

# NCDOT – PCI Joint Technical Committee Meeting

NCDOT, SMU – Large Conference Room

Thursday, July 13, 2017 (1:30 PM)

## MINUTES

### Attendees:

Gichuru Muchane	NCDOT – SMU	<a href="mailto:gmuchane@ncdot.gov">gmuchane@ncdot.gov</a>
Trey Carroll	NCDOT – SMU	<a href="mailto:Thcarroll1@ncdot.gov">Thcarroll1@ncdot.gov</a>
James Bolden	NCDOT – SMU	<a href="mailto:jlbolden@ncdot.gov">jlbolden@ncdot.gov</a>
Peter Finsen	G/C PCI	<a href="mailto:peter.finsen@gcpci.org">peter.finsen@gcpci.org</a>
Gary Shrieves	Bayshore Concrete Products	<a href="mailto:Gary.Shrieves@skanska.com">Gary.Shrieves@skanska.com</a>
Rodney Davis	Bayshore Concrete Products	<a href="mailto:rodney.davis@skanska.com">rodney.davis@skanska.com</a>
Chris Arca	Coastal Precast Systems	<a href="mailto:carca@cpsprecast.com">carca@cpsprecast.com</a>
Matt Todd	Coastal Precast Systems	<a href="mailto:mtodd@cpsprecast.com">mtodd@cpsprecast.com</a>
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Jeff White	Prestress of the Carolinas	<a href="mailto:jeff.white@prestressotc.com">jeff.white@prestressotc.com</a>
Richard Potts	Standard Concrete Products	<a href="mailto:RichardPotts@standardconcrete.org">RichardPotts@standardconcrete.org</a>
Reid Castrodale	Castrodale Engrg / G/C PCI	<a href="mailto:reid.castrodale@castrodaleengineering.com">reid.castrodale@castrodaleengineering.com</a>

Chairman Reid Castrodale began the meeting at 1:35. Self-introductions were made by attendees.

There was some initial discussion in the upcoming reductions in staff at NCDOT. Practical design guidance will be needed as consultants will be more involved, especially in reviewing Division projects.

### 1. Review Agenda

No revisions to the agenda.

### 2. Minutes of July 14, 2016 Meeting

Minutes were approved.

### Assigned Tasks

As in the previous meeting, discussion of the following items was combined:

### 3. Debonded Top Strands

### 4. Lateral Stability

The following items related to debonding top strands were distributed by email prior to the meeting:

- 3.1 Proposed Sections for SDM on Debonded Top Strands (.docx - 3 pgs)
- 3.2 Proposed Plan Notes for Debonded Top Strands (.docx - 5 pgs)
- 3.3 WSDOT Std Sheet 5.6\_A4\_5 (.pdf - 1 pg)

The following item related to lateral stability was distributed by email prior to the meeting:

- 4.1 WSDOT M23-50.16 5.6.3 PS Girders – Fab Handling – incl. Lat Stab (.pdf - 6 pgs)

In separate emails on July 12, the following items related to these topics were distributed by email:

- t-10\_wai\_193\_july\_2017 (.docx - 4 pgs)
- JL-09-FALL-8 Brice Khaleghi Seguirant PS Opt (.pdf - 39 pgs)

During the meeting, Reid Castrodale indicated that additional information was available on the topic which he would send after the meeting. On July 14, the following additional items related to these topics were distributed by email:

