



U.S. Department
of Transportation
**Federal Highway
Administration**

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

September 7, 2005

In Reply Refer To: HSA-10/WZ-217

Mr. Scott Behm
National Sales Manager
Three D Traffic Works
430 North Varney Street
Burbank, California 91502

Dear Mr. Behm:

Thank you for your letter of June 3, 2005, requesting the Federal Highway Administration (FHWA) acceptance of modifications to your company's TD2400 All Plastic Type III Works Barricades as crashworthy traffic control devices for use in work zones on the National Highway System (NHS). You requested that we find these devices acceptable for use on the NHS under the provisions of the National Cooperative Highway Research Program (NCHRP) Report 350 "Recommended Procedures for the Safety Performance Evaluation of Highway Features" based on crash testing of similar hardware made by your company and/or by others.

Introduction

The FHWA guidance on crash testing of work zone traffic control devices is contained in two memoranda. The first, dated July 25, 1997, titled "INFORMATION: Identifying Acceptable Highway Safety Features," established four categories of work zone devices: Category I devices are those lightweight devices which are to be self-certified by the vendor, Category II devices are other lightweight devices which need individual crash testing but with reduced instrumentation, Category III devices are barriers and other fixed or heavy devices also needing crash testing with normal instrumentation, and Category IV devices are trailer mounted lighted signs, arrow panels, etc. for which crash testing requirements have not yet been established. The second guidance memorandum was issued on August 28, 1998, and is titled "INFORMATION: Crash Tested Work Zone Traffic Control Devices." This later memorandum lists devices that are acceptable under Categories I, II, and III.

The TD2400 All Plastic Type III Works Barricades was originally accepted in WZ-132 and was described as:

The Three D Traffic Works TD2400 Series Type III Barricade is an FHWA Category II work zone traffic control device. It is an all plastic, lightweight, portable barricade made from a specially formulated polypropylene plastic with UV stabilizers and cold weather package.



Panels for crashworthy barricades are available in 1219, 1524, 1829, and 2438 mm (4, 5, 6, and 8 foot) lengths. A 2438 mm (8 foot) wide barricade panel was selected for testing. The barricade plastic upright support legs are referred to as Tuff-1™ uprights and are specially designed with an extrusion pattern which yields additional strength. These plastic uprights are nominal 1600 mm (5 feet, 4 inches) in length and 44.5 mm (1.75 inches) square. The uprights are supported by injection molded "EZ Foot" bases with nominal 1524 mm (5 feet) length and 305 mm (1 foot) nominal height and width.

Requested Modifications

You requested the following modifications to the crash-tested barricade design:

1. Allow the use of the Universal URB1827™ Rubber Foot as a skid to hold the plastic uprights in lieu of the plastic skids.
2. Allow the use of 14 gauge PSST or Quik-Punch tubes as skids.
3. Allow the use of 10 gauge angle steel as skids.

As these materials have been used successfully in crash tests of other barricade designs, and because some are incorporated into the "generic Type III barricade" detailed in the FHWA acceptance letter WZ-85 dated November 15, 2001, we find them acceptable for use on the NHS under the range of conditions originally tested, when proposed by a State.

You had also asked for acceptance of a 12 foot wide barricade. This request is denied, as the materials used in the crash-tested barricades are proprietary to the companies who sponsored the crash testing.

Please note the following standard provisions that apply to the FHWA letters of acceptance:

- Our acceptance is limited to the crashworthiness characteristics of the devices and does not cover their structural features, nor conformity with the Manual on Uniform Traffic Control Devices.
- Any changes that may adversely influence the crashworthiness of the device will require a new acceptance letter.
- Should the FHWA discover that the qualification testing was flawed, that in-service performance reveals unacceptable safety problems, or that the device being marketed is significantly different from the version that was crash tested, it reserves the right to modify or revoke its acceptance.
- You will be expected to supply potential users with sufficient information on design and installation requirements to ensure proper performance.
- You will be expected to certify to potential users that the hardware furnished has essentially the same chemistry, mechanical properties, and geometry as that submitted for acceptance, and that they will meet the crashworthiness requirements of the FHWA and the NCHRP Report 350.
- To prevent misunderstanding by others, this letter of acceptance, designated as number WZ-217 shall not be reproduced except in full. This letter, and the test documentation upon which this letter is based, is public information. All such letters and documentation may be reviewed at our office upon request.

- The TD2400 All Plastic Type III Works Barricades is a patented device and is considered "proprietary." The use of proprietary work zone traffic control devices in Federal-aid projects is generally of a temporary nature. They are *selected by the contractor* for use as needed and removed upon completion of the project. Under such conditions they can be presumed to meet requirement "a" given below for the use of proprietary products on Federal-aid projects. On the other hand, if proprietary devices are *specified by a highway agency* for use on Federal-aid projects they: (a) must be supplied through competitive bidding with equally suitable unpatented items; (b) the highway agency must certify that they are essential for synchronization with existing highway facilities or that no equally suitable alternative exists or; (c) they must be used for research or for a distinctive type of construction on relatively short sections of road for experimental purposes. These provisions do not apply to exempt non-NHS projects. Our regulations concerning proprietary products are contained in Title 23, Code of Federal Regulations, Section 635.411, a copy of which is enclosed.
- This acceptance letter shall not be construed as authorization or consent by the FHWA to use, manufacture, or sell any patented device for which the applicant is not the patent holder. The acceptance letter is limited to the crashworthiness characteristics of the candidate device, and the FHWA is neither prepared nor required to become involved in issues concerning patent law. Patent issues, if any, are to be resolved by the applicant.

Sincerely yours,

/original signed by George E. Rice, Jr./

~for~

John R. Baxter, P.E.
Director, Office of Safety Design
Office of Safety

Enclosure

FHWA:HSA-10:NArtimovich:tb:x61331:9/1/05
File: h://directory folder/artimovich/WZ217-ThreeDTrafficFin
cc: HSA-10 (Reader, HSA-1; Chron File, HSA-10;
N.Artimovich, HSA-10)