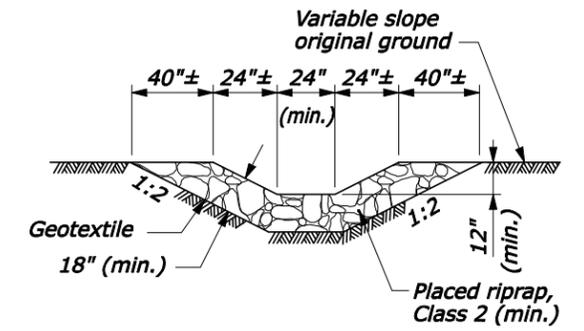
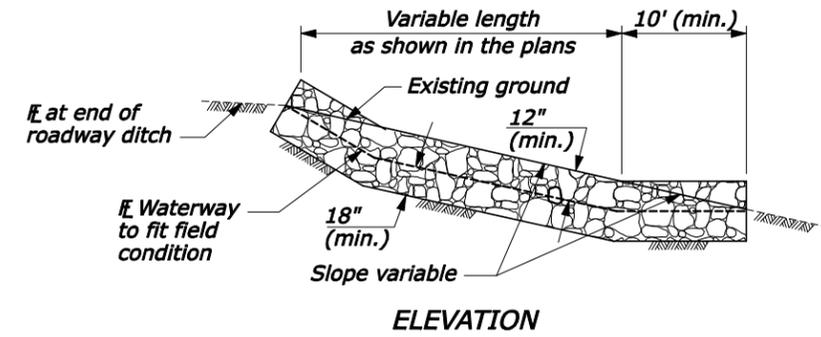
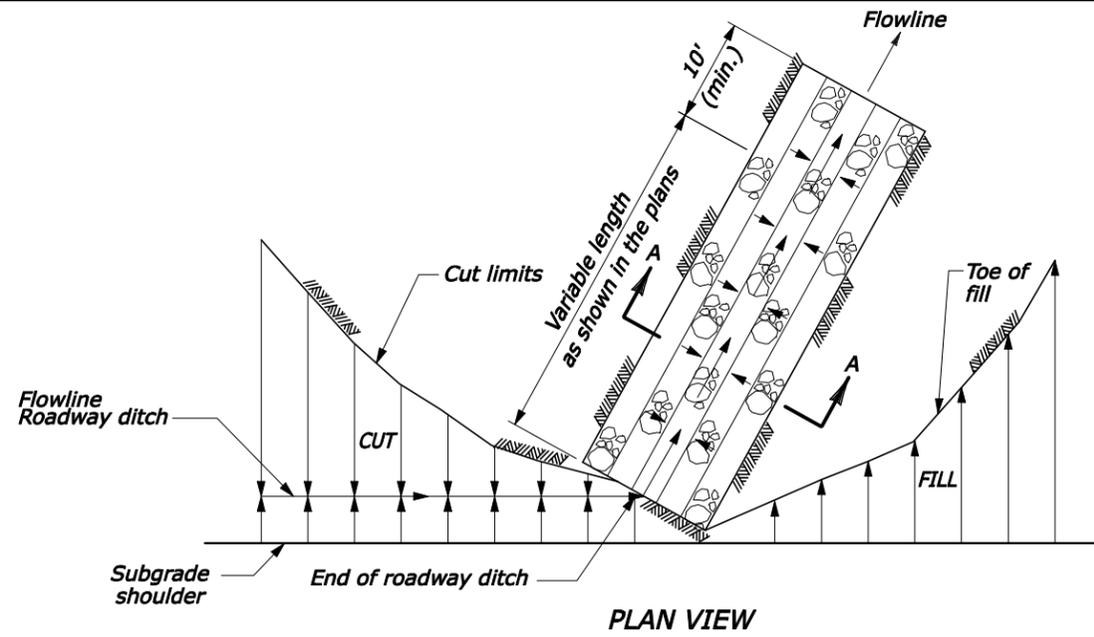


REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS

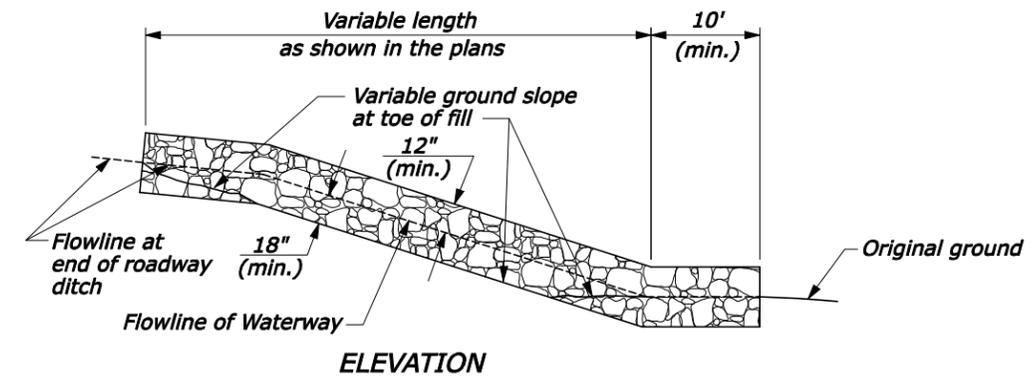
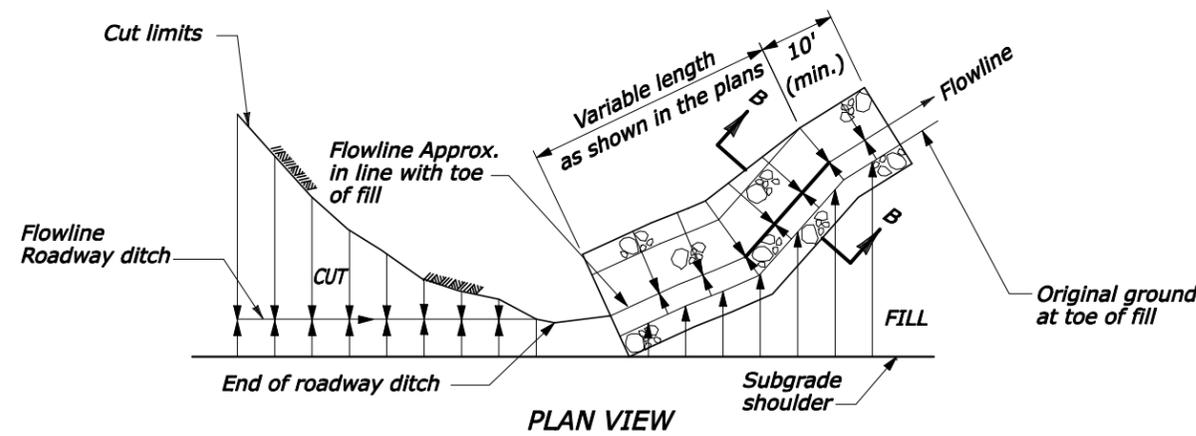
NOTE:

1. Excavation for placement of riprap will not be measured for payment.
2. Furnish geotextile materials conforming to Subsection 714.01 (a).

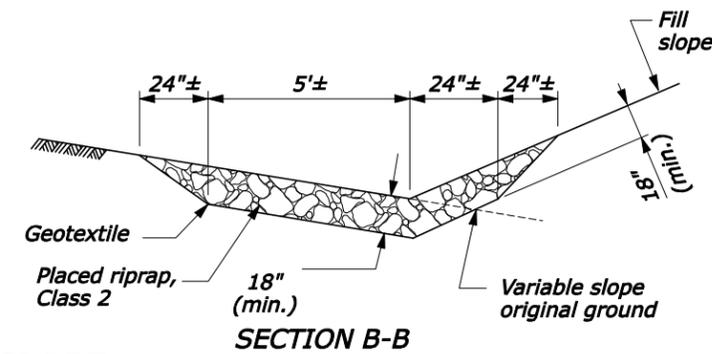


TYPE 1 - NOT CONTIGUOUS TO FILL SLOPE
($Q_{max} = 5 \text{ cfs}$)

