

The Ross XT-4200-HB M50-P1 Post and Beam Gate features a unique rising beam actuated by a highly reliable, electromechanical drive system. Crash tested with a 24' clear opening, the barrier is not only a cost effective solution for securing wide entrances, it's also designed to reduce maintenance and operating costs. It is also engineered to integrate seamlessly into the Ross XL-501-TF Post & Beam Fence to create a turnkey perimeter security solution. For more information, please call our toll-free number above or visit our website.

## SECTION 323102

### ANTI-RAM GATE

(ROSS XT-4200-HB)

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
1. Post and rising beam anti-ram barrier.

##### 1.2 SUBMITTALS

- A. Product Data: Submit manufacturer's product data for each type of product.
- B. Shop Drawings: Submit shop drawings including the following:
1. Complete list of equipment, materials, and manufacturer's descriptive and technical literature.
  2. Complete wiring and schematic diagrams, and details required to demonstrate that the system has been coordinated and will properly function as a unit.
  3. Proposed layout and anchorage of equipment and relationship to other parts of the work, including foundation and clearances for maintenance and operation.
- C. Reports and Certifications: Submit the following:
1. Crash Test Report: Provide a copy of the crash test report summary, from an independent, ISO 17025 accredited test facility, showing assignment of the ASTM F2656 M50-P1 rating.
- D. Operations and Maintenance Manuals: Submit at least two copies of operating and maintenance instructions at least two weeks prior to installation.
1. Operating Instructions: Include step by step procedures required for system startup, operation, and shut down. Also include the manufacturer's name, manufacturer's contact information, model number, parts lists, and brief description of all equipment and their basic operating features.
  2. Maintenance Instructions: Include maintenance schedule, routine maintenance procedures, troubleshooting and repair procedures, and spare parts list.
- E. Warranty: Submit executed copy of manufacturer's warranty.

### 1.3 QUALITY ASSURANCE

- A. Installer: Minimum 2 year documented history of installing similar equipment, authorized and certified by the manufacturer. Installer shall accept responsibility for all field verifications, underground utility locations, and coordination of all controls and interfaces to the units. Installer shall be capable of bonding projects to relevant project amounts, and acceptable liability and vehicle insurance.
- B. Manufacturer's Services: If requested by the Owner, provide services of a manufacturer's representative who is experienced in the installation, adjustment, and operation of the equipment. The representative shall inspect the final installation and supervise final hookup, adjustment, and final testing of the equipment.

### 1.4 DELIVERY, STORAGE AND HANDLING

- A. Store equipment in a location protected from the weather, humidity, temperature variation, dirt and dust, or other contaminants. Store materials on sleepers or pallets and protect from rust and objectionable materials such as dirt, grease or oil.

### 1.5 WARRANTY

- A. Warranty: Provide manufacturer's standard limited warranty.

## PART 2 - PRODUCTS.

### 2.1 MANUFACTURER

- A. Basis-of-Design Manufacturer: Ross Technology Corporation, 104 North Maple Avenue, Leola, PA 17540. Toll-free 800-345-8170. www.rosstechnology.com. No substitutions.

### 2.2 ANTI-RAM GATE

- A. Anti-Ram Gate: Ross XT-4200-HB by Ross Technology Corporation complying with the following:
  - 1. Crash Performance: Crash tested in accordance with ASTM F2656-15 and assigned a rating of M50-P1. Vehicle weight 15,000 pounds, impact speed 50 mph.
  - 2. Barrier Assembly: Structural steel, below grade beam well with a structural steel beam that retracts into the well to allow passage of authorized vehicles; beam is flush with roadway surface when installed, with side posts to position and guide the motion of the beam.
  - 3. Concrete Foundation: 3000 psi (20.7 MPa) Portland Type 1 concrete with an industry standard cure time of 28 days. Normal maximum aggregate size shall be 1.5 inches (38 mm). Vibrate concrete to fill all voids. Rebar shall comply with ASTM A615 grade 60 and factory-attached to the gate posts.
  - 4. Raised Height: 38.5 inches (978 mm) to top of beam.
  - 5. Barrier Clear Opening Width: 24 feet (7.31 m) tested/certified width, with additional widths available.
  - 6. Barrier Capabilities: 120 complete up/down cycles per hour during continuous normal operation.
  - 7. Barrier Motion: Reversible in either direction. Beam shall rise from the down position to the fully deployed position in approximately 4-5 seconds.
  - 8. Barrier Drives:

