Houston Fire Department
Life Safety Bureau (LSB)

LSB Standard No. 04, Rev. 06

Access Control Gates

Supersedes: LSB Standard No. 04, Rev. 05, 11/02/21

Effective Date: 01/01/2024

LSB Standards are established in accordance with provisions of the City of Houston *Fire Code*. They are subject to the administrative sections covering alternative materials and methods, modifications, and the Board of Appeals.

Table of Contents

Access Control Gates

Section 4.1 – General

4.1.1 Scope.

This standard addresses the provisions and maintenance of adequate and unobstructed emergency access for fire department apparatus and personnel to buildings, structures, hazardous occupancies, or other premises, as may be required by the Fire Code Official, Chief of the Houston Fire Department, and the *Fire Code*, within the City of Houston

4.1.2 Purpose.

The purpose of this standard shall be to provide clarification of requirements and guidance to the person charged with providing and maintaining required fire department access to premises in compliance with the *Fire Code*. The provisions of this standard are general in nature and are not intended to override the specific requirements of City of Houston *Code of Ordinances* or the *Fire Code*.

This standard is subject to periodic review and update to accommodate changes in local needs or requirements, changes in nationally recognized standards, changes in related technology, or changes in state or federal regulations.

Notice: Where references in this standard are made to products manufactured by “Falcon Locks” and related 9-1-1 boxes, certain products manufactured by the “Knox Company” have been approved for voluntary use in lieu of “Falcon Lock” products and the 9-1-1 boxes. All key boxes shall comply with UL 1037.

Approved items manufactured by the “Knox Company” may be referenced online at www.knoxbox.com.

The following is a list of “Knox Company” products that are allowed to be used inside the City of Houston city limits:

Fire Depository Box
Electrical Shutdown Box
Keyswitch
Padlock
FDC 2½ inch Locking Cap
SecureCap
Cabinets (1300 Series)
3200 Series Box, Single-Key Style, ONLY with the hinged lid.
4400 Series Box

Section 4.2 – Definitions

4.2.1 “9-1-1” Box.

A secure device with a lock or locking mechanism operable only by a fire department master key that contains a release or deactivation device for an access door, gate, or barrier. In addition, the device may contain such information as required by the fire department to affect safe and ready access to a property, building, or structure in event of an emergency.

4.2.2 Access Control Gate or Barrier.

Any gate or barrier placed across a fire apparatus access road to restrict other vehicles access or other use. Access control barriers may include, but are not limited to: chains, bars, barricades, or similar devices or construction. Tire spikes shall not be used to restrict a fire apparatus access road.

4.2.3 “9-1-1” Padlock.

An approved “9-1-1” padlock that may be applied to “9-1-1” gate operations, obtainable only from certain gate companies or contractors. Only authorized emergency service personnel retain keys to these padlocks.

4.2.4 “9-1-1” Mortise Cylinder.

A type of lock used with the operation of electronically controlled gates. This is a keyed device that causes a gate to open when a “9-1-1” key is inserted in the mortise cylinder keyhole and turned. Only authorized emergency service personnel retain keys to these devices.

4.2.5 Fire Apparatus Access Road.

A road that provides fire apparatus access from a fire station to a facility, building, or portion thereof. This is a general term inclusive of all other terms such as fire lane, public street, private street, parking lot lane, and access roadway.

4.2.6 “Fail-Safe” Operation.

A manual operation of electronic gates and barriers that can be used in the event of power failure or equipment malfunction.

4.2.7 Gate Operation.

A gate operation or function, such as: manual, electronic, swing arm, chain drive; entry devices (such as a card reader, keypad, or telephone); direction of gate swing; and fail-safe methods.

4.2.8 Key Box.

A secure device with a lock operable only by a fire department master key and containing building entry keys and other keys that may be required for access in an emergency.

4.2.9 Private Drive.

A privately owned and maintained access way used for vehicular travel that is not a street or private street and that provides an unobstructed connection between one or more

streets or private streets or from a street or private street to any portion of a parking lot, shopping center, institution, commercial area, or industrial or residential development.

4.2.10 Private Street or Road.

A privately owned and maintained vehicular access way that provides access from a public street to one or more multi-family residential buildings.

4.2.11 Public Street.

A public right-of-way, however designated, dedicated, or acquired, that provides access to adjacent property.

4.2.12 Reader/Reader Appliance.

A device such as a card reader, swipe card reader, key punch, telephone, or similar device that when activated will provide for the unlatching, unlocking, or opening of an access control gate or barrier.

4.2.13 Security Fencing.

Barriers of any construction type or material installed around a structure, group of structures, or parcel of land to prevent unauthorized access.

Section 4.3 – General Requirements for New and Existing Buildings

4.3.1 Approval Required.

Approval from the Fire Code Official shall be obtained *prior* to installation of an access control gate or barrier on or across a required fire apparatus access road. Access control gates that are connected to an alarm system or that allows for monitoring or logging or egress/ingress are required to be installed by a Department of Public Safety (DPS) licensed individual in accordance with Chapter 1702 of the Texas Occupations Code.

4.3.2 Permits Required.

A permit is required to install and maintain an access control gate or barrier on a fire apparatus access road, or a private drive or private street, utilized for fire apparatus access. A permit is also required to install or maintain a Key Box. Permits shall be obtained prior to construction and/or installation and prior to plan review. Permits for a “9-1-1” box is not required if the property has a permit for the gate.

Permit Office contact information is as follows:
The Houston Permitting Center
1002 Washington Avenue
Houston, Texas 77002
Hours of operation: 8:00am to 3:30pm (CST)
Monday through Friday
Office phone: (832) 394-8811
To E-mail Customer Service Questions: hfd.permitoffice@houstontx.gov
Link to City Wide Fee Schedule: www.houstoncityfees.org

4.3.3 Plans Required.

Plans for access control gates and barriers on required fire apparatus access roads shall be submitted to the Fire Code Official or designee for review and approval prior to construction.

4.3.4 Existing Gates and Barriers.

Existing access control gates and barriers on required fire apparatus access roads shall be approved in accordance with this standard. Modifications to previously approved gates and barriers shall not be made without authorization from the Fire Code Official or designee.

Exception: Access control gates and barriers previously approved by the Fire Code Official.

4.3.5 Security Fencing.

Where security fencing is installed, pedestrian gates shall be installed at intervals as required by the Fire Code Official to meet minimum hose lay requirements. Approved means of unlocking/unlatching shall be provided at each gate.

4.3.6 Padlocks.

Padlocks shall not be oversized, of hardened material, or have hidden shanks. Padlock shanks shall be accessible with bolt cutters at all times.

Section 4.4 – Specifications

4.4.1 Minimum Opening Widths – General

The clear width of gates in the open position shall be in accordance with this section. The Fire Code Official shall have the authority to require increases in the minimum opening widths where they are inadequate for fire or rescue operations.

4.4.1.1 Gates on Dedicated Private Streets, At the Entrances to Residential Development Projects.

1. Two 14-foot gates that open to provide access to the full 28-foot street width at a project entrance; or

   Note: The 28 feet of access is also required when the gate is operated using a “Fail-Safe” method.

2. One 28-foot gate that opens to provide access to the full 28-foot street width at a project entrance; or
3. Two gates, a minimum of 13-foot width each, with a maximum of 2 feet allowed in the middle of a private street for readers or similar devices and/or center post at a project entrance. (13 feet + 2 feet for a reader + 13 feet = 28 total feet minimum); or
4. Where any private street is less than 28 feet in width (for example, where there are 20-feet streets divided by esplanades), then the entire width of the street

shall be accessible without any obstruction in the street when the gates are open. The width of the gates may vary to accommodate the width of the street.

Note: All openings or access points from public streets to the private streets in a residential development project are considered to be “entrances” by definition.

4.4.1.2 Gates on Private Drives at Entrances to Residential Development Projects.

1. One 14-foot gate that opens to provide at least 14 feet of access width where the drive is less than 28 feet; or
2. Two gates, a minimum of 13 feet wide each, where the drive is 28 feet wide; or.
3. One 28-foot gate that opens to provide at least 28 feet of access where the drive is 29 feet wide.

4.4.1.3 Gates on Fire Apparatus Access Roads, At Other Than Residential Developments.

Access control gate/barriers shall have an unobstructed width of not less than 20 feet.

Exception: When approved by the fire code official, existing access control gate/barriers may have an unobstructed width of not less than 15 feet (4572 mm) when the reduction in width will not impair access by fire department equipment. (2021 IFC 503.2.1)

4.4.2 Vertical Clearance.

Vertical clearances along all portions of required fire apparatus access roads shall comply with LSB Standard No. 03, Fire Department Access.

4.4.3 Hold Open Devices.

All swing gates and barriers shall be provided with “Duckbill” catches or similar devices behind the gate that will hold the gate open until the catch is manually released. Hold open devices on electrically powered gates shall only engage when the gate is operated in fail-safe mode.

Section 4.5 – Operation

4.5.1 Electrically Powered Gates and Barriers – General.

Electrically powered gates shall be provided with a “9-1-1” box containing a microswitch or toggle switch that, when activated, will engage the gate motor and cause the gate to move into the fully open position. A “9-1-1” mortise cylinder may be used in place of a “9-1-1” box. Electrically powered gates shall also be provided with a fail-safe mechanism that will allow for emergency operation in the event of power failure or equipment malfunction. Swing gates and barriers shall open inward (toward the property).

4.5.1.1 “9-1-1” Box Installation (Gate Motor Operation).

The “9-1-1” box controlling electronic gate operation shall be affixed to the gate post and mounted so that the top of the box is five (5) feet from the ground. If two electrically powered gates are installed at an entrance, the “9-1-1” box shall operate both gates.

Exception: The “9-1-1” box may be mounted in conjunction with a gate entry system, such as a keypad or card reader.

4.5.1.2 “9-1-1” Mortise Cylinder Installation.

