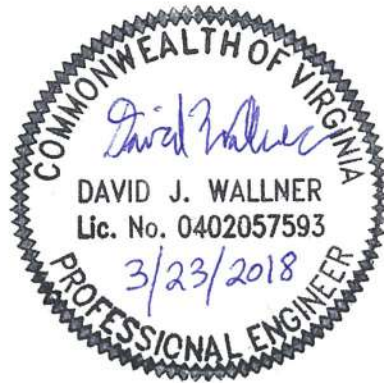
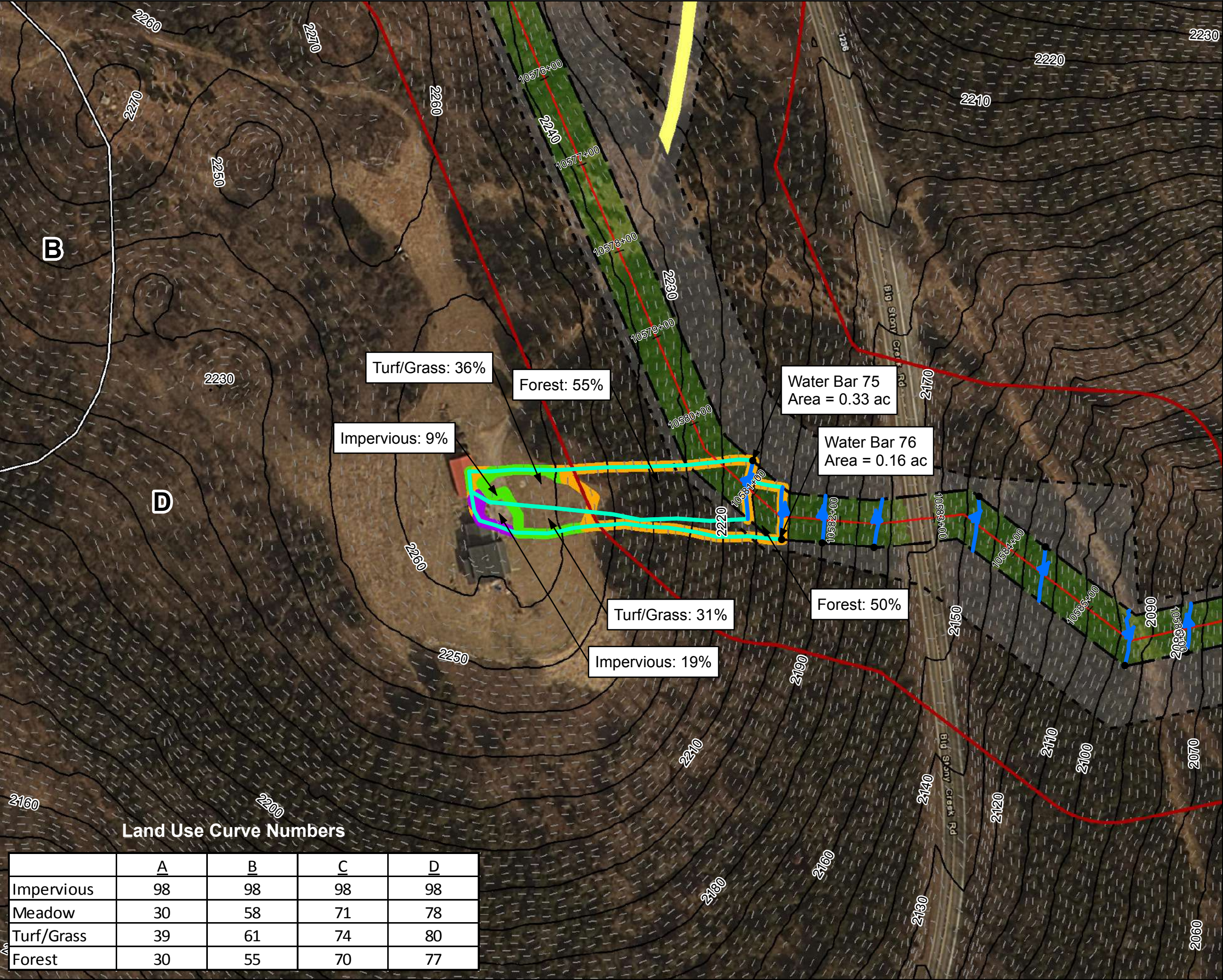


By virtue of this seal and signature, all supporting documents included in this package are accurate and support the design presented herein.





**Legend**

- Approximate Location of Water Bar End Treatment
- Permanent Water Bar 10-ft End Treatment
- Permanent Water Bar 15-ft End Treatment
- Permanent Water Bar 20-ft End Treatment
- Sheetflow
- Shallow Concentrated Flow
- Streams
- Stationing
- Alignment Centerline
- Permanent Easement
- Limit of Disturbance
- MLV Site
- Access Road Permanent Easement
- Existing Impervious
- Surveyed Road Edge
- New/Proposed Impervious Road Edge
- 10-foot Contour
- Water Bar Drainage Area
- 100-year Floodplain
- Pond
- Wetland
- Hydrologic Soil Groups
- 100 ft Buffer off of Limits of Disturbance
- Forest
- Impervious
- Turf/Grass
- Agricultural
- Barren
- Brush
- Meadow
- 2-foot Contour

NAD 1983 UTM 17N (feet)

