

MINUTES

SCDOT – PCI Joint Committee Meeting

SCDOT Headquarters Building, Room 331

November 29, 2018 – 1:30 PM

Terry Koon welcomed attendees and began the meeting at 1:30 PM. He thanked the RPGs that were present for coming to the meeting.

Attendees introduced themselves and a sign-in sheet was circulated.

The following members (or representatives) were present:

SCDOT

Terry Koon	Structural Design Support, Co-Chair
Mabel Cuellar	Structural Design Support
Hongfen Li	Design/Build
Aly Hussein	Office of Materials and Research
Qing Wang	RPG 2
Glenn Patterson	RPG 4
Beverly Hollowell	RPG Low Country
Mark Anthony	
Alan Matienzo	
Matthew Bishop	

PCI

Peter Finsen	Georgia/Carolinas PCI
Reid Castrodale	Castrodale Engineering Consultants, Co-Chair
Richard Potts	Standard Concrete Products
J. R. Parimuha	Florence Concrete Products
Jeff White	Prestress of the Carolinas

Academia

FHWA

Minutes of Last Meeting

The minutes of the May 3, 2018, meeting were approved as distributed. Minutes and agendas, along with supporting information, are posted on the G/C PCI website.

It was noted that there was an error in the agenda for the last meeting. Under Item 12-2, the second items should be *Fabrication from Contract Drawings* rather than *Fabrication from Shop Drawings*.

Old Business

01-6 *SCDOT Bridge Design Manual*

Terry Koon indicated that Hongfen Li would be moving to his group as the Policy Engineer on Dec. 3. Her first assignment will be writing a scope for updating the Bridge Design Manual (BDM) which will be outsourced to a consultant. They have funds for the work and need to spend it by the end of June 2019. They are also facing a deadline to move to the 8th edition of the *AASHTO LRFD Bridge Design Specifications*. Hongfen will also be working on updating the seismic specifications.

09-1 *Accelerated Bridge Construction Projects*

Terry Koon reported that the last field test on the Hanging Rock Creek Bridge has been completed and that the report is due by February 2019. They are waiting on the report to decide on details of the modified NEXT beam system. They are also considering using box beams.

Maintenance forces will stop building their own bridges soon, unless they get engineers on staff. FHWA has required that engineers oversee the design of maintenance bridges, so Preconstruction is expected to take that responsibility.

Terry also mentioned that work is still progressing on the deck girder in Newberry. The design has been moved to another consulting firm to complete the work.

There is interest in encouraging ABC methods for the Carolina Crossroads and Mark Clark Expressway projects. However, the Department has questions about how to do that and how ABC can be used at locations where seismicity is an issue.

12-1 *Tentative Letting List*

Terry Koon was not sure if there had been any progress with the online tentative letting list. He thinks that they are still working to get the RPGs onboard with supply in the additional information for projects. He mentioned that David Rister had moved to a new position, so there is no Bridge Construction Engineer. There is a bridge construction engineer for each of the RPGs. Terry mentioned that Steve Nanney was not able to attend the meeting.

Jeff White pointed out that some projects on the list did have additional information.

12-2 *Shop Drawings*

Electronic Shop Drawings

Alan Matienzo and Mark Anthony attended the meeting to discuss progress on developing standard operating procedures related to electronic submittals. A flowchart was distributed which is attached at the end of these minutes.

Alan reported that a draft Standard Operating Procedure (SOP) has been developed for electronic reviews. The process is intended to streamline reviews and to reduce paper waste. They plan to have the SOP finalized by the end of the year. New procedures are being included in an update of Section 725 Shop Plans and Working Drawings for Structures in the current *Standard Specifications for Highway Construction* (2007). This update is in review and should be completed soon.

Alan indicated that the Department is planning to move to ProjectWise to handle electronic submittals. They are already getting from 75 to 85% of their submittals electronically, mostly as PDFs via email. Currently, procedures vary between RPGs. Hongfen Li reported that so far, electronic submittals have been working well. They hope that going to fully electronic submittals will preserve the quality of drawings that is current being lost as drawings are scanned at each stage of review.

