

Meeting Minutes from Florida Greenbook Subcommittee January 10, 2011

Attendees: Ty Mullis, Resident of Spring Hill, Florida; Keith Bryant, P.E., Bay County, Andre Garganta, Consul-tech Engineering, Inc.; Robert Quigley, P.E., FDOT; Jim Mills, P.E., FDOT; David O'Hagan, P.E., FDOT, Bruce Dietrich, P.E., FDOT, Brian Blanchard, P.E., FDOT; Ronald Chin, P.E., FDOT

Purpose:

Pavement Design and Construction Issues. The purpose of this meeting was to follow-up from teleconference held on November 16, 2010 to discuss: 1) Additional information discovered regarding "unpaved" roads in Florida; 2) Review specification, construction and cost details for the safety edge; and 3) Discuss additional verbiage enhancement for Chapter 5 of the Greenbook.

Meeting began at approximately 9:31 a.m. with roll call. Mr. Chin asked if there were any issues regarding the agenda. No one had any issues.

Unpaved Roads:

Ron solicited FACERS and American Public Works (APWA). APWA did not have any respondents to the data gathered for questions regarding the number of miles of unpaved roads in Florida. This data was shared in a spreadsheet from the counties that responded, including all counties in District Seven. There is a considerable amount of unpaved roads in Florida; several hundred miles in some counties. Pinellas County has the lowest, 5 miles. Mr. Chin solicited comments from each person.

Mr. Bryant commented that Bay County has approximately 200 miles of unpaved roads. Sand clay is exiting for many unpaved roads; some shell; but oil run off is a problem. Limerock appears to be the best material as far as weather resistant and holding a firm road surface. Asphalt has been used (open graded asphalt) but costs are borne by residents. Bay County does not construct any new dirt roads. Some unpaved roads have milled asphalt, but not sure of thickness, probably not more than a few inches. Mr. Bryant will look into this and advise Ron.

Mr. Chin asked about including "should" condition in the manual. Mr. Quigley indicated it may be a costly proposition for the local municipalities. Mr. Bryant's concern is also cost – this would be at county's expense.

Mr. Chin will broach this subject at March 2011 Greenbook Meeting regarding inclusion of: "consideration should be given to providing an all-weather surface such as milled asphalt for unpaved roads". Mr. Chin asked why not provide for a compromise to include materials other than limerock on unpaved roads. Mr. Mullis commented that he is not seeking a mandated use of different material. His concern is the use of limerock. He "struck out" with the Department of Environmental Protection (DEP) regarding pollution controls for limerock on unpaved roads. Mr. Mullis is suggesting the need for a standard – any material (reclaimed aggregate, crushed concrete, shell that does not generate dust) other than limerock. Mr. Bryant commented that limerock is the only material that holds up under wet conditions. Mr. Mills is reluctant to specifying materials to be used for unpaved roads in the Greenbook, as there are no other material references made in the Greenbook. Mr. Bryant added any material referenced would not be good.

Mr. Chin suggested guidance for counties, when and if they can afford it, to provide guidance of options for different materials. Mr. Mullis indicated counties may show cost savings in the long run with asphalt

millings. Mr. Chin asked if anyone had cost data comparing asphalt millings vs limerock and the maintenance frequency. Mr. Blanchard suggested this issue to be one of economics and recommended we solicit counties/cities for these cost comparison.

Mr. Mullis indicated he has seen 2" of recycled asphalt shingle material on top of limestone road with say, 300 est. A.D.T. and it has been 5 yrs. since it had been placed. However, does need some maintenance now. Mr. Mullis also indicated he has seen recycled asphalt (2" thick) on roadbed with vegetable oil, (\$0.60 cents a gallon at rate 1/10 of a gal. per sq. yd. under vegetable oil recovery program). Other parts of road with shingle material was too expensive to transport. Suggested requiring vegetable oil as an alternative.

Mr. Chin asked Mr. Dietrich if he knew of any data comparing limerock surface roads versus all weather surface such as milled material for maintenance (grading) frequency. Mr. Dietrich suggested determining if counties are using such materials before we include a "should" condition in Greenbook. Mr. Chin will solicit counties and cities as Mr. Blanchard suggested for this information.

