



PROSPER FIRE RESCUE

FIRE MARSHAL'S OFFICE

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Emergency Access Controlled Gate Systems

Effective October 1, 2018, the Prosper Fire Marshal's Office personnel shall resume conducting all field inspections and acceptance testing for "New and Remodel Commercial Construction Fire Service" under a construction permit issued by the Building Inspections Department.

Emergency vehicle access onto properties that are equipped with automatic security gates or vehicle access/egress gates installed across required fire lanes shall follow the following guidelines. Each gate requires a separate permit.

General Notes

- A separate permit is required for each automatic gate. (An approved site plan **is not** a permit)
- The gate motor shall be the type that the drive gear disengages on power failure.
- The City approved Knox® key switch (KS2) shall be used for 24-hour Fire Department access. The emergency key switch, when activated, shall by-pass any occupant control and/or loop systems. When activated, the gate will remain in the open position for 20 minutes.
- Only when the gate control equipment times out after 20 minutes, will the gate resume normal operations
- The key switch shall open both the entrance and exit gates when gates are in close proximity to each other.
- The Knox® key switch shall be mounted 5 ½ feet above grade. *(See Figure 1- Location Shown on Plan)*
- The key switch shall be located below a sign labeled "FD ACCESS". *(See Figure 2 – Control Equipment Installation Diagram)*
- The minimum clear opening width shall not be less than the width of the required fire lane or access drive. The gate and/or its components shall not encroach on the minimum fire lane width (24-feet, 26-feet, **30-feet**) and the minimum unobstructed height of 14 feet shall be maintained.
- Gate operator(s) shall open at a rate of one foot per second. Parking barrier arms will open or clear in approximately two seconds.
- In the event of power failure, the gate shall open freely. It shall be capable of manual opening by one person of average stature.
- Gate systems shall comply with UL 325 and ASTM F 2200.
- Emergency vehicle preemption devices shall be provided on all automatic gates that obstruct a fire apparatus road/fire lane. Each receiver shall be a dual head type in the direction of travel. Typically referred to as Opticom or Tomar. *When activated via the receiver, the gate(s) shall remain open for 20 minutes. The Red emergency light shall remain activated while the gates are open.*

Primary or Main Gate

- The primary gate is defined as the drive or access point(s) designed as a primary point of ingress/egress for emergency vehicles.
- Gate signage shall comply with (*Prosper Sign Requirements*)
- The following access systems shall be installed on all Primary Gates:
 - Dual Head Opticom IR platform receiver, or equivalent. Shall be bi-directional.
 - KS2 Knox® Switches
 - Electrical Disconnect
 - Red Emergency Activation strobe

Automatic Secondary Gates (including Main Gates to Storage Facilities)

- A Secondary Gate is the drive or access point designed as a secondary or back-up means of ingress/egress for emergency vehicles.
- The following access systems shall be installed on all Secondary Gates:
 - Dual Head Opticom IR platform receiver, or equivalent. Shall be bi-directional.
 - KS2 Knox® Switches
 - Electrical Disconnect
 - Red Emergency Activation Strobe Light
 - “Exit Only Sign” (*See Figure 3*, must meet Prosper sign requirements)

Pedestrian Gate

- Pedestrian gates shall open fully with a minimum clear span of 48 inches and be provided with a latch or other means of securing them in the open position. Automated pedestrian gates shall open freely upon loss of power. When required by the Fire Marshal, one or multiple pedestrian gates shall be released by a Knox Lock or by a key switch mounted in an approved box.

SYSTEM ACCESS COMPONENTS

Emergency Vehicle Preemption IR Platform Receiver

- Shall be mounted 8 to 10 feet from grade.
- Shall be located behind the access gate (property side).
- Shall be mounted on a 4” x 4” metal post, not on guidepost, and shall be cemented 18” below grade.
- Detectors shall activate a minimum of 150-feet from the gate.
- Each gate shall have two individual detectors or an approved dual strobe switch.
- Detectors shall point towards the **APPROACH** and **EXIT** path of the emergency vehicle.
- Detectors’ sight path shall be free of visual obstructions such as signs, covered parking canopies, and vegetation.
- Individual detectors shall be mounted together with the power module in a dual detector-mounting box, or with an approved dual strobe switch. *Three head detector shall be used for 90 degree turning layouts.*

