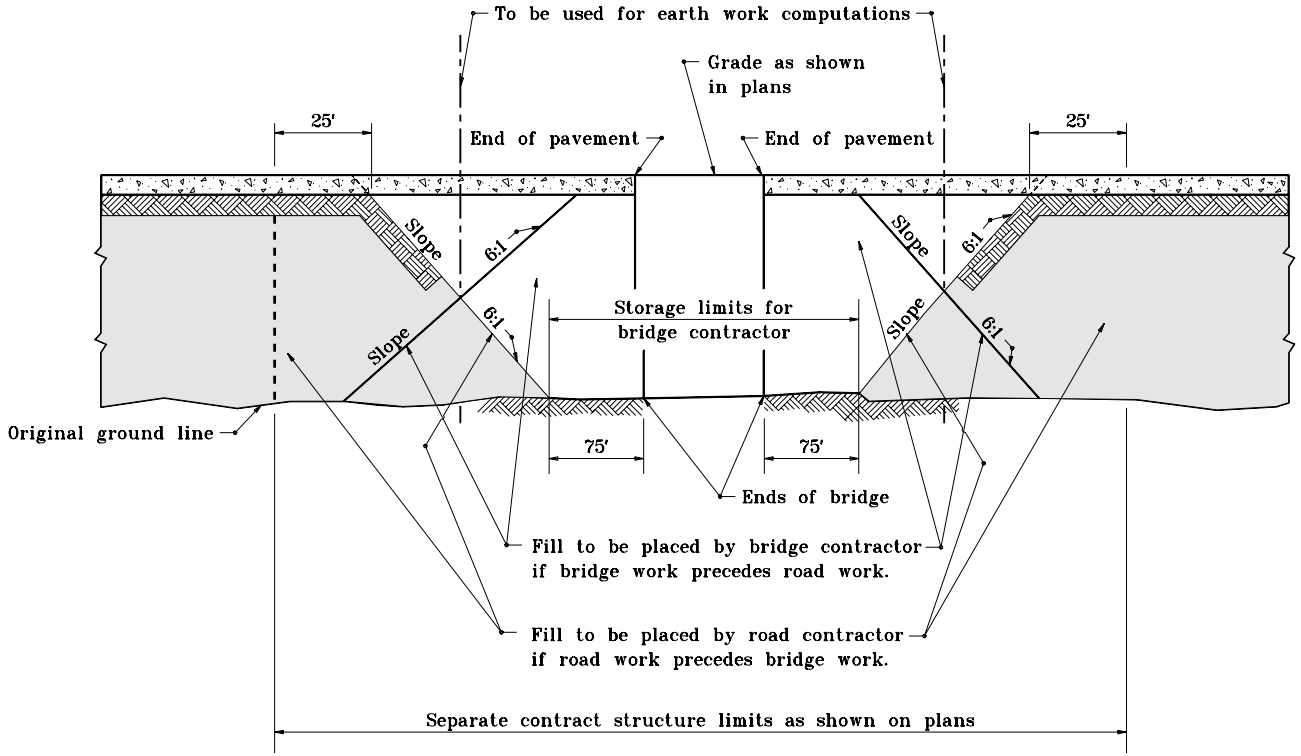


METHOD FOR DETERMINING QUANTITIES WITHIN STRUCTURE LIMITS

INDIANA DEPARTMENT OF TRANSPORTATION

ROAD & BRIDGE CONTRACT LIMITS

SEPTEMBER 2000

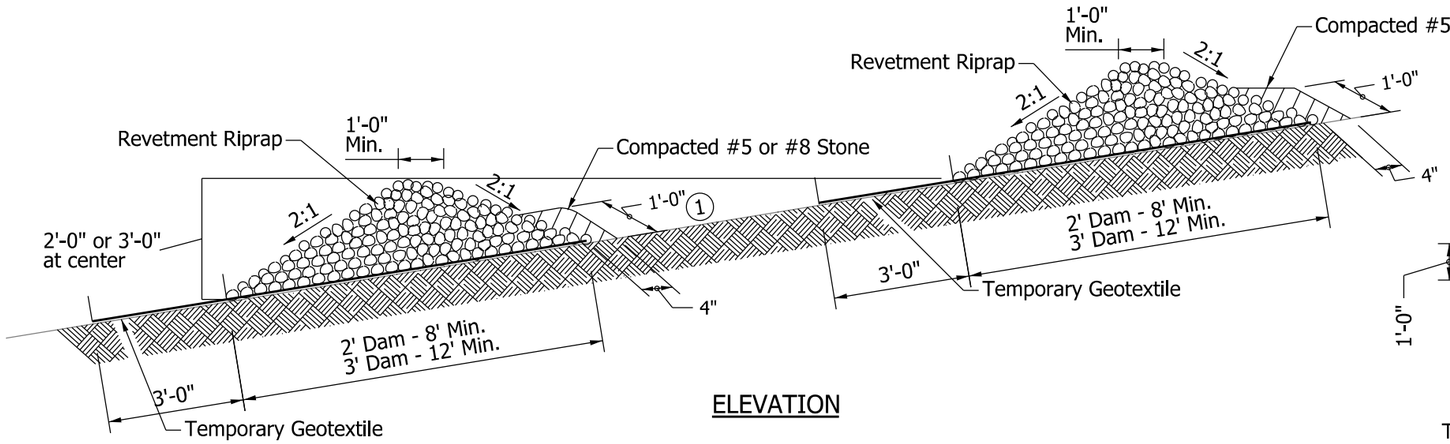
STANDARD DRAWING NO. **E 105-RBCL-01**

ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

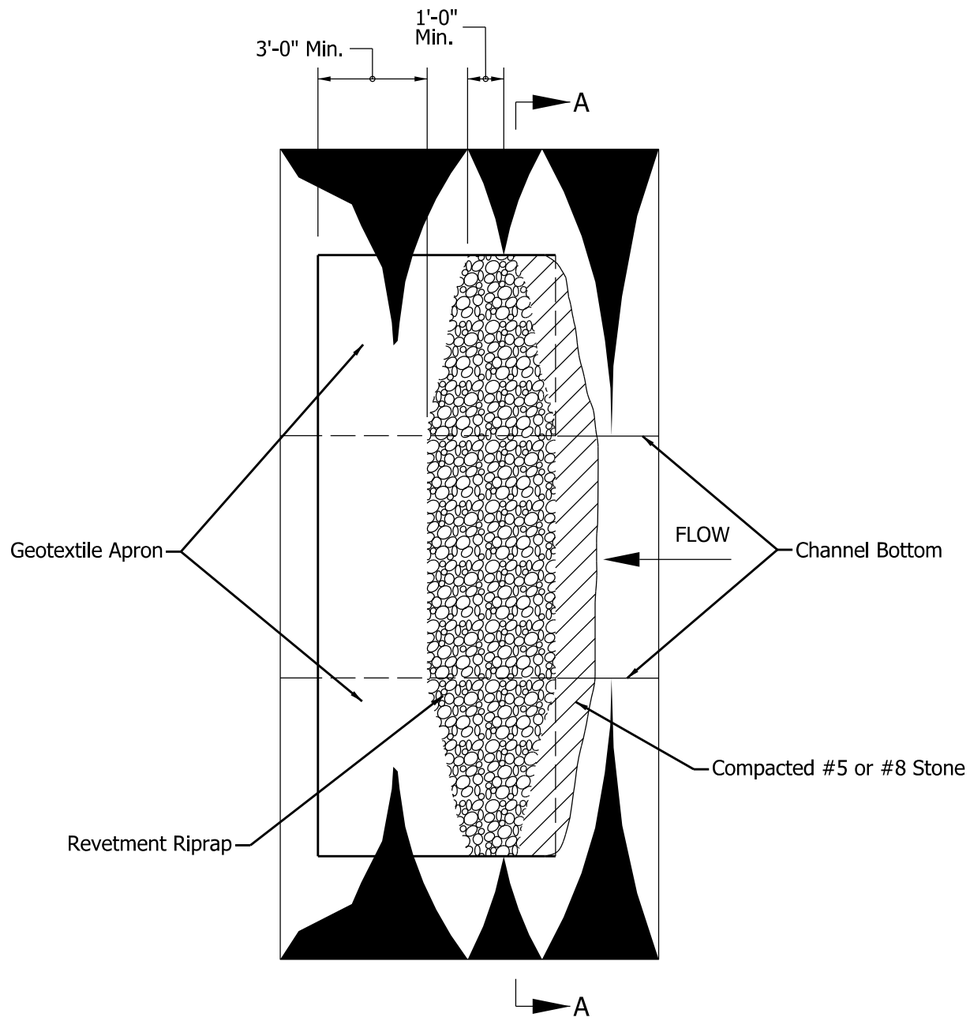
DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 9-01-00
DESIGN STANDARDS ENGINEER — DATE

/s/ Firooz Zandi 9-01-00
CHIEF HIGHWAY ENGINEER — DATE



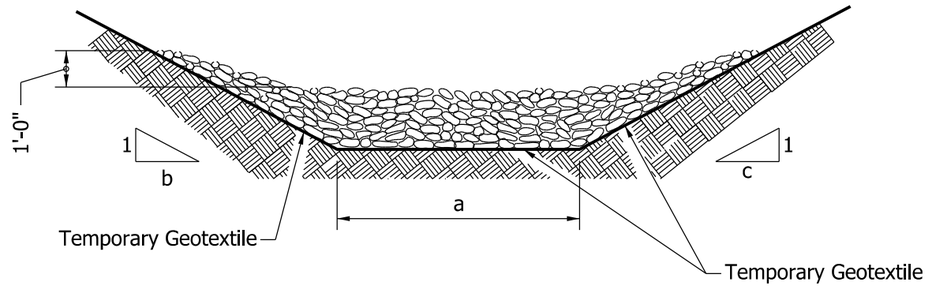
ELEVATION



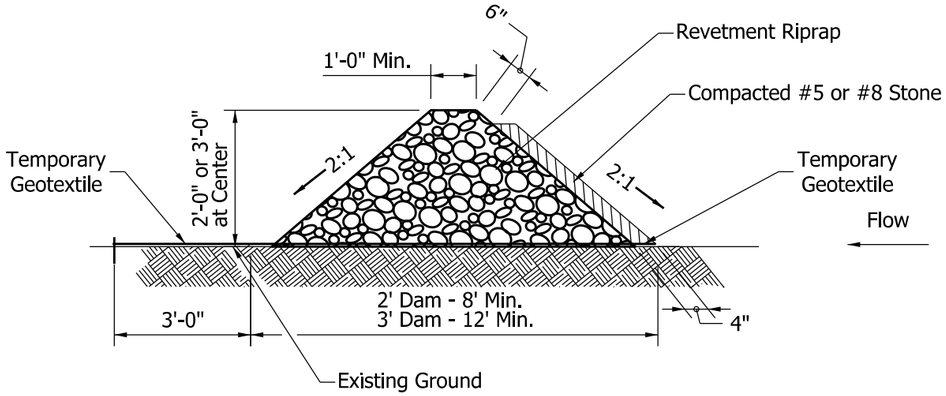
PLAN

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.



SECTION A-A



CHECK DAM MODIFIED

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY CHECK DAM
REVETMENT RIPRAP

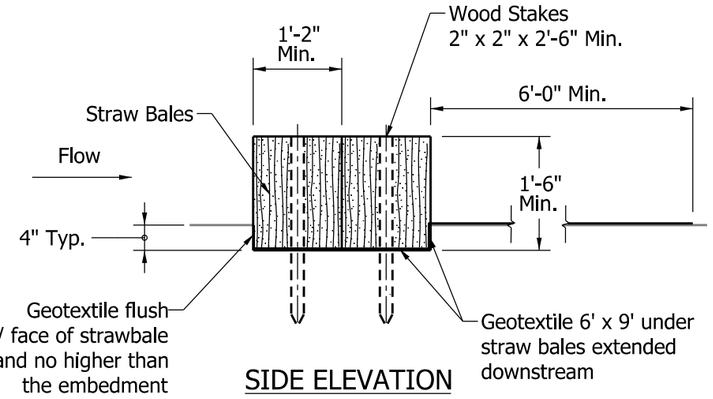
SEPTEMBER 2012

STANDARD DRAWING NO. E 205-TECD-01

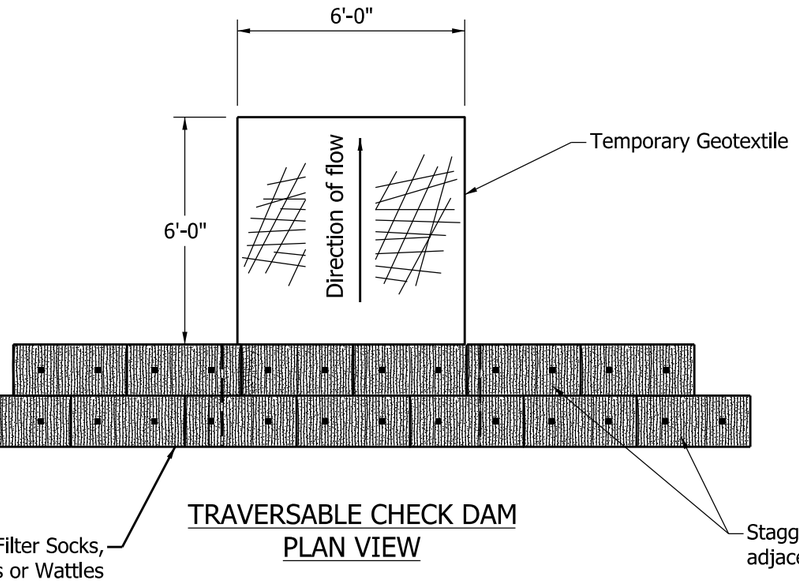
RICHARD L. VanCLEAVE
REGISTERED
No. 9750
STATE OF INDIANA
PROFESSIONAL ENGINEER

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

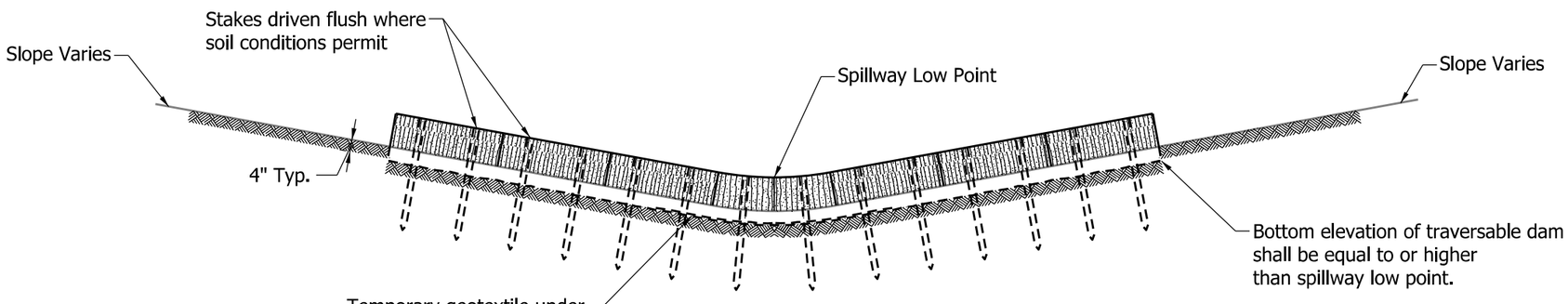
/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



