



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
858C2029

PAGE
1

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

VENDOR

*415133653 270-242-0636
 SITE SAFE PRODUCTS LLC
 PO BOX 287
 609 W MAIN STREET
 CLARKSON KY 42726

SHIP TO

DIVISION OF HIGHWAYS
 VARIOUS LOCALES AS INDICATED
 BY ORDER

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
02/06/2008				

BID OPENING DATE: **02/27/2008** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	EA		936-28		
<p>ENERGY ABSORPTION SYSTEM/MAINTENANCE</p> <p>OPEN END CONTRACT</p> <p>TO PROVIDE MATERIALS REQUIRED FOR THE MAINTENANCE OF ENERGY ABSORPTION SYSTEM GREAT (GUARDRAIL ENERGY ABSORBING TERMINAL) ATTENUATING DEVICES, ENERGY ABSORPTION SYSTEM QUADGUARD ATTENUATING DEVICES, ENERGY ABSORPTION SYSTEM QUADGUARD - HS ATTENUATING DEVICES AND TRINITY INDUSTRIES TRACC ATTENUATING DEVICES.</p> <p>PER THE ATTACHED SPECIFICATIONS AND DRAWINGS</p> <p>EXHIBIT 3</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 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 30 DAYS WRITTEN NOTICE.</p> <p>UNLESS SPECIFIC PROVISIONS ARE STIPULATED ELSEWHERE IN THIS CONTRACT DOCUMENT, THE TERMS, CONDITIONS AND PRICING SET HEREIN ARE FIRM FOR THE LIFE OF THE CONTRACT.</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE *Reslin Spears* TELEPHONE **(270)242-0636** DATE **2/22/08**

TITLE *Regional Sales Manager* FEIN **61-1386000** ADDRESS CHANGES TO BE NOTED ABOVE

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



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<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 SERVICE SUPPLIED ARE OF AN INFERIOR QUALITY OR DO NOT CONFORM TO 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 SUPPLIED BY THE STATE SPENDING UNIT. IT IS UNDERSTOOD AND AGREED THAT THE CONTRACT SHALL COVER THE QUANTITIES ACTUALLY ORDERED FOR DELIVERY DURING THE TERM OF THE CONTRACT, WHETHER MORE OR LESS THAN THE QUANTITIES SHOWN.</p> <p>ORDERING PROCEDURE: SPENDING UNIT(S) SHALL ISSUE A WRITTEN STATE CONTRACT ORDER (FORM NUMBER WV-39) TO THE VENDOR FOR COMMODITIES COVERED BY THIS CONTRACT. THE ORIGINAL COPY OF THE WV-39 SHALL BE MAILED TO THE VENDOR AS AUTHORIZATION FOR SHIPMENT, A SECOND COPY</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS			
SIGNATURE	TELEPHONE	DATE	
<i>Jessie Spears</i>	270-242-0636	2/22/2008	
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE	
<i>Regional Sales Manager</i>	61-1386000		

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POSTAGE

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<p>MAILED TO THE PURCHASING DIVISION, AND A THIRD COPY RETAINED BY THE SPENDING UNIT.</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>THE TERMS AND CONDITIONS CONTAINED IN THIS CONTRACT SHALL SUPERSEDE ANY AND ALL SUBSEQUENT TERMS AND CONDITIONS WHICH MAY APPEAR ON ANY ATTACHED PRINTED DOCUMENTS SUCH AS PRICE LISTS, ORDER FORMS, SALES AGREEMENTS OR MAINTENANCE AGREEMENTS, INCLUDING ANY ELECTRONIC MEDIUM SUCH AS CD-ROM.</p> <p>REV. 04/11/2001</p> <p>PURCHASING CARD ACCEPTANCE: THE STATE OF WEST VIRGINIA CURRENTLY UTILIZES A VISA PURCHASING CARD PROGRAM WHICH IS ISSUED THROUGH A BANK. THE SUCCESSFUL VENDOR MUST ACCEPT THE STATE OF WEST VIRGINIA VISA PURCHASING CARD FOR PAYMENT OF ALL ORDERS PLACED BY ANY STATE AGENCY AS A CONDITION OF AWARD.</p> <p>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>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE <i>Shashi Sreena</i>	TELEPHONE 210-242-0636	DATE 2/22/2008
TITLE <i>Regional Sales Manager</i>	FEIN 61-1386000	ADDRESS CHANGES TO BE NOTED ABOVE

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<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-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; OR () BIDDER IS A NONRESIDENT VENDOR EMPLOYING A</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE <i>Justin Spears</i>	TELEPHONE 270-242-0636	DATE 2/22/2008
TITLE <i>Regional Sales Manager</i>	FEIN 61-1386000	ADDRESS CHANGES TO BE NOTED ABOVE

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<p>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 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</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE <i>Leslie Spears</i>	TELEPHONE 270-242-0636	DATE 2/22/2008
TITLE <i>Regional Sales Manager</i>	FEIN 61-1386000	ADDRESS CHANGES TO BE NOTED ABOVE

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<p>CONTAINED WITHIN THIS CERTIFICATE CHANGES DURING THE TERM OF THE CONTRACT, BIDDER WILL NOTIFY THE PURCHASING DIVISION IN WRITING IMMEDIATELY.</p> <p>BIDDER: <i>Site-Safe Products, LLC</i></p> <p>DATE: <i>2/22/2008</i></p> <p>SIGNED: <i>Leslie Spears</i></p> <p>TITLE: <i>Regional Sales Manager</i></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>						

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BUYER:				33		
RFQ. NO.:				858C2029		
BID OPENING DATE:				02/27/2008		
BID OPENING TIME:				1:30 PM		
PLEASE PROVIDE A FAX NUMBER IN CASE IT IS NECESSARY TO CONTACT YOU REGARDING YOUR BID:						
----- 270 242-3507 -----						
CONTACT PERSON (PLEASE PRINT CLEARLY):						
----- Leslie Spears -----						
***** THIS IS THE END OF RFQ 858C2029 ***** TOTAL:						<u>\$20,584.58</u>

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE <i>Leslie Spears</i>	TELEPHONE 270-242-0636	DATE 2/22/2008
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ATTENUATING DEVICES - REPLACEMENT PARTS

SCOPE OF CONTRACT

The purpose of this contract shall be to furnish materials required for the maintenance of Energy Absorption System GREAT (Guardrail Energy Absorbing Terminal) attenuating devices, Energy Absorption System Quadguard attenuating devices, Energy Absorption System Quadguard-HS attenuating devices, and Trinity Industries TRACC attenuating devices.

AWARD OF BID ITEMS

For the purposes of obtaining replacement components for all existing attenuating devices in use, all parts listed on the bid item list will be awarded

All bids are to be reviewed by the WVDOH Traffic Engineering Division prior to award.

MINIMUM ORDERS

There shall be no minimum order requirement for this contract.

DELIVERY

All prices bid shall be FOB destination. A list of delivery addresses for the Sign Shop in each District is attached as part of this Contract. Note, various alternate addresses may be utilized in each District. All orders shall be shipped complete within forty-five (45) days A.R.O. Late delivery charges against the vendor may be assessed at a rate of \$50.00 per calendar day beyond forty-five (45) days A.R.O. Notification of shipment from vendor or shipper shall be received a minimum of 48 hours before delivery of material at the location indicated on the release. All non-hardware parts shall be shipped adequately secured on pallets for ease in unloading.

BID SCHEDULE

The following estimated quantities are for bid purposes only. Actual quantities will be determined by needs of the West Virginia Division of Highways and may be increased or decreased:

ITEM NUMBER	ESTIMATED QUANTITY	DESCRIPTION	PART DETAIL SHEET(S)	UNIT PRICE	TOTAL AMOUNT	(DOH USE ONLY) INVENTORY SUBCODE
1		DISREGARD ITEMS 1 THROUGH 10 (NOT INCLUDED AS PART OF THIS CONTRACT)				
2						
3						
4						
5						
6						
7						
8						
9						
10						
		Energy Absorption Systems GREAT Attenuators				
		GREAT panels and parts				
11	1	GREAT thrie-beam fender panel w/ connection to diaphragm hardware, mushroom bolt assembly, and deflector assembly	5			311000
12	1	GREAT complete mushroom bolt and deflector assembly	5			312000
13	1	GREAT concrete block backup deflector panel w/ connection to fender panel hardware	14			313000
14	1	GREAT concrete block backup side panel w/ connection to fender panel hardware	8			NA
15	1	GREAT steel backup side panel w/ connection to backup hardware	11, 12			NA
16	1	GREAT extension panel w/ connection to backup and thrie to w-beam panel hardware	14			314000
17	1	GREAT NJ barrier backup left side 4" offset transition panel w/ support bracket, connection to support bracket hardware, and connection to steel backup hardware	11			315000
18	1	GREAT NJ barrier backup right side 4" offset transition panel w/ support bracket, connection to support bracket hardware, and connection to steel backup hardware	11			316000
19	1	GREAT thrie beam to w-beam transition panel w/ connection to extension panel and w-beam hardware	14			317000
		GREAT diaphragms and parts				
20	1	GREAT 24" diaphragm w/ cable guide assembly and cable guide connection h/w	4			321000
21	1	GREAT 30" diaphragm w/ cable guide assembly and cable guide connection h/w	4			322000
		GREAT restraining cables and parts				
22	1	GREAT 5 bay restraining cable w/ connection hardware and 6 ea. 3x3x1/4 washer bars	6			331000
23	1	GREAT 6 bay restraining cable w/ connection hardware and 6 ea. 3x3x1/4 washer bars	6			332000
24	1	GREAT 7 bay restraining cable w/ connection hardware and 6 ea. 3x3x1/4 washer bars	6			333000
25	1	GREAT cable guide assembly w/ connection to diaphragm hardware	4			NA
26	1	GREAT front anchor plate for restraining cable w/ connection to foundation MP-3 anchors	6			NA
27	1	GREAT rear anchor plate for restraining cable w/ connection to foundation MP-3 anchors	6			NA
		GREAT nose cover and parts				
28	1	GREAT nose cover w/ connection to diaphragm hardware (does not include legs)	3			341000
29	1	GREAT nose support legs (2 ea.) w/ tabs and connection to nose cover hardware	3			342000

NOTE: Vendors can complete Bid Schedule at Purchasing's Web Site www.state.wv.us/admin/purchase

Vendors should type Bid Schedule

ITEM NUMBER	ESTIMATED QUANTITY	DESCRIPTION	PART DETAIL SHEET(S)	UNIT PRICE	TOTAL AMOUNT	(DOH USE ONLY) INVENTORY SUBCODE
Energy Absorption Systems GREAT Attenuators (Continued)						
GREAT chain rail assemblies and parts						
30	1	GREAT 8 ft. 11 in. "A" chain rail section w/ proof coil chains	7			NA
31	1	GREAT 9 ft. 3-1/4 in. "A" chain rail section w/ proof coil chains	7			NA
32	1	GREAT 18 ft. "B" chain rail section w/ proof coil chains	7			NA
33	1	GREAT 9 ft. "B" or "C" chain rail section w/ proof coil chains	7			351000
34	1	GREAT 3 ft. "C" chain rail section w/ proof coil chains	7			352000
35	1	GREAT 6 ft. "C" chain rail section w/ proof coil chains	7			353000
36	1	GREAT proof coil chain w/ clevis & keeper pin	7			354000
GREAT backups and parts						
37	1	GREAT NJ barrier 30" metal backup	10			NA
38	1	GREAT NJ barrier 24" uni-directional metal backup	9			NA
39	1	GREAT NJ barrier 24" bi-directional metal backup	10			NA
40	1	GREAT NJ barrier 30" metal backup right attachment bracket w/ attachment to metal backup hardware	10			NA
41	1	GREAT NJ barrier 30" metal backup left attachment bracket w/ attachment to metal backup hardware	10			NA
42	1	GREAT NJ barrier 24 inch uni-directional metal backup right attachment bracket w/ attachment to metal backup hardware (for barrier measuring 6 inches at top)	9			NA
43	1	GREAT NJ barrier 24 inch uni-directional metal backup left attachment bracket w/ attachment to metal backup hardware (for barrier measuring 6 inches at top)	9			NA
44	1	GREAT NJ barrier 24 inch uni-directional metal backup right attachment bracket w/ attachment to metal backup hardware for NJ barrier measuring 7 to 16 inches at top)	9			NA
45	1	GREAT NJ barrier 24 inch uni-directional metal backup left attachment bracket w/ attachment to metal backup hardware for NJ barrier measuring 7 to 16 inches at top)	9			NA
46	1	GREAT NJ barrier 24 inch bi-directional metal backup right attachment bracket w/ attachment to metal backup hardware	10			NA
47	1	GREAT NJ barrier 24 inch bi-directional metal backup left attachment bracket w/ attachment to metal backup hardware	10			NA
48	1	GREAT w-beam post steel backup w/ connection to w-beam post hardware	12			NA
49	1	GREAT 24" tension strut backup w/ 9 ft. 3-1/4 in. section "A" chain rail w/ proof coil chains (24" units)	13			NA
50	1	GREAT 30" tension strut backup w/ 9 ft. 3-1/4 in. section "A" chain rail w/ proof coil chains (30" units)	13			NA
GREAT cartridges and parts						
51	1	GREAT Hexfoam II Type 51 cartridge	NA			371000
52	1	GREAT concrete block backup cartridge support bracket	8			NA
53	1	GREAT NJ barrier metal backup cartridge support bracket w/ connection hardware	11			NA

ITEM NUMBER	ESTIMATED QUANTITY	DESCRIPTION	PART DETAIL SHEETS(S)	UNIT PRICE	TOTAL AMOUNT	(DOH USE ONLY) INVENTORY SUBCODE
Energy Absorption Systems Quadguard Attenuators						
Quadguard 24" to 36" units						
Quadguard diaphragms and parts (24" to 36")						
54	1	Quadguard 24" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides	15			811100
55	1	Quadguard 30" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides	15			811200
56	1	Quadguard 36" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides	15			811300
Quadguard nose cover and parts (24" to 36")						
57	1	Quadguard narrow yellow nose cover w/ cartridge support bracket, pull-out brackets, and connection to diaphragm hardware (fits 24" to 36" units)	16			812100
Quadguard backups and parts (24" to 36")						
58	1	Quadguard 24" tension strut backup with cartridge support bracket, side panel, and side panel connection hardware.	19			NA
59	1	Quadguard 30" tension strut backup with cartridge support bracket, side panel, and side panel connection hardware.	19			NA
60	1	Quadguard 36" tension strut backup with cartridge support bracket, side panel, and side panel connection hardware.	19			NA
61	1	Quadguard concrete block backup 24" front face w/ side panel and side panel connection hardware.	20			NA
62	1	Quadguard concrete block backup 30" front face w/ side panel and side panel connection hardware.	20			NA
63	1	Quadguard concrete block backup 36" front face w/ side panel and side panel connection hardware.	20			NA
Quadguard panels and parts (24" to 36")						
64	1	Quadguard quad beam to w-beam transition panel w/ diagonal brace, diagonal brace connection hardware, and connection to post #2 bar washers (24" unit)	23			814100
65	1	Quadguard quad beam to w-beam transition panel w/ diagonal brace, diagonal brace connection hardware, brace blockouts, and connection to post #2 bar washers (30" unit)	23			814200
66	1	Quadguard quad beam to w-beam transition panel w/ diagonal brace, diagonal brace connection hardware, brace blockouts, and connection to post #2 bar washers (36" unit)	23			814300
67	1	Quadguard quad beam to thrie beam transition panel w/ diagonal brace, diagonal brace connection hardware, and connection to post #2 bar washers (24" unit)	24			814400
68	1	Quadguard quad beam to thrie beam transition panel w/ diagonal brace, diagonal brace connection hardware, brace blockouts, and connection to post #2 bar washers (30" unit)	24			814500
69	1	Quadguard quad beam to thrie beam transition panel w/ diagonal brace, diagonal brace connection hardware, brace blockouts, and connection to post #2 bar washers (36" unit)	24			814600

ITEM NUMBER	ESTIMATED QUANTITY	DESCRIPTION	PART DETAIL SHEET(S)	UNIT PRICE	TOTAL AMOUNT	(DOH USE ONLY) INVENTORY SUBCODE
		Energy Absorption Systems Quadguard Attenuators (Continued)				
		Quadguard 69" and 90" units				
		Quadguard diaphragms and parts (69" and 90" units)				
70	1	Quadguard 26.50" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides	26			821100
71	1	Quadguard 26.95" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides	26			821110
72	1	Quadguard 32.80" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides	26			821120
73	1	Quadguard 35.94" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides	26			821130
74	1	Quadguard 39.09" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides	26			821140
75	1	Quadguard 42.24" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides	26			821150
76	1	Quadguard 45.39" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides (NOTE: For 120" units, use Item #97)	26			821160
77	1	Quadguard 48.54" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides	26			821170
78	1	Quadguard 50.12" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides	26			821180
79	1	Quadguard 51.69" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides	26			821190
80	1	Quadguard 54.84" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides	26			821200
81	1	Quadguard 57.99" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides	26			821210
82	1	Quadguard 59.57" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides	26			821220
83	1	Quadguard 61.14" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides	26			821230
84	1	Quadguard 64.29" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides	26			821240
85	1	Quadguard 68.07" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides	26			821250
86	1	Quadguard 70.59" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides	26			821260
87	1	Quadguard 73.74" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides	26			821270
88	1	Quadguard 76.89" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides	26			821280
89	1	Quadguard 80.04" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides	26			821290
		Quadguard nose cover and parts (69" and 90")				
90	1	Quadguard 69" and 90" yellow belt nose cover w/ nose attachment brackets, pullout brackets, nose attachment hardware, pullout bracket hardware, and nose attachment bracket hardware (fits 69" to 120" units)	27			822100

ITEM NUMBER	ESTIMATED QUANTITY	DESCRIPTION	PART DETAIL SHEET(S)	UNIT PRICE	TOTAL AMOUNT	(DOH USE ONLY) INVENTORY SUBCODE
		Energy Absorption Systems Quadguard Attenuators (Continued)				
		Quadguard 69" and 90" units (Continued)				
		Quadguard backups and parts (69" and 90")				
91	1	Quadguard tension strut backup w/ side panel, hinge plates, telespar struts, cartridge support bracket, support bracket locking bar, and connection hardware (69" unit)	29			NA
92	1	Quadguard tension strut backup w/ side panel, hinge plates, telespar struts, cartridge support bracket, support bracket locking bar, and connection hardware. (90" unit)	29			NA
93	1	Quadguard concrete block backup front face w/ hinge plate, side panel, telespar struts, and connection hardware. (69" unit)	30			NA
94	1	Quadguard concrete block backup front face w/ hinge plate, side panel, telespar struts, and connection hardware. (90" unit)	30			NA
		Quadguard panels and parts (69" and 90")				
95	1	Quadguard quad beam to w-beam transition panel w/ pivot support bracket, support bracket hardware, and connection to post #2 bar washers (69" and 90" units)	31			824100
96	1	Quadguard quad beam to thrie beam transition panel w/ pivot support bracket, support bracket hardware, and connection to post #2 bar washers (69" and 90" units)	32			824200

ITEM NUMBER	ESTIMATED QUANTITY	DESCRIPTION	PART DETAIL SHEET(S)	UNIT PRICE	TOTAL AMOUNT	(DOH USE ONLY) INVENTORY SUBCODE
		Energy Absorption Systems Quadguard Attenuators (Continued)				
		Quadguard 120" units				
		Quadguard diaphragms and parts (120" units)				
97	1	Quadguard 45.39" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides	35			841100
NA	NA	Quadguard 57.99" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides USE LINE ITEM 81	26	NA	NA	NA
NA	NA	Quadguard 70.59" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides USE LINE ITEM 86	26	NA	NA	NA
98	1	Quadguard 82.68" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides	26			841200
99	1	Quadguard 95.31" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides	26			841200
100	1	Quadguard 108" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides	26			841300
		Quadguard nose cover and parts (120" units)				
NA	NA	Quadguard 120" yellow belt nose cover w/ nose attachment brackets, pullout brackets, nose attachment hardware, pullout bracket hardware, and nose attachment bracket hardware (fits 120" units) USE LINE ITEM 90	27	NA	NA	NA
		Quadguard backups and parts (120" units)				
101	1	Complete Quadguard tension strut backup w/ center section, right section, left section, side panels, hinge plates, telespar struts, cartridge support bracket, support bracket locking bar, and all connection hardware	33			NA
102	1	Replacement 120" Quadguard tension strut backup right section w/ side panels, hinge plates, telespar struts, and all required connection h/w	33			NA
103	1	Replacement 120" Quadguard tension strut backup left section w/ side panels, hinge plates, telespar struts, and all required connection h/w	33			NA

ITEM NUMBER	ESTIMATED QUANTITY	DESCRIPTION	PART DETAIL SHEET(S)	UNIT PRICE	TOTAL AMOUNT	(DOH USE ONLY) INVENTORY SUBCODE
		Energy Absorption Systems Quadguard Attenuators (Continued)				
		Quadguard common parts (all units)				
		Quadguard panels and parts (all units)				
104	1	Quadguard mushroom bolt assembly	17			831100
105	1	Quadguard fender panel w/ connection to diaphragm hardware and mushroom bolt assembly	17			831200
106	1	Quadguard NJ barrier backup left side 4 inch offset transition panel w/ support bracket, and connection to support bracket hardware.	22			831300
107	1	Quadguard NJ barrier backup right side 4 inch offset transition panel w/ support bracket, and connection to support bracket hardware.	22			831400
108	1	Quadguard NJ barrier backup left side 9 inch offset transition panel w/ support bracket, and connection to support bracket hardware. (not to be used for traffic approaching rear of unit)	NA			NA
109	1	Quadguard NJ barrier backup right side 9 inch offset transition panel w/ support bracket and connection to support bracket hardware. (not to be used for traffic approaching rear of unit)	NA			NA
		Quadguard backups and parts (all units)				
110	1	Quadguard concrete block backup end shoe attachment w/connection to block MP-3 anchors	21			832100
111	1	Quadguard concrete block backup wheel deflector w/ connection to block MP-3 anchors	25			832200
		Quadguard monorails and parts (all units)				
112	1	Quadguard one bay monorail section	18, 28			833100
113	1	Quadguard two bay monorail section	18, 28			833200
114	1	Quadguard three bay monorail section	18, 28			833300
115	1	Quadguard monorail end cap w/ connection to monorail hardware	18, 28			833400
		Quadguard cartridges (all units)				
116	1	Quadguard type I cartridge	NA			834100
117	1	Quadguard type II cartridge	NA			834200

ITEM NUMBER	ESTIMATED QUANTITY	DESCRIPTION	PART DETAIL SHEET(S)	UNIT PRICE	TOTAL AMOUNT	(DOH USE ONLY) INVENTORY SUBCODE
		Energy Absorption Systems Quadguard - HS Attenuators				
		Quadguard-HS 24" to 36" units				
		Quadguard-HS diaphragms and parts (24" to 36")				

NOTE: SPECIAL DIAPHRAGMS FOR DIAPHRAGMS 1 THRU 3 ARE LISTED BELOW. FOR ALL OTHER PARTS, USE PART NUMBERS 54 THROUGH 69

118	1	Quadguard-HS 24" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides (diaphragms 1 thru 3 only)	34			851100
119	1	Quadguard-HS 30" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides (diaphragms 1 thru 3 only)	34			851200
120	1	Quadguard-HS 36" diaphragm w/ monorail guides, cartridge support brackets, and hardware for guides (diaphragms 1 thru 3 only)	34			851300

ITEM NUMBER	ESTIMATED QUANTITY	DESCRIPTION	PART DETAIL SHEET(S)	UNIT PRICE	TOTAL AMOUNT	(DOH USE ONLY) INVENTORY SUBCODE
Trinity Industries TRACC Attenuators						
TRACC common parts						
Base components						
121	1	TRACC base module assembly (part # 25982A) pre-assembled w/ cross ties, nut holder plates, & shoulder studs. Does not include rip plates or doubler plates.	49, 50	\$ 1766.67	\$ 1766.67	NA
122	1	Left end shoe (part # 25955A) w/ attachment h/w	49, 50	\$ 138.32	\$ 138.32	NA
123	1	Right end shoe (part # 25954A) w/ attachment h/w	49, 50	\$ 138.32	\$ 138.32	NA
124	1	Front anchor weldment (part # 25956A) w/ attachment h/w.	49, 50	\$ 361.86	\$ 361.86	NA
125	1	3'-1" rear extension plate (part # 25961G) w/ attachment h/w (for 9-bay units)	49, 50	\$ 204.10	\$ 204.10	NA
126	1	2'-0 1/2" rear extension plate (part # 25995G) w/ attachment h/w (for 6-bay units)	55, 56	\$ 123.40	\$ 123.40	NA
9-bay unit rip plate components						
127	1	Rip plate, stage 3, bottom (part # 25964G)	49, 50	\$ 201.50	\$ 201.50	211100
128	1	Rip plate, stage 3, middle (part # 25965G)	49, 50	\$ 198.00	\$ 198.00	211150
129	1	Rip plate, stage 3, top (part # 25966G)	49, 50	\$ 198.00	\$ 198.00	211200
130	1	Rip plate, stage 2, (part # 25963G)	49, 50	\$ 188.00	\$ 188.00	211250
6-bay unit rip plate components						
131	1	Rip plate, stage 3, bottom (part # 25993G)	55, 56	\$ 194.00	\$ 194.00	211300
132	1	Rip plate, stage 3, middle (part # 25992G)	55, 56	\$ 194.00	\$ 194.00	211350
133	1	Rip plate, stage 3, top (part # 25991G)	55, 56	\$ 190.00	\$ 190.00	211400
134	1	Rip plate, stage 2, (part # 25990G)	55, 56	\$ 180.00	\$ 180.00	211450
doubler plates						
135	1	doubler plate (part # 25960G) w/ removable bolts.	49, 50	\$ 861.12	\$ 861.12	211500
136	1	11-1/2" rear doubler plate for 6-bay unit only (part # 25996G) w/ removable bolts	55, 56	\$ 135.04	\$ 135.04	211550
fender panels						
137	1	"two-bay" fender panel (part # 25973) w/ attachment to diaphragm and adjacent fender panel h/w	51, 52, 53, 54	\$ 314.61	\$ 314.61	212100
138	1	"one-bay" fender panel (part # 25974) w/ attachment to diaphragm and adjacent fender panel h/w	51, 52, 53, 54	\$ 302.08	\$ 302.08	212150
sled and frames (diaphragms)						
139	1	24" frame (diaphragm) (part # 25971)	51, 52, 53, 54	\$ 383.33	\$ 383.33	213100
140	1	24" front sled (part # 25970) w/ shredder assembly (part # 25975) pre-assembled	51, 52, 53, 54	\$ 2611.40	\$ 2611.40	213150
141	1	shredder assembly (part # 25975) w/ hitch pin clip (part # 3253) and 3/4" x 2" clevis pin (part # 4425)	51, 52, 53, 54	\$ 221.60	\$ 221.60	213200
142	1	24" end frame (part # 25972A) w/ connection to 24" concrete block h/w, connection to NJ shape h/w (including transition adaptor (part # PC33356G) & adaptor connection to wall h/w), & connection to constant slope barrier h/w.	43, 44, 45, 46, 47, 48, 51, 52	\$ 1,060.32	\$ 1,060.32	NA
143	1	end frame (part # 33405 - 1/2 of split end frame for 33" and 39" units) w/ connection to barrier h/w (33" and 39" only)	57, 58	\$ 758.73	\$ 758.73	NA
144	1	1-1/2" WT-Frame extension (part # 33406) w/ connection to frame h/w (33" units only)	57, 58	\$ 176.84	\$ 176.84	213250
145	1	3" WT-Frame extension (part # 33471) w/ connection to frame h/w (39" units only)	59, 60, 61	\$ 307.64	\$ 307.64	213300
146	1	WT-Joint plate (part # 33467) w/ 3x1/4 fender panel plate and connection h/w (39" units only)	59, 60, 61	\$ 133.04	\$ 133.04	213350

ITEM NUMBER	ESTIMATED QUANTITY	DESCRIPTION	PART DETAIL SHEET(S)	UNIT PRICE	TOTAL AMOUNT	(DOH USE ONLY) INVENTORY SUBCODE
Trinity Industries TRACC Attenuators (Continued)						
TRACC to w-beam transition components						
147	1	Lower and Upper W-beam (part # PC33344A) w/ connection to end frame h/w & splice connection h/w	36, 37	\$ 1,097.12	\$ 1,097.12	214100
148	1	W-beam (part # PC105G) w/ splice connection h/w	36, 37	\$ 306.92	\$ 306.92	214150
149	1	Backup post (post #1) (part # PC564G) w/ connection to end frame h/w	36, 37	\$ 207.20	\$ 207.20	NA
150	1	Backup post (post #1) w/ end plate (part # PC33345A) w/ connection to end frame h/w	38	\$ 529.52	\$ 529.52	NA
151	1	Support post (post # 2, 3) (part # PC33393G)	36, 37	\$ 363.34	\$ 363.34	NA
152	1	Support post (post # 4-9) (part # PC33346G)	36, 37	\$ 160.00	\$ 160.00	NA
153	1	Wood block (part # PC6144B) w/ connection to support post and beam h/w	36, 37	\$ 75.29	\$ 75.29	NA
154	1	Wood block (part # PC6142B) w/ connection to support post and beam h/w	36, 37	\$ 75.16	\$ 75.16	NA
155	1	Wood block (part # PC6145B) w/ connection to support post and beam h/w	36, 37	\$ 49.70	\$ 49.70	NA
156	1	Wood block (part # PC6146B) w/ connection to support post and beam h/w	36, 37	\$ 46.52	\$ 46.52	NA
157	1	Wood block (part # PC6147B) w/ connection to support post and beam h/w	36, 37	\$ 47.24	\$ 47.24	NA
158	1	Wood block (part # PC6143B) w/ connection to support post and beam h/w	36, 37	\$ 48.48	\$ 48.48	NA
159	1	Wood block (part # PC6141B) w/ connection to support post and beam h/w	36, 37	\$ 48.64	\$ 48.64	NA
TRACC to thrie beam transition components						
160	1	Right transition panel (part # PC33371A) w/ connection to end frame h/w and splice h/w	39, 40	\$ 883.56	\$ 883.56	214200
161	1	Left transition panel (part # PC33372A) w/ connection to end frame h/w and splice h/w	39, 40	\$ 883.56	\$ 883.56	214250
162	1	Backup post (post #1) (part # PC564G) w/ connection to end frame h/w	39, 40	\$ 207.68	\$ 207.68	NA
163	1	Backup post (post #1) w/ end plate (part # PC33345A) w/ connection to end frame h/w	41	\$ 530.00	\$ 530.00	NA
164	1	Steel Support post (post # 2-4) (part # PC33346G)	39, 40	\$ 240.00	\$ 240.00	NA
165	1	Wood block (part # PC6143) w/ connection to support post and beam h/w (for use w/ steel supports)	39, 40	\$ 48.48	\$ 48.48	NA
166	1	Wood Support post (post # 2-4) (part # PC6137B)	42	\$ 100.00	\$ 100.00	NA
167	1	Wood block (part # PC6138B) w/ connection to support post and beam h/w (for use with wood supports)	42	\$ 49.98	\$ 49.98	NA
TRACC to 24" concrete block transition components						
168	1	24" concrete block end shoe (part # PC33367G) w/ connection to barrier h/w	43, 44	\$ 328.68	\$ 328.68	214300
TRACC to NJ barrier transition components						
169	1	Lower W-beam (part # PC33360A) w/ connection to end frame h/w	45, 46	\$ 435.02	\$ 435.02	214350
170	1	Lower terminal (part # PC33380G) w/ connection to barrier and beam h/w	45, 46	\$ 204.92	\$ 204.92	214400
171	1	Upper W-beam (part # PC33359A) w/ connection to end frame h/w, wood blocks (part numbers PC6135B and PC6136B), and wood block connection h/w	45, 46	\$ 453.36	\$ 453.36	214450
172	1	Upper terminal (part # PC33380G) w/ connection to barrier and beam h/w	45, 46	\$ 204.92	\$ 204.92	214500

BID SCHEDULE (CONTINUED)

ITEM NUMBER	ESTIMATED QUANTITY	DESCRIPTION	PART DETAIL SHEET(S)	UNIT PRICE	TOTAL AMOUNT	(DOH USE ONLY) INVENTORY SUBCODE
		Trinity Industries TRACC Attenuators (Continued)				
		TRACC to single slope barrier components				
173	1	Lower W-beam (part # PC3360A) w/ connection to end frame h/w.	47, 48	\$ 383.02	\$ 383.02	214550
174	1	Upper W-beam (part # PC33359A) w/ connection to end frame h/w, wood blocks (part numbers PC6533B and PC6534B), and wood block connection h/w	47, 48	\$ 408.16	\$ 408.16	214600
175	1	Upper and Lower terminal (part # PC926G) w/ connection to barrier and beam h/w	47, 48	\$ 210.22	\$ 210.22	214650
		TRACC miscellaneous hardware				
176	1	1/2" cable clamp (part # 4324)	59, 60, 61	\$ 10.05	\$ 10.05	215100
177	1	WT-cable clamp plate (part # 33470)	59, 60, 61	\$ 72.00	\$ 72.00	215160
178	1	1/2" cable (part # 6713)	59, 60, 61	\$ 255.40	\$ 255.40	215200
179	1	plate washer assembly w/ 5/8 bolt (part # 5306), 3 ea. plate washers (part # 19737), 5/8 fw (part # 4372), and 5/8 nut (part # 3361)	51, 52, 53, 54	\$ 78.52	\$ 78.52	215250
BID TOTAL						

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: SITEJ SAFE PRODUCTS LLC

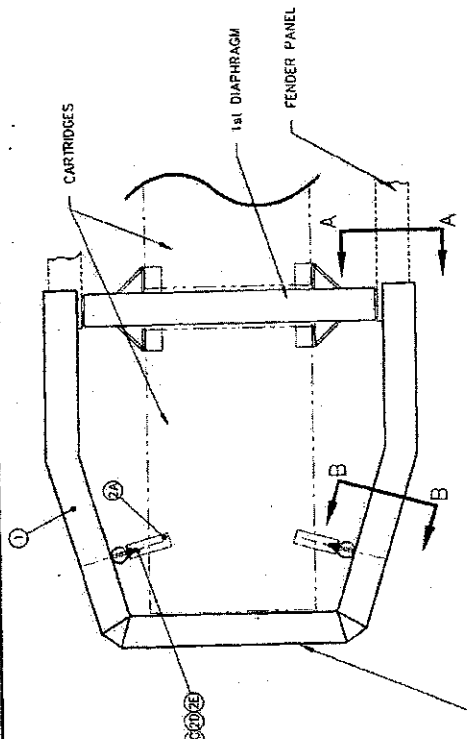
Authorized Signature: *Humi Jety* Date: 02/22/08

**PART DETAIL
SHEETS (NOTE:
SHEETS 1
THROUGH 2
INTENTIONALLY
OMITTED)**

PARTS LIST		RECD
ITEM	STOCK NO.	NO.
1	2020811-0000	1
2	2714890-0000	2
2A	2714892-0000	2
2B	2714891-0000	2
2C	2704031-0000	6
2D	2768021-0000	6
2E	2768951-0000	6

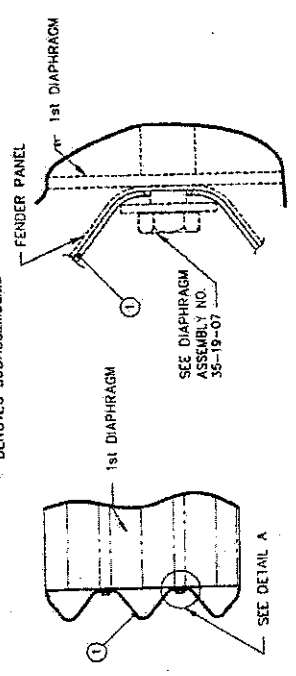
DESCRIPTION
COVER, NOSE, GREAT, GRAY
NOSE, LEG ASSY
LEG, PLASTIC, GREAT, NOSE
TAB, GREAT, NOSE, LEG
WASHER, FLAT, 3/8X1.0
NUT, PK. 3/B, G
BOLT, CR. 3/8X2.1/2, G, G

*FOR YELLOW, THE LAST FOUR DIGITS ARE -0100
 ** DENOTES SUBASSEMBLIES

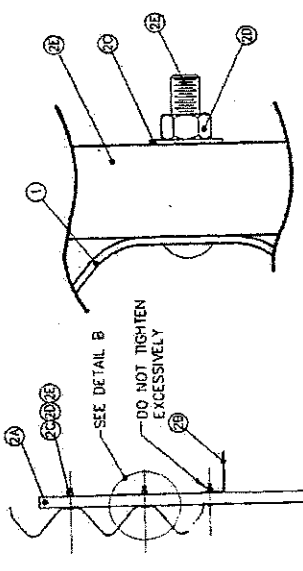


PLAN VIEW

DELINATION SHOULD BE ADDED TO THE NOSE, AS REQUIRED BY LOCAL POLICIES. MAX. WEIGHT TO BE ADDED: 7 LBS. (3.18 KG)



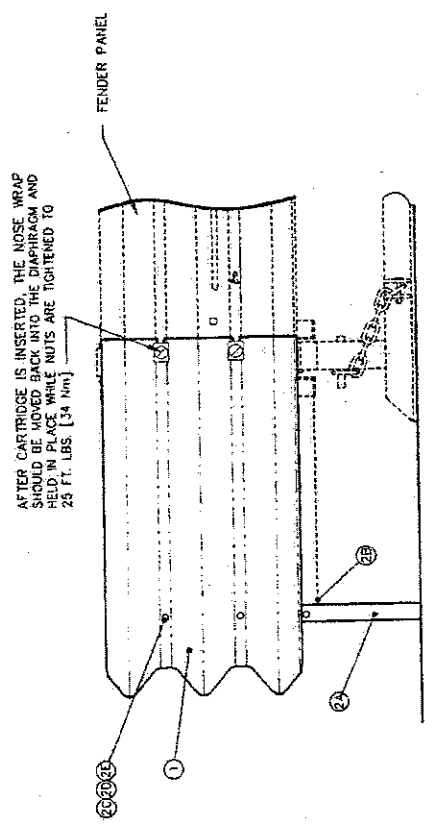
DETAIL A



SECTION A-A

DETAIL B

SECTION B-B



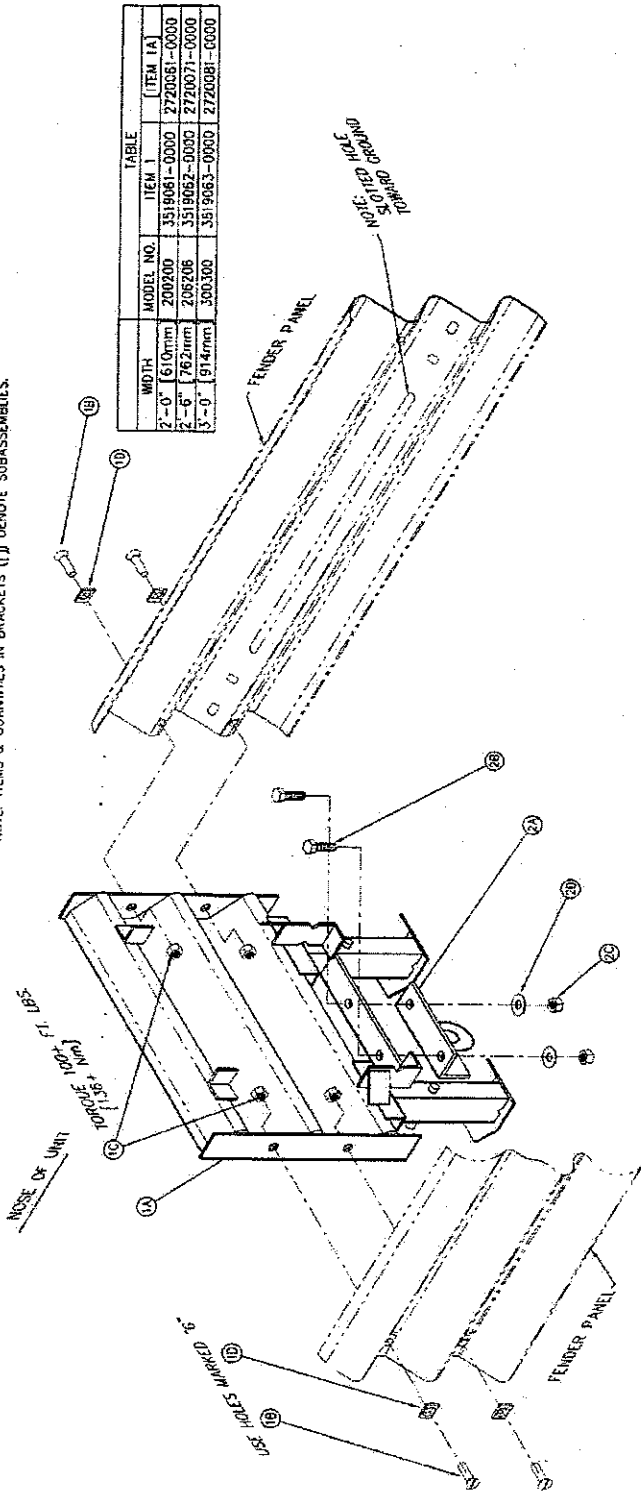
RIGHT SIDE VIEW

ENERGY ABSORPTION SYSTEMS, INC.
 ENGINEERING AND RESEARCH DEPARTMENT

G-R-E-A-T® SYSTEM
 NOSE COVER ASSEMBLY FOR
 SYSTEMS
 WITH HEX-FOAM® II CARTRIDGES

ITEM	STOCK NO.	DESCRIPTION	PARTS LIST														
			1	2	3	4	5	6	7	8	9	10	11	12			
1	SEE TABLE	DIAPHRAGM ASSY. TB															
1A	SEE TABLE	DIAPHRAGM, TB															
1B	2708781-0000	SCREW FLAT, SLOTTED, 3/4 x 2, G	1	2	3	4	5	6	7	8	9	10	11	12			
1C	2704091-0000	NUT, HK, 3/4 x 2, G	4	6	12	16	20	24	28	32	36	40	44	48			
1D	2708781-0000	WASHER, FENDER PANEL	4	6	12	16	20	24	28	32	36	40	44	48			
2	2703240-0000	CABLE GUIDE, ASSY, GREAT	1	2	2	2	2	2	2	2	2	2	2	2			
2A	2703241-0000	CABLE GUIDE, GREAT	1	1	1	1	1	1	1	1	1	1	1	1			
2B	2700011-0000	BOIT, HK, 3/4 x 2, GS, G	2	4	4	4	4	4	4	4	4	4	4	4			
2C	2704091-0000	NUT, HK, 3/4 x 2, G	2	4	4	4	4	4	4	4	4	4	4	4			
2D	2708081-0000	WASHER, FLAT, 3/4 x 2, G	2	4	4	4	4	4	4	4	4	4	4	4			

NOTE: ITEMS & QUANTITIES IN BRACKETS ([]) DENOTE SUBASSEMBLIES.



