

SEP 19 2012

GENERAL NOTES

REACT[®] 350 SYSTEM (Temporary)
S102-4106

1. The energy absorbing system represented on these Qualified Products List (QPL) drawings is a proprietary design by Energy Absorption Systems, of Trinity Industries, Inc., and marketed under the name REACT[®]350 (TL-2) System .
2. The REACT[®]350 (TL-2) is a non-gating, redirective crash cushions which is well suited for use shielding hazards. The REACT[®]350 (TL-2) is used for temporary installations. The beginning length of need shall be at the point of intersection between the face of the crash cushion and the departure line.
3. The REACT[®]350 is a Test Level 2 crash cushion applications.
4. The REACT[®]350 shall be assembled and installed in accordance with the manufacturer's detailed drawings, procedures, specifications and installation guide. Information and copies of the above manual are available on the Qualified Products List (QPL).
5. The REACT[®]350 is available in a 36" nominal width. The system width will be as called out in the plans, permit or other contract document for each location.
6. Metallic components shall meet the galvanizing requirements for guardrail, section 967 of the FDOT specifications.
7. A yellow Type 1 Object Marker shall be centered 3' in front of the nose of the REACT[®]350. Mounting hardware shall be in conformance with index no. 11860. The cost of the Object Marker shall be included in the cost of the REACT[®]350 . As an option, the contractor may install reflective sheeting on the nose of the crash cushion. The sheeting to be used must be solid yellow, Type III or better and must be a product listed on the Department's Qualified Products List (QPL). The sheeting to be applied to the nose of the crash cushion shall be a minimum of 360 square inches with a minimum height of 15 inches.
8. Quantity for payment is based on each independent location as called for in the plans or as directed by the Engineer. The cost of foundations, subgrade preparation and other appurtenant construction will be included in the cost of the REACT[®]350.
9. In compliance with AASHTO 2011 Roadside Design Guide, remove all curbs and islands to ensure proper impact performance.
10. Supply adequate transition from the REACT[®]350 system to the object being shielded for bidirectional traffic.
11. Units of measure are in English units.
12. These drawings are sufficient for plan details for the REACT[®]350 (TL-2) System installed as a free standing unit shielding safety shaped concrete barrier wall ends. The REACT[®]350 is not suited to shielding a wide hazard.
13. Due to the overall unit height of over 4'-0", which exceeds the drivers height of eye, caution is to be exercised in locating the REACT[®]350 to avoid blockage of required sight distance.
14. For REACT[®]350 units that have been impacted by vehicle crashes that are to remain in service, close inspection must be made on the anchorages of the front cable anchor plates and the rear pylon; the anchorages must be in design condition when restoration is complete.

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Frank J. Powell, PE 3617 Cincinnati Ave.
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REFERENCES

DRAWN:	S. Trageser	DATE:	8/15/2012
DESIGNED:		DATE:	
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APPROVED:		DATE:	
CAD FILE:	70-03-09.dwg		
NEXT ASSEMBLY:			



ENERGY ABSORPTION SYSTEMS
ENGINEERING AND RESEARCH DEPARTMENT

REACT[®] 350 TEMPORARY
DRAWING SET
FOR QPL S102-4106

SCALE	DWG: 70-03-09	SHEET 1 of 10	REV
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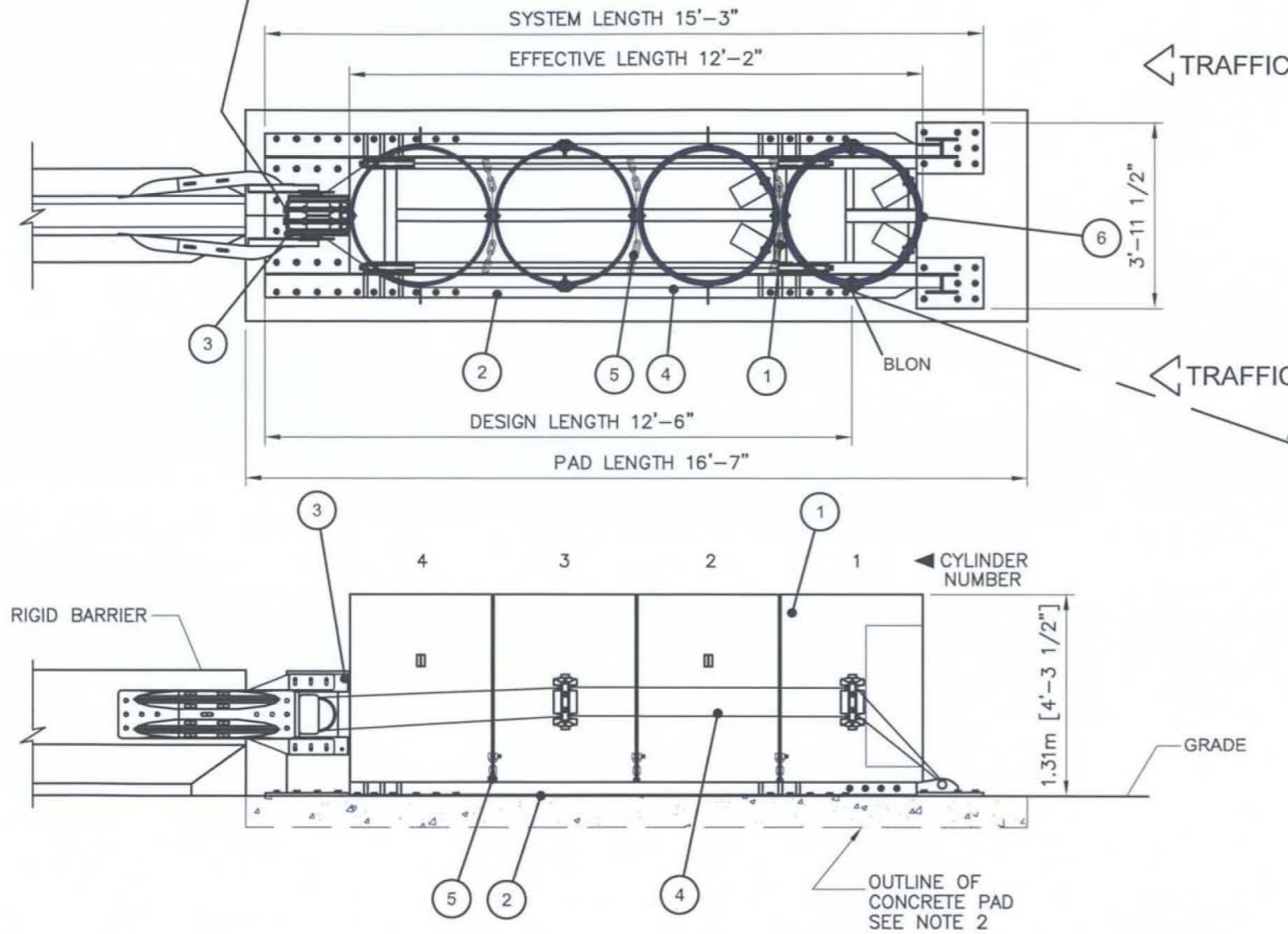
Revisions	Date	Rev.	By	Ckd.	App.

CYLINDER SCHEDULE		
CYL. NO.	STOCK NO.	CYLINDER ASSY NO.
1	613562B	617962B
2	613562B	606571B
3	613562B	606600B
4	613564B	606588B

CAUTION
 To ensure that this safety product will function as tested to reduce the severity of vehicle impacts, the product should be stored, assembled, and maintained following recommendations given in the product manuals and drawings supplied with the system. Assemblers and users should read warnings and cautions. Failure to do so may result in untested product performance and possible bodily injury. Copies of product manuals and drawings in Spanish can be obtained by calling ENERGY ABSORPTION SYSTEMS, INC., Customer Service Department at 888.323.6374.

SALES ORDER # _____
 PART # _____
 SERIAL # _____
 DATE WFO _____
 SHIP DATE _____
 FLORIDA QPL# S102-4106

FLORIDA QPL# S102-4106 ON ALL PRODUCTS DECAL (114461B)