SIDE ELEVATION
STRAW BALE INSTALLATION



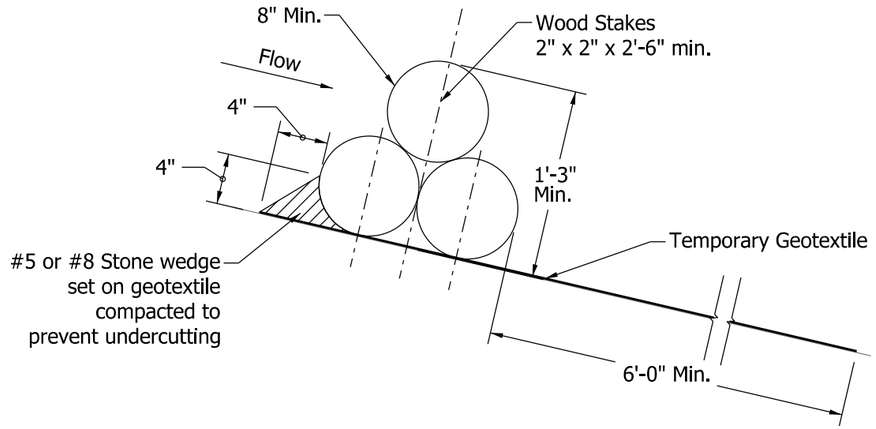
TRAVERSABLE CHECK DAM
PLAN VIEW



TRAVERSABLE CHECK DAM
FRONT ELEVATION

NOTES:

1. 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.



SIDE ELEVATION
ROLLED EROSION CONTROL PRODUCT OPTION

Stacking Method:
Filter Socks, Fiber Rolls or Wattle Installation

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY CHECK DAM, TRAVERSABLE
FOR CLEAR ZONE

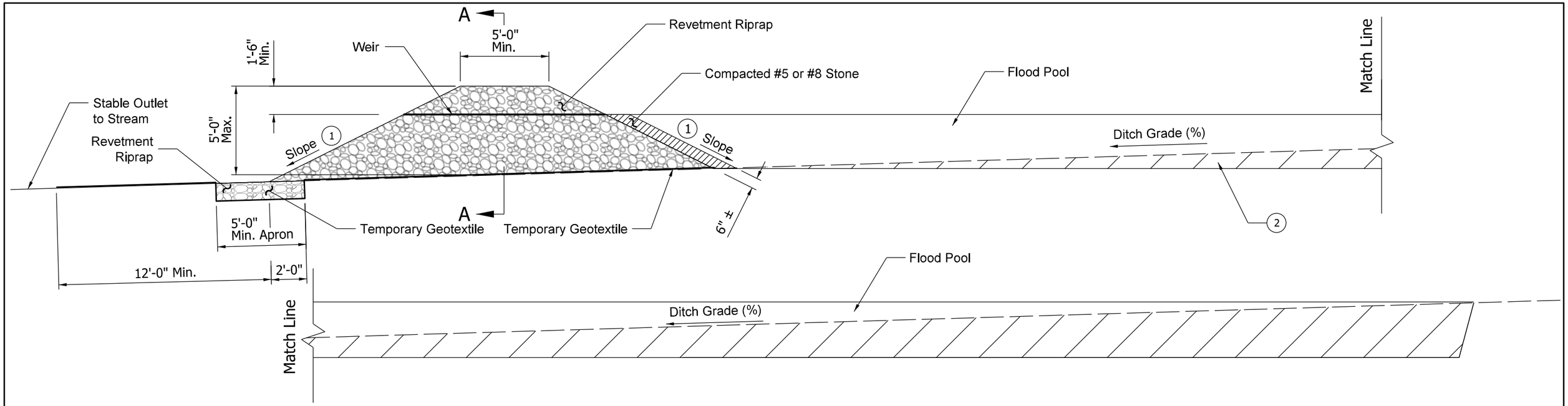
SEPTEMBER 2012

STANDARD DRAWING NO. E-205-TECD-02

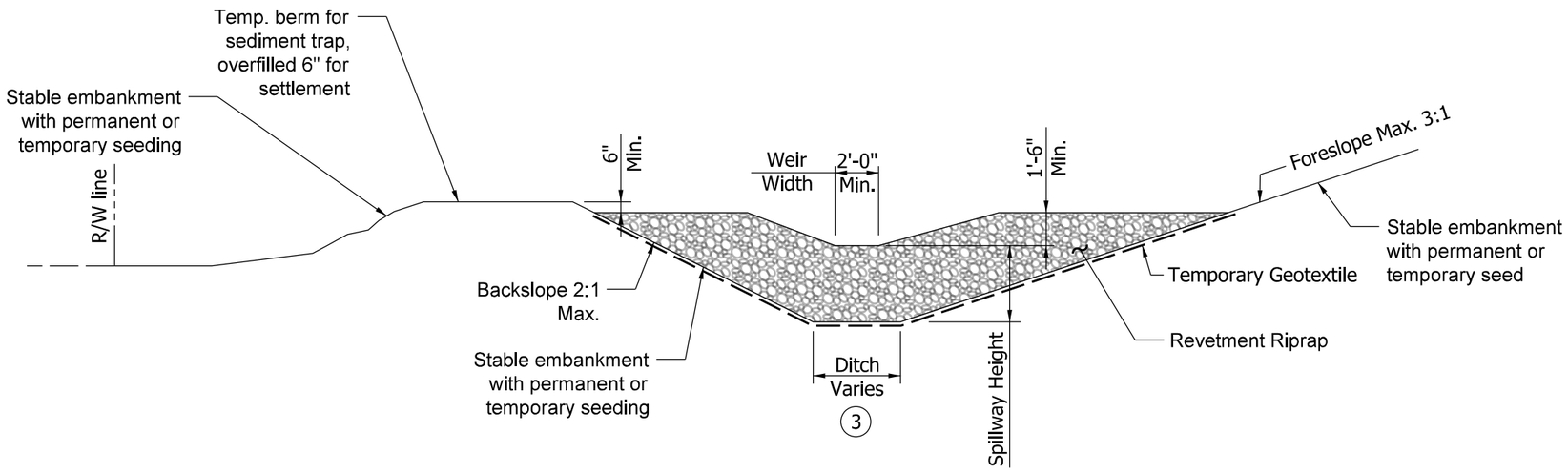
RICHARD L. VanCLEAVE
REGISTERED
No. 9750
STATE OF INDIANA
PROFESSIONAL ENGINEER

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



ELEVATION VIEW



SECTION A-A

NOTES:

1. Slope should be 3:1 maximum on the near side with respect to the direction of traffic while the far side slope may be 2:1 maximum.
2. This area may be excavated below planned ditch grade to achieve sediment trap capacity. It shall not be excavated to below the bottom elevation of sediment trap riprap. However, over-excavation does not count toward trap capacity of 2-year 24-hour storm event.
3. Spillway width equals ditch bottom width, min. 2 ft.

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY SEDIMENT TRAP

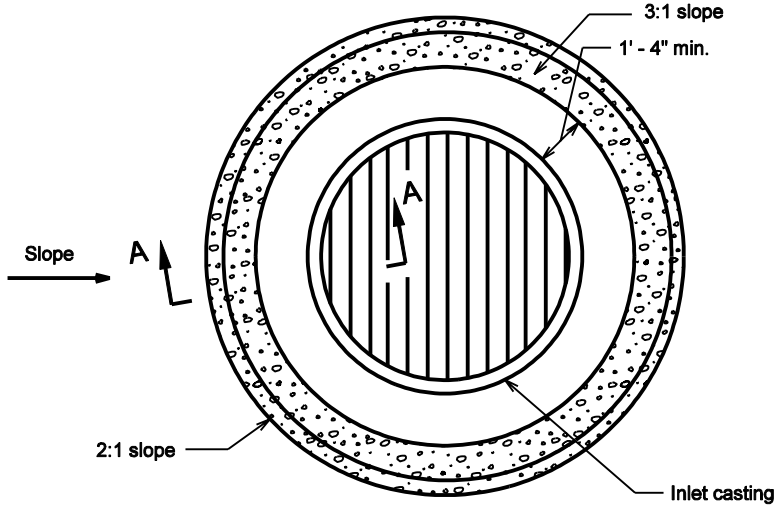
SEPTEMBER 2012

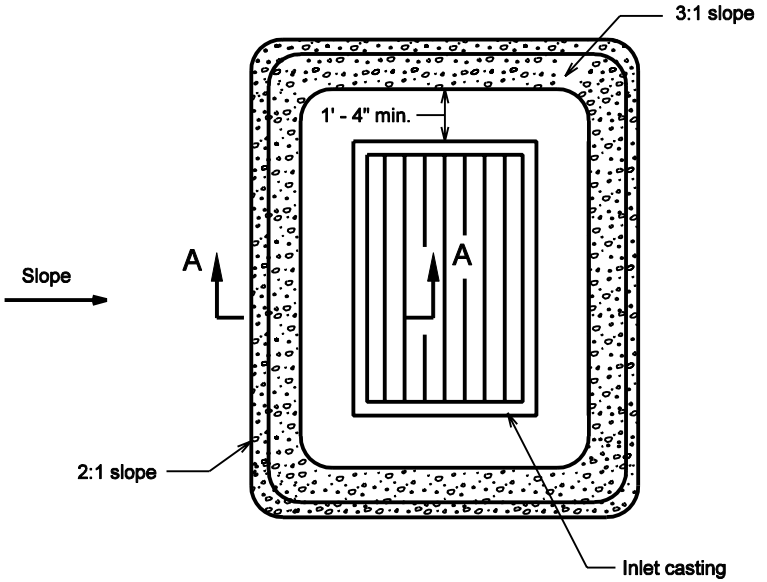
STANDARD DRAWING NO. E 205-TECD-03

RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

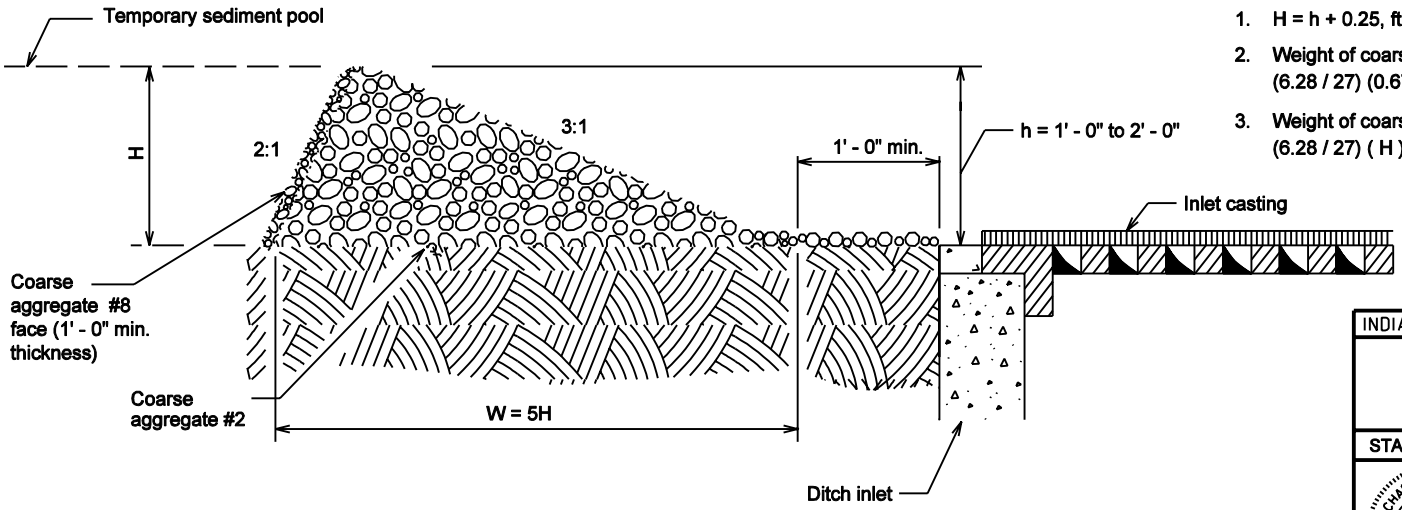
/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE





GENERAL NOTES

1. H = h + 0.25, ft
2. Weight of coarse aggregate #2, Tons:
   (6.28 / 27) (0.67² + 2.5H) (1 + 3H + 1/2 inlet width) (0.6)
3. Weight of coarse aggregate #8, Tons:
   (6.28 / 27) (H) (1 + 4H + 1/2 inlet widt) (0.6)



SECTION A-A

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY DITCH INLET PROTECTION, GRAVEL RING

