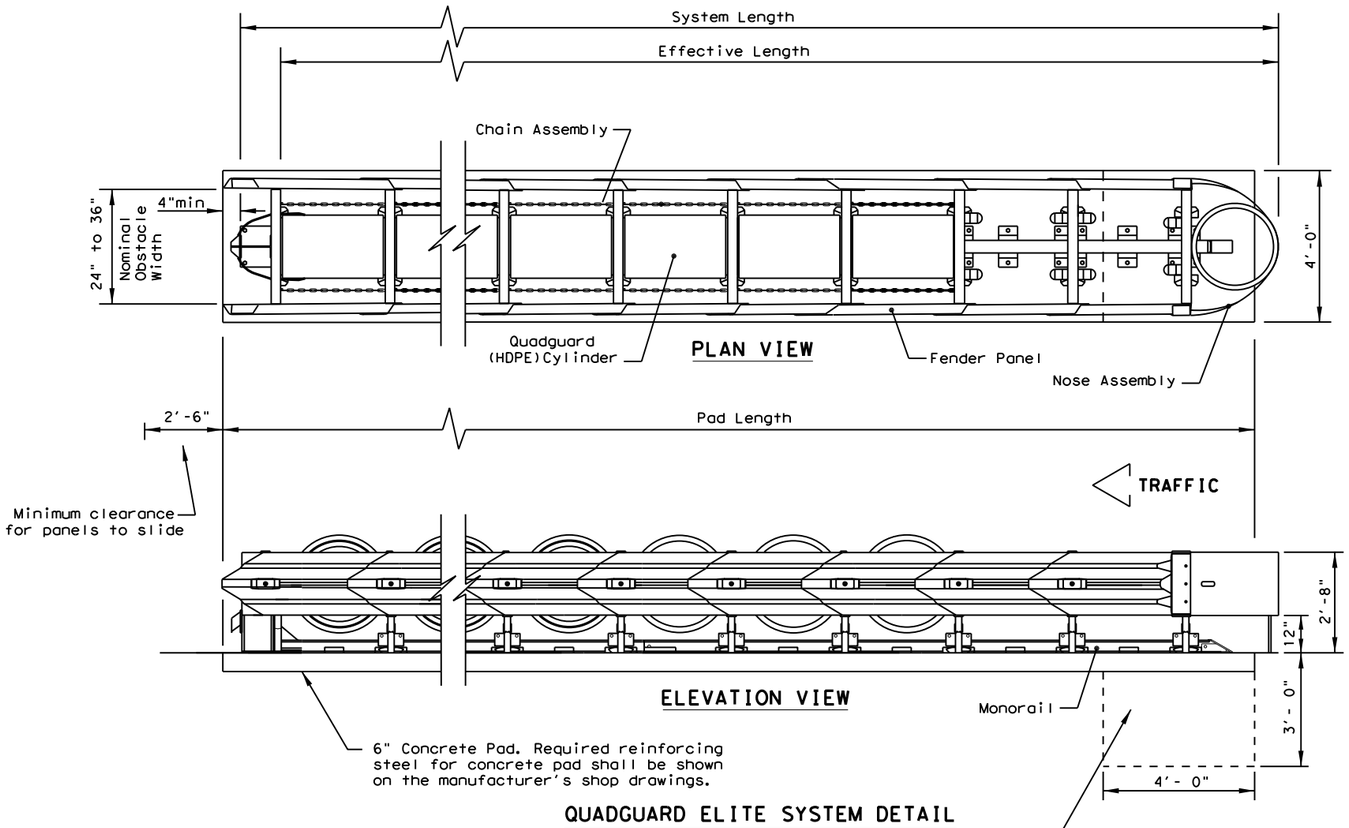
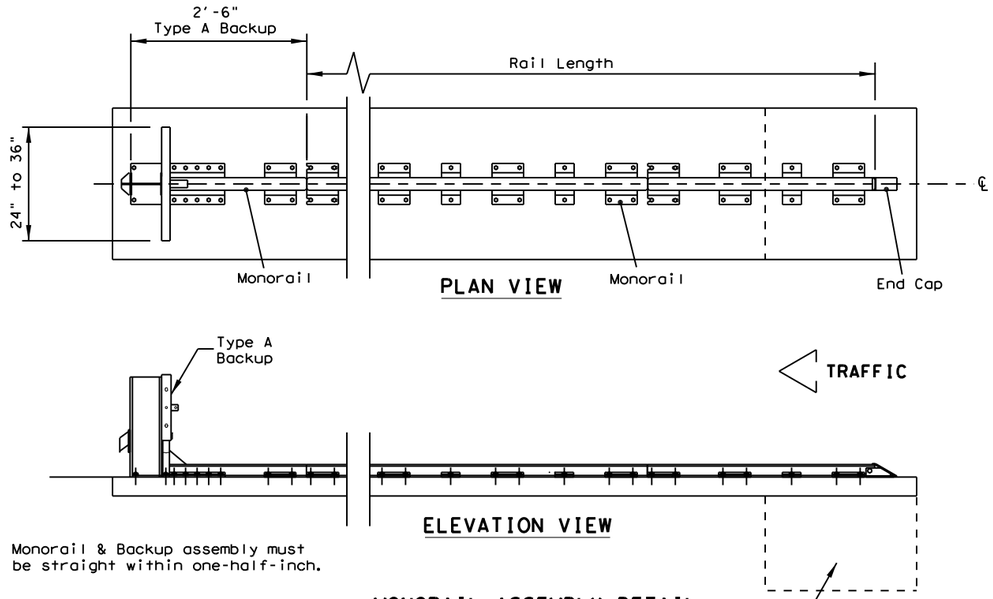
DATE:
FILE:



