



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER:
708EC011

PAGE:
1

ADDRESS CORRESPONDENCE TO ATTENTION OF:
**MICHAEL AUSTIN
 304-558-2402**

RFQ COPY

TYPE NAME/ADDRESS HERE

**M.H. CORBIN, INC
 8420 ESTATES COURT
 PLAIN CITY, OH 43064**

**DIVISION OF HIGHWAYS
 EQUIPMENT DIVISION
 ROUTE 33
 BRUSHY FORK ROAD
 BUCKHANNON, WV
 26201 304-472-1750**

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
03/18/2008	NET 30	BEST WAY	DEST	PREPAID

BID OPENING DATE: **04/23/2008** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	EA		550-42	\$ 19,100.00	\$ 19,100.00
<p>ATTENUATOR, TRAILER MOUNTED</p> <p>OPEN END CONTRACT</p> <p>TO PROVIDE TRAILER MOUNTED ATTENUATOR PER THE ATTACHED SPECIFICATIONS.</p> <p>THERE WILL BE A MANDATORY PRE-BID CONFERENCE AT THE STATE CAPITOL COMPLEX, BUILDING 15, 2019 WASHINGTON ST., EAST CHARLESTON, WV 25305 AT 10:00 AM ON 04/10/08 FAILURE TO ATTEND THE PRE-BID WILL RESULT IN BID DISQUALIFICATION.</p> <p>QUESTIONS: WRITTEN QUESTIONS WILL BE ACCEPTED THROUGH CLOSE OF BUSINESS (5:00 PM EST.) ON WEDNESDAY 04/02/08 SEND YOUR QUESTIONS TO: PURCHASING DIVISION ATTENTION: MICHAEL AUSTIN 2019 WASHINGTON STREET EAST CHARLESTON, WV 25305</p> <p>QUESTIONS MAY BE SENT VIA FAX, E-MAIL OR REGULAR MAIL E-MAIL: MICHAEL.D.AUSTIN@WV.GOV FAX: 304-558-4115</p> <p>IT IS THE VENDORS RESPONSIBILITY TO VERIFY THAT THEIR QUESTIONS HAVE BEEN RECEIVED BY CALLING 304-558-2402.</p> <p>EXHIBIT 2</p> <p>LIFE OF CONTRACT: THIS CONTRACT BECOMES EFFECTIVE ON AND EXTENDS FOR A PERIOD OF ONE (1) YEAR OR UNTIL SUCH "REASONABLE TIME" THEREAFTER AS IS</p>						

RECEIVED
 2008 APR 23 A 10:16
 PURCHASING DIVISION
 STATE OF WV

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE: *[Signature]* TELEPHONE: **614-873-5216** DATE: **4-21-08**
 TITLE: **V.P.** FEIN: **31-1192248** ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

**GENERAL TERMS & CONDITIONS
REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)**

1. Awards will be made in the best interest of the State of West Virginia.
2. The State may accept or reject in part, or in whole, any bid.
3. All quotations are governed by the *West Virginia Code* and the *Legislative Rules* of the Purchasing Division.
4. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125.00 registration fee.
5. All services performed or goods delivered under State Purchase Orders/Contracts are to be continued for the term of the Purchase Order/Contract, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods, this Purchase Order/Contract becomes void and of no effect after June 30.
6. Payment may only be made after the delivery and acceptance of goods or services.
7. Interest may be paid for late payment in accordance with the *West Virginia Code*.
8. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.
9. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
10. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
11. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern all rights and duties under the Contract, including without limitation the validity of this Purchase Order/Contract.
12. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
13. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, this Contract may be deemed null and void, and terminated without further order.
14. **HIPAA Business Associate Addendum** - The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, and available online at the Purchasing Division's web site (<http://www.state.wv.us/admin/purchase/vrc/hipaa.htm>) is hereby made part of the agreement. Provided that, the Agency meets the definition of a Covered Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.

INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division.
2. **SPECIFICATIONS:** Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
3. Complete all sections of the quotation form.
4. Unit prices shall prevail in cases of discrepancy.
5. All quotations are considered F.O.B destination unless alternate shipping terms are clearly identified in the quotation.
6. **BID SUBMISSION:** All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications.

SIGNED BID TO:

Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130



8420 Estates Court
Plain City, Ohio 43064
800.380.1718 Toll Free
614.873.8095 Fax

April 22, 2008

Michael D. Austin
West Virginia Division of Purchases
2019 Washington Street East
Charleston, WV 25305

RE: RFQ Number 708EC011

Dear Mr. Austin,

We are please to submit the enclosed bid package for RFQ 708EC011 Trailer Mounted Attenuator. Our bid is for the Energy Absorption SafeStop SST TMA.

The SST TMA is the only unit qualified for this bid that is on the West Virginia Department of Highways Approved List.

The SST TMA meets or exceeds all of the mandatory specifications required in the bid.

Enclosed with this bid you will find the following:

- o SST TMA Product Information Sheet
- o SST TMA Specification
- o SST TMA FHWA Approval Letter
- o SST TMA Training Agenda
- o SST TMA Warranty Letter
- o SST TMA Success Stories from other States

Should you have any questions please feel free to contact me at 800-380-1718.

Regards,
M.H. Corbin, Inc.

A handwritten signature in cursive script, appearing to read "Bill Corbin".

Bill Corbin



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER
708EC011

PAGE
2

ADDRESS CORRESPONDENCE TO ATTENTION OF:
MICHAEL AUSTIN 304-558-2402

VENDOR

*709022004 800-380-1718
 M H CORBIN INC
 8420 ESTATES COURT
 PLAIN CITY OH 43064

SHIP TO

DIVISION OF HIGHWAYS
 EQUIPMENT DIVISION
 ROUTE 33
 BRUSHY FORK ROAD
 BUCKHANNON, WV
 26201 304-472-1750

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
03/18/2008				

BID OPENING DATE: **04/23/2008** **BID OPENING TIME 01:30PM**

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>NECESSARY TO OBTAIN A NEW CONTRACT OR RENEW THE ORIGINAL CONTRACT. THE "REASONABLE TIME" PERIOD SHALL NOT EXCEED TWELVE (12) MONTHS. DURING THIS "REASONABLE TIME" THE VENDOR MAY TERMINATE THIS CONTRACT FOR ANY REASON UPON GIVING THE DIRECTOR OF PURCHASING THIRTY (30) DAYS WRITTEN NOTICE.</p> <p>UNLESS SPECIFIC PROVISIONS ARE STIPULATED IN THIS CONTRACT DOCUMENT, THE TERMS, CONDITIONS, AND PRICING SET HEREIN ARE FIRM FOR THE LIFE OF THE CONTRACT.</p> <p>RENEWAL: THIS CONTRACT MAY BE RENEWED UPON THE MUTUAL WRITTEN CONSENT OF THE SPENDING UNIT AND VENDOR, SUBMITTED TO THE DIRECTOR OF PURCHASING THIRTY (30) DAYS PRIOR TO THE EXPIRATION DATE. SUCH RENEWAL SHALL BE IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THE ORIGINAL CONTRACT AND SHALL BE LIMITED TO TWO (2) ONE (1) YEAR PERIODS.</p> <p>CANCELLATION: THE DIRECTOR OF PURCHASING RESERVES THE RIGHT TO CANCEL THIS CONTRACT IMMEDIATELY UPON WRITTEN NOTICE TO THE VENDOR IF THE COMMODITIES AND/OR SERVICES SUPPLIED ARE OF AN INFERIOR QUALITY OR DO NOT CONFORM WITH THE SPECIFICATIONS OF THE BID AND CONTRACT HEREIN</p> <p>OPEN MARKET CLAUSE: THE DIRECTOR OF PURCHASING MAY AUTHORIZE A SPENDING UNIT TO PURCHASE ON THE OPEN MARKET, WITHOUT THE FILING OF A REQUISITION OR COST ESTIMATE, ITEMS SPECIFIED ON THIS CONTRACT FOR IMMEDIATE DELIVERY IN EMERGENCIES DUE TO UNFORESEEN CAUSES (INCLUDING BUT NOT LIMITED TO DELAYS IN TRANSPORTATION OR AN UNANTICIPATED INCREASE IN THE VOLUME OF WORK).</p> <p>QUANTITIES: QUANTITIES LISTED IN THE REQUISITION ARE APPROXIMATIONS ONLY, BASED ON ESTIMATES SUPPLIES BY THE STATE SPENDING UNIT. IT IS UNDERSTOOD AND AGREED THAT</p>						
SEE REVERSE SIDE FOR TERMS AND CONDITIONS						

SIGNATURE	TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER
708EC011

PAGE
3

ADDRESS CORRESPONDENCE TO ATTENTION OF
**MICHAEL AUSTIN
 304-558-2402**

***709022004 800-380-1718**
M H CORBIN INC
8420 ESTATES COURT
PLAIN CITY OH 43064

DIVISION OF HIGHWAYS
EQUIPMENT DIVISION
ROUTE 33
BRUSHY FORK ROAD
BUCKHANNON, WV
26201 304-472-1750

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
03/18/2008				

BID OPENING DATE: **04/23/2008** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>THE CONTRACT SHALL COVER THE QUANTITIES ACTUALLY ORDERED FOR DELIVERY DURING THE TERM OF CONTRACT, WHETHER MORE OR LESS THAN THE QUANTITIES SHOWN.</p> <p>ORDERING PROCEDURE: SPENDING UNIT(S) SHALL ISSUE A WRITTEN EQUIPMENT CONTRACT ORDER (FORM NUMBER WV-35) FOR COMMODITIES COVERED BY THIS CONTRACT. THE ORIGINAL WV-35 MUST BE SENT TO THE PURCHASING DIVISION OF THE DEPARTMENT OF ADMINISTRATION. AFTER APPROVAL AND ENCUMBRANCE, ONE COPY OF THE PURCHASE ORDER WILL BE RETURNED TO THE SPENDING UNIT AND ONE COPY FORWARDED TO THE VENDOR AS AUTHORIZATION FOR SHIPMENT. NO ORDER IS VALID UNLESS APPROVED AND ENCUMBERED BY THE PURCHASING DIVISION.</p> <p>BANKRUPTCY: IN THE EVENT THE VENDOR/CONTRACTOR FILES FOR BANKRUPTCY PROTECTION, THIS CONTRACT IS AUTOMATICALLY NULL AND VOID, AND IS TERMINATED WITHOUT FURTHER ORDER.</p> <p>REV. 9/98</p> <p>EXHIBIT 6</p> <p>PRICE ADJUSTMENT PROVISION: THE STATE OF WEST VIRGINIA WILL CONSIDER BIDS THAT CONTAIN PROVISIONS FOR PRICE ADJUSTMENTS PRIOR TO THE ORIGINAL EXPIRATION OF THE CONTRACT, PROVIDED THAT SUCH PRICE ADJUSTMENT COVERS BOTH UPWARD AND DOWNWARD MOVEMENT OF THE COMMODITY PRICE, AND THAT ADJUSTMENT IS BASED ON THE "PASS THROUGH" INCREASE OR DECREASE OF RAW MATERIALS AND/OR LABOR, WHICH MAKE UP ALL OR A SUBSTANTIAL PART OF A PRODUCT. ADJUSTMENTS ARE TO BE BASED UPON AN ACTUAL DOLLAR FIGURE, NOT A PERCENTAGE.</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER
708EC011

PAGE
4

ADDRESS CORRESPONDENCE TO ATTENTION OF:
**MICHAEL AUSTIN
 304-558-2402**

***709022004 800-380-1718**
M H CORBIN INC
8420 ESTATES COURT

PLAIN CITY OH 43064

DIVISION OF HIGHWAYS
EQUIPMENT DIVISION
ROUTE 33
BRUSHY FORK ROAD
BUCKHANNON, WV
26201 304-472-1750

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B	FREIGHT TERMS
03/18/2008				

BID OPENING DATE: **04/23/2008** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>ALL PRICE ADJUSTMENT REQUESTS MUST BE SUBSTANTIATED IN A MANNER ACCEPTABLE TO THE DIRECTOR PURCHASING, E.G. GOVERNMENTAL BENCH MARKS, GENERAL MARKET INCREASE, PUBLISHED PRICE LISTS. SUCH REQUESTS FOR AND INCREASE SHOULD BE RECEIVED IN WRITING BY THE DIRECTOR OF PURCHASING AT LEAST 30 DAYS IN ADVANCE OF THE EFFECTIVE DATE OF THE INCREASE. ANY TIME THE VENDOR REQUESTS A PRICE ADJUSTMENT, THE PURCHASING DIVISION MAY EITHER ACCEPT THE PRICE ADJUSTMENT AND AMEND THE CONTRACT ACCORDINGLY OR REJECT THE ADJUSTMENT IN ITS ENTIRETY AND CANCEL THE CONTRACT.</p> <p>EXHIBIT 10</p> <p>REQUISITION NO.: <i>708EC011...</i></p> <p>ADDENDUM ACKNOWLEDGEMENT</p> <p>I HEREBY ACKNOWLEDGE RECEIPT OF THE FOLLOWING CHECKED ADDENDUM(S) AND HAVE MADE THE NECESSARY REVISIONS TO MY PROPOSAL, PLANS AND/OR SPECIFICATION, ETC.</p> <p>ADDENDUM NO.'S:</p> <p>NO. 1</p> <p>NO. 2</p> <p>NO. 3</p> <p>NO. 4</p> <p>NO. 5</p> <p>I UNDERSTAND THAT FAILURE TO CONFIRM THE RECEIPT OF TH</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

R.F.Q. NUMBER
708EC011

PAGE
5

ADDRESS CORRESPONDENCE TO ATTENTION OF
MICHAEL AUSTIN 304-558-2402

VENDOR

*709022004 800-380-1718
 M H CORBIN INC
 8420 ESTATES COURT

 PLAIN CITY OH 43064

SHIP TO

DIVISION OF HIGHWAYS
 EQUIPMENT DIVISION
 ROUTE 33
 BRUSHY FORK ROAD
 BUCKHANNON, WV
 26201 304-472-1750

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
03/18/2008				

BID OPENING DATE: **04/23/2008** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>ADDENDUM(S) MAY BE CAUSE FOR REJECTION OF BIDS.</p> <p>VENDOR MUST CLEARLY UNDERSTAND THAT ANY VERBAL REPRESENTATION MADE OR ASSUMED TO BE MADE DURING ANY ORAL DISCUSSION HELD BETWEEN VENDOR'S REPRESENTATIVES AND ANY STATE PERSONNEL IS NOT BINDING. ONLY THE INFORMATION ISSUED IN WRITING AND ADDED TO THE SPECIFICATIONS BY AN OFFICIAL ADDENDUM IS BINDING.</p> <p style="text-align: center;"> SIGNATURE .. M. H. CORBIN, INC. COMPANY 4-21-08 DATE </p> <p style="text-align: center;">VENDOR PREFERENCE CERTIFICATE</p> <p>CERTIFICATION AND APPLICATION* IS HEREBY MADE FOR PREFERENCE IN ACCORDANCE WITH WEST VIRGINIA CODE, 5A-3-37 (DOES NOT APPLY TO CONSTRUCTION CONTRACTS).</p> <p>A. APPLICATION IS MADE FOR 2.5% PREFERENCE FOR THE REASON CHECKED:</p> <p>() BIDDER IS AN INDIVIDUAL RESIDENT VENDOR AND HAS RESIDED CONTINUOUSLY IN WEST VIRGINIA FOR FOUR (4) YEARS IMMEDIATELY PRECEDING THE DATE OF THIS CERTIFICATION; OR</p> <p>() BIDDER IS A PARTNERSHIP, ASSOCIATION OR CORPORATION RESIDENT VENDOR AND HAS MAINTAINED ITS HEAD-</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER
708EC011