- a. Main power supply, 240/480 volts AC, 3 phase, 60 Hz.
  - b. Low maintenance motors with motor brakes and gearboxes.
  - c. Chain drive system.
9. Failure Mode of Operation: Include manual brake release and extended motor shaft to allow for raising or lowering the barrier in the event of control or motor malfunction. Components shall be accessed via a panel integrated into the beam top caps.
  10. Repair: Barrier posts shall have removable top caps and the capability of removing the electric drive units for replacement or repair, without replacement of the entire barrier.
  11. Fence Integration: Posts shall include provisions for installation of ends of sections of Ross XL-501-TF Post & Beam Fence.
  12. [Optional] Accessories:
    - a. Beam Well Heater: For areas of extreme conditions such as blowing snow or icing conditions with ambient temps of below 40 degrees Fahrenheit.
    - b. Uninterrupted Power Supply (UPS): Provides back-up power for limited barrier operation in the event of power outage.
    - c. Traffic Control Lights: Alerts drivers to the position of the barrier. Includes LED lights with pole and stand for mounting.
    - d. Signal Gate Arm: Alerts drivers of the barrier position. The gate operation shall be interfaced with the barrier at the control circuit. The control circuit shall close the gate on the barrier "up" command and open the gate on the barrier "down" command.
    - e. Vehicle Loop Detector: Prevents the barrier accidentally rising under an authorized vehicle. When a vehicle is over the detector loop (wire supplied by installer) the barrier "up" signal is interrupted.
    - f. Custom Motor Covers: Designed to match project requirements.
    - g. Additional Accessories: Based on project requirements.
- B. Controls:
1. Provide a control panel and control circuit to interface between all barrier control stations and the barrier.
  2. Control stations are defined as the master control panel and the slave control panel.
  3. Control circuit shall function through the use of industrial Programmable Logic Control (PLC). The PLC must be off the shelf item available through world wide distribution, and not a proprietary item.
  4. PLC shall incorporate variable frequency motor drives for motor control.
  5. Direct Interface with Auxiliary Equipment: Card readers, remote switches, loop detectors, traffic lights, proximity readers, numerical pads, etc., made possible through connection to a main terminal strip.
  6. Additional control options are available. Contact manufacturer to discuss other options.
- C. Master Control Panel:
1. Supply a 19 inch rack mount or standard desk mount main control panel to control barrier functions. Provide buttons to raise and lower each barrier. Include barrier "UP" and "DOWN" indicator lights for each barrier or barrier array. The main control panel shall have a switch to arm or disable the remote control station if a remote slave control panel is required.
  2. [Optional] Supply touch-screen control panel that integrates all barrier controls on a single screen.
  3. Additional buttons and controls are available based on site operation needs.
- D. Remote Slave Control Panels:

1. Remote control panels shall have a panel "ON" light that is lit when enabled from the main control panel. Provide buttons to raise and lower the barrier. Include barrier "UP" and "DOWN" indicator lights for each barrier or barrier array.
2. Additional buttons and controls are available based on site operation needs.

E. Finish:

1. Hot-dip galvanized per ASTM A123.
2. [Optional] Wash primer after hot-dip galvanizing per ASTM A123.
3. [Optional] Factory wash primer and finish after hot-dip galvanizing per ASTM A123; polyurethane top coat. Select colors from manufacturer's color range.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine substrates and site conditions for compliance with requirements for installation tolerances and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 INSTALLATION

- A. Install products in strict accordance with manufacturer's instructions and approved submittals. Locate units level, plumb, and in proper alignment with adjacent work. Use concealed anchorages where possible.
1. Protect adjacent areas against damage; repair or patch damaged areas. Restore damaged finishes so no evidence remains of corrective work.
- B. Foundation: Excavate and construct forms as required to required foundation size and depth and place concrete in accordance with ACI standards. Perform backfilling by layering and tamping into place crushed limestone base material to 95 percent compaction.
- C. Pavement: After level placement and installation of the vehicle barrier, place pavement sections to match the section and depth of the surrounding pavement. New pavement shall match the elevations of existing pavement and vehicle barriers. Slope pavement to provide positive drainage.
- D. Post and Trough Drainage: Provide drain connections in each barrier post. Make hookups to approved storm drains.

#### 3.3 FIELD TESTING AND TRAINING

- A. Notify Owner's representative at least 7 days prior to beginning of the field test.
- B. Upon completion of construction, perform a field test for each vehicle barrier. The test shall include raising and lowering the barrier, both electrically and manually, through its complete range of operation.
- C. Continuously cycle each vehicle barrier for not less than 30 minutes to test for heat build-up in the electrical drive system.
- D. Installer shall furnish equipment and make necessary corrections and adjustments prior to test witnessed by the Owner's representative. Changes to site conditions and adjustments and

repairs to barrier system shall be performed at no additional cost to the Owner or manufacturer. If adjustments are made to ensure correct functioning of components, complete field tests and cycle tests shall be performed after adjustments are made.

- E. Provide a field-training course for designated operating staff members by the installer. Field training shall cover all of the items contained in the operating and maintenance instructions.

#### 3.4 ADJUSTING AND CLEANING

- A. Clean exposed surfaces using methods acceptable to the manufacturer which will not damage finish.

END OF SECTION

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