

# INDIANA DEPARTMENT OF TRANSPORTATION



INTER-DEPARTMENT COMMUNICATION



232-6775

August 3, 2006

## DESIGN MEMORANDUM No. 06-04 TECHNICAL ADVISORY

**TO:** All Design, Operations, and District Personnel, and Consultants

**FROM:** /s/ Anthony L. Uremovich  
Anthony L. Uremovich  
Design Resources Engineer  
Production Management Division

**SUBJECT:** Temporary Revetment Riprap Check Dam

**EFFECTIVE:** January 10, 2007, Letting

The weight (mass) of temporary revetment riprap check dam should be determined as described below.

1. English Units. The weight,  $W_{RR}$ , in tons, should be determined by using either of the formulas as follows:

$$\text{For 2-ft depth, } W_{RR} = 1.5 \left[ \frac{a}{3} + \frac{(b+c)}{2} \right]$$

$$\text{For 3-ft depth, } W_{RR} = 1.5 \left[ \frac{a}{2} + (b+c) \right]$$

2. Metric Units. The mass,  $M_{RR}$ , in megagrams, should be determined by using either of the formulas as follows:

$$\text{For 0.6-m depth, } M_{RR} = 1.8 [0.81a + 0.3645(b+c)]$$

$$\text{For 0.9-m depth, } M_{RR} = 1.8 [1.22a + 0.732(b+c)]$$

The coarse aggregate No. 5 and geotextile fabric required with this work are not separate pay items, therefore, quantities need not be determined.

Recurring Special Provision 205-R-528, and Recurring Plan Detail E 205-R-528d (205-R-528d) both attached hereto, should be called for beginning with the January 10, 2007, letting, and through the August 22, 2007, letting. Beginning with the September 19, 2007, letting, the recurring special provision will be incorporated into the INDOT *Standard Specifications*, and the recurring plan details will become INDOT *Standard Drawings*. The documents will then no longer be required to be called for in specific contracts.

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Attachment

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## TEMPORARY REVETMENT RIPRAP CHECK DAMS

The Standard Specifications are revised as follows:

SECTION 205, BEGIN LINE 134, INSERT AS FOLLOWS:

**205.06 Method of Measurement**

Silt fence and straw bale check dams will be measured by the linear foot (meter). Sediment basins will be measured by the units installed complete in place. Revetment riprap check dams, sediment traps, and splashpads will be measured by the ton (megagram). *The measurement of temporary revetment riprap check dams will include the revetment riprap and of the No. 5 stone.* Measurement of sediment traps will include the riprap and the No. 8 filter stone. Temporary mulching will be measured by the ton (megagram).

SECTION 205, BEGIN LINE 184, DELETE AND INSERT AS FOLLOWS:

The cost of geotextile fabric shall be included in the cost of ~~the~~ *temporary check dam or sediment trap.*

