Mr. Robert A. Sik  
Vice President  
Akron Foundry  
2728 Wingate Avenue  
Akron, Ohio 44314

Dear Mr. Sik:

Thank you for your letter of May 1, 2002, requesting Federal Highway Administration (FHWA) acceptance of a modification to your company’s TS-1000 Threaded Traffic Signal Pedestal Base and TS-1000 Modified Threaded Traffic Signal Pedestal Base as breakaway bases for use on the National Highway System (NHS). Accompanying your letter were drawings of the original and modified bases. You requested that we find the modifications to these bases 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.”

Introduction


Testing

Full-scale automobile testing was conducted on the TS-1000 bases, and they were accepted in our November 19, 1997, letter LS-47. The proposed change to the bases involves adding a collar to the top to provide a more secure anchorage for the pole that is threaded into the top of the base. Because these bases’ crash performance is by virtue of their breaking at the bottom, the addition of the collar and/or gussets at the top should have no adverse affect on their breakaway performance.

Findings

Because the performance of the subject bases modified with the collar (designated TS-1000-L) and/or gussets (designated TS-1000-L With Gussets) is expected to be similar to the crash tested bases, the devices described above and shown in the enclosed drawings for reference are acceptable for use as Test Level 3 devices on the NHS under the range of conditions tested, when proposed by a State.

Please note the following standard provisions, which 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 LS-53 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.

The Akron Foundry bases are or will be patented products and are considered
"proprietary." The use of proprietary devices specified on Federal-aid projects, except
exempt, non-NHS projects: (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,

Carol H. Jacoby, P.E.
Director, Office of Safety Design

Enclosure
DO NOT SCALE PRINT

A
ENGINEERING RELEASE

REV. DESCRIPTION BY DATE

AKRON FOUNDRY CO. AKRON, OHIO

DRAWN BY R. SIK APPROVED BY SCALE 7 : 16

DATE 6/15/88 DATE APPROVED PAGE 1 OF 1

DESCRIPTION TRAFFIC SIGNAL PEDESTAL BASE

NOTES:

1) FOR RAILROAD FLASHER POLE APPLICATION THE FRONT HOLE IS TO BE DRILLED THRU 13/32. USE 3/8-16 X 1-1/4 S.S. HEX BOLT, LOCK WASHER & NUT

TS-1000
TOP & DOOR
JOB #2327 JOB #8699

TS-1000 MODIFIED
ASSY #2331

1/2-10 N.C. GROUND LOCATION

1/4-20 N.C. TAP THRU REAR OF BASE

1/4-20 N.C. TAP FOR STAINLESS STEEL BUTTON HEAD

DOOR AVAILABLE IN PLASTIC OR CAST ALUMINUM (SEE NOTE 1)

3/8-16 N.C. STAINLESS STEEL SET SCREW - 3 PLS EQUALLY SPACED (SEE NOTE 2)

R0.50 (12.70)

0.58 (14.22)

5/8 (16.00)

8.02 (203.70) DIA. PLUS 5' DRAFT

0.63 (15.88)

1.75 (44.45)

R1.00 (25.40)

R0.50 (12.70)

R0.38 (9.68) (TYP)

R0.56 (14.22)

1.00 (25.40)

LIGHTENERS (6)

13.75 SQ. (349.25 SQ.)

6.02 SQ. (210.93 SQ)

MIG 4043 WIRE

3/8-16 X 1-1/4 S.S. HEX BOLT, LOCK WASHER & NUT

MATERIAL 356-T6 CAT. NO.
TS-1000-L

TOP & DOOR

NOTES:
1) FOR RAILROAD FLASHER POLE APPLICATION THE FRONT HOLE IS TO BE DRILLED THRU 13/32. USE 3/8-16 X 1-1/4 S.S. HEX BOLT, LOCK WASHER & NUT

CAUTION: THIS BASE DESIGN REQUIRES CONCENTRICITY OF POLE O.D. & THREAD WITHIN 0.010 T.I.R. AS SUPPLIED BY AKRON FOUNDRY.