INTEGRAL ABUTMENT CONSTRUCTION PROCEDURE
ADJACENT PRESTRESSED CONCRETE SUPERSTRUCTURE

1. FOR BRIDGE LENGTHS OVER 100 ft., PRE-EXCAVATE HOLES TO A DEPTH OF 8 ft. FROM THE STEM AT THE DIAMETER SPECIFIED IN THE FOUNDATION NOTES.

2. DRIVE PILES AND CUT OFF PILES AT ELEVATIONS SHOWN.

3. BACKFILL HOLES WITH SAND MEETING THE REQUIREMENTS OF NYS MATERIAL SPECIFICS. (COST TO BE INCLUDED IN PILE ITEM).

4. IF CIP PILES ARE USED, FILL PILES WITH CONCRETE.

5. PLACE ABUTMENT STEM CONCRETE TO BRIDGE SEAT ELEVATION.

6. BACKFILL ABUTMENT STEMS TO 6" BELOW THE BRIDGE SEAT ELEVATION.

7. PLACE STONE FILL OR SLOPE PROTECTION.

8. ERECT PRESTRESSED UNITS ON BEARING PADS.

9. PLACE CLASS HP CONCRETE ABOVE BRIDGE SEAT ELEVATION FOR THE ABUTMENT STEM AS SHOWN. (COST TO BE INCLUDED IN PILE ITEM).

10. PLACE TOP OF INTEGRAL WINGWALLS CONCRETE.

11. BACKFILL ABUTMENT BACKWALLS. NO BACKFILLING OF BACKWALL IS ALLOWED UNTIL THE ABUTMENTS HAVE CURED FOR 7 DAYS.

ADJACENT PRESTRESSED CONCRETE SUPERSTRUCTURE

NOTES:

- **E** denotes epoxy-coated bars.
- BEARING PAD TO MEET THE REQUIREMENTS OF NYS MATERIAL SPECIFICS. (COST TO BE INCLUDED IN PILE ITEM).
- BACKFILL PILES TO BE PAID FOR UNDER ITEM 565.30.

REFERENCES:

- FOR JOINT RECESS DETAIL, SEE BD-ID6E.
- SEE BEARING PAD PLACEMENT FOR TYPE "D" WATERSTOP DETAILS, SEE BD-MS3.
- FOR TYPE "D" WATERSTOP DETAILS, SEE BD-ID4E.
- FOR JOINT RECESS DETAIL, SEE BD-ID6E.
- FOR EARTHWORK DETAILS ON BD-ID3E FOR FURTHER DETAILS.
- REFER TO BRIDGE MANUAL, SECTION 15.12 FOR THE LAYOUT.
- FOR JOINT RECESS DETAIL, SEE BD-ID6E.
- REFER TO BRIDGE MANUAL, SECTION 15.12 FOR THE LAYOUT.
- FOR JOINT RECESS DETAIL, SEE BD-ID6E.
REINFORCEMENT PLAN - LOWER POUR