SECTION A-A



TYPE 2 - CONTIGUOUS TO FILL SLOPE
($Q_{max} = 5 \text{ cfs}$)



NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION CENTRAL FEDERAL LANDS HIGHWAY DIVISION	
U.S. CUSTOMARY DETAIL	
PLACED RIPRAP BETWEEN CUT AND FILL	
DETAIL APPROVED FOR USE 07/2004	DETAIL
REVISED: 08/2006 03/2009	C251-51



NOTES TO THE DESIGNER

Last Updated: March 2009

General Information

1. **Riprap classes.** Use this drawing with either the FP-03 riprap classifications or the NCHRP classifications (See the Section 251 SCRs on the LOS).
2. **Maximum Flow.** $Q_{\max} = 5$ cfs. For other flows, use the HEC15 spreadsheet to evaluate the riprap ditch (HEC15 spreadsheet located on RoadMap: http://roadmap/DocShare/GetFile.cfm?KEY_FM_FILE_MASTER_SEQ=989&KEY_FM_FILE_SEQ=1152)

Applicable SCRs

1. Section 251:
http://www.cflhd.gov/design/documents/construction/scr_03/S251-03E.doc
2. Section 705:
http://www.cflhd.gov/design/documents/construction/scr_03/S705-03E.doc

Typical Pay Items Used

- 25101-2000 Placed riprap, class 2
- Geotextile quantity is shown for information only

Updates

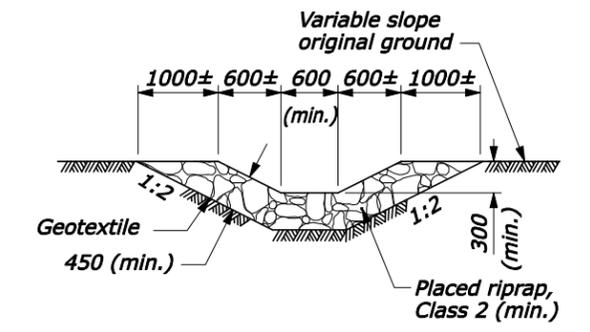
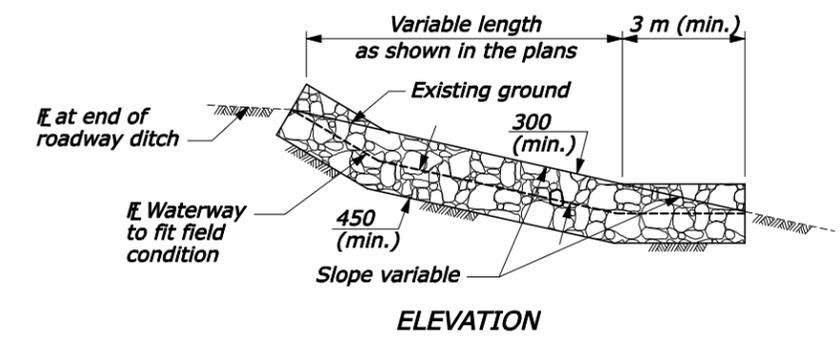
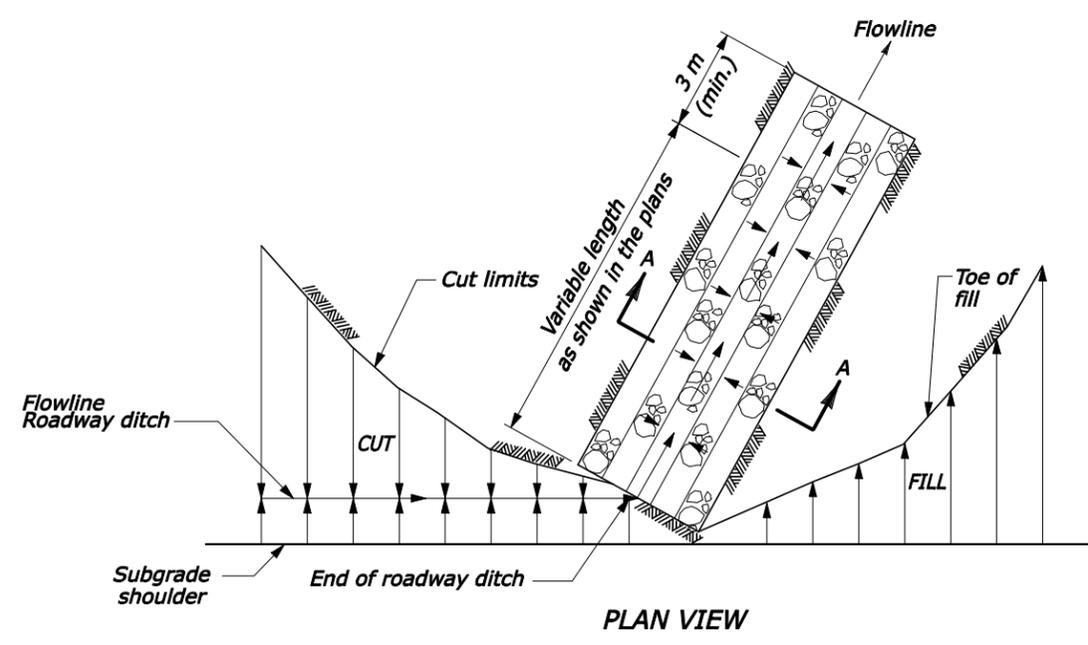
March 2009

