Memorandum

U.S. Department
Of Transportation

Federal Highway Administration

6300 Georgetown Pike
McLean, Virginia 22101

Subject: **ACTION**: LTPP Directive FWD-31
Modifications to LTPP FWD Test Procedures
on SPS-2 Projects

Date: February 14, 2011

From: Jane Jiang
Long Term Pavement Performance Team

Reply to
Attn of: HRDI-30

To: Dr. Frank Meyer, PM - LTPP North Atlantic Regional Contract
Dr. Frank Meyer, PM - LTPP North Central Regional Contract
Mr. Mark Gardner, PM - LTPP Southern Regional Contract
Mr. Kevin Senn, PM - LTPP Western Regional Contract

Attached is the Long-Term Pavement Performance (LTPP) Program Directive FWD-31: Modifications to LTPP FWD Test Procedures on SPS-2 Projects. Please ensure that all personnel are aware of this new directive.

Should you have any questions or would like to discuss this directive, please do not hesitate to contact me at 202-493-3149.

Attachment (1)

FHWA:HRDI-30:JJiang:mdeeney:493-3149:2/11/11
File: c:/mdeeney/directive/fwd/FWD-31dir.doc
cc:
Jonathan Groeger
Directive Binder
LTPP Team
Official file
Chron

LONG TERM PAVEMENT PERFORMANCE PROGRAM DIRECTIVE

For the Technical Direction of the LTPP Program

Program Area:	Monitoring	Directive Number:	FWD-31
Date:	February 10, 2011	Supersedes:	NA
Subject:	Modifications to LTPP FWD Test Procedures on SPS-2 Projects		

While the preferred practice is to follow standard test procedures contained in the current version of the LTPP Manual for Falling Weight Deflectometer (FWD) Measurements, on SPS-2 projects, it may be necessary to modify the procedures in order to reduce test times to meet traffic control constraints. This directive presents procedures and options that should be followed when the LTPP Regional Support Contractors (RSC) need to reduce FWD test time.

Alternative FWD Test Plan Proposal

If the RSC determines that it is not possible to reasonably complete the full suite of FWD testing on all LTPP test sections co-located[1] at a SPS-2 project site, the RSC shall prepare an alternative test plan proposal for submission and approval by FHWA. The purpose of the alternative FWD test plan is to document why the full suite of FWD tests is not possible and present the proposed alternative test plan with justification.

The alternative FWD test plan proposal shall contain, at a minimum, the following elements:

- If the proposed alternative test plan is based on one or more of the standard options presented this directive, the plan content can consist of an indication of which option is proposed for each test section. When necessary, combinations of test options can be proposed.
- If a standard option is not proposed, the RSC shall provide specifications following the format for standard options presented in this directive.
- Justification for the proposed option(s) shall be included in the test plan proposal, including documentation of circumstances and traffic control limitations requiring a reduced test plan.

[1] Test sections included in the SPS_PROJECT_STATIONS table for the SPS-2 project are considered as co-located sections. LTPP core, supplemental, and GPS sections co-located at a SPS project site have equal measurement priority.

Alternative FWD test plan proposals shall be submitted to the RSC FHWA Contract Officer's Technical Representative with a copy to FHWA LTPP technical lead for FWD operations two weeks prior to the planned test date, or as soon as possible.

Standard Options

The nominal test times on SPS-2 test sections depends on the width of the outside lane slab; 12-foot wide slabs require ~ 2.5 hours and 14-foot wide slabs require ~3.5 hours per test section. Nominal test times are presented for planning purposes; actual test times will vary due to test section condition, equipment malfunctions, climate, traffic control operations, and other factors.

The following options are presented in order of declining preference. Option 1 is preferred over option 2 and 3. Option 3 is the least desirable test pattern and requires the most justification in the alternative FWD test plan.

Option 1. Remove pass 2 on 14-foot wide test sections and follow current protocols. This should reduce the test time to ~2.5 hours on all test sections.

Detail summary:

- 10 effective slabs per test sections, same as previously tested
- Drop sequence: C, C, C, 2, 2, 2, 2H, 3, 3, 3, 3H, 4, 4, 4, 4H
- Do not perform pass 2, in accordance with Test Plan 7 on 14-foot wide test sections, perform only pass 1- test point J1, pass 3 – test points J4/J5, and pass 4- test points J7/J8.

Option 2. Remove pass 2 on 14-foot wide test sections and remove drop height three from the drop sequence. This should reduce test times to ~2 hours on all test sections.

Detail summary:

- 10 effective slabs per test sections, same as previously tested
- Drop sequence: C, C, C, 2, 2, 2, 2H, 4, 4, 4, 4H
- Do not perform pass 2, in accordance with Test Plan 7 on 14-foot wide test sections, perform only pass 1- test point J1, pass 3 – test points J4/J5, and pass 4- test points J7/J8.

Option 3. Remove P2 pass on 14-foot wide test sections and perform tests on 5 effective slabs. This should reduce test times to ~1.5 hours on all sections.

Detail summary:

- 5 effective slabs per test section selected from previous 10 test locations. One slab tested from every 100-feet station
- Drop sequence: C, C, C, 2, 2, 2, 2H, 3, 3, 3, 3H, 4, 4, 4, 4H

- Do not perform pass 2, in accordance with Test Plan 7 on 14 foot wide test sections, perform only pass 1- test point J1, pass 3 – test points J4/J5, and pass 4- test points J7/J8.

All other LTPP standard FWD testing procedures not mentioned here shall be performed in accordance with current guidelines.

Questions concerning this directive should be addressed to the FHWA LTPP technical lead for FWD operations.

Prepared by: TSSC

Approved by:

Aramis López, Jr.
LTPP Team Leader