REINFORCEMENT PLAN - BACKWALL AND UPPER WINGWALL POURS

REAR FACE REINFORCEMENT ELEVATION - LOWER POUR

UPPER WINGWALL REINFORCEMENT ELEVATIONS (ONLY HORIZONTAL BARS SHOWN)
INTEGRAL ABUTMENT CONSTRUCTION PROCEDURE

STEEL SUPERSTRUCTURE WITH TEMPORARY GIRDER SUPPORT

1. FOR BRIDGE LENGTHS OVER 100 ft., PRE-EXCAVATE HOLES TO A DEPTH OF 8 ft.
2. DRIVE PILES AND CUT OFF PILES AT ELEVATIONS SHOWN.
3. BACKFILL HOLES WITH SAND MEETING THE REQUIREMENTS OF NYS MATERIAL DESIGN REINFORCEMENT @ 1'-0" MAX. SPACING
4. IF CIP PILES ARE USED, FILL PILES WITH CONCRETE.
5. PLACE STONE FILL OR SLOPE PROTECTION.
6. BACKFILL ABUTMENT STEMS TO 6" BELOW THE BRIDGE SEAT ELEVATION.
7. PLACE STONE FILL OR SLOPE PROTECTION. GIRDER SHALL BE ERECTED PLUMB AFTER ALL GIRDERS ARE ERECTED AND THE DIAPHRAGMS ARE INSTALLED.
8. ERECT GIRDERS AND INSTALL ALL DIAPHRAGMS. GIRDERS SHALL BE ERECTED PLUMB AND SUPPORTED BY SIDELIGHTS TO BE FULLY THREADED INTO AND TIGHTENED TO THE TIES.

INTEGRAL ABUTMENT DETAIL (SECTION TAKEN PERPENDICULAR TO ABUTMENT)

NOT TO SCALE
**INTEGRAL ABUTMENTS**

**MISCELLANEOUS DETAILS**

**INTEGRAL ABUTMENT DRAIN**
- Full length of abutment.
- 6" (min.) geotextile bedding.
- Stone fill or slope protection.
- 4'-0" (max.) 1'-0" (min.)

**INTEGRAL WINGWALL DETAIL**
- Steel superstructure.
- Prestressed concrete superstructure.
- Construction joint.
- Level bridge seat.
- 6'-6" (min.) - 13'-0" (max.)
- 10" (min.)

**TYPE "D" WATERSTOP**
- In plan.
- Construction joint.
- Between lower pour and wingwall.
- Keyway detail.

**INTEGRAL U-WINGWALLS**
- Indicate lap.
- 1'-6" (min.) to 3'-0" (max).
- 6'-6" (max.) 4'-0" (min.)
- Approach slab.
- Level bridge seat.
- 2" joint or groove at fascia.

**INTEGRAL WINDWALL DETAIL**
- For steel superstructure.
- Not to scale.
- See keyway detail.

**DESIGNER NOTES**
- When separated wingwalls are necessary, a single line of piles is shown preferable.
- It is also acceptable to use a conventional cantilever wall with a self-supported footing.
- When an integral superstructure design is required, the wingwall shall be posted consistent with the bridge plan.
- Stone fill is required for all stream crossings. Slope protection is required for stream crossings.
- The bonded extruded seal shall determine the type of stone fill to be used at stream crossings.

**NOTE:**
- Reinforcement not shown for clarity. Girders to stop 1'-0" from support plate or construction joint.
- Where these bars interfere with the face of the abutment, extend them to the front face of abutment.
- Do not extend the bars into the abutment rear face reinforcement.

**DESIGNER:**
- For type “D” waterstop details, see BD-MS3E.
- Refer to Bridge Manual, Section 15.12 for the requirements of corrosion protected reinforcement in substructures.

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**NOTE:**
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- Where these bars interfere with the face of the abutment, extend them to the front face of abutment.
- Do not extend the bars into the abutment rear face reinforcement.
INTEGRAL ABUTMENT CONSTRUCTION PROCEDURE
STEEL SUPERSTRUCTURE WITH COTTON DUCK PAD SUPPORT

1. FOR BRIDGE LENGTHS OVER 100 ft., PRE-EXCAVATE HOLES TO A DEPTH OF 8 ft. BELOW
   THE STEM AT THE DIAMETER SPECIFIED IN THE FOUNDATION NOTES.

2. BLOCK PAIRS AND CUT OFF PILES AT ELEVATIONS SHOWN.

3. BACKFILL HOLES WITH SAND MEETING THE REQUIREMENTS OF NYS MATERIAL
   DESIGN REINFORCEMENT @ 1'-0" MAX. SPACING.

4. IF CIP PILES ARE USED, FILL PILES WITH CONCRETE.
   DESIGNER NOTES:
   SEE DESIGNER NOTES ON BD-ID2E FOR ROTATION EQUATION.

