

FUGRO PROJECT 3139

April 23, 2004

Mr. T. Joseph Holland, Contract Mgr.
Caltrans, Division of Research and Innovation
5900 Folsom Blvd, MS-5
Sacramento, CA 95819

**Panel Review Comments, Caltrans Contract 65A1011
Slurry and Micro-Surfacing Mix Design Procedure
Project: RE-0211-01, SPR-3(073)**

Dear Joe:

During the panel meeting in San Diego on February 25, 2004, several issues were raised that required the project team's attention. The team met in Sacramento on April 15-16 to discuss these and other issues related to the project in order to initiate Phases II and III. Following are our responses to the concerns expressed by the panel:

1. The Need for Acceptance Testing

The project team agrees that some type of acceptance testing is needed to determine compliance with the specifications. In the past, attempts have been made by several contractors and agencies to determine the properties of the mixture by taking samples from the cowling that directs the mixture from the mixing chamber to the spreader box. This procedure is not acceptable in our opinion because of safety reasons and the fact that the augers in the spreader box continue to mix the material. Previous work has indicated that these samples are extremely variable (high standard deviation) and not representative of the material being placed.

At the April meeting, the team discussed the idea of sampling after the mix has been placed and finished by securing some sort of device to the pavement surface that could be easily removed and samples obtained for testing. Testing would consist of determining the binder content and aggregate gradation. In recovering the binder, we would have to agree on a "standard" recovery method because we would not want to damage any polymer in the emulsion.

The project team intends to contact the International Slurry Surfacing Association and obtain their assistance with this issue. We hope to have some dialogue with contractors during this construction season to "pick their brains" about how to deal with this issue. Be assured, we will address this issue as the project continues with the goal being a recommendation for an acceptance test at the conclusion of the project.

2. Re-Examination of the Training Program

The project team is aware that Caltrans wants to prevent redundancy in the training program. We discussed this issue at length at our April meeting and concur that the training, as proposed in the Phase I report, is not a duplication of existing training efforts provided by the ISSA and NHI. The material developed during this study will differ from the material either currently being presented or in development. In addition, the outline for the NHI course on pavement preservation techniques that is under development (course developer also a subcontractor to Fugro on this project) has allotted a very limited time to slurry and micro-surfacing treatments.

The project team is of the opinion that new procedures, test methods, guidelines, and specifications need to be conveyed to an audience of agency middle managers, contractors, and inspectors, and that the best forum in which to provide this is a focused training program. We will evaluate the time required to convey this information, but the consensus at this time is for a 1.5-day course as originally proposed.

3. Binder Testing Estimate

The project team is aware of research studies that have been conducted for TX DOT on binder testing and have discussed these issues with Caltrans. We feel the level of effort required to adequately investigate the development of a procedure or specification similar to the PG grading system for asphalt binders is on the order of \$325,000. This would include a lab study and a limited field validation effort.

Work on Phases II and II has already commenced and Caltrans will be kept informed through the monthly progress reports. Please let me know if you would like more detailed information on any of the issues discussed in points 1, 2, and 3 above, or if you have any other questions or concerns.

Sincerely,
FUGRO CONSULTANTS LP

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Project Manager

JSM:kf

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