1. “9-1-1” mortise cylinders shall be totally enclosed with the cylinder facing the drive (as an emergency vehicle would view on approach).
2. The system shall be incorporated with the entry system and mounted not less than five (5) feet in height from the road surface. The road surface is the private street, private drive, or access road.
3. Operators with no entry systems shall be placed on the gatepost or the column and mounted 42 inches in height.
4. If two electrically powered gates are installed at an entrance, the mortise cylinder shall operate both gates.

4.5.1.3 Fail-Safe Operation – General.

All fail-safe operations shall be manual. Electric and battery backup fail-safe methods are prohibited.

4.5.1.3.1 Electronically Powered Slide Gates and Barriers.

A “9-1-1” box and conduit housing a pull-type cable system that will release the drive chain in the event of power failure or equipment malfunction shall be affixed to all electronically powered slide gates.

4.5.1.3.2 Electronically Powered Swing Gates and Barriers.

The operating arm of electronically powered swing gates shall have a pin that, when removed, will allow for manual operation of the gate. The pin may be secured with a “9-1-1” padlock, or other lock. If other than a “9-1-1” padlock is used, a key to the lock shall be provided in the “9-1-1” box that contains the means of gate motor operation. The pin shall be installed so that it will fall to the ground when the lock is removed.

4.5.2 Manually Operated Gates and Barriers – General.

Manually operated gates and barriers shall be secured by one of the methods listed in Section 4.5.2.1 through 4.5.2.4.

4.5.2.1 Chains.

Chains shall be of a diameter and material that allows them to be cut with bolt cutters used by the Houston Fire Department. The chain may be secured with a “9-1-1” padlock, or other lock. If other than a “9-1-1” padlock is used, a key to the lock shall be provided in a key box affixed to the fence post.

Note: A “9-1-1” padlock linked with another padlock shall be permitted in lieu of a dedicated key box.

4.5.2.2 Fold Down Hinges.

Fold down hinges affixed to the driving surface may be secured with a “9-1-1” padlock, or other lock. If other than a “9-1-1” padlock is used, a key to the lock shall be provided in a key box affixed to the fence post. The gate or barrier shall open automatically by springs or counterweight, and the hinge shall fall flat towards the project property when the lock is removed.

4.5.2.3 Mortise and Tenon.

A mortise and tenon may be secured with a “9-1-1” padlock, or other lock. If other than a “9-1-1” padlock is used, a key to the lock shall be provided in a key box affixed to the fence post.

4.5.2.4 Cables.

The use of cables is prohibited.

4.5.3 Gates on High Voltage Electric Fences.

Gates used in conjunction with a High Voltage Electrical Fence as allowed by Section 28-10 of the City of Houston *Code of Ordinances* shall not be electrically charged and shall be designed so that when the gate makes contact with any part of a charged fence, the fence and gate will ground. Signs shall be placed on gates (other than the main entrance as approved by the Fire Code Official) stating: “**9-1-1 High Voltage Key Box Located at Main Entrance**”. Signs shall be yellow in color with letters in contrasting color and shall be of a size that is readily visible at all times. Gates used with a High Voltage Fence shall comply with all other applicable regulations found in this standard and the Houston *Fire Code*.

4.5.4 Automatic Swing or Slide Gates.

The gate shall be twenty (20) feet in width. A “9-1-1” Box and a “Fail-Safe” Box shall be installed on the gatepost at a height not to exceed five (5) feet. When approved by the fire code official, the “9-1-1” Box and the “Fail-Safe” Box may be combined. For “9-1-1” Box specifications and details, see Appendix P.

4.5.4.1 Electrically Powered Gates.

The “9-1-1” Box shall be provided with an electrical switch (toggle or micro-switch with button). Moving the toggle switch to the “Up” position will cause the gate to swing open towards the project or roll or slide to a fully open position. The micro-switch shall automatically activate once the hinged lid on the “9-1-1” Box is opened (see Appendix G). The gate shall remain open until the toggle switch is returned to its original position.

4.5.4.2 Falcon Mortise Cylinder “9-1-1” Box.

Mortise cylinder “9-1-1” boxes shall be in accordance with Appendix E.

4.5.5 Approval Requirement.

4.5.5.1 Letter of Explanation.

A letter of explanation, submitted by the gate contractor, shall be provided to the Fire Marshal’s Office for approval that explains the scope of work associated with the

installation in detail, including details of the operational function of the system and shall include, but not be limited to:

- The type of operation (function) applicable to the “9-1-1” Box (Mortise cylinder, toggle switch, key, etc.).
- How the “Fail-Safe” system works. (The “Fail-Safe” must be able to be activated on the *same side of the gate* as the “9-1-1” Box. A firefighter *shall not* be required to insert an arm through a gate to use a “Fail-Safe” key or other device.)
- Manual override operations are required on electrically operated gates.
- Gates must open without delay.
- Other necessary information.

4.5.5.2 Requirements for Drawings (Plans) of Gates/Barriers.

Plans shall include, but not be limited to, the following minimum specific information:

- Width of the gate/barrier openings.
- Type of gate or barrier operation: slide, swing, etc.
- Distance from the public road to the gates/barriers; minimum 30 feet. Applies to multi-family only.
- Distance from the gate to the reader.
- Location of the reader.
- Location of the “9-1-1” Box.
- Location and type of any hold open device.
- Location and type of any automatic opening device.
- Any vertical clearance obstruction.
- Confirmation that all gates are to automatically open and remain open until closed manually.
- Gates/barriers must remain open at all times until a fire prevention inspector has made a final “on-site” inspection and approval.

4.5.5.3 Additional Requirements.

Where required by the Fire Code Official, the following shall be provided:

1. The Fire Code Official recommends that the “9-1-1” Box be equipped with access capability (such as a reset button or similar device) on the project side of the property so that the property management can close the gate after emergency responders leave the property.
2. Gate width openings during NORMAL or FAIL-SAFE operations shall be the same as required for the width of the private street, private drive, or access road. The full required width of the private street, private drive, or access road shall be available for use.
3. Gates/barriers shall open towards the project property, opening away from the emergency responders that may be entering the property.
4. A pin used in a “Fail-Safe” assembly shall be installed such that when the lock is removed, the pin will readily fall toward the ground (automatic swing arm gates).

5. The holes, such as the lock hole in the “9-1-1” Box or the pinhole in some “Fail-Safe” systems that use a lock, pin, or similar device shall be large enough that the lock, pin, or similar device can be easily removed.
6. Readers, telephone entry devices, or other entry devices installed within the width of a private street, private drive, or access road shall be made readily visible by means of reflective material. At least fifty percent (50%) of the height of the mounting device, pole, column, etc., shall have the reflective material provided.

Appendix A – Automatic and Manual Swing Combination Gate

The figure in Enclosure No. 1 illustrates an example of automatic entry with one automatic gate and one manually operated gate. Both gates will be 14 feet in width. A “9-1-1” Box and a “Fail-Safe” Box will be installed on the gate post at a height not to exceed 5 feet. For details and specifications of a “9-1-1” Box, see Appendix F, ““9-1-1” BOX AND RE-SET BOX.” The “9-1-1” Box is provided with an electrical switch (toggle or micro-switch with button). Moving the toggle switch to the “Up” position will cause the gate to swing open toward the project. The micro-switch will automatically activate once the hinged lid on the “9-1-1” Box is opened (see included drawings). The gate shall remain open until the toggle switch or hinged opening is returned to its original position.

Note: When approved, the “9-1-1” Box and the “Fail-Safe” Box may be combined.

Fail-Safe.

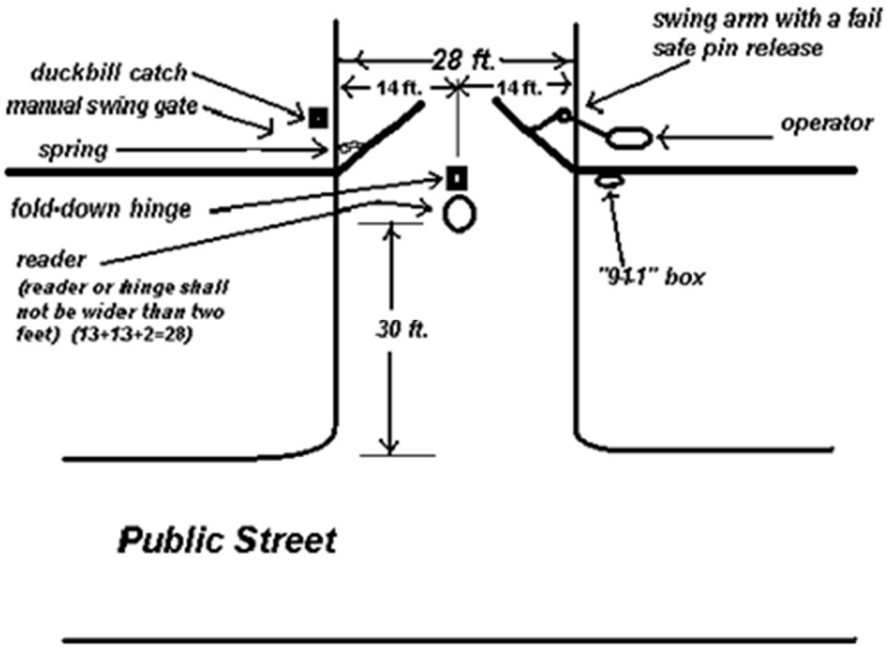
If the power is off, a key provided from the “9-1-1” Box will unlock the lock attached to a pin in the arm of the operator causing the pin to fall out, thereby making the gate manually operable. In the manually operated mode, the gate shall open to the full width of the street, drive, or access road. “Duckbill” catches behind the gate will hold the gate open until manually closed or repairs are made to return the gate to normal operation, as approved. See Enclosure No. 2 and 3. When the gates are open, the full required width of the street, drive, or access road will be available for emergency use.

Fold-Down Hinge, Duckbill, and Similar Approved Devices.

The other gate is a manual 14-foot “9-1-1” Access Gate. The key located in the “9-1-1” Box is the same key used to unlock the lock on the automatic gate. The key opens the lock located on a fold-down hinge (see Appendix K). When the lock is removed, the hinge falls down flat towards the project property on the street, drive, or access road, and the gate opens automatically by springs or a counterweight. “Duckbill” catches behind the gate will hold the gate open until manually closed.