PAGE
6

ADDRESS CORRESPONDENCE TO ATTENTION OF:
MICHAEL AUSTIN
304-558-2402

***709022004** **800-380-1718**
M H CORBIN INC
8420 ESTATES COURT

PLAIN CITY OH 43064

DIVISION OF HIGHWAYS
EQUIPMENT DIVISION
ROUTE 33
BRUSHY FORK ROAD
BUCKHANNON, WV
26201 **304-472-1750**

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
03/18/2008				

BID OPENING DATE: **04/23/2008** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>QUARTERS OR PRINCIPAL PLACE OF BUSINESS CONTINUOUSLY IN WEST VIRGINIA FOR FOUR (4) YEARS IMMEDIATELY PRECEDING THE DATE OF THIS CERTIFICATION; OR 80% OF THE OWNERSHIP INTEREST OF BIDDER IS HELD BY ANOTHER INDIVIDUAL, PARTNERSHIP, ASSOCIATION OR CORPORATION RESIDENT VENDOR WHO HAS MAINTAINED ITS HEADQUARTERS OR PRINCIPAL PLACE OF BUSINESS CONTINUOUSLY IN WEST VIRGINIA FOR FOUR (4) YEARS IMMEDIATELY PRECEDING THE DATE OF THIS CERTIFICATION; OR</p> <p>() BIDDER IS A CORPORATION NONRESIDENT VENDOR WHICH HAS AN AFFILIATE OR SUBSIDIARY WHICH EMPLOYS A MINIMUM OF ONE HUNDRED STATE RESIDENTS AND WHICH HAS MAINTAINED ITS HEADQUARTERS OR PRINCIPAL PLACE OF BUSINESS WITHIN WEST VIRGINIA CONTINUOUSLY FOR THE FOUR (4) YEARS IMMEDIATELY PRECEDING THE DATE OF THIS CERTIFICATION.</p> <p>B. APPLICATION IS MADE FOR 2.5% PREFERENCE FOR THE REASON CHECKED:</p> <p>() BIDDER IS A RESIDENT VENDOR WHO CERTIFIES THAT, DURING THE LIFE OF THE CONTRACT, ON AVERAGE AT LEAST 75% OF THE EMPLOYEES WORKING ON THE PROJECT BEING BID ARE RESIDENTS OF WEST VIRGINIA WHO HAVE RESIDED IN THE STATE CONTINUOUSLY FOR THE TWO YEARS IMMEDIATELY PRECEDING SUBMISSION OF THIS BID;</p> <p>OR</p> <p>() BIDDER IS A NONRESIDENT VENDOR EMPLOYING A MINIMUM OF ONE HUNDRED STATE RESIDENTS OR IS A NONRESIDENT VENDOR WITH AN AFFILIATE OR SUBSIDIARY WHICH MAINTAINS ITS HEADQUARTERS OR PRINCIPAL PLACE OF BUSINESS WITHIN WEST VIRGINIA EMPLOYING A MINIMUM OF ONE HUNDRED STATE RESIDENTS WHO CERTIFIES THAT, DURING THE LIFE OF THE CONTRACT, ON AVERAGE AT LEAST 75% OF THE EMPLOYEES OR BIDDERS' AFFILIATE'S OR</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER
708EC011

PAGE
7

ADDRESS CORRESPONDENCE TO ATTENTION OF
MICHAEL AUSTIN
304-558-2402

VENDOR

*709022004 800-380-1718
M H CORBIN INC
8420 ESTATES COURT

PLAIN CITY OH 43064

SHIP TO

DIVISION OF HIGHWAYS
EQUIPMENT DIVISION
ROUTE 33
BRUSHY FORK ROAD
BUCKHANNON, WV
26201 **304-472-1750**

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
03/18/2008				

BID OPENING DATE: **04/23/2008** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>SUBSIDIARY'S EMPLOYEES ARE RESIDENTS OF WEST VIRGINIA WHO HAVE RESIDED IN THE STATE CONTINUOUSLY FOR THE TWO YEARS IMMEDIATELY PRECEDING SUBMISSION OF THIS BID.</p> <p>BIDDER UNDERSTANDS IF THE SECRETARY OF TAX & REVENUE DETERMINES THAT A BIDDER RECEIVING PREFERENCE HAS FAILED TO CONTINUE TO MEET THE REQUIREMENTS FOR SUCH PREFERENCE, THE SECRETARY MAY ORDER THE DIRECTOR OF PURCHASING TO: (A) RESCIND THE CONTRACT OR PURCHASE ORDER ISSUED; OR (B) ASSESS A PENALTY AGAINST SUCH BIDDER IN AN AMOUNT NOT TO EXCEED 5% OF THE BID AMOUNT AND THAT SUCH PENALTY WILL BE PAID TO THE CONTRACTING AGENCY OR DEDUCTED FROM ANY UNPAID BALANCE ON THE CONTRACT OR PURCHASE ORDER.</p> <p>BY SUBMISSION OF THIS CERTIFICATE, BIDDER AGREES TO DISCLOSE ANY REASONABLY REQUESTED INFORMATION TO THE PURCHASING DIVISION AND AUTHORIZES THE DEPARTMENT OF TAX AND REVENUE TO DISCLOSE TO THE DIRECTOR OF PURCHASING APPROPRIATE INFORMATION VERIFYING THAT BIDDER HAS PAID THE REQUIRED BUSINESS TAXES, PROVIDED THAT SUCH INFORMATION DOES NOT CONTAIN THE AMOUNTS OF TAXES PAID NOR ANY OTHER INFORMATION DEEMED BY THE TAX COMMISSIONER TO BE CONFIDENTIAL.</p> <p>UNDER PENALTY OF LAW FOR FALSE SWEARING (WEST VIRGINIA CODE 61-5-3), BIDDER HEREBY CERTIFIES THAT THIS CERTIFICATE IS TRUE AND ACCURATE IN ALL RESPECTS; AND THAT IF A CONTRACT IS ISSUED TO BIDDER AND IF ANYTHING CONTAINED WITHIN THIS CERTIFICATE CHANGES DURING THE TERM OF THE CONTRACT, BIDDER WILL NOTIFY THE PURCHASING DIVISION IN WRITING IMMEDIATELY.</p> <p style="text-align: right;">BIDDER: <u>M. H. CORBIN, INC</u></p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER
708EC011

PAGE
8

ADDRESS CORRESPONDENCE TO ATTENTION OF
MICHAEL AUSTIN
304-558-2402

RFQ COPY
 TYPE NAME/ADDRESS HERE

DIVISION OF HIGHWAYS
 EQUIPMENT DIVISION
 ROUTE 33
 BRUSHY FORK ROAD
 BUCKHANNON, WV
 26201 304-472-1750

DATE PRINTED	TERMS OF SALE	SHIP VIA	FOB	FREIGHT TERMS
03/18/2008				

BID OPENING DATE: **04/23/2008** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>DATE: <u>4-21-08</u></p> <p>SIGNED: <u><i>Michael Austin</i></u></p> <p>TITLE: <u>V.P.</u></p> <p>* CHECK ANY COMBINATION OF PREFERENCE CONSIDERATION(S) IN EITHER "A" OR "B", OR BOTH "A" AND "B" WHICH YOU ARE ENTITLED TO RECEIVE. YOU MAY REQUEST UP TO THE MAXIMUM 5% PREFERENCE FOR BOTH "A" AND "B". (REV. 12/00)</p> <p>NOTICE</p> <p>A SIGNED BID MUST BE SUBMITTED TO:</p> <p>DEPARTMENT OF ADMINISTRATION PURCHASING DIVISION BUILDING 15 2019 WASHINGTON STREET, EAST CHARLESTON, WV 25305-0130</p> <p>THE BID SHOULD CONTAIN THIS INFORMATION ON THE FACE OF THE ENVELOPE OR THE BID MAY NOT BE CONSIDERED:</p> <p>SEALED BID</p> <p>BUYER: 33</p> <p>RFQ. NO.: 708EC011</p> <p>BID OPENING DATE: 04/23/2008</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER
708EC011

PAGE
9

ADDRESS CORRESPONDENCE TO ATTENTION OF:
**MICHAEL AUSTIN
 304-558-2402**

RFQ COPY
 TYPE NAME/ADDRESS HERE

VENDOR

SUPPLIER

DIVISION OF HIGHWAYS
 EQUIPMENT DIVISION
 ROUTE 33
 BRUSHY FORK ROAD
 BUCKHANNON, WV
 26201 304-472-1750

DATE PRINTED	TERMS OF SALE	SHIP VIA	FOB	FREIGHT TERMS
03/18/2008				

BID OPENING DATE: **04/23/2008** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
BID OPENING TIME:				1:30 PM		
PLEASE PROVIDE A FAX NUMBER IN CASE IT IS NECESSARY TO CONTACT YOU REGARDING YOUR BID:						
				614-873-8095		
CONTACT PERSON (PLEASE PRINT CLEARLY):						
				BILL CORBIN		
***** THIS IS THE END OF RFQ 708EC011 ***** TOTAL:						<u>\$ 19,100.00</u>

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
TITLE	FAX	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
EQUIPMENT DIVISION

PROCUREMENT SPECIFICATIONS
NO. 937-1-A

OPEN END CONTRACT
ATTENUATOR, TRAILER MOUNTED

1.0 PURPOSE

It is the purpose of these specifications to describe a Trailer Mounted Attenuator System for mobile work zone shadow vehicles and stationary work zone barrier vehicles (hereinafter referred to as a "attenuator", "TMA", or a "unit") to be purchased for use by the West Virginia Division of Highways (DOH) on an open end contract basis.

The System must provide impact protection during collisions into the rear of a truck in work zone operations. The System design will dissipate the collision energy of standard passenger vehicles traveling at speeds up to 100Km/h (62 MPH).

Trailer mounted attenuator must provide the following when properly deployed:

- 1. Reduce impact severity for occupants of the barrier or shadow vehicle**
- 2. Reduce or eliminate damage to barrier or shadow vehicle**
- 3. Reduce incident management time**
- 4. Increase survival rate for the occupants of impacting vehicles**
- 5. Lower injury rate of the occupants of impacting vehicles**

2.0 BIDDING PROCEDURES

The current purchasing procedures regarding bidding as established by the Department of Administration, Purchasing Division, shall apply. Failure to submit the " Request for Quotation" forms, complete in its entirety and according to directions indicated, may subject the bidder to disqualification. **Each bid submitted shall also be accompanied by a Bidder's Evaluation Report completed in detail.** Addendums in order, along with exception sheets, should be with Bidder's Evaluation Report. **FAILURE TO SUBMIT THE BIDDER'S EVALUATION REPORT, COMPLETE IN ITS ENTIRETY, MAY RESULT IN AUTOMATIC DISQUALIFICATION.**

3.0 SPECIFICATIONS

The specifications named herein, mandatory and non-mandatory, establish the acceptable level of quality only and are not intended to reflect a preference or favor any particular brand or vendor.

3.1 EXCEPTIONS TO NON-MANDATORY SPECIFICATIONS

Exception to a non-mandatory unit specification may be made by the bidder, providing the exception is not available from the manufacturer. **Any such exception must be noted on the bidder's evaluation report and should be accompanied by supporting documentation/literature from the manufacturer. Any exception must be indicated on a separate attachment to the bidder's evaluation report and labeled as "Exception to Specifications".** The state reserves the right to determine whether the stated exception does or does not reduce the quality and performance of the unit. Failure to provide information for any exceptions may be grounds for rejection of the bid. The state reserves the right to waive minor irregularities in bids or specifications in accordance with §148-1-4(f) of the WV Legislative Rules and Regulations.

3.2 MANDATORY SPECIFICATIONS

All specifications preceded by "shall, will, and/or must" or are stated as a "minimum and/or maximum" are mandatory as stated in Purchasing Divisions Policies and Procedures. Any bid failing to meet any mandatory item shall be immediately disqualified. Failure to respond in the appropriate evaluation section may also be grounds for immediate disqualification at the discretion of the State.

A mandatory pre-bid conference is scheduled for this equipment purchase as stated in the RFQ. Vendors having products with variations or exceptions in specified mandatory items are expected to address any such variations or exceptions during the pre-bid conference. **The State shall review and consider any such variation or exception, and may at its sole discretion, issue an addendum to change mandatory specifications deemed to be in the State's best interest. Bids from any vendor failing to attend the mandatory pre-bid shall be disqualified. Bids containing any variation or exception to a mandatory specification that was not addressed during the pre-bid conference and accepted by the issuance of an Addendum shall be disqualified.**

4.0 REPRESENTATIVE UNIT FOR TEST

The successful vendor must (if specified) provide DOH one (1) completed representative unit to be observed and evaluated on each order to insure compliance with specification. If requested, the time period for testing and evaluation shall be seven (7) working days following receipt of the unit. DOH will incur no obligation for deterioration of surfaces, finishes, seals, and mechanical or electrical parts on the unit resulting from operation and testing within the limits of these specifications; nor will DOH incur obligation for damage to the unit resulting from failure to meet specifications when due care and attention is given by DOH and testing is done within the limits of these specifications. **Failure of the pilot unit to satisfactorily meet specifications as bid shall be cause for cancellation of the purchase order, and return of the delivered unit along with all associated equipment to the vendor at the vendor's expense.**

4.1 CONDITION OF UNIT(S) UPON DELIVERY

All units must arrive at the prescribed delivery point having been completely preserviced with oil, lubricants, and coolant. All prescribed precautions pertaining to first operations and break-in of the unit are to be posted conspicuously on the unit for ready observance by the operator.

4.2 DELIVERY

Delivery point of the completely assembled representative unit will be the DOH, Equipment Division, Route 33 at Brushy Fork Road, Buckhannon, West Virginia (26201).

The vendor is responsible for guaranteeing delivery of the completed units within the time specified and agreed to by the State. Delivery is preferred within 60 days after receipt of purchase agreement. The vendor is responsible for establishing and coordinating delivery terms with allied manufacturers or suppliers. **Delivery terms shall be stated in the bid and the State reserves the right to accept or negotiate such terms.** Failure to reach an agreement may result in rejection of the bid. **The successful bidder shall provide their manufacturer's confirmation of the order to the WVDOH contact person within seven (7) working days after receiving the approved purchase order.**

A completed pilot model for inspection must be provided within 30 calendar days after receipt of the purchase agreement by the successful vendor.

Delivery is an integral part of this specification and failure to comply will be cause to initiate a D.O.T. Administrative Form WV-82, Vendor Performance Form. The WV-82 Form will provide a means of officially notifying the Purchasing Division and the vendor of unsatisfactory performance; such as late deliveries, poor service, inadequate parts supplies, etc.

