



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

October 5, 2022

1200 New Jersey Ave., SE  
Washington, D.C. 20590

In Reply Refer To:  
HSST-1/SS-187

Bret R. Eckert  
Trinity Highway Products, LLC  
15601 Dallas Parkway, Suite 525  
Addison, TX 75001  
USA

Dear Mr. Eckert:

We received your correspondence of December 8, 2021 requesting issuance of a reimbursement eligibility letter under the Federal-aid highway program for the roadside safety system, device, design, product, or hardware (collectively “device”) described below. This letter is assigned Federal Highway Administration (FHWA) control number SS-187.

### **ELIGIBILITY LETTERS**

The FHWA issues Federal-aid reimbursement eligibility letters for new roadside safety devices that are crash tested in accordance with the industry standard of the American Association of State Highway and Transportation Officials (AASHTO) Manual for Assessing Safety Hardware (MASH).

FHWA, the Department of Transportation, and the United States (government) do not regulate roadside safety devices, crash test facilities, or the manufacturing industry. Issuance of eligibility letters is discretionary and provided only as a service to the states. FHWA may, at its discretion, decline to issue, revise, or rescind an eligibility letter. Eligibility letters are only issued by the FHWA headquarters Office of Safety.

Eligibility letters are issued only as notice to the states that a device is eligible for reimbursement under the Federal-aid highway program. They do not establish approval or certification for any other purpose. Issuance of an eligibility letter is not a prerequisite or requirement for state transportation agencies seeking to use Federal-aid funds for roadside safety devices. State agencies may use a device for which an eligibility letter has not been issued and seek Federal-aid reimbursement.

### **FEDERAL-AID REIMBURSEMENT**

The request for issuance of this letter certified the device was crash tested in accordance with the industry standard of AASHTO’s MASH. This eligibility letter is based on that certification and the material offered in support of its issuance. The device described below is eligible for reimbursement under the Federal-aid highway program.

Name of system: SQR-LOC Perforated Single Post Sign Support System  
Type of system: Sign Support  
Test Level: Test Level 3  
Testing conducted by: Applus IDIADA KARCO Engineering, LLC  
Date of request: December 8, 2021

Information about the device, including material such as the eligibility request, crash test reports, drawings, or images are included in one or more attachment(s) to this letter.

Eligibility letter SS-187 is inapplicable to devices, optional equipment, alternate materials, or other features that were not crash tested in accordance with AASHTO's MASH.

This letter is issued only for the subject device as crash tested under AASHTO's MASH. Later modification(s) of the device are not eligible for Federal-aid reimbursement under this letter. Notice of later modification(s) should be given to transportation agencies, facility owners, and operators (collectively "agencies").

Agencies should be provided appropriate information about the device's design, installation, maintenance, materials, and mechanical properties.

Issuance of this letter is discretionary, and it may be revised or rescinded at FHWA's discretion. This letter is not a determination of compliance with the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD) or ownership of any intellectual property rights.

This eligibility letter is not a determination by the government that a crash involving the subject device will result in any particular outcome. It is limited to only the device's eligibility for Federal-aid reimbursement.

### **INTELLECTUAL PROPERTY**

Issuance of this eligibility letter does not convey property rights of any sort nor any exclusive privilege. This letter is not authorization or consent by the government for the use, manufacture, or sale of any patented or proprietary system, device, design, product, or hardware for which the requester is not the patent owner. Eligibility letters are not an expression of any view, position, or determination by the government as to the validity, scope, or ownership of any intellectual property rights to a specific device. These letters do not grant, impute, suggest, or otherwise establish any ownership, distribution, or licensing rights to the requester. The government expresses no opinion about the intellectual property rights relating to any device for which this or any other eligibility letter is issued.

### **PUBLIC DISCLOSURE**

To prevent any misunderstanding, and as discussed above, this eligibility letter is assigned FHWA control number SS-187. It should only be reproduced in full with its attachment(s). This letter and the material offered by the requester supporting its issuance is public information. All eligibility letters and supporting material are subject to public disclosure under the Freedom of

Information Act (FOIA). Eligibility letters are available to the public at [https://safety.fhwa.dot.gov/roadway\\_dept/countermeasures/reduce\\_crash\\_severity/](https://safety.fhwa.dot.gov/roadway_dept/countermeasures/reduce_crash_severity/).

If you have any questions please contact Aimee Zhang at [Aimee.Zhang@dot.gov](mailto:Aimee.Zhang@dot.gov).

Sincerely,

A handwritten signature in black ink that reads "Michael S. Griffith". The signature is written in a cursive style with a large, looping initial "M".