Fabrication from Contract Drawings

Jeff White reported that RPGs have been receptive to fabricating girders from contract drawings and that he has heard no complaints. As with NCDOT, his plant is submitting additional sheets which include elongations, end cuts, insert locations, prestressing strand arrangements, and casting lengths. It was noted that if a precaster redesigns a girder, they then take ownership of the design.

It was agreed that this item can be dropped from future agendas.

Inconsistencies in Shop Drawing Reviews

It was agreed that education of inspectors was needed to address inconsistencies.

It was agreed that this item can be dropped from future agendas.

16-2 *UA Bars in BTs*

G/C PCI members prefer the detail used by NCDOT, which uses 10 – #5 bars with a hook bent after casting instead of the UA bars in the current SCDOT detail. It was noted that the current details have been discussed in recent AGC meetings, with the contractors also favoring a detail similar to the one being used for NCDOT projects.

USC and Clemson had submitted a proposal for a research topic to look continuity connection details, but it was not rated high. It is possible that the NCDOT detail could be used on an experimental basis on an RPG project.

The question was raised whether SCDOT would consider a fabricator proposal to use the NCDOT detail for an SCDOT project. It was recommended that if a fabricator intended to propose substitution of the NCDOT detail, the fabricator should call SCDOT to make them aware that the proposal with the revised detail was coming. It was recommended that the Engineer of Record be consulted.

The use of strands in continuity connection details was also briefly discussed. Terry Koon requested that the Department be provided details of how other DOTs have used strands in the connection detail (such as TennDOT). Reid Castrodale agreed to develop some examples for details and calculations for using strands for the continuity detail.

Terry Koon indicated that the Department would consider proposals to use different details for the continuity connection reinforcement.

Revising the reinforcement details for the continuity connection may require the stud locations to be changed for bearing plates. Fabricators suggested that the use of fewer studs (4 instead of the current 6) may be adequate, as is the practice for neighboring states. Terry Koon reported that the current detail has been in use for many years and there are no records of the design procedure used to set that detail. Reid Castrodale agreed to try to find design criteria for the studs on bearing plates.

17-1 *Debonded Strands*

Debonding in Bottom Row

Allowing use of debonded strands in the bottom row of prestressed products, especially for box beams and cored slabs, was discussed. Dr. Brandon Ross at Clemson has worked in this area, but his research is not yet completed. It was noted that revising design requirements to allow additional debonding can result in the beneficial reduction of the required concrete compressive strength at transfer.

Full Length Debonding

Richard Potts requested that the Department consider allowing full-length debonded strands. Locations in the strand pattern where the such strands would be allowed could be noted in the plans. The topic was also raised in the previous meeting, so has been added to the list of agenda topics for future meetings.

17-2 *Prestress Design Seminar*

Peter Finsen presented information about the Prestressed Concrete Bridge Design Seminar held in Raleigh in November. A workshop for prestressed concrete product

inspectors was held the following day. Interest was expressed in having ACEC involved with a similar seminar in SC; they had cosponsored the seminar in North Carolina. It would also be good to have contractors attend. The Department asked that G/C PCI arrange a time to discuss the time and topics for the seminar. The Department was also interested in plant tours that had been conducted in conjunction with the prestressed concrete design seminar in North Carolina.

17-3 *Standard SIP Form Clip Insert Details*

Terry Koon reported no progress on this item. Jeff White indicated that NCDOT has surveyed all form manufacturers and had established the standard clip size and spacing to be conservative as 10 ga. @ 12 in. o.c. Having the standard clip size and spacing established is a great help to the producers. Terry indicated that he would try to move this issue forward after checking with the clip and form manufacturers to make sure that they agreed with establishing a standard.

17-4 *Rubbing Prestressed Concrete Girders*

Terry Koon reported that he had checked and found that dry rubbing of girders is not required by the SCDOT Standard Specifications. However, it has been the preference of inspectors for some time. Jeff White described the issues and liabilities of dry rubbing girders. Terry had no problem with only using a wet rub for interior girders and then requiring the second dry rub on exterior girders. However, for girders over a stream crossing, the dry rub would not be required. Exterior girders are typically painted if they are placed in a bridge over traffic.

