

Meeting Minutes: NRRA Intelligent Construction Technology (ICT) Team Monthly Meeting

Date: 03/03/22
Minutes prepared by: Rebecca Embacher, MnDOT
Location: Microsoft Teams

Attendance

- Angerhofer, Paul
- Bautista, Emil (DOT)
- Blanchette, Andrea L
- Brett Williams
- Brunner, Jeffrey (DOT)
- Catherine (Guest)
- Cooper, Stephen J (FHWA)
- Dai, Shongtao (DOT)
- Dao, Lauren (DOT)
- David Ford
- Don Matthews
- Embacher, Rebecca (DOT)
- Engstrom, Glenn (DOT)
- Ervin Dukatz
- George Chang
- Heim, Michael P (DOT)
- Hill, Brian C.
- Hoegh, Kyle (DOT)
- Jim Preston
- Lee, Sheue
- Maskey, Deepak R@DOT
- Matt Oman
- Michael Rief
- Nazarian, Soheil
- Podolsky, Joseph (DOT)
- Sabouri, Mohammad
- Shelstad, David
- Siekmeier, John (DOT)
- Signe Reichelt
- Supraja Reddy (Guest)
- Turgeon, Curt (DOT)
- Velasquez, Raul (DOT)
- Walker, Jacob
- Williams, Cynthia
- Worel, Benjamin (DOT)
- Zegeye Teshale, Eyoab (DOT)

Decisions Made

- None

Action Items

- Work with planning committee for the Minnesota Transportation Conference and Expo to get agendas posted, registration feature for Veta training, increased advertisement, etc. /Glenn Engstrom

Agenda

- Minnesota Transportation Conference and Expo Hall (Engstrom)
- MnROAD Construction (Worel)
- Research Pays Off (Embacher and Dao)
- CN1034287 | Seismic Approach to Quality Management of HMA (Embacher)
- CN1047755 | Veta Enhancements for MDMS Standardized Platform and Web conversion (Embacher)

Next Meeting

Date: April 7, 2022

Time: 10:30-11:30AM CST

Location: Microsoft Teams

Agenda items: (10:30AM-11:00AM) Solicitation for Pooled Fund Study “Continuous Bituminous Pavements Stripping Assessment through NDE Technologies” (Eyoab Zegeye)
(11:00AM-11:30AM) AASHTO PP114 “Standard Practice for Data Lot Names for Use with Intelligent Construction Technologies”

Meeting Notes

Minnesota Transportation Conference and Expo (Engstrom)

See slides 3-4.

NRRA is paying for “full” travel expenses for 3 agency members to attend event. It is possible that more than 3 individuals might be able to attend per state.

Planning committee is meeting to discuss the status of getting the website updated to include track details for use in out of state travel requests and for promotional purposes.

Will discuss adding ability to register for Veta training to ensure that size does not get too large for this training.

The ISIC and NRRA tracks will receive larger rooms.

MnROAD Update (Worel)

March 25th letting. Will include mainline, interstate test sections (concrete and asphalt).

Working with producers to ensure that correct mixes (mix designs) will be furnished to contractor.

Caterpillar will be milling the test sections at the end of May.

Base work will begin in June and paving in July/August.

Different ICTs will be incorporated into the testing matrix for each test section. The research team is creating a summary of this testing matrix and will share it with the team in April.

Incorporating testing from various NRRRA studies into the MnROAD reconstruction. For instance, the following studies will be collecting project data during the reconstruction:

- Understanding and Improving Pavement Milling Operations
- Evaluation of Levels 3-4 Intelligent Compaction Measurement Values (ICMV) for Soils Subgrade and Aggregate Subbase Compaction

The contract end date is 9/2/22.

A lot of partnerships and instrumentation.

Thank you to everyone helping out. If in the area this summer stop by.

Levels 3-4 study still need to work out logistics for mapping using IC using UTAPS equipment.

Caterpillar is donating rollers for compaction efforts.

Dave White, with Ingios Geotechnics, is working on a couple of test cells for plate load testing.

Research Pays Off (Embacher / Dao)

See slides 6-7.

Reminder that ICT associate member is providing presentation for research pays of in March.

CN1034287 – Seismic Approach to Quality Management of HMA (Embacher)

See slides 8-9.

Equipment is being shipped to the United States. Planning providing training to MnDOT Geotechnical team in June. Other state NRRRA members should let MnDOT know if they would also like to try out the equipment on projects. MnDOT intends to receive the associated training and test out the equipment on a few projects this construction season. Will try to pilot the technology on projects using other ICTs.