Michael S. Griffith  
Director, Office of Safety Technologies  
Office of Safety

Enclosures

## Request for Federal Aid Reimbursement Eligibility of Highway Safety Hardware

<b>Submitter</b>	Date of Request:	December 08, 2021	<input checked="" type="radio"/> New <input type="radio"/> Resubmission
	Name:	Bret R. Eckert, P.E.	
	Company:	Trinity Highway Products, LLC	
	Address:	15601 Dallas Parkway, Suite 525, Addison, TX 75001	
	Country:	USA	
	To:	Michael S. Griffith, Director FHWA, Office of Safety Technologies	

I request the following devices be considered eligible for reimbursement under the Federal-aid highway program.

**Device & Testing Criterion** - Enter from right to left starting with Test Level

!-!-!

System Type	Submission Type	Device Name / Variant	Testing Criterion	Test Level
'SS': Breakaway Sign Supports, Mailboxes, & other small sign supports	<input checked="" type="radio"/> Physical Crash Testing <input type="radio"/> Engineering Analysis	SQR-LOC® Perforated, Single Post Sign Support System	AASHTO MASH	TL3

By submitting this request for review and evaluation by the Federal Highway Administration, I certify that the product(s) was (were) tested in conformity with the AASHTO Manual for Assessing Safety Hardware and that the evaluation results meet the appropriate evaluation criteria in the MASH.

**Individual or Organization responsible for the product:**

Contact Name:	Jim Crowley	Same as Submitter <input type="checkbox"/>
Company Name:	Trinity Highway Products, LLC	Same as Submitter <input type="checkbox"/>
Address:	15601 Dallas Parkway, Suite 525, Addison, TX 75001	Same as Submitter <input type="checkbox"/>
Country:	USA	Same as Submitter <input type="checkbox"/>

Enter below all disclosures of financial interests as required by the FHWA 'Federal-Aid Reimbursement Eligibility Process for Safety Hardware Devices' document.

The SQR-LOC® Perforated, Single Post Sign Support System technology is the commercial embodiment of intellectual property that is owned by Trinity Highway Products, LLC ("THP"). THP does not pay royalties for sales of the SQR-LOC® Perforated, Single Post Sign Support System. The SQR-LOC® Perforated, Single Post Sign Support System was designed and developed by engineers at THP.

Applus IDIADA KARCO Engineering, LLC (KARCO) conducted the certification tests of the SQR-LOC® Perforated, Single Post Sign Support System. KARCO is an internationally accredited third party crash testing laboratory. Physical crash testing of the SQR-LOC® Perforated, Single Post Sign Support System was performed in accordance with testing criteria, as set forth by the American Association of State Highway and Transportation Officials (AASHTO) in the Manual for Assessing Safety Hardware ("MASH") (2016). Other than fees paid to KARCO to conduct the tests and then analyze and report the test results, KARCO and THP do not share financial interests. The fees paid to KARCO were not dependent or contingent on the results of the tests.

## PRODUCT DESCRIPTION

New Hardware or Significant Modification     
  Modification to Existing Hardware

The SQR-LOC® Perforated, Single Post Sign Support System consists of one, 2-1/2 inch x 10 gauge perforated square steel tube signpost inserted 10-1/2 inches into a 3 inch x 7 gauge square steel tube anchor sleeve. The signpost is punched with Ø7/16 inch holes spaced on one inch centers along the length on all four sides. The signpost is secured to the anchor sleeve using a Ø5/16 inch corner bolt and nut. The anchor sleeve is 36 inches long and embedded in soil with the top 1-1/2 inch above grade. A 48 inch tall x 60 inch wide x 0.080 inch thick aluminum sign panel is secured to the signpost with a U-channel and clamp system. The sign is secured to two U-channel sections using Ø3/8 inch bolts and nuts. The sign is mounted at a height of 7 ft. above grade to the bottom of the sign. The anchor sleeve is fabricated in conformance with ASTM A500. The steel for the signpost conforms to ASTM A653.

### CRASH TESTING

By signature below, the Engineer affiliated with the testing laboratory, agrees in support of this submission that all of the critical and relevant crash tests for this device listed above were conducted to meet the MASH test criteria. The Engineer has determined that no other crash tests are necessary to determine the device meets the MASH criteria.