1 in = 100 feet

100

50

0

100

Feet

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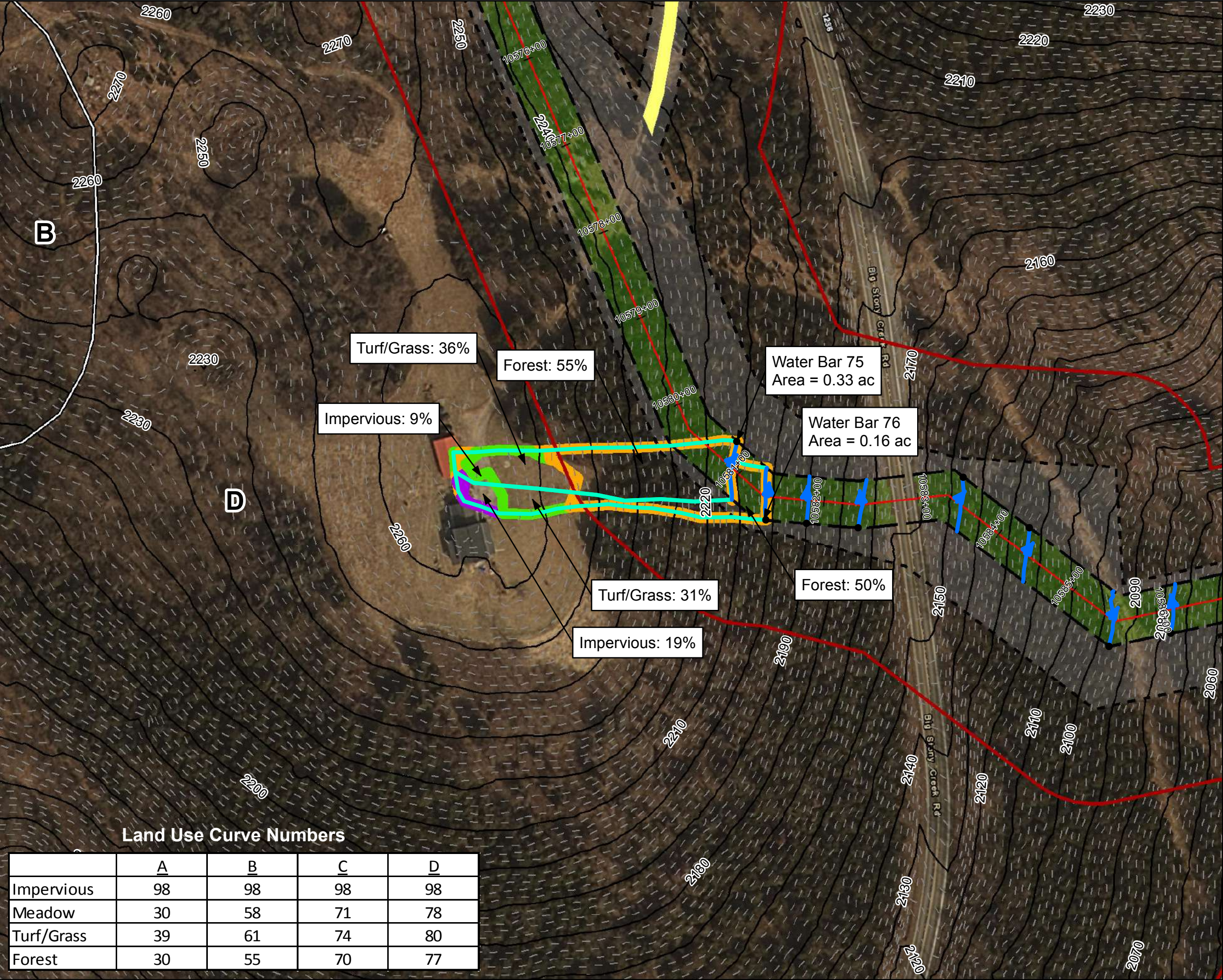
Land Use Curve Numbers				
	A	B	C	D
Impervious	98	98	98	98
Meadow	30	58	71	78
Turf/Grass	39	61	74	80
Forest	30	55	70	77

**Mountain Valley Pipeline Project**



**Stormwater Drainage Exhibits**  
**Water Bar 75**  
**Spread 8**  
Figure 001  
Giles County, Virginia  
March, 2018

Data Sources: Imagery from ESRI Streaming Data 2014, Delineated streams surveyed by Tetra Tech Inc. 2014 to 2017, Transportation data from VITA map layer 2016, Elevation data derived from LIDAR provided by EQT 2016, Soils from NRCS Gridded Soil Survey Geographic (SSURGO) database 2014, Land Use digitized from ESRI World Imagery 2015, Agricultural Area from National Land Cover Dataset 2011.



**Legend**

- Approximate Location of Water Bar End Treatment
- Permanent Water Bar 10-ft End Treatment
- Permanent Water Bar 15-ft End Treatment
- Permanent Water Bar 20-ft End Treatment
- Sheetflow
- Shallow Concentrated Flow
- Streams
- Stationing
- Alignment Centerline
- Permanent Easement
- Limit of Disturbance
- MLV Site
- Access Road Permanent Easement
- Existing Impervious
- Surveyed Road Edge
- New/Proposed Impervious Road Edge
- 10-foot Contour
- Water Bar Drainage Area
- 100-year Floodplain
- Pond
- Wetland
- Hydrologic Soil Groups
- 100 ft Buffer off of Limits of Disturbance
- Forest
- Impervious
- Turf/Grass
- Agricultural
- Barren
- Brush
- Meadow
- 2-foot Contour

NAD 1983 UTM 17N (feet)

1 in = 100 feet

100500

100

50

0

100

Feet

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W

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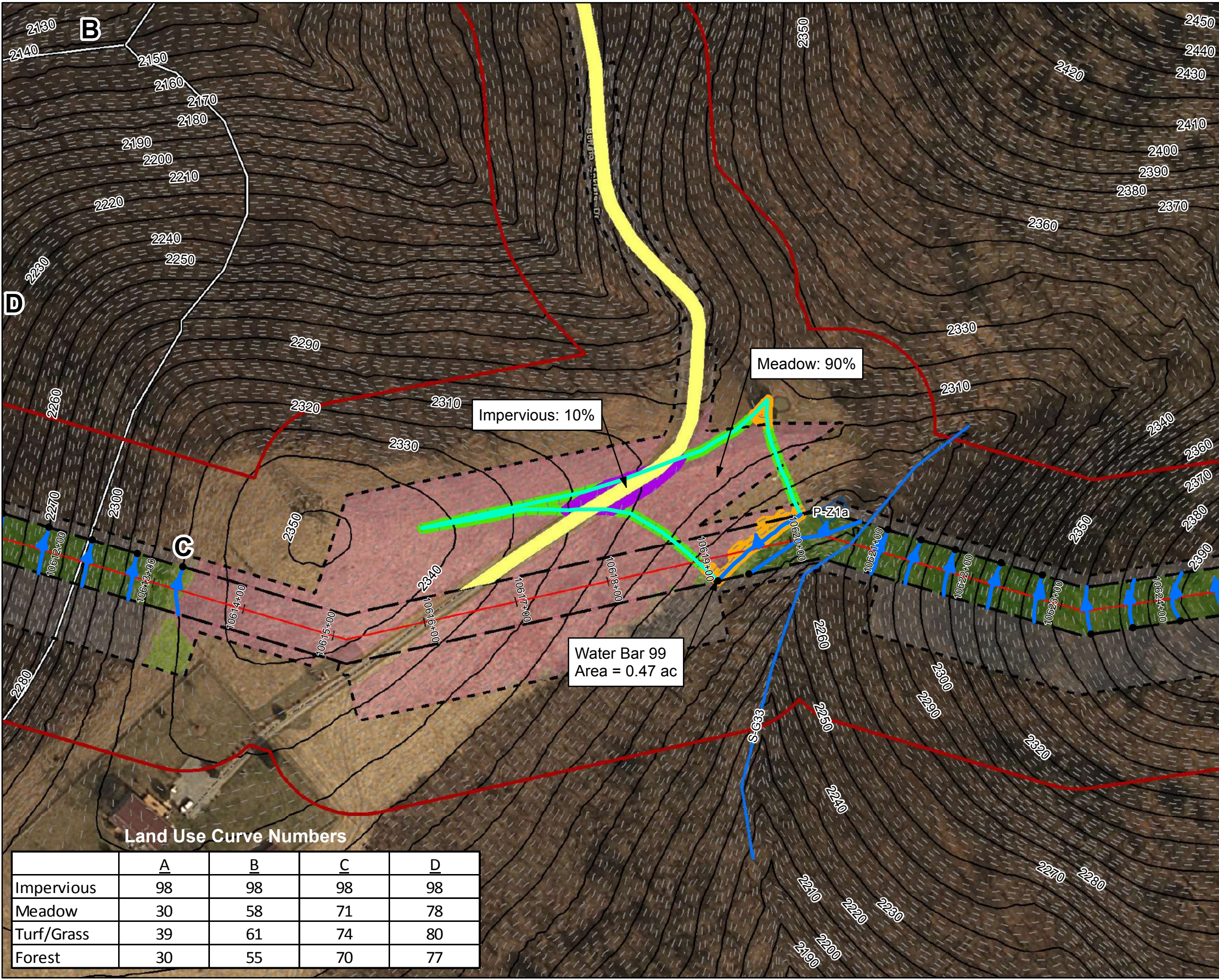


