

GENERAL NOTES

1. BARS, PLATES, AND SHAPES SHALL BE STRUCTURAL STEEL CONFORMING TO THE SPECIFICATIONS OF ASTM DESIGNATION: AASHTO M270 (ASTM A709) GRADE 36.
2. HIGH-STRENGTH STEEL BOLTS, NUTS AND WASHERS SHALL CONFORM TO THE SPECIFICATIONS OF ASTM DESIGNATION: A 325. ALL OTHER BOLTS AND NUTS SHALL CONFORM TO THE SPECIFICATIONS OF ASTM DESIGNATION: A 307. WASHERS FOR ALL BOLTS SHALL MEET THE REQUIREMENTS FOR HARDENED STEEL WASHERS MANUFACTURED IN ACCORDANCE WITH ASTM F436 OR ASTM F959.
3. PIPE POSTS SHALL BE WELDED OR SEAMLESS STEEL PIPE FOR SIGN BRIDGES AND SEAMLESS STEEL PIPE FOR CANTILEVER SIGNS CONFORMING TO THE SPECIFICATIONS OF ASTM DESIGNATION: A 53, GRADE B. AT THE OPTION OF THE CONTRACTOR, POSTS MAY BE FABRICATED FROM STRUCTURAL STEEL CONFORMING TO THE SPECIFICATIONS OF ASTM DESIGNATION: AASHTO M270 (ASTM A709) GRADE 36. U-BOLTS AND ANCHOR BOLTS SHALL BE MADE FROM STEEL BAR CONFORMING TO AASHTO M 314-90 GRADE 55 STEEL WITH 55,000 PSI MIN. YIELD STRESS AND 75,000 PSI MIN. TENSILE STRENGTH.
4. SIGN STRUCTURES SHALL BE CONSTRUCTED TRUE TO DIMENSIONS, SHALL BE FREE FROM KINKS, TWISTS OR BENDS, AND SHALL BE UNIFORM IN APPEARANCE. THE COMPLETED SECTIONS SHALL BE ASSEMBLED IN THE SHOP AND SHALL BE CHECKED FOR STRAIGHTNESS, ALIGNMENT, AND DIMENSION. ANY VARIATIONS SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER.
5. MAST ARMS SHALL BE TEMPORARILY SUPPORTED TO TAKE ALL LOAD OFF OF THE FIELD SPLICES WHILE BOLTS ARE BEING TIGHTENED IN ORDER TO FIRMLY SEAT THE FLANGE PLATES.
6. POSTS FOR TUBULAR SIGN STRUCTURES SHALL BE FORMED TO THE RADII SHOWN ON THE PLANS BY HEAT TREATMENT OR BY FABRICATION TO SUCH RADII BY METHODS WHICH WILL NOT CRIMP OR BUCKLE THE INTERIOR RADIUS OF THE PIPE BEND.
7. CLIPS, EYES, OR REMOVABLE BRACKETS SHALL BE AFFIXED TO ALL POSTS AND MAST ARMS, AS NECESSARY, TO SECURE THE SIGN DURING SHIPPING AND FOR LIFTING AND MOVING DURING ERECTION. THIS IS TO PREVENT DAMAGE TO THE FINISHED GALVANIZED OR PAINTED SURFACES. BRACKETS ON TUBULAR SIGN STRUCTURES SHALL BE REMOVED AFTER ERECTION. DETAILS OF SUCH DEVICES SHALL BE SHOWN ON THE SHOP DRAWINGS.
8. BOLTED CONNECTIONS SHALL CONFORM TO THE FOLLOWING PROVISIONS IN SECTION 509.28 OF THE STANDARD SPECIFICATIONS: (a),(b) (EXCEPT FOR THE DTI REQUIREMENTS) AND (e) THROUGH (h)1. ASSEMBLY OF HIGH-STRENGTH BOLTED CONNECTIONS FOR SIGN STRUCTURES MAY BE MADE WITH GALVANIZING OR PAINT ON THE CONTACT SURFACES.
9. BOLTS WITH DIAMETERS EXCEEDING BY UP TO 1/4 INCH THE DIAMETER OF THE BOLTS SHOWN ON THE PLANS MAY BE USED, PROVIDED THAT REQUIRED CLEARANCES AND EDGE DISTANCES ARE NOT REDUCED BELOW THAT REQUIRED FOR THE LARGER BOLT.
10. FOR STATIC SIGNS, WALKWAYS SHALL ONLY BE LOCATED IN FRONT OF AND BETWEEN SIGN PANELS. DO NOT LOCATE WALKWAYS UNDER ANY OTHER PORTIONS OF SIGN STRUCTURE WHICH DO NOT HAVE SIGN PANELS. FOR DYNAMIC SIGNS, WALKWAYS SHALL LEAD UP TO THE CABINET ACCESS DOOR AND IN FRONT OF THE CABINET AS SPECIFIED ON THE SIGN X-SECTION SHEETS IN THE ROADWAY PLANS.
11. ALL SIGN STRUCTURES SHALL BE FABRICATED INTO THE LARGEST PRACTICAL SECTIONS PRIOR TO GALVANIZING. SPLICE LOCATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL AND THE CONTRACTOR SHALL NOT COMMENCE FABRICATION UNTIL SUCH SPLICE LOCATIONS ARE APPROVED.