Engineer Name:	Antonio Reyes	
Engineer Signature:	<h1 style="margin: 0;">Antonio Reyes</h1> <small>Digitally signed by Antonio Reyes        DN: cn=Antonio Reyes, o=Applus Idiada, ou,        email=Antonio.Reyes@idiada.com, c=US        Date: 2022.10.04 10:51:38 -07'00'</small>	
Address:	270 Holly Road, Adelanto, CA 92301	Same as Submitter <input type="checkbox"/>
Country:	USA	Same as Submitter <input type="checkbox"/>

A brief description of each crash test and its result:

Required Test Number	Narrative Description	Evaluation Results
3-60 (1100C)	<p>Applus IDIADA KARCO Test No's. P40154-01 and P41054-02. Test Date December 8, 2020. Crash Test Report No. TR-P40154-01-B for MASH 2016 Test 3-60 Crash Test of Trinity Highway Products SQR-LOC® Perforated, Single Post Sign Support, TL-3.</p> <p>Two (2) MASH 2016 Test Level 3 Test 60 (3-60) tests were performed on the Trinity Highway Products SQR-LOC® Perforated, Single Post Sign Support, TL-3. The support structure was impacted at two (2) Critical Impact Angles (CIA), 0° and 90°, in two (2) separate tests by an 1100C small car.</p> <p>The first SQR-LOC® Perforated, Single Post Sign Support system (P40154-01) was impacted by a 2015 Kia Rio 4-door sedan at a velocity of 19.64 mph (31.61 km/h) and a CIA of 0°. Upon impact, the sign support yielded and broke away. The occupant compartment was not penetrated and the deformation limits were not exceeded. The vehicle experienced a maximum occupant impact velocity (OIV) of 11.8 ft/s (3.6 m/s) and a maximum ridedown acceleration (RA) of 1.8 g.</p> <p>The second SQR-LOC® Perforated, Single Post Sign Support system (P40154-02) was impacted by a 2016 Kia Rio 4-door sedan at a velocity of 19.78 mph (31.84 km/h) and a CIA of 90°. Upon impact, the sign support yielded and broke away. The occupant compartment was not penetrated and the deformation limits were not exceeded. The vehicle experienced a maximum occupant impact OIV of 12.1 ft/s (3.7 m/s) and a maximum RA of 3.3 g.</p> <p>The Trinity Highway Products SQR-LOC® Perforated, Single Post Sign Support, TL-3 met all the requirements for MASH 2016 Test 3-60 at both 0° and 90° impact conditions.</p>	PASS

Required Test Number	Narrative Description	Evaluation Results
3-61 (1100C)	<p>Applus IDIADA KARCO Test No's. P40155-01 and P41055-02. Test Dates December 10 and 11, 2020, respectively. Crash Test Report No. TR-P40155-01-B for MASH 2016 Test 3-61 Crash Test of Trinity Highway Products SQR-LOC® Perforated, Single Post Sign Support, TL-3.</p> <p>Two (2) MASH 2016 Test Level 3 Test 61 (3-61) tests were performed on the Trinity Highway Products SQR-LOC® Perforated, Single Post Sign Support, TL-3. The support structure was impacted at two (2) Critical Impact Angles (CIA), 0° and 90°, in two (2) separate tests by an 1100C small car.</p> <p>The first SQR-LOC® Perforated, Single Post Sign Support system (P40155-01) was impacted by a 2016 Kia Rio 4-door sedan at a velocity of 62.53 mph (100.63 km/h) and a CIA of 0°. Upon impact, the sign support yielded and broke away. The occupant compartment was not penetrated and the deformation limits were not exceeded. The vehicle experienced a maximum occupant impact velocity (OIV) of 5.2 ft/s (1.6 m/s) and a maximum ridedown acceleration (RA) of 0.4 g.</p> <p>The second SQR-LOC® Perforated, Single Post Sign Support system (P40155-02) was impacted by a 2016 Kia Rio 4-door sedan at a velocity of 63.03 mph (101.44 km/h) and a CIA of 90°. Upon impact, the sign support yielded and broke away. The occupant compartment was not penetrated and the deformation limits were not exceeded. The vehicle experienced a maximum OIV of 4.6 ft/s (1.4 m/s) and a maximum RA of 0.3 g.</p> <p>The Trinity Highway Products SQR-LOC® Perforated, Single Post Sign Support, TL-3 met all the requirements for MASH 2016 Test 3-61 at both 0° and 90° impact conditions.</p>	PASS