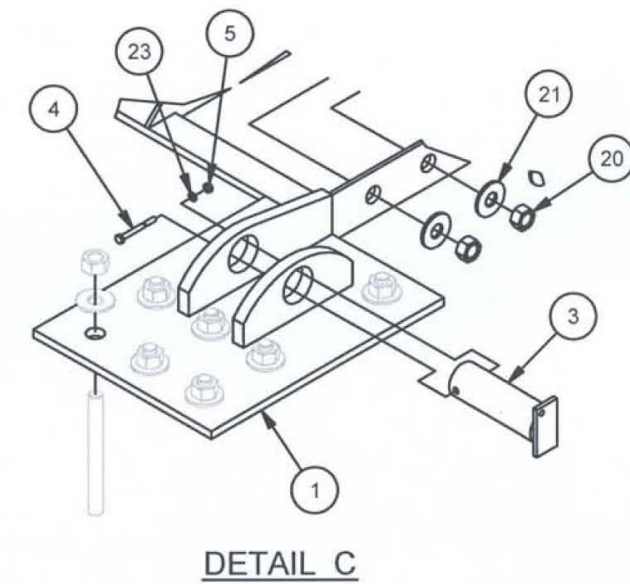
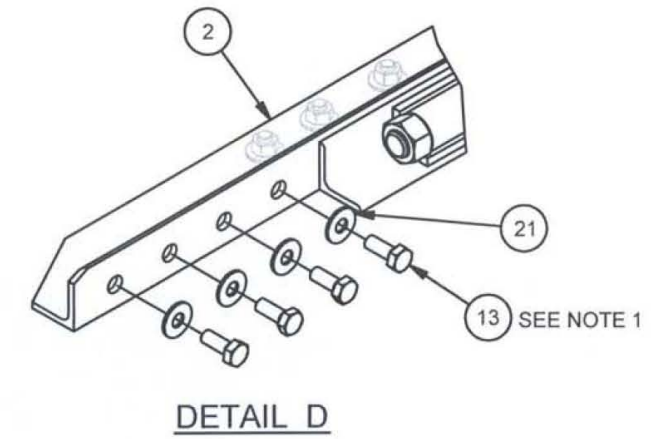
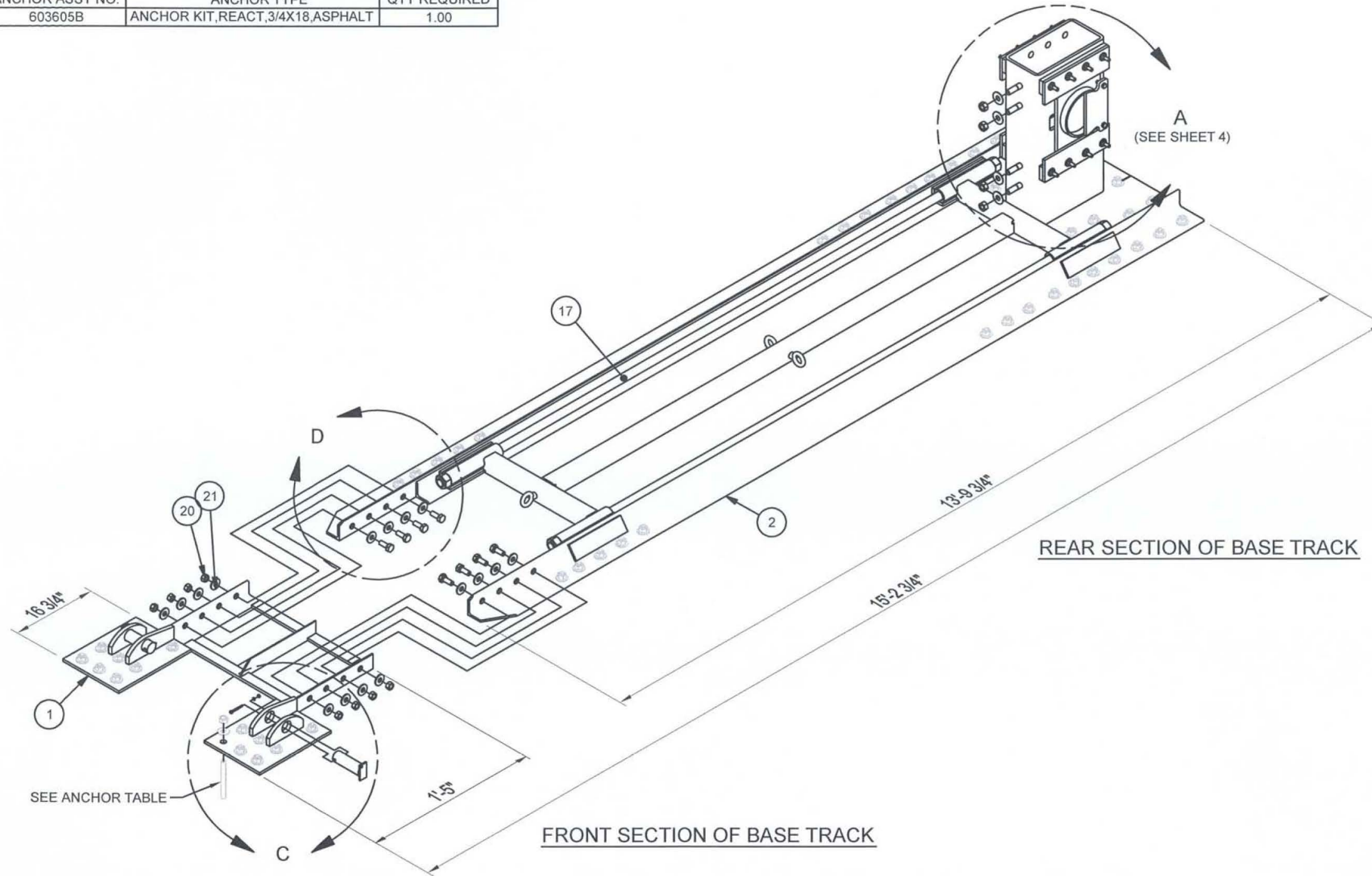
NOTES:

- IN COMPLIANCE WITH THE AASHTO 2011 ROADSIDE DESIGN GUIDE, MANUFACTURER RECOMMENDS REMOVAL OF ALL CURBS AND ISLANDS TO ENSURE PROPER IMPACT PERFORMANCE.
- 8.00 MIN. REINFORCED 4000 PSI P.C. CONCRETE PAD OR 8.00 MIN. NON-REINFORCED 4000 PSI P.C. CONCRETE ROADWAY MEASURING AT LEAST 12'-0" WIDE BY 50'-0" LONG. 18" THREADED RODS MAY BE USED TO INSTALL SYSTEM ON ASPHALT SEE MANUAL
- WHERE NECESSARY, THE CUSTOMER SHALL SUPPLY A TRANSITION FROM THE SYSTEM TO THE OBJECT BEING SHIELDED TO PREVENT INTERACTION OF VEHICLES WITH HAZARD. TRANSITION ASSEMBLIES ARE SUPPLIED AS ACCESSORIES AND MUST BE ORDERED SEPARATELY.
- NOSE COVER NOT INCLUDED IN MODEL NUMBER. ORDER SEPARATELY.
- THE REACT 350 SYSTEM HAS BEEN TESTED TO NCHRP-350 TL-2 AS A REDIRECTIVE, NON-GATING SYSTEM. THE MODEL NUMBER LISTED IN THE TABLE IS VALID FOR EQUAL TO OR LESS THAN THE LISTED WORKZONE SPEED UNLESS OTHERWISE NOTED.

MODEL#	SYSTEM LENGTH	EFFECTIVE LENGTH	PAD LENGTH	WORKZONE SPEED	DESIGN LENGTH	TESTED TO
43B036	15'-3"	12'-2"	16'-7"	45 mph	12'-6"	TL-2

Revision	Date	Rev	By	Chk.	App.

ANCHOR FOR TEMPORARY SITES ONLY		
ANCHOR ASSY NO.	ANCHOR TYPE	QTY REQUIRED
603605B	ANCHOR KIT, REACT, 3/4X18, ASPHALT	1.00



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NOTES:
 1. HEAD OF BOLTS MY BE POSITIONED FROM OUTSIDE OF TRACK OR FROM INSIDE AS SHOWN.

QPL S102-4106

DRAWN:	S. Trageser	DATE:	8/15/2012
DESIGNED:		DATE:	
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APPROVED:		DATE:	
FILE:	70-03-09 Sh03		