**Mountain Valley Pipeline Project**

**Stormwater Drainage Exhibits**  
**Water Bar 76**  
**Spread 8**  
Figure 002  
Giles County, Virginia  
March, 2018

Data Sources: Imagery from ESRI Streaming Data 2014, Delineated streams surveyed by Tetra Tech Inc. 2014 to 2017, Transportation data from VITA map layer 2016, Elevation data derived from LIDAR provided by EQT 2016, Soils from NRCS Gridded Soil Survey Geographic (SSURGO) database 2014, Land Use digitized from ESRI World Imagery 2015, Agricultural Area from National Land Cover Dataset 2011.

Land Use Curve Numbers				
	A	B	C	D
Impervious	98	98	98	98
Meadow	30	58	71	78
Turf/Grass	39	61	74	80
Forest	30	55	70	77



**Legend**

- Approximate Location of Water Bar End Treatment
- Permanent Water Bar 10-ft End Treatment
- Permanent Water Bar 15-ft End Treatment
- Permanent Water Bar 20-ft End Treatment
- Sheetflow
- Shallow Concentrated Flow
- Streams
- Stationing
- Alignment Centerline
- Permanent Easement
- Limit of Disturbance
- MLV Site
- Access Road Permanent Easement
- Existing Impervious
- Surveyed Road Edge
- New/Proposed Impervious Road Edge
- 10-foot Contour
- Water Bar Drainage Area
- 100-year Floodplain
- Pond
- Wetland
- Hydrologic Soil Groups
- 100 ft Buffer off of Limits of Disturbance
- Forest
- Impervious
- Turf/Grass
- Agricultural
- Barren
- Brush
- Meadow
- 2-foot Contour

NAD 1983 UTM 17N (feet)

