

A d d e n d u m

Iowa Department of Transportation
Office of Contracts

Date of Letting: June 19, 2012
Date of Addendum: June 1, 2012

B.O.	Proposal ID	Proposal Work Type	County	Project Number	Addendum
358	07-2187-226	Dynamic Message Signs	Black Hawk	ITS-218-7(226)--25-07	19jun358.a01

Notice: Only the bid proposal holders receive this addendum and responsibility for notifying any potential subcontractors or suppliers remains with the proposal holder.

Make the following change to the Plan Sheet A.1:

Tab. STANDARD BRIDGE PLANS:

Replace	SOST-06-11	Dated 09/11
With Attached	MODIFIED SOST-06-11	Dated 06/12
Replace	SOST-17-11	Dated 09/11
With Attached	MODIFIED SOST-17-11	Dated 06/12
Add Attached	SOST-18-11	Dated 06/12

Steel Overhead Sign Truss Standard Sheet SOST-01-11

Add the following text at the bottom of the list in the Index for Steel Overhead Sign Truss Standards: "SOST-18-11 Conduit Location Details"

Steel Overhead Sign Truss Standard Sheet SOST-06-11

Replace SOST-06-11 with a modified SOST-06-11 sheet that includes hand hole details, electrical inlet details and conduit location information. (See attached sheet.)

Steel Overhead Sign Truss Standard Sheet SOST-17-11

Replace SOST-17-11 with a modified SOST-17-11 sheet that includes a note stating that electrical conduit is required in footings supporting trusses with dynamic message signs. (See attached sheet.)

Steel Overhead Sign Truss Standard Sheet SOST-18-11

Add a new SOST-18-11 sheet that shows conduit location details in footings. (See attached sheet.)

INDEX FOR STEEL OVERHEAD SIGN TRUSS STANDARDS

SOST-01-11	INDEX AND NOTES FOR 50' - 130' SPANS
SOST-02-11	ELEVATION VIEWS FOR 50' - 75' SPANS
SOST-03-11	ELEVATION VIEWS FOR 80' - 100' SPANS
SOST-04-11	ELEVATION VIEWS FOR 105' - 115' SPANS
SOST-05-11	ELEVATION VIEWS FOR 120' - 130' SPANS
SOST-06-11	SUPPORT BASE AND DMS ELECTRICAL ACCESS DETAILS FOR 50' - 100' SPANS
SOST-07-11	SUPPORT BASE AND DMS ELECTRICAL ACCESS DETAILS FOR 105' - 130' SPANS
SOST-08-11	GUSSET PLATE CONNECTIONS
SOST-09-11	TRUSS SUPPORT AND CHORD SPLICE DETAILS FOR 50' - 100' SPANS
SOST-10-11	TRUSS SUPPORT AND CHORD SPLICE DETAILS FOR 105' - 130' SPANS
SOST-11-11	SIGN ATTACHMENT DETAILS
SOST-17-11	FOOTING DETAILS
SOST-18-11	CONDUIT LOCATION DETAILS

ANCHOR-BOLT NUT TIGHTENING PROCEDURE:

