

## **NRRA MONTHLY MEETING MINUTES**

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**Date:** 02.01.2018

**Time:** 12:30 PM-1:30 PM

### **Attendees:**

1. Bora Cetin (ISU)
2. Haluk Sinan Coban (ISU)
3. William Likos (UW-Madison)
4. Tuncer Edil (UW-Madison)
5. Heather Shoup (IDOT)
6. Thomas Fennessey (MoDOT)
7. Aaron Budge (MSU)
8. Deepak Maskey (Caltrans)
9. Jeffrey Horsfall (WisDOT)
10. Benjamin Worel (MnDOT)
11. John Siekmeier (MnDOT)
12. Terrence Beadry (MnDOT)

### **Discussions**

- May 23-24, 2018 → NRRA Workshop in Minnesota – Schedule was explained. Adjustments and additions will be made to the schedule.
- Task 3 → A report containing field data will be sent to ISU and UW-Madison by MnDOT for data analysis.
- Task 3 → It was stated that one of the 9 inch LSSB test sections had some performance related issues after construction. Intelligent compaction data will be used to look into this. In addition, frost-heave and thaw-settlement behavior of this section will be investigated in particular.
- Task 4 → The deterioration performance of each material over time in test sections will be simulated via gyratory compaction method that is developed by ISU in the laboratory. This method simulates the impact of traffic load in lab scale than other tests such as LA abrasion and micro-deval tests. In addition, it was discussed that forensic studies will be conducted on each test section towards the end of the study. Core samples will be taken for analyses to determine the deterioration of these materials in the field over two years period.
- Task 4 → Soil-water characteristic curves and permeability properties of the materials will be analyzed by UW-Madison. Saturated and unsaturated hydraulic conductivities will be assessed and their relations with index properties of materials will be investigated.

- Task 4 → Correlations between the mechanical properties of the materials such as resilient modulus, strength and their saturated/unsaturated characteristics will be assessed. Data for the degree of saturation and resilient modulus at various moisture contents will be obtained from UTEP for analyses.
- All data including laboratory and field will be organized based on MnDOT's required format and uploaded to the MnDOT database.
- Materials that will be sent to UW-Madison and ISU will be compared prior to conducting advance lab experiments to make sure that the quality and property of the materials are identical.
- Task 5-6 → A separate meeting will be arranged between ISU/UW-Madison and MnDOT clarify the construction/performance monitoring processes and installation of additional sensors such as matric suction measurements.
- Task 5-6 → Dr. Likos stated that the selection of the matric suction sensors depends on the gradation of the materials. A detailed laboratory analysis will be performed to determine which sensor is suitable for each type of material.
- Dr. Cetin recommended to take Ground penetration radar (GPR) readings of test section periodically. This equipment has a capability to show the change in thicknesses of the each pavement layers over time. These changes can provide information regarding compressibility of each layer over time.
- Leaching characteristics and high pH of RCA will be studied in this research.
- RCA/RAP/LSSB design manuals of different DOTs will be reviewed and pavement design inputs will be adopted for DOT manuals in addition to MEPDG.
- Literature review and permeameter data (collected during construction process) analysis will be presented in the March meeting by ISU and UW-Madison.