172

06-14-2019 LETTING ITEM 172

F.A.I. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D2 DMS 2019-1	*	24	1
	ILLINOIS	CONTRACT NO. 64K76		

* HENRY / ROCK ISLAND

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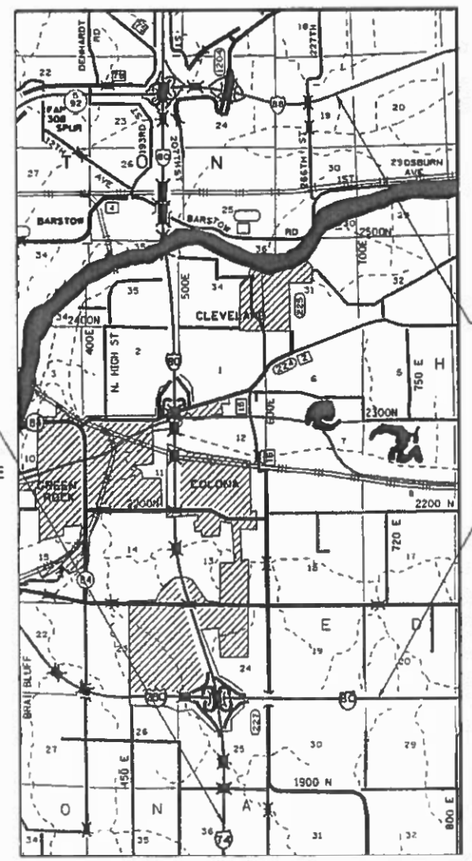
701901-08	Traffic Control Devices
805001-01	Electrical Service Installation Details
878001-10	Concrete Foundation Details

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED
HIGHWAY PLANS

VARIOUS ROUTES
SECTION D2 DMS 2019-1
FURNISH AND ERECT OVERHEAD DYNAMIC MESSAGE SIGNS
HENRY, ROCK ISLAND COUNTY

C-92-062-15



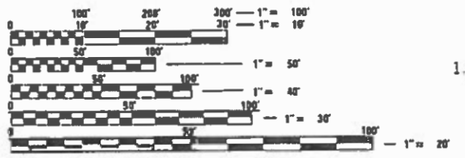
LOCATION 1 FAI ROUTE 88
OVERHEAD SIGN STRUCTURE
2S081I088L002.1
STA 110+80 I-88 WB
2.1 MI EAST OF I-80
S.N. 227

LOCATION 2 FAI ROUTE 74
OVERHEAD SIGN STRUCTURE
2S037I074L015.7
STA 826+97 I-74 WB
1.5 MI SOUTH OF I-74/I-80/I-280 INTERCHANGE
S.N. 229

LOCATION 3 FAI ROUTE 80
OVERHEAD SIGN STRUCTURE
2S037I080L012.0
STA 671+30 I-80 WB
2 MI EAST OF I-74/I-80/I-280 INTERCHANGE
S.N. 228

D-92-026-15

LOCATION OF SECTION INDICATED THUS:- ■



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS
1-800-892-0123
OR 811

DISTRICT 2 NO. (815) 284-5468
PROJECT MANAGER: SCOTT KULLERSTRAND
PROJECT ENGINEER: STEVEN M. MENDOZA

CONTRACT NO. 64K76

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED 3-12-2019
REGIONAL ENGINEER

May 10 2019
ENGINEER OF DESIGN AND ENVIRONMENT

May 10 2019
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

3

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REV. 5/7/19

GENERAL NOTES

Plan dimensions and details relative to the existing plans are subject to routine variations. The contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials, such variations shall not be cause for additional compensation for a change in the scope of the work, however, the contractor will be paid for the quantity furnished based upon the unit bid price for the work.

This structure will retain the same number SN 227 for sign on I-88, SN 229 for sign on I-74, SN 228 for sign on I-80.

The Contractor shall supply the Resident Engineer with the manufacturer's installation requirements for the type of Steel Plate Beam Guardrail Terminal Type 1 Special (Tangent) or Steel Plate Beam Guardrail Terminal Type I Special (Flared).

The final top 4 inches of soil in any right-of-way area disturbed by the Contractor must be capable of supporting vegetation. The soil must be from the A horizon (zero to 2' deep) of soil profiles of local soils. This work shall be included in the contract unit price per EACH for TRUSS MOUNTED LED DYNAMIC MESSAGE SIGN and no additional compensation will be allowed.

Fertilizer shall be applied to all disturbed areas and incorporated into the seedbed prior to seeding or placement of sod at the rate specified in Sections 250 and 252 of the Standard Specifications. This work shall be included in the contract unit price per EACH for TRUSS MOUNTED LED DYNAMIC MESSAGE SIGN.

The Contractor shall seed all disturbed areas within the project limits. Seeding Class 4 or 2A shall be used, except in front of properties where the grass will be mowed, then use Seeding, Class 1A. Class 2A shall be used on front slopes and ditch bottoms. Class 4 shall be used behind Type A gutter, on all backslopes and areas behind the backslope, and beyond the toe of front slope on fill sections without ditches. This work will be included in the contract unit price per EACH for TRUSS MOUNTED LED DYNAMIC MESSAGE SIGN. Seeding will not be permitted at any time when the ground is frozen, wet, or in an untillable condition.

One 16d galvanized nail shall be used to toe nail the wood block out to the wood post on all Traffic Barrier Terminal Type I Specials.

Delineators shall be installed as shown in Standard 635001, except that the post shall be rotated 180° and only metal-backed delineators shall be permitted. Delineators shall be placed at the ends of approach guardrail terminal sections, and at each headwall or end section of AR Culverts. This work will be paid for at the contract unit price each for DELINEATORS.

The Contractor shall be responsible for locating and protecting utility property during construction operations as outlined in Article 107.39 of the Standard Specifications. A minimum of 48 hours advance notice is required for non-emergency work. The JULIE number is 800-892-0123. The following listed utilities located within the project limits or immediately adjacent to the project construction limits are members of JULIE:

Geneseo Telephone 309/944-8025
Mediacom 309/743-4750
MidAmerican Energy Company 563/333-8706

IDOT is not a member of JULIE. If you are near any overhead lighting, intersection lighting or traffic signals, contact the IDOT Traffic Office at 815/284-5469 at least 48 hours prior to work.

CADD data will be available to Contractors and Consultants working on this project, once the project has been awarded. This information will be provided upon request as MicroStation CADD files and Geopak coordinate geometry files ONLY. If data is required in other formats it will be your responsibility to make these conversions. If any discrepancy or inconsistency arises between the electronic data and the information on the hard copy, the information on the hard copy should be used. Contact the District's Project Engineer to request these files.

Electrical work shall conform with national, state, and local codes.

All surplus materials shall be disposed of in accordance with Article 202.03 of the Standard Specification.

U-bolts shall be produced from ASTM A276, Type 304, 304L, 316, condition A, cold finish or an equivalent material acceptable to the engineer. All nuts shall be stainless steel conforming to ASTM A194, Grade 8 (ANSI Type 304) or grade 8F (ANSI type 303). The nuts shall be locknuts with the nylon or steel inserts and semi-finished hexagonal heads equivalent to the finished hex series of the American National Standard. All washers shall be stainless steel conforming to ASTM A240, Type 302. Anti-freeze paste compound shall be used on all mounting hardware field connections.

The contractor shall furnish and install all items required to attach the conduits and junction boxes to the structure, including, but not limited to uni-strut, brackets, seal-tite, lbs., fittings, hardware, and other miscellaneous items. These items will not be paid for separately. But shall be included in the bid price for the conduit attached to structure pay item.

Conduit attachment brackets shall be installed at 8 ft. spacings (maximum) of structures.

All conduit attachment brackets shall be fully galvanized, and all hardware shall be either galvanized or stainless steel.

The contractor shall install thread locker on all attached conduit threaded connections to prevent loosening through vibration.

Any conduit, for its power or communications cabling entering a pole mounted or above ground enclosure, equipment foundation, operational building, maintenance facility, shall be galvanized steel, conduit, the galvanized steel conduit shall extend a minimum of five feet (5') outside concrete foundations, and a minimum of ten feet (10') outside pole mounted/above ground enclosures. The cost of such galvanized steel conduit shall be included in the electrical work for the equipment being connected.

Reinforcement bars shall be epoxy coated.

The equipment cabinet shall be placed on a concrete pedestal that will be a minimum of 12" above finished grade line of the foundation. This work will be included in the contract unit price per foot for CONCRETE FOUNDATION, TYPE D.

Dynamic message sign (DMS) supporting sign structure and foundation work is shown on structural drawings. The installation of these and other foundations, including but not limited to conduits and grounding, shall be coordinated with the electrical work for DMS.

For all intelligent transportations systems (ITS) assemblies/equipment, special labeling for enclosures, cables (power and communications), equipment, etc., shall be provided. The labeling is required at both ends of the ITS assembly component (E.G. inside enclosures at the ITS assembly/component) as well as at the other connecting end (E.G. equipment cabinet/service entrance). The labeling is also required where cables are spliced in handholes and junction boxes, additionally. Spare conduits inside cabinets and facilities shall be labeled as spare and a designation of the other end shall be provided. The cost of labeling shall be included in the work including conversions of the ITS assembly/component as stated in the respective ITS assembly/component special/provision.

The contractor is responsible for all DMS licensing for a complete and operational system.

The contractor is responsible for all programming and virtual private network configuration from the designated remote operations to the DMS contractor shall coordinate with the Department IT for all programming and integration of DMS into the existing Department network.

SUMMARY OF QUANTITIES

URBAN
100% State
0044

	CODE NO.	ITEM	UNIT	TOTAL QUANTITY	ROCK ISLAND COUNTY	HENRY COUNTY
	48100300	AGGREGATE SHOULDERS, TYPE A 4"	SQ YD	94	34	60
*	63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	625	0	625
*	63000007	STEEL PLATE BEAM GUARDRAIL, TYPE B, 6 FOOT POSTS	FOOT	250	250	0
*	63000017	STEEL PLATE BEAM GUARDRAIL, TYPE D, 6 FOOT POSTS	FOOT	50	50	0
*	63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	2	0	2
*	63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	2	0	2
	63200310	GUARDRAIL REMOVAL	FOOT	646	477	169
	63302000	REMOVE AND REERECT TRAFFIC BARRIER TERMINALS, TYPE 2	EACH	3	1	2
	63301990	REMOVE AND REERECT TRAFFIC BARRIER TERMINALS, TYPE 1	EACH	3	1	2
	64300260	IMPACT ATTENUATORS (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	2	0
	64301090	ATTENUATOR BASE	SQ YD	2	2	0
	67100100	MOBILIZATION	L SUM	1	0.33	0.67
	70100205	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	EACH	3	1	2
	70100700	TRAFFIC CONTROL AND PROTECTION, STANDARD 701406	L SUM	1	0.33	0.67
	70200100	NIGHTTIME WORK ZONE LIGHTING	L SUM	1	0.33	0.67
	73300300	OVERHEAD SIGN STRUCTURE - SPAN, TYPE III-A (5'-0" X 7'-0 ')	FOOT	300	100	200
	73301810	OVERHEAD SIGN STRUCTURE WALKWAY, TYPE A	FOOT	60	20	40
*	73400200	DRILLED SHAFT CONCRETE FOUNDATIONS	CU YD	87.2	25.4	61.8
	73600100	REMOVE OVERHEAD SIGN STRUCTURE - SPAN	EACH	3	1	2
	73700300	REMOVE CONCRETE FOUNDATION - OVERHEAD	EACH	6	2	4
*	78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	16	8	8
*	72501000	TERMINAL MARKER - DIRECT APPLIES	EACH	2	0	2
	80500100	SERVICE INSTALLATION, TYPE A	EACH	3	1	2
	81028350	UNDERGROUND CONDUIT, PVC, 2" DIA	FOOT	183	64	119
	81702500	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 4/C NO. 6	FOOT	473	218	255
	87800200	CONCRETE FOUNDATION, TYPE D	FOOT	9	3	6
	89500120	REMOVE EXISTING SERVICE INSTALLATION	EACH	3	1	2
	X0325482	REMOVE EXISTING ITS EQUIPMENT	EACH	3	1	2
	X0325485	TRUSS MOUNTED LED DYNAMIC MESSAGE SIGN	EACH	3	1	2
	X0326263	EQUIPMENT CABINET	EACH	3	1	2

*= SPECIALTY ITEM

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D2 DMS 2019-1	*	24	3
		CONTRACT NO. 64K76		
		ILLINOIS	FED. AID PROJECT	

* HENRY / ROCK ISLAND

REV. 5/7/19

SCHEDULE OF QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	Location SN-227 2S081I088L002.1	Location SN-229 2S037I074L015.7	Location SN-228 2S037I080L012.0
48100300	AGGREGATE SHOULDERS, TYPE A 4"	SQ YD	94.0	34	34	26
63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	625.0	0	350	275
63000007	STEEL PLATE BEAM GUARDRAIL, TYPE B, 6 FOOT POSTS	FOOT	250.0	250	0	0
63000017	STEEL PLATE BEAM GUARDRAIL, TYPE D, 6 FOOT POSTS	FOOT	50.0	50	0	0
63100045	TRAFFIC TERMINAL BARRIER, TYPE 2	EACH	2.0	0	1	1
63100167	TRAFFIC TERMINAL BARRIER, TYPE 1 (SPECIAL) TANGENT	EACH	2.0	0	1	1
63200310	GUARDRAIL REMOVAL	FOOT	646.0	477	169	0
63302000	REMOVE AND REERECT TRAFFIC BARRIER TERMINALS, TYPE 2	EACH	3.0	1	1	1
63301990	REMOVE AND REERECT TRAFFIC BARRIER TERMINALS, TYPE 1	EACH	3.0	1	1	1
64300260	IMPACT ATTENUATORS (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2.0	2	0	0
64301090	ATTENUATOR BASE	EACH	2.0	2	0	0
67100100	MOBILIZATION	L SUM	1.0	0.4	0.3	0.3
70100205	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	EACH	3.0	1	1	1
70100700	TRAFFIC CONTROL AND PROTECTION, STANDARD 701406	L SUM	1.0	0.4	0.3	0.3
70200100	NIGHTTIME WORK ZONE LIGHTING	L SUM	1.0	0.4	0.3	0.3
73300300	OVERHEAD SIGN STRUCTURE - SPAN, TYPE III-A (5'-0" X 7'-0 ')	FOOT	300.0	100	100	100
73301810	OVERHEAD SIGN STRUCTURE WALKWAY, TYPE A	FOOT	60.0	20	20	20
73400200	DRILLED SHAFT CONCRETE FOUNDATIONS	CU YD	87.2	25.4	39.1	22.7
73600100	REMOVE OVERHEAD SIGN STRUCTURE - SPAN	EACH	94	1	1	1
73700300	REMOVE CONCRETE FOUNDATION - OVERHEAD	EACH	6.0	2	2	2
78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	16.0	8	4	4
78201000	TERMINAL MARKER - DIRECT APPLIES	EACH	2.0	0	1	1
80500100	SERVICE INSTALLATION, TYPE A	EACH	3.0	1	1	1
81028350	UNDERGROUND CONDUIT, PVC, 2" DIA	FOOT	183.0	64	55	64
81702500	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 4/C NO. 6	FOOT	473.0	218	155	100
87800200	CONCRETE FOUNDATION, TYPE D	FOOT	9.0	3	3	3
89500120	REMOVE EXISTING SERVICE INSTALLATION	EACH	3.0	1	1	1
X0325482	REMOVE EXISTING ITS EQUIPMENT	EACH	3.0	1	1	1
X0325485	TRUSS MOUNTED LED DYNAMIC MESSAGE SIGN	EACH	3.0	1	1	1
X0326263	EQUIPMENT CABINET	EACH	3.0	1	1	1