The decision to initiate subject Form will be at the sole discretion of the D.O.H. Commissioner's established Equipment Review Board.

Issuance of the WV-82 Vendor Complaint Form on unsatisfactory delivery against any vendor will be cause to refuse to consider similar items from those vendors on future Request For Quotations.

(NOTE: Delivery time could be altered due to labor strikes, severe inclement weather conditions, etc.)

5.0 AWARD CRITERIA

5.1 **DOH will recommend the award in accordance with the RFQ evaluation criteria described in the requisition. The award shall be made to the lowest unit cost vendor that meets or exceeds the specifications.**

Prices for the units shall be in quantities of 1-5, 6-10 and 11 and over. However, for evaluation purposes, we will use quantities 1-5. DOH reserves the right to place multiple orders in any quantity.

6.0 SPECIFICATIONS AND GUIDELINES - GENERAL

6.1 IDENTIFICATION OF THE UNIT BEING PROPOSED

The bidder must identify the unit by manufacturer, model, series, and year of manufacture, in the bid to enable identification by DOH in the manufacturer's specifications of the proposed unit. The bidder will submit complete descriptive literature of the proposed unit, to establish that the bid is the manufacturer's most

current model, including latest engineering improvements, which have been, or will imminently be, regularly advertised and sold on the open market. The unit specified herein and offered to be manufactured after January 1, 2008 and be clearly identified and marked with date of manufacture.

6.2 OPERATING AND SERVICE MANUALS AND PARTS LISTS

An operator's manual must be included with each unit upon delivery. A "line sheet" (if applicable) and Equipment Preventative Maintenance Questionnaire (as shown in X6.2 of the Bidder's Evaluation Report) must be with pilot unit upon delivery. In addition, there must be 12 service, shop, or maintenance manuals; ten (10) to be distributed to the Districts and two (2) for the Equipment Division. Also, there must be 14 parts manuals; ten (10) to be distributed to the Districts and four (4) for Equipment Division use. CD ROM is preferred in lieu of parts manuals.

* NOTE: MANUALS SHALL BE DELIVERED UPON COMPLETION OF DELIVERY OF TOTAL UNITS. FAILURE TO DO SO WILL DELAY PAYMENT.

6.3 TRAINING:

Manufacturers and/or dealers will be required to stage a thorough seminar on the subjects of Preventative Maintenance, Operator and Mechanic Training. In order to keep the operators and mechanics updated, the successful vendor shall conduct training with each purchase order against this open end contract. Training is preferred within 2 working days after delivery of the pilot unit on the individual purchase order.

Manufacturers and/or dealers shall be required to furnish the Training Academy with one (1) Operator's Manual to be shipped direct to WVDOH Training Academy, Post Office Box 610, Buckhannon, West Virginia 26201 prior to delivery of the pilot.

The seminar to be held at the W. Va. Division of Highways, Equipment Division, Buckhannon, West Virginia.

6.4 PREVENTIVE MAINTENANCE AND OPERATOR PROCEDURES:

Manufacturers and/or dealers will be required to submit to the Equipment Division, in addition to the operating and service manuals, booklets and pamphlets explaining the Preventive Maintenance and Operator Procedures to be used by the operators of this equipment, and must include such things as daily prestart inspection procedure, service schedule, and routine maintenance required, safety precautions, etc.

The successful vendor shall furnish all training aids; i.e., videos, projectors, etc. required in conducting the training.

6.5 WARRANTY AND SERVICE POLICY

The Manufacturers warranty or service policy is to apply to the unit. Such warranty or service policy is to be recognized at any authorized unit dealer, representing manufacturer of proposed unit throughout the State of West Virginia. **The applicable warranty or service policy will not be contingent upon obtaining routine service, lubrication, and servicing of the unit from factory authorized agencies. It will be the**

responsibility of the bidder to have available labor to repair or replace any defective replacement parts, components and materials, and to have available those replacement parts, components, and/or materials found to be defective during the terms of the warranty period. The bidder should state the labor rates, locations where parts will be stocked, availability of parts, and discounts offered for parts, when terms of the warranty offer a pro-rated cost for parts and labor. In addition, the successful bidder should offer field work to repair or replace defective parts, components, and materials found to be defective during the terms of the warranty and should provide mechanic's travel rates, mileage charges, field mechanic rates, and any surcharge for miscellaneous items, if applicable, for field work during the warranty period. Submit to Division of Highways any technical or engineering improvements during the term of the warranty. **The unit must be accompanied upon delivery by the unit's manufacturer's executed warranty or service policy.**

A mandatory minimum two (2) year bumper to bumper basic parts and labor warranty is required for this unit.

THE "WARRANTY AND SERVICE POLICY QUESTIONNAIRE" ATTACHED IN THE BIDDER'S EVALUATION REPORT MUST BE COMPLETED IN ITS ENTIRETY BY THE SUCCESSFUL BIDDER OR MANUFACTURER PRIOR TO DELIVERY OF THE PILOT MODEL. (SEE SECTION X6.5 OF BIDDER'S EVALUATION REPORT).

6.6 EVALUATION COMMITTEE REQUIREMENTS

Detailed component specifications, product literature, component models, required for specification compliance determination by the Evaluation Committee should be provided with each bid. Any information supplied that is contrary to/or conflicting with the specifications and/or attached Bidders Evaluation Report may be sufficient cause for rejection of bid.

6.7 UNSPECIFIED ACCESSORIES & FEATURES

All parts, equipment, accessories, material, design and performance characteristics not specified herein, but which are necessary to provide a complete unit, must be furnished with each unit and required to conform to strength, quality of material, and quality of workmanship to those which are advertised and provided to the market in general by the unit industry.

All parts and accessories advertised and regularly supplied as standard shall be included, except those which would represent duplication of these specified, and except those which, by specification, are not to be furnished. All standard safety features, required by Federal and State Law, shall be included.

7.0 SPECIFICATIONS OF THE QUOTED UNIT ARE AS FOLLOWS:

The Trailer Mounted Attenuator must provide the impact protection and deployment as detailed in Section 1.0 – Purpose.

7.1 **Attenuator must meet NCHRP (National Cooperative Highway Research Program) Report 350, Test Level 3 (TL-3) criteria.**

7.2 **The attenuator coupled to the truck shall have a maximum skid distance of 25 feet when impacted at NCHRP Report 350, TL-3 Test 3-51 impact conditions. (Dependent on the truck weight, transmission in 2nd gear, and park brake set on clean dry pavement.)**

7.3 **Attenuator to be designed to be used with any weight vehicle over 4500 Kg (9,920 lbs.)**

7.4 **The attenuator shall be designed to make attachment or detachment from the truck simple and fast.**

7.5 **Attenuator frame must be capable of collapsing when impacted.**

7.6 **No portion of the TMA shall protrude under the truck damaging its vital elements during an impact.**

7.7 **TMA will not impede the line of site of an arrow board or message board mounted on the truck**

7.8 **Major Components:**

7.8.1 **The trailer TMA shall consist of the following components:**

7.8.1.1 **Trailer frame assembly or support structure with articulating arms**

7.8.1.2 **Two (2) bursting tubes or safe-stop 180/SST Type A and Type B cartridges**

7.8.1.3 **Axle assembly with axle push tubes (if required), wheels, and tires**

7.8.1.4 **Suspension or torsion axle**

7.8.1.5 **Impact head or frame**

7.8.1.6 **Intermediate frame (if required)**

7.8.1.7 **Hitch assembly (lunette ring/pintle hook) design**

7.8.1.8 **Two (2) tube bursting mandrels (if required)**

7.9 **Lights and visibility:**

7.9.1 **Lighting assembly shall conform to FMVSS No. 108 “Lamps, Reflective Devices, and Associated Equipment”**

- 7.9.2 **Lights to include but not limited to shall be**
 - 7.9.2.1 **Brake lights**
 - 7.9.2.2 **Taillights**
 - 7.9.2.3 **Turn signals**
 - 7.9.2.4 **ICC bar lights**
- 7.9.3 **A standard single, seven (7) pin connector shall make the connection for all lights**
- 7.9.4 **Conspicuity tape and reflectors will be installed following the same standards as the lighting**
- 7.10 **Jack**
 - 7.10.1 **One (1) hand crank with swivel caster shall be supplied to facilitate removal from prime mover for storage**
- 7.11 **Corrosion Protection**
 - 7.11.1 **All components of the energy dissipation system shall be hot dip galvanized or powder coated to prevent corrosion**
- 7.12 **Product Approval**
 - 7.12.1 **Trailer mounted attenuator must have passed the following test and have attached letter of approvals**
 - 7.12.1.1 **NCHRP – Report 350, Test Level 3**
 - 7.12.1.2 **Tests 3-50, 3-51, 3-52, and 3-53**
 - 7.12.1.3 **Unit should also be on the West Virginia approval to use list (If not, manufacturer shall contact Ted Whitmore (Traffic Engineering Division) Charleston, West Virginia (304-558-9468))**
- 7.13 **Dimensions and Weights**
 - 7.13.1 **Height from ground: Minimum 31 inches – Maximum 45 inches**
 - 7.13.2 **Width (at impact head or face): Minimum 93 inches – Maximum 96 inches**
 - 7.13.3 **Length: Minimum 19 feet 3 inches – Maximum 23 feet 6 inches**
 - 7.13.4 **Weight (without optional equipment): Minimum 1400 lbs. – Maximum 2650 lbs.**

- 7.14 Advertising: No visible decals or nameplates or painted on names representing the manufacturer or model number or trademark should appear on the exterior surfaces of the unit. Such logos created through the stamping or casing process of manufacture are accepted.
- 7.15 **All other features considered as standard equipment but not specifically addressed above shall be provided.**
- 7.16 Preventive Maintenance and Operators Training School:

Manufacturers and/or dealers will be required to stage a thorough seminar on each order on the subjects Preventive Maintenance and Operator Training. The seminar should be held at the Equipment Division.

In addition to the operating and service manuals, booklets and pamphlets explaining the Preventive Maintenance and Operator Training procedures to be used by the operators of this equipment are also required. **Must include such things as daily prestart inspection procedure, service schedule and routing maintenance required, safety precautions, etc.**

Bidder to attach a copy of the proposed program with his bid, state the time required to perform the program, and briefly describe his program.

The successful vendor to furnish all training aids; i.e. videos, projectors, etc., required in conducting the training.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
EQUIPMENT DIVISION

18

BIDDER'S EVALUATION REPORT

PROCUREMENT SPECIFICATIONS FOR OPEN END CONTRACT
NO. 937-1-A

ATTENUATOR, TRAILER MOUNTED

NOTE TO BIDDER: Procurement Specification No. 937-1-A, Paragraph 2.0 recommends the completion and submittal of this Report with your bid. Purpose of this Report is to enable the West Virginia Division of Highways Evaluation Committee to make full and fair evaluation of the bid. Addendums in order, along with a summary of exception as a separate attachment, should be with Bidder's Evaluation Report. FAILURE TO SUBMIT THIS REPORT, COMPLETE IN ITS ENTIRETY, MAY SUBJECT THE BIDDER TO DISQUALIFICATION.

Reference Requisition No.: 708 ECOLL

Bidder's Name: M. H. CORBIN, INC

Address: 8420 ESTATES COURT PLAIN CITY, OH 43064

Telephone Number: (614) 873-5216

Years Bidder has been registered to do business with the State of West Virginia: 20 YRS.

Years Company has been an authorized dealer for proposed unit: 3 YRS.

X3.2 Have you complied with all mandatory specifications? YES NO

X4.2 DELIVERY:

X4.2.1 Delivery date of completed representative unit: 21 Calendar Days After
Receipt of Purchase Agreement

X4.2.2 Delivery date of balance of completed units: 25 Calendar Days After Receipt of
Purchase Agreement

X5.0 AWARD CRITERIA;

X5.1 Prices for unit in quantities of

1-5	<u>\$19,100.00</u>	per unit
6-10	<u>\$19,050.00</u>	per unit
11 and over	<u>\$18,900.00</u>	per unit

X6.0 SPECIFICATIONS - GENERAL

X6.1 Manufacturer, model, series, and date of manufacture of proposed unit:

ENERGY ABSORPTION SST-TMA MAY '08

Is descriptive literature, fully describing proposed unit attached to your bid? YES NO

If not, why? _____

X6.2 Will the required number of service manuals, and complete parts list be delivered to the Equipment Division at Buckhannon upon completion of delivery of total units?

YES NO

Will the required Equipment Preventive Maintenance Form (Section X6.2 of Bidders Evaluation Report) be provided upon inspection of the pilot unit? YES NO

X6.2
2-10-00

EQUIPMENT PREVENTATIVE MAINTENANCE QUESTIONNAIRE

THIS FORM MUST BE COMPLETED IN ITS ENTIRETY BY SUCCESSFUL BIDDER OR MANUFACTURER'S TECHNICAL REPRESENTATIVE PRIOR TO DELIVERY OF PILOT MODEL TO THE WVDOH.

DESCRIPTION: _____ MAKE: _____

MODEL: _____ YEAR: _____ PURCHASE AMOUNT: _____

ENGINE: MAKE: _____ MODEL: _____ FUEL TYPE: _____

HORSEPOWER: _____ CYLINDER: _____ ENGINE SERIAL: _____

COOLING SYSTEM CAPACITY: _____

BELTS: DESCRIPTION: _____ PART NUMBERS: _____

GVW: _____ AXLE CAPACITY: FRONT: _____ REAR: _____

TIRES: FRONT MAKE & SIZE: _____

REAR MAKE & SIZE: _____

DIMENSIONS OF UNIT: LENGTH: _____ WIDTH: _____ LENGTH: _____

VENDOR CONTACT PERSON: _____ PHONE: _____

PARTS:

BATTERY MAKE: _____ MODEL: _____ CCA: _____

TOP OR SIDE POST: _____ DIMENSIONS: LENGTH _____ WIDTH _____ HEIGHT _____

SPARK PLUGS OR FUEL INJECTORS MAKE: _____ PART # _____

FUEL PUMP OR INJECTION PUMP MAKE: _____ MODEL: _____

ALTERNATOR MAKE: _____ PART #: _____

STARTER MAKE: _____ PART #: _____

TURBO CHARGER MAKE: _____ PART #: _____

TRANS. MAKE: _____ MODEL: _____ AUTO/MANUAL: _____

HYDRAULIC PUMP MAKE: _____ MODEL: _____

FILTERS MAKE PART NO. LUBRICANT MANUFACTURER TYPE

OIL _____

AIR INNER _____

AIR OUTER _____

FUEL PRIMARY _____

FUEL SECONDARY _____

COOLANT _____

HYDRAULIC _____

OTHER _____

ENGINE _____

TRANSMISSION _____

POWER STEERING _____

HYDRAULIC _____

DIFFERENTIALS _____

BRAKE FLUID _____

COOLANT _____

OTHER _____

X6.3 TRAINING:

Will training seminar be conducted on Preventive Maintenance, Operator and Mechanic Training
 YES NO

Will you conduct training with each purchase order against this open end contract?
 YES NO

Will training be conducted within 2 working days from the delivery of the pilot unit on the individual purchase order?
 YES NO

If NO, explain time frame _____

Will an Operator's Manual be furnished directly to Training Academy prior to the delivery of the pilot?
 YES NO

X6.4 If you are the successful vendor, will you furnish all training aids, i.e., videos, projectors, required in conducting the training?
 YES NO

X6.4.1 Will all manuals, booklets, etc. explaining preventive maintenance, operator procedures, and service schedule be delivered with each unit?
 YES NO
If NO, explain _____

X6.5 WARRANTY AND SERVICE POLICY

Will the warranty and service you provide comply with all areas as stated in Section 6.5 of specifications
 YES NO

Is warranty literature attached?
 YES NO

Is a minimum two (2) year bumper to bumper basic parts and labor warranty included?
 YES NO

Describe:

SEE ATTACHED LETTER

X6.5 WARRANTY AND SERVICE POLICY QUESTIONNAIRE

THIS FORM MUST BE COMPLETED IN ITS ENTIRETY AND SUBMITTED WITH YOUR BID.
(If additional lines are needed, make copies of form.)

