



Gates – Non-Residential Permitting, Design, & Inspection Guide

Introduction

The purpose of this guide is to assist our customers in determining when they may need a gate permit, and for those that do need a permit, it is intended to be an aid in designing, permitting and obtaining necessary inspections. Applicants, who design, submit and request inspections in accordance with this guide should find the permitting process to be much easier. Alternatives to the design criteria contained in this guide may be submitted, but additional review time may be necessary to verify compliance with the applicable ordinances and ensure emergency vehicle access.

Several the most commonly asked questions are addressed. For a complete reference of the applicable ordinances refer to the following three documents:

- [Title 17B- Construction and Infrastructure Regulations-Road and Bridge Design and Construction Standards](#)
- [Manual on Design Guidelines and Specifications for Road and Bridge Construction in Pierce County](#) as published by the County Engineer
- [Title 17C- Construction and Infrastructure Regulations-Building and Fire Codes](#) (Section 17C.60).

Definitions

Definitions utilized within this guide may be found in [Appendix "A."](#)

Do I Need a Gate Permit?

A gate permit is required if a gate is constructed on or after January 1, 1992, under one of the following situations:

- Driveways serving commercial or industrial uses - A permit is required for proposed gates across driveways or access routes to commercial or industrial uses.
- Private Roads and Shared Accesses - A permit is required for proposed gates on private roads and shared accesses.
- Driveway serving a single residential structure - A permit is required for a proposed gate across a residential driveway.

How to Apply for a Permit

Gate installation requires a gate permit. In some cases, where the access needs to be modified, such as an existing roadway that needs to be modified to accommodate a turnaround, a site development permit may also be required. A permit for the gate is a permit to install the gate and its related appurtenances. It is not a permit to perform road/access construction. A site development permit is a permit to perform access and storm drainage site development work. It is not a permit to construct a gate.

The need for a site development permit should be determined prior to submitting the gate permit. This can be accomplished by requesting a determination by a Development Engineering representative at the Development Center.

For a gate permit, your application should include all the items identified on [Appendix "C" - Gate Submittal Requirements](#) and [Appendix "D" - Gate Information Sheet](#). Make sure you attach the site plan and details. Application submittal can be made online by clicking the link:

https://online.co.pierce.wa.us/cfapps/internet/account/login.cfm?logon_referer=https://palsonline.co.pierce.wa.us/palsonline/applyforpermit

Application Fee

Correct fees paid in accordance with the current fee schedule as adopted by County Council. See Pals Web Page at <http://www.co.pierce.wa.us/DocumentCenter/View/4081>, or County Code, Title 2, Chapter 2.05 Planning and Land Services Fees.

Gates Are Not Allowed

Gates are not allowed on public roads or alleyways.

Assumption and Parameters of the Design Guide

A number of guidelines and assumptions were used in the writing of this document that the reader should be aware of to fully understand the intent of the guide.

- Existing Ordinance was used to develop this guide.
- Field measured turn radius data of Pierce County Fire Department ladder trucks were used.
- Passenger vehicles have a turn radius per an AASHTO "P" design vehicle. This is used for the turnaround area.
- The emergency vehicle must be able to turn onto the gated road while remaining in its lane at the initiation of the turn. Future roadway projects may create a barrier between the lanes, such as a median, that would preclude the emergency vehicle from initiating a turn from another lane.
- The emergency vehicle must be able to complete any turns necessary to access the gated road and be established in its lane prior to passing through or by a center post, keypad island or median.

Elements of Gate Design

A gate design takes into consideration a number of characteristics that will serve the interest of a number of different users: the traveling public, the occupants served by the gate and emergency vehicles. Some items that a designer should consider in the planning, construction and operation of a gate include the following:

- Provides adequate protection for the residents/occupants served by the gate.
- Has acceptable aesthetic appeal.
- Is designed, constructed and maintained to operate properly for the life of the gate.

- Allows vehicles, in particular emergency vehicles, to pass through the gate without difficulty.
- Allows vehicles, in particular emergency vehicles, to pass through the gate, maneuver around the access routes and return through the gate to exit the site.
- Provides vehicles that are denied access through the gate a safe and easy manner in which to turn around and exit the site.

