May 4, 2012

In Reply Refer To:
HSST / WZ-314

Glenda Bleau
Sales Supervisor & Product Manager
MDI Traffic Control Products
38271 W Twelve Mile Road
Farmington Hills, Michigan  48331

Dear Ms. Bleau:

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.

Name of system:  4814CAMA
Type of system:    X-Footprint compact portable sign stand
Test Level:     NCHRP Report 350 Test Level 3
Testing conducted by:  N/A
Date of request:   July 14, 2011

Decision:
The following device is eligible, with details provided in the form which is attached as an integral part of this letter:

- 4814CAMA X-Footprint compact portable sign stand

Based on a review of past crash test results and a description of the non-significant modification submitted by the manufacturer certifying the device described herein meets the crash test and evaluation criteria of the National Cooperative Highway Research Program (NCHRP) Report 350, the device is 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.

The FHWA, the Department of Transportation, and the United States Government do not endorse products or services and the issuance of a reimbursement eligibility letter is not an endorsement of any product or service.

Requirements
To be found eligible for Federal-aid funding, roadside safety devices should meet the crash test and evaluation criteria contained in the National Cooperative Highway Research Program (NCHRP) Report 350 or the American Association of State Highway and Transportation Officials’ Manual for Assessing Safety Hardware (MASH).
Description
The crash tested stand, Model Number 4814DLK (FHWA Letter WZ-3) was modified by including an upright with a camlock (FHWA Letter WZ-20) instead of a “drop and lock.” We concur that this stand qualifies as a “compact sign stand” requiring no additional crash testing.

Summary and Standard Provisions
Therefore, the system described and detailed in the attached form is eligible for reimbursement and may be installed under the range of conditions tested.

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

- This finding of eligibility does not cover other structural features of the systems, nor conformity with the Manual on Uniform Traffic Control Devices.
- Any changes that may influence system conformance with NCHRP Report 350 criteria will require a new reimbursement eligibility letter.
- Should the FHWA discover that the qualification testing was flawed, that in-service performance reveals safety problems, or that the system is significantly different from the version that was crash tested, we reserve the right to modify or revoke this letter.
- You are expected to supply potential users with sufficient information on design and installation requirements to ensure proper performance.
- You are expected to certify to potential users that the hardware furnished has the same chemistry, mechanical properties, and geometry as that submitted for review, and that it will meet the crash test and evaluation criteria of the NCHRP Report 350.
- To prevent misunderstanding by others, this letter of eligibility is designated as number WZ-314 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 FHWA does not become involved in issues concerning patent law. Patent issues, if any, are to be resolved by the applicant.
MDI portable sign stands are patented products and considered proprietary. If proprietary systems are specified by a highway agency for use on Federal-aid 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

Enclosures
May 4, 2012

Glenda Bleau
Sales Supervisor & Product Manager
MDI Traffic Control Products
38271 W Twelve Mile Road
Farmington Hills, Michigan 48331

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- You are expected to supply potential users with sufficient information on design and installation requirements to ensure proper performance.
- You are expected to certify to potential users that the hardware furnished has the same chemistry, mechanical properties, and geometry as that submitted for review, and that it will meet the crash test and evaluation criteria of the NCHRP Report 350.
- To prevent misunderstanding by others, this letter of eligibility is designated as number WZ-314 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 FHWA does not become involved in issues concerning patent law. Patent issues, if any, are to be resolved by the applicant.
• MDI portable sign stands are patented products and considered proprietary. If proprietary systems are specified by a highway agency for use on Federal-aid 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