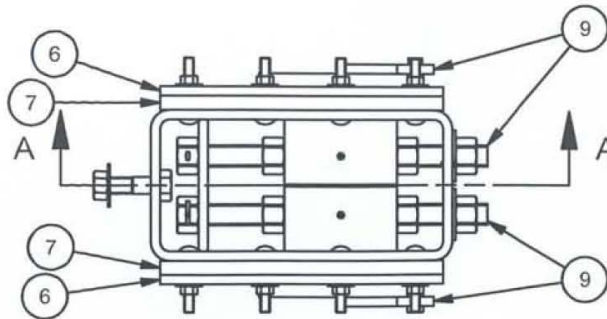


ASSEMBLY NO. 605028B

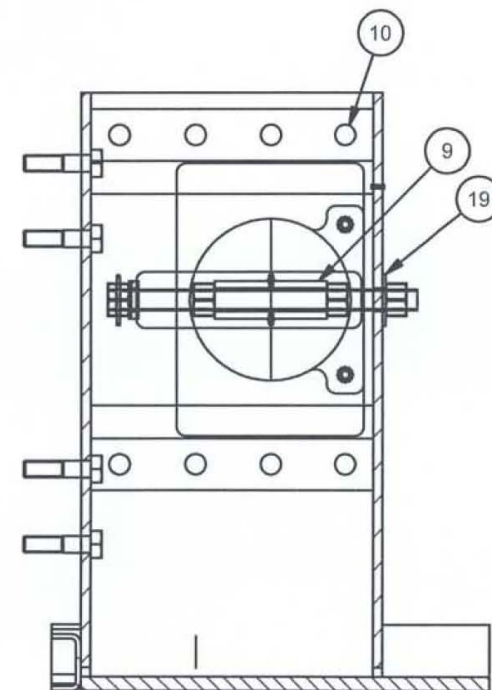


REACT[®]350 SYSTEM
 SELF CONTAINED BACKUP
BASETRACK ASSEMBLY
 FOR 36" WIDE, 4 CYLINDER SYSTEMS

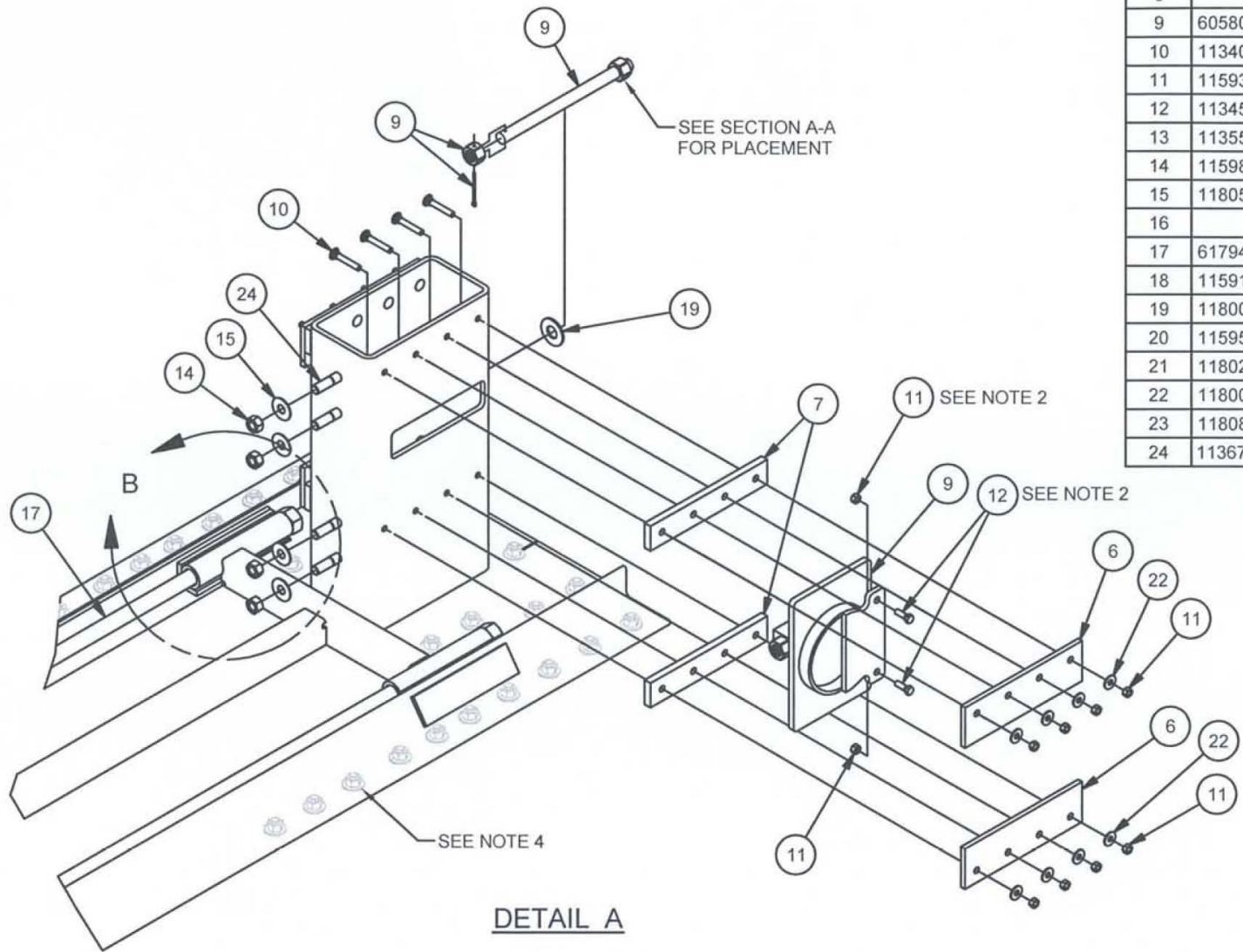
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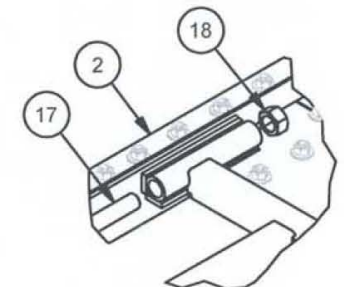
TOP VIEW



SECTION A-A
(SOME HIDDEN LINES NOT SHOWN FOR CLARITY)



DETAIL A



DETAIL B
(SOME ITEMS NOT SHOWN FOR CLARITY)

PARTS LIST			
ITEM	STOCK NO.	DESCRIPTION	QTY.
1	609107G	FRONT BASETRACK, 4 CYLINDERS, G	1
2	613621B	REAR BASETRACK, SCBU(React), G, W/DECAL	1
3	612040G	PIN, RESTRAINING CABLE, G	2
4	113512G	BOLT, HX, 1/4X2 1/2, G2, G	2
5	115946G	NUT, HX, 1/4, G	2
6	613734G	RETAINER, TENSIONER, G, (React)	4
7	614628G	STANDOFF, RETAINER, TENSIONER, G, (React)	4
8			
9	605808B	CABLE TENSIONER ASSY, L&R	2
10	113408G	BOLT, CR 1/2X3 1/4, W/RIBBED NECK, G	16
11	115939G	NUT, HX, 1/2, G	20
12	113457G	BOLT, HX, 1/2X1 1/2, G2, G	4
13	113552G	BOLT, HX, 3/4X2, G2, G	8
14	115980G	NUT, HX, 7/8, G	4
15	118059G	WASHER, FLAT, 7/8 X 2 1/4, G	4
16			
17	617946G	RRD ST 1 1/2X130, THREADED, G	2
18	115917G	NUT, HX, 1 1/2, G	4
19	118002G	WASHER, FLAT, 1 1/4 ID X 2 3/4 OD, G	2
20	115953G	NUT, HX, 3/4, G	8
21	118027G	WASHER, FLAT, 3/4X2, HVY, G	16
22	118009G	WASHER, FLAT, 1/2X1 3/8, G	16
23	118085G	WASHER, LOCK, 1/4, G	2
24	113674G	BOLT, HX, 7/8X3 1/2, G2, G	4

- NOTES:
- BEFORE INSTALLING CABLE TENSION ROD, W/ NUT, INTO CABLE TENSIONER ASSEMBLY. FILL WITH HEAVY GREASE USING GREASE FITTING, LUBRICATE THREADS ON TENSION ROD.
 - ITEM 9 WILL NEED TO BE REMOVED TO INSTALL CABLE SEE SHEET 8.
 - ITEMS 11 & 12 NEED TO BE REMOVED TO INSTALL REAR CYLINDER.
 - ANCHORS, P/N 603605B, MUST BE ORDERED SEPARATELY.

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ASSEMBLY NO. 605028B

QPL S102-4106

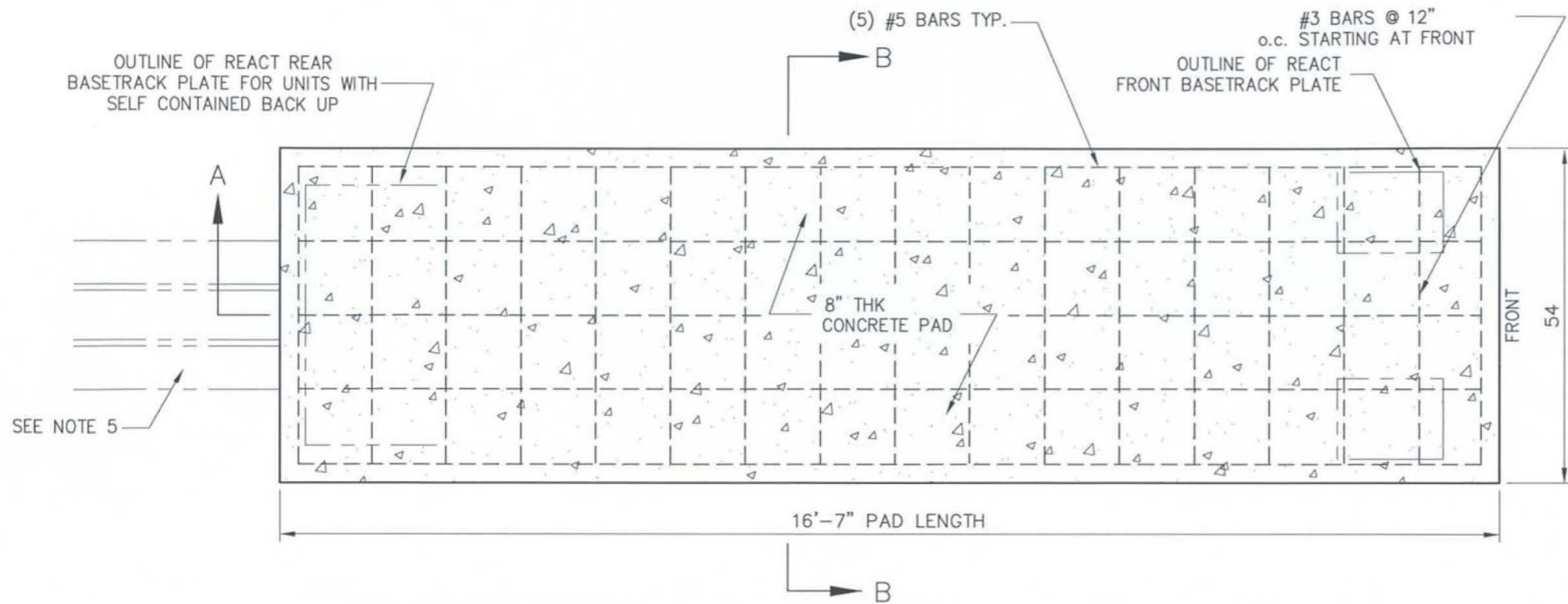
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ENERGY ABSORPTION SYSTEMS
ENGINEERING AND RESEARCH DEPARTMENT

REACT®350 SYSTEM
SELF CONTAINED BACKUP
BASETRACK ASSEMBLY
FOR 36", 4 BAY SYSTEMS

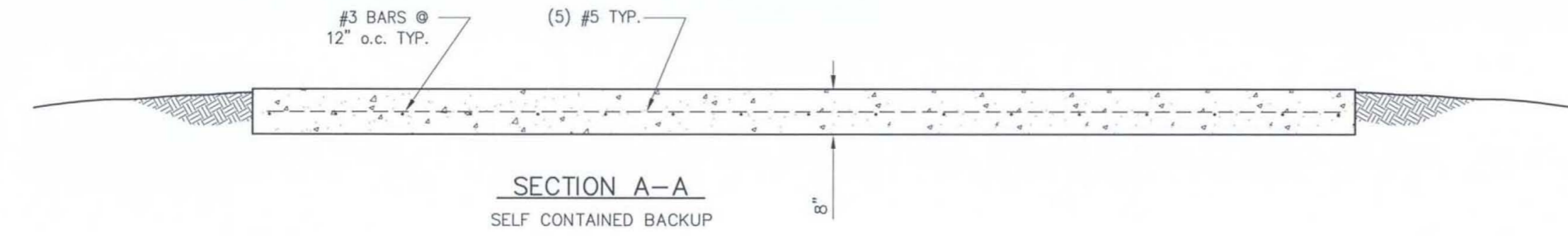
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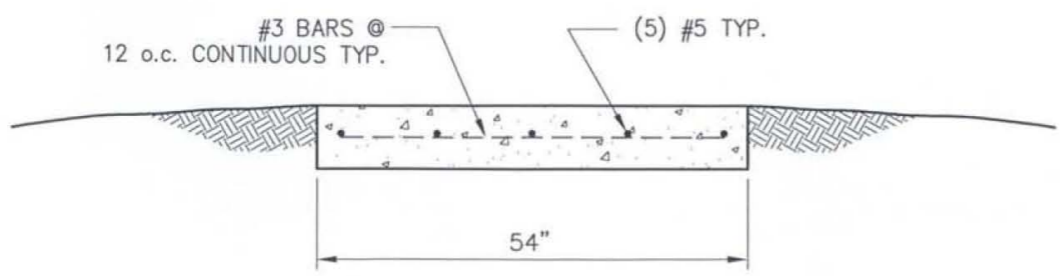
PLAN VIEW

NOTES:

1. ALL CONCRETE WORK AND RE-BAR DETAILS SHALL CONFORM TO THE LATEST ACI CODE AND MANUAL.
2. ALL CONCRETE TO BE 8 MINIMUM THICK 4000 PSI COMPRESSIVE STRENGTH AT 28 DAY TEST.
3. ALL REINFORCING BARS SHALL BE A615 GRADE 60 NEW BILLET STEEL.
4. PROVIDE MIN. 2 CLEAR CONCRETE COVER OVER REINFORCING STEEL.
5. THE SLAB DETAILED ON THIS SHEET REQUIRES IT TO BE PLACED AGAINST AND SUPPORTED BY A RIGID BARRIER OR OTHER STRUCTURE. PROVIDE ADEQUATE ANCHORAGE.
6. UNLESS OTHERWISE NOTED, UNITS ARE IN INCHES
7. CROSS SLOPE OF PAD SHALL NOT EXCEED 1:10 AND NOT VARY MORE THAN 2% FROM FRONT TO BACK.



