

SECTION 11 14 00

PEDESTRIAN CONTROL EQUIPMENT

11/18

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.

ASTM INTERNATIONAL (ASTM)

ASTM A240/A240M (2023) Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications

ASTM A666 (2023) Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate and Flat Bar

1.2 SEQUENCING & SCHEDULE

Coordinate size and location of recesses in floor slab construction for turnstile components, including anchorages for frames and supports. Furnish setting drawings, templates, and directions for installing anchorages which are to be embedded into floor slab.

1.2.1 Pre-Installation Conference

Conduct a pre-installation conference at the Project Site with the Installation team.

1.3 SUSTAINABILITY REQUIREMENTS

Materials in this technical specification may contribute towards contract compliance with sustainability requirements. See Section 01 33 29 SUSTAINABILITY REPORTING for project requirements.

1.4 SUBMITTALS

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

SD-03 Product Data

Sample Warranty; G, AE

1.5 QUALITY ASSURANCE

1.5.1 Qualifications for the Turnstile Installer

Installer with minimum 10 years of experience equipped and trained by manufacturer for installation and maintenance of units required for this Project, and who employs a Certified Inspector.

1.5.2 Pre-Installation Conference

Conduct a pre-installation conference at the Project Site with the Installation team.

1.6 DELIVERY, STORAGE, AND HANDLING

Inspect materials delivered to the site for damage; unload and store with a minimum of handling. Storage spaces must be dry locations with adequate ventilation, free from heavy dust, not subject to combustion products or sources of water, and must allow for easy access for inspection and handling. Protect materials from exposure to weather. Do not deliver until Rough Opening is complete and ready for turnstile installation.

1.6.1 Protective Covering

Package full height turnstile components individually with fasteners and installation templates; label and identify each package with door opening designation corresponding to Door Schedule.

1.6.2 Identification

Prior to delivery, mark turnstile components to correspond with shop and erection drawings placement location and erection.

1.7 WARRANTY

1.7.1 Sample Warranty

Provide manufacturer's standard warranty in which the manufacturer agrees to repair or replace components of full height turnstiles that demonstrate deterioration or faulty operation due to defects in materials or workmanship under normal use with in warranty period specified.

- a. Beneficiary: Issue warranty to the Government.
- b. Warranty Period: 1 year from the date of substantial completion.
- c. Warranty Acceptance: Owner is sole authority who will determine acceptability of manufacturer's warranty documents.

PART 2 PRODUCTS

2.1 MANUFACTURERS

Obtain full height turnstile and accessible gate components through one source from a single manufacturer.

2.2 MATERIALS

2.2.1 Stainless Steel

Provide heavy gauge materials produced to meet or exceed the strength requirements of their intended use. The materials must be free from defects impairing strength or durability of surface finish. Provide standard alloys conforming to standards and designations of ASTM A240/A240M and ASTM A666.

2.3 MANUFACTURED UNITS

2.3.1 Full Height Turnstiles

Provide complete turnstile system for the orderly control of foot traffic through security checkpoint.

- a. Pedestrian clearance: 38 inches minimum.
- b. Width: (AM0007) 75 inches minimum.
- c. Depth: 75 inches minimum.
- d. Passage Height: 84 inches minimum.

2.4 FINISHES

Comply with NAAMM's "Metal Finishes for Architectural and Metal Products" recommendations for applying and designating finishes.

2.4.1 Stainless Steel

Provide 304 stainless steel with No. 4 Satin finish.

2.5 FULL HEIGHT TURNSTILE COMPONENTS

2.5.1 Portal and Housing

Provide a fully welded portal and housing of 304 stainless steel with lockable maintenance housings.

2.5.2 Blade Rotor Assembly

Provide a three bladed rotor assembly with 11 straight crossbars each blade (14 gauge, 1 1/2 inch diameter tubes - minimum) made of 304 stainless steel.