12. WELDING OF STEEL SHALL CONFORM TO THE REQUIREMENTS OF AWS D1.1. ALL AREAS TO BE WELDED SHALL BE GROUND TO BRIGHT METAL. NO BUTT WELD SPLICES WILL BE PERMITTED. ALL WELDING AND REQUIRED TESTING SHALL BE COMPLETE BEFORE ANY MATERIAL IS GALVANIZED. ALL CIRCUMFERENTIAL AND STIFFENER WELDS SHALL BE NON-DESTRUCTIVELY TESTED USING THE ENHANCED MAGNETIC PARTICLE METHOD IN ACCORDANCE WITH SUBSECTION 509.18(d). THE ACCEPTANCE CRITERIA ARE STATED IN TABLE 6.1 OF ANSI/AWS D1.1. ALL LONGITUDINAL PIPE SEAM WELDS WITHIN 6" OF FULL-PENETRATION CIRCUMFERENTIAL GROOVE WELDS SHALL BE FULL PENETRATION GROOVE WELDS AND SHALL BE INSPECTED AS SPECIFIED ABOVE. MAXIMUM WELD UNDERCUT SHALL BE 0.01".
13. ALL TUBE MEMBERS SHALL BE HOT-DIP GALVANIZED INSIDE AND OUTSIDE AFTER FABRICATION AS PER ASTM A123. WALKWAY GRATINGS, WALKWAY BRACKETS, GUTTERS, SAFETY RAILINGS, STEEL MOUNTINGS FOR LIGHT FIXTURES, AND ALL NUTS, BOLTS, AND WASHERS FOR SIGN STRUCTURES SHALL BE GALVANIZED AFTER FABRICATION AS PER ASTM A123 OR ASTM A153, AS APPROPRIATE, AND SHALL NOT BE PAINTED.
14. ALL CONCRETE SHALL BE CLASS BZ WITH AIR ENTRAINMENT; REINFORCING STEEL SHALL BE GRADE 60. CAISSON FOUNDATIONS SHALL REACH THE SEVEN DAY PREDICTED STRENGTH BEFORE SIGN STRUCTURES ARE ERECTED THEREON.
15. STRUCTURES SHALL BE GROUNDED IN ACCORDANCE WITH APPLICABLE ELECTRICAL CODES.
16. SHEETS IN THE INDEX MARKED WITH A ■ PROVIDE INSTRUCTIONS TO DESIGNERS FOR THEIR USE IN THE PREPARATION OF THE SIGN X-SECTION SHEETS IN THE ROADWAY PLANS.
17. NPS = NOMINAL PIPE SIZE; O.D. = OUTSIDE DIAMETER.
18. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW IN ACCORDANCE WITH SUBSECTION 105.02 OF THE STANDARD SPECIFICATIONS.
19. INSTALL STRUCTURE IDENTIFICATION PANEL IN ACCORDANCE WITH M AND S STANDARD S-614-12 USING TWO 1/2" WIDE STAINLESS STEEL BANDS AND STAINLESS STEEL FLARED LEG BRACKETS WITH HEX HEAD BOLTS (BAND - IT D315 OR EQUIVALENT).
20. CAISSON AND SURVEY WORK SHALL BE PAID FOR IN ACCORDANCE WITH BID ITEMS 503 AND 625 RESPECTIVELY.

DESIGN DATA

SPECIFICATIONS:

DESIGN: "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS", AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (1994 AASHTO), (STATIC SIGNS ONLY)

"STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS", AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (2001 AASHTO), (DYNAMIC SIGNS ONLY)

"FATIGUE-RESISTANT DESIGN OF CANTILEVERED SIGNAL, SIGN AND LIGHT SUPPORTS", NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT 412, 1998. (STATIC SIGNS ONLY)

SUBSECTION 17.4, SIGNS, IN THE STAFF BRIDGE BRANCH BRIDGE DESIGN MANUAL.

CONSTRUCTION: CDOT STANDARD SPECIFICATIONS, THESE STANDARD SHEETS AND THE PROJECT PLANS.

