

## BRIDGE ERECTION SEQUENCE

1. Prepare the foundation abutments without the backwall and wingwalls. Check distance between anchor bolts, and insure foundations are square with one another.
2. Grout the 5 fixed end base plates into position, level the base plates, and tighten the nuts on the anchor bolts. Tack the nuts into position or use double nuts.
3. Place the 8 elastomeric bearing pads into position on the concrete abutment seat (one under each web of the bridge beams). Position the 5 slotted base plates over the anchor bolts and resting on the bearing pads. Run the nuts finger tight, and back off one turn. Tack the nuts into position, or use double nuts.
4. Place the two bridge sections into position, taking care to properly position the bridge segments relative to one another and to the abutments. Approximate lift weight is 40,000#.
5. Weld the bridge to the bearing plates at each end.
6. Install the ten 8" X 12" vertical shear plates between the cars.
7. Install the continuous cover plate between the cars.
8. Cast the backwall and wingwalls.
9. Post the following signs at each end of the bridge:  
"One Lane Bridge"  
"Speed Limit 15 MPH"  
"Load Limit 20 Tons"

### SPECIFICATIONS FOR FABRICATION

**SCOPE OF WORK:** In accordance with the following specifications and the design drawings, the Contractor shall provide all labor and materials to fabricate, coat, inspect, ship all structural steel.

1.0 MATERIALS: (Unless noted otherwise)

- 1.1 Plate and Rolled Shapes: ASTM A-36 except as noted below
- 1.2 Tension Plate: ASTM A-36 Grade 36
- 1.3 Tubulars: ASTM A 53 Grade B
- 1.4 Tubing: (Square or rectangular) ASTM A 500 Gr. B
- 1.5 Welding Electrodes/Wire: E70xx for shielded metal arc; F70xx-Exxx for submerged arc; and E70xx for gas metal arc. Weld materials shall in all cases match or exceed the strength of the base material.
- 1.6 Machine Bolts: ASTM A-307.

## 2.0 WELDING:

- 2.1 All welding is to conform to the requirements of the "Structural Welding Code-Steel" ANSI/AWS D1.5- latest edition.
- 2.2 All welding shall be done by operators who are qualified as prescribed in the qualification procedure of the AWS to perform the type of work required.

### 3.0 FABRICATION:

- 3.1 All steel fabrication shall comply with the AISC "Manual of Steel Construction" (latest edition), Part 5, Section 1.2.3.
- 3.2 All exposed cut edges shall be planed or ground smooth, and all sharp corners shall be relieved by grinding.
- 3.3 Extraneous material and non structural hardware shall be removed from railcars.
- 3.4 Any damaged members of railcars shall be replaced or repaired.  
*Nonpay Engineer if any major damage to railcar elements is observed.*
- 3.5 Attempt to match the camber in the railcars by selective support conditions during installation of the main tension plates.