1. Define the terms of the standard warranty. If not offered, so state. (Attach copy)

REPAIR OR REPLACE OF ANY DEFECTIVE PART FOR A PERIOD OF 2 YEARS

2. Define warranty service to be performed at DOH facilities and warranty service to be performed at manufacturer's representative facility. List name and location of manufacturer's representative.

ALL WARRANTY SERVICE TO BE PROVIDED AT DOH FACILITY.

M.H. CORBIN, INC - PLAIN CITY, OH 43064

3. List locations for parts inventories that are within the State of West Virginia. Also, list availability levels, if known.

NO LOCATIONS WITHIN WV.

SUITABLE INVENTORY LEVELS ARE STOCKED IN PLAIN CITY, OH.

4. During the term of warranty, list the guarantee discount to manufacturer's published list price for parts that bidder will sell the parts to owner.

- | | | | | |
|----|---------------|---|----------|------------|
| A. | Terms: Net 30 | Manufacturer's published list price less: | <u>0</u> | % discount |
| B. | Terms: Net 60 | Manufacturer's published list price less: | <u>0</u> | % discount |
| C. | Terms: Net 90 | Manufacturer's published list price less: | <u>0</u> | % discount |

5. During the term of warranty, will all manufacturers or engineering improvements be submitted to Division of Highways? X YES NO

6. During the term of warranty, list the guaranteed rates charged for repair to the unit.

- | | | |
|----|---|---|
| A. | Shop Rate | \$ <u>20.00</u> per mechanic hour |
| B. | Travel Time Charge
(Specify if one-way) | \$ <u>20.00</u> per mechanic hour
<u> / </u> ; port to port <u> / </u> |
| C. | Mileage Charge
(Specify if one-way) | \$ <u>0.60</u> per vehicle mile
<u> / </u> ; port to port <u> / </u> |
| D. | Field Mechanic Rate | \$ <u>50.00</u> per mechanic hour |
| E. | Specify period of time that prices are in effect: | <u> 2 YEARS </u> |
| F. | Surcharge for miscellaneous items: | <u> 10 </u> % |

X6.6 EVALUATION COMMITTEE REQUIREMENTS

Is all component specifications, product literature, component models provided for Evaluation Committee bid determination? YES NO

X6.7 Will all parts, equipment, accessories, material, design and performance characteristics not specified herein, but which are necessary to provide a complete unit, be furnished with the unit and conform in strength, quality of material, and quality of workmanship to those which are advertised and provided to the market in general by the unit industry? YES NO

X6.7.1 Are all parts and accessories adequate and regularly supplied as standard to be included except those which may be duplications of specifications herein, and except these by specification are not to be furnished? YES NO

X6.7.2 Are all standard safety features that are required by Federal and State statutes of law included? YES NO

X7.0 SPECIFICATIONS OF THE QUOTED UNIT

The bidder should complete the following schedule in order for the Division to compare the actual bid unit to the specifications. Should the bidder except a requirement, then such exception may be only on the basis that such feature is not offered by the manufacturer. The Division will have the sole discretion as to whether the bidder's substitution meets the requirements of the specifications.

Does the trailer mounted attenuator provide the impact protection and deployment as detailed in Section 1.0 - Purpose YES NO

Manufacturer: ENERGY ABSORPTION Model: SST TNA

X7.1 Does the attenuator meet NCHRP (National Cooperative Highway Research Program) Report 350, Test Level 3 (TL-3) criteria YES NO

X7.2 The attenuator coupled to the truck has a skid distance of 25^{*} feet when impacted at NCHRP Report 350, TL-3 Test 3-51 impact conditions YES NO
* ALL ROLL AHEAD VALUES ARE CALCULATED

X7.3 Is the attenuator designed to be used with any weight vehicle over 4500 Kg (9,920 lbs.) YES NO

X7.4 Is the attenuator designed to make attachment or detachment from the truck simple and fast YES NO

X7.5 Is the attenuator frame capable of collapsing when impacted YES NO

X7.6 Does any portion of the TMA protrude under the truck damaging its vital elements during an impact 24
 YES NO

X7.7 Does the TMA impede the line of site of an arrow board or message board mounted on the truck
 YES NO

X7.8 Major Components:

X7.8.1 Does the trailer TMA consist of the following components:

X7.8.1.1 Trailer frame assembly or support structure with articulating arms
 YES NO

X7.8.1.2 Two (2) bursting tubes or safe-stop 180/SST Type A and Type B cartridges
 YES NO

X7.8.1.3 Is axle assembly with axle push tubes required
Axle assembly with axle push tubes, wheels, and tires
 YES NO
 YES NO

X7.8.1.4 Suspension or torsion axle
 YES NO

X7.8.1.5 Impact head or frame
 YES NO

X7.8.1.6 Intermediate frame
Is it required YES NO

X7.8.1.7 Hitch assembly (lunette ring/pintle hook) design
 YES NO

X7.8.1.8 Two (2) tube bursting mandrels
Are they required YES NO

X7.9 Lights and visibility:

X7.9.1 Does lighting assembly conform to FMVSS No. 108 "Lamps, Reflective Devices, and Associated Equipment"
 YES NO

X7.9.2 Do the lights include:

X7.9.2.1 Brake lights YES NO

X7.9.2.2 Taillights YES NO

X7.9.2.3 Turn signals YES NO

X7.9.2.4 ICC bar lights YES NO

X7.9.3 Does a standard single, seven (7) pin connector make the connection for all lights
 YES NO

X7.9.4 Will conspicuity tape and reflectors be installed following the same standards as the lighting
 YES NO

X7.10 Jack:

X7.10.1 Will one (1) hand crank with swivel caster be supplied to facilitate removal from prime mover for storage YES NO

X7.11 Corrosion Protection:

X7.11.1 Are all components of the energy dissipation system hot dip galvanized or powder coated to prevent corrosion YES NO

X7.12 Product Approval:

X7.12.1 Does the trailer mounted attenuator pass the following test and have attached letter of approvals YES NO

X7.12.1.1 NCHRP – Report 350, Test Level 3 YES NO

X7.12.1.2 Tests 3-50, 3-51, 3-52, and 3-53 YES NO

X7.12.1.3 Is the unit on the West Virginia approval to use list YES NO

If not have you contacted Traffic Engineering Division YES NO

X7.13 Dimensions and Weights:

X7.13.1 Height from ground: 45 inches

X7.13.2 Width (at impact head or face): 93 inches

X7.13.3 Length: 19 feet 3 inches

X7.13.4 Weight (without optional equipment): 2650 lbs.

X7.14 Does unit conform to advertising guidelines YES NO

X7.15 All other features considered as standard but not addressed:

X7.16 Preventive Maintenance and Operators Training School:

X7.16.1 Have you attached a copy of proposed training program along with schedule of course. Will you furnish all training aids? YES NO

STATE OF WEST VIRGINIA
Purchasing Division**PURCHASING AFFIDAVIT**

West Virginia Code §5A-3-10a states: No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owed is an amount greater than one thousand dollars in the aggregate

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Debtor" means any individual, corporation, partnership, association, limited liability company or any other form or business association owing a debt to the state or any of its political subdivisions. "Political subdivision" means any county commission; municipality; county board of education; any instrumentality established by a county or municipality; any separate corporation or instrumentality established by one or more counties or municipalities, as permitted by law; or any public body charged by law with the performance of a government function or whose jurisdiction is coextensive with one or more counties or municipalities. "Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

EXCEPTION: The prohibition of this section does not apply where a vendor has contested any tax administered pursuant to chapter eleven of this code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

LICENSING: Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agencies or political subdivision. Furthermore, the vendor must provide all necessary releases to obtain information to enable the Director or spending unit to verify that the vendor is licensed and in good standing with the above entities.

CONFIDENTIALITY: The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures and rules. Vendors should visit www.state.wv.us/admin/purchase/privacy for the Notice of Agency Confidentiality Policies.

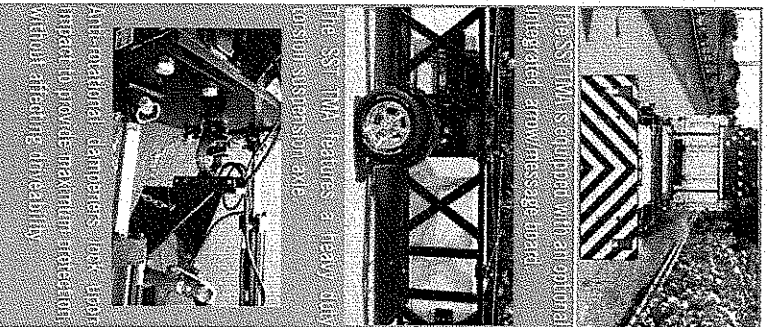
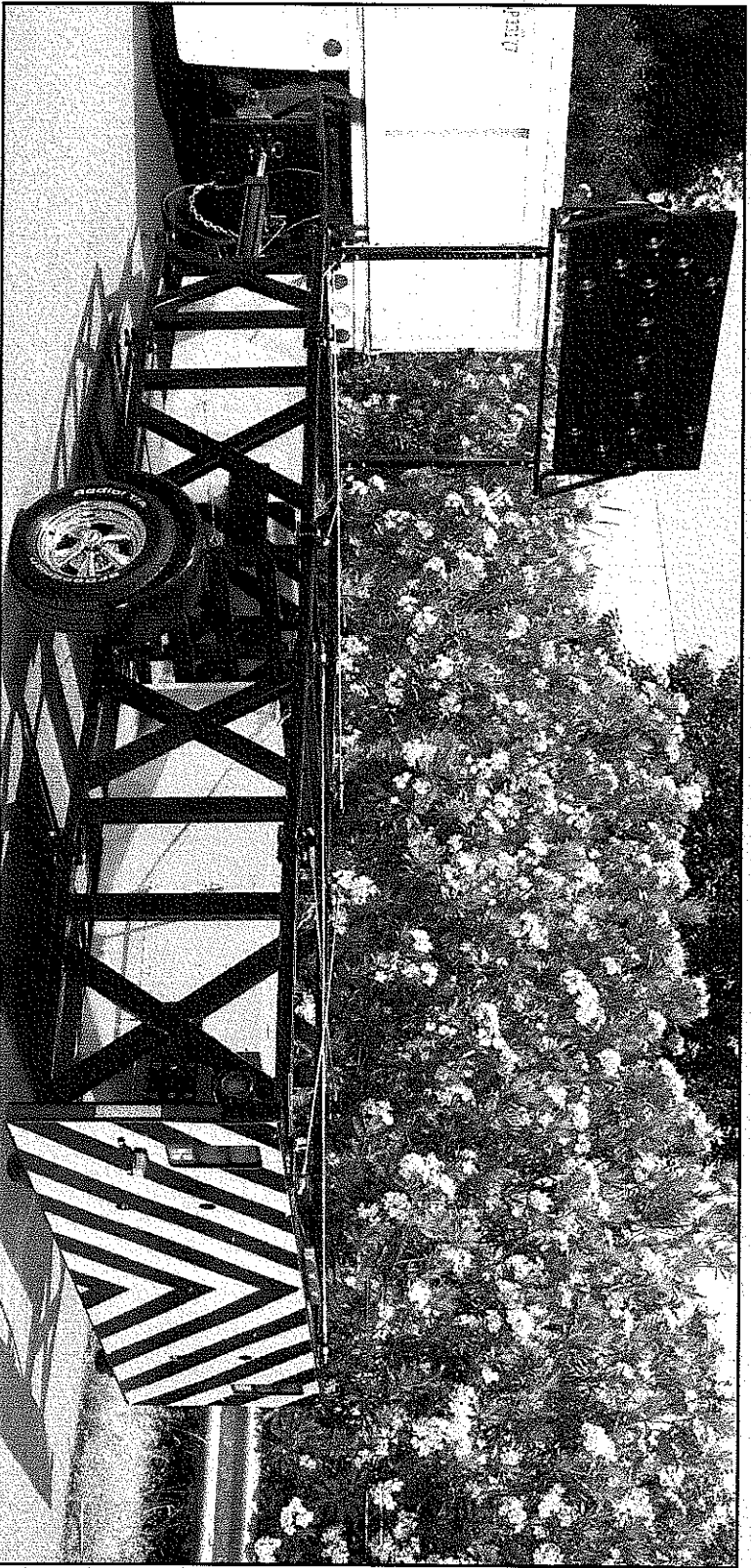
Under penalty of law for false swearing (West Virginia Code, §61-5-3), it is hereby certified that the vendor acknowledges the information in this said affidavit and are in compliance with the requirements as stated.

Vendor's Name: M.H. CORBIN, INC

Authorized Signature:  Date: 4-21-08

SST TMA

SAFE-STOP[®] TRAILER TRUCK MOUNTED ATTENUATOR



The SST TMA features heavy-duty steel suspension axle and optional dampers for impact to provide maximum protection without affecting steerability.

FEATURES

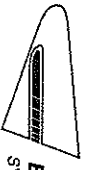
- Speedy attachment
- SST TMA requires minimal modification of host vehicle
- Recommended host vehicle minimum weight: 4500 kg (9920 lb.) - maximum weight: unlimited
- Optional integrated arrow board attaches directly to SST TMA
- Nuisance impact protection and high reusability after a design impact
- Passes all mandatory & optional NCHRP 350 TL-3 tests

BENEFITS

- Fleet utilization, rapid deployment, and low operating costs
- Low installation cost, high fleet utilization, and operating flexibility
- Fleet flexibility and operational efficiency
- Ease of use, low operating cost and no vehicle modification
- Low maintenance costs and high productivity
- Maximum protection and safety

OPTIONAL EQUIPMENT

- ▶ Arrow/Message Board
- ▶ Spare Tire and Holder
- ▶ Sport Wheels (shown)
- ▶ 20 Ton Pintle Hook for Host Vehicle
- ▶ LED Lighting



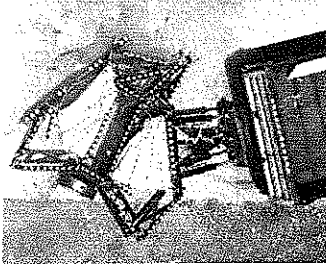
ENERGY ABSORPTION
SYSTEMS, INC.