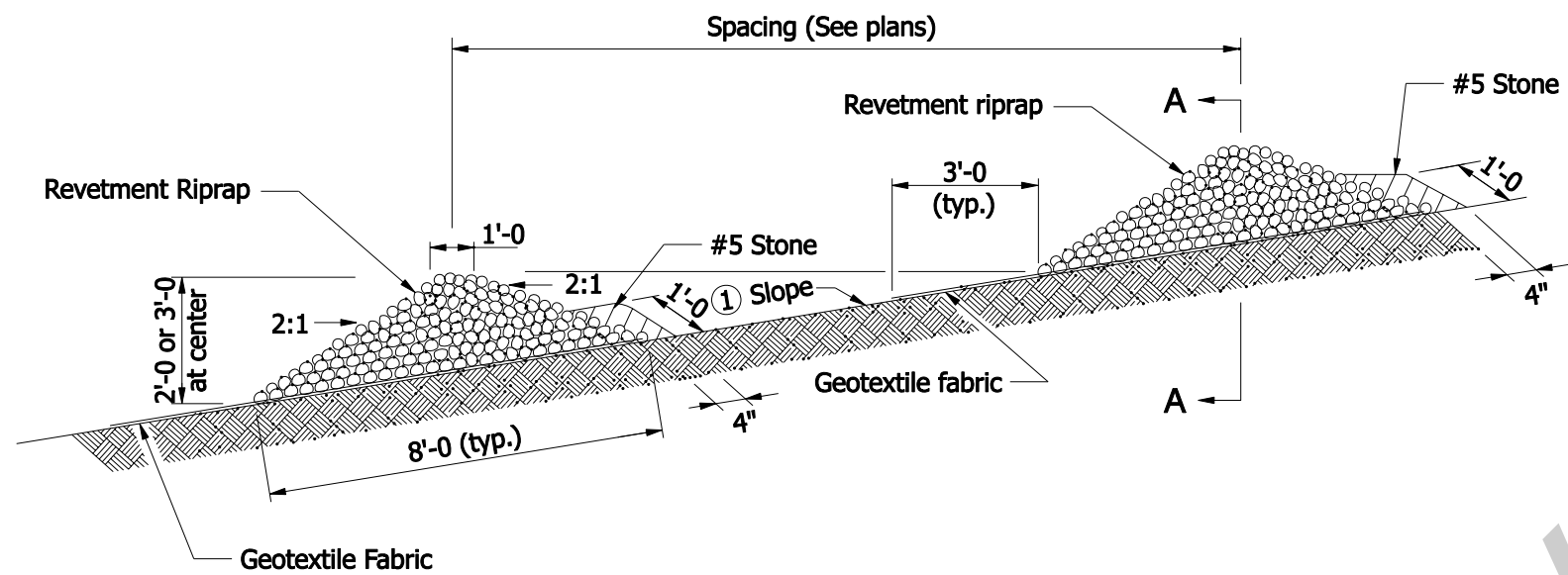
The cost of geotextile fabric, trenching, backfilling, posts, fencing, and all necessary incidentals shall be included in the cost of silt fence.

*The cost of No. 5 stone required for temporary revetment riprap check dams shall be included in the cost of temporary check dam, revetment riprap.*

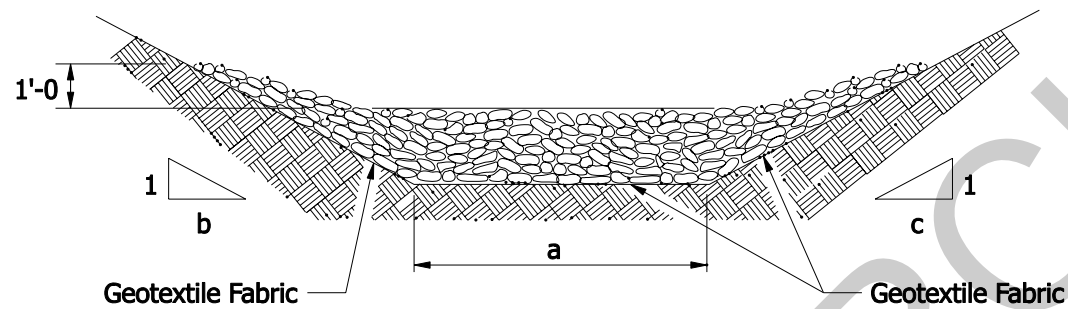
SECTION 205, AFTER LINE 201, INSERT AS FOLLOWS:

*The cost of maintenance, except for the removal of sediments, and removal of temporary erosion and sediment control items shall be included in the cost of the respective items in this section.*