3-62 (2270P)	<p>Applus IDIADA KARCO Test No's. P40156-01 and P41056-02. Test Dates December 10 and 11, 2020, respectively. Crash Test Report No. TR-P40156-01-B for MASH 2016 Test 3-62 Crash Test of Trinity Highway Products SQR-LOC® Perforated, Single Post Sign Support, TL-3.</p> <p>Two (2) MASH 2016 Test Level 3 Test 62 (3-62) tests were performed on the Trinity Highway Products SQR-LOC® Perforated, Single Post Sign Support, TL-3. The support structure was impacted at two (2) Critical Impact Angles (CIA), 0° and 90°, in two (2) separate tests by a 2270P pickup truck.</p> <p>The first SQR-LOC® Perforated, Single Post Sign Support system (P40156-01) was impacted by a 2014 RAM 1500 4-door pickup truck at a velocity of 63.87 mph (102.79 km/h) and a CIA of 0°. Upon impact, the sign support yielded and broke away. The occupant compartment was not penetrated and the deformation limits were not exceeded.</p> <p>The second SQR-LOC® Perforated, Single Post Sign Support system (P40156-02) was impacted by a 2015 RAM 1500 4-door pickup truck at a velocity of 65.01 mph (104.63 km/h) and a CIA of 90°. Upon impact, the sign support yielded and broke away. The occupant compartment was not penetrated and the deformation limits were not exceeded.</p> <p>The Trinity Highway Products SQR-LOC® Perforated, Single Post Sign Support, TL-3 met all the requirements for MASH 2016 Test 3-62 at both 0° and 90° impact conditions.</p>	PASS
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Full Scale Crash Testing was done in compliance with MASH by the following accredited crash test laboratory (cite the laboratory's accreditation status as noted in the crash test reports.):

Laboratory Name:	KARCO Engineering, INC	
Laboratory Signature:	<b>Antonio Reyes</b>	<small>Digitally signed by Antonio Reyes DN: cn=Antonio Reyes, o=Applus Idiada, ou, email=Antonio.Reyes@idiada.com, c=US Date: 2022.10.04 10:52:01 -07'00'</small>
Address:	9270 Holly Road, Adelanto, CA 92301	Same as Submitter <input type="checkbox"/>
Country:	USA	Same as Submitter <input type="checkbox"/>
Accreditation Certificate Number and Dates of current Accreditation period :	International Accreditation Services (IAS) ISO 17025 Accreditation Certificate #TL-371 Expires July 1, 2023	

Submitter Signature\*: **Bret Eckert** Digitally signed by Bret Eckert  
Date: 2022.10.04 11:15:41 -07'00'

Submit Form

## ATTACHMENTS

Attach to this form:

- 1) Additional disclosures of related financial interest as indicated above.
- 2) A copy of the full test report, video, and a Test Data Summary Sheet for each test conducted in support of this request.
- 3) A drawing or drawings of the device(s) that conform to the Task Force-13 Drawing Specifications [[Hardware Guide Drawing Standards](#)]. For proprietary products, a single isometric line drawing is usually acceptable to illustrate the product, with detailed specifications, intended use, and contact information provided on the reverse. Additional drawings (not in TF-13 format) showing details that are relevant to understanding the dimensions and performance of the device should also be submitted to facilitate our review.

FHWA Official Business Only:

Eligibility Letter		Key Words
Number	Date	

# MASH 2016 Test 3-60 Summary (P40154-01, 0° CIA)



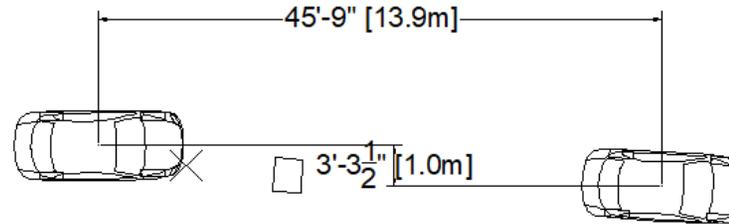
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<b>GENERAL INFORMATION</b>	
Test Agency.....	Applus IDIADA KARCO
Test Number.....	P40154-01
Test Designation.....	3-60
Test Date.....	12/8/20
<b>TEST ARTICLE</b>	
Name / Model.....	SQR-LOC® Perforated, Single Post Sign Support, TL-3
Type.....	Support Structure
Mounting Height .....	7.0 ft. (2.1 m)
Key Elements.....	2.50" 10 Gauge Signpost, 36" 7 Gauge Anchor Sleeve, 48" x 60" Aluminum Sign
Road Surface.....	Smooth, clean concrete

<b>TEST VEHICLE</b>	
Type / Designation.....	1100C
Year, Make, and Model....	2015 Kia Rio
Curb Mass.....	2,552.9 lbs (1,158.0 kg)
Test Inertial Mass.....	2,451.5 lbs (1,112.0 kg)
Gross Static Mass.....	2,620.1 lbs (1,188.5 kg)
<b>Impact Conditions</b>	
Impact Velocity.....	19.64 mph (31.61 km/h)
Impact Angle.....	0.0°
Location / Orientation.....	16.7 in. (425 mm) Right of Centerline
Kinetic Energy	31.6 kip-feet (42.9 Kilojoules)
Maximum KE Required.....	34.0 kip-feet (46.0 Kilojoules*)
<b>Exit Conditions</b>	
Exit Velocity.....	11.01 mph (17.72 km/h)
Final Vehicle Position.....	45.6 ft. (13.9 m ) Downstream 3.3 ft. (1.0 m) Right
Maximum Roll Angle.....	-2.7 °
Maximum Pitch Angle.....	-4.2 °
Maximum Yaw Angle.....	-4.1 °