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

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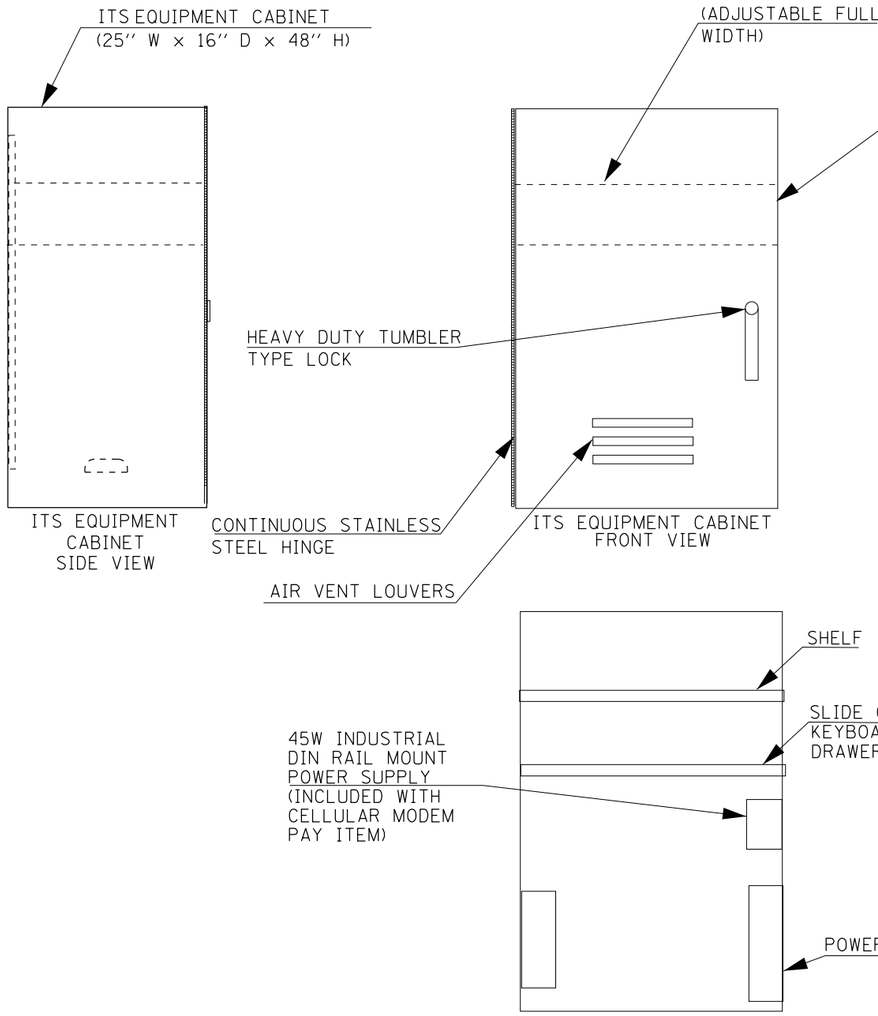
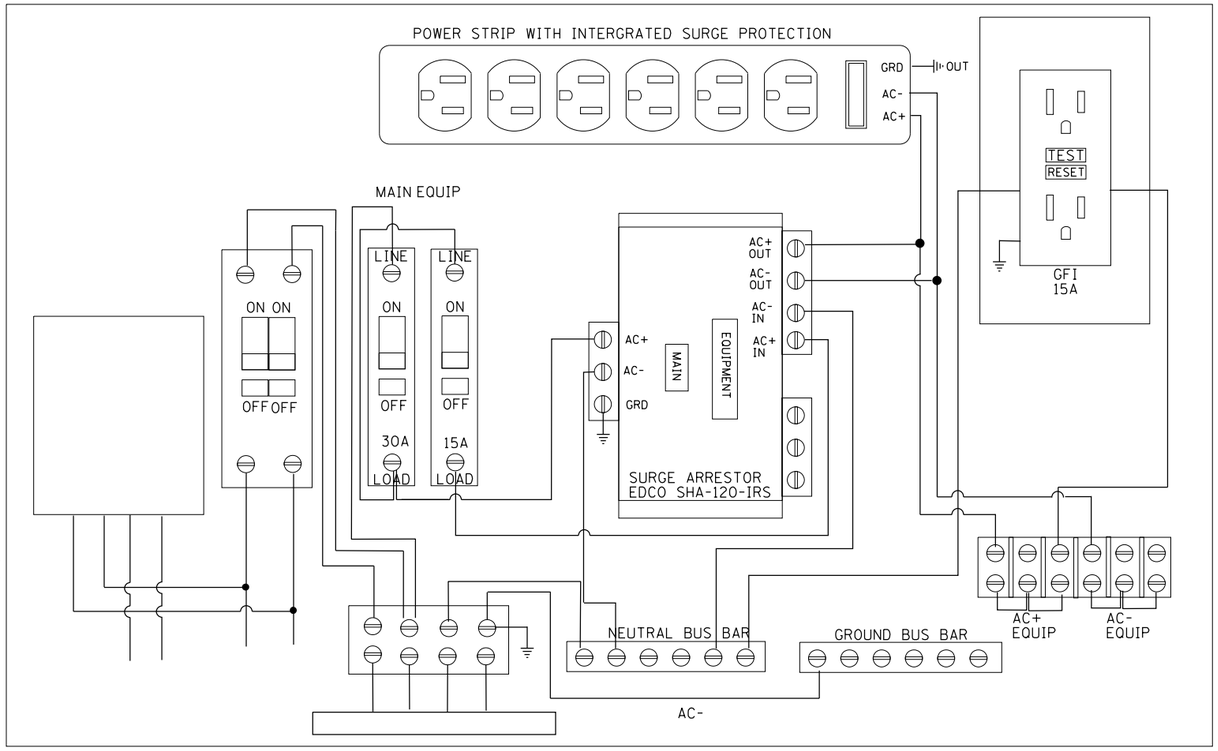
			CONTRACT NO. 64K76	
		ILLINOIS	FED. AID PROJECT	

* HENRY / ROCK ISLAND





ITS EQUIPMENT CABINET POWER PANEL DETAIL
(POWER PANEL TO BE EQUIPPED WITH PLEXI-GLASS SAFETY SHIELD)

NOTES

1. THE ITS EQUIPMENT CABINET SHALL BE A NEMA TYPE 3R CABINET WITH MINIMUM OUTSIDE DIMENSIONS OF 48'' (H) X 25'' (W) X 16'' (D). THE CABINET SHALL BE CONSTRUCTED WITH A MINIMUM THICKNESS OF 0.1'' ALUMINUM AND HAVE A NATURAL FINISH.
2. THE CABINET SHALL BE FURNISHED WITH ONE ADJUSTABLE HEIGHT SHELF, TWO POSITION DOOR STOP (90, 180 DEGREES), NEOPRENE DOOR GASKET, AIR VENT LOUVERS, MINIMUM OF TWO HINGES, HEAVY DUTY TUMBLER-TYPE LOCK, POWER PANEL, AND ALL STAINLESS STEEL HARDWARE.
3. THE CABINET SHALL BE EQUIPPED WITH A THERMOSTATICALLY CONTROLLED VENTILATION FAN, 250 WATT HEATER STRIP (WITH GUARD), AND DELUXE PLEATED AIR FILTER.
4. THE CABINET SHALL BE EQUIPPED WITH A SLIDE OUT KEYBOARD TRAY WITH INTEGRATED DOCUMENT STORAGE DRAWER.
5. THE CONTRACTOR SHALL INSTALL ALL DIN RAIL MOUNTED EQUIPMENT IN THE CABINET.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EQUIPMENT CABINET

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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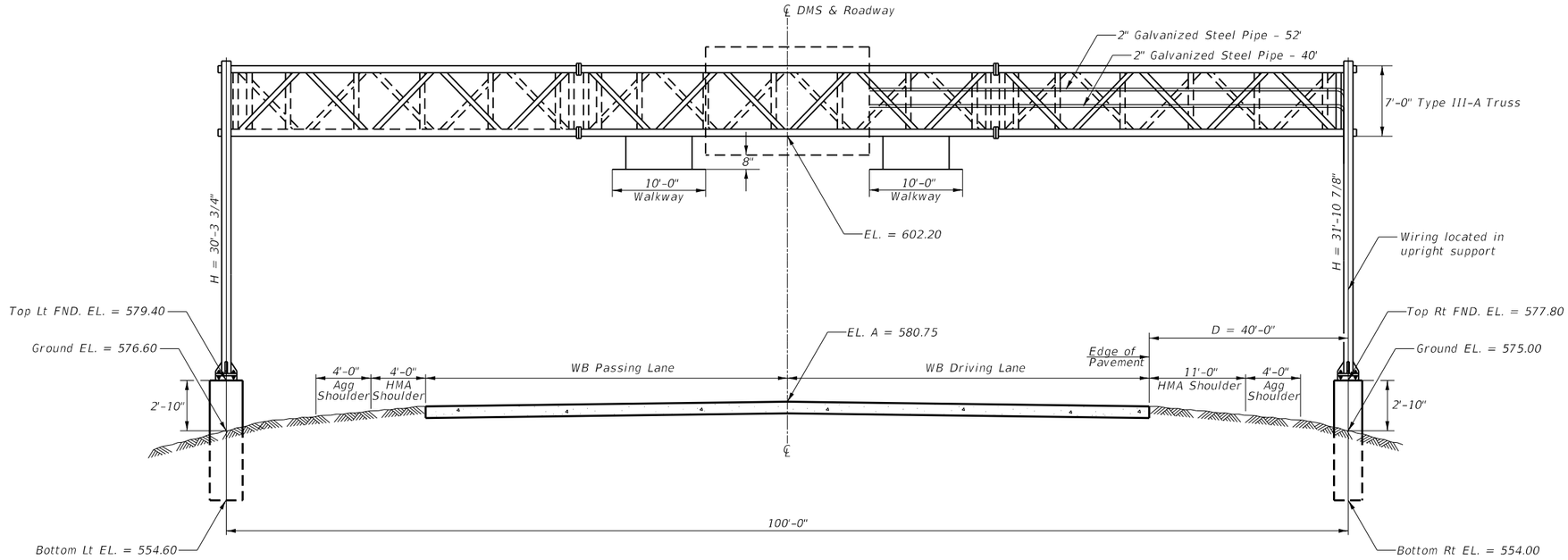
		CONTRACT NO. 64K76		
	ILLINOIS FED. AID PROJECT			

* HENRY / ROCK ISLAND



SIGN TRUSS MOUNTING DETAIL
2S081I088L002.1
I-88 Westbound
STA 110+80

Note: Benchmark El. = 580.4626 chiseled square on top of south foundation, southwest corner

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DMS MOUNTING DETAILS
LOCATION 1 I-88 WB (MM 2.1) SN 228

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D2 DMS 2019-1	*	24	6
		CONTRACT NO. 64K76		
	ILLINOIS FED. AID PROJECT			

* HENRY / ROCK ISLAND

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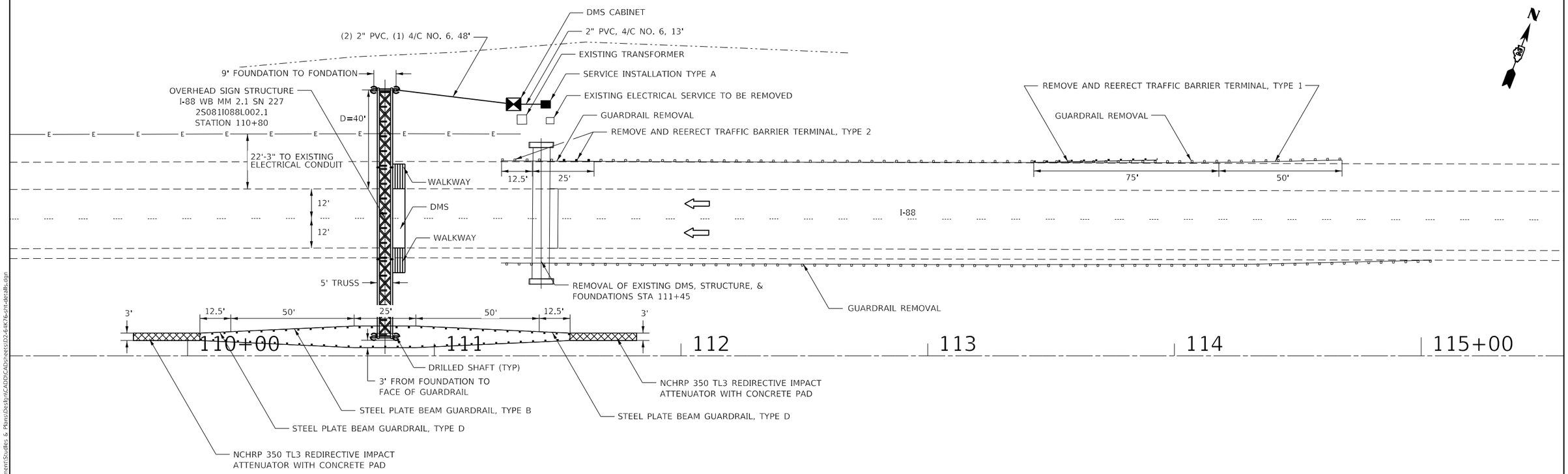

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DYNAMIC MESSAGE SIGN PLAN
LOCATION 1 I-88 WB (MM 2.1) SN 228

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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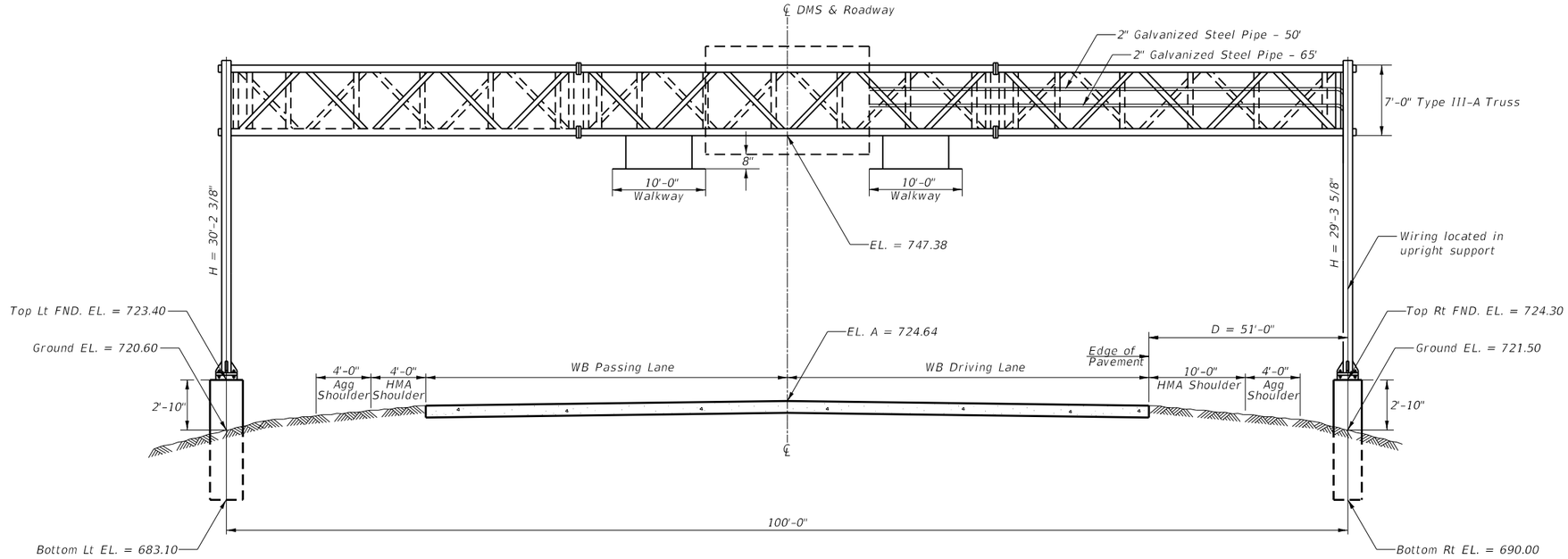
	ILLINOIS FED. AID PROJECT			

* HENRY / ROCK ISLAND



SIGN TRUSS MOUNTING DETAIL
2S037I074L015.7
I-74 Westbound
STA 826+97

Note: Benchmark El. = 724.6805 chiseled square on top of west foundation, west side

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DMS MOUNTING DETAILS
LOCATION 2 I-74 WB (MM 15.7) SN 229

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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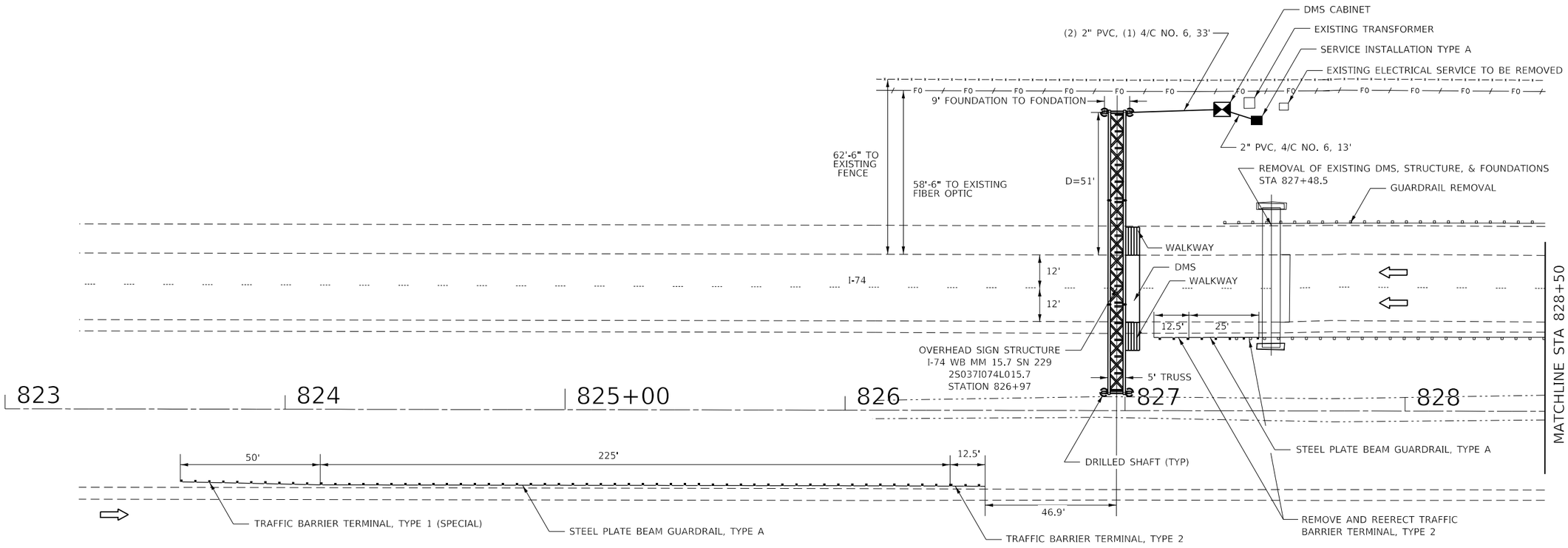
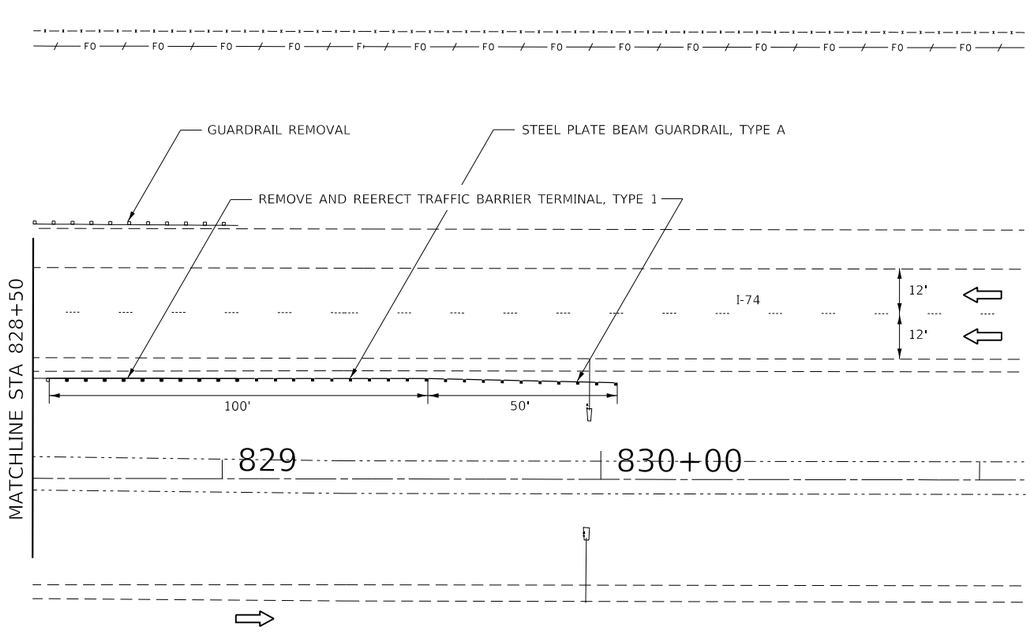
* HENRY / ROCK ISLAND





