



# Memorandum

U.S. Department  
of Transportation

6300 Georgetown Pike  
McLean, Virginia 22101

**Federal Highway  
Administration**

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Subject: **ACTION:** LTPP Directive GO-61 Test Section Marking and Signing Guidelines      Date: May 3, 2016

From: Jane Jiang       Reply to  
Long Term Pavement Performance Team      Attn of: HRDI-30

To: Mr. Gabe Cimini, PM - LTPP North Atlantic Regional Contract  
Mr. Gabe Cimini, PM - LTPP North Central Regional Contract  
Mr. James Sassin, PM - LTPP Southern Regional Contract  
Mr. Kevin Senn, PM - LTPP Western Regional Contract

Attached is Long Term Pavement Performance (LTPP) Program Directive GO-61: Test Section Marking and Signing Guidelines. This directive supersedes directive GO-23. Please ensure that all personnel involved with the process are aware of this new directive.

Should you have any questions concerning this directive, please do not hesitate to contact me on (202) 493-3149 or [jane.jiang@fhwa.dot.gov](mailto:jane.jiang@fhwa.dot.gov).

## Attachment

FHWA:HRDI-30:JJiang;jharris:493-3149:05/03/16

File: M:\LTPP Directives\GO-61.docx

cc:

Jonathon Groeger (TSSC)

Jane Jiang

Directive Binder

Official File

# LONG TERM PAVEMENT PERFORMANCE PROGRAM DIRECTIVE



*For the Technical Direction of the LTPP Program*



Program Area:	General Operations	Directive Number:	GO-61
Date:	December 15, 2014	Supersedes:	GO-23
Subject:	Test Section Marking and Signing Guidelines		

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This directive provides general marking and signing guidelines for LTPP pavement test sections. These guidelines are intended to provide uniformity of practice between LTPP test sections.

## **General Test Section Layout**

Figure 1 illustrates the general signing and pavement marking layout for LTPP test sections. A typical LTPP test site that contains a single test section consists of a 500 foot long monitoring section, surrounded by a control zone that extends 500 feet in front of the test section and 250 feet past the end of the test section.

When multiple test sections exist at a site, the limits of the control zone boundaries extend 500 feet in front of the first test section encountered in the direction of traffic travel, and 250 feet behind the last test section. The space between adjacent test sections will vary depending on site details.

## **Sign Details**

Signing of the test sites is the responsibility of the participating highway agency in which the test site is located. Figure 2 provides general guidelines for these signs; however agencies may alter these specifications to conform to their current signage practice. Some additions to the signs to consider include:

- Addition of the participating highway agency logo.
- On project sites with more than one test sect, a description of the key experimental features of the each test section. For example, on the SPS-10 Warm Mix Asphalt Study, the following names might be used for the core sections:
  - Control
  - WMA Foam
  - WMA Chemical

LTPP can provide reflective stick-on LTPP logos as shown in the example signs and illustrated in figure 3. LTPP can also provide an electronic version of the logo as shown in figure 3 in case an agency wishes to have their local sign shop fabricate the complete sign.

Sign B, located at a convenient location near the edge of the right-of-way, is considered a mandatory sign for every LTPP test section. The sign should be located so that it can be seen from the edge of the roadway, but out of the path of mowing or other types of equipment that operate on the route right-of-way. On deep cuts, sign B may need to be located at the bottom edge of the cut slope. On deep fills or cliffs, sign B may need to be located at the cliff edge or near safety guide rail as appropriate. Site distances to the edge of right of way, right of way mowing operations, trees and other vegetation, existence of frontage roads, and distance to the edge of right of way should be considered in the decision on where to locate sign B.

Highway agencies should coordinate their signage plans with the LTPP Regional Support Contractor staff.

The blue reflectors are optional, but are encouraged since they provide another mechanism to re-establish test section locations after application of future construction treatments that hide prior pavement markings. They are also useful to night operation of pavement profile measurement devices.

