-SPAN WIRE GENERAL NOTES-

GENERAL NOTES:

1. THE CONTRACTOR SHALL FIELD VERIFY THAT THE HEIGHT OF THE SIGNALS ABOVE THE ROADWAY SURFACE MEETS THE CDOT CLEARANCE REQUIREMENTS AS SHOWN ON SHEET 2 OF 13 PRIOR TO DRILLING HOLES FOR TETHER AND SPAN WIRE EYEBOLTS.
2. ORIENT SPAN WIRE HOLES ON A STRAIGHT LINE BETWEEN POLES WITHOUT KINKS.
3. POLES SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH THE SECTION 509.24 OF THE STANDARD SPECIFICATIONS AS CALLED FOR ON THE ROADWAY PLANS.
4. CAISSONS SHALL BE PLACED AGAINST UNDISTURBED EARTH. WET OR CAVING HOLES SHALL BE BACKFILLED WITH FLOW-FILL AND REDRILLED AFTER A THREE DAY CURING PERIOD WITHOUT THE USE OF A CASING.
5. CAISSON CONCRETE SHALL REACH 80% OF THE REQUIRED STRENGTH PRIOR TO INSTALLING SPAN WIRE AND TETHER CABLES.
6. WELDING OF STEEL SHALL CONFORM TO THE REQUIREMENTS OF ANSI/AWS D1.1. ALL AREAS TO BE WELDED SHALL BE GROUND TO BRIGHT METAL. ALL WELDING AND REQUIRED TESTING SHALL BE COMPLETE BEFORE ANY MATERIAL IS GALVANIZED. ALL CIRCUMFERENTIAL WELDS SHALL BE NON-DESTRUCTIVELY TESTED USING THE ENHANCED MAGNETIC PARTICLE METHOD IN ACCORDANCE WITH SUBSECTION 509.18 (D) OF THE STANDARD SPECIFICATIONS. THE ACCEPTANCE CRITERIA IS STATED IN TABLE 6.1 OF ANSI/AWS D1.1. ALL LONGITUDINAL WELDS WITHIN 6 INCHES OF FULL PENETRATION CIRCUMFERENTIAL GROOVE WELDS AND FULL PENETRATION GROOVE WELDS SHALL BE INSPECTED AS SPECIFIED ABOVE. MAXIMUM WELD UNDERCUT SHALL BE 0.01 INCHES.
7. ALL ELECTRICAL CONNECTIONS TO THE SIGNALS SHALL BE GROUNDED IN ACCORDANCE WITH APPLICABLE ELECTRICAL CODES.
8. WORKING DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW IN ACCORDANCE WITH SUBSECTION 105.02 OF THE STANDARD SPECIFICATIONS.
9. DEFINITIONS:
   I.D. = INSIDE DIAMETER
   O.D. = OUTSIDE DIAMETER
   NPS = NOMINAL PIPE SIZE

DESIGN DATA

SPAN WIRE LOADING IS BASED ON THE SIGN AND SIGNAL LOCATIONS SHOWN ON SHEET 2.

THE DESIGNS HEREIN ASSUME THAT SIGNALS ARE INSTALLED WITHIN THE ROADWAY PRISM WITH THE FOLLOWING SOIL PARAMETERS:

SOIL DENSITY= 110 LB./CU.FT
SOIL COHESION= 750 LB./SQ.FT
SOIL Ø ANGLE= 30 DEG. FOR MEDIUM DENSE COHESIONLESS SOIL
S.F.= 2.0 FOR FLEXURAL RESISTANCE (OVERTURNING)

CONTACT THE ENGINEER IF ANY OF THE FOLLOWING SOIL CONDITIONS ARE ENCOUNTERED DURING DRILLING:

(A) STRAIN POLES WILL NOT BE INSTALLED WITHIN THE ROADWAY PRISM.
(B)THE SOIL HAS A HIGH ORGANIC CONTENT OR CONSISTS OF SATURATED SILT AND CLAY.
(C) THE SITE WON'T SUPPORT THE WEIGHT OF THE DRILLING RIG.
(D) THE FOUNDATION SOILS ARE NOT HOMOGENOUS.
(E) FIRM BEDROCK IS ENCOUNTERED.

SPAN WIRE STRUCTURES HAVE BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS LUMINAIRES, AND TRAFFIC SIGNALS, FOURTH EDITION, 2001 WITH CURRENT INTERIMS (2006).

A DESIGN WIND VELOCITY OF 110 MPH WAS USED IN THE DESIGN.

AN IMPORTANCE FACTOR OF 0.71 WAS USED IN THE DESIGN.