1 in = 100 feet

100500100

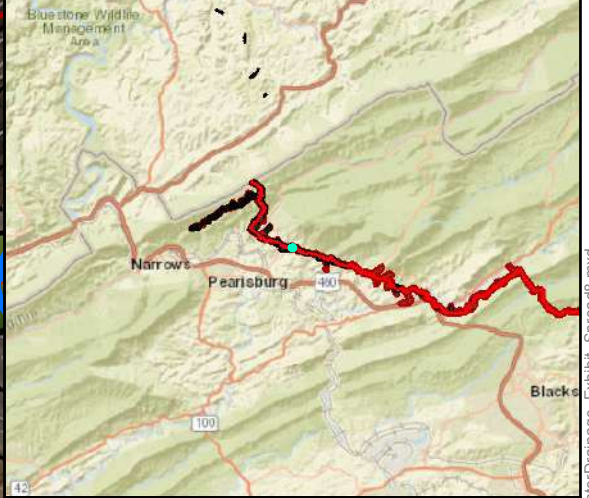
Feet

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W

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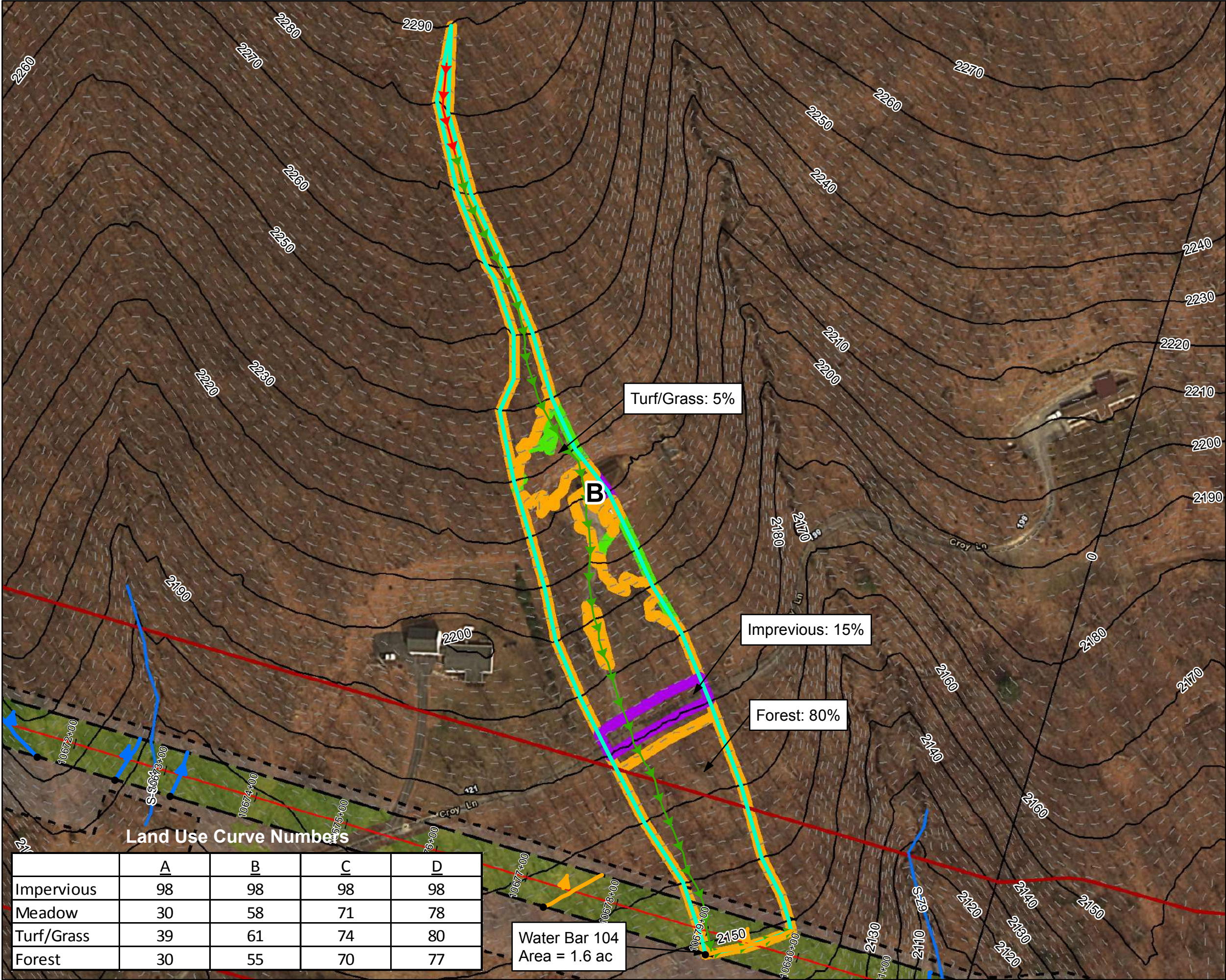
Land Use Curve Numbers				
	A	B	C	D
Impervious	98	98	98	98
Meadow	30	58	71	78
Turf/Grass	39	61	74	80
Forest	30	55	70	77

**Mountain Valley Pipeline Project**

**Stormwater Drainage Exhibits**  
**Water Bar 99**  
**Spread 8**  
Figure 003  
Giles County, Virginia  
March, 2018

Data Sources: Imagery from ESRI Streaming Data 2014, Delineated streams surveyed by Tetra Tech Inc. 2014 to 2017, Transportation data from VITA map layer 2016, Elevation data derived from LIDAR provided by EQT 2016, Soils from NRCS Gridded Soil Survey Geographic (SSURGO) database 2014, Land Use digitized from ESRI World Imagery 2015, Agricultural Area from National Land Cover Dataset 2011.

Document Path: P:\GIS\SEQ1\_MVP\Mapdocs\Drainage\WXD\MVP\_Stormwater\Drainage\_Exhibit\_Spread8.mxd



**Legend**

- Approximate Location of Water Bar End Treatment
- Permanent Water Bar 10-ft End Treatment
- Permanent Water Bar 15-ft End Treatment
- Permanent Water Bar 20-ft End Treatment
- Sheetflow
- Shallow Concentrated Flow
- Streams
- Stationing
- Alignment Centerline
- Permanent Easement
- Limit of Disturbance
- MLV Site
- Access Road Permanent Easement
- Existing Impervious Surveyed Road Edge
- New/Proposed Impervious Road Edge
- 10-foot Contour

- Water Bar Drainage Area
- 100-year Floodplain
- Pond
- Wetland
- Hydrologic Soil Groups
- 100 ft Buffer off of Limits of Disturbance
- Forest
- Impervious
- Turf/Grass
- Agricultural
- Barren
- Brush
- Meadow
- 2-foot Contour

NAD 1983 UTM 17N (feet)