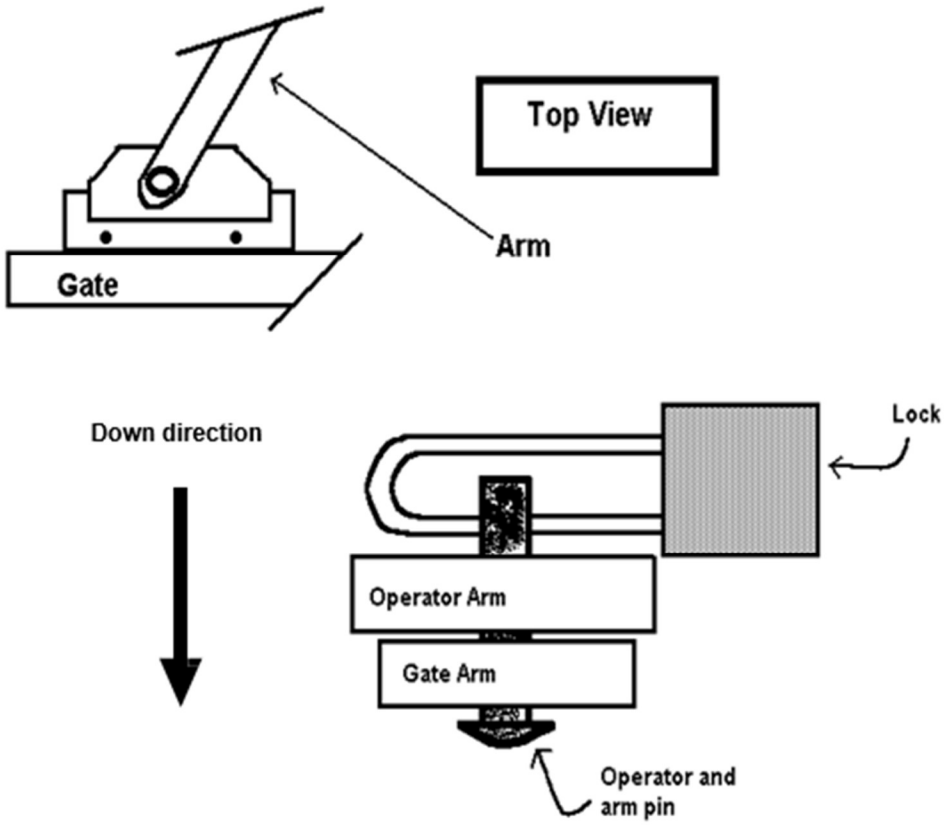
Note: Hydraulic swing operated gates are not allowed at this time. (Hydraulic operated swing gate operations are under review for consideration at this time.)

Enclosure No. 1 – Automatic and Manual Swing Gate Combination



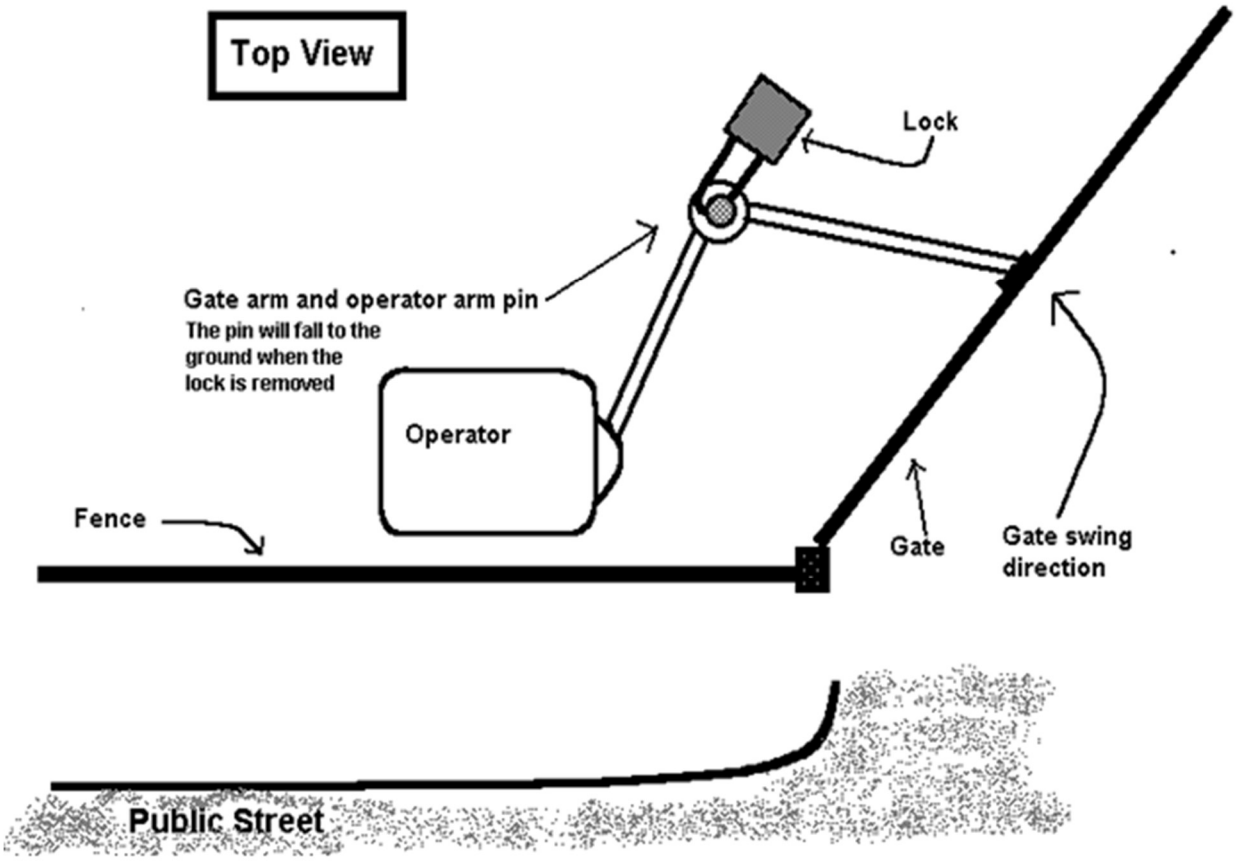
Note: The gate width opening is at least the same as required for the width of the private street, private drive, or access road.

Enclosure No. 2 – "Fail-Safe" On A Swing Gate Arm



Note: A pin used in a "Fail-Safe" assembly shall be installed such that when the lock is removed, the pin shall readily fall toward the ground.

Enclosure No. 3 – "Fail-Safe" On Swing Gate



Note: When the operator and the gate arms are activated in the normal mode or in the "Fail-Safe" mode, the gate shall open such that the full required width of the street, drive, or access road will be available for emergency use.

Appendix B – Manual Swing and Automatic Slide Gate

The figure in Enclosure No. 1 below illustrates an automatic entry with one automatic slide gate and one manual gate. Both gates will be 14 feet in width. A “9-1-1” Box and a “Fail-Safe” Box will be installed on the gate post at a height not to exceed 5 feet. For details and specifications of a “9-1-1” Box, see Appendix F, ““9-1-1” BOX AND RE-SET BOX.” The “9-1-1” Box is provided with an electrical switch (toggle or micro-switch with button). Moving the toggle switch to the “Up” position will cause the gate to swing open toward the project. The micro-switch will automatically activate once the hinged lid on the “9-1-1” Box is opened (see included drawings). The gate shall remain open until the toggle switch or hinged opening is returned to its original position.

Note: When approved, the “9-1-1” Box and the “Fail-Safe” Box may be combined.

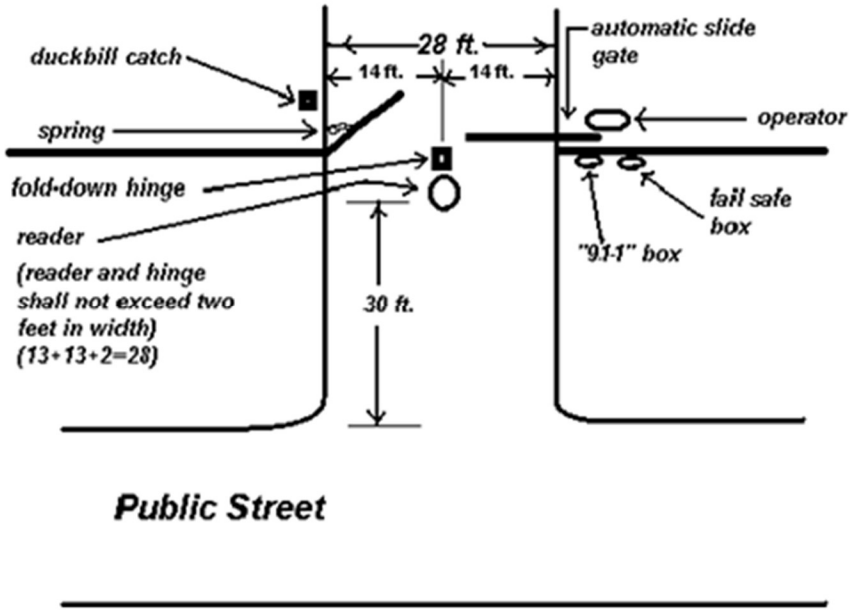
Fail-Safe:

The manual disconnect on the automatic slide gate will be comprised of a pull cable connected from a lock box (“Fail-Safe” Box) located on the outside edge of the gate near the “9-1-1” Box.

The adjustment bolt and a “pull pin” will pull apart at the chain so that when the cable is pulled the chain will drop at the rear of the gate. The padlock key for the gate “Fail-Safe” Box will be located in the “9-1-1” Box. The key shall be labeled for use with the “Fail-Safe” Box (drawing included).

The other gate is a manual 14-foot gate. The key located in the “9-1-1” Box is the same key used on the automatic gate “Fail-Safe.” The key opens a lock on the fold-down hinge. When the lock is removed, the hinge will fall down flat on the street, drive, or access road and the gate opens automatically by springs or a counterweight. “Duckbill” catches behind the gate will hold it open until manually closed. When the gates are open, the full required width of the street, drive, or access road will be available for emergency use.