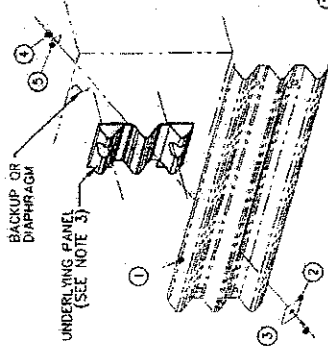
ENERGY ABSORPTION SYSTEMS, INC.
 ENGINEERING AND RESEARCH DEPARTMENT
G-R-E-A-T® SYSTEM
DIAPHRAGM ASSEMBLY
 FOR
HEX-FOAM® II CARTRIDGES

- NOTES:
1. RESTRAINING CABLE GUIDE ASSEMBLY (ITEMS 2A, 2B, 2C, & 2D) REQUIRED ON FIRST DIAPHRAGM ONLY. ON 3 BAY UNITS, REQUIRED ON FRONT TWO DIAPHRAGMS ONLY. 4 BAY UNITS AND LONGER.

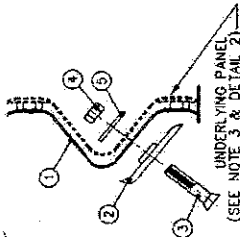
PARTS LIST															
ITEM	STOCK NO.	DESCRIPTION	NO. OF BAYS	1	2	3	4	5	6	7	8	9	10	11	12
1	2738111-0000	PANEL TB/FENDER		2	4	6	8	10	12	14	16	18	20	22	24
2	2708153-0000	WASHER MUSHROOM FORGED G.		2	4	6	8	10	12	14	16	18	20	22	24
3	2701731-0100	BOLT F. 5/8x3.68 P-ALLEN SOCKET		2	4	6	8	10	12	14	16	18	20	22	24
4	2704141-0000	NUT HK. 3/8 G.		2	4	6	8	10	12	14	16	18	20	22	24
5	2705381-0000	WASHER BAR, 2X2X1/4 G.		2	4	6	8	10	12	14	16	18	20	22	24
6	2752650-0000	DEFLECTOR MUSHROOM BOLT		0	2	4	6	8	10	12	14	16	18	20	22
7	2706161-0000	SCREW FL. 1/2X1 SLOTTED G.		0	2	4	6	8	10	12	14	16	18	20	22
8	2704011-0000	NUT HK. 1/2 G.		0	2	4	6	8	10	12	14	16	18	20	22
9	2708011-0000	WASHER FL. 1/2X1 3/8 G.		0	2	4	6	8	10	12	14	16	18	20	22

2752015-0000
BOLT ASSY. MUSHROOM

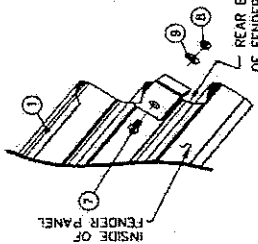
2752650-0000
MUSHROOM BOLT
DEFLECTOR ASSY



DETAIL 2

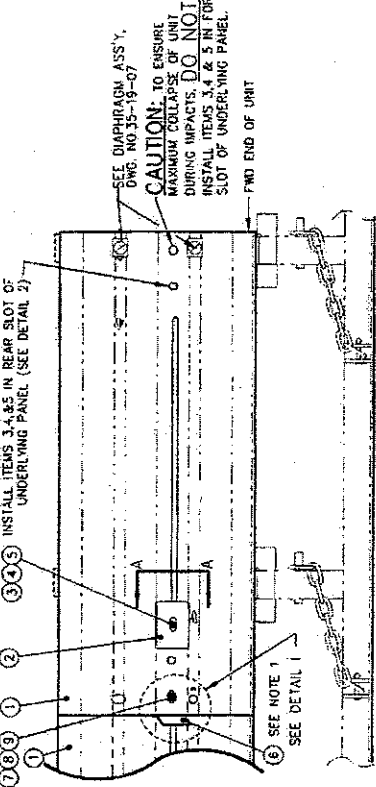


SECTION A-A

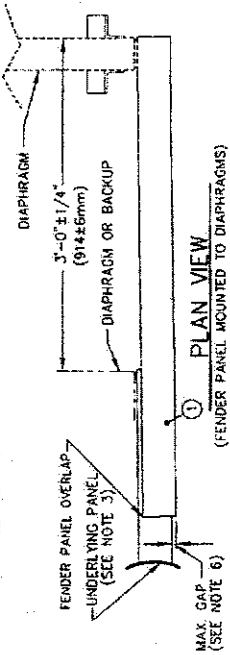


DETAIL 1

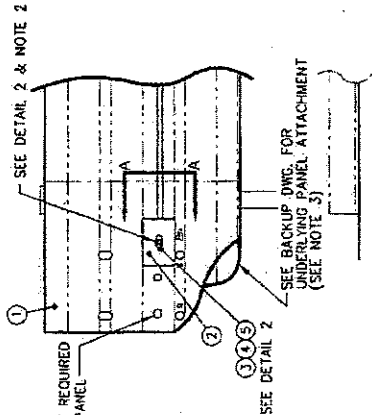
IMPORTANT:
INSTALL ITEMS 3, 4, 5 IN REAR SLOT OF UNDERLYING PANEL (SEE DETAIL 2)



LEFT SIDE VIEW
FENDER PANEL ASSEMBLY



PLAN VIEW
(FENDER PANEL MOUNTED TO DIAPHRAGMS)



SIDE VIEW

- NOTES:
- ITEM 6 TO BE BOLTED TO ITEM 1, BEFORE ITEM 1 IS INSTALLED.
 - ITEM 4 TO BE INSTALLED AND TIGHTENED, USING A 3/8" (9.5mm) ALLEN WRENCH AND TORQUE WRENCH TO 60 (1.6) ± 10 (1.4) Nm (± 13 Nm).
 - UNDERLYING PANEL IS EITHER ANOTHER FENDER PANEL, OR, IN THE CASE OF THE LAST FENDER PANEL, IT COULD BE A BACKUP SIDE PANEL, EXTENSION PANEL, OR TRANSITION PANEL.
 - WARNING: THE MUSHROOM DEFLECTORS MUST BE USED ON ALL EXCEPT THE LAST BAY. FAILURE TO USE THE MUSHROOM DEFLECTORS COULD CAUSE THE FENDER PANELS TO CATCH ON THE MUSHROOM WASHERS DURING AN IMPACT.
 - WARNING: DO NOT FASTEN THE LAST FENDER PANEL BODILY TO THE HAZARD WITH ADDITIONAL FASTENERS BESIDES THE MUSHROOM ASSEMBLY. THE LAST PANEL MUST BE ABLE TO SLIDE TO ALLOW THE LAST CARTRIDGE TO BE CRUSHED.
 - MAXIMUM GAP:
3/4" (19mm) ± 1/4" (6mm) ON ANY SIDE WHERE TRAFFIC APPROACHES FROM REAR;
1/2" (13mm) MAX. ON ANY SIDE, WHERE TRAFFIC APPROACHES NOSE HEAD-ON

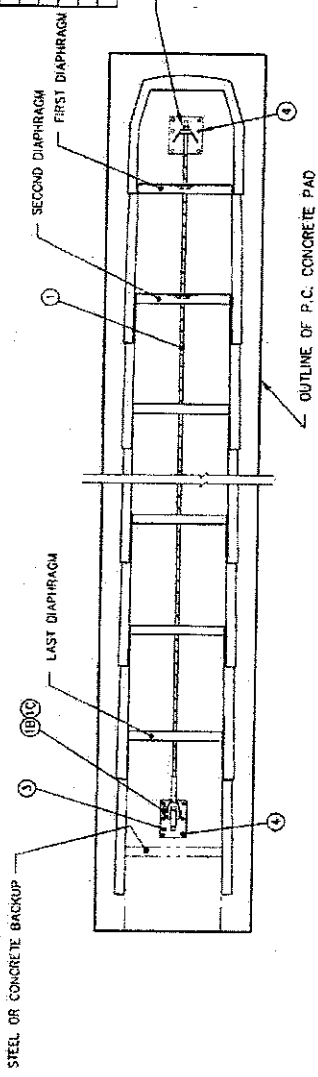
ENERGY ABSORPTION SYSTEMS, INC.
ENGINEERING AND RESEARCH DEPARTMENT

G-R-E-A-T® SYSTEM
THREE-BEAM FENDER
PANEL ASSEMBLY

ITEM	STOCK NO.	DESCRIPTION	QTY
1	SEE TABLE A	CABLE, RESTRAINING, 7/8"	1
1A	2704121-0000	NUT, HK, 1 1/2, G	1
1B	2702021-0000	CLEVIS PIN, 1 5/8 X 4 5/16	1
1C	2702231-0000	PIN, COTTER, 5/16 X 2 1/2	1
2	2752251-0000	ANCHOR, CABLE, (STUD END)	1
3	2752231-0000	ANCHOR, CABLE	1
4	3525120-0000	ANCHOR, MP-3 KIT, 3/4 X 6 1/2	2
5	2708491-0000	WASHER, BAR, 3 X 3 X 1/4, G	6

* DENOTES SUBASSEMBLIES

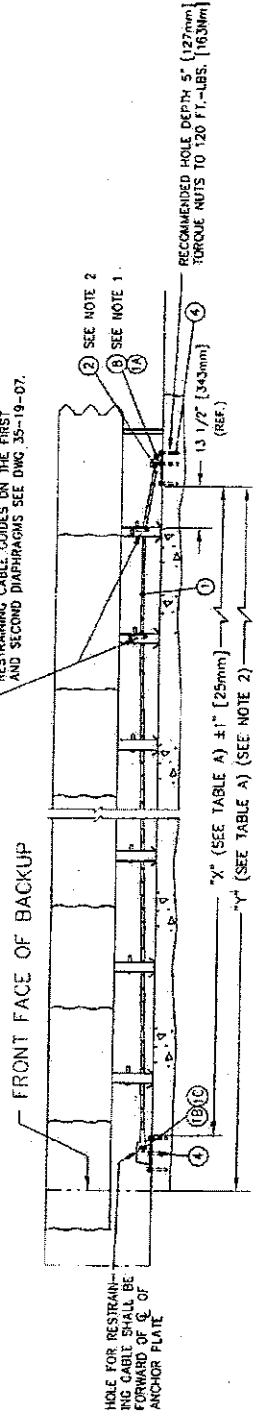
IF NECESSARY TO TENSION CABLE, USE BAR WASHER(S), (ITEM B) BETWEEN FRONT ANCHOR AND NUT (ITEMS 2 AND 1A) TORQUE NUT TO APPROXIMATELY 150 FT LBS [203Nm]



PLAN
(CARTRIDGES NOT SHOWN)

ASSEMBLY NO.	CABLE PART NO.	NO. OF BAYS	"X"	"Y"	CABLE LENGTH
3506090-0400	2742111-0000	4	11'-7 1/4" [3537mm]	13'-1 1/2" [400mm]	13'-0" [3982mm]
3506090-0500	2742112-0000	5	14'-7 1/4" [4451mm]	16'-1 1/2" [4915mm]	16'-0" [4877mm]
3506090-0600	2742113-0000	6	17'-7 1/4" [5356mm]	19'-1 1/2" [5820mm]	19'-0" [5791mm]
3506090-0700	2742114-0000	7	20'-7 1/4" [6260mm]	22'-1 1/2" [6774mm]	22'-0" [6706mm]
3506090-0800	2742115-0000	8	23'-7 1/4" [7164mm]	25'-1 1/2" [7688mm]	25'-0" [7620mm]
3506090-0900	2742116-0000	9	26'-7 1/4" [8068mm]	28'-1 1/2" [8613mm]	28'-0" [8554mm]
3506090-1000	2742117-0000	10	29'-7 1/4" [8972mm]	31'-1 1/2" [9417mm]	31'-0" [9449mm]
3506090-1100	2742118-0000	11	32'-7 1/4" [9876mm]	34'-1 1/2" [10400mm]	34'-0" [10361mm]
3506090-1200	2742119-0000	12	35'-7 1/4" [10780mm]	37'-1 1/2" [11304mm]	37'-0" [11262mm]

INSERT RESTRAINING CABLE THROUGH THE RESTRAINING CABLE GUIDES ON THE FIRST AND SECOND DIAPHRAGMS SEE DWG. 35-19-07.



ELEVATION

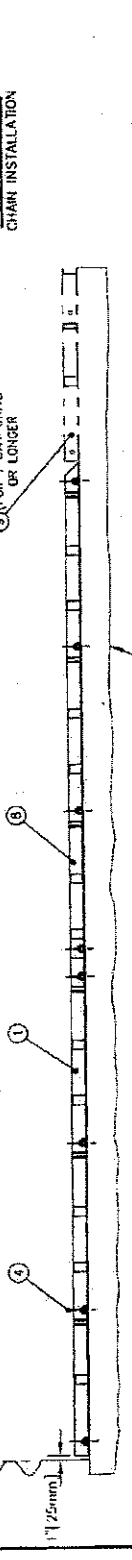
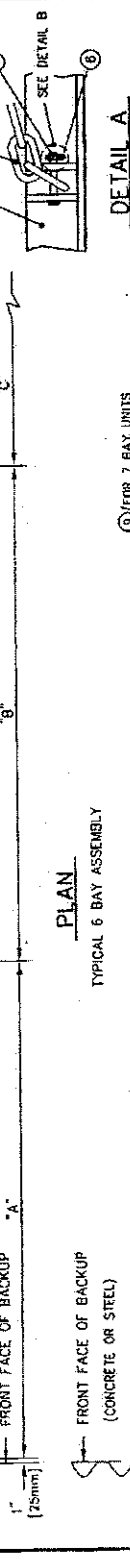
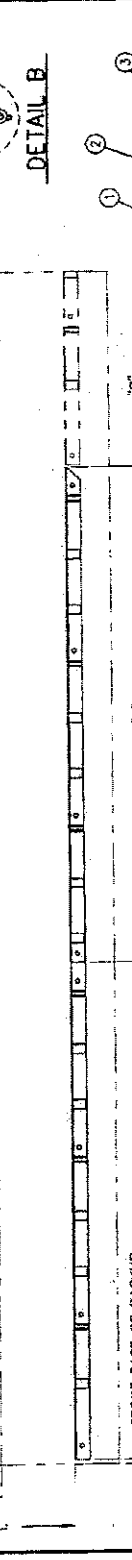
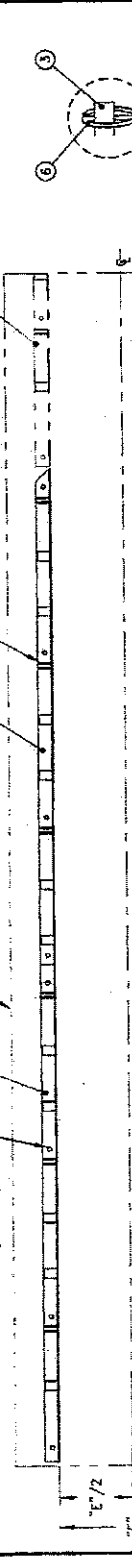
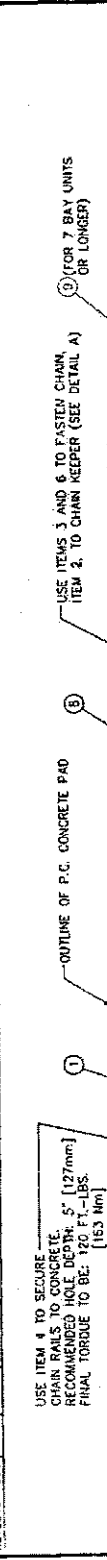
TYPICAL 6-BAY UNIT SHOWN. SEE TABLE A FOR OTHER SIZES FOR CLARITY, ANCHOR CHAINS AND RAIL NOT SHOWN

- NOTES:
1. USE REL. B AS REQUIRED FOR SHIM
 2. FRONT AND REAR ANCHORAGE MAY BE SIMULTANEOUSLY MOVED REARWARD 3" [76mm] TO AVOID REBAR.

ENERGY ABSORPTION SYSTEMS, INC.
ENGINEERING AND RESEARCH DEPARTMENT

G-R-E-A-T® SYSTEM
RESTRAINING CABLE
ANCHOR ASSEMBLY
4-12 BAY SYSTEMS

ASSEMBLY NO.	NO. OF BAYS	TOTAL RAIL LENGTH	PARTS LIST		UNIT	QUANTITIES REQUIRED
			ITEM	DESCRIPTION		
3518040-0100	1	2'-11" (688mm)	1	CHAIN RAIL (SECTION A)	1	1
3518040-0200	2	3'-11" (1003mm)	2	CHAIN RAIL (SECTION A)	2	2
3518040-0300	3	4'-11" (1478mm)	3	CHAIN RAIL (SECTION A)	3	3
3518040-0400	4	5'-11" (1853mm)	4	CHAIN RAIL (SECTION A)	4	4
3518040-0500	5	6'-11" (2228mm)	5	CHAIN RAIL (SECTION A)	5	5
3518040-0600	6	7'-11" (2603mm)	6	CHAIN RAIL (SECTION A)	6	6
3518040-0700	7	8'-11" (2978mm)	7	CHAIN RAIL (SECTION A)	7	7
3518040-0800	8	9'-11" (3353mm)	8	CHAIN RAIL (SECTION A)	8	8
3518040-0900	9	10'-11" (3728mm)	9	CHAIN RAIL (SECTION A)	9	9
3518040-1000	10	11'-11" (4103mm)	10	CHAIN RAIL (SECTION A)	10	10
3518040-1100	11	12'-11" (4478mm)	11	CHAIN RAIL (SECTION A)	11	11
3518040-1200	12	13'-11" (4853mm)	12	CHAIN RAIL (SECTION A)	12	12



USE ITEM 4 TO SECURE CHAIN RAILS TO CONCRETE. RECOMMENDED HOLE DEPTH: 5" (127mm). FINAL TORQUE TO BE: 120 FT.-LBS. (163 Nm).

USE ITEMS 3 AND 6 TO FASTEN CHAIN, ITEM 2, TO CHAIN KEEPER (SEE DETAIL A) (FOR 7 BAY UNITS OR LONGER)

USE ITEM 5 TO FASTEN CHAIN, ITEM 2, TO CHAIN KEEPER (SEE DETAIL A) (FOR 7 BAY UNITS OR LONGER)

CONCRETE PAD OR ROADWAY

FRONT FACE OF BACKUP "A"

FRONT FACE OF BACKUP (CONCRETE OR STEEL)

TYPICAL 6 BAY ASSEMBLY

ELEVATION

DETAIL A
CHAIN INSTALLATION

DETAIL B

ENERGY ABSORPTION SYSTEMS, INC.
ENGINEERING AND RESEARCH DEPARTMENT
G-R-E-A-T® SYSTEM
CHAIN RAIL ASSEMBLY

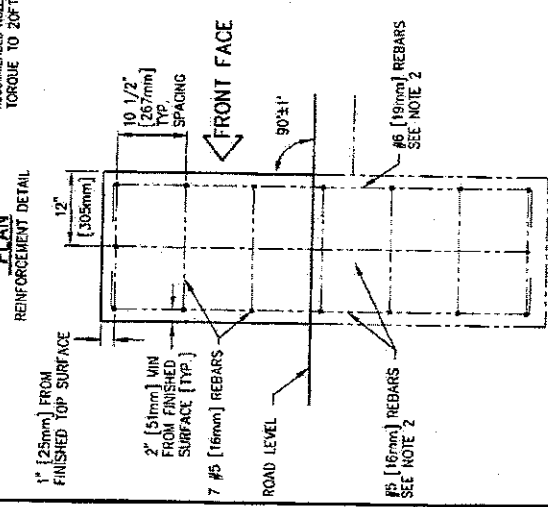
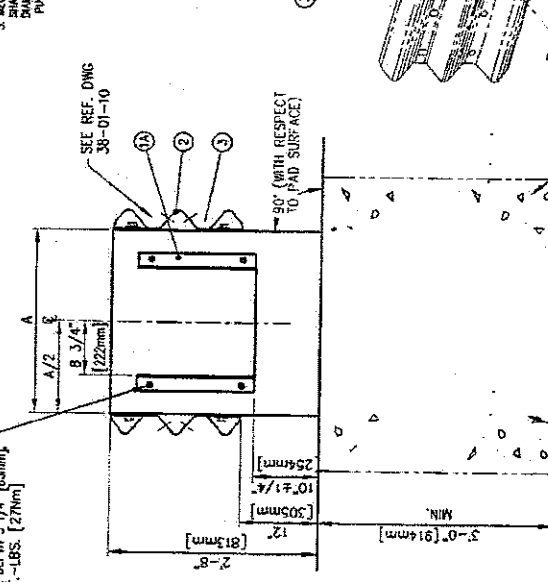
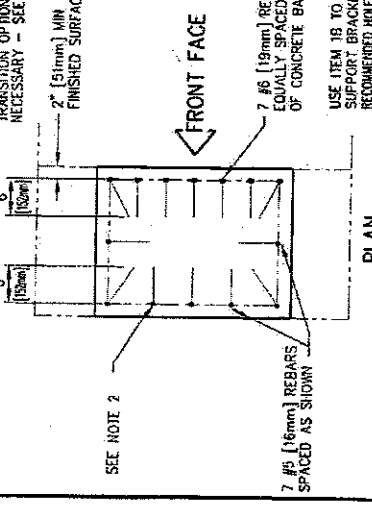
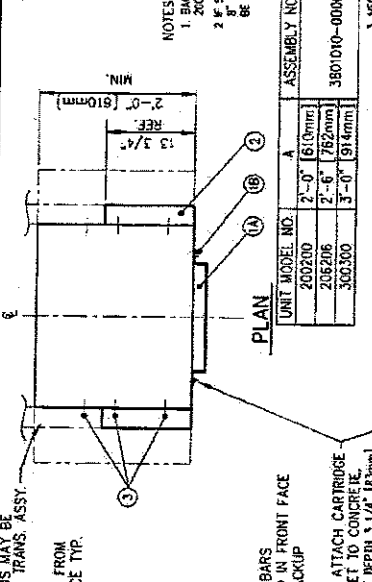
NOTES:
1. USE CHAIN RAILS AS TEMPLATE TO LOCATE MP-3 ANCHOR BOLTS
2. CHAIN RAILS ARE IDENTIFIED BY LENGTH.

ITEM	STOCK NO.	DESCRIPTION	QUANTITY	REMARKS
1	2752500-0000	BRACKET ASSY, CART. SUPPORT, CONC.	1	
1A	2752501-0000	BRACKET, CARTRIDGE SUPPORT, C-B/U	1	
1B	3525060-0000	ANCHOR, MP-3 KIT, 3/8 x 4	1	
2	2752121-0000	PANEL, SIDE, CONC. BACKUP	1	
3	3525010-0000	ANCHOR, MP-3 KIT, 3/4 x 6 1/2	2	

NOTES:
 * INDENTED QUANTITIES INDICATE SUBASSEMBLIES.
 1. BACKUP MUST BE ABLE TO WITHSTAND A MAXIMUM OVERBURDEN MOMENT OF 2000 MP-IN. (226800N) AT DECK LINE FOR DURATIONS OF 408 MIN.
 2. IF SYSTEM IS TO BE LOCATED ON 7" (178mm) MIN DECK STRUCTURE OR 9" (230mm) MIN HIGH-REINFORCED ROADWAY ALL VERTICAL STEEL SHALL BE DOUBLED AND P.C. CONCRETE A MIN. OF 5" (127mm)

CONCRETE	REBAR
IN BRACKET	IN FOOTING
4 YD ³ (0.36m ³)	9 YD ³ (0.7m ³)
5 YD ³ (0.36m ³)	9 YD ³ (0.7m ³)
6 YD ³ (0.44m ³)	9 YD ³ (0.7m ³)
	95 FT. (2895m)
	37 FT. (11.3m)

3. SECURELY TIE REBARS TO BE SUBSTITUTED IN HORIZONTAL APPLICATIONS AND SHALL BE CAPED AT ALL ENDS. REBAR SPACING SHALL BE THE SAME UNLESS OTHERWISE SPECIFIED. REBARS SHALL HAVE THE FOLLOWING MINIMUM YIELD STRENGTHS: 3/4" DIA. - 2760 POUNDS (12382 N) 3/8" DIA. - 11,000 POUNDS (48950 N)



ENERGY ABSORPTION SYSTEMS, INC.
 ENGINEERING AND RESEARCH DEPARTMENT

G-R-E-A-T® SYSTEM
 CONCRETE BACKUP WALL ASSEMBLY
 FOR
 HEX-FOAM® II CARTRIDGES

MECHANICAL TYPE ANCHORS MAY BE SUBSTITUTED IN HORIZONTAL APPLICATIONS AND SHALL BE SUPPLIED BY OTHERS. THE SUBSTITUTED ANCHORS SHALL BE THE SAME DIAMETER AS THE MP-3 ANCHORS AND HAVE THE FOLLOWING MINIMUM TENSILE STRENGTHS:
 3/4" - 11,500 POUNDS (49,000 N)
 1" - 17,500 POUNDS (78,000 N)

ITEM 11A TO BE FLAT AGAINST SIDE OF BARRIER AND PROPERLY ANCHORED TO PREVENT SHAGGING OF VEHICLES.

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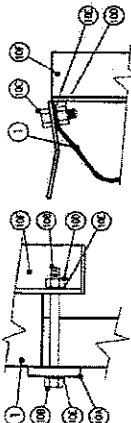
PARTS LIST

ITEM	STOCK NO.	DESCRIPTION	QTY	RECD
1	SEE TABLE	BACKUP, NJ OFFSET, L	1	1
2	2752111-0000	PANEL, SDF, STEEL BACKUP	1	1
3	2752191-0000	BRACKET, ATTACHMENT, NJ, R	1	1
4	2752201-0000	BRACKET, ATTACHMENT, NJ, L	1	1
5	3525130-0000	ANCHOR, MP-3 KIT, 3/4 x 6 1/2	2	2
6	2705761-0000	SCREW, FLAT, SLOTTED, 3/4 x 2, G	10	10
7	2705791-0000	WASHER, FENDER PANEL	10	10
8	2704091-0000	NUT, HK, 3/4, G	10	10
9	2708201-0000	WASHER, LOCK, 3/4, G	10	10
10	2752590-0000	BRACKET ASSY, CART, SUPPORT, ST	1	1
10A	2752611-0000	BAR, CLAMPING, CART, SUPT, BRACKET	1	1
10B	2701331-0000	BOLT, HK, 3/8 x 4 1/2, G2, G	2	2
10C	2701721-0000	BOLT, HK, 3/8 x 1, G2, G	2	2
10D	2704031-0000	NUT, HK, 3/8, G	4	4
10E	2708201-0000	WASHER, FLAT, 3/8 x 1, G	6	6
10F	2752591-0000	BRACKET, CARTRIDGE, SUPPORT, ST BU	1	1
11	2752241-0000	PANEL ASSY, TRANS, L, 4, OFFSET	1	1
11A	2708201-0000	PANEL, TRANSITION, 4, OFFSET, L	1	1
11C	2701381-0000	BOLT, HK, 3/4 x 2, G2, G	2	2
11D	2752271-0000	BRACKET, SUPPORT, TRANS PNL-NONBU	1	1
11E	3525130-0000	ANCHOR, MP-3 KIT, 3/4 x 6 1/2	1	1
11F	2708061-0000	WASHER, FLAT, 3/4 x 2, G	2	2
11G	2704091-0000	NUT, HK, 3/4, G	2	2

INDENTED QUANTITIES INDICATE SUBASSEMBLIES

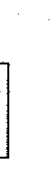
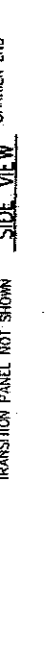
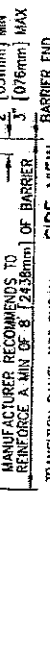
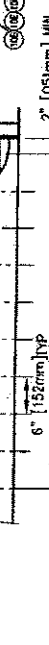
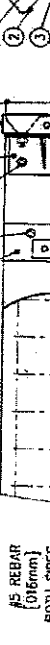
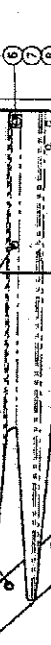
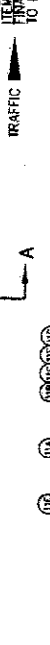
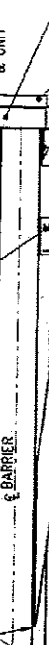
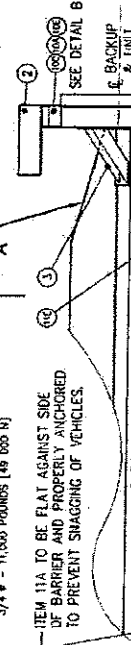
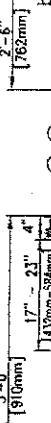
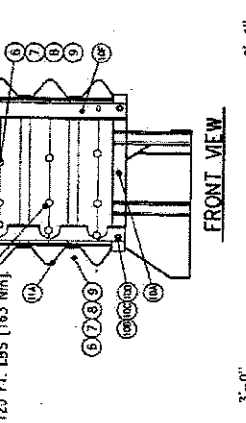
MODEL NO/ITEM 1 PART NO/ ASSEMBLY NO.

200200	2903211-0000	3821021-0000
208206	2903212-0000	3821052-0000
300300	2903213-0000	3821113-0000



FIELD ONLY, 7/8" (22mm) HOLES 6 PLACES
 SPRAY MIN. COAT GALV. COMPOUND
 AFTER GRILLING.

RECOMMENDED
 HOLE DEPTH FOR
 ITEM 5 TO BE 5" (127mm)
 MIN. TORQUE
 TO BE 120 FT. LBS (163 Nm)



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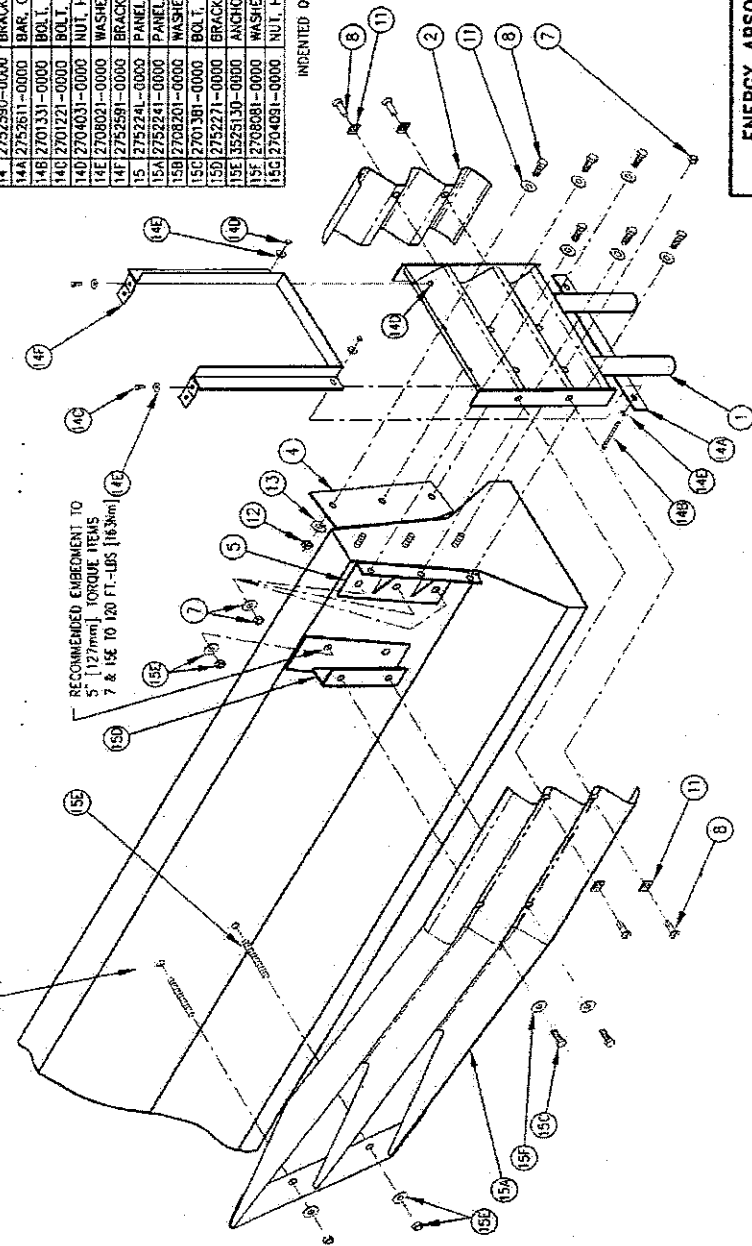
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MODEL NUMBER	ITEM 1 PART NO.	ITEM 4 PART NO.	ASSEMBLY NUMBER
200200	2803211-0000	2752191-0000	3521021-0000
208208	2803212-0000	2752641-0000	3521022-0000
300300	2803213-0000	2753052-0000	3521023-0000

PARTS LIST		STOCK NO.	DESCRIPTION	QTY.
1	SEE TABLE		BACKUP NUT, OFFSET, L	1
2	2752111-0000		PANEL, SIDE, STEEL BACKUP	1
3	DELETED			
4	SEE TABLE		BRACKET, ATTACHMENT, N.J. R	1
5	2752201-0000		BRACKET, ATTACHMENT, N.J. L	1
6	DELETED			
7	3525130-0000		ANCHOR, MP-3 KIT, 3/4 x 6 1/2	2
8	2706761-0000		SCREW, FLAT, SLOTTED, 3/4 x 2, G	10
9	DELETED			
10	DELETED			
11	2708791-0000		WASHER, FENDER PANEL	10
12	2704091-0000		NUT, HK, 3/4, G	10
13	2708201-0000		WASHER, LOCK, 3/4, G	10
14	2752590-0000		BRACKET ASSY, CART, SUPPORT, ST	1
14A	2752611-0000		BAR, CLAMPING, CART, SUPT. BRACKET	1
14B	2701331-0000		BOLT, HK, 3/8 x 4 1/2, G2, G	2
14C	2701221-0000		BOLT, HK, 3/8 x 1, G2, G	2
14D	2704031-0000		NUT, HK, 3/8, G	4
14E	2708021-0000		WASHER, FLAT, 3/8 x 1, G	6
14F	2752591-0000		BRACKET, CARTRIDGE, SUPPORT, ST BU	1
15	2752241-0000		PANEL ASSY, TRANS, L, 4, OFFSET	1
15A	2752241-0000		PANEL, TRANSITION, 4, OFFSET, L	1
15B	2708201-0000		WASHER, LOCK, 3/4, G	2
15C	2701381-0000		BOLT, HK, 3/4 x 2, G2, G	2
15D	2752271-0000		BRACKET, SUPPORT, TRANS PNL-NICMBI	1
15E	3525130-0000		ANCHOR, MP-3 KIT, 3/4 x 6 1/2	1
15F	2708081-0000		WASHER, FLAT, 3/4 x 2, G	2
15G	2704091-0000		NUT, HK, 3/4, G	2

INPENTED QUANTITIES INDICATE SUB ASSEMBLIES

ITEM 15A TO BE FLAT AGAINST SIDE OF BARRIER AND TIGHTLY ANCHORED TO PREVENT SHAGGING OF VEHICLES.



ENERGY ABSORPTION SYSTEMS, INC.
ENGINEERING AND RESEARCH DEPARTMENT

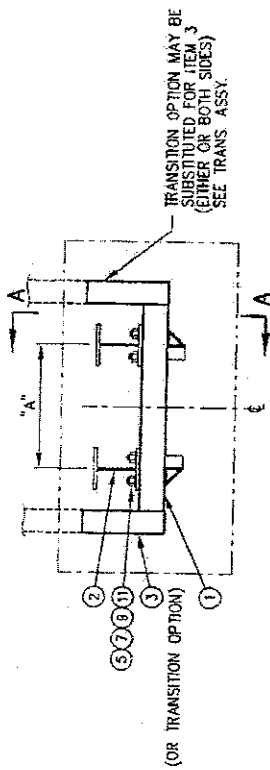
NEW JERSEY
MEDIAN BARRIER
ATTACHED BACKUP
BI-DIRECTIONAL

ITEM	STOCK NO.	DESCRIPTION	RECD
1	SEE TABLE	BACKUP, WF, 24", 30", 36"	1
2	2903311-0000	POST, WF, 74	2
3	2752111-0000	PANEL, SIDE, STEEL BACKUP	2
5	2708781-0000	SCREW, FLAT, SLOTTED, 3/4 x 2, G	12
7	2704091-0000	NUT, HEX, 3/4, G	12
9	2708791-0000	WASHER, FENDER PANEL	12
11	2708201-0000	WASHER, LOCK, 3/4, G	12

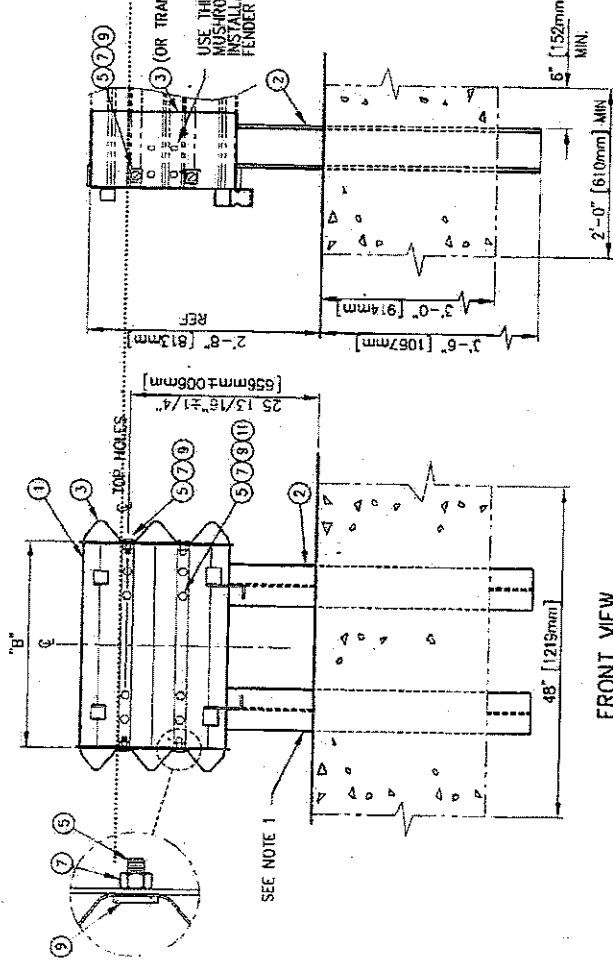
MODEL NUMBER	ASSEMBLY NUMBER	PART NO.	"A"	"B"
200200	3831011-0000	2903321-0000	1'-0" [305mm]	2'-0" [610mm]
206206	3831012-0000	2903322-0000	1'-6" [457mm]	2'-6" [762mm]
300300	3831013-0000	2903323-0000	2'-0" [610mm]	3'-0" [914mm]

PARTS LIST	
ITEM	DESCRIPTION
1	BACKUP, WF, 24", 30", 36"
2	POST, WF, 74
3	PANEL, SIDE, STEEL BACKUP
5	SCREW, FLAT, SLOTTED, 3/4 x 2, G
7	NUT, HEX, 3/4, G
9	WASHER, FENDER PANEL
11	WASHER, LOCK, 3/4, G

INDENTED QUANTITIES INDICATE SUB ASSEMBLIES.



TOP VIEW



FRONT VIEW

ASSEMBLY NO. (SEE TABLE)

ENERGY ABSORPTION SYSTEMS, INC.
ENGINEERING AND RESEARCH DEPARTMENT

G-R-E-A-T® SYSTEM
WIDE FLANGE BACKUP
ASSEMBLY

FOR HEX FOAM® II CARTRIDGES

NOTE:
1. PRE-ASSEMBLE BACKUP (ITEM 1) TO WF POSTS (ITEM 2) PRIOR TO EMBEDDING IN CONCRETE.