17-5 *Low Volume Roads Bridge Criteria*

Beverly Hollowell reported that some projects designed using these new criteria will be let in 2020. The criteria may also be used for some design/build emergency replacements in response to hurricane damage. These structures will only be cored slabs and flat slabs; for girder bridges, seismic provisions are considered, so these criteria no longer apply.

It was agreed to drop this item from future agendas.

New Business

For Information

SCDOT Preconstruction Updates

Terry Koon distributed a memo announcing implementation of a new service to provide email notification to subscribers of new and/or revised Preconstruction design standards, policies, and manuals. The link to sign up for email notifications is:

<https://www.scdot.org/business/join-design-construct-email-listings.aspx>

The memo is attached at the end of these minutes.

PCI Convention and National Bridge Conference

The next PCI Convention and The Precast Show will be in Louisville, KY, from Feb. 28 to March 2, 2019. However, the National Bridge Conference will be held with the PCI Committee Days to be held in Rosemont, IL on Sept. 25-28, 2019. Since technical papers on bridges will be presented at the National Bridge Conference, G/C PCI is offering to support four SCDOT representatives to attend this meeting.

Research

No report.

Next Meetings

The next joint meeting is scheduled for Thursday, May 2, 2019, at 1:30 p.m.

The next G/C PCEF Committee meeting is scheduled for Thursday, August 15, 2019, in Columbia. A location for this meeting needs to be identified.

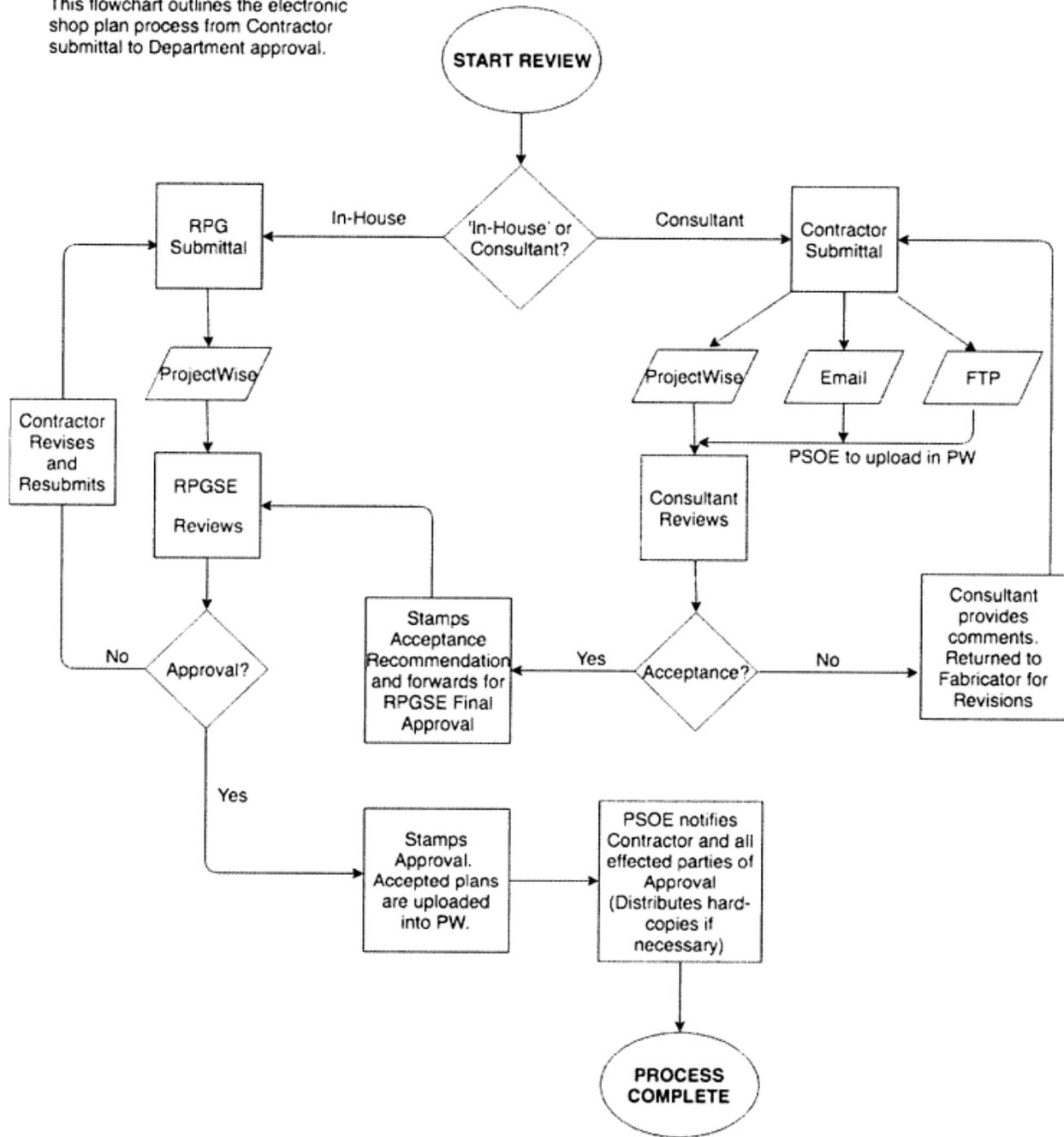
The meeting was adjourned at 3:45 P.M.