CN1047755 – Veta Enhancements for MDMS Standardized Platform and Web Conversion (Embacher)

See slides 10-16.

Provided update on Amendment No. 1 funding sources and tasks.

Reminder for states to use AASTHO PP114 “Standard Practice for Data Lot Names for use with Intelligent Construction Technologies” when collecting data for IC, PMTP and DPS. A lot of automation, within Veta, is associated with this standardization.

Provided update on AASHTO MDMS standard and contract work associated with the needed Veta enhancements.

National Road Research Alliance (NRRA) Intelligent Construction Technology (ICT) Team

Microsoft Teams Meeting

March 3, 2022



- Minnesota Transportation Conference and Expo Hall
- MnROAD Construction Update
- Research Pays Off
- CN1034287 | Seismic Approach to Quality Management of HMA
- CN1047755 | Veta Enhancements for MDMS Standardized Platform and Web conversion
- BIM Related Activities

Minnesota Transportation Conference and Expo

<https://web.cvent.com/event/ced8e30b-73c8-4859-9955-40054201c028/summary>

Transportation Conference Update

- May 17 – May 19, 2022
- DOT Travel Expenses
- Have any of you presenters been contacted yet by the planning committee???
- ISIC Monthly Meeting – any changes to presenters?

MnROAD Update

Research Pays Off

<http://www.dot.state.mn.us/mnroad/research-pays-off/index.html>

ICT as a Service and for Compliance –
How ICT Research has led to the
Removal of Technicians from
Construction Sites in the UK presented
by Ruairi Charlesworth of Highway
Data Systems

- Highway Data Systems are a certified materials testing house who operate their own ICT hardware and software as an integrated service for asphalt contractors in the UK and Ireland. Highway Data Systems research has been used by national and local overseeing organizations to update technical specifications for asphalt testing and is the driving force behind using ICT for compliance as well as quality assurance in road construction.
- This talk will discuss HDS technology, how ICT can be delivered as a service and explain how ICT is being used for asphalt testing compliance in the UK and Ireland.

CN1034287

Seismic Approach to Quality Management of HMA

<http://www.dot.state.mn.us/mnroad/nrra/structure-teams/intelligent-construction/seismic.html>

Seismic Approach Updates

- Website Updates Needed
 - 2021: 2nd, 3rd, 4th quarterly reports need to be added to the website
- Equipment Training for Research Team
 - MnROAD Low Volume Loop (backup location)
 - Couple live construction projects (metro)
 - Recording everything for future viewing by TAP

CN1047755 | Veta Enhancements for MDMS Standardized Platform and Web Conversion

<http://www.dot.state.mn.us/mnroad/nrra/structure-teams/intelligent-construction/veta-enhancements-mdms.html>

Amendment No. 1 Funding

Incorporates remaining money and scope of work from TPF-5 (334).

- CN1027236
 - \$160,375.69
- Additional encumbered funding received after execution of CN1027236
 - \$35,787.78
- Total Amendment #1
 - \$196,163.47

Amendment No. 1 Tasks

- Tasks 5.2 Automatically create filter groups and filters using data from MDMS
 - Using data entered from user interface.
- Task 7 Support for the Veta Desktop Version, including bug fixes and minor enhancements

Data from MDMS User Interface

- Production Date
- Data Lot
 - AASHTO PP114 “Standard Practice for Data Lot Names for use with Intelligent Construction Technologies”
- Start and End Station Limits
- Exclusions
 - Start and End Station Limits
 - Type
 - Permanent
 - Temporary
 - System Failures
 - Tapers
 - Waived

Veta Enhancements Contract Dates

- Contract Dates

- Start Date: December 28, 2021
- End Date: October 31, 2024

Key Milestones	Target Date
Veta web conversion – Phase I	July 2023
Veta MDMS Platform	July 2023
Veta web conversion Phase II – Part	July 2024

AASHTO MDMS Provisional Practice

AASHTO PPXX “Standard Specification for Material Delivery Management System”

- Submitted for Publication to Data Standards Committee
- Publication Includes
 - Aggregate
 - Asphalt
 - Concrete

Veta MDMS Platform Tasks

- Summarizing features from AASHTO PP that are associated with Veta
 - PP contains language for both Contractor and Agency MDMS platforms
- Connecting relevant, current Veta features to MDMS Platform
 - Import Alignment Files
 - Viewing of Map and alignment Files
 - Location Filter
 - ...

Thank you again!