Enclosure No. 1 – Manual Swing and Automatic Slide Gate



Note: The gate width opening is at least the same as required for the width of the private street, private drive, or access road.

Appendix C – 13-Foot Automatic Slide Gates

Two 13-Foot Automatic Slide Gates on a 28-Foot Access with a 2-Foot Appliance Allowance
(*Appliances such as: card reader, keypad, telephone, etc.*)

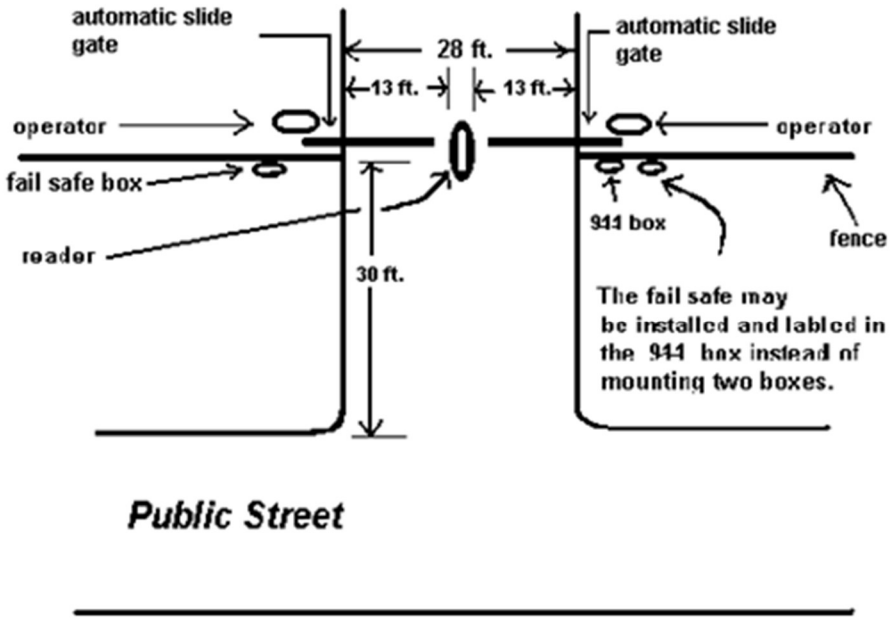
Gate drawing shows an automated entry with two 13-foot automatic slide gates on a 28-foot access road. The “9-1-1” Box will be mounted on the public street side of the gate as would be viewed by an emergency vehicle.

Fail-Safe.

Describe the “9-1-1” Box and the “Fail-Safe” feature in detail (as described in Appendix A).

The “9-1-1” Box (or an extra box if desired) will provide a manual “Fail-Safe” release (pull cable) that allows the gate to be rolled out into a full open position by manually pushing the gate. This release is functional with or without power. The gate will remain open until closed manually.

Two gates at 13 feet each are allowed if a reader is installed in the center of the access road. The reader assembly shall not exceed 2 feet in width on a 28-foot access, and 13 feet of access shall be maintained free and clear on each side of the reader.



Appendix D – 14-Foot Automatic Slide Gates

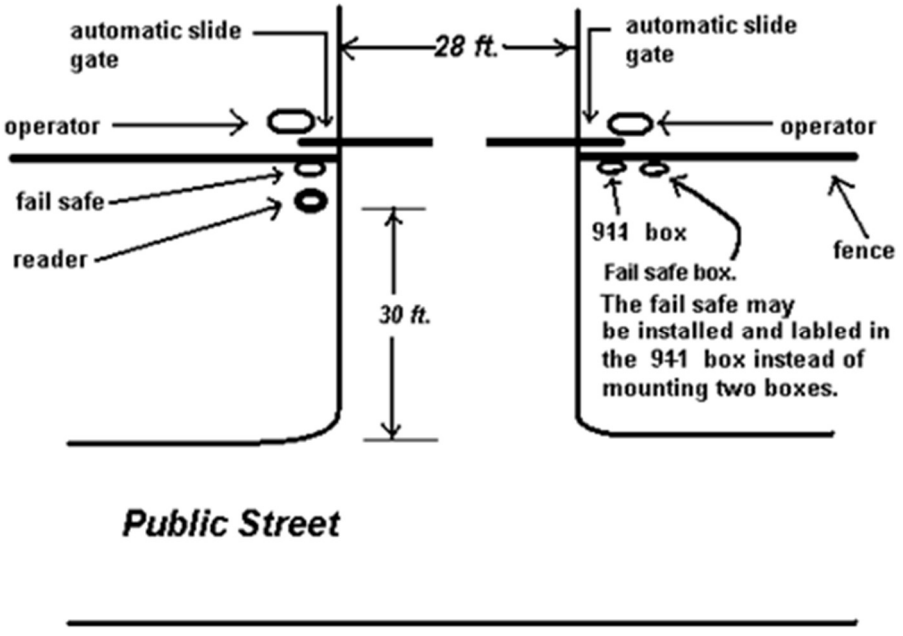
Two 14-Foot Automatic Slide Gates with No Appliances Within The 28-Foot Access

The drawing below shows an automated entry with two 14-foot automatic slide gates on a 28-foot access road. The “9-1-1” Box will be mounted on the public street side of the gate as would be viewed by an emergency vehicle. This design is referred to as a “European Entry” which allows a free and clear 28-foot width. This is the preferred and recommended method for private streets because appliances such as readers are to the side of the access and there are no obstructions within the 28-foot street width.

Fail-Safe.

Describe the “9-1-1” Box and the “Fail-Safe” feature in detail (as described in Appendix A).

The “9-1-1” Box (or an extra box if desired) will provide a manual “Fail-Safe” release (pull cable) that allows the gate to be rolled out into a full open position by manually pushing the gate. This release is functional with or without power. The gate will remain open until closed manually.



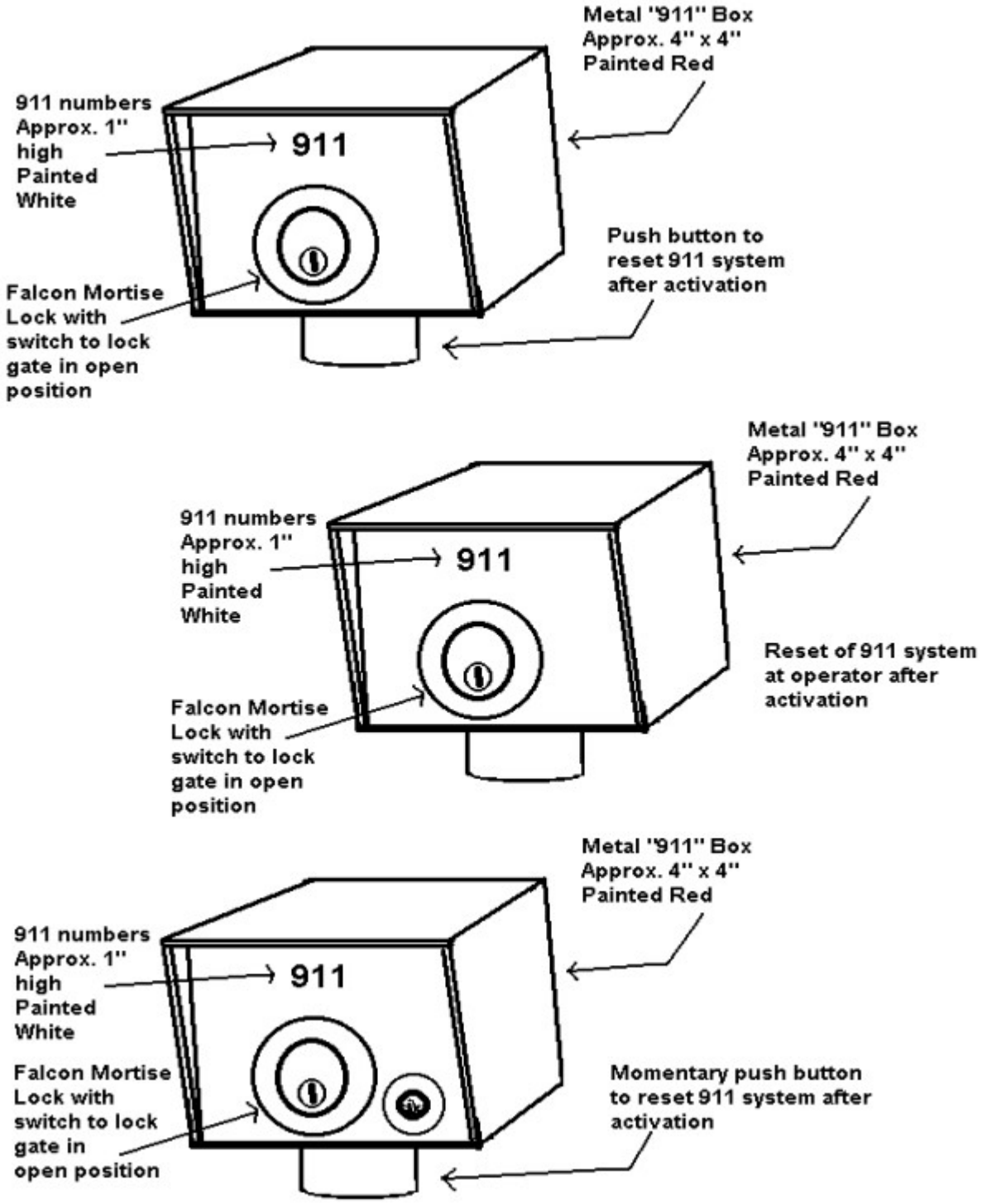
Appendix E – Falcon Mortise Cylinder “9-1-1” System