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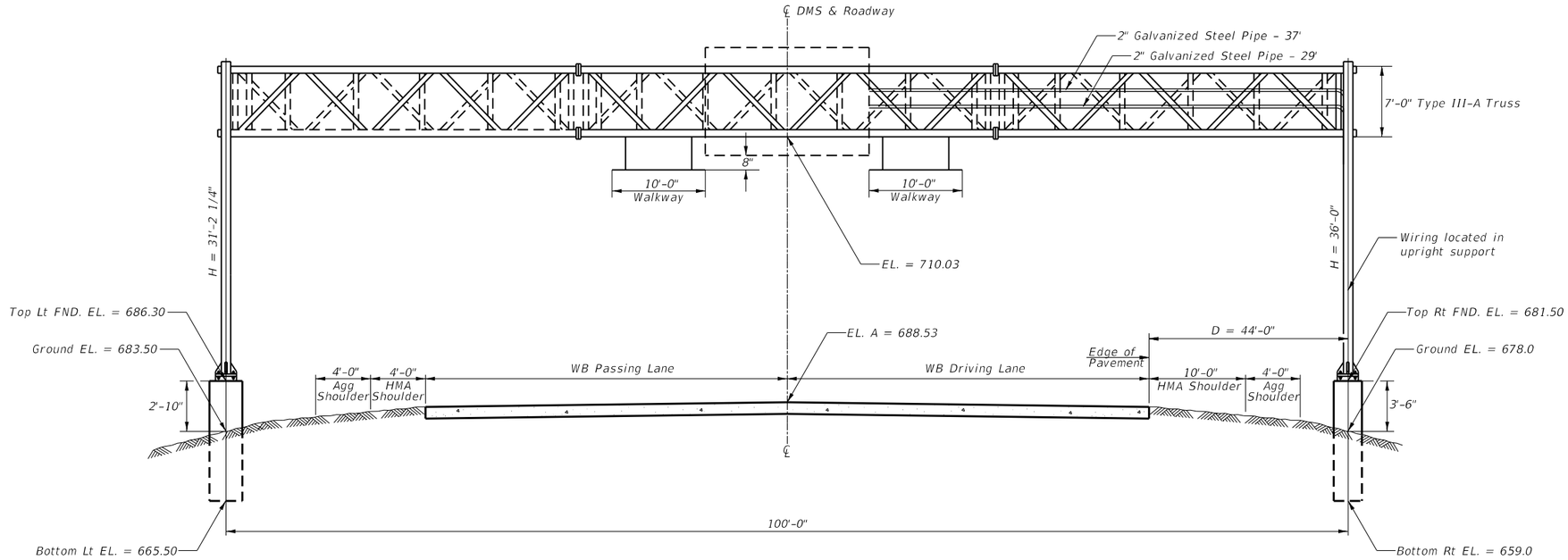
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DYNAMIC MESSAGE SIGN PLAN
LOCATION 2 I–74 WB (MM 15.7) SN 229

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D2 DMS 2019-1	*	24	9
		CONTRACT NO. 64K76		
	ILLINOIS FED. AID PROJECT			

* HENRY / ROCK ISLAND



SIGN TRUSS MOUNTING DETAIL
2S037I080L012.0
I-80 Westbound
STA 671+30

Note: Benchmark El. = 687.225 chiseled square on top of south foundation, southwest corner

MODEL: Default
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	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 3/11/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DMS MOUNTING DETAILS
LOCATION 3 I-80 WB (MM 12.0) SN 227

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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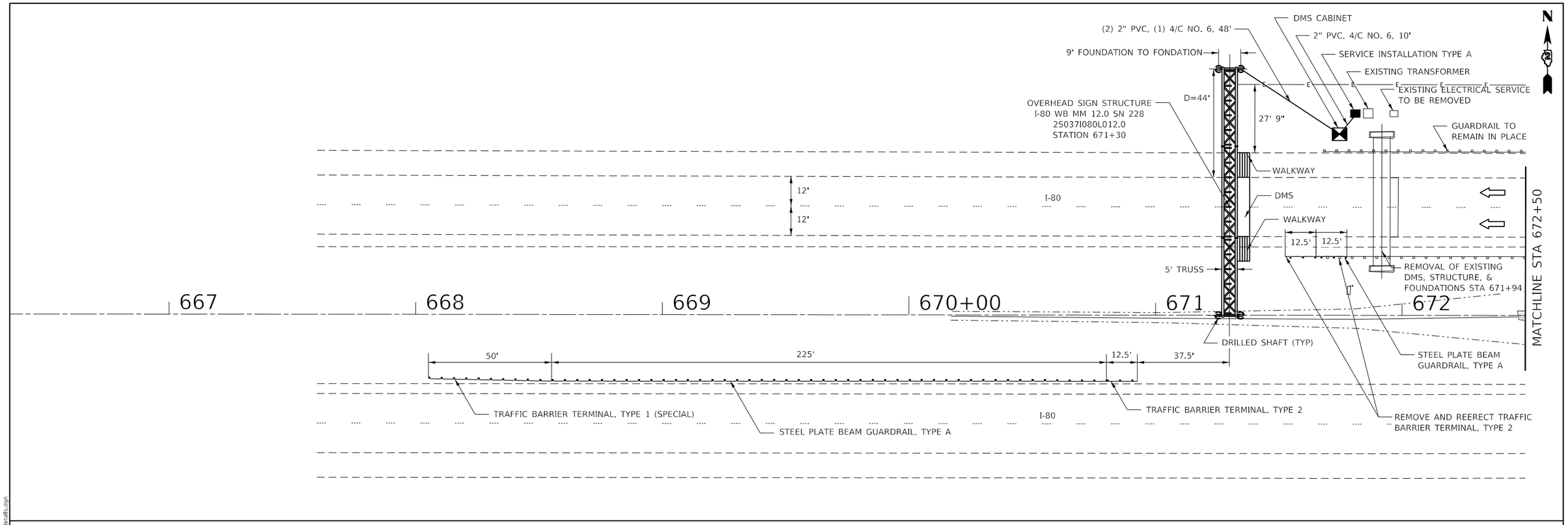
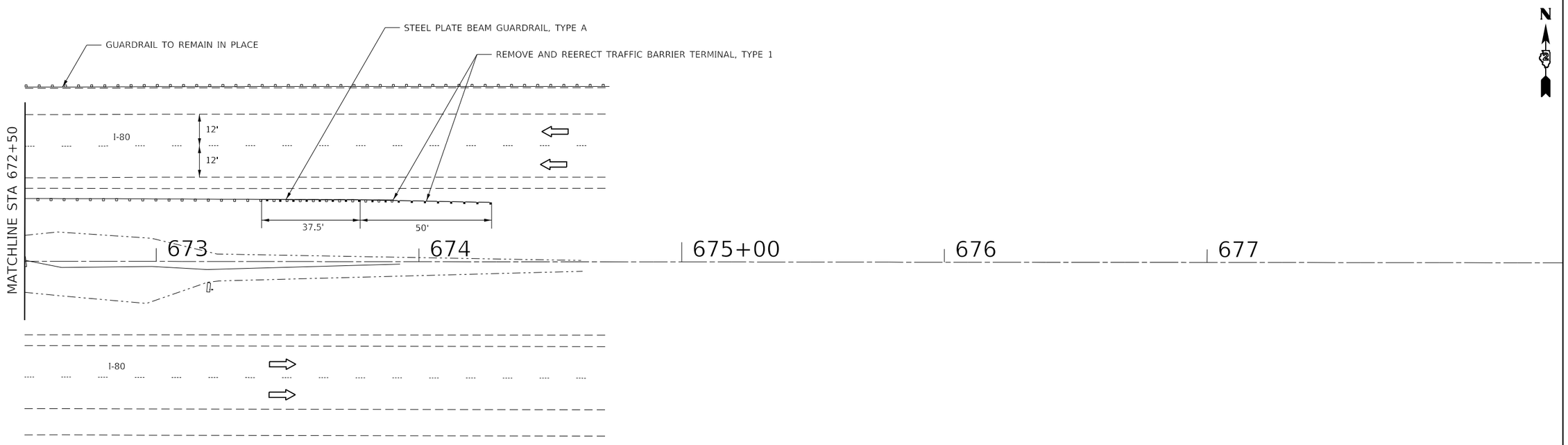
		CONTRACT NO. 64K76		
	ILLINOIS FED. AID PROJECT			

* HENRY / ROCK ISLAND





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	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 3/11/2019	DATE -	REVISED -	

DYNAMIC MESSAGE SIGN PLAN
LOCATION 3 I-80 WB (MM 12.0) SN 227

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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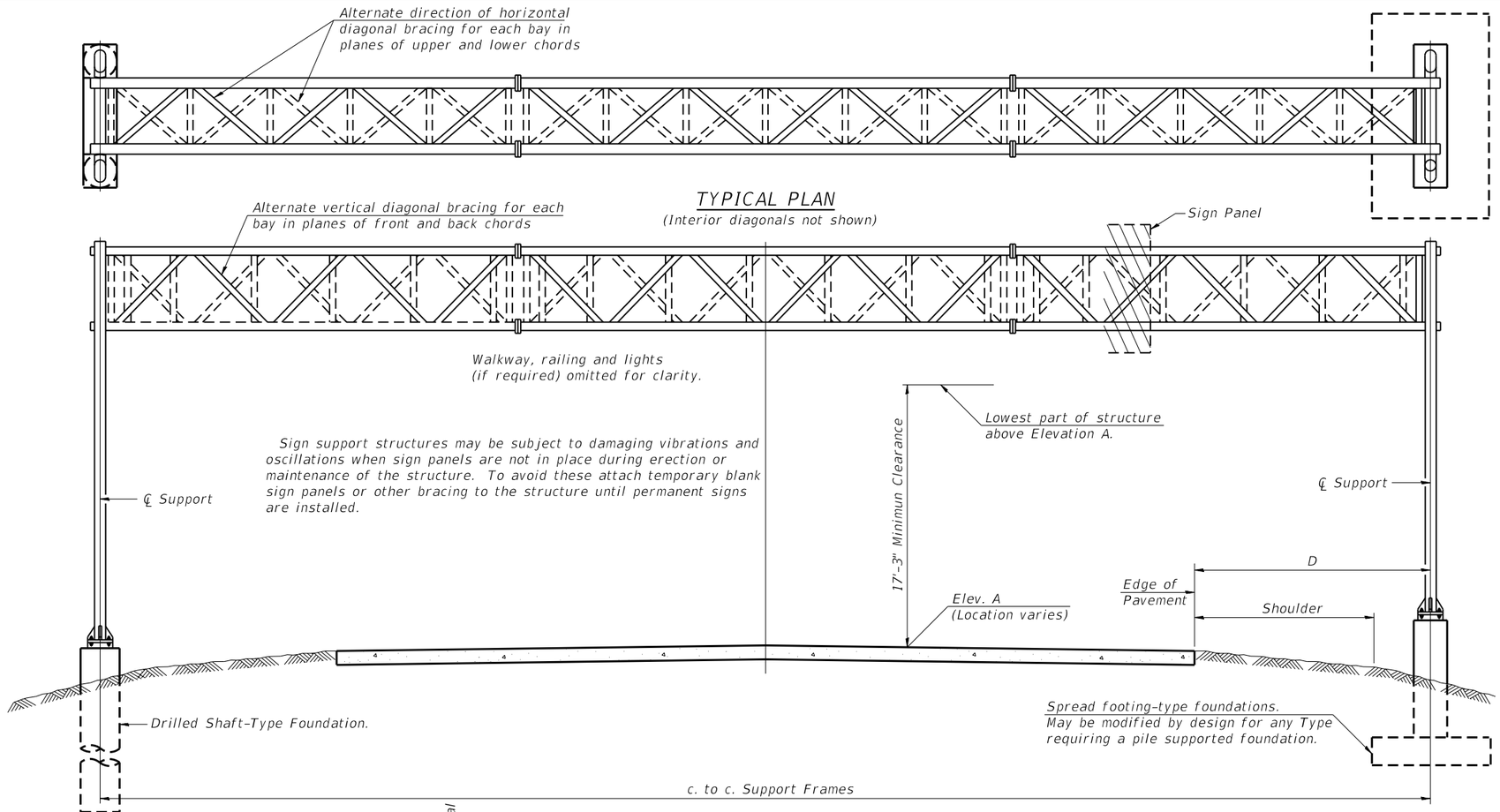
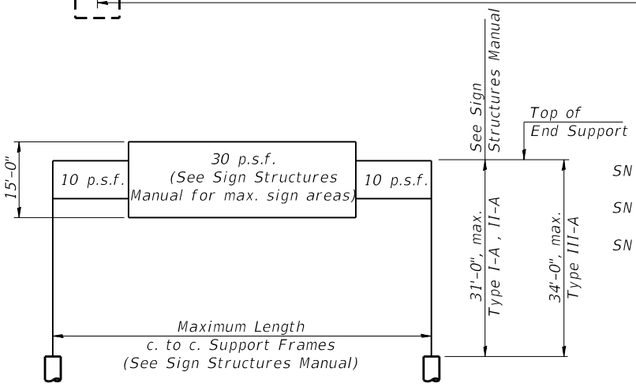
		CONTRACT NO. 64K76		
	ILLINOIS	FED. AID PROJECT		

* HENRY / ROCK ISLAND





DESIGN WIND LOADING DIAGRAM

Parameters shown are basis for I.D.O.T. Standards and Sign Manual Tables. Installations not within dimensional limits shown require special analysis for all components.

TYPICAL ELEVATION

(Looking at Face of Signs**)

Elev. A = Elevation at point of minimum clearance to sign, walkway support or truss.

Structure Number	Station	Design Truss Type	c. to c. Supports	Elev. A	Dim. D	Height of Tallest Sign	Total Sign Area
SN 227 2S081I088L002.1	110+80	III-A	100'	580.75	40'-0"	10'-2"	244 SF
SN 229 2S037I074L015.7	826+97	III-A	100'	724.64	51'-0"	10'-2"	244 SF
SN 228 2S037I080L012.0	671+30	III-A	100'	688.53	44'-0"	10'-2"	244 SF

**Looking upstation for structures with signs both sides.

* If M270 Gr. 50W (M222) steel is proposed, chemistry for plate to be used shall first be approved by the Engineer as suitable for galvanizing and welding.

GENERAL NOTES

DESIGN: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. ("AASHTO Specifications")

CONSTRUCTION: Current (at time of letting) Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, Supplemental Specifications and Special Provisions. ("Standard Specifications")

LOADING: 90 M.P.H. WIND VELOCITY

WALKWAY LOADING: Dead load plus 500 lbs. concentrated live load.

DESIGN STRESSES:
Field Units
f'c = 3,500 p.s.i.
fy = 60,000 p.s.i. (reinforcement)

WELDING: All welds to be continuous unless otherwise shown. All welding to be done in accordance with current AWS D1.1 and D1.2 Structural Welding Codes (Steel and Aluminum) and the Standard Specificiations.