#### 4.0 PAINTING:

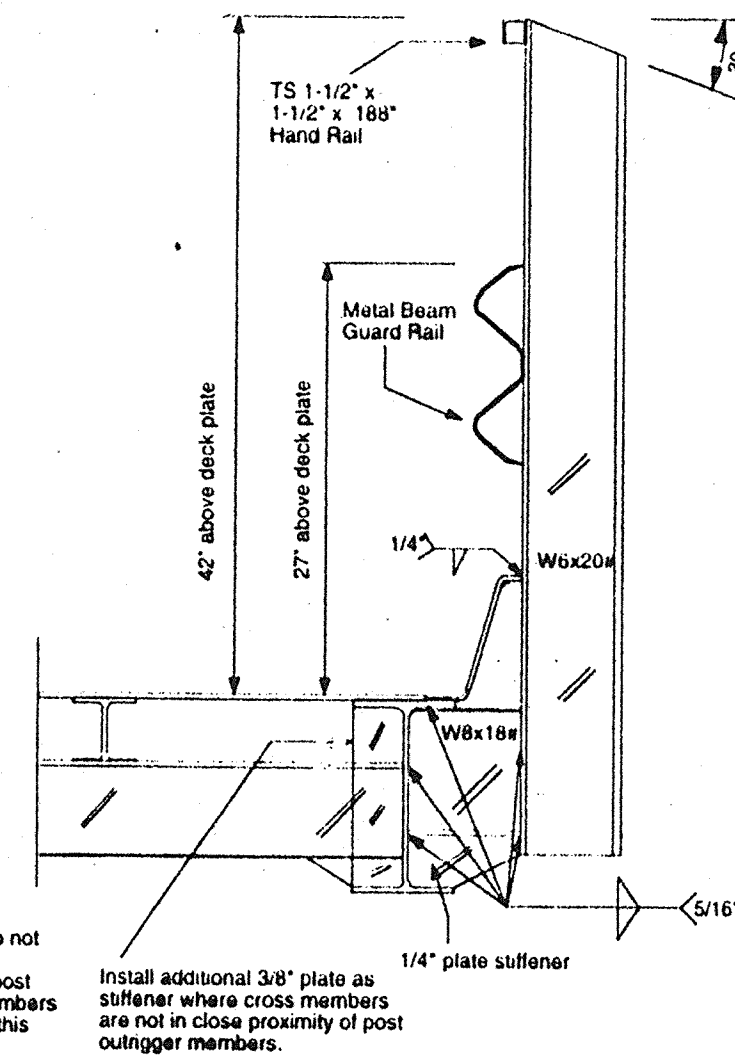
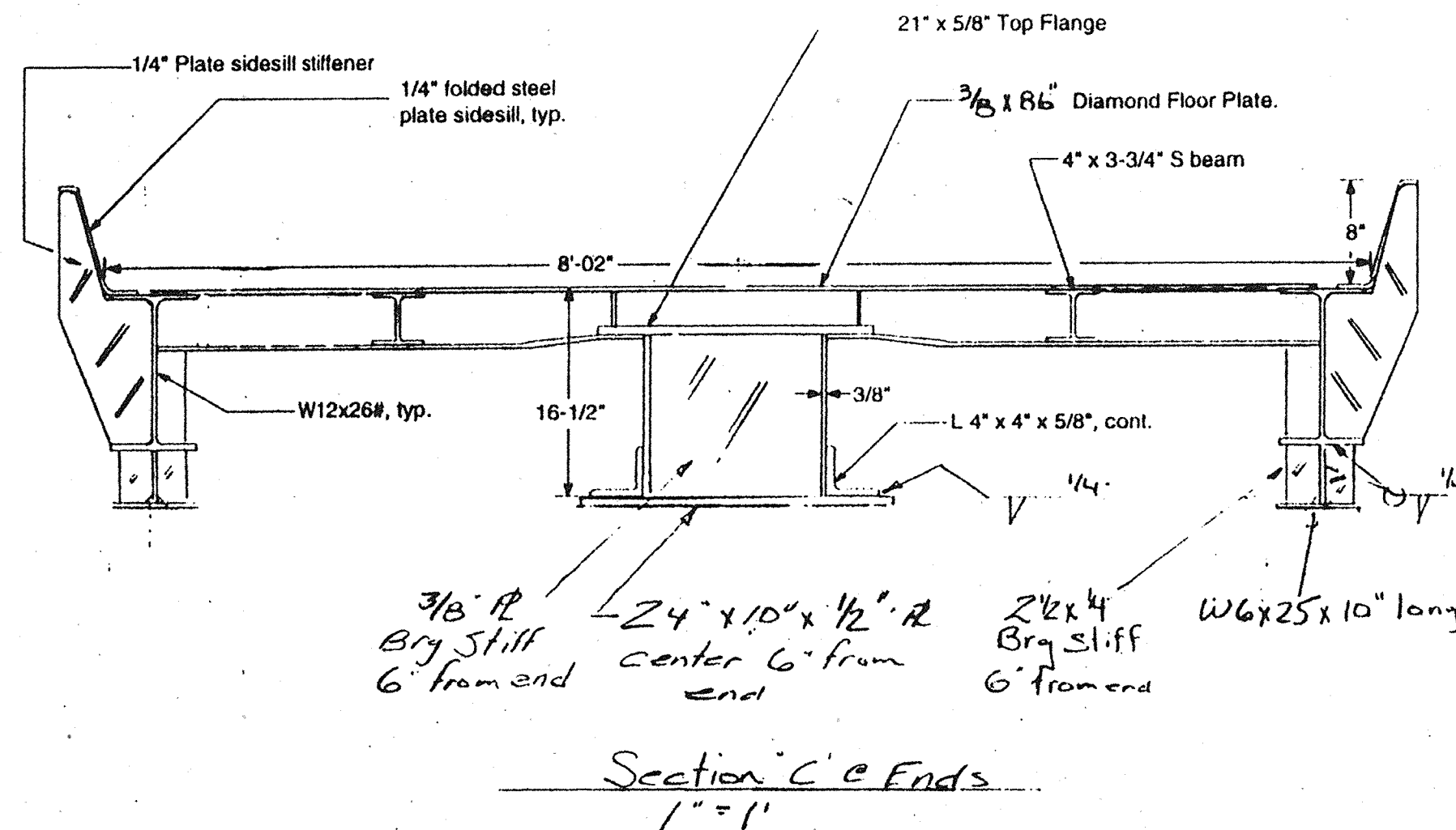
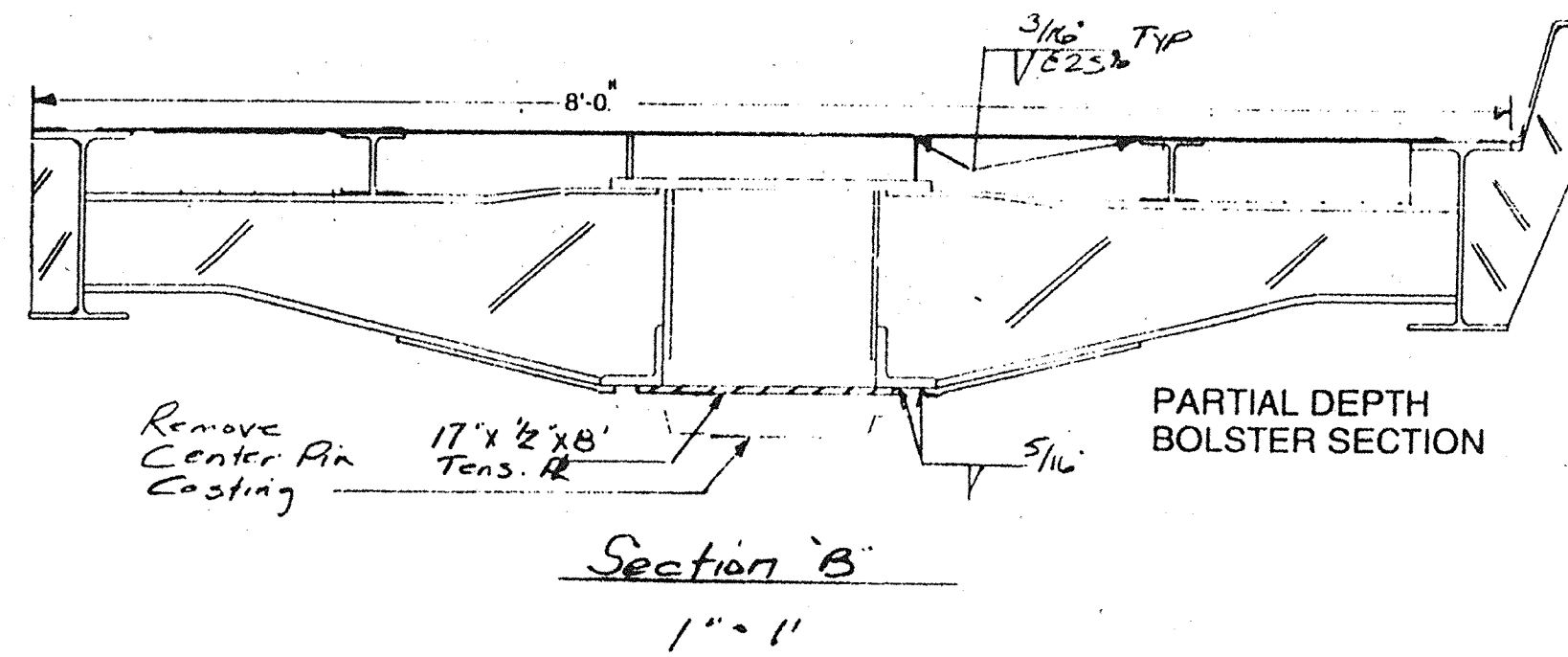
