INTEGRAL ABUTMENT CONSTRUCTION PROCEDURE

ADJACENT Prestressed Concrete Superstructure

1. For Bridge Lenghts over 30 m, pre-excavate holes to a depth of 2.5 m below 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 Specification 100, otherwise sand used to be placed full of concrete.
4. If C20 piles are used, full piles with concrete.
5. Place Abutment stem concrete to bridge seat elevation.
6. Backfill Abutment stems to 150 mm below the bridge seat elevation.
7. Place Concrete above bridge seat elevation for the Abutment.
8. Direct Prestressed units on Bearing Pad.
9. Place Concrete above bridge seat elevation for the Abutment.
10. Plate Top of Integral Wingwall Concrete.
11. Backfill Adjacent Beam, no backfilling of Backwall is allowed until the Backwalls have cured for 7 days.
12. Place Concrete for Approach Slabs.

INTEGRAL ABUTMENT DETAIL

(SECTION TAKEN PERPENDICULAR TO ABUTMENT)

NOT TO SCALE
**Designer Notes:**

Sections in this sheet show locations where sections typically need to be required to show special or unusual details.

For pile table, legends and notes, see BD-AB1.

For pile details, see BD-M1.

For type "D" waterstop details, see BD-M3.

Notes above title block shall indicate reference details with their drawing no. located in area shown within the plan view. Where special or unusual details are necessary to construct the abutment.

**NOTES:**

At backwall concrete from top of bridge seat to top of box beam is to be poured with the backwall concrete above the abutment concrete. Refer to pour 2 in concrete table.

**NO.** indicates concrete pour number.

All elevations are shown in meters.

All dimensions are shown in millimeters unless otherwise noted.
INTEGRAL ABUTMENT CONSTRUCTION PROCEDURE

STEEL SUPERSTRUCTURE WITH TEMPORARY GIRDER SUPPORT

1. FOR BRIDGE LENGTHS OVER 30 m, PRE-EXCAVATE HOLES TO A DEPTH OF 2.5 m.

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

3. PLACE ABUTMENT STEM CONCRETE TO BRIDGE SEAT ELEVATION.

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

5. PLACE ABUTMENT STEM CONCRETE TO BRIDGE SEAT ELEVATION.

6. BACKFILL ABUTMENT STEMS TO 150 mm BELOW THE BRIDGE SEAT ELEVATION.

7. PLACE STONE FILL OR SLOPE PROTECTION.

8. PLACE ABUTMENT BACKWALL CONCRETE TO TOP OF GIRDER.

9. PLACE ABUTMENT BACKWALL CONCRETE TO BRIDGE SEAT ELEVATION.

10. BACKFILL ABUTMENT BACKWALLS. NO BACKFILLING OF THE ABUTMENT IS ALLOWED UNLESS OTHERWISE NOTED.

INTEGRAL ABUTMENT DETAIL

SECTION A-A

TYPICAL INTERIOR GIRDER ELEVATION

NOT TO SCALE
CONSTRUCTION JOINT

THEORETICAL SHOULDER

BREAK LINE (TYP.)

BRIDGE BEGINS OR ENDS,
STA.

SKEW ANGLE

c BRGS.,
STA.

STATION LINE

AZIMUTH

PLAN

EL.

ELEVATION

CONCRETE TABLE

PLACEMENT

QUANTITY

ITEM NO.

CONCRETE TABLE

EXAMPLE OF INTEGRAL ABUTMENT
WITH STEEL GIRDERS

PLAN AND ELEVATION

NOTES:

A) HORIZONTAL KEYWAYS TO STOP 300mm FROM SUPPORT
PlATE AND FACE OF CONCRETE POUR.

NOTE: THESE ELEVATIONS ARE TAKEN AT c OF BEARINGS.

NOTE: INDICATES CONCRETE POUR NUMBER

ALL ELEVATIONS ARE SHOWN IN METERS.

ALL DIMENSIONS ARE SHOWN IN MILLIMETERS UNLESS OTHERWISE NOTED.
NOTE: REINFORCEMENT NOT SHOWN FOR CLARITY. KEYWAY TO STOP 100 mm FROM SUPPORT PLATE OR CONSTRUCTION JOINT.

NOTE: REINFORCING STEEL NOT SHOWN.
INTEGRAL ABUTMENT CONSTRUCTION PROCEDURE

NEBT OR AASHTO 1-BEAM SUPERSTRUCTURE

1. FOR BRIDGE LENGTHS OVER 30 m, PRE-EXCAVATE HOLES TO A DEPTH OF 2.5 m BELOW THE P.C.C.M. (COST TO BE INCLUDED IN PILE ITEM).

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

3. BACKFILL HOLES WITH SAND MEETING THE REQUIREMENTS OF NYS MATERIAL.

4. PLACE ABUTMENT STEM CONCRETE TO BRIDGE SEAT ELEVATION.

5. PLACE ABUTMENT STEM CONCRETE TO BRIDGE SEAT ELEVATION.

6. PLACE ABUTMENT STEM CONCRETE TO BRIDGE SEAT ELEVATION.

7. AT EACH END OF THE BRIDGE, PLACE CONCRETE FOR DECK SLAB TO WITHIN 2.75 m OF END OF SUPERSTRUCTURE SLAB.

8. ERECT GIRDERS AND INSTALL ALL DIAPHRAGMS.

9. AT EACH END OF THE BRIDGE, PLACE CONCRETE FOR DECK SLAB TO WITHIN 2.75 m OF END OF SUPERSTRUCTURE SLAB.

10. PLACE ABUTMENT BACKWALL AND REMAINING PORTION OF DECK CONCRETE TO 300 MAX. SPACING, PLACED BETWEEN BEAMS.

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

REINFORCEMENT TO BE DETERMINED BY DESIGNER.

