**LEGEND**

- **EXCAVATION EMBANKMENT**
- **SELECT STRUCTURE FILL (ITEM 203.21) COMPACTED TO 95% OF STANDARD PROCTOR MAXIMUM DENSITY**
- **EMBANKMENT IN PLACE EMBANKMENT ESTIMATED**
- **SELECT Structure Fill Material As Provided For Under Structure Excavation Item 206.01, Or Within A Silty Embankment Item 206.0201**
- **EMBANKMENT IN PLACE OF TOE, COMPACTED TO USE OF STANDARD PROCTOR MAXIMUM DENSITY EMBANKMENT ESTIMATED**
- **SELECT Typical Full Slope Protection**
- **FOOTING**
- **SELECT STRUCTURE FILL (ITEM 203.21) COMPACTED TO 95% OF STANDARD PROCTOR MAXIMUM DENSITY EMBANKMENT ESTIMATED**

**NOTES AND LEGEND**

**EXCAVATION AND EMBANKMENT**

Office of Structures
Department of Transportation

**EXCAVATION ITEM.**

**NOTE:**

**ALL ITEMS IN LEGEND ARE INCLUDED IN BRIDGE ESTIMATE, EXCEPT AS NOTED.**

---

**EXCAVATION 206.0201.**

1. **COORDINATE WITH THE OFFICE OF STRUCTURES FOUNDATIONS AND CONSTRUCTION UNIT FOR THE SETBACK DISTANCE OF THE FOOTING FROM THE RISE.**

2. **LETTING OF 05/01/2018 EFFECTIVE WITH THE CURRENT ISSUES UNDER EB 17-037.**

3. **RICHARD MARCHIONE, P.E.**

4. **APPROVED: 09/22/17.**

**ERRATA**

**NOTES AND LEGEND**

**EXCAVATION AND EMBANKMENT**

**Office of Structures**

**Department of Transportation**

**REVISED 05/01/2018.**

**F ATT E / N A T M E = B D 2 0 - E E 1 E 2 0 1 1 .d**

**ALL ITEMS IN LEGEND ARE INCLUDED IN BRIDGE ESTIMATE, EXCEPT AS NOTED.**

**NOTE:**

**DETAILS REFER TO SOIL EROSION AND SEDIMENT CONTROL STANDARD SHEETS.**

2. **TURBIDITY CONTROL MAY BE REQUESTED BY THE REGION TO SATISFY PERMIT CONDITIONS.**

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**NOTE:**

**DET...
SECTION A-A

EXISTING ABUTMENT ADJACENT TO NEW ABUTMENT
WORKING AREA 3'-0" OR LESS

SECTION A-A

EXISTING ABUTMENT ADJACENT TO NEW ABUTMENT
WORKING AREA GREATER THAN 3'-0"

PARTIAL PLAN

SOIL OR PILE FOUNDATIONS (1 OF 2)
BRIDGE SUBSTRUCTURES ON
EXCAVATION AND EMBANKMENT DETAILS
DEPUTY CHIEF ENGINEER
Office of Structures
Department of Transportation
ORIGINAL ISSUED UNDER EB 08-002
ERRATA 09/22/17
RICHARD MARCHIONE, P.E.
LETTING OF 05/01/2018
EFFECTIVE WITH THE
CURRENT ISSUED UNDER EB 17-037
SECTION B-B

1.5

1

FINISHED GROUND

1.5

1

UNSUITABLE MATERIAL REMOVAL

NO NEW ABUTMENT

BE REMOVED IN SOME CIRCUMSTANCES.

ACTUAL RECOMMENDATION. THE ENTIRE ABUTMENT MAY
REFER TO THE FOUNDATION DESIGN REPORT (FDR) FOR
PIER SECTION

SUBGRADE OF ROADWAY

PLACED AT THE SAME TIME.