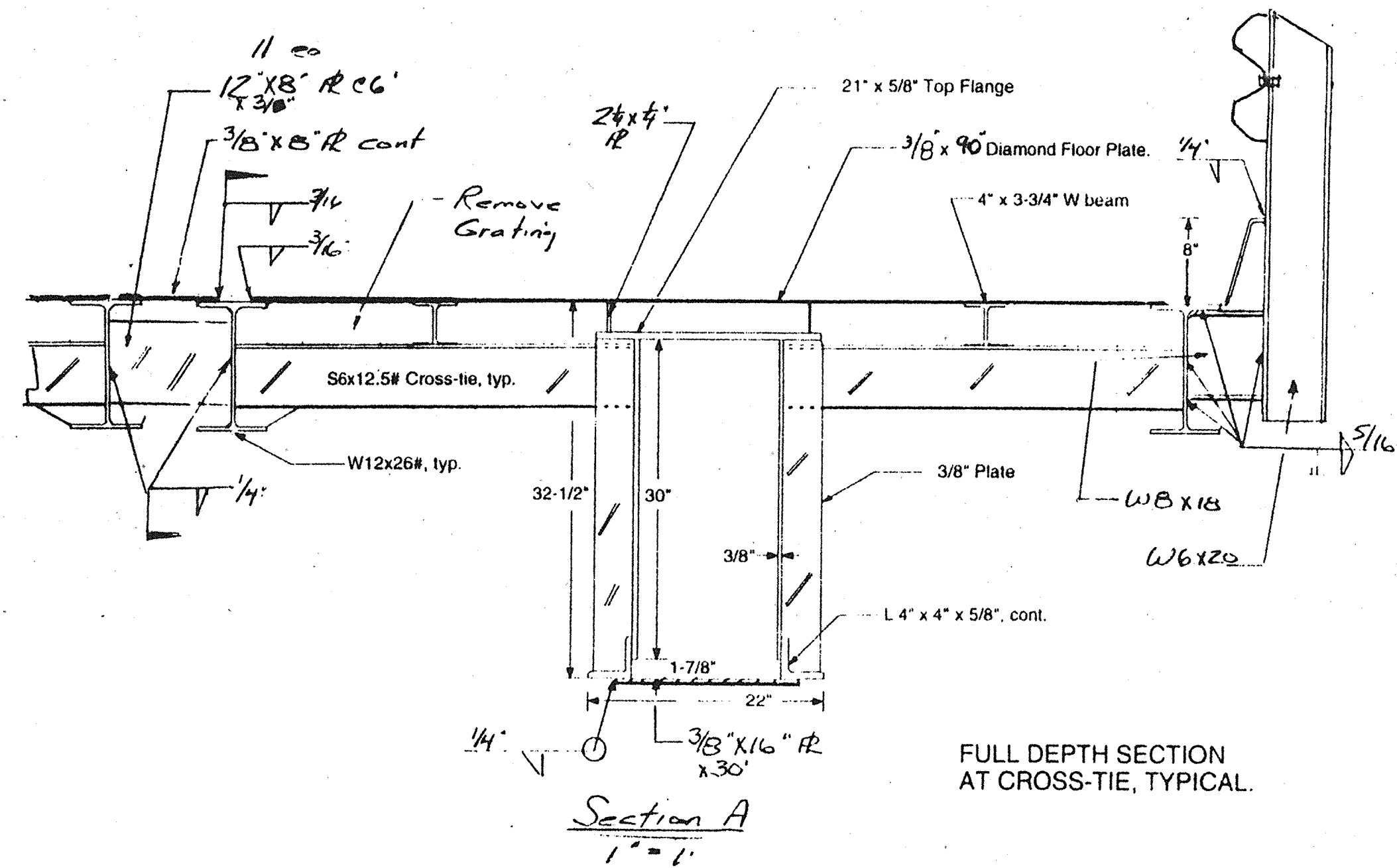
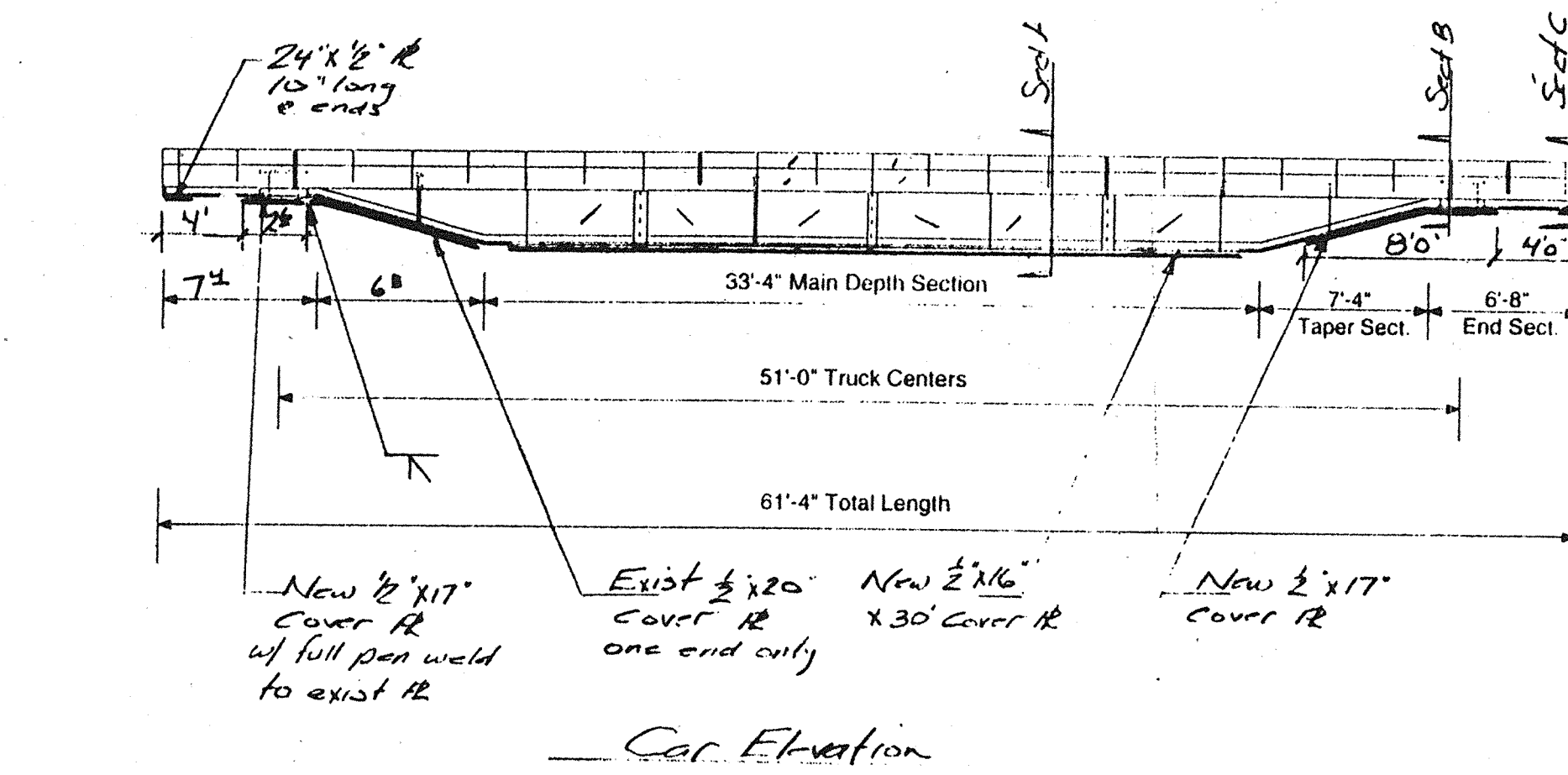
- 4.1 After all welding and fabrication has been completed, all outside side sill and guardrail post surfaces shall be coated with a paint system as specified below in accordance with the manufacturer's recommendations. As a minimum the following paint system shall be provided:
- \*Thoroughly hand clean to remove loose dirt, paint and scale
  - \* Prime with Red Oxide shop primer.
  - \* Topcoat with Alkyd Enamel

