



1200 New Jersey Avenue, SE.  
Washington, DC 20590

February 20, 2009

In Reply Refer To: HSSD/B-42A

Mr. Michael Budd  
Rockingham Precast  
P.O. Box 1347  
Harrisonburg, VA 22801

Dear Mr. Budd:

This letter is a follow-on response to your request for the Federal Highway Administration (FHWA) acceptance of a roadside safety device for use on the National Highway System (NHS).

Name of device: 18-Foot T-LOC F-Shaped Portable Concrete Barrier  
Type of device: Temporary concrete barrier  
Test Level: NCHRP Report 350 Test Level-3  
Testing conducted by: N/A  
Date of request: March 17, 2008  
Initial response by email sent March 18, 2008

You subsequently requested that we formally find this device 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."

### **Requirements**

Roadside safety devices should meet the guidelines contained in the NCHRP Report 350, "Recommended Procedures for the Safety Performance Evaluation of Highway Features". FHWA Memorandum "ACTION: Identifying Acceptable Highway Safety Features" of July 25, 1997, provides further guidance on crash testing requirements of longitudinal barriers.

### **Description**

The Rockingham Precast T-LOC barrier was accepted on October 20, 1997, in our Acceptance Letter B-42 to you. The barrier tested was composed of 12-foot long segments, and your present request is for formal acceptance of 18-foot or longer segments.

### **Findings**

We concur in your request that the T-LOC concrete barrier segments that have been successfully crash tested to NCHRP Report 350 Test Level 3 conditions at a segment length of 12 feet will be considered acceptable for use on the NHS when the segments are manufactured to a length of 18 feet or more, assuming all other factors such as concrete strength, reinforcing details, and end connections are identical to the tested version.



Please note the following standard provisions that apply to the FHWA letters of acceptance:

- This 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, we reserve the right to modify or revoke our 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 it will meet the crashworthiness requirements of the FHWA and the NCHRP Report 350.
- To prevent misunderstanding by others, this letter of acceptance is designated as number B-42A and shall not be reproduced except in full. This letter and the test documentation upon which it is based are public information. All such letters and documentation may be reviewed at our office upon request.
- T-LOC concrete barriers are patented products and considered proprietary. If proprietary devices are specified by a highway agency for use on Federal-aid projects, except exempt, non-NHS projects, (a) they must be supplied through competitive bidding with equally suitable unpatented items; (b) the highway agency must certify that they are essential for synchronization with the 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 FHWA 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.

Sincerely yours,



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



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[www.skp-cs.com](http://www.skp-cs.com)

## General construction details for Shakespeare anchor base decorative light poles

Shaft: 7 inch OD at bottom end, made from two layers of 34 oz per square yard stitched fiberglass fabric and thermoset polyester resin.