<b>Occupant Risk</b>	
Longitudinal OIV.....	11.8 ft/s (3.6 m/s)
Lateral OIV.....	0.0 ft/s (0.0 m/s)
Longitudinal RA.....	1.8 g
Lateral RA.....	0.9 g
THIV.....	11.5 ft/s (3.5 m/s)
PHD.....	1.9 g
ASI.....	0.26
<b>Test Article Deflections</b>	
Debris Field (longitudinal) .....	Not Applicable
Debris Field (lateral).....	Not Applicable
<b>Vehicle Damage</b>	
Vehicle Damage Scale.....	12-FR-1
CDC.....	12FREU1
Maximum Deformation.....	0.0 in. (0 mm)

\*MASH 2016 Table 2-5 has a unit conversion discrepancy in the "Acceptable KE" (impact severity) maximum value for Test 3-60. The value in the table is 41 kJ, however 34 kip-ft. converts to 46 kJ

**Figure 3 MASH 2016 Test 3-60 Summary (P40154-01, 0° CIA)**



# MASH 2016 Test 3-61 Summary (P40155-01, 0° CIA)



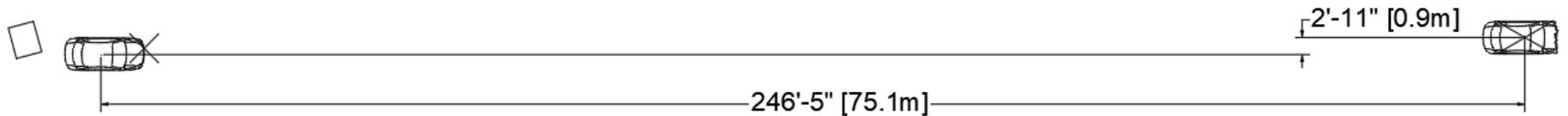
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## GENERAL INFORMATION

Test Agency..... Applus IDIADA KARCO  
 Test Number..... P40155-01  
 Test Designation..... 3-61  
 Test Date..... 12/10/21

## TEST ARTICLE

Name / Model..... SQR-LOC® Perforated, Single  
 Post Sign Support, TL-3  
 Type..... Support Structure  
 Mounting Height ..... 7.0 ft. (2.1 m)  
 Key Elements..... 2.50" 10 Gauge Signpost,  
 36" 7 Gauge Anchor Sleeve,  
 48" x 60" Aluminum Sign  
 Road Surface..... Smooth, clean concrete

## TEST VEHICLE

Type / Designation..... 1100C  
 Year, Make, and Model.... 2016 Kia Rio  
 Curb Mass..... 2,526.5 lbs (1,146.0 kg)  
 Test Inertial Mass..... 2,444.9 lbs (1,109.0 kg)  
 Gross Static Mass..... 2,614.6 lbs (1,186.0 kg)

## Impact Conditions

Impact Velocity..... 62.53 mph (100.63 km/h)  
 Impact Angle..... 0.0°  
 Location / Orientation..... 16.7 in. (425 m) Left of Centerline  
 Kinetic Energy..... 319.6 kip-feet (433.3 Kilojoules)  
 Minimum KE Required..... 288.0 kip-feet (390.0 Kilojoules)

## Exit Conditions

Exit Velocity..... 60.74 mph (97.75 km/h)  
 Final Vehicle Position..... 246.4 ft. (75.1 m ) Downstream  
 2.9 ft. (0.9 m) Left  
 Maximum Roll Angle..... 2.4 °  
 Maximum Pitch Angle..... 0.8 °  
 Maximum Yaw Angle..... 3.5 °

## Occupant Risk

Longitudinal OIV..... 5.2 ft/s (1.6 m/s)  
 Lateral OIV..... 4.6 ft/s (1.4 m/s)  
 Longitudinal RA..... -0.2 g  
 Lateral RA..... -0.4 g  
 THIV..... 7.2 ft/s (2.2 m/s)  
 PHD..... 0.4 g  
 ASI..... 0.24

## Test Article Deflections

Debris Field (longitudinal) ..... Not Applicable  
 Debris Field (lateral)..... Not Applicable

