GENERAL NOTES:

1. Bars Z are required for beams topped with a cast-in-place concrete slab only.

2. Post-tensioning tendons are required for beams not topped with a min 5" cast-in-place concrete slab. See details for number and spacing of tendons.

3. Cast interior diaphragms in exterior beams and beams that serve temporarily as exterior beams in staged construction or bridges. See "Interior Diaphragm, and Drain Details".

4. Void modification required in exterior beams. See "Blockout, Interior Diaphragm, and Drain Details".

5. Beams at ends of all beams. Extend beam reinforcement into blockouts.

6. Blockouts required at ends of all beams. Extend beam reinforcement into blockouts.

7. Post-tensioning tendons are required for beams not topped with a cast-in-place concrete slab only. See standard BBPT for details.

8. Void modification required in exterior beams. See "Blockout, Interior Diaphragm, and Drain Details".

9. Based on 150 pcf weight density of concrete. Height of end blocks and interior diaphragms is not included.

10. No warranty of any kind is made by TxDOT for whatever purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

11. These details are applicable for skews up to 30 degrees only.

12. An equal area of welded wire reinforcement (WWR) shall be vertical at Abutment backwall and Inverted Tee Bent Stems. Ends of beams shall be vertical at Abutment backwall and Inverted Tee Bent Stems. See standard BBPT for details.

13. CDC: The use of this standard is governed by the "Texas Engineering Practice Act." No warranty of any kind is made by TxDOT for whatever purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.
**PARTIAL PLAN ~ 15° SKEW**

(Showing Type 4B28)

- Bars A & B
- Bars U, Z, & C

**PARTIAL PLAN ~ 30° SKEW**

(Showing Type 5B28)

- Bars A & B
- Bars U, Z, & C

**SECTION THRU BLOCKOUT ~ TYPE 4B28**

(Showing End Mat Reinforcing)

- Bars AL, CL & U
- Bars CC or MM

**SECTION THRU BLOCKOUT ~ TYPE 5B28**

(Showing End Mat Reinforcing)

- Bars AL, CL & U
- Bars CC or MM

**DISCLAIMER:**

The use of this standard to other formats or incorrect results or damages resulting from its use. The use of this standard is governed by the "Texas Engineering Practice Act." No warranty of any kind is made by TxDOT for whatsoever. TxDOT assumes no responsibility for the conversion.
**BLOCKOUT, INTERIOR DIAPHRAGM AND DRAIN DETAILS**

- **POST-TENSION ANCHORAGE DETAIL**
  - **DETAIL A**

1. Bars Z are required for beams topped with a cast-in-place concrete slab only.
3. Place drain holes (1" Dia PVC Sch 40 Pipe) as shown in all beam void corners, including each side of interior diaphragms. See Plant Details. See standard BBPT for details.
4. Blockouts required at ends of all beams. Extend beam reinforcement into blockouts.
5. Cu as required to maintain one inch clear between bars.
6. **3" (Typ)** or sufficient depth to provide 1" Cover on cut-off tendon. See BBPT for details.
7. Dimension will vary slightly with skew. Adjust as necessary.

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**BB-B28**

- **PRESTRESSED CONCRETE BOX BEAM DETAILS (TYPE B28)**