1 in = 100 feet

100 50 0 100 Feet

**Mountain Valley Pipeline Project**

**Mountain Valley PIPELINE**

**Stormwater Drainage Exhibits**

**Water Bar 104**

**Spread 8**

Figure 004

Giles County, Virginia

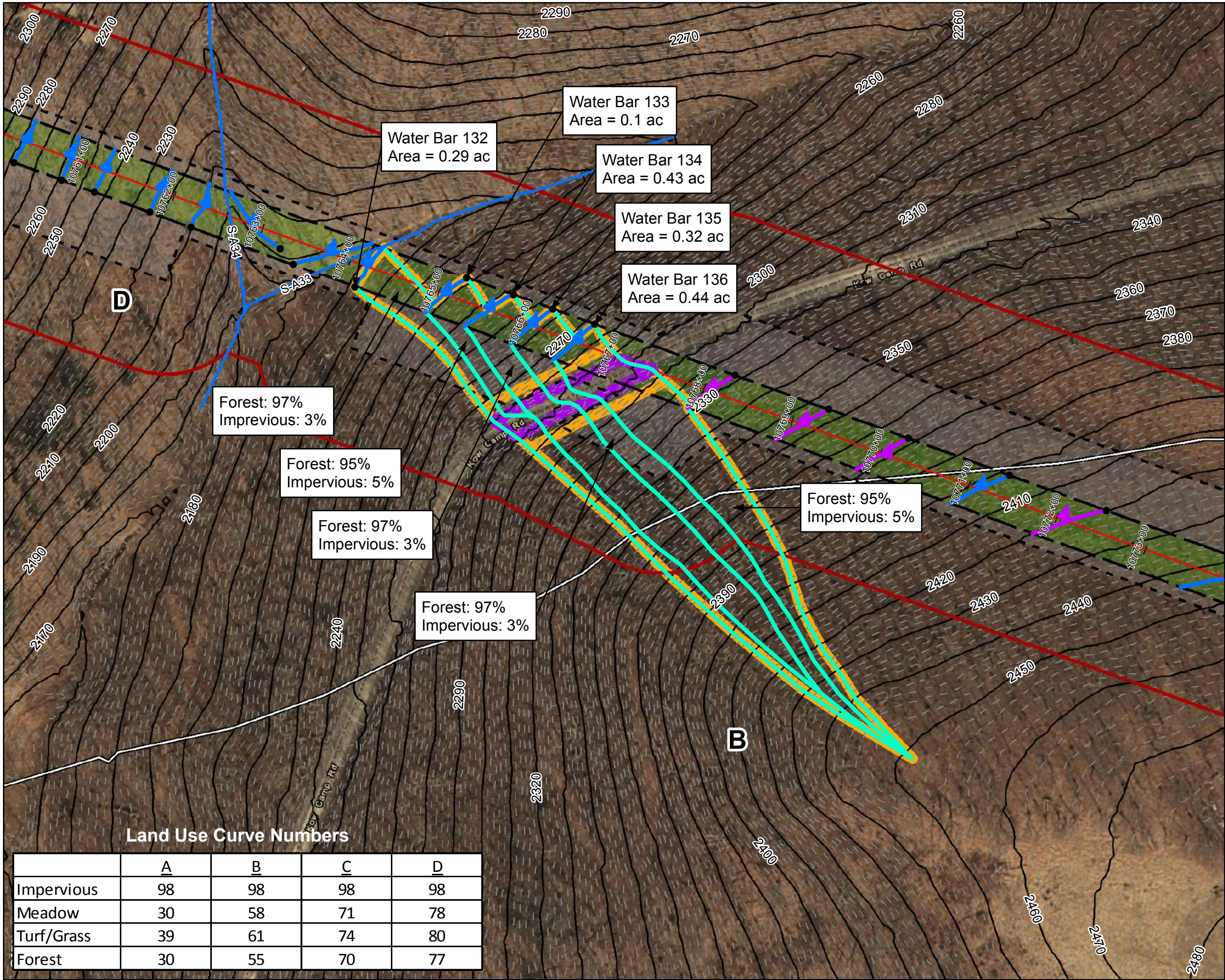
March, 2018

Data Sources: Imagery from ESRI Streaming Data 2014, Delineated streams surveyed by Tetra Tech Inc. 2014 to 2017, Transportation data from VITA map layer 2016, Elevation data derived from LIDAR provided by EQT 2016, Soils from NRCS Gridded Soil Survey Geographic (SSURGO) database 2014, Land Use digitized from ESRI World Imagery 2015, Agricultural Area from National Land Cover Dataset 2011.

Land Use Curve Numbers

	A	B	C	D
Impervious	98	98	98	98
Meadow	30	58	71	78
Turf/Grass	39	61	74	80
Forest	30	55	70	77

Water Bar 104  
Area = 1.6 ac



**Legend**

- Approximate Location of Water Bar End Treatment
- Permanent Water Bar 10-ft End Treatment
- Permanent Water Bar 15-ft End Treatment
- Permanent Water Bar 20-ft End Treatment
- Sheetflow
- Shallow Concentrated Flow
- Streams
- Stationing
- Alignment Centerline
- Permanent Easement
- Limit of Disturbance
- MLV Site
- Access Road Permanent Easement
- Existing Impervious
- Surveyed Road Edge
- New/Proposed Impervious Road Edge
- 10-foot Contour

- Water Bar Drainage Area
- 100-year Floodplain
- Pond
- Wetland
- Hydrologic Soil Groups
- 100 ft Buffer off of Limits of Disturbance
- Forest
- Impervious
- Turf/Grass
- Agricultural
- Barren
- Brush
- Meadow
- 2-foot Contour

NAD 1983 UTM 17N (feet)