VERTICAL PAYMENT LINE SHALL BE
MATERIALS ON BOTH SIDES OF THE
SHOULDER BREAK LINE

8 "

1 '-0 "

FINISHED GROUND SURFACE

STRUCTURAL DRAIN (PCSD)

PREFABRICATED COMPOSITE

(STRUCTURAL DRAIN NOTE)

SEE NOTE 11

UNCLASSIFIED EXCAVATION

PAYMENT LINE FOR

0 (TYP.)

(SEE NOTE 10 - TYP.)

3'-0" MIN.

(SEE NOTE 18)

5'-0" MAX.,

REMOVAL DEPTH

SEE NOTE 3 FOR

FINISHED GROUND SURFACE

STANDARD SHEET FOR DETAILS.

THE APPROPRIATE HIGHWAY
IS 1 ON 3 OR STEEPER. SEE
BENCHED IF EXISTING SLOPE
EXISTING GROUND TO BE

8675 F K O R 3 3 G O G O D E A R S - M H M  - F O R A S S I S T A N C E  C A N N A L 8 6 7 - 5 3 0 9

(SEE NOTES 4 & G)

SLOPE PROTECTION

THE EXISTING SUBSTRUCTURE REMAIN IN LIEU OF
REGIONAL OFFICE MAY REQUEST THAT A PORTION OF
FOR добавление и легенду, смотрите BD-EE1E.

FOR STRUCTURE EXCAVATION GUIDELINES, SEE NOTE 18.

FOR NOTE G, SEE BD-EE5E.

FOR NOTES 1 THROUGH 20 AND LEGEND, SEE BD-EE1E.

FOR SECTION B-B LOCATION, SEE BD-EE2E.

DESIGNER NOTES:

FOR SECTION B-B LOCATION, SEE BD-EE1E.

FOR NOTES 1 THROUGH 20 AND LEGEND, SEE BD-EE1E.

FOR NOTE G, SEE BD-EE1E.

FOR STRUCTURE EXCAVATION GUIDELINES, SEE NOTE 18.

FOR ADDITIONAL NOTES AND LEGEND, SEE BD-EE1E.


A REMOVAL NOTE: The appropriate Substructure Design Notes (for

LEGEND

Department of Transportation
Office of Structures

EXCAVATION AND EMBANKMENT DETAILS
BREACH SUBSTRUCTURES ON
SOIL OR PILE FOUNDATION (2 OF 2)

REVISED

DEPUTY CHIEF ENGINEER
Department of Transportation

ORIGINAL ISSUED UNDER EB 08-002

ERRATA
09/22/17

APPROVED 09/22/17

CURRENT ISSUE UNDER EB 17-037

RICHARD MARCHIONE, P.E.

APPROVED: 09/22/17

LETTING OF 05/01/2018

EFFECTIVE WITH THE

CURRENT ISSUED UNDER EB 17-037

ORIGINAL SIGNED BY

VAPPROVED: 09/22/17
SECTION A-A

1.1

TYPICAL CROSS SECTION
SLOPE PROTECTION NOT SHOWN

(LOOKING AT ABUTMENT FACE
ABUTMENT CONSTRUCTION
OF FOOTING ELEVATION AFTER
MATERIAL PLACED ABOVE BOTTOM
LIMITS OF HIGHWAY EMBANKMENT
TOE OF SLOPE
50'-0" MIN.
3'-0"

SUBGRADE OF ROADWAY PRIOR TO ABUTMENT CONSTRUCTION
PLACE EMBANKMENT TO THIS LINE
HORIZONTAL OR FLATTER
SLOPE 1:3 VERTICAL ON 2

SEE NOTE 8
EXISTING GROUND SURFACE
5'-0"
3'-0"

EXISTING GROUND SURFACE
SUBGRADE ELEVATION
EMBANKMENT AT

TYPICAL EMBANKMENT PLAN ON FILL
SLOPE PROTECTION NOT SHOWN

THIS LINE WILL DEPEND ON THE ACTUAL SITE CONDITIONS.
ILLUSTRATIVE PURPOSES ONLY. THE ACTUAL LOCATION OF
AS SHOWN IN SECTION A-A. THE LINE SHOWN IS FOR
THE ABUTMENT V/WINGWALL AND THE EXISTING GROUND,
ABUTMENT STEM LOCATED AT THE OUTER MOST REAR OF
BOTTOM OF FOOTING RUNNING PARALLEL TO THE
POINT OF INTERSECTION OF A 1:1 FROM A LINE AT THE
TOE OF SLOPE. SEE NOTE 8
SEE DESIGNER NOTE
5'-0"
3'-0"