MATERIALS: Aluminum Alloys as shown throughout plans. All Structural Steel Pipe shall be ASTM A53 Grade B or A500 Grade B or C. If A500 pipe is substituted for A53, then the outside diameter shall be as detailed and wall thickness greater than or equal to A53. All Structural Steel Plates and Shapes shall conform to AASHTO M270 Gr. 36, Gr. 50 or Gr. 50W*. Stainless steel for shims, sleeves and handhole covers shall be ASTM A240, Type 302 or 304, or another alloy suitable for exterior exposure and acceptable to the Engineer.
The steel pipe and stiffening ribs at the base plate for the column shall have a minimum longitudinal Charpy V-Notch (CVN) energy of 15 lb.-ft. at 40° F. (Zone 2) before galvanizing.

FASTENERS FOR ALUMINUM TRUSSES: All bolts noted as "high strength" must satisfy the requirements of AASHTO M164 (ASTM A325), or approved alternate, and must have matching lock nuts. Threaded studs for splices (if Members interfere) must satisfy the requirements of ASTM A449, ASTM A193, Grade B7, or approved alternate, and must have matching lock nuts. Bolts and lock nuts not required to be high strength must satisfy the requirements of ASTM A307. All bolts and lock nuts must be hot dip galvanized per AASHTO M232. The lock nuts must have nylon or steel inserts. A stainless steel flat washer conforming to ASTM A240 Type 302 or 304, is required under both head and nut or under both nuts where threaded studs are used. High strength bolt installation shall conform to Article 505.04 (f) (2)d of the IDOT Standard Specifications for Road and Bridge Construction. Rotational capacity ("ROCAP") testing of bolts will not be required.

U-BOLTS AND EYEBOLTS: U-Bolts and Eyebolts must be produced from ASTM A276 Type 304, 304L, 316 or 316L, Condition A, cold finished stainless steel, or an equivalent material acceptable to the Engineer. All nuts for U-Bolts and Eyebolts must be lock nuts equivalent to ASTM A307 with nylon or steel inserts and hot dip galvanized per AASHTO M232. A stainless steel flat washer conforming to ASTM A240, Type 302 or 304, is required under each U-Bolt and Eyebolt lock nut.

GALVANIZING: All Steel Grating, Plates, Shapes and Pipe shall be Hot Dip Galvanized after fabrication in accordance with AASHTO M111. Painting is not permitted.

ANCHOR RODS: Shall conform to ASTM F1554 Gr. 105.

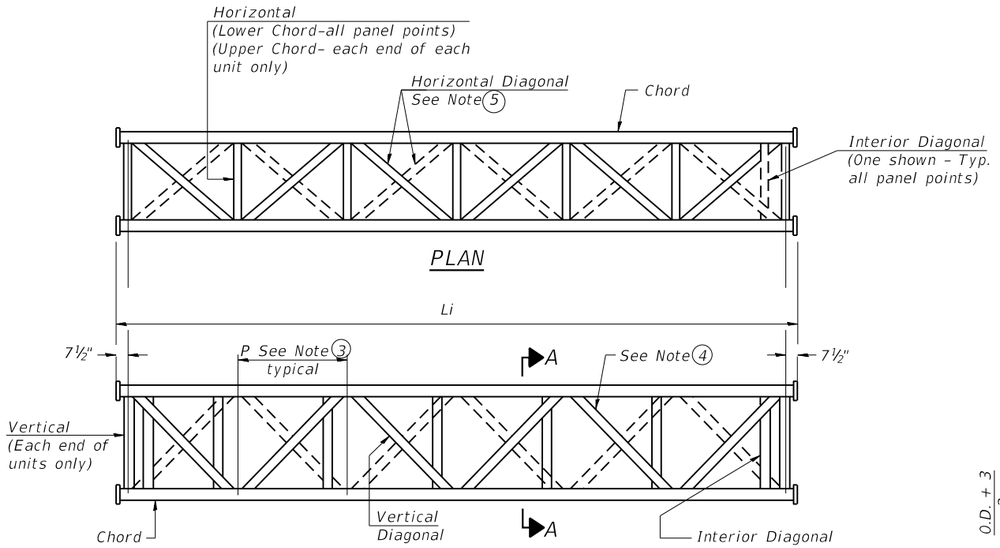
CONCRETE SURFACES: All concrete surfaces above an elevation 6" below the lowest final ground line at each foundation shall be cleaned and coated with Concrete Sealer in accordance with the Standard Specifications.

REINFORCEMENT BARS: Reinforcement Bars designated (E) shall be epoxy coated in accordance with the Standard Specifications.

FOUNDATIONS: The contract unit price for Concrete Foundations and Drilled Shaft Concrete Foundations shall include reinforcement bars complete in place.

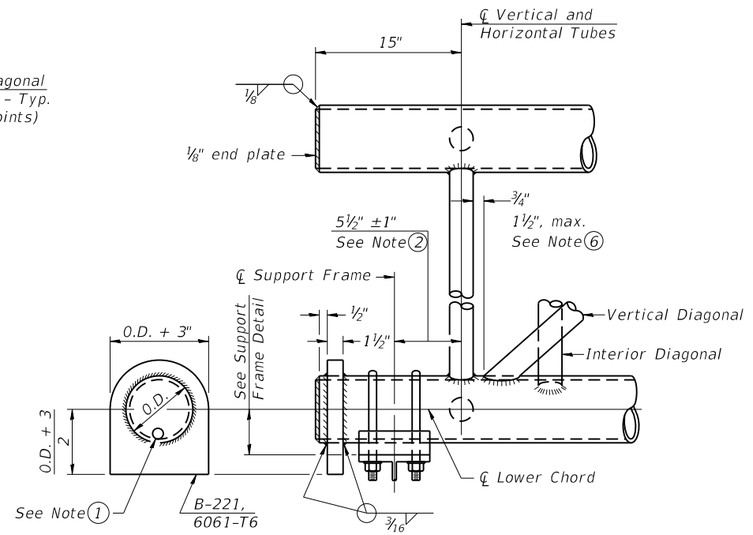
TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
OVERHEAD SIGN STRUCTURE SPAN TYPE I-A	Foot	0
OVERHEAD SIGN STRUCTURE SPAN TYPE II-A	Foot	0
OVERHEAD SIGN STRUCTURE SPAN TYPE III-A	Foot	300
OVERHEAD SIGN STRUCTURE WALKWAY TYPE A	Foot	60
CONCRETE FOUNDATIONS	Cu. Yds.	0
DRILLED SHAFT CONCRETE FOUNDATIONS	Cu. Yds.	87.2

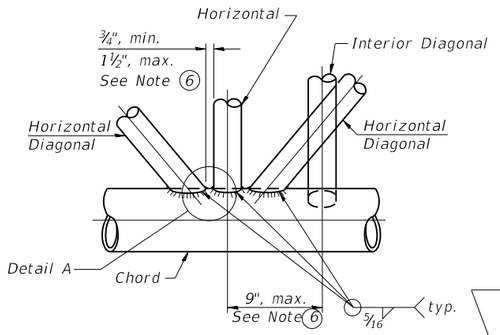


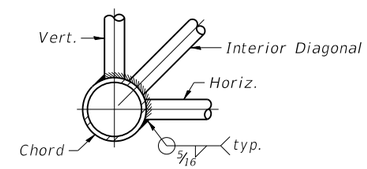
ELEVATION
TYPICAL INTERIOR UNIT

Even number of panels/interior unit required.

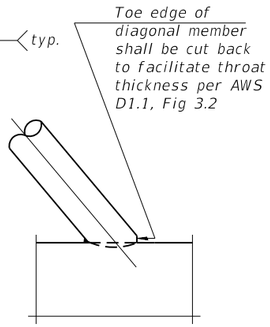


SUPPORT END DETAIL FOR EXTERIOR UNIT

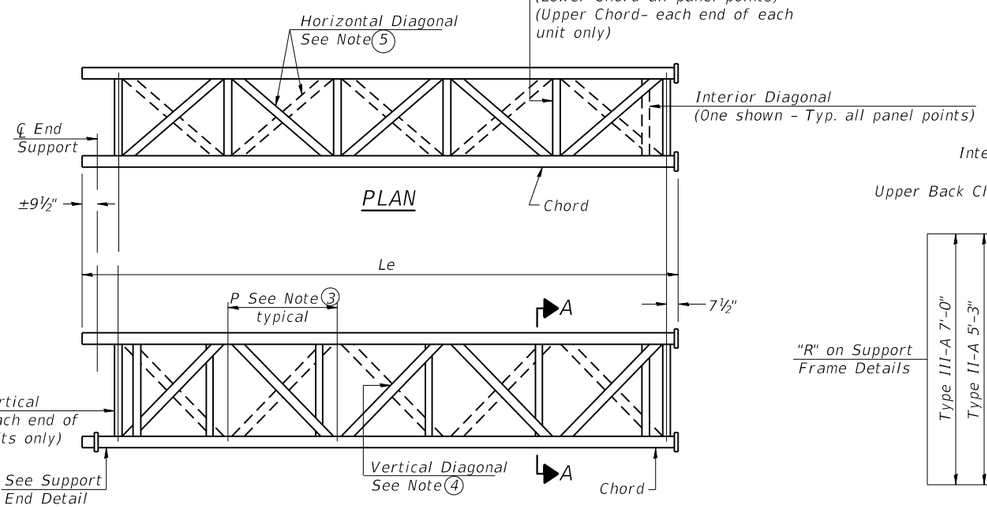




TYPICAL JOINT DETAILS

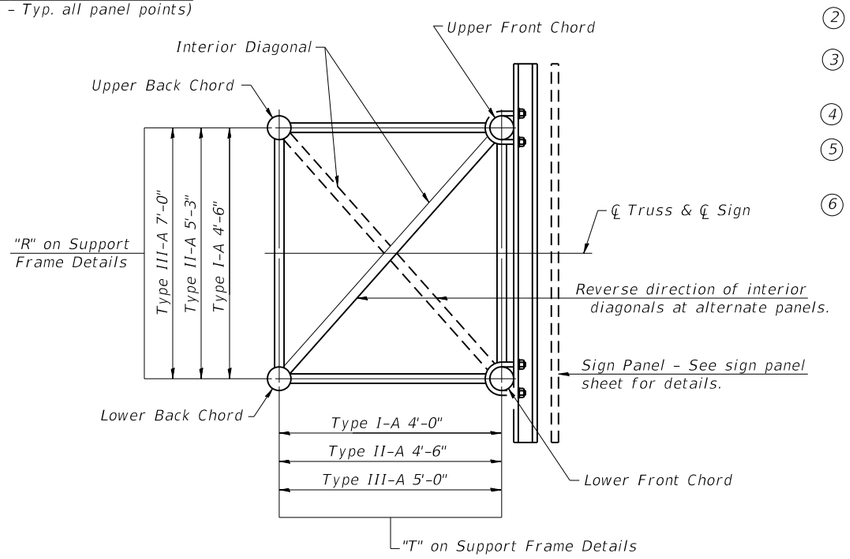


DETAIL A



ELEVATION
TYPICAL EXTERIOR UNIT

Even or odd number of panels/exterior units allowed.



SECTION A-A

1. Contractor may alternatively use standard aluminum drive-fit cap to close end. ½" Ø drain hole in end plate/drive-fit cap. (Typ. at ends of all chords)
2. 5½" end dimension may vary by ±1" to provide uniform panel spacing (P).
3. Panel spacing (P) shall be uniform for entire truss and between 4'-0" and 5'-0" for Type I-A or 4'-0" and 5'-6" for Types II-A and III-A.
4. Vertical Diagonals in front and back face shall alternate.
5. Hidden lines show wind bracing alternates direction between planes of top and bottom chords.
6. All diagonals shall be detailed for minimum offset from the panel point based on the following: Offset shall be such as to provide a ¾" minimum to 1½" maximum clearance between any diagonal and any horizontal or vertical member, and to provide clearance for U-bolt connections of signs or walkway brackets.

OS-A-2 2-17-2017

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PLOT DATE = 3/11/2019	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES – ALUMINUM TRUSS
DETAILS FOR TRUSS TYPES I-A, II-A AND III-A

SCALE: | SHEET 2 OF 10 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D2 DMS 2019-1	*	24	13
		CONTRACT NO. 64K76		
	ILLINOIS FED. AID PROJECT			

* HENRY / ROCK ISLAND

MODEL: Default
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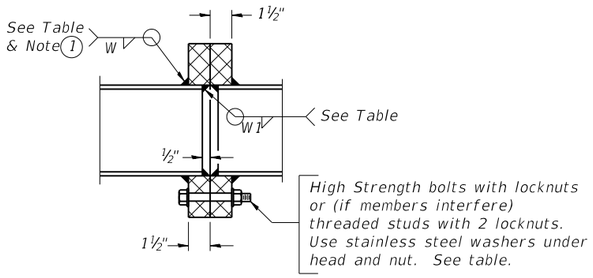
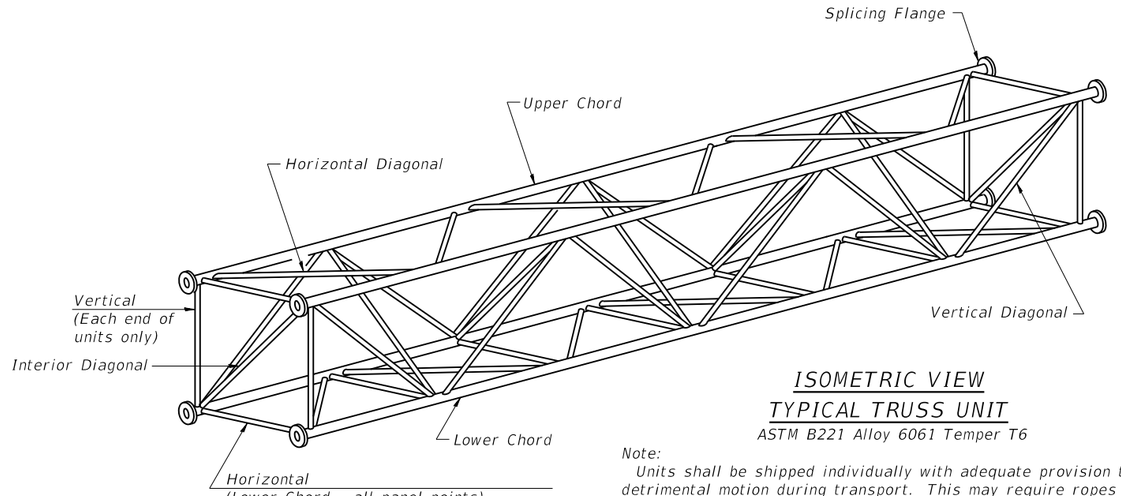
TRUSS UNIT TABLE

	Structure Number	Station	Design Truss Type	Exterior Units (2)			Interior Unit				Upper & Lower Chord		Verticals; Horizontals; Vertical,Horizontal, and Interior Diagonals		Camber at Midspan	Splicing Flange					
																Bolts		Weld Sizes		A	B
				No. Panels per Unit	Unit Lgth.(Le)	Panel Lgth.(P)	No. Req'd.	No. Panels per Unit	Unit Lgth.(Li)	Panel Lgth.(P)	O.D.	Wall	O.D.	Wall		No./Splice	Dia.	W	W1		
SN 227	2S0811088L002.1	110+80	III-A	6	34'-1 1/2"	5'-4 1/2"	1	6	33'-6"	5'-4 1/2"	7"	5/16"	3 1/4"	5/16"	2 3/8"	6	1"	7/16"	5/16"	11 1/2"	15"
SN 229	2S0371074L015.7	826+97	III-A	6	34'-1 1/2"	5'-4 1/2"	1	6	33'-6"	5'-4 1/2"	7"	5/16"	3 1/4"	5/16"	2 3/8"	6	1"	7/16"	5/16"	11 1/2"	15"
SN 228	2S0371080L012.0	671+30	III-A	6	34'-1 1/2"	5'-4 1/2"	1	6	33'-6"	5'-4 1/2"	8 1/2"	1/2"	3 1/2"	5/16"	2 3/8"	8	1 1/4"	9/16"	7/16"	13"	16 1/2"



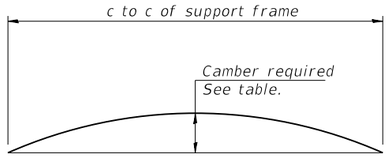
SECTION B-B

(1) Splicing Flanges shall be attached to each truss unit with the truss shop assembled to camber shown. Truss units shall be in proper alignment and flange surfaces shall be shop bolted into full contact before welding. Sufficient external welds or tacks shall be made to secure flanges until remaining welds are made after disassembly. Adjacent flanges shall be "match marked" to insure proper field assembly.



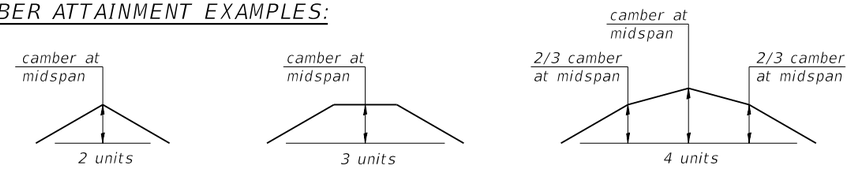
ISOMETRIC VIEW
TYPICAL TRUSS UNIT
ASTM B221 Alloy 6061 Temper T6

Note:
Units shall be shipped individually with adequate provision to prevent detrimental motion during transport. This may require ropes between horizontals and diagonals or energy dissipating (elastic) ties to the vehicle. The Contractor is responsible for maintaining the configuration and protection of the units.