1 in = 100 feet

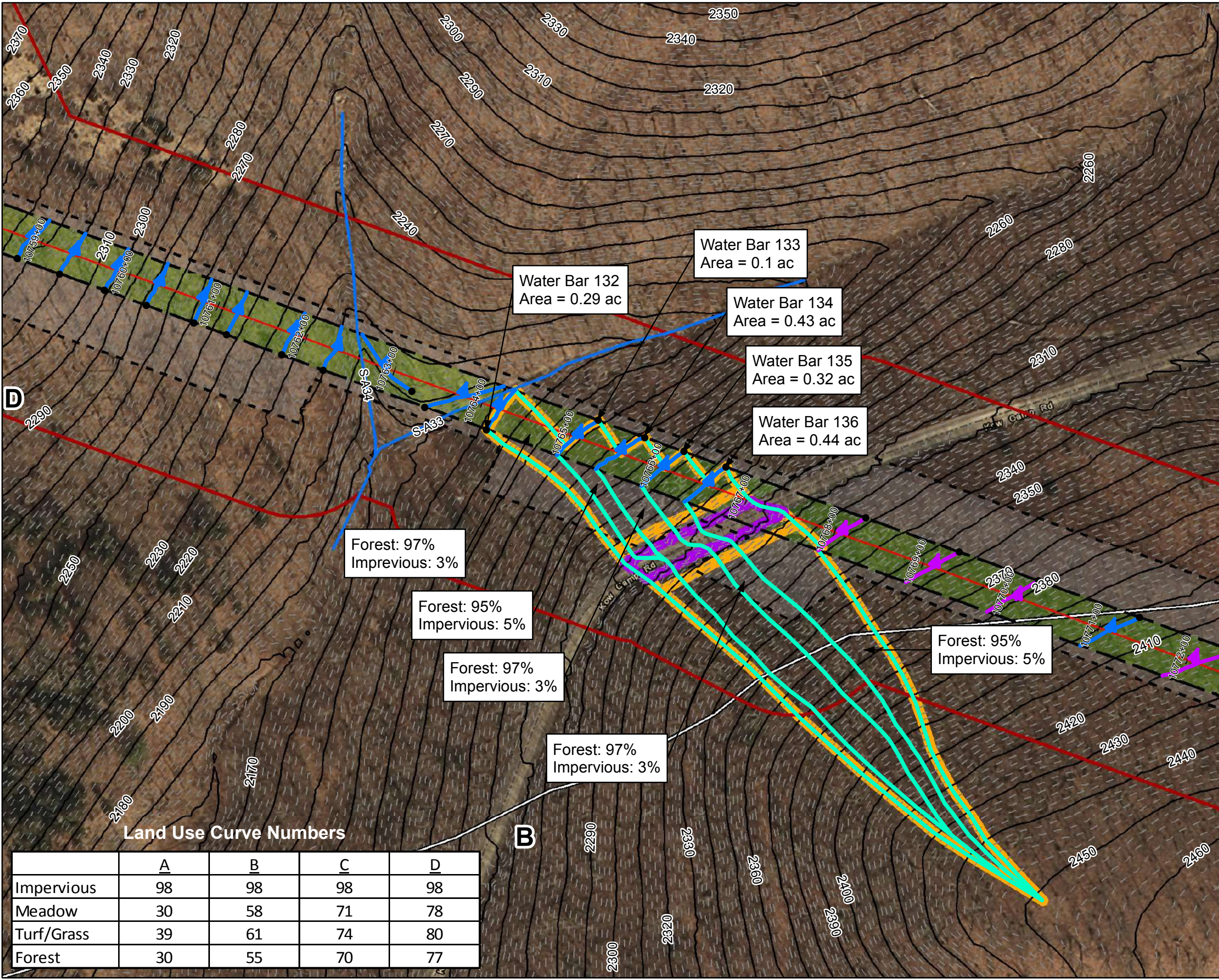
**Mountain Valley Pipeline Project**

**Stormwater Drainage Exhibits**  
**Water Bar 132**  
**Spread 8**  
Figure 005  
Giles County, Virginia  
March, 2018

Data Sources: Imagery from ESRI Streaming Data 2014, Delineated streams surveyed by Tetra Tech Inc. 2014 to 2017, Transportation data from VITA map layer 2016, Elevation data derived from LIDAR provided by EQT 2016, Soils from NRCS Gridded Soil Survey Geographic (SSURGO) database 2014, Land Use digitized from ESRI World Imagery 2015, Agricultural Area from National Land Cover Dataset 2011.

Land Use Curve Numbers

	A	B	C	D
Impervious	98	98	98	98
Meadow	30	58	71	78
Turf/Grass	39	61	74	80
Forest	30	55	70	77



**Legend**

- Approximate Location of Water Bar End Treatment
- Permanent Water Bar 10-ft End Treatment
- Permanent Water Bar 15-ft End Treatment
- Permanent Water Bar 20-ft End Treatment
- Sheetflow
- Shallow Concentrated Flow
- Streams
- Stationing
- Alignment Centerline
- Permanent Easement
- Limit of Disturbance
- MLV Site
- Access Road Permanent Easement
- Existing Impervious
- Surveyed Road Edge
- New/Proposed Impervious Road Edge
- 10-foot Contour

- Water Bar Drainage Area
- 100-year Floodplain
- Pond
- Wetland
- Hydrologic Soil Groups
- 100 ft Buffer off of Limits of Disturbance
- Forest
- Impervious
- Turf/Grass
- Agricultural
- Barren
- Brush
- Meadow
- 2-foot Contour

NAD 1983 UTM 17N (feet)

1 in = 100 feet

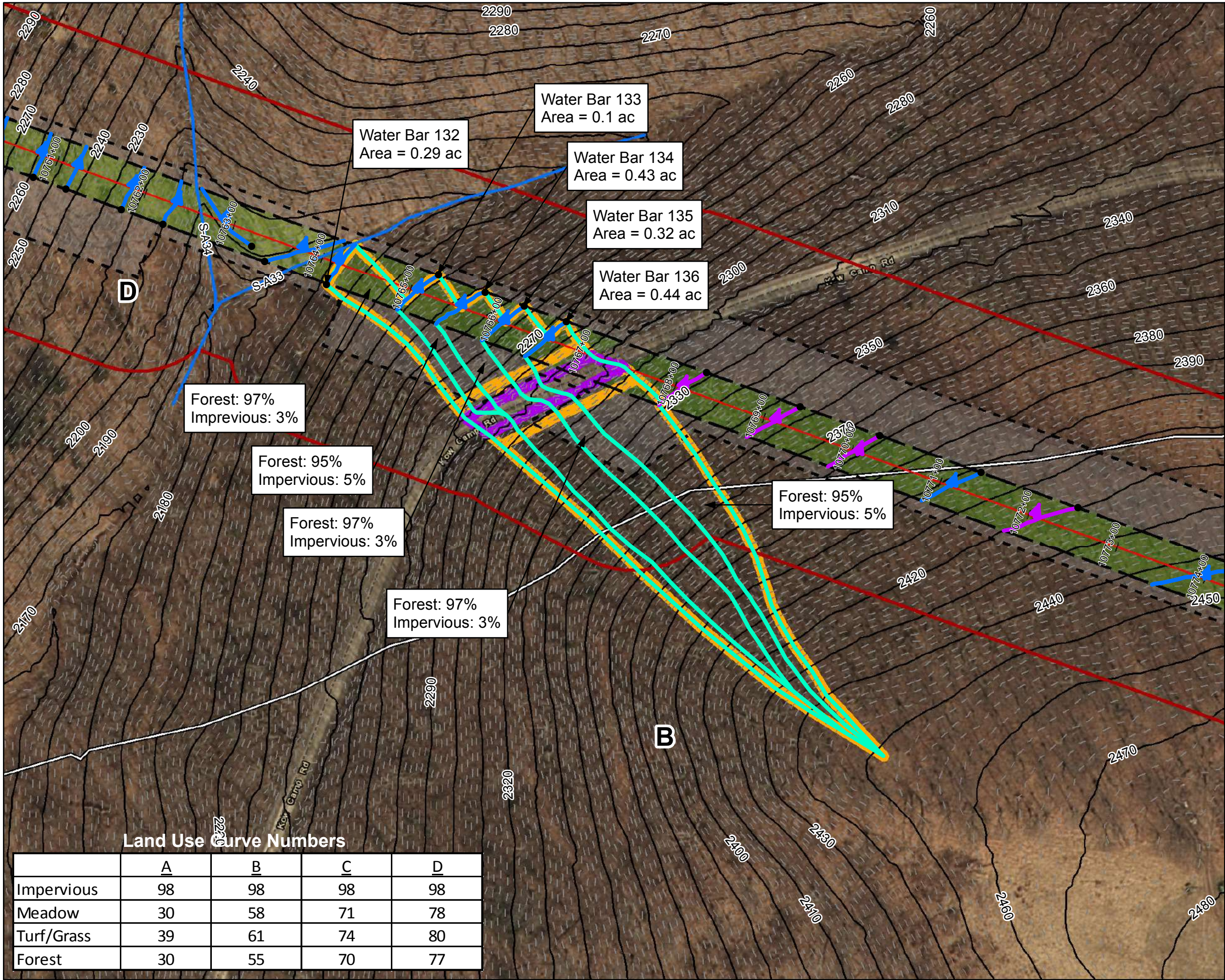
**Mountain Valley Pipeline Project**

**Stormwater Drainage Exhibits**  
**Water Bar 133**  
**Spread 8**  
Figure 006  
Giles County, Virginia  
March, 2018

Data Sources: Imagery from ESRI Streaming Data 2014, Delineated streams surveyed by Tetra Tech Inc. 2014 to 2017, Transportation data from VITA map layer 2016, Elevation data derived from LIDAR provided by EQT 2016, Soils from NRCS Gridded Soil Survey Geographic (SSURGO) database 2014, Land Use digitized from ESRI World Imagery 2015, Agricultural Area from National Land Cover Dataset 2011.