SEE DESIGNER NOTE
5'-0"
3'-0"

SLOPE PROTECTION
SEE NOTES A & G

(SEE NOTES 4 & G)
SLOPE PROTECTION
PLACED AT THE SAME TIME.
VERTICAL PAYMENT LINE SHALL BE
MATERIALS ON BOTH SIDES OF THE

FOR ADDITIONAL EMBANKMENT DETAILS FOR ABUTMENTS
ON FILL, SEE BD-EE7E.
FOR NOTE G, SEE BD-EE5E.
FOR NOTES 1 THROUGH 20 AND LEGEND, SEE BD-EE1E.
SLOPE PROTECTION NOT SHOWN IN PLAN.

DESIGNER NOTES:
SEE DESIGNER NOTE
* n

REVISED
DEPUTY CHIEF ENGINEER
Office of Structures
Department of Transportation
ORIGINAL ISSUED UNDER EB 08-002
ERRATA
09/22/17

LETTING OF 05/01/2018
EFFECTIVE WITH THE
CURRENT ISSUED UNDER EB 17-037
RICHARD MARCHIONE, P.E.
APPROVED: 09/22/17
ORIGINAL SIGNED BY

ABUTMENTS WITH SPREAD
FOOTINGS ON FILL
DESIGNER NOTES:
SEE BD-EE2E.
FOR ADDITIONAL EXCAVATION AND EMBANKMENT DETAILS,
PRESCRIBED WAITING PERIOD.
SHOWING EXCAVATION AND EMBANKMENT AFTER THE
TO START OF WAITING PERIOD, A PLAN SHOULD BE SHOWN
IN ADDITION TO THE PLAN SHOWING EMBANKMENT PRIOR
1
1
1
SEE DESIGNER NOTE
2
SEE DESIGNER NOTE
SEE DESIGNER NOTE
SEE NOTE G, SEE BD-EE5E.
FOR NOTES 1 THROUGH 20 AND LEGEND, SEE BD-EE1E.
THE WAITING PERIOD.
ON THE PLANS THAT WILL INDICATE THE DURATION OF
THE REPORT WILL ALSO CONTAIN A NOTE TO BE PLACED
INDICATED IN THE FOUNDATION DESIGN REPORT.
USE OF THE DETAILS SHOWN ON THIS SHEET WILL BE
THIS LINE WILL DEPEND ON THE ACTUAL SITE CONDITIONS.
ILLUSTRATIVE PURPOSE ONLY. THE ACTUAL LOCATION OF
AS SHOWN IN SECTION A-A. THE LINE SHOWN IS FOR
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BOTTOM OF FOOTING RUNNING PARALLEL TO THE

---

TYPICAL EMBANKMENT PLAN ON FILL
(PRIOR TO START OF WAITING PERIOD)
(SLOPE PROTECTION NOT SHOWN)

TYPICAL CROSS SECTION
LOOKING AT PROPOSED ABUTMENT FACE AFTER
PRESCRIBED WAITING PERIOD - SLOPE PROTECTION NOT SHOWN

SECTION A-A
(PRIOR TO START OF WAITING PERIOD)
EMBANKMENT CONSTRUCTION - STEP 2

SEE DETAIL "A"

