



# SECTION 13/GUIDE SPECIFICATIONS FOR WILDECK BEAM & C-SECTION MEZZANINE SYSTEM

## PART 1 - GENERAL

### 1.01 RELATED WORK

#### A. SECTION 03300: Concrete and Concrete Finishing

1. The area where mezzanine is installed shall have a concrete slab, troweled smooth and level.
2. Concrete areas where mezzanine column placement occurs shall be able to withstand loadings of \_\_\_\_\_ pounds spread over a \_\_\_\_' X \_\_\_\_' X \_\_\_\_' steel base plate.

### 1.02 SYSTEM DESCRIPTION

A. This document specifies a pre-engineered free-standing steel mezzanine consisting, in general, of columns, framing, decking, hardware, accessories and finish. The mezzanine shall not require cross bracing in any direction.

#### B. Design Criteria

1. System shall be designed for \_\_\_\_\_ PSF live load or as indicated on drawing.
2. System shall be designed for \_\_\_\_\_ clear height and \_\_\_\_\_ top of deck.

### 1.03 REFERENCES

A. AISC - Specification for the Design, Fabrication and Erection of Structural Steel for Buildings.

B. AISI - Specification for the Design of Cold-Formed Steel Structural Members.

C. ASTM A36 or A992/572 Grade 50- Structural Steel.

D. ASTM A307 - Carbon Steel Externally Threaded Standard Fasteners.

E. ASTM A325 - High Strength Bolts for Structural Steel Joints.

F. ASTM A653 - Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot Dip Process.

G. ASTM A500 - Cold-Formed Welded and Seamless Carbon Steel Hollow structural sections in Rounds and Shapes.

H. ASTM A1011, Grade 50 - Specification for Steel, Sheet and Strip, Carbon, Hot-Rolled, Structural Quality.

I. ASTM A1008 - Specification For Steel, Cold-Rolled, Carbon, Structural.

J. AWS 01.1 - Structural Welding Code.

K. NAAMM - Metal Bar-Grating Manual.

### 1.04 QUALITY ASSURANCE

A. System Manufacturer: Established firm with a minimum of 5 (five) years experience in the design and fabrication of steel mezzanine systems.

B. System Design: Under direct supervision of a Professional Engineer experienced in the design of mezzanines and in accordance with AISC specifications, and where applicable AISI specifications.

C. All welding performed by the mezzanine supplier shall be made by certified welders.

D. Installation contractor shall be a firm experienced in installing mezzanine systems of similar size and magnitude, and approved by the manufacturer.

E. Regulatory Requirements: System (handrails, kick plate, stairways, etc.) shall conform to OSHA requirements. (If applicable code exceeds OSHA requirements, specify here.)

### 1.05 SUBMITTALS

A. Submit three (3) brochures of manufacturers' product data.

B. Submit approval drawings showing size and height of mezzanine: type of decking; length and number of framing members; column location; orientation of base plates; and location and type of accessories.

C. Submit manufacturers' installation and erection manual.

### 1.06 WARRANTY

A. The supplier shall warrant the mezzanine materials to be free from manufacturing defects for a period of 25 years from date of substantial completion with certified installation.

B. Warranty does not cover damage caused by conditions beyond the control of the supplier or installer such as faulty construction of the building, ordinary wear and tear, fire, water or chemical action, separation of concrete slab or settling of walls.

## PART 2 - PRODUCTS

### 2.01 APPROVED MANUFACTURERS

A. System Manufacturer: Wildeck, Inc., 405 Commerce St., Waukesha, WI 53186, or an approved equal.

### 2.02 MATERIALS

#### A. Framing

1. "C" Section framing shall be 12" deep, 11 or 12 gauge, cold-formed steel as shown on drawings with pre-punched holes, meeting the requirements of ASTM A1011, Grade 50.
  2. When required by design: Wide flange beam framing shall be structural steel; depth, width and thickness as shown on drawings, meeting the requirements of ASTM A36 or A992/572 Grade 50.
- B. Support columns shall be minimum 5" X 5" X 3/16" (square wall) structural steel tubing meeting the requirements of ASTM A500, Grade B, FY-46KSI.
1. Column base plates shall be minimum 12" X 12" X 3/4" steel meeting the requirements of ASTM A36.
  2. Column base floor anchors shall be high tensile and shear strength steel, SAE Grade 5 or better, zinc plated, meeting the requirements of ASTM A325 Type 3-B bolts. Anchors shall be 1/2" x 5" or 3/4" x 5", (other sizes available based on design), as indicated on drawings.
- C. Framing Fasteners: Frame to column and frame to frame fasteners shall be 1/2" X 1-1/2" or 3/4" x 2" high strength zinc plated steel bolts meeting the requirements for ASTM A325. TECK SCREWS SHALL NOT BE ALLOWED.
- D. Angle Brackets shall be 1/4" thick steel with pre-punched holes meeting the requirements of ASTM A36.
1. Frame to column brackets shall be 3" X 4" X 8-1/2".
  2. Frame to frame brackets shall be 3" X 5" X 8-1/2".

