

COOPER ENGINEERING COMPANY, INC.

**STRUCTURES DESIGN
QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)
PLAN AND PROCEDURES**

WisDOT Project # 8570-00-60

Project Name STH 48 BRIDGE OVER WEIRGOR CREEK

Structure # 8-57-52

QA/QC Procedure Verification:

I hereby certify that the structure design and plans have been prepared in accordance with the attached QA/QC procedures and the Wisconsin Department of Transportation Bridge Design Manual.

Steve Poethke
Steve Poethke, P.E.

Structural Manager

1/30/16
(date)



(stamp)

Cooper Engineering Structures QA/QC Checklist

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Project Name:	STH 48 BRIDGE OVER WEIRGOR CREEK		
DOT Project Number:	8570-00-60		
Prepared By: (see initials)	Steve Roethke, P.E. (SP)		
Date:	6/13/13, 11/24/15, 11/28/16		
Checklist Item	Verified	By	Comments
	<u>Initials</u>	<u>Date</u>	
1. Bridge Design Process			
Determine hydrologic data for bridge (stream crossings)			NA
Send hydrologic data to BOS for approval			NA
Coordinate geotechnical exploration requirements			NA
Hydraulic & Structure Sizing reports & submittal to BOS			NA
Preliminary plans submittal and DNR initial concurrence	SP	6/13/13	3/4/13 Init. Concurrence
Prepare and submit environmental report	SP	11/19/13	
Prepare and submit Design Study Report (DSR)	SP		Approved 7/2/14
Finalize structure design following DSR approval:			
Structure plans and roadway plans	SP	11/28/16	
Estimate	↓	↓	
Special Provisions	↓	↓	
QA/QC Submittal	SP	11/28/16	
Final plan submittal and submittal to DNR for final concurrence	SP	12/1/16	12/1/13 Concurrence
PS&E Submittal following BOS and consultant review			
2. Hydrologic/Hydraulic Report			
Verify two methods for computing hydrologic data were used			NA
Review WSPRO Input and Output			NA
3. Preliminary Design			
Determination of loads reviewed:	SP	11/28/16	Girder Ratings included
Load Factors	"	"	
Distribution Factors	"	"	
Perform review including hand checks of results from:			
Design forces program (moving load programs)	"	"	
Bridge deck calculations	"	"	
Beams and girders			
Bearings			
Piers and Abutments			
Foundations			
Other (Retaining wall, box culvert, sign, etc.)			
Chapter 6 of the Bridge Manual:			
Structure Survey Report preparation per section 6.2.1	SP	8/3/16	
Preliminary layout per Section 6.2.2 requirements	SP	8/1/16	
Preliminary plan requirements per Section 6.5.2	SP	8/1/16	

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Checklist Item	Verified	By	Comments
3. Preliminary Design (cont.)			
Plan and Profile Sheet Requirements:			
Quantify earthwork each side of structure (streams)	SP	11/28/16	minor
Provide existing and proposed structure information	"	"	
Elevations and stations match those on structural sheets	"	"	
Erosion protection noted	"	"	
R/W information noted and identified. Utilities indicated.	"	"	
Adjacent land ownership identified	"	"	
Slope intercepts shown			NA
Existing and proposed structures shown with sta. information			
Provide benchmark data and origin of data	SP	11/28/16	small bridge
Show river (if applicable) and direction of flow	"	"	
Indicate high and measured water elevations	"	"	
Indicate beginning and end of project limits	"	"	
General Plan Sheet:			
Provide traffic data, match Title Sheet	SP	11/28/16	
Provide foundation design data to match quantity tables and geotechnical drawings.			NA
Does the hydraulic information match hydraulic report?			NA
Does design data match design calculations?	SP	11/28/16	
Check Section 6.3 of the Manual for general notes language	"	"	
Confirm the drawing list matches actual design drawings	"	"	
Check Project #, Structure #, codes references	"	"	
4. Final Plan Design			
Refer to Manual Ch 6.3 for detailed final plan requirements			
Verify additional requirements per 6.5.3 have been addressed			
Verify quantity computations and rounding per Chapter 6.4	SP	11/28/16	
Verify that Chapter 9 - Materials requirements are addressed:			
Tables show bar lengths that reflect subtractions for bends and hooks (Figure 9.9-1,2)	SP	11/28/16	
Length limitations on bar sizes have been considered	"	"	
Locations for epoxy coated bars is appropriate	"	"	
Important checks on final construction details:			
Have elevations been verified?	"	"	
Length, width and angles been verified? (Details are drawn to scale is an important secondary check)	"	"	
Have deck grades been reviewed?	"	"	
Check bid item names against naming convention	"	"	
Final Design Drawing Details (standard detail conformance):			
Standard detail rebar, spacing	SP	11/28/16	
Detail size or height limitations	"	"	
Pile spacing requirements met			NA
Have designer notes been considered in design?	"	"	
Are appropriate general notes included?	"	"	