WWW.ENERGYABSORPTION.COM

SAVING LIVES BY DESIGN



ANTI-ROTATIONAL DAMPENERS

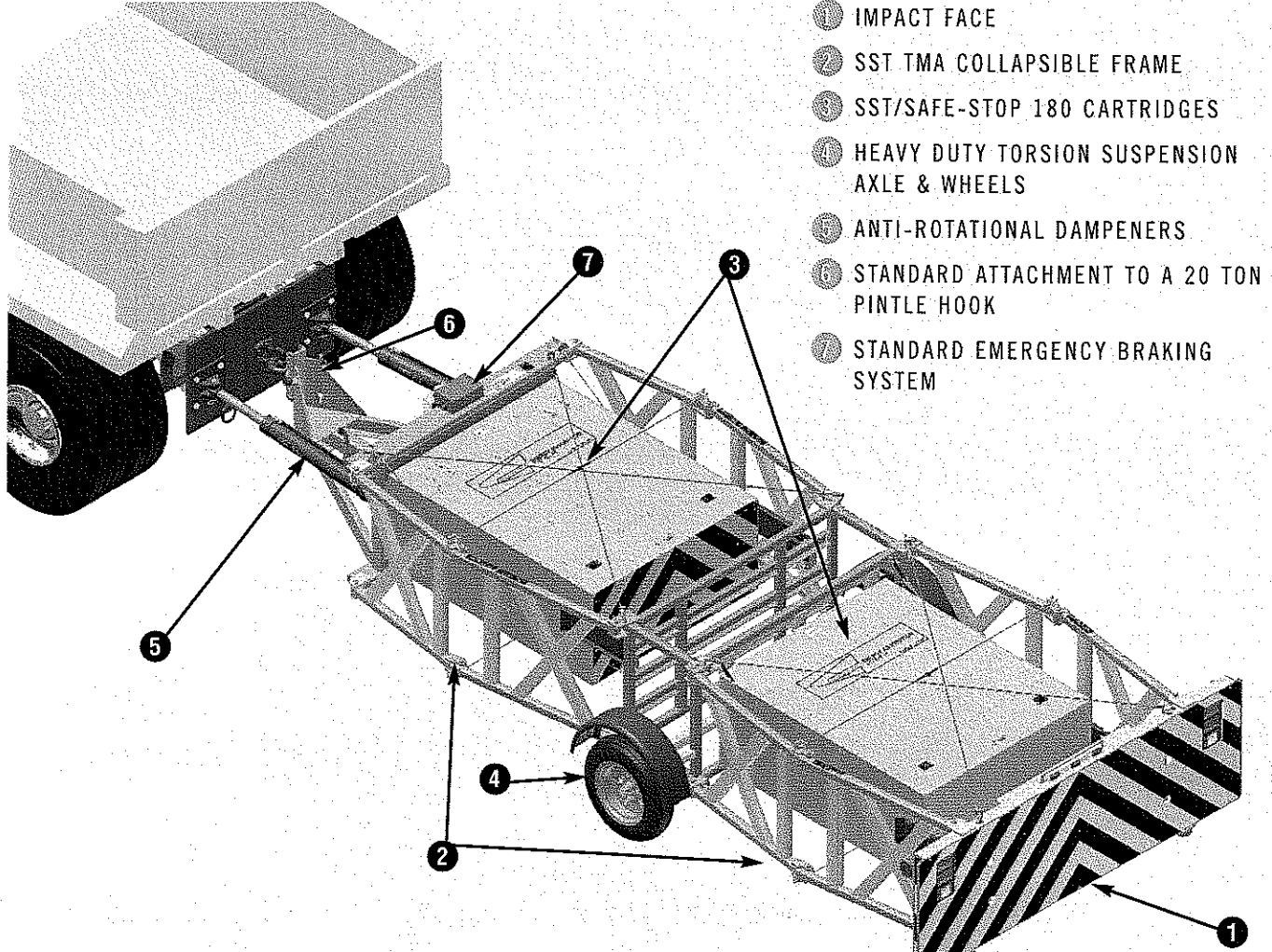


The SST TMA features anti-rotational dampeners that are designed to lock the TMA in place during an angled impact to minimize the TMA from rotating into adjacent traffic lanes. The anti-rotational dampeners **do not** affect driveability of the host vehicle.

SPECIFICATIONS

Length
Weight
Width
Height

19' 3" (5.87 m)
2650 lb. (1202 kg)
7' 9" (2.36 m)
45" (1.14 m)



- ① IMPACT FACE
- ② SST TMA COLLAPSIBLE FRAME
- ③ SST/SAFE-STOP 180 CARTRIDGES
- ④ HEAVY DUTY TORSION SUSPENSION AXLE & WHEELS
- ⑤ ANTI-ROTATIONAL DAMPENERS
- ⑥ STANDARD ATTACHMENT TO A 20 TON PINTLE HOOK
- ⑦ STANDARD EMERGENCY BRAKING SYSTEM

Quixote
Transportation Safety

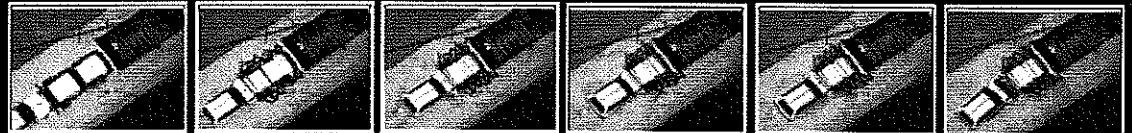
WWW.QUIXTRANS.COM



ENERGY ABSORPTION
SYSTEMS, INC.

35 East Wacker Drive • Chicago, IL 60601
Tel: (312) 467-6750 • Fax: (312) 467-9625
www.energyabsorption.com

SAVING LIVES BY DESIGN



Distributed By:

General specifications for the Safe-Stop Trailer TMA are subject to change without notice to reflect improvements and upgrades. Additional information is available in the Product Manual for this system. Contact Energy Absorption Systems for details.

Safe-Stop Trailer (SST) TMA™
GENERAL SPECIFICATIONS

I. GENERAL:

Scope: This specification describes a truck-mounted attenuator (TMA) system for 'mobile work zone' shadow vehicles and 'stationary work zone' barrier vehicles.

The system provides impact protection during collisions into the rear of a truck in work zone operations. The system design dissipates the collision energy of standard passenger vehicles traveling at speeds up to 100 km/h (62mph).

The following primary benefits are projected:

1. Reduce impact severity for occupants of the barrier or shadow vehicle.
2. Reduce or eliminate damage to barrier or shadow vehicle.
3. Reduce incident management time.
4. Increase survival rate for the occupants of impacting vehicles.
5. Lower injury rate for the occupants of impacting vehicles.

II. PRODUCT:

All SST Truck Mounted Attenuators [TMA's] shall be designed and manufactured by Energy Absorption Systems, Incorporated, a Quixote Company, of Chicago, Illinois, in accordance with this specification.

The SST TMA, when properly mounted, shall meet NCHRP (National Cooperative Highway Research Program) Report 350, Test Level 3 (TL-3) criteria.

The SST TMA equipped truck shall have a maximum skid distance of 8 m (25ft) when impacted at NCHRP Report 350 TL-3, test 3-51 impact conditions. The forward skid distance is dependent on the truck's weight, the truck's transmission being in second gear, and the parking brake set with the truck situated on clean, dry pavement.

The SST TMA can be used with any weight vehicle over 4500 kg (9,920 lbs). FHWA has acknowledged the infinite weight test and the use of the Safe-Stop 180 TMA with heavier support vehicles at the discretion of the contracting authority. The SST is a modified version of the Safe-Stop 180 TMA.

The SST TMA uses a hydraulic cylinder dampener system to minimize rotation during an offset impact, thus helping to minimize possible secondary accidents. This system will allow the trailer to act like a normal trailer when trailering and resist rotation when impacted.

The SST has the capabilities of being used with lighter shadow and barrier vehicles. The roll-ahead distance is affected by the total weight of the shadow or barrier vehicle plus the SST TMA weight.

See the Calculated Roll-Ahead chart below:

***Table T-4 Roll-Ahead Distance for Shadow Vehicles**

Weight of Shadow Vehicle (moving)	Prevailing speed (mph)	Weight of Impacting Vehicle to be Contained*			
		4,500 lbs	10,000 lbs	15,000 lbs	24,000 lbs
10,000 lbs	60-65	100 ft	175 ft	225 ft	275 ft
	50-55	100 ft	150 ft	175 ft	200 ft
	45	75 ft	100 ft	125 ft	150 ft
15,000 lbs	60-65	75 ft	150 ft	175 ft	225 ft
	50-55	75 ft	125 ft	150 ft	175 ft
	45	50 ft	100 ft	100 ft	100 ft
24,000 lbs	60-65	75 ft	100 ft	150 ft	175 ft
	50-55	50 ft	75 ft	100 ft	150 ft
	45	50 ft	75 ft	75 ft	100 ft

Note: Distances are appropriate for shadow vehicles speeds up to 15 mph.

***Table T-5 Roll-Ahead Distance for Barrier Vehicles**

Weight of Barrier Vehicle (stationery)	Prevailing speed (mph)	Weight of Impacting Vehicle to be Contained*			
		4,500 lbs	10,000 lbs	15,000 lbs	24,000 lbs
10,000 lbs	60-65	50 ft	100 ft	150 ft	200 ft
	50-55	25 ft	75 ft	100 ft	150 ft
	45	25 ft	50 ft	75 ft	100 ft
15,000 lbs	60-65	25 ft	75 ft	100 ft	150 ft
	50-55	25 ft	50 ft	75 ft	100 ft
	45	25 ft	25 ft	50 ft	75 ft
24,000 lbs	60-65	25 ft	50 ft	75 ft	100 ft
	50-55	25 ft	25 ft	50 ft	75 ft
	45	25 ft	25 ft	25 ft	50 ft

*Source: "Use of Truck Mounted Attenuators in Work Zones" by Jack B. Humphreys, P.E. and T. Darcy Sullivan, P.E., University of Tennessee.

***Weights of typical vehicles:**

- Mid-size automobile — 2,250 lbs
- Full-size automobile — 3,500 lbs
- Loaded 3/4-ton pickup truck — 6,000 lbs
- Loaded 1-ton cargo truck — 10,000 lbs
- Loaded 4-yard dump truck — 24,000 lbs

Shadow or Barrier Recommended Vehicle Weight

- Recommended minimum vehicle weight — 4,500 Kg (9,920 lbs.)
- Recommended maximum vehicle weight — No Limitation

III. DESCRIPTION OF SYSTEM:

A. General Assembly

The complete SST TMA shall be designed to make attachment or detachment from the truck simple and fast. The major components (listed in III. B.) stay together when detached from the support vehicle.

The TMA frame shall be capable of collapsing when impacted by an errant vehicle. No portion of the TMA shall protrude forward under the truck damaging its vital elements during an impact.

The TMA shall not protrude over, into or under the truck. Further, the TMA shall not impede the line-of-site of an Arrowboard or Message board mounted on the truck, installed per MUTCD (Manual on Uniform Traffic Control Devices) guidelines at a height of 2135mm (7'-0") to the bottom of board.

Following a design impact under NCHRP Report Test Level 3 conditions, the TMA shall remain less than 3650mm (12'-0") wide and retain its structure. This shall permit short distance transport off the road after impacts. The TMA shall be capable of being refurbished using simple hand tools and replacement parts. After design speed impacts, approximately 70% of the components and framework shall be reusable.

B. Major Components:

The SST TMA™ shall consist of the following components:

1. Support Structure with Articulating Arms
2. Safe-Stop 180/SST Type A and Type B Cartridges
Note: Both of the cartridges shall be contained within the framework created by the arms.
3. Impact Frame
4. Cylinder Hitch Assembly (Trailer hitch with cylinder dampener system)
5. Intermediate Frame
6. Suspension, Axle, Wheels & Tires

C. Lights & Visibility

The SST TMA shall have a trailer lighting assembly per FMVSS No. 108 "Lamps, Reflective Devices, and Associated Equipment." All components shall be appropriate for their intended purpose under any adoptions issued by the NHTSA, SAE and FMVSS. This is standard practice for electrical lighting. The SST TMA shall include brake lights, taillights, turn signals and an ICC bar light. Wires shall be routed in a protective, jacketed

cable. The cable shall be routed and secured to the frames at 450 (18") maximum intervals. For repair or replacement, individual circuits shall be easily identified and accessible. Molded connectors shall be used where individual wires would otherwise be exposed to the elements. A standard, single, 7 pin trailer connector shall make the connection for all lights to the back of the truck. Conspicuity tape and reflectors shall be installed following the same established standards as the lighting.

D. Jack

One hand crank jack with swivel caster with a total rated load capacity of at least 544 kg (1200 lbs.) shall be supplied with the TMA to facilitate removing it from a truck for storage.

E. Striping

The surface of the Impact Frame facing oncoming traffic, shall display a black on yellow inverted "V" chevron pattern with 100mm (4 in.) wide color bands. The colors shall meet the value and tolerance limits established by MUTCD.

F. Welding

All welding shall be done by, or under the direction of, a certified welder. Metal-work shall be made in America.

G. Paint

All exposed steel surfaces on the TMA shall be painted black. Paint shall be applied after the proper preparation of all steel and aluminum components. The metal preparation shall include cleaning, degreasing and abrading the metal surface. Primer shall be used if not powder coated.

H. Hardware

The TMA shall be assembled with Commercial Quality bolts, nuts, and washers conforming to ANSI (American National Standard) specifications unless otherwise specified.

I. Hydraulic System

The hydraulic system shall consist of cylinders, hoses, tank and subcomponents. The hydraulic system allows the system to articulate like a normal trailer behind the support vehicle, but locks to prevent the trailer from rotating during off-set or angled impacts.

J. Break-Away System

A system designed to automatically lock the trailer brakes in the event of a hitch failure and the trailer breaks away from the tow vehicle.

IV. WEIGHT AND DIMENSIONS:

	Max Height From Ground	Max Width (Impact Face)	Length	Weight
English Units	45"	7'-9"	19'-3"	2650 lb.
Metric Units	1.27m	2.36m	5.867m	1202 kg

Tongue weight: 194 kg (427 lbs.) included in total weight

Road Clearance: 9 ½"

V. CRASH TEST CRITERIA:

The SST TMA has successfully passed, both the required and optional tests that fall under the guidelines of NCHRP Report 350 Test Level 3 for truck mounted attenuators. NCHRP Report 350 specifications for Test Level 3 TMA impact conditions and results are as follows:

NCHRP 350 Test 3-50 - Vehicles with a mass of 820 kg (1,808 lb.) impacting straight into the rear of the TMA at 100 km/h (62 mph) shall remain upright with a theoretical occupant impact velocity of 12 m/s (39 fps) or less and the nominal occupant ridedown acceleration of 20 g's or less per NCHRP Report 350, Test 3-50 evaluation criteria. The front of the truck shall be restricted from forward movement by positioning it against a solid wall or concrete block for this test.