### **Pavement Markings**

Pavement markings include paint, other types of surface markings, and embedded monuments used to mark the various physical features associated with pavement test sections on or in the pavement surface.

The maintenance control zone should be marked by two white paint stripes, nominally 6 inches wide, across the test lane. The stripes should be located 500 feet in advance of a test section, or first test section on a project, and 250 feet beyond the end of the test section or last test section on a project. For General Pavement Studies (GPS) test sections, the maintenance control zone is located adjacent to the ends of the test section as shown in Figure 1. For Specific Pavement Studies (SPS) projects, which generally consist of multiple test sections, the maintenance control zone is established prior to the first test section and is terminated after the last project test section. For SPS sites with test sections located more than 1-mile apart, the maintenance control zone should be established for each group of test sections as appropriate.

Figure 4 illustrates the pavement marking details for individual test sections. Key features of the test section marking include:

- Lane width white stripe at begin and end of the 500 foot monitoring portion of a test section. The white stripe should be nominally 6 inches wide.
- Station crosses located at 100 foot intervals. Station crosses should be up to 12 inches by 12 inches in length and width, and 4 inches wide.
- Station numbers should be positioned near the corresponding station cross using white numbers 8 inches tall. Zero station number is the start of the monitoring portion of each test section.

## LTPP Directive GO-61 Test Section and Marking Guidelines

- The test section identifier code (LTPP ID Code) should be marked at station 0 in letters 8 inches tall.
- The nail/spike locations are intended to represent physical pavement monuments which can be reliably located over time after the application of preservation or rehabilitation treatments.

The visual markings on the pavement surface, particularly the horizontal white stripes at the begin and end of the monitoring portion of each test section and maintenance control boundaries, should follow participating agency practice relative to use of transverse solid white lines on in-service pavements.

The visual pavement markings applied to the pavement surface do not have to conform to applicable pavement marking reflectance guidelines.

The physical embedded pavement monuments in the pavement shoulder are intended to serve as permanent references of test section limits when construction treatments cover or hide the pavement surface markings. These monuments can include PK nails, cotton spindles, drilled concrete anchors, or radio frequency identification chips installed in the shoulder; metal spikes driven into the unbound material at the edge of the bound shoulder; or other types of physical markers that can be located in the future after application of typical types of pavement maintenance and preservation treatments.

Participating agencies are encouraged to coordinate with the assigned LTPP Regional Support Contractor staff to establish a formal protocol for responsibility to maintain test section markings for the duration of time a test section remains in study.

### **Existing Test Sections**

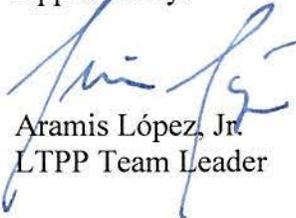
Test sections whose signs followed previous LTPP practice, do not have to be altered to these guidelines. New reflective LTPP decals can be made available is an agency is interested in creating new signs for test sections in-service before issuance of this directive.

### **Questions**

Participating highway agencies are encouraged to contact their assigned LTPP Regional Support Contractor staff with questions concerning details related to LTPP pavement marking and signage.

Prepared by: TSSC

Approved by:



