

## **APPENDIX K**

### **Steep Slopes**

APPENDIX K

**Steep Slopes along the Mountain Valley Project**

MP Start	MP End	Miles Crossed	Grade (%)	Max Slope (%)	Min Slope (%)	Vertical Slope	Lateral Slope
0.0	0.2	0.2	>30	64.5	19.1	X	
0.4	0.5	<0.1	>30	36.3	18.5	X	
0.5	0.7	0.2	>30	83.5	17.9	X	
0.7	0.8	<0.1	>30	31.4	17.7	X	
0.8	1.1	0.2	>30	64.3	18.9	X	
1.1	1.1	<0.1	>30	37.3	22.6	X	
1.1	1.3	0.2	>30	67.2	17.8	X	
1.3	1.6	0.2	>30	67.4	17.4	X	
1.6	1.7	0.1	>30	40.1	13.5	X	
2.0	2.0	<0.1	15-30	20.7	15.4	X	
2.0	2.1	0.1	>30	32.4	17.5	X	
2.1	2.3	0.2	>30	55.5	18.8	X	
2.4	2.5	0.1	>30	72.0	20.9	X	
2.6	2.7	0.1	>30	41.4	19.0	X	
2.7	2.8	<0.1	15-30	25.5	17.8	X	
2.9	2.9	<0.1	15-30	29.2	15.1	X	
3.1	3.1	<0.1	15-30	23.6	16.7	X	
3.2	3.2	<0.1	15-30	20.1	16.8	X	
3.3	3.3	<0.1	15-30	24.0	16.7	X	
3.4	3.8	0.5	>30	54.0	19.0		X
3.5	3.6	0.1	>30	37.9	15.3	X	
3.8	3.9	0.1	>30	50.5	16.3	X	
4.5	4.5	<0.1	15-30	24.2	19.9	X	
4.6	4.7	0.1	>30	34.4	15.1	X	
4.7	4.7	<0.1	>30	32.4	22.3	X	
4.8	4.9	0.1	>30	63.7	16.9	X	
5.0	5.0	<0.1	>30	62.7	20.5	X	
5.1	5.1	<0.1	15-30	27.2	16.0	X	
5.1	5.4	0.3	>30	62.0	21.8	X	
5.4	5.6	0.2	>30	63.7	15.9	X	
5.6	5.9	0.2	>30	55.5	19.7	X	
5.9	6.0	0.1	>30	30.5	16.3	X	
6.4	6.5	0.1	15-30	24.6	16.6	X	
6.5	6.6	0.1	>30	77.5	25.1	X	
6.7	6.9	0.2	>30	66.6	16.9	X	
6.9	7.0	0.1	>30	39.5	19.3	X	
7.0	7.0	<0.1	15-30	29.0	15.5	X	

APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

<b>MP Start</b>	<b>MP End</b>	<b>Miles Crossed</b>	<b>Grade (%)</b>	<b>Max Slope (%)</b>	<b>Min Slope (%)</b>	<b>Vertical Slope</b>	<b>Lateral Slope</b>
7.2	7.4	0.2	>30	37.0	15.1	X	
7.7	7.8	<0.1	15-30	26.3	15.4	X	
7.8	7.9	0.2	>30	59.9	15.1	X	
8.0	8.1	0.1	>30	68.1	15.7	X	
8.1	8.3	0.1	>30	43.1	15.9	X	
8.5	8.5	<0.1	>30	30.2	16.6	X	
8.5	8.5	<0.1	15-30	29.6	15.2	X	
8.7	8.7	<0.1	15-30	22.6	37.6	X	
8.7	8.9	0.1	>30	62.2	16.3	X	
8.9	9.0	0.1	>30	69.3	16.0	X	
9.2	9.2	<0.1	15-30	19.5	15.8	X	
9.2	9.3	0.1	>30	31.7	16.3	X	
9.4	9.4	<0.1	15-30	24.9	17.3	X	
9.4	9.4	<0.1	15-30	18.1	15.5	X	
9.5	9.6	0.1	>30	37.2	17.3	X	
9.7	9.7	<0.1	15-30	23.1	17.2	X	
9.8	9.8	<0.1	>30	36.0	17.7	X	
9.8	9.9	<0.1	15-30	27.0	17.2	X	
9.9	10.0	0.1	15-30	28.7	18.2	X	
10.0	10.1	0.1	>30	38.5	15.1	X	
10.2	10.3	<0.1	15-30	27.9	15.1	X	
10.6	10.6	<0.1	15-30	19.1	16.2	X	
10.6	10.7	<0.1	15-30	19.3	17.4	X	
10.7	10.7	<0.1	15-30	26.1	16.1	X	
11.1	11.2	0.1	>30	54.2	15.7	X	
11.3	11.4	0.1	>30	43.5	18.0	X	
11.5	11.5	<0.1	>30	38.2	15.0	X	
11.6	11.6	<0.1	>30	37.0	16.9	X	
12.0	12.1	0.2	>30	61.7	17.2	X	
12.2	12.4	0.2	>30	55.7	21.1	X	
13.5	13.6	<0.1	15-30	21.5	17.1	X	
13.7	13.7	<0.1	15-30	25.3	15.9	X	
14.0	14.0	<0.1	15-30	25.0	16.8	X	
14.2	14.2	0.1	15-30	28.9	17.1	X	
14.4	14.4	<0.1	15-30	21.1	15.8	X	
14.6	14.6	<0.1	>30	35.6	28.2	X	
14.7	14.7	<0.1	15-30	23.8	16.4	X	
14.9	14.9	<0.1	15-30	20.1	15.6	X	

APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

<b>MP Start</b>	<b>MP End</b>	<b>Miles Crossed</b>	<b>Grade (%)</b>	<b>Max Slope (%)</b>	<b>Min Slope (%)</b>	<b>Vertical Slope</b>	<b>Lateral Slope</b>
15.1	15.2	0.1	15-30	29.8	15.5	X	
15.2	15.4	0.2	>30	36.2	16.9	X	
15.5	15.6	0.1	>30	67.8	16.6	X	
16.0	16.0	<0.1	>30	35.3	15.5	X	
16.3	16.3	<0.1	15-30	19.2	16.0	X	
16.4	16.5	<0.1	>30	31.8	16.2	X	
16.5	16.5	<0.1	15-30	26.8	18.0	X	
16.7	16.7	0.1	15-30	29.1	17.0	X	
16.7	16.8	0.1	>30	34.6	19.5	X	
17.0	17.1	<0.1	15-30	28.4	17.4	X	
17.3	17.3	<0.1	15-30	24.7	17.3	X	
17.5	17.5	<0.1	15-30	25.3	17.1	X	
17.6	17.7	0.1	>30	42.2	15.3	X	
17.7	17.7	<0.1	15-30	17.1	15.6	X	
17.7	17.8	0.1	>30	40.8	18.4	X	
17.9	18.0	0.1	>30	52.4	16.0	X	
18.2	18.2	0.1	15-30	17.3	31.6	X	
18.3	18.4	<0.1	15-30	22.4	16.1	X	
18.6	18.8	0.2	>30	55.1	17.3	X	
18.9	19.0	0.1	>30	68.2	15.7	X	
19.2	19.2	0.1	15-30	25.3	16.3	X	
19.8	19.8	<0.1	15-30	27.0	18.9	X	
19.8	19.8	<0.1	>30	33.8	15.9	X	
20.4	20.4	0.1	>30	30.5	21.5	X	
20.7	20.8	0.1	>30	52.3	15.3	X	
20.9	21.0	0.2	>30	48.3	17.8	X	
21.1	21.1	0.1	15-30	30.0	17.3	X	
21.4	21.4	<0.1	15-30	25.3	16.4	X	
21.5	21.6	0.2	>30	42.6	16.4	X	
21.7	21.8	0.1	>30	66.7	15.3	X	
22.1	22.1	<0.1	15-30	22.9	16.5	X	
22.3	22.3	<0.1	15-30	26.2	20.7	X	
22.6	22.7	0.1	15-30	29.9	15.7	X	
22.8	22.8	<0.1	15-30	25.4	16.4	X	
22.9	23.0	<0.1	>30	32.0	21.8	X	
23.0	23.1	0.1	>30	58.6	30.2	X	
23.1	23.3	0.1	>30	61.5	15.3	X	
23.3	23.3	<0.1	15-30	25.5	21.0	X	

APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

MP Start	MP End	Miles Crossed	Grade (%)	Max Slope (%)	Min Slope (%)	Vertical Slope	Lateral Slope
23.7	23.7	<0.1	15-30	29.1	18.9	X	
23.9	24.0	<0.1	15-30	19.9	15.2	X	
24.0	24.0	<0.1	15-30	21.5	16.2	X	
24.1	24.1	<0.1	>30	38.2	18.9	X	
24.2	24.2	<0.1	>30	30.2	18.1	X	
24.6	24.6	<0.1	>30	33.9	17.0	X	
24.7	24.7	<0.1	>30	45.6	15.5	X	
24.8	24.9	0.1	>30	40.6	18.2	X	
25.0	25.0	<0.1	>30	32.0	21.2	X	
25.0	25.0	<0.1	>30	38.2	24.4	X	
25.8	25.9	0.1	>30	57.6	17.1	X	
26.0	26.2	0.2	>30	52.8	15.7	X	
26.5	26.5	<0.1	15-30	20.2	15.6	X	
27.2	27.2	<0.1	15-30	29.5	16.9	X	
27.7	27.7	<0.1	15-30	25.1	15.1	X	
28.2	28.3	0.1	>30	32.0	15.0		X
28.4	28.5	0.1	15-30	25.2	16.9	X	
28.7	28.7	<0.1	15-30	26.9	17.1	X	
29.5	29.6	0.1	>30	35.2	15.7	X	
30.1	30.2	0.1	>30	46.1	18.5	X	
30.2	30.3	0.1	>30	49.8	17.9	X	
30.4	30.4	<0.1	15-30	22.3	15.2	X	
30.5	30.5	<0.1	15-30	24.3	15.2	X	
30.5	30.5	<0.1	15-30	24.8	18.2	X	
30.9	31.0	0.1	15-30	23.4	15.1	X	
31.1	31.1	0.1	15-30	23.8	15.6	X	
31.3	31.4	0.1	>30	44.5	18.1	X	
31.4	31.5	0.1	>30	54.1	17.0	X	
31.7	31.7	<0.1	15-30	18.8	16.1	X	
32.1	32.1	<0.1	15-30	25.2	16.9	X	
32.4	32.5	0.1	>30	53.7	21.4	X	
32.6	32.6	<0.1	>30	36.9	17.0	X	
32.6	32.6	0.1	15-30	19.2	27.5		X
33.2	33.3	0.2	>30	46.0	16.4	X	
33.4	33.4	<0.1	15-30	25.2	16.3	X	
33.5	33.5	<0.1	>30	37.0	17.5	X	
33.5	33.6	<0.1	15-30	23.2	20.1	X	
33.6	33.7	<0.1	15-30	25.0	17.1	X	

APPENDIX K (continued)

Steep Slopes along the Mountain Valley Project

MP Start	MP End	Miles Crossed	Grade (%)	Max Slope (%)	Min Slope (%)	Vertical Slope	Lateral Slope
33.7	33.7	<0.1	>30	34.1	26.3		X
33.8	33.8	0.1	>30	34.1	17.0	X	
34.0	34.0	<0.1	15-30	26.4	17.0	X	
34.0	34.1	<0.1	15-30	25.7	16.2	X	
34.1	34.3	0.2	>30	63.1	15.0	X	
34.3	34.3	<0.1	>30	48.3	26.9	X	
34.4	34.5	0.1	>30	32.3	16.7		X
34.4	34.5	0.1	>30	41.5	15.6	X	
34.5	34.6	0.1	>30	57.8	17.6	X	
34.6	34.8	0.3	>30	44.6	21.4		X
34.8	34.8	<0.1	15-30	17.0	15.8	X	
34.8	34.8	<0.1	15-30	27.8	17.5	X	
34.8	34.9	0.1	>30	57.0	22.0	X	
35.0	35.1	0.1	>30	66.7	18.2	X	
35.2	35.2	0.1	>30	41.1	16.0	X	
35.3	35.3	<0.1	15-30	23.4	33.7	X	
35.3	35.3	<0.1	15-30	19.9	16.0	X	
35.4	35.5	0.1	15-30	28.9	16.8	X	
35.7	35.7	<0.1	15-30	21.3	15.7	X	
35.8	35.8	<0.1	15-30	16.1	15.9	X	
35.9	35.9	<0.1	15-30	17.9	15.9	X	
36.6	36.7	0.1	>30	41.0	17.0	X	
36.8	36.8	0.1	>30	31.8	16.5	X	
36.9	36.9	<0.1	15-30	24.8	15.0	X	
37.3	37.3	0.1	>30	38.3	16.6	X	
37.9	38.0	0.1	>30	33.7	16.0	X	
38.0	38.1	0.1	>30	50.5	20.4	X	
38.2	38.2	<0.1	>30	34.4	25.7	X	
38.2	38.2	<0.1	>30	59.1	19.7	X	
38.3	38.3	0.1	>30	66.1	21.7	X	
38.4	38.4	<0.1	15-30	21.0	15.2	X	
38.6	38.6	<0.1	15-30	20.7	15.4	X	
38.6	38.6	<0.1	>30	30.3	18.3	X	
38.8	38.8	<0.1	15-30	18.6	15.2	X	
38.8	38.9	<0.1	15-30	29.1	21.5	X	
39.1	39.1	<0.1	>30	33.0	25.4	X	
39.3	39.3	<0.1	>30	30.4	25.1	X	
39.6	39.7	<0.1	15-30	25.6	16.6	X	