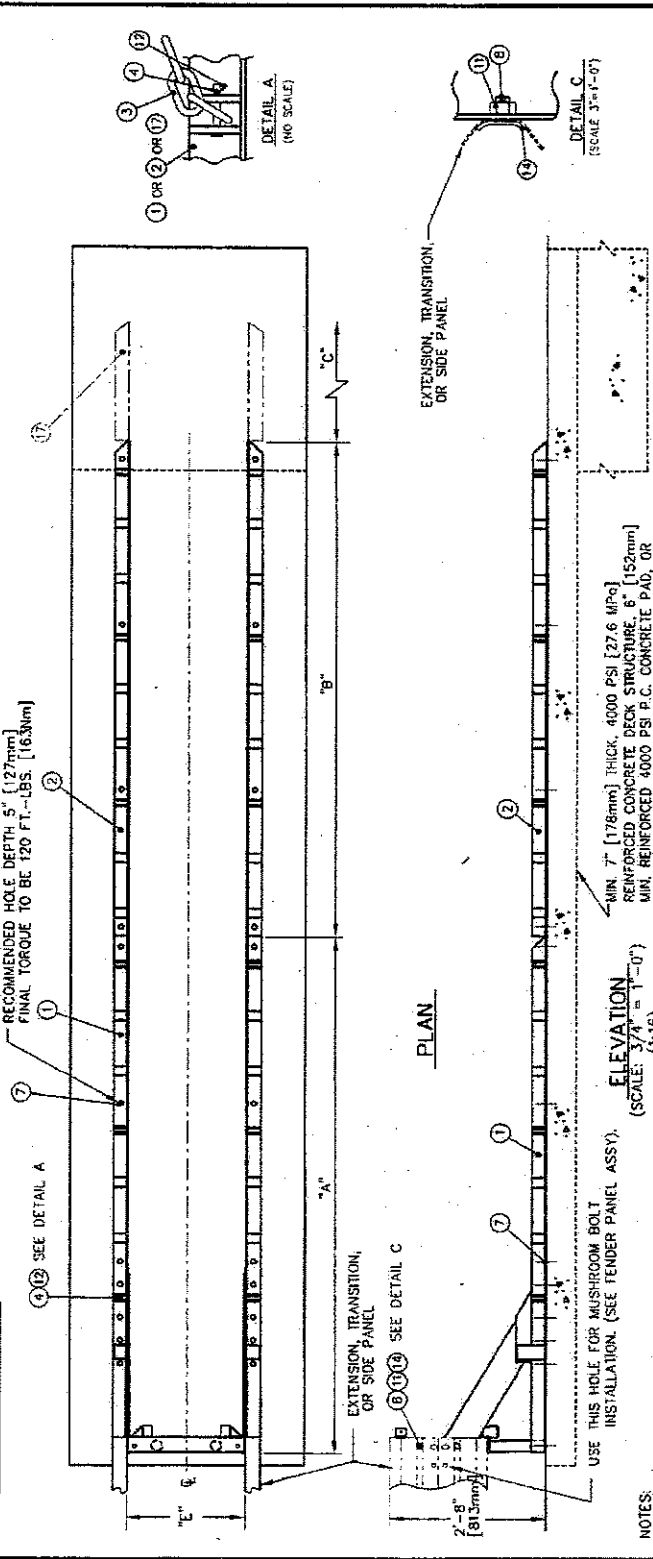
SIDE VIEW

SEE PAGE 28 FOR FORWARD PAD DETAILS

TABLE 1

ASSEMBLY NO.	NO. OF BAYS	TOTAL BAY LENGTH	"K" (ITEM 1)	"B" (ITEM 2)	"C" (ITEM 3)
3841011*-0000	1	8'-3 1/4" (2522mm)	8'-3 1/4" (2522mm)	200345 D-0000	N/A
3841012*-0000	2	16'-6 1/2" (5044mm)	16'-6 1/2" (5044mm)	200345 D-0000	N/A
3841013*-0000	3	24'-9 3/4" (7526mm)	24'-9 3/4" (7526mm)	200345 D-0000	N/A
3841014*-0000	4	33'-2 1/2" (10120mm)	33'-2 1/2" (10120mm)	200345 D-0000	N/A
3841015*-0000	5	41'-5 1/4" (12643mm)	41'-5 1/4" (12643mm)	200345 D-0000	N/A
3841016*-0000	6	49'-8 1/4" (15166mm)	49'-8 1/4" (15166mm)	200345 D-0000	N/A
3841017*-0000	7	58'-1 1/4" (17709mm)	58'-1 1/4" (17709mm)	200345 D-0000	N/A
3841018*-0000	8	66'-4 1/4" (20232mm)	66'-4 1/4" (20232mm)	200345 D-0000	N/A
3841019*-0000	9	74'-7 1/4" (22755mm)	74'-7 1/4" (22755mm)	200345 D-0000	N/A
3841020*-0000	10	83'-0 1/4" (25278mm)	83'-0 1/4" (25278mm)	200345 D-0000	N/A
3841021*-0000	11	91'-3 1/4" (27801mm)	91'-3 1/4" (27801mm)	200345 D-0000	N/A
3841022*-0000	12	99'-6 1/4" (30324mm)	99'-6 1/4" (30324mm)	200345 D-0000	N/A
3841023*-0000	13	107'-9 1/4" (32847mm)	107'-9 1/4" (32847mm)	200345 D-0000	N/A
3841024*-0000	14	116'-2 1/4" (35370mm)	116'-2 1/4" (35370mm)	200345 D-0000	N/A
3841025*-0000	15	124'-5 1/4" (37893mm)	124'-5 1/4" (37893mm)	200345 D-0000	N/A
3841026*-0000	16	132'-8 1/4" (40416mm)	132'-8 1/4" (40416mm)	200345 D-0000	N/A
3841027*-0000	17	141'-1 1/4" (42939mm)	141'-1 1/4" (42939mm)	200345 D-0000	N/A

UNIT	"E"	"F"
MODEL NO.	2-01 (18mm)	2-02 (18mm)
200345	2-01 (18mm)	2-02 (18mm)
200350	2-01 (18mm)	2-02 (18mm)
200355	2-01 (18mm)	2-02 (18mm)



SEE TABLE FOR ASSY NO.

ENERGY ABSORPTION SYSTEMS, INC.
ENGINEERING AND RESEARCH DEPARTMENT

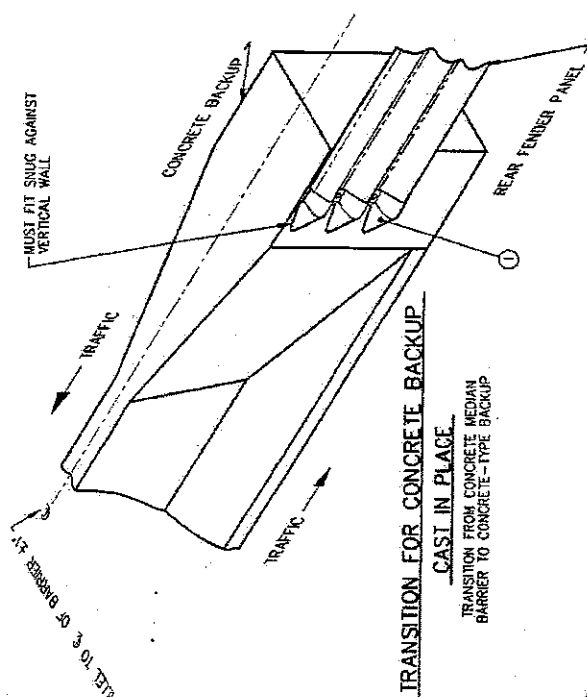
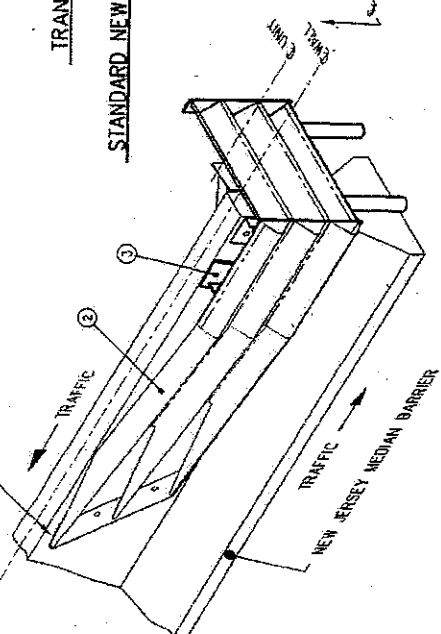
G-R-E-A-T® SYSTEM
CHAIN STRUT BACKUP &
TENSION RAIL ASSEMBLY

PARTS LIST	
ITEM	STOCK NO. DESCRIPTION
1	2752071-0000 REFLECTOR, RB, CONIC BACKUP
2	2752241-0000 PANEL, TRANSITION, 4 OFFSET, L
3	2752271-0000 BRACKET, SUPPORT, TRANS PNL-NJ CMB
4	2752181-0000 PANEL, TRANSITION, W-THREE BEAM
5	2752181-0000 PANEL, EXTENSION, 2 DEG, 60

PANEL TO BE FLAT AGAINST SIDE OF BARRIER AND PROPERLY ANCHORED TO PREVENT SWAGING OF VEHICLES

TRANSITION PANEL
FOR

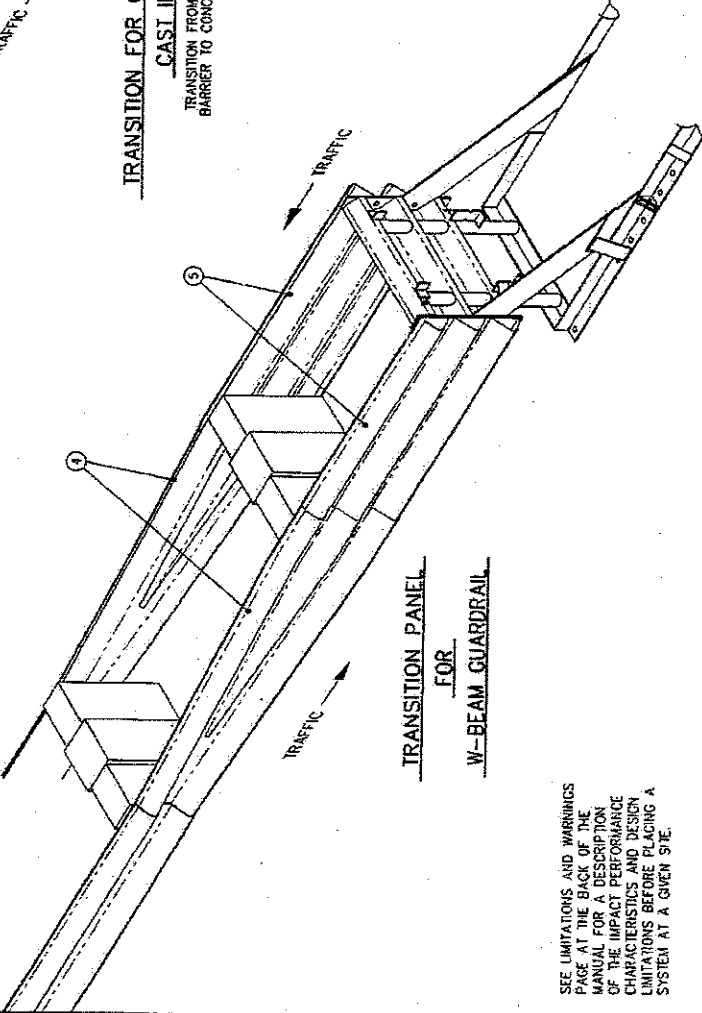
STANDARD NEW JERSEY MEDIAN BARRIER



TRANSITION FOR CONCRETE BACKUP
CAST IN PLACE

TRANSITION FROM CONCRETE MEDIAN BARRIER TO CONCRETE-TYPE BACKUP

TRANSITION PANEL
FOR
W-BEAM GUARDRAIL



ENERGY ABSORPTION SYSTEMS, INC.
ENGINEERING AND RESEARCH DEPARTMENT
G-R-E-A-T® SYSTEM
TRANSITION PANELS
FOR BI-DIRECTIONAL TRAFFIC

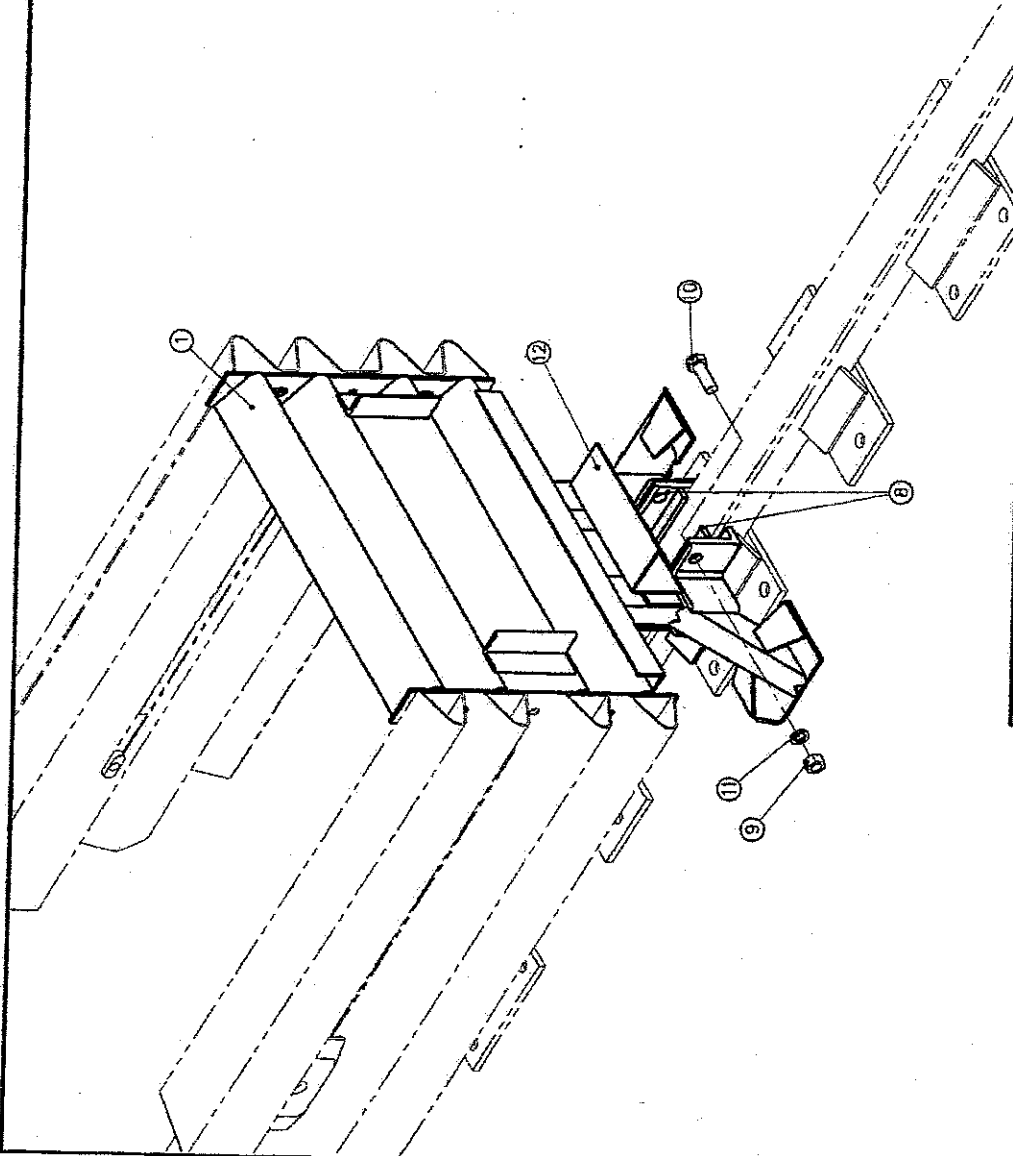
SEE LIMITATIONS AND WARNINGS PAGE AT THE BACK OF THE MANUAL FOR A DESCRIPTION OF THE IMPACT PERFORMANCE CHARACTERISTICS AND DESIGN LIMITATIONS BEFORE PLACING A SYSTEM AT A GIVEN SITE.

**QUADGUARD SYSTEM
FOR NARROW HAZARDS**

ITEM	STOCK NO.	DESCRIPTION	REQ'D
1	SEE TABLE A	DIAPHRAGM, QB, QG, G	1.00
8	2760091-0000	MONORAIL GUIDE, QG, G	2.00
9	2704341-0000	NU, HK, 3/4, G, GR, DH	4.00
10	2689121-0000	BOL, THK, 3/4 X 2, QG, G	4.00
11	2708201-0000	WASHER, LOCK, 3/4, G	4.00
12	2760292-0000	BRACKET, CART SUPPORT, DIAPHRAGM	2.00

TABLE A

ASSY. NO.	STOCK NO.	DESCRIPTION	WIDTH
3540071-0000	2761011-0000	DIAPHRAGM, QB, 24, QG, G	610 [24.00]
3540072-0000	2761021-0000	DIAPHRAGM, QB, 30, QG, G	750 [30.00]
3540073-0000	2761031-0000	DIAPHRAGM, QB, 36, QG, G	915 [36.00]



ASSEMBLY NO. SEE TABLE A

ENERGY ABSORPTION SYSTEMS, INC.
ENGINEERING AND RESEARCH DEPARTMENT

QUADGUARD® SYSTEM
DIAPHRAGM ASSY, QG

N.I.S. 35-40-07 1 of 1 D

DATE: 5-2-96
BY: J. Espinoza
CHECKED BY: S. Trogeser
DATE: 5/17/96
DESIGNED BY: J. Machado
DATE: 5/17/96
CADD FILE: 354007.dwg
NOT ASSURE

REFERENCES

Date	Rev.	By	Chk/App.
05/07/96	D	RCC	KRM
07/09/96	B	DLS	STI
07/20/96	C	JF	RM
			SPY

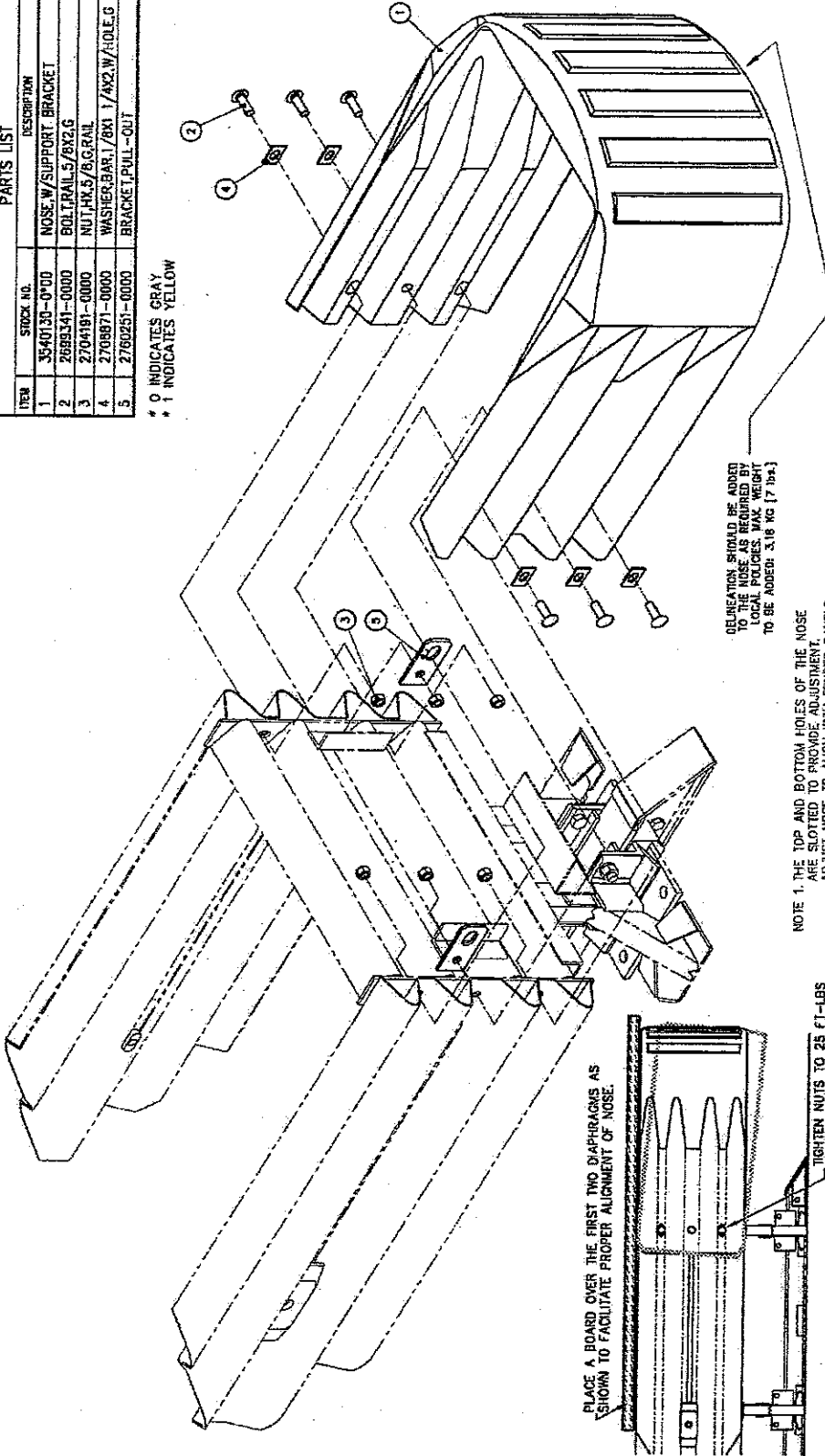
REVISIONS

MAINTAIN THE EXISTING PART NUMBER AND THE 1 UNLESS OTHERWISE SPECIFIED

15

PARTS LIST			
ITEM	STOCK NO.	DESCRIPTION	QTY
1	3540130-0100	NOSE W/SUPPORT BRACKET	1.00
2	2699341-0000	BOLT, RAIL 5/8X2.G	6.00
3	2704191-0000	NUT, HEX 5/8.G,RAL	6.00
4	2709871-0000	WASHER,BAR,1/8X1 1/4X2.W/HOLE.G	6.00
5	2760251-0000	BRACKET,PULL-OUT	2.00

* 0 INDICATES GRAY
 * 1 INDICATES YELLOW



DELINATION SHOULD BE ADDED TO THE NOSE AS REQUIRED BY LOCAL POLICES. MAX WEIGHT TO BE ADDED: 3.18 KG (7 lbs.)

NOTE 1. THE TOP AND BOTTOM HOLES OF THE NOSE ARE SLOTTED TO PROVIDE ADJUSTMENT. ADJUST NOSE TO ALIGN WITH FENDER PANELS THEN TIGHTEN NUTS. SEE DETAIL "A".

TIGHTEN NUTS TO 25 FT-LBS AFTER ALIGNING NOSE AS SHOWN.

PLACE A BOARD OVER THE FIRST TWO DIAPHRAGMS AS SHOWN TO FACILITATE PROPER ALIGNMENT OF NOSE.

DETAIL "A"
 SCALE: 1:20

ASSEMBLY NO. 3540050-0100 (YELLOW)
 ASSEMBLY NO. 3540050-0000 (GRAY)

ENERGY ABSORPTION SYSTEMS, INC.
 ENGINEERING AND RESEARCH DEPARTMENT

QUADGUARD® SYSTEM
 NOSE ASSY,QG

DATE	BY	REV	DESCRIPTION
5/20/96	D. Stour	1	REVISED
3/1/96	MHO/JVM	2	REVISED
5/21/96	S. Trogester	3	REVISED
5/22/96	M. Oberth	4	REVISED

REFERENCES

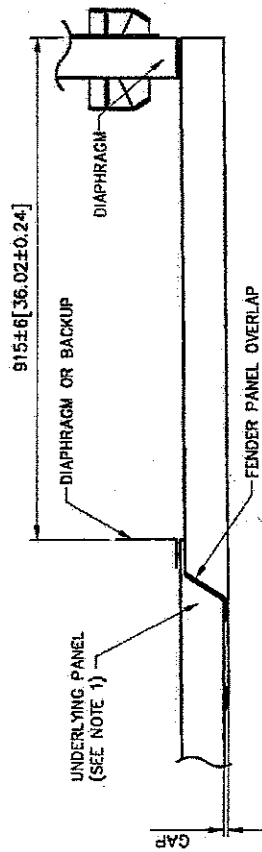
Revisions	Date	Rev. By	Check/Appro.
MODIFIED DEPICTION OF END CAP	10/11/93	B	BB SPT
UPDATED CARTRIDGE SUPPORT	11/03/93	C	RCF-KRM OJJ
ADDED DETAIL "A"	03/23/94	D	DB RM SPT

SCALE: 1:10
 35-40-05
 1 of 1
 D

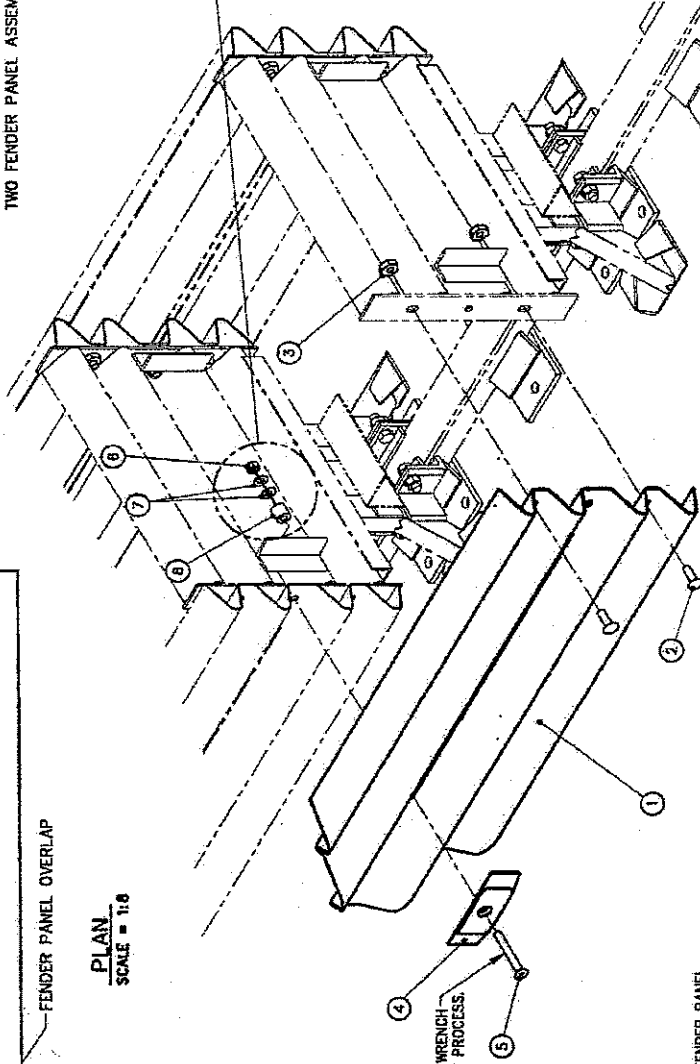
QUADGUARD SYSTEM
 FOR NARROW HAZARDS

PARTS LIST			REV'D
ITEM	STOCK NO.	DESCRIPTION	
1	2780081-0000	PANEL,FENDER,QG,G	1.00
2	2699341-0000	BOLT,TRAIL,5/8X2,G	2.00
3	2704191-0000	NUT,HX,5/8,G,RAIL	2.00
4	2708841-0000	WASHER,MUSHROOM,CAST,QG,G	1.00
5	2706604-0000	SCREW,FL,5/8X5,08,G,SOCKET	1.00
6	2704141-0000	NUT,HX,5/8,G	1.00
7	2708291-0000	WASHER,FLAT,5/BXT,3/4,G	4.00
8	2021811-0000	BUSHING,ELASTOMERIC,32X16X32	1.00

TWO FENDER PANEL ASSEMBLIES REQUIRED PER BAY.



PLAN
SCALE = 1:6



THE BUSHING (ITEM 8) SHOULD BE COMPRESSED 1 TO 3 mm (1/16" TO 1/8") TO COMPLETE THE ASSEMBLY. ONE TO FOUR WASHERS (ITEM 7) SHOULD BE USED TO ACCOMPLISH THIS. DO NOT OVER COMPRESS THE ELASTOMERIC. BUSHING DO NOT TIGHTEN NUT MORE THAN 2 FULL TURNS AFTER WASHER(S) (ITEM 7) BEGINS TO COMPRESS BUSHING.

- NOTES:
1. UNDERLYING PANEL IS EITHER ANOTHER FENDER PANEL OR, IN THE CASE OF THE LAST FENDER PANEL IT COULD BE A BACKUP SIDE PANEL, EXTENSION PANEL OR TRANSITION PANEL.
 2. UNITS OF MEASUREMENT ARE IN MILLIMETERS [INCHES] UNLESS OTHERWISE NOTED.

Revisions	Date	Rev.	By	Chk.	App.
CORRECTED DIAPHRAGM SPACING	10/26/96	C	REGIS	ST	KRM
ITEM 8 WAS SPRINGRETHANE	03/01/96	E	TR	BB	DLJ
CHGD NOTE 3 & ADDED CAUTION LABEL	4/15/96	F	DM	KM	SPT

ASSEMBLY NO. 3540040-0000

ENERGY ABSORPTION SYSTEMS, INC.
ENGINEERING AND RESEARCH DEPARTMENT

QUADGUARD® SYSTEM
FENDER PANEL ASSY, QG

DATE: 1:12 DRAWING NO.: 35-40-04 REV: 1 of 1

DESIGNED BY	J. Espinoza	DATE	5/21/96
DRAWN BY	JVM/MHO	DATE	3/1/96
CHECKED BY	S. Trogas	DATE	5/21/96
APPROVED BY	J. Machado	DATE	5/21/96

JOB NO. 354004.dwg
REV. ASSY. ALL MODELS

QUADGUARD SYSTEM
FOR NARROW HAZARDS

**QUADGUARD SYSTEM
FOR NARROW HAZARDS**

TABLE 1

ASSEMBLY NO.	TOTAL RAIL LENGTH	*ITEM 1	*ITEM 2	*ITEM 3	*ITEM 5	NO. OF BAYS
3540050-0100	0	0	0	0	0	1
3540050-0200	915 (36.0)	1	0	0	2	2
3540050-0300	1830 (72.0)	0	0	0	3	3
3540050-0400	2745 (108.1)	0	0	0	4	4
3540050-0500	3660 (144.1)	1	0	1	5	5
3540050-0600	4575 (180.1)	0	1	1	6	6
3540050-0700	5490 (216.1)	0	0	2	7	7
3540050-0800	6405 (252.2)	1	0	2	8	8
3540050-0900	7320 (288.2)	0	1	2	9	9
3540050-1000	8235 (324.2)	0	0	3	10	10
3540050-1100	9150 (360.2)	1	0	3	11	11
3540050-1200	10065 (396.2)	0	1	3	12	12

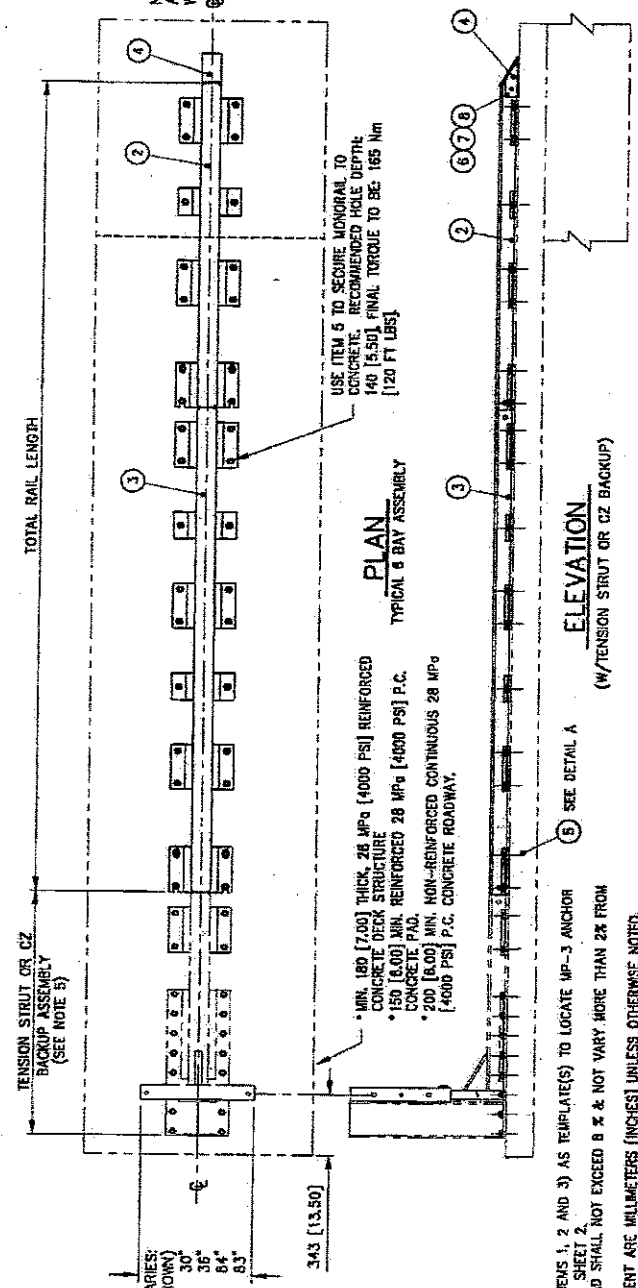
NOT APPLICABLE FOR 69° & 90° OR CZ CG SYSTEMS

NOT APPLICABLE FOR CZ CG SYSTEMS

PARTS LIST

ITEM	STOCK NO.	DESCRIPTION	REQ'D
1	2760051-0000	MONORAIL, ONE BAY, QG,G	*
2	2760051-0000	MONORAIL, TWO BAYS, QG,G	*
3	2760071-0000	MONORAIL, THREE BAYS, QG,G	*
4	2760041-0000	END CAP, MONORAIL, QG,G	1.00
5	3525300-0000	ANCHOR, MP-3, PT-KIT, 3/4" X 7, VT	*
6	2898571-0000	BOLT, 1/4" X 5/8" X 1/2, 65, G	1.00
7	2704341-0000	NUT, 1/4" X 5/8" X 1/2, 65, G	1.00
8	2708231-0000	WASHER, LOCK, 5/8" X 1/2, 65, G	1.00

* SEE TABLE

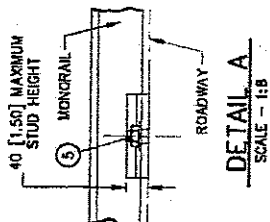


NOTE: MONORAIL & BACKUP ASSEMBLY MUST BE STRAIGHT TO WITHIN 1.3mm (0.5")

USE ITEM 5 TO SECURE MONORAIL TO CONCRETE. RECOMMENDED HOLE DEPTH: 140 (5.50) FINAL TORQUE TO BE 165 Nm (120 FT LBS)

* MIN. 100 (7.00) THICK, 28 MPa (4000 PSI) REINFORCED CONCRETE DECK STRUCTURE
 * 150 (6.00) MIN. REINFORCED 28 MPa (4000 PSI) P.C. CONCRETE PAD.
 * 200 (8.00) MIN. NON-REINFORCED CONTINUOUS 28 MPa (4000 PSI) P.C. CONCRETE ROADWAY.

- NOTES:
1. USE MONORAIL(S) (ITEMS 1, 2 AND 3) AS TEMPLATE(S) TO LOCATE MP-3 ANCHOR BOLTS (ITEM 5). SEE SHEET 2.
 2. CROSS SLOPE OF PAD SHALL NOT EXCEED 8% & NOT VARY MORE THAN 28 FROM FRONT TO BACK.
 3. UNITS OF MEASUREMENT ARE MILLIMETERS (INCHES) UNLESS OTHERWISE NOTED.
 4. EVERY STUD MUST BE EMBEDDED TO A DEPTH OF 140 (5.5) IF REBAR IS ENCOUNTERED IN P.C. CONCRETE PAD, DRILL THROUGH IT. IF REBAR IS ENCOUNTERED ON A DECK STRUCTURE, ASK PROJECT ENGINEER FOR DIRECTION.
 5. FOR CZ SYSTEMS, SEE DRAWING 35-40-24 ALSO.



DETAIL A
SCALE - 1:8

ASSEMBLY NO. SEE TABLE 1
ENERGY ABSORPTION SYSTEMS, INC.
 ENGINEERING AND RESEARCH DEPARTMENT
QUADGUARD® SYSTEM
MONORAIL ASSY, QG

REFERENCES

NO.	DATE	BY	CHKD.	APP.
1	5-8-96	D. Stius		
2	3-1-96	MHO/JVM		
3	5/7/96	S. Trageser		
4	5/17/98	M. Oberth		

PROJECT: 35-4005.dwg
 DATE: 5/17/98
 USER: MESH31

Revisions

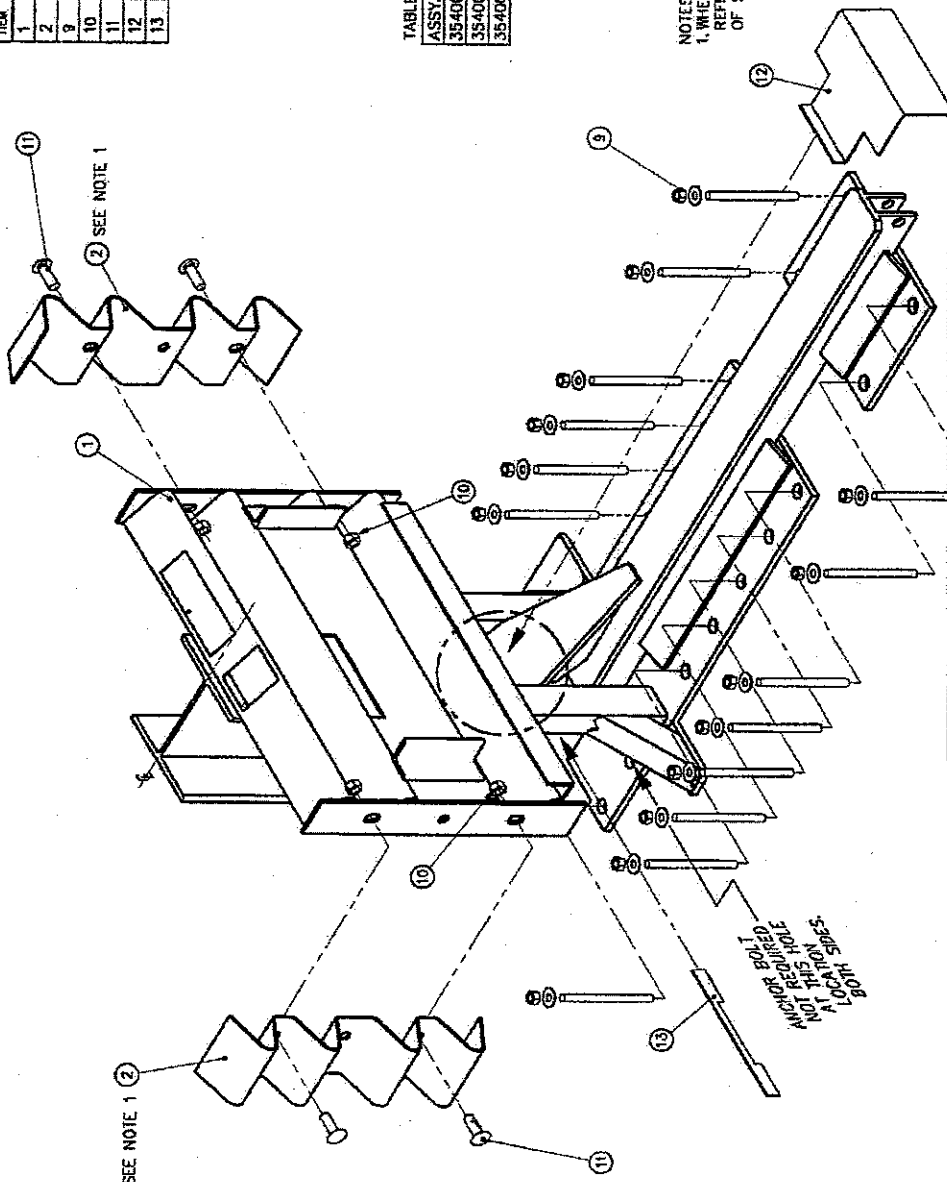
Rev.	By	Chkd.	App.
1	03/03/96	R	BB
2	05/06/98	L	KM
3	07/24/97	T	ST
4			

N.T.S. 35-40-06 1 of 3

ITEM	STOCK NO.	DESCRIPTION	QTY
1	SEE TABLE A	BACKUP, TS, QG, G	1.00
2	2760141-0000	PANEL, SIDE, QG, G	2.00
9	3925300-0000	ANCHOR, MP-3, PT-KIT, 3/4X7, YT	3.00
10	2704191-0000	MUT, HK, 5/8, C, RAIL	4.00
11	2699341-0000	BOL, L, RAIL, 5/8X2, G	4.00
12	2760293-0000	BRACKET, CARTRIDGE, SUPPORT, TS, B/U	1.00
13	2760294-0000	LOCKING BAR, CARTRIDGE, SUPPORT	1.00

ASSY. NO.	STOCK NO.	DESCRIPTION	WIDTH
3940031-0000	2760011-0000	BACKUP, 15, 24, QG, G	610 [24.00]
3540032-0000	2760021-0000	BACKUP, 15, 30, QG, G	780 [30.00]
3540033-0000	2760031-0000	BACKUP, 15, 36, QG, G	915 [36.00]

NOTES:
 1. WHEN TRANSITIONING QUADGUARD SYSTEM TO EXISTING BARRIER REFER TO THE TRANSITION ASSEMBLY DRAWINGS FOR PROPER USE OF SIDE PANEL PART NO. 2760141-0000.



