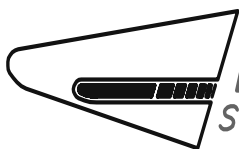


QUADGUARD[®] SYSTEM (24, 30 OR 36)



**ENERGY ABSORPTION
SYSTEMS, INC.**

SCT02a

SHEET NO.

DATE:

1 of 2

4/19/05

INTENDED USE

The QUADGUARD® System is a member of the QUADGUARD® Family designed to shield narrower hazards. The QUADGUARD® offers impact protection for both light and heavy vehicles. The system is perfect for gore areas, bifurcations and hazards such as bridge piers and tollbooths. It is effective against head-on and angle hits at typical highway speeds.

When hit head-on, a series of cartridges, placed between QuadBeam™ diaphragms and surrounded by telescoping fender panels, are crushed. This action absorbs the kinetic energy from the impacting vehicle, bringing the vehicle to a stop. Hit along the side at an angle, the system redirects the vehicle away from the hazard.

Only the cartridges and nose assembly are expended during a design speed crash. Two types of cartridges are required, permitting convenient stocking of these easily replaceable elements. The QUADGUARD® is available for head-on design speeds up to 75 mph [120 km/h], for hazards from 24" [610mm] to 36" [916 mm] in width.

The QUADGUARD® Systems have successfully passed the complete NCHRP 350, TL3 test matrix with both light car and high center-of-gravity pickup truck at speeds up to 62 mph [100 km/h] at angles up to 20 degrees. Higher speed systems are available.

• Non-gating	Length =	7' [2.16 m] (1 bay) to
• Redirecting		40.12' [12.23 m] (12 bay)
• Non-pocketing	Width =	(standard) 24" [610 mm] Min
• Bidirectional or		(standard) 36" [916mm] Max
Unidirectional	Design Speed =	variable up to 75 mph [120 km/h]
• Partially Reusable		

APPROVALS: http://safety.fhwa.dot.gov/roadway_dept/road_hardware/barriers/pdf/cc-35b.pdf

Contact Information

Corporate Offices:
35 East Wacker Dr., 11th Floor
Chicago, IL 60601-2076
Telephone: (312) 467-6750
FAX: (312) 467-1356
<http://www.energyabsorption.com/>

QUADGUARD® SYSTEM

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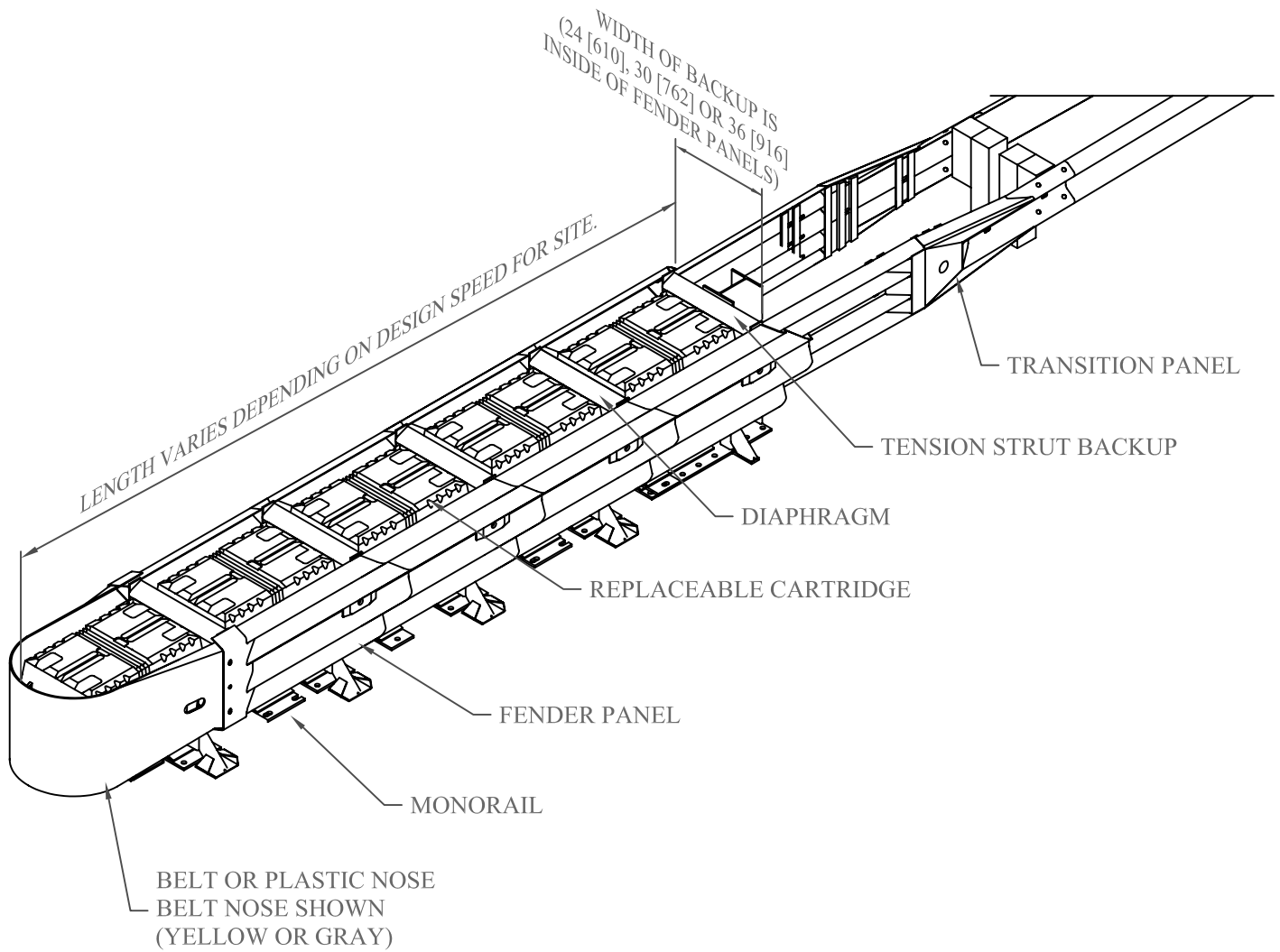
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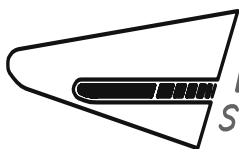
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QUADGUARD[®] CZ SYSTEM