Knox® Series 3500 Key Switch

- Knox® key switches shall be provided as a manual backup.
- The entrance Knox® switch shall be located above the property's keypad, 5 ½ feet from grade.
- The exit Knox® switch shall be located on the 4"x 4" preemption post, **recessed** 5 ½ feet from grade with the detectors.
- Upon activation of the key switch, the affected gate shall automatically open to a locked open and disabled condition. The system will require a manual reset to close the gates after emergency activation.
- A sign identifying "FD ACCESS" shall be mounted above the KS2 Switch. *See Prosper Sign Requirements.*

Red Emergency Activation Strobe

- All automated gates must also be equipped with one flasher unit and one external lamp assembly with a red globe and guard to be mounted separately from the enclosure.
- The light shall be visible from both sides of the gate, be mounted at the top of the fence within two (2) feet of the gate opening and flash upon the gate being activated by the emergency vehicle preemption system or key switch.
- The strobe shall continue to flash as long as the gate is held open by the emergency access system.

Numbered Keypad

- Public safety access shall be installed at a readily accessible location at each automated drive gate for public safety personnel who may require entry in other emergencies.
- The numbers making up the code shall be determined by the Fire Marshal and shall be consistent on all gate systems installed throughout the Town. The numbers shall not be changed unless ordered by a written, notarized directive from the Fire Marshal's office.

Electrical Disconnect

- The gate shall be opened by means of an electrical power disconnect switch in a weatherproof box:
- The box shall be red
- The box shall be mounted on the entry side of the gate within five (5) feet of the gate
- The box shall be at least five (5) inches high and five (5) inches wide
- The box shall be clearly labeled "Fire Dept." in white letters one inch tall with one-quarter inch stroke
- A Knox® padlock shall secure the box
- The box must be clearly visible and accessible

Electrical Equipment Protection

- All electrical equipment shall be protected from physical damage and weather by approved weather tight boxes or housings per NFPA 70.

911 Pin-Lock System for Swing Type Gates

- The 911 Pin-Lock system shall be incorporated into all swing type security gates to provide a manual release for the fire department. In addition, the owner can disconnect the swingarm without contacting the fire department. (*See Figure 4 – 911 Pin-Lock System*).

Performance Test

- Gates and gate systems shall be tested by the Fire Marshal's Office upon completion of the installation.
- All Fire Department Signage must be in place prior to acceptance testing.
- Gates shall not be placed in operation until the acceptance test is complete and approved.
- **Re-inspection fee** – If the system is red-tagged, there may be a re-inspection fee of **\$150 per re-inspection**.

Each Plan Submission Shall Include:

- Town of Prosper Construction Permit Number.
- Site plan indicating the locations of all vehicle access gates.
- Type of gate to be used and a list or diagram of components shall be indicated at each location.
- Scope of Work.
- Manufacturer's Equipment Specification sheets.

NOTE: All signs must meet specifications as outlined in the Fire Department Sign Specifications

- Figure 1: Property side of gate example
- Figure 2: Control equipment entrance diagram example
- Figure 3: Exit Only sign diagram with FD Access
- Figure 4: 911 – Pin-Lock System for Swing type Gate