## 5.0 INSPECTION:

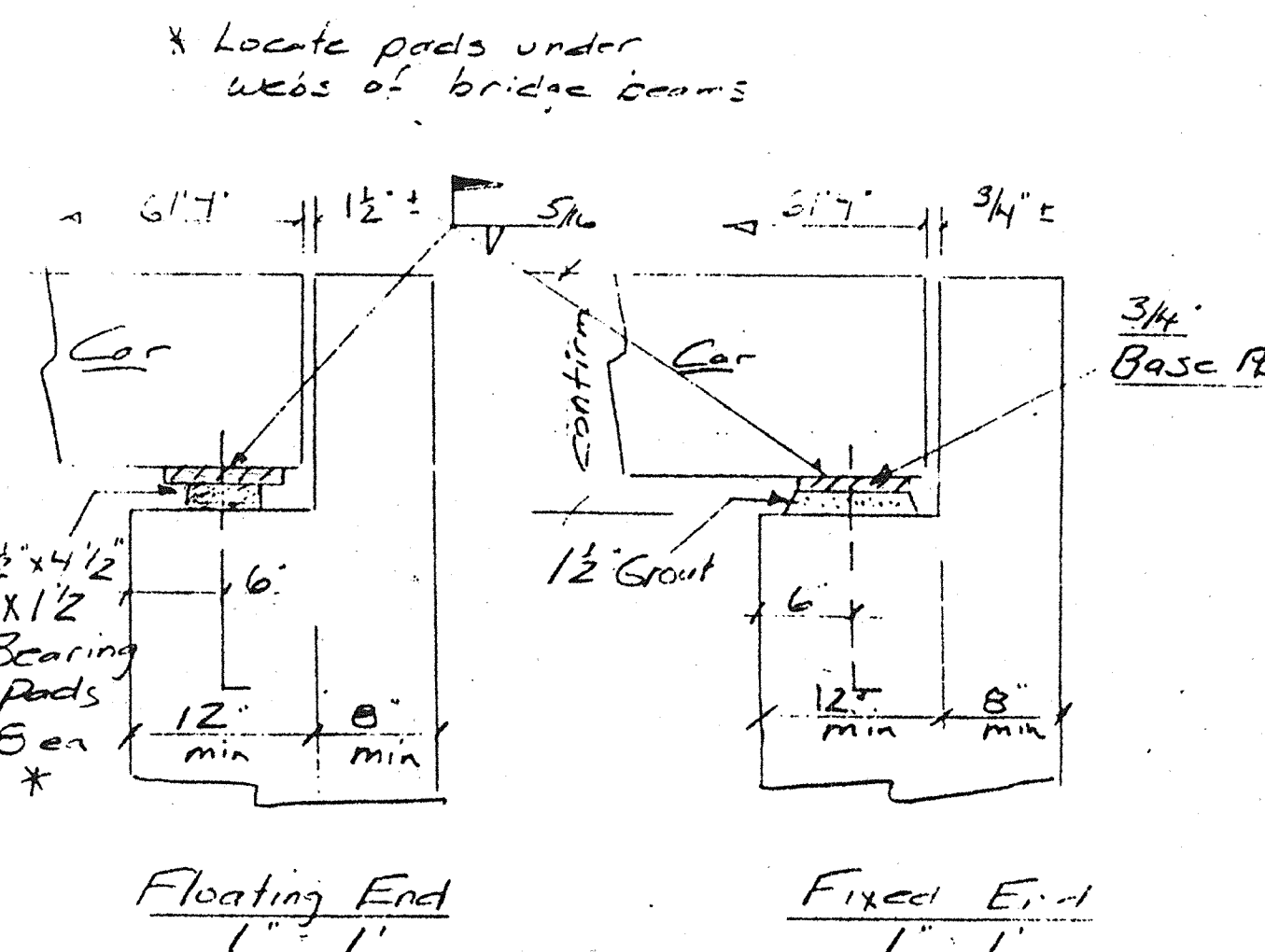
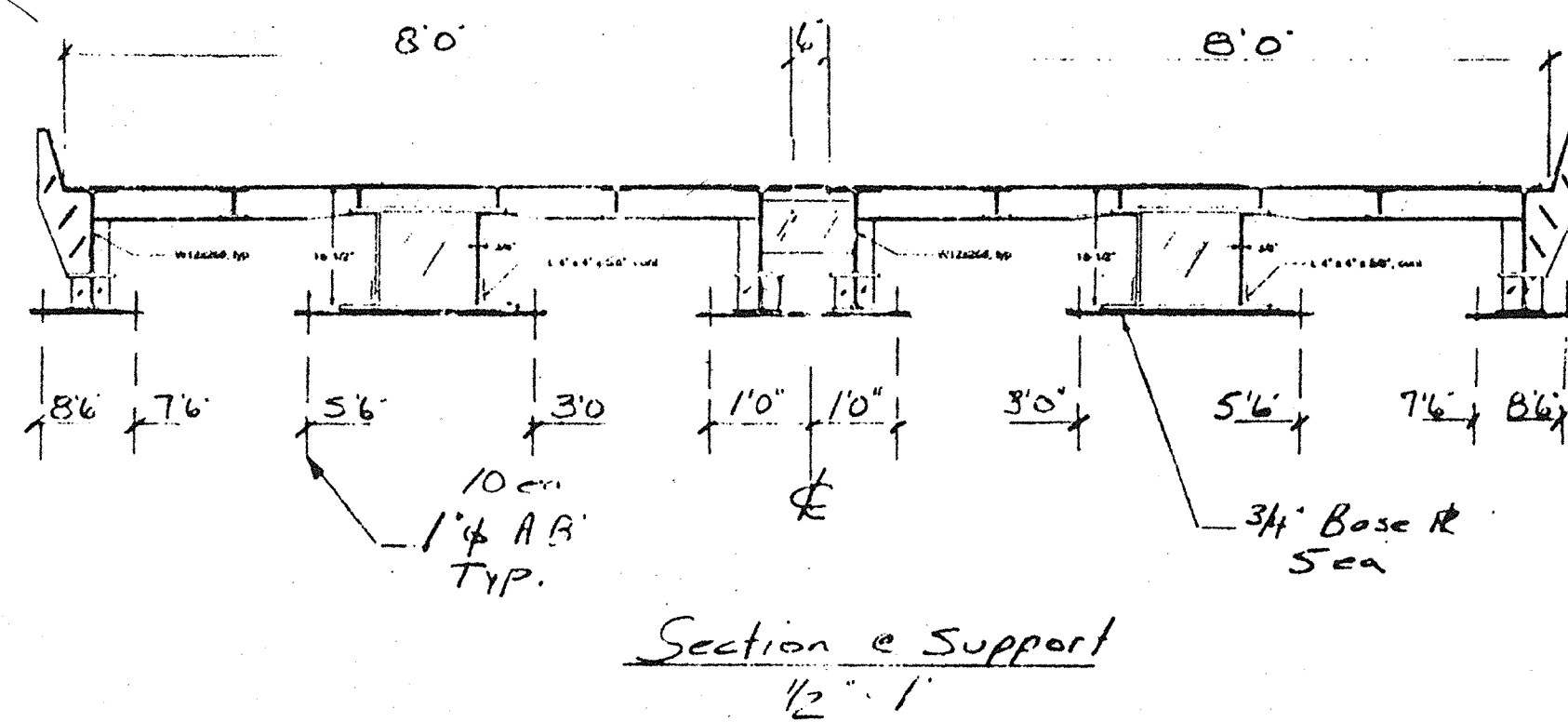
- 5.1 Inspection shall be provided by the fabricator to the extent that he deems necessary to assure all work is done in accordance with the referenced specifications.
- 5.2 The quality control procedure shall comply with the AISC "Manual of Steel Construction" (latest edition), Part 5 Sect. 1.26.
- 5.3 At a minimum, the Owner's representative will inspect the completed fabrication prior to shipment.