ASSEMBLY NO. SEE TABLE A

ENERGY ABSORPTION SYSTEMS, INC.
 ENGINEERING AND RESEARCH DEPARTMENT

QUADGUARD® SYSTEM
 BACKUP ASSY, TS, QG

N.I.S. 35-40-03 1 of 1

REV. S. LEWIS 4-22-96
 DRAWN JMM/MHO 3-1-96
 CHECKED S. Trapese 5/16/96
 DESIGNED U. Machado 5/16/96
 PART NO. 354003.dwg
 MFG ASSEMBLY

REFERENCES

Date	Rev.	By	Incl.	App.
10/21/95	E	ROC	KSM	DLJ
03/06/96	F	LMC	KM	SPT
07/26/96	D	J	BB	SPT

Revisions:
 1. REVISED TO REFLECT 15" W x 15" H PANEL AND END BOLTS
 REMOVED 1 ANCHOR BOLT & ADDED NOTE
 QTY # WAS 4

QUADGUARD SYSTEM
 FOR NARROW HAZARDS

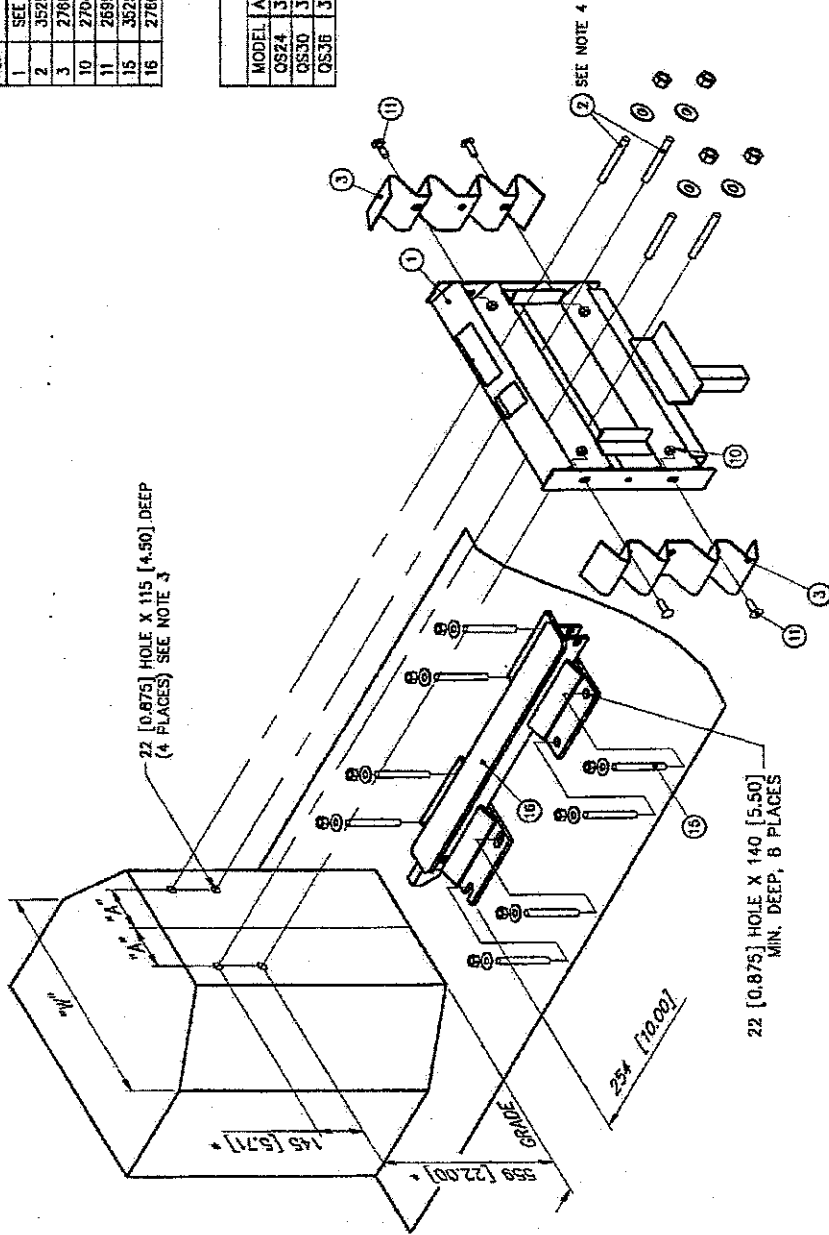
**QUADGUARD SYSTEM
FOR NARROW HAZARDS**

PARTS LIST

ITEM	STOCK NO.	DESCRIPTION	QTY.	RECD.
1	SEE TABLE	BACKUP CONCRETE, FRONT FACE, QC		1.00
2	3525190-0000	ANCHOR, MP-3, FT KIT, 3/4 X 6 1/2 HOR		1.00
3	2760141-0000	PANEL, SIDE, QCG		2.00
10	2704191-0000	NUT, HW, 5/8, G, RAIL		4.00
11	2699341-0000	BOLT, TRAIL, 5/8 X 2, G		4.00
15	3525300-0000	ANCHOR, MP-3, FT KIT, 3/4 X 7 VT		2.00
16	2760051-0000	MONORAIL, ONE BAY, QCG		1.00

TABLE

MODEL	ASSEMBLY NO.	"W"	"A"	"A"	ITEM 1
QS24	3540141-0000	610 [24.00]	140 [5.50]	2760181-0000	
QS30	3540142-0000	762 [30.00]	152 [6.00]	2760181-0000	
QS35	3540143-0000	914 [36.00]	181 [7.50]	2760201-0000	



UNI-DIRECTIONAL
ASSEMBLY NO. (SEE TABLE)

ENERGY ABSORPTION SYSTEMS, INC.
ENGINEERING AND RESEARCH DEPARTMENT
QUADGUARD® SYSTEM
BACKUP ASSY, CONCRETE, QC

DATE	BY	REV.
5/24/96	D. Staus	1
3/1/96	W. Krage	2
6/5/96	S. Trappeser	3
6/5/96	W. Krage	4

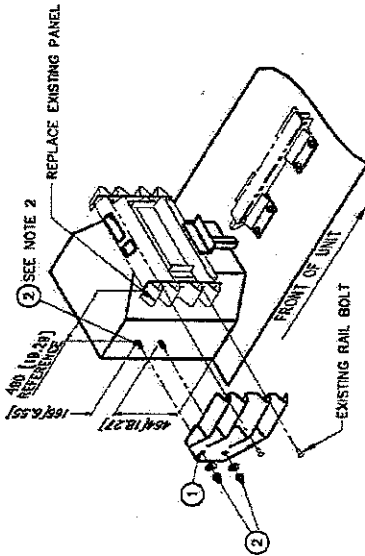
FILE: 354014.dwg
NEXT ASSY: H

35-40-08
CONCRETE BACKUP, QC
REFERENCES

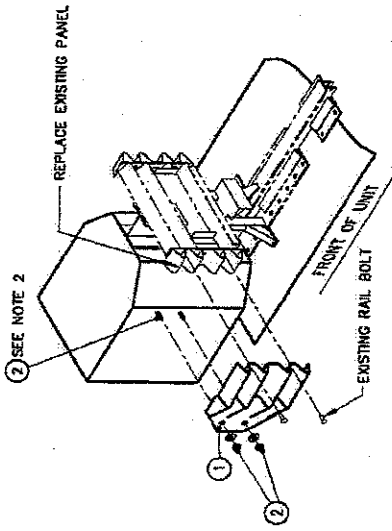
Revisions	Date	Rev.	By	Chk	App.
BACKUP HAD 2 LEGS	30/03/96	H	LWC	KM	BB
SEE ITEMS 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100	1/10/91	F	REC	KRM	DLJ
ADDED LEGS AND NOTES 3 & 4	2/7/96	C	DLS	KM	SPT

PARTS LIST

ITEM	STOCK NO.	DESCRIPTION	QTY
1	2780271-0000	SIDE PANEL END SHOE ORG	1.00
2	3525130-0000	ANCHOR, WP-3, PT RIT, 3/4 X 8 1/2 HOR	1.00



CONCRETE BACKUP



TENSION STRUT BACKUP

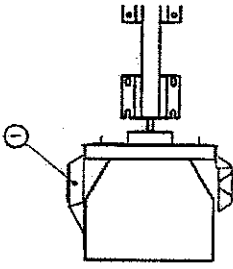
- NOTES:
 1. DIMENSIONS ARE IN MILLIMETERS (INCHES)
 2. USE END SHOE AS TEMPLATE FOR DRILLING.
 RECOMMENDED HOLE DEPTH 127 (5.00)
 FINAL TORQUE TO BE 163NM (120 FT.-LBS) (TYP).
 ANCHOR STUD END SHOULD BE FLUSH WITH
 OUTSIDE SURFACE OF ANCHOR NUT.

Revisions	Date	Rev.	By	Chck.	App.
UPDATED TITLE BLOCK TEXT WAS TH, NOW ©	04/05/95	0	LMC	RM	SPT
COMBINED DTR, 3540271-0000 WITH 35-40-15/04/95	04/04/95	1	LMC	RM	SPT
REV TO SHOW 1 LEG FOR CONG B/L	07/79	1	DLJ	KM	BR

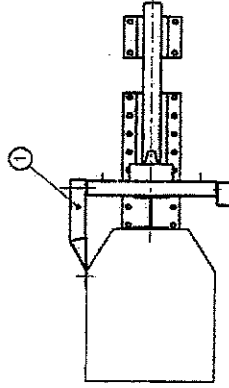
REFERENCES

DATE	BY	REVISION
5/24/96	D. Staus	REVISED
3/1/96	WCK	REVISED
6/5/96	S. Trogeiser	REVISED
6/5/96	W. Krugg	REVISED

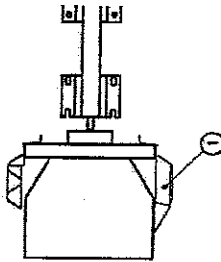
35-4015.dwg
REV ASSY B/L



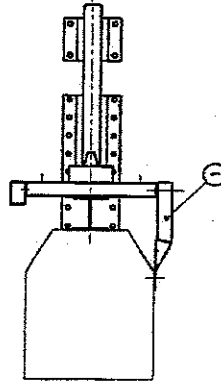
RIGHT SIDE APPLICATION



RIGHT SIDE APPLICATION



LEFT SIDE APPLICATION



LEFT SIDE APPLICATION

ASSEMBLY NO. 3540150-0000
 ENERGY ABSORPTION SYSTEMS, INC.
 ENGINEERING AND RESEARCH DEPARTMENT
 QUADGUARD® SYSTEM
 END SHOE ASSY, QC

N.T.S. 35-40-15 1 of 1

**QUADGUARD SYSTEM
 FOR NARROW HAZARDS**

QUAGUARD SYSTEM FOR NARROW HAZARDS

ITEM	STOCK NO.	DESCRIPTION	QTY
1	SEE TABLE	PANEL, TRANSITION, 4 OFFSET, QG	1.00
2	2760301-0000	BRACKET, SUPPORT, 4, TRANS TO CNB	1.00
3	3525130-0000	ANCHOR, MP-3, PT #11, 3/4x6 1/2 HOR	1.00
4	2699341-0000	BOLT, TRAIL, 5/8x2.6	3.00
5	2704191-0000	NUT, HK, 5/8 G. RAIL	3.00

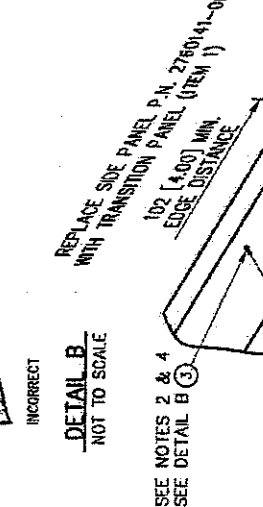
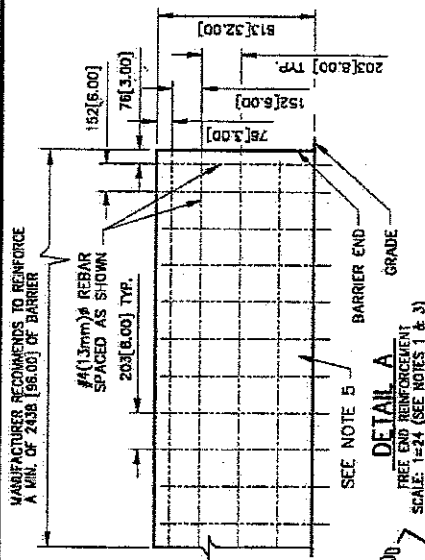


TABLE - ITEM 1

APPLICATION	PART NO.	DESCRIPTION
LEFT SIDE	2760281-0000	PANEL, TRANSITION, 4 OFFSET, LQ
RIGHT SIDE	2760282-0000	PANEL, TRANSITION, 4 OFFSET, RQ

NOTES:
 1. THE CONCRETE BARRIER REINFORCEMENT SHOWN IN DETAIL "A" IS RECOMMENDED TO ENSURE ADEQUATE BARRIER INTEGRITY FOR PROPER IMPACT PERFORMANCE. IT IS APPROPRIATE FOR A STANDARD SAFETY SHAPED BARRIER WITH A 610 [24.00] BASE AND A 150 [6.00] TOP. VARIATIONS MAY BE REVIEWED AND DETERMINATIONS MADE AS TO REASONABLE EQUIVALENCE BY PROJECT ENGINEER.
 2. USE TRANSITION PANEL AS TEMPLATE. FOR DRILLING, RECOMMENDED HOLE DEPTH 127 [5.00] FINAL TORQUE TO BE 163Nm [120 FT-LBS] (TYP).
 3. IMPACT FORCES COULD BE TRANSFERRED INTO TERMINAL END OF THE BARRIER. ADEQUATE ANCHORAGE IS REQUIRED FOR PROPER IMPACT PERFORMANCE.
 4. ANCHOR STUD END SHOULD BE FLUSH WITH OUTSIDE SURFACE OF ANCHOR NUT, SEE DETAIL B.

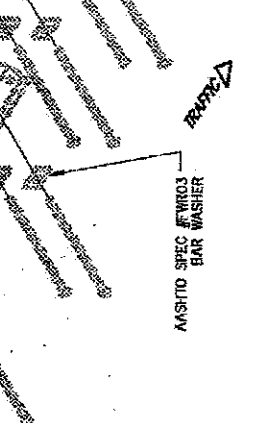
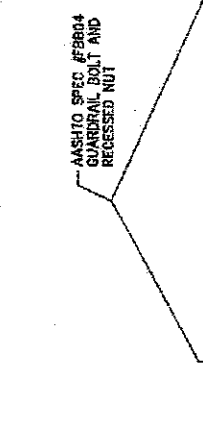
REFERENCES
 J. Espinoza 08/21/98
 J. WELCH 8/21/98
 B. Burgess 8/21/98
 S. Turner 9/27/98
 35401B.dwg
 35-40-18
 N.I.S.
 1 of 1

LEFT ASSEMBLY NO. 35401BL-0000
 RIGHT ASSEMBLY NO. 35401BR-0000
 ENERGY ABSORPTION SYSTEMS, INC.
 ENGINEERING AND RESEARCH DEPARTMENT
 TRANSITION ASSY, 4 OFFSET, QG

PARTS LIST		REQ'D			
ITEM	STOCK NO.	DESCRIPTION	N	M	W
1	2760331-0000	QUADGUARD™ TO THREE-BEAM TRANS. PANEL	1	1	1
2	2760341-0000	DIAGONAL BRACE	1	1	1
3	2699341-0000	BOLT, GAL. 5/8X2.6	4	8	6
4	2704191-0000	NUT, HEX. 5/8 G. GAL.	4	8	6
5	2708871-0000	WASHER, BAR, 1/8X1 1/4X2.0/HOLE	2	2	2
6	2760342-0000	DIAGONAL BRACE BLOCKOUT, 3"	0	1	0
7	2760343-0000	DIAGONAL BRACE BLOCKOUT, 6"	0	0	1

SYSTEM WIDTH	ASSEMBLY #	BLOCKOUT
610 [24.00]	N 354022N-0000	NOT REQ'D
762 [30.00]	M 354022M-0000	ITEM #6*
914 [36.00]	W 354022W-0000	ITEM #7*

*SEE PARTS LIST ABOVE FOR QTY REQ'D



DATE	BY	FOR FILE
08/23/96	T. Bluse	
08/21/96	JVM	
10/15/96	SUL	
10/14/96	J. Machado	

35-4022.dwg
USD 10/96/97

REV	DATE	BY	CHKD	APP'D
1	07/09/97	A	JF	BB SPT

ADDED #6&7 FOR MED. & WIDE SYSTEMS

NOTES:
 1. PANEL OVERLAP SHOWN IS FOR TRAFFIC DIRECTION SHOWN. ACTUAL OVERLAP SHALL BE DETERMINED BY THE SITE CONDITIONS AND PROJECT ENGINEER PER TRAFFIC DIRECTION.
 2. USE STANDARD GUARDRAIL CONNECTION. RIGHT SIDE OF ROAD APPLICATION SHOWN. ASSEMBLY MAY BE USED ON EITHER OR BOTH SIDES FOR LEFT, RIGHT, MEDIUM OR CORE APPLICATIONS. SEE NOTE 1.
 3. THIS ASSEMBLY IS NOT INCLUDED IN THE MODEL NUMBER AND MUST BE ORDERED SEPARATELY.
 4. ENERGY ABSORPTION SYSTEMS, INC. SUPPLIES THE STOCK ITEMS SHOWN IN THE PARTS LIST. ALL OTHER COMPONENTS OF THE DOWNSTREAM GUARDRAIL ARE STANDARD HIGHWAY MATERIALS AND MAY BE OBTAINED FROM YOUR LOCAL HIGHWAY SUPPLY VENDORS.

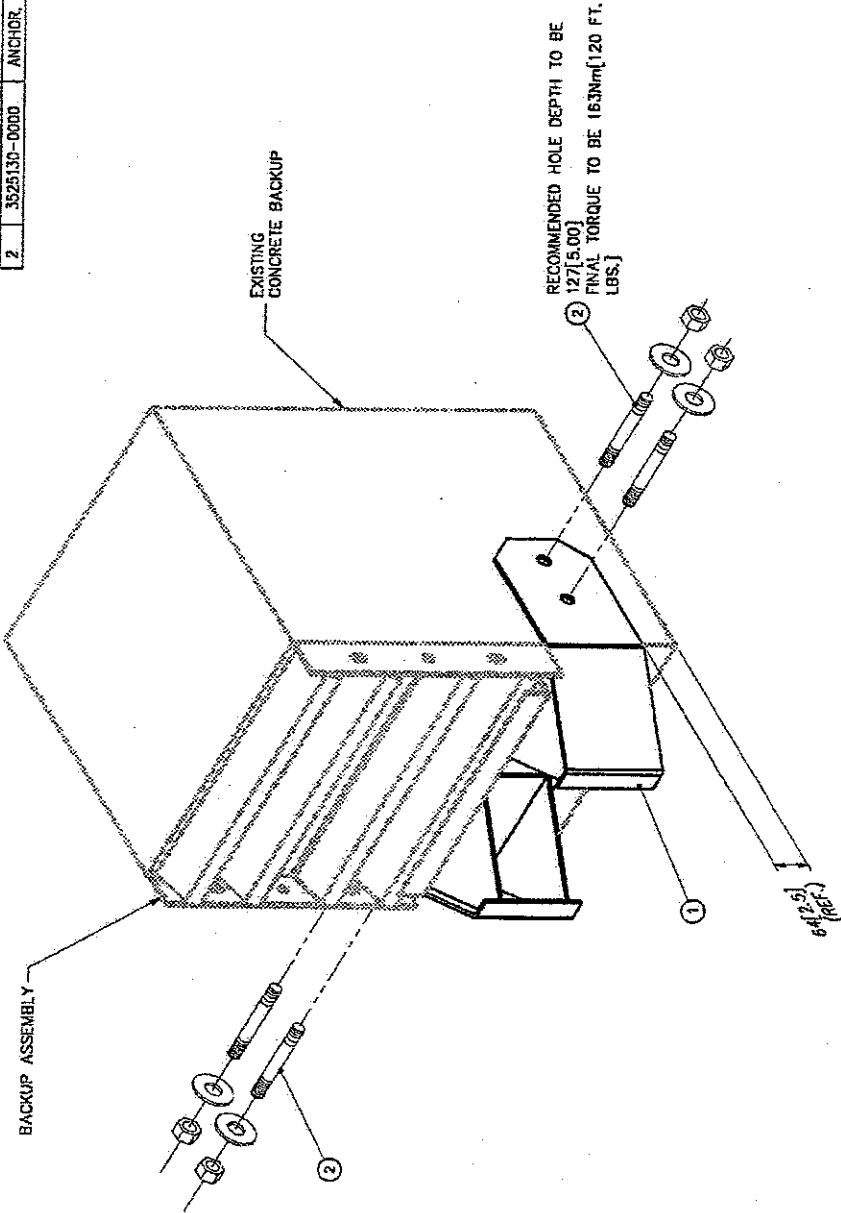
ENERGY ABSORPTION SYSTEMS, INC.
 ENGINEERING AND RESEARCH DEPARTMENT
 TRANSITION ASSEMBLY
 QUAD-BEAM TO THREE-BEAM

DATE: N.Y.S. 35-40-22
 1 of 2

QUADGUARD SYSTEM
 FOR NARROW HAZARDS

PARTS LIST

ITEM	STOCK NO.	DESCRIPTION	RECD
1	2780J311-0000	DEFLECTOR, CONCRETE BACKUP, QG	2
2	3525130-0000	ANCHOR, MP-3 KIT, 3/4"X1/2, HORIZ.	1



NOTE:
 1. USE DEFLECTOR AS A TEMPLATE TO LOCATE AND DRILL 23(0.88) HOLES.
 2. DIMENSIONS ARE IN MILLIMETERS [INCHES], UNLESS OTHERWISE NOTED.

Revisions	Date	Rev.	By	Chd.	App.
CHGD PART NO. TO ASSY NO.	10/20/96	A	RGD	SM	WK
CHGD TITLE BLOCK	11/19/96	B	SC	BB	SPT

REFERENCES

NAME	DATE	DATE
R. CUMMINS	08/26/96	08/26/96
W. KRAGE	08/26/96	08/26/96
SHL	9/23/96	9/23/96
WCK	9/24/96	9/24/96

APP'D: 354020.dwg
 (SST ASSY) 3

ASSY NO. 354020-0000

ENERGY ABSORPTION SYSTEMS, INC.
 ENGINEERING AND RESEARCH DEPARTMENT

DEFLECTOR ASSEMBLY,
 CONCRETE BACKUP
 RETROFIT, QG

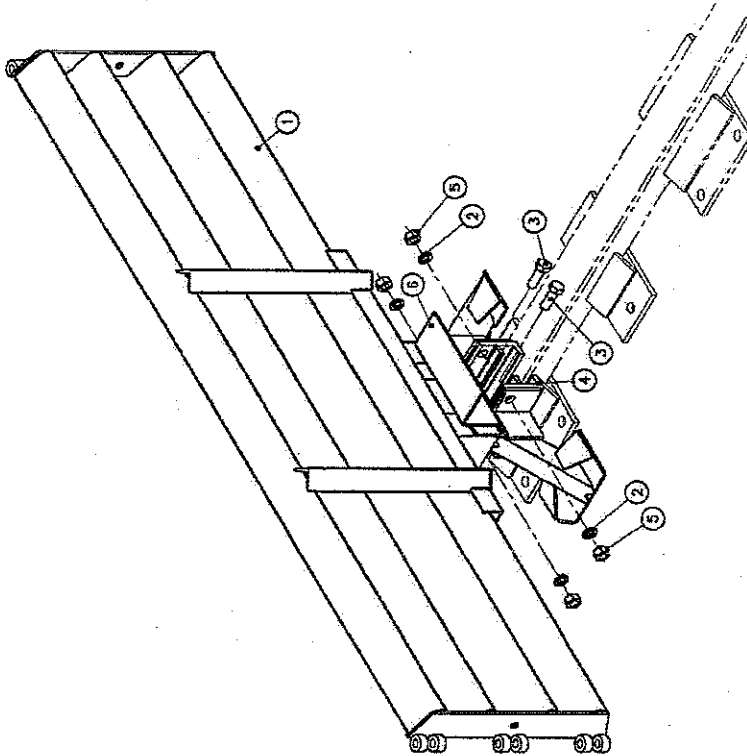
SCALE	1"=4'	DATE	35-40-20	REV	1 of 1	NO	B
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**QUADGUARD SYSTEM
 FOR NARROW HAZARDS**

**QUADGUARD SYSTEM
FOR WIDE HAZARDS**

PARTS LIST			RECD
ITEM	STOCK NO.	DESCRIPTION	
1	SEE TABLE A	DIAPHRAGM, QG, D6, G	1.00
2	2708201-0000	WASHER, LOCK, 3/4, C	4.00
3	2699121-0000	BOL, T.H.K., 3/4x2, C8, G	4.00
4	2760091-0000	MONORAIL, GUIDE, QG, G	2.00
5	2704341-0000	NUT, H.K., 3/4, B, GR, OH	4.00
6	2760292-0000	BRACKET, CARTRIDGE, SUPPORT, DIAPHRAGM	2.00

TABLE A		
ASSEMBLY NO.	DESCRIPTION	ITEM # PART NO.
3540340-0873	DIAPHRAGM ASSY, QG, 0873	2761041-0873
3540340-0753	DIAPHRAGM ASSY, QG, 0753	2761041-0753
3540340-0833	DIAPHRAGM ASSY, QG, 0833	2761041-0833
3540340-0913	DIAPHRAGM ASSY, QG, 0913	2761041-0913
3540340-0993	DIAPHRAGM ASSY, QG, 0993	2761041-0993
3540340-1073	DIAPHRAGM ASSY, QG, 1073	2761041-1073
3540340-1153	DIAPHRAGM ASSY, QG, 1153	2761041-1153
3540340-1233	DIAPHRAGM ASSY, QG, 1233	2761041-1233
3540340-1313	DIAPHRAGM ASSY, QG, 1313	2761041-1313
3540340-1393	DIAPHRAGM ASSY, QG, 1393	2761041-1393
3540340-1473	DIAPHRAGM ASSY, QG, 1473	2761041-1473
3540340-1513	DIAPHRAGM ASSY, QG, 1513	2761041-1513
3540340-1593	DIAPHRAGM ASSY, QG, 1593	2761041-1593
3540340-1633	DIAPHRAGM ASSY, QG, 1633	2761041-1633
3540340-1713	DIAPHRAGM ASSY, QG, 1713	2761041-1713
3540340-1793	DIAPHRAGM ASSY, QG, 1793	2761041-1793
3540340-1873	DIAPHRAGM ASSY, QG, 1873	2761041-1873
3540340-1953	DIAPHRAGM ASSY, QG, 1953	2761041-1953
3540340-2033	DIAPHRAGM ASSY, QG, 2033	2761041-2033



(SEE TABLE A)

ASSEMBLY NO. 3540340-
ENERGY ABSORPTION SYSTEMS, INC.
ENGINEERING AND RESEARCH DEPARTMENT

QUADGUARD SYSTEM
DIAPHRAGM ASSY, QG, WIDE

REV: 1:12 3540340-0000 PART 1 of 2

DATE	BY	CHKD.	APP.
5/12/97	J. Machado		
5/13/97	KRM		
7/2/97	J. Machado		
7/7/97			

3540340-0000.dwg
REV ASSY

REFERENCES

Revisions	Date	Rev.	By	Chk'd.	App.
DELETED ITEMS 2,4,5,6, RE-NUMBERED	04/01/98	G	DDG	STT	KM
SEE SHEET 2	09/22/98	H	TPK	KM	SPT
REV CHG TO MATCH SHEET 2	09/23/99	I	DLS	KM	DLJ

PARTS LIST

ITEM	QUANTITY	DESCRIPTION	RECD
1	1.00	SEE TABLE A	
2	270416-0000	BELT HOSE 5/8" O	1.00
3	2714052-0000	LEG SUPPORT FOR FLEX BELT AS	20.0
4	2700554-0000	CLAMP BELT LINC	2.00
5	2705281-0000	WASHER FLAT 3/4" X 1/4" X 1/8"	20.0
6	2700291-0000	BRACKET PULL OUT 1/4"	2.00
7	2700931-0000	BOLTS 3/8" X 1/4" X 1/8"	4.00
8	2705002-0000	WASHER FLAT 3/8" X 1/4" X 1/8"	4.00
9	2704031-0000	NUT 1/2" X 3/8"	4.00
10	2701894-0000	BOLT 1/2" X 3/8" X 3/4" GALV. THREAD	6.00
11	2696241-0000	BOLT 1/2" X 5/8" X 1/4" GALV.	2.00

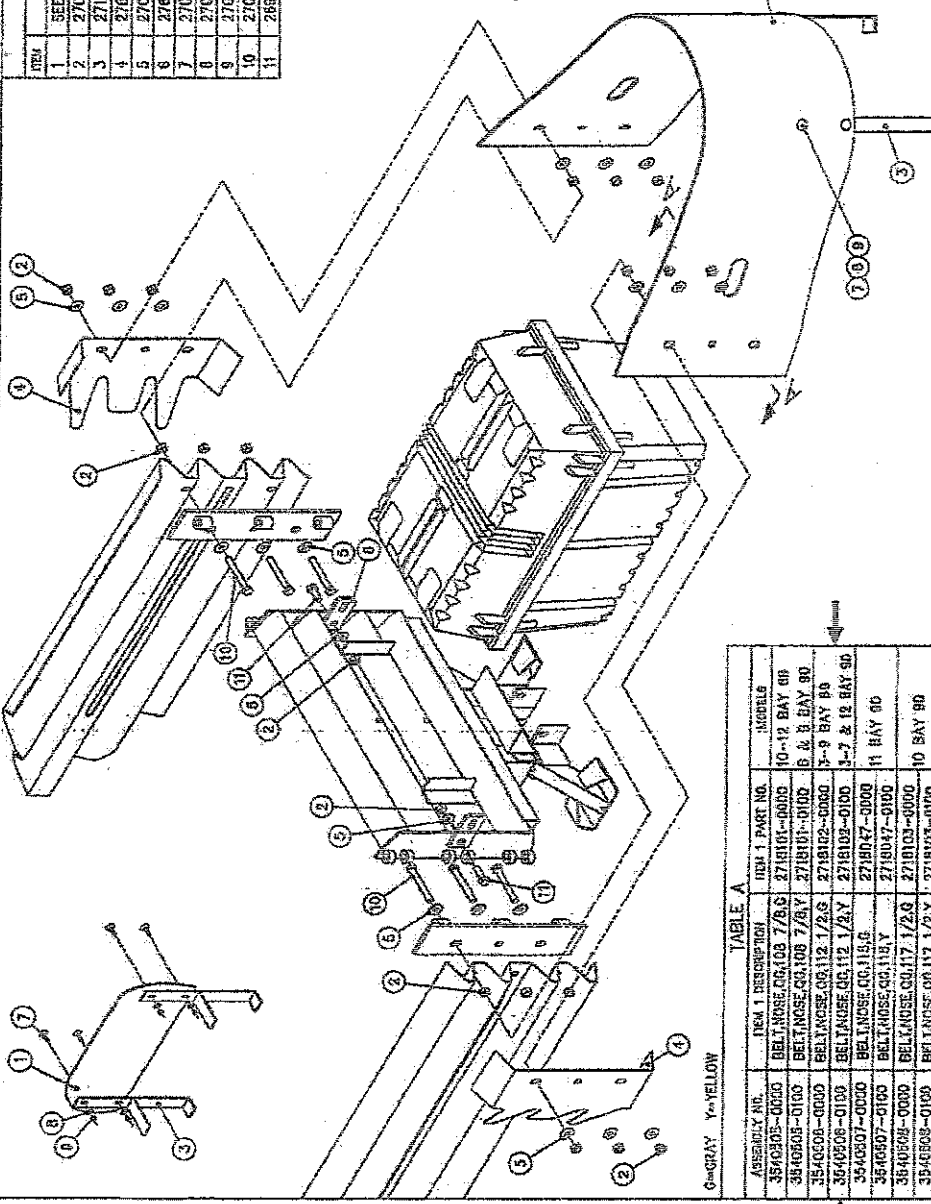


TABLE A

ASSEMBLY NO.	ITEM 1 DESCRIPTION	ITEM 1 PART NO.	QUANTITY
3540505-0000	BELT HOSE 5/8" O	2714052-0000	10-12 BAY 80
3540505-0100	BELT HOSE 5/8" O	2714052-0000	6 & 8 BAY 80
3540505-0200	BELT HOSE 5/8" O	2714052-0000	3-9 BAY 80
3540505-0300	BELT HOSE 5/8" O	2714052-0000	3-7 & 12 BAY 80
3540505-0400	BELT HOSE 5/8" O	2714052-0000	11 BAY 80
3540505-0500	BELT HOSE 5/8" O	2714052-0000	10 BAY 90
3540505-0600	BELT HOSE 5/8" O	2714052-0000	10 BAY 90

REFERENCES

DATE	BY	REVISION
09/07/99	T. Dussan	1
05/21/98	KRM	2
03/21/98	SPT	3

3540505.dwg
3540505.dwg

ASSEMBLY NO. SEE TABLE
PHENIX ASSORTMENT SYSTEMS, INC.
ENGINEERING AND RESEARCH DEPARTMENT

QUADGUARD® SYSTEM
NOSE ASSY 80, 90 OR 90/90

WORK 1113 REV 15-10-90 SHEET 1 of 1

QUADGUARD SYSTEM FOR WIDE HAZARDS

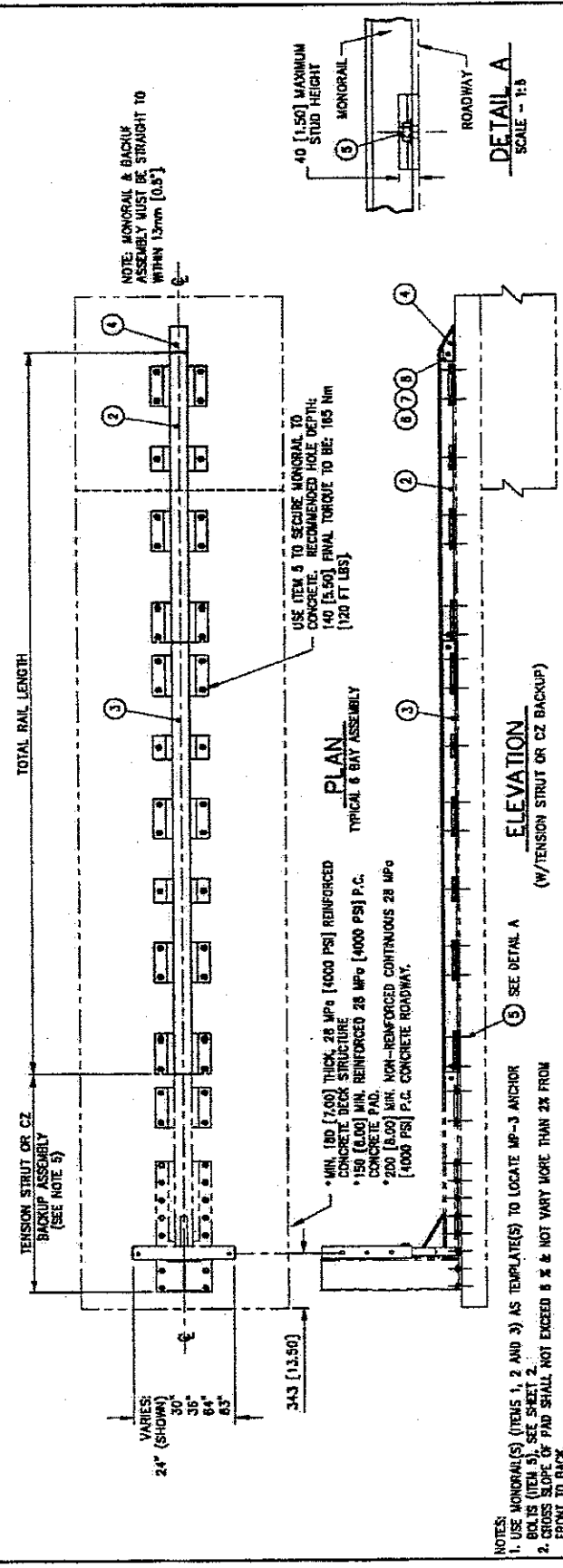
PARTS LIST		DESCRIPTION	REID
ITEM	STOCK NO.		
1	2780051-0000	MONORAIL ONE BAY/CG	*
2	2780081-0000	MONORAIL TWO BAYS/CG	*
3	2780071-0000	MONORAIL THREE BAYS/CG	*
4	2780041-0000	END CAP MONORAIL/CG	1.00
5	3525300-0000	ANCHOR MP-3 PT-RIT-3/4X7-VT	*
6	2689571-0000	80% I.H.K. 5/8X3 1/2 2.65.G	1.00
7	2704141-0000	NUT, PK. 5/8 G	1.00
8	2708231-0000	WASHER LOCK 5/8 G	1.00

TABLE 1					
ASSEMBLY NO.	TOTAL RAIL LENGTH	*ITEM 1	*ITEM 2	*ITEM 3	*ITEM 5 (NO. OF BAYS)
35-40080-0100	0	0	0	0	1
35-40060-0200	915 (36.0)	1	0	0	2
35-40080-0300	1830 (72.0)	0	1	0	3
35-40060-0400	2745 (108.1)	0	0	1	4
35-40060-0500	3660 (144.1)	0	0	1	5
35-40060-0600	4575 (180.1)	0	1	1	6
35-40080-0700	5490 (216.1)	0	0	2	7
35-40060-0800	6405 (252.1)	1	0	2	8
35-40060-0900	7320 (288.2)	0	1	2	9
35-40060-1000	8235 (324.2)	0	0	3	10
35-40080-1100	9150 (360.2)	1	0	3	11
35-40080-1200	10065 (396.2)	0	1	3	12

NOT APPLICABLE FOR 69° & 90° OR CZ CG SYSTEMS

NOT APPLICABLE FOR CZ CG SYSTEMS

* SEE TABLE



ASSEMBLY NO. SEE TABLE L

ENERGY ABSORPTION SYSTEMS, INC.
ENGINEERING AND RESEARCH DEPARTMENT

QUADGUARD® SYSTEM
MONORAIL ASSY, CG

N.T.S. 35-40-06 1 of 3

DATE	BY	REV.
5-8-96	D. Slous	5-8-96
3-1-96	MHO/JVM	3-1-96
9/17/90	S. Trogster	9/17/90
5/17/96	M. Oberth	5/17/96

35-40006.dwg
REV. 35-40006.dwg

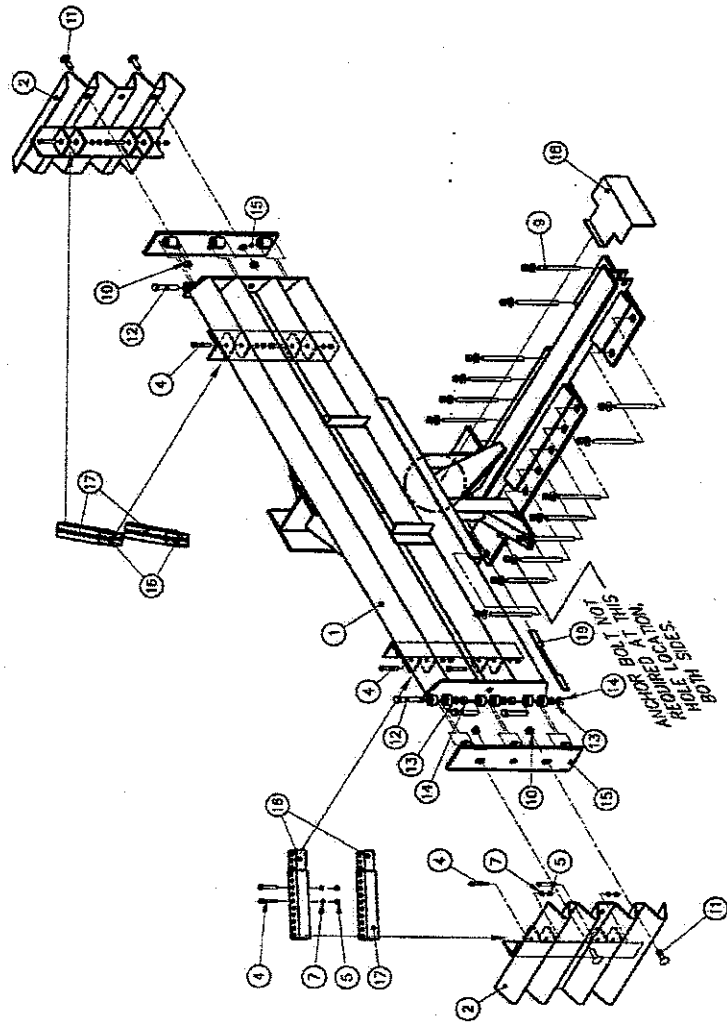
Revisions	Date	Rev.	By	Chg. App.
ITEM 6 WAS 270191-0000	07/07/96	K	TB	NM
ITEM 4 REDESIGNED	09/05/96	L	LWC	NM
END OF BAYS - end of left end of table.	2/21/97	J	STI	NM

PARTS LIST			
ITEM	STOCK NO.	DESCRIPTION	QTY
1	SET, TABLE A	BACKUP, TS, QC WIDE, G	1.00
2	2760471-0000	PANEL, SIDE, QC WIDE, G	2.00
4	2899601-0000	BOLT, HEX, 3/8X3 1/2, G2, ALL, THREAD	16.0
5	2704031-0000	NUT, HK, 3/8, G	16.0
7	2708041-0000	WASHER, LOCK, 3/8, G	16.0
9	3525300-0000	ANCHOR, MP-3, PT-3, KIT, 3/4X7, VT	3.00
10	2704191-0000	NUT, HK, 5/8, G, RAL	4.00
11	2899341-0000	BOLT, RAIL, 5/8X2, G	4.00
12	2701991-0000	BOL, L, HK, 5/8X4, G5, G	6.00
13	2708231-0000	WASHER, LOCK, 5/8, G	6.00
14	2704141-0000	NUT, HK, 5/8, G	6.00
15	2760435-0000	HINGE PLATE, FENDER, PANEL, QC, G	2.00
16	2760501-0000	TEL. ST. 1 3/4X1 3/4X12GA, H4S, G, 10" LG	4.00
17	2760502-0000	TEL. ST. 2X2X12GA, H2S, G, 10" LONG	4.00
18	2760283-0000	BRACKET, CARTRIDGE SUPPORT, TS B/U	1.00
19	2760294-0000	LOCKING BAR, CART SUPPORT, QC	1.00

TABLE A

ASSY. NO.	STOCK NO.	DESCRIPTION	WIDTH
3540391-0000	2760451-0000	BACKUP, TS, 84, QC WIDE, G	1620 [64"]
3540392-0000	2760452-0000	BACKUP, TS, 83, QC WIDE, G	2100 [83"]

NOTES:
 1. WHEN TRANSITIONING QUADGUARD SYSTEM TO EXISTING BARRIER REFER TO THE TRANSITION ASSEMBLY DRAWINGS FOR PROPER USE OF SIDE PANEL PART NO. 2760141-0000.



ASSEMBLY NO. SEE TABLE A

ENERGY ABSORPTION SYSTEMS, INC.
 ENGINEERING AND RESEARCH DEPARTMENT
 QUADGUARD[®] SYSTEM
 BACKUP ASSY, TS, QC WIDE

DATE	7/1/97
BY	D. Staus
DATE	6/2/97
BY	J. Machado
DATE	7/17/97
BY	B. Krogs
DATE	7/17/97
BY	J. Machado
NO. FILE	3540390-0000.dwg
REV. ASSY. NO.	

