

# NORTH CAROLINA DEPARTMENT OF TRANSPORTATION CONCRETE GIRDER SOLE PLATE WELDING PROCEDURE SPECIFICATION (WPS) AWS D1.5

Specifications & Codes: NCDOT Standard Specifications/AASHTO/AWS D1.5, Section 2, 5 and 12

Material Specifications: ASTM A-36, A572, (A709-36, 50), (M270-GR250, 345) Unlimited Thickness

Welding Process: SMAW Manual or Semi- Automatic or Automatic: Manual

Filler Metal Specification: AWS A5.1 Classification: E-7018

Manufacturer: NCDOT Approved Electrodes Single or Multiple Pass both Position of Weld Flat, Horizontal

Welding Current: DC Polarity: Positive Progression: N/A

Root Treatment: N/A

Preheat Temp: 100° minimum Interpass: 450° maximum Post Heat: N/A

Pass Num.	Electrode Size	Welding Current		Travel Speed		Joint Details
		Amperes	Volts			
All	1/8"	90-150	20-23	6-9 ipm		SEE ATTACHMENT
	5/32"	120-200	21-24	6-10 ipm		
	3/16"	170-280	21-24	6-11 ipm		

PREHEAT	
Thickness	Min. Temp.
Up to 3/4"	100°
Over 3/4" to 1 1/2"	100°
Over 1 1/2" to 2 1/2"	150°
Over 2 1/2"	225°

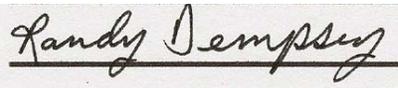
**COMMENTS:**

Remove all coating, rust, dirt and mill scale within one inch of the area to be welded prior to fit-up. Remove all slag, spatter and weld discontinuities between passes. Clean the completed weld of all debris, slag and spatter.

Care shall be taken to not exceed 250° in the proximity of the Elastomeric Bearing material and 300° in the proximity of the concrete.

WPS Description: Concrete Girder Sole Plate

Written By: Randy Dempsey, CWI/CWE, TT IV

Signature: 

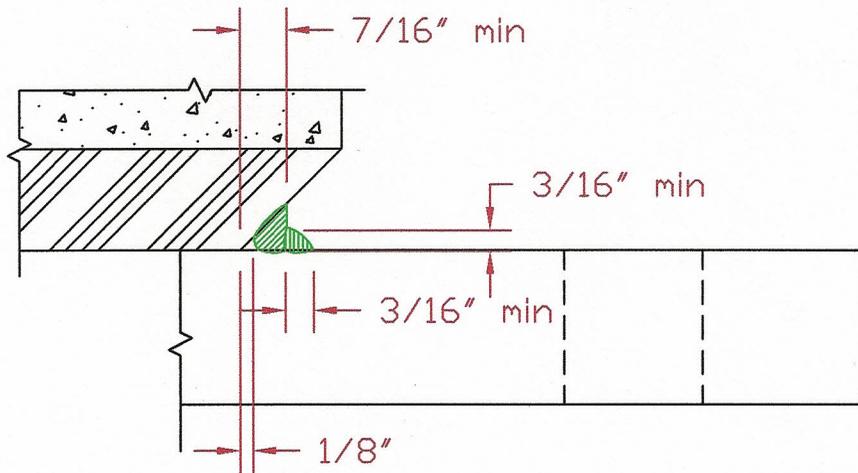
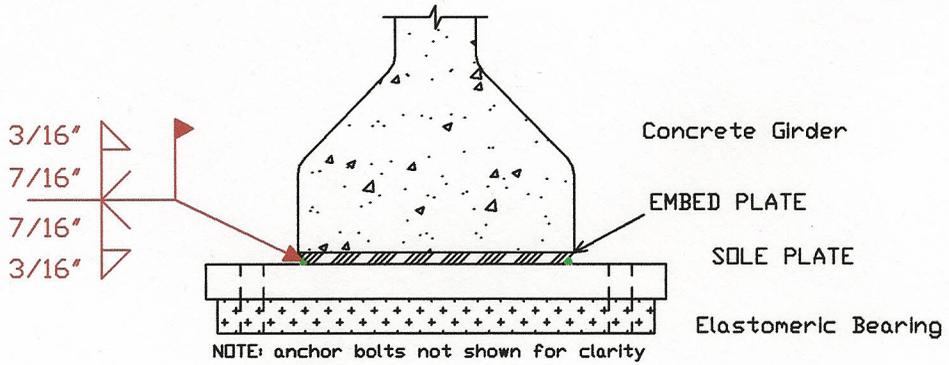
WPS #: 082508004

Authorized By: Steve Walton, Metals Engineer

Revision #: 4

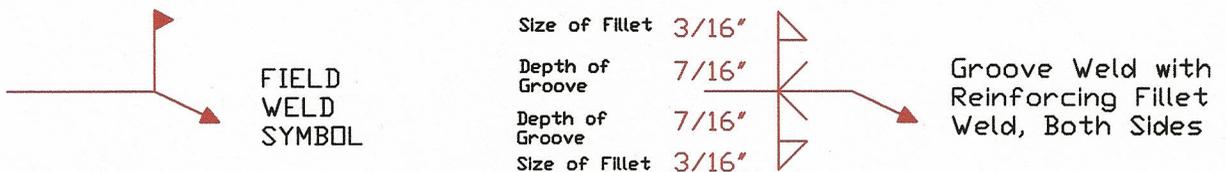
Signature: 

WPS CONCRETE GIRDER SOLE PLATE 082508004 R4  
 JOINT DETAIL ATTACHMENT



CONCRETE GIRDER  
 SOLE PLATE DETAILS

Weld Symbol definitions per AWS A2.4:2007



**Illustrations of a pre-stressed concrete girder welded to a sole plate.**



Unacceptable weld (too small, should have been coated before rusting)



Acceptable weld (still needs to be coated)

NCDOT MATERIALS & TESTS UNIT (STEEL SECTION)