Aramis López, Jr.  
LTPP Team Leader

NOT TO SCALE

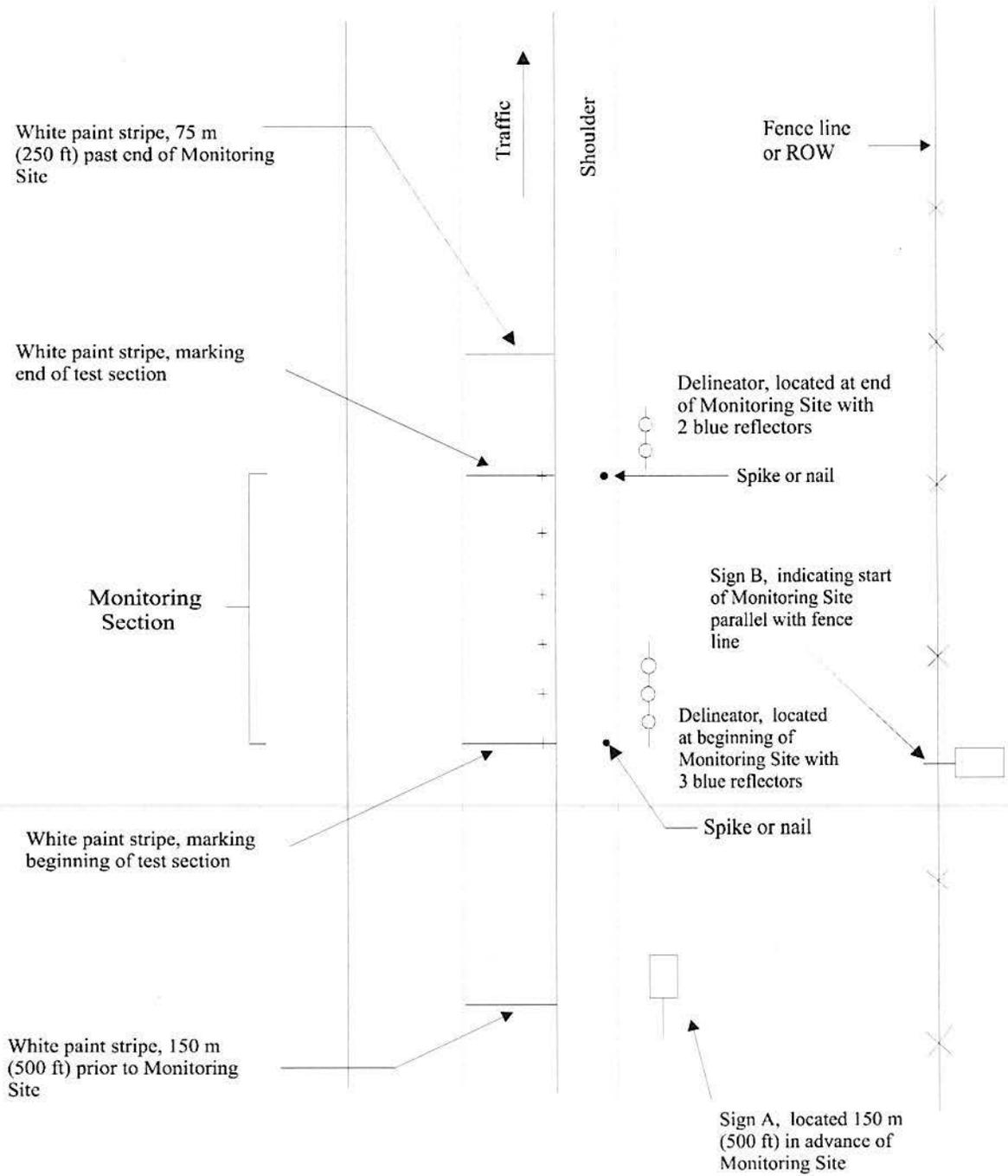


Figure 1. General layout of LTPP test section.

## NOT TO SCALE



### Sign A Notes:

- Sign size 24 inches wide - 36 inches height
- Blue background
- White letters
- White boarder, 1 inch wide, offset 0.5 inch from edge
- Letters and numbers, white, 4 inch high
- LTPP Logo, 12.5 in wide – 6 inch height (available from LTPP)
- Sign support to conform to current agency standards
- Test section identifier code assigned by LTPP

### Sign A Detail

### Sign B Notes:

- Sign size 16 inches wide - 24 inches height
- Blue background
- White letters
- White boarder, 1 inch wide, offset 0.5 inch from edge
- Letters and numbers, white, 2 inch high
- LTPP Logo, 12.5 inches wide - 6 inches height (available from LTPP)
- Sign support to conform to current agency standards
- Test section identifier code assigned by LTPP



### Sign B Detail

Figure 2. Details of signs used to designate LTPP test section locations.



