

Refer to: HSA-10/WZ-112

Ms. Mary Campbell  
President, CEO  
Camsco Service, Inc.  
255 Pennbriar Drive  
Erie, PA 16509

Dear Ms. Campbell:

Thank you for your letter of February 28, 2002, requesting Federal Highway Administration (FHWA) acceptance of your company's Type II barricades as crashworthy traffic control devices for use in work zones on the National Highway System (NHS). Accompanying your letter was a comparison of your design to the design crash tested by EmpcoLite, and to the generic crash tested design that was distributed in FHWA Acceptance Letters WZ-49 and WZ-54 respectively. You requested that we find these devices 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." You also requested acceptance of a PVC legged barricade which is not acceptable unless crash tested.

### **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.

A brief description of the device follows:

The plastic rail and steel frame Type II barricade is similar to the barricade tested and/or found acceptable in WZ-49 (August 22, 2000, memorandum to James D. Kennedy of Empco-Lite) and WZ-54 (September 15, 2000, memorandum to FHWA field offices). The "angle iron" steel legs are 1143 mm long and are 32 mm x 29 mm. The 609 mm long by 203 mm wide horizontal panels are 20 mm thick high-density polyethylene (HDPE). The warning light to be used is the EmpcoLite 400 series, with a mass of 2.04 kg.

### **Testing**

Your barricade with warning light is within the range of the tested barricades. The steel legs are marginally lighter than the tested designs (32 x 29 mm vs. the 32x32 mm as tested), and the HDPE horizontal panels have also been successfully tested on other Type II and Type III barricades. The overall mass of your barricade with light (12.25 kg) is less than the tested barricade with light (13.2 kg). The EmpcoLite 400 series warning light is too heavy to qualify as a "lightweight" warning light under our "generic" barricade memorandum WZ-54, but it is the identical light crash tested and accepted in our letter WZ-49. The warning light is to be affixed directly to the steel frame using 12.7 mm (½ inch) diameter hex screws and lock nuts. A vandal-resistant cupped washer is also to be used to help keep the light attached to the barricade.

### **Findings**

Because of the clear similarities between your Type II barricade with light, and the crash tested version discussed above, we find your Type II metal legged barricade with plastic panels, with or without warning light, shown in the enclosed drawings for reference are acceptable for use on the NHS under the range of conditions tested, when proposed by a State.

The Type II barricade with PVC legs may not be used unless crash tested with successful results.

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-112 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 Camsco Type II barricade is a generic design, but the components may include patented components and if so are considered "proprietary." The use of proprietary work zone traffic control devices in Federal-aid projects is generally of a temporary nature.

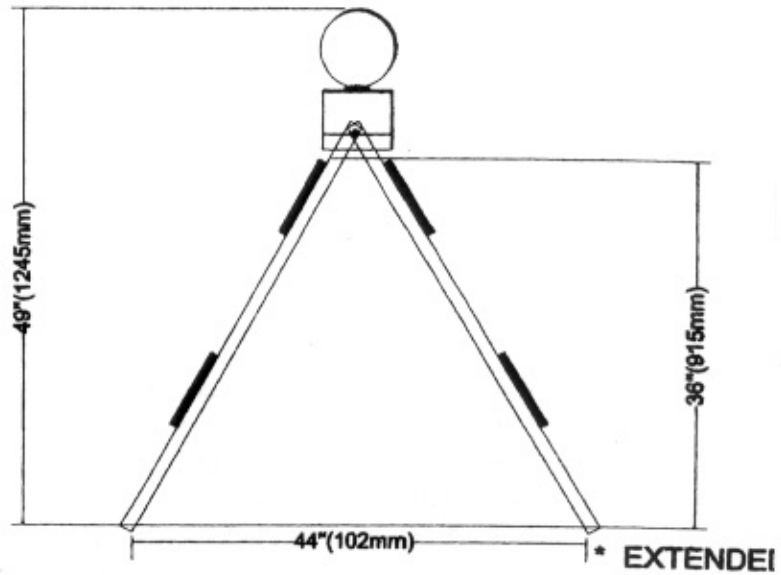
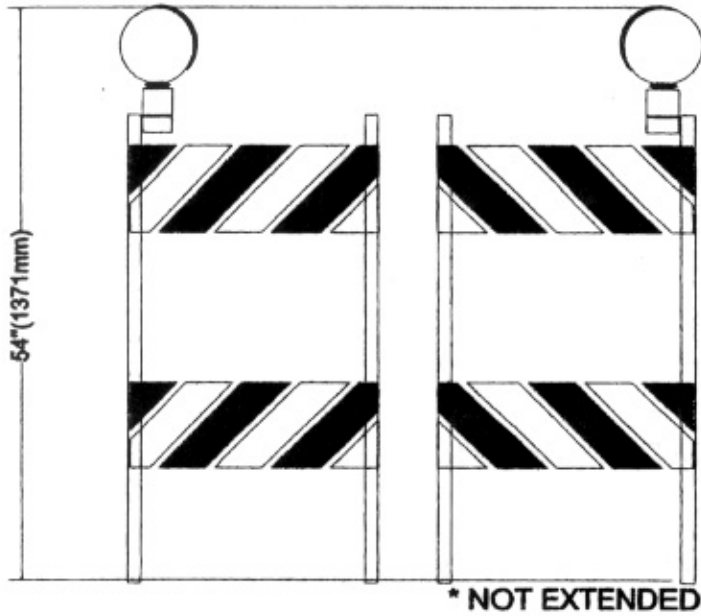
They are selected by the contractor for use as needed and removed upon completion of the project. Under such conditions they can be presumed to meet requirement "a" given below for the use of proprietary products on Federal-aid projects. On the other hand, if proprietary devices are specified for use 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.