DESIGNER NOTES:

- DECISIONS ARE MADE WHEN DESIGN STRESSES/ABUTMENT LENGTHS ARE BEING DETERMINED, AND THE CORRESPONDING DRAWINGS ARE TO BE REVIEWED TO ENSURE THAT THE DESIGNER SPECIFIED IN THE FOUNDATION NOTE.

- DRIVE FILES AND CUT OFF FILES AT ELEVATIONS SHOWN.

- BACKFILL HOLES WITH SAND MEETING THE REQUIREMENTS OF NYS MATERIAL.

- IF CP FILES ARE USED, FILL WITH CONCRETE.

- PLACE REBAR STEMS DIRECTLY TO BRIDGE SEAT ELEVATION.

- BACKFILL ABUTMENT STEM TO 150 mm BELOW THE BRIDGE SEAT ELEVATION.

- BACKFILL ABUTMENT STEM TO 150 mm BELOW THE BRIDGE SEAT ELEVATION.

- PLACE CENTERLINE CONCRETE TO 300 MAX. SPACING, PLACED BETWEEN BEAMS.

- PLACE CENTERLINE CONCRETE TO 300 MAX. SPACING, PLACED BETWEEN BEAMS.

- PLACE CENTERLINE CONCRETE TO 300 MAX. SPACING, PLACED BETWEEN BEAMS.

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- PLACE CENTERLINE CONCRETE TO 300 MAX. SPACING, PLACED BETWEEN BEAMS.

- PLACE CENTERLINE CONCRETE TO 300 MAX. SPACING, PLACED BETWEEN BEAMS.

- PLACE CENTERLINE CONCRETE TO 300 MAX. SPACING, PLACED BETWEEN BEAMS.
1. Place footing, abutment stem, and pedestals.

2. Backfill abutment stems to 300 mm below the bridge seat elevation. No backfilling of the abutment is allowed until backwalls have cured for 7 days. Backfilling shall be allowed until backwalls have cured for 7 days. Backfilling shall be permitted following the installation of the backwall, backwall formwork, and abutment concrete.

3. Erect girders and install all diaphragms.

4. Place concrete for suspended backwall.

5. Suspended backwall shall not vary more than 600 mm. In addition, the fill height behind any single semi-integral abutments shall not exceed 600 mm. The two abutments (as measured from the bottom of the backwall) shall not vary more than 600 mm. The fill height behind any single semi-integral abutments shall not exceed 600 mm. In addition, the fill height behind any single semi-integral abutments shall not exceed 600 mm.

6. Place concrete for deck slab.

7. Place concrete for approach slabs.

Semi-Integral Abutment Construction Procedure

- Place footing, abutment stem, and pedestals.
- Backfill abutment stems to 300 mm below the bridge seat elevation. No backfilling of the abutment is allowed until the abutments have cured for 7 days.
- Erect girders and install all diaphragms.
- Place concrete for suspended backwall.
- Place concrete for suspended backwall.
- Place concrete for suspended backwall.
- Place concrete for suspended backwall.
REAR FACE OF BACKWALL

GEOTEXTILE BEDDING MATERIAL
FROM "APPROVED LIST". PLACE 500 mm ON EITHER SIDE OF JOINT AND LOOP 50 mm INTO THE JOINT.

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN AND CONSTRUCTION DIVISION

SEMI-INTEGRAL ABUTMENT

ISSUED
6/13/05

R1

* HORIZONTAL LEG ORIENTATION OF THESE VERTICAL SHEAR BARS MAY BE ADJUSTED TO MATCH SKEW AS LONG AS THEY MEET DESIGN REQUIREMENTS.

DESIGNER NOTES:
(E) DENOTES EPOXY COATED BARS.
ALL DIMENSIONS AND BAR SPACINGS ARE SHOWN IN MILLIMETERS UNLESS OTHERWISE NOTED.

DESIGNER NOTES:
FOR LOCATION OF SECTIONS C-C & D-D, SEE BD-ID6.
SEE DESIGNER NOTES ON BD-ID6 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.

50 mm JOINT WITH PREMOULDED RESILIENT JOINT FILLER CONFORMING TO MATERIAL SPECIFICATION 705-07.

#16 BARS (MIN.) TYPICAL ALL CORNERS.
ALTERNATE WITH BARS RUNNING THRU GIRDER WEB.

#16(E) BARS (MIN.) @ 300 MAX. SPACING TYPICAL ALL CORNERS.
ALTERNATE WITH BARS RUNNING THRU GIRDER WEB.

50 mm AIR GAP BETWEEN GIRDERS, ALTERNATE WITH BARS RUNNING recycling bars.

SECTION C-C

SECTION D-D

PARTIAL PLAN
BACKWALL REINFORCEMENT