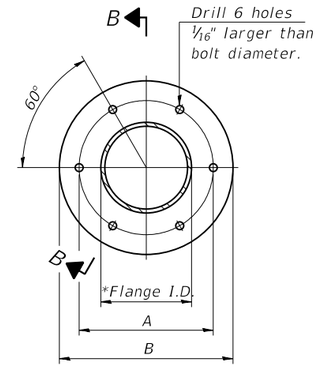


CAMBER DIAGRAM
Camber curve shown is theoretical. Actual camber attained by slope changes at splices between units.

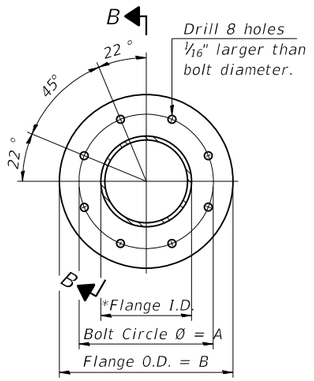
CAMBER ATTAINMENT EXAMPLES:



Camber shown is for fabrication only, measured with truss fully supported. (No-load condition)



TRUSS TYPES I-A, II-A, & III-A



TRUSS TYPES II-A & III-A

SPLICING FLANGES

ASTM B221, Alloy 6061-T6
or ASTM B209, Alloy 6061-T651
*To fit O.D. of Chord with maximum gap of 1/16".

0S4-A-2 2-17-2017

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PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 3/11/2019	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES – ALUMINUM TRUSS DETAILS FOR TRUSS TYPES I-A, II-A AND III-A

SCALE: | SHEET 3 OF 10 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D2 DMS 2019-1	*	24	14
		CONTRACT NO. 64K76		
	ILLINOIS FED. AID PROJECT			

* HENRY / ROCK ISLAND

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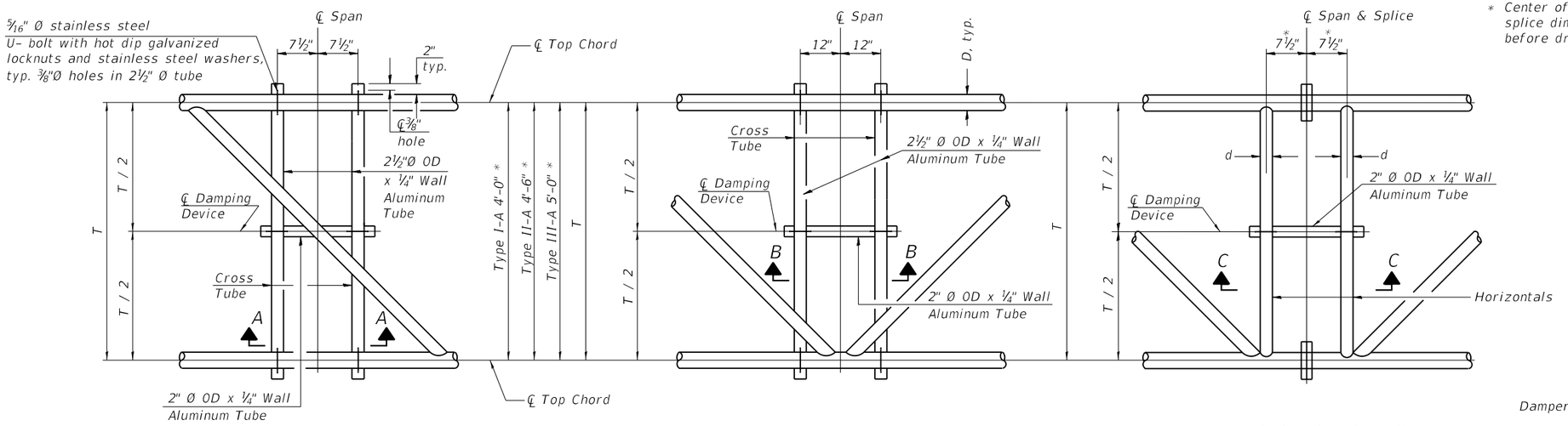
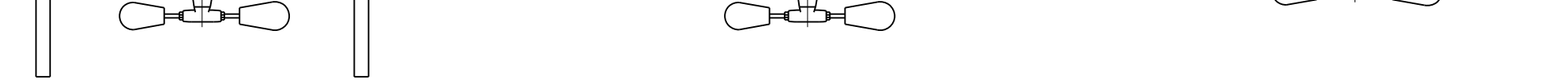


* Center of horizontal to center of splice dimension may vary. Verify before drilling holes in mounting tube.

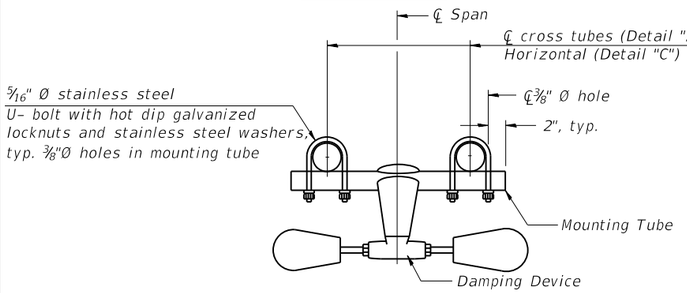
PLAN DETAIL "A"
℄ Span between Panel Points

PLAN DETAIL "B"
℄ Span at Panel Point

PLAN DETAIL "C"
℄ Span at ℄ Chord Splice

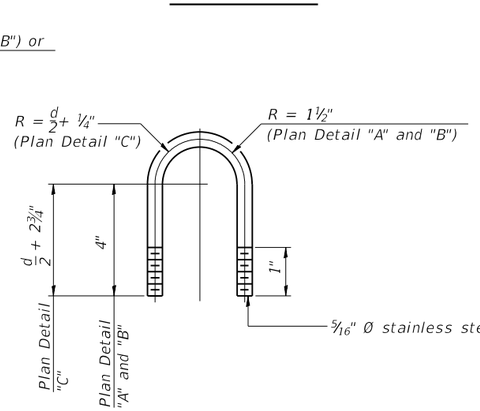


SECTION A-A



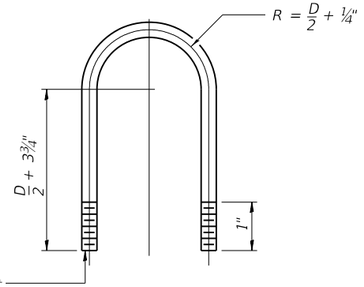
TRUSS DAMPING DEVICE CONNECTION DETAIL
(Typical)

SECTION B-B

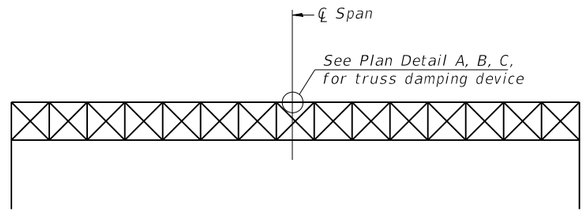


DAMPING DEVICE MOUNTING TUBE U-BOLT DETAIL
(Typical)

SECTION C-C



TOP CHORD TO CROSS TUBE U-BOLT DETAIL
(Typical - Detail "A" and "B")



ELEVATION
Aluminum Overhead Sign Truss

NOTES

Damper: One damper per truss. (31 lbs. minimum Stockbridge-Type Aluminum - 29" minimum between ends of weights) Cost included in Overhead Sign Structure...

Materials: Materials: Aluminum tubes shall be ASTM B221 alloy 6061 temper T6. Cost included in Overhead Sign Structure...

OS-A-D 2-17-2017

USER NAME = goffjl	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 3/11/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURE
DAMPING DEVICE

SCALE: | SHEET 4 OF 10 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D2 DMS 2019-1	*	24	15
		CONTRACT NO. 64K76		
	ILLINOIS FED. AID PROJECT			

* HENRY / ROCK ISLAND

MODEL: Default
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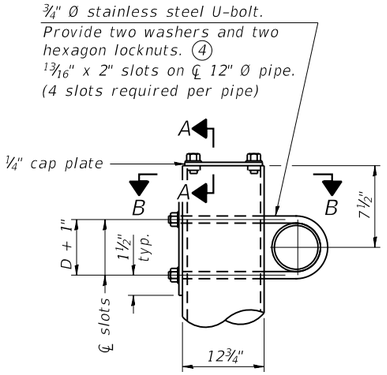
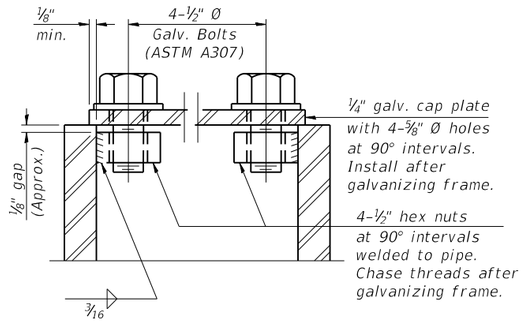
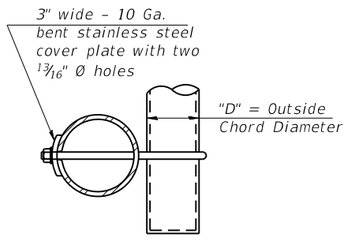


DETAIL A

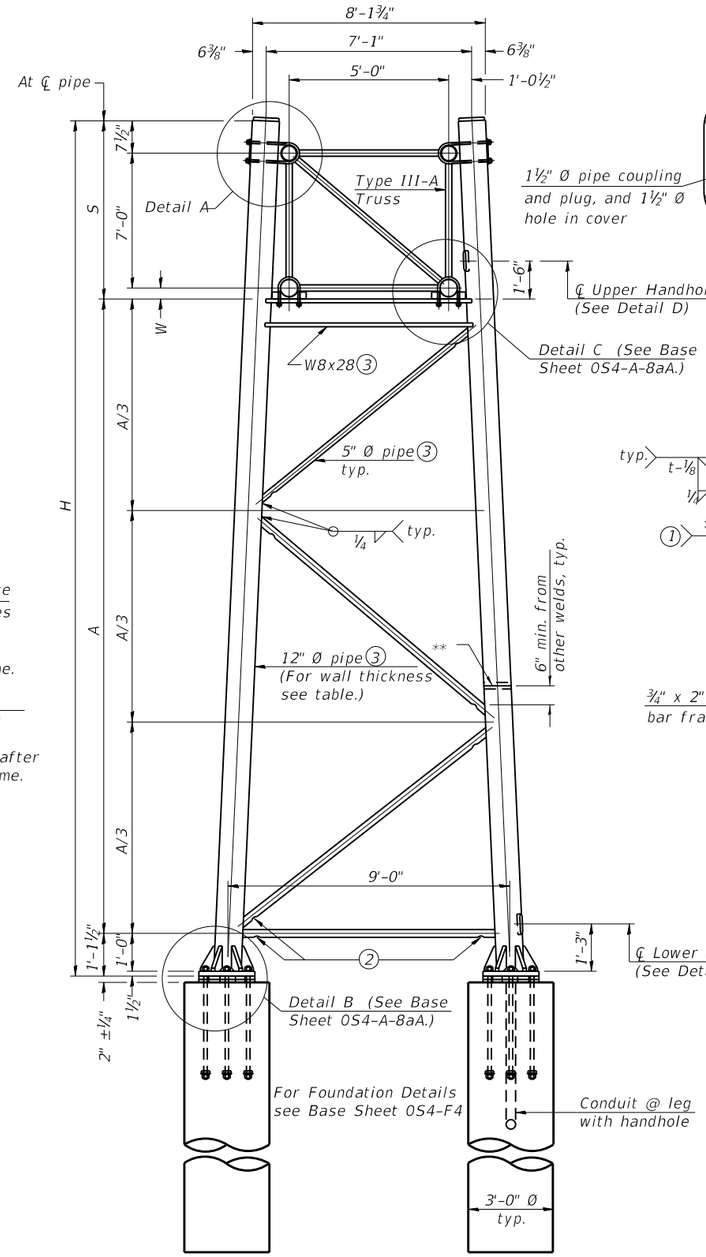


SECTION A-A

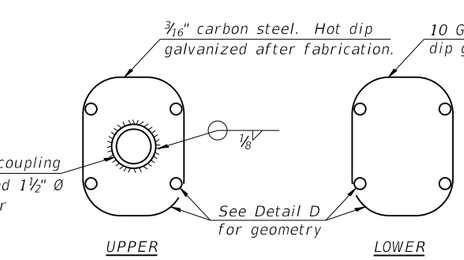
As an alternate to bolts, may use galvanized drive-fit caps installed after galvanizing frame.



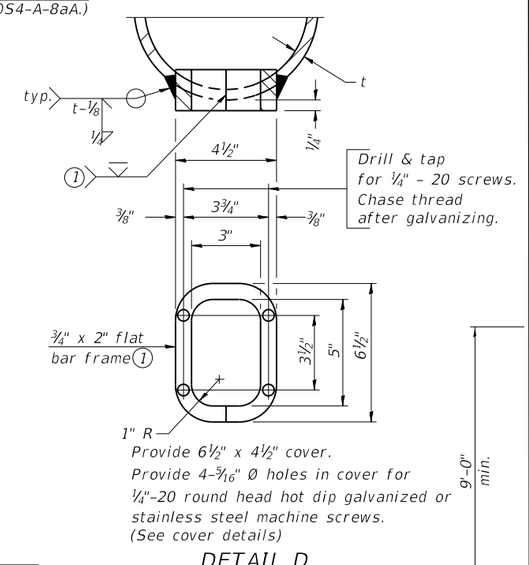
SECTION B-B



SIDE ELEVATION

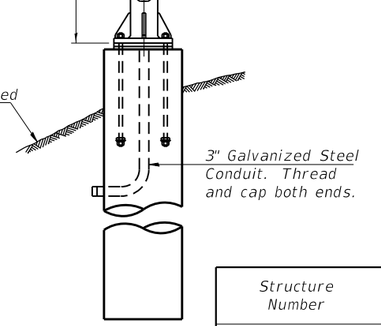


HANDHOLE COVERS



DETAIL D

Dimensions		
Truss Chord Nominal Dia.	W	S
7"	4¾"	8'-0¼"
8½"	5½"	8'-1"
9"	5¾"	8'-1¼"



END ELEVATION

Support Design Loads: See Base Sheet 0S-A-1 for design and loading criteria.
Load combinations checked include deadload plus:
a) 100% wind normal to sign, 20% parallel to sign
b) 60% wind normal to sign, 30% parallel to sign

1. In lieu of fabricated handhole frame as shown, may cut from 2" plate (rolling direction vertical). All cut faces to be ground to ANSI Roughness of 500 µin or less.
2. Galvanizing vent holes of adequate size shall be provided on underside at each end of bracing pipes. Alternately, holes may be provided in wall of pipe column. All vent holes shall be drilled and de-burred, typ.
3. Steel pipe, plate, carbon steel handhole covers and rolled sections shall be hot dip galvanized after fabrication. Painting is not permitted. See Base Sheet 0S-A-1.
4. See General Notes for fasteners.
5. Dimensions shown are based on selection criteria in the Sign Structures Manual. Nonstandard applications must have dimensions verified or amended as appropriate.
6. "H" based on 15'-0" or actual sign height, whichever is greater.

* For dynamic message sign installations, provide upper and lower handholes in both legs of each support frame.

Structure Number	Station	Support Left	Support Right	Pipe Wall Thickness	H (6)	A
SN 227	2S081I088L002.1	110+80	X		0.33"	30'-3 3/4"	21'-2"
				X	0.33"	31'-10 7/8"	22'-9 1/8"
SN 229	2S037I074L015.7	826+97	X		0.33"	30'-2 3/8"	21'-0 5/8"
				X	0.33"	29'-3 5/8"	20'-1 7/8"
SN 228	2S037I080L012.0	671+30	X		0.5"	31'-2 1/4"	21'-11 3/4"
				X	0.5"	36'-0"	26'-9 1/2"

TRUSS SUPPORT DETAILS

(12" Ø Pipe-Type III-A Truss

** One butt welded joint is allowed only on one post per support frame. If used, weld procedure must be pre-approved by Engineer and joint shall receive 100% RT or UT (tension criteria) at Contractor's expense.

0S4-A-8a 2-17-2017

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES – SUPPORT FRAME FOR TYPE III-A ALUMINUM TRUSS

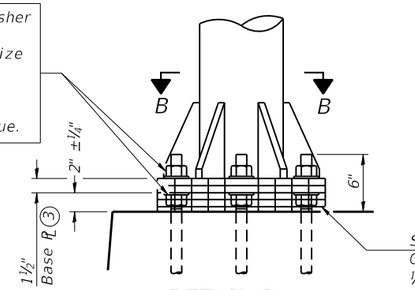
SCALE: | SHEET 5 OF 10 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D2 DMS 2019-1	*	24	16
		CONTRACT NO. 64K76		
	ILLINOIS FED. AID PROJECT			

* HENRY / ROCK ISLAND

MODEL: Default
FILE NAME: pw:\\dlanroom.dot.illinois.gov:PWIDOT\Documents\IDOT Offices\IDist rict 2\Projects\64K76\Program Development\Studies & Plans\Dist$\CADD\CADsheets\D2-64K76-sht-dets.dgn

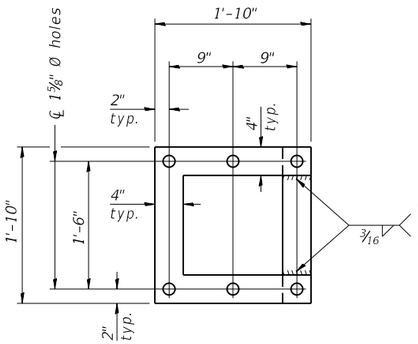
Hexagon locknut and washer (top), leveling nut and washer (bottom). Galvanize per AASHTO M232. Nuts shall each be tightened against base plate with 200 lb.–ft. minimum torque.



