GENERAL NOTES:
1. Mark this Index with Specification 700.
2. Furnish and install the Dynamic Message Sign (DMS), sign structure in accordance with Index 700-040 or 700-041. Locate foundations at locations shown in the Plans.
3. Shop Drawings are required
   a. Include the DMS connection.
   b. Catwalk design in accordance with AISC, AASHTO, and OSHA requirements, as applicable.
   c. Do not start fabrication until the shop drawings are approved.
4. Extend Catwalk from DMS to outer edge of paved shoulder and not less than 4 feet in length.
5. If required, install guardrail at location show in the Plans and in accordance with Index 536-001.
6. Materials:
   a. Sign Mounting Components:
      i. Aluminum Structural Shapes: ASTM B308, Alloy 6061-T6
   b. Vertical Hangers: ASTM A404, Grade 36
   c. U-Bolts: ASTM A449 or A193 B7
   d. Steel Bolts, Nuts, and Washers:
      1. High Strength Bolts: ASTM F3125, Grade A325, Type C
      2. Nuts: ASTM F563
      3. Washers: ASTM F463 (Flat Washer)
   e. Coatings:
      a. All nuts, bolts and washers ASTM F2329
      b. All other steel items ASTM A123
      c. Bolt hole Diameters: Bolt plus 0.75” before galvanizing
7. Installation:
   a. See project requirements for location of DMS Cabinet.
   b. Field Adjust pole-mounded DMS cabinet height to achieve best access for maintenance personnel given site condition as directed by the Engineer. Avoid conflicts with stiffeners, handholes and maintenance of anchor bolts.
   c. Locate the sign horizontal on the structure as shown in the Plans, Vertically center the sign enclosure with the centerline of the truss.
   d. Before erection, field drill the bolt holes in the vertical hangers and horizontal mounting member attached to the sign structure. Field locate holes to allow vertical hanger placement as shown on the Plans with no conflicts with gusset or splice plates.
   e. Complete two or more sign enclosures.
   f. Connect grounding conductors to the steel framework that has been cleaned to base metal by use of bonding plates, having contact area of not less than 8 square inches or by welding or brazing. Drilling and tapping the steel structure to accept a threaded connector is also an acceptable method.
   g. If steel framework is to be drilled and tapped to accept a threaded connector, the threaded connector shall be galvanized and have at least 3 threads fully engaged and secured with a jam nut to the steel framework.
   h. Bends in the conduit must be greater than the minimum bending radius for the cable contained in the conduit.
   i. Completely enclose all data, fiber optic and power cables for the DMS within the sign structure or in conduit.
   j. Permanently stamp/mark foundation to indicate conduit locations.
   k. Transition conduit in foundation to indicate underground conduit with appropriate reducer outside the limits of the foundation.

DYNAMIC MESSAGE SIGN ASSEMBLY

DYNAMIC MESSAGE SIGN WALK-IN
FAO: REVISED DESCRIPTION:

1. Finished Grade (See DETAIL "C")
2. As Required
3. Ground Rod B
4. 12" Min.
5. 1'-6" Min.
6. Concrete Slab
7. 40'-0" (Typ.)
8. Earth Pressure
9. Steel Ground Rod (Typ.)
10. " Ø 20' Copper-Clad

FAO: POLE MOUNTED CABINET

1. Finished Grade
2. Fiber Optic Pull Box
3. Fiber Optic Communications Conduits (2" PVC)
4. (AS Shown On Plans)
5. To Ground Rod C As Required
6. To Ground Rod D As Required
7. Transition Conduit Outside Of Foundation (Typ.)
8. Ground Rod A
9. Primary Ground Rod Assembly (See DETAIL "D")
10. 3'-0" Max.
11. 40'-0" (Typ.)

FAO: GROUND MOUNTED CABINET

1. Finished Grade
2. Fiber Optic Pull Box
3. Fiber Optic Communications Conduits (2" PVC)
4. (AS Shown On Plans)
5. To Ground Rod C As Required
6. To Ground Rod D As Required
7. Transition Conduit Outside Of Foundation (Typ.)
8. Ground Rod A
9. Primary Ground Rod Assembly (See DETAIL "D")
10. 3'-0" Max.
11. 40'-0" (Typ.)
REVISION DESCRIPTION:

REVISION LAST OF STANDARD PLANS FY 2019-20 SHEET INDEX

Primary Ground Rod

DMS Structure

The Base Of The Wire Continuous To Bare Solid Copper #2 AWG Tin-Plated Ground Mounted Cabinet Solid Copper Wire To #2 AWG Tin-Plated Bare Solid Copper Wire To Ground rods B, C and D as Required (Connections May Be Combined)

Exothermic Weld (Typ.)

Ground Rod B

Primary Ground Rod A

#2 AWG Tin-Plated Bare Solid Copper Wire To Ground Mounted Cabinet

Ground Rod D

Ground Rod C

Sign Structure Foundation

TYPICAL (20' Rods, 40' Spacing)

GROUND ROD ARRAY DETAIL

DETAIL "D"

DETAIL "B"

DETAIL "C"

20' Radius Each "Sphere Of Influence"

DETAIL "E"

SECTION A-A

COVER

FRAME

FULL PENETRATION WELD

THRU HANDHOLE

11 GAGE MANHOLE COVER

1/4" HEAD SCREW (Typ.)

1/4" STAINLESS STEEL HEX HEAD SCREW (Typ.)

TACK WELDED COVER CLIP (Typ.)

THREADED HOLE FOR 1/4" HEX HEAD SCREW (Typ.)

FULL PENETRATION WELD

FRAME

POLE

PARTIAL PENETRATION WELD (Typ.)

11 GAGE MANHOLE COVER

HANDHOLE FRAME

1/4" COVER CLIP (Typ.)

FULL PENETRATION WELD

COVER

A

A

FULL PENETRATION WELD

PULL BOX

GROUNDING CONDUIT

FINISHED GRADE

2" MIN. - 8" MAX.

PULL BOX

GROUND ROD

GROUND ROD

GROUND ROD

GROUND ROD

(POLE MOUNTED CABINET CONFIGURATION SHOWN)
REV IS IO N DESCRIPTION:

REVISION

LAST

STANDARD PLANS

FY 2019-20

DYNAMIC MESSAGE SIGN WALK-IN

INDEX

700-090

5 of 5

HANGER LOCATION DETAIL

2-½" Threaded Couplings

2" Threaded Couplings

DMS Sign Enclosure

Top Truss Chord

Vertical Hanger Galvanized W6x9 (Typ.)

Hanger @ 5' (Max.) Spacing

Zee Beam Aluminum Zee Beam 4½x2½x3.57 (Typ.)

Horizontal Member Attached To The Internal Framework And Included With The DMS Sign

Vertical Hanger

Framework And Included With The DMS Sign

Horizontal Member Attached To The Internal Framework And Included With The DMS Sign

DMS Sign Enclosure

Back Face Of DMS Sign Enclosure

Zee Beam Aluminum Zee Beam

Hanger Location Detail

SECTION B-B

2½" Ø U-Bolts With Double Nuts and Washers

Provide 2 - ½" Ø Bolts With Nuts and Washers

Field Drill Holes And

SECTION C-C

SECTION D-D

SECTION B-B

Dynamic Message Sign End View

Dynamic Message Sign Walk-In

2½" Ø U-Bolts With Double Nuts and Washers

Provide 2 - ½" Ø Bolts With Nuts and Washers

Field Drill Holes And