SECTION A-A
SELF CONTAINED BACKUP



SECTION B-B

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DRAWN: S. Trageser	DATE: 8/15/2011
DESIGNED:	DATE:
CHECKED:	DATE:
APPROVED:	DATE:
CAD FILE: 70-03-079SH 5	

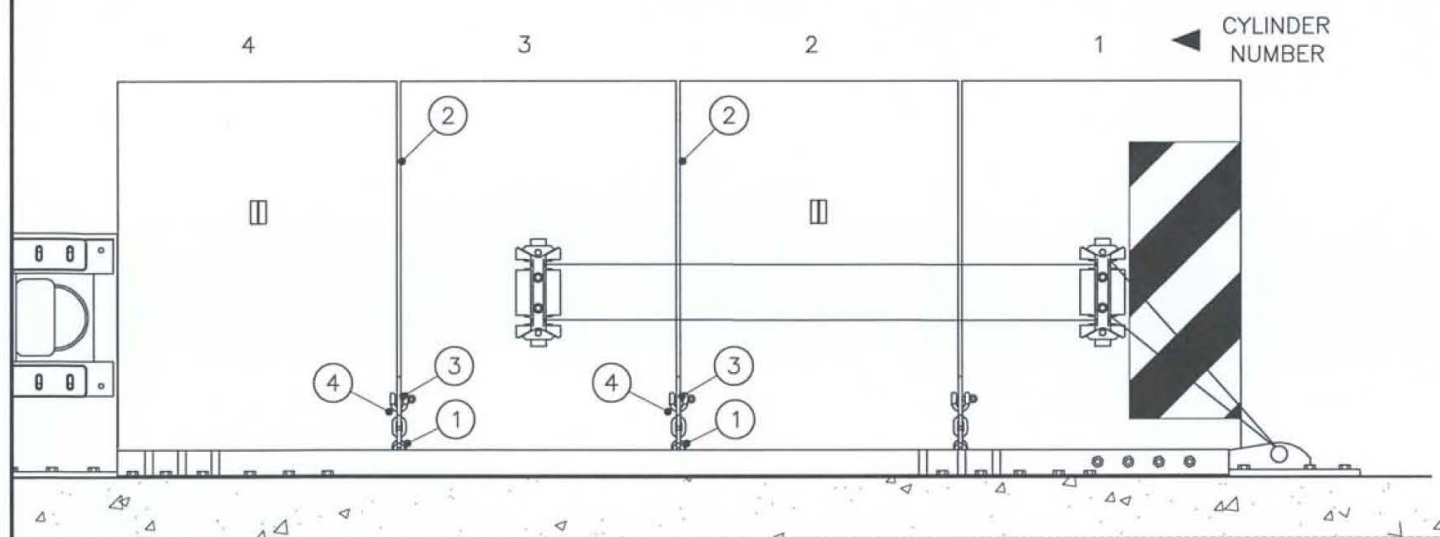
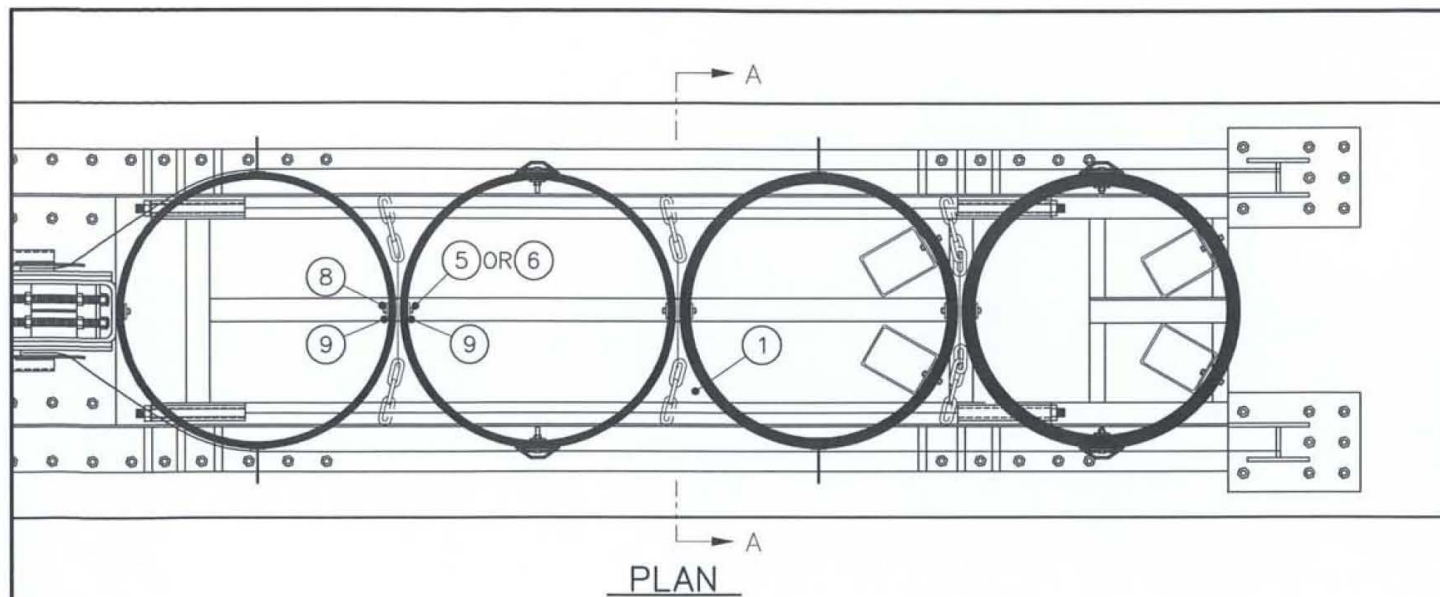
ENERGY ABSORPTION SYSTEMS
ENGINEERING AND RESEARCH DEPARTMENT

REACT[®]350 SYSTEM
CAST-IN-PLACE CONCRETE SLAB
FOR 36", 4 CYLINDER SYSTEMS
W/STEEL BACKUP & AGAINST RIGID BARRIER

SCALE Do Not Scale	DWG. 70-03-09	SHEET 5 of 10	REV
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QPL S102-4106

Revisions	Date	Rev.	By	Ckd.	App.



ELEVATION

ASSEMBLY NO. 606182B

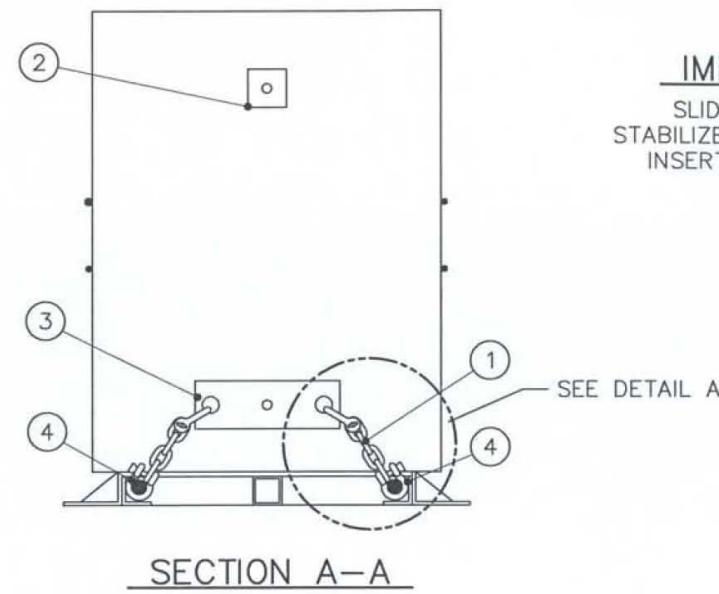
PARTS LIST (4 CYLINDER REACT 350) TL-2 ≤ 45 MPH)

ITEM	STOCK NO.	DESCRIPTION	REQ'D
1	606177B	CHAIN, PROOF COIL, 1/2, 4 LINKS, REACT	6.00
2	609236G	FTB ST 1/2X4X4, W/HOLE, G, (REACT)	3.00
3	609256G	FTB ST 1/2X5X15, G, (REACT)	3.00
4	117071G	SHACKLE, ANCHOR, 5/8, W/SCREW PIN	12.00
* 5	113563G	BOLT, HX, 3/4X4 1/2, G2, G	4.00
* 6	113566G	BOLT, HX, 3/4X4, G2, G	2.00
8	115953G	NUT, HX, 3/4, G	6.00
9	118027G	WASHER, FLAT, 3/4, HVY, G	12.00

* ITEM 5 USED TO CONNECT CYLINDERS 2 & 3 AND 3 & 4.
 * ITEM 6 USED TO CONNECT CYLINDERS 1 & 2.