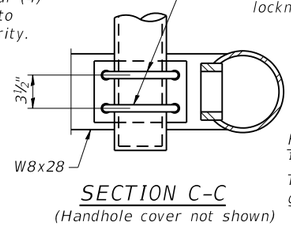
DETAIL B

Ribs shall be cut to fit slope of pipe.

Stainless Steel Standard Grade Wire Cloth, 3" wide, ¼" maximum opening with a minimum wire diameter of AWG. No. 16 with a minimum 2" lap. Secure to base plate after erection with ¾" stainless steel banding.

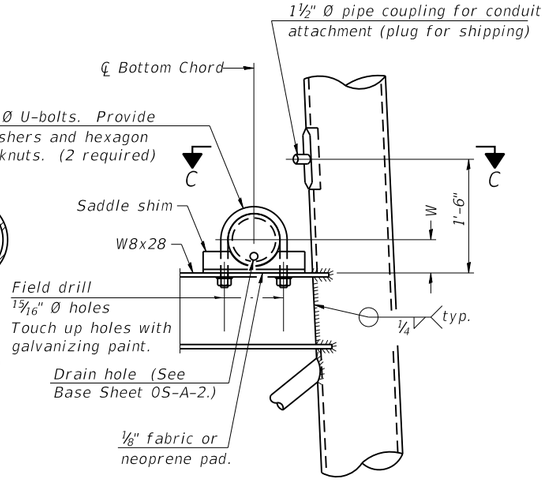


POSITIONING PLATE(S)

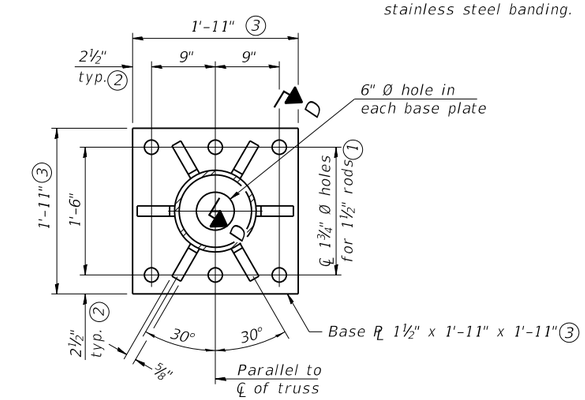


SECTION C–C

(Handhole cover not shown)



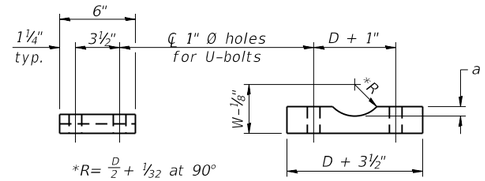
DETAIL C



SECTION B–B

ANCHOR ROD DETAIL

Anchor rods shall conform to ASTM F1554 Grade 105 Galvanize upper 12" minimum per AASHTO M232. No welding shall be permitted on rods.



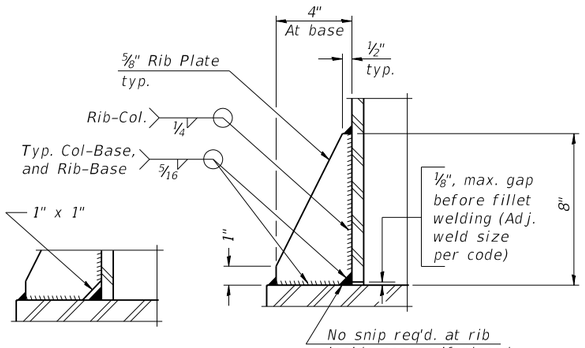
*R= $\frac{D}{2}$ + 1/32 at 90°

D = Outside Diameter of Chord.
For W, see Base Sheet 0S–A–6.

Truss Chord Nominal Dia.	a
7"	1"
8½"	1¼"
9"	1⅜"

SADDLE SHIM DETAIL

ASTM B26 Alloy 356–F
or
ASTM B209 Alloy 6061–T651
(4 required per sign truss)



** Alternate detail if welding col. to base plate first, then snip inside corner of ribs. Terminate weld on rib ¼" from snip.

SECTION D–D

TYPE III–A TRUSS
12" Ø PIPE SUPPORT FRAME DETAILS

Notes:
For Type III–A Truss spans greater than 150 ft, and up to 160 ft.:

① 1¾" Ø rod, 2" Ø holes

② 2¾" edge distance

③ Base PL 1⅝" x 1'–11½" x 1'–11½"

0S4–A–8aA 2–17–2017

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES
SUPPORT FRAME FOR TYPE III–A ALUMINUM TRUSS

SCALE: | SHEET 6 OF 10 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D2 DMS 2019-1	*	24	17
		CONTRACT NO. 64K76		
	ILLINOIS	FED. AID PROJECT		

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MODEL: Default
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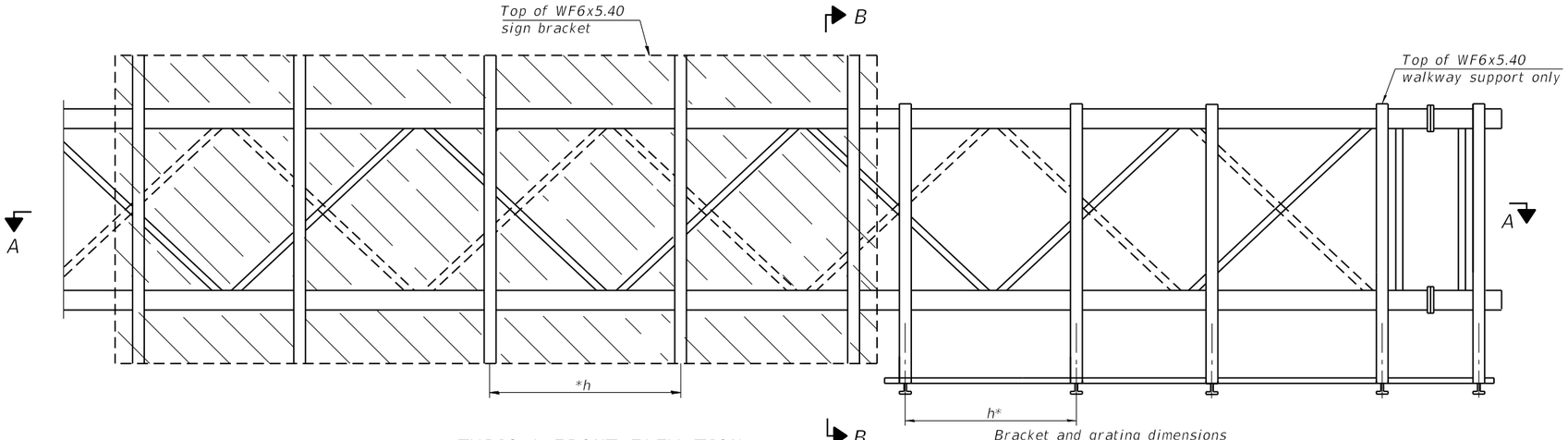
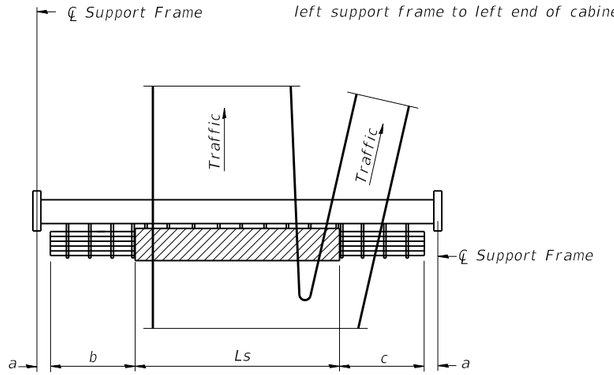


TYPICAL FRONT ELEVATION

With handrail omitted for clarity.

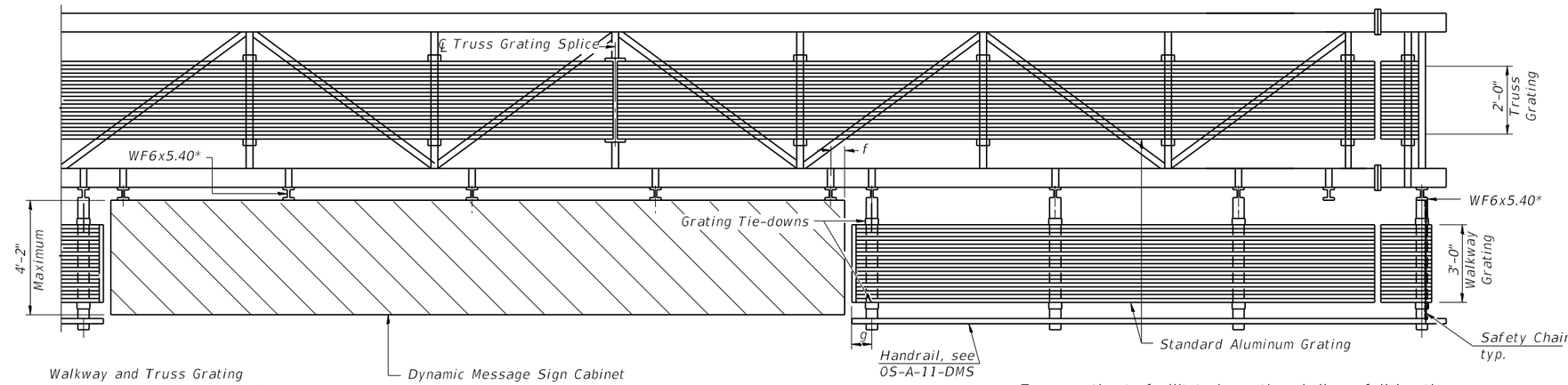
Bracket and grating dimensions are nominal and will vary based on actual DMS cabinet dimensions plus manufacturer's mounting devices.

① If walkway is required left of the DMS cabinet, a=1'-6" and b=walkway lengths. If walkway is not required left of the DMS cabinet, b=0 and "a" is dimension from left support frame to left end of cabinet.



PLAN
WALKWAY AND HANDRAIL SKETCH

(Road plan beneath truss varies)



Walkway and Truss Grating width dimensions are nominal and may vary ±½" based on available standard widths.

Truss grating to facilitate inspection shall run full length (center to center of support frames) ±12" on overhead trusses. Cost of truss grating is included in "Overhead Sign Structure".

BRACKET TABLE

WF6x5.40
ASTM B308, Alloy 6061-T6

Sign Width		Number Brackets Required
Greater Than	Less Than or Equal To	
	8'-0"	2
8'-0"	14'-0"	3
14'-0"	20'-0"	4
20'-0"	26'-0"	5
26'-0"	32'-0"	6

SECTION A-A

Handrail and walkway shall span a minimum of three brackets between splices and/or gap joints.
Place all sign and walkway brackets as close to panel points as practical.
Grating and handrail splices placed as needed.

	Structure Number	Station	a	b	c	Ls	Walkway Grating and Handrail Lengths
SN 227	2S0811088L002.1	110+80	N/A	10	10	24'-0"	10'
SN 229	2S0371074L015.7	826+97	N/A	10	10	24'-0"	10'
SN 228	2S0371080L012.0	671+30	N/A	10	10	24'-0"	10'

Notes:
* Space walkway brackets WF6x5.40 for efficiency and within limits shown:

f = 12" maximum, 4" minimum (End of sign to ℄ of nearest bracket)
g = 12" maximum, 4" minimum (End of walkway grating to ℄ of nearest support bracket)
h = 6'-0" maximum (℄ to ℄ sign and/or walkway support brackets, WF6x5.40

Maximum DMS weight = 5000 lbs. 4'-2" maximum cabinet depth includes depth of cabinet plus connection to WF6x5.40.
For Section B-B and Grating Splice Details, see Base Sheet 0S-A-10-DMS.
For Handrail Splice Details, see Base Sheet 0S-A-11-DMS.

0S-A-9-DMS 2-17-2017

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DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES
ALTERNATE ALUMINUM WALKWAY DETAILS FOR DMS

SCALE: | SHEET 7 OF 10 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D2 DMS 2019-1	*	24	18
		CONTRACT NO. 64K76		
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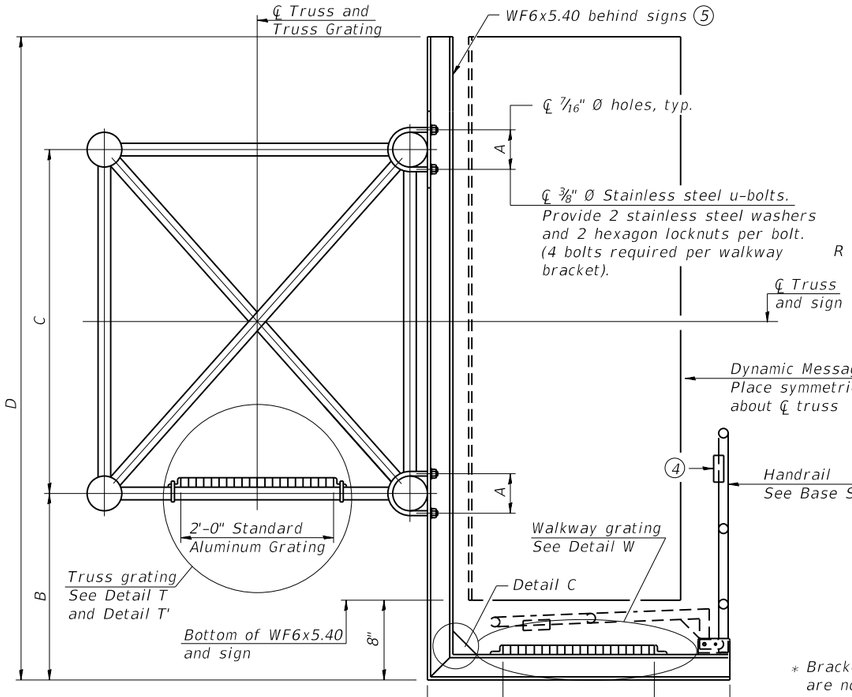
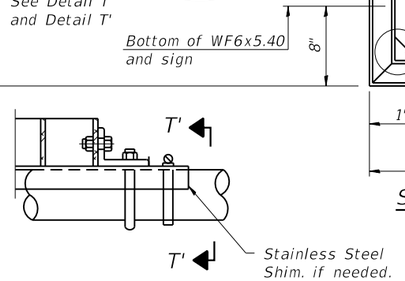
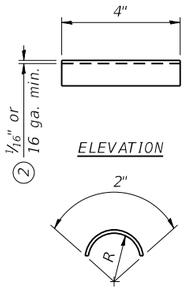


SECTION B-B

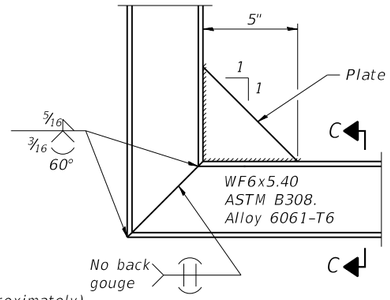


DETAIL T'

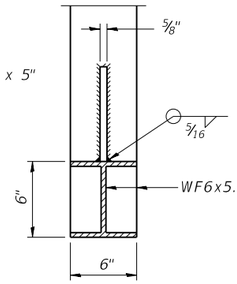
(Truss grating splice)
Details not shown same as Detail T.
Alternate materials may be used subject to the Engineer's review and approval.



