



U.S. Department
of Transportation

**Federal Highway
Administration**

400 Seventh St., S.W.
Washington, D.C. 20590

June 2, 2005

Refer to: HOTO-1

Mr. Hans Jensen
P.O. Box 160
Thomasville, NC 27361

Dear Mr. Jensen:

Thank you for your May 5 email to Mr. Scott Wainwright of our staff, requesting an interpretation of Section 3B.15 of the Manual on Uniform Traffic Control Devices (MUTCD) regarding pavement marking letters and numerals. Specifically, you asked whether preformed and painted pavement marking letters and numerals produced using the designs of the 1977 publication "Standard Alphabets for Highway Signs and Pavement Markings" may continue to be used.

The MUTCD contains the following pertinent Standards:

- Section 3B.15: "Pavement marking letters, numerals, and symbols shall be installed in accordance with the Pavement Markings chapter of the "Standard Highway Signs" book (see Section 1A.11)."
- Section 1A.11: "To the extent that they are incorporated by specific reference, the latest editions of the following publications, or those editions specifically noted, shall be a part of this Manual: "Standard Highway Signs" book (FHWA); and..."

The latest edition of the SHS is the 2004 edition, available on the MUTCD website at http://mutcd.fhwa.dot.gov/ser-shs_millennium.htm. Therefore, it is the 2004 edition of the SHS to which Section 3B.15 refers.

Some of the letter and numeral designs in the Pavement Markings chapter of the 2004 SHS have some very slight differences from the markings designs in the 1977 edition of the "Standard Alphabets for Highway Signs and Pavement Markings." (Before the 2002 edition of the SHS, alphabets were in a separately published document.) These minor differences are predominantly (but not exclusively) in some stroke widths and other dimensional details of the letters and numerals with curved "loop" type elements, such as B, C, D, Q, 3, 8, etc. These minor dimensional differences were inadvertently introduced in the transformation of the 1977 hand-drafted drawings to the computer-assisted electronic designs used to produce the 2002 and 2004 editions of the SHS. Although the differences are very minor, they do result in some slight changes in appearance that can be seen with close inspection.



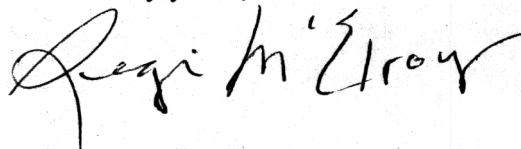
There are many existing pavement marking letters and numerals on the Nation's streets and highways that have been installed using the 1977 designs. Also, some manufacturers continue to produce preformed markings and markings painting templates using mechanical dies and computer software based on the 1977 designs, and there are significant costs involved in changing the equipment to the 2004 designs. Therefore, the question of whether the 1977 designs can continue to be used is very pertinent.

We are not aware of any formal research to evaluate the legibility of different pavement marking letter designs. However, researchers involved in pavement marking design issues indicate that the length of the letters is much more critical for legibility than small differences in the form of the letters. Also, the design changes from 1977 to 2004 were an inadvertent byproduct of a change in drawing technology and they were not intentionally made for any legibility enhancement purpose. Therefore, it is our interpretation that the 1977 and 2004 pavement marking letter and numeral designs are essentially equal in terms of meeting the requirement of Section 3B.15 stated above.

In view of this interpretation, it is appropriate that existing 1977 design stencils, templates, production dies, and computer software programs for markings letter cutting may continue to be used until they need to be replaced, at which time the current SHS designs should be utilized for the replacements.

Thank you for writing on this subject. If you have any questions, please call Mr. Wainwright of our staff at 202-366-0857. Please note that we have assigned your request the following official interpretation number and title: "3-179(I)—Pavement Markings Alphabets." Please refer to this number in any future correspondence.

Sincerely yours,



Regina S. McElroy
Director, Office of Transportation
Operations

cc: Mr. Roger Wentz, ATSSA

Wainwright, Scott

From: Hans Jensen [hansfjensen@yahoo.com]
Sent: Thursday, May 05, 2005 9:56 AM
To: Wainwright, Scott
Cc: Andersen, Carl; Ranck, Fred; Gene Hawkins (E-mail); Chrysler, Susan; Henry (SHS book contractor) (E-mail); Opiela, Kenneth; Kalla, Hari
Subject: RE: markings alphabet in SHS book

Scott

Thank you for all the research you have done. I understand why you recommend to leave the 2004 SHS marking alphabet as is, as it will most probably not make any difference for the motorist's interpretation of a given message, so from a safety point of view this is ok.

I do however believe that some guidance from FHWA are needed for the agencies and the industry.

The agencies would like to know if it is ok to continue to use their old (1977) stencils and specifications for both re-markings and new installations or should they use the new style for new markings, but retrace with 1977 style? I just try to illustrate the confusion unless there are at least some guidelines. If FHWA maintain that 2004 SHS is the future, then all the agencies has to, at some time, change their specifications and stencils.

Re-marking with the 2004 style on top of the 1977 style presents its own problems and also here is needed a recommendation from FHWA.

For the industry the problem is more involved than Sue indicates. Letters which are used in small quantities are in most cases produced by computer cutting, however large quantities letters and numbers are produced with press tools which are specific for the design. The 2004 design would require new investments in press tools, and all depending of FHWA's recommendations to the agencies, inventories of two different designs, at least for some time.

Scott, I truly believe some guidance has to be introduced in order to avoid confusion. Maybe the National Committee can help with some ideas for guidance at the summer meeting?

Hans

--- "Wainwright, Scott"

<Scott.Wainwright@fhwa.dot.gov> wrote:

> Hans:

>

> I haven't forgotten about the SHS markings alphabet