

MINUTES:

DRAFT

When: Wednesday, March 3rd, 2020 11:00 – 12:00 PM (PDT)

Where: Web-conference

- I. There were 42 attendees to the WBPP regional web meeting. Attendees included:

Darlene Lane – NCPP
John Hooks – NCPP
Mario Baggio – Alchemco
Kyle Bartfay – Phoscrete Concretes
Chris Keegan – NCPP
Herb McDowell – Idaho DOT
Becky Nix – Utah DOT
Ed Welch – NCPP
Chris Higgins – Oregon State University
Diana Hellman – Fujifilm
Karen Davenport-UDOT
Lorella Angelini
Travis Kinney – David Evans & Associates
Andrew Pack – Idaho DOT
Greg Heilman – Jet Filter System
Thad Pinkerton – Utah DOT
Dick Dunne – GPI
Earl Franks – NMDOT
Gregg Freeman
Patrick Martens – Bridge Preservation and Inspection Services
Brent Schiller – Forsgren Associates
Raj Ailaney – FHWA
Clay Christiansen
Dan Uldall
David Brodowski – TrueTech Bridge
David Chase
David Dobson
Eric Buell
Grant Kao
Orren Jennings
Josh Sletten – WSP
Ken Vallens
Matthew Ross
Max McCarthy – Evonik

Michael Hill
Mitzi McIntyre – CTS
Richard Huza
Robert Hale – Evonik
Samantha Marks
Theresa Jones – City of Reno
Tony Tomasini – CTS

II. Welcome/Introductions

Herb welcomes everyone, takes roll call, and moves to accept minutes from the previous month's phone meeting. There are no objections and minutes are accepted.

III. Working Group Updates

National Bridge Deck Preservation

Concrete Bridge Deck Preservation Guide, received a lot of comments and working to finish up guide. Basic overview of bridge deck preservation. Looking for volunteers for sub team for cementation overlays. Will eventually set up a pocket guide for treatment. Compiling research project documents for the purposes of data collection for future research projects.

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Local Agency Outreach

Travis: Introduction to Bridge Preservation Presentation – 90 minutes. Have completed 10 training session since July 2020 with more scheduled. Continuing to modify sessions to be able to fit in more case studies. Also looking for a partner to get more case studies together.

Getting a template together for the TSP2 website for Local Agency outreach. Working on webpage to be more user friendly and looking for input on the webpage.

Florida pavement preservation group has increased in interest and growing to a large group.

IV. 2021 Annual Meetings

2020 Webinar: TSP2 Webinars

The webinar videos are available at the below link:
<http://bit.ly/2020BridgeWebinars>

WBPP Nov. or Dec. In Person Conference, Phoenix

WBPP meeting has been moved to December. The oversight panel of the TSP2 program decided to move the spring meeting to the fall. 80% response to the travel survey said they were unlikely to travel to spring meeting, due to the Covid 19 pandemic. Next planning session will be April 7th, 2021. The agenda is in good shape, due to it almost being completed last year.

<u>Region:</u>	<u>Site:</u>	<u>Dates:</u>
Midwest	Lexington, KY	Sept. 28-30, 2021
Northwest	Harrisburg, PA	Oct. 12-14, 2021
Southwest	Hot Springs, AR	Nov. 2-4, 2021
West	Phoenix, AZ	Dec. 7-9, 2021

Planning regular scheduled meeting 2022. Discussing moving west meeting to fall in 2022. The National meeting will be in 2023 (April or May) timeframe. The National Pavements meeting will be in Fall 2023. A new survey will be sent out at the end of March about status of attending meetings in 2021.

V. Technical Topic: Oregon DOT's Rapid Deck Rehab

ODOT Maintenance recently did a rapid deck rehabilitation project that included high early strength concrete and hydro-demolition prep. The overlay was staged in weekend closures. This work is fairly common for a lot of agencies, but Oregon is really just now getting going on these high early strength overlays. ODOT previously asked for a WBPP tech topic on this bridge to help address concerns with the hydro demolition requirements. That project is over and went quite well. David and Travis will present a summary of that project for States that are still early in their high early strength overlay development.