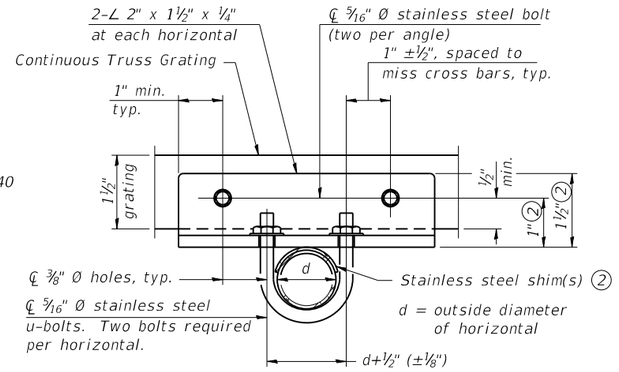
SHIM DETAIL



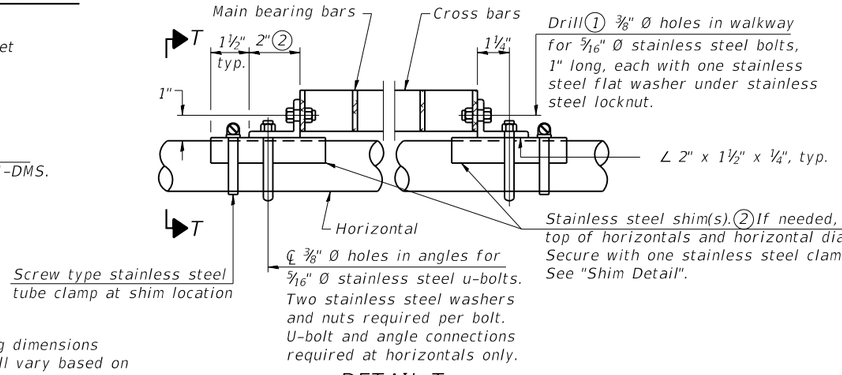
DETAIL C



SECTION C-C

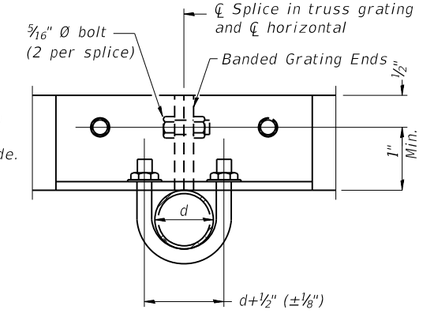


SECTION T-T



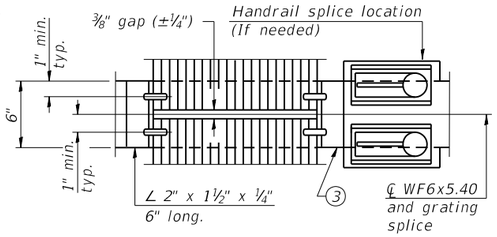
DETAIL T

(Continuous Truss grating)

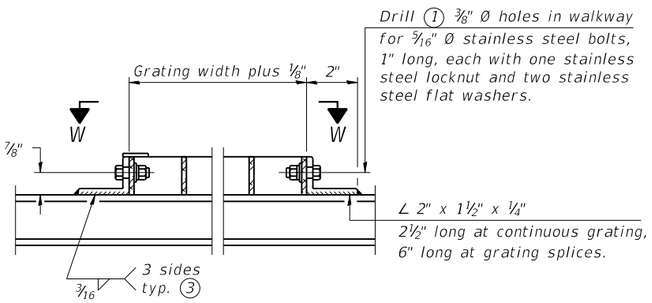


SECTION T'-T'

* Bracket and grating dimensions are nominal and will vary based on actual DMS cabinet dimensions plus manufacturer's mounting devices.

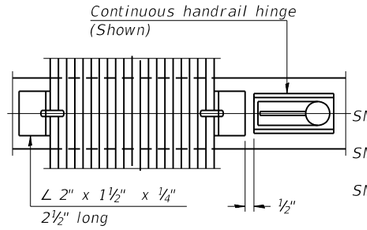


(AT WALKWAY GRATING SPLICE)



DETAIL W

(Walkway grating)



(CONTINUOUS WALKWAY GRATING)

SECTION W-W

SPECIFICATIONS FOR STANDARD ALUMINUM GRATING

Main Bearing Bars shall be 3/16" x 1½" on 1 3/16" centers and conform to ASTM B211 Alloy 6061-T6.

Cross bars shall be 3/16" x 1½" on 4" centers and conform to ASTM B221 Alloy 6063-T5 or 6061-T6.

OR

Aluminum Grating with modified "t" sections for main bearing bars shall meet the following requirements:

Main bars shall conform to ASTM B221 Alloy 6061-T6 and have a minimum section modulus equal to 0.0705 in.³ per bar, a depth of 1½", spaced on 1 3/16" centers.

Cross bars shall conform to ASTM B221 Alloy 6063-T5 or T-42 and spaced on 4" centers.

Structure Number	Station	A	(6) B	C	(6) D
2S081I088L002.1	110+80	7 1/2"	2'-3"	7'-0"	10'-10"
2S037I074L015.7	826+97	7 1/2"	2'-3"	7'-0"	10'-10"
2S037I080L012.0	671+30	9"	2'-3"	7'-0"	10'-10"

(1) Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.

(2) Stainless steel shims shall be placed as shown in Detail T if needed to compensate for alignment variations between horizontal and diagonal pipes beyond adjustment provided by angles. Thicker shims may be used subject to shims performing properly.

(3) If Handrail Joint present, weld angle to WF(A-N)4 and ¼" extension bars. (See Base Sheet 0S-A-11.)

(4) PL ⅛" x ½" x 2" welded to handrail posts to protect locations that contact grating.

(5) Cabinet manufacturer must design and supply hardware for connection of cabinet to WF6's. Bolts must be stainless steel or hot dip galvanized high strength per IDOT specifications.

(6) Based on actual height of tallest sign given on 0S-A-1.

0S-A-10-DMS 2-17-2017

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES
ALTERNATE ALUMINUM WALKWAY DETAILS FOR DMS

SCALE: | SHEET 8 OF 10 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D2 DMS 2019-1	*	24	19
		CONTRACT NO. 64K76		
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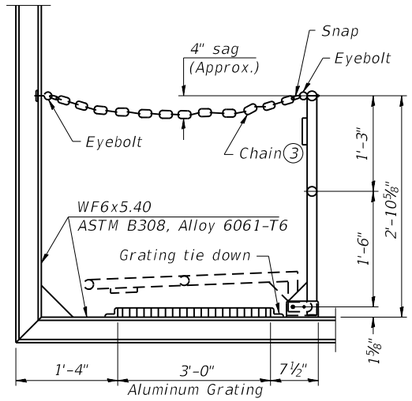
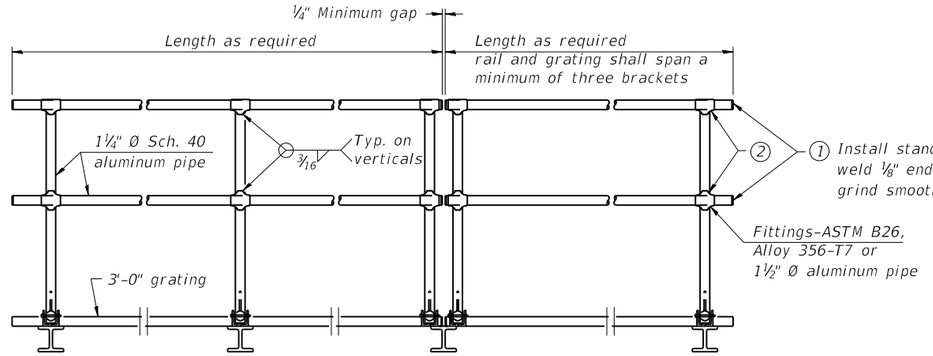
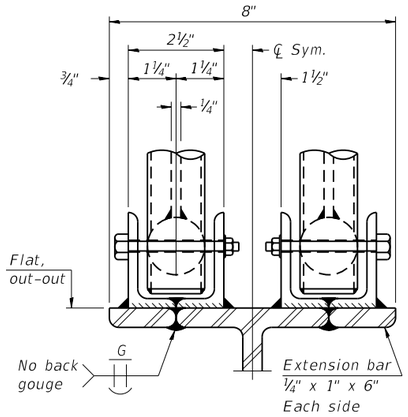


SIDE ELEVATION

(Showing safety chain w/o sign)



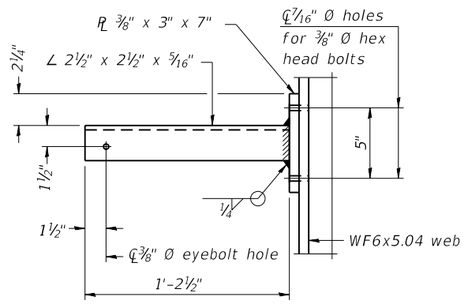
FRONT ELEVATION



ELEVATION AT HANDRAIL JOINT (4)

HANDRAIL DETAILS

Handrail pipe shall be ASTM B241, Alloy 6063-T6 or Alloy 6061-T6.

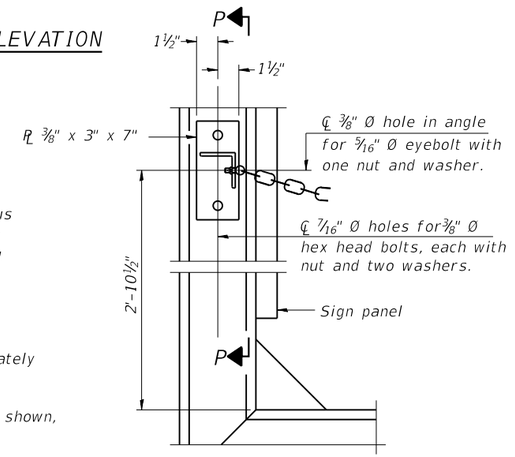


SECTION P-P

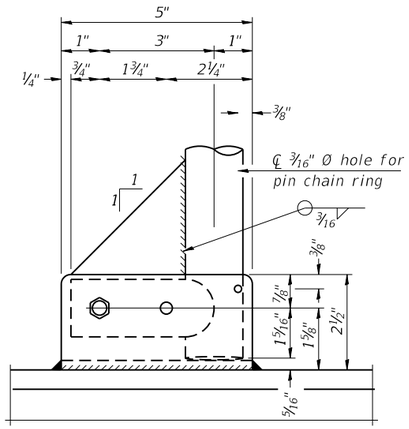
(2) Horizontal handrail member shall be continuous thru fitting. Provide 7/16" Ø hole in fitting for ⅜" Ø bolt. Field drill 7/16" Ø hole in horizontal rail member. Provide washer and locknut for bolt. (Use 5/16" eyebolts in 7/16" Ø holes on top rail at ends only.)

(3) 3/16" type 304L stainless steel chain, approximately 12 links per foot.

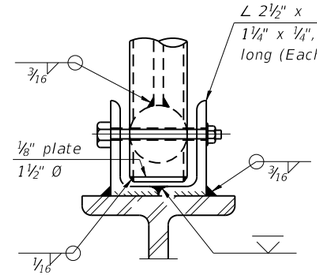
(4) Extrusions may be used in lieu of the details shown, with approval of the Engineer.



ALTERNATE SAFETY CHAIN ATTACHMENT



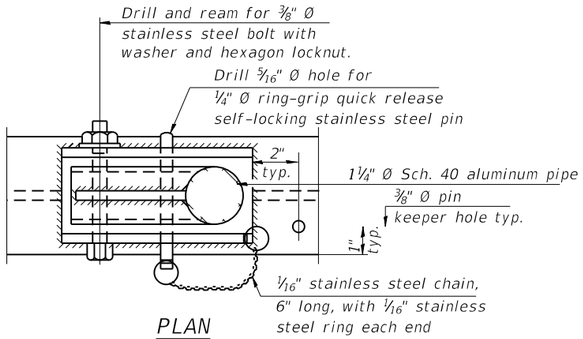
SIDE ELEVATION



FRONT ELEVATION

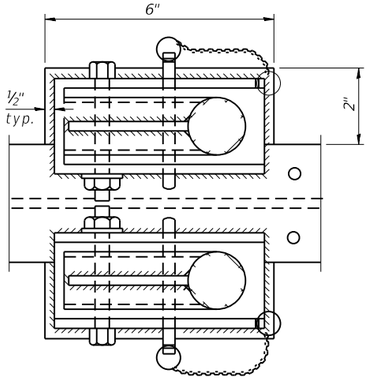
See "ELEVATION" at right for dimensions.

(With Sign Present)
Items not shown same as "Side Elevation" of "Handrail Details"



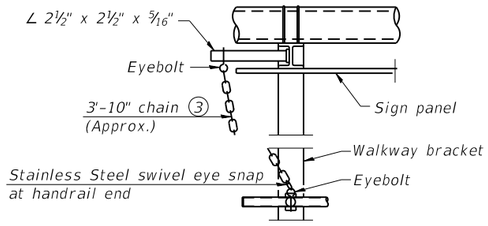
PLAN

DETAIL E HANDRAIL HINGE



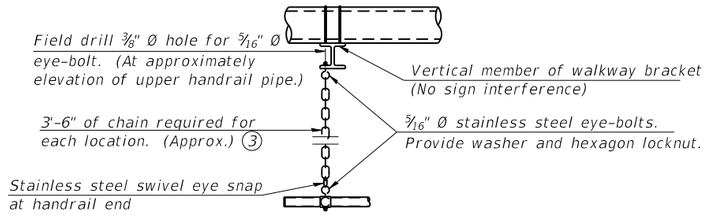
PLAN AT HANDRAIL JOINT

Details not shown same as "PLAN"



ALTERNATE SAFETY CHAIN ATTACHMENT

Details not shown similar to "Safety Chain" Details
(Walkway omitted for clarity)



SAFETY CHAIN

One required for each end of each walkway.

OS-A-11-DMS 2-17-2017

USER NAME = goffjl	DESIGNED -	REVISED -	STATE OF ILLINOIS
	DRAWN -	REVISED -	DEPARTMENT OF TRANSPORTATION
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 3/11/2019	DATE -	REVISED -	

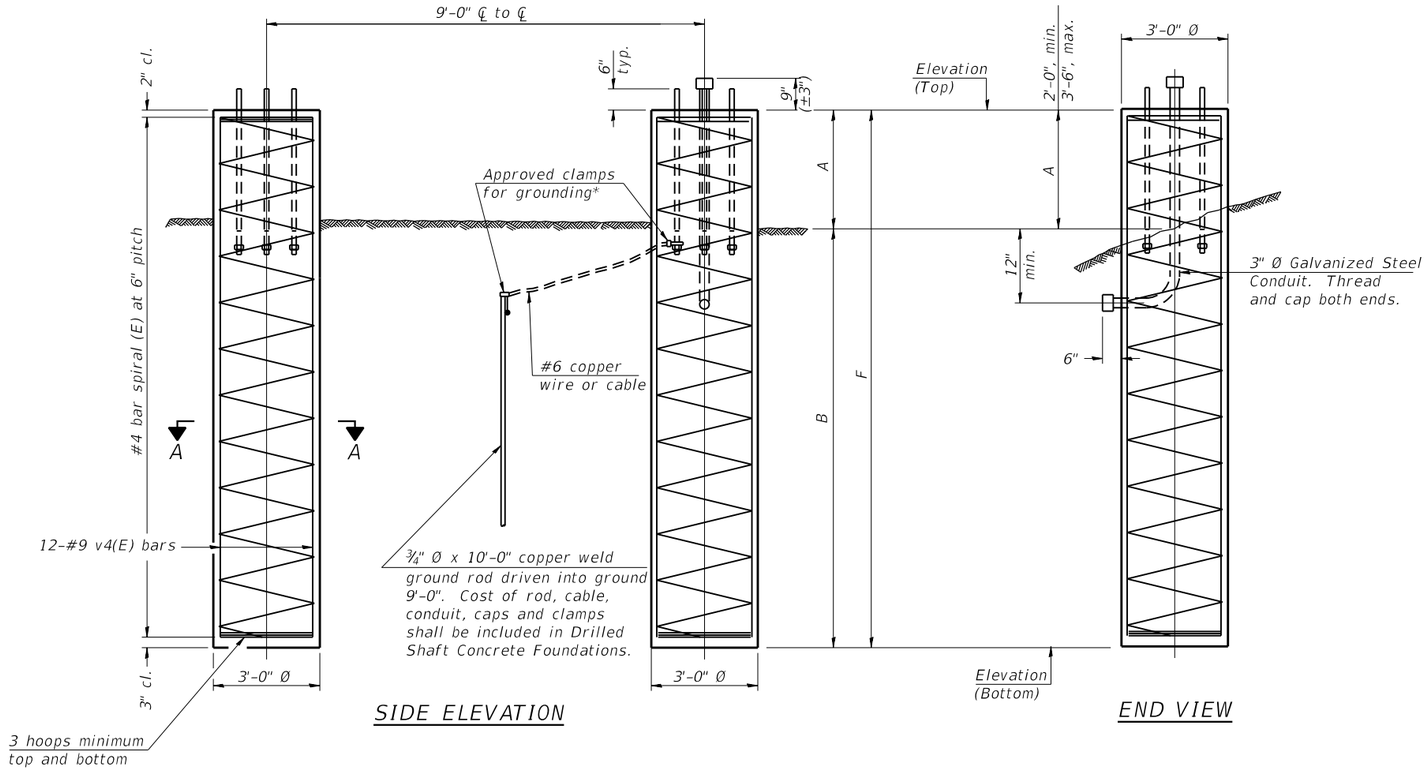
OVERHEAD SIGN STRUCTURES
ALTERNATE ALUMINUM HANDRAIL DETAILS FOR DMS

SCALE: | SHEET 9 OF 10 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D2 DMS 2019-1	*	24	20
		CONTRACT NO. 64K76		
		ILLINOIS	FED. AID PROJECT	

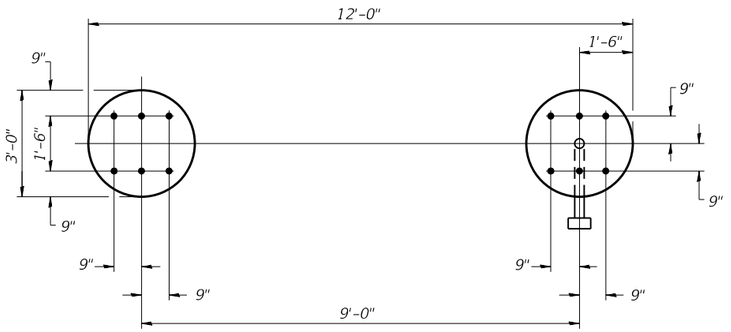
* HENRY / ROCK ISLAND

MODEL: Default
FILE NAME: pw:\\planroom.dot.illinois.gov:PWDOT1Documents\IDOT Offices\District 2\Projects\64K76\Program Development\Studies & Plans\Design\CADD\CADsheets\D2-64K76-sht-details.dgn



SIDE ELEVATION

END VIEW



PLAN

For anchor rod size and placement, see Support Frame Detail Sheet.

