



U.S. Department
of Transportation

**Federal Highway
Administration**

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

April 30, 2010

In Reply Refer To:
HSSD/WZ-292

Mr. Jeff Anderson
Project Manager
POCO Incorporated
4850 Sheldon Road
Canton, MI 48188

Dear Mr. Anderson:

This is in response to your January 20, 2010, e-mail correspondence requesting the Federal Highway Administration's (FHWA) acceptance of your company's Type III Barricade as a crashworthy traffic control device for use in work zones and elsewhere on the National Highway System. Accompanying your letter was the FHWA Office of Safety Design form and test report documentation of the relevant testing observed/conducted by Karco Engineering. You requested that we find this device acceptable for use on the NHS under the provisions of National Cooperative Highway Research Program Report 350 "Recommended Procedures for the Safety Performance Evaluation of Highway Features."

This letter is the acknowledgement of the FHWA's acceptance of your request. The original completed form has been modified by the addition of the FHWA acceptance letter number and the date of our review. The form, of which a copy is enclosed for reference, will be posted on our Web site in the near future.

Sincerely yours,

David A. Nicol, P.E.
Director, Office of Safety Design
Office of Safety



**DATA SHEET NO. 3
SUMMARY OF RESULTS FOR TEST NO. 3-71**

Test Vehicle: 820C Test Date: 11/8/05
 Test Program: Poco NCHRP 350 3-71 Type III Barricade Project No.: P25172-01



| GENERAL INFORMATION | | OCCUPANT RISK VALUES | |
|---------------------------------------|----------------------------------|--------------------------------|-----------|
| TEST AGENCY | KARCO ENGINEERING | FLAIL SPACE VELOCITY (m/sec) | |
| TEST NO. | 3-71 | X-DIRECTION | 3.1 |
| DATE | 11/08/05 | Y-DIRECTION | 0.0 * |
| TEST ARTICLE | | THIV (optional) | N/A |
| TYPE | POCO Type III Barricade | RIDEDOWN ACCELERATION (g's) | |
| INSTALLATION LENGTH (m) | | X-DIRECTION | -0.2 |
| SIZE AND/OR DIMENSION OF KEY ELEMENTS | 31.8 (70 lbs) | Y-DIRECTION | 0.6 * |
| SOIL TYPE AND CONDITION | CONCRETE | PHD (optional) | N/A |
| TEST VEHICLE | 820C | ASI (optional) | 0.15 |
| TYPE | PRODUCTION | TEST ARTICLE DEFLECTIONS (m) | |
| DESIGNATION | 3-71 | DYNAMIC | |
| MODEL | GEO METRO | PERMANENT | |
| MASS (CURB) | 810 (1784 lbs) | VEHICLE DAMAGE | |
| MASS (TEST INERTIAL) | 798 (1758 lbs) | EXTERIOR | |
| DUMMY(s) MASS | 75 (165 lbs) | VDS | 12-FD-1 |
| GROSS STATIC WEIGHT | 893 (1968 lbs) | CDC | 12FCGW6 |
| IMPACT CONDITIONS | | INTERIOR | |
| SPEED (km/h) | 103.4 (64.3 mph)/98.8 (61.4 mph) | OCCI | FS0000000 |
| ANGLE (Deg.) | 90 / 0 | | |
| IMPACT SEVERITY (kJ) | 329.6 | POST IMPACT VEHICULAR BEHAVIOR | |
| EXIT CONDITIONS | | MAXIMUM ROLL ANGLE (Deg.) | 0.1 |
| SPEED (km/h) | 95.6 (59.4 mph) | MAXIMUM PITCH ANGLE (Deg.) | 0.4 |
| ANGLE (Deg.) | 90 / 0 | MAXIMUM YAW ANGLE (Deg.) | 0.8 |

* Not required

Federal Highway Administration

Office of Safety Design

Letter Number WZ-282

Date APRIL 28, 1010

| | | |
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| CONTACT INFORMATION: | Petitioner / Developer Name: Jeff Anderson | |
| | Project Manager | |
| | Poco Incorporated | |
| | 4850 Sheldon Road | |
| | Canton, MI 48188 | |
| | 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. | |
| | Signature: | |
| | Telephone Number: 734-397-1677 | |
| | E-mail Address: pocojeff@sbcglobal.net | |
| | | |
| | Engineer Name: Matt Ivory | |
| | Laboratory Name: Karco Engineering | |
| | Street: 9270 Holly Road | |
| | Adelanto, CA 93201 | |
| Check One: | | |
| <input checked="" type="checkbox"/> | 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. | |

| | |
|--------------------------|---|
| <input type="checkbox"/> | <p>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.</p> |
|--------------------------|---|

Signature: *(See report)*

Telephone Number:

E-mail Address:

KEYWORDS

Please select from the following Keywords for "Type of Device":

- Longitudinal Channelizing Device
- 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

Type of Device:

Type III Barricade

| | | |
|--|---|--|
| | <p>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) Other (Please describe on form)</p> | |
| | | |
| | <p>Please Select from the following Keywords for Composition of Sign or Rail Substrate:</p> <p>Roll-up / Fabric (with fiberglass spreaders – aluminum or steel spreaders are not allowed.) Plywood Aluminum – Solid Aluminum – Laminate Corrugated Plastic Extruded Plastic Waffleboard Plastic</p> | <p>Compositon of Sign or Rail Substrate:</p> <p><u>Extruded Plastic</u></p> |

| | | |
|-------------------------------|--|---|
| | Wood / Lumber | |
| | Thickness of substrate (inches): | |
| | Indicate the height of sign from the ground (inches), if applicable: | <p>Low 12 to 18 inches above the pavement</p> <p>Mid-A 20 to 24 inches above the pavement</p> <p>Mid-B 25 to 36 inches above the pavement</p> <p>Mid-C 37 to 59 inches above the pavement</p> <p>Tall 60 to 71 inches above the pavement</p> <p>Oversized 72 inches and taller</p> <p>Height of Sign:</p> <p style="text-align: center;">N/A</p> |
| | Flags and or lights present during test? Indicate number of each: | |
| | # of flags: | # of lights: 2 Weight of lights: ea. |
| DEVICE NAME: | Provide Detailed Description of Device, Materials, sizes, Fasteners, Substrates, Foundation, Aux. Features Ballast, etc. (May be attached on separate page(s)) : <u>See report page 1 for item description.</u> | |
| MANDATORY ATTACHMENTS: | Please include those pages as separate electronic files as they will be posted on the FHWA website in lieu of the entire final report. | |
| | Attachment #1: Test data summary page(s): <u>(See report pages 5-12)</u> | |

| | |
|--|---|
| Attach. #1a | Test # |
| Attach. #1b | Test # |
| Attach. #1c | Test # |
| Attach. #1d | Test # |
| 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) - Mandatory Attachments: Please include those pages as separate electronic files as they will be posted on the FHWA website in lieu of the entire final report. | |
| Attach. #2a | Drawing Title: <i>(see report Page E-1) and separate PDF "Type III drawing"</i> |
| | Drawing #: |
| Attach. #2b | Drawing Title: |
| | 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: |

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.
- 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.