MARCH 2002

STANDARD DRAWING NO. E 205-TECI-01

RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

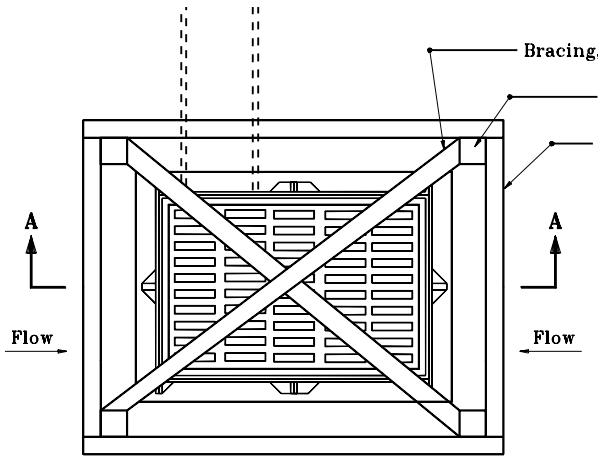
DESIGN STANDARDS ENGINEER

/s/ Richard L VanCleave 3-01-02
DESIGN STANDARDS ENGINEER DATE

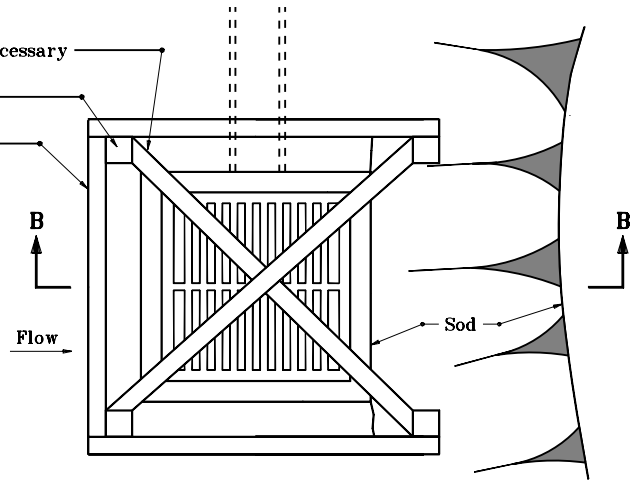
/s/ Richard K. Smutzer 3-01-02
CHIEF HIGHWAY ENGINEER DATE

NOTES:

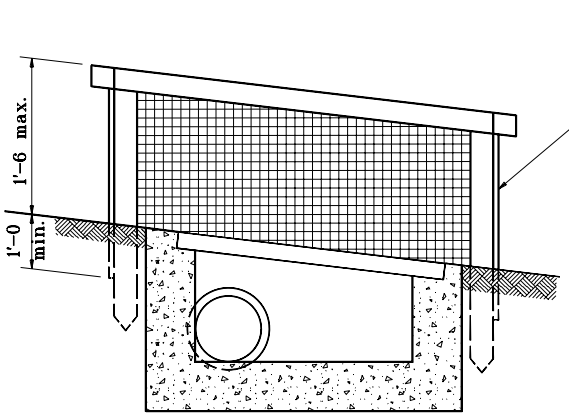
1. The frame shall be wrapped with one continuous piece of geotextile fabric, and a 2'–0 overlap shall be provided.



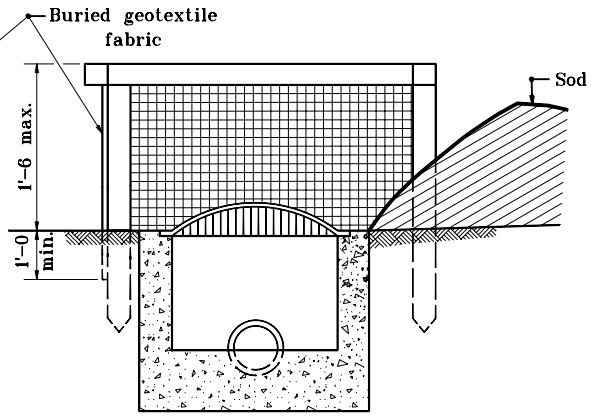
PLAN VIEW



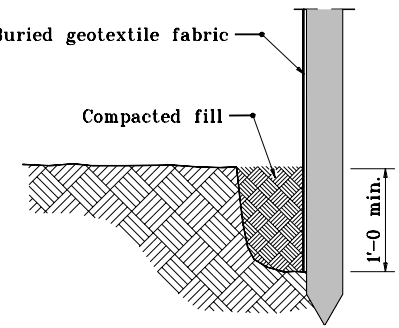
PLAN VIEW



SECTION A–A



SECTION B–B



TRENCH DETAIL

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY DITCH INLET PROTECTION, GEOTEXTILE BOX

MARCH 2002

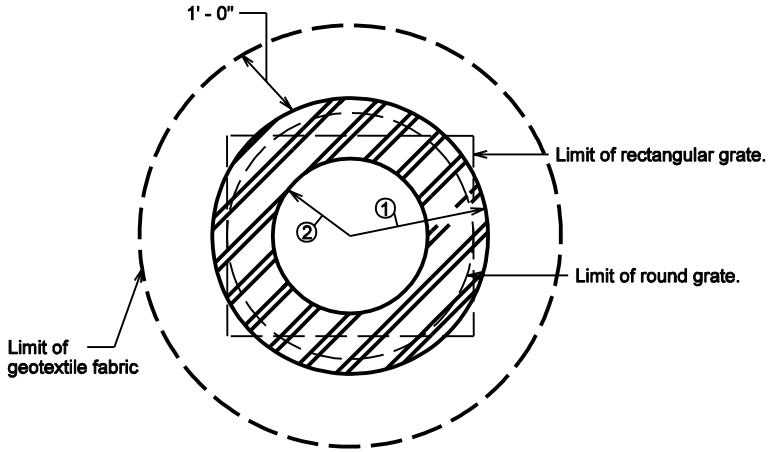
STANDARD DRAWING NO. **E 205–TECI–02**

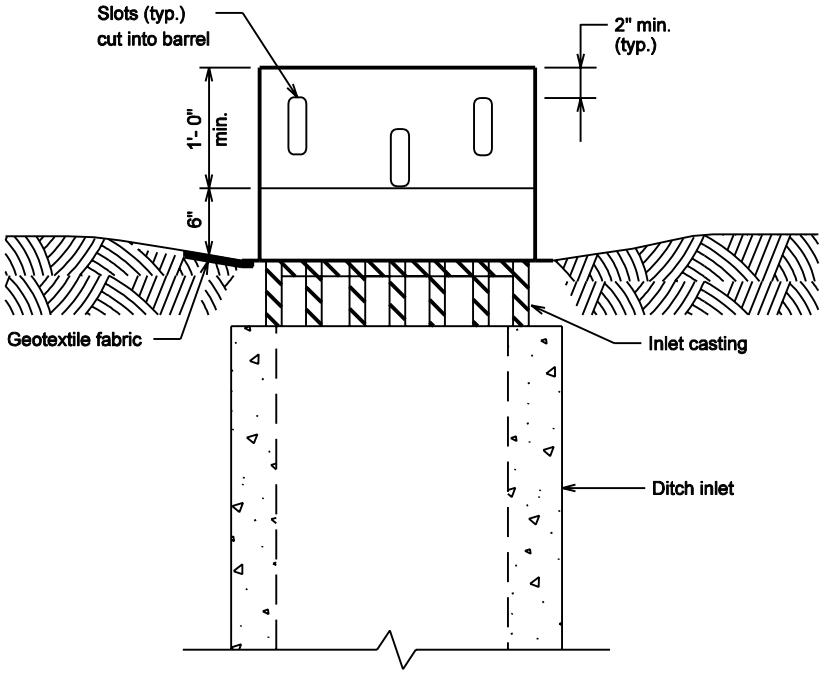
RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 3–01–02
DESIGN STANDARDS ENGINEER — DATE

/s/ Richard Smutzer 3–01–02
CHIEF HIGHWAY ENGINEER — DATE





GENERAL NOTES

① Radius shall be equal to or greater than that of a round casting grate, or equal to, or greater than half of the longer length of a rectangular grate.

② Distance shall be greater than half of the radius of a round grate, or greater than one-quarter of the shorter length of a rectangular grate.

3 Slots shall be 5" min. height by 1" min. width.

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY DITCH INLET PROTECTION SLOTTED BARREL

MARCH 2002

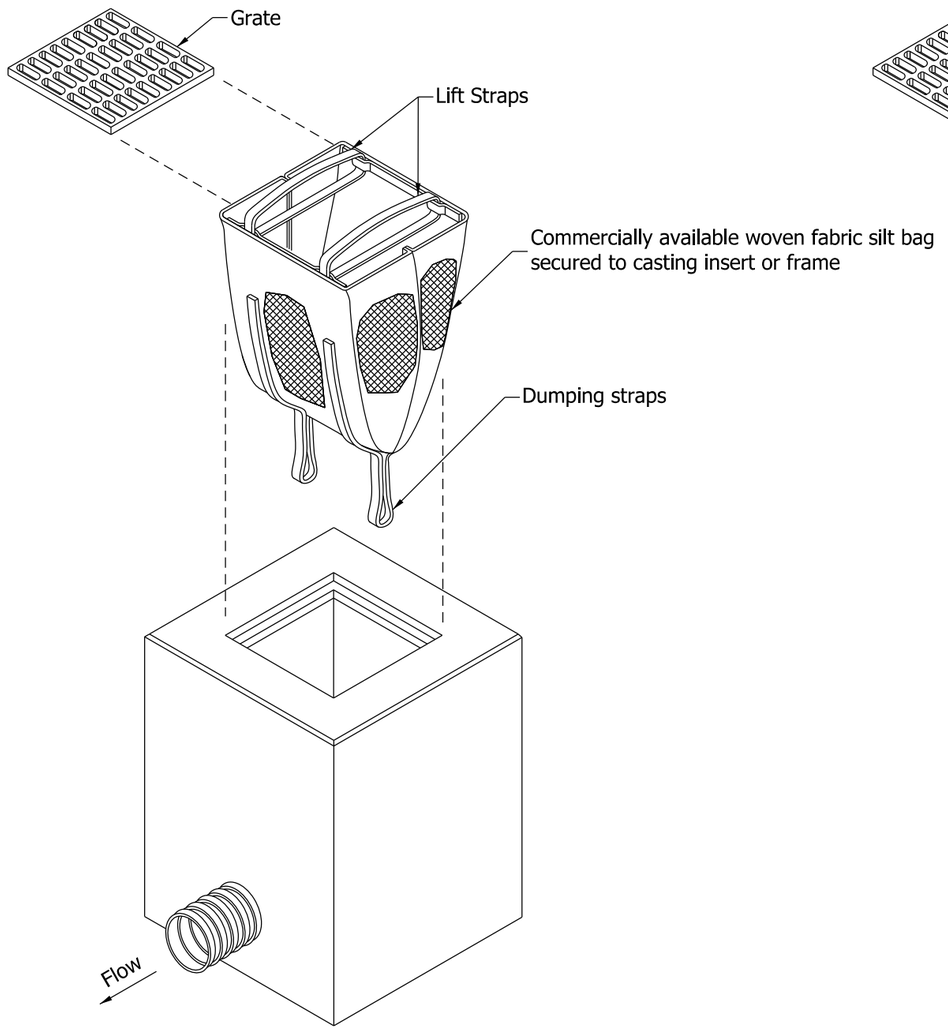
STANDARD DRAWING NO. E 205-TECI-03

RICHARD L. VANCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 3-01-02
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 3-01-02
CHIEF HIGHWAY ENGINEER DATE



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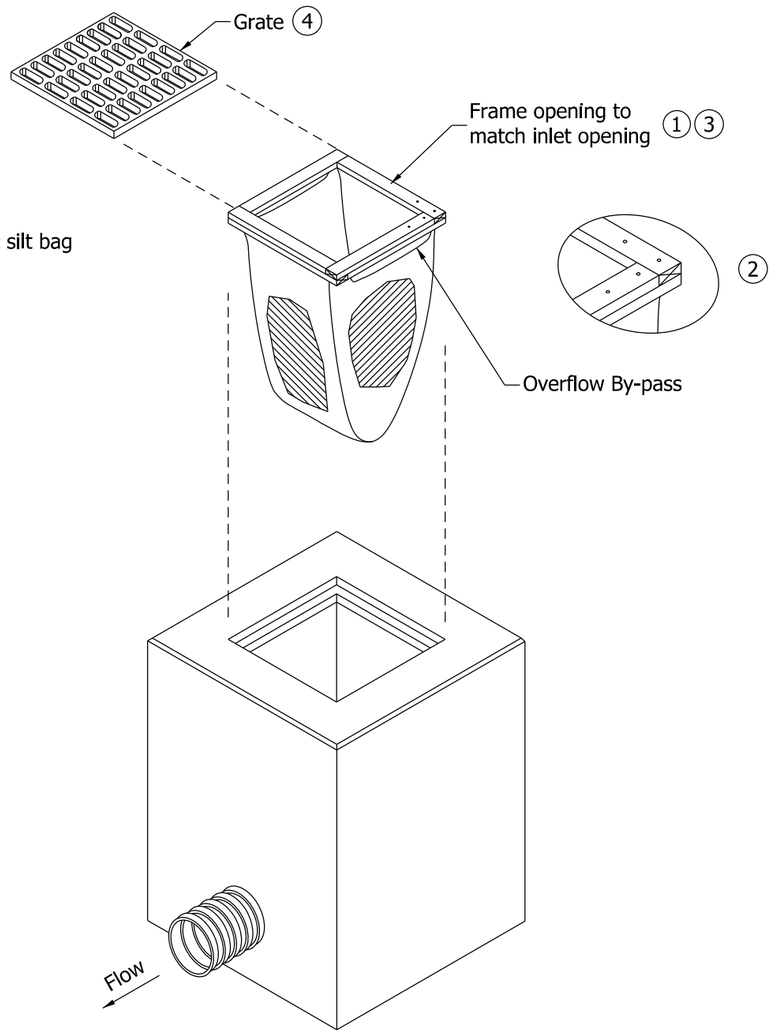


BUILT IN FIELD

NOTES:

1. Frame opening sized to match inlet opening.
2. Geotextile bag shall be fabricated from piece of geotextile 2 times the opening size pushed through opening to form weephole. Secured by nails.
3. Frame with bag to be placed over inlet opening.
4. Bag frame shall be secured in place by weight of inlet grate. Grate may be rotated 45 degrees to the bag's frame.

