ACEC Georgia

American Council of Engineering Companies of Georgia

GPTQ CRC SUBCOMMITTEE
MEETING MINUTES
ROADWAY DESIGN POLICY

July 1, 2015 @ 10:00 am

GDOT Design Policy Conference Room - 26th Floor

Mission: To promote communication, innovation, and cooperation between GDOT and consultant firms on issues affecting design decisions, criteria, processes, and implementation as well as plan and document presentation.

Subcommittee members in attendance (comprehensive attendance sheet attached):

- ☐ Alex Stone – Mulkey Engineers
- ☒ Bill Rountree – Parsons
- ☒ Brent Story, Co-chair – GDOT
- ☐ Brian O'Connor – T.Y. Lin International
- ☒ Chris Marsengill, Co-chair – Moffatt & Nichol
- ☐ Kevin Ergle – Kimley Horn
- ☒ Mario Macrina – Wolverton & Associates
- ☒ Steve Linley – Parsons Brinckerhoff

1. Recap of top 5 Focus Areas to promote efficiency in project delivery

- Accessibility
- Awareness
- Clarity
- Flexibility
- Proficiency

2. Lighting design

- GDOT is developing a process flowchart for lighting design
- An update of DPM Chapter 14 is in progress
- LED designs are becoming more prevalent; although the upfront cost is higher, the lower energy and maintenance costs often makes LED a more beneficial solution.
- Local governments are typically responsible for energy and maintenance
- Lighting designs typically identify three specific fixture models that will meet the lighting design parameters or "equivalents"

3. ROADS Website

- The traffic data links in GeoTRAQS appear to have been broken when the website was revamped.
- Top items list discussed previously is not likely. More logical location of items will be more effective. Reorganization completed to date has resolved many issues related to searching for references.
- Sediment Basin Program
  - The program was removed from the website because problems with it were identified, and it will not be replaced.
  - Other products are available for sediment basin design such as PondPack

4. Training opportunities

- No specific training opportunities are immediately forthcoming.
- InRoads training is continually available through GDOT's online tutorials.
- Beginning in July, GDOT's PDP course will conclude with a required PDP Certification test.
- NHI classes have not been offered in some time due generally to a lack of budget.

5. Status updates

- September 1 is the scheduled rollout date for ProjectWise Engineering Document Management System
- GDOT Ditch Lining software guidance to consultants
  - The attached Ditch Lining Meeting Minutes and action items were reviewed
  - The general question of whether to abandon the program was raised due to the availability of other means.
  - This issue will be deferred to Daniel Pass
- Planning level traffic
  - Approximately 200 comments regarding DPM Chapter 13 were compiled
  - The CRC Traffic Forecasting Task Force has meet twice since inception in April
  - The task force's Work Process Diagram is attached, and their goal is to define and prioritize issues to be addressed by a forthcoming CRC subcommittee

6. New business

- None

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DITCH LINING MEETING MINUTES

LOCATION: GDOT, Office of Design Policy and Support, 26th floor

MEETING DATE: Thursday, June 27, 2013, 9:00 AM

RE: DITCH LINING PROGRAM

ATTENDEES:
Brad McManus – GDOT
Jon Griffith – GDOT
Chris King – Atkins
Chris Marsengill – McGee Partners, Inc.
Josh Sofsky – McGee Partners, Inc.
Ken McDuff – Mulkey Engineers & Consultants
Mario Macrina – Wolverton & Associates, Inc.
Daniel Taylor – Wolverton & Associates, Inc.

- The meeting began with the following in attendance: Brad McManus, Jon Griffith, Chris King, Chris Marsengill, Josh Sofsky, Ken McDuff, Mario Macrina and Daniel Taylor.

- Brad McManus welcomed everyone and gave a brief overview of the new ditch lining program. Mario Macrina summarized the reason for requesting the meeting was to discuss issues the consultant community was having with the program and look for additional guidance from GDOT.

- Brad stated that he had a conversation with Glen Foster about the soil parameters that are required for the new program but were not required in previous soil surveys. He said that Glen was working on providing guidance to GDOT designers for how to approximate these parameters. It was determined that it would be the designers' responsibility to approximate the D75, USCS classification, and Plasticity Index (PI). It was recommended that the consultant community be included on the guidance.

  GDOT engineers worked with the Geotechnical Bureau of the Materials Office, and Glen Foster's has completed the revision of the soil survey report format to include D_{75}, PI, and the USCS soil symbols.

  We understand that some projects underway do not have a soil survey with the required new soil properties. A good estimate of the PI for piedmont and Blue Ridge soils is 10. These soils are usually SM (sometimes SC or CL) and have a D_{75} of 0.02 inches.

  For the Ridge and Valley geology of Northwest Georgia and the Coastal Plain sediments, more field work may be required.

- Daniel Taylor then discussed a project that he was working on and how USCS soil tests were performed every 1200 feet. Josh Sofsky stated that the new soil survey requires the geotechnical consultant to determine the representative values for an entire project. He suggested this could be done on older projects as well, or separate the project into areas if the values are different enough. It was discussed and determined that the designer should use their judgment to determine what soil inputs are the best representation of the proposed ditch.