See below for project details/pictures and contact info

Adjourn

April 7th will be the next web meeting. 11:00 – 12:00 PM (PDT)

Yamhill Oflow Rapid Deck Rehabilitation

Background:

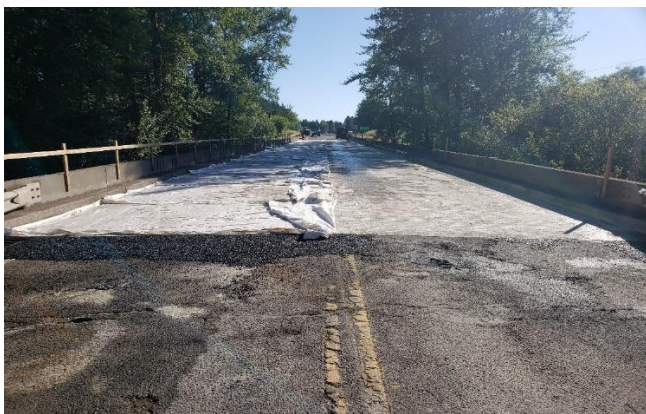
The Yamhill Overflow Bridge was built in 1963 and consists of 10 – 30’-0” RCDG spans supported on timber pile trestle bents. The 300’ bridge carries two lanes of traffic on a 30’ roadway with an ADT of 23,000. Reinforcement in the deck was design to have only 1” of cover for top and bottom mat reinforcement in a 6” deck.

Due to significant deterioration and high traffic volumes, the bridge deck was rehabilitated utilizing hydro-demolition and high early strength concrete. The work was staged in two weekend closures. Rapid deck rehabilitation work projects are starting to become more popular in Oregon. This presentation will offer a brief overview of the project and some lessons learned.

Bridge Condition:

The reinforcement within the deck wasn’t placed at the proper depth which has led to significant spalling (potholing). An in depth evaluation of the deck was performed which confirmed chloride contamination in the surface concrete. Approximately 50% of the deck is expected to require patching.





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HESC Overlays

Current Specification Overview

00504 – Bridge Deck Surface Preparation

- Covers bridge deck surface preparation for all overlays and membranes
- Can include hydrodemolition for surface prep and Class 2 prep, expect this to be standard boilerplate language in the near future

00558 – HESC Overlays (not published)

- Focused on CSA cement materials (calcium sulfoaluminate)
- Intended to be able to return to traffic in a single shift
- Mobile mixer specifications and calibration, but currently no certification required
- Strength-maturity relationship
- Includes macro-fibers, challenging to batch and dose currently
- 3 hour wet cure minimum (within 15 minutes of placement)

00559 – HPC Overlays

- The current ODOT “gold standard” of structural overlays, HESC needs to target the performance of HPC overlays
- 7 day wet cure standard

02011 – Rapid Hardening Hydraulic Cement – ASTM C 1600, includes QPL materials (CSA cement)

Past Use Cases

Yamhill Oflow – Weekend full closure with hydrodemolition, high amount of Class 2 prep

Schooner Creek – Planned as a PPC, needed additional cover over top mat to install NSM Titanium. Night lane closures on 101.

Upcoming Portland area project, full width, multi-day closure but too short for HPC overlay.

Research

OSU is currently performing research into the use of HESC overlays, looking at a variety of materials, beyond the HESC material ODOT has used in the past. The project is currently in the literature review phase. Many materials could eventually meet the performance criteria that ODOT is seeking, the literature review should help give the research team some focus when we get to the material testing phase.

Some states have struggled with HESC materials, specifically CSA cements. Proper cure has already been identified as a critical element. With very short set times, the window to get a wet cure in place is very small. Curing methods will be one area of focus when material testing begins.

As with HPC, concrete permeability is an important property that affects service life of the overlay and bridge deck. ODOT will be revisiting the HPC 1,000 coulomb requirement for chloride permeability for this project. One outcome could be to target a lower permeability. The relationship between air content and permeability might also need to be investigated if it is shown to be difficult to consistently hit target air, which so far has been ODOT's experience.

Long Term Forecast – Bridge Inventory

At the current rate of bridge replacement, the ODOT bridge inventory continues to age. There is an increasing number of structures that require structural overlays due to deterioration, chloride contamination, or strengthening. With increased traffic constraints, it has become challenging to perform HPC overlays in many locations. Without an HESC option, ODOT's options are limited to costly diversion structures, improper material selection, or deferring maintenance.

David Dobson, PE

Statewide Structural Materials Engineer

ODOT | Structure Services

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