Figure 1 - Property Side of Gate



Figure 2 - Entrance Diagram

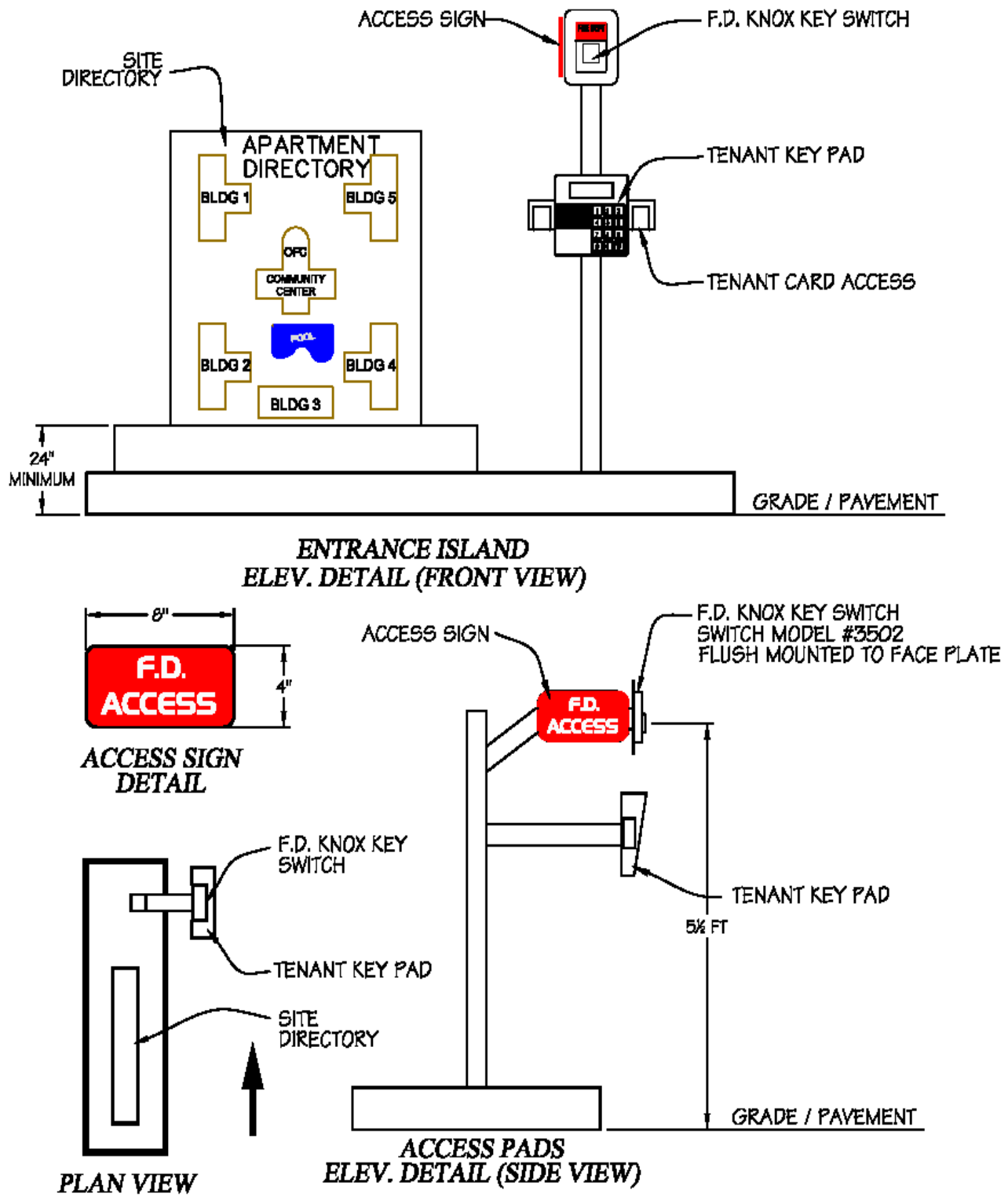


Figure 3 - Exit Only Sign Diagram with FD Access

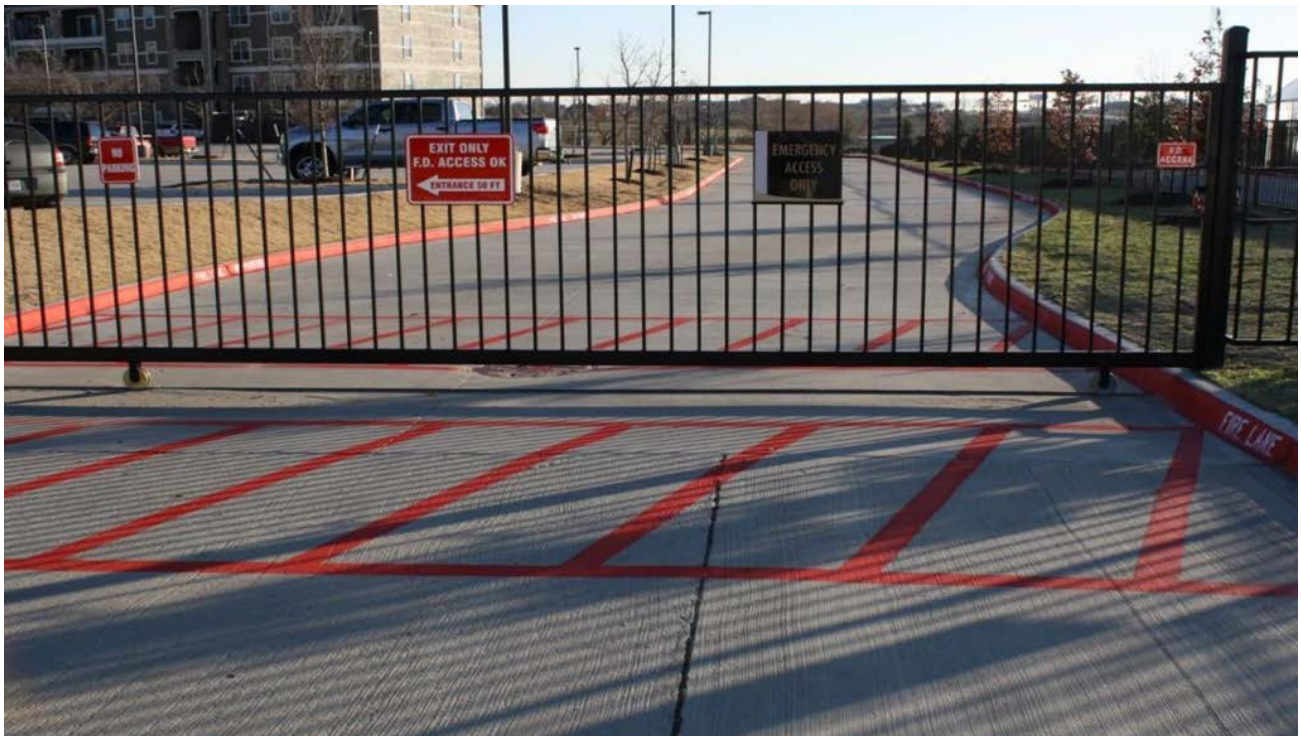
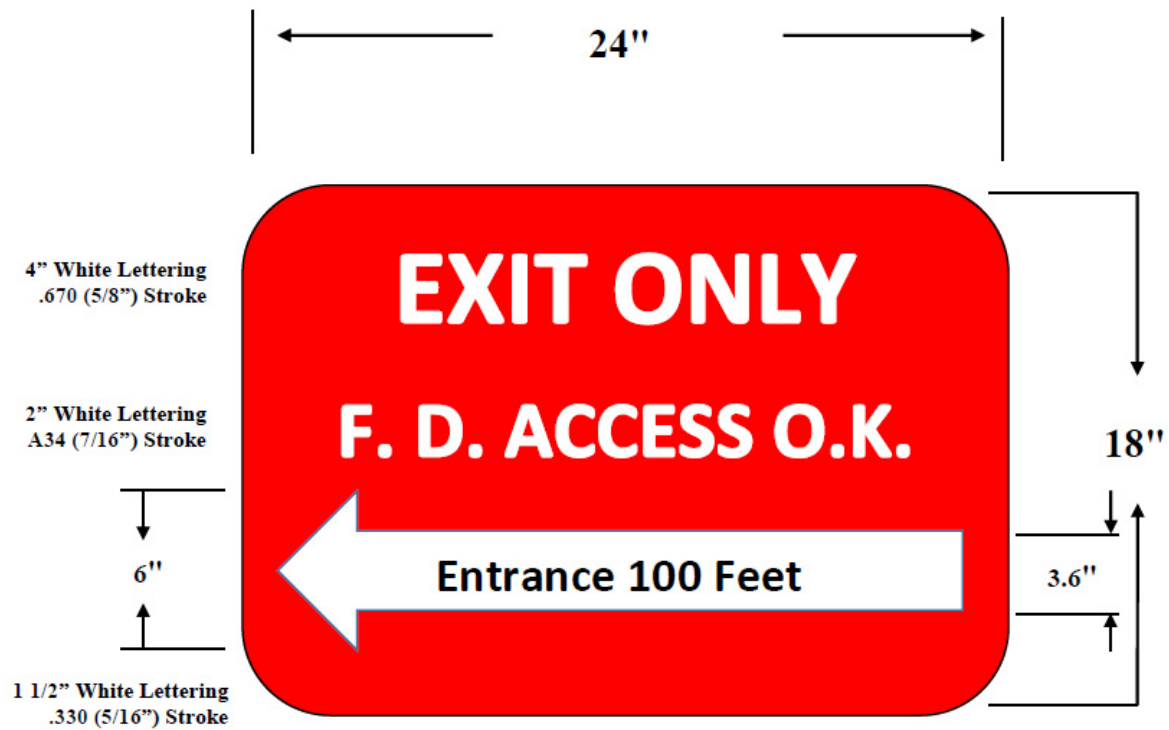


Figure 4 – 911 Pin-Lock System for Swing Gates

The 911 Pin-Lock Too™ allows a swing gate to meet fire department requirements for a manual release, while still allowing the consumer to disconnect the gate arm from their gate without having to call the fire department.



The 911 Pin-Lock Too™ incorporates two blocks and one double pin.



Secure the bottom block with a 3/8" diameter and a 1" x 1" shackle padlock. Insert the other end of the pin-up through the gate bracket and the swing gate arm.



Place the other block on the pin and secure with a Knox™ Padlock.