  Agreed – engineering judgment will be required for large projects.

- The group then discussed the required grass parameters, which are as follows:
  - Grass type (Sod, Mixed or Bunch)
  - Stem Height (0.25', 0.50', 0.75' or 1.00')
  - Density (Excellent > 95%, Good 75% to 95% or Poor < 75%)

  Mario explained these parameters have a large influence on whether or not Turf Reinforcement Matting (TRM) is required but it's difficult to know with any certainty what these parameters will be for proposed ditches, because the parameters vary greatly depending on many site specific variables.

  These vegetative characteristics will have primary impact on what type of TRM is required. A sensitivity study is being performed to determine the possible ranges of these parameters on the required level of TRM. In the meantime you may use bunch for grass type (unless there is good evidence of greater densities, use mixed) and 0.5' for stem height. The grass density should be based on a site visit and knowledge of conditions to be expected (if bare spots are encountered then enter poor for example). Photos will be coming soon to give designers a better idea of what excellent, good, and poor mean.

- One recommendation for the grassing was for the designer to visit the site and examine the existing ditch to assess the condition of the pre-construction grass. The group discussed how that would be infeasible for larger scale or new location projects.

  Engineering judgment will be required for large projects.

- Another recommendation was to coordinate with the local GDOT District to get their opinion on what these parameters may be for the proposed ditch after construction. Ultimately it was decided that it will be the designer's responsibility to make these assumptions.

  Agreed. Coordinating with local GDOT district offices is a very good idea. Additionally, engineering judgment will be required for large projects.

- The use of the ditch lining website was then discussed, and the following is a summary of these discussions:
  - A recommendation was made to update the Plasticity Index (PI) input to default to 0. For non-plastic soils, a user inputting only the D75 will get no value and may not know that 0 must be input before the calculations will work.

  Jon Griffith and Susan Burns discussed this option, but prefer to have PI entered for every calculation. Entering a default value for PI may lead to the assumption that PI can be neglected. A D_{75} should be entered for every calculation also.

  - The calculated permissible soil shear stress value only appears after entering both PI and D75. If either or both fields are deleted, the calculated number does not disappear. The permissible soil shear stress field is misleading because it does not always change when the input values are changed.
    - For example, for a SM soil with a D75 of .08" – when 0 is input for the PI, the shear stress is not calculated. If the PI is changed to 20 then the shear stress is calculated to be 0.085 lb/sf. After changing the PI back to 0 however, this same calculated stress remains. The question was raised as to whether the program is calculating this value properly.

Thanks for the feedback. This is being tested and additional information will be available soon.

- The grass types do not correspond to the GDOT grassing specifications. A recommendation was made to update the grassing types to correspond to commonly used grass types for GDOT projects (ie. bermuda, bahia, lespedeza, etc.)

Will be updated.

- A recommendation was made to provide photos to assist the designer in making assumptions about what grassing density and stem height will be for a proposed ditch.

Good suggestion – again, coordination with the District office is encouraged. We are currently working on obtaining photos for reference on grass density.

- A recommendation was made to add the capability to edit values after saving a ditch section. Currently, if any value needs to be modified all of the inputs must be re-entered and there will be multiple records.

Good suggestion. The development of the program has been finished to revise it will require more funding. This is something we will consider for future research.

- A recommendation was made to give the user the ability to save the records in a directory on the user's computer rather than on a GDOT server.

Good suggestion – The development of the program has been finished to revise it will require more funding. This is something we will consider for future research.

- A recommendation was made to give the user the ability to have the website be saved or downloaded and ran locally on the designer's computer.

The program was designed for web based application; there is no plan for a version to run locally.

- A recommendation was made to give additional import/export capability that would improve the functionality of the website, such as the ability to upload a CSV file.

Not included in the scope – GDOT may be interested in this functionality in later versions.

- A recommendation was made to correct when CSV files are downloaded. Some of the column descriptions are out of order and must be moved to match the correct values.

Will be updated.

- A recommendation was made to consider adding a help button next to inputs to provide the user with additional guidance.

The question mark boxes were added for this – are there other locations specifically needed?

- A question was asked about how TRM affects the Manning's roughness coefficient? John Griffith will investigate and let the group know.

Once the grass is established in the ditch, the roughness is dominated by the presence of the grass. There is also a Manning's override coefficient to allow input for the case where grass is not established; that is, in the case of TRM only.

- A question was asked about the cost difference for each type of TRM? John responded that no data has been collected on the costs.

- Based on the outstanding questions regarding the ditch lining website, Mario asked if GDOT would be open to issuing waivers for projects currently being let until these kinks are worked out. Brad stated that he did not believe a waiver is possible, but can be discussed with the GDOT PM on a per project basis.

- Brad recommended that the consultant/designer performing the ditch lining evaluation make their best educated guess on the parameters entered into the program and document all assumptions. The assumptions should be submitted with the program results.

- The meeting adjourned around 10:00 am.

CRC Traffic Forecasting Task Force - Work Process Diagram