**DESIGN NOTES:**

- Designed in accordance with AASHTO LRFD Bridge Design Specifications.
- Optional designs must have a calculated residual camber equal to or greater than that of the designed beam.
- Prestress losses for the designed beams have been calculated for a relative humidity of 50 percent: Optional designs must likewise conform.
- The grid pattern for the strands is based on exact conversions from a metric grid spacing of 50mm.

**FABRICATION NOTES:**

- Provide Class II concrete.
- Provide Grade 60 reinforcing steel bars. Use low relaxation strands, each pretensioned to 35 percent of fpu.
- When shown on this sheet, the fabricator has the option of furnishing either the designed beam or an approved optional beam design. All optional design materials and shop drawings must be signed, sealed and dated by a Professional Engineer registered in the State of Texas.
- Prestress losses for the designed beams have been calculated for a relative humidity of 50 percent: Optional designs must likewise conform.
- The grid pattern for the strands is based on exact conversions from a metric grid spacing of 50mm.
- The grid pattern for the strands is based on exact conversions from a metric grid spacing of 50mm.

**PRESTRESSED CONCRETE U-BEAMS (DESIGN DATA):**

- Designed in accordance with AASHTO LRFD Bridge Design Specifications.
- Optional designs must have a calculated residual camber equal to or greater than that of the designed beam.
- Prestress losses for the designed beams have been calculated for a relative humidity of 50 percent: Optional designs must likewise conform.
- The grid pattern for the strands is based on exact conversions from a metric grid spacing of 50mm.

**OPTIONAL DESIGN:**

- Use low relaxation strands, each pretensioned to 75 percent of fpu.
- Provide Grade 60 reinforcing steel bars.
- Provide Class H concrete.
- Provide strand patterns Sym about L.
- Provide strand patterns C about the vertical centerline. Decrease debonded lengths working inward, with strand debonding must comply with Item 424.4.2.2.4.
- Distribute debonded strands equally about the vertical centerline. Decrease debonded lengths working inward, with debonding staggered in each row.
- Full-length debonded strands are not permitted in positions "1" and "2".
- Optional designs must likewise conform.
- Based on the following allowable stresses (ksi):
  - Tension = 24 ksi
  - Compression = 0.65 f'cu

**FOR SUBMITTALS:**

- Submittals and shop drawings must be signed, sealed and dated by a Professional Engineer registered in the State of Texas.
- Optional designs must have a calculated residual camber equal to or greater than that of the designed beam.
- Prestress losses for the designed beams have been calculated for a relative humidity of 50 percent: Optional designs must likewise conform.