Minimum Design Requirements for Gates Providing Emergency Vehicle Access

There are two design elements that must be achieved for any gate design that is submitted for application and approval:

- An emergency vehicle must be able to turn off the cross road and pass through the gate and;
- The emergency vehicle must be able to maneuver through the gate and turn around to exit the gate,

The design vehicle turn radius shall accommodate a Pierce County Fire Department vehicle. A copy of the turn radius is available from Development Engineering.

Keypads and Keypad Islands

Keypads shall be located such that a driver does not have to cross an opposing lane of traffic to operate the keypad.

Keypad pedestals may be placed on islands that are located in the roadway section. Keypad islands shall not be located in the traveled way. The keypad and island must not interfere with emergency vehicles entering or exiting the site.

Mailbox kiosks shall not be located in the keypad island.

[Figure 2](#) shows a cement concrete barrier curb and gutter. For asphalt curbs, use the flow line as the dimension point in lieu of the face of curb. For rolled concrete curbs, use the curb centerline as the dimension point.

See Table 1 for a summary of keypad design criteria.

Table 1 Keypad Island Design Criteria	
Design Element	Requirement
Length of island	6 feet (measured face of curb to face of curb).
Width of island	3 feet (measured face of curb to face of curb).
Curb type	Cement concrete barrier curb.
Setback	Keypad shall be setback 1 foot from the face of curb.
Vegetation	Maximum height of vegetation above the top of curb shall be 24 inches.
Curve radius	Face of curb radius shall equal 1.5 feet.

Turnaround Area

Turnarounds are required in accordance with Table 2 located in this document. A prescriptive option is shown that provides a passenger car the opportunity to turn around and re-enter the roadway system in the event they cannot pass through the gate. [Figure 1](#) is a circular turnaround and maintains an unobstructed through-lane configuration for the ingress and egress lanes and allows the passenger vehicle to turn around without having to back up. Hammerhead turnarounds are also acceptable. Non-prescriptive turnarounds require the design to be stamped by a Professional Engineer licensed in the State of Washington. Surfacing material shall be the same as the traveled way surfacing material.

Gate Setbacks

Gates shall meet the setbacks in accordance with the requirements in Table 2 located in this document.

Parcels adjacent to a public road right-of-way may be subject to setbacks measured from a **future right-of-way** (FROW). Contact the Development Engineering Technical support staff at 253-798-3150, 253-798-3749, or visit us online and use "[About My Property](#)" to determine if your parcel has a FROW need.

Clear Width

Minimum clear widths must be provided in accordance with Table 2 located in this document and [Figure 4](#).

Table 2

Gate Design Parameters Table						
Proposed Project	Setback from Right-of-Way Line/Easement		Turnaround		Clear Width (see fig. 6)	
	Arterial Road	All Other Roads	Arterial Road	All Other Roads	No Center Post	With Center Post
Residential/Utility (4)	10'	0'	Not Required	Not Required	15' (2)	12'
Commercial/Industrial (Gate Normally Open)	10' from gutter line or at right-of-way line (whichever is greater)	0'	Not Required	Not Required	24' (2)	12'
Commercial/Industrial (Gate Normally Closed)	60' or less based on expected customer vehicle size and queue	Length of expected customer vehicle size	Only if passenger vehicles will regularly access	Not Required	24' (2)	12' (5)
Single Family Residential Subdivision (<50 lots)	60'	60'	Not Required (1)	Not Required (1)	(3)	(3)(5)
Single Family Residential Subdivision (≥50 lots) / Multifamily	60'	60'	Required	Required	(3)	(3)(5)

Notes:

- (1) Bulb out area for keypad is required that will not obstruct the traveled way.
- (2) Clear width shall be established such that emergency vehicles can access parcel with minimum 15-foot width, 20-foot inside radius and 45-foot outside radius.
- (3) Subdivision minimum clear width requirements shall be designed to match the minimum traveled way requirements associated with the road classification. When a center post is proposed, the minimum clear width per side is the traveled way divided by 2.
- (4) Utility facility includes utility or jurisdictional facilities that generates less than one ADT.
- (5) Gates configured with a center post shall be setback a minimum of 60 feet from the road right-of-way/easement, 100 feet from centerline of road right-of-way or 100 feet from face of median or lane divider, whichever is greater.