APPENDIX K (continued)

Steep Slopes along the Mountain Valley Project

MP Start	MP End	Miles Crossed	Grade (%)	Max Slope (%)	Min Slope (%)	Vertical Slope	Lateral Slope
39.7	39.8	<0.1	15-30	28.3	16.0	X	
39.8	39.8	<0.1	15-30	26.5	16.4	X	
39.9	39.9	<0.1	15-30	22.4	27.6	X	
40.0	40.0	<0.1	15-30	29.5	15.4	X	
40.1	40.1	<0.1	>30	33.3	18.5	X	
40.4	40.4	<0.1	15-30	23.0	15.6	X	
40.4	40.5	<0.1	15-30	27.1	15.7	X	
40.9	40.9	<0.1	15-30	27.6	21.2	X	
41.0	41.1	<0.1	15-30	29.4	16.2	X	
41.1	41.2	0.1	>30	38.5	16.3	X	
41.2	41.3	0.2	>30	46.0	17.0	X	
41.4	41.5	0.1	>30	61.0	25.3	X	
41.6	41.7	0.1	15-30	27.3	17.6	X	
41.8	41.8	<0.1	15-30	27.4	15.9	X	
41.9	41.9	<0.1	>30	30.1	18.1	X	
42.0	42.0	<0.1	15-30	20.2	32.4	X	
42.0	42.0	<0.1	>30	33.6	21.1	X	
42.1	42.1	<0.1	15-30	24.9	18.0	X	
42.2	42.2	<0.1	>30	41.8	16.3	X	
42.3	42.3	<0.1	15-30	22.2	18.6	X	
42.4	42.4	<0.1	15-30	22.8	16.5	X	
42.4	42.4	<0.1	15-30	21.6	16.7	X	
42.4	42.5	0.1	>30	38.4	16.6	X	
42.6	42.7	0.1	>30	43.7	21.7	X	
42.7	42.9	0.1	>30	66.1	21.5	X	
43.0	43.0	0.1	>30	31.0	17.7	X	
43.0	43.1	0.1	>30	51.4	21.7	X	
43.1	43.2	0.1	>30	43.3	24.6	X	
43.2	43.4	0.1	>30	65.9	19.5	X	
43.4	43.4	<0.1	>30	50.2	33.8	X	
43.4	43.6	0.2	>30	52.6	36.2		X
43.7	43.7	<0.1	>30	45.1	21.4	X	
43.7	43.8	0.1	>30	35.9	16.0	X	
44.0	44.0	<0.1	15-30	26.1	17.9	X	
44.2	44.2	<0.1	15-30	21.3	15.1	X	
44.4	44.5	0.1	15-30	21.4	15.2	X	
44.5	44.6	<0.1	15-30	28.5	21.6	X	
44.7	44.8	0.1	>30	62.1	25.5	X	

APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

MP Start	MP End	Miles Crossed	Grade (%)	Max Slope (%)	Min Slope (%)	Vertical Slope	Lateral Slope
44.9	44.9	<0.1	>30	57.9	22.4	X	
45.0	45.0	0.1	>30	62.8	16.9	X	
45.1	45.1	0.1	>30	41.4	16.5	X	
45.2	45.3	0.1	>30	53.4	17.8	X	
45.3	45.3	<0.1	15-30	29.2	16.3	X	
45.4	45.4	<0.1	15-30	23.9	17.7	X	
45.4	45.5	<0.1	15-30	26.7	15.4	X	
45.5	45.5	<0.1	15-30	18.1	15.6	X	
45.6	45.6	<0.1	15-30	19.3	15.6	X	
45.8	45.9	<0.1	15-30	22.1	16.5	X	
45.9	45.9	<0.1	>30	59.3	33.2	X	
46.0	46.0	<0.1	>30	42.4	26.8	X	
46.1	46.2	0.1	>30	44.6	17.0	X	
46.3	46.4	0.1	15-30	23.8	16.9	X	
46.5	46.5	<0.1	>30	40.4	20.5	X	
46.5	46.5	<0.1	>30	30.2	24.5	X	
46.5	47.0	0.5	>30	37.0	21.7		X
46.6	46.6	<0.1	>30	31.8	21.2	X	
46.8	46.8	<0.1	>30	32.2	16.1	X	
46.9	46.9	<0.1	>30	33.3	28.7	X	
46.9	46.9	<0.1	15-30	23.1	21.2	X	
47.0	47.0	<0.1	15-30	27.4	18.5	X	
47.5	47.5	<0.1	>30	30.5	18.6	X	
47.6	47.7	0.1	>30	34.1	15.9	X	
47.9	47.9	0.1	>30	47.0	17.6	X	
47.9	48.0	0.1	>30	51.4	16.7	X	
48.1	48.2	0.1	>30	51.7	18.2	X	
48.2	48.3	0.1	>30	59.4	17.5	X	
48.3	48.4	0.1	>30	41.3	15.2	X	
48.5	48.5	<0.1	>30	20.58	15.6	X	
48.6	48.6	<0.1	15-30	28.1	19.6	X	
48.6	48.7	<0.1	15-30	23.2	15.0	X	
48.7	48.7	<0.1	15-30	24.2	16.9	X	
48.9	48.9	<0.1	>30	30.8	17.1	X	
48.9	49.0	<0.1	15-30	27.4	15.7	X	
49.2	49.2	0.1	>30	31.5	16.2	X	
49.3	49.3	<0.1	>30	30.1	18.3	X	
49.4	49.5	0.1	>30	41.5	16.7	X	



APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

MP Start	MP End	Miles Crossed	Grade (%)	Max Slope (%)	Min Slope (%)	Vertical Slope	Lateral Slope
49.6	49.7	0.1	>30	32.9	16.3	X	
49.8	49.9	<0.1	15-30	17.9	16.4	X	
50.0	50.0	<0.1	15-30	25.9	20.3	X	
50.0	50.1	0.1	>30	33.9	15.3	X	
50.1	50.2	<0.1	15-30	24.7	15.9	X	
50.8	50.9	<0.1	15-30	24.3	16.1	X	
50.9	51.0	0.1	>30	66.5	15.7	X	
51.1	51.2	0.1	>30	57.9	16.9	X	
51.2	51.3	<0.1	>30	52.3	32.7	X	
51.3	51.4	0.1	>30	51.5	15.6	X	
51.4	51.5	0.1	>30	51.3	15.9	X	
51.5	51.6	<0.1	>30	38.6	18.0	X	
51.7	51.8	0.1	>30	50.1	15.1	X	
52.0	52.0	<0.1	15-30	18.5	16.6	X	
52.1	52.2	<0.1	>30	34.4	17.2	X	
52.2	52.3	0.1	>30	55.2	15.9	X	
52.3	52.4	<0.1	>30	34.0	23.1	X	
52.4	52.4	<0.1	>30	32.1	19.3	X	
52.5	52.6	0.1	>30	56.8	18.7	X	
53.0	53.0	<0.1	>30	31.5	21.7	X	
53.1	53.1	<0.1	15-30	21.9	17.8	X	
53.1	53.2	0.1	>30	30.6	16.0	X	
53.2	53.3	0.1	15-30	29.7	21.9		X
53.4	53.5	<0.1	15-30	28.0	20.2	X	
53.5	53.6	<0.1	15-30	17.3	38.6	X	
53.6	53.6	<0.1	15-30	18.0	15.6	X	
53.8	53.8	<0.1	15-30	29.1	16.3	X	
53.9	53.9	<0.1	15-30	29.9	16.5	X	
54.0	54.0	<0.1	15-30	21.7	15.3	X	
54.1	54.1	<0.1	15-30	17.5	15.0	X	
54.2	54.2	<0.1	15-30	26.4	15.4	X	
54.4	54.4	<0.1	15-30	25.6	18.8	X	
54.7	54.7	<0.1	>30	30.5	19.7	X	
54.7	54.7	<0.1	15-30	26.5	18.0	X	
54.7	54.8	<0.1	15-30	19.8	15.9	X	
54.8	54.9	<0.1	15-30	22.5	15.2	X	
54.9	55.0	0.1	>30	35.2	16.1	X	
55.0	55.2	0.2	>30	64.6	17.6	X	

APPENDIX K (continued)

Steep Slopes along the Mountain Valley Project

MP Start	MP End	Miles Crossed	Grade (%)	Max Slope (%)	Min Slope (%)	Vertical Slope	Lateral Slope
55.2	55.3	0.1	>30	80.0	23.3	X	
55.3	55.4	<0.1	>30	60.9	22.0	X	
55.4	55.5	0.1	>30	34.9	15.2	X	
55.7	55.7	<0.1	15-30	28.0	19.9	X	
55.8	55.9	<0.1	>30	30.6	16.6	X	
55.9	55.9	0.1	>30	-30.5	15.3	X	
56.0	56.0	<0.1	>30	32.6	17.9	X	
56.2	56.3	<0.1	>30	30.8	22.3	X	
56.5	56.7	0.2	>30	37.2	15.3	X	
56.7	56.7	<0.1	15-30	28.9	19.7	X	
56.7	56.8	<0.1	>30	39.5	21.2	X	
57.1	57.6	0.5	>30	42.9	24.0		X
57.2	57.2	<0.1	15-30	19.8	15.1	X	
58.0	58.0	<0.1	15-30	15.1	20.1	X	
58.1	58.1	0.1	>30	38.6	16.0	X	
58.2	58.2	<0.1	15-30	21.1	18.4	X	
58.3	58.4	0.2	>30	43.3	15.6	X	
58.5	58.6	0.1	>30	62.0	17.7	X	
58.7	58.8	0.2	>30	76.3	15.0	X	
58.9	58.9	<0.1	15-30	27.5	16.0	X	
59.2	59.3	<0.1	15-30	26.5	15.5	X	
59.4	59.5	0.1	>30	105.9	16.4	X	
59.5	59.6	0.1	>30	56.9	17.9	X	
59.6	59.7	<0.1	15-30	24.1	17.7	X	
59.8	59.8	<0.1	15-30	22.6	15.4	X	
59.8	60.0	0.2	>30	77.1	17.3	X	
60.0	60.1	0.1	>30	64.2	17.3	X	
60.2	60.2	0.1	>30	35.3	17.9	X	
60.3	60.4	0.1	>30	55.2	15.5	X	
60.5	60.7	0.2	>30	65.2	15.1	X	
60.7	60.7	<0.1	>30	32.3	18.4	X	
60.8	60.9	0.1	>30	30.7	18.6	X	
61.0	61.1	0.1	>30	52.8	16.3	X	
61.2	61.2	<0.1	>30	53.2	24.6	X	
61.3	61.3	<0.1	15-30	22.3	15.2	X	
61.4	61.6	0.2	>30	61.8	18.1	X	
61.6	61.7	<0.1	>30	54.7	21.1	X	
61.9	61.9	<0.1	>30	37.3	17.9	X	

APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

<b>MP Start</b>	<b>MP End</b>	<b>Miles Crossed</b>	<b>Grade (%)</b>	<b>Max Slope (%)</b>	<b>Min Slope (%)</b>	<b>Vertical Slope</b>	<b>Lateral Slope</b>
62.0	62.2	0.3	>30	84.1	15.9	X	
62.3	62.4	0.1	>30	82.4	28.3	X	
62.8	62.8	<0.1	15-30	25.1	18.2	X	
62.9	62.9	<0.1	>30	33.2	18.5	X	
63.0	63.1	0.1	>30	34.3	17.1	X	
63.1	63.2	<0.1	>30	40.8	17.9	X	
63.6	63.6	<0.1	15-30	22.0	17.6	X	
63.7	63.7	<0.1	15-30	23.8	16.6	X	
64.1	64.1	<0.1	>30	36.8	15.1	X	
64.3	64.3	<0.1	>30	52.3	18.4	X	
64.3	64.3	<0.1	>30	40.2	15.4	X	
64.5	64.5	<0.1	15-30	29.6	15.4	X	
64.5	64.6	<0.1	15-30	25.9	20.1	X	
64.6	64.7	0.1	>30	41.4	16.2	X	
64.7	64.8	0.1	>30	42.1	17.1	X	
64.9	64.9	<0.1	15-30	29.7	20.5	X	
64.9	65.0	<0.1	15-30	20.4	15.7	X	
65.2	65.2	<0.1	15-30	24.7	15.2	X	
65.3	65.4	0.1	>30	60.2	16.6	X	
65.4	65.5	<0.1	>30	34.1	17.9	X	
65.5	65.5	<0.1	>30	59.1	22.9	X	
65.6	65.7	0.1	>30	48.2	16.4	X	
65.7	65.8	<0.1	>30	41.2	22.8	X	
65.8	65.8	<0.1	15-30	18.8	15.9	X	
66.0	66.0	<0.1	>30	30.3	19.1	X	
66.5	66.6	<0.1	>30	53.9	17.8	X	
66.6	66.6	0.1	>30	34.3	22.0	X	
66.9	67.0	<0.1	15-30	22.4	15.9	X	
67.1	67.1	<0.1	15-30	21.7	16.3	X	
67.3	67.3	<0.1	>30	30.4	16.0	X	
67.4	67.5	0.1	>30	50.2	19.2	X	
67.5	67.6	0.1	>30	56.0	17.9	X	
67.7	67.7	<0.1	>30	33.4	17.7	X	
67.7	67.8	0.1	>30	45.7	15.5	X	
67.9	68.0	0.1	>30	36.6	15.6	X	
68.5	68.5	<0.1	15-30	25.7	18.7	X	
68.6	68.8	0.2	>30	68.6	16.5	X	
68.8	68.9	0.1	>30	57.4	24.2	X	

APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

MP Start	MP End	Miles Crossed	Grade (%)	Max Slope (%)	Min Slope (%)	Vertical Slope	Lateral Slope
68.9	69.0	<0.1	15-30	22.6	17.5	X	
69.2	69.2	0.1	>30	70.7	17.7	X	
69.2	69.3	<0.1	>30	35.4	17.3	X	
69.3	69.3	<0.1	15-30	28.5	19.1	X	
69.3	69.8	0.5	>30	34.8	16.1		X
69.6	69.6	0.1	15-30	27.0	17.8	X	
69.7	69.7	0.1	15-30	23.8	15.1	X	
69.9	69.9	<0.1	15-30	23.0	17.3	X	
70.0	70.1	0.1	>30	55.8	23.7	X	
70.1	70.3	0.1	>30	57.5	23.8	X	
70.3	70.3	<0.1	15-30	21.2	16.4	X	
70.3	70.3	<0.1	15-30	25.9	15.7	X	
70.4	70.5	0.1	>30	37.7	15.3	X	
70.5	70.6	0.1	>30	38.5	15.1	X	
70.7	70.8	<0.1	15-30	20.6	16.0	X	
70.8	70.8	<0.1	15-30	22.6	16.5	X	
70.9	71.0	<0.1	>30	40.4	19.6	X	
71.1	71.2	0.2	>30	33.2	16.7	X	
71.5	71.5	<0.1	>30	31.1	21.5	X	
71.6	71.7	<0.1	15-30	19.0	16.4	X	
71.7	71.8	0.1	>30	39.2	16.5	X	
71.8	71.9	0.1	>30	54.1	18.4	X	
71.9	72.0	<0.1	>30	47.6	18.8	X	
72.3	72.4	0.1	>30	46.0	15.2	X	
72.4	72.4	<0.1	>30	39.4	21.3	X	
72.5	72.5	0.1	>30	36.6	23.8	X	
72.6	72.7	0.2	>30	57.9	25.4	X	
73.2	73.2	<0.1	15-30	28.5	15.7	X	
73.5	73.6	0.1	>30	47.3	18.4	X	
73.7	73.8	0.1	>30	53.8	18.2	X	
73.9	73.9	<0.1	15-30	28.8	16.3	X	
74.0	74.1	0.1	>30	41.2	18.5	X	
74.1	74.1	<0.1	>30	43.4	35.8	X	
74.2	74.2	<0.1	>30	53.1	20.2	X	
74.2	74.3	0.1	>30	56.8	19.6	X	
74.6	74.7	0.1	>30	36.0	16.0	X	
74.7	74.7	<0.1	>30	39.8	15.1	X	
74.8	74.9	0.2	>30	75.9	15.2	X	

APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

MP Start	MP End	Miles Crossed	Grade (%)	Max Slope (%)	Min Slope (%)	Vertical Slope	Lateral Slope
75.1	75.3	0.2	>30	62.1	21.9	X	
75.3	75.3	<0.1	>30	37.2	20.8	X	
75.7	75.7	<0.1	>30	34.7	22.9	X	
75.9	75.9	<0.1	15-30	19.2	16.7	X	
76.1	76.2	0.1	>30	32.2	15.1	X	
76.4	76.4	<0.1	>30	30.6	15.8	X	
76.7	76.8	0.1	>30	78.7	15.1	X	
76.8	76.9	0.1	>30	81.6	34.9	X	
77.0	77.0	<0.1	>30	37.6	16.3	X	
77.0	77.0	<0.1	15-30	20.1	15.7	X	
77.2	77.3	<0.1	15-30	26.7	21.6	X	
77.4	77.4	<0.1	15-30	21.7	15.0	X	
77.5	77.5	<0.1	15-30	24.3	18.6	X	
77.6	77.7	0.1	>30	72.6	25.6	X	
77.8	77.9	0.1	>30	61.3	19.9	X	
78.0	78.2	0.1	>30	57.2	18.7	X	
78.2	78.4	0.2	>30	65.6	15.4	X	
78.6	78.7	<0.1	15-30	21.2	17.7	X	
78.8	78.9	<0.1	15-30	23.3	20.6	X	
79.4	79.4	<0.1	15-30	28.3	18.0	X	
79.5	79.5	<0.1	>30	36.4	15.6	X	
79.7	79.8	0.1	>30	84.3	20.8	X	
79.8	80.0	0.1	>30	84.1	29.0	X	
80.2	80.2	<0.1	>30	36.2	17.8	X	
80.3	80.3	<0.1	15-30	29.3	16.4	X	
80.6	80.7	0.1	15-30	29.3	16.5	X	
80.7	80.8	0.1	>30	41.6	19.5	X	
80.8	80.9	0.1	>30	41.8	19.8	X	
81.1	81.2	0.1	15-30	28.6	15.1	X	
81.2	81.3	0.1	>30	74.2	16.2	X	
81.3	81.4	0.1	>30	67.2	22.7	X	
81.4	81.5	0.1	>30	48.3	18.0	X	
81.5	81.7	0.1	>30	56.4	15.6	X	
81.9	81.9	<0.1	>30	36.0	16.3	X	
81.9	82.0	<0.1	>30	40.3	17.9	X	
82.0	82.1	0.1	>30	43.5	24.4		X
82.1	82.1	0.1	>30	56.6	16.3	X	
82.1	82.3	0.2	>30	35.1	21.7		X

APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

MP Start	MP End	Miles Crossed	Grade (%)	Max Slope (%)	Min Slope (%)	Vertical Slope	Lateral Slope
82.2	82.2	<0.1	15-30	24.1	16.2	X	
82.2	82.4	0.1	>30	56.7	16.1	X	
82.5	82.6	0.1	>30	59.6	18.1	X	
82.6	82.7	0.1	>30	39.1	37.0		X
82.7	82.7	<0.1	>30	36.3	15.3	X	
82.7	83.0	0.3	>30	74.4	22.2	X	
83.0	83.0	<0.1	>30	30.7	17.4	X	
83.5	83.5	<0.1	15-30	19.4	17.8	X	
83.5	83.5	<0.1	>30	56.9	26.1	X	
83.5	83.5	<0.1	>30	32.1	23.6	X	
83.7	83.8	0.1	>30	79.3	17.2	X	
83.8	84.1	0.3	>30	59.9	17.6	X	
84.2	84.2	<0.1	>30	66.4	33.1	X	
84.4	84.7	0.3	>30	63.2	15.4	X	
84.7	84.7	<0.1	15-30	29.8	17.4	X	
85.1	85.2	0.1	>30	45.5	16.5	X	
85.3	85.4	<0.1	15-30	23.8	20.4	X	
85.5	85.5	<0.1	15-30	25.0	18.1	X	
85.6	85.7	0.1	>30	44.4	16.4	X	
85.8	85.9	0.1	>30	50.7	20.1	X	
86.0	86.0	<0.1	15-30	29.3	16.1	X	
86.3	86.4	0.1	>30	31.6	17.2	X	
86.7	86.8	0.2	>30	56.8	18.4	X	
86.9	87.4	0.4	>30	56.5	17.1	X	
87.8	88.0	0.2	15-30	15.0	48.7	X	
88.0	88.1	0.1	>30	46.9	17.6	X	
88.1	88.2	0.1	>30	57.1	17.6	X	
88.2	88.3	0.1	>30	80.4	16.3	X	
88.3	88.4	<0.1	15-30	23.7	35.4	X	
88.4	88.5	0.1	>30	50.0	18.1	X	
88.9	88.9	<0.1	15-30	21.7	15.7	X	
89.2	89.2	<0.1	15-30	29.2	15.6	X	
89.7	89.8	<0.1	>30	32.5	15.0	X	
90.2	90.3	<0.1	>30	42.0	24.8	X	
90.3	90.3	<0.1	15-30	23.8	15.5	X	
90.4	90.5	0.1	>30	75.7	16.5	X	
90.5	90.7	0.2	>30	63.2	17.6	X	
90.8	91.1	0.3	>30	69.6	16.4	X	

APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

<b>MP Start</b>	<b>MP End</b>	<b>Miles Crossed</b>	<b>Grade (%)</b>	<b>Max Slope (%)</b>	<b>Min Slope (%)</b>	<b>Vertical Slope</b>	<b>Lateral Slope</b>
91.2	91.2	<0.1	15-30	27.8	16.6	X	
91.9	91.9	<0.1	15-30	29.5	17.2	X	
92.1	92.1	<0.1	15-30	18.7	15.0	X	
92.3	92.5	0.2	>30	95.2	19.7	X	
92.5	92.7	0.2	>30	73.7	24.6	X	
92.7	92.8	<0.1	15-30	23.7	15.5	X	
92.8	93.1	0.2	>30	72.9	19.2	X	
93.2	93.4	0.1	>30	53.7	17.0	X	
93.4	93.4	<0.1	15-30	25.3	15.0	X	
93.4	93.6	0.1	>30	60.0	27.5	X	
94.2	94.3	<0.1	>30	39.9	16.4	X	
94.4	94.5	0.1	>30	47.6	15.3	X	
94.5	94.5	<0.1	15-30	29.4	18.8	X	
94.8	94.8	<0.1	15-30	21.2	15.2	X	
96.0	96.0	<0.1	15-30	25.2	15.4	X	
96.4	96.4	0.1	>30	36.6	16.8	X	
96.5	96.5	<0.1	15-30	27.1	19.3	X	
96.6	96.6	<0.1	>30	30.6	16.7	X	
96.6	96.7	0.1	>30	42.9	15.0	X	
96.7	96.8	0.1	>30	56.3	17.9	X	
96.9	96.9	<0.1	15-30	22.3	18.4	X	
97.1	97.1	<0.1	15-30	29.3	18.0	X	
97.2	97.3	<0.1	>30	72.3	19.8	X	
97.3	97.3	<0.1	15-30	23.1	15.6	X	
97.4	97.4	<0.1	>30	30.3	16.0	X	
97.4	97.5	0.1	>30	42.5	17.4	X	
97.5	97.7	0.2	>30	51.3	17.4	X	
97.9	98.0	0.1	>30	48.0	20.6	X	
98.0	98.1	0.1	>30	79.3	33.1	X	
98.4	98.7	0.3	>30	61.2	17.2	X	
98.9	99.0	0.1	>30	60.2	17.2	X	
99.0	99.1	<0.1	>30	46.1	18.7	X	
99.1	99.1	<0.1	>30	31.0	15.3	X	
99.2	99.3	0.1	>30	55.3	22.9	X	
99.3	99.4	0.1	15-30	29.4	16.0	X	
99.4	99.5	0.1	>30	86.5	18.6	X	
99.5	99.5	<0.1	15-30	22.0	15.6	X	
99.7	99.7	<0.1	15-30	26.3	18.0	X	

APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

<b>MP Start</b>	<b>MP End</b>	<b>Miles Crossed</b>	<b>Grade (%)</b>	<b>Max Slope (%)</b>	<b>Min Slope (%)</b>	<b>Vertical Slope</b>	<b>Lateral Slope</b>
99.8	99.8	<0.1	>30	34.8	20.0	X	
99.8	99.9	0.1	>30	34.0	15.5	X	
100.1	100.2	0.1	>30	58.5	15.2	X	
100.2	100.2	<0.1	>30	33.6	17.1	X	
100.6	100.6	0.1	>30	44.6	15.9	X	
100.7	100.7	0.1	>30	47.4	16.3	X	
100.8	100.9	<0.1	>30	52.3	20.2	X	
100.9	101.0	<0.1	>30	35.0	16.6	X	
101.2	101.2	<0.1	>30	32.0	21.5	X	
101.3	101.3	<0.1	15-30	26.6	18.9	X	
101.4	101.4	<0.1	15-30	21.6	16.4	X	
101.5	101.6	0.1	>30	37.7	16.0	X	
101.6	101.7	0.1	>30	33.1	18.3	X	
101.8	101.8	<0.1	15-30	21.8	15.0	X	
101.9	102.0	0.1	>30	49.0	19.5	X	
102.1	102.1	<0.1	15-30	25.9	16.7	X	
102.1	102.1	<0.1	15-30	26.0	15.7	X	
102.3	102.3	<0.1	>30	35.1	17.5	X	
102.3	102.4	<0.1	15-30	29.5	15.6	X	
102.5	102.5	<0.1	>30	57.4	22.8	X	
102.6	102.6	<0.1	>30	36.2	25.0	X	
102.6	102.7	0.1	>30	44.5	19.2	X	
102.7	102.8	<0.1	15-30	28.4	18.9	X	
102.8	102.9	0.1	>30	42.9	20.3	X	
103.1	103.2	<0.1	>30	45.7	30.9	X	
103.2	103.3	<0.1	>30	64.4	29.6	X	
103.5	103.5	<0.1	15-30	28.6	22.3	X	
103.5	103.6	0.1	>30	32.0	16.1	X	
103.8	103.8	<0.1	>30	30.6	80.3	X	
103.8	103.9	0.1	15-30	25.5	16.1	X	
103.9	104.0	<0.1	15-30	27.0	16.2	X	
104.0	104.1	0.1	15-30	29.0	15.6	X	
104.2	104.2	0.1	>30	41.4	19.7	X	
104.2	104.3	0.1	>30	35.6	16.7	X	
104.7	104.7	<0.1	15-30	26.2	17.8	X	
104.8	104.8	<0.1	>30	30.9	15.7	X	
104.9	104.9	<0.1	15-30	24.5	18.2	X	
105.0	105.0	<0.1	15-30	26.6	16.3	X	



APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

<b>MP Start</b>	<b>MP End</b>	<b>Miles Crossed</b>	<b>Grade (%)</b>	<b>Max Slope (%)</b>	<b>Min Slope (%)</b>	<b>Vertical Slope</b>	<b>Lateral Slope</b>
105.0	105.1	<0.1	>30	31.2	18.7	X	
105.3	105.3	<0.1	15-30	26.8	17.1	X	
105.3	105.3	<0.1	>30	33.1	15.4	X	
105.8	105.8	0.1	>30	33.1	19.9	X	
105.9	105.9	<0.1	>30	33.2	19.1	X	
106.0	106.1	0.1	>30	31.5	16.1	X	
106.2	106.2	<0.1	>30	39.5	15.8	X	
106.3	106.4	<0.1	>30	37.4	20.2	X	
106.5	106.5	<0.1	15-30	26.8	16.8	X	
106.5	106.5	<0.1	15-30	21.3	15.4	X	
106.6	106.7	<0.1	15-30	27.8	19.5	X	
106.7	106.8	0.1	>30	-53.2	18.0	X	
106.8	107.0	0.1	>30	43.7	15.2	X	
107.0	107.0	<0.1	15-30	28.6	17.2	X	
107.1	107.1	<0.1	15-30	28.7	19.0	X	
107.1	107.2	0.1	>30	46.3	16.0	X	
107.3	107.4	<0.1	>30	44.0	22.0	X	
107.5	107.5	<0.1	>30	46.4	26.6	X	
107.5	107.6	0.1	>30	44.8	17.1	X	
107.6	107.7	<0.1	15-30	23.2	15.2	X	
107.8	107.8	<0.1	>30	30.2	21.1	X	
107.9	107.9	<0.1	15-30	17.6	15.5	X	
108.1	108.2	0.1	15-30	29.1	15.3	X	
108.2	108.3	<0.1	>30	30.7	16.3	X	
108.3	108.3	<0.1	>30	35.8	19.3	X	
108.4	108.4	<0.1	15-30	26.3	18.8	X	
108.5	108.6	<0.1	>30	35.8	15.6	X	
108.6	108.6	<0.1	15-30	21.4	16.5	X	
108.7	108.7	<0.1	>30	45.7	20.1	X	
108.8	108.8	<0.1	15-30	21.6	16.7	X	
108.8	108.9	<0.1	15-30	25.9	18.6	X	
108.9	109.0	<0.1	15-30	23.6	20.9	X	
109.1	109.1	0.1	15-30	27.1	17.4	X	
109.1	109.2	<0.1	15-30	21.7	18.8	X	
109.2	109.2	0.1	>30	36.4	19.0	X	
109.5	109.5	<0.1	>30	38.9	15.1	X	
109.6	109.6	<0.1	15-30	27.0	17.1	X	
109.9	110.0	0.1	>30	52.0	16.9	X	

APPENDIX K (continued)

Steep Slopes along the Mountain Valley Project

MP Start	MP End	Miles Crossed	Grade (%)	Max Slope (%)	Min Slope (%)	Vertical Slope	Lateral Slope
110.4	110.4	<0.1	15-30	19.2	17.1	X	
110.7	110.7	<0.1	15-30	25.2	18.1	X	
110.7	110.8	<0.1	15-30	25.9	17.3	X	
110.8	110.8	<0.1	>30	32.1	18.6	X	
111.1	111.1	<0.1	>30	34.4	19.9	X	
111.2	111.2	<0.1	15-30	22.3	16.0	X	
111.3	111.3	<0.1	15-30	25.5	17.3	X	
111.5	111.5	0.1	>30	38.2	15.9	X	
111.6	111.7	0.1	>30	32.7	17.4	X	
111.7	111.7	<0.1	>30	36.7	31.5		X
111.7	111.8	<0.1	>30	47.6	15.7	X	
111.8	111.9	0.1	>30	35.0	16.4	X	
111.9	112.0	0.1	>30	50.0	19.0	X	
112.1	112.1	<0.1	15-30	26.4	16.4	X	
112.1	112.1	<0.1	15-30	28.7	21.0	X	
112.2	112.2	<0.1	>30	37.0	23.6	X	
112.4	112.4	<0.1	>30	37.1	20.6	X	
112.4	112.4	<0.1	>30	37.0	18.6	X	
112.8	112.8	<0.1	15-30	25.2	15.2	X	
113.0	113.0	<0.1	>30	35.8	25.1	X	
113.4	113.4	<0.1	15-30	27.7	18.0	X	
113.5	113.5	<0.1	15-30	26.3	15.8	X	
113.7	113.7	<0.1	15-30	20.0	16.8	X	
113.9	114.0	<0.1	>30	34.5	15.3	X	
114.1	114.1	<0.1	>30	33.3	15.2	X	
114.8	114.8	<0.1	>30	31.2	19.0	X	
114.8	114.8	<0.1	15-30	29.1	19.8	X	
115.0	115.1	0.1	>30	50.9	16.6	X	
115.1	115.2	<0.1	>30	41.9	22.3	X	
115.2	115.2	<0.1	>30	45.1	18.6	X	
115.4	115.5	<0.1	15-30	24.8	17.0	X	
115.7	115.8	0.1	>30	50.6	16.0	X	
115.8	115.8	<0.1	>30	59.7	41.5	X	
115.9	115.9	0.1	>30	90.5	15.6	X	
116.1	116.3	0.2	15-30	21.1	19.0		X
116.2	116.2	<0.1	15-30	20.0	16.5	X	
116.3	116.3	<0.1	15-30	28.2	15.1	X	
116.4	116.4	<0.1	>30	35.6	27.1	X	

APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

MP Start	MP End	Miles Crossed	Grade (%)	Max Slope (%)	Min Slope (%)	Vertical Slope	Lateral Slope
116.8	116.8	<0.1	15-30	23.8	16.4	X	
117.2	117.2	<0.1	>30	39.1	17.5	X	
117.5	117.5	<0.1	15-30	29.5	21.6	X	
117.6	117.6	<0.1	>30	52.8	26.4	X	
117.9	117.9	<0.1	>30	30.1	16.4	X	
118.0	118.0	<0.1	15-30	23.3	16.2	X	
118.1	118.1	<0.1	15-30	23.8	16.0	X	
118.1	118.2	0.1	>30	48.7	16.2	X	
118.3	118.3	<0.1	>30	36.6	15.3	X	
118.3	118.5	0.1	>30	76.7	20.1	X	
118.5	118.6	<0.1	>30	63.0	22.8	X	
118.6	118.7	<0.1	>30	63.5	21.5	X	
118.7	118.9	0.3	>30	63.1	17.2	X	
119.2	119.4	0.2	>30	38.3	18.9	X	
119.4	119.5	0.1	>30	39.3	17.3	X	
119.6	119.7	<0.1	15-30	19.5	16.0	X	
119.7	119.9	0.2	>30	70.2	16.3	X	
120.0	120.1	0.1	>30	63.7	18.7	X	
122.1	122.1	<0.1	15-30	17.7	15.2	X	
122.2	122.2	<0.1	15-30	20.9	17.6	X	
122.2	122.7	0.5	>30	31.7	22.4		X
122.6	122.7	<0.1	>30	35.7	23.1	X	
122.7	122.8	0.1	>30	54.6	16.0	X	
122.8	122.9	0.1	15-30	25.4	15.6		X
122.9	123.0	0.1	>30	66.7	26.6	X	
123.1	123.1	0.1	>30	79.7	26.9	X	
123.1	123.2	<0.1	>30	61.3	31.8	X	
123.3	123.3	<0.1	15-30	19.6	16.4	X	
124.2	124.2	0.1	>30	33.5	17.7	X	
124.2	124.3	<0.1	15-30	28.9	19.0	X	
124.3	124.3	<0.1	15-30	24.9	23.0	X	
124.4	124.4	<0.1	15-30	18.1	17.2	X	
124.5	124.6	0.2	15-30	22.0	8.8		X
124.6	124.6	<0.1	15-30	19.4	17.4	X	
124.6	124.6	<0.1	15-30	22.0	17.9	X	
124.7	124.7	<0.1	>30	32.2	23.1	X	
124.7	124.7	<0.1	>30	39.0	16.4	X	
124.9	124.9	<0.1	15-30	17.0	15.4	X	

APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

MP Start	MP End	Miles Crossed	Grade (%)	Max Slope (%)	Min Slope (%)	Vertical Slope	Lateral Slope
124.9	125.0	<0.1	>30	33.9	23.3	X	
125.1	125.2	0.1	>30	44.4	18.9	X	
125.2	125.2	<0.1	>30	46.3	33.7	X	
125.6	125.7	0.1	>30	48.2	18.4	X	
125.7	125.8	0.1	>30	51.6	18.0	X	
125.9	125.9	<0.1	>30	38.7	17.8	X	
125.9	126.0	<0.1	15-30	29.1	16.1	X	
126.1	126.1	<0.1	15-30	24.6	18.4	X	
126.1	126.3	0.1	>30	39.1	16.3	X	
126.3	126.4	0.2	>30	50.4	17.0	X	
126.6	126.7	0.1	>30	74.5	18.6	X	
126.8	126.9	0.1	>30	36.5	16.6	X	
126.9	127.0	0.1	>30	35.4	24.0		X
126.9	126.9	<0.1	>30	30.7	25.0	X	
127.0	127.0	<0.1	>30	47.6	29.3	X	
127.0	127.1	<0.1	>30	32.8	23.6	X	
127.3	127.4	<0.1	>30	38.8	21.3	X	
127.6	127.7	0.1	>30	38.8	24.0		X
127.6	127.8	0.2	>30	45.2	15.1	X	
127.8	127.8	<0.1	15-30	19.9	15.1	X	
128.1	128.3	0.2	>30	56.5	20.7	X	
128.4	128.5	0.1	>30	37.3	16.9	X	
128.6	128.7	<0.1	15-30	16.2	15.1	X	
128.7	128.7	<0.1	15-30	30.0	19.7	X	
128.9	129.0	0.1	15-30	25.2	18.5	X	
129.3	129.3	0.1	>30	39.9	20.0	X	
129.4	129.5	0.1	>30	54.3	15.7	X	
129.9	130.0	0.2	>30	45.8	18.8	X	
130.0	130.1	0.1	>30	35.2	15.6	X	
130.2	130.3	0.2	>30	40.6	15.7	X	
130.3	130.4	<0.1	>30	44.0	32.1	X	
130.4	130.5	0.1	>30	49.0	20.4	X	
130.7	130.9	0.2	>30	58.2	17.4	X	
131.0	131.0	0.1	15-30	27.6	20.0		X
131.1	131.1	0.1	>30	41.5	16.2	X	
131.2	131.2	0.1	>30	54.1	18.3	X	
131.5	131.5	<0.1	15-30	27.4	15.2	X	
131.5	131.8	0.3	15-30	26.9	19.7		X

APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

<b>MP Start</b>	<b>MP End</b>	<b>Miles Crossed</b>	<b>Grade (%)</b>	<b>Max Slope (%)</b>	<b>Min Slope (%)</b>	<b>Vertical Slope</b>	<b>Lateral Slope</b>
131.8	131.9	0.1	>30	42.8	16.3	X	
131.9	131.9	<0.1	15-30	29.4	15.9	X	
131.9	132.0	0.1	15-30	28.1	15.6	X	
132.0	132.1	<0.1	>30	81.3	15.6	X	
132.1	132.2	0.1	>30	58.5	19.0	X	
132.4	132.4	0.1	>30	31.0	17.3	X	
132.8	132.8	<0.1	>30	31.4	17.7	X	
132.8	132.9	<0.1	15-30	25.2	17.2	X	
133.7	133.8	0.1	>30	41.6	17.8	X	
133.9	133.9	<0.1	>30	52.5	18.9	X	
134.0	134.0	0.1	>30	31.5	17.3	X	
134.1	134.1	<0.1	15-30	23.3	15.5	X	
134.3	134.4	0.1	>30	40.4	17.5	X	
134.7	134.7	<0.1	>30	54.3	16.3	X	
135.0	135.0	<0.1	15-30	27.9	16.4	X	
135.6	135.7	0.1	>30	31.9	17.0	X	
136.3	136.4	<0.1	15-30	18.9	15.5	X	
136.6	136.6	<0.1	>30	54.2	15.8	X	
138.3	138.3	<0.1	>30	42.2	26.5	X	
138.4	138.4	<0.1	15-30	24.5	17.7	X	
138.6	138.6	<0.1	15-30	28.2	20.8	X	
139.4	139.4	0.1	>30	48.6	17.4	X	
140.0	140.0	0.1	>30	61.0	16.0	X	
140.1	140.2	0.1	>30	65.8	15.4	X	
140.6	140.6	<0.1	15-30	29.7	17.8	X	
140.7	140.7	<0.1	15-30	25.2	16.3	X	
140.7	140.8	<0.1	15-30	29.1	17.2	X	
141.5	141.6	<0.1	>30	30.4	17.2	X	
142.1	142.2	<0.1	15-30	29.5	17.0	X	
143.2	143.3	0.1	>30	47.9	22.1	X	
143.3	143.4	0.1	>30	49.3	17.0	X	
143.4	143.5	0.1	>30	44.3	15.9	X	
143.9	144.1	0.2	>30	58.7	20.3	X	
144.1	144.2	0.1	>30	68.0	20.8	X	
144.2	144.3	0.1	>30	37.3	17.3	X	
144.5	144.5	<0.1	>30	43.4	19.9	X	
145.2	145.2	<0.1	15-30	20.4	16.8	X	
145.2	145.2	<0.1	15-30	22.6	15.8	X	

APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

<b>MP Start</b>	<b>MP End</b>	<b>Miles Crossed</b>	<b>Grade (%)</b>	<b>Max Slope (%)</b>	<b>Min Slope (%)</b>	<b>Vertical Slope</b>	<b>Lateral Slope</b>
145.6	145.7	0.1	>30	34.4	19.1	X	
146.3	146.7	0.3	>30	55.5	19.0	X	
146.7	146.9	0.1	>30	52.1	16.5	X	
146.9	147.0	0.1	>30	49.2	18.8	X	
147.0	147.1	0.1	>30	57.2	26.6	X	
147.2	147.2	<0.1	15-30	17.5	16.9	X	
147.8	147.8	<0.1	15-30	22.2	18.3	X	
147.9	147.9	<0.1	15-30	28.5	15.8	X	
148.0	148.1	0.1	>30	36.2	17.6	X	
148.4	148.4	<0.1	15-30	19.7	15.1	X	
148.5	148.5	<0.1	>30	64.5	38.5	X	
148.6	148.6	0.1	>30	50.3	23.1	X	
148.7	148.7	<0.1	15-30	21.1	17.4	X	
148.8	148.8	<0.1	>30	50.9	16.9	X	
148.9	148.9	<0.1	15-30	27.0	15.5	X	
149.0	149.0	<0.1	>30	44.4	19.5	X	
149.1	149.1	<0.1	>30	51.8	17.7	X	
149.2	149.2	<0.1	>30	44.9	19.7	X	
149.2	149.3	<0.1	>30	68.7	19.3	X	
149.4	149.4	<0.1	15-30	27.1	15.6	X	
149.5	149.5	<0.1	>30	48.6	24.2	X	
149.5	149.6	0.1	>30	33.8	17.4	X	
149.6	149.8	0.2	>30	50.9	16.1	X	
150.0	150.0	<0.1	15-30	25.0	16.5	X	
150.1	150.1	<0.1	>30	32.3	16.7	X	
150.5	150.6	<0.1	>30	32.9	16.5	X	
150.7	150.7	<0.1	>30	33.8	18.1	X	
151.0	151.1	<0.1	15-30	28.2	21.5	X	
151.2	151.3	<0.1	>30	55.6	18.5	X	
151.4	151.4	<0.1	>30	34.0	18.3	X	
151.5	151.5	<0.1	>30	30.1	24.3	X	
152.4	152.4	<0.1	15-30	27.8	19.8	X	
152.4	152.4	<0.1	>30	36.3	23.8	X	
152.6	152.7	<0.1	>30	38.4	16.9	X	
152.7	152.7	<0.1	15-30	25.7	17.1	X	
152.9	152.9	<0.1	>30	31.6	16.6	X	
152.9	152.9	<0.1	15-30	30.0	17.7	X	
153.1	153.1	<0.1	15-30	22.7	18.9	X	

APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

MP Start	MP End	Miles Crossed	Grade (%)	Max Slope (%)	Min Slope (%)	Vertical Slope	Lateral Slope
153.2	153.3	0.1	15-30	27.7	15.2	X	
153.3	153.4	<0.1	15-30	22.8	17.6	X	
153.4	153.4	<0.1	>30	38.5	28.0	X	
153.5	153.5	<0.1	15-30	25.4	16.3	X	
153.5	153.5	<0.1	15-30	26.9	-23.1	X	
153.6	153.6	<0.1	>30	30.7	17.3	X	
153.7	153.7	<0.1	15-30	23.4	15.9	X	
154.0	154.0	<0.1	15-30	29.3	15.5	X	
154.3	154.3	0.1	>30	32.8	19.8	X	
154.4	154.4	0.1	>30	65.4	22.1	X	
154.4	154.5	<0.1	>30	34.7	19.3	X	
154.7	154.7	<0.1	>30	39.4	16.5	X	
154.9	154.9	<0.1	>30	65.1	18.5	X	
155.0	155.0	<0.1	>30	68.4	19.7	X	
155.1	155.2	0.1	>30	43.6	15.6	X	
155.2	155.3	<0.1	>30	41.6	23.1	X	
155.3	155.3	<0.1	>30	42.3	36.4		X
155.4	155.4	<0.1	>30	51.7	25.0	X	
155.5	155.5	<0.1	>30	31.9	18.2	X	
155.5	155.5	<0.1	>30	59.2	17.0	X	
155.6	155.6	<0.1	15-30	23.9	16.4	X	
155.8	155.8	<0.1	>30	43.9	25.5	X	
156.1	156.1	0.1	>30	35.9	16.1	X	
156.1	156.2	<0.1	>30	57.2	37.6	X	
156.2	156.3	0.1	>30	52.2	17.2	X	
156.3	156.3	<0.1	15-30	19.7	16.6	X	
156.4	156.4	<0.1	>30	40.7	19.8	X	
156.4	156.4	<0.1	15-30	25.0	16.2	X	
156.5	156.5	0.1	>30	46.9	17.7	X	
156.6	156.7	0.1	>30	68.4	21.0	X	
156.8	156.8	<0.1	>30	36.1	18.7	X	
156.9	157.0	<0.1	15-30	23.4	16.5	X	
157.0	157.0	<0.1	15-30	27.5	15.1	X	
157.5	157.5	<0.1	15-30	29.6	15.7	X	
157.6	157.6	<0.1	>30	36.0	23.2	X	
157.9	158.0	0.1	>30	31.3	15.9	X	
158.1	158.1	<0.1	15-30	22.5	16.2	X	
158.2	158.3	0.1	>30	68.4	18.2	X	

APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

<b>MP Start</b>	<b>MP End</b>	<b>Miles Crossed</b>	<b>Grade (%)</b>	<b>Max Slope (%)</b>	<b>Min Slope (%)</b>	<b>Vertical Slope</b>	<b>Lateral Slope</b>
158.5	158.5	<0.1	15-30	19.4	15.0	X	
158.6	158.6	<0.1	>30	30.1	17.1	X	
158.7	158.8	<0.1	>30	40.2	17.9	X	
158.9	159.0	<0.1	>30	36.2	25.9	X	
159.0	159.0	<0.1	>30	42.3	28.3	X	
159.3	159.3	<0.1	>30	35.9	19.2	X	
159.5	159.5	<0.1	15-30	20.9	15.3	X	
160.2	160.3	0.1	>30	48.6	17.5	X	
160.6	160.6	<0.1	15-30	24.1	17.4	X	
160.7	160.8	0.1	>30	38.4	23.2	X	
161.9	162.2	0.3	>30	54.1	24.9	X	
162.3	162.5	0.3	>30	70.1	16.8	X	
162.6	162.6	<0.1	>30	48.8	20.4	X	
162.6	162.7	0.1	>30	77.4	16.2	X	
162.8	162.8	<0.1	15-30	25.0	16.2	X	
162.9	163.1	0.1	>30	68.7	19.7	X	
163.4	163.4	0.1	15-30	26.7	15.2	X	
164.2	164.3	0.1	>30	43.6	18.2	X	
164.5	164.5	<0.1	15-30	26.8	16.1	X	
164.5	164.6	<0.1	>30	31.9	23.3	X	
164.6	164.7	0.1	>30	38.3	18.9	X	
164.8	164.9	0.1	>30	43.7	17.9	X	
165.2	165.2	<0.1	15-30	25.2	20.9	X	
165.4	165.4	0.1	15-30	27.0	15.5	X	
165.5	165.6	0.1	>30	36.0	15.3	X	
165.7	165.7	<0.1	15-30	20.2	17.5	X	
166.2	166.2	<0.1	>30	43.2	19.0	X	
166.3	166.3	0.1	>30	52.4	29.0	X	
166.3	166.4	0.1	15-30	27.9	15.6	X	
166.7	166.8	<0.1	>30	32.5	17.8	X	
167.6	167.7	0.1	>30	38.1	15.5	X	
167.7	167.9	0.2	>30	42.9	17.3	X	
168.0	168.1	<0.1	15-30	17.7	15.0	X	
168.2	168.2	<0.1	15-30	15.5	15.1	X	
168.4	168.4	<0.1	15-30	23.1	16.5	X	
168.5	168.5	<0.1	>30	31.2	15.4	X	
168.9	169.1	0.2	>30	35.6	16.2	X	
169.2	169.2	<0.1	>30	41.4	15.1	X	



APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

<b>MP Start</b>	<b>MP End</b>	<b>Miles Crossed</b>	<b>Grade (%)</b>	<b>Max Slope (%)</b>	<b>Min Slope (%)</b>	<b>Vertical Slope</b>	<b>Lateral Slope</b>
169.9	169.9	0.1	>30	39.4	15.7	X	
170.0	170.0	<0.1	>30	47.0	16.6	X	
170.0	170.0	<0.1	15-30	22.3	16.7	X	
170.1	170.1	<0.1	15-30	22.3	16.7	X	
170.3	170.4	0.1	>30	53.8	18.7	X	
170.4	170.5	0.1	>30	62.8	15.6	X	
171.0	171.1	<0.1	>30	54.6	15.7	X	
171.1	171.1	<0.1	>30	34.8	17.1	X	
171.1	171.2	0.1	>30	37.2	19.2	X	
171.2	171.3	<0.1	>30	37.1	15.5	X	
171.3	171.3	<0.1	15-30	20.3	17.1	X	
171.6	171.7	0.1	>30	46.3	15.0	X	
171.7	171.7	<0.1	>30	34.7	17.2	X	
171.7	171.8	<0.1	>30	47.0	26.6	X	
171.8	171.9	<0.1	>30	71.3	24.6	X	
171.9	171.9	<0.1	15-30	25.6	19.3	X	
172.0	172.0	0.1	>30	34.9	17.7	X	
172.2	172.3	0.1	>30	47.2	17.4	X	
172.5	172.5	<0.1	15-30	26.2	20.6	X	
172.5	172.5	<0.1	15-30	24.6	17.2	X	
172.9	172.9	<0.1	15-30	23.8	18.2	X	
172.9	172.9	<0.1	>30	31.0	15.8	X	
173.6	173.7	0.1	>30	37.0	15.4	X	
174.4	174.5	0.1	15-30	26.9	15.2	X	
174.6	174.6	<0.1	15-30	18.9	16.2	X	
174.7	174.7	<0.1	15-30	22.8	17.8	X	
175.7	175.8	0.1	>30	51.7	18.2	X	
175.9	176.1	0.2	>30	71.9	20.2	X	
176.4	176.5	0.1	>30	40.8	16.1	X	
176.6	176.6	<0.1	15-30	23.6	17.2	X	
176.6	176.7	0.1	>30	57.0	22.9	X	
177.7	177.9	0.2	>30	43.9	15.2	X	
178.2	178.2	<0.1	15-30	27.2	15.3	X	
178.3	178.3	<0.1	>30	71.0	25.0	X	
178.9	178.9	0.1	>30	45.4	19.6	X	
178.9	179.0	0.1	>30	37.2	15.7	X	
179.1	179.1	<0.1	15-30	20.8	15.1	X	
179.7	179.7	<0.1	15-30	18.5	16.2	X	

APPENDIX K (continued)

Steep Slopes along the Mountain Valley Project

MP Start	MP End	Miles Crossed	Grade (%)	Max Slope (%)	Min Slope (%)	Vertical Slope	Lateral Slope
179.9	179.9	<0.1	15-30	18.9	16.0	X	
179.9	180.0	<0.1	15-30	28.4	15.3	X	
180.1	180.2	0.2	>30	49.1	15.6	X	
180.3	180.4	0.1	>30	43.5	18.6	X	
180.5	180.7	0.2	>30	35.4	15.2	X	
180.9	181.0	0.1	>30	38.4	17.2	X	
181.0	181.1	<0.1	15-30	19.2	15.4	X	
181.3	181.4	0.1	>30	32.0	15.5	X	
181.7	181.8	0.1	15-30	21.9	16.0		X
181.8	181.9	<0.1	>30	42.0	15.2	X	
181.9	182.1	0.2	>30	59.7	16.5	X	
182.5	182.6	0.1	>30	49.8	15.8	X	
182.7	182.7	<0.1	15-30	16.9	15.1	X	
183.0	183.2	0.1	>30	34.7	15.7	X	
183.4	183.4	<0.1	15-30	22.2	17.3	X	
183.4	183.6	0.2	>30	37.2	16.1	X	
183.7	183.7	<0.1	>30	35.0	17.3	X	
183.7	183.8	<0.1	15-30	18.8	16.1	X	
183.9	183.9	0.1	>30	41.0	16.6	X	
183.9	184.0	0.1	>30	38.9	21.3	X	
184.1	184.1	<0.1	15-30	23.3	17.4	X	
184.3	184.4	0.1	>30	37.5	19.2	X	
184.5	184.6	<0.1	15-30	29.8	19.7	X	
184.6	184.6	<0.1	>30	54.0	32.0	X	
184.7	184.8	0.1	>30	35.9	26.7	X	
184.8	184.9	0.1	>30	54.2	17.2	X	
185.1	185.1	0.1	15-30	30.0	17.7	X	
185.2	185.4	0.2	>30	43.3	16.9	X	
185.4	185.4	<0.1	>30	37.3	22.1	X	
186.6	186.7	0.1	>30	62.0	23.2	X	
186.7	186.8	0.1	>30	61.2	16.0	X	
187.0	187.1	<0.1	15-30	25.3	16.2	X	
187.8	187.8	<0.1	15-30	16.9	15.4	X	
187.8	187.9	0.1	>30	31.6	16.0	X	
187.9	188.0	<0.1	>30	61.5	36.1	X	
188.0	188.0	<0.1	15-30	26.9	16.8	X	
188.1	188.1	<0.1	15-30	20.2	16.4	X	
188.2	188.3	0.1	>30	50.2	17.0	X	

## APPENDIX K (continued)

## Steep Slopes along the Mountain Valley Project

MP Start	MP End	Miles Crossed	Grade (%)	Max Slope (%)	Min Slope (%)	Vertical Slope	Lateral Slope
188.3	188.3	<0.1	>30	37.0	16.0	X	
188.5	188.6	0.1	>30	32.9	15.5	X	
188.6	188.8	0.2	>30	43.6	15.1	X	
189.1	189.2	0.1	>30	46.0	15.7	X	
189.3	189.4	<0.1	15-30	18.9	16.3	X	
189.4	189.4	<0.1	15-30	21.1	15.6	X	
189.7	189.7	<0.1	15-30	27.5	16.0	X	
189.8	189.8	<0.1	15-30	25.3	18.6	X	
189.8	189.9	0.1	>30	37.2	20.3	X	
190.0	190.1	0.1	>30	32.5	15.1	X	
190.2	190.2	<0.1	15-30	25.4	19.3	X	
190.2	190.3	<0.1	15-30	21.6	18.9	X	
190.3	190.4	0.1	>30	35.6	20.7	X	
190.4	190.4	<0.1	>30	37.1	22.4	X	
190.4	190.5	0.1	>30	31.1	18.7	X	
190.6	190.7	0.1	>30	47.6	15.8	X	
190.7	190.7	0.1	>30	42.7	20.8	X	
190.7	190.8	<0.1	15-30	27.2	21.9	X	
190.8	190.9	<0.1	15-30	17.3	15.4	X	
191.1	191.2	0.1	>30	39.9	15.8	X	
191.3	191.5	0.2	>30	55.3	15.9	X	
191.8	191.8	<0.1	15-30	18.8	15.4	X	
191.9	192.0	<0.1	>30	34.8	18.1	X	
192.3	192.4	<0.1	15-30	19.2	15.1	X	
192.6	192.6	<0.1	>30	34.7	21.3	X	
192.8	192.8	<0.1	>30	47.3	18.7	X	
192.9	193.0	<0.1	15-30	29.3	16.1	X	
193.1	193.1	<0.1	15-30	18.2	15.1	X	
193.3	193.3	0.1	15-30	27.7	16.6	X	
193.4	193.6	0.2	>30	34.8	19.7	X	
193.6	193.7	0.1	>30	55.1	15.6	X	
193.7	193.7	<0.1	15-30	19.2	15.5	X	
193.8	193.8	<0.1	15-30	25.6	21.2	X	
193.9	193.9	<0.1	15-30	18.5	15.2	X	
193.9	193.9	<0.1	15-30	20.9	17.9	X	
194.4	194.5	<0.1	15-30	20.8	15.3	X	
194.6	194.6	<0.1	15-30	29.1	19.3	X	
194.7	194.7	<0.1	>30	31.3	15.6	X	

APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

MP Start	MP End	Miles Crossed	Grade (%)	Max Slope (%)	Min Slope (%)	Vertical Slope	Lateral Slope
194.8	195.0	0.3	>30	37.8	17.8	X	
195.1	195.4	0.3	>30	58.8	17.4	X	
195.5	195.7	0.2	>30	49.3	15.6	X	
195.7	195.8	<0.1	>30	31.7	15.6	X	
195.8	195.9	<0.1	>30	36.9	16.9	X	
196.0	196.0	<0.1	15-30	21.2	15.3	X	
196.0	196.1	0.1	>30	39.9	16.5	X	
196.3	196.3	<0.1	>30	38.9	18.4	X	
196.6	196.6	<0.1	15-30	25.4	17.4	X	
196.6	196.6	<0.1	>30	31.7	16.1	X	
196.9	197.2	0.2	>30	51.1	15.7	X	
197.2	197.5	0.3	>30	84.4	15.6	X	
197.7	197.7	<0.1	15-30	18.9	16.5	X	
197.8	197.8	0.1	15-30	21.2	15.3	X	
197.9	197.9	<0.1	>30	60.5	15.8	X	
198.0	198.0	<0.1	>30	57.9	20.6	X	
198.0	198.0	0.1	>30	43.2	23.6	X	
198.1	198.1	<0.1	15-30	29.4	22.7	X	
198.1	198.1	<0.1	15-30	24.8	22.9		X
198.1	198.2	<0.1	15-30	25.3	22.9	X	
198.2	198.3	<0.1	15-30	27.7	18.9	X	
198.3	198.5	0.1	>30	31.0	19.3	X	
198.7	198.7	<0.1	>30	30.8	18.7	X	
198.9	199.1	0.3	>30	38.3	15.6	X	
199.1	199.2	<0.1	>30	39.6	23.1	X	
199.3	199.3	<0.1	>30	58.0	15.3	X	
199.3	199.3	<0.1	>30	44.4	22.1	X	
199.7	199.9	0.2	>30	47.9	19.0	X	
200.1	200.1	<0.1	15-30	27.0	16.4	X	
200.1	200.3	0.1	>30	35.8	15.3	X	
200.3	200.3	<0.1	15-30	25.3	17.6	X	
200.7	200.7	0.1	15-30	25.4	15.1	X	
200.8	200.8	<0.1	15-30	20.1	17.4	X	
200.9	201.0	0.1	>30	36.4	18.8	X	
201.1	201.1	<0.1	>30	43.5	18.8	X	
201.2	201.2	<0.1	15-30	23.4	15.1	X	
201.4	201.5	0.1	>30	52.8	18.2	X	
201.6	201.7	<0.1	15-30	18.3	15.1	X	

APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

MP Start	MP End	Miles Crossed	Grade (%)	Max Slope (%)	Min Slope (%)	Vertical Slope	Lateral Slope
201.7	201.8	0.1	>30	40.0	20.6	X	
201.8	201.8	<0.1	15-30	17.5	15.7	X	
202.0	202.0	0.1	>30	-36.7	18.6	X	
202.1	202.1	0.1	15-30	28.5	15.6	X	
202.4	202.5	0.1	>30	46.7	20.3	X	
202.6	202.6	0.1	>30	37.7	16.5	X	
202.8	202.8	<0.1	>30	35.1	22.6	X	
202.9	202.9	<0.1	>30	30.2	23.3	X	
203.0	203.1	<0.1	15-30	22.6	16.4	X	
203.1	203.2	<0.1	>30	48.2	30.3	X	
203.2	203.2	<0.1	15-30	24.7	17.1	X	
203.4	203.8	0.4	>30	50.3	15.5	X	
203.5	203.7	0.2	>30	45.5	19.9		X
203.9	204.0	0.1	>30	45.4	22.1	X	
204.1	204.2	0.1	>30	48.1	18.6	X	
204.3	204.4	0.1	>30	41.7	17.0	X	
204.6	204.8	0.2	>30	37.2	22.4	X	
204.8	205.0	0.2	>30	45.7	19.2	X	
205.0	205.0	<0.1	>30	44.6	22.2	X	
205.3	205.6	0.2	>30	47.6	15.7	X	
205.7	205.7	<0.1	15-30	20.5	15.2	X	
205.8	205.8	<0.1	15-30	26.4	16.6	X	
205.9	205.9	<0.1	15-30	18.6	15.3	X	
206.1	206.1	<0.1	15-30	24.9	17.3	X	
206.3	206.4	0.1	>30	37.1	18.6	X	
206.5	206.5	<0.1	15-30	25.5	19.1	X	
206.7	206.7	<0.1	15-30	22.7	15.9	X	
206.7	206.8	<0.1	>30	30.3	15.3	X	
206.8	206.9	0.1	>30	51.1	15.8	X	
207.1	207.3	0.2	>30	59.1	18.5	X	
207.3	207.4	<0.1	>30	32.8	20.1	X	
207.5	207.6	<0.1	15-30	22.2	16.0	X	
207.6	207.7	0.1	15-30	27.0	17.0	X	
207.7	207.8	<0.1	15-30	23.3	17.1	X	
207.8	207.9	0.1	>30	47.8	28.2	X	
207.9	208.0	0.1	>30	58.6	15.5	X	
208.2	208.2	0.1	>30	43.8	18.0	X	
208.3	208.4	0.1	>30	39.0	15.2	X	

APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

MP Start	MP End	Miles Crossed	Grade (%)	Max Slope (%)	Min Slope (%)	Vertical Slope	Lateral Slope
208.4	208.5	0.1	>30	31.4	18.5	X	
208.7	208.7	<0.1	15-30	26.3	19.1	X	
208.7	208.8	<0.1	15-30	24.9	15.8	X	
208.8	208.9	0.1	15-30	26.2	20.0	X	
208.9	209.0	<0.1	>30	32.5	17.8	X	
209.0	209.0	<0.1	15-30	23.9	15.8	X	
209.1	209.2	0.1	15-30	21.7	16.0	X	
209.4	209.5	0.1	>30	32.0	18.6	X	
209.7	209.9	0.2	>30	54.9	15.5	X	
209.9	209.9	<0.1	>30	40.1	20.5	X	
210.1	210.2	0.1	15-30	27.1	18.7	X	
210.3	210.4	0.2	15-30	23.6	14.9		X
210.3	210.3	<0.1	15-30	26.9	16.9	X	
210.4	210.4	<0.1	15-30	18.7	17.3	X	
210.4	210.5	0.1	>30	40.8	15.0	X	
210.7	210.7	<0.1	15-30	25.6	17.7	X	
210.7	210.8	<0.1	15-30	22.2	16.3	X	
211.2	211.3	0.1	15-30	29.7	15.5	X	
211.4	211.5	0.1	>30	49.1	16.0	X	
211.5	211.5	<0.1	15-30	24.3	16.6	X	
211.6	211.6	0.1	>30	54.5	22.3	X	
211.7	211.8	0.2	>30	54.0	17.5	X	
212.2	212.2	<0.1	>30	53.8	22.0	X	
212.3	212.4	0.1	>30	58.7	16.1	X	
212.4	212.4	<0.1	>30	34.4	19.2	X	
212.6	212.7	<0.1	15-30	27.1	16.9	X	
212.8	212.8	<0.1	15-30	17.5	15.2	X	
212.9	213.0	0.1	>30	37.0	15.6	X	
213.1	213.1	<0.1	15-30	28.4	15.3	X	
213.3	213.5	0.2	15-30	29.1	15.0	X	
213.5	213.5	<0.1	15-30	29.9	17.6	X	
213.6	213.6	<0.1	>30	30.6	15.7	X	
213.7	213.8	0.1	>30	56.4	22.1	X	
213.8	213.9	<0.1	>30	34.2	19.1	X	
214.2	214.2	<0.1	>30	43.5	27.0	X	
214.4	214.4	<0.1	>30	33.8	15.3	X	
214.5	214.6	0.1	>30	31.4	16.3	X	
214.8	214.9	0.1	>30	51.7	15.6	X	

APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

MP Start	MP End	Miles Crossed	Grade (%)	Max Slope (%)	Min Slope (%)	Vertical Slope	Lateral Slope
215.3	215.4	0.1	15-30	27.8	17.3	X	
215.5	215.5	<0.1	>30	35.5	17.3	X	
215.9	215.9	<0.1	15-30	23.0	16.0	X	
216.0	216.1	0.1	15-30	29.2	18.5	X	
216.2	216.2	<0.1	>30	45.3	17.0	X	
216.5	216.5	<0.1	15-30	20.8	16.7	X	
216.7	216.7	0.1	>30	38.8	18.9	X	
216.8	216.9	0.1	>30	46.5	15.2	X	
216.9	216.9	<0.1	15-30	27.6	18.7	X	
217.0	217.2	0.2	>30	65.0	17.4	X	
217.2	217.2	0.1	>30	62.4	24.2	X	
217.3	217.3	<0.1	15-30	17.2	16.1	X	
217.3	217.3	0.1	>30	49.2	24.4	X	
217.4	217.5	0.1	>30	44.6	20.2	X	
217.5	217.6	0.1	>30	37.3	20.7	X	
217.6	217.6	<0.1	>30	34.7	18.1	X	
217.6	217.8	0.1	>30	40.8	16.6	X	
217.9	217.9	<0.1	15-30	17.1	15.0	X	
218.1	218.1	<0.1	>30	30.5	15.3	X	
218.5	218.5	<0.1	15-30	24.5	15.1	X	
218.7	218.7	<0.1	>30	40.0	30.3	X	
218.8	218.9	<0.1	15-30	22.0	16.5	X	
219.0	219.0	0.1	15-30	21.6	16.5	X	
219.1	219.4	0.3	>30	44.5	15.7	X	
219.5	219.6	0.2	>30	32.0	19.4	X	
219.9	220.0	0.1	>30	41.5	18.0	X	
220.1	220.1	<0.1	>30	65.6	15.1	X	
220.3	220.4	<0.1	15-30	27.4	18.5	X	
220.5	220.5	<0.1	15-30	30.0	18.8	X	
220.6	220.6	<0.1	15-30	22.6	15.4	X	
220.6	220.7	<0.1	15-30	29.6	15.4	X	
220.7	220.8	0.1	15-30	23.1	5.8		X
220.7	220.7	<0.1	15-30	20.4	15.4	X	
220.8	220.8	<0.1	15-30	29.1	16.6	X	
220.8	220.8	<0.1	>30	34.3	21.0	X	
220.9	221.0	<0.1	15-30	24.7	16.9	X	
221.7	221.8	0.1	15-30	15.0	4.5		X
222.0	222.0	<0.1	15-30	20.2	15.2	X	

APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

<b>MP Start</b>	<b>MP End</b>	<b>Miles Crossed</b>	<b>Grade (%)</b>	<b>Max Slope (%)</b>	<b>Min Slope (%)</b>	<b>Vertical Slope</b>	<b>Lateral Slope</b>
222.2	222.2	<0.1	15-30	17.5	15.9	X	
222.2	222.2	<0.1	15-30	25.1	18.0	X	
222.4	222.5	0.1	>30	38.9	16.2	X	
222.5	222.5	<0.1	15-30	24.5	19.4	X	
222.6	222.6	<0.1	15-30	19.8	15.8	X	
222.8	222.8	<0.1	15-30	23.3	16.0	X	
222.9	222.9	<0.1	15-30	20.7	16.5	X	
223.0	223.0	<0.1	15-30	19.4	15.2	X	
223.1	223.1	<0.1	15-30	19.2	16.5	X	
223.2	223.3	0.1	15-30	20.4	15.0	X	
223.5	223.5	<0.1	15-30	27.1	15.8	X	
223.6	223.9	0.2	>30	74.8	15.5	X	
224.0	224.3	0.3	>30	66.3	17.3	X	
224.4	224.6	0.2	15-30	29.2	15.7	X	
224.6	224.7	<0.1	15-30	24.8	18.5	X	
224.9	224.9	<0.1	15-30	24.0	16.8	X	
224.9	225.0	<0.1	>30	39.7	21.9	X	
225.2	225.2	<0.1	>30	44.1	16.9	X	
225.8	225.8	<0.1	>30	40.8	21.5	X	
225.9	225.9	<0.1	>30	42.1	20.3	X	
226.0	226.1	0.1	>30	65.3	18.1	X	
226.1	226.2	0.1	>30	68.4	45.8	X	
226.2	226.2	<0.1	>30	77.9	20.3	X	
226.2	226.3	<0.1	>30	81.5	21.4	X	
226.3	226.3	<0.1	15-30	17.7	16.1	X	
226.3	226.6	0.3	>30	47.6	17.6	X	
226.7	226.8	0.1	>30	37.1	17.3	X	
226.8	226.9	0.2	>30	42.6	19.9	X	
227.0	227.0	0.1	>30	44.8	18.4	X	
227.1	227.1	<0.1	15-30	25.4	18.1	X	
227.2	227.2	0.1	>30	36.7	17.1	X	
227.4	227.5	<0.1	>30	35.0	17.2	X	
227.6	227.6	<0.1	>30	44.0	16.5	X	
228.1	228.2	0.1	15-30	20.0	16.5	X	
228.3	228.4	<0.1	15-30	20.8	16.7	X	
228.4	228.5	<0.1	>30	38.0	19.1	X	
228.5	228.6	0.1	15-30	29.0	19.9	X	
228.6	228.7	<0.1	>30	41.4	15.2	X	



APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

MP Start	MP End	Miles Crossed	Grade (%)	Max Slope (%)	Min Slope (%)	Vertical Slope	Lateral Slope
229.4	229.5	0.1	>30	40.8	23.4	X	
229.5	229.6	<0.1	>30	79.7	46.6	X	
229.6	229.8	0.2	>30	67.0	22.5	X	
229.9	230.0	0.1	>30	34.9	20.1	X	
230.0	230.2	0.1	>30	34.6	15.4	X	
230.3	230.5	0.2	>30	45.2	15.4	X	
231.0	231.0	0.1	15-30	27.2	15.1	X	
231.1	231.9	0.7	>30	35.8	17.9	X	
231.9	232.0	0.1	>30	36.0	16.6	X	
232.1	232.1	<0.1	15-30	23.5	15.3	X	
232.2	232.3	0.1	>30	32.0	19.7	X	
232.4	232.4	<0.1	>30	31.1	20.7	X	
232.4	232.5	<0.1	15-30	29.6	19.4	X	
232.5	232.6	0.1	>30	42.0	15.9	X	
232.6	232.6	<0.1	>30	48.5	19.7	X	
232.7	232.7	<0.1	>30	48.4	35.3	X	
232.7	232.7	<0.1	>30	40.9	22.6	X	
232.8	232.8	<0.1	15-30	24.1	18.5	X	
232.8	232.8	<0.1	>30	36.3	19.2	X	
232.9	232.9	<0.1	15-30	27.2	16.6	X	
233.3	233.3	<0.1	15-30	21.7	18.2	X	
233.5	233.6	0.1	>30	54.7	15.2	X	
233.9	233.9	<0.1	15-30	17.4	15.3	X	
234.1	234.2	0.1	>30	57.2	16.4	X	
234.3	234.3	<0.1	>30	48.8	23.9	X	
234.3	234.5	0.2	15-30	24.4	16.4		X
234.4	234.4	0.1	>30	53.4	28.5	X	
234.5	234.7	0.2	>30	45.1	15.8	X	
234.7	234.7	0.1	>30	60.2	22.8	X	
234.8	235.0	0.1	>30	64.9	16.7	X	
235.0	235.1	0.1	>30	52.8	28.2	X	
235.1	235.2	0.1	>30	65.2	32.4	X	
235.2	235.3	0.1	>30	31.7	15.2	X	
235.3	235.3	<0.1	>30	47.5	25.9	X	
235.4	235.4	<0.1	15-30	23.2	16.9	X	
235.4	235.5	0.1	>30	45.4	21.9	X	
235.6	235.7	0.1	>30	53.7	18.5	X	
235.7	235.8	<0.1	>30	32.4	19.1	X	

APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

<b>MP Start</b>	<b>MP End</b>	<b>Miles Crossed</b>	<b>Grade (%)</b>	<b>Max Slope (%)</b>	<b>Min Slope (%)</b>	<b>Vertical Slope</b>	<b>Lateral Slope</b>
235.8	235.9	0.1	>30	52.6	22.4	X	
236.0	236.0	<0.1	>30	34.8	25.9	X	
236.1	236.6	0.5	>30	76.4	15.4	X	
236.7	236.7	<0.1	>30	47.4	16.7	X	
236.8	236.8	<0.1	15-30	16.3	15.2	X	
236.8	236.8	<0.1	>30	69.8	17.3	X	
237.1	237.2	0.1	>30	40.7	20.3	X	
237.2	237.3	<0.1	15-30	20.9	15.4	X	
237.3	237.3	<0.1	>30	31.4	22.8	X	
237.3	237.7	0.3	>30	58.8	16.7	X	
237.7	238.2	0.5	>30	70.2	16.6	X	
238.3	238.5	0.2	>30	50.8	15.7	X	
238.6	238.6	<0.1	>30	46.4	25.3	X	
238.6	238.7	<0.1	15-30	27.0	20.4	X	
238.7	238.8	0.1	>30	33.1	17.9	X	
238.8	238.9	0.1	>30	60.5	15.9	X	
239.1	239.2	0.1	>30	31.8	15.4	X	
239.2	239.4	0.1	>30	60.8	18.5	X	
239.4	239.5	<0.1	>30	33.2	18.3	X	
239.7	239.7	<0.1	>30	36.8	15.8	X	
239.7	239.8	0.1	>30	33.7	19.9	X	
239.8	239.9	<0.1	15-30	19.8	17.0	X	
239.9	239.9	0.1	>30	33.2	16.9	X	
240.0	240.1	0.1	15-30	29.1	17.7	X	
240.2	240.2	<0.1	15-30	18.8	17.2	X	
240.6	240.6	<0.1	>30	31.2	17.0	X	
240.7	240.8	0.1	>30	40.8	16.5	X	
240.8	240.8	<0.1	15-30	27.7	19.1	X	
240.9	241.0	0.1	>30	42.0	18.4	X	
242.2	242.3	0.1	>30	39.7	15.4	X	
242.3	242.5	0.2	>30	38.5	22.6		X
242.6	242.6	<0.1	>30	31.4	25.8	X	
242.7	242.7	<0.1	15-30	27.2	15.6	X	
242.8	242.9	0.1	>30	39.3	15.5	X	
243.0	243.0	<0.1	>30	36.0	16.0	X	
243.1	243.1	0.1	>30	34.1	16.0	X	
243.2	243.2	<0.1	15-30	22.6	16.5	X	
243.3	243.3	<0.1	>30	32.8	15.4	X	

APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

<b>MP Start</b>	<b>MP End</b>	<b>Miles Crossed</b>	<b>Grade (%)</b>	<b>Max Slope (%)</b>	<b>Min Slope (%)</b>	<b>Vertical Slope</b>	<b>Lateral Slope</b>
243.4	243.5	0.1	>30	34.5	15.6	X	
243.5	243.6	0.1	>30	30.7	18.9	X	
244.0	244.0	<0.1	15-30	24.8	15.1	X	
244.5	244.5	<0.1	>30	53.5	22.1	X	
244.5	244.5	<0.1	>30	39.6	21.4	X	
244.6	244.7	<0.1	15-30	17.0	15.9	X	
244.7	244.7	<0.1	15-30	25.6	16.2	X	
244.8	244.8	<0.1	>30	51.9	30.6	X	
244.8	244.8	<0.1	>30	33.6	24.8	X	
245.1	245.1	0.1	>30	57.9	17.8	X	
245.3	245.5	0.3	>30	48.4	15.6	X	
245.6	245.6	<0.1	>30	39.1	18.4	X	
245.6	245.8	0.1	>30	37.3	15.9	X	
245.8	245.8	<0.1	15-30	26.1	16.2	X	
245.9	246.0	0.1	>30	44.5	18.4	X	
246.0	246.1	0.1	>30	39.8	18.4	X	
246.2	246.2	<0.1	>30	33.6	17.9	X	
246.2	246.6	0.4	>30	71.6	17.6	X	
246.7	246.7	0.1	>30	31.5	15.4	X	
247.4	247.6	0.3	>30	72.1	19.1	X	
247.7	247.8	0.1	>30	47.0	23.1	X	
247.9	247.9	0.1	15-30	27.7	18.9	X	
248.0	248.0	<0.1	15-30	21.3	15.4	X	
248.2	248.2	<0.1	15-30	20.9	15.9	X	
248.3	248.3	0.1	>30	31.0	17.1	X	
248.4	248.5	0.2	>30	50.1	16.7	X	
248.6	248.7	0.1	>30	44.1	15.7	X	
248.7	248.8	0.1	15-30	29.9	17.5	X	
248.9	248.9	<0.1	15-30	21.7	15.5	X	
249.3	249.4	0.1	>30	30.4	16.4	X	
249.6	249.6	0.1	>30	40.3	15.6	X	
249.6	249.7	<0.1	>30	61.4	25.9	X	
249.7	249.7	<0.1	15-30	28.1	22.9	X	
249.7	249.7	<0.1	>30	32.4	24.0	X	
249.7	249.8	0.1	>30	48.0	15.6	X	
249.9	249.9	<0.1	>30	57.0	24.7	X	
249.9	250.0	<0.1	15-30	26.3	16.5	X	
250.0	250.0	<0.1	>30	49.3	16.9	X	

APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

<b>MP Start</b>	<b>MP End</b>	<b>Miles Crossed</b>	<b>Grade (%)</b>	<b>Max Slope (%)</b>	<b>Min Slope (%)</b>	<b>Vertical Slope</b>	<b>Lateral Slope</b>
250.0	250.1	0.1	15-30	20.2	15.8	X	
250.3	250.3	<0.1	>30	40.5	17.5	X	
250.3	250.3	<0.1	>30	30.3	21.4	X	
250.3	250.4	<0.1	>30	30.9	17.6	X	
250.4	250.5	0.1	>30	36.7	18.1	X	
250.5	250.6	0.1	15-30	26.0	17.7	X	
251.1	251.1	<0.1	15-30	23.1	15.8	X	
251.2	251.3	0.1	>30	40.5	15.8	X	
251.3	251.4	<0.1	>30	44.2	22.4	X	
251.5	251.5	<0.1	15-30	25.3	16.6	X	
251.6	251.7	0.1	>30	41.0	19.8	X	
251.7	251.8	0.1	>30	37.0	18.6	X	
252.2	252.2	0.1	15-30	24.9	15.3	X	
252.3	252.4	<0.1	15-30	20.9	15.9	X	
252.6	252.7	0.1	15-30	26.6	16.9	X	
252.7	252.8	<0.1	>30	36.7	21.8	X	
252.9	252.9	<0.1	15-30	21.9	16.2	X	
252.9	253.0	0.1	15-30	25.5	16.0	X	
253.1	253.1	<0.1	15-30	24.2	15.7	X	
253.4	253.5	0.1	15-30	25.4	15.6	X	
253.5	253.6	<0.1	15-30	21.8	15.8	X	
253.6	253.7	<0.1	>30	31.7	22.3	X	
253.7	253.8	<0.1	15-30	24.1	17.8	X	
254.0	254.1	<0.1	15-30	22.3	15.2	X	
254.2	254.2	<0.1	>30	40.8	15.8	X	
254.4	254.5	0.1	15-30	19.6	17.5	X	
254.5	254.5	<0.1	15-30	27.9	21.6	X	
254.6	254.7	0.1	15-30	23.0	15.4	X	
254.9	254.9	<0.1	15-30	18.4	17.0	X	
255.1	255.1	<0.1	15-30	18.4	15.1	X	
255.3	255.3	<0.1	15-30	29.3	16.7	X	
255.4	255.4	<0.1	15-30	25.1	17.2	X	
255.5	255.5	0.1	>30	39.0	21.8	X	
256.9	257.0	0.1	15-30	23.9	15.2	X	
257.3	257.3	<0.1	15-30	24.2	15.7	X	
257.3	257.4	0.1	>30	46.9	17.0	X	
257.7	257.7	<0.1	>30	36.7	15.3	X	
258.1	258.2	<0.1	15-30	23.2	19.1	X	

APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

MP Start	MP End	Miles Crossed	Grade (%)	Max Slope (%)	Min Slope (%)	Vertical Slope	Lateral Slope
258.2	258.2	<0.1	15-30	19.7	16.3	X	
258.4	258.4	<0.1	>30	31.8	22.4	X	
258.4	258.5	<0.1	>30	47.1	22.0	X	
258.6	258.7	<0.1	15-30	29.6	16.1	X	
258.8	258.8	<0.1	>30	38.9	17.8	X	
258.8	258.8	<0.1	>30	40.2	15.8	X	
258.9	259.0	<0.1	15-30	25.9	22.0	X	
259.0	259.1	0.1	>30	43.0	20.3		X
259.3	259.3	<0.1	>30	36.3	18.6	X	
259.7	259.7	<0.1	15-30	18.1	15.5	X	
259.8	259.8	<0.1	15-30	17.5	15.4	X	
259.8	259.9	<0.1	15-30	18.8	16.3	X	
260.4	260.4	<0.1	>30	65.3	17.6	X	
260.7	260.7	<0.1	>30	51.9	20.1	X	
260.9	260.9	<0.1	15-30	28.4	22.6	X	
261.3	261.4	<0.1	15-30	25.3	18.5	X	
261.7	261.7	<0.1	15-30	19.7	16.7	X	
262.2	262.2	<0.1	>30	30.9	18.7	X	
263.2	263.2	<0.1	15-30	15.4	9.2		X
263.2	263.3	<0.1	>30	47.5	15.1	X	
263.3	263.4	<0.1	15-30	28.8	19.8	X	
263.9	263.9	<0.1	>30	44.1	22.0	X	
264.3	264.4	0.1	>30	31.4	17.2	X	
264.5	264.5	<0.1	15-30	28.3	15.4	X	
264.6	264.6	<0.1	15-30	29.0	19.3	X	
264.7	264.7	<0.1	15-30	22.5	17.0	X	
264.9	264.9	<0.1	15-30	21.9	18.1	X	
265.2	265.2	<0.1	>30	133.8	59.4	X	
265.3	265.3	<0.1	>30	176.0	31.7	X	
265.5	265.5	<0.1	15-30	25.6	16.7	X	
265.5	265.6	<0.1	15-30	27.2	17.1	X	
266.1	266.1	<0.1	15-30	29.5	15.6	X	
266.1	266.1	<0.1	>30	36.5	17.0	X	
266.2	266.3	<0.1	15-30	22.9	15.5	X	
266.3	266.3	<0.1	15-30	22.7	15.5	X	
266.5	266.6	0.1	>30	51.6	16.9	X	
266.9	267.0	0.1	>30	54.9	15.3	X	
267.4	267.4	<0.1	>30	32.1	20.1	X	

APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

MP Start	MP End	Miles Crossed	Grade (%)	Max Slope (%)	Min Slope (%)	Vertical Slope	Lateral Slope
267.6	267.8	0.2	15-30	18.5	13.6		X
268.8	268.8	<0.1	15-30	18.1	15.5	X	
270.2	270.2	<0.1	15-30	26.9	15.6	X	
270.3	270.4	<0.1	15-30	19.4	15.2	X	
271.0	271.0	<0.1	15-30	20.8	17.0	X	
271.3	271.4	<0.1	15-30	28.1	16.0	X	
271.4	271.4	<0.1	>30	45.6	19.4	X	
271.5	271.5	<0.1	15-30	28.3	21.2	X	
271.9	272.0	<0.1	15-30	20.8	15.3	X	
272.0	272.0	<0.1	15-30	20.4	17.0	X	
272.5	272.5	<0.1	15-30	22.2	15.2	X	
273.2	273.2	<0.1	15-30	26.4	19.4	X	
273.7	273.7	<0.1	15-30	16.7	15.6	X	
273.7	273.8	<0.1	15-30	22.9	16.7	X	
273.8	273.8	<0.1	15-30	19.4	16.8	X	
274.4	274.4	<0.1	15-30	21.7	15.3	X	
274.5	274.5	<0.1	15-30	26.0	19.0	X	
274.7	274.7	<0.1	15-30	20.2	16.7	X	
274.9	274.9	<0.1	15-30	29.3	15.1	X	
275.0	275.0	<0.1	15-30	29.8	17.8	X	
275.1	275.1	<0.1	15-30	26.4	15.6	X	
275.2	275.2	<0.1	15-30	24.9	15.6	X	
275.2	275.3	<0.1	15-30	28.4	18.7	X	
275.4	275.4	<0.1	>30	34.4	17.7	X	
275.5	275.5	<0.1	15-30	20.7	15.3	X	
275.7	275.7	<0.1	15-30	29.7	15.8	X	
275.8	275.8	<0.1	15-30	24.3	15.0	X	
275.9	275.9	<0.1	>30	37.8	17.8	X	
276.0	276.0	<0.1	>30	34.7	16.8	X	
276.3	276.4	<0.1	15-30	26.0	16.4	X	
276.4	276.4	<0.1	15-30	17.9	16.0	X	
276.6	276.7	<0.1	>30	33.6	22.6	X	
277.0	277.0	<0.1	15-30	23.9	18.6	X	
277.1	277.1	<0.1	15-30	22.6	16.0	X	
277.1	277.1	<0.1	>30	35.3	16.9	X	
277.2	277.2	<0.1	15-30	28.3	20.6	X	
277.2	277.2	<0.1	>30	30.4	16.6	X	
277.4	277.4	<0.1	15-30	24.2	15.0	X	

APPENDIX K (continued)

**Steep Slopes along the Mountain Valley Project**

<b>MP Start</b>	<b>MP End</b>	<b>Miles Crossed</b>	<b>Grade (%)</b>	<b>Max Slope (%)</b>	<b>Min Slope (%)</b>	<b>Vertical Slope</b>	<b>Lateral Slope</b>
277.8	277.8	<0.1	15-30	18.0	16.0	X	
278.4	278.4	<0.1	15-30	21.8	17.0	X	
278.6	278.6	0.1	>30	30.3	16.8	X	
278.7	278.7	<0.1	15-30	23.8	16.9	X	