

**SECTION 34 71 13
PASSIVE VEHICLE BARRIERS**

SPEC WRITER NOTE:

1. Delete text between // _____ // not applicable to project. Edit remaining text to suit project.
2. Determine design loads required to meet the specified rating.
3. See VA Physical Security Design Manual (PSDM).

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:

SPEC WRITER NOTE: Identify general location where barriers are required.

1. Stationary anti-ram rated vehicle barriers // adjacent to perimeter security fence // at building entrances // at vehicle drop-offs // at gathering areas // _____ //.

1.2 RELATED REQUIREMENTS

SPEC WRITER NOTE: Update and retain references only when specified elsewhere in this section.

- A. Concrete Site Walls, Islands, and Curbs: // Section 03 30 00, CAST-IN-PLACE CONCRETE // Section 03 30 53, (SHORT FORM) CAST-IN-PLACE CONCRETE //.
- B. Masonry Site Walls: Section 04 20 00, UNIT MASONRY.
- C. Pipe Bollards: Section 05 50 00, METAL FABRICATIONS.
- D. Concrete Driveway and Approach Paving: Section 32 05 23, CEMENT AND CONCRETE FOR EXTERIOR IMPROVEMENTS.
- E. Asphalt Driveway and Approach Paving: Section 32 12 16, ASPHALT PAVING.
- F. Perimeter Security Fences: Section 32 31 53, PERIMETER SECURITY FENCES AND GATES.
- G. Deployable Vehicle Barriers: Section 34 75 13.13, ACTIVE VEHICLE BARRIERS.

1.3 APPLICABLE PUBLICATIONS

- A. Comply with references to extent specified in this section.
- B. ASTM International (ASTM):
 1. F2656/F2656M-15 - Crash Testing of Vehicle Security Barriers.

- C. United States Department of State (DS):
 - 1. SD-STD02.01-Revision A - Vehicle Crash Testing of Perimeter Barriers and Gates.

1.4 SUBMITTALS

- A. Submittal Procedures: Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Submittal Drawings:
 - 1. Show size, configuration, and fabrication and installation details.
 - 2. Show dimensions and clearances between barriers and other adjacent permanent construction.
 - 3. Include setting drawings and templates for anchors, // sleeves, // and other items // embedded into concrete foundations.
- C. Delegated Design Drawings and Calculations: Signed and sealed by responsible design professional.

1.5 QUALITY ASSURANCE

- 1. Test mockups verifying compliance with specified performance.

SPEC WRITER NOTE: Ensure required mockup is shown on drawings. Identify where mockup must be built.

- B. Mockups: Construct full sized // site wall // bollard array // mockup at // testing laboratory // project site // location directed by Contracting Officer's Representative //.

1.6 FIELD CONDITIONS

SPEC WRITER NOTE: Retain fabrication option for bollard vehicle barriers and when site walls contain fabricated elements.

- A. Field Measurements: Verify field conditions affecting vehicle barrier // fabrication and // installation. Show field measurements on Submittal Drawings.
 - 1. // Coordinate field measurement and fabrication schedule to avoid delay. //

1.7 WARRANTY

SPEC WRITER NOTE: Always retain construction warranty. FAR includes

Contractor's one year labor and material warranty.

- A. Construction Warranty: FAR clause 52.246-21, "Warranty of Construction."

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

SPEC WRITER NOTE:

- 1. When multiple vehicle barrier types are required duplicate paragraphs and edit to describe each system.
- 2. Coordinate products creating barriers and specified in other sections. Cross reference this section for performance system description and performance criteria.

- A. Structural Vehicle Barriers:

- 1. Site Walls: // Concrete // Masonry // Concrete and masonry //. See // Section 03 30 00, CAST-IN-PLACE CONCRETE // Section 03 30 53, (SHORT FORM) CAST-IN-PLACE CONCRETE // Section 04 20 00, UNIT MASONRY //.
- 2. Bollards: Steel pipe, concrete filled. See Section 05 50 00, METAL FABRICATIONS.
- 3. Foundations: // Permanent concrete // As indicated on drawings //.

2.2 SYSTEM PERFORMANCE

- A. Delegated Design: Prepare submittal documents including design calculations and drawings signed and sealed by registered design professional, licensed in state where work is located.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Examine and verify foundation suitability for product installation.
- B. Coordinate delivery and installation of anchors, sleeves, and other items embedded in concrete foundations.
- C. Coordinate barrier system layout and installation with // perimeter security system // and // vehicle control facilities // including:
 - 1. Driveway and approach paving. See // Section 32 05 23, CEMENT AND CONCRETE FOR EXTERIOR IMPROVEMENTS // Section 32 12 16, ASPHALT PAVING //.

2. Perimeter security fences. See Section 32 31 53, PERIMETER SECURITY FENCES AND GATES.
3. Deployable vehicle barriers. See Section 34 75 13.13, ACTIVE VEHICLE BARRIERS.

3.2 INSTALLATION

1. Site Wall Installation: See // Section 03 30 00, CAST-IN-PLACE CONCRETE // Section 03 30 53, (SHORT FORM) CAST-IN-PLACE CONCRETE // Section 04 20 00, UNIT MASONRY //.
2. Bollard Installation: See Section 05 50 00, METAL FABRICATIONS.

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