2.5.3 Enclosure Assembly

Provide a fully welded enclosure assembly of 304 stainless steel tubing. All components shall be welded to form a one-piece unit. The radius of the shield assembly shall follow the rotor movement, guides user movement and permits internal card reader cabling.

2.5.4 Barrier

Provide a barrier element with 11 straight crossbars each blade (14 gauge, 1 1/2 inch diameter tubes - minimum) made of 304 stainless steel.

2.6 FABRICATION

Units shall be completely shop assembled, finished, and tested prior to being delivered to the jobsite for final installation. Contracting Officer shall be given the option of reviewing assembled units at the manufacturer's shop prior to shipment. Manufacturer to provide 14-day notice to General Contractor prior to shipment for inspection option.

2.7 EQUIPMENT

Turnstiles shall be complete systems with integrated security features required by Owner.

2.7.1 Turnstiles

- a. Bi-directional electric turnstiles using a heavy-duty electro-mechanical ratchet and pawl operating mechanism.
- b. Auto-indexing (self-centering) which returns the rotor assembly to the home position with adjustable shock suppression.
- c. Full integration into access control system with full control and security alerts at the Ebbing ANGB Main Vehicle Gate and Ebbing ANGB Security Control Center.
- d. Sealed top and bottom bearings for smooth rotation of blade rotor assembly.
- e. Prepare turnstile for card reader activation of rotor assembly. Provide additional remote push-button activation for turnstile from Ebbing ANGB Main Vehicle Guard Shack. Card reader provided by others.
- f. Red/Green indicator lights both sides.

2.8 OPERATION

- a. Locking and unlocking of the turnstile is accomplished by use of low voltage, 24 VDC system. Activation is by a momentary, isolated normally open dry contact closure.
- b. Electrical controls shall be provided in both entrance and exit directions. Controls shall be fail-lock in entry direction.
- c. Fail-lock shall include mechanical key release allowing free access/egress in case of emergency or power loss.
- d. Once a direction of egress is opened, it will remain open until the user proceeds through to the other side of the turnstile. Once the user proceeds through the turnstile, the reset system automatically re-locks the turnstile and readies it for the next user.
- e. Mean Cycle between failures: 4 million cycles - minimum.
- f. Power Requirements:
 - (1) Voltage: 100-240VAC 50/60 Hz.
 - (2) Network compatible CAN bus control unit integrated into unit.

(3) Refer to Division 26 Sections for wiring connections.

- g. Tailgating Control: Turnstile shall allow one rotation per authorization.

PART 3 EXECUTION

3.1 EXAMINATION

Examine full height ADA accessible turnstiles openings to determine if work is within manufacturer's required tolerances and ready to receive work. Proceed with installation once conditions affecting installation and performance of turnstiles and gate meet manufacturer's requirements.

- a. Verify recesses and supplemental framing comply with requirements on approved shop drawings.
- b. Verify electrical power and control connections are properly located and of correct characteristics.
- c. Verify recesses are dug below the slab for insertion of gate portal and concrete backfilling.

3.2 PREPARATION

Comply with turnstile manufacturer's written installation instructions and approved shop drawings.

3.3 INSTALLATION

Set units level, plumb, and true to line, with uniform joints. Maintain assembly dimensional tolerances, aligning with adjacent Work.

- a. Install enclosure panels in accordance with manufacturer.
- b. Complete connections to electrical power, lighting, and controls in accordance with requirements of respective Division 26 and Division 28 Sections.
- c. Install panels, with operators and controls. Fit, align, and adjust assemblies for smooth operation.
- d. Verify all components work smoothly and in the manner for which they were installed, including diagnostic tests for security integrated components.

3.4 ADJUSTING

Adjust operating components and hardware to produce smooth operation and tight, uniform fit. Replace damaged components and accessories.

3.5 CLEANING

Clean finished surfaces in accordance with manufacturer's written instructions. Do not use cleaning agents or methods not approved by the manufacturer. Clean exposed metal surfaces to factory new appearance.

3.6 TRAINING

Manufacturer's representative shall provide training in operation of all systems associated with turnstiles.

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