- THIS WORK SHALL BE PERFORMED ONLY ON DAYS WITH WINDS LESS THAN 15 MPH. ALL TIGHTENING OF THE NUTS IS TO BE DONE IN THE PRESENCE OF THE INSPECTOR. ONCE THE TIGHTENING PROCEDURE IS STARTED IT MUST BE COMPLETED ON ALL OF THE BASE PLATE NUTS WITHOUT PAUSE OR DELAY.
 - PROPERLY SIZED WRENCHES DESIGNED FOR TIGHTENING NUTS AND/OR BOLTS SHALL BE USED TO AVOID ROUNDING OR OTHER DAMAGE TO THE NUTS. ADJUSTABLE END OR PIPE WRENCHES MAY NOT BE USED.
 - BASE PLATE, ANCHOR RODS AND NUTS ARE TO BE FREE OF ANY DIRT OR DEBRIS.
 - APPLY STICK WAX OR BEES WAX TO THE THREADS AND BEARING SURFACES OF THE ANCHOR BOLT, NUTS, AND WASHERS.
 - TIGHTEN TOP NUTS SO THEY FULLY CONTACT THE BASE PLATE. TIGHTEN LEVELING NUTS SO THEY FULLY CONTACT THE ANCHOR BOLT. AS THE FULL EFFORT OF ONE PERSON ON A WRENCH WITH A LENGTH EQUAL TO 4 TIMES THE BOLT DIAMETER BUT NOT LESS THAN 18 INCHES, APPLY FORCE AS CLOSE TO THE END OF THE WRENCH AS POSSIBLE. PULL FIRMLY BY LEANING BACK AND USING ENTIRE BODY WEIGHT ON THE END OF THE WRENCH UNTIL THE NUT STOPS ROTATING. USE A MINIMUM OF TWO SEPARATE PASSES OF TIGHTENING. SEQUENCE THE TIGHTENING IN EACH PASS SO THAT THE NUT ON THE OPPOSITE SIDE, TO THE EXTENT POSSIBLE, WILL BE SUBSEQUENTLY TIGHTENED UNTIL ALL OF THE NUTS IN THAT PASS HAVE BEEN TIGHTENED.
 - TIGHTEN TOP NUTS TO SNUG TIGHT AS DESCRIBED FOR THE LEVELING NUTS.
 - MATCH-MARK THE TOP NUTS AND BASE PLATE USING PAINT, CRAYON, OR OTHER APPROVED MEANS TO PROVIDE A REFERENCE FOR DETERMINING THE RELATIVE ROTATION OF THE NUT AND BASE PLATE DURING TIGHTENING. USING A WRENCH OR TORQUE WRENCH, FURTHER TIGHTEN THE NUTS IN TWO PASSES. ESTABLISH A SECOND SEQUENCE OF TIGHTENING IN EACH PASS. SO THAT THE NUT ON THE OPPOSITE SIDE, TO THE EXTENT POSSIBLE, WILL BE SUBSEQUENTLY TIGHTENED UNTIL ALL NUTS IN THAT PASS HAVE BEEN TURNED. DO NOT ROTATE THE LEVELING NUT DURING THE TOP NUT TIGHTENING.
- | ANCHOR-BOLT SIZE | FIRST PASS | SECOND PASS | TOTAL ROTATION |
|------------------|------------|-------------|----------------|
| 1 1/2" | 1/6 TURN | 1/6 TURN | 1/3 TURN |
- LUBRICATE, PLACE AND TIGHTEN THE JAM NUTS TO SNUG TIGHT.

STAINLESS STEEL BOLTING NOTES:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL STAINLESS STEEL U-BOLTS SHALL BE FURNISHED WITH STAINLESS STEEL REGULAR HEXAGONAL NUTS, JAM NUTS AND WASHERS. STAINLESS STEEL U-BOLTS SHALL COMPLY WITH REQUIREMENTS OF ASTM A320, TYPE 304 OR ASTM F593 GROUP 1, 2, OR 3 CONDITION A.

STEEL NOTES:

ALL STEEL SHAPES FOR DMS CONNECTION DETAILS SHALL COMPLY WITH ASTM A572 GRADE 50. ALL STEEL BARS AND PLATES SHALL COMPLY WITH ASTM A36 OR BETTER. THE GALVANIZED METAL BAR GRATING INCLUDING BEARING BARS, CROSS BARS, AND BANDING BARS SHALL COMPLY WITH ASTM A1011 TYPE 2.

ALL STEEL PIPE SHALL COMPLY WITH ASTM A53 GRADE B, TYPE E OR S OR THE AMERICAN PETROLEUM INSTITUTE (API) 5L GRADE B. ALL ROUND HOLLOW STRUCTURAL SECTIONS (HSS) SHALL MEET THE REQUIREMENTS OF ASTM A500 GRADE B. ALL STEEL SECTIONS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123. PROVIDE VENT HOLES FOR GALVANIZING.

ALL ANCHOR BOLT MATERIAL SHALL COMPLY WITH IOWA DOT MATERIALS IM 453.0B. STEEL WELDING SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE AWS SPECIFICATIONS D1.1, STRUCTURAL WELDING CODE—STEEL.

ULTRASONIC TESTING SHALL BE PERFORMED ON THE POST TO BASE PLATE WELDS. THE 3/4" A325 GALVANIZED BOLTS SHALL BE TENSIONED BY TURN-OF-THE-NUT METHOD.

APPENDIX
SHEET SOST-18-11 ADDED
TO INDEX FOR
STEEL OVERHEAD SIGN TRUSS
STANDARDS

SPECIFICATIONS:

DESIGN AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, SERIES OF 2009 WITH CURRENT INTERIMS.

CONSTRUCTION IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2009, PLUS APPLICABLE GENERAL SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT.

DESIGN STRESSES:

DESIGN STRESSES FOR MATERIALS ARE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, SERIES OF 2009 WITH CURRENT INTERIMS.

REINFORCING STEEL IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SERIES OF 2002, SECTION 8, GRADE 60. CONCRETE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SERIES OF 2002, SECTION 8, $f_c = 4,000$ PSI.