Land Use Curve Numbers

	A	B	C	D
Impervious	98	98	98	98
Meadow	30	58	71	78
Turf/Grass	39	61	74	80
Forest	30	55	70	77



**Legend**

- Approximate Location of Water Bar End Treatment
- Permanent Water Bar 10-ft End Treatment
- Permanent Water Bar 15-ft End Treatment
- Permanent Water Bar 20-ft End Treatment
- Sheetflow
- Shallow Concentrated Flow
- Streams
- Stationing
- Alignment Centerline
- Permanent Easement
- Limit of Disturbance
- MLV Site
- Access Road Permanent Easement
- Existing Impervious
- Surveyed Road Edge
- New/Proposed Impervious Road Edge
- 10-foot Contour

- Water Bar Drainage Area
- 100-year Floodplain
- Pond
- Wetland
- Hydrologic Soil Groups
- 100 ft Buffer off of Limits of Disturbance
- Forest
- Impervious
- Turf/Grass
- Agricultural
- Barren
- Brush
- Meadow
- 2-foot Contour

NAD 1983 UTM 17N (feet)

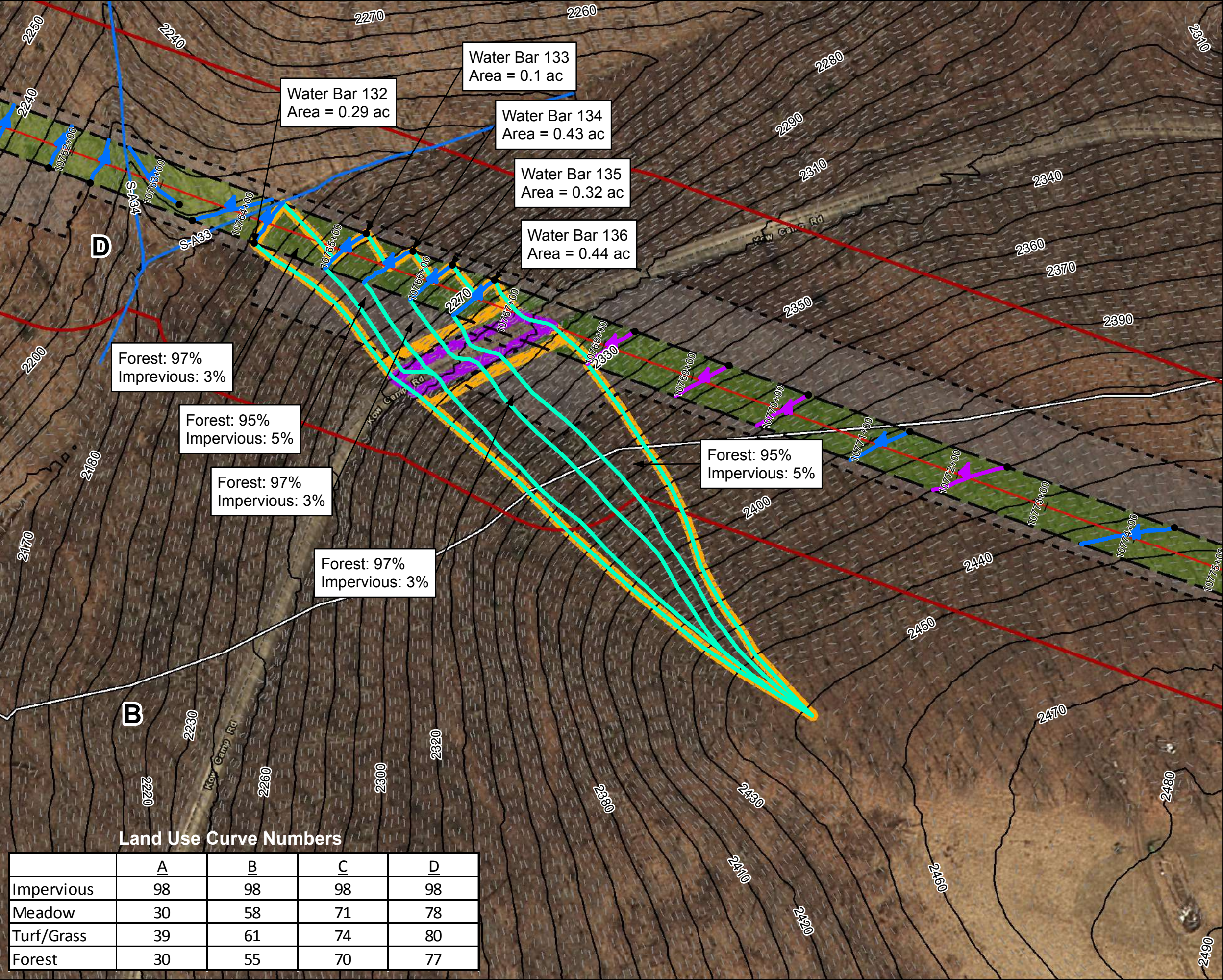
1 in = 100 feet

**Mountain Valley Pipeline Project**

**Stormwater Drainage Exhibits**  
**Water Bar 134**  
**Spread 8**  
Figure 007  
Giles County, Virginia  
March, 2018

Data Sources: Imagery from ESRI Streaming Data 2014, Delineated streams surveyed by Tetra Tech Inc. 2014 to 2017, Transportation data from VITA map layer 2016, Elevation data derived from LIDAR provided by EQT 2016, Soils from NRCS Gridded Soil Survey Geographic (SSURGO) database 2014, Land Use digitized from ESRI World Imagery 2015, Agricultural Area from National Land Cover Dataset 2011.

