Section 1 Accreditation

1.01 Shallow mount fixed bollard system

- 1.01.1 Designation – High Security Fixed Bollard System

1.02 ASTM F2656-07 M50 / P1

- 1.02.1 Test Date August 31, 2012
- 1.02.2 Test location TRL Ltd. UK
- 1.02.3 Certification Rating M50 / P1

1.03 Test Vehicle

- 1.03.1 Make/Type International 4700 4x2
- 1.03.2 GVW 6800 Kg or 14,991 Lbs.
- 1.03.3 Speed achieved 82.9 km/h or 51.1 mph
- 1.03.4 Penetration .4 m or 1.3 ft.
- 1.03.5 Engine running after test – NO
- 1.03.6 Vehicle drivable after impact – NO
- 1.03.7 Follow on vehicle could pass barrier – NO

1.04 Product Result – Product Restrained Vehicle and was operational once reset.

1.05 Experience

- 1.05.1 The Manufacturer shall have at least 10 similar systems installed and in operation.

Section 2 System Configuration

2.01 Bollards

- 2.01.1 Minimum of a 5 bollard array for a certified product
- 2.01.2 Diameter equal to 12 in (307 mm)
- 2.01.3 Height from top of grade level to top of bollard equal to 48 in (1200 mm)
- 2.01.4 Spacing from bollard center to bollard center equal to 59 in (1500 mm)
- 2.01.5 The clear opening from bollard to bollard equal to 47 inches (1200 mm)
- 2.01.6 Optional Stainless Steel Sleeve Available

2.02 Foundation

- 2.02.1 The bollard design shall be suitable for installation on a suspended slab, structural integrity of the slab is maintained by not allowing anchor bolting of the foundation.
- 2.02.2 Excavation Depth equal to 8 in (203 mm)
- 2.02.3 Width front to back equal to 97 inches (2470 mm)
- 2.02.4 Length of 5 bollard array equal to 273 inches (6923 mm)
- 2.02.5 Concrete strength minimum of 3000 psi concrete must be used
- 2.02.6 Soil Compaction of not less than 95% maximum dry density

2.03 Biscuit design

- 2.03.1 Biscuits are modular bollard design the fit together to form a pre-fabricated high security bollard system. This design facilitates a fast and easy installation
- 2.03.2 The Biscuit design eliminates the need for rebar supporting structure and eliminates the need for site hot work.
- 2.03.3 Bollard 1 counting from left to right = T shaped biscuit 8 inches in depth
- 2.03.4 Bollard 2 counting from left to right = straight biscuit 8 inches in depth

2.03.5 Bollard 3 counting from left to right = T shaped biscuit 8 inches in depth

2.03.6 Bollard 4 counting from left to right = straight biscuit 8 inches in depth

2.03.7 Bollard 5 counting from left to right = T shaped biscuit 8 inches in depth

2.03.8 Additional Biscuit designs are available to form different geometric shapes. See Below

Section 3 Construction

3.01 Bollard Construction

3.01.1 The Gladiator system is constructed of heavy gauge steel fully welded prior to priming and painting (optional hot dip galvanizing)

3.01.2 The Gladiator Bollard includes a 16" (406 mm) top plate that is screwed to the top of the bollard.

3.01.3 Bollard are delivered mounted to steel biscuit structure, providing significant resistance to vehicle impact.

Section 4 Warranty

4.01 Warranty – the system shall carry a full 12 month parts warranty from date of delivery.

Section 5 Submittals

5.01 Drawings - will be provided to site specific requirements

5.02 Installation Manual – will be provided

Section 6 Procurement Details

The M50 / P1 Shallow Mount Gladiator product shall be purchased from

Ameristar Perimeter Security USA Inc.
1555 N. Mingo Road
Tulsa, OK 74116
www.ameristarsecurity.com