#### E-1. Decking (Roof Deck & Moisture Resistant Resinboard)

1. Roof decking shall be 1-1/2" deep, 20 gauge steel, wide rib, meeting the requirements of ASTM A100B, Grade C, FY-33KSI and painted

manufacturer's standard gray on top side with one (1) mil white paint on bottom side.

a. Option (delete or specify above): Roof decking shall be 1-1/2" deep, 18 gauge galvanized steel, wide rib, meeting the requirements of ASTM A653, Grade A, FY- 33KSI.

2. Roof deck fasteners shall be steel screws, 12-24 x 1-1/4", HWH T/4 and T/5, cadmium plated.

3. Moisture Resistant Resinboard shall be 3/4" thick, tongue and groove on 2 long sides.

a. Option (delete or modify above): Lite, Medium, or High density resin impregnated particle board, factory sealed on a minimum of one (1) side with gray color.

4. Plywood fasteners shall be steel screws 10-16 x 1-13/16", PFH T/3, cadmium plated.

5. Kick plates shall be 2-1/2" X 6-1/2" or 6-1/2" x 6-1/2", 14 gauge formed steel angle.

#### E-2. Decking (Roof Deck & Floor Plate)

1. Roof decking shall be 1-1/2" deep, 20 gauge steel, wide rib, meeting the requirements of ASTM A100B, Grade C, FY -33KSI and painted manufacturer's standard gray on top side with one (1) mil white paint on bottom side.

a. Option (delete or specify above): Roof decking shall be 1-1/2" deep, 18 gauge galvanized steel, wide rib, meeting the requirements of ASTM A653, Grade A, FY-33KSI.

2. Roof deck fasteners shall be steel screws, 12-24 x 7/8", HWH T/4 or 12-24 x 1-1/4", HWH T/5, cadmium plated.

3. Floor plate shall be 12 gauge unpainted, (option for galvanized) steel with four way diamond pattern.

4. Floor plate fasteners shall be 3/16" diameter dome head steel rivets, phos-coated, .126"- .250" grip range.

5. Kick plates shall be 2-1/2" x 6-1/2" or 6-1/2" x 6-1/2", 14 gauge formed steel angle.

#### E-3. Decking (Bar Grating)

1. Bar grating shall be welded steel, 19W4, 1" x 1/8", designed in accordance with NAAMM.

2. Bar grating fasteners

a. Steel saddle clips, zinc plated.

b. Steel screws, 12-24 x 1-1/2", HWH T/4 or 12-24 x 2", HWH T/5, cadmium plated.

3. Kick plates shall be 2" x 5", 14 gauge formed steel angle.

F. Guardrail shall be steel (HSLA) tube, 1-1/2" O.D., ADA compliant horizontal rails with 2-1/2" x 2-1/2" x 1/8" HSS (Hollow structural section) uprights. Guardrail shall be attached directly to framing using 1/2" ASTM A325 bolts and externally attached so no usable square footage on mezzanine is lost.

G. There shall be \_\_\_\_ gate(s) as shown on drawing. Gates shall be either overhead safety or double-drop safety gates. (Alternate choices, where other perimeter guarding is in place are: swing, slide, lift-out or tilt-out gates.)

#### H. Stairs

1. There shall be \_\_\_\_ stair system(s) as shown on drawings. The complete assembly shall include stairs, \_\_\_\_"wide; structural steel stringers meeting the requirements of ASTM A1011; (HSLA) 1-1/2" O.D. railing and all associated hardware.

2. Closed/Open stair systems shall have 12 gauge diamond plate steel treads and open risers.

a. Option (delete or specify above): Closed stair system shall be 12 gauge diamond plate steel treads and risers.

3. Stair Platform(s) (when required) shall be \_\_\_\_ X \_\_\_\_ and with 12 gauge diamond plate steel over 1-1/2" deep, 20 gauge, wide rib roof deck.

4. Stair and stair platform floor anchors shall be 3/8" x 3" high tensile and shear strength steel, SAE Grade 5 or better, zinc plated, meeting the requirements of ASTM A325 Type 3-B bolts.

I. Bridging shall be CRC 1-1/2" X 16 (16 gauge) galvanized steel.

J. Painting: Painting: The mezzanine components, painted by the mezzanine manufacturer, shall be cleaned and etched with a phosphoric acid rinse, dried and painted with a 2-part (electrostatically applied) polyurethane paint. The automated application system shall utilize a heat-assisted, air dry, cure process. Mezzanine shall be Wildeck gray.

### 2.03 FABRICATION

A. Fabrication of materials will comply with dimensions, profiles, and gauges (thicknesses) shown on the approval drawings and, if not shown, will consist of the mezzanine manufacturer's standard products.