GENERAL NOTES:

ALL STEEL OVERHEAD SIGN TRUSSES ARE DESIGNED FOR 30 lb/ft² WIND PRESSURE ON SUPPORT MEMBERS; 30 lb/ft² ON SIGNS, AND 40 lb/ft² ON DYNAMIC MESSAGE SIGNS (DMS). EACH DMS IS LIMITED TO A WEIGHT OF 4500 LBS., A WIDTH OF 32'-0" A HEIGHT OF 9'-0", AND A DEPTH OF 4'-0". A MAXIMUM OF ONE DMS SHALL BE MOUNTED TO EACH OVERHEAD TRUSS. NO ADDITIONAL SIGNS SHALL BE MOUNTED TO A TRUSS SUPPORTING A DMS.

ALL PIPES, SHAPES, AND PLATES SHALL BE STRUCTURAL STEEL COMPLYING WITH THE ASTM SPECIFICATIONS NOTED.

SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW.

SHOP DRAWINGS SHALL INDICATE LEFT AND RIGHT TRUSS SUPPORTS.

CLEAR DISTANCE FROM FACE OF CONCRETE TO THE NEAREST REINFORCING BAR SHALL BE 2" UNLESS OTHERWISE SHOWN.

ALL STEEL REINFORCING BARS SHALL BE GRADE 60.

ALL CONCRETE SHALL BE CLASS "C" STRUCTURAL CONCRETE WITH $f_c = 4,000$ PSI.

KEYWAY DIMENSIONS SHOWN ON THE PLANS ARE BASED ON NOMINAL DIMENSIONS UNLESS STATED OTHERWISE. IN ADDITION, THE BEVEL USED ON THE KEYWAY SHALL BE LIMITED TO A MAXIMUM OF 10 DEGREES FROM VERTICAL.


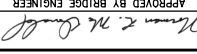
WELDING OF ANCHOR BOLTS SHALL NOT BE ALLOWED.

STEEL OVERHEAD SIGN TRUSSES SHALL NOT BE USED ON BRIDGES WITHOUT THE APPROVAL OF THE OFFICE OF BRIDGES AND STRUCTURES.

STRUCTURAL ALIGNMENT/TOLERANCE NOTES:

THE PRECISE ALIGNING AND ERECTING OF ALL COMPONENTS OF THE OVERHEAD SIGN TRUSS AND ITS SUPPORTS SHALL BE CONSIDERED ESSENTIAL. THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER SHOWING THAT THE VARIOUS COMPONENTS HAVE BEEN MEASURED AND ARE LOCATED WITHIN THE TOLERANCES LISTED BELOW.

- EACH FOUNDATION SHALL BE ACCURATELY LOCATED, WITH THE CENTER OF THE TWO ANCHOR BOLT GROUPS NOT MORE THAN 1 INCH FROM THE PLAN LOCATION IN THE DIRECTION PARALLEL WITH AND PERPENDICULAR TO THE OVERHEAD TRUSS.
- THE TWO FOUNDATIONS SHALL BE PARALLEL, WITH THE DISTANCES ALONG THE OVERHEAD TRUSS BETWEEN CENTERS OF FRONT AND REAR ANCHOR BOLT GROUPS DIFFERING BY NOT MORE THAN 1 INCH.
- ANCHOR BOLT GROUPS SHALL BE LOCATED ACCURATELY WITH CENTERS OF ADJACENT ANCHOR BOLT GROUPS IN EACH FOOTING WITHIN 1/8 INCH OF THE PLAN DISTANCE APART.
- ANCHOR BOLTS SHALL BE PLUMB WITHIN 1/8 INCH PER FOOT FROM VERTICAL.
- ANCHOR BOLTS SHALL PROJECT ABOVE TOP OF FOUNDATION WITHIN 1/4 INCH OF THE PLAN DIMENSION.
- EACH TRUSS SUPPORT POST SHALL BE PLUMB WITHIN 1/8 INCH PER FOOT OF VERTICAL IN TWO PERPENDICULAR DIRECTIONS.
- STICK-OUT OF EACH TRUSS LOWER CHORD SHALL BE WITHIN 3 AND 5/8 INCHES MEASURED FROM OUTER U-BOLT TO INSIDE OF CHORD STOP RING.
- THE OVERHEAD TRUSS SHALL BE SQUARE WITHIN SUPPORT POSTS. THE HORIZONTAL LINES BETWEEN CHORDS SHALL BE LEVEL WITHIN 1/8 INCH PER FOOT OF HORIZONTAL, AND THE VERTICAL LINES BETWEEN CHORDS SHALL BE PLUMB WITHIN 1/8 INCH PER FOOT OF VERTICAL.