Sidewalks and Walkways

The full width of a sidewalk or paved walkway must be maintained around any gate appurtenance.

Gate Height

Gates or support posts that are higher than six feet are required to have project specific structural plans, details and calculations stamped by a Professional Engineer licensed by the State of Washington. The details and calculations need to address the size and specifications of gate panels, columns, support arms, welds, footings, concrete, anchor bolts and any other structural elements specific to the project. The height is measured per [Figure 4](#).

Traveled Way

Gates must open to provide unobstructed access to all portions of the traveled way. Keypad islands shall not be located in the traveled way.

Rapid Entry Capabilities

Rapid entry requirements must be provided that are compatible with County Fire Districts and Fire Codes. Order forms for rapid-entry system components are available through the local Fire District serving the property. You can determine which fire district you are in by visiting us online at "[About My Property](#)" to find your local fire district. [Appendix "B"](#) has a list of fire districts and contact telephone numbers.

You can also telephone the Development Center information line at 253-798-3739. Your parcel number or address is required to determine the Fire District. See Table 3 for a summary of the rapid entry requirements:

Table 3 Rapid Entry Requirements	
Rapid Entry Mechanism	Applicability
Rapid entry key device (Knox key switch, box, padlock or approved equivalent). Electrically-activated gates shall default to the unlocked position on loss of power.	Required
Emergency vehicle strobe detector or approved equivalent.	Required for gates that serve 10 or more dwelling units.
Exit loop detector circuit	Required if an emergency vehicle strobe detector is necessary.
Safety loop detector circuit	Required for electrically-activated gates

Rapid Entry Key Devices

Rapid entry key devices (Knox keyswitch, box or padlock, or approved equivalent) are required to be installed on all gates. An electrically operated gate shall be equipped with a Knox keyswitch. The switch shall open the gate(s) on activation of the switch and they shall remain open until reset. Manually operated gates shall be provided with an access key located in a Knox key box or a Knox padlock.

Knox devices shall be located on the keypad island per [Figure 2](#) or on the right-hand side gate post, see [Figure 3](#), if a keypad island is not proposed.

Note: Gates operated by electricity require an electrical permit from the appropriate local agency. A copy of the approved permit must be submitted to Development Engineering Inspection Support before calling for final inspection.

Emergency Vehicle Strobe Detector

An emergency vehicle strobe detector receiver is required for gates that serve ten or more dwelling units. Gates shall open on activation of the emergency vehicle strobe detector receiver and remain open for thirty minutes and then automatically close. The receiver shall be mounted eight feet above the roadway and located on the gate support post located on the right side of the gate as you are entering the gated area.

Exit and Safety Loop System

An exit loop and associated detector is required when an emergency vehicle strobe detector system is required. The exit loop detector shall automatically open the exit gate as an exiting vehicle approaches.

Safety loops and associated detectors are required when electrically activated gates are proposed. Safety loops shall prevent a gate from opening or closing when a vehicle is detected by the loop detector. Photo reactive and "wand" style sensors are not considered an acceptable alternative. They may be installed as a supplement to a loop system.

Snow Clearance

Swing type gates shall have a minimum of six inches of clearance between the bottom of gate and the traveled surface, through its entire operating arc, to ensure operation during snowy weather.

Maintenance

All required rapid entry devices including Knox key device, emergency vehicle strobe detector, and exit and safety loop systems shall be maintained in an operable condition.