REFERENCES

Revisions	Date	Rev.	By	Checked/Approved
ITEM 12 WAS 2760471-0000	12/7/98	E	LWC	BAK SPT
REMOVED 1 ANCHOR BOLT & ADDED NOTE	03/19/99	C	LWC	KM SPT
UPDATED HINGES, ITEM 15 WAS 2760433-0000	12/10/99	D	DK	BB SPT

QUADGUARD SYSTEM
 FOR WIDE HAZARDS

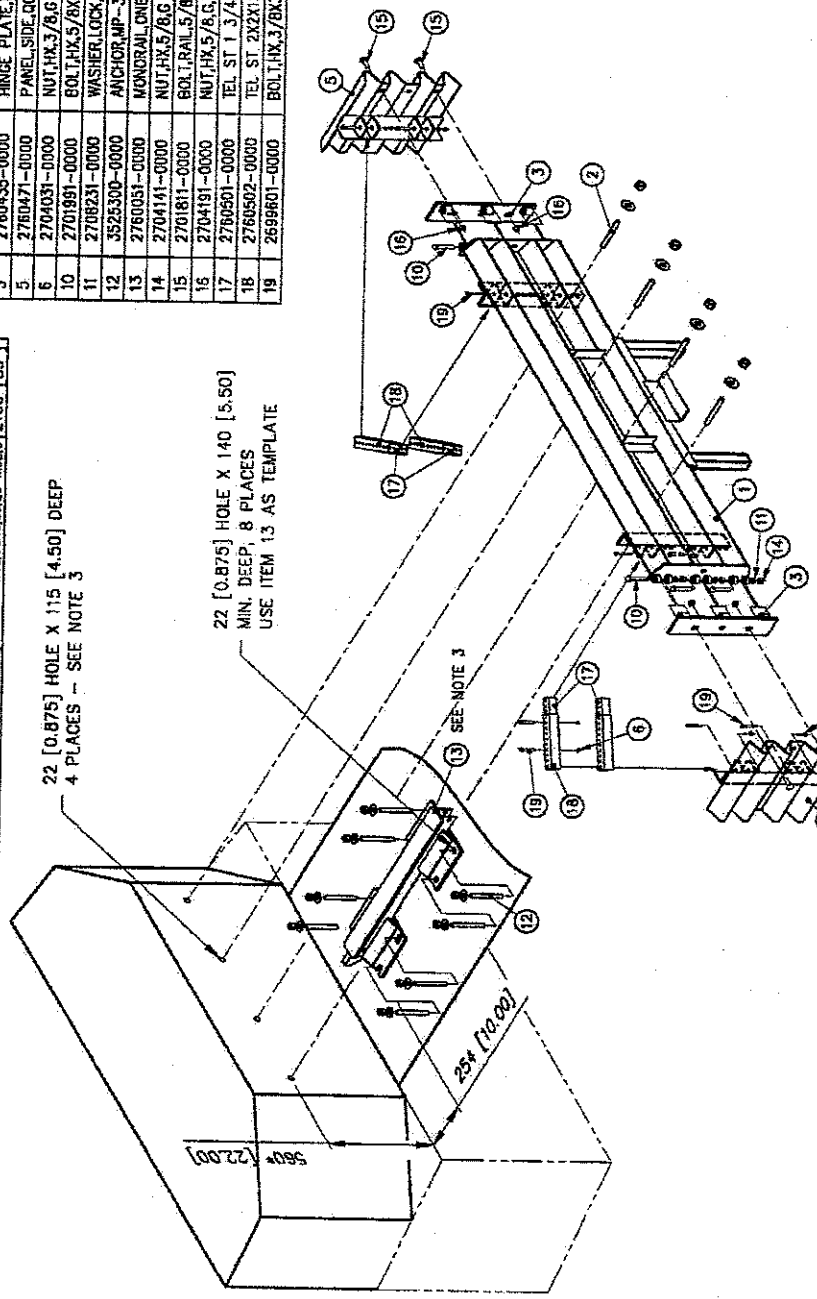
**QUADGUARD SYSTEM
FOR WIDE HAZARDS**

TABLE

ASSY. NO.	ITEM 1	DESCRIPTION	WIDTH
3540401-0000	2760491-0000	BACKUP FACE, CONC. 64.0G WIDE, 8	1620 [64"]
3540402-0000	2760481-0000	BACKUP FACE, CONC. 83.0G WIDE, 9	2100 [83"]

22 [0.875] HOLE X 115 [4.50] DEEP
4 PLACES -- SEE NOTE 3

22 [0.875] HOLE X 140 [5.50]
MIN. DEEP. 8 PLACES
USE ITEM 13 AS TEMPLATE



ITEM	STOCK NO.	DESCRIPTION	QTY
1	SEE TABLE	BACKUP FACE, CONC., 64.0G WIDE, 8	1.00
2	3525130-0000	ANCHOR, MP-3PT RT, 3/4X6 1/2 HOR	1.00
3	2760435-0000	HINGE PLATE, FENDER PANEL, 6G, 6	2.00
5	2760471-0000	PANEL, SIDE, 6G WIDE, 6	2.00
6	27604031-0000	NUT, HK, 3/8, G	16.0
10	2701991-0000	BOLT, HK, 5/8X4.5, G	8.00
11	2708231-0000	WASHER, LOCK, 5/8, G	8.00
12	3525300-0000	ANCHOR, MP-3PT RT, 3/4X7 VT	2.00
13	2760051-0000	MONORAIL, ONE BAY, 6G, 6	1.00
14	2701911-0000	BOLT, HK, 5/8X1 1/4, G	8.00
15	2701811-0000	NUT, HK, 5/8, G, RAIL	4.00
16	2704191-0000	TEL. ST. 1.3/4X1.3/4X1.26A, H4S, G, 10" LG	4.00
17	2760501-0000	TEL. ST. 2X2X1.26A, H2S, G, 10" LONG	4.00
18	2760502-0000	BOLT, HK, 3/8X3 1/2, G, ALL THREAD	4.00
19	2699601-0000		16.0

- NOTES:
1. DIMENSIONS ARE IN MILLIMETERS [INCHES] UNLESS OTHERWISE NOTED.
 2. FOR REFERENCE ONLY. USE ITEM 1 AS A TEMPLATE TO DRILL HOLES IN CONCRETE.
 3. ITEM 13 TO BE CENTERED LATERALLY WITH BACKUP 6.
 4. A REGAR CUTTING BIT WILL LIKELY BE REQUIRED TO ACHIEVE PROPER ANCHOR INSTALLATION.

REFERENCES

CONCRETE BACKUP, 6G WIDE 35-40-41

Revisions	Date	Rev. By	Coll. App.
ITEM 10 WAS 2699571-0000	12/26/94	D	LWC/BMK SPT
ADDED LEGS	2/8/95	B	DLS/KM SPT
CHG'D ITEM 3, WAS 2760435-0000	12/9/95	C	DK/KM BB

ASSEMBLY NO. (SEE TABLE)

ENERGY ABSORPTION SYSTEMS, INC.
ENGINEERING AND RESEARCH DEPARTMENT

BACKUP ASSY, CONCRETE, 6G WIDE

1:25

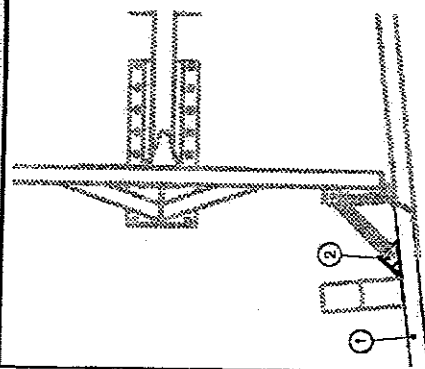
3540400-0000

1 of 1

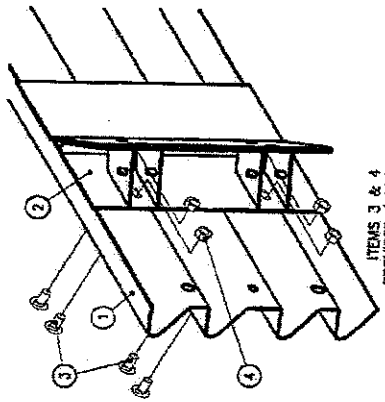
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**QUADGUARD SYSTEM
FOR WIDE HAZARDS**

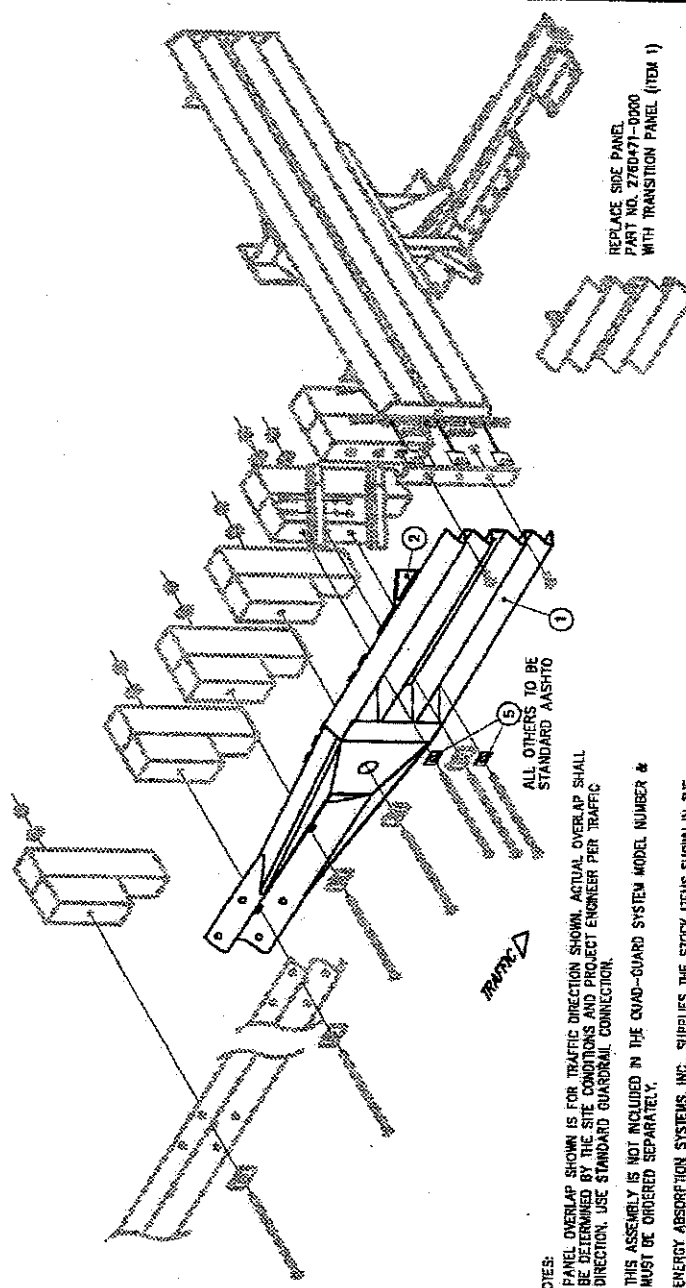
ITEM	STOCK NO.	DESCRIPTION	QTY
1	2780321-0000	QUADGUARD TO W-BEAM TRANS. PANEL	1.00
2	2780903-0000	BRACKET, PNDJ SUPPORT, TRANS, CG	1.00
3	2701811-0000	BOLT, RAIL, 5/8X1 1/4-G	4.00
4	2704191-0000	NUT, HX, 5/8-G	4.00
5	2708871-0000	WASHER, BAR, 1/2X1 1/4X2, W/HOLE	2.00



DETAIL A



ITEM 2 ASSEMBLY
ITEMS 3 & 4
REQUIRED 4 PLACES



NOTES:
1. PANEL OVERLAP SHOWN IS FOR TRAFFIC DIRECTION SHOWN. ACTUAL OVERLAP SHALL BE DETERMINED BY THE SITE CONDITIONS AND PROJECT ENGINEER PER TRAFFIC DIRECTION. USE STANDARD GUARDRAIL CONNECTION.
2. THIS ASSEMBLY IS NOT INCLUDED IN THE QUAD-GUARD SYSTEM MODEL NUMBER & MUST BE ORDERED SEPARATELY.
3. ENERGY ABSORPTION SYSTEMS, INC., SUPPLIES THE STOCK ITEMS SHOWN IN THE PARTS LIST WITH THE ASSEMBLY NUMBER. ALL OTHER COMPONENTS OF THE DOWNSTREAM GUARDRAIL (POSTS, HARDWARE AND RAIL ELEMENTS) ARE STANDARD HIGHWAY MATERIALS AND MAY BE OBTAINED FROM YOUR LOCAL HIGHWAY SUPPLY VENDORS.

4. PANEL MAY BE USED ON LEFT AND/OR RIGHT SIDE.

REPLACE SIDE PANEL
PART NO. 2780471-0000
WITH TRANSITION PANEL (ITEM 1)

REFERENCES

DATE	BY	REVISION
5/28/97	T. Busse	REVISED
8/21/96	J.M.	REVISED
3/6/97	KRM	REVISED
3/6/97	J. Machado	REVISED

3540211-0000.dwg
SPT ASSM'Y

ITEM 2 ASSEMBLY

Revisions	Date	Rev. By	Chk. App.
MULTIPLE REV	9/29/97	A	RLS KM JMM
UPDATED BOLT LAYOUT FOR ITEM 2 ASSY	11/24/98	B	RGC BB SPT

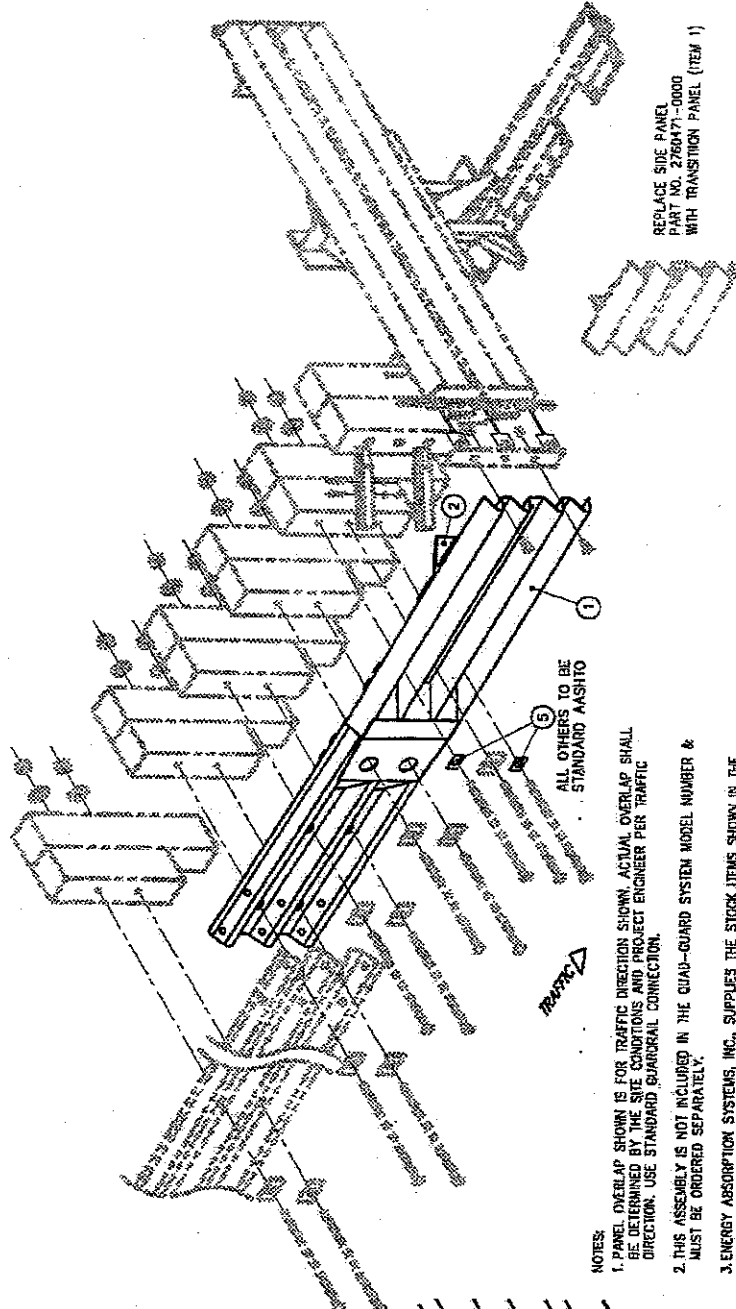
ASSEMBLY NO. 3540211-0000
ENERGY ABSORPTION SYSTEMS, INC.
ENGINEERING AND RESEARCH DEPARTMENT

**QUAD-GUARD™
TRANSITION ASSEMBLY,
QUAD-BEAM™ TO W-BEAM - WIDE**

N.T.S. 3540211-0000 1 of 2

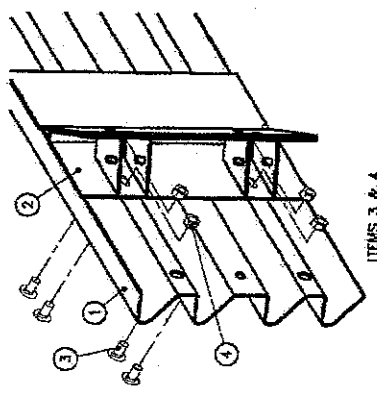
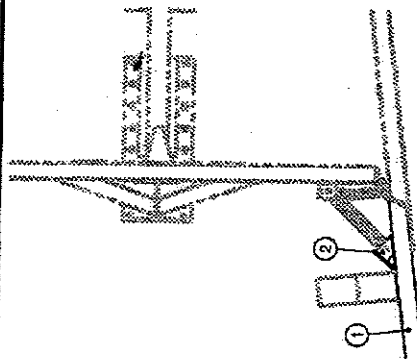
**QUADGUARD SYSTEM
FOR WIDE HAZARDS**

PARTS LIST			
ITEM	STOCK NO.	DESCRIPTION	QTY.
1	2760331-0000	QUADGUARD TO THREE-BEAM TRANS. PANEL	1.00
2	2760603-0000	BRACKET, PIVOT SUPPORT, TRANS. QG	1.00
3	2701811-0006	BOLT, RAIL, 5/8X1 1/4, C	4.00
4	2704191-0000	NUT, HK, 5/8, G	4.00
5	2706871-0000	WASHER, BAR, 1/8X1 1/4X2, W/HOLE	2.00



4. PANEL MAY BE USED ON LEFT AND/OR RIGHT SIDE.

- NOTES:
1. PANEL OVERLAP SHOWN IS FOR TRAFFIC DIRECTION SHOWN. ACTUAL OVERLAP SHALL BE DETERMINED BY THE SITE CONDITIONS AND PROJECT ENGINEER PER TRAFFIC DIRECTION. USE STANDARD GUARDRAIL CONNECTION.
 2. THIS ASSEMBLY IS NOT INCLUDED IN THE QUAD-GUARD SYSTEM MODEL NUMBER & MUST BE ORDERED SEPARATELY.
 3. ENERGY ABSORPTION SYSTEMS, INC., SUPPLIES THE STOCK ITEMS SHOWN IN THE PARTS LIST WITH THE ASSEMBLY NUMBER. ALL OTHER COMPONENTS OF THE DOWNSTREAM GUARDRAIL (POSTS, HARDWARE AND RAIL ELEMENTS) ARE STANDARD HIGHWAY MATERIALS AND MAY BE OBTAINED FROM YOUR LOCAL HIGHWAY SUPPLY VENDORS.



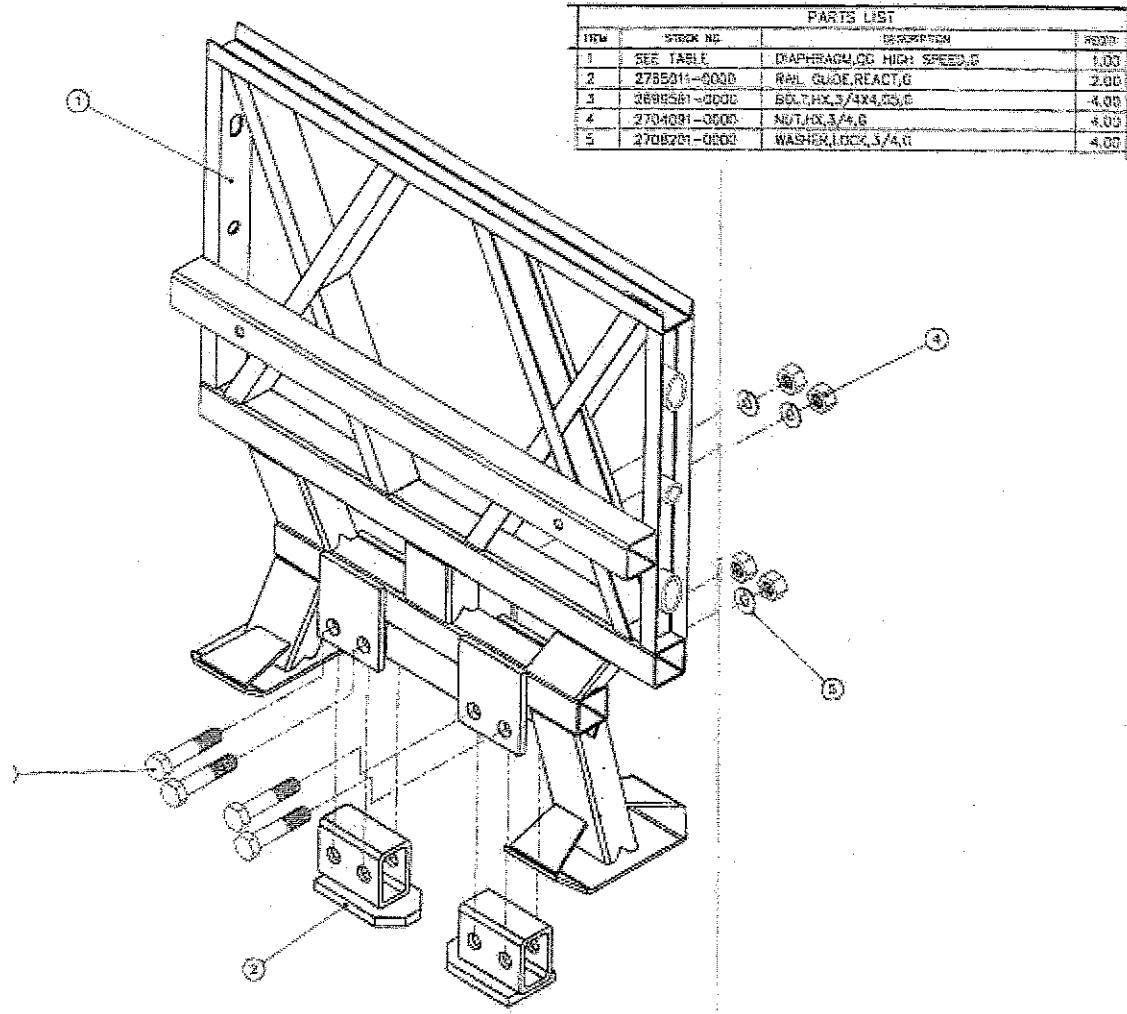
Revisions	Date	Rev.	By	Chd/App.
MULTIPLE REVS	8/29/87	A	DLS (KJ JM)	
UPDATED BOLT LAYOUT FOR ITEM 2 ASSY	11/24/89	B	RGE (B) SPT	

REFERENCES

DATE	BY	FOR
05/29/87	JVM	DESIGN
5/21/86	KRM	REVISED
06/03/87	J. Machado	CHK TID
06/03/87		3540221-0000.dwg

ASSEMBLY NO. 3540221-0000
ENERGY ABSORPTION SYSTEMS, INC.
 ENGINEERING AND RESEARCH DEPARTMENT
QUAD-GUARD™
TRANSITION ASSEMBLY, - WIDE
QUAD-BEAM™ TO THREE-BEAM - WIDE

N.T.S. 3540221-0000 1 of 2

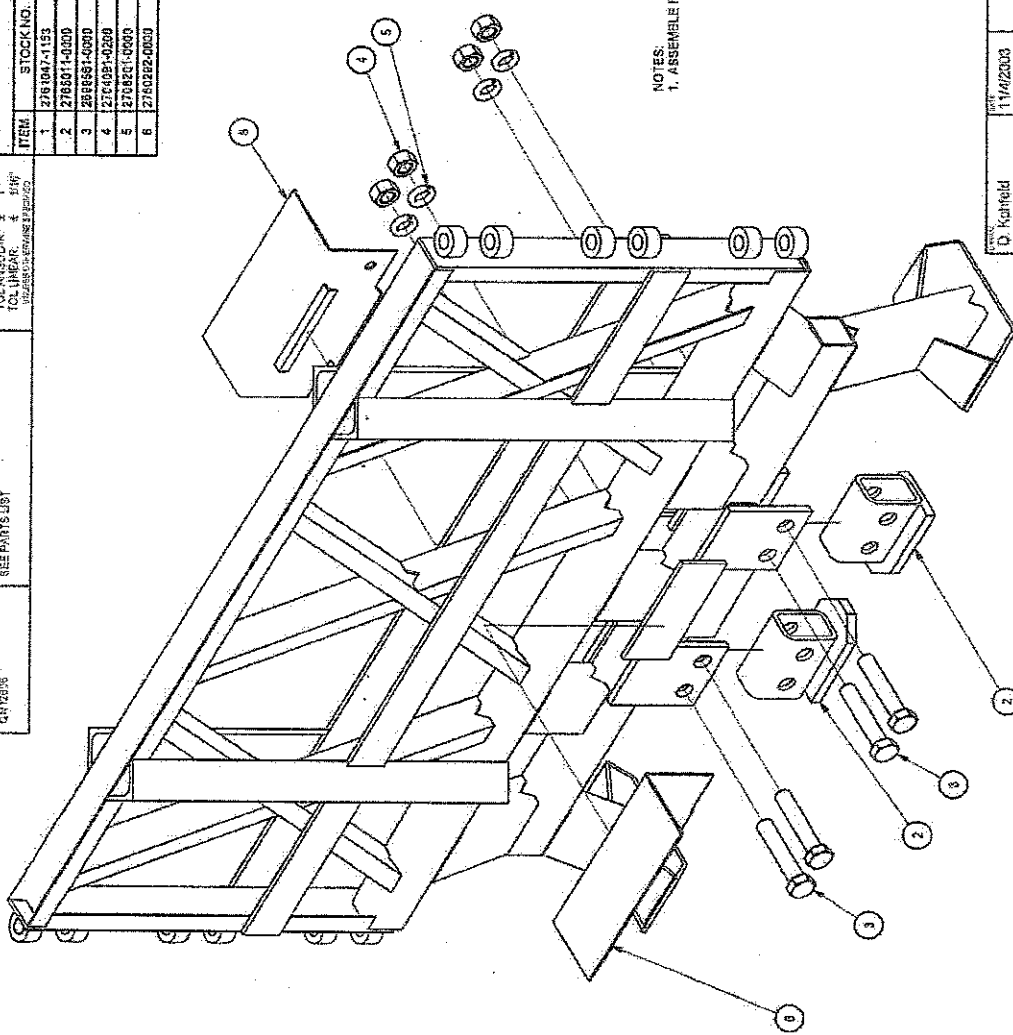


PARTS LIST			
ITEM	STOCK NO.	DESCRIPTION	QTY.
1	SEE TABLE	DIAPHRAGM,CG HIGH SPEED,G	1.00
2	27B5011-0000	RAIL GUIDE,REACT,G	2.00
3	3890581-0000	BOLT,HX,3/4X4,05,G	4.00
4	2704091-0000	NUT,HX,3/4,G	4.00
5	2705201-0000	WASHER,LOCK,3/4,G	4.00

NOTE: THIS DIAPHRAGM TO BE USED ONLY FOR DIAPHRAGMS 1 THRU 3 ON THE QUADGUARD-HS

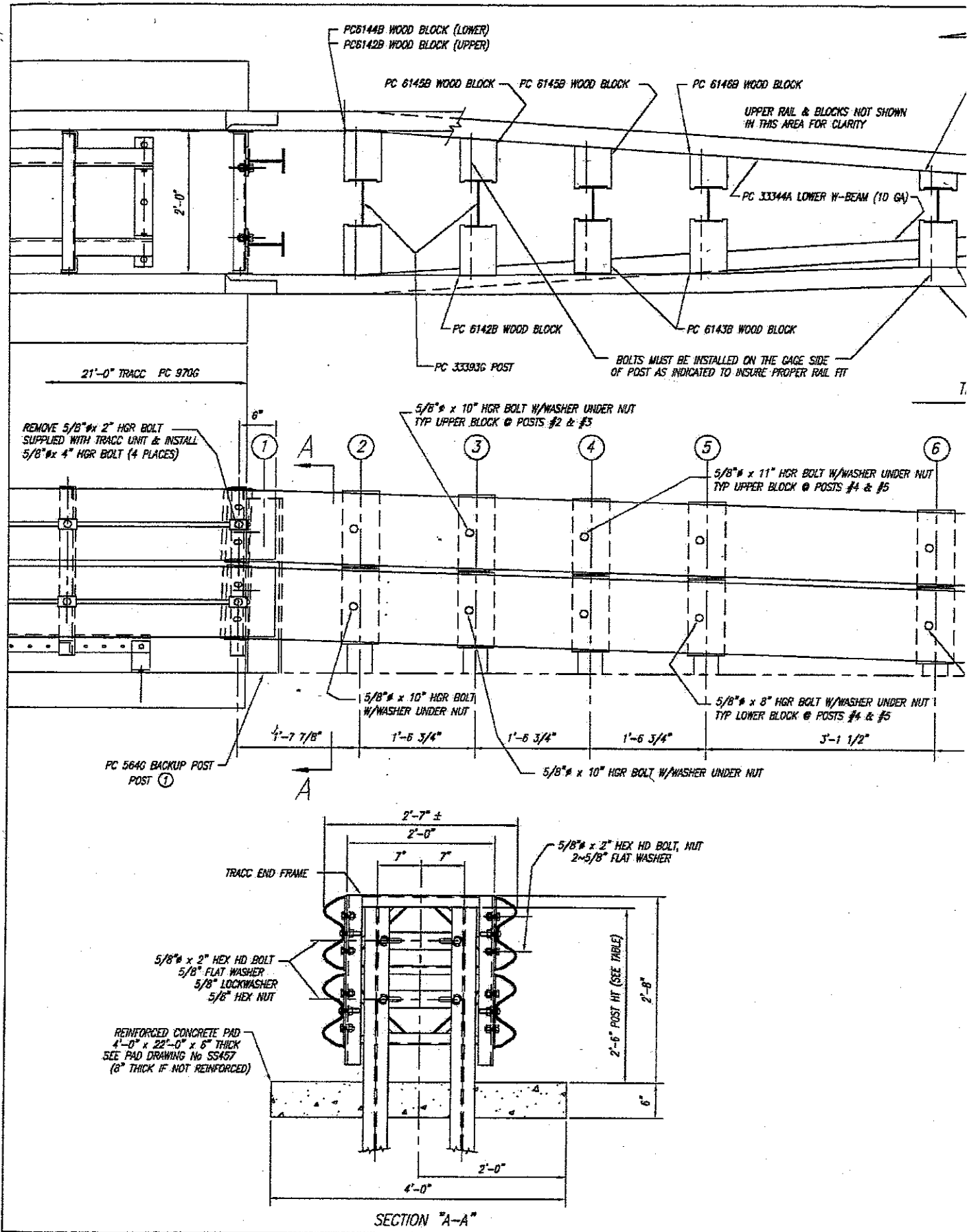
PARTS LIST			
ITEM	STOCK NO.	DESCRIPTION	QTY.
1	2768071-1153	DIAPHRAGM, QG, EX-TRA WIDE, 1153 G	1
2	2768071-0000	RAIL GUIDE REACT G	2
3	2886551-0000	BOLT, HX, 3/4 X 1.06 G	4
4	2768081-0200	NUT, HX, 3/4 G	4
5	2768221-0000	WASHER LOCK, 3/4 G	4
B	2768222-0000	BRACKET, CARTRIDGE SUPT, DIA, QG, G	2

FOR ASSEMBLY: 1. SEE PARTS LIST
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NOTES:
1. ASSEMBLE ITEMS 2 WITH FASTENERS AS SHOWN.

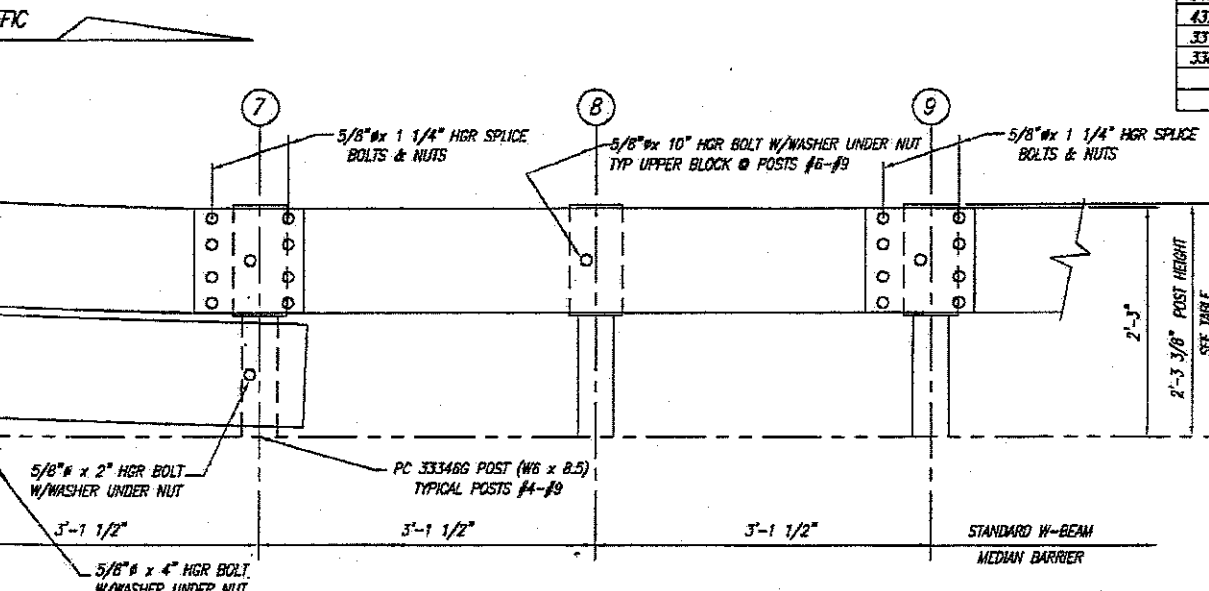
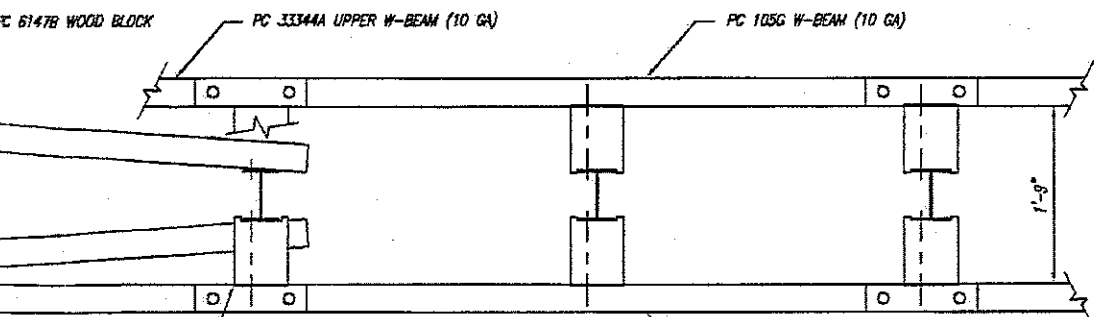
ASSEMBLY NO. 6010432-1153	
ENERGY ABSORPTION SYSTEMS, INC. ENGINEERING AND RESEARCH DEPARTMENT	
DESIGNED BY: D. Kerschfeld	DATE: 11/14/2003
DRAWN BY: A. Franklin	DATE: 10/21/2003
CHECKED BY: A. Franklin	DATE: 11/10/2003
APPROVED BY: SPT	DATE: 11/10/2003
DATE: 11/17/2003	BY: STI
REV: 6010432-1153	REV: 3/18/1
1 of 1	1 of 1



TRAFFIC

TRACC TRANSITION BILL OF MATERIAL

PRODUCT CODE	QTY	DESCRIPTION
105C	2	10/63/TRACC (GUARDRAIL)
564G	2	BACKUP POST (WB x 8.5 x 6'-6")
33344A	4	10/12/6/TRACC (GUARDRAIL)
33393G	2	POST WB x 13 x 7'-6"
33346C	6	POST WB x 8.5 x 6'-6"
6141B	8	RTD WD BLOCK 1'-1 (6 x 8)
6142B	4	RTD WD BLOCK 1'-1 (6 x 8 3/4)
6143B	4	RTD WD BLOCK 1'-1 (6 x 9 1/4)
6144B	2	RTD TPRD WD BLK 1'-1 (6 x 8 9/16)
6145B	4	RTD TPRD WD BLK 1'-1 (6 x 7 1/4)
6146B	2	RTD TPRD WD BLK 1'-1 (6 x 5 15/16)
6147B	2	RTD TPRD WD BLK 1'-1 (6 x 3 3/8)
HARDWARE		
3510C	4	5/8" x 11" HGR POST BOLT
3500C	16	5/8" x 10" HGR POST BOLT
3480G	4	5/8" x 8" HGR POST BOLT
4432G	6	5/8" x 4" HGR POST BOLT
3400G	2	5/8" x 2" HGR POST BOLT
3360G	32	5/8" x 1 1/4" HGR SPLICE BOLT
3340G	60	5/8" HGR HEX NUT
3300G	32	5/8" FLAT WASHER (6 HGR POST BOLTS)
3404G	12	5/8" x 2" HEX HD BOLT (A325)
4372G	20	5/8" WASHER
3310G	4	5/8" LOCKWASHER
3361G	12	5/8" HEX NUT



