

Refer to: HSA-10/WZ-155

Mr. Nick Calvi
Western Highway Products, Inc.
Ulti-Mate Sign Post Division
P.O. Box 7
Stanton, California 90680

Dear Mr. Calvi:

This is in response to your letter of March 24, 2003, requesting Federal Highway Administration (FHWA) acceptance of your company's perforated square steel tube (PSST) posts as framing elements of crashworthy Type III Barricades for use in work zones on the National Highway System (NHS). Accompanying your letter were drawings of accepted barricades from the states of Texas and Pennsylvania, as well as your own drawings of the devices. You requested that we find barricades using your company's posts acceptable for use on the NHS under the provisions of National Cooperative Highway Research Program (NCHRP) Report 350 "Recommended Procedures for the Safety Performance Evaluation of Highway Features."

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 were those lightweight devices which could be self-certified by the vendor, Category II devices were other lightweight devices which needed individual crash testing, Category III devices were barriers and other fixed or massive devices also needing crash testing, and Category IV devices were trailer mounted lighted signs, arrow panels, etc. 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.

Testing

Testing has been completed on numerous Type III Barricades framed with PSST. You specifically requested that your product be considered interchangeable with the framing elements used in the barricades covered in the following FHWA letters of acceptance:

WZ-3 dated August 28, 1998, (generic barricades tested for Texas Department of Transportation ((DOT)).

WZ-40, dated June 6, 2000 (generic barricade tested with sign mounted above*)

WZ-44, dated July 25, 2000 (generic barricade tested for PennDOT with sign mounted above*)

* Barricades may be used with or without the sign and supporting structure.

The Ulti-Mate Square Steel Tubes with 12 gage walls may be used in these barricades which use 2.0 inch square skids and 1.75 inch square uprights. The Ulti-Mate steel tubes are fabricated from ASTM A653-94 Structural Quality, Grade 40 steel, which conforms to the steel used in the tested barricades. The striped rails may be extruded plastic (typically HDPE) or wood. Please note that plastic and plywood rails may be used up to 8 feet long, while rails of 1" cut lumber may not exceed 4 feet long.

Findings

Because Ulti-Mate perforated square steel tubes replicate the material used in the crash tested devices, Type III barricades described in FHWA acceptance letters referenced above are acceptable for use on the NHS under the range of conditions tested, when proposed by a State.

Please note the following standard provisions that apply to 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 FHWA and NCHRP Report 350.
- To prevent misunderstanding by others, this letter of acceptance, designated as number WZ-155 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 Ulti-Mate Type III barricade may contain patented components and be 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 for use on Federal-aid projects, except exempt, non-NHS 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. 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. Patent issues are to be resolved by the applicant and the patent owner.

Sincerely yours,

Michael S. Griffith
Acting Director, Office of Safety Design
Office of Safety

Enclosure

FHWA:HSA-10:NArtimovich:tb:x61331:6/6/03
File: WZ155-WesternHighwayFIN.wpd
cc: HSA-10 (Reader, HSA-1; Chron File, HSA-10;
N. Artimovich, HSA-10)