**ENERGY ABSORPTION
SYSTEMS, INC.**

SCT02b

SHEET NO.

DATE:

1 of 2

4/19/05

INTENDED USE

The QUADGUARD[®] CZ System is a member of the QUADGUARD[®] Family designed to shield hazards in construction zones. The QUADGUARD[®] CZ offers impact protection for both light and heavy vehicles. The system may be permanently used for gore areas, bifurcations and wide hazards such as bridge piers and tollbooths, after construction is complete. It is effective against head-on and angle hits at typical highway speeds.

When hit head-on, a series of cartridges, placed between QuadBeam[™] diaphragms and surrounded by telescoping fender panels, are crushed. This action absorbs the kinetic energy from the impacting vehicle, bringing the vehicle to a stop. Hit along the side at an angle, the system redirects the vehicle away from the hazard.

Only the cartridges and nose assembly are expended during a design speed crash. Two types of cartridges are required, permitting convenient stocking of these easily replaceable elements. The QUADGUARD[®] CZ System is available for head-on design speeds up to 71 mph [115 km/h], for hazards form 24" [610mm] to 36" [916mm] in width.

The QUADGUARD[®] CZ System has successfully passed the complete NCHRP 350, Test Level 3 matrix for redirective, non-gating attenuators with both light car and high center-of-gravity pickup truck at speeds up to 62 mph [100km/h] at angles up to 20 degrees.

• Non-gating	Length =	13.12' [4.0 m] (3 bay) to
• Redirecting		31.13' [9.49 m] (9 bay)
• Non-pocketing	Width =	(standard) 24" [610mm] Min
• Bidirectional or		(standard) 36" [916mm] Max
Unidirectional	Design Speed =	variable up to 72 mph [115 km/h]
• Partially Reusable		

APPROVALS: http://safety.fhwa.dot.gov/roadway_dept/road_hardware/barriers/pdf/cc-35a.pdf