## Vehicle Damage

Vehicle Damage Scale..... 12-FR-1  
 CDC..... 12FLEU1  
 Maximum Deformation..... 0.17 in. (4.3 mm) at Windshield

Figure 3 MASH 2016 Test 3-61 Summary (P40155-01, 0° CIA)

## MASH 2016 Test 3-61 Summary (P40155-02, 90° CIA)



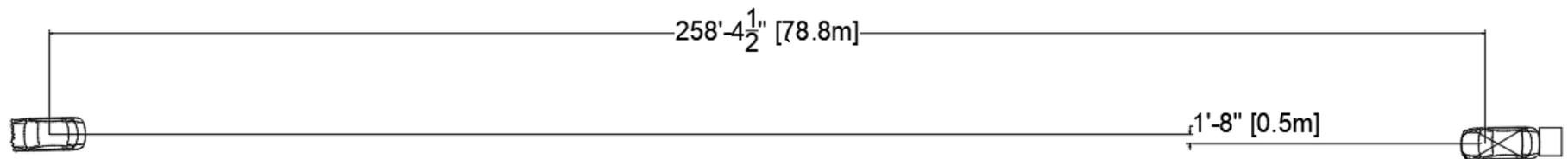
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### GENERAL INFORMATION

Test Agency..... Applus IDIADA KARCO  
 Test Number..... P40155-02  
 Test Designation..... 3-61  
 Test Date..... 12/11/20

### TEST ARTICLE

Name / Model..... SQR-LOC® Perforated Single  
 Post Sign Support, TL-3  
 Type..... Support Structure  
 Mounting Height ..... 7.0 ft. (2.1 m)  
 Key Elements..... 2.50" 10 Gauge Signpost,  
 36" 7 Gauge Anchor Sleeve,  
 48" x 60" Aluminum Sign  
 Road Surface..... Smooth, clean concrete

### TEST VEHICLE

Type / Designation..... 1100C  
 Year, Make, and Model.... 2016 Kia Rio  
 Curb Mass..... 2,729.3 lbs (1,238.0 kg)  
 Test Inertial Mass..... 2,439.4 lbs (1,106.5 kg)  
 Gross Static Mass..... 2,600.3 lbs (1,179.5 kg)

### Impact Conditions

Impact Velocity..... 63.03 mph (101.44 km/h)  
 Impact Angle..... 90.0°  
 Location / Orientation..... 16.7 in. (425 mm) Left of Centerline  
 Impact Severity..... 324.0 kip-feet (439.3 Kilojoules)  
 Minimum KE Required..... 288.0 kip-feet (390.0 Kilojoules)

### Exit Conditions

Exit Velocity..... 61.52 mph (99.01 km/h)  
 Final Vehicle Position..... 258.4 ft. (78.8 m ) Downstream  
 1.7 ft. (0.5 m) Right  
 Maximum Roll Angle..... 3.2°  
 Maximum Pitch Angle..... 4.3°  
 Maximum Yaw Angle..... -2.4°

### Occupant Risk

Longitudinal OIV..... 0.3 ft/s (0.1 m/s)  
 Lateral OIV..... -4.6 ft/s (-1.4 m/s)  
 Longitudinal RA..... 0.3 g  
 Lateral RA..... 0.2 g  
 THIV..... 4.6 ft/s (1.4 m/s)  
 PHD..... 0.3 g  
 ASI..... 0.19

### Test Article Deflections

Debris Field (longitudinal) .....Not Applicable  
 Debris Field (lateral)..... Not Applicable

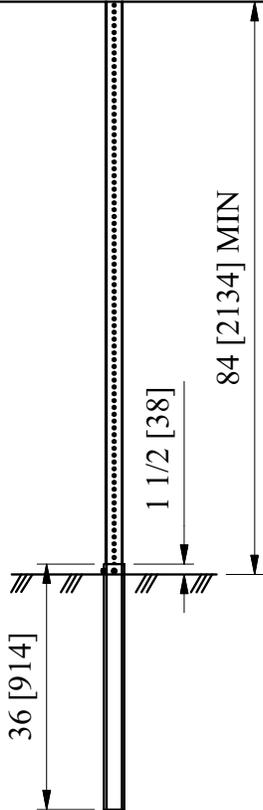
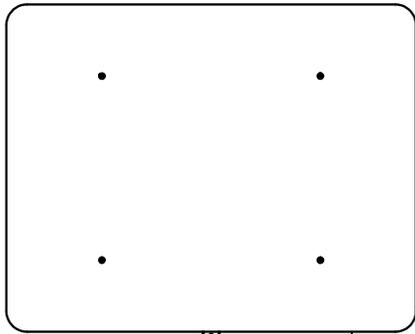
### Vehicle Damage