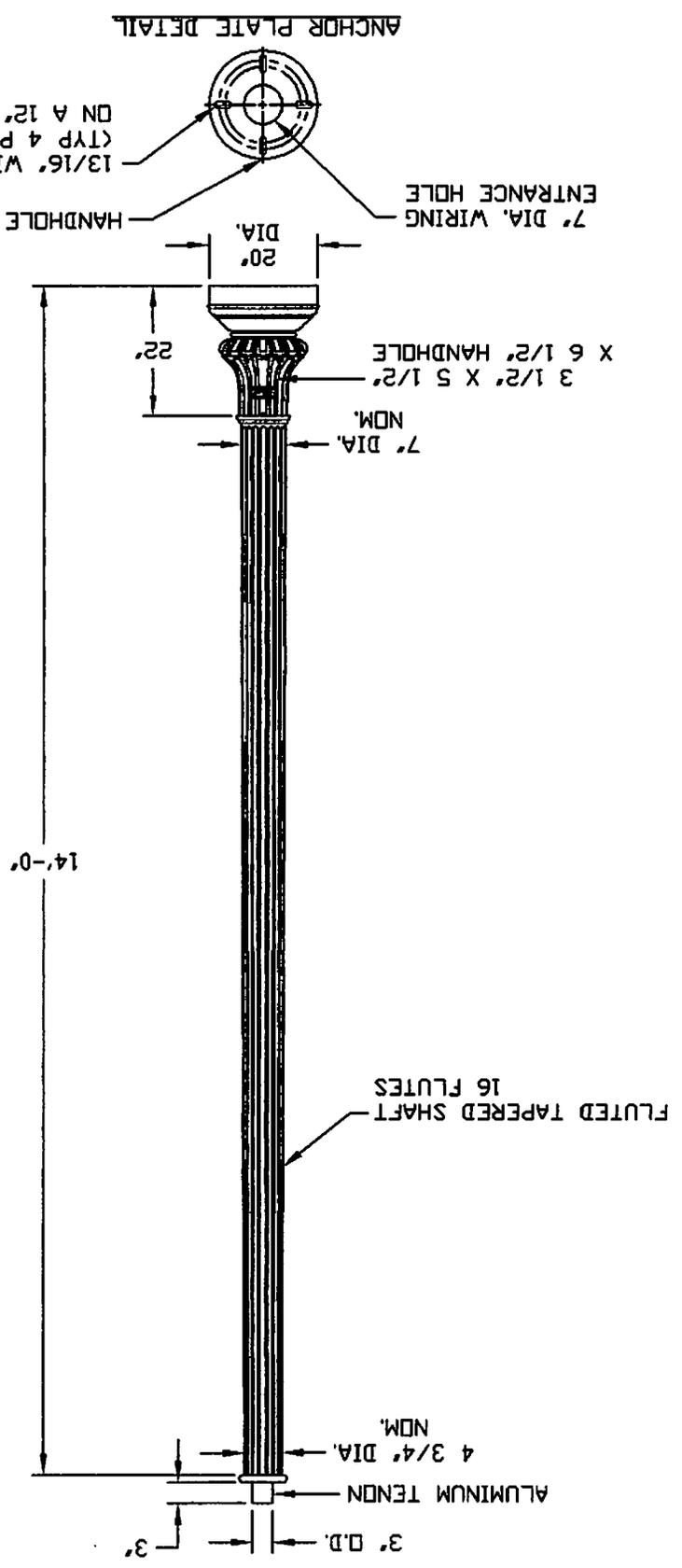
Base: Outside dimensions as shown in catalog data, made from two layers of 24 oz per square yard woven fiberglass roving and polyester resin

Anchor plate: Fits inside the bottom of the base, made from two layers of the 34 oz. per sq. yard fabric and polyester resin.

The shaft attaches to the base via a telescopic joint that is bonded with polyester adhesive.

The anchor plate is bonded into the bottom of the base with polyester adhesive.

LET									
WAS									
BY DATE									
DESCRIPTION	14'-0" SEMI-GLOSS BLACK DRN LIGHT POLE WITH 20' WASHINGTON BASE								
									
	DRAWN: DBD SCALE: NONE DATE: 01/21/05 SAVED AS: I:\AP20-14FS11								
	PC. NO.: AP20-14FS11								

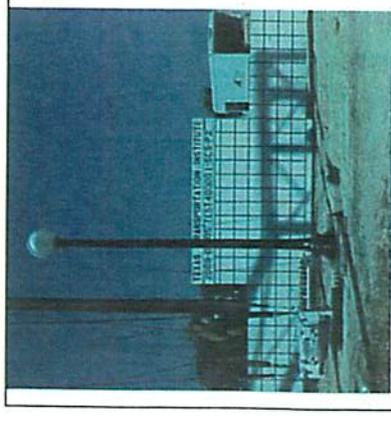
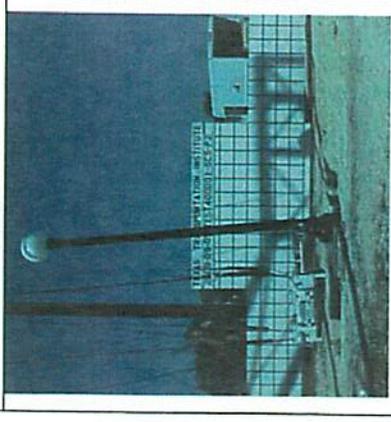
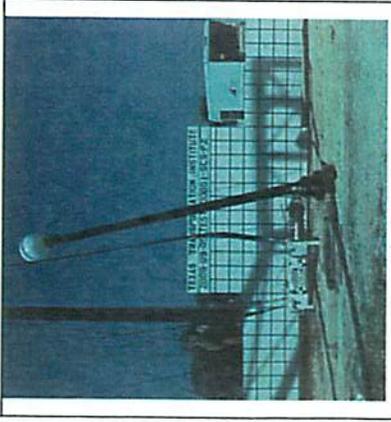
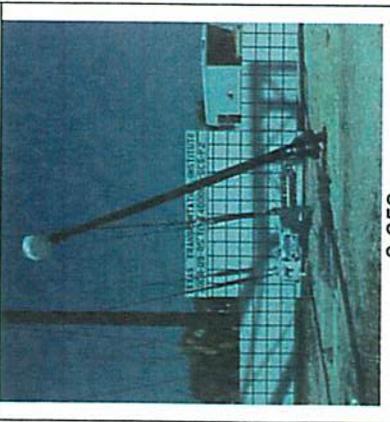