BACKFILL DETAILS AFTER STEP 2

WAITING PERIOD

FOOTINGS ON FILL

ABUTMENTS WITH SPREAD FOOTINGS ON FILL
WITH WAITING PERIOD

SEE NOTE G) SLOPE PROTECTION

SEE NOTE 4 & G) SLOPE PROTECTION

TYPICAL EMBANKMENT PLAN ON FILL

SECTION A-A

TYPICAL EMBANKMENT PLAN ON FILL

TYPICAL FRONT ELEVATION

SLOPE PROTECTION NOT SHOWN

EXISTING GROUND

SEE NOTE 6

HIGHWAY EMBANKMENT MATERIAL

SELECT STRUCTURAL FILLED PLACE TO BOTTOM OF EMBANKMENT ELEVATION PRIOR TO PRESCRIBED WAITING PERIOD


THE WAITING PERIOD. THE REPORT WILL ALSO CONTAIN A NOTE TO BE PLACED IN THE FOUNDATION DESIGN REPORT.

THE USE OF THE DETAILS SHOWN ON THIS SHEET WILL BE INDICATED IN THE FOUNDATION DESIGN REPORT. THE ABUTMENT WILL ALSO CONTAIN A NOTE TO BE PLACED ON THE PLANS THAT WILL INDICATE THE LOCATION OF THE WAITING PERIOD.

FOR NOTES 1 THROUGH 20 AND LEGEND, SEE BD-EE1E.
FOR NOTE 6, SEE BD-EEG.
FOR ADDITIONAL, EMBANKMENT DETAILS FOR ABUTMENTS ON FILL, SEE BD-EE4.


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FOR NOTE 6, SEE BD-EEG.
FOR ADDITIONAL, EMBANKMENT DETAILS FOR ABUTMENTS ON FILL, SEE BD-EE4.

DETAIL "A" PRECAST CONCRETE LAGGING

<table>
<thead>
<tr>
<th>PILE NUMBER</th>
<th>STATION</th>
<th>LEFT</th>
<th>RIGHT</th>
<th>DEPTH OF EXCAVATION (IN FEET)</th>
<th>RECOMMENDED PILE LENGTH (IN FEET)</th>
<th>ASSUMED ROCK SOCKET ELEVATION (IN FEET)</th>
<th>MINIMUM PILE DIAMETER (IN FEET)</th>
<th>MINIMUM PILE SECTION MODULUS (IN FEET)</th>
<th>MINIMUM ELEVATION (IN FEET)</th>
<th>MINIMUM EXCAVATION LINE ELEVATION (IN FEET)</th>
<th>MINIMUM WATER STOP ELEVATION (IN FEET)</th>
<th>MINIMUM WATER STOP ELEVATION (IN FEET)</th>
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</tbody>
</table>
TYPICAL SECTION
STEEL TIES TO A DEADMAN

TYPICAL SECTION
GROUTED TIEBACK WALL

TEMPORARY STEEL TIES
SECTION A-A

PERMANENT STEEL TIES
SECTION A-A

MIN. EMBEDMENT DEPTH

SET-BACK (MIN. DISTANCE)

LOAD & MAX. SPACING
NUMBER, DESIGN
STEEL TIE ITEM

EXISTING GROUND ELEV.
AND SIZE
DEADMAN TYPE

STEEL TIEBACK ELEV.
(SEE NOTE 12)

SOLDIER PILE WALL
STEEL SHEETING OR
EXCAVATION ELEV.
BOTTOM OF

2'-0" (SEE NOTE "A")

(CARRIER CONDUIT
STEEL TIE OR
SIZE (TYP.)
INDICATE PIPE SEPARATOR
INDICATE WALE SIZE
2" MIN. COV. (TYP.)
1" MIN. (TYP.)
1" CHAMFER (TYP.)
DRIP GROOVE

ANCHOR ANGLE

MIN. COVER ZONE
15'-0"

CORROSION PROTECTION
PLUS 1'-0".

NOTE: IF THE DESIGNER ELECTS TO INSTALL STEEL TIES TO A DEADMAN, THE EXCAVATION AT THE WALL FACE LIES LOWER THAN 2'-0" BELOW THE HORIZONTAL ELEVATION OF THE STEEL TIE. INSTALLING ANY NEEDED CORROSION PROTECTION PLUS 1'-0".