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY EROSION CONTROL INLET BAG PROTECTION

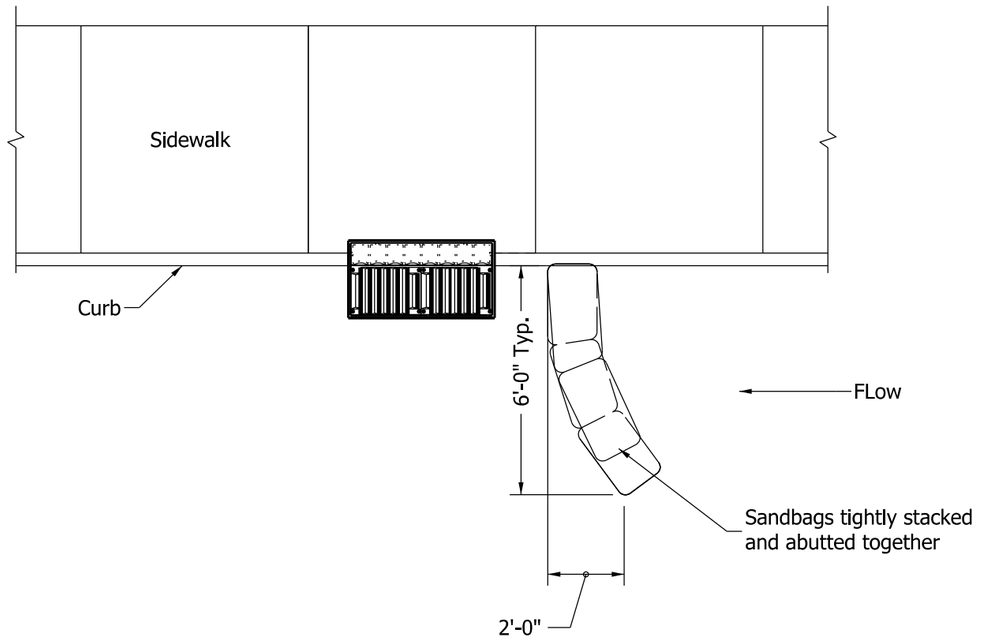
SEPTEMBER 2012

STANDARD DRAWING NO. E 205-TECI-04

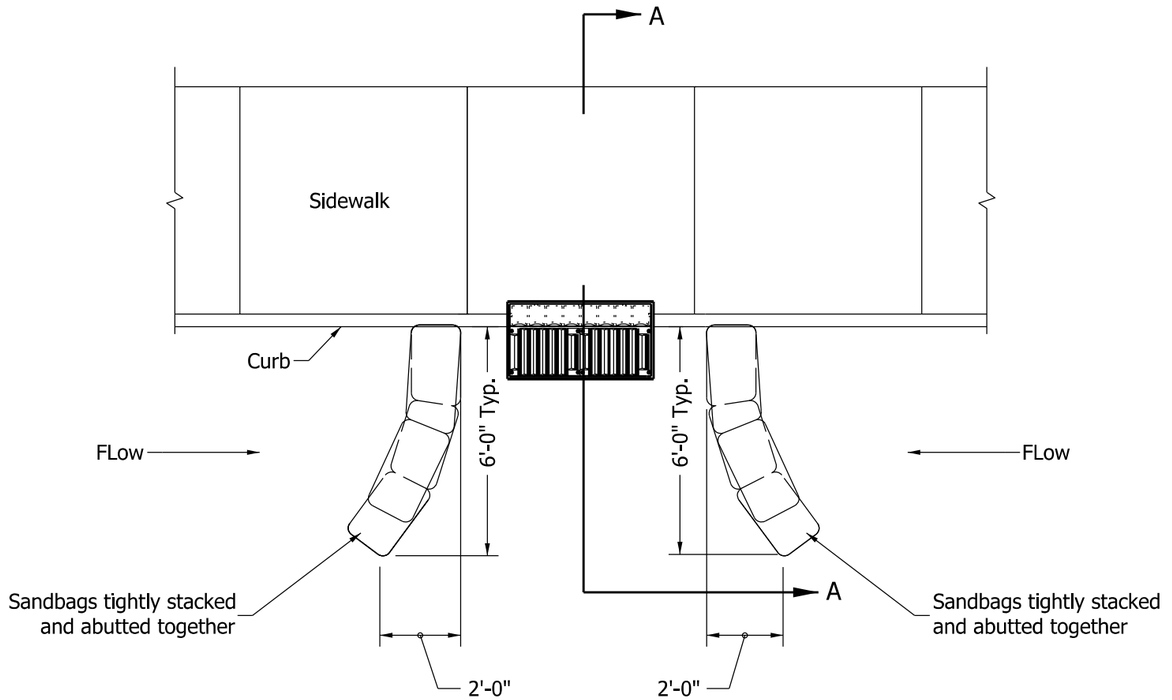
RICHARD L. VanCLEAVE
REGISTERED
No. 9750
STATE OF INDIANA
PROFESSIONAL ENGINEER

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

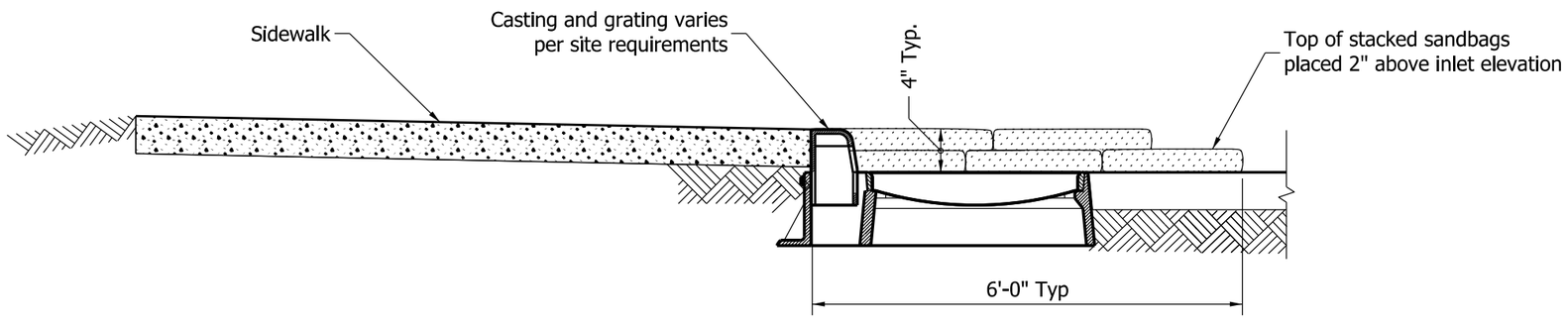
/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



SINGLE DIRECTION FLOW



DUAL DIRECTION FLOW



SECTION A-A

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY EROSION CONTROL INLET
SANDBAG CURB INLET PROTECTION

SEPTEMBER 2012

STANDARD DRAWING NO. E 205-TECI-05

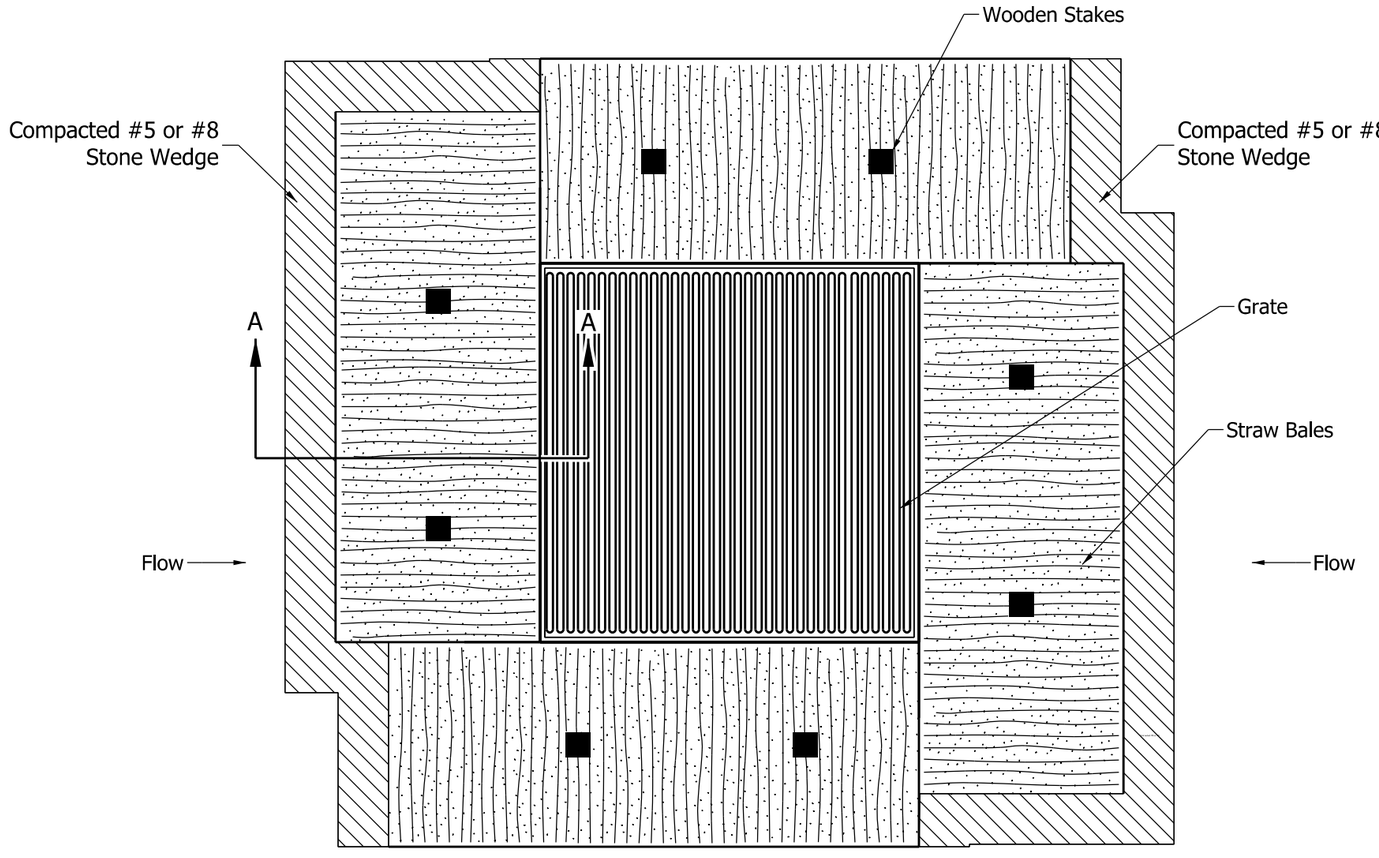
RICHARD L. VanCLEAVE
REGISTERED
No. 9750
STATE OF INDIANA
PROFESSIONAL ENGINEER

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

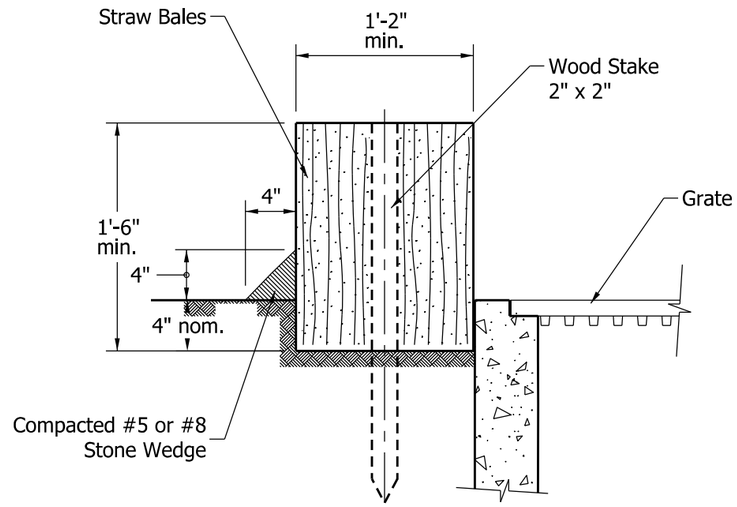
/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE

NOTE:

(1) For use with inlets of up to 3' x 3'.