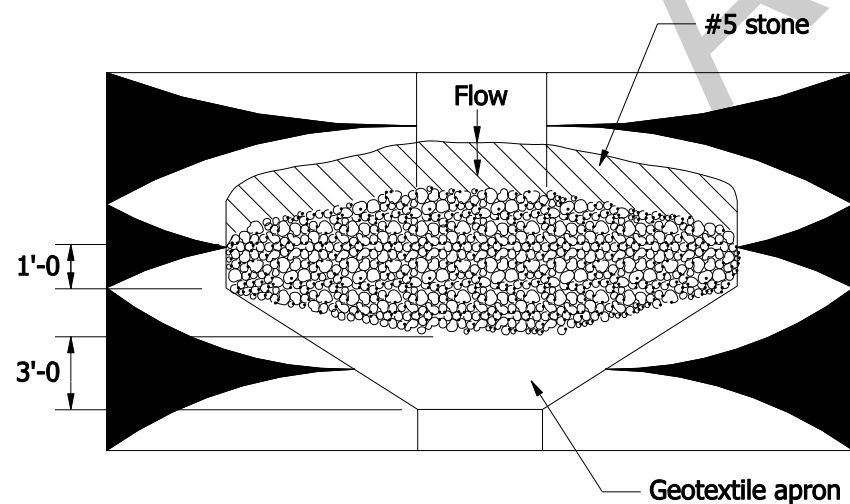
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**ELEVATION**