- M23-50.17 BDM 5.6.3 (.pdf - 5 pgs) [this is an updated version of the WSDOT BDM excerpt sent prior to the meeting]
- 2016Amended2017-04-03 Std Specs 6-02.3\_25L (.pdf - 6 pgs) [this excerpt from the WSDOT Standard Specifications addresses both of these issues]
- 8 Brice Khaleghi Seguirant NBC 2007 Des of PC PSC Girders for Optim Fab (.pdf - 17 pgs) [paper presented at the 2007 PCI Convention gives the WSDOT approach for the topic]
- 8 Brice Khaleghi Seguirant NBC 2007 PPT 6-up (.pdf - 5 pgs) [presentation for previous paper]
- 5 Brice NBC 2016 WSDOT PS Girder Practice (.pdf - 20 pgs) [paper presented at the 2016 PCI Convention gives another discussion of the WSDOT approach for the topic]
- Brice NBC 2016 PPT Designing for Girder Stability (.pdf - 3 pgs) [presentation at the 2016 PCI Convention on the topic, but doesn't seem to be directly on the paper]
- Eriksson\_Stability\_of\_Girders\_Presentation\_Aug\_2015\_Distribution (.pdf - 36 pgs) [presentation by Roy Eriksson on lateral stability at the August 2015 G/C PCEF meeting]

Since this was the first meeting for Gichuru and James, there was a general discussion of these topics.

It is recognized that there is really a third topic that is involved with these topics, and that is who is responsible for the evaluation of stresses and lateral stability during handling. WSDOT has dealt with this in their Bridge Design Manual and Standard Specifications for several years, as well as incorporating the analysis into their design program. It was suggested that their approach could be taken as a starting place for evaluation of the issues and one way in which they could be addressed. It was noted that VDOT was also working on addressing these issues, but had not yet finished developing their provisions.

Several prestressers shared their perspectives on both top strand debonding and on lateral stability. Several voiced concerns about getting designs that could not be safely handled, especially with the trend to design build projects where the girder length limits that used to be applied NCDOT projects no longer are being followed. Rodney Davis suggested a rule of thumb of placing lifting loops at about 1 girder height from ends for lifting and to support the beam for transportation at about 2 girder heights from the end. GDOT current calls for lifting at 1.5 times the girder height from the end of the girder.

**ACTION ITEM:** The Department will consider the information provided, including the information provided after the meeting. Guidance will be useful since designs may come from the Divisions that will not even be reviewed by the SMU.

A task group of G/C PCI representatives, consisting of Richard Potts, Rodney Davis, and Reid Castrodale was formed to provide support to NCDOT as needed.

5. Stressing Strands in Draped Position

The following items related to this topic were distributed by email prior to the meeting:

- 5.1 VDOT\_2016\_RB\_Specs 405.04 PS w hilite (.pdf - 4 pgs)
- 5.2 PCI MNL-116 Harped Strands (.pdf - 3 pgs)

The prestressers indicated that they prefer straight strand designs because of safety concerns for their workers. If draping is required, pulling the strands in the draped position is preferred, again for safety concerns. Published standard procedures exist (see distributed items) that allow confirmation of the tension in the draped strands. It was also pointed out that the hold-down hardware currently being used is much improved over hardware used years ago.

**ACTION ITEM:** The Department will consider allowing tensioning in the draped position for more than the currently allowed two girders.

6. Future Bridge Design Seminar

G/C PCI offered to work with the Department to sponsor another bridge design seminar. Potential topics were discussed. With the greater use of consultants, the divisions also letting work, and more consultant inspectors, it was felt that another seminar could be beneficial. The prestressers were very supportive of holding another seminar.

**ACTION ITEM:** The Department will discuss.

**Other Items**

7. Implementation of RFID/Barcode Tagging

It was noted that the prestressers are finding benefit in using the system and are looking to extend its use to other DOTs.

8. PCEF Meeting – August 17, 2017 – SCDOT

There was a brief discussion of this meeting. It is hoped that all of the DOTs can send representatives to the meeting in Columbia for a face-to-face meeting. A strategic planning discussion is being planned at the meeting.

**Informational Items**

PCI Convention

The next PCI Convention and National Bridge Conference will be held in Denver on February 22-24, 2018. G/C PCI will again support four individuals from NCDOT to attend the meeting. A formal invitation will be sent to Brian Hanks and Chris Peoples.

Next Meeting

The next NCDOT / PCI Joint Meeting will be held on Nov. 16, 2017 at the MTU.

The meeting was adjourned at 3:40.