NCHRP 350 Test 3-51 - Vehicles with a mass of 2000 kg (4,410 lb.), impacting straight into the rear of the TMA at 100 km/h (62 mph) shall remain upright with a theoretical occupant impact velocity of 12 m/s (39 fps) or less, and the nominal occupant ridedown acceleration of 20 g's or less per NCHRP Report 350, Test 3-51 evaluation criteria.

NCHRP 350 Test 3-52 - Vehicles with a mass of 2000 kg (4,410 lb.), impacting straight into the rear of the TMA with an offset of W/3 with respect to the TMA centerline at 100 km/h (62 mph) shall remain upright with a theoretical occupant impact velocity of 12 m/s (39 fps) or less, and the nominal occupant ridedown acceleration of 20 g's or less per NCHRP Report 350, Test 3-52 evaluation criteria.

NCHRP 350 Test 3-53 - Vehicles with a mass of 2000 kg (4,410 lb.) impacting at 10 degrees into the rear of the TMA at 100 km/h (62 mph), and an offset of W/4 at an angle of 10 degrees with respect to the TMA centerline, shall remain upright with the theoretical occupant impact velocity of 12 m/s (39 fps) or less and the occupant ridedown acceleration of 20 g's or less per NCHRP Report 350, optional Test 3-53 evaluation criteria.

NCHRP 350 Test 3-51 Modified - Vehicles with mass of 2000 kg. (4,410 lb.) impacting straight into the rear of the TMA at 100 km/h (62 mph), shall remain upright. The test is a modified test 3-51 with the truck restricted from movement by positioning it against a solid wall or concrete block to simulate a truck of very heavy or infinite weight. This test had a theoretical occupant impact velocity of 12 m/s (39 fps) or less and the occupant ride down acceleration of 20.7 g performance. The FHWA has acknowledged the Infinite weight test and the use of the SST with heavier support vehicles at the discretion of the contracting authority.

During NCHRP test 3-52 and 3-53, notice the trailer did not swing laterally away from the alignment of the shadow vehicle to occupy more than 15% of the width of the adjacent traffic lane.

The SST TMA™ shall be designed and constructed so no solid debris is present from the system that can create a hazard on the roadway after an impact.

To minimize potential damage to the truck, no portion of the TMA's energy absorbing elements shall protrude forward damaging the vital elements of the truck's underride during an impact.

Certified test results and associated test reports and films produced in compliance with NCHRP Report 350 procedures shall be submitted, upon request, showing that the TMA conforms to the performance criteria in this specification.

VI. DURABILITY TESTING:

A. Nuisance Impact Test:

The SST TMA shall be subjected to simulated nuisance impacts at 10 km/h (6 mph) minimum. The TMA shall be capable of withstanding these impacts without

crushing any of the energy absorbing elements. The TMA shall retain all impact performance characteristics following these impacts.

B. Road Test:

The SST TMA shall be subjected to accelerated durability testing that simulates actual in-service use. Differences between the tested TMA and production units shall be noted in the report. The road tests shall cover a minimum of 4000 km (2,500 miles) on actual roadways in normal traffic. The testing shall be performed on a variety of roadways with an emphasis on poorly maintained 2 lane roads having design speeds of 80-100 km/h (50-60 mph). The record of the actual testing conditions shall provide evidence of intent to expose the system to maximized, demanding, real-world conditions. Portions of the road testing shall be video taped from another vehicle to show the interaction of the truck and TMA combination to the roadway and typical intersection conditions. Still photos of the truck and TMA during the course of the testing shall be included. The system shall be installed on an unloaded (i.e. no ballast permitted), large, dump truck with a Gross Vehicle Weight (GVW) rating of at least 18,000 kg (40,000lb.). The truck shall feature a dual rear axle arrangement and a stiff suspension that is intended to subject the TMA to considerably more stress loading than typical field use would impart. The combination truck and TMA weight shall be recorded. A record of the TMA's travel position and odometer mileage as well as the general roadway conditions shall be required. The TMA shall be regularly inspected and a record kept of any changes in system appearance. Any items showing signs of damage or loosening shall be noted and addressed. Replacement parts are to be listed. Recommended design changes shall be noted in the report. The SST TMA™ system shall incorporate the modifications and shall retain performance characteristics conforming to NCHRP Report 350 and this specification.

C. Speed Bump Test:

The SST TMA shall be subject to a speed bump test to determine durability of the TMA. It shall consist of mounting the TMA to a truck and running it over two 1 ½" speed bumps anchored 50 feet apart. The speed of the truck is determined by running over the bumps with the SST TMA. Start at 5 MPH and increase speed by 5 MPH up to 25 MPH. The highest shock load is to be used for the tests. Drive the truck at this speed over the bumps 100 times. After every 20 times, check the TMA for damage and record. Any items showing signs of damage or loosening shall be noted and addressed. Replacement parts are to be listed. Recommended design changes shall be noted in the report. The SST TMA system shall incorporate the modifications and shall retain performance characteristics conforming to NCHRP Report 350 and this specification.

VII. ENVIRONMENTAL TESTING:

The cartridges of the SST TMA are the same cartridges used on the Safe-Stop 180 TMA[®]. Therefore, they shall perform successfully under the same moisture, corrosion and vibration tests:

A. Moisture Test:

1. The complete TMA cartridges shall be weighed prior to and after the moisture test, utilizing a certified scale. These TMA cartridge weights shall be a part of the test data submitted with the bid. The cartridges shall be placed in the normal horizontal operating position and subjected to precipitation equivalent to 150 mm (6 inches) of water per hour. Water shall be delivered from nozzles with spray cones mounted so that the required precipitation is evenly distributed over the entire area of the cartridge top, sides, and ends.

2. After a period of 24 hours, the cartridges shall be placed on their top sides and the same precipitation rate continued on the bottom side for 24 hours. The water shall be turned off, the cartridges returned to the normal operating position, and the cartridges will be allowed to drain for one hour before being weighed. The weight after the test shall be the same as the initial mass \pm 2.3 kg (5 lb.). The cartridges will then be examined. The complete outer covering of the TMA cartridges shall be removed, the energy absorbing cells shall be examined and photographs of the energy absorbing cells shall be submitted with the moisture test data.

3. The cells shall be free of moisture and retain 100% of their energy absorbing qualities. The results of the examination of the energy absorbing cells for moisture retention shall be submitted on or before the scheduled bid opening.

4. Attenuator cells showing excessive retention of moisture or any damage whatsoever will constitute failure of the device.

B. Corrosion Test:

1. A sample of attenuator energy absorbing material shall be subjected to a salt spray (fog) test in accordance with ASTM B117-73, Method of Salt Spray (fog) Testing, for a period of 50 hours and consisting of two (2) periods. Each period shall consist of 24 hours exposure and one (1) hour drying time.

2. The sample of the structure shall consist of a section with a minimum dimension of 1050 cubic cm (4 cubic inches), and must include any adjacent bonding material. Photographs of the sample structure will be made prior to and after removal from the TMA cartridge assembly. Also, photographs will be made of this same sample prior to and after the corrosion test. All photographs listed above shall be submitted with the corrosion test results.

3. Immediately after the device has been subjected to the corrosion test, there shall be no evidence of corrosion that would affect the energy absorbing qualities of the sample.

C. Vibration Test:

The standard TMA cartridge shall be subject to two 40 hour vibration tests. The vibration test fixture will be free of springs or dampeners, and shall have a vertical pivot point that is located $3.53 \pm .23$ m (139 ± 9 inches) from the TMA cartridge and capable of inducing the required frequency and excursion into the attenuator through a mechanically positive system. Photos of the TMA cartridges mounted to the test fixture in the horizontal operating position for cartridges A and B, and cartridge B horizontal and cartridge A flipped 180° position must be submitted with the bid.

The frequency of the vibration will be 5 Hz to 8 Hz for a period of 40 hours in each test position (80 hours total). Excursion is to be 15.25 ± 1.25 mm ($.60 \pm .05$ inches), measured peak to peak vertically at the location where the attenuator is attached to the back support. Measurements prior to, at 20 hours, and on completion of the vibration tests will be recorded with the TMA cartridge mounted in the normal operating position, and mounted with cartridge A in the 180° position. A variance of 13 mm (.50 inches) of any component dimension, damage to the energy absorbing cells that would affect their performance, or damage to the back support, or exterior skin will constitute failure of the device. Extra tie-downs, dampeners, supports, etc. will not be allowed unless they are included in the production model. Vibration data forms and vibration test time log forms are to be used for recording the data required and shall be submitted with the bid. Certified TMA assembly weights shall be recorded prior to and after each vibration test and submitted.

- a. Test No. 1: The TMA cartridges shall be mounted to the vibration apparatus in the normal horizontal operation position. The indicated measurements shall be recorded prior to, at 20 hours, and on completion of this vibration test and recorded on vibration data forms.
- b. Test No. 2 The TMA cartridges shall be mounted to the vibration apparatus in an elevated position 180° to the horizontal. The indicated measurements shall be recorded prior to, at 20 hours, and on completion of this vibration test and recorded on vibration data forms.



U.S. Department
of Transportation
Federal Highway
Administration

July 25, 2007

1200 New Jersey Avenue, SE.
Washington, DC 20590

In Reply Refer To: HSSD/CC-78D

Mr. Barry D. Stephens
Sr. Vice President Engineering
Energy Absorption Systems, Inc.
3617 Cincinnati Avenue
Rocklin, CA 95765

Dear Mr. Stephens:

Thank you for your May 8, 2007, letter requesting re-certification of the Federal Highway Administration's (FHWA) acceptance of your company's Safe-Stop[®] Trailer TMA as a test level 3 (TL-3) device for use on the National Highway System (NHS). Accompanying your letter was a report of crash testing conducted by E-Tech Testing Services, Inc. You requested that we continue to 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." The FHWA had initially ruled on the Safe-Stop[®] Trailer TMA on July 11, 2002, in FHWA acceptance letter CC-78 and supplemented with three additional letters.

Introduction

The FHWA guidance on crash testing of roadside safety hardware is contained in a memorandum dated July 25, 1997, titled "INFORMATION: Identifying Acceptable Highway Safety Features."

Testing

The FHWA acceptance of the Safe-Stop[®] Trailer TMA was based on successful completion of the "optional" NCHRP Report 350 tests 3-52 and 3-53 as agreed to by Mr. Richard Powers, then of our office. During a review by a neutral third party of the crash testing conducted on another manufacturer's TMA Trailer we reached the conclusion that tests 3-52 and/or 3-53 may not be sufficient to verify that the trailer version of a TMA is crashworthy. At our meeting on April 20, 2007, we requested that EASI conduct test 3-51 on the Safe-Stop[®] Trailer TMA, as we were asking the manufacturer of the competing trailer to do the same. You complied, using a "blocked" shadow vehicle, and submitted the test report and videos for our review.

In your letter you also requested that the FHWA expand the acceptance of the Safe-Stop[®] Trailer TMA by acknowledging the successful results for a modified Test 3-51 and that this unit is capable of being used with an "infinite weight" support vehicle, can have a full-size flashing

~~MOVING THE~~
**AMERICAN
ECONOMY**

arrow panel (48" x 96") installed without compromising impact performance, and fully passes the two standard as well as the two optional NCHRP 350 TL-3 TMA tests.

The flashing arrow panel was installed at the hitch end (tongue) of the unit to evaluate effects on impact performance as well as potential damage to the arrow panel itself. You also stated, and we agree, that all of the recommended NCHRP 350 evaluation criteria were successfully met. We noted that no additional hazards were created and the arrow panel was fully operational after, including operational lights and 90 degree tilting mechanism. In addition we recognized no damage occurred to the back end of the support vehicle or frame.

Summary of NCHRP Report 350 Test 3-51

2000P Test Vehicle:	1988 Chevrolet Pickup
Vehicle Mass:	2000 kg
Impact Speed:	99.0 km/hr
Shadow Vehicle:	1975 GMC 7500 Dump Truck
Shadow Vehicle Mass:	8550 kg, blocked against rigid wall
Occupant Impact:	9.6 m/s x-direction
Ridedown:	18.4 g's x-direction

Findings

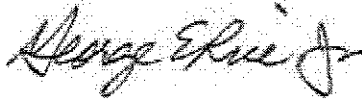
Based upon your previous submittal and this new submittal, FHWA reconfirms that the Safe-Stop[®] Trailer TMA fully meets the TMA evaluation criteria in NCHRP Report 350 for Tests 3-50, 51, 52 and 53 at 100 km/h impact conditions. We also acknowledge that the Safe-Stop[®] Trailer TMA can be attached to heavy shadow vehicles weighing more than 9000 kg. Although the FHWA does not specifically endorse the use of arrow panels on trailer TMAs, we acknowledge that you successfully conducted a capacity test (3-51) and the arrow panel was not damaged and remained fully functional after the test.

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

- This acceptance is limited to the crashworthiness characteristics of the device(s).
- 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 CC-78D, shall not be reproduced except in full. This letter, and the test documentation upon which this letter is based, is public information. All such letters and documentation may be reviewed at our office upon request.
- The Safe-Stop[®] Trailer TMA is a patented product and considered proprietary. If proprietary devices are specified by a highway agency for use on Federal-aid projects, except exempt, non-NHS projects, they: (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 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,



George E. Rice, Jr.
Acting Director, Office of Safety Design
Office of Safety

Enclosure



D. Illustrations

2.36 m

1.88 m

30 mm

4.87 m

5.17 m

1

2

3

5

7

THESE ARE THE NEW ASSEMBLIES:
(CARTRIDGES REMOVED FOR CLARITY)
1. SUPPORT FRAME WITH HITCH.
2. ANTI-ROTATION CYLINDERS.
3. MID-FRAME WITH AXLE.

NOTE:
KINETIC ENERGY DISSIPATING CARTRIDGES ARE NOT SHOWN TO
CLEARLY SHOW TRAILER MODIFICATIONS.