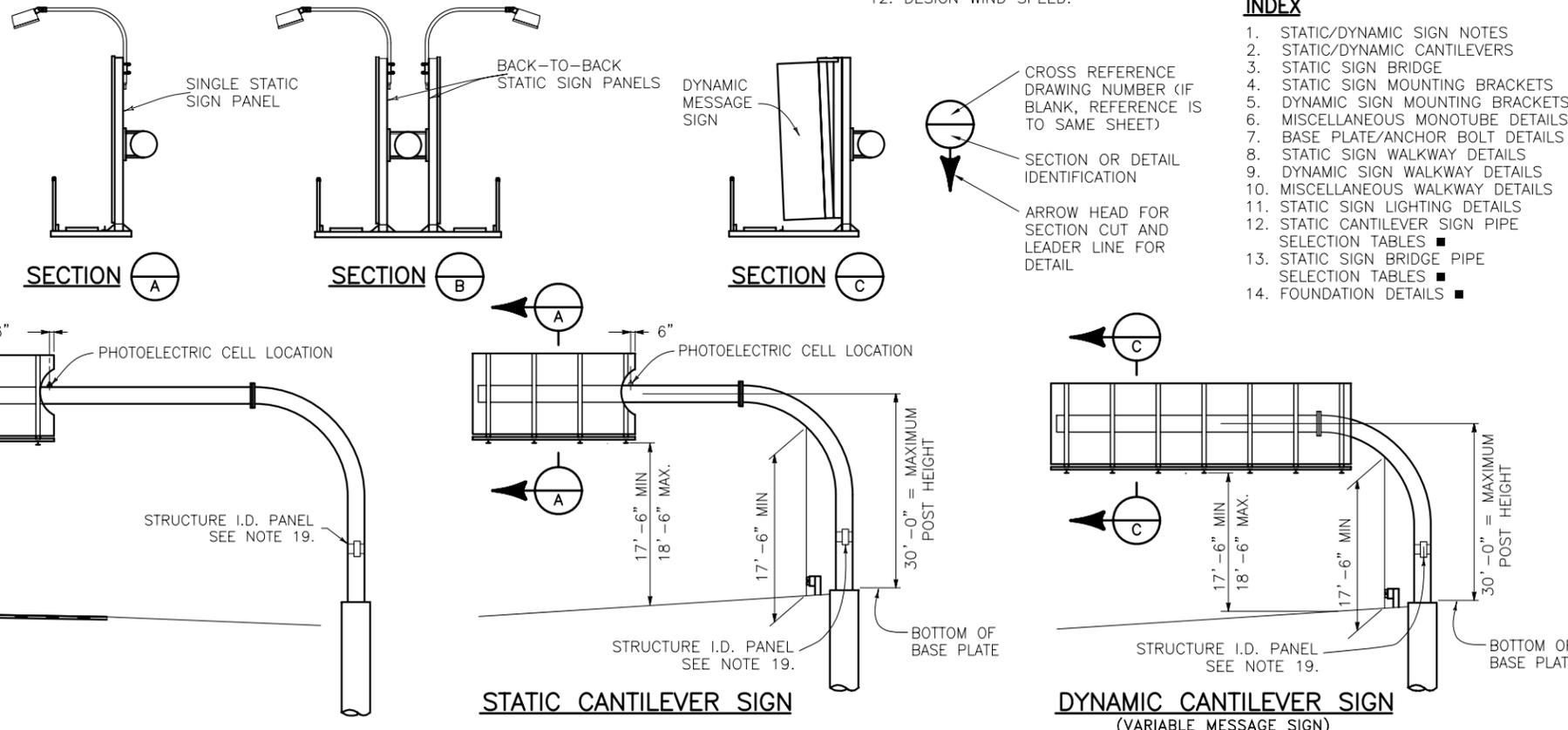
WIND LOADING: 80, 90 OR 100 MPH VELOCITY (STATIC SIGNS ONLY).
100 MPH VELOCITY (DYNAMIC SIGNS ONLY).

OVERHEAD SIGN X-SECTION SHEETS) SHOULD SHOW:

1. SIGN STRUCTURE LOCATION (HIGHWAY, STATION AND DIRECTION)
2. LENGTH OF STRUCTURE SPAN
3. PANEL SIZE AND LOCATION ON STRUCTURE
4. POST HEIGHT(S) FROM TOP OF CAISSON TO ϕ ARM TUBE
5. CAISSON DIAMETER AND MINIMUM EMBEDMENT
6. TOP OF CAISSON ELEVATION
7. CAISSON PAY LENGTH
8. WALKWAY LOCATION
9. PHOTOELECTRIC CELL LOCATION IF REQUIRED
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11. AS CONSTRUCTED BLOCK
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