Gate Operational Test Form

When your gate permit is issued, you will receive a copy of your permit, a set of stamped approved plans, and a **Gate Operational Test** (GOT) form. Before Development Engineering final inspection, your local fire district must visit your property to inspect the gate and complete the GOT form. You must provide the GOT form at the fire district inspection. To contact your fire district to arrange for an inspection, see [Appendix "B"](#) for phone numbers. You must submit the GOT form to your Development Engineering Inspector before the final gate inspection. Submit the GOT test form electronically to Inspection at PALSDevEngInsp@co.pierce.wa.us

When to Call for Inspection

- A.** Gates or supports **six feet or less** in height require **two inspections**, one fire district inspection, and at least one Development Engineering inspection:
1. Your local fire district (see [Appendix "B"](#) for phone numbers) should be contacted for an inspection when the gate has been completely installed and is operational. The applicant is responsible for having the Gate Operation Test form available on-site for the fire district to complete. Submit the approved permit electronically to Inspection at PALSDevEngInsp@co.pierce.wa.us
 2. A Development Engineering final inspection can be scheduled when the following items have been completed:
 - The gate and its related components have been completely installed and the gate is operational.
 - The local fire district inspection is completed, and Gate Operation Test form has been e-mailed to Development inspection.
 - A copy of the approved electrical permit has been e-mailed to Development Engineering Inspection.
- B.** Gates or supports **exceeding six feet** in height require **three inspections**, one fire district test and two Development Engineering inspections:
1. The first inspection for gates over 6 feet is the gate post footing/foundation. It can be scheduled with Development Engineering after all excavation is complete, after forms are erected and reinforcing material is installed. **Concrete should not be poured until the inspector finds the form work and reinforcing acceptable.**
 2. Then follow inspection directions for gates that are six feet or less ([A.](#)).

Requesting Development Engineering Inspections

Inspections with the Development Engineering Section may be scheduled by telephone or over the Internet.

Telephone requests are made by calling Pierce County's Permit and Application Status System (PASS) at 253-798-4900 or 253-798-7290. The gate permit number is needed to schedule inspections.

Internet requests are made at <http://palsonline.co.pierce.wa.us/palsonline/permitsearch>. You must be a registered user of the site to schedule or cancel inspections.

Development Engineering Inspection Results

Development Engineering inspection results can be seen on line at <http://palsonline.co.pierce.wa.us/palsonline/permitsearch>. Inspection results are usually available on the web by the next business day.

Appendix "A" **Definitions**

Buffer: The space between the edge of the pavement or the back of the curb and the sidewalk.

Clear Width: The minimum distance between two gate supports and appurtenances when the gate is in an open position that an object could pass through. See [Figure 4](#).

Driveway: An access facility between the driveway approach point on a roadway, shared access facility or emergency vehicle access and the abutting private property used by vehicular traffic.

Dwelling Unit: One or more rooms designed for or occupied by one family for living or sleeping purposes and containing kitchen, sleeping and sanitary facilities for use solely by one family.

Island: A defined area between traffic lanes for control of vehicle movements and/or pedestrian refuge.

Major Driveway Approach: An approach that is used to serve multi-family and commercial uses with an approach traffic volume of 1,500 or more vehicle trips per day or 150 or more vehicle trips per peak hour.

Minor Driveway Approach: An approach that is used to serve a shared access facility or multi-family and commercial uses with an approach traffic volume of up to 1,500 vehicle trips per day or up to 150 vehicle trips per peak hour.

Private Road: A roadway facility in private ownership providing private access and used for travel of vehicles by the owner(s) or those having express or implied permission from the owner(s) but not by other persons. Private roads are generally located in a tract or easement.

Shared Access Facility: A privately owned drivable surface which serves up to six dwelling units.

Traveled Way: That portion of the roadway used for the movement of vehicles exclusive of the portion of the roadway width which is used or available for parking of vehicles. The traveled way does not include curbs and gutters. See [Figure 5](#).

Turnaround: An area provided in front of a gate that will allow a driver of a passenger car (AASHTO "P") to reverse the direction of travel in the event they cannot gain access through the gate.