Vehicle Damage Scale..... 12-FL-1  
 CDC..... 12TRGN7  
 Maximum Deformation..... 0.55 in. (14 mm) at Windshield

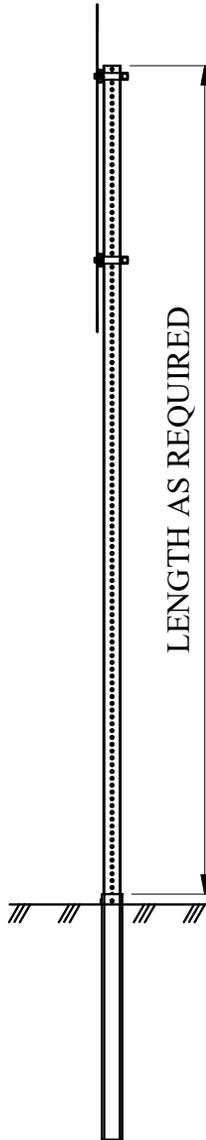
Figure 4 MASH 2016 Test 3-61 Summary (P40155-02, 90° CIA)





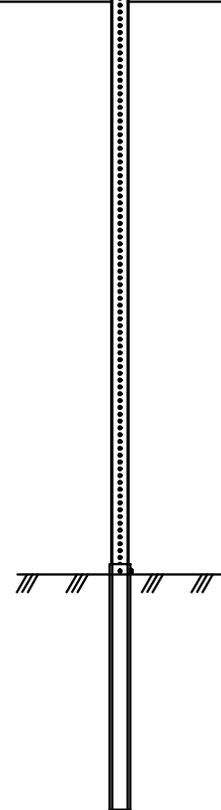
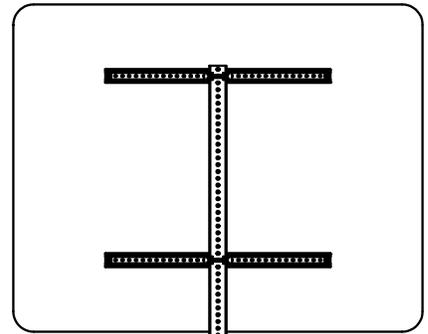


FRONT



LENGTH AS REQUIRED

SIDE



BACK

2023

**SQR-LOC® YIELDING SIGN SUPPORT SYSTEM- SINGLE POST**



**SSFXXa**

SHEET NO.

DATE

1 of 4

2/14/2023

### INTENDED USE

The SQR-LOC® perforated steel tubular sign support system is a single post sign support system. The system utilizes a drivable anchor sleeve in standard soil. The sign support system was successfully crash tested to TL-3 in accordance with MASH 2016 guidelines. This system meets the requirements of the AASHTO *LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 1st Edition, 2015*.

### FEATURES

The SQR-LOC® perforated steel tubular sign support system consists of a 2.50 inch 10 GA perforated square steel tube signpost and a square steel anchor sleeve (sheet 3 of 4). The signpost slides into the anchor sleeve and is secured in place by a 5/16" corner bolt and nut. The drivable anchor sleeve is manufactured from 3 inch square 7 GA steel tubing per ASTM A500 and galvanized per ASTM A123. The material for the pre-coated steel signpost tubing conforms to ASTM A653. The exterior surface is coated with minimum 0.5 mils clear acrylic polymer.

### ELIGIBILITY

The SQR-LOC® single post, perforated steel tubular sign support system has been tested to MASH 2016 Test Level 3 and is eligible for Federal reimbursement by FHWA.

FHWA Eligibility Letter(s): XX-XXX dated \_\_\_\_\_ for MASH 2016 Test Level 3.

### REFERENCES

*Manual for Assessing Safety Hardware (MASH)*, American Association of State Highway and Transportation Officials (AASHTO), 2016.