POST HEIGHT TABLE

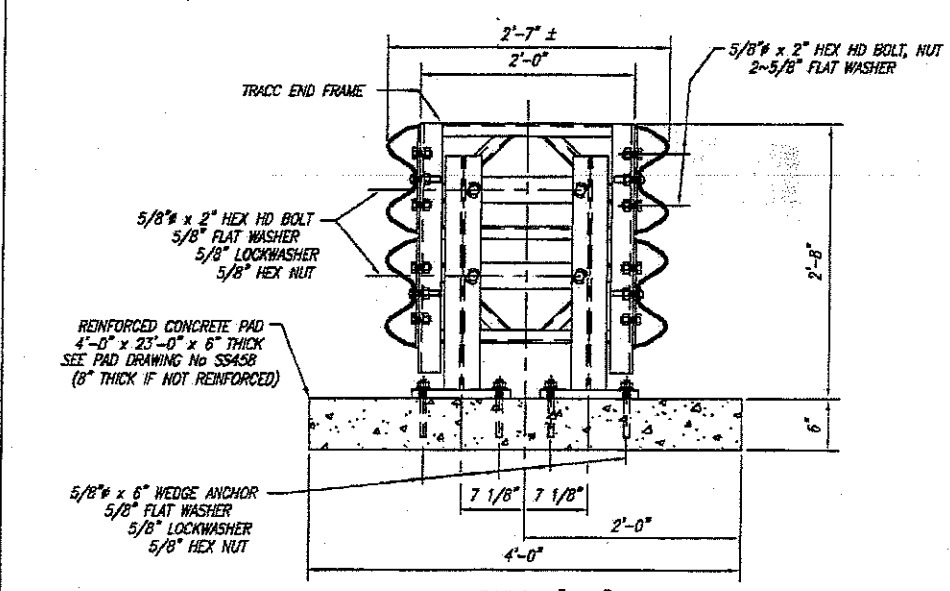
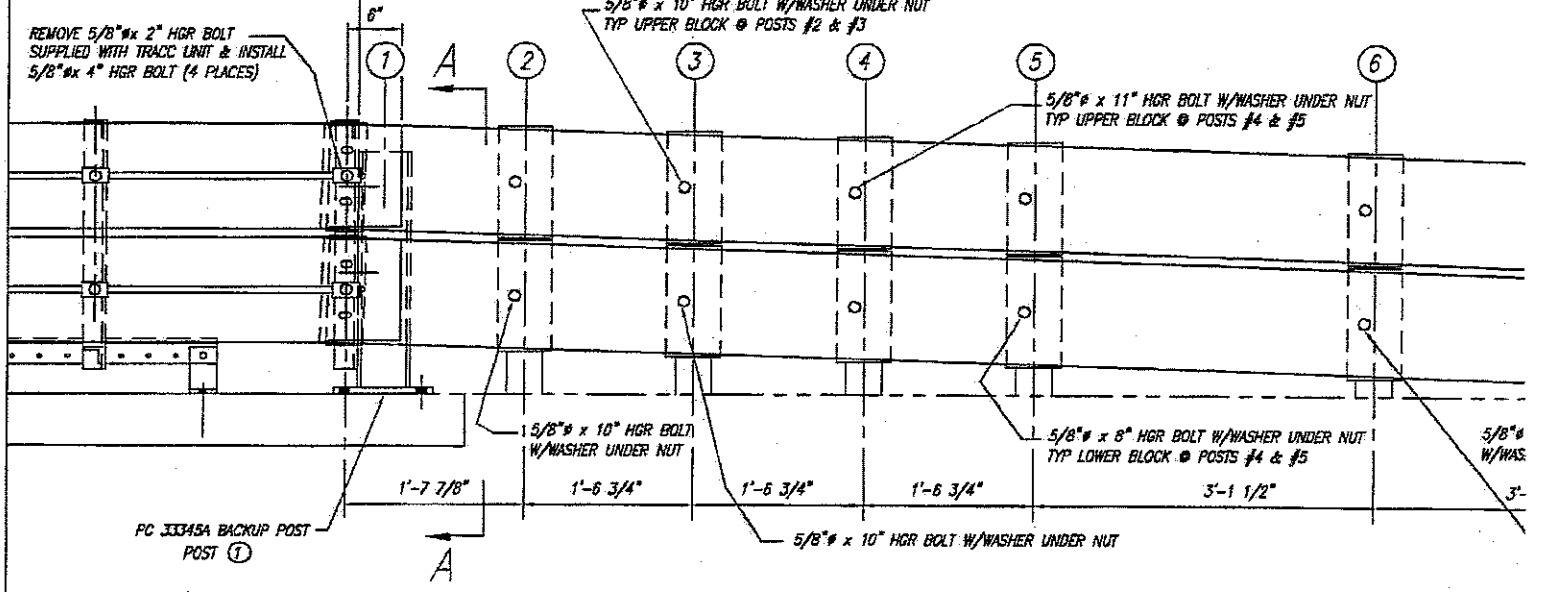
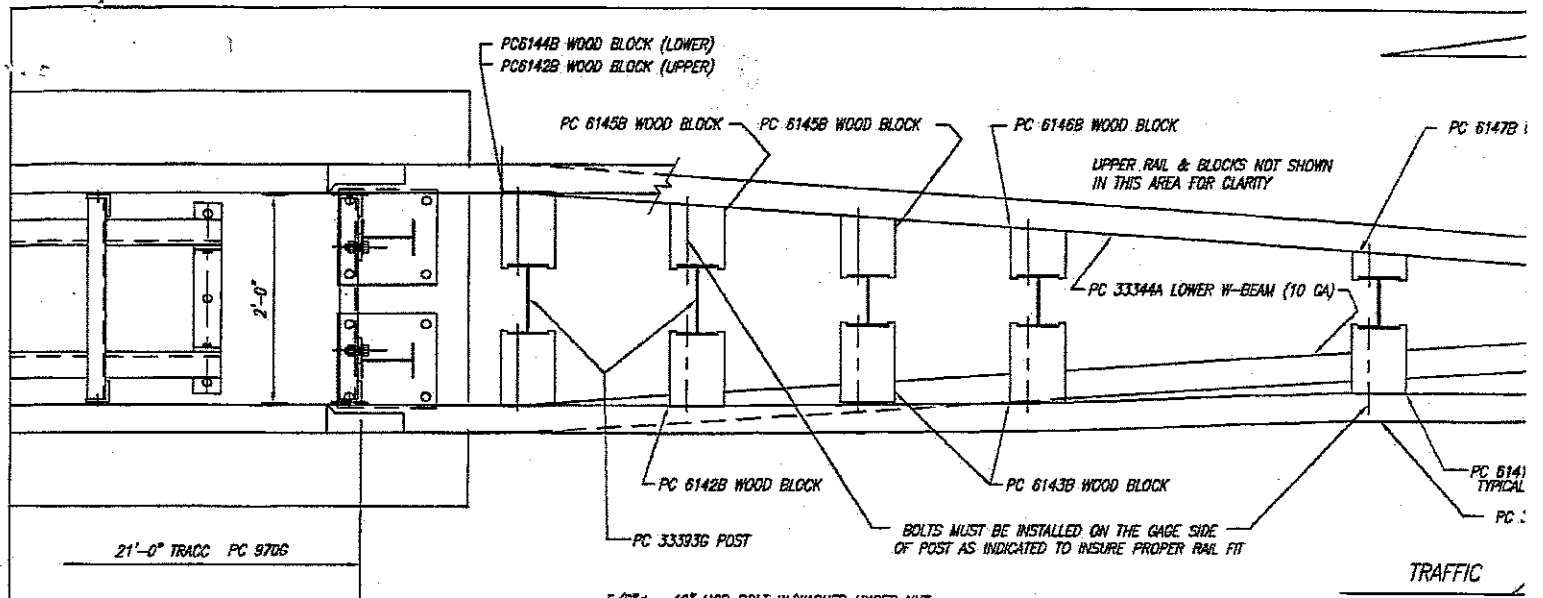
POST NO	HEIGHT
①	2'-6"
②	2'-7 3/8"
③	2'-6 3/4"
④	2'-5 1/8"
⑤	2'-5 1/2"
⑥	2'-4 3/8"
⑦	2'-3 3/8"
⑧	2'-3 3/8"
⑨	2'-3 3/8"

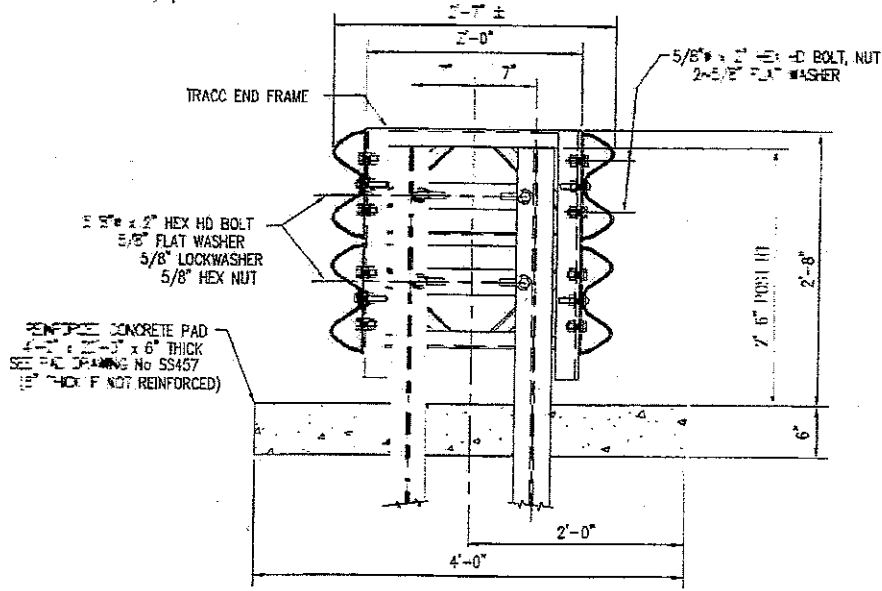
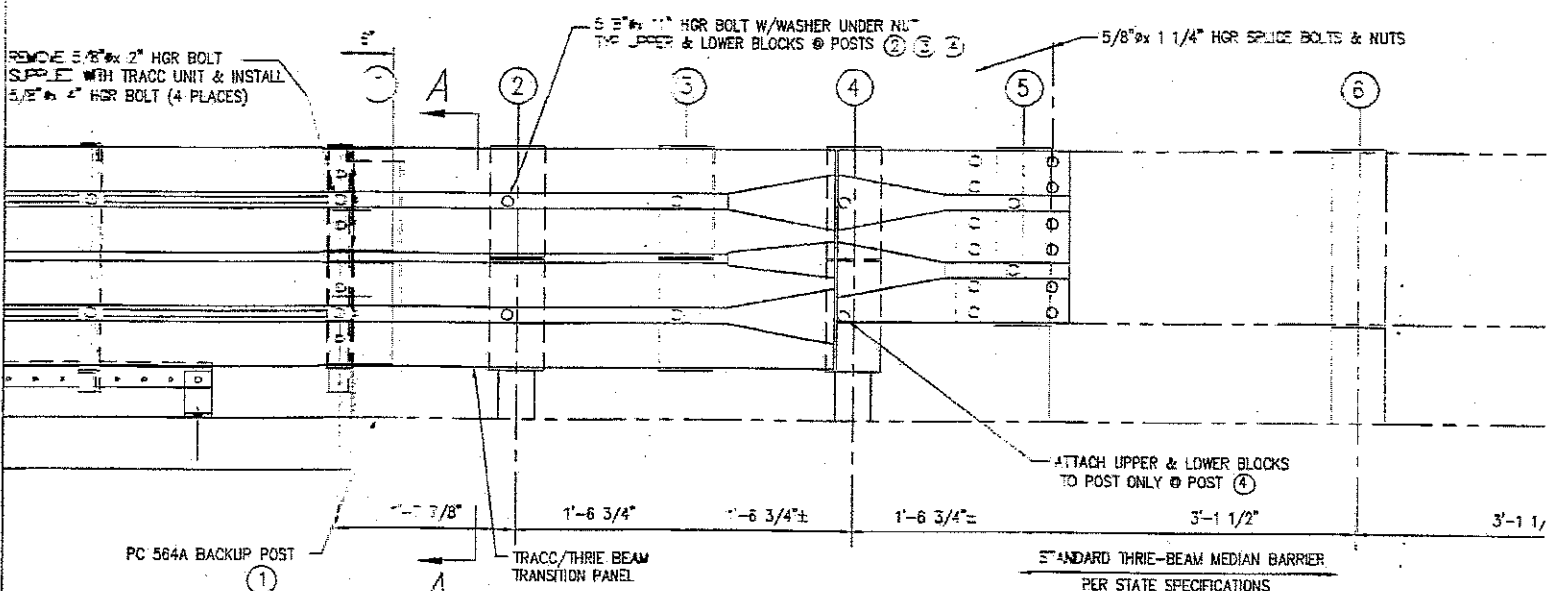
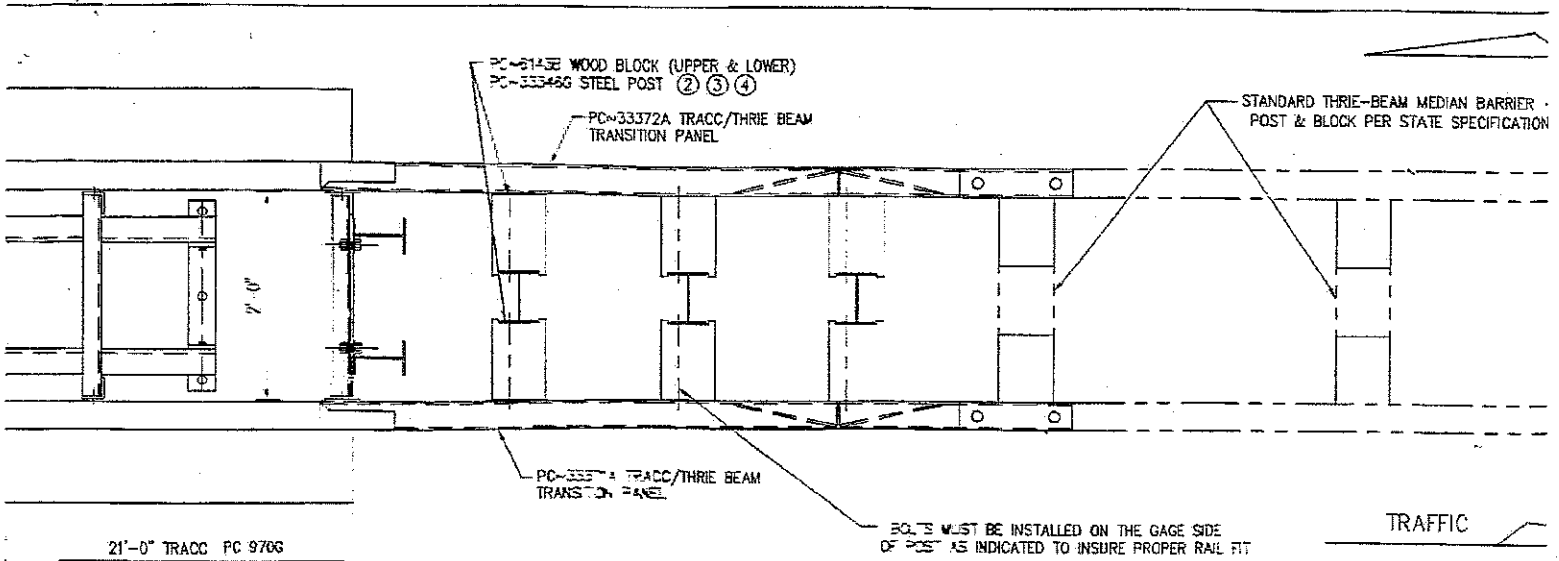
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1	BT	6-7-01	REVISED POSTS #2 & #3 AND LENGTH OF TRANSITION.
REV.	CH'D	BY	DATE
REMARKS			
TRACC TRANSITION TO W-BEAM MEDIAN BARRIER PLAN, ELEVATION & SECTIONS (ALL DRIVEN POSTS)			DRAWN B.T. CHECKED APPROVED DATE 8/16/00 ENCL FILE # SS453-01E SYTLNG: E1 OF 1 DRAWING NO. SS 453
TRINITY INDUSTRIES, INC. HIGHWAY SAFETY PRODUCTS 2525 STEMMONS FREEWAY, DALLAS, TX 75356			REV. 1

37

MATCH LEFT SIDE OF SHEET WITH RIGHT SIDE OF SHEET 36





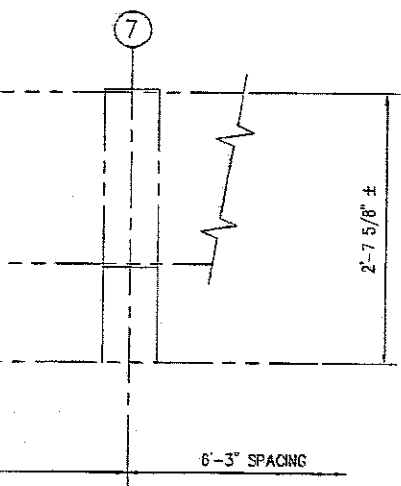
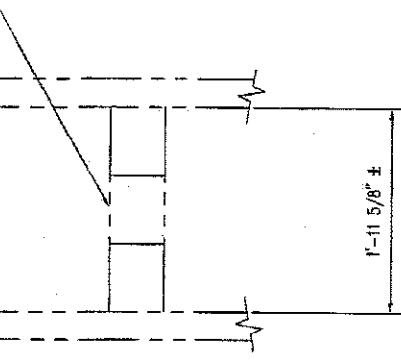
SECTION "A-A"



MATCH RIGHT SIDE OF SHEET WITH LEFT SIDE OF SHEET 40

TRAFFIC

TRACC TRANSITION BILL OF MATERIAL

PRODUCT CODE	QTY	DESCRIPTION
564G	2	POST W6 x 8.5 x 6'-6"
6143B	12	RTD WD BLOCK 1'-1 (6 x 9 1/4)
33346G	3	POST W6 x 8.5 x 6'-6"
33371A	1	TRACC/THRIE BEAM TRANSITION PANEL
33372A	1	TRACC/THRIE BEAM TRANSITION PANEL
HARDWARE		
4432G	4	5/8"φ x 4" HGR POST BOLT
3510G	12	5/8"φ x 11" HGR POST BOLT
3360G	24	5/8"φ x 1 1/4" HGR SPLICE BOLT
3340G	36	5/8" HGR HEX NUT
3300G	12	5/8" FLAT WASHER (Ø HGR POST BOLTS)
3404G	12	5/8"φ x 2" HEX HD BOLT (A325)
4372G	20	5/8" WASHER
3310G	4	5/8" LOCKWASHER
3361G	12	5/8" HEX NUT

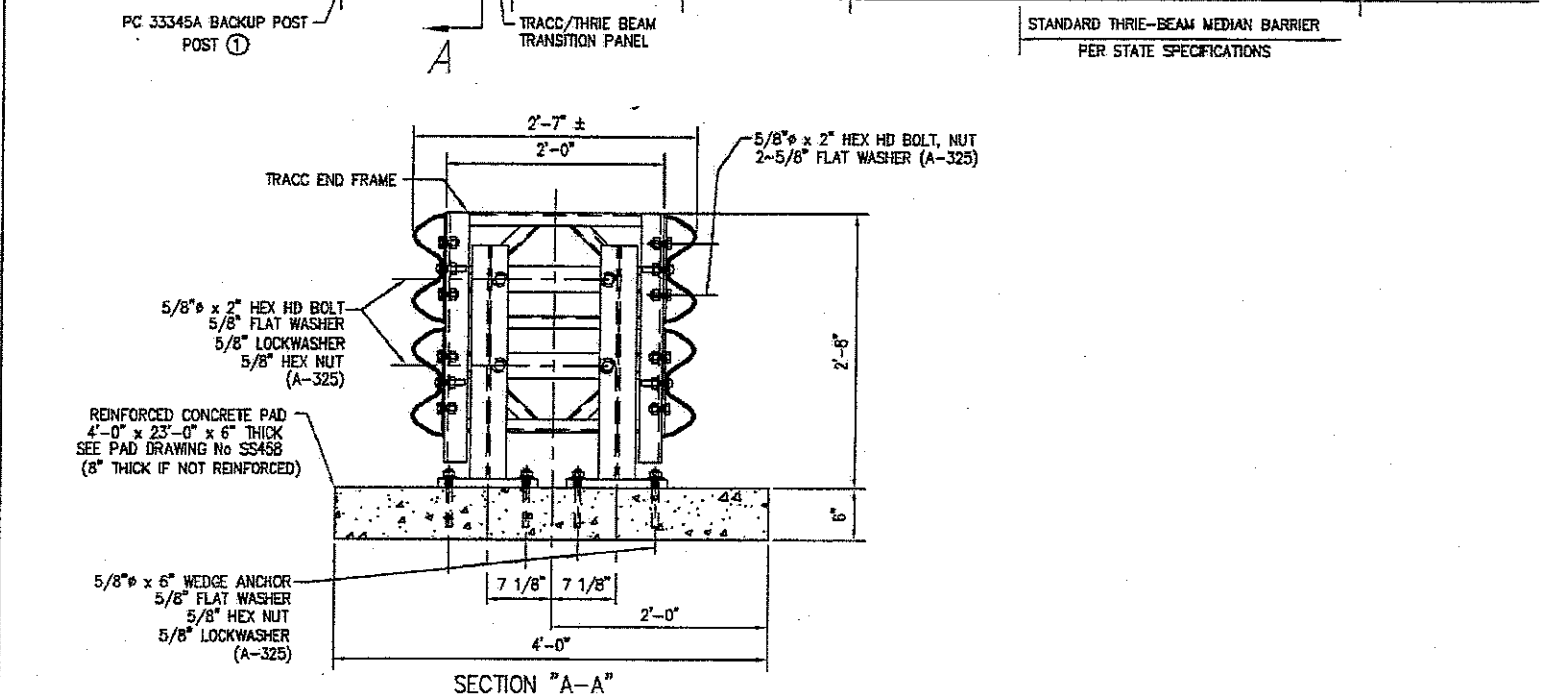
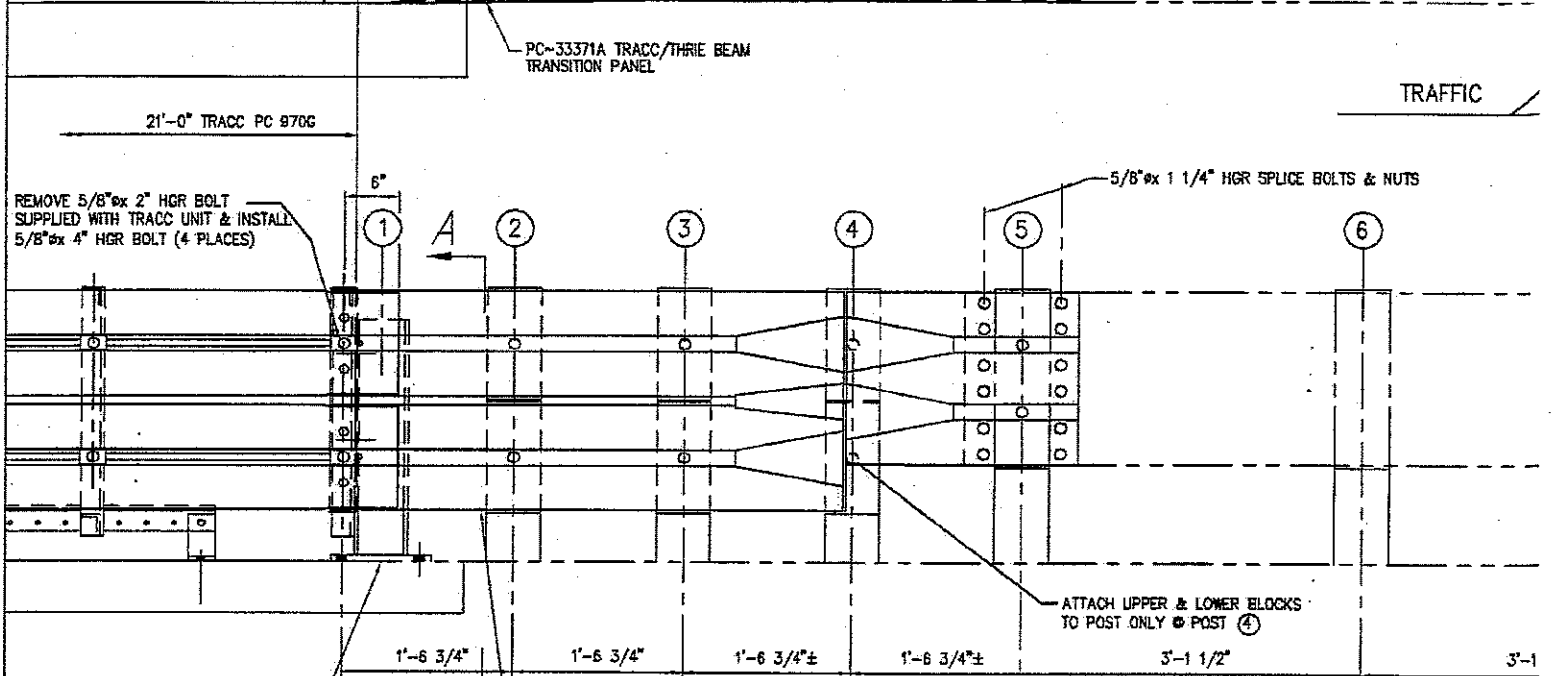
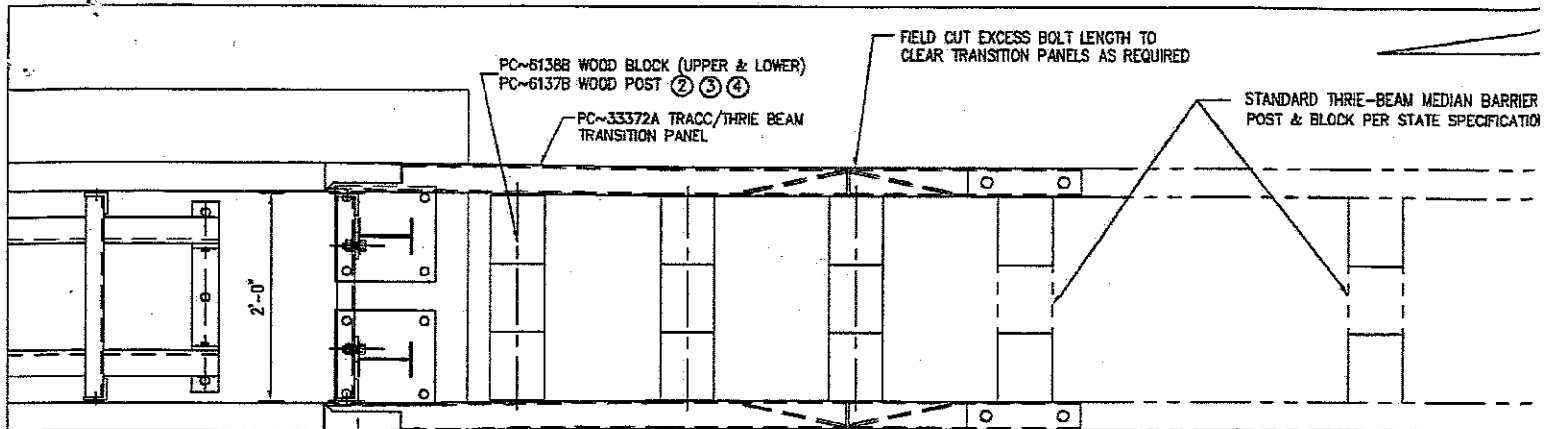


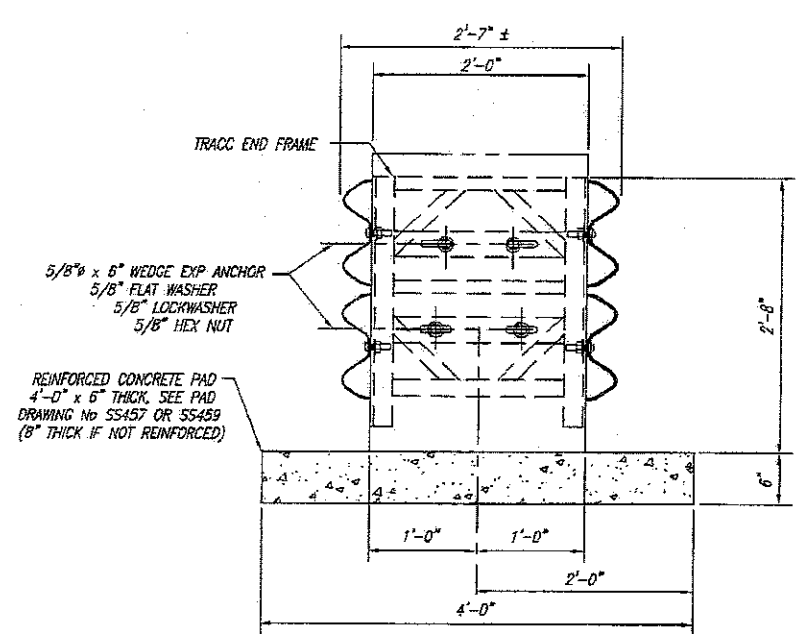
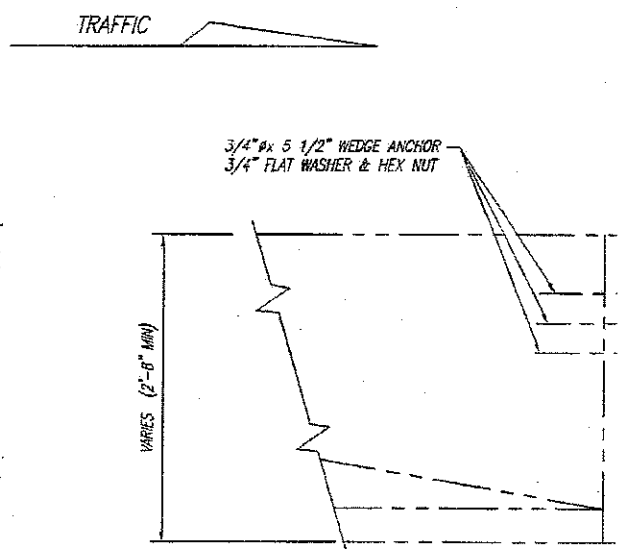
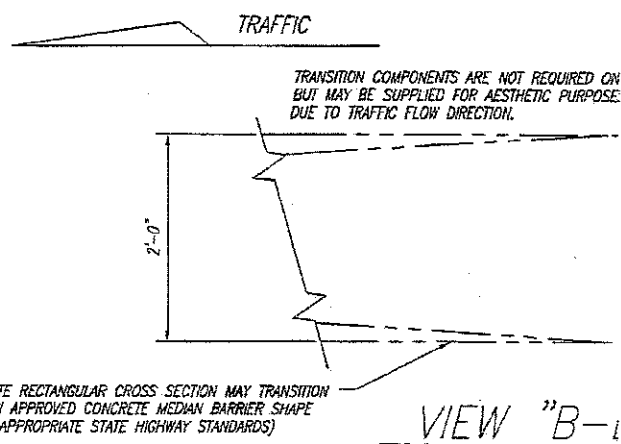
REV.	CHK'D	BY	DATE	REMARKS
				
TRACC TRANSITION TO THRIE BEAM MEDIAN BARRIER PLAN, ELEVATION & SECTIONS (ALL DRIVEN POSTS)				DRAWN B.T. CHECKED APPROVED DATE 8-22-00 ENG. FILE # SS454-01E SH.T.No. E1 OF 1 DRAWING NO. SS 454
 TRINITY INDUSTRIES, INC. HIGHWAY SAFETY PRODUCTS 2525 STEMMONS FREEWAY, DALLAS, TX 75356				REV. 0

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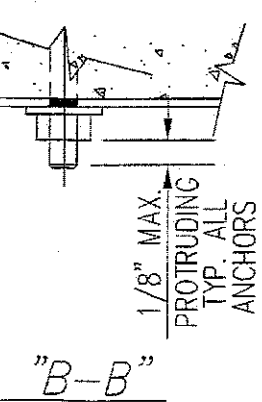
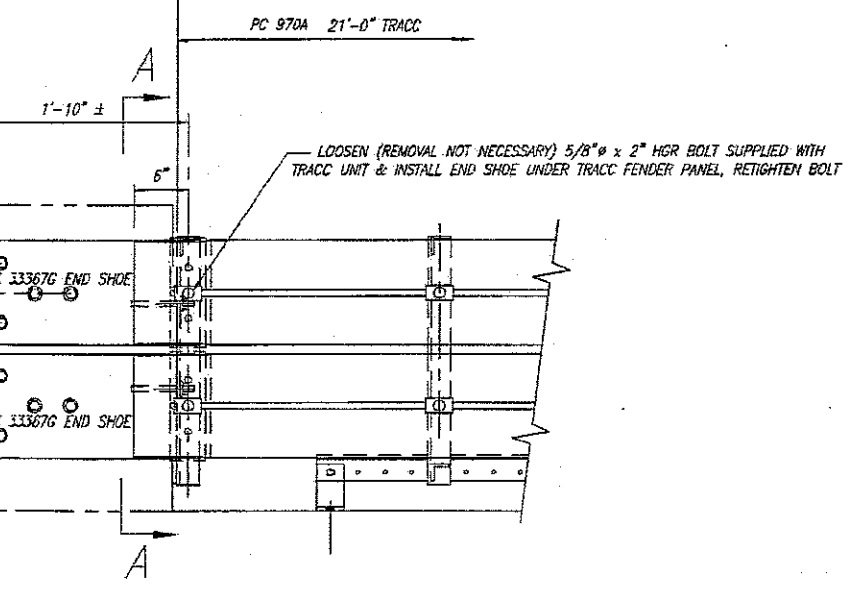
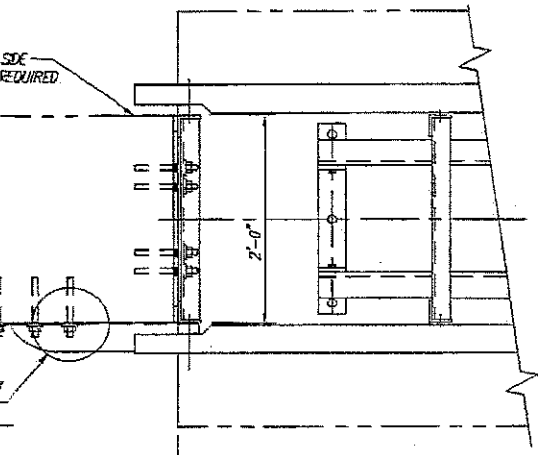
40

MATCH LEFT SIDE OF SHEET WITH RIGHT SIDE OF SHEET 39





TRACC TRANSITION BILL OF MATERIAL		
PRODUCT CODE	QTY	DESCRIPTION
333676	2	TRACC 10GA END SHOE
HARDWARE		
3310G	4	5/8" LOCKWASHER
44516	4	5/8" x 6" WEDGE EXP ANCHOR
4688G	8	3/4" x 5 1/2" WEDGE EXP ANCHOR

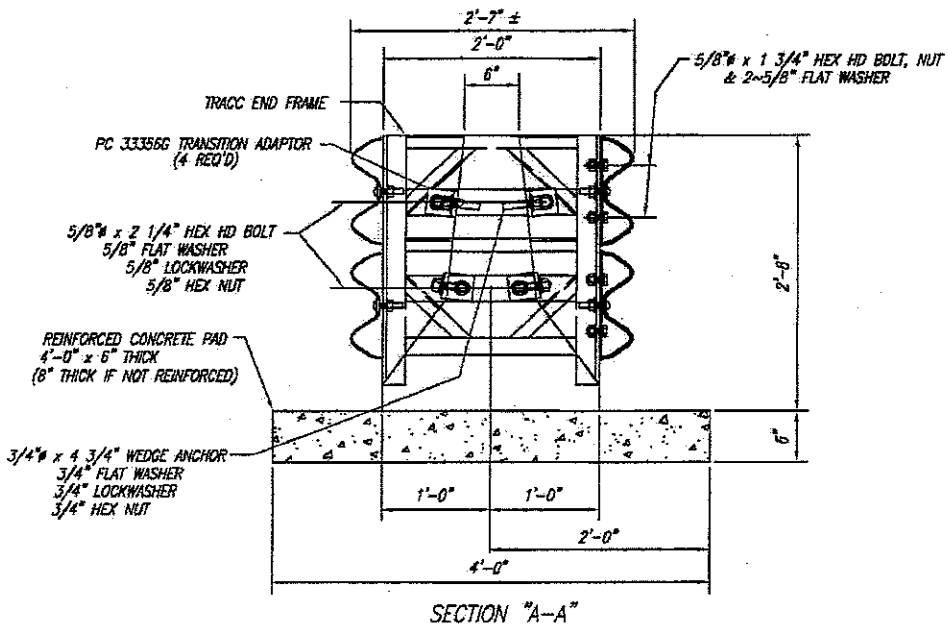
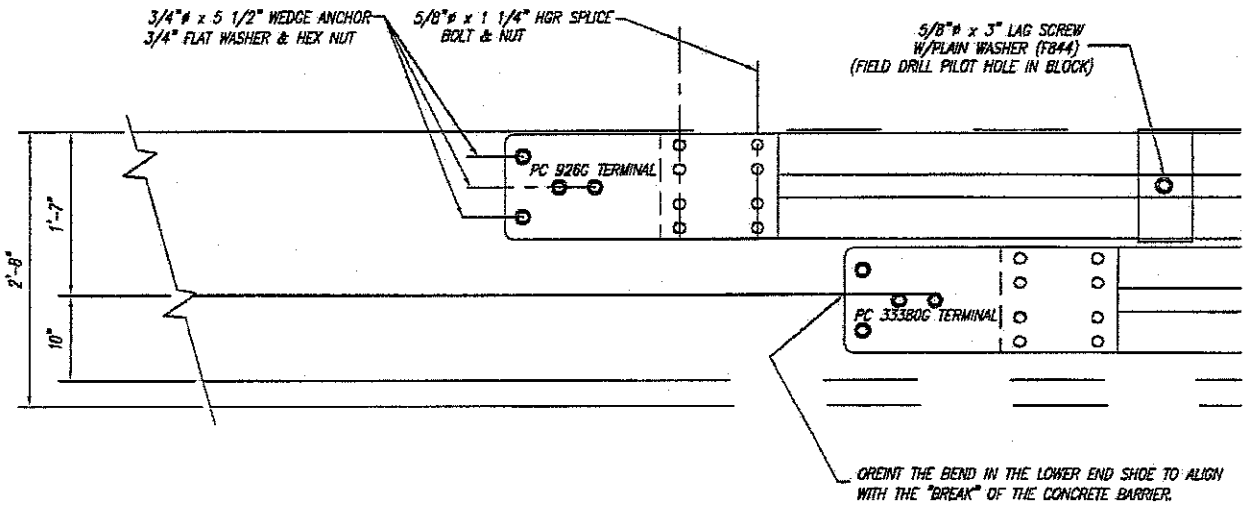
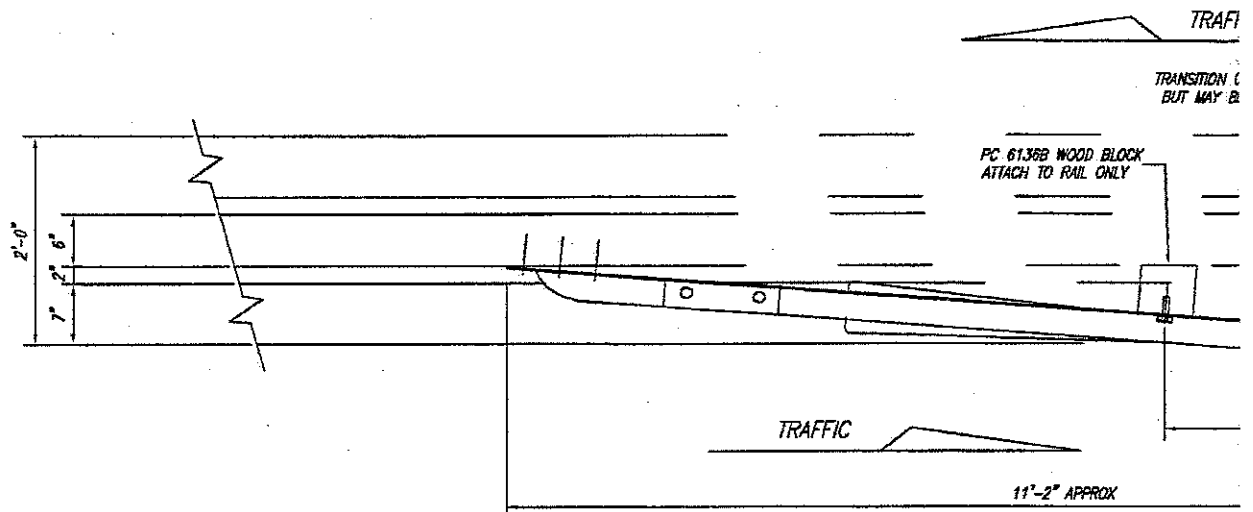


1	B.T.	L.H.	11/19/03	ADDED EXPANSION BOLT VIEW B-B
REV:	CHK'D	BY	DATE	REMARKS
TRACC TRANSITION TO VERTICAL CONCRETE WALL, PIER, PARAPET OR BARRIER PLAN, ELEVATION & SECTIONS				DRAWN B.T. CHECKED APPROVED DATE 9-7-00 ENG. FILE # SS456-01E SHT. No. ET OF 1 DRAWING NO. SS 456 REV. 1
TRINITY INDUSTRIES, INC. HIGHWAY SAFETY PRODUCTS 2525 STEMMONS FREEWAY, DALLAS, TX 75356				

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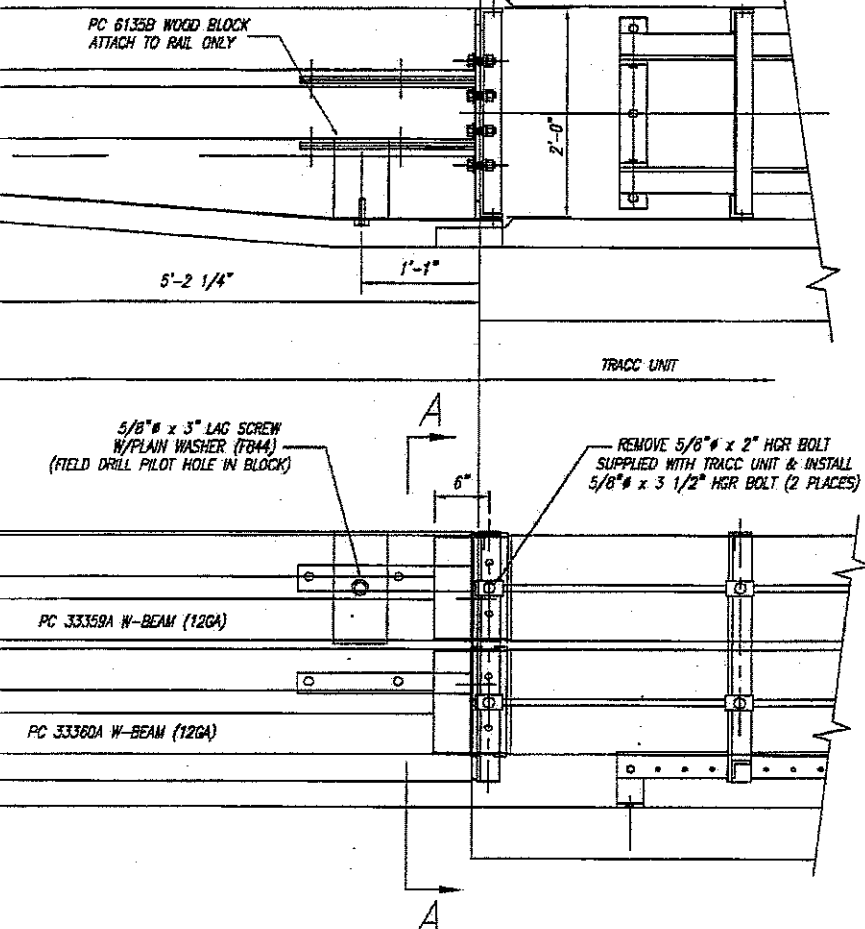
MATCH LEFT SIDE OF SHEET WITH RIGHT SIDE OF SHEET 43




TRACC TRANSITION BILL OF MATERIAL

PRODUCT CODE	QTY	DESCRIPTION
9286	1	10/END SHOE/EXTRA HOLE (UPPER)
61358	1	TAPERED WD BLK 1'-1" (6 x 6 1/2)
61368	1	TAPERED WD BLK 1'-1" (6 x 5 3/4)
33356G	4	TRANSITION ADAPTOR PLATE
33359A	1	12/10" TRACC (UPPER GUARDRAIL)
33360A	1	12/6"10.5" TRACC (LOWER GUARDRAIL)
33380G	1	10/END SHOE/EXTRA HOLE/BEND (LOWER)
HARDWARE		
3380G	16	5/8" x 1 1/4" HGR SPLICE BOLT
3435G	2	5/8" x 3 1/2" HGR POST BOLT
4412G	2	5/8" x 3" LAG SCREW
5306G	4	5/8" x 2 1/4" HEX HD BOLT (A325)
3391G	4	5/8" x 1 3/4" HEX HD BOLT (A325)
3300G	2	5/8" WASHER (F844)
3340G	16	5/8" HGR NUT
4372G	12	5/8" WASHER (F436)
3310G	4	5/8" LOCKWASHER
3361G	8	5/8" HEX NUT (A563 DH)
4688G	8	3/4" x 5 1/2" WEDGE ANCHOR
5136G	8	3/4" x 4 3/4" WEDGE ANCHOR
4698G	8	3/4" LOCKWASHER
3701G	16	3/4" WASHER
3710G	16	3/4" HEX NUT

W/PONENTS ARE NOT REQUIRED ON THIS SIDE SUPPLIED FOR AESTHETIC PURPOSES.