PLAN VIEW (1)



SECTION A-A

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY EROSION CONTROL INLET
STRAW BALE INLET PROTECTION

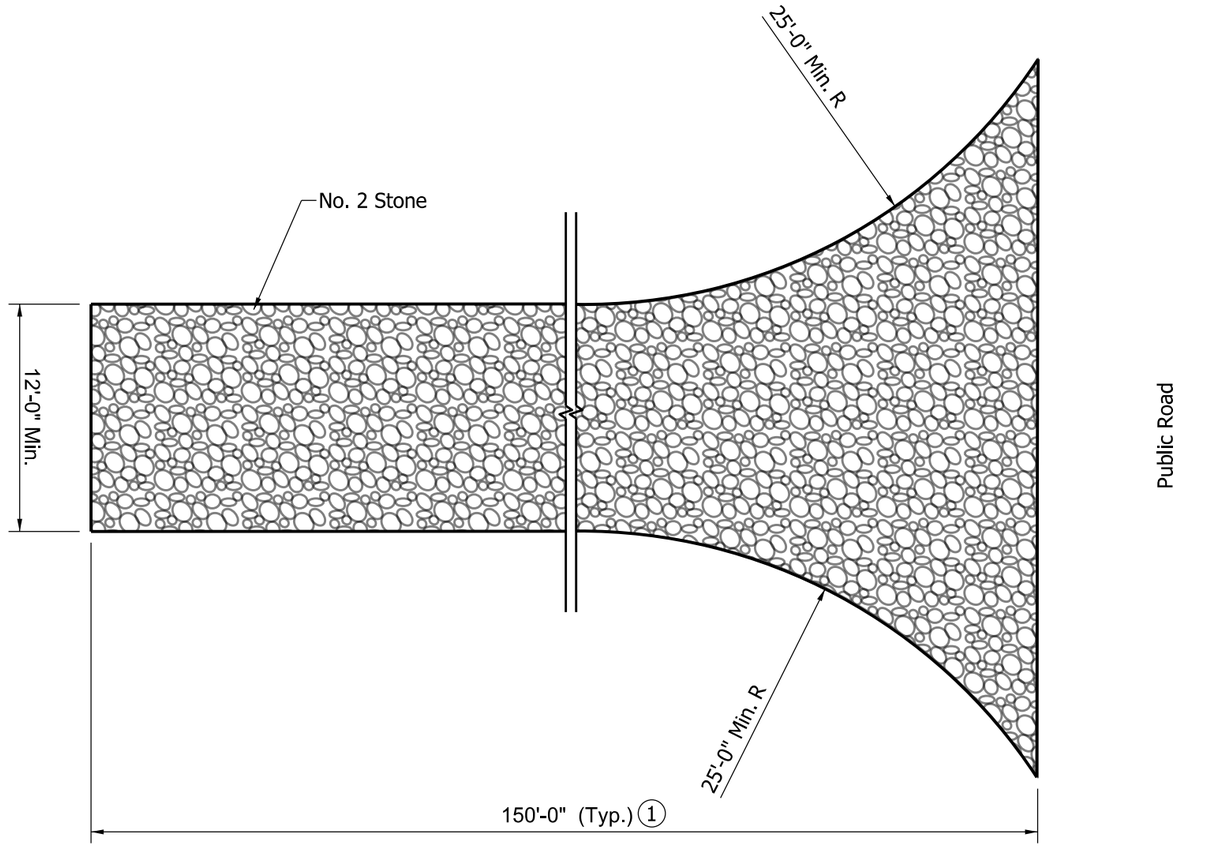
SEPTEMBER 2012

STANDARD DRAWING NO. E 205-TECI-06

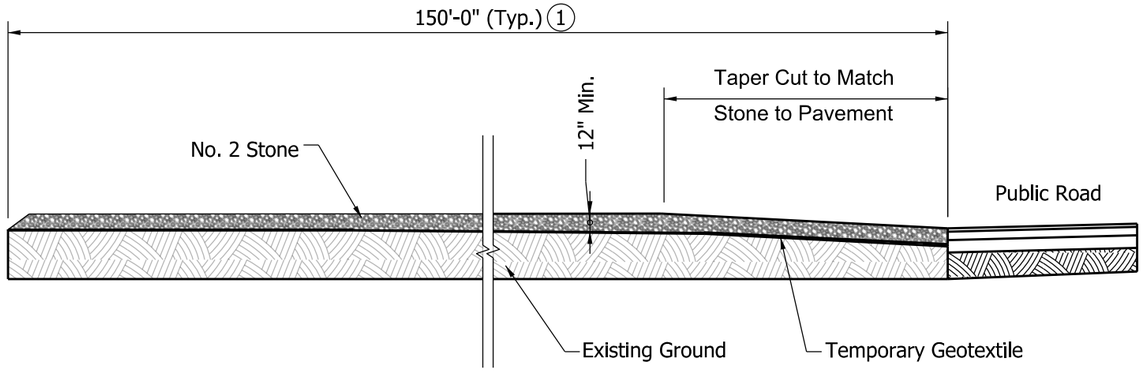
RICHARD L. VanCLEAVE
REGISTERED
No. 9750
STATE OF INDIANA
PROFESSIONAL ENGINEER

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



PLAN VIEW



PROFILE VIEW

NOTE:

1. May be reduced as justified by site conditions, but shall not be less than 50 ft.

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY EROSION CONTROL PERIMETER CONSTRUCTION ENTRANCE

SEPTEMBER 2013

STANDARD DRAWING NO. E 205-TECP-01

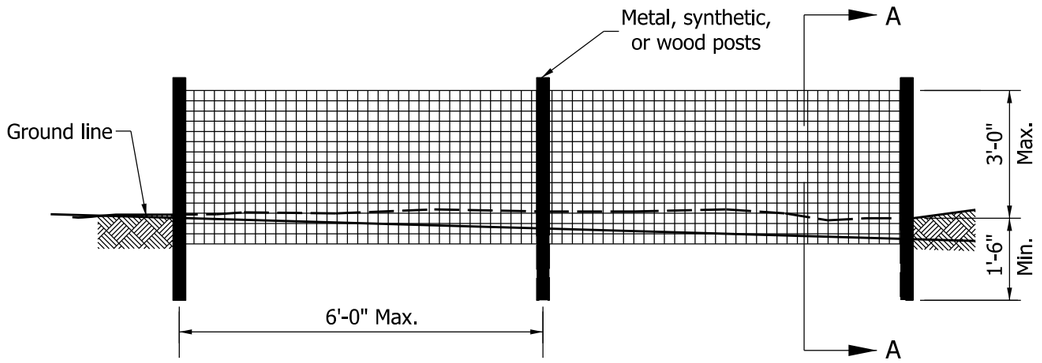
RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Richard L. VanCleave 06/12/13
DESIGN STANDARDS ENGINEER DATE

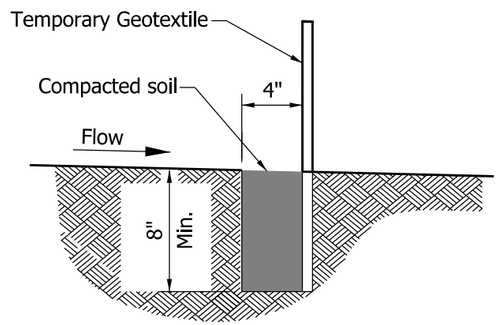
/s/ Mark A. Miller 06/13/13
CHIEF ENGINEER DATE

NOTES:

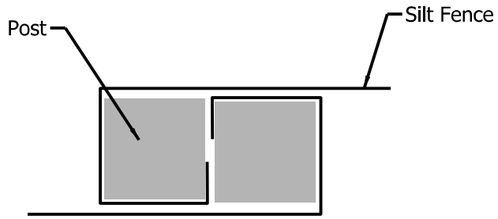
1. Dimension can vary based on right of way availability. Silt fence shall be placed as close as possible to edge of construction limits.
2. Silt fence may be placed by plowing if minimum embedment of 8 in. is maintained.



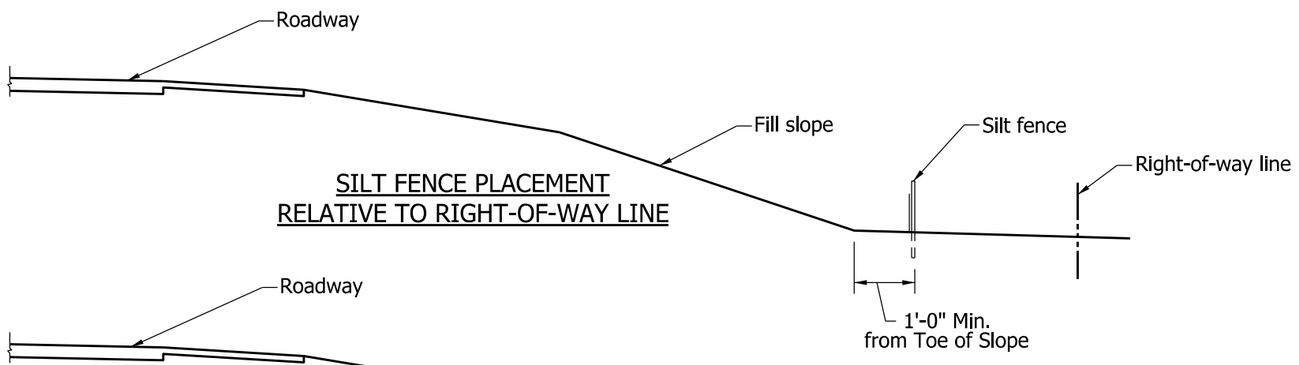
SILT FENCE ELEVATION



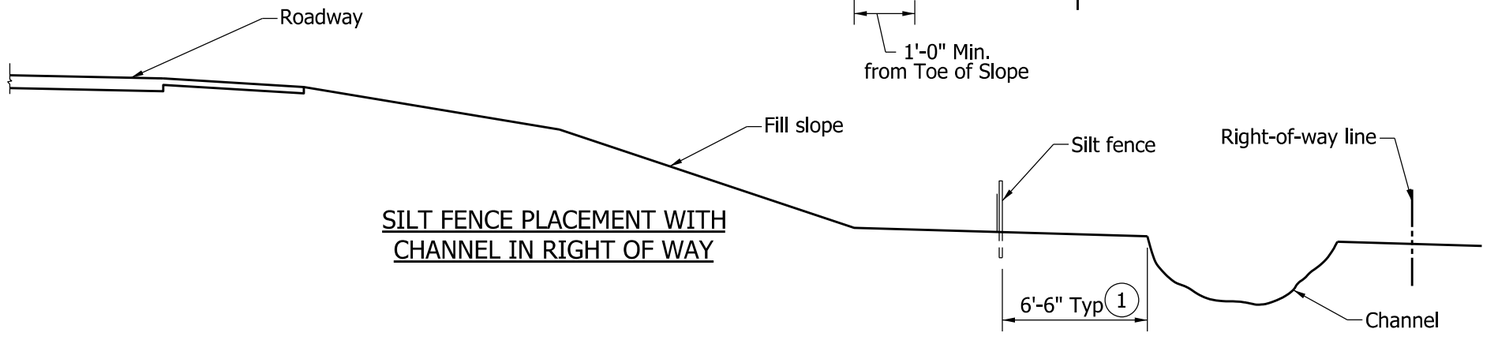
SECTION A-A



JOINT DETAIL
PLAN VIEW



SILT FENCE PLACEMENT
RELATIVE TO RIGHT-OF-WAY LINE



SILT FENCE PLACEMENT WITH
CHANNEL IN RIGHT OF WAY

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY
SILT FENCE

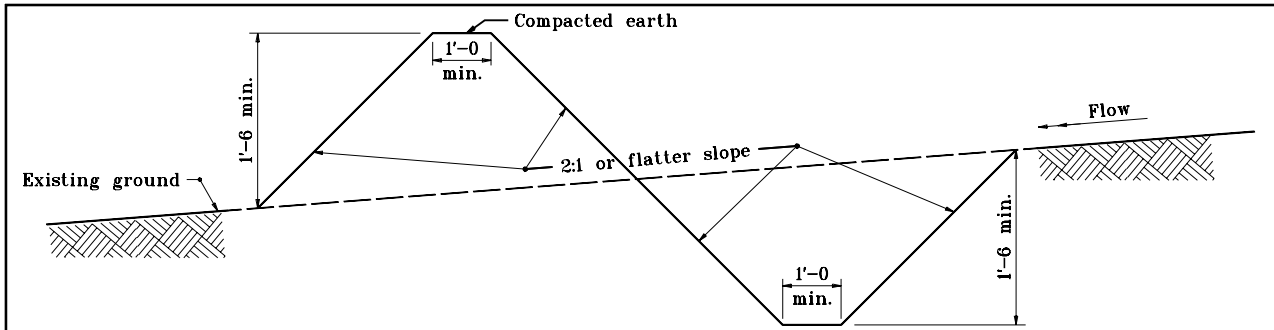
SEPTEMBER 2012

STANDARD DRAWING NO. E 205-TECP-02

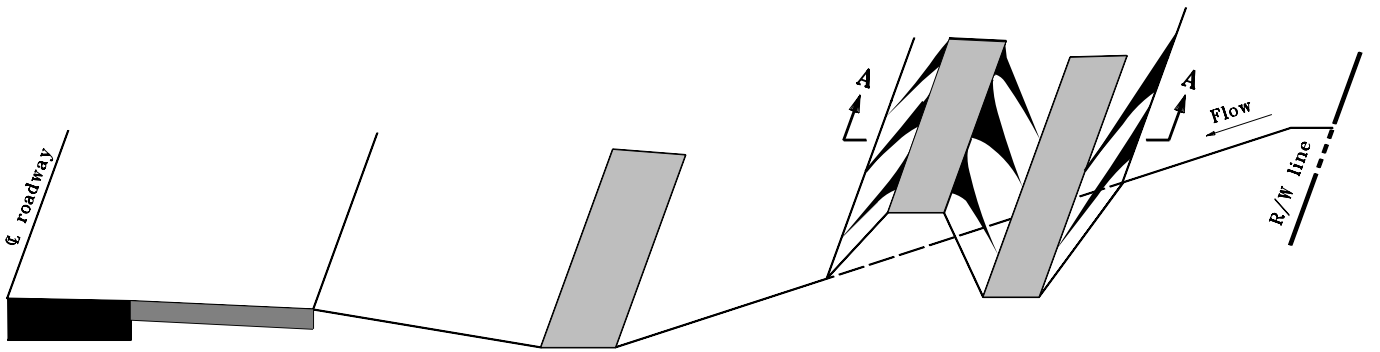
RICHARD L. VanCLEAVE
REGISTERED
No. 9750
STATE OF INDIANA
PROFESSIONAL ENGINEER

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

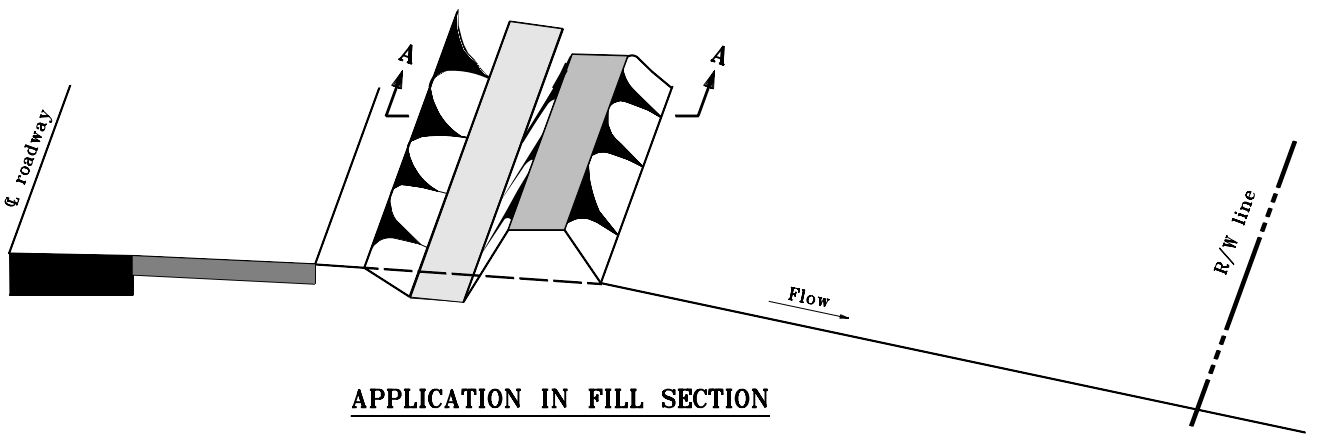
/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