Optional – Approved Falcon Mortise Cylinder “9-1-1” System

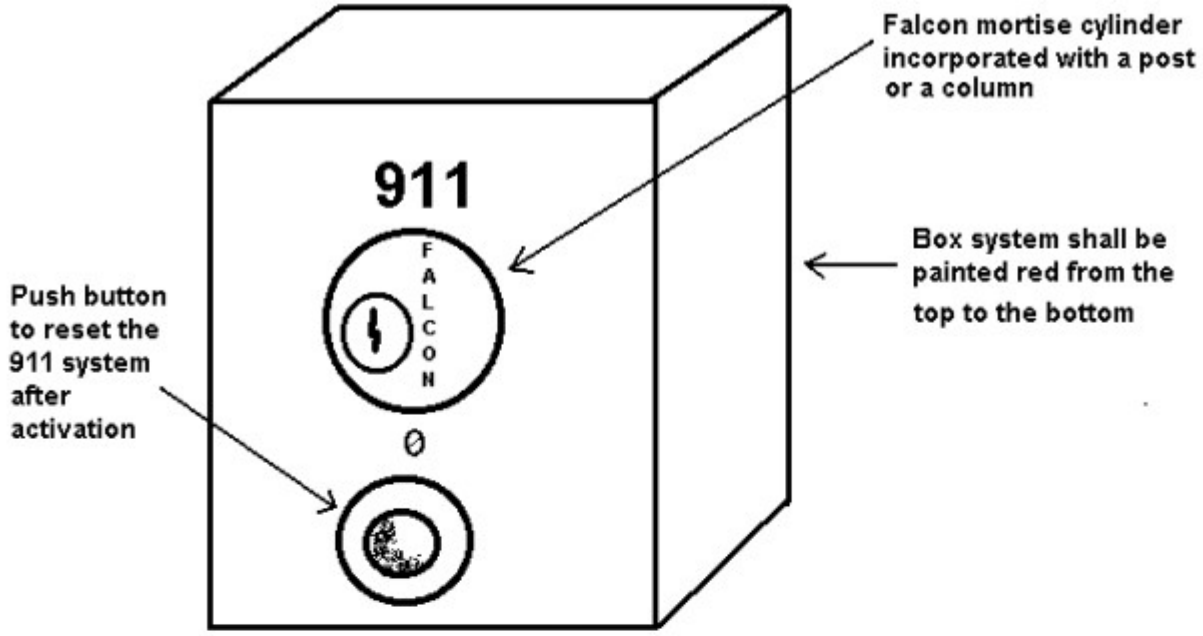
1. “9-1-1” Mortise Box shall be totally enclosed with a mortise cylinder facing the drive (as an emergency vehicle would view on approach).
2. System shall be incorporated with the entry system and mounted not less than 5 feet in height from the road surface. The road surface is the private street, private drive, or access road.
3. Operators with no entry systems shall be placed on the gatepost or the column and mounted 42 inches in height.

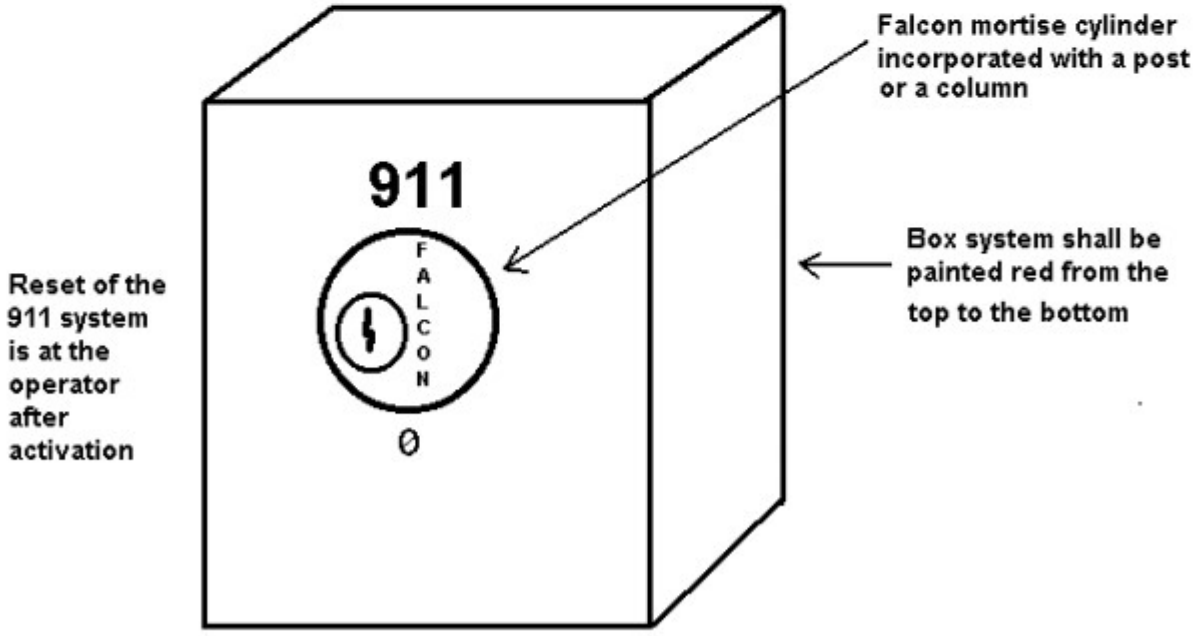
For examples of “9-1-1” Mortise Boxes see Enclosure No. 1 below:

Enclosure No. 1 – “9-1-1” Mortise Cylinder Boxes

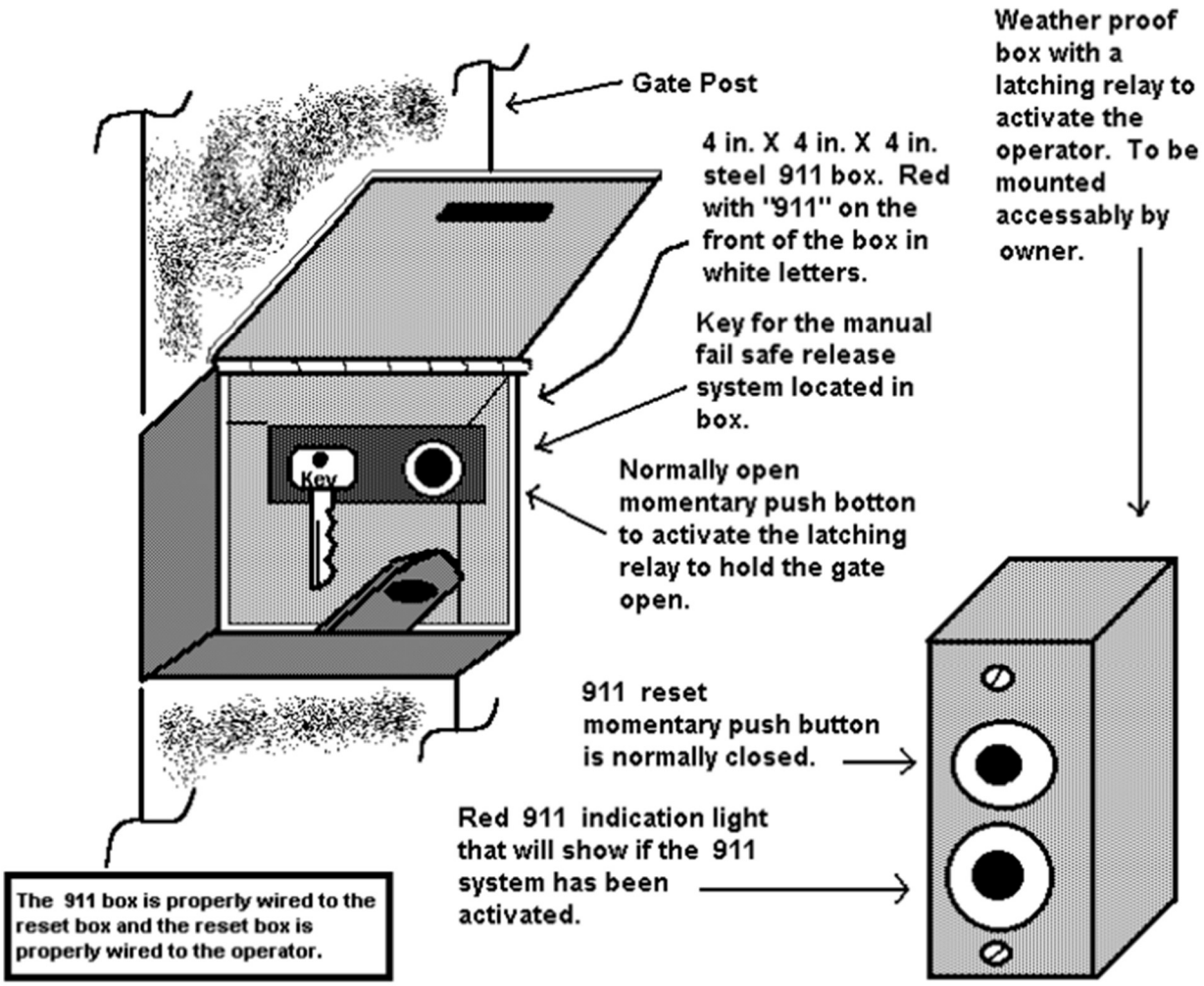


Enclosure No. 1 – "9-1-1" Mortise Cylinder Boxes (Cont.)