Contact Information

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QUADGUARD[®] CZ SYSTEM

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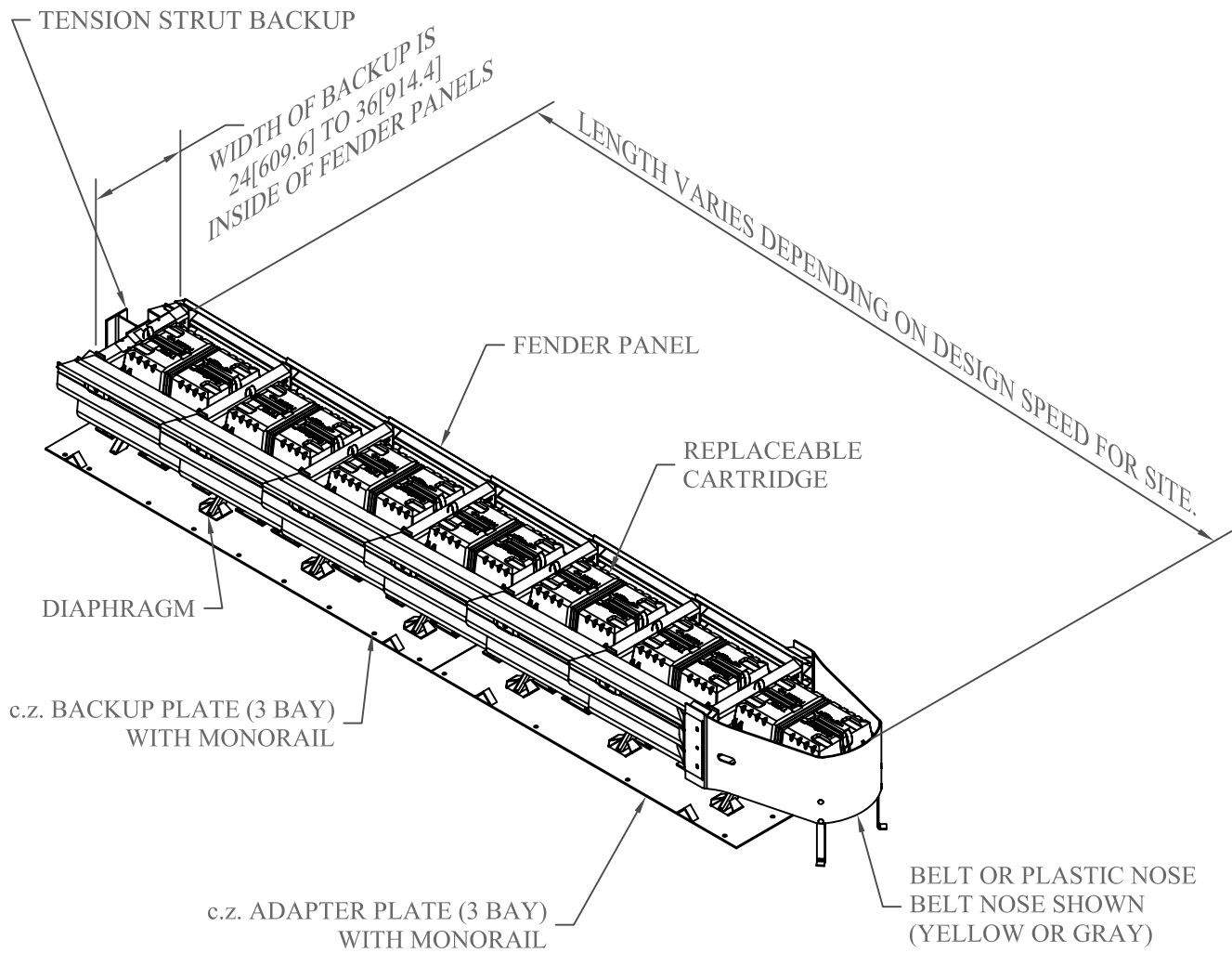
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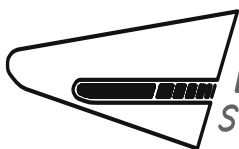
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4/19/05





QUADGUARD[®] c.z. SYSTEM ON A PLATE



ENERGY ABSORPTION
SYSTEMS, INC.

SCT02c

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DATE:

1 of 2

4/13/05

INTENDED USE

QuadGuard® CZ on a Plate is the standard QuadGuard® System with the monorail welded to a section of plate. The QuadGuard® CZ on a plate System shall consist of energy absorbing cartridges surrounded by a framework of steel Quad-beam™ guardrail which can telescope rearward during head-on impacts. The QuadGuard® CZ on a plate System shall have a center monorail which will resist lateral movement during side angle impacts and a backup which will resist movement during head-on impacts. Lifting points are provided to reposition the system in 3 bay sections. Transitions are available and may be required depending on site conditions.

The QuadGuard® CZ on a Plate System shall be available in 3 to 9 bay lengths and nominal widths of 24" [610mm], 30" [762mm], and 36" [915mm].

The QuadGuard® CZ on a Plate System has passed the NCHRP 350 TL-3, Test # 3-39 re-directive. System is 24" [610mm] wide, 6 bay [2 sections of plate], and belt nose.

Number of bays vs. plate sections is as follows:

A **3 bay system** will use **one backup** plate section.

A **4-6 bay system** will use **one backup** plate section plus **one 3 bay** plate section.

A **7-9 bay system** will use **one backup** plate section plus **two 3 bay** plate sections.

The plate is available for 24" [610mm], 30" [762mm], and 36" [915mm] wide QuadGuard® systems. The plate size is the same for all three widths. The plate is 3/8" [9.5mm] thick, 42" [1.06m] wide, 3 bay length. The QuadGuard® CZ on a Plate is designed for work zones. The QuadGuard® CZ system will only be available on the plate in the future. Available with either plastic or belting (yellow or gray) for the nose - Must specify. Supplied with 18" [457mm] threaded rods (the right quantity for one installation).

- | | | |
|-----------------------------------|----------------|----------------------------------|
| • Non-gating | Length = | 13.12' [4.0 m] (3 bay) to |
| • Redirecting | | 31.13' [9.49 m] (9 bay) |
| • Non-pocketing | Width = | (standard) 24" [610mm] Min |
| • Bidirectional or Unidirectional | | (standard) 36" [916mm] Max |
| • Partially Reusable | Design Speed = | variable up to 72 mph [115 km/h] |

APPROVALS: http://safety.fhwa.dot.gov/roadway_dept/road_hardware/barriers/pdf/cc35f.pdf

Contact Information

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QUADGUARD® CZ ON A PLATE

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