Figure 3. Illustration of reflective LTPP sign decal available from LTPP. (Not to scale)

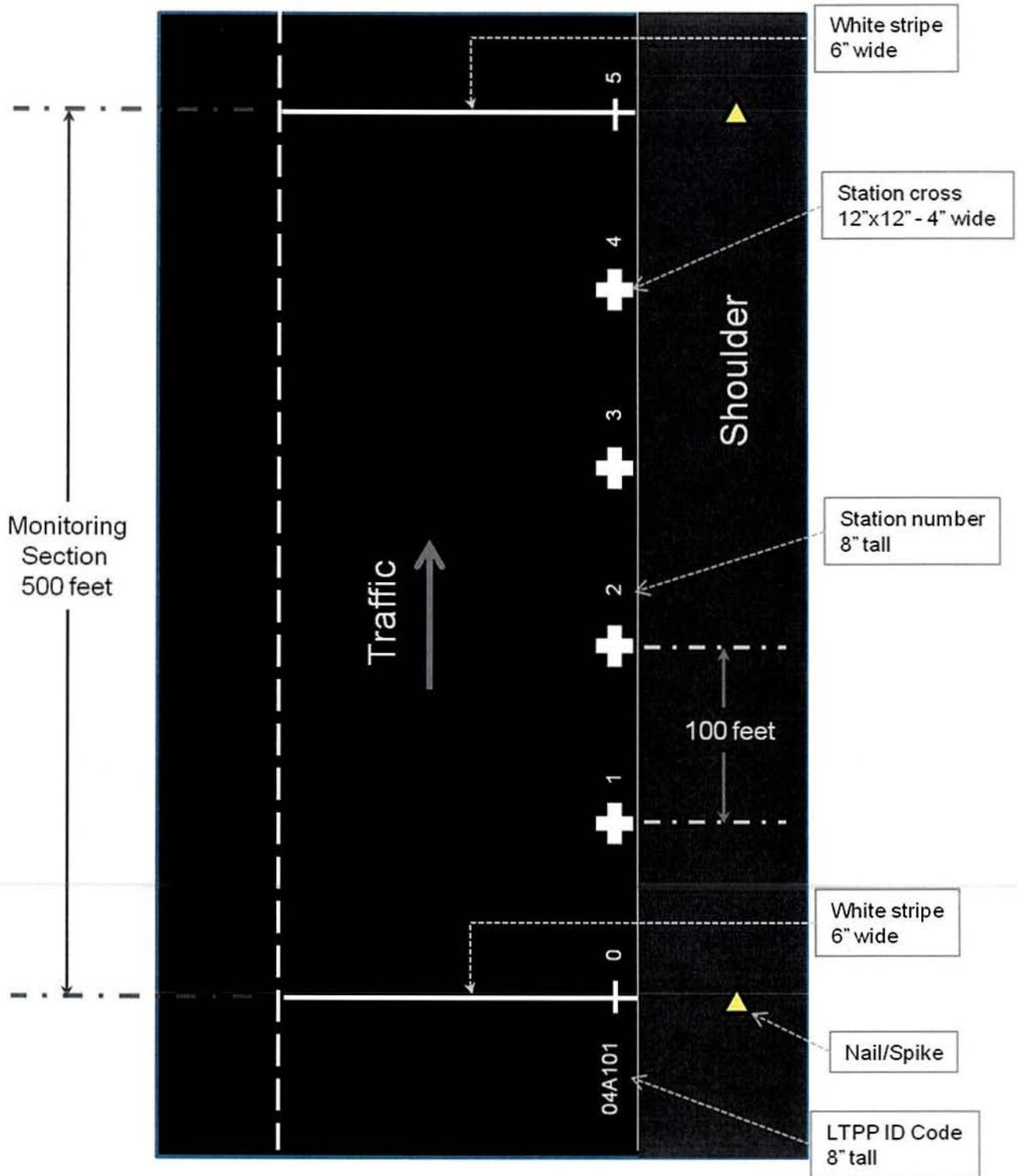


Figure 4. LTPP test section pavement marking details. (Not to scale)