NOTES:  
 1-COLOR - BLACK  
 2-FINISH - SEMI-GLOSS  
 3-MATERIAL - FIBERGLASS REINFORCED COMPOSITE EXCEPT AS NOTED

**Table D1. Summary of results for pendulum test 400001-SCS P1.**

	<p><b>General Information</b></p>
<p>0.000 s</p>	<p>Test Agency.....Texas Transportation Institute          Test No..... 400001-SCS P1          Date..... 2008-09-05</p>
	<p><b>Test Article</b></p>
<p>0.080 s</p>	<p>Type..... Light Support          Name..... Shakespeare 14.5 ft AP20-14FS11 Light Support          Installation Height..... 14.5 ft          Material of Key Element..... Fiberglass Reinforced Composite</p>
	<p><b>Soil Type</b>..... Rigid Mounting Plate</p>
<p>0.160 s</p>	<p><b>Test Vehicle</b></p>
	<p>Type..... Bogie          Designation..... Pendulum          Test Inertia Mass..... 839 kg</p>
<p>0.240 s</p>	<p><b>Impact Conditions</b></p>
<p>Speed..... 21.4 mi/h          Angle..... 90 deg</p>	<p><b>Occupant Risk Values</b></p>
<p>Impact Velocity          Longitudinal direction..... 8.9 ft/s          Ridedown Accelerations          Longitudinal direction..... -1.4 g/s</p>	<p><b>Maximum Change in Velocity</b>..... 8.9 ft/s</p>
<p><b>Predicted High-Speed Change in Velocity</b>..... 5.3 ft/s</p>	

Table D2. Summary of results for pendulum test 400001-SCS P2.

 <p style="text-align: center;">0.000 s</p>	<p><b>General Information</b>                  Test Agency..... Texas Transportation Institute                  Test No..... 400001-SCS P2                  Date..... 2008-09-05</p> <p><b>Test Article</b>                  Type..... Light Support                  Name ..... Shakespeare 14.5 ft AP20-14FS11 Light Support                  Installation Height..... 14.5 ft                  Material of Key Element .... Fiberglass Reinforced Composite</p> <p><b>Soil Type</b>..... Rigid Mounting Plate</p>
 <p style="text-align: center;">0.084 s</p>	<p><b>Test Vehicle</b>                  Type..... Bogie                  Designation..... Pendulum                  Test Inertia Mass..... 839 kg</p> <p><b>Impact Conditions</b>                  Speed ..... 21.4 mi/h                  Angle ..... 90 deg</p> <p><b>Occupant Risk Values</b>                  Impact Velocity ..... 9.8 ft/s                  Longitudinal direction..... 9.8 ft/s                  Ridedown Accelerations</p>
 <p style="text-align: center;">0.168 s</p>	<p>Longitudinal direction..... -1.2 g's                  Maximum Change in Velocity ..... 7.9 ft/s                  Predicted High-Speed Change in Velocity ..... 4.96 ft/s</p>
 <p style="text-align: center;">0.252 s</p>	