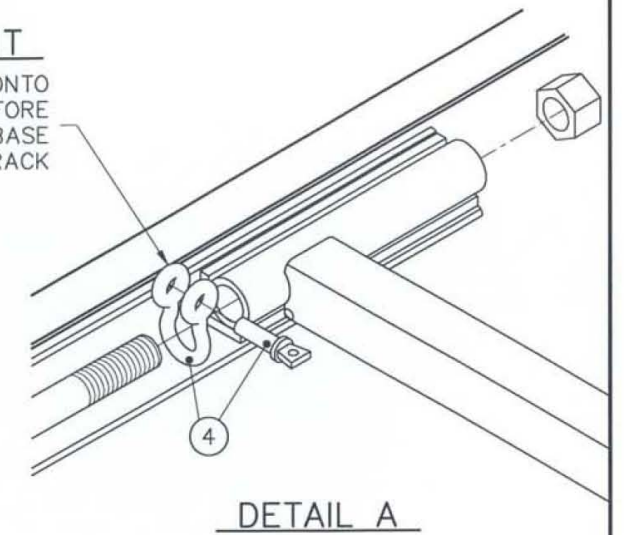


Revisions	Date	Rev.	By	Ckd.	App.

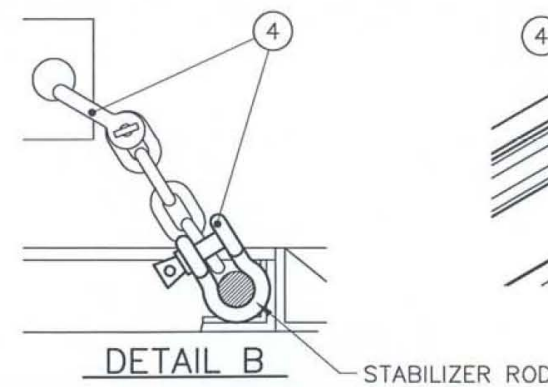


SECTION A-A

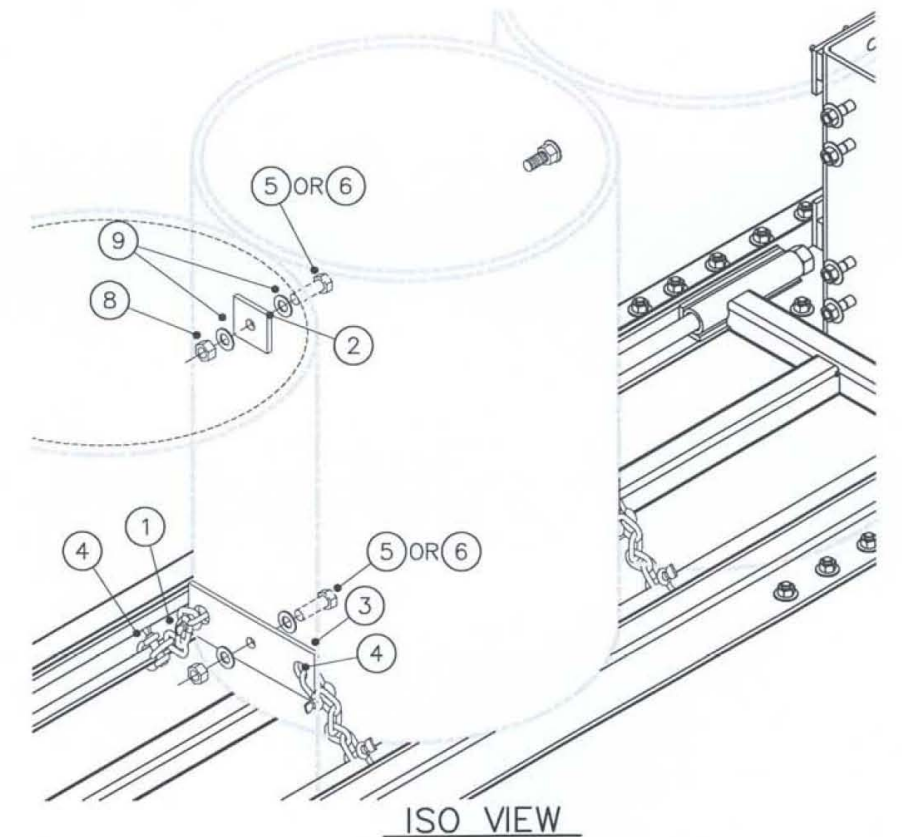
IMPORTANT
 SLIDE ITEM 4 ONTO
 STABILIZER ROD BEFORE
 INSERTING INTO BASE
 TRACK



DETAIL A



DETAIL B



ISO VIEW

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ASSEMBLY NO. 606182B

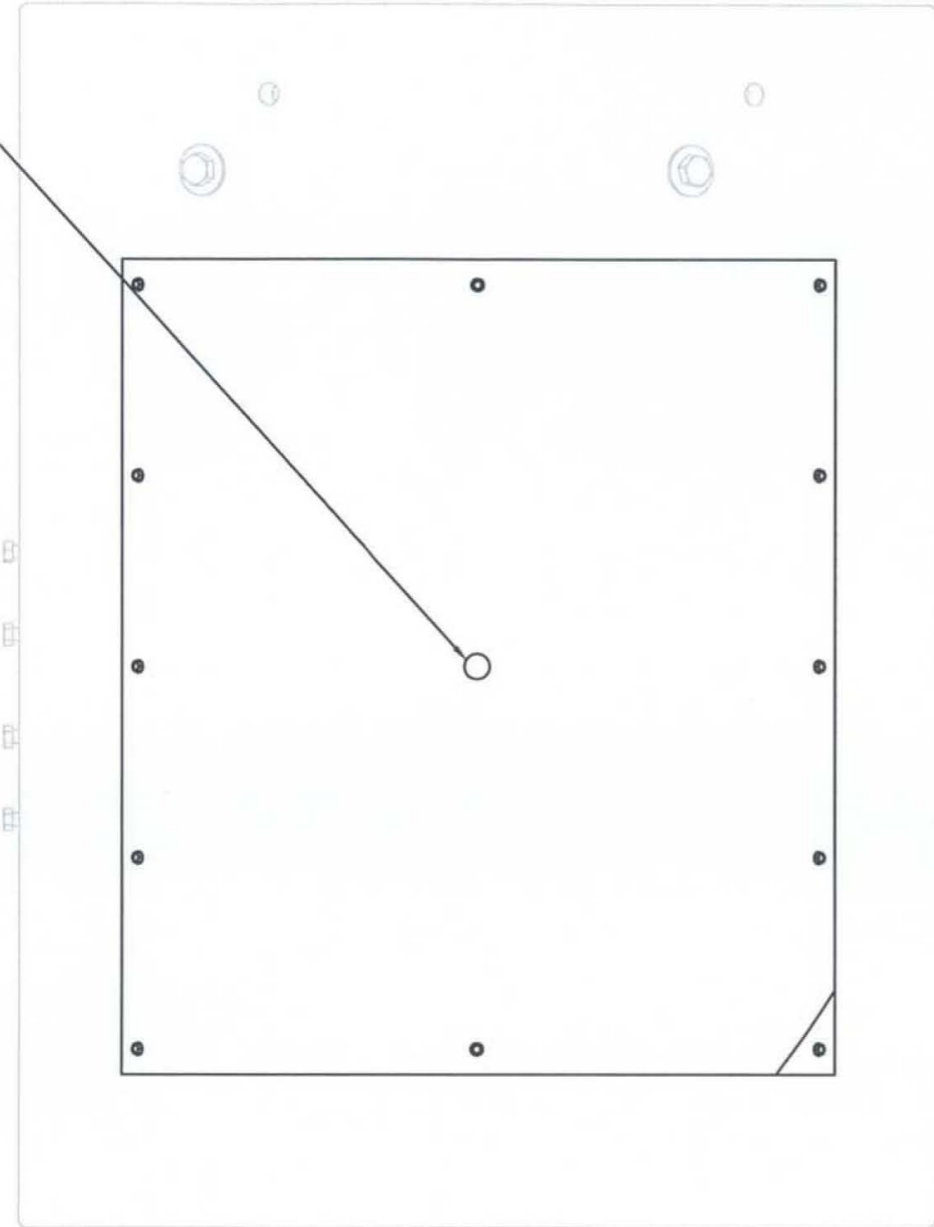
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CAD FILE:	70-03-09 SH 6		