MATERIAL DATA

ELEMENT	STANDARDS (ASTM/AASHTO; CDOT)	NOTES
SPAN AND TETHER WIRES	A475	SEE NOTE 1
STRAIN POLE	A53	SEE NOTE 2
EYEBOLTS	A307	SEE NOTE 3
BARS, PLATES AND CURVED WASHERS	A709/M-270	GRADE 36 OR 50
NUTS	A563/M-291	
HARDNED WASHERS	F436	
POLES, BARS AND PLATES	VARIOUS	SEE NOTE 4
POLES	VARIOUS	SEE NOTE 5
CAISSON CONCRETE	CDOT	SEE NOTE 6

NOTES:

1. SPAN WIRE SHALL BE SEVEN WIRE STRAND, ZINC-COATED STEEL WIRE, UTILITIES GRADE OR BETTER. TETHER WIRE SHALL BE ⅜" Ø, SEVEN WIRE STRAND, ZINC-COATED STEEL WIRE, UTILITIES GRADE OR BETTER.
2. GRADE B.
3. SPAN WIRE EYEBOLTS SHALL BE 1"Ø. TETHER WIRE EYEBOLTS SHALL BE ¾"Ø.
4. POLES, BARS AND PLATES SHALL COMPLY WITH THE DIMENSIONAL TOLERANCES THAT ARE SPECIFIED IN ASTM A500, A501, 595 OR A6, AS APPLICABLE.
5. CERTIFIED MILL TEST REPORTS INCLUDING CHARPY V-NOTCH (CVN) TEST RESULTS, WELD INSPECTION REPORTS AND ENHANCED MAGNETIC PARTICLE TEST REPORTS SHALL BE SUBMITTED TO CDOT STAFF BRIDGE, 4201 E. ARKANSAS AVE., DENVER COLORADO 80222 AS SOON AS THEY BECOME AVAILABLE. CVN TEST RESULTS FOR ASTM A572 GRADES 42, 55 AND 65 STEEL SHALL HAVE A MINIMUM VALUE OF 15 FT-LBS AT 40°F AS PER THE H FREQUENCY TEST REQUIREMENTS IN AASHTO T243 (ASTM A673).
6. CAISSONS SHALL BE CONSTRUCTED WITH AIR ENTRAINED (5 TO 8%) CLASS BZ CONCRETE IN ACCORDANCE WITH SECTION 503 OF THE STANDARD SPECIFICATIONS.

ROADWAY TRAFFIC SIGNAL PLANS SHALL SHOW:

1. STRAIN POLE SIZES AND LOCATIONS (INTERSECTION, X & Y COORDINATES).
2. LENGTH OF SPAN WIRE BETWEEN EACH SET OF STRAIN POLES.
3. TRAFFIC SIGN AND SIGNAL SIZE AND LOCATIONS ALONG EACH SPAN WIRE.
4. SPAN WIRE AND TETHER CABLE SIZES.
5. LANE LINE LOCATIONS UNDER SPAN WIRES.
6. POLE HEIGHT AT EACH CORNER.
7. CAISSON PAY LENGTH.
8. LUMINAIRE LOCATIONS AND ORIENTATION ANGLES.

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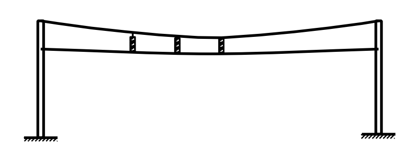
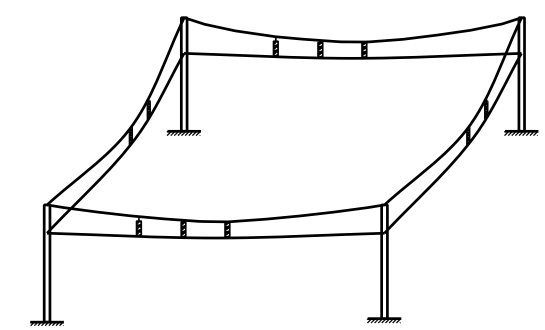


SINGLE SPAN



DOUBLE SPAN

Computer File Information	
Creation Date: 07-01-11	Initials: LEC
Last Modification Date: 07-24-14	Initials: HHB
Full Path: www.dot.state.co.us/DesignSupport/	
Drawing File Name: S-614-41 (1 of 13).dgn	
CAD Ver.: MicroStation V8 Scale: Not to Scale	Units: English

	Sheet Revisions	
	Date:	Comments
R-1	11-14-14	REMOVED PEDESTAL POLE DETAILS ON SHEET 1 AND ADDED SHEETS 2 TO 13

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TEMPORARY SPAN WIRE SIGNALS

Issued By: Safety & Traffic Engineering Branch July 4, 2012

STANDARD PLAN NO.
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