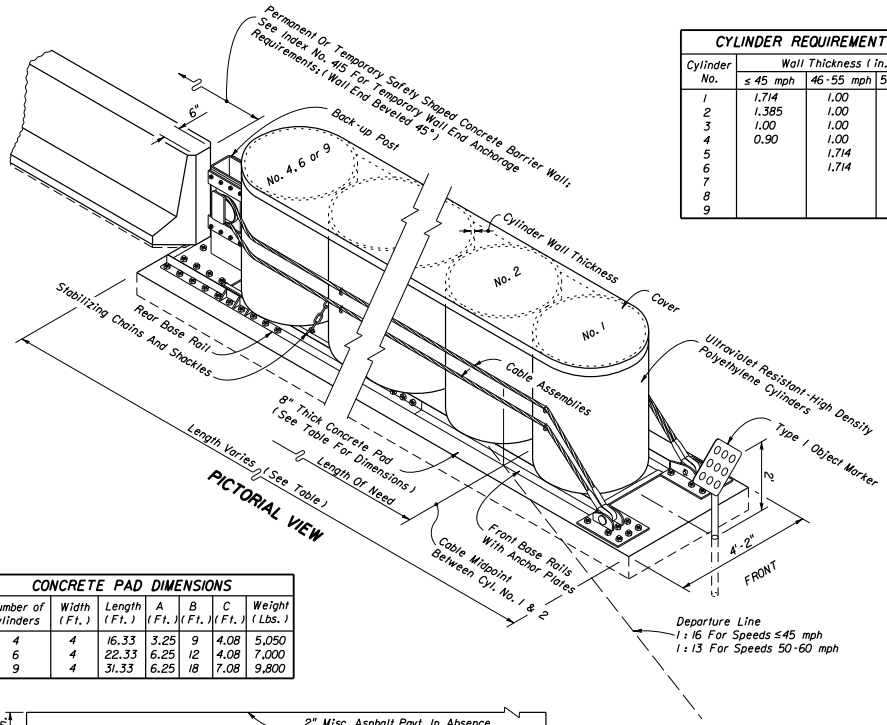



PICTORIAL VIEW

| CYLINDER REQUIREMENTS | | | |
|---|---|---|---|
| Cylinder No. | Wall Thickness (in.) | | |
| | ≤ 45 mph | 46-55 mph | 56-60 mph |
| 1 | 1.714 | 1.00 | 0.80 |
| 2 | 1.385 | 1.00 | 0.80 |
| 3 | 1.00 | 1.00 | 0.90 |
| 4 | 0.90 | 1.00 | 0.90 |
| 5 | | 1.714 | 1.00 |
| 6 | | 1.714 | 1.00 |
| 7 | | | 1.108 |
| 8 | | | 1.385 |
| 9 | | | 1.385 |

## DESIGN NOTES

1. The REACT 350 is designed to cushion automobile end-on hits and to redirect automobiles from side hits. The number of cylinders to be used in a specific unit will be determined by the design speed, except where the Engineer determines that another speed is more applicable.

2. The REACT 350 is a restorable system that is particularly suited to shielding hazards in areas with a history of frequent errant vehicle departures from the roadway or the potential exists for such departures. Until further development is completed in the application of the REACT 350 to shielding other hazards, this drawing is limited to use with safety shaped concrete barrier walls. The REACT 350 alone is not suited to shielding a wide hazard.

3. The REACT 350 crash data accepted by the Federal Highway Administration (FHWA) covers vehicular impacts at speeds of 60 mph with 9 cylinder units and 45 mph with 4 cylinder units. The 6 cylinder unit has been developed by analytical deduction based on relative energy imparted by an impacting vehicle at various speeds. Until crash test data, accident data or other in service data is available to indicate change in application, the Department will support appropriate use of the six 6 cylinder units at locations where speeds are 55 mph or less. See 'CYLINDER REQUIREMENTS' table above.

4. The REACT 350 is a proprietary device with distinct performance, vehicular response and restoration characteristics, unlike other redirective crash cushions. Currently the Department recognizes the devices selective features and does not recognize other proprietary devices as equal alternatives, and until such alternatives are available the REACT 350 need not be bid against other proprietary items.

## GENERAL NOTES

1. The energy absorbing unit represented on this drawing is a proprietary design by Energy Absorption Systems, Inc. and marketed under the trade name REACT 350, short for Reusable Energy Absorbing Crash Terminal. Any infringement on the rights of the designer shall be the sole responsibility of the user.

2. This drawing is produced by the Florida Department Of Transportation solely for use by the Department and its assignees. This drawing provides the general graphics and information necessary to field identify component parts of the REACT 350 and their incorporation into a whole unit.

