



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

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

January 4, 2006

In Reply Refer To: HSA-10/LS-59

Mr. John Schwarz, P.E.
Sales Engineer
Component Products, Incorporated
521 Morse Avenue
Schaumburg, Illinois 60193-4529

Dear Mr. Schwarz:

Thank you for your letter of October 10, 2005, requesting the Federal Highway Administration (FHWA) acceptance of a modification to your company's cast aluminum pedestal bases as breakaway bases for supporting signs, signals, vehicle detection devices, and other traffic control hardware on the National Highway System (NHS). Accompanying your letter was an analysis of the proposed modification from the Texas Transportation Institute (TTI). You requested that we find model "CPI-BAS-1PX" bases, cast using a permanent mold, acceptable for use on the NHS under the provisions of the National Cooperative Highway Research Program (NCHRP) Report 350 "Recommended Procedures for the Safety Performance Evaluation of Highway Features." The original sand-cast base, "CPI-BAS-1," was found acceptable via FHWA Acceptance Letter LS-38, dated August 4, 1995. The permanent mold base, "CPI-BAS-1P" was found acceptable via the FHWA acceptance letter LS-54 dated July 10, 2003.

Introduction and Testing of Original Base

Testing of the supports was in compliance with the guidelines contained in the NCHRP Report 350, Recommended Procedures for the Safety Performance Evaluation of Highway Features. Requirements for breakaway supports are those in the American Association of State Highway and Transportation Officials' Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals.

The Component Products square aluminum base of 319 alloy, CPI-BAS-1P, is a frangible base for mounting 114 mm (4.5 in) outside diameter galvanized pipe to support various information assemblies. The casting is 356 mm (14 in) square at the base and 394 mm (15.5 in) tall. Detailed information on the casting is shown in the enclosed drawing. A flashing beacon and a 610 x 1220 mm (24x48 in) sign, 1.5 m (5.0 ft) to the base of the sign, were attached to the



2.44 m (8.0 ft) long galvanized pipe. The pipe was threaded into the cast aluminum base and the aluminum casting was rigidly attached in the pendulum facility with four 19 mm (3.4 in) bolts. Total mass of the system was 59 kg (131.25 lbs).

Pendulum testing showed that the velocity changes, including the extrapolation for a high-speed impact, were all within acceptable limits. The only stubs remaining were shards no taller than the anchor bolts, which were set below the 4 in minimum. The results of testing met the FHWA requirements and the CPI-BAS-1P was found acceptable for use as test level 3 (TL-3) devices on the NHS under the range of conditions tested, when proposed by a State.

Proposed Modification

Your proposal is to add a threadless extended collar which extends above the threads on top of the base and adds one inch to its over all height. The extended collar provides a more secure anchorage for a pole threaded into the top of the base. All other features of the two products are identical. The analysis by the TTI indicates that the threadless extension would have no adverse affect on the breakaway performance of the base. We concur in this analysis and find the CPI-BAS-1PX cast aluminum pedestal base acceptable for use as TL-3 devices on the NHS under the range of conditions that the original base was tested, when proposed by a State.

Please note the following standard provisions, which apply to the 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 the FHWA and the NCHRP Report 350.
- To prevent misunderstanding by others, this letter of acceptance, designated as number LS-59, shall not be reproduced except in full. As this letter and the supporting documentation which support it become public information, it will be available for inspection at our office by interested parties.

- This acceptance letter shall not be construed as authorization or consent by the FHWA to use, manufacture, or sell any patented device. Patent issues are to be resolved by the applicant and the patent owner.

Sincerely yours,

/original signed by/

John R. Baxter, P.E.
Director, Office of Safety Design
Office of Safety

FHWA:HSA-10:NArtimovich:tb:x61331:12/29/05

File: h://directory folder/artimovich/LS59-ComponentFIN.doc

cc: HSA-10 (Reader, HSA-1; Chron File, HSA-10;
N.Artimovich, HSA-10)