**SECTION A-A**



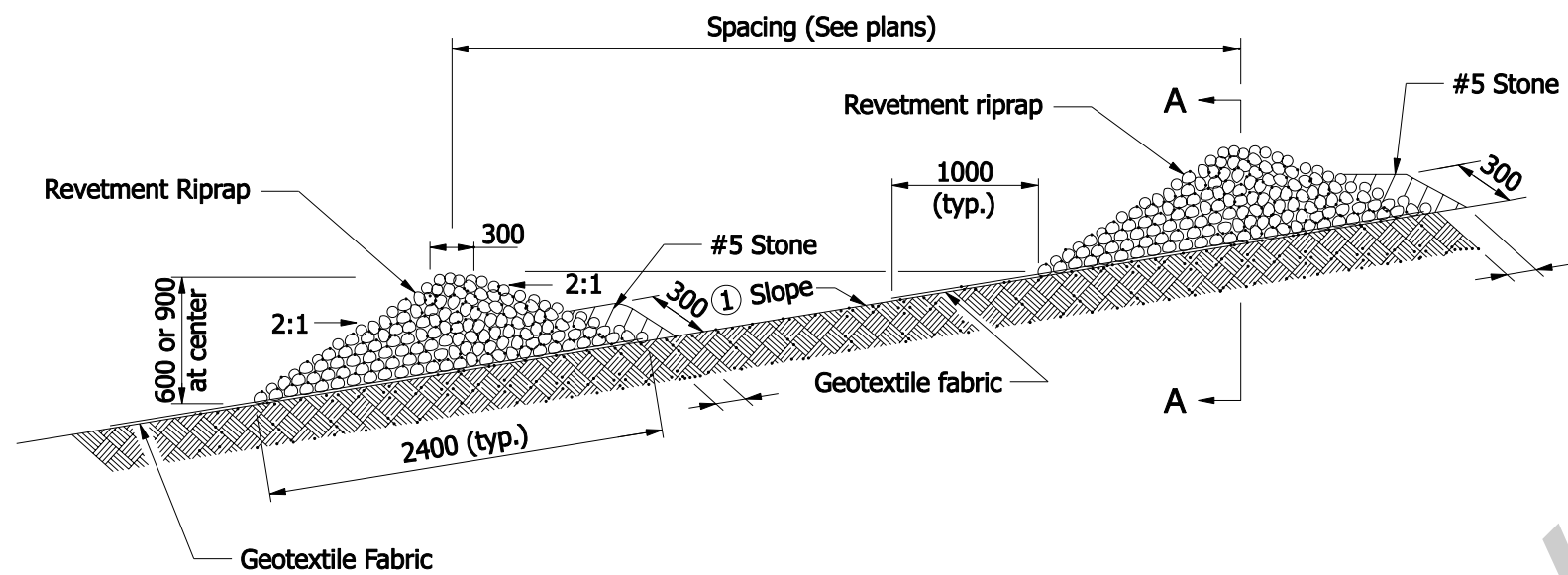
**PLAN**

**GENERAL NOTES**

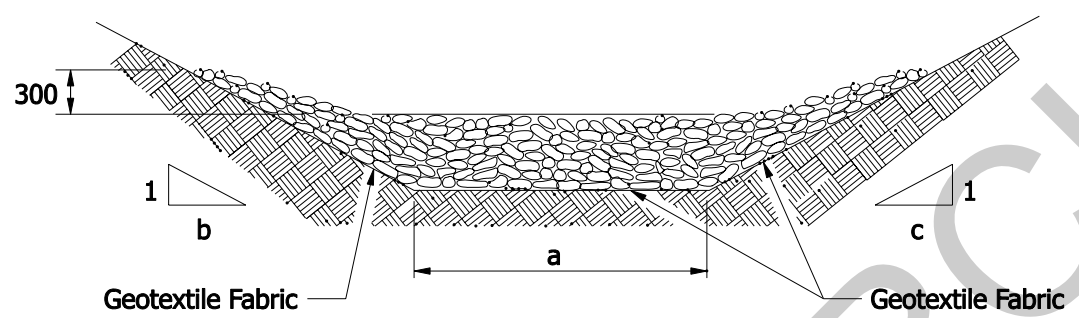
- ① Riprap ditch check dams shall be spaced such that the top of the downstream check dam is at the same elevation as the toe of the adjacent upstream check dam.
2. The volume of #5 stone (cys) is as follows:  
 2 ft at center:  $1/81 [a+1.5 (b+c)]$   
 3 ft at center:  $1/81 [a+2 (b+c)]$
3. The area of geotextile fabric (sys) is as follows:  
 2 ft at center:  $1/9 [11a+18 (b+c)]$   
 3 ft at center:  $1/9 [11a+24 (b+c)]$

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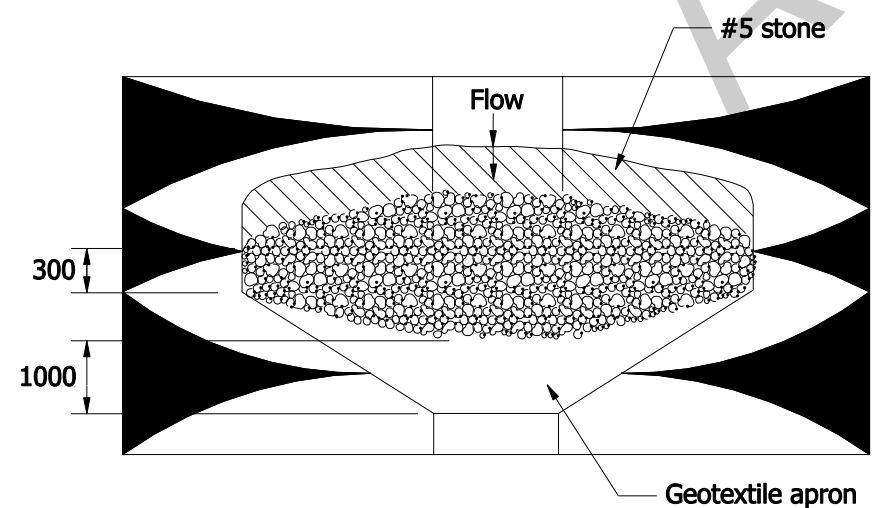
TEMPORARY CHECK DAM,  
 REVETMENT RIPRAP



**ELEVATION**



**SECTION A-A**



**PLAN**

**GENERAL NOTES**

- ① Riprap ditch check dams shall be spaced such that the top of the downstream check dam is at the same elevation as the toe of the adjacent upstream check dam.
2. The volume of #5 stone (m<sup>3</sup>) is as follows:  
 600 mm at center:  $0.03a + 0.27(b+c)$   
 900 mm at center:  $0.03a + 0.36(b+c)$
3. The area of geotextile fabric (m<sup>2</sup>) is as follows:  
 600 mm at center:  $3.4a + 1.665(b+c)$   
 900 mm at center:  $3.4a + 2.22(b+c)$

All Dimensions are in mm unless otherwise specified.

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<b>TEMPORARY CHECK DAM, REVTMENT RIPRAP</b>