NOTE: IF THE DESIGNER ELECTS TO INSTALL STEEL TIES TO A DEADMAN, THE EXCAVATION AT THE WALL FACE LIES LOWER THAN 3'-0" BELOW THE HORIZONTAL ELEVATION OF THE STEEL TIE. INSTALLING ANY NEEDED CORROSION PROTECTION PLUS 1'-0".

NOTE: THE CONTRACTOR ELECTS TO INSTALL STEEL TIES TO A DEADMAN, THE EXCAVATION AT THE WALL FACE LIES LOWER THAN 3'-0" BELOW THE HORIZONTAL ELEVATION OF THE STEEL TIE. INSTALLING ANY NEEDED CORROSION PROTECTION PLUS 1'-0".

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ALL REQUIRED ELEVATIONS AT TOPS OF PRECAST PANELS SHALL BE INCLUDED ON THE PLANS.

NOTE: M.7'-6" - M.2'-0"

PROPOSED FOOTING

INDICATE STATION OF BEARINGS

T.G.L. & STATION LINE

SLOPE TO DRAIN CONCRETE COPING

TOP OF LEVELING PAD

EXISTING GROUND SURFACE

FILL TYPE RETAINING WALL

ELEVATION

SECTION A-A

SECTION B-B

NOTE: PILES NOT SHOWN FOR CLARITY.

ALL DIMENSIONS ARE MEASURED PARALLEL TO WALL.

VALUES SHOWN ARE FOR THE TOP OF THE LEVELING PAD.


MATERIALS ON BOTH SIDES OF THE VERTICAL LINE SHALL BE PLACED TOGETHER AT THE SAME TIME.

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The details on this drawing are for illustrative purposes only and do not represent actual project conditions.

This drawing is solely intended as an example and does not represent the entire structure necessary to show the required details. The additional sections may be necessary to adequately depict the project requirements. Additionally, the sections C-C, D-D, and E-H are not shown.

See BRIDGE MANUAL FOR GUIDANCE. The designer must determine the appropriate cofferdam type. Example, see the F.D.R. for actual wall recommendations. Interim sheeting and lagging shown as an example. See the F.D.R. for actual wall recommendations. Designers must determine the appropriate cofferdam type. See BRIDGE MANUAL FOR GUIDANCE.

For sections A-A, B-B, and E-H, see BD-EE16E. The required length of the interim sheeting for Stage Construction is determined by the intersection of the proposed ground surface and a 1 in 1.5 up-slope. The required length of the interim sheeting for Stage Construction is determined by the intersection of the proposed ground surface and a 1 in 1.5 up-slope.

For additional notes and legends, see BD-EE15E.
FOR ANTICIPATED CONSTRUCTION LOADING, SUPPORT SYSTEM USED MUST BE DESIGNED SHEETING AS DETAILED. ANY EXCAVATION SLOPE BACK AND NOT USE INTERIM IF CONTRACTOR ELECTS NOT TO LAY NOTE:

F.D.R. FOR ACTUAL WALL RECOMMENDATIONS. INTERIM SHEETING AND LAGGING SHOWN AS AN EXAMPLE, SEE THE WHERE SECTIONS MUST BE TAKEN. ARE GIVEN. ON AN ACTUAL PROJECT, THE DESIGNER SHALL DETERMINE PORTIONS OF THE STRUCTURE NECESSARY TO SHOW THE DESIRED DETAILS THIS DRAWING IS SOLELY INTENDED AS AN EXAMPLE AND ONLY THOSE DESIGNER NOTES:

FOR STRUCTURE EXCAVATION GUIDELINES, SEE NOTE 18 ON BD-EE1E. FOR ADDITIONAL NOTES AND LEGEND, SEE BD-EE1E.

NOTE: LAGGING DETAIL FOR STAGE CONSTRUCTION (2 OF 2)
SAMPLE DRAWING OF EXCAVATION AND EMBANKMENT STAGE CONSTRUCTION (2 OF 21)

REVISED (STRUCTURES)
DEPUTY CHIEF ENGINEER
Office of Structures
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RICHARD MARCHIONE, P.E.
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