ENERGY ABSORPTION SYSTEMS
 ENGINEERING AND RESEARCH DEPARTMENT
REACT®350 SYSTEM
CHAIN/CYL CONNECTOR ASSEMBLY
 S102-4106

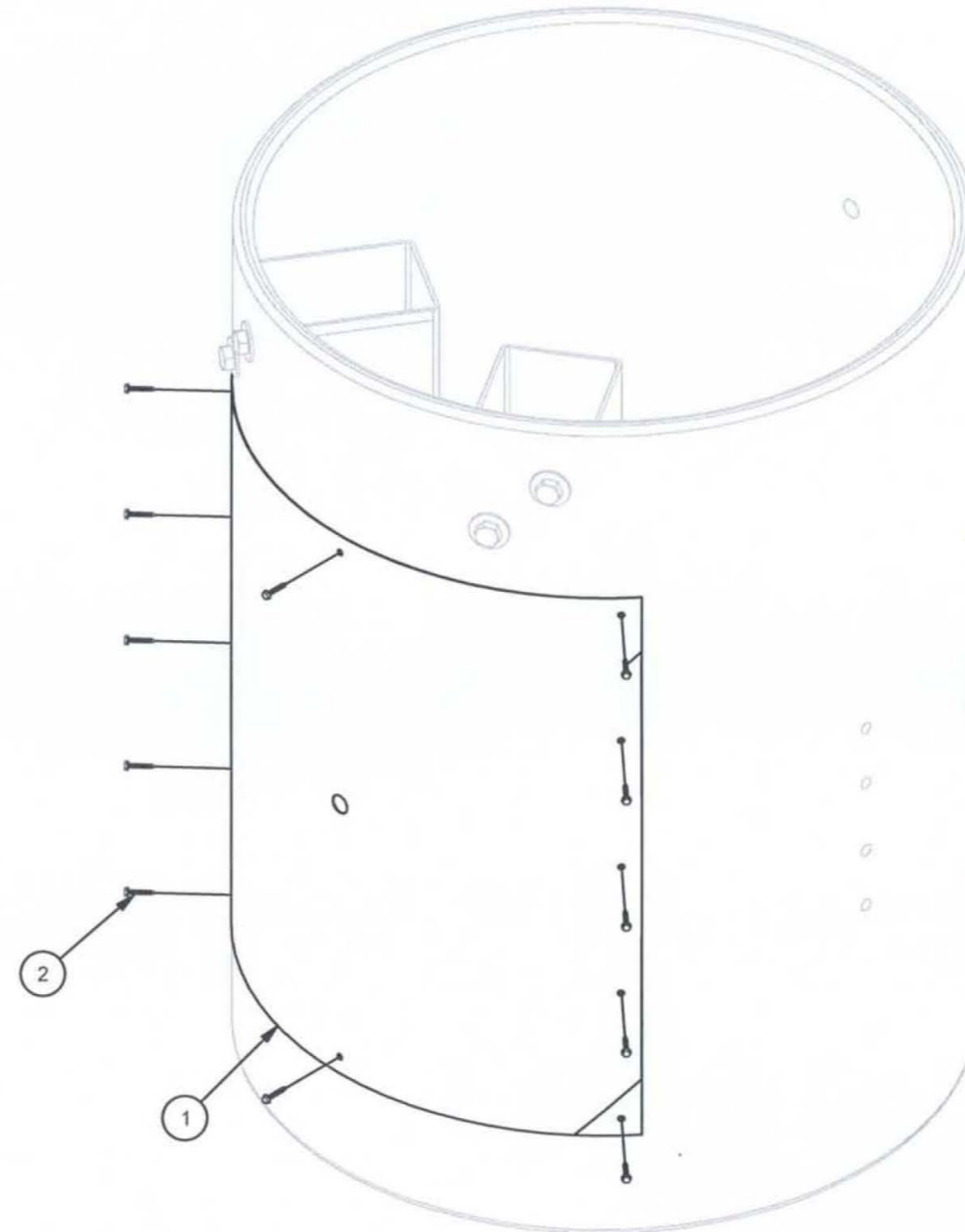
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PARTS LIST			
ITEM	STOCK NO.	DESCRIPTION	QTY.
1		NOSE COVER,32X32,TL-3,REACT	1
2	116888G	SCREW,HWH,1/4X1 1/4,SELF DRILL/TAP,P	12

ø1" HOLE
SEE NOTE 1



FRONT



NOTES:

1. LOCATE ø1" HOLE IN NOSE COVER OVER ø1" HOLE IN CYLINDER, THEN SECURE WITH SCREWS (ITEM 2).
2. SCREW ITEM 2 INTO CYLINDER, PUNCHING THRU REFLECTIVE TAPE AND INTO EXSISTING HOLES IN NOSE COVER, UNTIL HEAD OF FASTENER (ITEM 2) IS FLUSH. DO NOT CONTINUE TO SPIN FASTENER.
3. NOSE COVER NOT INCLUDED IN MODEL AND MUST BE ORDERED SEPARATELY. DESIRED NOSE MUST BE SPECIFIED WHEN ORDERING. REVIEW APPLICATION DETAIL TO VERIFY TYPE.

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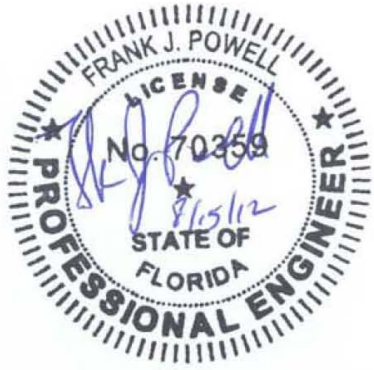
Revision	Date	Rev	By	Chk.	App.

DRAWN: S. Trageser	DATE: 8/15/2012
DESIGNED:	DATE:
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REACT[®] 350 SYSTEM
NOSE COVER ASSEMBLY, REACT
QPL S102-4106

SCALE: Do Not Scale	DRAWING: 70-03-09	SHEET: 7 of 10	REV:
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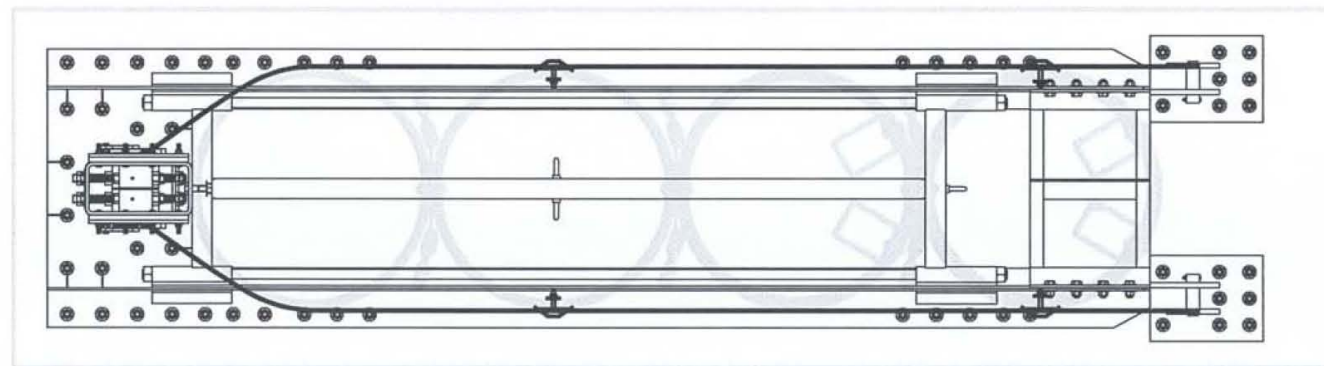
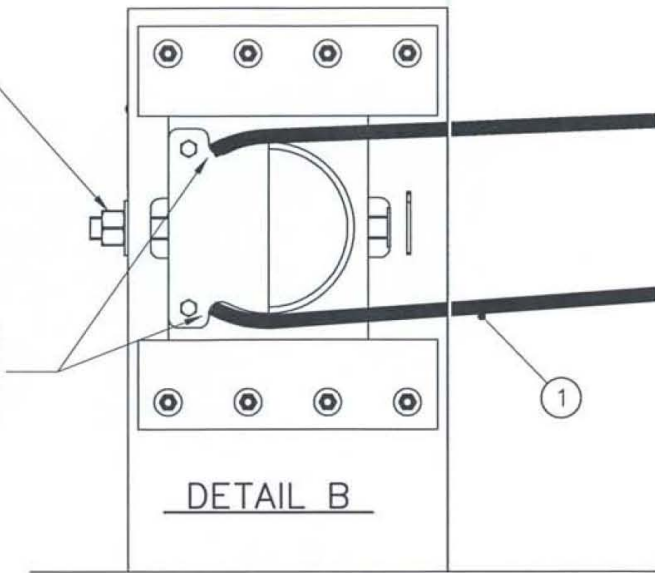
Frank J. Powell, PE
Florida #70359
3617 Cincinnati Ave.
Rocklin, CA 95765

NEXT ASSEMBLY:	MATERIAL:	TOL ANGULAR: TOL LINEAR: UNLESS OTHERWISE NOTED.
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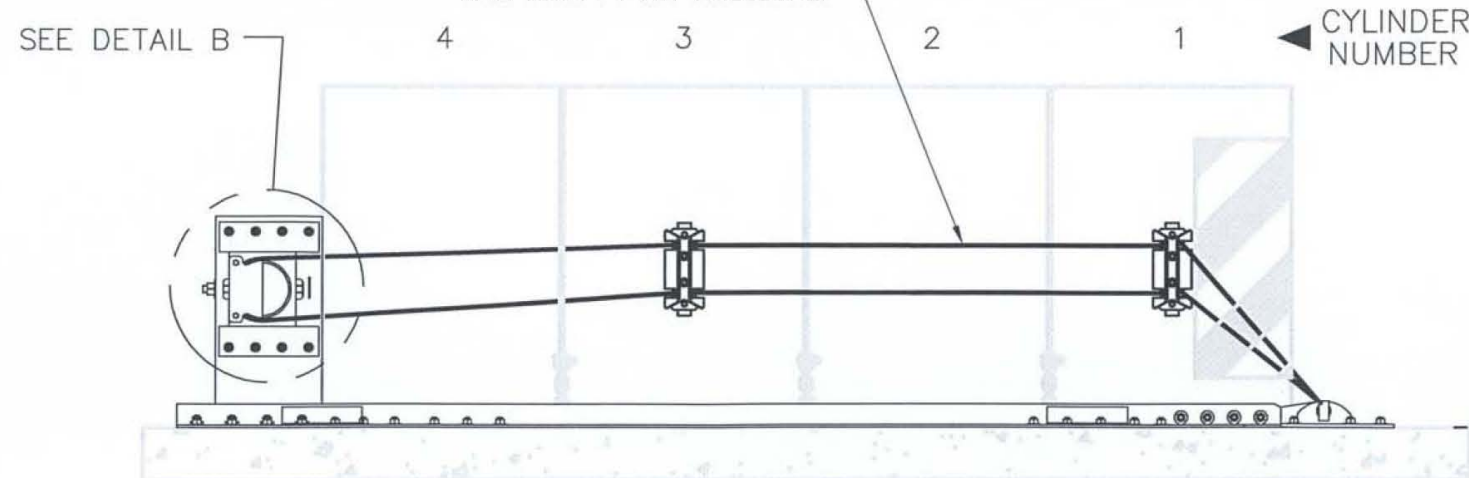
PARTS LIST			
ITEM	STOCK NO.	DESCRIPTION	REQ'D
1	113924G	RESTRAINING CABLE, 29'-11"	2.00

AFTER CABLE IS ASSEMBLED, APPLY TENSION BY TIGHTENING NUT ON CABLE TENSIONER PLATE (EACH SIDE).

