**General:**

This standard drawing provides preferred and/or typical details for abutments with expansion joints. Treat the abutment dimensions, construction joints, and reinforcing shown in this drawing as minimum values and perform a complete design for the abutment. Do not reference these drawings in the contract plans and do not use as standalone construction drawings.

Provide all information required to construct the abutment in the project plans.

Steel girders are shown in this standard drawing; rolled steel beams will be similar. Refer to PSID-1-13 for modifications required for prestressed concrete I-beams.

**Design Data:**

Concrete - Compressive strength 4.0 ksi
Reinforcing steel - Minimum yield strength 60 ksi

**Legend:**

- **A** - Deck expansion joint opening
- **P** - Prefabricated geocomposite drainage (PGD) system in accordance with C&MS 518
- **PCPP** - Perforated corrugated polyethylene pipe (C&MS 707.33, Type SP)
- **NPCPP** - Non-perforated corrugated polyethylene pipe (C&MS 707.33, Type S)
- **T** - Provide prestressed concrete outlet with Type 1 tied concrete block mat as shown in DM-1.1
- **CJ** - Construction joint. Refer to BDG section 304.2.3 for design requirements.
- **CJ** - See roadway standard drawing MGS-3.1 or MGS-3.2 for bridge terminal assembly details. State on the project plans which standard applies.

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**Section B-B**

**Elevation:**

See SHT. NO. 45 FOR REINFORCING DETAILS

**Groundline along back of windwall**

**Steel Bridge Railing**

See applicable standard drawing for details.

**Steel Bridge Railing**

See applicable standard drawing for details.

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**Drawing Information:**

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

STANDARD BRIDGE DRAWING

DATE

BRIDGES WITH EXPANSION JOINTS

TYPICAL ABUTMENT DETAIL FOR SQUARE STRUCTURE WITH STEEL BARRIER

PART PLAN AT ABUTMENT

(SQUARE STRUCTURE WITH STEEL BARRIER)
PART PLAN AT ABUTMENT
(SQUARE STRUCTURE WITH SBR-1 BARRIER & TURNBACK WINGWALLS)

PART PLAN AT ABUTMENT
(SKEWED STRUCTURE WITH SBR-1 BARRIER & TURNBACK WINGWALLS)

LEGEND:
- DECK EXPANSION JOINT OPENING
- PRE-FABRICATED GEODECOMPOSABLE DRAINAGE (PGD) SYSTEM IN ACCORDANCE WITH C&MS 518
- SEE ROADWAY TYPICAL SECTIONS
- PREFABRICATED CORRUGATED POLYETHYLENE PIPE (C&MS 707.33, TYPE S)
- PERFORATED CORRUGATED POLYETHYLENE PIPE (C&MS 707.33, TYPE SP)
- PROVIDE PRECAST CONCRETE OUTLET WITH TYPE 1 TIE CONCRETE BLOCK MAT AS SHOWN IN DM-1.1
- 3'-0" CURB THICKNESS IF APPROACH SLAB IS CURBED
- DIMENSION MAY BE VARIED IN ORDER TO USE SIMILAR MINIMALS & SIMILAR STRUCTURES
- CONSTRUCTION JOINT. REFER TO BDM SECTION 304.2.3 FOR DESIGN REQUIREMENTS.
NOTES:
1. UNLESS NOTED OTHERWISE, ALL REINFORCING BARS ARE #8 BARS.
2. FOR ABUTMENTS WITH PILES, EQUALLY SPACE APPLICABLE VERTICAL BARS A MAXIMUM OF 1'-6" BETWEEN PILES.
3. THE MAXIMUM SPACING FOR ALL BARS IS 1'-6".
4. UNLESS OTHERWISE NOTED, THE CONCRETE CLEAR COVER SHALL BE 2".
5. THE DRAINAGE OUTLET REINFORCEMENT DETAIL SHOULD ONLY BE USED WHEN IT IS NOT POSSIBLE TO RUN THE DRAINAGE AROUND THE ABUTMENT/WINGWALL FOOTING.

LEGEND:
- $\Delta$ - CONSTRUCTION JOINT. REFER TO BDM SECTION 304.2.3 FOR DESIGN REQUIREMENTS;
- $\Delta$ - PRE-FABRICATED GEOCOMPOSITE DRAINAGE (PGD) SYSTEM IN ACCORDANCE WITH C&MS 518- PREFABRICATED GEOCOMPOSITE DRAINAGE (PGD);
- NPCPP - NON-PERFORATED CORRUGATED POLYETHYLENE PIPE (C&MS 707.33, TYPE S);
- PCPP - PERFORATED CORRUGATED POLYETHYLENE PIPE (C&MS 707.33, TYPE S);
- PIPE (C&MS 707.33, TYPE S)

DRAINAGE OUTLET REINFORCEMENT DETAIL (SEE NOTE 5)

REFER TO THE APPROPRIATE STANDARD DRAWING FOR ADDITIONAL DETAILS.
LEGEND:

NPCPP - NON-PERFORATED CORRUGATED POLYETHYLENE
PIPE (C&MS 707.33, TYPE S3)

PCPP - PERFORATED CORRUGATED POLYETHYLENE
PIPE (C&MS 707.33, TYPE SP)

PEJF - PREFORMED EXPANSION JOINT FILLER

CJ - CONSTRUCTION JOINT. REFER TO RDM SECTION 304.3.3
FOR DESIGN REQUIREMENTS.