NOTES
A2. Hand holes installed at time of fabrication; only conduit and terminal cabinet mount­ing holes may be field installed. Proper repairs shall be made to the structure for any field drilling performed. A hand hole shown on this plan may be omitted if there is another hand hole within 18” (in) of the location shown here. Hand holes shown here shall be 6” (in) in diameter with gasket and reinforcing ring.
A3. Hand holes shall be installed on the bottom or rear of the beam and in line with any NEMA enclosure.
A4. Hand holes at the top of the column shall be installed at the locations shown, with the outside hand hole centered on the horizontal centerline of the beam.
A5. NEMA box shall be located between the last two w-beam supports on the structure for the sign. NEMA box must be located at least 12” (in) away from the hand hole for any bolted splice connection to provide clearance for bolted connection tools.
A6. Secure conduit to sign support w-beam using two hole clamps. Clamps may be bolted directly to w-beam or secured with stainless steel straps and conduit supporting hardware (channel steel or similar mount). Bolts shall not disturb web of w-beam. All hardware shall be stainless steel.
A7. Phenolic tag shall include highest operating voltage and identification number of supplying cabinet. This tag is separate from the sign structure ID tag.
A8. Wiring for beacon systems may be supplied by 2C, 2CS, 5CS or two #10 AWG meeting the requirements of the applicable section of Standard Specification Section 9-29.3. One or two sets of wires/cables may be required, depending on the location of the flashing control - See contract plans. Wiring shall be routed inside the monotube column and crossbeam to the NEMA box on the back of the crossbeam.
A9. Terminate Liquid-Tight Flexible Metal Conduit (LFMC) no more than 4 inches above bottom of NEMA cabinet.
A10. All conduits embedded in foundation shall be terminated with a grounding end bushing (RMG) or end bell (PVC) as appropriate for the type of conduit. Grounding end bushings shall be bonded to the sign structure ground lug.
A11. Supplemental grounding jumper shall be #4 AWG non-insulated copper with 3 (ft) (min.) of slack. Clamp to vertical reinforcing steel in foundation using a listed connector suitable for use embedded in concrete.
A12. Signal displays shall be 12” (in) diameter yellow LED type, meeting the requirements of Standard Specification Section 9-29.21, including dimming. Signal displays shall use cap visors. housings, visors, and backplates shall be aluminum. Backplates shall be 5” (in) wide and shall not have reflective tape.
A13. Beacon placement is dependent on the number of w-beams used to support the overhead sign. Where four or fewer w-beams are used, install beacons on the outermost w-beams. Where five or more w-beams are used, install beacons on the second to last w-beam at each side of the sign.
NOTES


B2. Hand holes installed at time of fabrication; Only conduit and terminal cabinet mounting holes may be field installed. Proper repairs shall be made to the structure for any field drilling performed. A hand hole shown on this plan may be omitted if there is another hand hole within 18" (in) of the location shown here. Hand holes shown here shall be 6" (in) in diameter with gasket and reinforcing ring.

B3. Hand holes shall be installed on the bottom or rear of the beam and in line with any NEMA enclosure.

B4. Wiring for beacon systems may be 2C, 2CS, 5CS or two #10AWG meeting the requirements of the applicable section of Std. Spec. Section 9-29.3. One or two sets of wires/cables may be required, depending on the location of the flasher control. See Contract plans. Wiring shall be routed inside the monotube column and crossbeam to the NEMA box on the back of the crossbeam.

B5. Bolted connection plates and stiffener plates shall have grommet edging or similar edge protection installed along the bottom edge and one third of the way up the side edges of the center hole to prevent damage to wiring. May be omitted for any plate that cannot be reached from hand hole with the approval of the engineer.

MONOTUBE

SPICE PLATE CENTER HOLE (SEE SIGN STRUCTURE PLANS)

CABLES AND CONDUCTORS

GROMMET EDGING OR SIMILAR EDGE PROTECTION (SEE NOTE D3)

BOLTED SPLICE PLATE SHOWN WITHOUT INTERNAL LFMC (STIFFENER PLATE SIMILAR)

SECTION B

BEACON POWER CABLE(S) (SEE NOTE B4)

HAND HOLE (SEE NOTES B2 AND B3)

TERMINATE CONDUCTORS ON TERMINAL BLOCK

NEMA 3R S.S. TERMINAL CABINET
TYPE "A" = 12" (IN) W x 10"(IN) H x 8" (IN) D WITH TWO 12 POSITION TERMINAL BLOCKS = SEE STANDARD SPECIFICATION SECTION 9-29.25

DRILL AND TAP MONOTUBE FOR MOUNTING BOLT (TYP. ~ 4 PLACES)

1/4" (IN) THICK NYLON BUSHING WASHER (TYP. ~ 4 PLACES)

NEMA BOX MOUNTING FLANGE (TYP. ~ 4 PLACES)

FLAT WASHER (TYP. ~ 4 PLACES) **

PULLING GRIP OR OTHER STRAIN RELIEF

CONDUIT END BUSHING (TYP.)

SEALING LOCKNUT (TYP.)

CONDUIT NIPPLE (TYP.)

NEMA BOX CONNECTIONS WITHOUT INTERNAL LFMC

DETAIL D

OVERHEAD SIGN STRUCTURE
FLASHING BEACON SYSTEM
INSTALLATION DETAILS
STANDARD PLAN J-75.50-00

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WASHINGTON STATE DEPARTMENT OF TRANSPORTATION

APPROVED FOR PUBLICATION

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