

## SUPPLEMENTAL SPECIFICATIONS FOR PRE-ENGINEERED PEDESTRIAN BRIDGE

These specifications are for a fully engineered clear span bridge of welded steel construction and shall be regarded as minimum standards for design and construction as manufactured by Continental Bridge a division of CONTECH Bridge Solutions, 8301 State Highway 29 North Alexandria, MN 56308 800-328-2047; or approved equal. Excel Bridge Manufacturing Co. shall be considered an approved equal to CONTECH Bridge Solutions. Contact person for Excel is Rick Akerman 800-548-0054 ext233. A minimum of five years experience in design and fabrication of pedestrian bridges is required.

### 1.0 DIMENSIONS

- 1.1 **Width:** Inside clear width of bridge shall be 6 feet 0 inches.
- 1.2 **Span:** Overall bearing of bridge shall be 121 feet 6 inches as shown on plans. Overall bearing of connecting section shall be 30 feet 0 inches as shown on plans and tie in with the bridge span on the drawings at 0+80. Total length of the span shall be 151 feet 6 inches. Bridges having a difference in bearing elevations shall have the truss verticals perpendicular to the ground, (horizon).
- 1.3 **Camber:** Bridge shall be cambered a maximum of 1 1/2% of the total span length. Must meet ADA requirements for slope.
- 1.4 **Location of Walk-deck:** The walk-deck shall be located near the bottom of the truss such that the **maximum distance from the top of the walk-deck to the bottom of the truss is 24 inches.**

### 2.0 DESIGN LOADS

In addition to the normal dead loads, the bridge shall be designed for the following:

- 2.1 **Uniform Live Load:** Pedestrian bridges shall be designed for an evenly distributed live load of 60 pounds per square foot as required by (AASHTO).
- 2.2 **Wind Load:** All bridges shall be designed for a minimum wind load of 30 pounds per square foot (approximately 120 mph). The wind is calculated on the entire vertical surface of the bridge as if fully enclosed.
- 2.3 **Design Criteria:** The design of the bridge shall be in accordance with the "American Institute of Steel Construction"; "Allowable Stress Design", June 1, 1989 or latest edition.
- 2.4 **Design:** The bridge shall be designed & stamped by a Licensed Engineer in the State of Kansas.
- 2.5 **Temperature:** Bridge shall be designed to accommodate a temperature differential of 120 degrees Fahrenheit. Slip pads of UHMW polyethylene shall be placed between the smooth surface of this setting plate and the smooth bearing plate of the bridge. At least 1" clearance shall be provided between the bridge and concrete abutments.

### 3.0 MATERIALS

- 3.1 All Structural members shall have a minimum thickness of material of at least 3/16".
- 3.2 Unpainted **Weathering Steel** bridges shall be fabricated from ASTM A242 or ASTM A588 steel for plates and structural shapes and ASTM A606 or ASTM A8947 for tubular sections. Minimum yield (Fy) shall be greater than 50,000 psi.
- 3.3 **Wood Decking** shall be Timber Holdings LTD "Iron Woods <sup>TM</sup>" Decking. The wood deck shall be designed for a 100 psf local loading condition. Floor planks shall be attached with at least two plated fasteners where planks cross supporting member. Planks shall be an import nominal 2"x 6". Center nailers will not be required when using this heavy duty plank.

- 3.4 Field splices shall be bolted with High Strength ASTM A325 or ASTM A490 bolts; type 3 bolts are required for weathering steel bridges.
- 3.5 Welding materials shall be in strict accordance with the American Welding Society (AWS). Structural welding code, D1.1. Filler metal as specified in 4.1 shall be used for the particular welding process required. Welders will be certified in accordance with AWS D1.1. at level 60.

#### **4.0 FABRICATION**

- 4.1 Workmanship, fabrications, and shop connections shall be in accordance with American Association of State Highway and Transportation Officials Specifications (AASHTO).
- 4.2 Welding operators shall be properly accredited experienced operators, each of whom shall submit satisfactory evidence of experience and skill in welding structural steel with the kind of welding to be used in the work, and who have demonstrated the ability to make uniform good welds meeting the size and type of weld required.

#### **5.0 RAILINGS & ACCESSORIES**

- 5.1 All railings shall have a smooth inside surface with no protrusions or depressions. In accordance with AASHTO, railing for bicycle use is expected, a minimum height of 54" above the floor is required. All ends of angles and tubes shall be closed and ground smooth.
- 5.2 **Safety Rails:** Continuous rails shall be located on the inside of the tresses. The rails will be: Horizontal safety rails shall require horizontal railing with <4" openings and be designed for an infill loading of 200 pounds, applied horizontally at right angles, to a one square foot area at any point in the system.
- 5.3 **Top Plate:** 6" x 1/4" continuous plate spaced 2" above deck.

#### **6.0 FINISHES**

- 6.1 All boldly exposed surfaces of weathering steel bridges shall be sand blasted in accordance with the Steel Structures Painting Council (SSPC) Surface Preparation Specification No. 7 "Commercial Blast Cleaning".

#### **7.0 WARRANTY**

- 7.1 The manufacturer shall provide a warranty against defects in material and workmanship for a period of ten years.

#### **8.0 ABUTMENTS**

- 8.1 Structural concrete shall be structural grade concrete Grade 4.0 and follow City specifications.