Appendix "B"
Fire District Contacts

District No.	District Name	Office Phone
1	Sumner	(253) 863-1800
2	Lakewood	(253) 582-4600
3	University Place	(253) 564-1623
5	Gig Harbor	(253) 851-3111
6	Central Pierce	(253) 538-6400
8	Edgewood	(253) 927-2313
10	Fife	(253) 591-5798
11	North Puyallup	(253) 845-6666
12	Buckley	(253) 863-1800
13	Brown's Point	(253) 952-4776
14	Riverside	(253) 992-5644
15	South Pierce	(253) 847-4333
16	Key Peninsula	(253) 884-2222
17	Roy	(253) 843-2424
18	Orting	(360) 893-7857
20	South Prairie	(360) 863-1800
21	Graham	(253) 847-8811
22	East Pierce	(253) 862-8300
23	Pierce 23	(360) 569-2752
25	Crystal Mountain	(360) 663-2634
26	Greenwater	(360) 663-2522
27	Anderson Island	(253) 884-4040

Appendix "C"

Gate Submittal Requirements

Instructions

To apply for a gate permit, go to <http://www.co.pierce.wa.us/index.aspx?NID=4640>. All documents must be in PDF format. Submit only one document containing site plan and all supporting documents.

- **Information Sheet.** Complete all information requests.
- **Subdivision Documents.** For subdivisions of land, include a copy of the recorded short plat, large lot or formal plat. If a formal plat is in the preliminary plat stage, provide a copy of the approved preliminary plat. Provide all pages of the recording in their original size (do not reduce).

Plans

- **Site Plan.** Draw to scale (1"=10'), show north arrow, scale of drawing, Right-of-Way, property lines, roads, edges of paving, driveway, sidewalks, shoulders, buffers, medians, islands, buildings, easements, critical areas, 2-foot contours. Show the location of the strobe detector, keypad, safety and exit loops and Knox™ keyswitch. Provide dimension ties from gate to County Right-of-Way and edge of pavement. Show the gate in both the fully open and closed position. Use 22" x 34" sheet size.
- **Roadway Cross-Section/Gate Elevation.** Provide a cross sectional view of the roadway and gate. Include the width of the paving, curb section, shoulders, buffers and sidewalks as applicable and an elevation (front) view of the entire gate system. Include on Site Plan sheet or attach a separate 22" x 34" sheet.

Dimension the maximum height and the width of each gate panel and support post. Note the materials used in the construction of the gate. Show the height and orientation of the strobe detector and Knox™ Keyswitch if required.

Details. Show appropriate details of the gatepost, including hinge points, swing direction, track attachments, latches and other accessory appurtenances. Show the location of the strobe detector, if one is required. For gates more than 6 feet in height, provide a detail of the gatepost footing. Include on Site Plan sheet or attach a separate 22" x 34" sheet.

- **Standard Notes.** Include the standard notes from [Appendix "E"](#) on the plan.
- **Catalog "Cut Sheets".** Provide copies of manufacturer's "cut sheets" for rapid-entry components (Knox™ key system, strobe detector), exit and safety loops, loop detector and gate operator components.
- **Structural Details.** Gates or supports that exceed 6 feet in height require site specific structural details and calculations stamped by a Professional Engineer licensed by the State of Washington.

Appendix "D"
GATE INFORMATION SHEET

Project Name:	Parcel No.:
Scope of work (check one): <input type="checkbox"/> New gate <input type="checkbox"/> Revision to permitted gate	
Name of road gate will be built across:	
Name of closest cross street to gate:	
Fire District Name:	Fire District No.:
If gate is in an easement, note recording number of easement: (Attach a copy of the recorded easement):	
Name of property owner:	
Address of property owner:	
Phone number of property owner:	
Name of applicant (person):	
Name of applicant's company:	
Mailing address of applicant:	
Number of parcels accessed by gate:	
Number of Single Family Residences, Duplexes and/or Accessory Dwelling Units (site built or mobile) accessed by the gate:	
Number of apartment or condominium units accessed by gate:	

Appendix "E"
Standard Notes for Gates

Show the following standard notes on the plans. Delete any note that is not applicable to your specific project. In most cases notes 1 through 3 will apply to all gates, notes 4 through 7 will apply to electrically operated gates and note 8 will apply to a gate equipped with an emergency vehicle strobe detector.

All gates:

1. The property owner is responsible for maintaining the rapid entry devices in an operable condition.
2. Prior to requesting a Final Inspection from the Development Engineering Section the applicant shall submit a copy of the completed Gate Operation Test form and a copy of the electrical permit. The electrical permit shall be finalized and cover both line and low voltage systems.
3. All pivoting gates shall have a minimum of six inches of clearance between the bottom of gate and the traveled surface, through its entire operating arc.