SECTION A–A



APPLICATION IN CUT SECTION



APPLICATION IN FILL SECTION

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY INTERCEPTOR DITCH

MARCH 2002

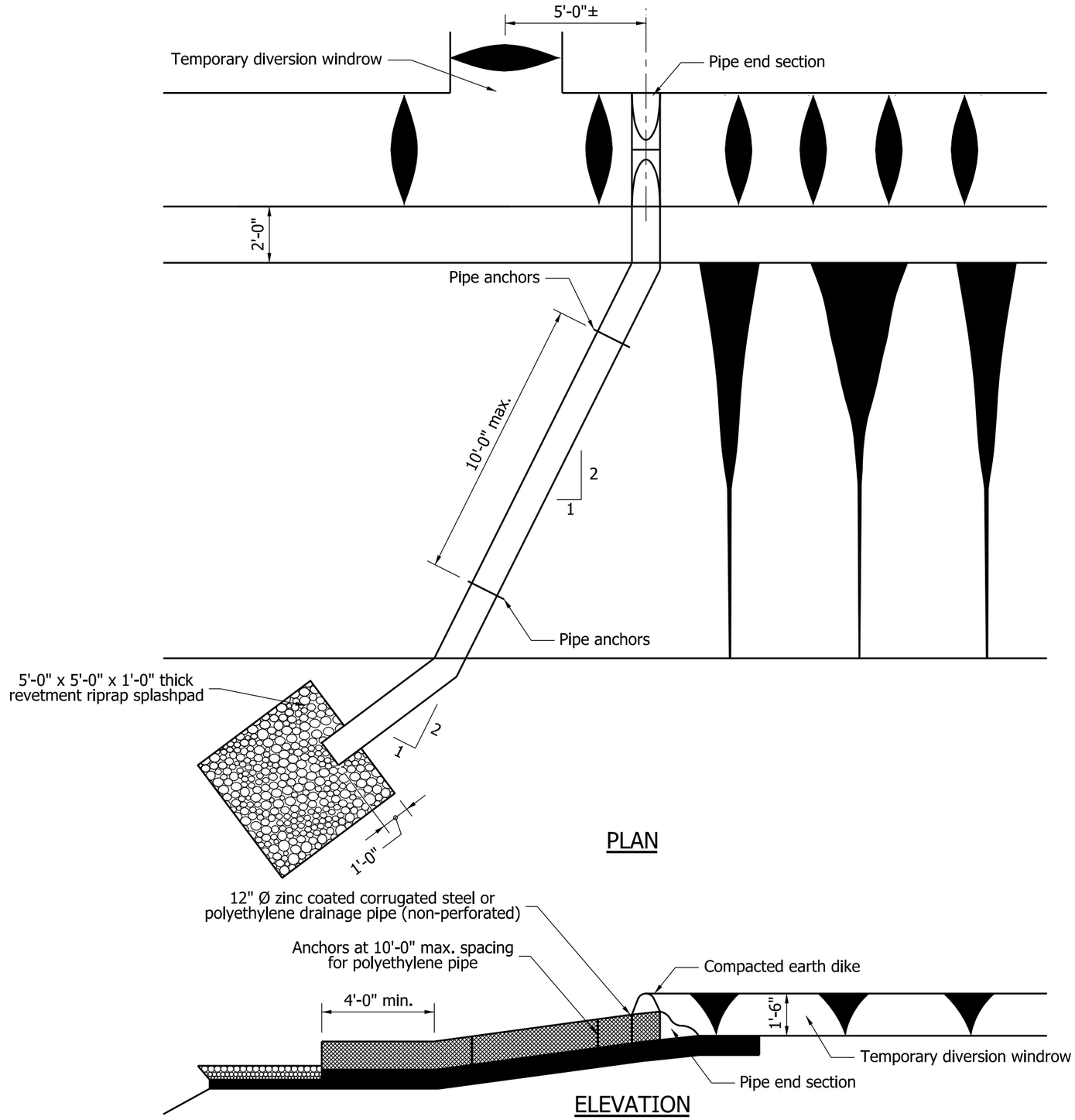
STANDARD DRAWING NO. **E 205–TECS–01**

RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 3–01–02
DESIGN STANDARDS ENGINEER — DATE

/s/ Richard K. Smutzer 3–01–02
CHIEF HIGHWAY ENGINEER — DATE



NOTES:

1. Length of slope drain shall be extended as required as fill slope is constructed.
2. The maximum drainage area for a 12" dia. pipe is 1 acre.
3. The required revetment riprap weight is 1.4 tons.

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY SLOPE DRAIN

SEPTEMBER 2010

STANDARD DRAWING NO. E 205-TECS-02

RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

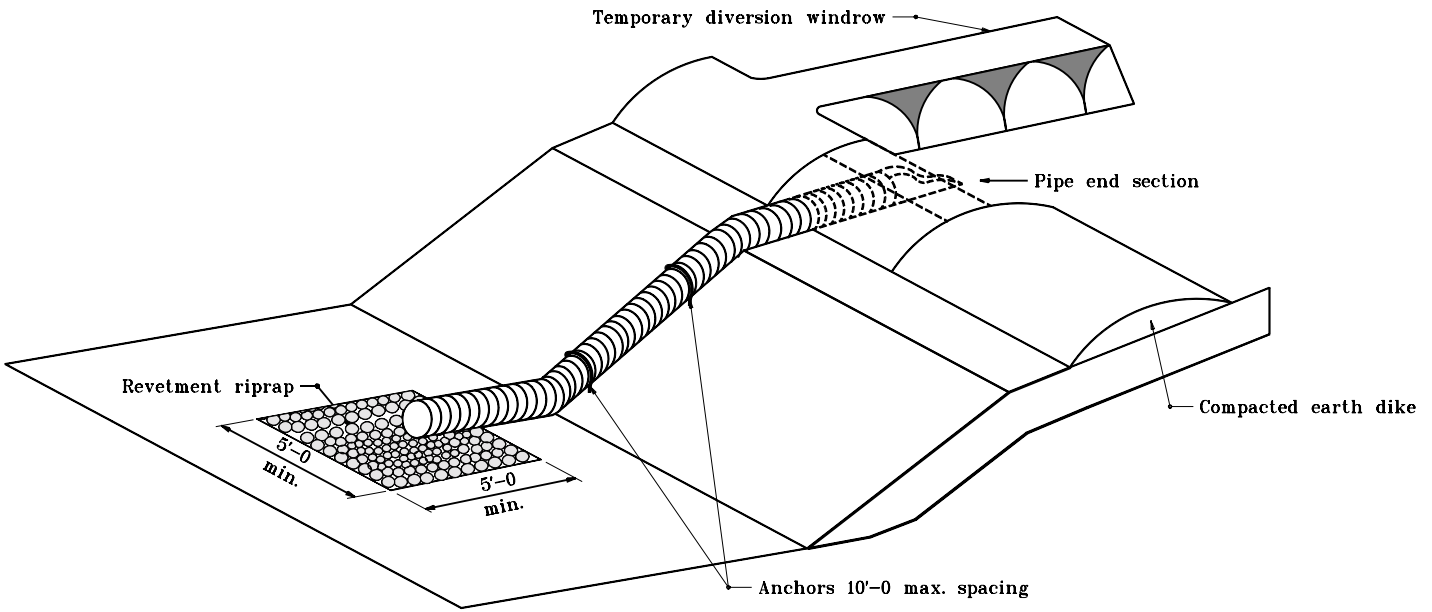
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/01/10
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/10
CHIEF HIGHWAY ENGINEER DATE

NOTES:

1. See Standard Drawing E 205-TECS-02 for Notes.



ISOMETRIC

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY SLOPE DRAIN

SEPTEMBER 2001

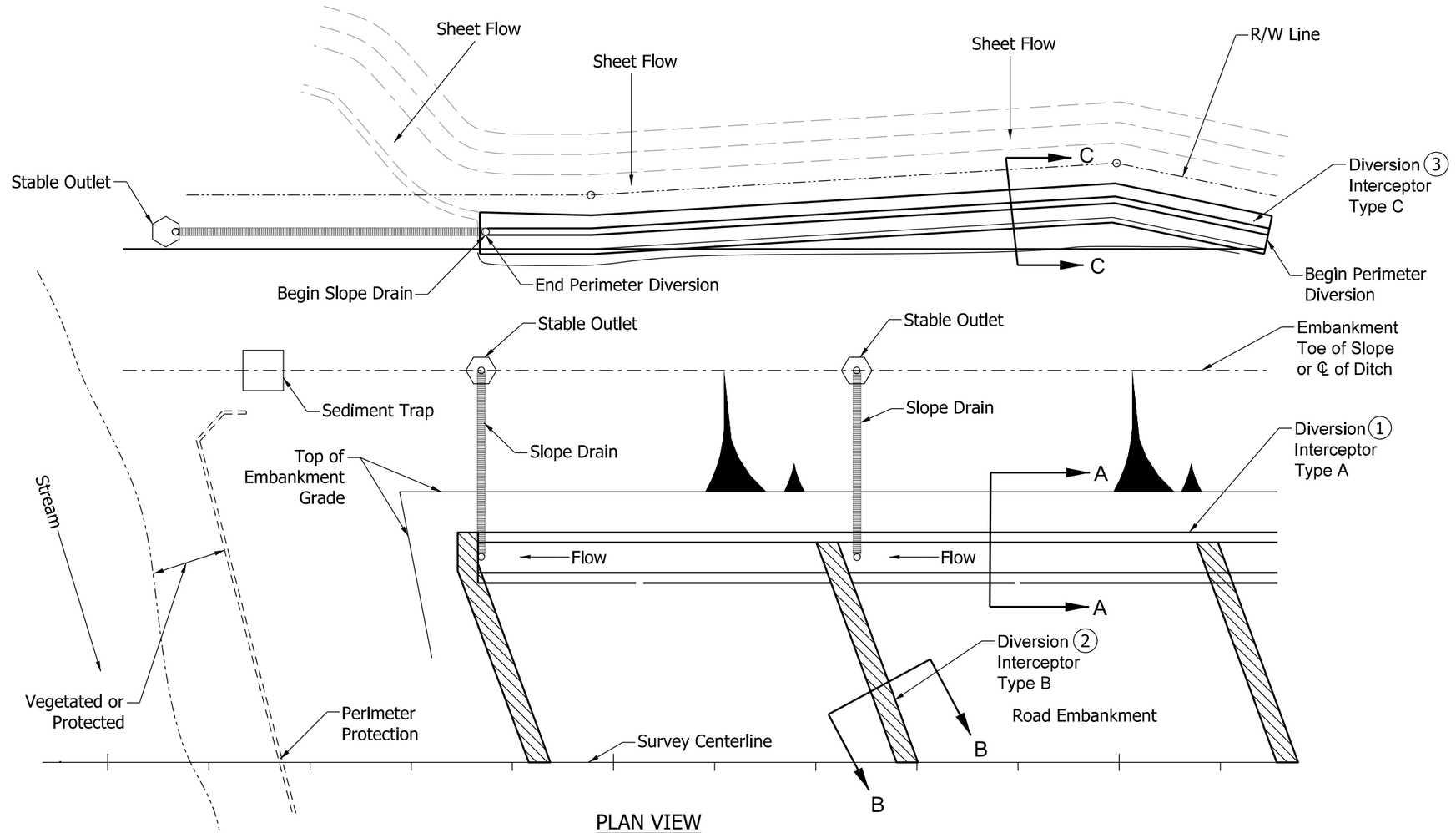
STANDARD DRAWING NO. **E 205-TECS-03**

RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

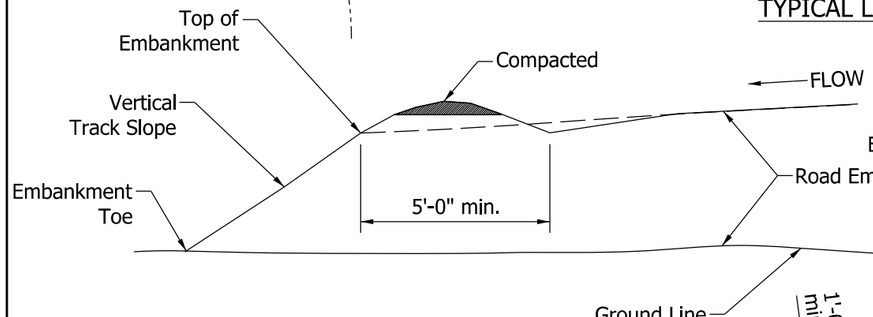
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 9-04-01
DESIGN STANDARDS ENGINEER — DATE

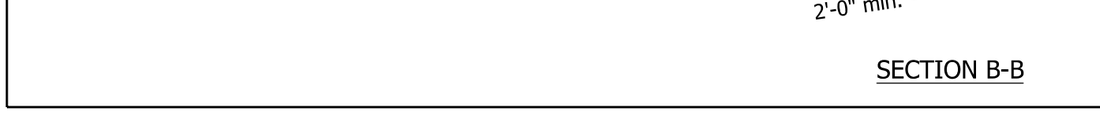
/s/ Firooz Zandi 9-04-01
CHIEF HIGHWAY ENGINEER — DATE



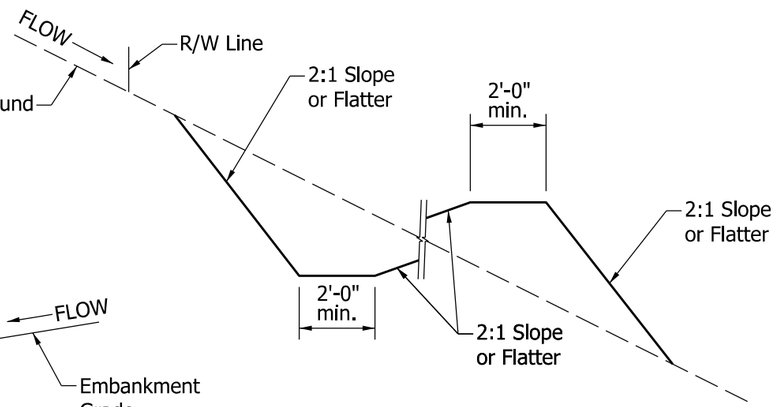
PLAN VIEW
TYPICAL LAYOUTS



SECTION A-A



SECTION B-B



SECTION C-C

NOTES:

1. Diversion Interceptor Type A shall be used to control embankment runoff to slope drains during grading operations.
2. Diversion Interceptor Type B shall be a series of ridges used to divert runoff from long narrow corridor. Maximum length of the ridges shall not exceed 100 ft. Ridges shall be used for dividing grades and haul roads.
3. Diversion Interceptor Type C shall be used to collect offsite runoff before entering the disturbed portion of project site. Maximum allowed runoff captured from offsite drainage area is 5 acres.