Enclosures
<table>
<thead>
<tr>
<th>Contact Info</th>
<th>Petitioner / Developer Name and Address:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dicke Safety Products</td>
</tr>
<tr>
<td></td>
<td>1201 Warren Avenue</td>
</tr>
<tr>
<td></td>
<td>Downers Grove, IL 60515</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I hereby certify that the device(s) covered by this Acceptance Letter meet(s) the crash -- worthiness test and evaluation requirements of the FHWA and NCHRP Report 350.</td>
</tr>
<tr>
<td>Signature</td>
<td>John A. Parham</td>
</tr>
<tr>
<td>Telephone #</td>
<td>(630) 324-5209</td>
</tr>
<tr>
<td>Email Address</td>
<td><a href="mailto:john@dicke.com">john@dicke.com</a></td>
</tr>
<tr>
<td>Laboratory / Engineer Name and Address</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I hereby certify that the testing that supports this Acceptance Letter was conducted in accordance with NCHRP Report 350 guidelines, that the device(s) tested is/are accurately described on this form, and that the test results indicate that the device meets all applicable NCHRP Report 350 evaluation criteria.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I have evaluated the requested modifications to these devices previously found acceptable by the FHWA in Acceptance Letter WZ-__, and hereby certify that, in my opinion, the modifications do not adversely affect the crash performance of the devices. I also certify that these devices are accurately described on this form.</td>
</tr>
<tr>
<td>Signature</td>
<td></td>
</tr>
<tr>
<td>Telephone #</td>
<td></td>
</tr>
<tr>
<td>Email Address</td>
<td></td>
</tr>
<tr>
<td>Keywords:</td>
<td>STF18 with Extended Mast</td>
</tr>
<tr>
<td></td>
<td>Type of Device (See page 3)</td>
</tr>
<tr>
<td></td>
<td>X-Footprint Sign Stand</td>
</tr>
<tr>
<td></td>
<td>Composition of Sign or Rail substrate (See Page 3)</td>
</tr>
<tr>
<td></td>
<td>Roll-up / Fabric (with fiberglass spreaders -- aluminum or steel spreaders are not allowed)</td>
</tr>
<tr>
<td>Thickness of substrate (inches):</td>
<td></td>
</tr>
<tr>
<td>Height of sign from the ground (inches), if applicable: (See Page 3)</td>
<td>Oversized: 72 inches and taller</td>
</tr>
<tr>
<td>Flags and or lights present during test? Indicate number of each:</td>
<td># of flags: 2  # of lights: 0  Weight of lights: ea.</td>
</tr>
<tr>
<td>Device Name</td>
<td></td>
</tr>
<tr>
<td>Detailed Desc. Of Device, Materials, sizes, Fasteners, Substrates Foundation, Aux. Features Ballast, etc.</td>
<td>(May be attached on separate page(s) See attached submittal letter</td>
</tr>
<tr>
<td>Page 2</td>
<td>Mandatory Attachments</td>
</tr>
<tr>
<td>--------</td>
<td>-----------------------</td>
</tr>
<tr>
<td></td>
<td>Attachment # 1: Test data summary page(s)</td>
</tr>
<tr>
<td>Attach. #1a</td>
<td>Test #</td>
</tr>
<tr>
<td>Attach. #1b</td>
<td>Test #</td>
</tr>
<tr>
<td>Attach. #1c</td>
<td>Test #</td>
</tr>
<tr>
<td>Attach. #1d</td>
<td>Test #</td>
</tr>
</tbody>
</table>

| Alternative | Attachment # 1: Description and discussion of modification(s) to crash tested and/or accepted device. |               |      |

| Date: | Attachment # 2: PDF drawing(s) of device(s) |               |      |
|       | Attach. #2a | Drawing Title: WZ submittal letter (PDF) | Drawing #: |      |
|       | Attach. #2b | Drawing Title: Stand Drawings (PDF) | Drawing #: |      |
|       | Attach. #2c | Drawing Title: | Drawing #: |      |
|       | Attach. #2d | Drawing Title: | Drawing #: |      |
|       | Attach. #2e | Drawing Title: | Drawing #: |      |
|       | Attach. #2f | Drawing Title: | Drawing #: |      |
|       | Attach. #2g | Drawing Title: | Drawing #: |      |
Please select from the following Keywords for “Type of Device”:

- Longitudinal Channelizing Barricade
- Curb (Curb channelizer system with or without road tubes or other channelizers)
- Drum
- H-Footprint Sign Stand
- X-Footprint Sign Stand
- Trailer Mounted Signs (Does not include arrow boards or variable message signs or other Category 4 trailer mounted devices.)
- Automated Flagger Device (not trailer mounted)
- Tripod Sign Stand
- Type I Barricade
- Type II Barricade
- Type III Barricade
- Vertical Panel
- Intrusion Detector
- Ballast (Action relates to ballast on one or more devices)
- Channelizer (Individual units unlike cones, road tubes, or drums)

Please select from the following Keywords for “Sign Substrate”:

- Roll-up / Fabric (with fiberglass spreaders – aluminum or steel spreaders are not allowed.)
- Plywood
- Aluminum – Solid
- Aluminum – Laminate
- Corrugated Plastic
- Extruded Plastic
- Waffleboard Plastic
- Wood / Lumber

Please select from the following Keywords for “Height of Sign”:

The distance to the lowest point on the sign is:

- Low 12 to 18 inches above the pavement
- Mid-A 20 to 24 inches above the pavement
- Mid-B 25 to 36 inches above the pavement
- Mid-C 37 to 59 inches above the pavement
- Tall 60 to 71 inches above the pavement
- Oversized 72 inches and taller
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, or 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 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.
- If the subject of this letter is a patented device it 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. 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 Federal Highway Administration 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.
STF18 with Extended Mast

STF18 STAND with Extended Mast
- Base - Steel with heavy duty dual upright spring system
- Mast - telescoping 1-14" and 1-1/2" sq. aluminum tubing
- Legs - 1-1/4" sq. steel tubing

RUR48 SIGN
- Panel - Reflective vinyl 48" x 48"
- Crossbrace - vertical member is 3/8" Th x 1-1/4"W x 66-1/4"L fiberglass
- Crossbrace - horizontal member is 3/16" Th x 1-1/4"W x 66-1/4"L fiberglass
- Flags - 18" x 18" vinyl with 30" staff
**RUR48 SIGN**