Electrically operated gates:

4. The gate lock shall default to the unlocked position in the event of a loss of electrical power.
5. All gates shall open on activation of the Knox key switch and shall remain open until manually reset.
6. The safety loop detector circuit shall prevent the gates from closing on a vehicle in its path. An exit loop detector circuit or emergency vehicle strobe detector receiver shall automatically open the gate upon emergency vehicle approach to the exit gate from inside the complex.
7. Electrically operated gates require a permit for the installation of line and low voltage devices. Contact the appropriate permitting agency (state or utility company) for required permits. Pierce County does not issue electrical permits.

Emergency vehicle strobe detector equipped gates:

8. All gates shall open on activation of the emergency vehicle strobe detector and remain open for a minimum of thirty minutes and then automatically close.

**Figure 1
Circular Turnaround**

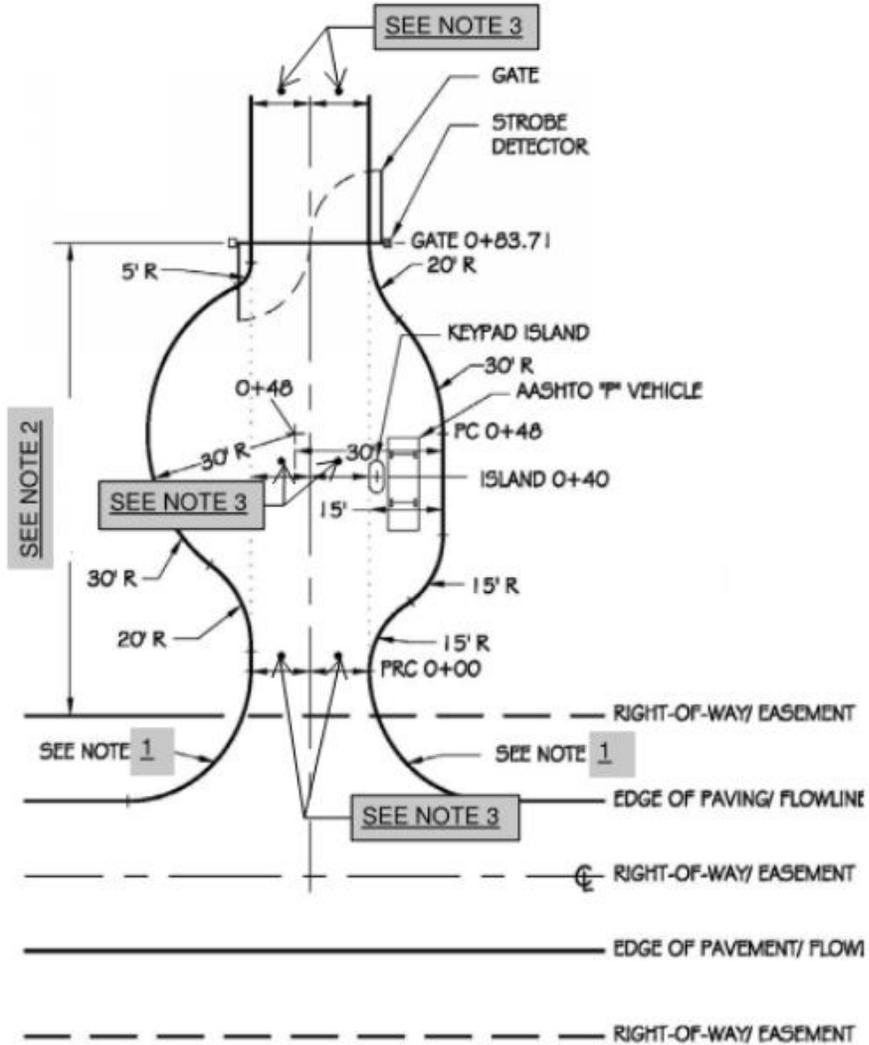
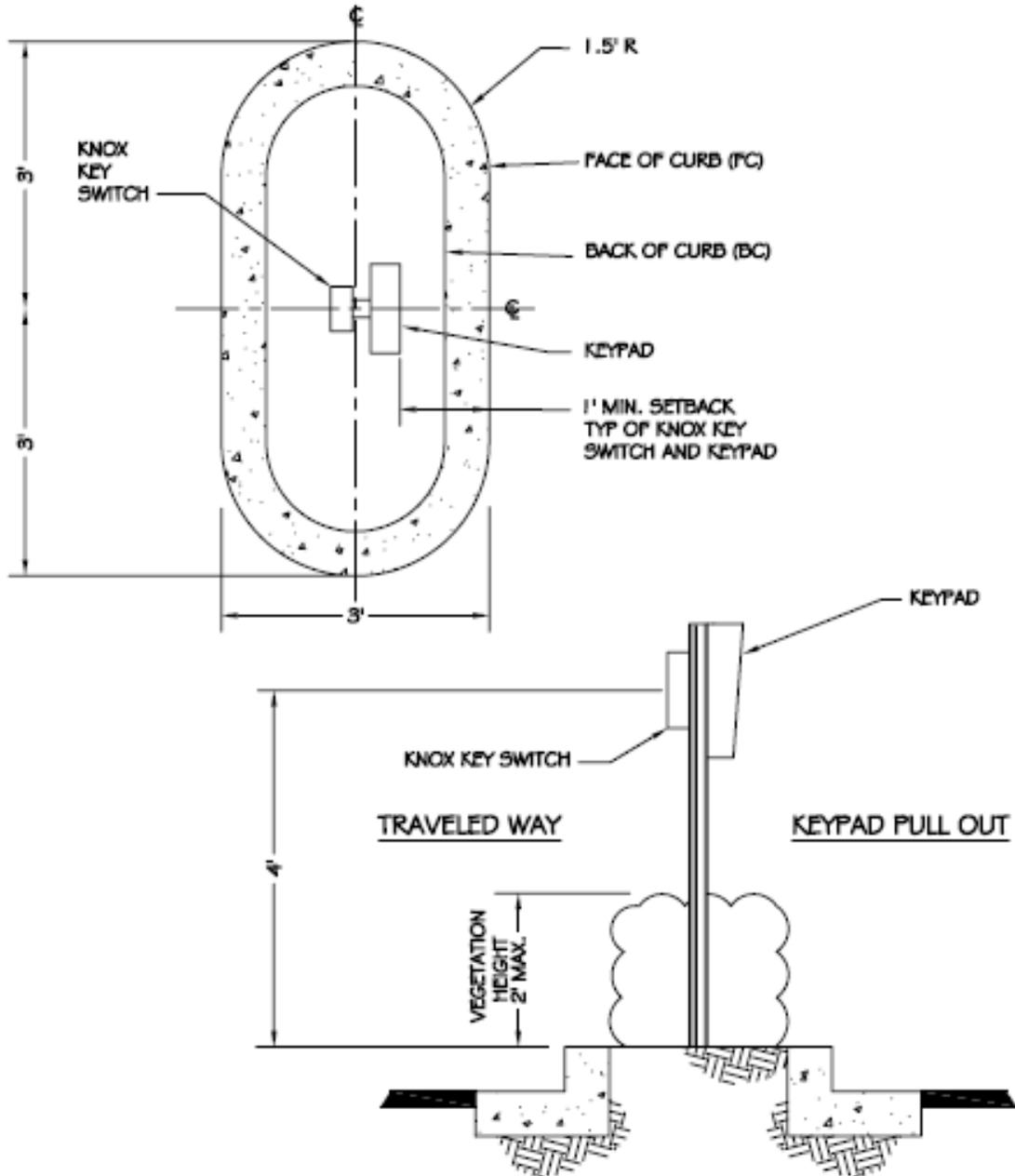


Figure 1
CIRCULAR TURNAROUND

NOTES:
 (1) SEE INTERSECTION CORNER RADII REQUIREMENTS IN CHAPTER 5-3.3 OF THIS MANUAL.
 (2) SEE GATE DESIGN PARAMETERS TABLE FOR GATE SETBACK REQUIREMENTS.
 (3) SEE GATE DESIGN PARAMETERS TABLE FOR CLEAR WIDTH REQUIREMENTS