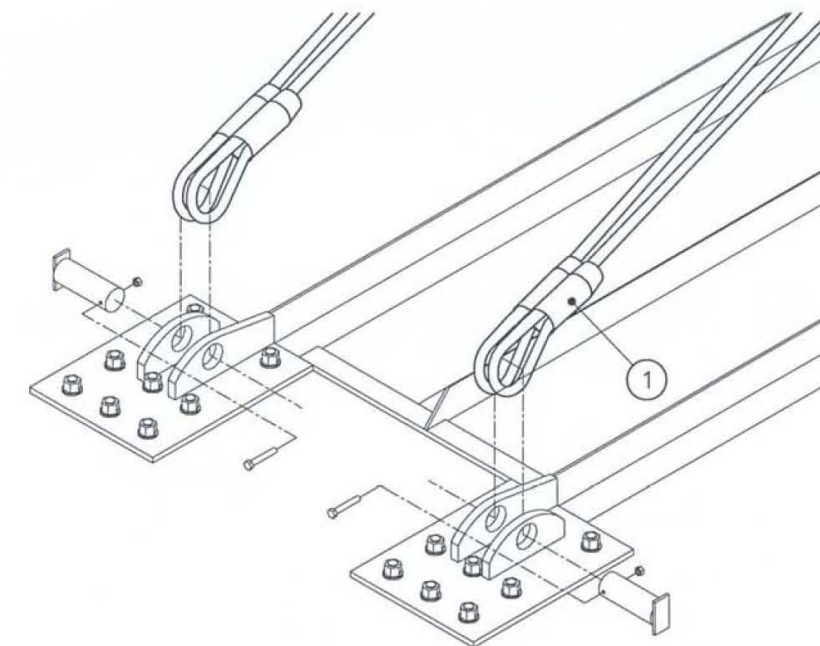
REMOVE 2 BOLTS AND NUTS FROM THE TENSIONER PLATE (EACH SIDE) BEFORE CABLE INSTALLATION, THEN REINSTALL AFTER CABLE IS PLACED AROUND TENSIONER.



AFTER TENSIONING, CABLE SHOULD NOT DEFLECT MORE THAN 3" WITH HEAVY FOOT PRESSURE.



ELEVATION



FRONT CABLE ATTACHMENT DETAIL FOR SELF CONTAINED BACKUP

Revisions	Date	Rev.	By	Ckd.	App.

DRAWN: S. Trageser	DATE: 8/15/2012
DESIGNED:	DATE:
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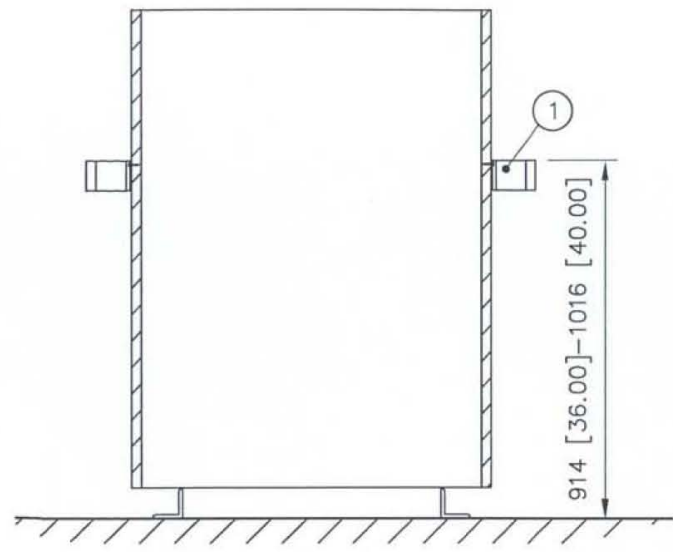
ENERGY ABSORPTION SYSTEMS, INC.
ENGINEERING AND RESEARCH DEPARTMENT

REACT 350® SYSTEM

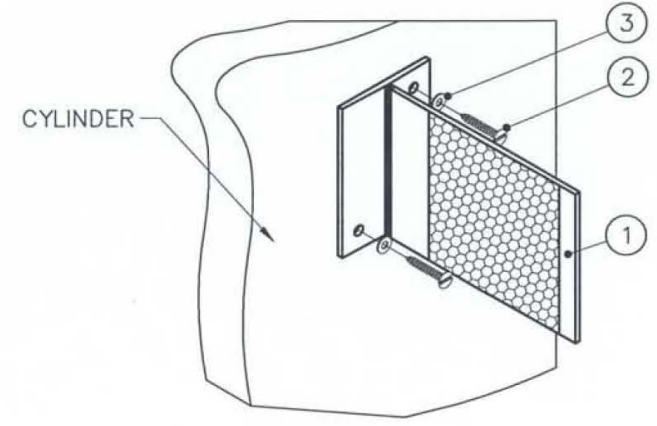
CABLE ASSEMBLIES
QPL S102-4106

SCALE Do Not Scale	DWG. 70-03-09	SHEET 8 of 10	REV
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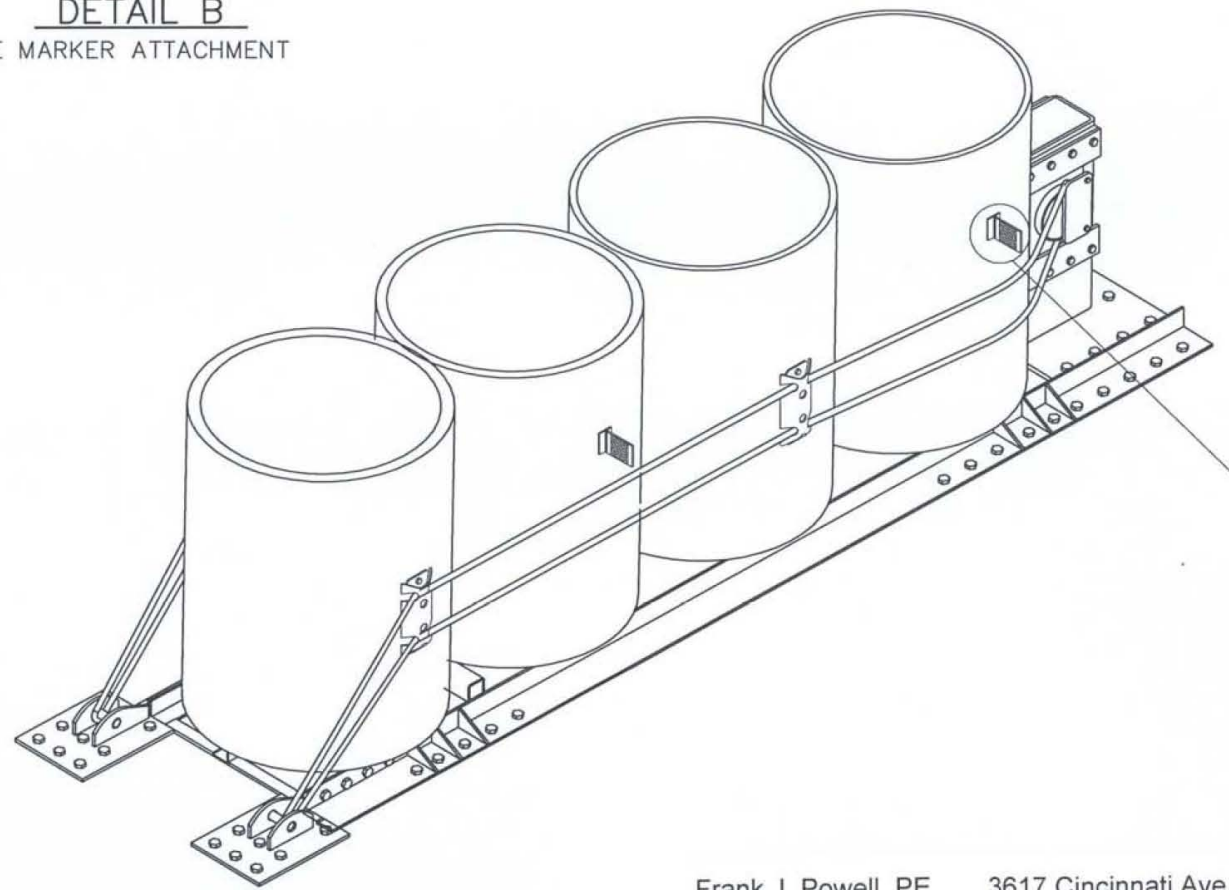
PARTS LIST			
ITEM	STOCK NO.	DESCRIPTION	QTY.
1	115665B	MARKER, TAB, FLEX, WHITE / AMBER, W/HOLES	4.00
2	116943G	SCREW, PN, #8X1, TAPPING, AB, S	8.00
3	117989G	WASHER, FLAT, #8, S	8.00



DETAIL A
SIDE MARKER HEIGHT



DETAIL B
SIDE MARKER ATTACHMENT



SEE DETAIL B
AND NOTE 1

NOTE:
1. STARTING WITH REARMOIST CYLINDER PLACE MARKERS ACCORDING TO LOCAL STANDARDS AND "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), BOTH SIDES. LOCATE AND INSTALL SIDE MARKERS AS SHOWN IN DETAILS A & B. SEE APPLICATION SITE PLAN VIEWS FOR MARKER COLOR ORIENTATION.

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ASSEMBLY NO. 613705B

Revisions	Date	Rev.	By	Ckd.	App.