Mr. Bryant asked who we tried to contact with APWA – chair or president. Mr. Bryant would like APWA's opinion. Mr. Chin would find out from administrative assistant who was contacted and inform him.

Mr. Mullis agreed he would seek out other materials used for stabilizing unpaved roads for cost estimates of such materials with spread rates.

Mr. Mills suggested we need to be cautious specifying material types in Greenbook, as some changes to material for building and maintaining road would never be kept up at local government level. Specifying material is too specific to keep up with changes, i.e., this year vegetable oil; next year, something else. We should not be too specific on different material to maintain a road. This would be a county/city road maintenance issue. Mr. Mullis should discuss this with his respective county. Mr. Mullis added that he has been dealing with this for 5 yrs. Mr. Mullis quoted statues regarding pollution control and that pollution is caused by certain material on unpaved roads. Mr. Mullis indicated cheapest material has a negative impact on residents.

Mr. Blanchard added this is related to economics versus pollution. Mr. Blanchard asked if there are binding agents available to put on limerock to control pollution. Mr. Mullis listed alternatives on limerock: recycled asphalt pavement.; soybean soap stock (temporary fix) water soluble material. Hernando county uses a by-product, no standard.

Mr. Chin suggested referencing Section 403 of Florida Statutes regarding pollution as a reference in the Greenbook. Mr. Blanchard indicated acceptable to include this as draft at the next Greenbook meeting in March. Mr. Chin agreed to seek input from Mr. John Minnick, Esq., DOT Central Office, on suggested language.

Mr. Mills was cautioned by Bruce Conroy to be careful how statutes are referenced in a rule. Referencing other statutes in the Transportation arena may cause a conflict with Greenbook authority. Mr. Chin mentioned that at the last meeting, this was acceptable according to John Minnick, Esq. Limerock roads – costs.

Mr. Dietrich asked if counties/cities are using limerock bases or limerock aggregate.

Mr. Mullis indicated the road he lives on has limerock base – fine surface, by product – not D.O.T. specifications. Not approved limerock base.

Mr. Bryant indicated limerock base, sand clay; milled and asphalt roadways.

Mr. Dietrich added concrete pavement on special course aggregate. Need to be careful suggesting materials as it depends where you are located within state. Limerock base and limerock aggregate are different with different availability.

Mr. Chin asked Mr. Mullis for support regarding finding out if other materials are being used to stabilize the surface of unpaved roads.

Safety Edge:

Estimates of quantities and cost were provided for applying the safety edge. Mr. Chin provided this via table. Mr. O'Hagan did receive the information from the Federal Highway Association (FHWA) last week. Recommending use of safety edge for no shoulders, no paved shoulders or any pavement edge that doesn't have a paved shoulder or audible vibratory markings. The D.O.T. will strongly make this recommendation to the Greenbook committee members. Discussed at previous meetings – answered all his questions. However, Mr. O'Hagan indicated that he doesn't necessarily believe everything by reading FAQs website. The Safety Edge does not require certain testing – density. We may need to look at specification that requires testing.

Mr. O'Hagan recommended applying safety edge to ensure holding the integrity of the pavement edge. Not implied that surface preparation is required. Bay County, (Mr. Bryant) would stabilize out to shoulder, 30 deg angel for safety edge – yes, 30 & 37 deg.; most of the equivalent is 30 degrees.

Proposed format for the March meeting. Mr. O'Hagan will provide this information.

Mr. O'Hagan suggested that this safety edge should be a "shall" condition.

Mr. Quigley asked why include cost data in Greenbook as this will fluctuate. Mr. Chin will remove cost data for official print but will include this cost data for Greenbook member's information to understand cost implications.

Verbiage Enhancement:

Chapter 10 is to be retitled "Maintenance & Resurfacing". Scott Golden, F.D.O.T. District Three, is in charge of this. Mr. O'Hagan mentioned Chapter 10 requirements for resurfacing should be included after dialogue with Chris Richter. Requirements are: using ARRA funds - 5 crucial elements (address drop offs, ADA, guardrail, MUTCD, etc) this information should be included in Chapter 10. Rephrase as requirement or exception language. Mr. O'Hagan and Mr. Golden would work that out; specify when a paved shoulder is not provided, what should be done.