REV.	CHKD	BY	DATE	REMARKS
6		SAR	6-20-05	UPDATED PART NUMBERS
5		LH	6-18-02	CHANGED BLOCK POSITION ON TOP PANEL; ADDED LOWER END SHOE NOTE
4		BT	8-2-00	DELETED PC4717, PC33361 & 62, ADDED PC925 & PC33380, CHG QTY HARDWARE
3		BT	3-29-00	DELETED PC4421, ADDED PC4412
2		BT	11-5-99	DELETED PC6139, 6140, 5307 & 4441, ADDED PC6135, 6136 & 4412
1		BT	6-30-99	DELETED PC33357G & 33368, ADDED 2 MORE PC33356, CHGD SECT A-A & HDWR



TRACC

TRACC TRANSITION TO
CONCRETE SAFETY SHAPE BARRIER
PLAN, ELEVATION & SECTIONS

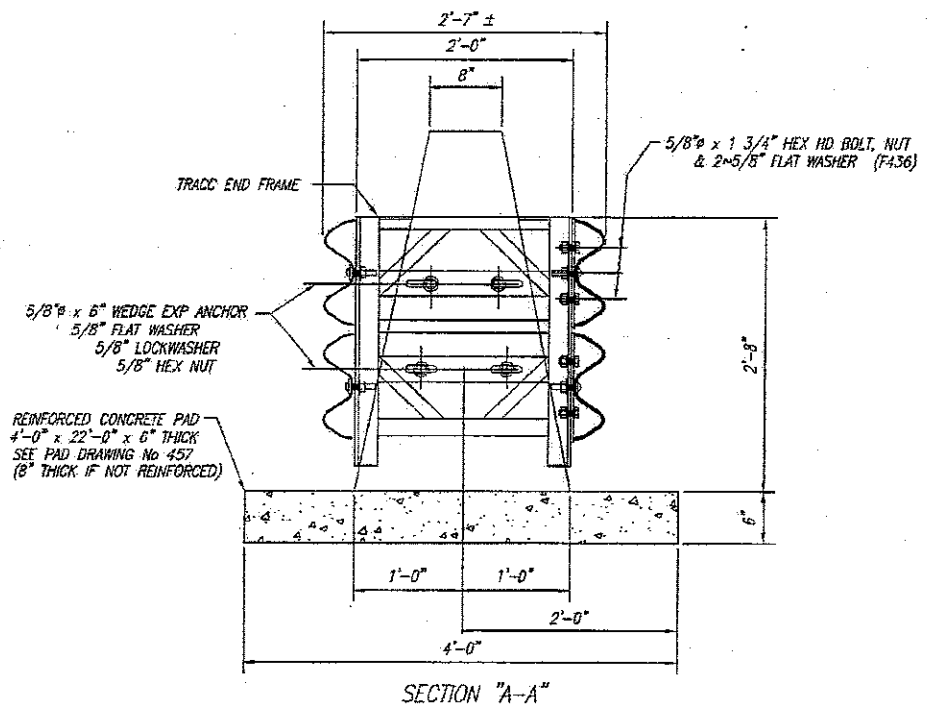
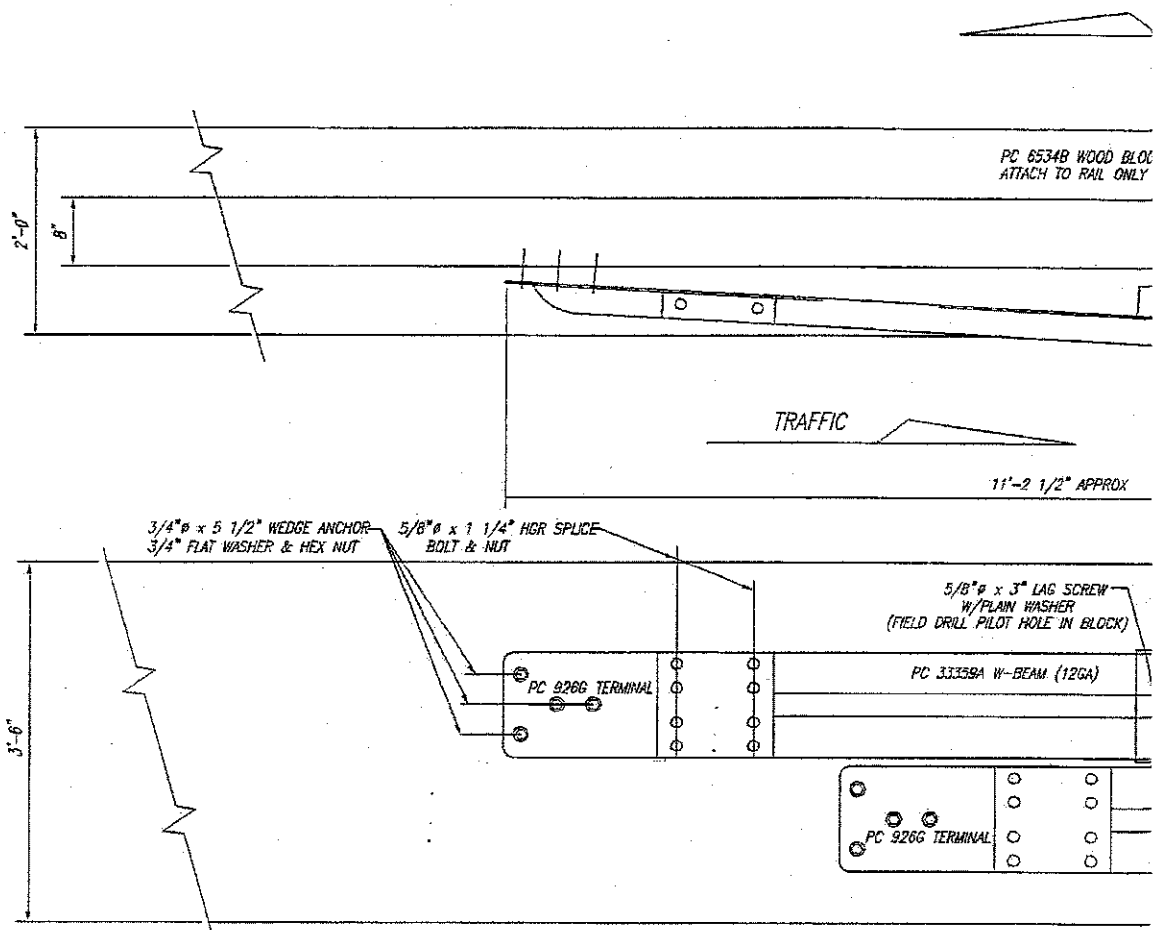
TRINITY INDUSTRIES, INC.
HIGHWAY SAFETY PRODUCTS

DRAWN BY BT
CHECKED
APPROVED
DATE 05/10/02
ENCL FILE # 55461-01E
SHT# E1 OF 1
DRAWING NO. REV.

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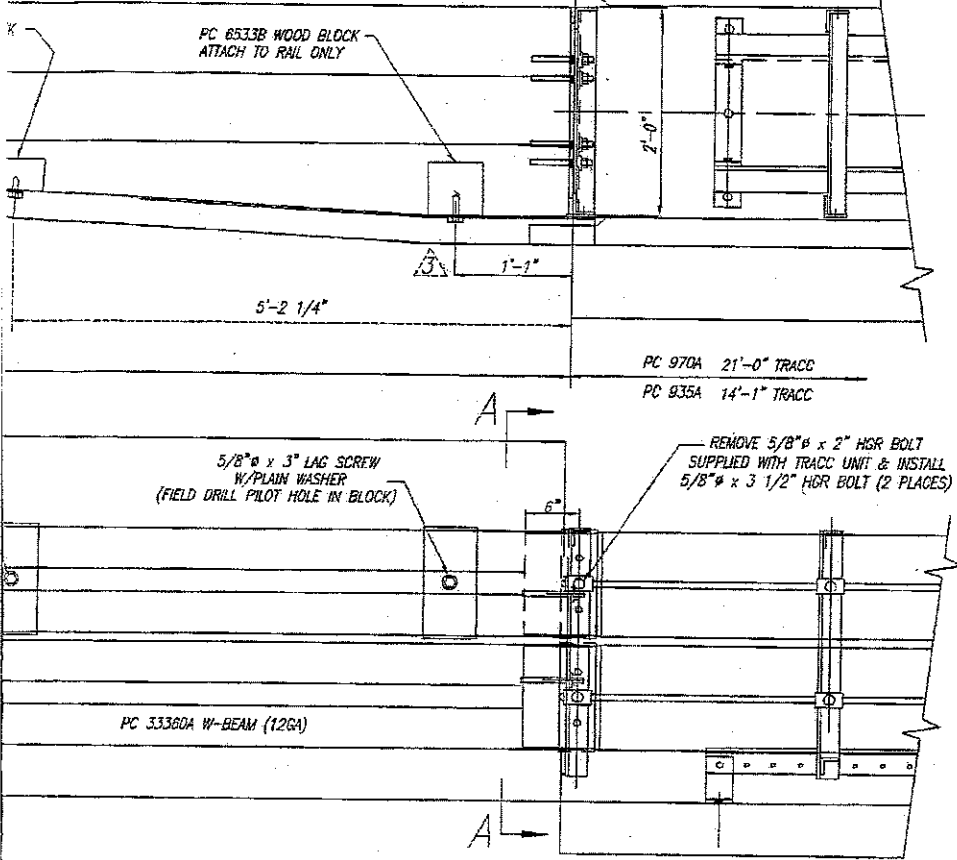
46

MATCH LEFT SIDE OF SHEET WITH RIGHT SIDE OF SHEET 45



TRAFFIC

TRANSITION COMPONENTS ARE NOT REQUIRED ON THIS SIDE BUT MAY BE SUPPLIED FOR AESTHETIC PURPOSES.



TRACC TRANSITION BILL OF MATERIAL

PRODUCT CODE	QTY	DESCRIPTION
926C	2	10/END SHOE
6533B	1	TAPERED WD BLK 1'-1" (6 1/8 x 6)
6534B	1	MITERED WD BLK 1'-1" (6 x 3 3/4)
33359A	1	12/10"0"/TRACC (UPPER GUARDRAIL)
33360A	1	12/6"10.5"/TRACC (LOWER GUARDRAIL)
HARDWARE		
3360G	16	5/8" x 1 1/4" HGR SPLICE BOLT
3391G	4	5/8" x 1 3/4" HEX BOLT
3435G	2	5/8" x 3 1/2" HGR POST BOLT
4412G	2	5/8" x 3" LAG SCREW
3300G	8	5/8" WASHER (F844)
3340C	16	5/8" HGR NUT
4372G	8	5/8" WASHER (F436)
3310G	4	5/8" LOCKWASHER
3361G	8	5/8" HEX NUT (A583 DH)
4451G	4	5/8" x 6" WEDGE EXP ANCHOR
4688G	8	3/4" x 5 1/2" WEDGE EXP ANCHOR
3701G	8	3/4" WASHER
3710G	8	3/4" HEX NUT

REV.	CHKD	BY	DATE	REMARKS
4	LH		08/27/03	REVISED QUANTITY OF 3/4" NUTS/WASHERS
3	BT		01/29/03	CHANGED BLOCK LOCATION
2	LH		01/21/03	CHANGED BLOCKS & THEIR LOCATION ON TOP PANEL
1	BT		8-2-00	DELETED PC33361 & PC 4717, ADDED PC926, CHG QTY HARDWARE

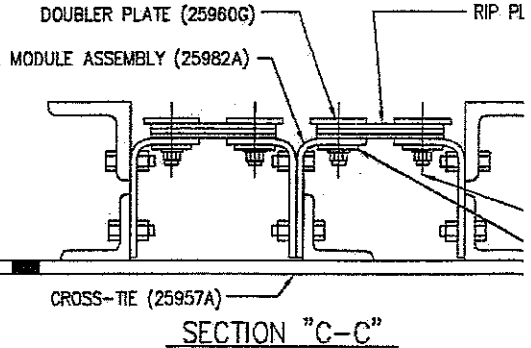
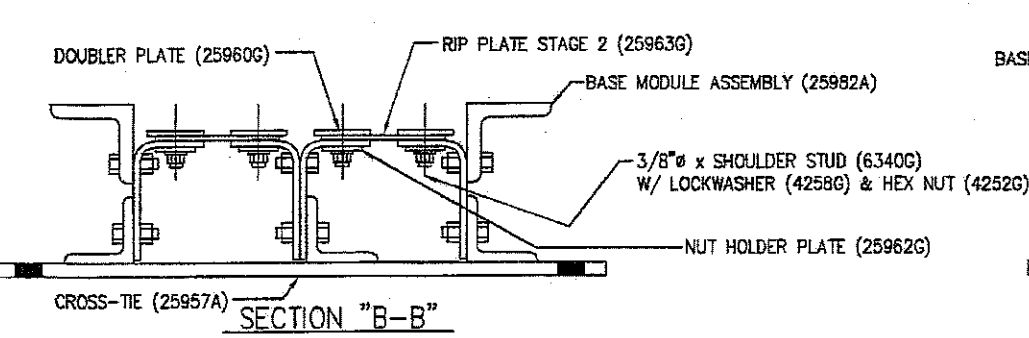
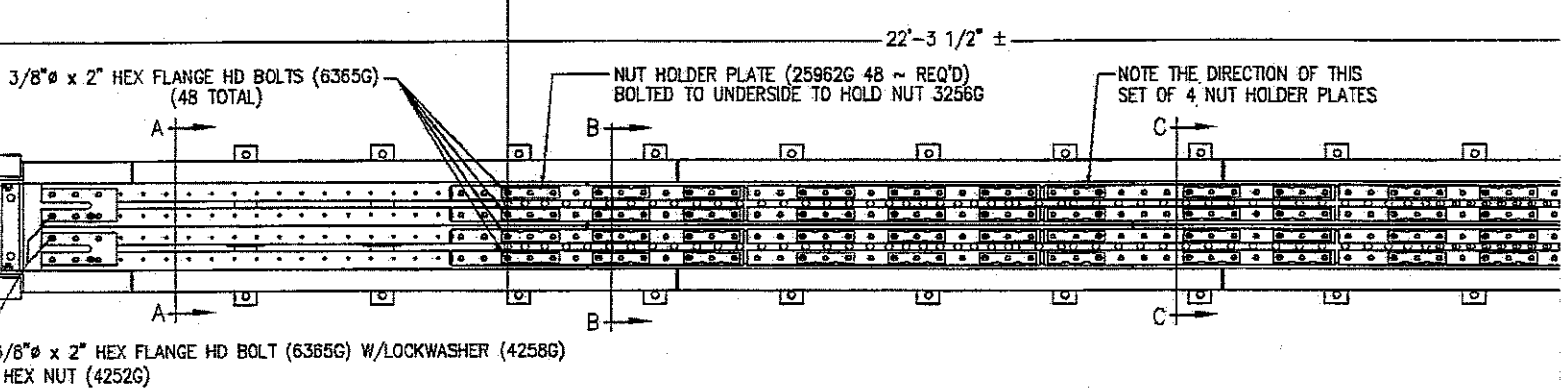
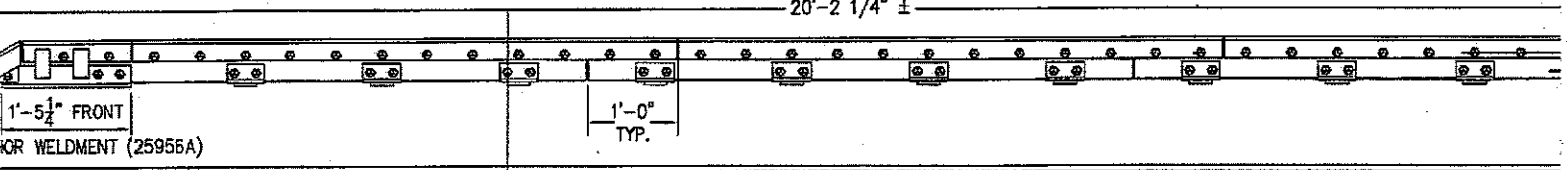
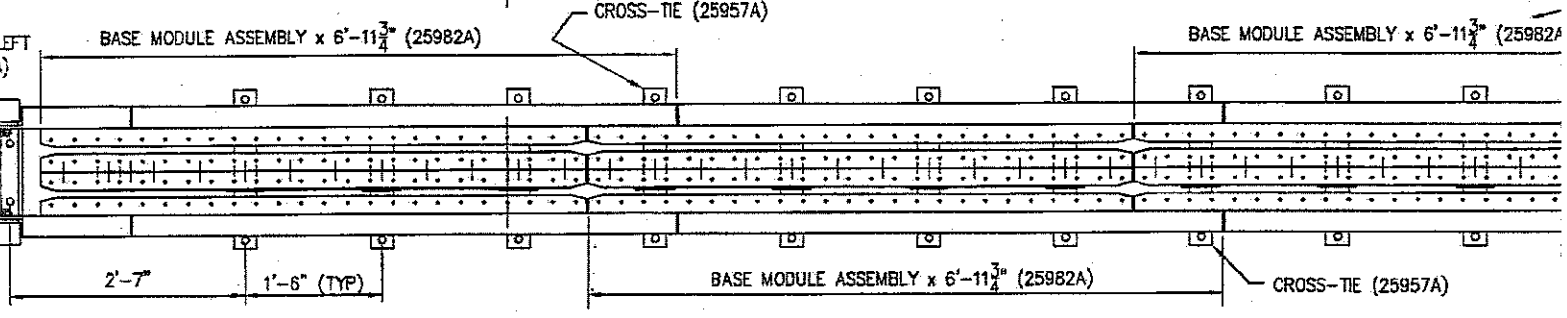
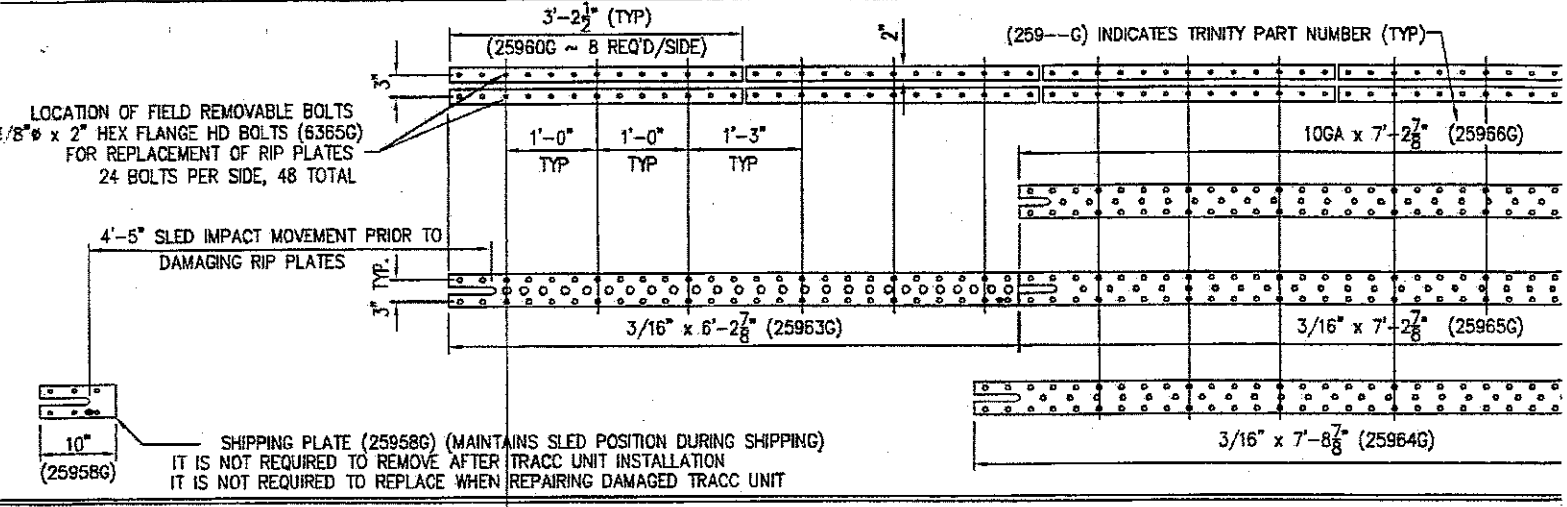
TRACC

TRACC TRANSITION TO
CONCRETE BARRIER SINGLE SLOPE
PLAN, ELEVATION & SECTIONS

DRAWN	B.T.
CHECKED	
APPROVED	
DATE	11/05/99
ENG. FILE #	SS462-01E
SRTJNo.	E1 OF 1
DRAWING NO.	SS 462
REV.	4

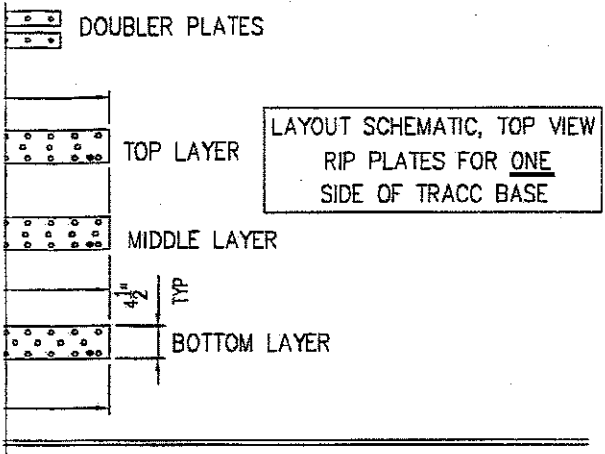
TRINITY INDUSTRIES, INC.
HIGHWAY SAFETY PRODUCTS
2525 STEMMONS FREEWAY, DALLAS, TX 75356

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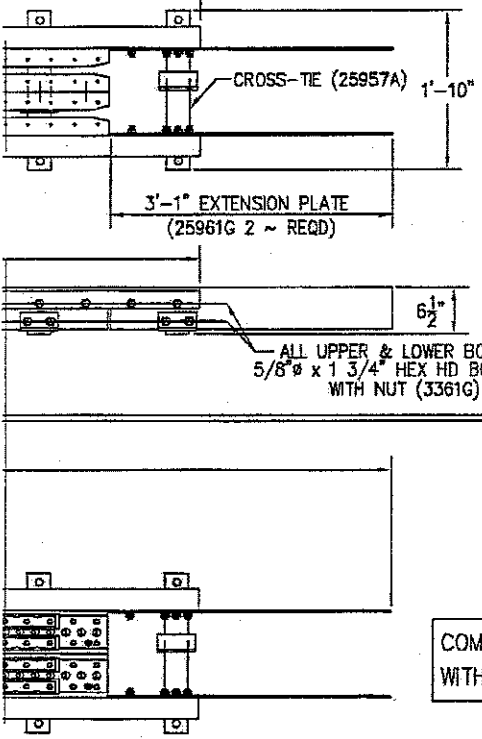
TRACC BASE (25981A) BILL OF MATERIALS

Part #	Description	Qty	WT. EACH (#)	TOTAL WT.
03256G	3/8" Shoulder Nut	48	0.030	1.44
03361G	5/8" Heavy Hex Nut (A563 DH)	40	0.120	4.8
03391G	5/8" x 1 3/4" Hex Head Bolt (A325)	40	0.210	8.4
04252G	3/8" Hex Nut	180	0.030	5.4
04258G	3/8" Lock Washer	180	0.006	1.08
06340G	3/8" X 1 1/2" Shoulder Stud	178	0.060	10.68
06366G	3/8" x 2" Hex Flange Head Bolt (GR-5)	50	0.070	3.5
25954A	End Shoe, Right	1	11.000	11
25955A	End Shoe, Left	1	11.000	11
25956A	Front Anchor Weldment	1	67.000	67
25957A	Cross Tie	3	18.000	54
25958G	Rip Plate, Stage 1(Shipping Plate)	2	0.800	1.6
25960G	Doublers	16	8.000	128
25961G	Extension Plate, Rear	2	16.000	32
25962G	Nut Holder (Nut Retainer Plate)	48	0.500	24
25963G	Rip Plate, Stage 2	2	17.000	34
25964G	Rip Plate, Stage 3, Bottom	2	22.000	44
25965G	Rip Plate, Stage 3, Middle	2	20.000	40
25966G	Rip Plate, Stage 3, Top	2	15.000	30
25982A	Base Module Assembly	3	329.000	987
			TOTAL WEIGHT	1498.90

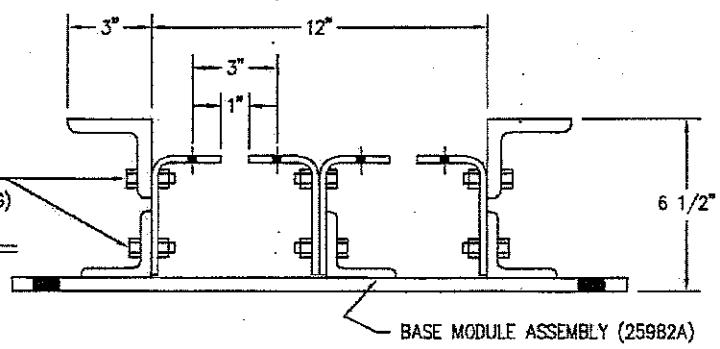


LAYOUT SCHEMATIC, TOP VIEW
RIP PLATES FOR ONE SIDE OF TRACC BASE

NOTE:
SEE DRAWING PN 25982 FOR ASSEMBLY OF BASE MODULE COMPONENTS.



TRACC BASE ASSEMBLY WITHOUT RIP PLATES AND DOUBLER PLATES



SECTION "A-A"

COMPLETE TRACC BASE ASSEMBLY WITH RIP PLATES AND DOUBLERS

STAGES STAGE 3
(TOP) (25966G)
(MIDDLE) (25965G)
(BOTTOM) (25964G)

3/8" x SHOULDER STUD (6340G)
W/ LOCKWASHER (4258G) & HEX NUT (4252G)

NUT HOLDER PLATE (25962G)

REV.	CHKD	BY	DATE	REMARKS
2		SAR	6/17/05	UPDATED PART NUMBERS
1	SG	BT	5/13/05	REPLACED BEAM GUIDES & BASE ANGLES WITH BASE MODULES

TRACC
CRASH-CUSHION ATTENUATING TERMINAL
ASSEMBLED BASE UNIT
PN 25981

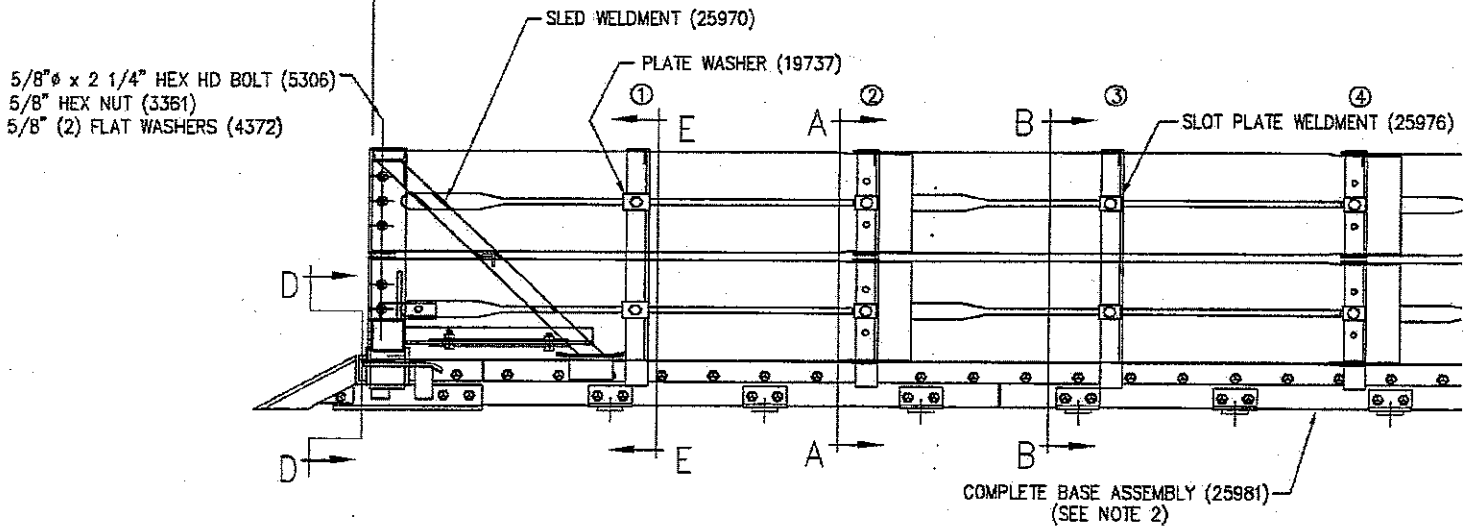
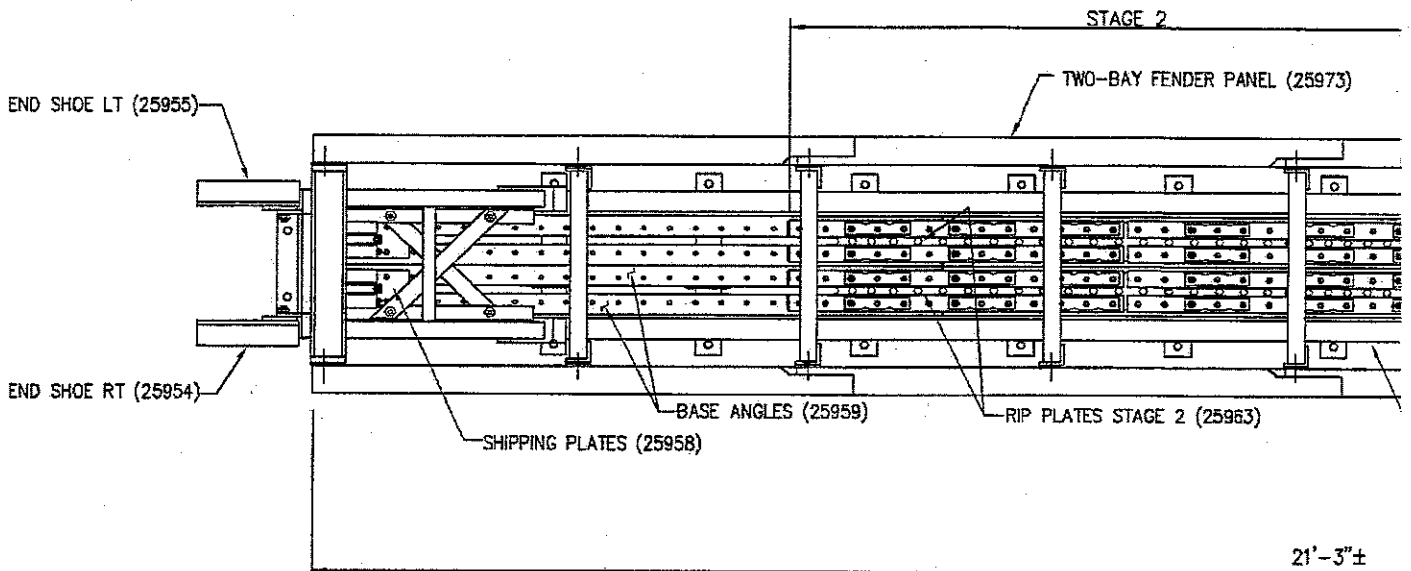
TRINITY INDUSTRIES, INC.
HIGHWAY SAFETY PRODUCTS
2525 STEMMONS FREEWAY, DALLAS, TX 75207

DRAWN	BT/LH
CHECKED	B.T.
APPROVED	
DATE	04/22/05
ENG. FILE #	SS1001-01E
SHT/Lt.	E1 OF 1
DRAWING NO.	SS 1001/PN 25981
REV.	2

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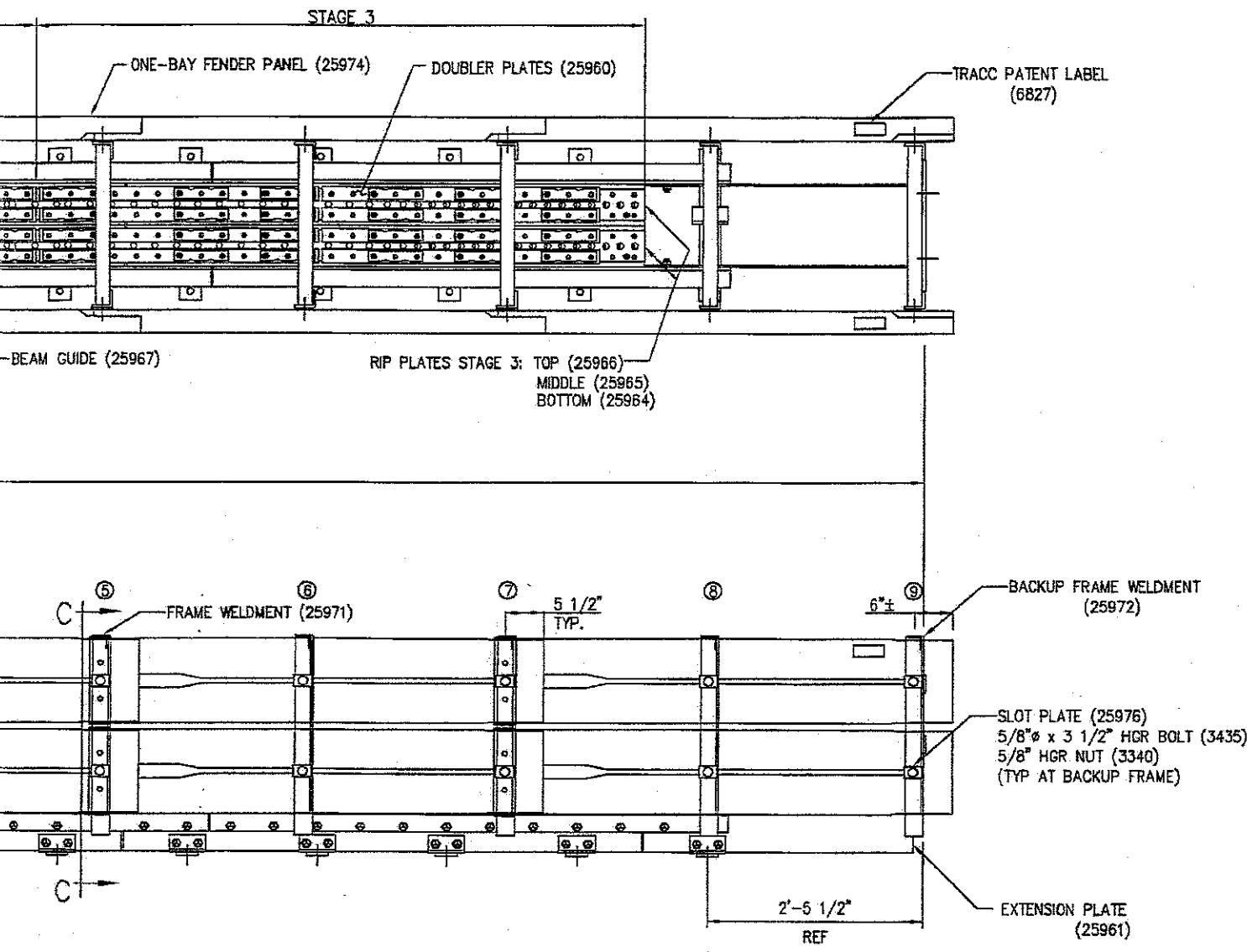
50

MATCH LEFT SIDE OF SHEET WITH RIGHT SIDE OF SHEET 49



TRACC BILL OF MATERIAL (PN 25980)			
PART NUMBER	QTY	DESCRIPTION	WT/EA
19737G	12	1/4"x3"x2 1/4" TRACC WSHR	0.5#
25970A	1	SLED WELDMENT	185#
25971A	8	FRAME WELDMENT	60#
25972A	1	BACKUP FRAME WELDMENT	74#
25973A	16	TWO - BAY FENDER PANEL	49#
25974A	4	ONE - BAY FENDER PANEL	28#
25975A	2	SHREDDER ASSEMBLY	5#
25976A	32	SLOT PLATE	0.4#
25981A	1	ASSEMBLED BASE (NOTE 2)	1499#
TOTAL WEIGHT (EXCLUDES SHOP HRDWR)			3165#

SHOP HARDWARE (GALV A153)			
PART NUMBER	QTY	DESCRIPTION	MATL SPEC
3253G	2	HITCH PIN CLIP	
3340G	32	5/8" HGR NUT	A563 GR A
3361G	46	5/8" HEX NUT	A563 GR DH
3391G	32	5/8" x 1 3/4" HEX HD BOLT	A325
3400G	12	5/8" x 2" HGR BOLT	A307 GR A
3435G	20	5/8" x 3 1/2" HGR BOLT	A307 GR A
4372G	88	5/8" FLAT WASHER	F436
4425G	2	3/4" x 2" CLEVIS PIN	
5306G	14	5/8" x 2 1/4" HEX HD BOLT	A325
6827B	2	TRACC PATENT LABEL	



- NOTES:**
- 1.) FOR SECTIONAL VIEWS SEE SHEET E2 OF 2.
 - 2.) SEE DRAWING SS1001 (PN 25981) FOR ASSEMBLY OF ALL BASE COMPONENTS.