## 6.0 HANDLING & SHIPPING

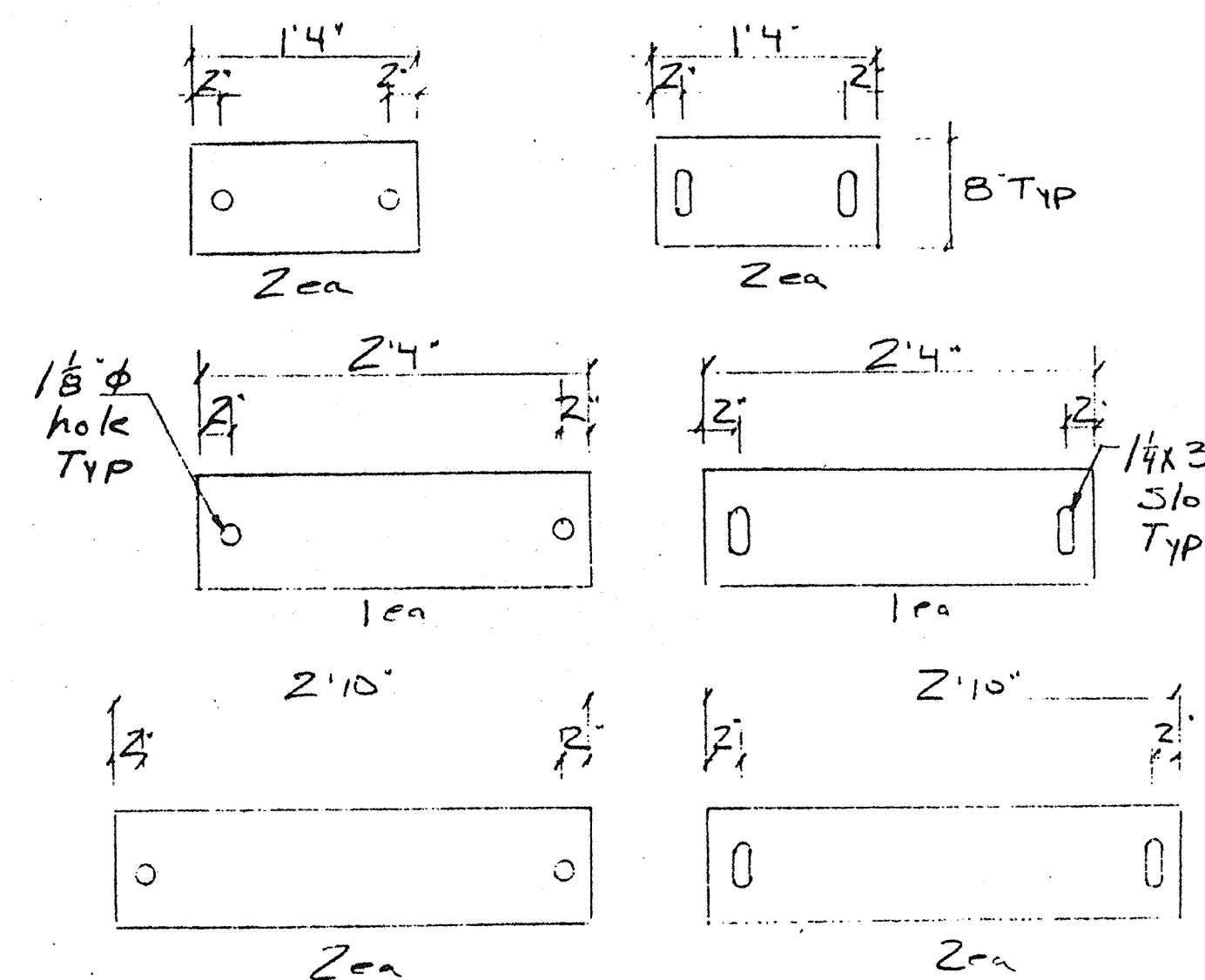
- 6.1 After acceptance by the Owner's representative, the completed fabrication shall be packaged and loaded aboard a truck in such a manner as to protect the fabrication and its coating. It shall be delivered to the job-site.



GUARDRAIL/HANDRAIL DETAIL



### Section e Foundation



## Base Plates

