



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

1200 New Jersey Ave., SE  
Washington, D.C. 20590

November 30, 2011

In Reply Refer To:  
HSST/ WZ - 297

Steve Zimar  
Eastern Metal / USA Sign  
1430 Sullivan Street  
Elmira, New York 14901

Dear Mr. Zimar:

This letter is in response to your request for the Federal Highway Administration (FHWA) to review a roadside safety system for eligibility for reimbursement under the Federal-aid highway program. We initially reviewed this system shortly after receipt, and tentatively concurred in your request on February 9, 2011.

Name of system:	X-502 Sign Stand
Type of system:	X-footprint portable sign stand
Test Level:	NCHRP Report 350 Test Level 3
Testing conducted by:	N/A
Date of request:	January 24, 2011
Date initially acknowledged:	January 31, 2011

You certify that the device described herein meets the crashworthiness criteria of the National Cooperative Highway Research Program Report 350. Based on this testing you asked that we find the device(s) eligible for reimbursement under the Federal-aid highway program. Eligibility for reimbursement under the Federal-aid highway program does not establish approval or endorsement by the FHWA for any particular purpose or use.

**Decision:**

The following device is eligible, with details provided below:

- X-502 Sign Stand, aluminum with 6mm corrugated plastic substrates.

**Requirements**

Roadside safety devices should meet the guidelines contained in the NCHRP Report 350 or the American Association of State Highway and Transportation Officials' Manual for Assessing Safety Hardware (MASH). The FHWA Memorandum "Identifying Acceptable Highway Safety Features" of July 25, 1997 provides further guidance on crash testing requirements of longitudinal barriers.

**Description**

The FHWA Acceptance Letter WZ-13 dated June 3, 1999, included your X-501 sign stand as crashworthy with roll-up signs. The X-500 sign stand series is identical to the X-550 sign stand series. The only difference between the two is that the X-550 stands have galvanized steel legs

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cc: HSST (NArtimovich; JDewar)

and most while the X-500 stands have Aluminum legs and masts.

The X-550 has acceptance letters for many sign substrates. You noted that lately, interest in "the aluminum X-550" or the X-500 has developed in a couple of niche markets. The substrate of choice in this market is 10 mil corrugated plastic. Since the X-550 steel stand is accepted for use with 16mil or smaller corrugated plastic you requested consideration for the corresponding aluminum version with the same corrugated plastic substrate. That stand would become the "X-502" since it would have 2 sign brackets.

Because crash testing was not conducted on the aluminum series of stands, we asked for a statement from the crash test researchers that the X-500 and X-550 stands would perform in a similar manner. They responded on February 8, 2011, that they did not believe there are any problems with the interchangeability of the 500 (Aluminum) and 550 (Steel) series since they are similar in geometry and weight. They further agreed the lighter (6.5-pound Coroplast) sign should perform acceptably when compared to the originally tested (7.5-pound roll-up) sign.

### **Findings**

The X-502 aluminum sign stand with lightweight corrugated plastic substrate described in this letter is considered eligible for reimbursement on Federal-aid highway projects. It should be installed under the range of conditions that the X-550 stands were tested, when such use is acceptable to a highway agency.

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

- This finding of eligibility is limited to the crashworthiness characteristics of the systems 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 system will require a new letter.
- Should the FHWA discover that the qualification testing was flawed, that in-service performance reveals unacceptable safety problems, or that the system being marketed is significantly different from the version that was crash tested, we reserve the right to modify or revoke this letter.
- 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 review, and that it will meet the crashworthiness requirements of the FHWA and the NCHRP Report 350.
- To prevent misunderstanding by others, this letter of eligibility is designated as number WZ-297 and shall not be reproduced except in full. This letter and the test documentation upon which it is based are public information. All such letters and documentation may be reviewed at our office upon request.
- This letter shall not be construed as authorization or consent by the FHWA to use, manufacture, or sell any patented system for which the applicant is not the patent

holder. The finding of eligibility is limited to the crashworthiness characteristics of the candidate system, 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.

- The USA Sign / Eastern Metal signs are patented products and considered proprietary. If proprietary systems are specified by a highway agency for use on Federal-aid projects, except exempt, non-NHS projects, (a) they must be supplied through competitive bidding with equally suitable unpatented items; (b) the highway agency must certify that they are essential for synchronization with the 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.

Sincerely yours,

Michael S. Griffith  
Director, Office of Safety Technologies  
Office of Safety



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

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Sincerely yours,

A handwritten signature in black ink that reads "Michael S. Griffith". The signature is written in a cursive style with a large, stylized initial "M".

Michael S. Griffith  
Director, Office of Safety Technologies  
Office of Safety