WZ-3

U.S. Department
of Transportation
Federal Highway Administration

March 21, 2000

400 Seventh St., S.W.
Washington, D.C. 20590

Refer to: HSA-1

Ms. Judy Hughes
President, Cantel of Medford, Inc.
3981 Crater Lake Highway
Medford, Oregon 97504

Dear Ms. Hughes:

Thank you for your letter of January 28, requesting Federal Highway Administration)FHWA) acceptance of your company's EZ-UP Type III Barricade as a crashworthy traffic control device for use in work zones on the National Highway System (NHS). Your letter was an update of earlier correspondence Accompanying your letters were detailed descriptions and specifications of the barricade. You requested that we find the barricade 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" by virtue of the successful crash tests of this barricade by Bent Manufacturing. You also provided additional information via a facsimile transmission on March 7,2000.

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.

Your company's barricade will essentially be identical to that previously crash tested and found acceptable for use in FHWA Acceptance Letter WZ- 6 dated November 23, 1998. The results of the crash test on that barricade tests are summarized in the table below. In the test, two devices were impacted by an 820 kg automobile. The first was positioned normal to the edge of the traveled way, and the second was perpendicular to the first and placed approximately 6 meters downstream. A warning sign was mounted on each barricade for the test, but the sign is not part of the accepted device.

Device Name	Type Ill Barricade
Mass of device*	40.0 kg
Mass of ballast	two x 22.7 kg sandbags
Height**	914mm
Width	2438 mm
Light attached?	Yes, two *
Test #	09-0498-001
Impact Speeds***	102.48 / 95.74
Exit Speeds***	95.74 / 89.00

* Mass includes lights but not ballast. Lights were ToughLite 2000 by WLI Industries, Inc.
** Height does not include light.
*** Speeds in kilometers per hour. First speed given is for contact with first test article, second speed is for impact with the second barricade.

On the test of the Type III plywood panel barricade the vehicle windshield was broken by the warning sign on the first (normal position) barricade. The windshield deformation was 64 mm but it remained intact. The damage was judged to only partially restrict driver visibility and not severe enough to cause the driver to lose control of the vehicle. Tests of similar barricades without signs have also been successful. There was no test article debris detached during the test series that would penetrate or show potential for penetrating the occupant compartment or present an undue hazard to other traffic, pedestrians, or personnel in a work zone.

The results of this testing met the FHWA requirements. Therefore the Cantel of Medford Type III EZ-UP barricade constructed to the same design and with similar materials (without the rigid sign panel used in the test) is acceptable according to NCHRP Report 350 Test Level 3 criteria for use on the NHS under the range of conditions tested, when proposed by a State.

Our acceptance is limited to the crashworthiness characteristics of the barricade and does not cover its structural features, nor conformity with the Manual on Uniform Traffic Control Devices, Presumably, you will supply potential users with sufficient information on design and installation requirements to ensure proper performance. We anticipate that the States will require

certification from Cantel of Medford that the hardware furnished has essentially the same chemistry, mechanical properties, and geometry as that the tested barricade, 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-31, shall not be reproduced except in full.

Sincerely yours,

Dwight A. Horne
Acting Program Manager, Safety