

CTDOT Project 0027-0128

Bridge 06296 Alternatives and Aesthetics Considerations

Assumptions

- Structure length approximately 80' abutment to abutment
- Assume two 10' lanes, two 5'-6" sidewalks and one 2'+5' buffered bike lane, total width = 38'
- Consider combining bike and pedestrian into shared use path on one side?

1. Steel truss



Figure 1 – Steel truss

- Can be redundant with double bottom chord, no fracture critical/NSTM concern
- Galvanized and painted finish, weathering steel no good over salt water
- Traditional, “industrial” look consistent with much of the CT shoreline
- Truss allows elimination of pier, clear span of the waterway without lowering the low chord or raising the profile
- Sidewalks can be inside or outside trusses
- All-bolted option allows smaller pieces for transport and erection

2. Rolled Steel Beams



Figure 2 – Rolled steel beam bridge

- Single Span or Two Span options
- Elimination of the pier would require increase in structure depth, may not be feasible
- Galvanized/metallized beams (with or without paint) for corrosion resistance over salt water. No weathering steel

3. Press Brake-Formed Tub Girder



Figure 3 – Press brake-formed tub girder bridge

- Likely shallower depth than rolled beams
- Simplified construction
- Center pier required

4. Prestressed box beams

- Not considered because of low corrosion resistance over salt water

5. Bridge barrier

- Open steel rail, either CTDOT standard or other MASH-approved rail. Galvanized with or without paint.
- Formliner or stone veneer end blocks
- Concrete parapet with formliner, with or without color/stain
- Concrete parapet with stone veneer
- No timber MASH-approved options identified



Figure 4 – Formliner end block



Figure 5 – Stone veneer end block



Figure 6 – Aesthetic open bridge rail



Figure 7 – Formliner concrete parapet and substructure

6. Substructure

- Cast-in-place with formliner with similar pattern to existing substructure recommended



Figure 8 – Formliner abutments