QUADGUARD ELITE SYSTEM DETAIL



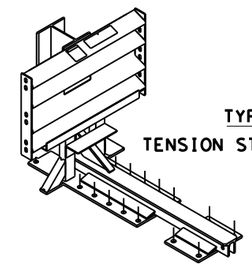
Note: Monorail & Backup assembly must be straight within one-half-inch.

MONORAIL ASSEMBLY DETAIL

(See the manufacturer's shop drawings for monorail hardware installation.)

GENERAL NOTES

1. For specific information regarding installation and technical guidance of the system, contact: Trinity Highway - Energy Absorption at 1(888)323-6374. 70 W. Madison St. Suite 2350. Chicago, IL 60602
2. After each impact, measurements should be taken of the shortest outside diameter of the last cylinder (closest to the backup). When this diameter is reduced from its original 32" to 26" or less, all the HDPE cylinders will need to be replaced, including the nose cylinder.
3. For bi-directional traffic, appropriate transition panels will be required.
4. Details of components for the QG(ELITE) and backups and reinforcing details will be shown on the manufacturer's shop drawings furnished to the Engineer.
5. Concrete shall be class "S" with a minimum compressive strength of 4,000 p.s.i.
6. If the cross-slope varies more than 2% over the length of the system, the concrete pad will require levelling. Maximum permissible cross-slope is 8%.
7. The installation area should be free from curbs, elevated objects, or depressions.
8. The QG(ELITE) system should be approximately parallel with the barrier or ℄ of merging barriers.
9. Unit width selected should be adequate to protect an errant vehicle travelling at 15 degrees to the roadway from the face or corner of the fixed object.



TYPE A
TENSION STRUT BACKUP

TENSION STRUT:
Consists of diagonal struts, connections, and accessories, as detailed by the manufacturer, located at the rear of the QG(ELITE) unit.

Typical application:
QG(ELITE) units attached to [Double-Face Guard-Rail.] When used a 4'-0" x 4'-0" x 3'-0" concrete toe anchor block shall be provided beneath the front portion of the concrete pad, except where the QG(ELITE) unit is to be placed on continuously reinforced concrete pavement or bridge deck (7" minimum, 4,000 psi) or non-reinforced concrete pavement (8" minimum, 4,000 psi)

QUADGUARD ELITE (NARROW) SYSTEM						
Test Level	NO. OF BAYS	SYSTEM LENGTH	UNIT EFFECTIVE LENGTH	PAD LENGTH	RAIL LENGTH	OBSTACLE WIDTH
TL-2	5	17'- 11"	17'- 3"	18'- 0"	12'- 0"	24" to 36"
TL-3	8	26'- 7"	25'- 11"	27'- 1"	21'- 0"	

SEE MANUFACTURER'S SHOP DRAWINGS FOR TYPE A BACKUP INFORMATION.

ANCHORAGE REQUIREMENTS ARE AS FOLLOWS:

WITH FOUNDATION TYPE:	ANCHOR WITH:
Minimum 6" portland cement reinforced concrete pad or 8" non-reinforced concrete pad	Epoxy anchoring system with 7" studs and 5.5" embedment

LOW MAINTENANCE

Texas Department of Transportation

Design Division Standard

TRINITY HIGHWAY ENERGY ABSORPTION (QUADGUARD ELITE) (NARROW)

QGELITE(N)-17

FILE: qgeltn17.dgn	DN: TxDOT	CK: KM	DW: VP	CK: KM
©TxDOT: OCTOBER 1999	CONT	SECT	JOB	HIGHWAY
REVISIONS REVISED 05,2013 VP REVISED 03,2016 VP REVISED 03,2017 KM	DIST	COUNTY		SHEET NO.