Action Items

- Reid Castrodale agreed to develop some examples for details and calculations for using strands for the continuity detail.
- Reid Castrodale agreed to try to find design criteria for the studs on bearing plates.
- G/C PCI & SCDOT set date for Prestressed Concrete Bridge Design Seminar
- G/C PCI & SCDOT develop topics for Prestressed Concrete Bridge Design Seminar
- G/C PCI & SCDOT to reach out to engage ACEC and Carolinas AGC in Prestressed Concrete Bridge Design Seminar
- Terry Koon agreed to work toward standard SIP steel form clip size and spacing.

OVERALL ELECTRONIC SHOP PLAN REVIEW PROCESS

This flowchart outlines the electronic shop plan process from Contractor submittal to Department approval.



PRECONSTRUCTION DESIGN MEMORANDUM

MEMO: PCDM-17
SUBJECT: Notifications for Preconstruction Design Updates
DATE: November 28, 2018

This memo designates the implementation of a new service to provide email notifications to subscribers for new and/or revised Preconstruction design standards, policies, and manuals. This initiative is intended to improve customer service by providing subscribers with the opportunity to receive immediate notification when design information is implemented by Preconstruction.

Subscriptions may be initiated through the “Subscribe” button found on each design discipline’s webpage under the Business portion of the Department’s internet website, www.scdot.org. The design disciplines included are CADD Design, Geotechnical Design, Hydraulic Engineering, Road Design, Structural/Seismic Design, and Surveys. Subscription to any one of these design disciplines will provide a notification for information related to all design disciplines. Future iterations may separate the subscription into specific options as we continue to develop and enhance this service. Cancellation of this subscription can be initiated through the link found at the bottom of every email.



George R. Bedenbaugh, Jr.
Preconstruction Support Engineer

Effective Immediately

Effective Date

GRB:ifn
ec:

John Boylston, Director of Preconstruction
Claude Ippock, Director of Construction
David Cook, Director of Maintenance
Robert Perry, Director of Traffic Engineering
Chris Gaskins, RP Engineer – Design Build
Ladd Gibson, Dir. of Mega Projects
Henry Shumpert, Surveys Manager

Jennifer Necker, RP Engineer – Lowcountry
Leah Quattlebaum, RP Engineer - Pee Dee
Philip Sandel, RP Engineer - Midlands
Julie Barker, RP Engineer - Upstate
Dan Hinton, FHWA
Steve Ikerd, FHWA
Tad Kitowicz, FHWA

File:PC/GRB