5. PLACE ABUTMENT BACKWALL AND REMAINING PORTION OF DECK CONCRETE.  (ABUTMENT
   END OF SUPERSTRUCTURE SLAB.

6. BACKFILL ABUTMENT STEMS TO 6" BELOW THE BRIDGE SEAT ELEVATION.

7. PLACE CONCRETE FOR APPROACH SLABS.
   PHOTO AND OR SPACINGS SHOWN FOR SUPERSTRUCTURE
   PLACE CONCRETE UNTIL BACKWALLS HAVE CURED FOR 7 DAYS. BACKFILLING SHALL BE
   DO NOT EXCEED 2 ft. IN ADDITION, THE FILL HEIGHT
   STATES THAT THE MAXIMUM DIFFERENTIAL IN FILL HEIGHT BETWEEN THE TWO STEMS (AS MEASURED
   END OF SUPERSTRUCTURE SLAB.  WHEREVER POSSIBLE)
   DATE/TIME = 09-JUL-2010 09:11
   USER = dvogel
   LETTING OF 1/06/11
   UNLESS OTHERWISE NOTED.
   EFFECTIVE WITH THE
   PBH BETWEEN ANY SINGLE ABUTMENT STEM SHALL NOT VARY MORE THAN 2 ft.
   FROM THE BOTTOM OF THE STEM) DOES NOT EXCEED 2 ft. IN ADDITION, THE FILL HEIGHT
   THE STEM AT THE DIAMETER SPECIFIED IN THE FOUNDATION NOTES.
   30 DEGREES AND THE GIRDER DEPTH EXCEEDS 4'-0" OR WHEN THE
   BEAM END ROTATION DUE TO STEEL LOAD CAMBER EXCEEDS "'
   VARIATION BETWEEN THE GIRDER AND THE BRIDGE SEAT.
   REMEDY TO BE PROVIDED.
   SEE DESIGNER NOTES ON BD-ID2E FOR ROTATION EQUATION.
   8'-0" (LAP TO TOP LONGITUDINAL DECK REINFORCEMENT WHEREVER POSSIBLE)
   DESIGN REINFORCEMENT @ 1'-0" MAX. SPACING
   FOR BRIDGE LENGTHS OVER 100 ft., PRE-EXCAVATE HOLES TO A DEPTH OF 8 ft. BELOW
   TIME BP 2
   PLACE CONCRETE FOR APPROACH SLABS.
INTEGRAL ABUTMENT CONSTRUCTION PROCEDURE

1. FOR BRIDGE LENGTHS OVER 100 ft., PRE-EXCAVATE HOLES TO A DEPTH OF 8 ft. BELOW THE TOWER AT THE ELEVATION SPECIFIED IN THE FOUNDATION HOLES.

2. PLACE CONCRETE IN HOLES IN SECTIONS, USING A REINFORCEMENT OF 5% MATERIAL (1" X 1" X 1") SIZED HOLES AT THE BOTTOM OF EACH Section.

3. BACKFILL HOLES WITH SAND MEETING THE REQUIREMENTS OF NYS MATERIAL STANDARDS. REINFORCEMENT TO BE DETERMINED BY DESIGNER.

4. IF CIP PILES ARE USED, PLACE CONCRETE IN THE HOLES.

5. PLACE ABUTMENT STEM CONCRETE TO BRIDGE SEAT ELEVATION. REINFORCEMENT TO BE PLACED BETWEEN BEAMS.

6. PLACE STONE FILL OR SLOPE PROTECTION.

7. DRIVE PILES AND CUT OFF PILES AT ELEVATIONS SHOWN.

8. ERECT GIRDERS AND INSTALL ALL DIAPHRAGMS.

9. AT EACH END OF THE BRIDGE, PLACE CONCRETE FOR DECK SLAB TO WITHIN 9 ft. OF END OF BEAM.

10. PLACE ABUTMENT BACKWALL AND REMAINING PORTION OF DECK CONCRETE TO TOP OF GIRDER SEAT.

REINFORCEMENT IN WEB TO BE DETERMINED BY DESIGNER. PLACE BETWEEN BEAMS.