DATE: 3/20/2005	ENERGY ABSORPTION SPECIFICATIONS RESISTANCE AND FORCE AREA DISTRIBUTION		REV: 1	OF: 1
DESIGNER: B. Eckert	DATE: 3/20/05	PROJECT: SST-GS ISO	SCALE: 1=20	
DRAWN: B. Eckert	DATE: 3/20/05	PROJECT: SST-GS ISO	SCALE: 1=20	
CHECKED: [blank]	DATE: 3/20/05	PROJECT: SST-GS ISO	SCALE: 1=20	
APPROVED: [blank]	DATE: 3/20/05	PROJECT: SST-GS ISO	SCALE: 1=20	

Illustration D-1. Safe-Stop Trailer TMA (1 of 1)

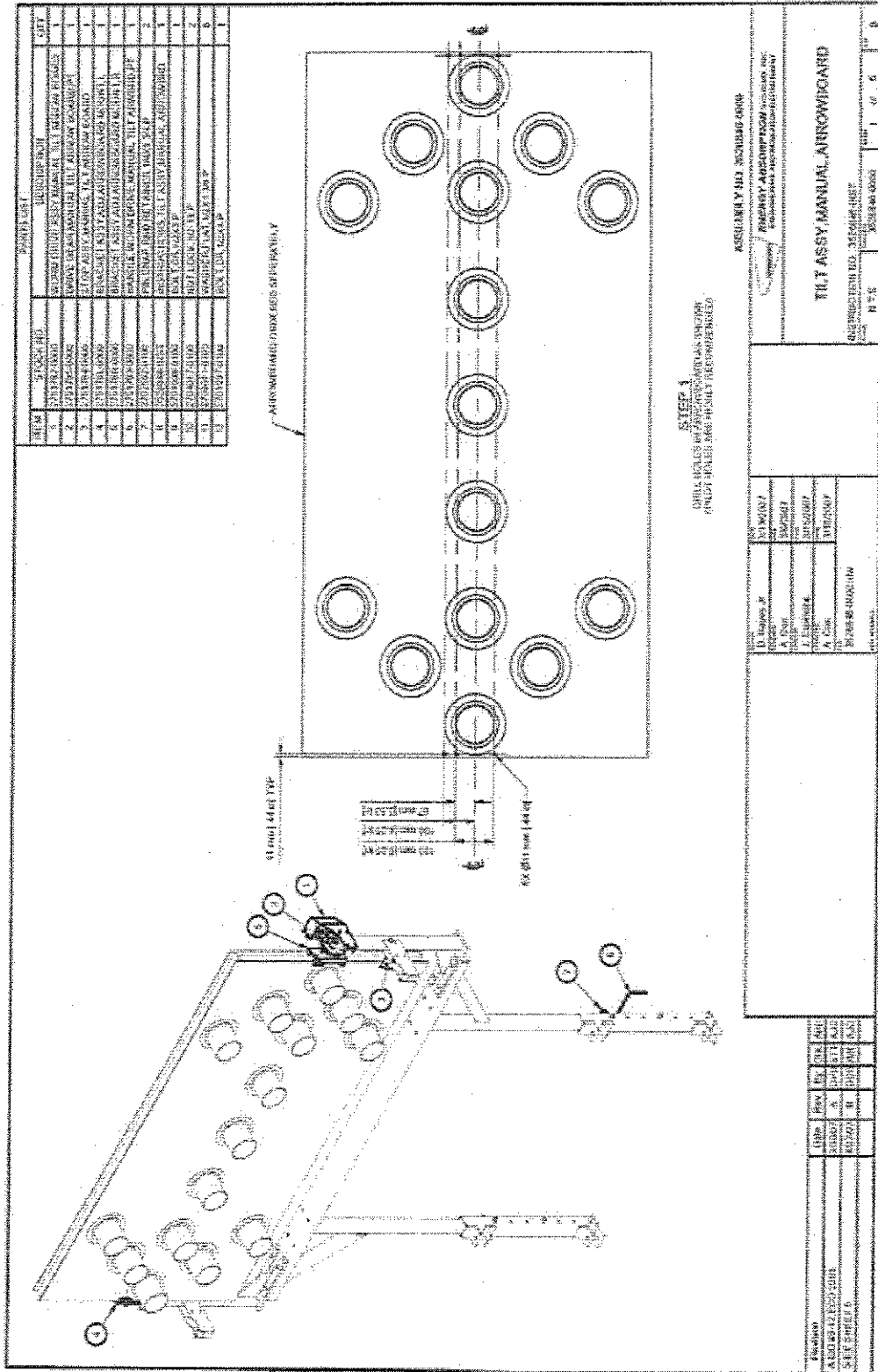


Illustration D-2. Arrow Board Option (1 of 2)

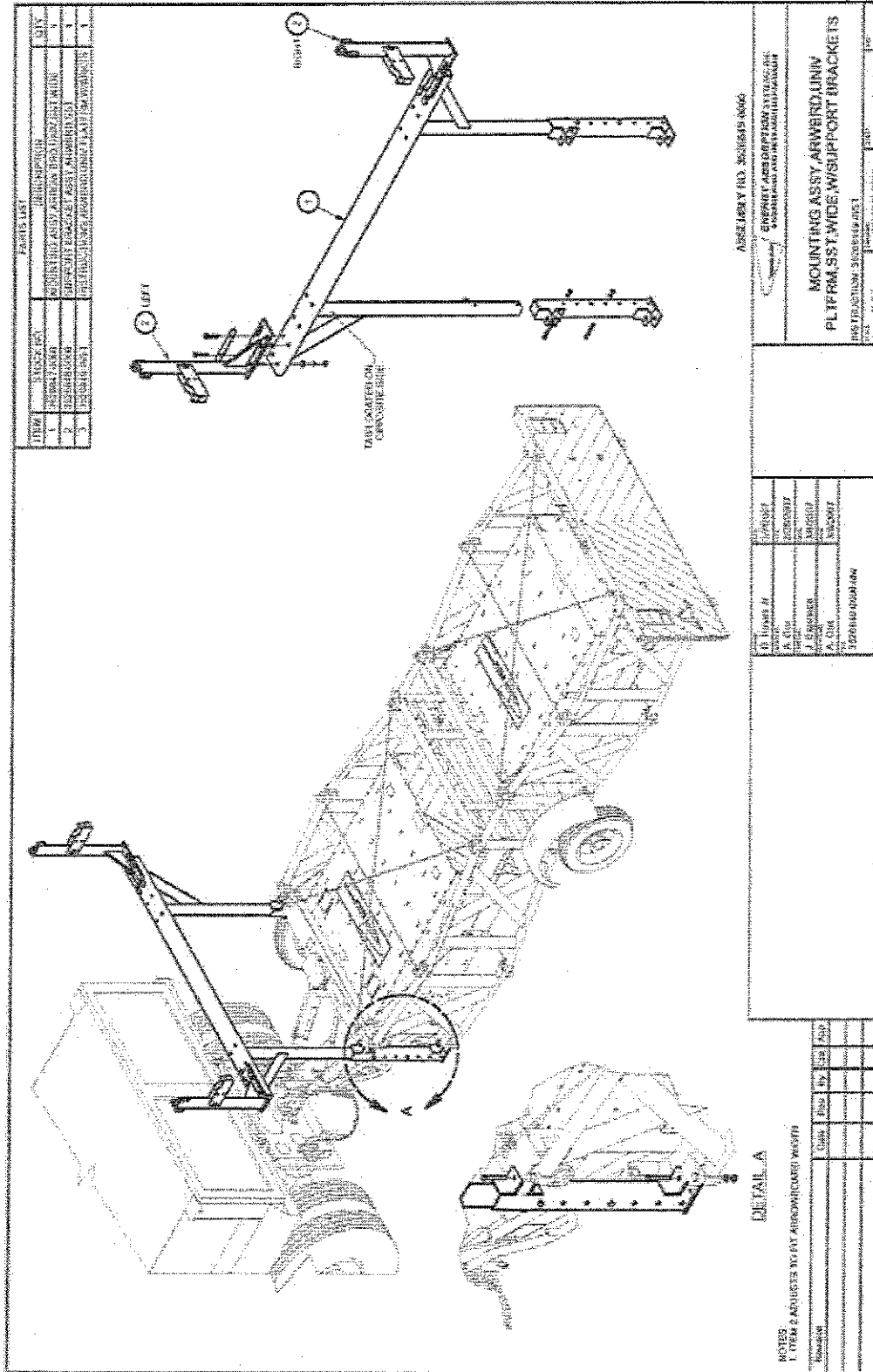


Illustration D-2. Arrow Board Option (2 of 2)



8420 Estates Court
Plain City, Ohio 43064
800.380.1718 Toll Free
614.873.8095 Fax

SafeStop SST TMA Training Program Agenda
9:00AM-4:00PM

1. Overview of SafeStop SST TMA – (9:00AM-9:45AM)
 - Review of SST Specification
 - Viewing of Crash Test Videos (3-50, 3-51, 3-52 and 3-53)
 - Review of Key Components of SST

2. Receipt of SafeStop SST TMA – (9:45AM-2:00PM)
 - Inspection and Unpackaging of SST
 - Review of Assembly Procedures for SST
 - Full Assembly of SST

3. Attachment Procedures – (2:00PM-2:30PM)
 - Attach SST to Host Vehicle
 - Detach SST from Host Vehicle

4. Putting the SST in Service – (2:30PM-3:00PM)
 - Proper usage of SST

5. Preventative Maintenance – (3:00PM-4:00PM)
 - What to look for after road usage
 - Common replacement parts



ENERGY ABSORPTION SYSTEMS, INC.

A QUIXOTE COMPANY

35 E. Wacker Drive, Suite 1100, Chicago, Illinois 60601

312/467-6750 FAX 312/467-1356

SST TMA Safe-Stop Trailer

Energy Absorption Systems, Inc. warrants our products to be free from defects in material and workmanship under normal use and service for a period of two (2) years beginning on the date of shipment, for the one year contract award (contract period April 23, 2008 thru April 23, 2009) from the State of West Virginia, if given, under RFQ Number 708EC011. Energy Absorption Systems will, at its option, replace or repair, without charge to the original customer, any defective component within this two year period.

This warranty is contingent upon proper use of the System(s) and does not cover any System(s) that have been modified, (including the addition of parts), without Energy Absorption Systems approval, or which are in need of repair, due to external causes, including accident, collision, failure to properly maintain the System(s) as recommended by Energy Absorption Systems, abuse, misuse, or which have been damaged by outside parties not employed by Energy Absorption Systems.

THIS IS A LIMITED WARRANTY AND IS THE ONLY WARRANTY MADE BY ENERGY ABSORPTION SYSTEMS. ENERGY ABSORPTION SYSTEMS MAKES, AND CUSTOMER RECEIVES, NO OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OR MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. ENERGY ABSORPTION SYSTEMS WILL HAVE NO LIABILITY WITH RESPECT TO ITS ORIGINAL OBLIGATIONS UNDER THIS WARRANTY FOR CONSEQUENTIAL, EXEMPLARY, OR INCIDENTAL DAMAGES, EVEN IF IT HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Warranty effective:

thru:

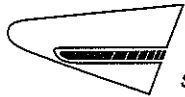
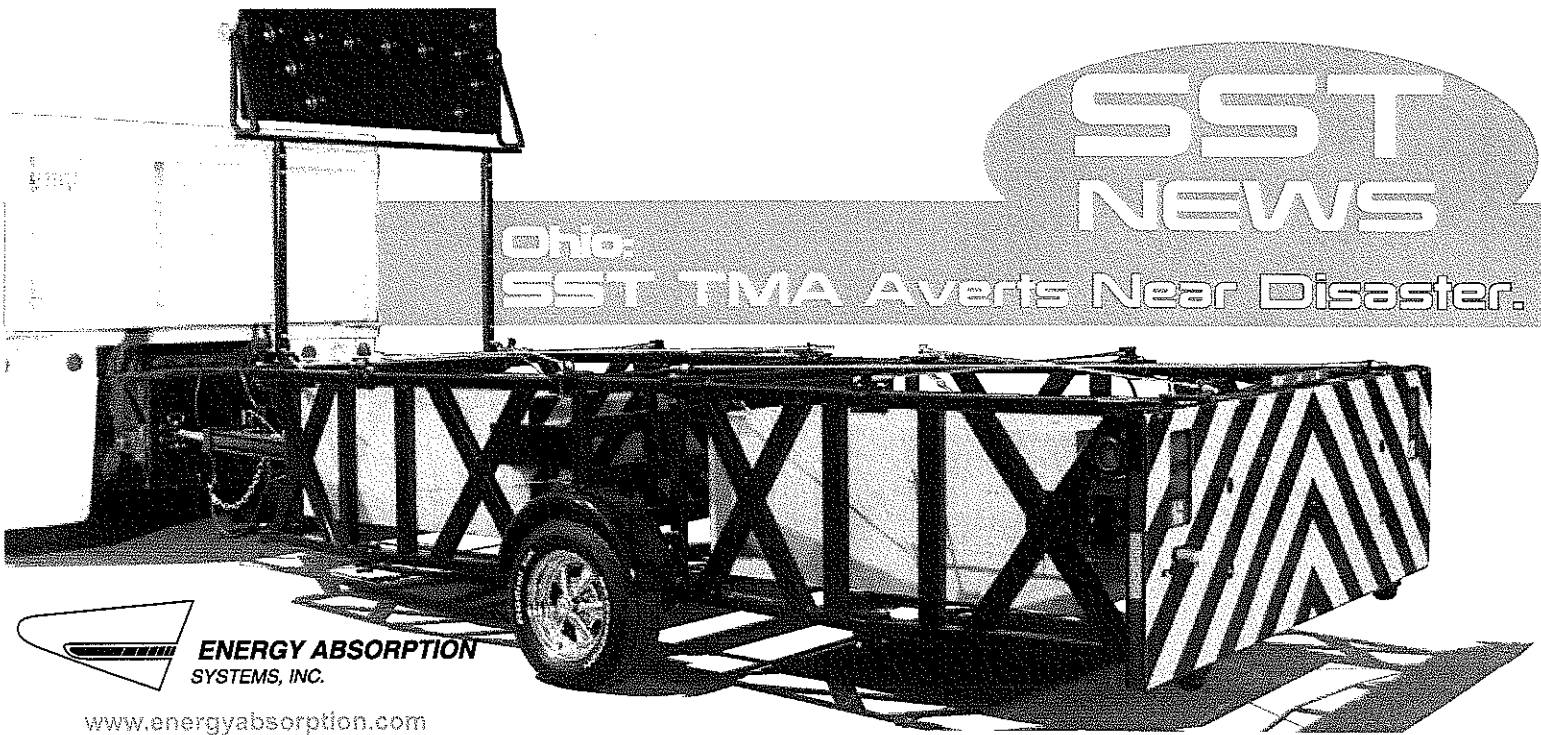
ENGINEERING: Rocklin, California

MANUFACTURING: Pell City, Alabama

AN EQUAL OPPORTUNITY EMPLOYER

SST NEWS

Ohio: SST TMA Averts Near Disaster.



**ENERGY ABSORPTION
SYSTEMS, INC.**

www.energyabsorption.com

SST SAFE-STOP® TRUCK MOUNTED ATTENUATOR SAVES DISTRACTED DRIVER AND WORK CREW IN STREET SWEEPING OPERATION

A Volkswagen Jetta was maneuvering its way through traffic on a Dayton, OH expressway early on a Saturday morning when it encountered a City of Dayton Street Maintenance sweeping operation.

The driver of the car made an error in judgment that could have had equally as disastrous effects had it not been for an Energy Absorption Systems, Inc.'s (a Quixote Transportation Safety company) Model SST Safe-Stop® Truck Mounted Attenuator mounted on shadow vehicles protecting the work zone activities ahead of them.

Near Disaster in Dayton

I-75 runs between Detroit and Miami, including a section that goes directly through the City of Dayton, Ohio, where traffic volume is heavy virtually all day, everyday. Late this past August, two City of Dayton trucks involved in an early morning sweeping operation were moving northbound on the interstate in the right hand lane at about 5 mph when the driver of a 1998 Volkswagen Jetta maneuvered through traffic on a slight curve and rear-ended the first of two vehicles involved in a sweeping operation at 50 mph.

"As is typically the case, it seems, when incidents occur, we were about 20 minutes from being finished with a sweeping operation that had been underway all night when we got hit," explains James Brinegar, Division Manager, City of Dayton Street Maintenance. "Police reports indicate that the driver was not impaired and weather was not an issue as it was sunny with dry pavement. It appeared to be another example of a driver simply not paying attention to warning signs and message boards that we use to inform drivers that they are approaching a slow moving operation, and to use caution as they approach."