 Iowa Department of Transportation Highway Division	
STANDARD DESIGN	
STEEL OVERHEAD SIGN TRUSS	
SEPTEMBER, 2011	
APPROVED BY BRIDGE ENGINEER 	MODIFIED SOST-01-11
LATEST REVISION DATE	50' - 130' SPANS

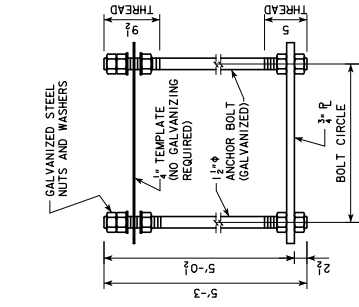
GENERAL NOTES:

STRUCTURAL CONCRETE, CLASS C, SHALL BE USED FOR THE FOOTING.
 EXCAVATION FOR FOOTING SHALL BE TO NEAT LINES AND CONCRETE SHALL BE PLOTTED AGAINST THE UNDISTURBED MATERIAL. ALL EXCAVATION FOR THE FOOTING SHALL BE DISPOSED OF IN THE AREA ADJACENT TO THE FOOTING AND SHAPED TO NORMAL GROUND CONTOUR, UNLESS OTHERWISE NOTED. THE MAXIMUM DESIGN BEARING CAPACITY IS 1.0 TONS PER SQUARE FOOT.

THE REQUIREMENTS PER FOOTING ARE TWO ANCHOR BOLT ASSEMBLIES INCLUDING SHIMS, NUTS (5 PER BOLT) AND WASHERS. REFER TO HARDWARE CLASSIFICATION TABLE FOR MATERIALS AND GALVANIZING REQUIREMENTS.
 PRICE BID FOR CONTRACT ITEMS SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY TO CONSTRUCT OVERHEAD SIGN TRUSS ASSEMBLY. THE COST OF FURNISHING AND INSTALLING ANCHOR BOLT ASSEMBLIES, CONDUIT, AND RODENT GUARDS ARE TO BE INCLUDED IN THE UNIT PRICE BID FOR STRUCTURAL CONCRETE. CONTRACT ITEMS FOR OVERHEAD SIGN FOOTING CONSTRUCTION ARE:
 EPOXY COATED REINFORCING STEEL POUNDS
 STRUCTURAL CONCRETE (MISCELLANEOUS) CUBIC YARDS
 EXCAVATION CUBIC YARDS OF CLASS SPECIFIED
 ALL ANCHOR BOLT MATERIAL SHALL COMPLY WITH THE REQUIREMENTS OF IOWA DOT MATERIALS IM 453.08.

FOR DMS TRUSSES ONLY
 ELECTRICAL CONDUIT IS REQUIRED IN FOOTINGS SUPPORTING TRUSSES WITH DYNAMIC MESSAGE SIGNS. SEE STANDARD SHEET SOST-17-11 FOR CONDUIT LOCATION DETAILS.

TOP-OF-WALL ELEVATION IS TO BE SHOWN AS HIGH POINT OF FOUNDATION AS DIRECTED BY THE ENGINEER.



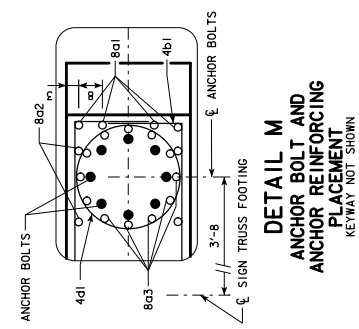
ANCHOR BOLT ASSEMBLY

R	BOLT CIRCLE DIAMETER
FOR 14" POSTS (105-130' SPANS)	7
FOR 16" POSTS (105-130' SPANS)	8

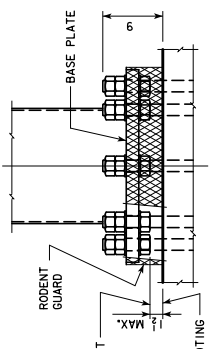
CONCRETE PLACEMENT QUANTITIES
 (ONE FOOTING)
 EACH 1'-0" OF L

ITEM	QTY
WALL	5.71
FOOTING	16.52
TOTAL (C.Y.)	24.23

APPROVED BY BRIDGE ENGINEER
 IOWA Department of Transportation
 Highway Division
 STANDARD DESIGN
STEEL OVERHEAD SIGN TRUSS
 SEPTEMBER, 2011
 MODIFIED
SOST-17-11
 50-130' SPANS