REINFORCEMENT TO BE PLACED AS SHOWN.

NOT TO SCALE
1. Place footing, abutment stem, and pedestals.
2. Place concrete for suspended backwall.
3. Backfill abutment backwalls. No backfilling of the abutment is allowed.
4. Place concrete for approach slabs.
5. Place concrete for approach slab.
6. Place concrete for deck slab.
7. Place concrete for approach slab.

**NOTES**
- All covers to be at least 2" unless otherwise shown.
- #5 Bars (min.) @ 1'-0" max. spacing
- #5Bars (min.) @ 1'-0" max. spacing
- #5(E) Bars (min.) @ 1'-0" max. spacing
- Design reinforcement @ 1'-0" max. spacing
- Design reinforcement @ 1'-0" max. spacing
- Design reinforcement @ 1'-0" max. spacing

**STATE OF NEW YORK**
DEPARTMENT OF TRANSPORTATION
OFFICE OF STRUCTURES

**SEMI-INTEGRAL ABUTMENTS**
**TYPICAL SECTIONS & DETAILS**

**SECTION TAKEN PERPENDICULAR TO ABUTMENT**

**SEMI-INTEGRAL ABUTMENT DETAIL**

**FOOTING SPECIFICATIONS**
- Footing depth to be determined by designer.
- Footing width to be determined by designer.

**ABUTMENT STEM & PEDESTAL REINFORCEMENT**
- Rebar is to be placed between spurs.
- Rebar is to be placed between spurs.

**ABUTMENT CONCRETE ITEM**
- Concrete is to be placed for approach slab.
- Concrete is to be placed for approach slab.

**CONSTRUCTION JOINTS**
- Construction joints are to be formed perpendicular to the station line of the bridge.
- Construction joints are to be formed perpendicular to the station line of the bridge.

**DETAIL "B"**
- Not to scale

**JOINT Recess DETAIL**
- Not to scale

**Semi-Integral Abutment Construction Procedure**

1. Place footing, abutment stem, and pedestals.
2. Backfill abutment stem to 3", below the design seat elevation.
3. Design reinforcement @ 1'-0" max. spacing.
4. Place concrete for suspended backwall.
5. Semi-inTEGRAL ABUTMENT DETAILS: All backfilling of the abutment is allowed.
6. Place concrete for approach slab.
7. Place concrete for deck slab.
8. Place concrete for approach slab.
NOTE:
(E) DENOTES EPOXY COATED BARS.

DESIGNER NOTES:
FOR LOCATION OF SECTIONS C-C & D-D, SEE BD-ID6E.
SEE DESIGNER NOTES ON BD-ID6E TO DETERMINE THE PREFORMED CLOSED CELL FOAM THICKNESS BETWEEN THE BACK WALL AND STEM.
CONCRETE REINFORCING BARS ARE CONTINUOUS BETWEEN THE ABUTMENT STEM AND THE WINGWALL STEM. THE CONCRETE REINFORCING BARS ARE NOT CONTINUOUS BETWEEN THE WINGWALL STEM AND BACKWALL TO ALLOW FOR SUPERSTRUCTURE MOVEMENT.
VERTICAL BARS IN FRONT FACE OF BACKWALL MAY HAVE TO BE ADJUSTED OR CUT IN FIELD TO AVOID INTERFERENCE WITH GIRDERS.
EPOXY COATED (E) BARS ARE SHOWN. OTHER CORROSION PROTECTION OPTIONS ARE AVAILABLE. REFER TO SECTION 15.12 OF THE BRIDGE MANUAL.
REFER TO BRIDGE MANUAL, SECTION 15.12 FOR REQUIREMENTS OF CORROSION PROTECTED REINFORCEMENT IN SUBSTRUCTURES.
HORIZONTAL LEG ORIENTATION OF THESE VERTICAL SHEAR BARS MAY BE ADJUSTED TO MATCH THEIR AS LONG AS THEY MEET DESIGN REQUIREMENTS.