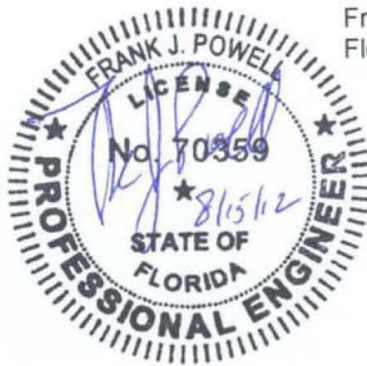


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 ENERGY ABSORPTION SYSTEMS
ENGINEERING AND RESEARCH DEPARTMENT

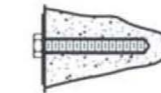
REACT[®]350 SYSTEM
REFLECTOR ASSEMBLY, WHITE / AMBER,
SIDE, REACT 350
QPL S102-4106

SCALE	Do Not Scale	DWG.	70-03-09	SHEET	9 of 10	REV	
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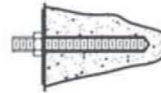


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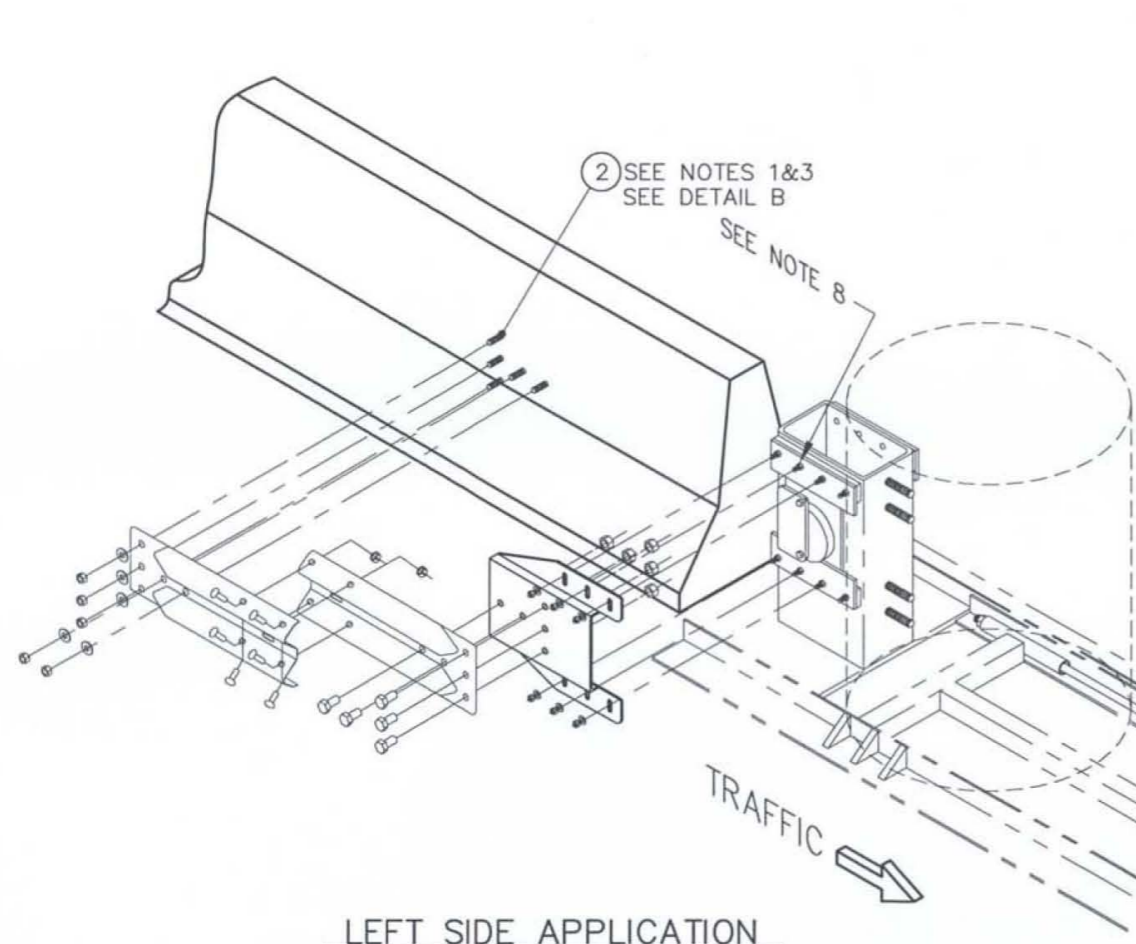
CORRECT



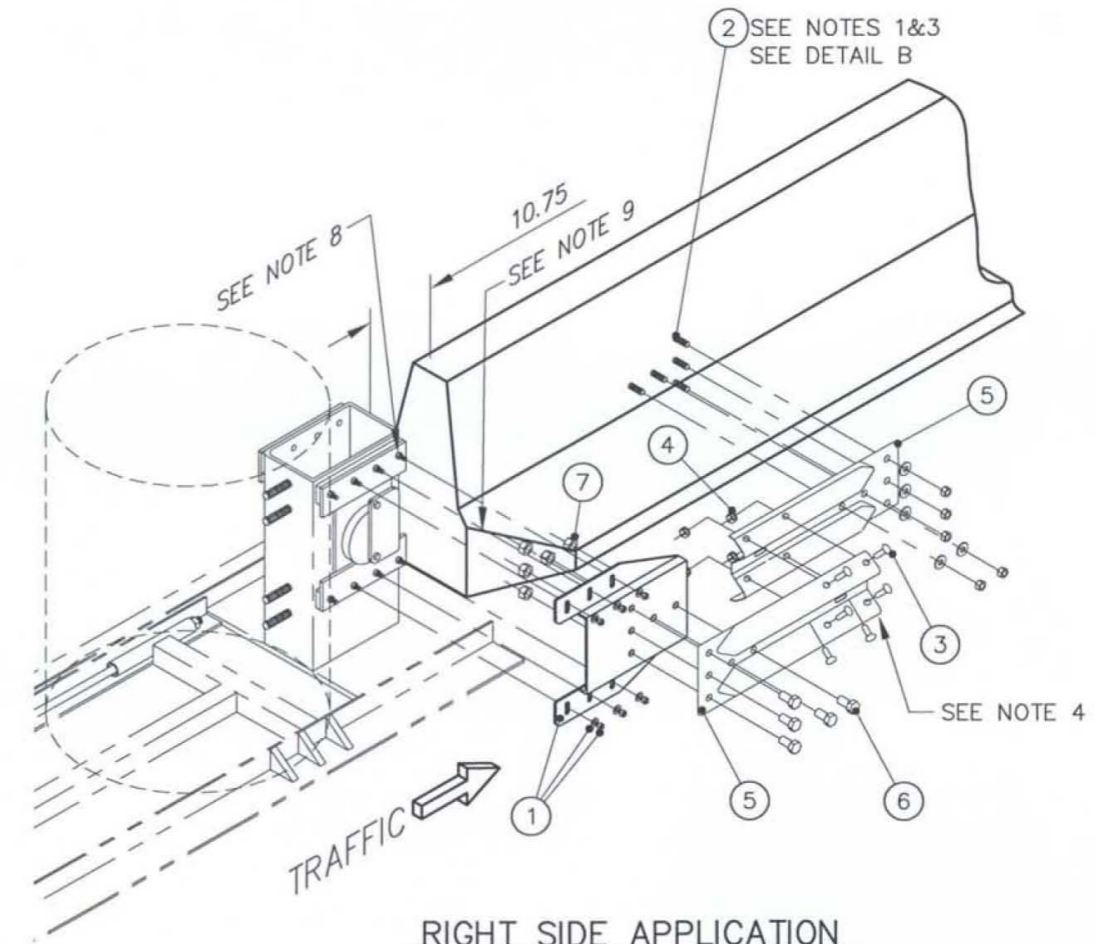
INCORRECT

DETAIL B

PARTS LIST			
ITEM	STOCK NO.	DESCRIPTION	REQ'D
1	4720	TRANSITION PLATE ASSEMBLY	1.00
2	3525130-0000	ANCHOR,MP-3,PT KIT,3/4X6 1/2 HOR	1.00
3	2701811-0000	BOLT,RAIL,5/8X1 1/4,G	8.00
4	2704191-0000	NUT,HX,5/8,G,RAIL	8.00
5	2752171-0000	END SHOE,W-BEAM	2.00
6	2701641-0000	BOLT,HX,3/4X1 1/4,G2,G	5.00
7	2704091-0000	NUT,HX,3/4,G	5.00



LEFT SIDE APPLICATION



RIGHT SIDE APPLICATION

NOTES:

- | | |
|--|---|
| <p>1. USE TRANSITION PANEL AS TEMPLATE FOR DRILLING.</p> <p>2. IMPACT FORCES COULD BE TRANSFERRED INTO TERMINAL END OF THE BARRIER. ADEQUATE REINFORCING AND ANCHORAGE ARE REQUIRED FOR PROPER IMPACT PERFORMANCE.</p> <p>3. ANCHOR STUD END SHOULD BE FLUSH WITH OUTSIDE SURFACE OF ANCHOR NUT, SEE DETAIL B.</p> <p>4. TRANSITION ASSEMBLIES ARE SUPPLIED AS ACCESSORIES AND ARE ORDERED SEPARATELY.</p> <p>5. END SHOES MUST BE LAPPED FOR TRAFFIC DIRECTION.</p> <p>6. ITEMS 3 THROUGH 7 ARE STANDARD HIGHWAY HARDWARE & MAY BE SUPPLIED BY CUSTOMER. ORDER PART NUMBER 4720 TO RECEIVE ITEM 1 ONLY.</p> | <p>7. THIS TRANSITION ASSEMBLY MAY BE USED FOR NEW JERSEY BARRIER, F-SHAPED OR VERTICAL CONCRETE WALL.</p> <p>8. EXISTING STUDS, WASHERS AND NUTS TO REMAIN. INSTALL TRANSITION PLATE ON TOP OF EXISTING HARDWARE.</p> <p>9. TRIM BARRIER 5 1/2" DEEP X 14" LONG, AS SHOWN.</p> |
|--|---|

Revisions	Date	Rev.	By	Ckd.	App.

DRAWN: S. Trageser	DATE: 8/15/2012
DESIGNED:	DATE:
CHECKED:	DATE:
APPROVED:	DATE:
CAD FILE: 70-03-09 SH10	

ASSEMBLY NO. 3535006-0000

ENERGY ABSORPTION SYSTEMS
ENGINEERING AND RESEARCH DEPARTMENT

REACT[®]350 SYSTEM

TRANSITION ASSY,SC BU,N,REACT 350
QPL # S102-4106

SCALE Do Not Scale	DWG. 70-03-09	SHEET 10 of 10	REV
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