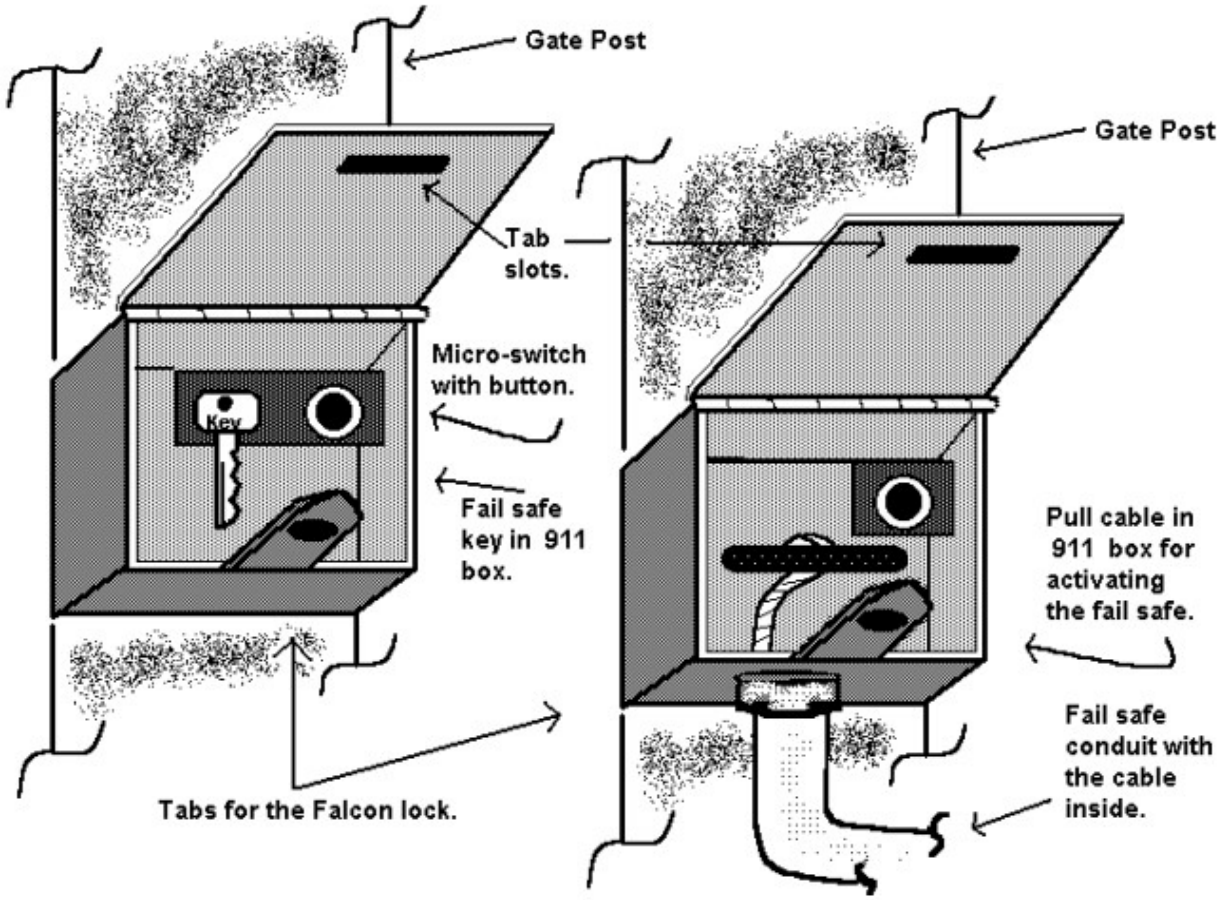


Appendix F – “9-1-1” Box and “Re-Set” Box

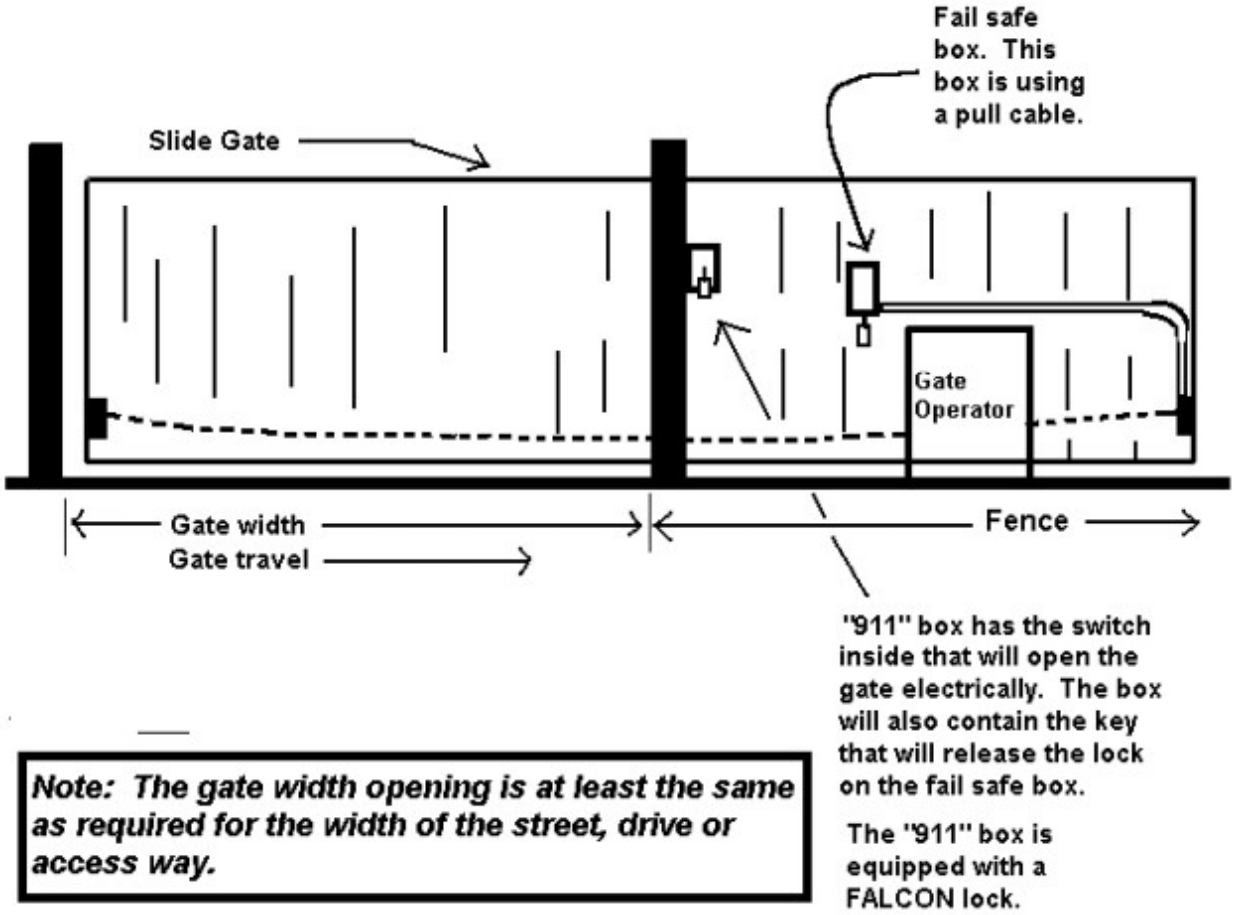


Appendix G – Automatic System Using A Micro-Switch

“9-1-1” Box is mounted on the gate post, facing the public street at five (5) feet above the ground level, or at the highest point on any gate post under five feet.