### CONTACT INFORMATION

15601 Dallas Parkway, Suite 525 Addison, TX 75001  
Telephone: (888) 323-6374  
[www.valtir.com](http://www.valtir.com)

## SQR-LOC® YIELDING SIGN SUPPORT SYSTEM- SINGLE POST

**SSFXXa**

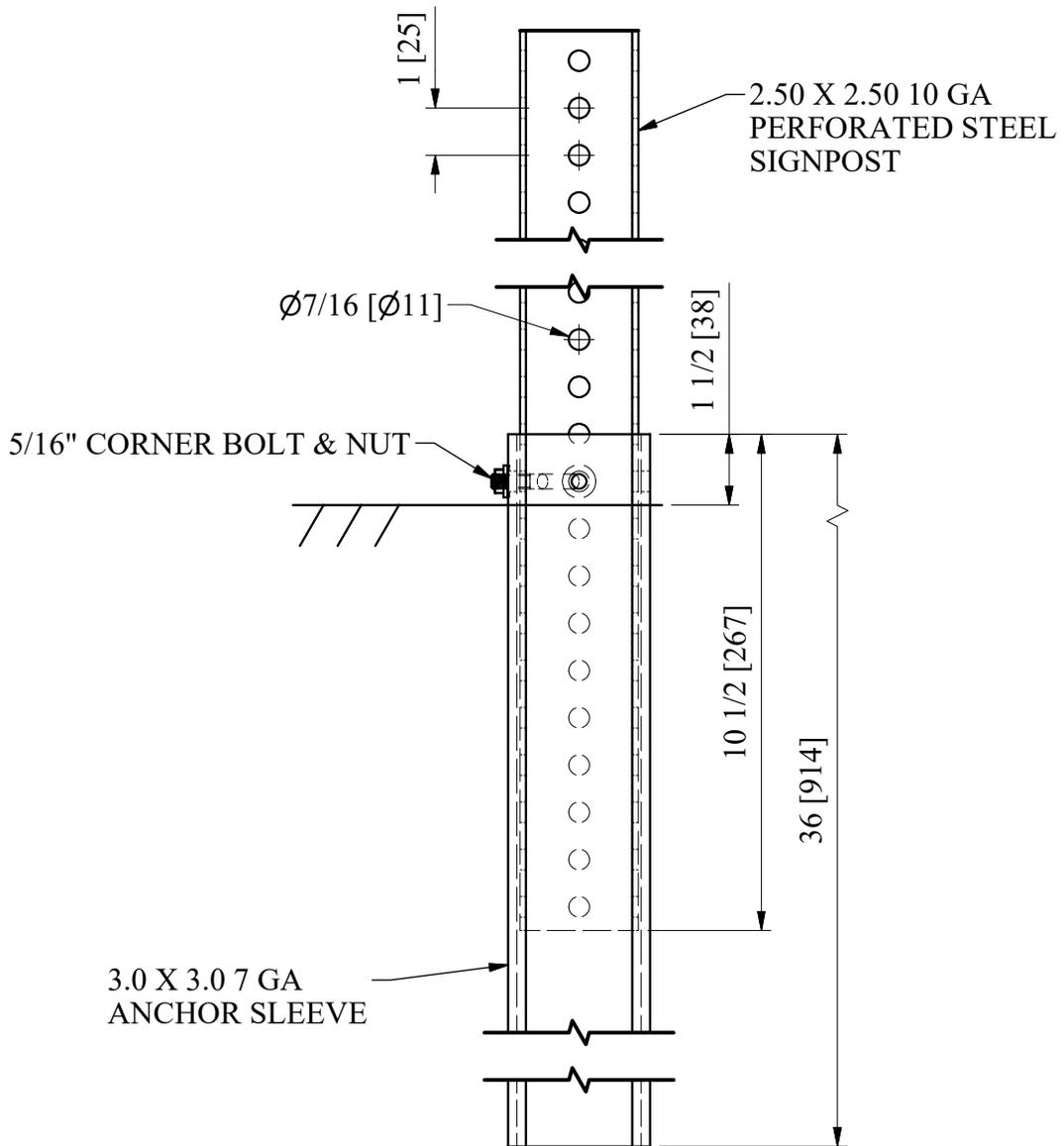
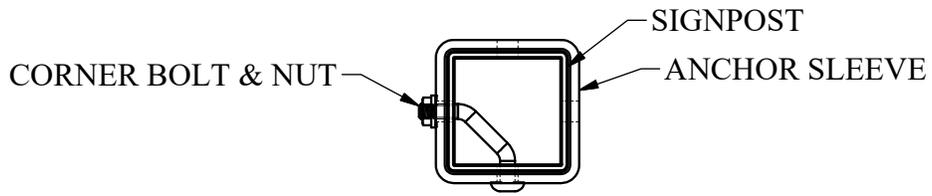
SHEET NO.

DATE

2 of 4

2/14/2023





2023

DETAIL A: SIGNPOST/ANCHOR SLEEVE CONNECTION

**SQR-LOC<sup>®</sup> YIELDING SIGN SUPPORT SYSTEM- SINGLE POST**



**SSFXXa**

SHEET NO.

DATE

3 of 4

2/14/2023

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**SQR-LOC® YIELDING SIGN SUPPORT SYSTEM- SINGLE POST**

**SSFXXa**

SHEET NO.

DATE

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