* Anchor rod shall be ground or filed to bright metal at clamp and cable connection location.

BAR LIST - EACH FOUNDATION

Bar	Number	Size	Length	Shape
v4(E)	24	#9	F less 5"	——
#4 bar spiral (E) - see Side Elevation				

NOTES:

The foundation dimensions shown are based on the presence of mostly cohesive soils with an average Unconfined Compressive Strength (Qu) of at least 1.25 tsf, which must be determined by previous soil investigations at the jobsite. When other conditions are indicated, the boring data will be included in the plans and the foundation dimensions shown will be the result of site specific designs.

If the conditions encountered are different than those indicated, the Contractor shall notify the Engineer to determine if the foundation dimensions need to be modified. If dimensions "B" or "F" are revised by more than 12" by the Contractor, "as-built" plans shall be prepared and submitted to the District Bureau of Operations for future reference.

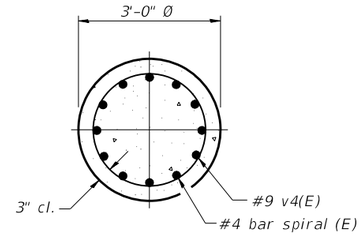
No sonotubes or decomposable forms shall be used below the lower conduit entrance.

Permanent metal forms or other shielding may not be left in place below that elevation without the Engineer's written permission.

Concrete shall be placed monolithically, without construction joints.

Backfill shall be placed per Article 502 of Standard Specification and prior to erection of support column.

A normal surface finish followed by a Concrete Sealer application will be required on concrete surfaces above the lowest elevation 6" below finished ground line. Cost included in Drilled Shaft Concrete Foundation.



SECTION A-A

DETAILS FOR 12" Ø SUPPORT FRAME TYPE III-A TRUSS

	Structure Number	Station	Left Foundation					Right Foundation					Class DS Concrete (Cu. Yds.)
			Elevation Top	Elevation Bottom	A	B	F	Elevation Top	Elevation Bottom	A	B	F	
SN 227	2S081I088L002.1	110+80	579.4	554.6	2.8	22.0	24.8	577.8	554.0	2.8	21.0	23.8	25.4
SN 229	2S037I074L015.7	826+97	723.4	683.1	2.8	37.5	40.3	724.3	690.0	2.8	31.5	34.3	39.1
SN 228	2S037I080L012.0	671+30	686.3	665.5	2.8	18.0	20.8	681.5	659.0	3.5	19.0	22.5	22.7

OS4-F4

2-17-2017

USER NAME = goffjl	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 3/11/2019	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES
DRILLED SHAFT DETAILS

SCALE: | SHEET 10 OF 10 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D2 DMS 2019-1	*	24	21
		CONTRACT NO. 64K76		
	ILLINOIS FED. AID PROJECT			

* HENRY / ROCK ISLAND

MODEL: Default
FILE NAME: pw:\\dlanroom.dot.illinois.gov:PWIDOTDocuments\IDOT Offices\District 2\Projects\64K76\Program Development\Studies & Plans\Design\CADD\CADD\sheets\D2-64K76-int-details.dgn

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 1 of 1

Date 10/28/16

ROUTE FAI 88 DESCRIPTION P-92-DMS-16 WB I-88 Digital Message Sign, 2 m. E. of I-80 LOGGED BY N. White

SECTION LOCATION Zuma Twp. - NE 19-NW20, SEC. , TWP. 18N, RNG. 2-3E

COUNTY Rock Island DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME-45

STRUCT. NO.
Station

Latitude 41° 32' 10.44" Northing 1,773,567.4024
Longitude -90° 18' 07.98" Easting 2,259,474.4224

BORING NO. B-1c
Station 111+38
Offset 36.00ft Lt CL
Ground Surface Elev. 97.60 ft

Surface Water Elev. ft
Stream Bed Elev. ft
Groundwater Elev.:
First Encounter 78.1 ft ▼
Upon Completion 86.6 ft ▽
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
MEDIUM brown SANDY LOAM		0.5 P	16.0
95.60			
MEDIUM brown medium-coarse SAND	5 6 10		
93.60			
STIFF brown and gray dry LOAM with GRAVEL	-5 5 6 7	2.5 P	19.0
91.10			
DENSE gray medium-coarse SAND	10 21 26		
88.60			
STIFF brown CLAY	-10 4 5 9	1.7 B	24.0
86.60 ▽			
MEDIUM dark gray CLAY LOAM with 6.9ORGANICS	3 4 6	1.0 B	34.0
84.10			
MEDIUM gray dry LOAM with 4" GRAVEL seam with 6.9% ORGANICS	-15 15 7 4	0.8 P	39.0
81.10			
VERY STIFF gray SHALE	8 17 21	3.5 P	17.0
79.10			
▼	-20 100/11"		

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
HARD gray SHALE with GRAVEL seam (continued)			21.0
76.10			
HARD gray SHALE	27 24 50		
74.10			
HARD gray SHALE	-25 100/9"		
71.60			
End of Boring			
	-30		
	-35		
	-40		

Northing and Easting were calculated using the ILHP-WF coordinate system

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 1 of 1

Date 10/31/16

ROUTE FAI 88 DESCRIPTION P-92-DMS-16 WB I-88 Digital Message Sign, 2 m. E. of I-80 LOGGED BY N. White

SECTION LOCATION Zuma Twp. - NE 19-NW20, SEC. , TWP. 18N, RNG. 2-3E

COUNTY Rock Island DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME-45

STRUCT. NO.
Station

Latitude 41° 32' 11.04" Northing 1,773,628.2997
Longitude -90° 18' 08.40" Easting 2,259,443.3082

BORING NO. B-2c
Station 111+27
Offset 29.50ft Rt CL
Ground Surface Elev. 98.50 ft

Surface Water Elev. ft
Stream Bed Elev. ft
Groundwater Elev.:
First Encounter 78.5 ft ▼
Upon Completion 81.5 ft ▽
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
MEDIUM black SANDY LOAM		1.0 P	16.0
96.50			
MEDIUM medium-coarse brown SAND	2 5 9		
95.00			
DENSE medium-coarse brown SAND	-5 10 15 23		
92.50			
MEDIUM medium-coarse brown SAND with GRAVEL	18 11 9		
89.50			
VERY STIFF gray CLAY LOAM	-10 4 7 10	2.3 S	21.0
87.50			
STIFF dark-gray CLAY LOAM with 12.6ORGANICS	4 4 7	1.3 P	45.0
85.00			
MEDIUM gray CLAY LOAM with 5.8ORGANICS	-15 1 2 4	0.7 B	42.0
82.50			
▽ STIFF gray CLAY	2 4 7	1.6 S	17.0
79.50			
▼	-20 10		

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
HARD gray SHALE with GRAVEL lens (continued)	13 60		14.0
77.00			
HARD gray SHALE with GRAVEL lens	100/3"		
74.50			
End of Boring			
	-30		
	-35		
	-40		

Northing and Easting were calculated using the ILHP-WF coordinate system

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

MODEL: Default
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	DRAWN -	REVISED -
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 3/11/2019	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
LOCATION 1 I-88 WB (MM 2.1) SN 228

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D2 DMS 2019-1	*	24	22
		CONTRACT NO. 64K76		
	ILLINOIS	FED. AID PROJECT		

* HENRY / ROCK ISLAND

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 1 of 1

Date 11/1/16

ROUTE FAI 74 DESCRIPTION P-92-DMS-16 WB I-74 Digital Message Sign, 1.8 m. S. of I-80 LOGGED BY N. White

SECTION LOCATION Colona Twp., SEC. 36, TWP. 17-18N, RNG. 1E

COUNTY Henry DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME-45

STRUCT. NO.
Station

Latitude 41° 24' 53.48" Northing 1,729,354.2600
Longitude -90° 19' 42.65" Easting 2,252,192.7212

BORING NO. B-1a
Station 827+54
Offset 45.00ft Rt CL
Ground Surface Elev. 94.70 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter ft
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
STIFF brown SILTY CLAY LOAM			
92.70		2.5 P	26.0
STIFF brown and gray SILTY CLAY LOAM	3 3 4	2.5 P	21.0
91.20			
-5 SOFT brown and gray SILTY LOAM	2 1 2	0.5 P	27.0
88.70			
SOFT brown SILTY LOAM	1 3 3	0.4 B	25.0
86.20			
-10 MEDIUM brown and gray SILTY LOAM	1 2 4	0.9 B	24.0
83.70			
MEDIUM gray SILTY LOAM	2 3 6	0.9 S	23.0
81.20			
-15 MEDIUM gray SILTY LOAM	1 3 5	0.8 B	26.0
78.70			
MEDIUM gray SILTY LOAM with 12.5RGANICS	1 2 5	0.6 B	39.0
76.20			
-20 STIFF gray SILTY LOAM	2		
STIFF gray SILTY LOAM (continued)	3 5	1.7 S	27.0
73.20			
STIFF gray CLAY LOAM	2 3 6	1.4 B	25.0
71.20			
-25 VERY STIFF gray CLAY LOAM	2 4 7	2.2 B	19.0
68.70			
STIFF gray CLAY LOAM	4 5 7	1.7 B	18.0
66.20			
-30 STIFF gray CLAY LOAM	4 5 8	1.9 B	16.0
63.20			
VERY STIFF gray CLAY LOAM TILL	6 10 12	2.4 B	16.0
61.20			
-35 VERY STIFF gray CLAY LOAM TILL	5 7 10	2.4 B	16.0
58.70			
End of Boring			
-40			

Northing and Easting were calculated using the ILHP-WF coordinate system

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 1 of 1

Date 11/9/16

ROUTE FAI 74 DESCRIPTION P-92-DMS-16 WB I-74 Digital Message Sign, 1.8 m. S. of I-80 LOGGED BY N. White

SECTION LOCATION Colona Twp., SEC. 36, TWP. 17-18N, RNG. 1E

COUNTY Henry DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME-45

STRUCT. NO.
Station

Latitude 41° 24' 53.49" Northing 1,729,355.1693
Longitude -90° 19' 43.92" Easting 2,252,096.1762

BORING NO. B-2a
Station 827+50
Offset 56.50ft Lt CL
Ground Surface Elev. 97.50 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 73.5 ft ▼
Upon Completion 63.5 ft ▽
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
95.50			
HARD black and brown SILTY CLAY	7 8 12	4.9 B	24.0
94.00			
-5 VERY STIFF brown CLAY LOAM	4 6 8	2.8 B	26.0
91.50			
MEDIUM brown SILTY LOAM	2 3 3	0.7 P	25.0
89.00			
-10 MEDIUM brown and gray SILTY LOAM	1 2 4	0.7 B	25.0
86.50			
MEDIUM brown and gray SILTY LOAM	1 2 4	0.6 B	24.0
84.00			
-15 SOFT gray SILTY LOAM	1 3 4	0.3 B	24.0
81.50			
SOFT gray SILTY LOAM	2 2 5	0.4 B	24.0
79.00			
-20 STIFF gray SILTY LOAM	1		
STIFF gray SILTY LOAM (continued)	2 4	1.0 B	26.0
76.00			
MEDIUM gray SILTY LOAM	1 2 4	0.9 B	35.0
73.50 ▼			
-25 MEDIUM gray CLAY LOAM	0 2 4	1.2 B	24.0
71.50			
STIFF gray CLAY LOAM	2 4 6	1.2 B	20.0
69.00			
-30 STIFF gray CLAY LOAM	1 3 4	1.3 B	16.0
66.00			
MEDIUM gray CLAY LOAM with SAND lens	1 2 3	1.0 P	20.0
64.00 ▽			
-35 VERY STIFF gray CLAY LOAM with SAND lens	1 1 3	2.5 P	14.0
61.50			
End of Boring			
-40			

Northing and Easting were calculated using the ILHP-WF coordinate system

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

MODEL: Default
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USER NAME = goffjl	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 3/11/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
LOCATION 2 I-74 WB (MM 15.7) SN 229

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D2 DMS 2019-1	*	24	23
		CONTRACT NO. 64K76		
	ILLINOIS FED. AID PROJECT			

* HENRY / ROCK ISLAND

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 11/10/16

ROUTE FAI 80 DESCRIPTION P-92-DMS-16 WB I-80 Digital Message Sign, 2 m. E. of I-74 LOGGED BY N. White

SECTION LOCATION Edford Twp - SW20 - NW29, SEC. , TWP. 17N, RNG. 2E

COUNTY Henry DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME-45

STRUCT. NO.
Station

Latitude 41° 26' 25.41" Northing 1,738,642.6845
Longitude -90° 17' 35.33" Easting 2,261,907.0247

BORING NO. B-1b
Station 671+89
Offset 38.00ft Rt CL
Ground Surface Elev. 96.30 ft

Surface Water Elev. ft
Stream Bed Elev. ft
Groundwater Elev.:
First Encounter 66.3 ft
Upon Completion 62.3 ft
After Hrs. ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
MEDIUM brown SILTY CLAY LOAM			0.5 P	18.0
	94.30			
VERY STIFF brown SILTY CLAY		6 10 12	2.2 B	21.0
	92.80			
STIFF brown SILTY CLAY LOAM	-5	10 11 9	2.0 P	15.0
	90.30			
STIFF brown SILTY CLAY LOAM		2 4 10	1.4 B	17.0
	87.80			
STIFF brown and gray SILTY LOAM	-10	4 6 9	1.7 P	18.0
	85.30			
STIFF brown SILTY LOAM		5 5 9	1.7 S	17.0
	82.80			
STIFF brown SILTY LOAM	-15	4 6 7	1.7 P	19.0
	79.80			
MEDIUM brown CLAY LOAM		3 3 6	0.8 B	25.0
	77.80			
	-20	4		

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
VERY STIFF brown and gray CLAY LOAM (continued)		8 12	3.0 B	18.0
	74.80			
STIFF brown CLAY LOAM		5 7 10	1.8 B	21.0
	72.30			
STIFF gray CLAY LOAM	-25	5 5 8	2.5 P	26.0
	70.30			
MEDIUM gray and brown SILTY CLAY		0 2 4	0.9 B	27.0
	67.80			
STIFF gray and brown SILTY CLAY	-30	2 5 9	1.3 S	20.0
	64.80			
STIFF gray and brown CLAY LOAM TILL		5 10 9	1.9 B	19.0
	62.80			
VERY STIFF gray CLAY LOAM TILL	-35	5 7 9	2.8 B	14.0
	60.30			
End of Boring				
	-40			

Northing and Easting were calculated using the ILHP-WF coordinate system

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 11/14/16

ROUTE FAI 80 DESCRIPTION P-92-DMS-16 WB I-80 Digital Message Sign, 2 m. E. of I-74 LOGGED BY N. White

SECTION LOCATION Edford Twp - SW20 - NW29, SEC. , TWP. 17N, RNG. 2E

COUNTY Henry DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME-45

STRUCT. NO.
Station

Latitude 41° 26' 26.05" Northing 1,738,707.5641
Longitude -90° 17' 35.54" Easting 2,261,890.6692

BORING NO. B-2b
Station 671+70
Offset 24.00ft Lt CL
Ground Surface Elev. 99.70 ft

Surface Water Elev. ft
Stream Bed Elev. ft
Groundwater Elev.:
First Encounter 66.7 ft
Upon Completion 65.7 ft
After Hrs. ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Gravel Shoulder				
	97.70			
MEDIUM brown SILTY CLAY		4 4 6	0.9 B	14.0
	96.20			
STIFF brown SILTY CLAY	-5	3 4 7	1.4 B	14.0
	93.70			
	91.20			
VERY STIFF brown and gray SILTY LOAM	-10	9 9 11	2.4 B	16.0
	88.70			
	86.20			
VERY STIFF brown CLAY LOAM	-15	3 7 8	2.2 B	19.0
	83.20			
	81.20			
VERY STIFF brown CLAY LOAM	-20	3		

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
VERY STIFF brown CLAY LOAM (continued)		5 9	2.0 B	19.0
	78.20			
	75.70			
VERY STIFF gray CLAY LOAM	-25	6 9 13	3.3 B	21.0
	73.70			
	71.20			
VERY SOFT gray SILTY LOAM	-30	1 2 4	0.2 B	24.0
	68.20			
	66.20			
SOFT gray SILTY LOAM	-35	1 4 6	0.3 B	22.0
	63.70			
End of Boring				
	-40			

Northing and Easting were calculated using the ILHP-WF coordinate system

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

MODEL: Default
FILE NAME: pw:\planroom.dot.illinois.gov:PWIDOT1Documents\IDOT Offices\District 2\Projects\64K76\Program Development\Studies & Plans\Design\CADD\CADsheets\02-64K76-sht-details.dgn

USER NAME = goffjl	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 3/11/2019	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
LOCATION 3 I-80 WB (MM 12.0) SN 227

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D2 DMS 2019-1	*	24	24
		CONTRACT NO. 64K76		
	ILLINOIS FED. AID PROJECT			

* HENRY / ROCK ISLAND