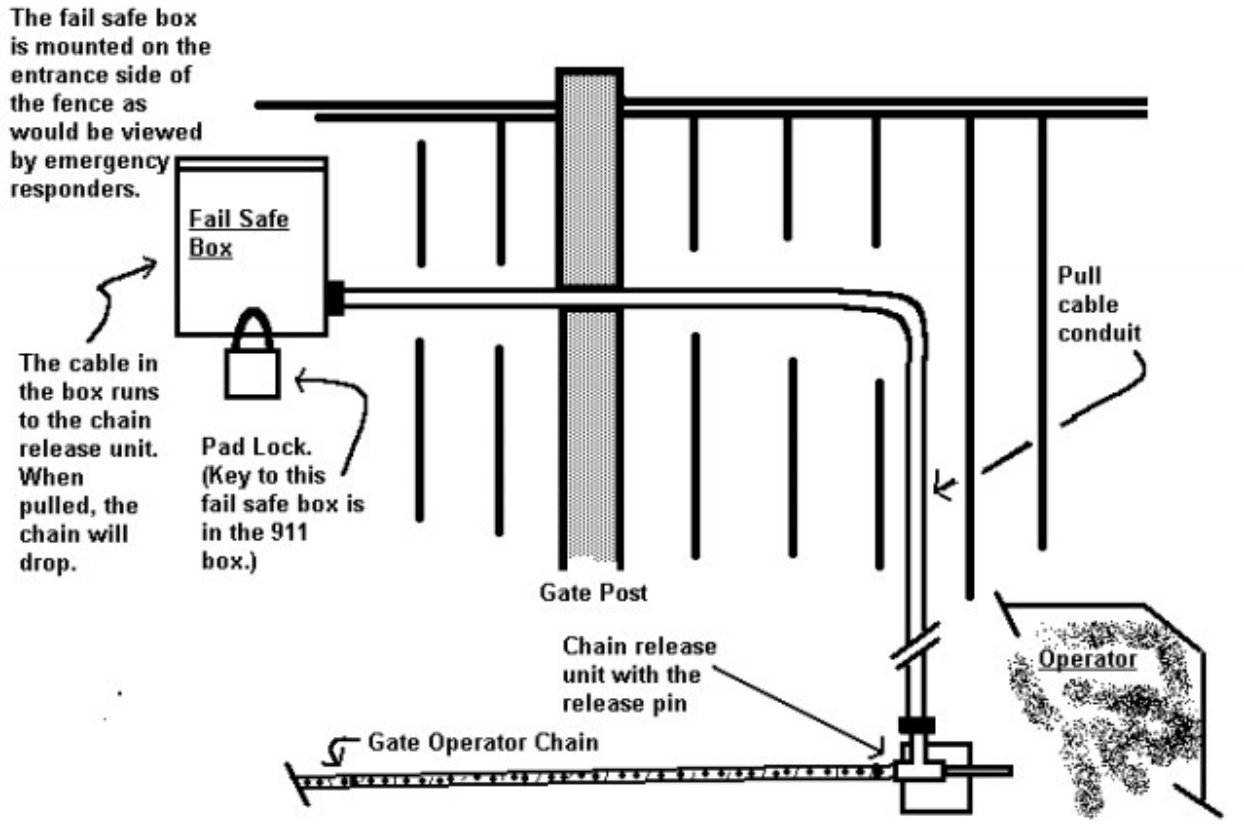


Appendix H – “9-1-1” and “Fail-Safe” Systems on Electric Gates

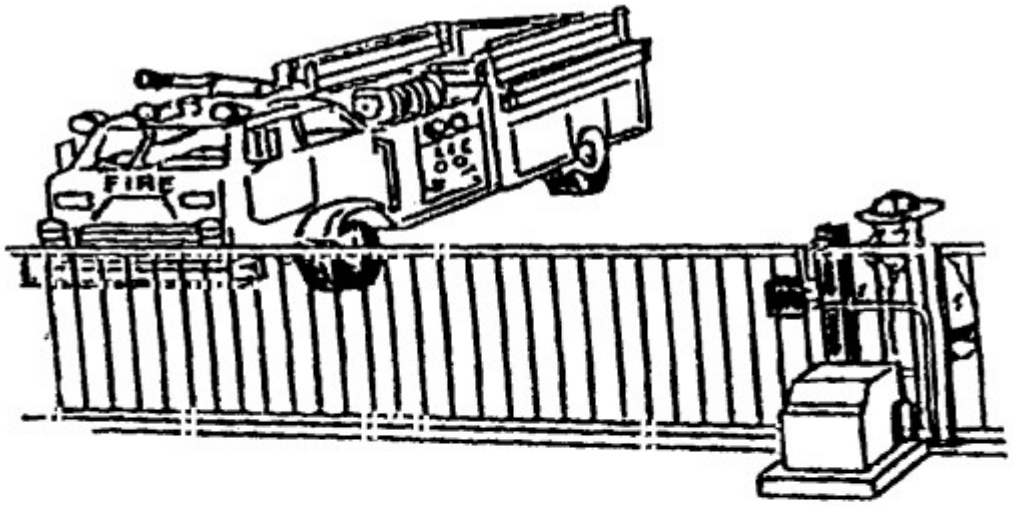


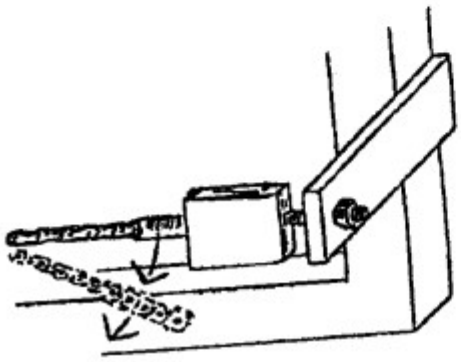
Note: The gate width opening is at least the same as required for the width of the street, drive or access way.

Appendix I – "Fail-Safe" Cable Assembly on Electrically Operated Swing Gates



Appendix J – “Fail-Safe” Emergency Illustration



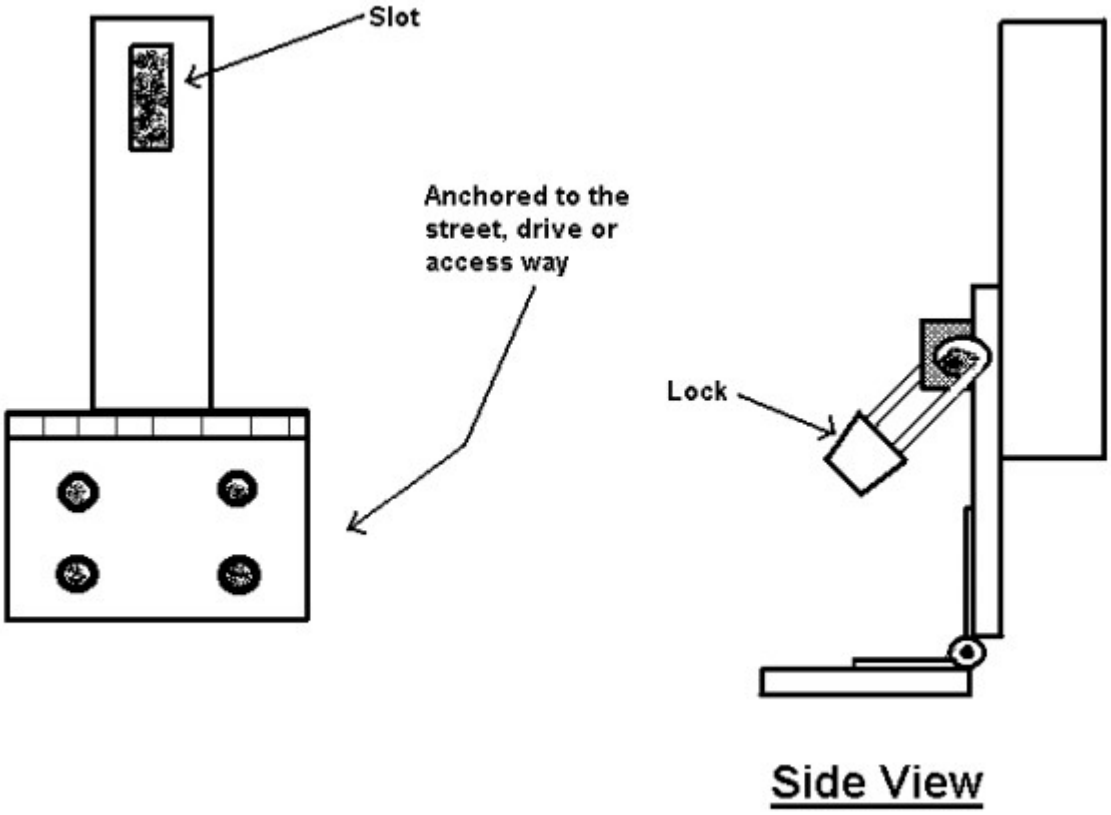


In this illustration, the firefighter or other emergency responder unlocks the Falcon Lock located on the “9-1-1” Box. He will pull the handle on the cable that causes the gate operator chain to be released as shown in the lower drawing.

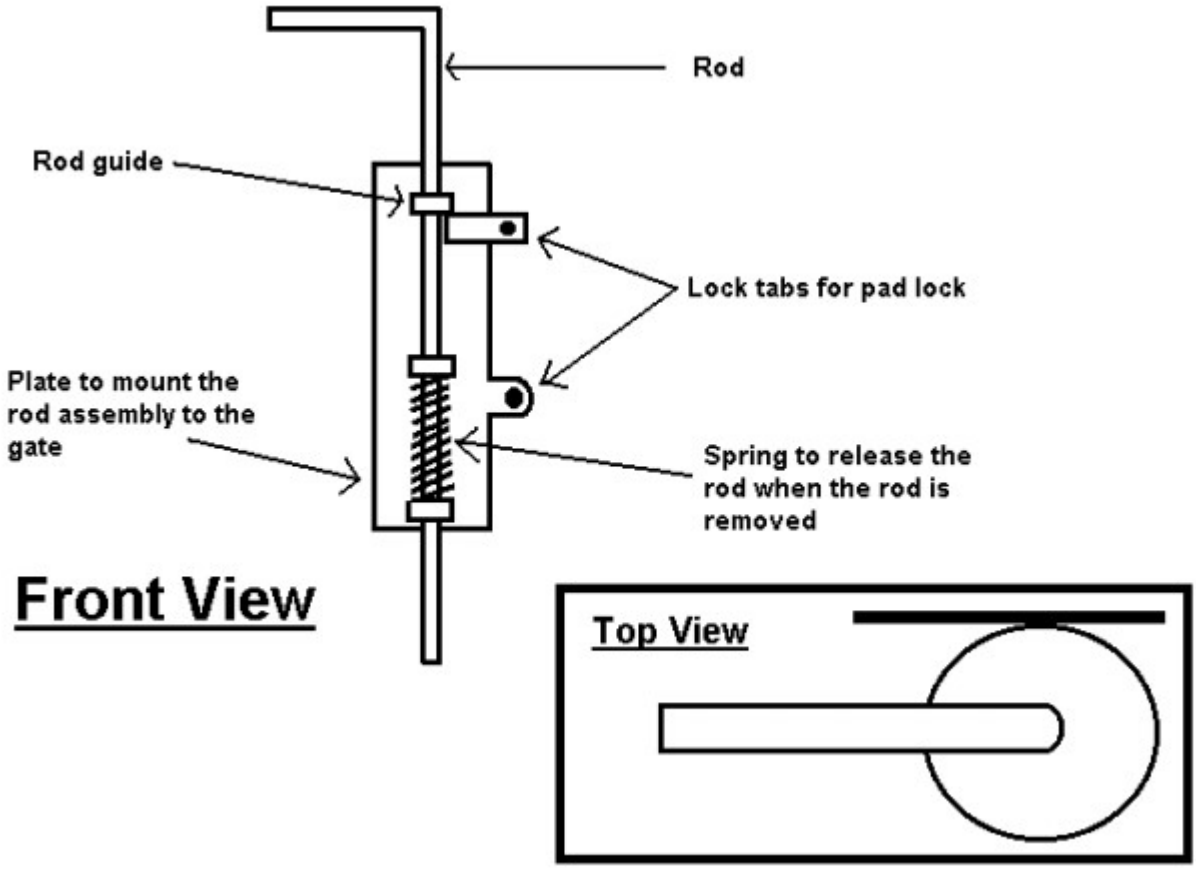
At this point, the emergency responder will manually open the fate for emergency access. The gate is required to open allowing the full required width of the street, drive, or access road to be available to use.

Appendix K – Fold Down Hinge System

To operate the gate, remove the lock by using a key located in the “9-1-1” Box. The hinge will fall forward (towards the property) and will lie flat on the street, drive, or access road. The gate will open automatically by a spring or counterweight and then will catch on the “Duckbill” catch.

