

PARKING CONTROL EQUIPMENT

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section includes the following types of parking control equipment:

1. Automatic barrier gates.
2. Vehicle detectors.
3. Ticket dispensers.
4. Card control units.
5. Cashier's booth.

B. Related Sections:

1. Cast-in-place concrete is specified in Section 03 30 00.
2. Overhead coiling grilles are specified in Section 08 33 26.
3. Electrical is specified in Division 26.

1.02 SUBMITTALS

- A. Product Data: Manufacturer's product data, specifications, installation, and maintenance instructions for each type of parking equipment required.
- B. Shop Drawings: Include plans, elevations, and details of typical members and other components. Show layout and installation details, including anchorage details.
- C. Maintenance Instructions: Provide manufacturer's instructions for maintenance of parking control equipment. Include recommended methods and frequency for maintaining equipment in optimum operating condition under anticipated traffic and use conditions. Include precautions against materials and methods that may be detrimental to finishes and performance.

1.03 QUALITY ASSURANCE

- A. Manufacturer: Regularly providing equipment of the type specified for not less than 5-years, and maintaining repair and emergency services within 48-hours after service is requested.
- B. Installer: Authorized representative of equipment manufacturer.
1. Installer shall furnish maintenance and call-back service following installation and for duration of the one-year warranty period.
 2. Service shall consist of examination of equipment, adjustments, supplies, and parts required to keep equipment in proper operation, except such adjustments, parts, or repairs made necessary by abuse, misuse, or any other causes beyond manufacturer's or installer's control.
 3. Service shall be done by trained employees during regular working hours.

4. Emergency service shall be available when called for, at additional cost, except where attributable to faulty materials or equipment.
 - C. UL and NEMA Compliance: Provide internal electrical components required as part of parking control equipment that are listed and labeled by UL and comply with NEMA standards.
- 1.04 COORDINATION
- A. Furnish to jobsite wiring diagram and layouts necessary for properly locating service conduit stubouts.
 - B. Install below-grade and embedded portions of the work in advance of construction of curbs, walks, and pavement.

PART 2 - PRODUCTS

2.01 APPROVED MANUFACTURERS

- A. American Parking Systems, Inc., Amano Cincinnati, Inc., Federal APD, Stanley Access Technologies or approved equal.

2.02 AUTOMATIC BARRIER GATES

- A. General: Provide UL approved barrier gate parking access control system.
- B. Cabinet: Fabricate gate cabinet of not less than 12-gauge cold-rolled steel sheet, reinforced internally with welded steel angle framing. Weld seams and grind smooth. Provide weatherproof gasketed access doors with flush mounted locks. Finish cabinet with the manufacturer's standard white baked enamel finish over primer system.
- C. Gate Arm: Fabricate gate arm of nominal 1-inch thick lumber, 10-feet long. Finish with the manufacturer's standard coating system with black diagonal stripes on the traffic side face. Provide a mounting flange with breakaway feature to insure a clean break if the arm is struck.
 1. Provide an automatic instant reversing mechanism which stops downward motion of the gate if the arm strikes an object, immediately returning the arm to the upward position.
- D. Motor: 1/3-HP, 115-VAC, 60-hz, single phase, instant reversing motor for operation of the gate arm. Provide an operable cam for adjustment of arm travel.
- E. Electrical: Furnish electrical control components in factory-sealed, plug-in controller. Provide a galvanized or cadmium plated box for wiring connections. Provide one 115-VAC grounded convenience outlet, "on-off" switch, "automatic-manual" switch, and overload switch protection.

2.03 VEHICLE DETECTOR LOOPS

- A. General: Provide solid state, electronic vehicle detector units designed to detect the presence or transit of a vehicle over an embedded loop of wire and emit an electrical pulse to close the barrier gate. Provide a 3-position sensitivity switch and detection indicator light on the front panel.
- B. Provide detector loops consisting of multiple strands of wire of the gauge, number of turns, size, and method of placement as recommended by the parking equipment manufacturer.

2.04 TICKET DISPENSER

- A. Provide UL approved ticket dispenser unit consisting of base cabinet and cap housing, ticket printing and issuing mechanism, ticket magazine, control panel, and electrical switches.

- B. Cabinet: Fabricate base cabinet and cap housing of not less than 12-gauge cold-rolled steel sheet, reinforced internally with welded steel angle framing. Weld seams and grind smooth.
 - 1. Provide unit with a weatherproof, gasketed access door with flush mounted lock. Fabricate cabinet cap so that it can be unlocked and slid back to allow for ticket loading and maintenance. Provide a flush mounted lock in the rear of the cap, keyed alike with the base cabinet lock.
 - 2. Equip the unit with a removable ticket tray with a capacity of 5000 fan-fold tickets.
 - 3. Provide a "Please Take Ticket" sign on the approach side of the cabinet cap and an illuminated clock face visible to the driver as the ticket is removed.
 - a. Provide units that are activated by a pushbutton.
 - 4. Finish the cabinet with the manufacturer's standard baked enamel finish over primer, interior and exterior.

2.05 CARD CONTROL UNITS

- A. Provide pedestal mounted card control units and system controller to activated barrier gates.
- B. Card Control Units: Fabricate housing of welded cold-rolled steel sheet, with weatherproof access panel on the front. Provide flush mounted lock to operate the access panel. Mount the housing on a 2-inch square steel tube pedestal with a curved top to receive the housing, and a trim plate to cover anchor bolts. Finish units with the manufacturer's standard baked enamel coating system.
- C. Operation: Insertion of a specially prepared plastic card with an inner magnetic core coding causes magnetically actuated internal elements to activate the barrier gate.

2.06 PREFABRICATED CASHIER'S BOOTH

- A. Provide manufacturer's standard prefabricated steel cashier's booth. Booth shall consist of tubular steel structural steel frame and prefinished, insulated, galvanized steel plate wall and roof panels, sliding door, and operable windows. Provide built-in cashier's work counter with storage drawer below. Equip booth with interior electric lighting, service outlets, air conditioning, and an electric heater.

2.07 ACCESSORIES

- A. Provide anchor bolts and other accessory items as required for installation and operation. Hot-dip galvanize anchor bolts and other accessory items in accordance with requirements of ASTM A153.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Furnish templates for anchor bolts and other items encased in concrete or below finished surfaces in sufficient time so as not to delay the work.

3.02 INSTALLATION

- A. Install parking equipment in accordance with the manufacturer's instructions and placement drawings.
 - 1. Coordinate placement of anchors and accessories encased in concrete with Division 3 Sections.
- B. Prefabricated Cashier's Booth: Unload cashier's booth with forklift or crane. Set booth plumb, level, and accurately aligned.

3.03 DEMONSTRATION

- A. Instruct County's personnel in the proper operation and maintenance of parking control equipment. Train the personnel in procedures to follow in the event of operational failures or malfunctions.

3.04 CLEANING

- A. After installation, clean finished surfaces. Touch up damaged shop-applied finishes as required to restore damaged areas.

3.05 SCHEDULE OF EQUIPMENT BY LANES

- A. Ingress Lane: Card reader or ticket dispenser to open barrier gate and vehicle detector loop to close barrier gate.
- B. Egress Lane: Card reader or attendant booth to open barrier gate and vehicle detector to close barrier gate.

END OF SECTION