Sincerely yours,

A. George Ostensen  
Program Manager, Safety

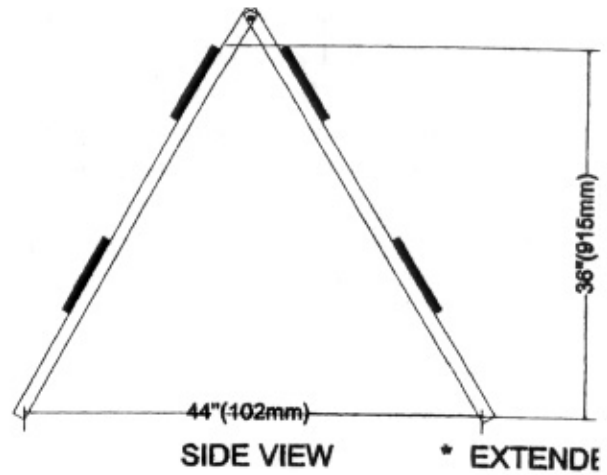
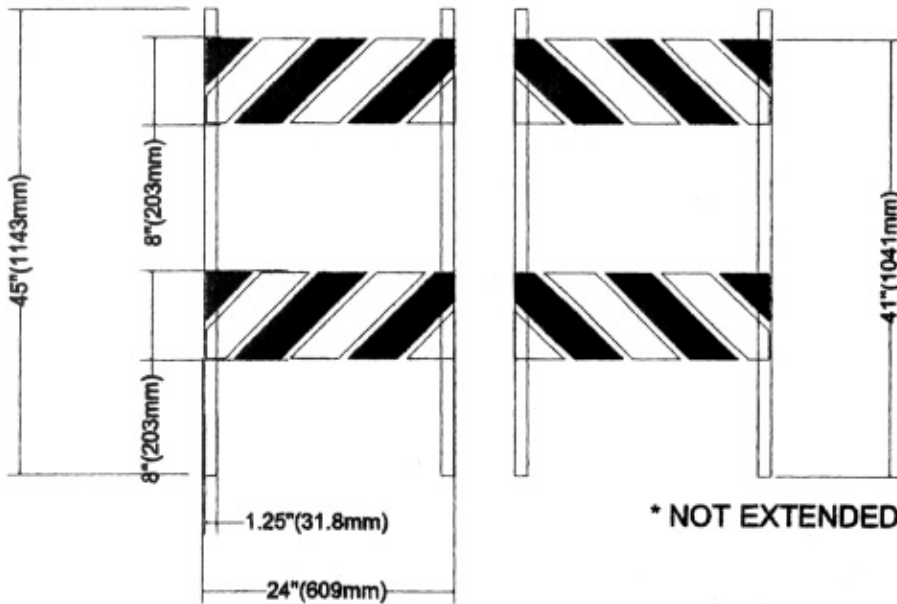
Enclosure

**CAMSCO SERVICE INC.  
PLASTIC RAIL & STEEL LEG  
WITH WARNING LIGHT  
TYPE II BARRICADE**



**SIDE VIEW  
WITH WARNING LIGHT**

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PLASTIC RAIL & STEEL LEG  
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**SIDE VIEW**