What is the minimum of paved shoulder? If a paved shoulder can't be supplied, then they shall provide an audible vibratory marking. Audible vibratory marking will provided some measure of warning before a safety edge or paved shoulder is installed.

Mr. Bryant asked if they are installing audible markings. This is not a standard procedure for county.

Mr. O'Hagan indicated that will be "our" policy.

Mr. Bryant stated that Bay County follows what D.O.T. does. It would also be their standard. 4' width shoulders. Min. of 4', try to do 5'.

Mr. Chin suggested 4' shoulder pavement minimum width with audible and vibratory markings.

Shoulder Treatment:

Mr. Chin asked for input on considerations for language on page 5.2 of chapter 5.

Mr. Bryant indicated that the county has no specific designs on this.

Mr. Garganta agreed to add in Mr. Chin's suggestion.

Mr. Dietrich, suggested that it is not so much a rule making issue. Specifically limit rule to state highway, why all local governments?

"Shall condition" – Mr. Mills doesn't understand what is being asked.

Mr. Chin added if county has intersection to maintain for rutting purposes every 4 years and they are having to endure the economic impact, maybe the county/city should consider something other than what is being used. Mr. Mills asked why special material usage? Why 10% significant? Can this be struck?

This segment appears to repeats what 1st sentence states.

Mr. Chin explained when would you know to use Pavement Type selection Procedure – "for instance".

Mr. Mills indicated that the Greenbook manual is written for plain language, non-engineering. Mr. O'Hagan added the intent is for Greenbook to be helpful; should and not many "shalls". Mr. O'Hagan questioned the use of word "warrant" in manual. "Warrant" will be removed. Mr. Chin indicated wording to provide awareness to designer.

Structural design; Mr. Chin asked if 1993 AASHTO Guide for Design of Pavement Structures is still good?

Mr. Dietrich responded yes it's still good. 1993 it will be.

Skid Resistance:

Eliminate paragraph regarding 'grooving' - struck. Leave paragraph – concrete pavement polished or worn – what could be done – grind it. Low skid resistance. Take this out – (???) If locals have issues, cover up w/bonded friction course? Show as being 'eliminated'. Will broach committee with this issue in March 2011.

Shoulder Treatment:

Mr. Chin asked for comments – last word – changed from 'requirement' to 'estimates.'

Mr. Bryant was in agreement.

Mr. Quigley - Grooving paragraph is existing in Greenbook. Shown as struck-proposed to be struck.

Mr. Garganta asked if shoulder utilization and/or pavement edge are necessary?

Mr. Chin suggested maybe taking out the 'or'.

Mr. Chin, plan is to do this under section 1, page 5.1. Mr. Quigley agreed with taking out the safety edge.

If paved, there is a paved shoulder, we would not require a safety edge.

"Include shoulder pavement or a safety edge should be constructed."

If can't provide for paved shoulder or safety treatment, must provide safety edge.

Mr. Quigley, "Particular attention shall be given providing a smooth transition between the pavement & shoulder and avoiding hazardous drop offs."

Mr. Garganta suggested clarify on detail – fig. 2 – overlay 1” thick – 1” to zero? Is this the intent? Mr. Chin responded that he didn’t think 1” dropoff is hazardous – F.D.O.T. standard is 1.5”. Mr. Chin agreed to revise table to start at 2”.

Mr. Chin asked if there are any other issues? No other issues were brought up.

Mr. O’Hagan thanked Ron for his time and commitment.

Meeting was adjourned at approximately 11:09 a.m..

Action Items:

- 1) Cost comparison of milled material vs limerock base; Mr. Chin.
- 2) Other materials that can be used and cost, i.e., veg. oil like material, soy bean; Mr. Mullis.
- 3) Update language in Chapter 5 as discussed with subcommittee to show as draft. Mr. Chin.
- 4) Send out official safety edge specifications; Mr. O’Hagan
- 5) Call Scott Golden (D3) to make modification in Chapter 10 to include “Maintenance and Resurfacing”; Mr. Quigley