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY EROSION CONTROL SLOPE DIVERSION INTERCEPTORS

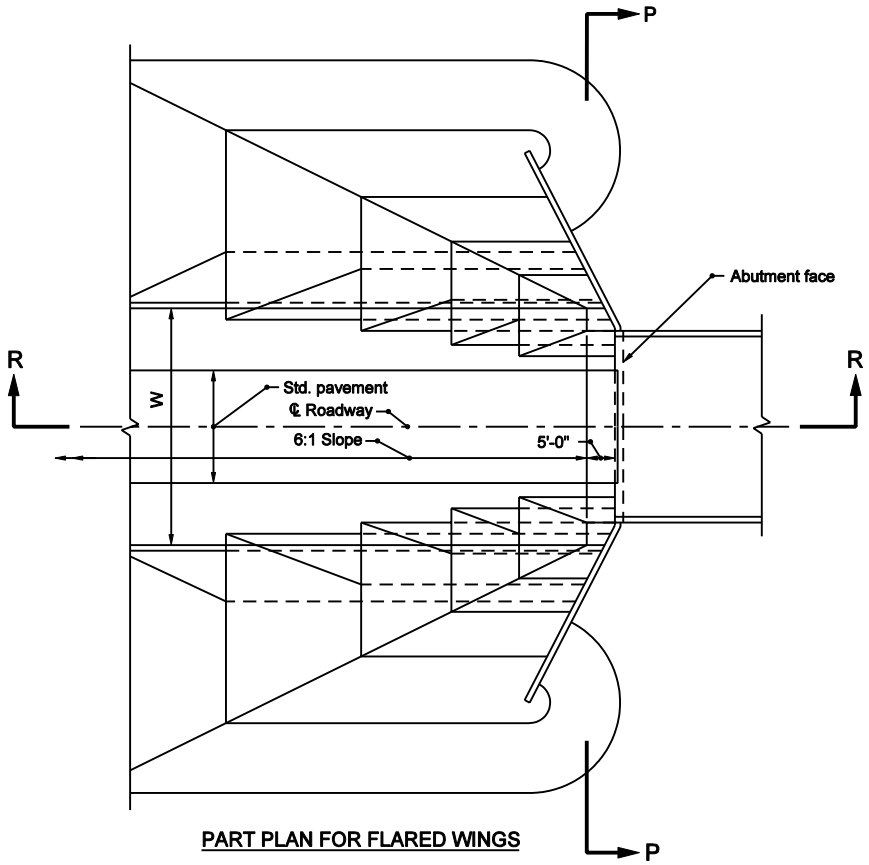
SEPTEMBER 2012

STANDARD DRAWING NO. E 205-TECS-04

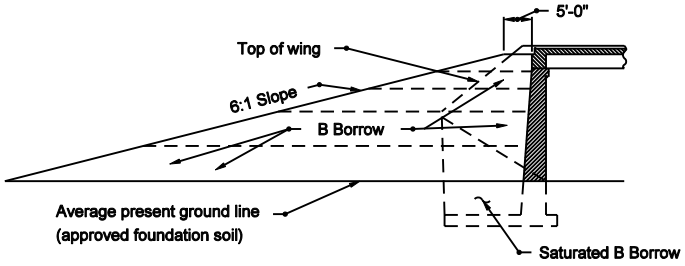
RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE



PART PLAN FOR FLARED WINGS



SECTION R-R

NOTES

1. See Standard E 211-BFIL-02 for Section P-P

INDIANA DEPARTMENT OF TRANSPORTATION

PART PLAN FOR FLARED WINGS

MARCH 2003

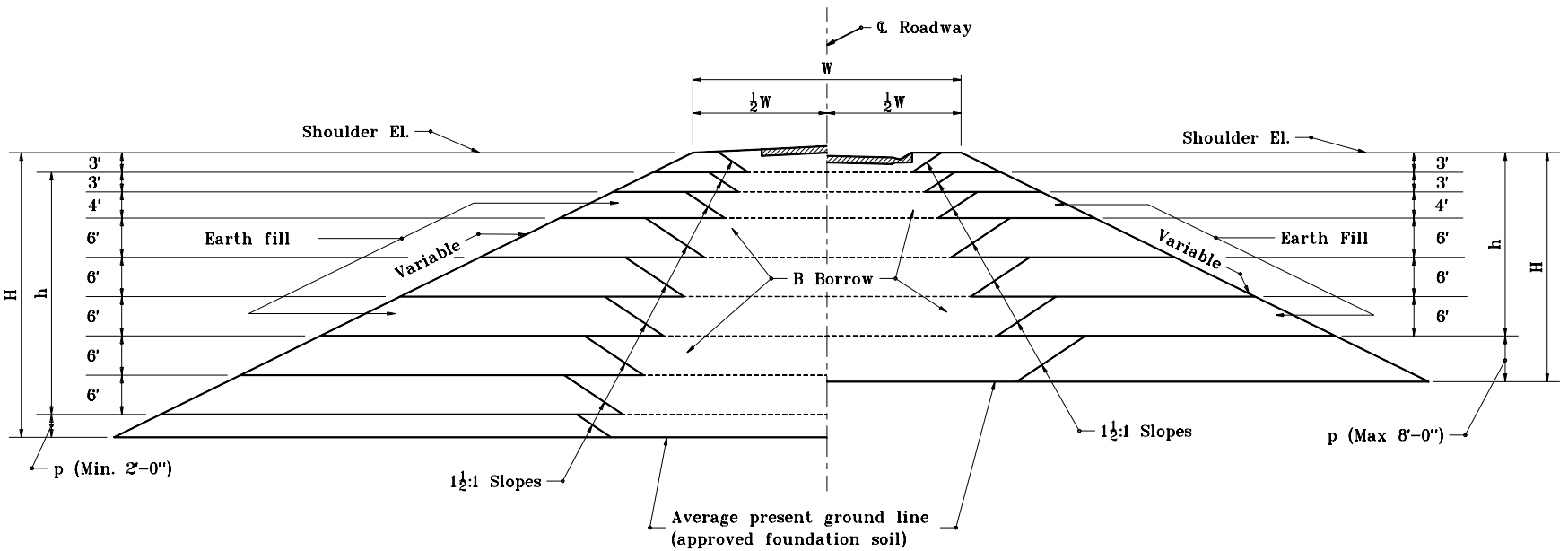
STANDARD DRAWING NO. E 211-BFIL-01

RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 3-03-03
DESIGN STANDARDS ENGINEER DATE

/s/ Richard K. Smutzer 3-03-03
CHIEF HIGHWAY ENGINEER DATE



TYPICAL SECTION P–P

INDIANA DEPARTMENT OF TRANSPORTATION

FLARED WINGS
TYPICAL CROSS SECTION

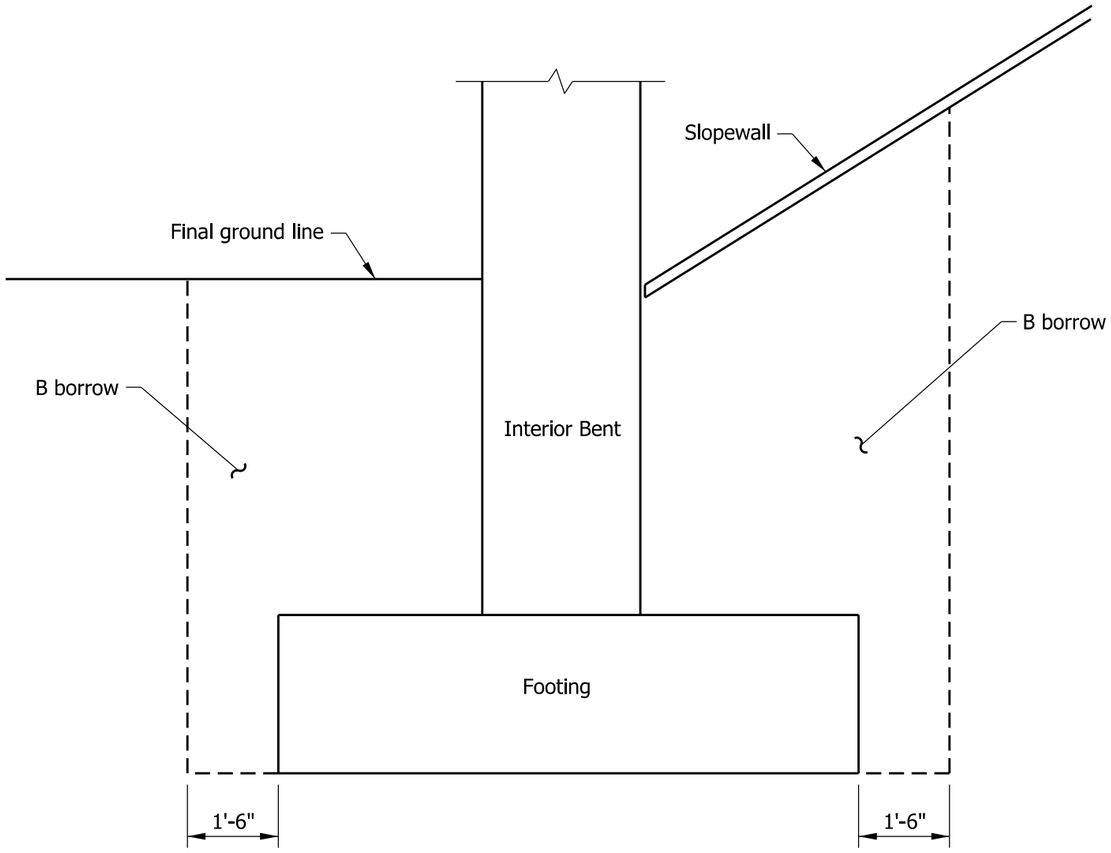
SEPTEMBER 1994

STANDARD DRAWING NO. **E 211-BFIL-02**

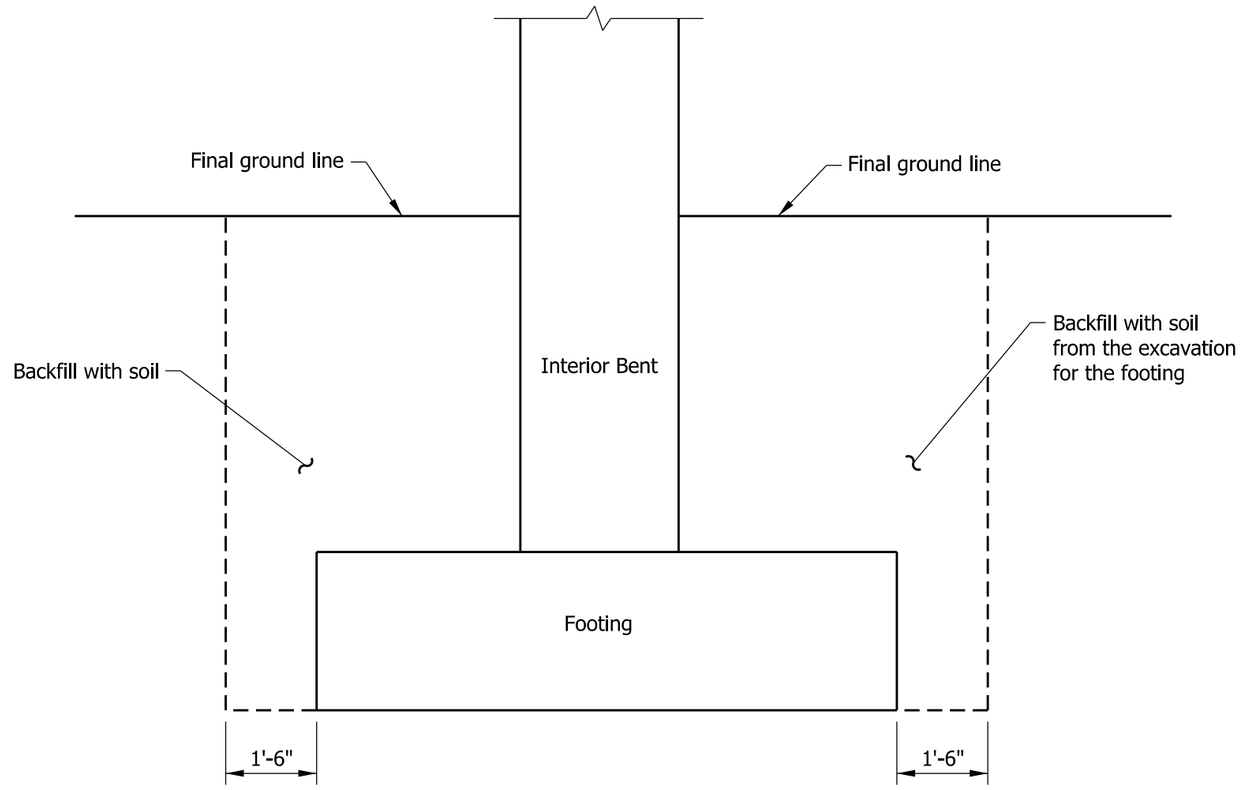
ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT	11-15-99
/s/ Anthony L. Uremovich	11-15-99
DESIGN STANDARDS ENGINEER	DATE
/s/ Firooz Zandi	11-15-99
CHIEF HIGHWAY ENGINEER	DATE
ORIGINALLY APPROVED	9-30-94



