains on a moderate side slope.   |
| 46.76    | 46.98  | 448      | 36                      | Yes                      | Existing dormant slide possibly upslope, and active within past twenty years. Cuts across at least one natural drain, possibly two.   |
| 53.40    | 53.43  | 872      | 22                      | No                       | Adjacent slopes composed of dormant slides. Moderate side slope directly below cemetery. Cuts across some kind of existing right-of-way or road, and at least two natural drains.   |
| 55.12    | 55.32  | 224      | 35                      | No                       | Moderate side slope, cuts across slope. No signs of recent movement.  |
| 57.32    | 57.87  | 806      | 18-40                   | No                       | ROW will run alongside hill with 32% grade and a 40% grade directly below it.   |
| 66.8     | 67.0   | 826      | 15-34                   | No                       | Moderate side slope subjacent to Weston and Gauley Bridge Turnpike Trail.   |
| 69.342   | 69.65  | 1,128    | 29                      | No                       | Cuts across one large natural drainage. No signs of recent movement.  |
| 81.98    | 82.21  | 1,462    | 35                      | No                       | Route crosses dormant slide area. Moderate side slope. No natural drains, but is directly above house or farm structure. Landowner issues may force it to be on the east side below the road, intersecting at least three natural drains. |

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|-----------------|---------------|-----------------|--------------------------------|---------------------------------|--|
| 82.65           | 82.76         | 602             | 45                             | No                              | Route cuts through a colluvial slope which is very prone to sliding. Very steep side slope, right above ravine, possibly crossing one natural drain.             |
| 111.7           | 111.8         | 231             | 12-39                          | No                              | <del>Moderately steep slope. Pipeline cuts through either dormant slide or material prone to sliding.</del>  |
| 122.25          | 123.02.7      | 2,547           | 7 - 43                         | No                              | Crosses at least 5 streams or natural drains. Cuts through dormant slide or material prone to sliding.   |
| 123.12.8        | 123.22.9      | 362             | 22                             | No                              | Route crosses soil prone to movement. Mild side slope directly below power line right-of-way. Cuts across one natural drain.                                     |
| 124.30          | 124.748       | 648             | 15-20                          | Yes                             | Possible recent landslides, and this portion of route crosses through soil prone to movement.  |
| 127.26.9        | 127.47.1      | 631             | 12 - 39                        | No                              | Moderately steep slope below ridge. Cuts through dormant slide or material prone to sliding.   |
| 127.96          | 128.07.7      | 423             | 10 - 60                        | No                              | Moderately steep slope below ridge. Cuts through dormant slide or material prone to sliding.   |
| 132.04.7        | 132.14.8      | 646             | 25                             | No                              | Portion of route is adjacent to soil prone to movement to the west and a dormant slide to the east. Moderate side slope. Cuts across at least one natural drain. |
| 144.36145.3     | 146.015.7     | 8000            | 30-35                          | No                              | Steep and very long side slope. Cuts across at least 3 natural drains. Two hard 90's one after the other in route.   |
| 164.26          | 165.14.75     | 1320            | 33-43                          | No                              | Steep side slopes outside of construction ROW. Two gullies at saddles are outside of the construction ROW.   |
| 182.44.5        | 182.84.9      | 808             | 18-28                          | Yes                             | Some slope movement is indicated on historical imagery within the past 20 years.   |
| 197.46.35.4     | 197.66.7      | 1800            | 18-26                          | No                              | Jefferson National Forest.   |
| 198.467.7       | 199.18.2      | 2300            | 18-35                          | No                              | Jefferson National Forest.   |
| 204.43.5        | 204.873.8     | 1,120           | 39                             | No                              | Lateral slope side cut, paralleling transmission power line.   |
| 211.50.3        | 211.80.6      | 1,184           | 32 - 53                        | No                              | Very steep slope, centerline may or may not be on ridge. Directly above U.S. 460.  |
| 219.68.3        | 220.94.049.7  | 1200            | 25-40                          | No                              | Jefferson National Forest.   |

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|-----------------------|-----------------------|----------------|-------------------------|--------------------------|---|
| <del>220.6</del>      | <del>220.7</del>      | <del>310</del> | <del>59</del>           | <del>No</del>            | <del>Very steep slope where route makes a 90 degree turn off the ridge. Very short section, but because of the severity of slope, could be prone to slippage. Cuts across one stream.</del> |
| <del>221.8</del>      | <del>221.9</del>      | <del>380</del> | <del>46</del>           | <del>No</del>            | <del>Steep slope runs alongside of knoll, directly above substation.</del>  |
| <del>229.2</del>      | <del>229.3</del>      | <del>640</del> | <del>28</del>           | <del>No</del>            | <del>Slight sidehill. Crosses stream.</del>   |
| <del>261.2559.0</del> | <del>261.2659.0</del> | <del>179</del> | <del>40</del>           | <del>No</del>            | <del>Steep side slope, but just for small section. Running just below ridge line through a gulley. Crosses one natural drain.</del>   |
| <del>263.0</del>      | <del>264.0</del>      | <del>368</del> | <del>34</del>           | <del>No</del>            | <del>Steep side slope. Running just below ridge line through a gulley. Crosses one natural drain.</del>   |

a/ Design slope is based on desktop and field review, or range from map analysis of alignment.

b/ Based on historical imagery.

c/ Based on available landslide mapping.

Source: Godt, 2014