- **TF18 STAND**
  - Base: Steel with heavy duty dual upright spring system
  - Mast: 2 stage telescoping, sq. aluminum tubing with 1.00 wall thickness
  - Legs: 1-1/4" sq. x 1.00 wall x 48" long aluminum legs

- **RUR48 SIGN**
  - Panel: Reflective vinyl 48" x 48"
  - Crossbrace: Vertical member is 3/8" th x 1-1/4" w x 65-1/4" long fiberglass
  - Crossbrace: Horizontal member is 3/16" th x 1-1/4" w x 65-1/4" long fiberglass
  - Flags: 18" x 18" vinyl with 1/8" th x 1" w x 30" fiberglass staff
TF84-7 STAND
- Base - Steel with heavy duty dual upright spring system
- Mast - 2 stage telescoping: 1-1/2" sq. and 1-1/4" sq. aluminum tubing with .100 wall thickness
- Legs - 1-1/4" sq. x .100 wall x 84" aluminum tube with kick releases (4)

RUR48 SIGN
- Panel - Reflective vinyl, 48" x 48"
- Rollup style panel for compact storage
- Crossbrace - 1-1/4" wide fiberglass bars (2)
- Flags - 18" x 18" vinyl with 3/4" dia. wood staff (2)
STF1008 Stand

RUB3315 Roll-Up Sign Bracket

STF1008 STAND
- Base- Steel, double coil spring
- Mast- Telescoping 1-1/4" and 1" sq. aluminum tubing
- Legs- 1-1/4" sq. x .065 x 42" steel legs

RUR48 SIGN
- Panel- Reflective vinyl, 48" x 48"
- Crossbrace- Vertical member is 1/4" th. x 1-1/4" w x 65" long fiberglass
- Crossbrace - Horizontal member is 3/16" th. x 1-1/4" w x 65" long fiberglass
- Flags (2) - 18" x 18" vinyl with 1/8" x 1" fiberglass staff attached to sign panel

Dicke Tool Company 1201 Warren Avenue Downers Grove, IL 60515 Tel.(630)969-0050 Fax(630)969-3973
TF60 STAND

- Base: Steel with heavy duty dual spring system (1/2" dia. steel wire).
- Mast: 2 stage telescoping, sq. aluminum tubing with .100 wall thickness.
- Legs: Telescoping 1-1/4" sq. x .100 wall x 72" alum. tube. 1" sq. x .100 wall x 25" alum. tube.
- Panel: Rigid .080-.125 aluminum or 1/2" - 3/4" plywood, 48" x 48".
- Flags: 18" x 18" vinyl with 30" staff.
- Weight (without sign panel) - 45 lbs.
October 11, 2011

Mr. Nick Artimovich, II
Highway Engineer
Federal Highway Administration
Office of Safety Design
1200 New Jersey Avenue, SE HSSD
Washington, DC 20590

Dear Mr. Artimovich,

This inquiry is in regards to our previously accepted STF18 sign stand (WZ-141 & 250). This acceptance was based on crash testing with a sign located 18” off the ground. We have also received acceptance of similar stands with slightly different footprints and sign heights (STF84: WZ-141 & 250 / STF1008: WZ-250 / STF60: WZ-141 & 250). The pertinent stand specifications may be found in Table #1 below and in the attached drawings.

Table #1 – Stand Comparison

<table>
<thead>
<tr>
<th>Model</th>
<th>Weight</th>
<th>Base Width</th>
<th>Base Length</th>
<th>Sign Ht</th>
<th>Top Brkt Ht</th>
</tr>
</thead>
<tbody>
<tr>
<td>STF18</td>
<td>40 lbs</td>
<td>58 inches</td>
<td>87 inches</td>
<td>18 inches</td>
<td>86 inches</td>
</tr>
<tr>
<td>STF84</td>
<td>49 lbs</td>
<td>78 inches</td>
<td>157 inches</td>
<td>84 inches</td>
<td>152 inches</td>
</tr>
<tr>
<td>STF1008</td>
<td>38 lbs</td>
<td>51 inches</td>
<td>74 inches</td>
<td>60 inches</td>
<td>105 inches</td>
</tr>
<tr>
<td>STF60</td>
<td>48 lbs</td>
<td>82 inches</td>
<td>130 inches</td>
<td>60 inches</td>
<td>128 inches</td>
</tr>
<tr>
<td>STF18 with Ext. Mast</td>
<td>41 lbs</td>
<td>58 inches</td>
<td>87 inches</td>
<td>84 inches</td>
<td>152 inches</td>
</tr>
</tbody>
</table>

Request #1:
Based on the enclosed information and previous test data, we are seeking acceptance of sign stand "STF18 with an Extended Mast" to hold roll-up signs 84 inches above ground. We believe this to be a reasonable request because this stand is a combination of previously accepted base and mast designs. Therefore this new stand will incorporate an accepted design below the height of the vehicle bumper and an accepted mast that will have no effect on the windshield impact data.
Should you need any further documentation, please let me know.

Sincerely,

[Signature]

John M. Pasakarnis
Dicke Tool Company
630-969-0050 x28
john@dicketool.com