ADJACENT TO RAILROAD OR HIGHWAY



BRIDGE OVER WATERWAY

INDIANA DEPARTMENT OF TRANSPORTATION

BACKFILL PLACEMENT
INTERIOR BENT OR PIER

SEPTEMBER 2003

STANDARD DRAWING NO. E 211-BFIL-03

RICHARD L. VanCLEAVE
REGISTERED
No. 9750
STATE OF INDIANA
PROFESSIONAL ENGINEER

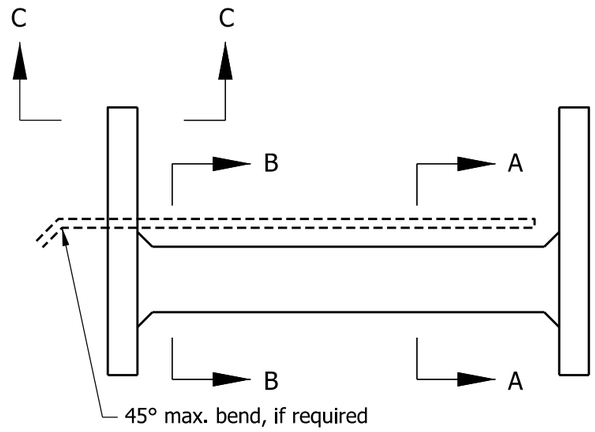
DETAILS PLACED IN THIS FORMAT 09/04/12

/s/ Richard L. VanCleave *09/04/12*

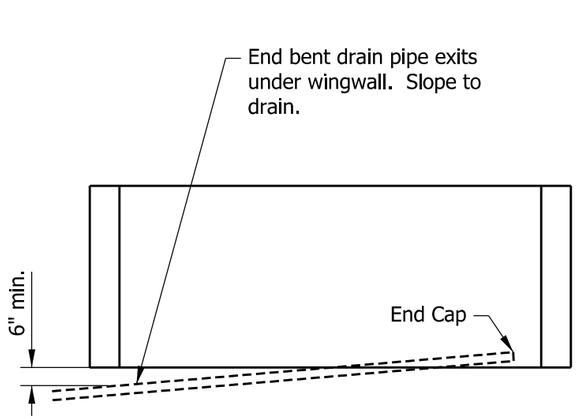
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller *09/04/12*

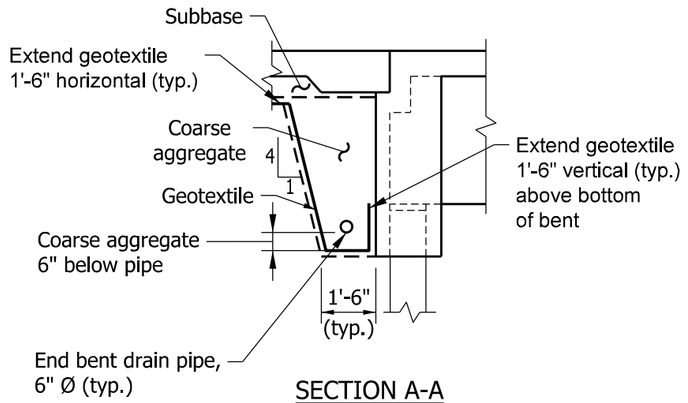
CHIEF ENGINEER DATE



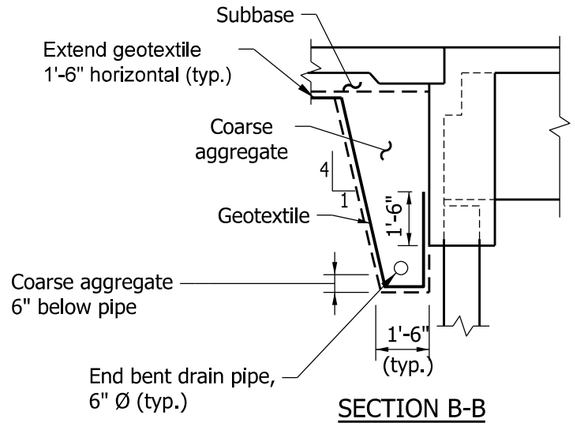
PLAN - END BENT



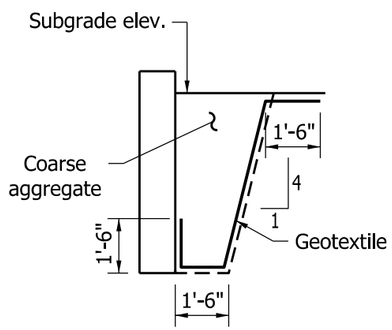
ELEVATION - END BENT



SECTION A-A



SECTION B-B



SECTION C-C

INDIANA DEPARTMENT OF TRANSPORTATION

BACKFILL PLACEMENT BEHIND END BENT BEAM OR GIRDER STRUCTURE

SEPTEMBER 2003

STANDARD DRAWING NO. E 211-BFIL-04

RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

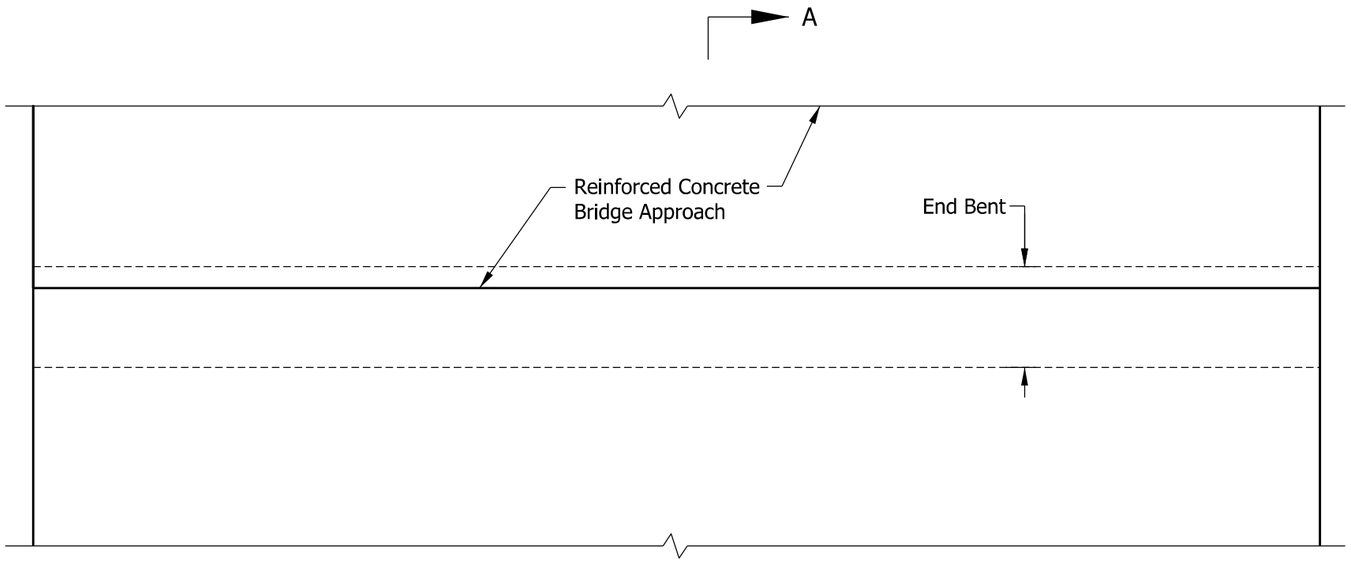
DETAILS PLACED IN THIS FORMAT 09/04/12

/s/ Richard L. VanCleave *09/04/12*

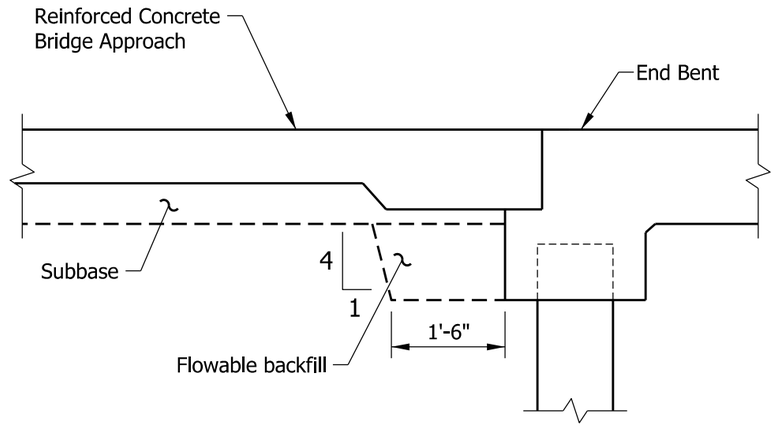
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller *09/04/12*

CHIEF ENGINEER DATE



PLAN - END BENT



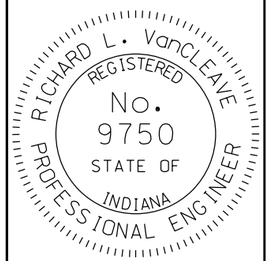
SECTION A-A

INDIANA DEPARTMENT OF TRANSPORTATION

BACKFILL PLACEMENT BEHIND END BENT REINFORCED-CONCRETE SLAB BRIDGE

SEPTEMBER 2004

STANDARD DRAWING NO. E 211-BFIL-05



DETAILS PLACED IN THIS FORMAT 09/04/12

/s/ Richard L. VanCleave 09/04/12

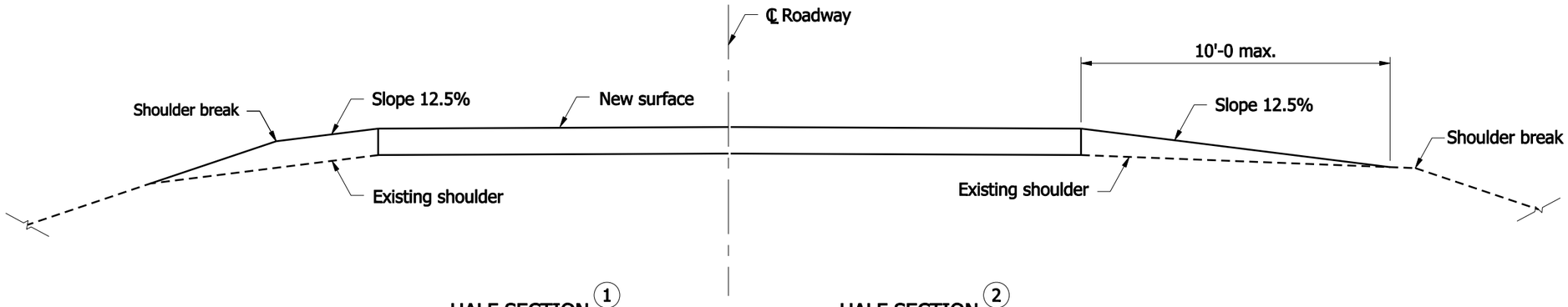
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller 09/04/12

CHIEF ENGINEER DATE

GENERAL NOTES

1. This section shall be used when the existing shoulder width is less than 3 ft. or the slope is steeper than 12.5%.
2. This section shall be used when the existing shoulder slope is flatter than 12.5%.



HALF SECTION (1) HALF SECTION (2)

TYPICAL SECTION FOR SHOULDER TREATMENT

INDIANA DEPARTMENT OF TRANSPORTATION

SHOULDER TREATMENT FOR RESURFACING WORK

SEPTEMBER 2007

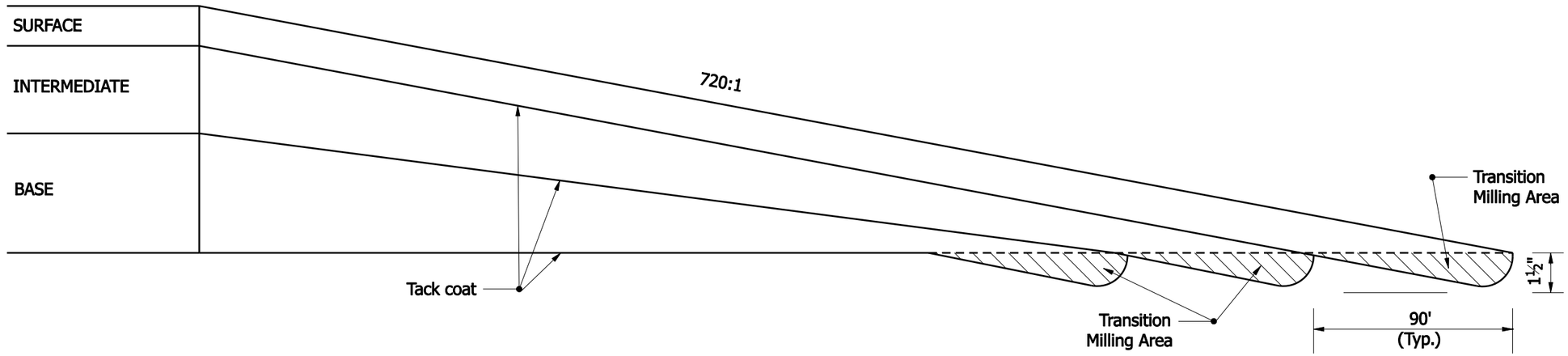
STANDARD DRAWING NO. E 303-STRW-01

RICHARD L. VanCLEAVE
REGISTERED
No. 9750
STATE OF INDIANA
PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/04/07
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A.Miller 09/04/07
CHIEF HIGHWAY ENGINEER DATE



INDIANA DEPARTMENT OF TRANSPORTATION

HMA-PAVEMENT WEDGING AND TRANSITION MILLING

SEPTEMBER 2007

STANDARD DRAWING NO. E 306-TMPT-01

RICHARD L. VanCLEAVE
REGISTERED
No. 9750
STATE OF INDIANA
PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 9/4/07
DESIGN STANDARDS ENGINEER — DATE

/s/ Mark A. Miller 9/4/07
CHIEF HIGHWAY ENGINEER — DATE