## PART 3 - EXECUTION

### 3.01 INSPECTION

A. Inspect working areas to be sure concrete slab is cleaned of all debris so installers shall have adequate access to work surface.

B. (General Contractor/Owner) shall advise the installation company of any embedded floor obstacles that may interfere with the installation of floor anchors.

### 3.02 PREPARATION

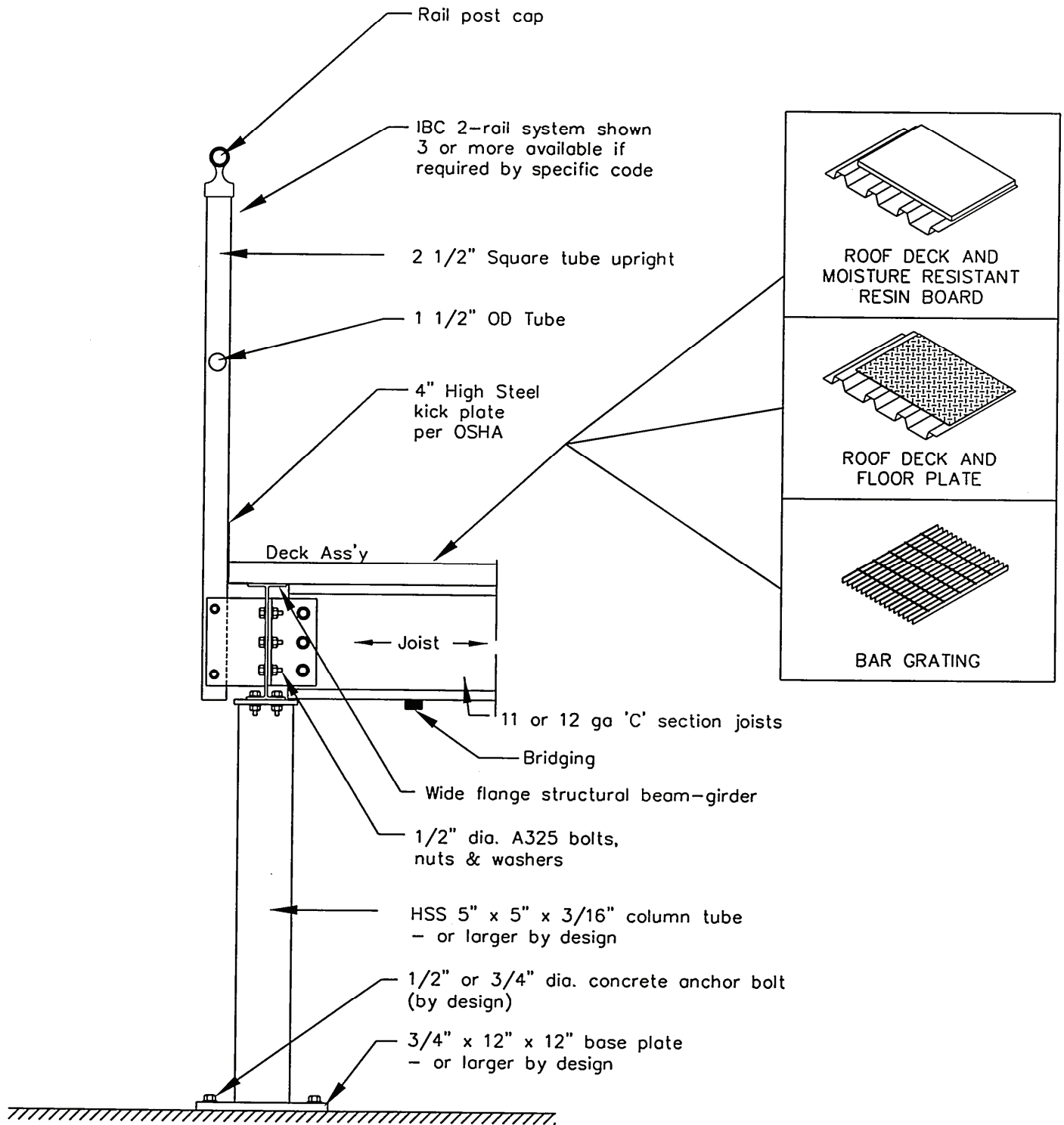
#### A. Field Inspection

1. The mezzanine contractor or a manufacturer's technician shall make an inspection of the job site prior to preparation of approval drawings.
2. Field measurements shall be made at this time. Any obstructions not indicated on the construction drawings that may affect the design of the mezzanine shall be reported to the (general contractor/owner).

### 3.03 INSTALLATION

A. Erection of the mezzanine and accessories shall be in accordance with the specifications and instructions contained in the erection manual and approved drawings provided by the manufacturer.

B. Erector shall clean up all unused materials and debris and remove same from the premises.



## BEAM AND C-SECTION MEZZANINE SYSTEM