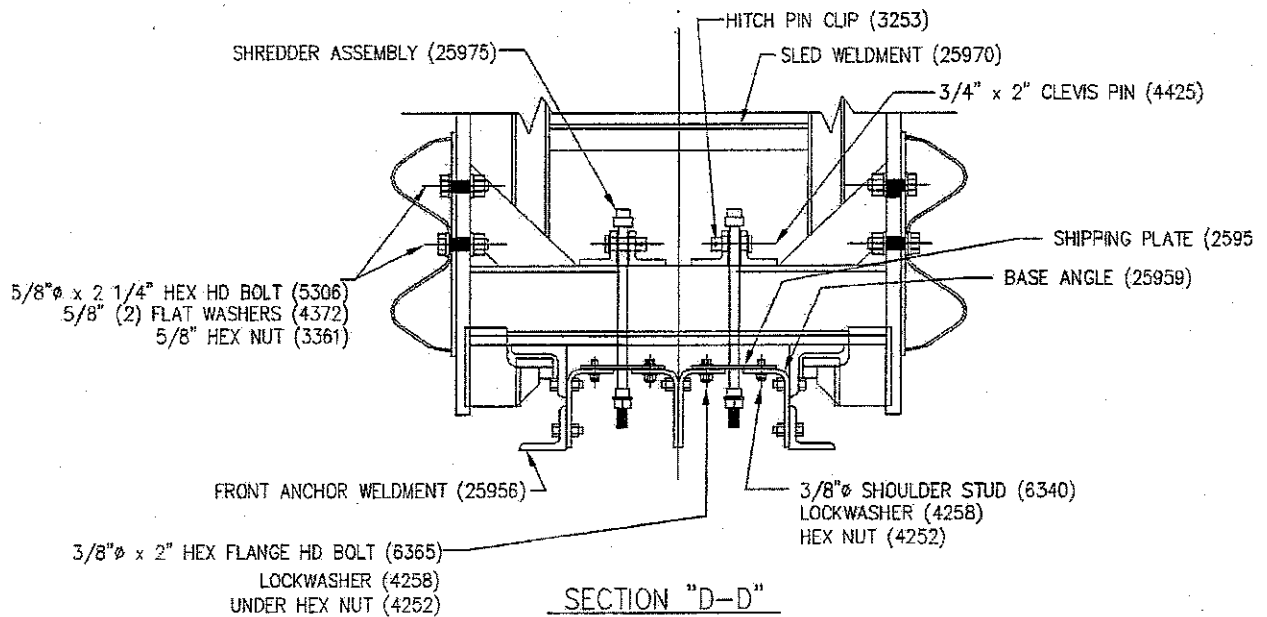
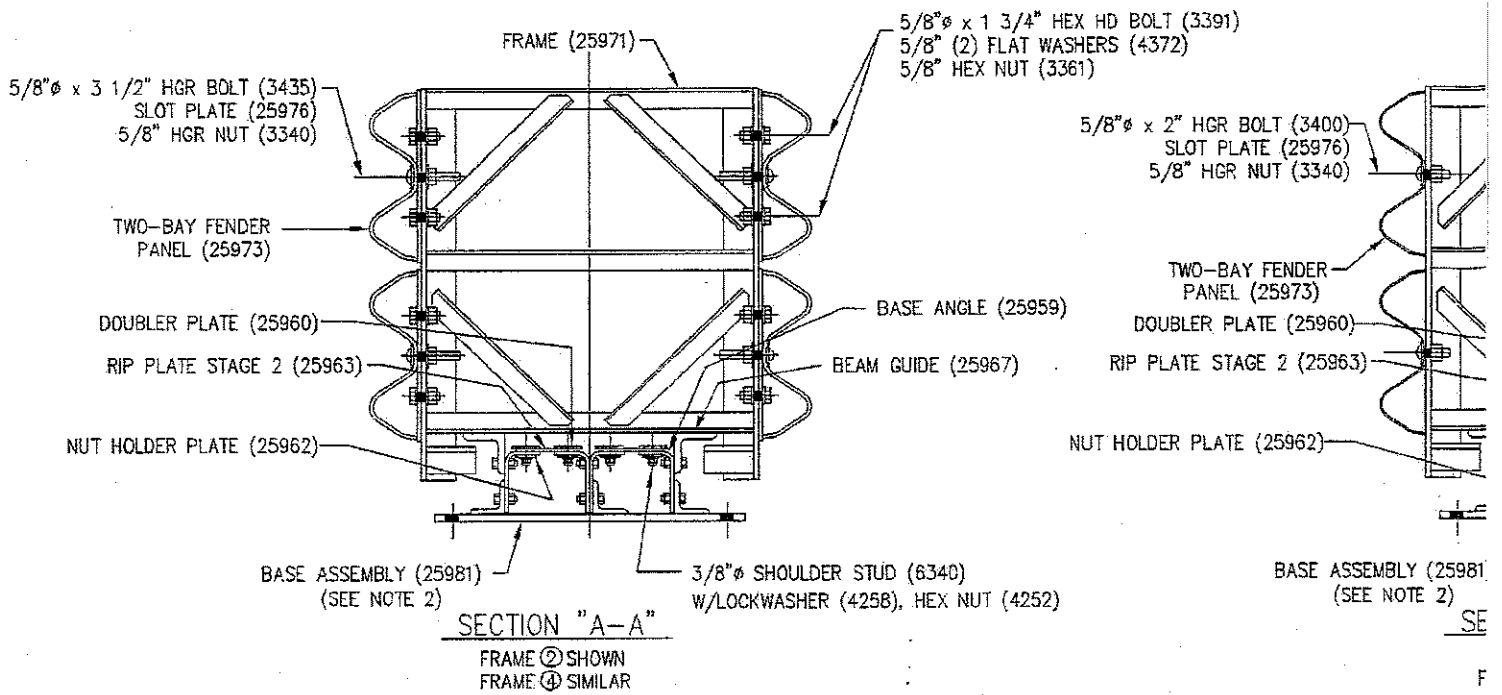
1	SAR	6/18/05	FIXED WEIGHT & ADDED STAGES 2 & 3
REV.	CHK'D	BY	DATE
			REMARKS
TRACC CRASH-CUSHION ATTENUATING TERMINAL PLAN, ELEVATION, & SECTION SHOP ASSEMBLY DETAILS PN 25980			
			DRAWN LH CHECKED BT APPROVED DATE 05/11/05 ENG. FILE # SS1002-01E SHEET E1 OF 2 DRAWING NO. SS 1002/PN 25980
			TRINITY INDUSTRIES, INC. HIGHWAY SAFETY PRODUCTS 2525 STEMMONS FREEWAY, DALLAS, TX 75207

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52

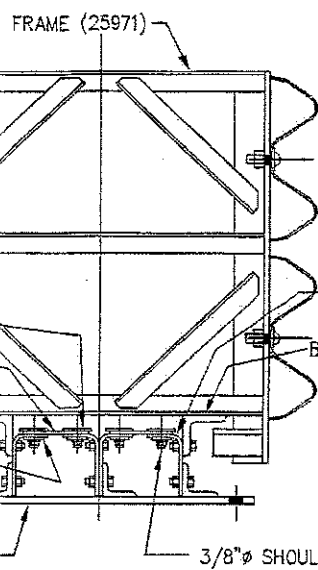
MATCH LEFT SIDE OF SHEET WITH RIGHT SIDE OF SHEET 51



- NOTES:
1.) FOR PLAN & ELEV.
2.) SEE DRAWING SS1C
OF ALL BASE COMP

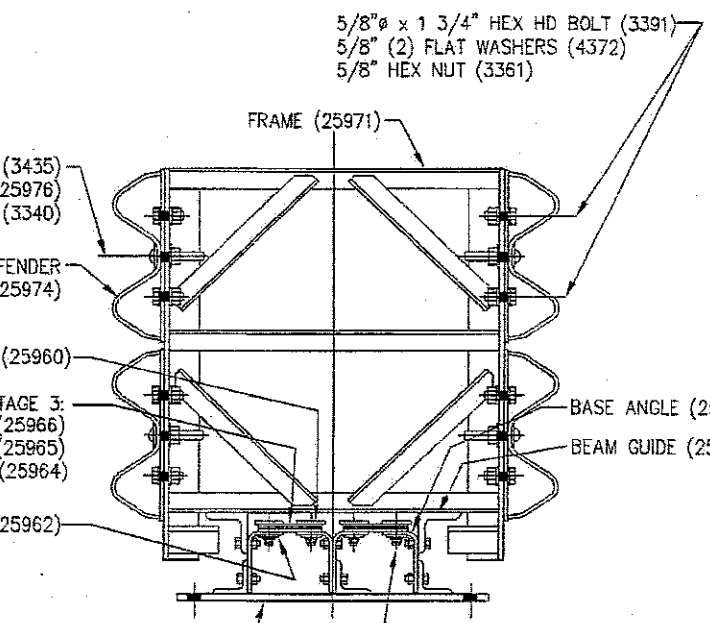
53

MATCH RIGHT SIDE OF SHEET WITH LEFT SIDE OF SHEET 54



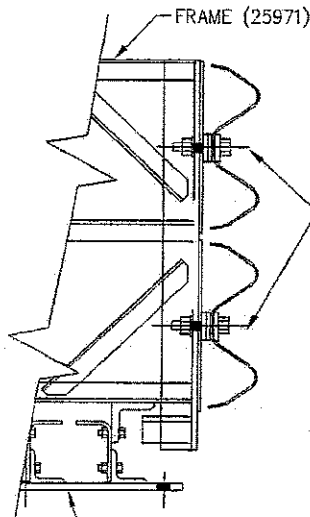
- 5/8"φ x 3 1/2" HGR BOLT (3435)
- SLOT PLATE (25976)
- 5/8" HGR NUT (3340)
- ONE-BAY FENDER PANEL (25974)
- DOUBLER PLATE (25960)
- RIP PLATES STAGE 3:
 - TOP (25966)
 - MIDDLE (25965)
 - BOTTOM (25964)
- NUT HOLDER PLATE (25962)

SECTION "B-B"
 FRAME ③ SHOWN
 FRAME ⑥ & ⑧ SIMILAR



- 5/8"φ x 1 3/4" HEX HD BOLT (3391)
- 5/8" (2) FLAT WASHERS (4372)
- 5/8" HEX NUT (3361)
- 3/8"φ SHOULDER STUD (6340)
- W/LOCKWASHER (4258), HEX NUT (4252)

SECTION "C-C"
 FRAME ⑤ SHOWN
 FRAME ⑦ SIMILAR



- 5/8"φ x 2 1/4" HEX HD BOLT (5306)
- 3-1/4" x 3" x 2 1/4" TRACC PLATE WASHERS (19737)
- ONE PLATE WASHER UNDER BOLT HEAD, 2 PLATE WASHERS BETWEEN PANEL & FRAME
- 5/8" FLAT WASHER (4372) UNDER NUT
- 5/8" HEX HD NUT (3361)

SECTION "E-E"
 FRAME ① SHOWN

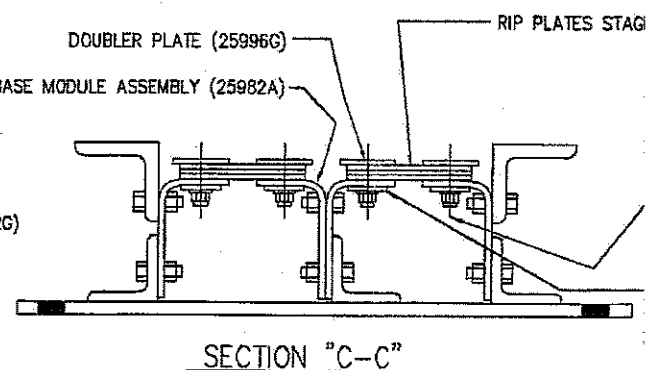
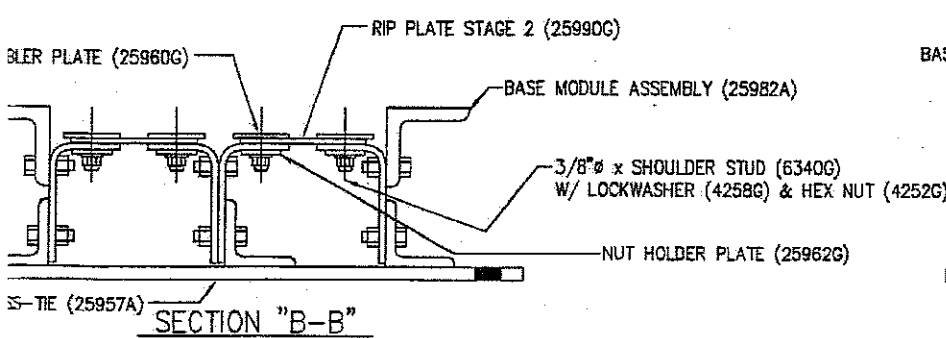
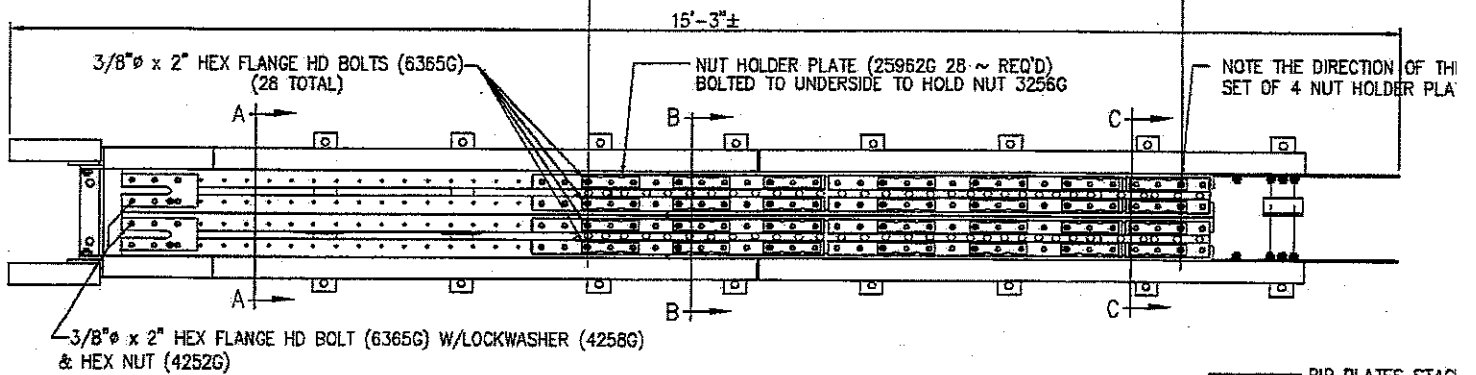
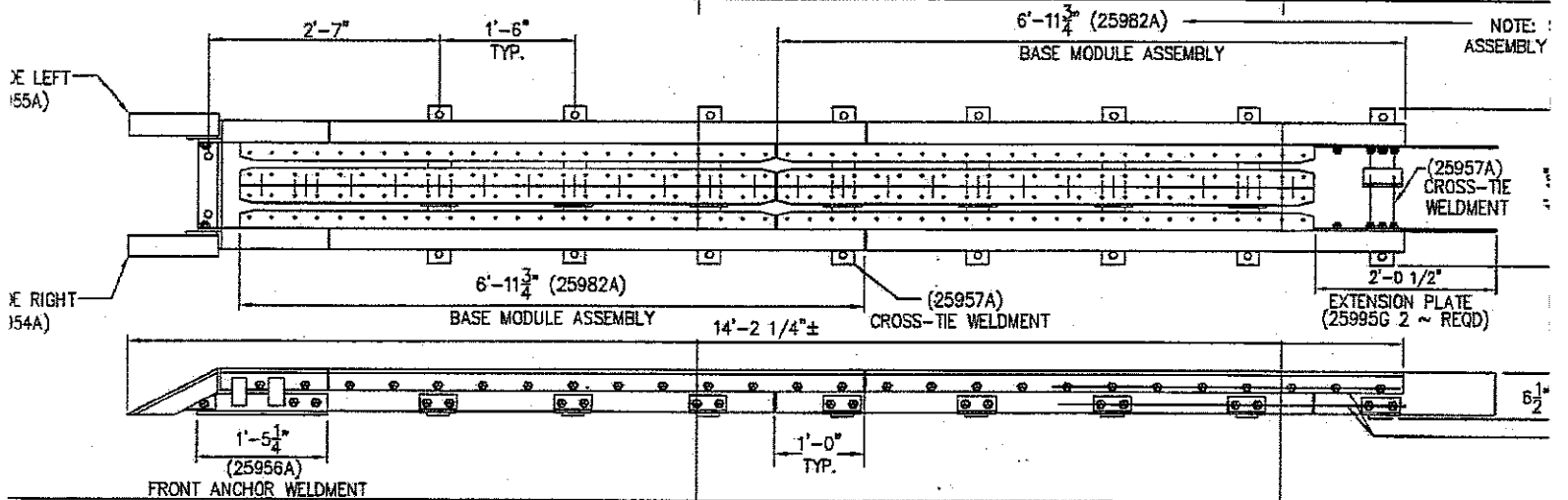
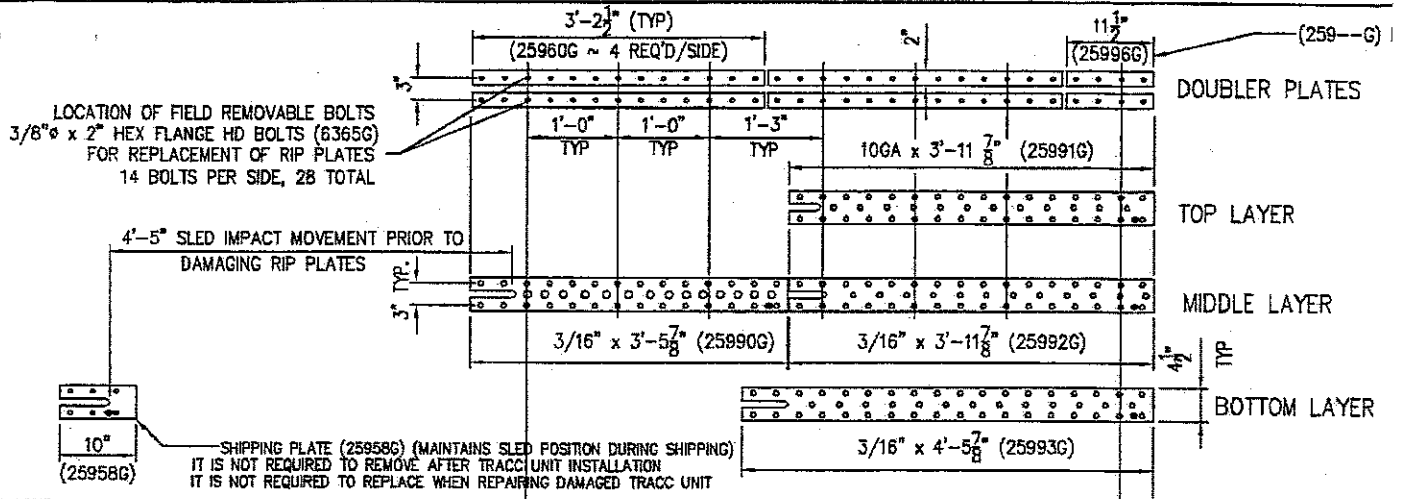
SECTION VIEW SEE SHEET E1 OF 2
 (PN 25981) FOR ASSEMBLY
 DETAILS.

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1	SAR	5/18/05	UPDATED PART NUMBERS	
REV.	CHKD	BY	DATE	REMARKS
TRACC CRASH-CUSHION ATTENUATING TERMINAL PLAN, ELEVATION & SECTIONS SHOP ASSEMBLY DETAILS PN 25980				
			DRAWN	L. H.
			CHECKED	B.T.
			APPROVED	
			DATE	05/11/05
			ENG. FILE #	SS1002-02E
			SHT.No.	E2 OF 2
			DRAWING NO.	REV.

54

MATCH LEFT SIDE OF SHEET WITH RIGHT SIDE OF SHEET 53



INDICATES TRINITY PART NUMBER (TYP)

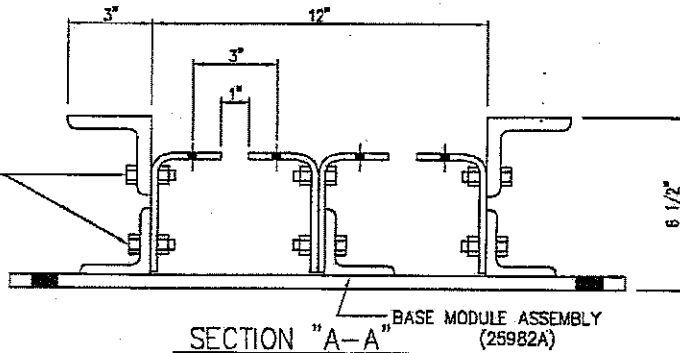
SHORTRACC BASE (25994A) BILL OF MATERIALS

Part #	Description	Qty	WT. EACH (#)	TOTAL WT.
03256G	3/8" Shoulder Nut	28	0.03	0.84
03361G	5/8" Heavy Hex Nut (A563 DH)	30	0.12	3.6
03391G	5/8" x 1 3/4" Hex Head Bolt (A325)	30	0.21	6.3
04252G	3/8" Hex Nut	104	0.03	3.12
04258G	3/8" Lock Washer	104	0.006	0.624
06340G	3/8" X 1 1/2" Shoulder Stud	102	0.06	6.12
06365G	3/8" x 2" Hex Flange Head Bolt (GR-5)	30	0.07	2.1
25954A	End Shoe, Right	1	11.0	11
25955A	End Shoe, Left	1	11.0	11
25956A	Front Anchor Weldment	1	67.0	67
25957A	Cross Tie	2	18.0	36
25958G	Rip Plate, Stage 1 (Shipping Plate)	2	0.80	1.6
25960G	Doublers	8	8.0	64
25962G	Nut Holder (Nut Retainer Plate)	28	0.50	14
25982A	Base Module Assembly	2	329	658
25990G	Rip Plate, Stage 2	2	9.0	18
25991G	Rip Plate, Stage 3, Top	2	8.0	16
25992G	Rip Plate, Stage 3, Middle	2	11.0	22
25993G	Rip Plate, Stage 3, Bottom	2	12.0	24
25995G	Extension Plate, Rear	2	11.0	22
25996G	Doubler Plate, Stage-3 (11 1/2")	4	2.5	10
TOTAL WEIGHT				997

LAYOUT SCHEMATIC, TOP VIEW
RIP PLATES FOR ONE
SIDE OF TRACC BASE

DRAWING PN 25982 FOR
BASE MODULE COMPONENTS

TRACC BASE ASSEMBLY
WITHOUT RIP PLATES
AND DOUBLER PLATES



ALL UPPER & LOWER BOLTS ARE
5/8" x 1 3/4" HEX HD BOLT (3391G)
WITH NUT (3361G)

COMPLETE TRACC BASE ASSEMBLY
WITH RIP PLATES AND DOUBLERS

- (TOP) (25991G)
- (MIDDLE) (25992G)
- (BOTTOM) (25993G)

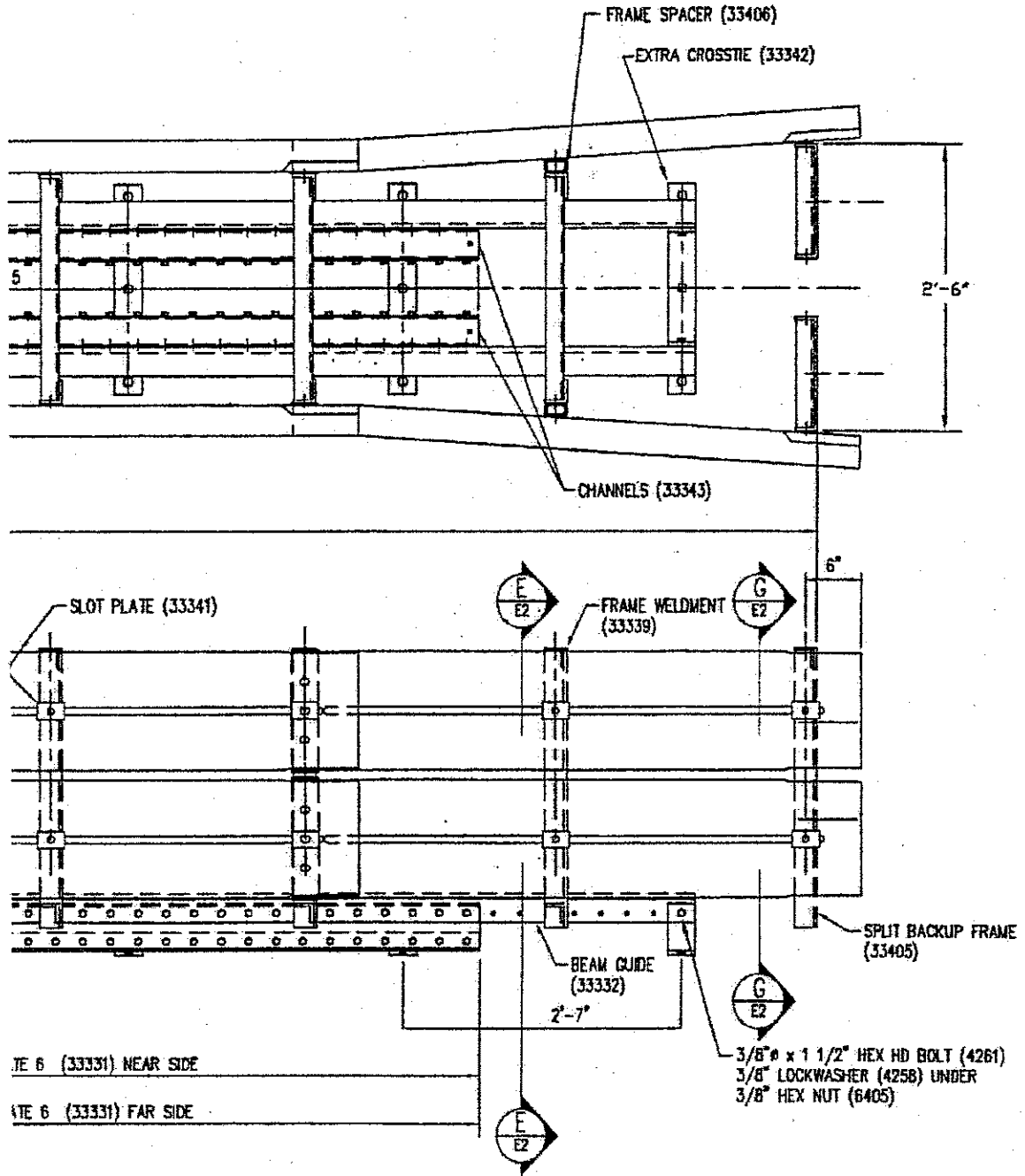
1	SAR	6/17/05	UPDATED PART NUMBERS		
REV.	CHKD	BY	DATE	REMARKS	
SHORTRACC CRASH-CUSHION ATTENUATING TERMINAL ASSEMBLED BASE UNIT PN 25994					
DRAWN LH				CHECKED B.T.	
APPROVED				DATE 05/16/05	
ENG. FILE # SS1004-01E				SHT. No. E1 OF 1	
TRINITY INDUSTRIES, INC. HIGHWAY SAFETY PRODUCTS 2525 STEMMONS FREEWAY, DALLAS, TX 75207				DRAWING NO. SS 1004 / PN 25994	
				REV. 1	

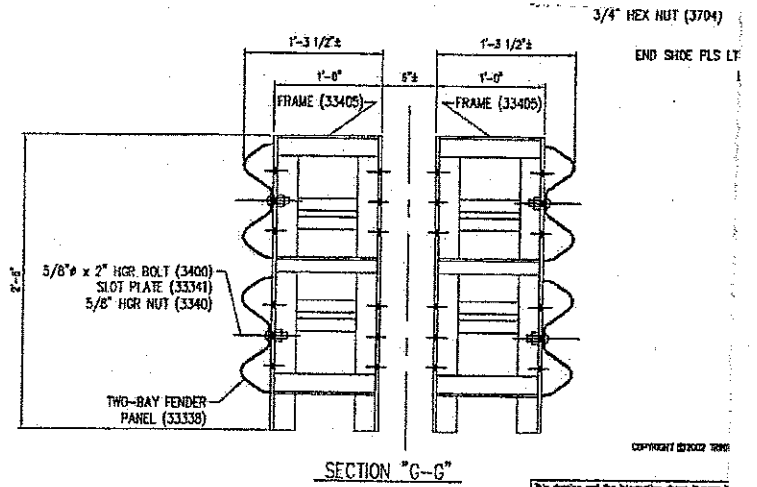
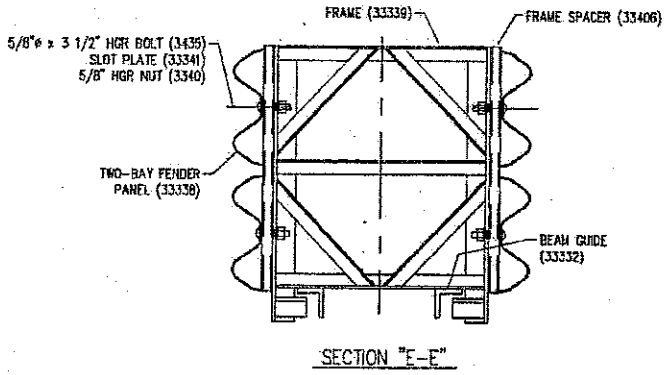
3/8" x SHOULDER STUD (6340G)
W/ LOCKWASHER (4258G) & HEX NUT (4252G)

NUT HOLDER PLATE (25962G)

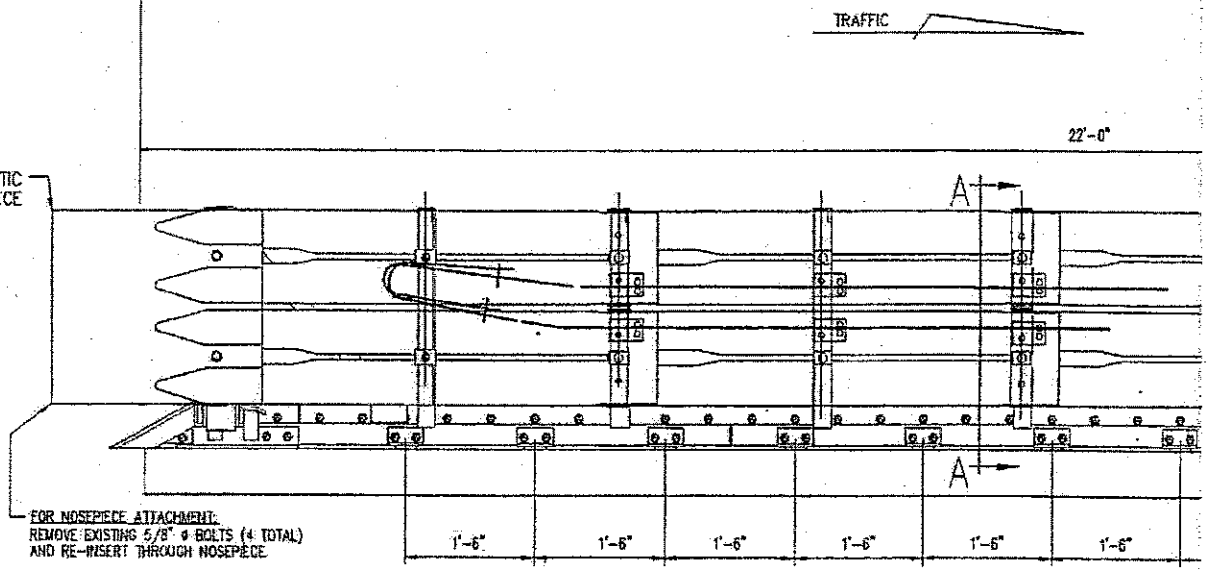
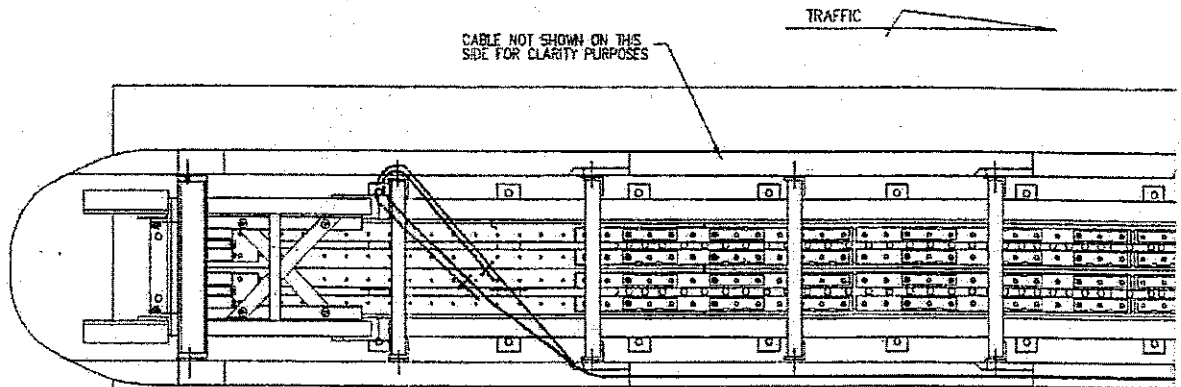
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FOR NOSEPIECE ATTACHMENT:
REMOVE EXISTING 5/8" Ø BOLTS (4 TOTAL)
AND RE-INSERT THROUGH NOSEPIECE

WIDE TRACC BILL OF MATERIAL

PRODUCT CODE	QTY	DESCRIPTION
25905A	1	39" WIDE TRACC UNIT ASS'LY
6668B	4	REFLECTIVE TAPE
6531B	1	YELLOW PLASTIC NOSEPIECE

OPTIONAL TRACC ANCHOR ITEMS

PRODUCT CODE	DESCRIPTION
5205B	ADHESIVE DISPENSER
5207B	MIXER HIT HY150 (NOZZLE)
5208B	FILLER HIT HY150 (FILLER TUBE)
5209B	BIT TE-C+ 11/16-18 (11/16" Ø BIT)

EACH TRACC UNIT SHIPS 100% ASSEMBLED
(PLASTIC NOSE INSTALLED AFTER PLACEMENT)

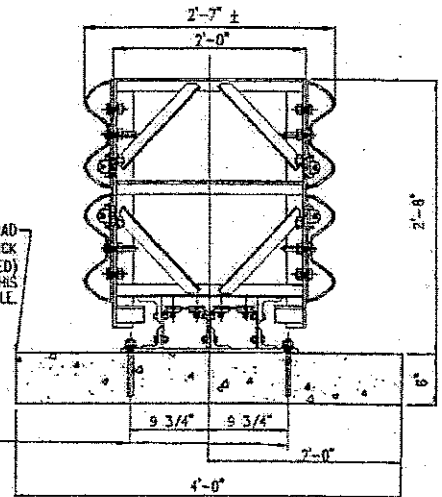
★ EACH CARTRIDGE INCLUDES 1 EACH : MIXER HIT 150 CARTRIDGE (NOZZLE)
: FILLER HIT HY 150 (FILLER TUBE)

** ANCHOR HARDWARE (CONCRETE BASE)		
5204B	26	5/8" Ø x 7 1/16" ANCHOR STUD
3310G	26	5/8" LOCKWASHER
3361G	26	5/8" HEX NUT
3300G	26	5/8" FLAT WASHER
★ 5206B	2	ADHESIVE HIT HY150 (CARTRIDGE)
** ANCHOR HARDWARE (ASPHALT BASE)		
6580G	26	15/8" Ø x 18" ALL THD ROD
3310G	26	5/8" LOCKWASHER
3361G	26	5/8" HEX NUT
3300G	26	5/8" FLAT WASHER
★ 5206B	6	ADHESIVE HIT HY150 (CARTRIDGE)

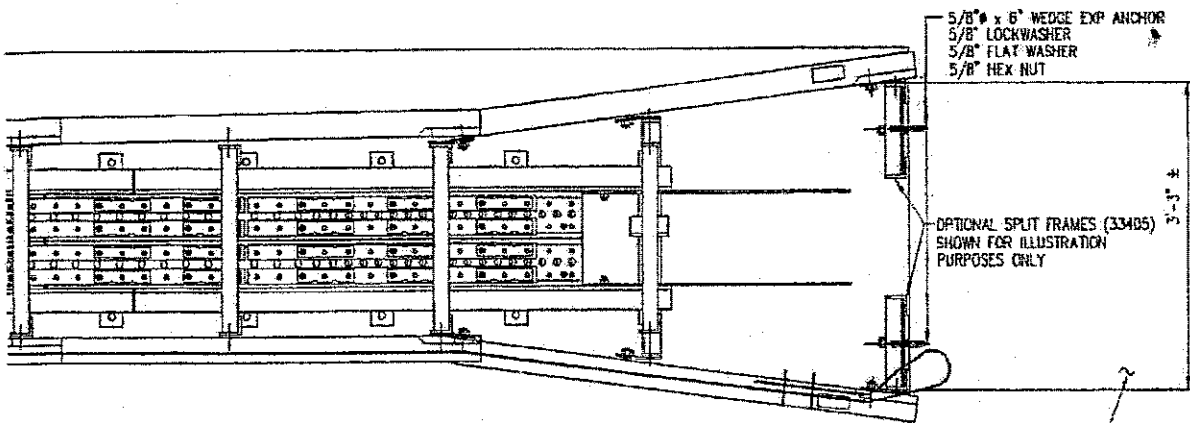
** SEE PRODUCT MANUAL

REINFORCED CONCRETE PAD
4'-0" x 22'-0" x 6" THICK
(6" THICK IF NOT REINFORCED)
REINFORCEMENT DRAWINGS FOR THIS
PAD AND OTHER SIZES ARE AVAILABLE.

** 5/8" Ø x 7 1/16" ANCHOR STUD
5/8" FLAT WASHER
5/8" LOCKWASHER
5/8" HEX NUT

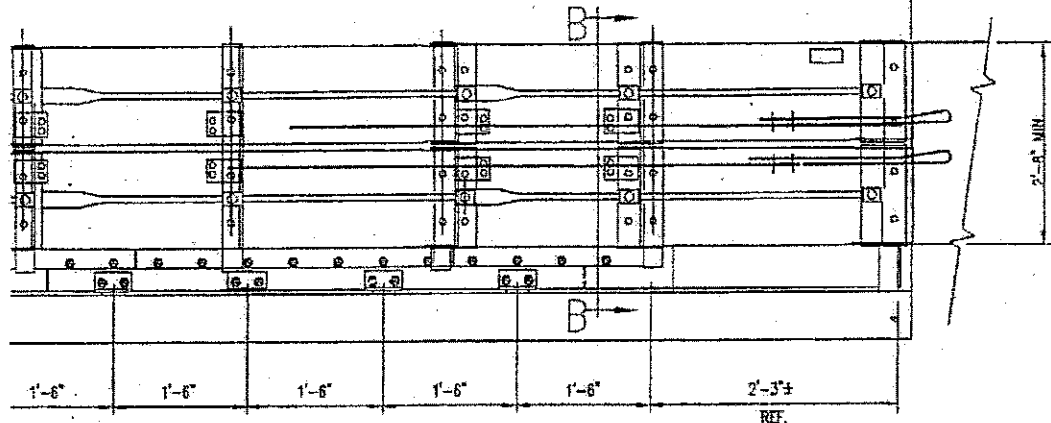


SECTION "A-A"



WIDER WIDTH CAN BE ACCOMPLISHED
BY USING EXTENSION PANELS AND POSTS

ATTACHMENT SHOWN IS TO SHAPES WITH
RECTANGULAR CROSS SECTIONS SUCH AS:
PIERS, PARAPETS AND MODIFIED CONCRETE
BARRIER. TRAFFIC FLOW IS UNIDIRECTIONAL

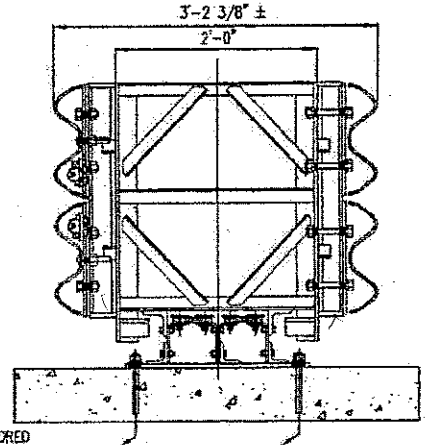


FOUNDATION NOTE:

6" REINFORCED CONCRETE PAD IS SHOWN

OTHER OPTIONS ARE:

- a) 6" THICK MINIMUM UNREINFORCED CONCRETE
- b) 8" MINIMUM THICK ASPHALT
- c) 3" THICK (MIN) ASPHALT OVER 3" (MIN) CONCRETE
- d) 6" THICK ASPHALT OVER 6" COMPACTED SUBBASE

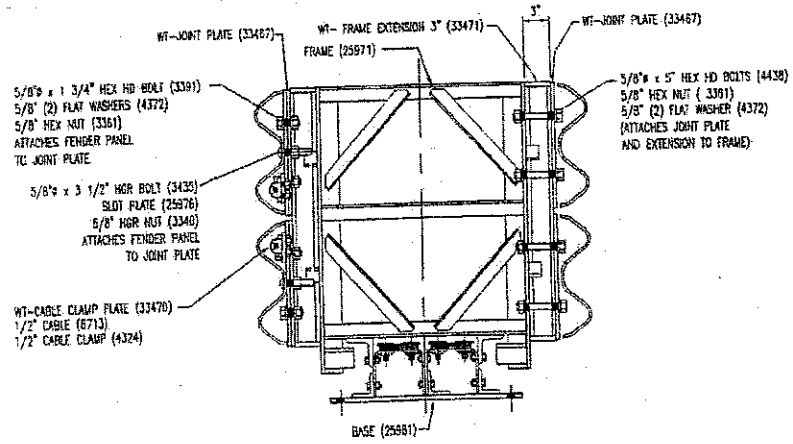


ADHESIVE ANCHORED
5/8" x 7 1/16" ANCHOR STUD
5/8" FLAT WASHER
5/8" LOCKWASHER
5/8" HEX NUT

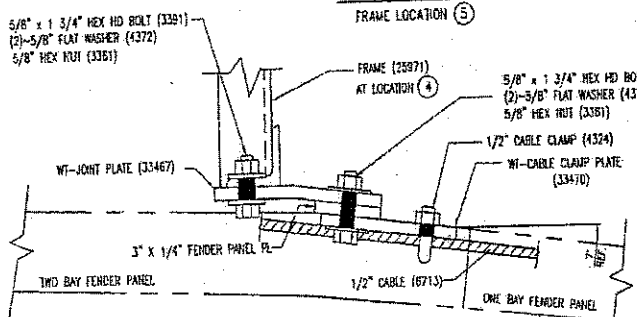
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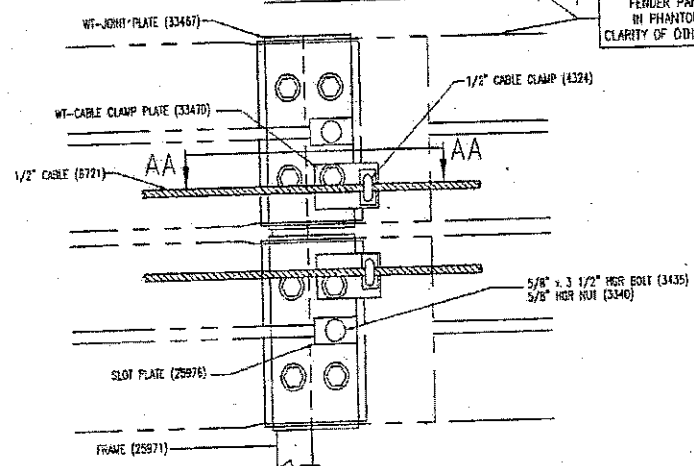
1	L.H.	05/12/06	MOVED LOCATION OF SLOT PLATES AT FRAMES 7 & 8	
REV.	CHG'D	BY	DATE	REMARKS
39" WIDETRACC DOUBLE FLARE CRASH-CUSHION ATTENUATING TERMINAL PLAN, ELEVATION & SECTIONS (UNIDIRECTIONAL, DIRECT ATTACHMENT)				
TRINITY HIGHWAY SAFETY PRODUCTS, INC			2525 STEARNS FREEWAY, DALLAS, TX 75207	
DRAWN		L.H.		
CHECKED		C.C.		
APPROVED				
DATE		10-26-05		
ENS. FILE #		SS1021-DIE		
SITL#		E1 OF 1		
DRAWING NO		SS1021		
				REV 1



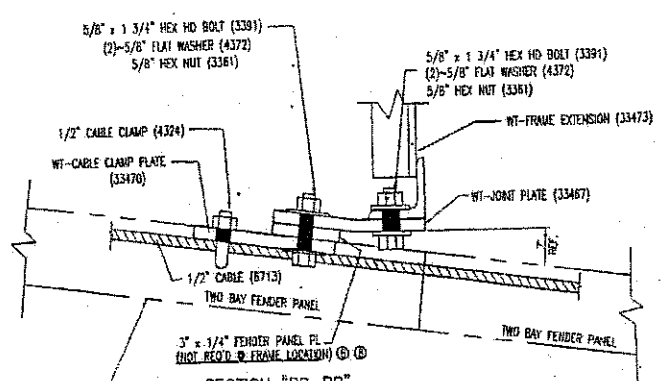
SECTION "E-E"
 FRAME LOCATION (5)



SECTION "AA-AA"

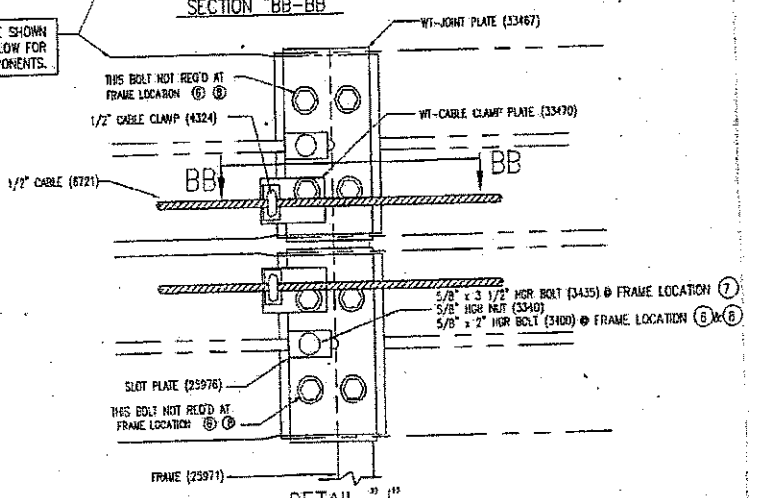


DETAIL "H"
 FRAME LOCATION (4)



SECTION "BB-BB"

FENDER PANELS ARE SHOWN IN PHANTOM TO ALLOW FOR CLARITY OF OTHER COMPONENTS.



DETAIL "J"
 FRAME LOCATION (7) SHOWN
 LOCATION (6) & (8) SIMILAR

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