SECTION 34 71 13.19

PORTABLE VEHICLE BARRIERS
02/20

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

AASHTO GDHS-5	(2011, Errata 2012) A Policy on Geometric Design of Highways and Streets
AASHTO LTS	(2013; Errata 2013) Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals
AASHTO RSDG-4	(2011; Errata 1 2012; Errata 2 2015) Roadside Design Guide

AMERICAN WELDING SOCIETY (AWS)

AWS D1.1/D1.1M	(2015; Errata 1 2015; Errata 2 2016) Structural Welding Code - Steel

ASTM INTERNATIONAL (ASTM)

ASTM A106/A106M	(2019a) Standard Specification for Seamless Carbon Steel Pipe for High-Temperature Service
ASTM D4956	(2013) Standard Specification for Retroreflective Sheeting for Traffic Control
ASTM F2656/F2656M	(2018) Standard Test Method for Crash Testing of Vehicle Security Barriers

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE 142	(2007; Errata 2014) Recommended Practice for Grounding of Industrial and Commercial Power Systems - IEEE Green Book
IEEE C37.90	(2005; R 2011) Standard for Relays and Relay Systems Associated With Electric Power Apparatus

IEEE C37.90.1	(2013) Standard for Surge Withstand Capability (SWC) Tests for Relays and Relay Systems Associated with Electric Power Apparatus
IEEE C62.41.1	(2002; R 2008) Guide on the Surges Environment in Low-Voltage (1000 V and Less) AC Power Circuits
IEEE C62.41.2	(2002) Recommended Practice on Characterization of Surges in Low-Voltage (1000 V and Less) AC Power Circuits

INTERNATIONAL ELECTROTECHNICAL COMMISSION (IEC)

IEC 60068-2-27	(2008; ED 4.0) Environmental Testing - Part 2-27: Tests - Test Ea and Guidance: Shock
IEC 60068-2-30	(2005; ED 3.0) Environmental Testing - Part 2-30: Tests - Test Db: Damp Heat, Cyclic (12 H + 12 H Cycle)
IEC 61000-4-5	(2017) Electromagnetic Compatibility (EMC) - Part 4-5: Testing and Measurement Techniques - Surge Immunity Test
IEC 61131-3	(2013) Programmable Controllers - Part 3: Programming Languages

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)

ISO ISO/IEC 17025	(2017) General Requirements for the Competence of Testing and Calibration Laboratories

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA 250	(2018) Enclosures for Electrical Equipment (1000 Volts Maximum)
NEMA ICS 1	(2000; R 2015) Standard for Industrial Control and Systems: General Requirements
NEMA ICS 2	(2000; R 2005; Errata 2008) Industrial Control and Systems Controllers, Contactors, and Overload Relays Rated 600 V
NEMA ICS 4	(2015) Application Guideline for Terminal Blocks
NEMA MG 1	(2018) Motors and Generators
NEMA TC 2	(2013) Standard for Electrical Polyvinyl Chloride (PVC) Conduit
NEMA TS-1	(1989; R 2005) Traffic Control Systems

	(not recommended for new designs)
NEMA TS-2	(2016) Traffic Controller Assemblies with NTCIP Requirements - Version 03.07

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70	(2017; ERTA 1-2 2017; TIA 17-1; TIA 17-2; TIA 17-3; TIA 17-4; TIA 17-5; TIA 17-6; TIA 17-7; TIA 17-8; TIA 17-9; TIA 17-10; TIA 17-11; TIA 17-12; TIA 17-13; TIA 17-14; TIA 17-15; TIA 17-16; TIA 17-17) National Electrical Code

SOCIETY OF AUTOMOTIVE ENGINEERS INTERNATIONAL (SAE)

SAE J517	(2017) Hydraulic Hose

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety and Health Requirements Manual

U.S. DEPARTMENT OF DEFENSE (DOD)

DOD 8500.01	(2014; Change 1-2019) Cybersecurity
DOD 8510.01	(2014; Change 1-2016; Change 2-2017) Risk Management Framework (RMF) for DoD Information Technology (IT)

U.S. FEDERAL HIGHWAY ADMINISTRATION (FHWA)

MUTCD	(2015) Manual on Uniform Traffic Control Devices
NCHRP 350	(1993) Recommended Procedures for the Safety Performance Evaluation of Highway Features

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

21 CFR 1040	Performance Standards for Light-Emitting Products
29 CFR 1910	Occupational Safety and Health Standards
47 CFR 15	Radio Frequency Devices

UNDERWRITERS LABORATORIES (UL)

UL 486A-486B	(2018) UL Standard for Safety Wire Connectors
UL 508	(2018) UL Standard for Safety Industrial Control Equipment

UL 651	(2011; Reprint Nov 2018) UL Standard for Safety Schedule 40, 80, Type EB and A Rigid PVC Conduit and Fittings
UL 796	(2016) UL Standard for Safety Printed-Wiring Boards
UL 1059	(2001; Reprint Dec 2017) UL Standard for Safety Terminal Blocks
UL 1076	(2018) UL Standard for Safety Proprietary Burglar Alarm Units and Systems

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for [Contractor Quality Control approval.][information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government.] Submit in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Overall System Drawings; G

1.3 INSTALLATION PACKAGE

Submit Installation package 30 days after receipt of the Notice to Proceed. The installation package consists of the overall system drawings, major components and data package.

1.3.1 Overall System Drawings

Provide system assembly drawing for the portable barrier system.

PART 2 PRODUCTS

2.1 SYSTEM DESCRIPTION

Mobile / Portable barrier system consisting of a STAR assembly including steel spikes to disable a potential threat vehicle. System shall be capable of fast deployment and pick-up and shall be stored in a case with dimensions of 25"L x 10"W x 22"H or as required by contracting officer. System includes 3 units connected with cable lanyard.

2.2 FINISH AND MARKINGS

System shall consist of powder coat finish safety yellow or as specified by contracting officer.

PART 3 EXECUTION

3.1 INSTALLATION

Steps for installation shall include:
1. Remove components from case including I and X members.

2. Prop X member up and support by hand.
3. Slide I member through boxhole on X member until it comes in contact with stop bar.
4. Repeat for remaining units and connect lanyards to openings.

-- End of Section --