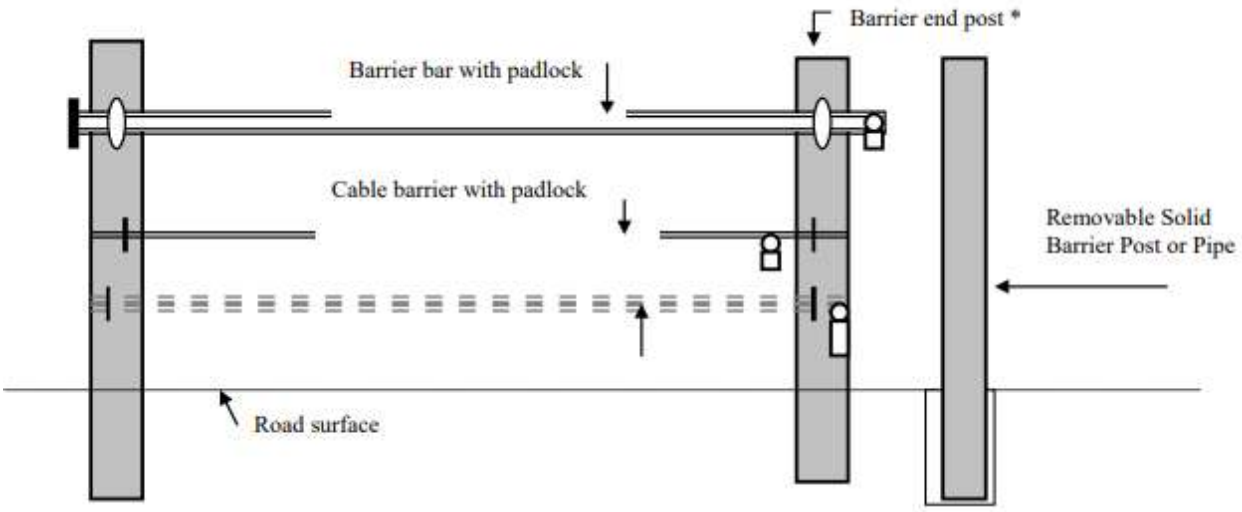


Appendix L – Spring-Loaded “Drop Rod” Assembly



Appendix M – Access Control Barriers

Any device or construction that restricts a fire department access road. Examples of devices or construction below:



*An approved “9-1-1” Box shall be provided, on the non-movable barrier post at the lock end of the barrier, containing the key for the lock or a release mechanism to open the barrier. (See Appendix F for description of “9-1-1” Box.)

Note: The barrier system is required to open allowing the full required width of the street, drive, or access road to be available for use. All swinging barriers shall be provided with a “Duckbill” catch or similar hold-open device that must be manually released.

Appendix N – Performance Standards

"9-1-1" Gate Procedures Meeting the Optional Performance Standards
City of Houston *Code of Ordinances* Section 42-235

Fire Department Access
City of Houston *Fire Code*

Private streets are 28 feet wide. Access roads less than 28 feet but not less than 20 feet in width may be considered, provided that compliance with the *Performance Standards* have been met and approved by the City of Houston *Planning and Development Department*.

Where can I find the Performance Standards?

The Performance Standards come from the City of Houston *Code of Ordinances*, Section 42-235.

To use this option, you must also be familiar with the requirements of Division 6, Multi-Family Residential Developments regarding *private streets*.

Can I install equipment inside the width of my access road under the Performance Standards?

Access roads of 26 feet or less shall not have obstructions within the width of the access road under the requirements of the Performance Standards.

This means that card readers, telephone entry devices, remote control devices, and other equipment shall be installed in a manner referred to as a "European Entry." This means that the street is free and clear of obstructions. Equipment may be installed within the curbside area.

Appendix O – <u>RESERVED</u>

Appendix P – Key Boxes

Figure No. 1 – Typical Key Box/"9-1-1" Box (Open with Padlock Removed)

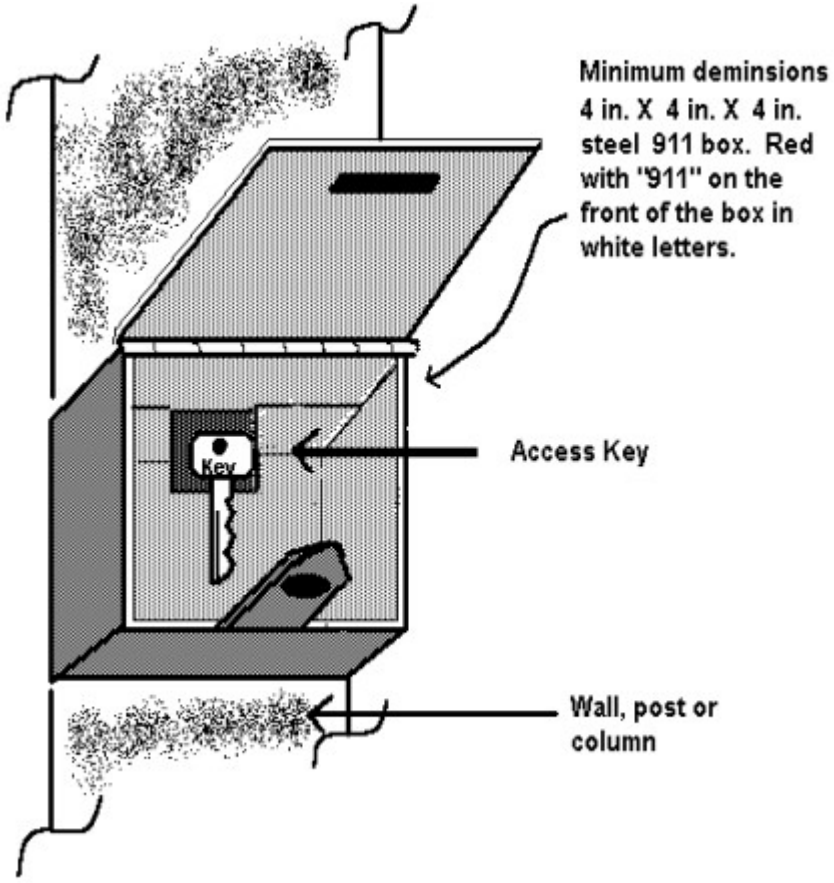


Figure No. 2 – Typical Key Box/"9-1-1" Box (Closed with Padlock)

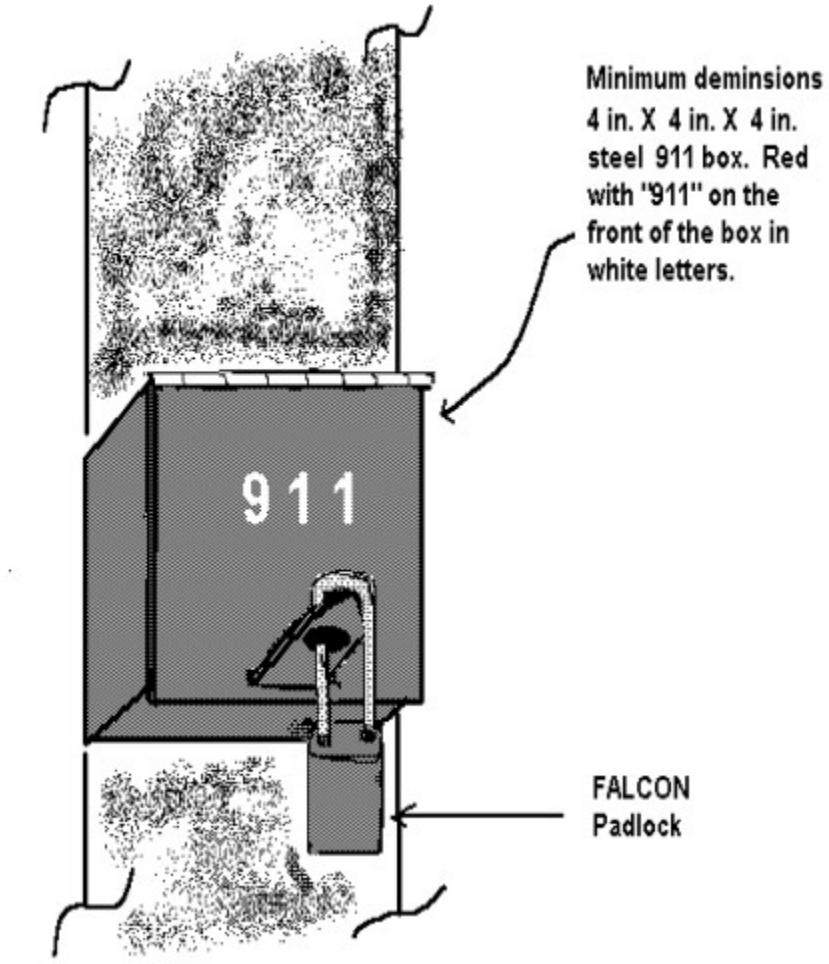
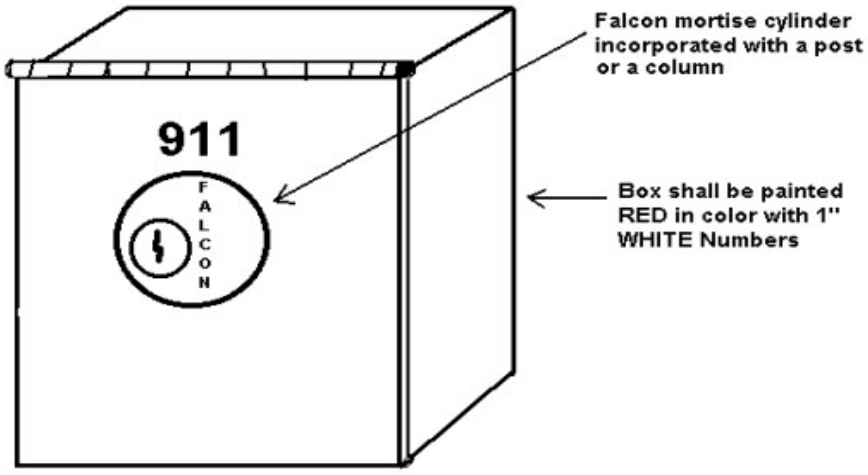


Figure No. 3 – Key Box/"9-1-1" Box with Falcon Mortise Cylinder



References

1. City of Houston *Fire Code*.
2. City of Houston *Code of Ordinances*, Section 42-235.

All reference materials used under this Life Safety Bureau standard shall be in accordance with the most current adopted City of Houston *Construction Code*.