3. This drawing is sufficient for plan details for the REACT 350 installed as a free standing unit shielding safety shaped concrete barrier wall ends and for that use precludes the requirement for shop drawing submittals unless the plans otherwise call for such submittals. Use of the REACT 350 for shielding other hazards will require plan details, shop drawings, or both where called for in the plans.

4. The REACT 350 shall be assembled and installed in accordance with the manufacturer's detailed drawings, procedures and specifications.

5. Concrete foundations shall be constructed with 4000 psi min. compressive strength concrete.

6. The REACT 350 is suitable for speeds ≤60 mph.

7. The REACT 350 shall be constructed on cross slopes 1:10 or flatter.

8. On facilities with speeds of ≤45 mph, the REACT 350 can be used in any location specified by the plans or by Department permit. On facilities with speeds of 50-60 mph, units shall not be used in narrow medians where post impact trajectory from end on crashes (rebound) will result in the crash vehicle rebounding into opposing traffic lanes, nor used in gore locations where the crash vehicle is likely to rebound into either the continuing or departing traffic lanes; units can be used in medians and gores where other features such as profile differentials, berms, ditches or other barriers will prevent adverse rebounding encroachment into traffic lanes.

9. Due to the overall unit height of 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.

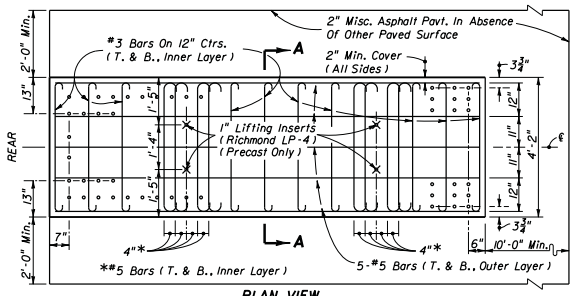
10. For galvanizing requirements of metalic components see Standard Specification Section 967.

11. 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 Nos. 11860 and 11865. The cost of the Object Marker shall be included in the cost of the REACT 350.

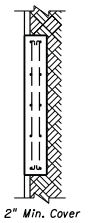
12. For REACT 350 units that have been impacted by vehicle crashes and are to remain in service, close inspection must be made on the anchorages of the front cable anchor plates and the rear pylon; the anchorages must be in design condition when restoration is complete.

13. Quantity for payment of both permanently and temporarily installed REACT 350 units will be based on each independent installation as called for in the plans or as directed by the Engineer. Payment for the permanently installed REACT 350 is for an assembled and installed system including the foundation, and will be paid for under the contract unit price for Vehicular Impact Attenuator/Crash Cushion(REACT 350), EA. Payment for the temporary REACT 350 is for an assembled and installed unit with components as described for the permanent installation with the addition of miscellaneous asphalt pavement and will be paid for under the contract unit price for Vehicular Impact Attenuator/Crash Cushion (Temporary) (REACT 350), LO, or when the REACT 350 is used as an option in accordance with Index No. 415 it will be paid for under the contract unit price for Vehicular Impact Attenuator/Crash Cushion (Temporary) (Redirective Option), LO.

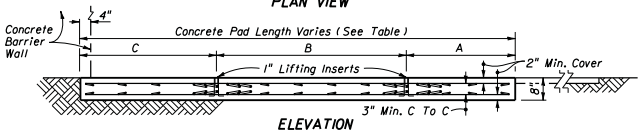
| CONCRETE PAD DIMENSIONS | | | | | | |
|---|---|---|---|---|---|---|
| Number of Cylinders | Width (Ft.) | Length (Ft.) | A (Ft.) | B (Ft.) | C (Ft.) | Weight (Lbs.) |
| 4 | 4 | 16.33 | 3.25 | 9 | 4.08 | 5,050 |
| 6 | 4 | 22.33 | 6.25 | 12 | 4.08 | 7,000 |
| 9 | 4 | 31.33 | 6.25 | 18 | 7.08 | 9,800 |




PLAN VIEW




SECTION AA




ELEVATION

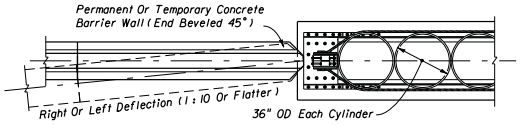
Note: Concrete pads may be precast or cast in place. Precast pads may be permanent or temporary and can be relocated and require reinforcement. Cast in place pads can be permanent or temporary and cannot be relocated and do not require reinforcement.

CONCRETE PAD

### NOTE 11 ALTERNATIVE:

The contractor has the option to install reflective sheeting on the nose of the crash cushion in lieu of placing the yellow Type I Object Marker 3 feet in front of 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.

April 30, 2009




PLAN VIEW

# REACT 350

FDOT APPROVED DRAWING

REACT-350

Sheet No.

1 of 1

QPL No. S544-0027