- Added Qmax
- Minor drafting edits

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS

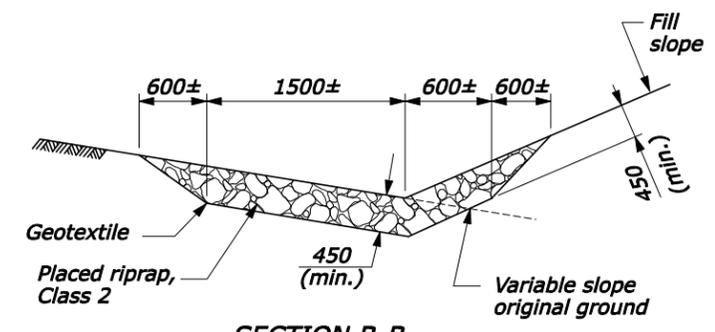
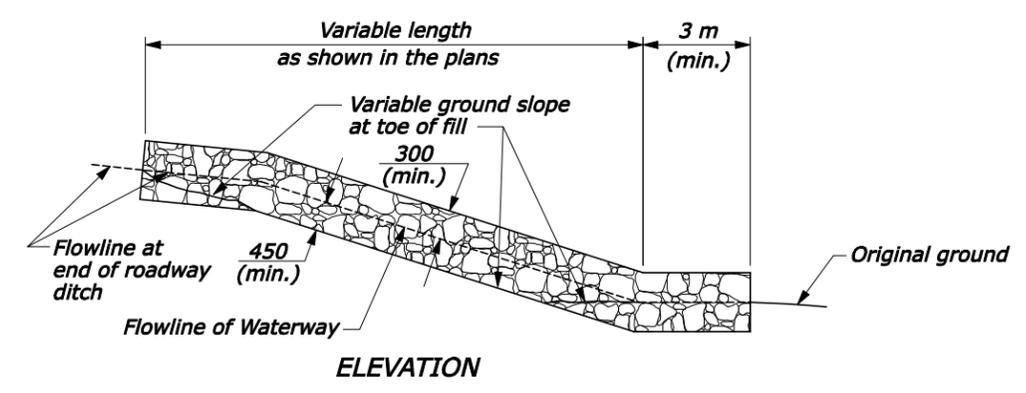
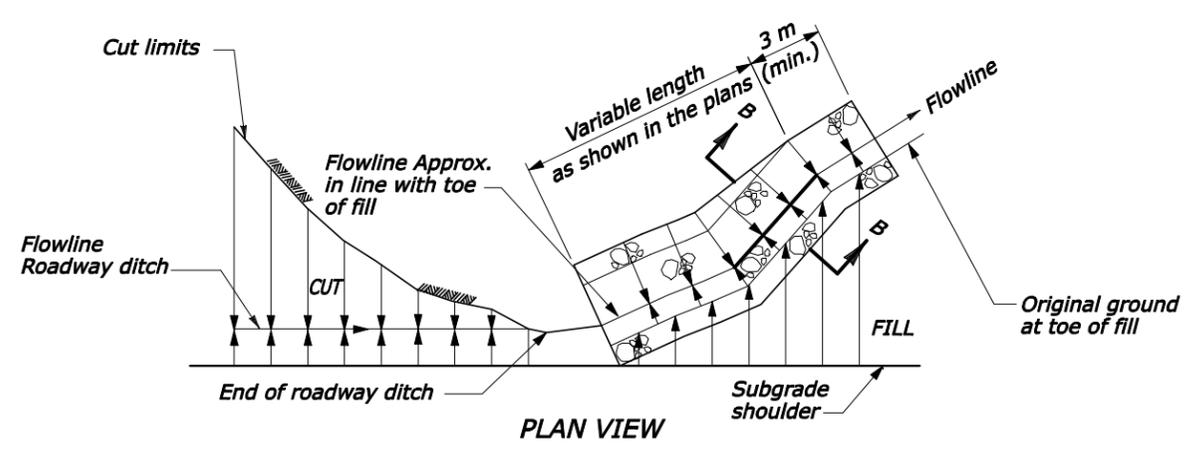
NOTE:

1. Excavation for placement of riprap will not be measured for payment.
2. Furnish geotextile materials conforming to Subsection 714.01 (a).
3. Dimensions not labeled are in millimeters.



TYPE 1 - NOT CONTIGUOUS TO FILL SLOPE
($Q_{max} = 0.15 \text{ m}^3/\text{s}$)

SECTION A-A



TYPE 2 - CONTIGUOUS TO FILL SLOPE
($Q_{max} = 0.15 \text{ m}^3/\text{s}$)

SECTION B-B

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

METRIC DETAIL

**PLACED RIPRAP
BETWEEN CUT AND FILL**

DETAIL APPROVED FOR USE 07/2004
REVISED: 08/2006 03/2009

DETAIL
CM251-51

3/20/2009 12:36:36 PM N:\CFE-DPT\Details Team\for_website\March09\CM251-51.dgn



NOTES TO THE DESIGNER

Last Updated: March 2009

General Information

1. **Riprap classes.** Use this drawing with either the FP-03 riprap classifications or the NCHRP classifications (See the Section 251 SCRs on the LOS).
2. **Maximum Flow.** $Q_{max} = 0.15$ m³/s. For other flows, use the HEC15 spreadsheet to evaluate the riprap ditch (HEC15 spreadsheet located on RoadMap:
http://roadmap/DocShare/GetFile.cfm?KEY_FM_FILE_MASTER_SEQ=989&KEY_FM_FILE_SEQ=1152

Applicable SCRs

1. Section 251:
http://www.cflhd.gov/design/_documents/construction/scr_03/S251-03M.doc
2. Section 705:
http://www.cflhd.gov/design/_documents/construction/scr_03/S705-03M.doc

Typical Pay Items Used

- 25101-2000 Placed riprap, class 2
- Geotextile quantity is shown for information only

Updates

March 2009

- Added Qmax
- Minor drafting edits