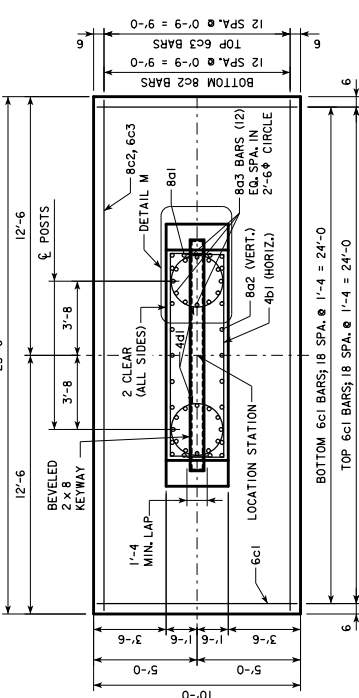


**DETAIL M
 ANCHOR BOLT AND
 ANCHOR REINFORCEMENT
 PLACEMENT**
 KEYWAY NOT SHOWN



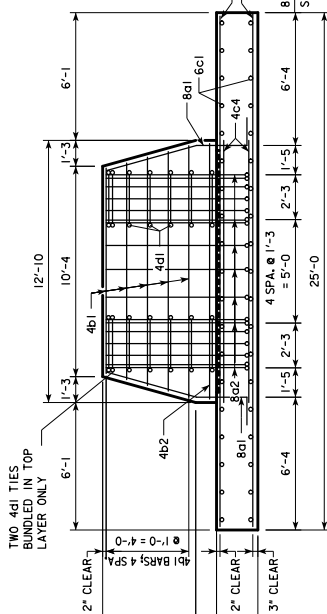
POST BASE DETAIL
 SHOWING THE RODENT GUARD

THE RODENT GUARD SHALL BE PLACED AROUND THE BASE PLATE.
 THE RODENT GUARD IS STAINLESS STEEL STANDARD GRADE WIRE CLOTH, 1" MAXIMUM OPENING WITH A MINIMUM WIRE DIAMETER OF AWG NO. 16 WITH A MINIMUM 2" LAP.
 SECURE WIRE CLOTH TO BASE PLATE AFTER ERECTION WITH 3" STAINLESS STEEL BANDING. THE RODENT GUARD SHALL NOT EXTEND ABOVE THE TOP OF THE BASE PLATE.



PLAN

ANCHOR BOLT ASSEMBLIES NOT SHOWN



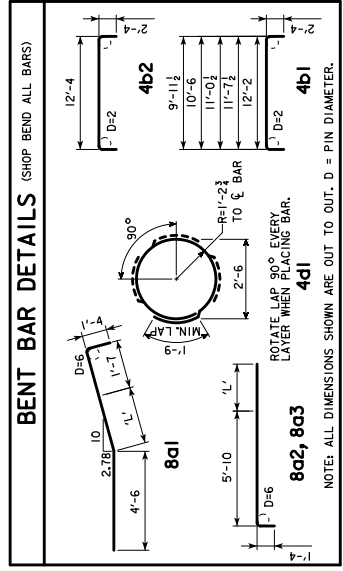
SIDE ELEVATION
 ANCHOR BOLT ASSEMBLIES NOT SHOWN

* L SHALL BE LESS THAN 6'-0"

REINFORCING BAR LIST - EPOXY COATED
 ONE FOOTING

SIZE	SHAPE	NO.	LENGTH	WEIGHT	NO.	SPACING	NO.	LENGTH	WEIGHT
801		8	7'-5"	158	SEE DETAIL	8	1'-0" @	21	---
802		14	7'-2"	268	SEE DETAIL	14	1'-0" @	37	---
803		24	7'-2"	459	SEE DETAIL	24	1'-0" @	64	---
4b1		10	Varies	105	1'-0"	---	---	---	---
4b2		38	9'-6"	542	1'-4"	2 @	17'-0"	23	---
8c1		13	24'-6"	850	0'-9"	---	---	---	---
8c2		13	24'-6"	478	0'-9"	---	---	---	---
4c4		4	12'-8"	34	SEE DETAIL	---	---	---	---
4d1		12**	9'-6"	76	1'-0"	2 @	9'-6"	13	---
TOTAL 2970 lbs									TOTAL 158 lbs

(A) ADDITIONAL LENGTH TO BARS 801, 802, AND 803 FOR L > 0
 (B) TWO IN EACH 1'-0" OF L ** BUNDLE TWO 4d1 CIRCULAR TIES IN TOP LAYER



BENT BAR DETAILS (SHOP BEND ALL BARS)

NOTE: ALL DIMENSIONS SHOWN ARE OUT TO OUT. D = PIN DIAMETER.