Land Use Curve Numbers				
	A	B	C	D
Impervious	98	98	98	98
Meadow	30	58	71	78
Turf/Grass	39	61	74	80
Forest	30	55	70	77



**Legend**

- Approximate Location of Water Bar End Treatment
- Permanent Water Bar 10-ft End Treatment
- Permanent Water Bar 15-ft End Treatment
- Permanent Water Bar 20-ft End Treatment
- Sheetflow
- Shallow Concentrated Flow
- Streams
- Stationing
- Alignment Centerline
- Permanent Easement
- Limit of Disturbance
- MLV Site
- Access Road Permanent Easement
- Existing Impervious
- Surveyed Road Edge
- New/Proposed Impervious Road Edge
- 10-foot Contour

- Water Bar Drainage Area
- 100-year Floodplain
- Pond
- Wetland
- Hydrologic Soil Groups
- 100 ft Buffer off of Limits of Disturbance
- Forest
- Impervious
- Turf/Grass
- Agricultural
- Barren
- Brush
- Meadow
- 2-foot Contour

NAD 1983 UTM 17N (feet)

1 in = 100 feet

100

50

0

100

Feet

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**Mountain Valley Pipeline Project**

**Stormwater Drainage Exhibits**  
**Water Bar 135**  
**Spread 8**

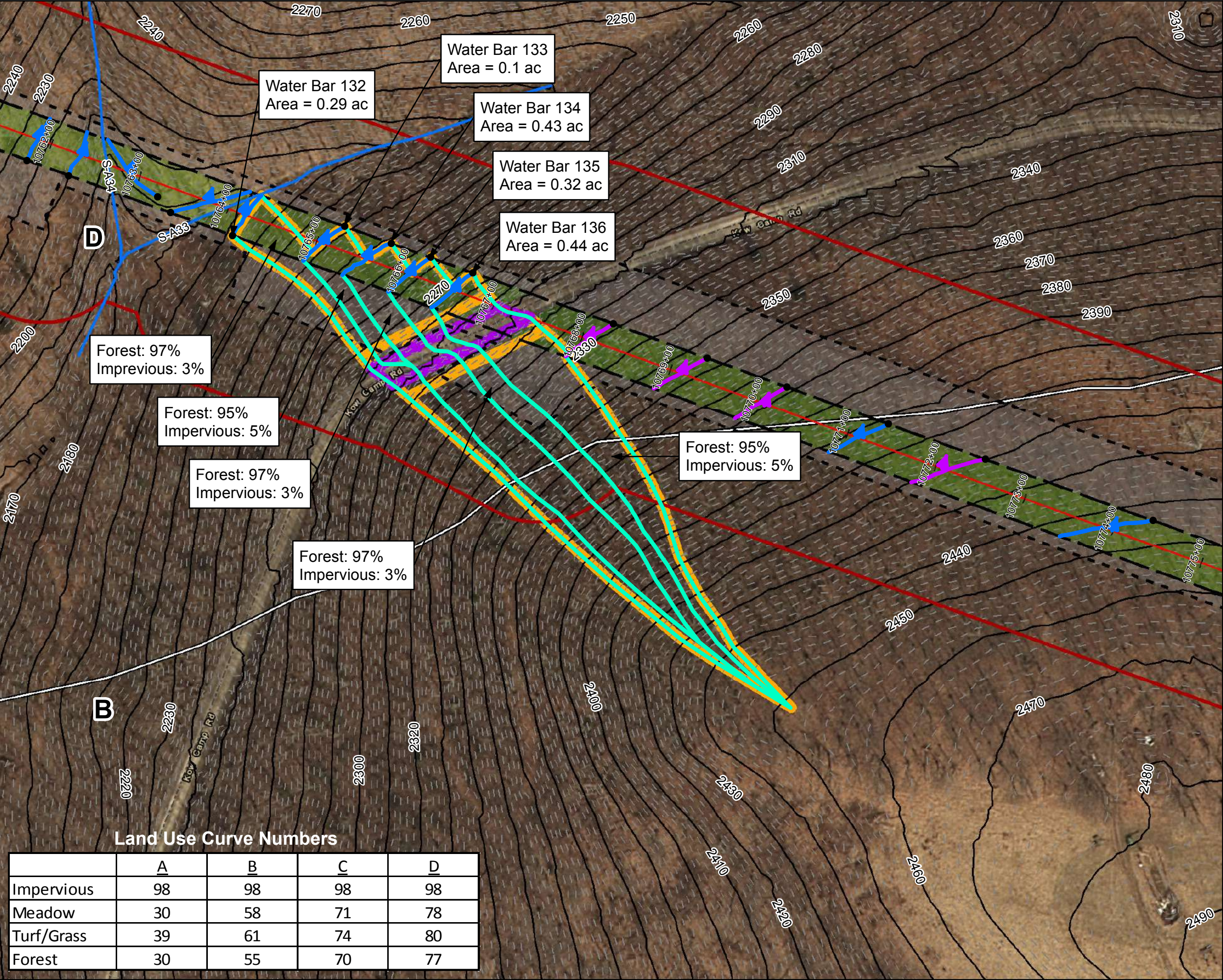
Figure 008  
Giles County, Virginia

March, 2018

Data Sources: Imagery from ESRI Streaming Data 2014, Delineated streams surveyed by Tetra Tech Inc. 2014 to 2017, Transportation data from VITA map layer 2016, Elevation data derived from LIDAR provided by EQT 2016, Soils from NRCS Gridded Soil Survey Geographic (SSURGO) database 2014, Land Use digitized from ESRI World Imagery 2015, Agricultural Area from National Land Cover Dataset 2011.

Land Use Curve Numbers

	A	B	C	D
Impervious	98	98	98	98
Meadow	30	58	71	78
Turf/Grass	39	61	74	80
Forest	30	55	70	77



**Legend**

- Approximate Location of Water Bar End Treatment
- Permanent Water Bar 10-ft End Treatment
- Permanent Water Bar 15-ft End Treatment
- Permanent Water Bar 20-ft End Treatment
- Sheetflow
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- Streams
- Stationing
- Alignment Centerline
- Permanent Easement
- Limit of Disturbance
- MLV Site
- Access Road Permanent Easement
- Existing Impervious Surveyed Road Edge
- New/Proposed Impervious Road Edge
- 10-foot Contour
- Water Bar Drainage Area
- 100-year Floodplain
- Pond
- Wetland
- Hydrologic Soil Groups
- 100 ft Buffer off of Limits of Disturbance
- Forest
- Impervious
- Turf/Grass
- Agricultural
- Barren
- Brush
- Meadow
- 2-foot Contour

NAD 1983 UTM 17N (feet)

1 in = 100 feet

**Mountain Valley Pipeline Project**

**Stormwater Drainage Exhibits**  
**Water Bar 136**  
**Spread 8**  
Figure 009  
Giles County, Virginia  
March, 2018

Data Sources: Imagery from ESRI Streaming Data 2014, Delineated streams surveyed by Tetra Tech Inc. 2014 to 2017, Transportation data from VITA map layer 2016, Elevation data derived from LIDAR provided by EQT 2016, Soils from NRCS Gridded Soil Survey Geographic (SSURGO) database 2014, Land Use digitized from ESRI World Imagery 2015, Agricultural Area from National Land Cover Dataset 2011.