The rear vehicle trailing the sweeper was signaling via arrow board for traffic to change lanes. When the Jetta did not, an impact occurred with the shadow vehicle that was outfitted with a SST Safe-Stop® Truck Mounted Attenuator

"Fortunately, neither the driver of the car that hit us nor our driver was injured. Our driver indicated at first that he didn't even realize that he was hit," Brinegar adds. "The SST TMA performed as it was designed and averted what could have been a catastrophe."

The City of Dayton had just recently put the Energy Absorption TMA unit into operation, and indicates that it had



been using truck-mounted attenuators for the last several years. It determined that it needed to upgrade to meet NCHRP 350 TL-3 standards and wanted a unit that could be switched from vehicle to vehicle, interchangeable rather than permanent.

"I was pleased with the SST on this first impact that we experienced with it," Brinegar concludes. "It collapsed and absorbed energy as designed and was able to be repaired and put back into service quickly. Most importantly, we use these things to protect our workers and worksite, and it did just that."

About the SST TMA

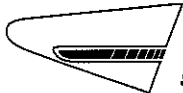
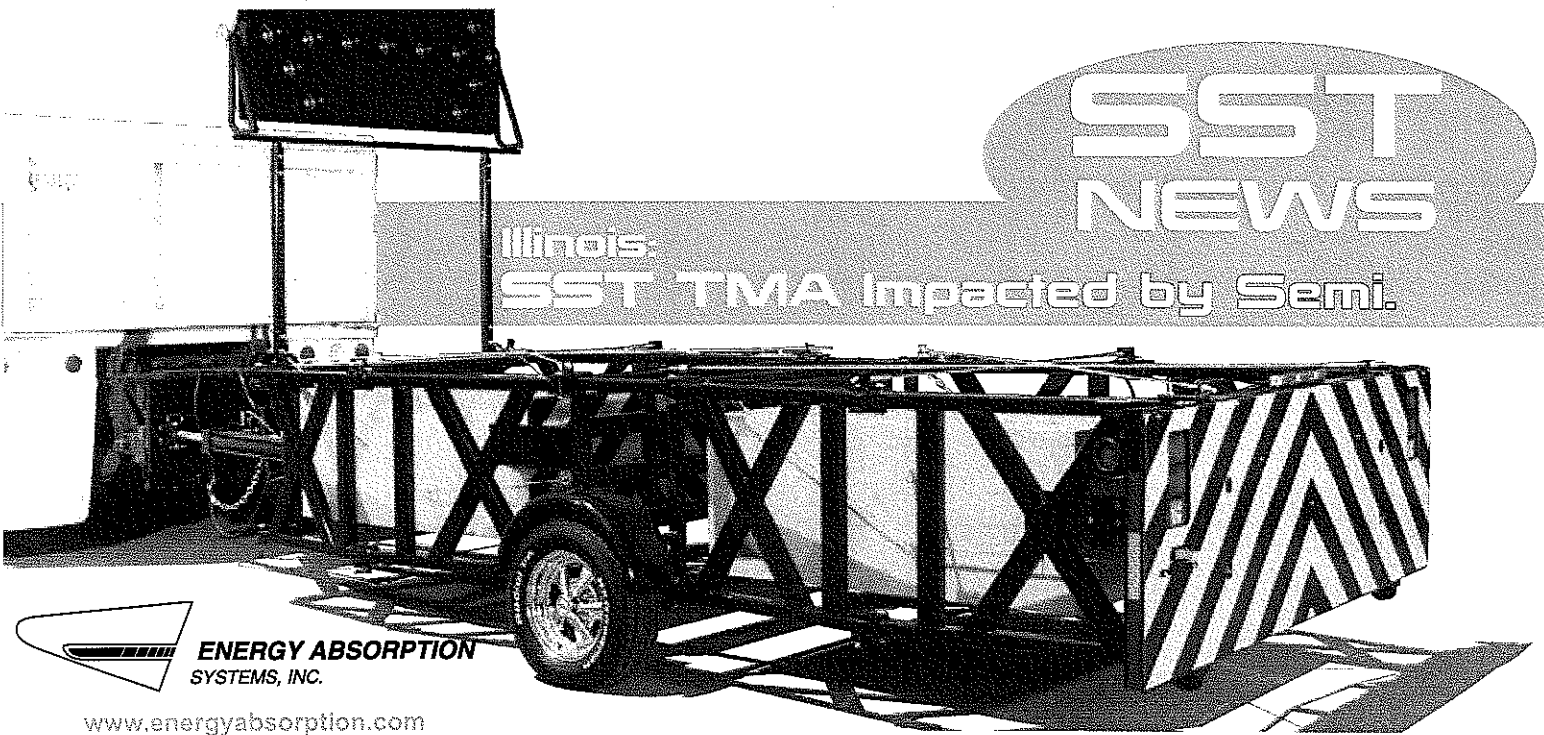
The SST Safe-Stop TMA from Energy Absorption Systems is a new trailer-mounted attenuator. The SST's design requires minimal modification to host vehicles allowing quick and simple attachment, resulting in low installation and operating costs, as well as increased truck fleet operating flexibility. The SST TMA has passed all mandatory & optional NCHRP 350 TL-3 tests.

The SST TMA's length from the back of the host vehicle is less than 20 feet (6m) and has many interchangeable parts with the company's popular Safe-Stop 180° tilt model TMA, including the lightweight aluminum energy-absorbing cartridges.

An added feature of the SST TMA is anti-rotational dampeners that are designed to lock the TMA in place during an angled impact to maximize the TMA's effectiveness and minimizing impacting vehicles from "gating" into a work zone or adjacent lane(s), which could potentially cause a secondary accident. The dampeners also protect the host truck's frame by spreading the load of the impacting force, and provide maximum protection to work crews, the impacting driver, adjacent drivers, and the host vehicle.

SST NEWS

Illinois:
SST TMA Impacted by Semi.



**ENERGY ABSORPTION
SYSTEMS, INC.**

www.energyabsorption.com

SST SAFE-STOP® TRUCK MOUNTED ATTENUATOR PROVES ITS WORTH IN NEAR-DISASTER WORK ZONE INCIDENT

The driver of a semi tractor-trailer was traveling on a northern Illinois interstate at 65 mph, approaching a work crew doing road repairs on the shoulder ahead.

The respective driver of the large truck made an error in judgment that could have had equally as disastrous effects had it not been for an Energy Absorption Systems, Inc.'s (a Quixote Transportation Safety company) Model SST Safe-Stop® Truck Mounted Attenuator mounted on shadow vehicles protecting the work zone activities ahead of them.

Heavy Hit in Illinois

The SST TMA proved its worth on I-39 in Ogle County in northern Illinois, when a semi tractor trailer traveling northbound at milepost 107 impacted a Department of Illinois dump truck outfitted with the SST and arrow board that was shadowing a work crew doing road repairs on the side of the interstate.

According to Paris Fotos, Operations Equipment Technician for the Illinois Department of Transportation, Region 2, District 2 out of Dixon IL, the semi was traveling at around 65 mph when it impacted the left side of the SST. The semi driver claimed he experienced a steering wheel malfunction.

"A vehicle that large moving that fast is a very frightening proposition for a work crew," Fotos says. "Our truck only moved about two feet ahead when hit. Both our driver and the semi driver walked away from the incident without injury of any serious nature, so the TMA did what it was designed to do."

Fotos reports that his district has been using TMAs since the early 1990s, this made the decision to upgrade to the SST easy because of convenience of set up and interchangeability between trucks.

"That was quite an impact for a TMA to take, particularly it being impacted by a semi traveling at a fairly high rate of speed, and at that angle. Our driver walking away and work crew unharmed, you can't ask for anything more than that."



About the SST TMA

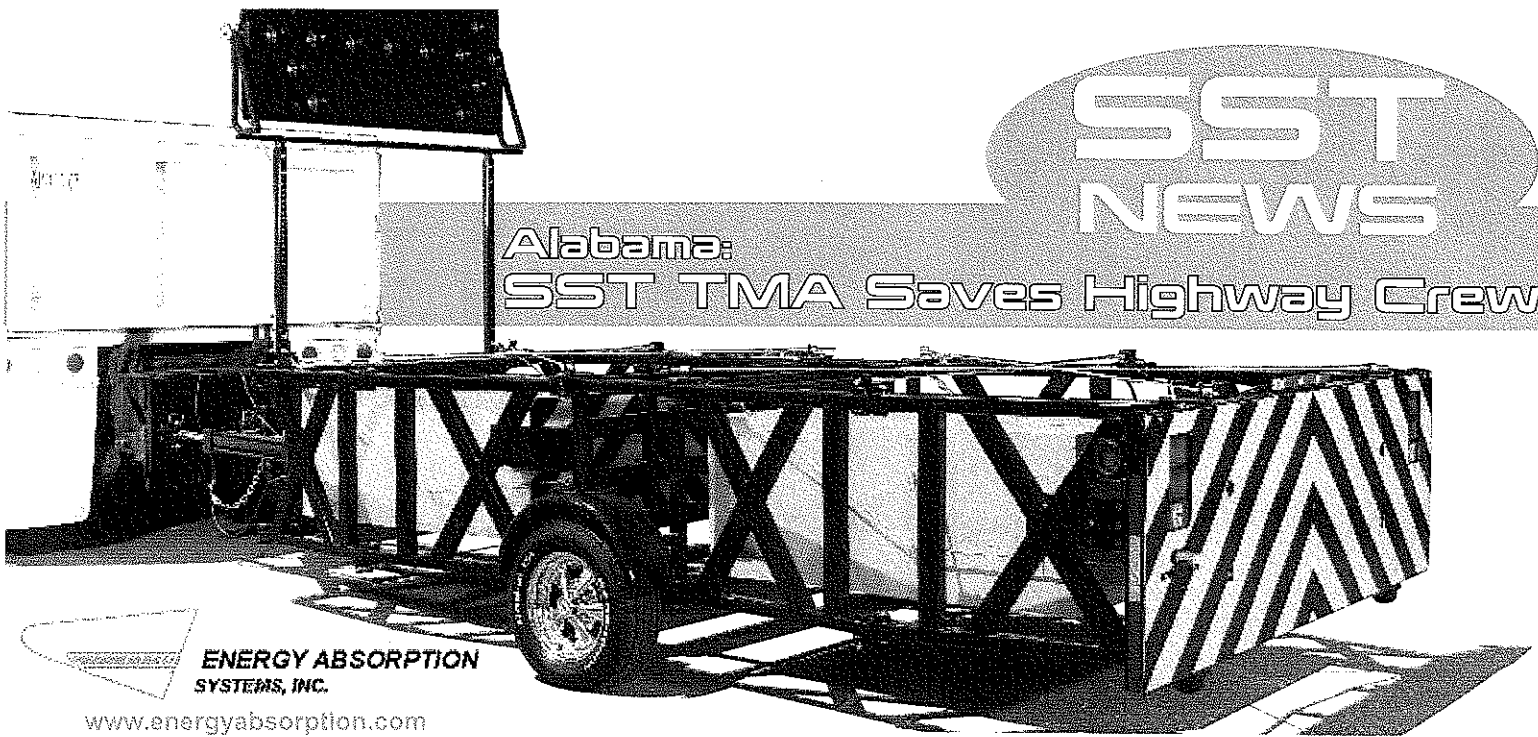
The SST Safe-Stop TMA from Energy Absorption Systems is a new trailer-mounted attenuator. The SST's design requires minimal modification to host vehicles allowing quick and simple attachment, resulting in low installation and operating costs, as well as increased truck fleet operating flexibility. The SST TMA has passed all mandatory & optional NCHRP 350 TL-3 tests.

The SST TMA's length from the back of the host vehicle is less than 20 feet (6m) and has many interchangeable parts with the company's popular Safe-Stop 180° tilt model TMA, including the lightweight aluminum energy-absorbing cartridges.

An added feature of the SST TMA is anti-rotational dampeners that are designed to lock the TMA in place during an angled impact to maximize the TMA's effectiveness and minimizing impacting vehicles from "gating" into a work zone or adjacent lane(s), which could potentially cause a secondary accident. The dampeners also protect the host truck's frame by spreading the load of the impacting force, and provide maximum protection to work crews, the impacting driver, adjacent drivers, and the host vehicle.

SST NEWS

Alabama: SST TMA Saves Highway Crew.



ENERGY ABSORPTION
SYSTEMS, INC.

www.energyabsorption.com

SST SAFE-STOP® TRUCK MOUNTED ATTENUATOR STOPS DRIVER FROM IMPACTING BRIDGE REPAIR CREW

A two-person drill crew working on the Little River Bridge in Sayre, Alabama was saved from a potentially fatal incident when a driver traveling eastbound on Highway 78 errantly entered the work zone late last summer, and impacted the crew's shadow vehicle that was serving as protection for the workers.

The shadow vehicle, a five-ton tandem dump truck, was equipped with an Energy Absorption Systems, Inc.'s (a Quixote Transportation Safety company) Model SST Safe-Stop® Truck Mounted Attenuator, which stopped the intruding vehicle, prohibiting what could have been a tragic story.

"The workers were employees of the Alabama Department of Transportation (ALDOT) making repairs on the bridge at the time of the incident," explains Roger Smith, Superintendent for ALDOT's District 4. "It was estimated that the driver of the vehicle, a Toyota Camry, was traveling at approximately 75 mph when it impacted the dump truck. The SST TMA was mounted on the back of the truck that was positioned approximately 100 feet from the drill crew.

"In addition to our workers being protected, the driver of our shadow truck, Randy Briggs, was not hurt even though the car impacted the TMA at a fairly high rate of speed. In fact, Randy commented that he never really even felt the impact!"

Smith adds that after impact, the driver, his son and dog that were with him all got out of the car unharmed as well.

Smith said ALDOT had used TMAs in the past, but that this incident was the first time a Model SST was employed by his district. "I toured the Energy Absorption TMA manufacturing facility in Pell City (Alabama) earlier in the year and at that time decided that their new SST would be the best fit for our vehicles. I am pleased that we made the right decision."

The local distributor for the SST TMA is Jace Chandler & Associates, located in Homewood, Alabama. Chandler, a QTS distributor, handles sales, supplies and technical support for all of the company's crash cushion and other highway safety product lines.



Due to the SST's high reusability features, the SST was repaired and quickly put back in service for ALDOT. Jace Chandler, president of the firm, said that the SST was equipped with an Energy Absorption Systems arrow board mounting system and that neither the mounting system nor arrow board sustained any major damage after the impact.

About the SST TMA

The SST Safe-Stop TMA from Quixote is a new trailer-mounted SST Safe-Stop® Truck Mounted Attenuator (TMA). The SST's design requires minimal modification to host vehicles allowing quick and simple attachment, resulting in low installation and operating costs, as well as increased truck fleet operating flexibility.

The SST TMA has passed all mandatory & optional NCHRP 350 TL-3 tests.

The SST TMA's length from the back of the host vehicle is less than 20 feet (6m) and has many interchangeable parts with the company's popular Safe-Stop 180° tilt model TMA, including the lightweight aluminum energy-absorbing cartridges.