**Figure 2
Keypad Island**



**Figure 3
Strobe Detector & KNOX Device**

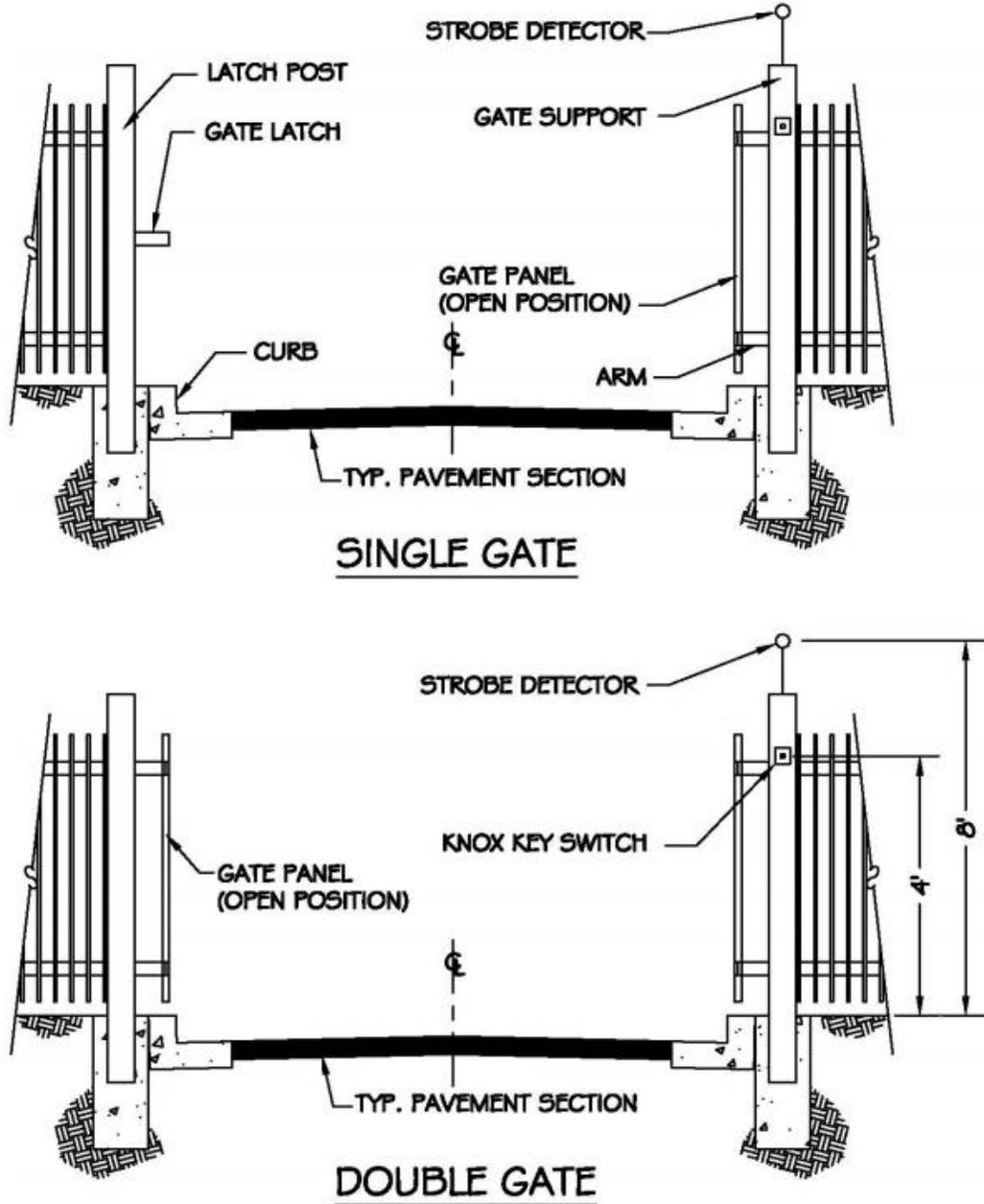
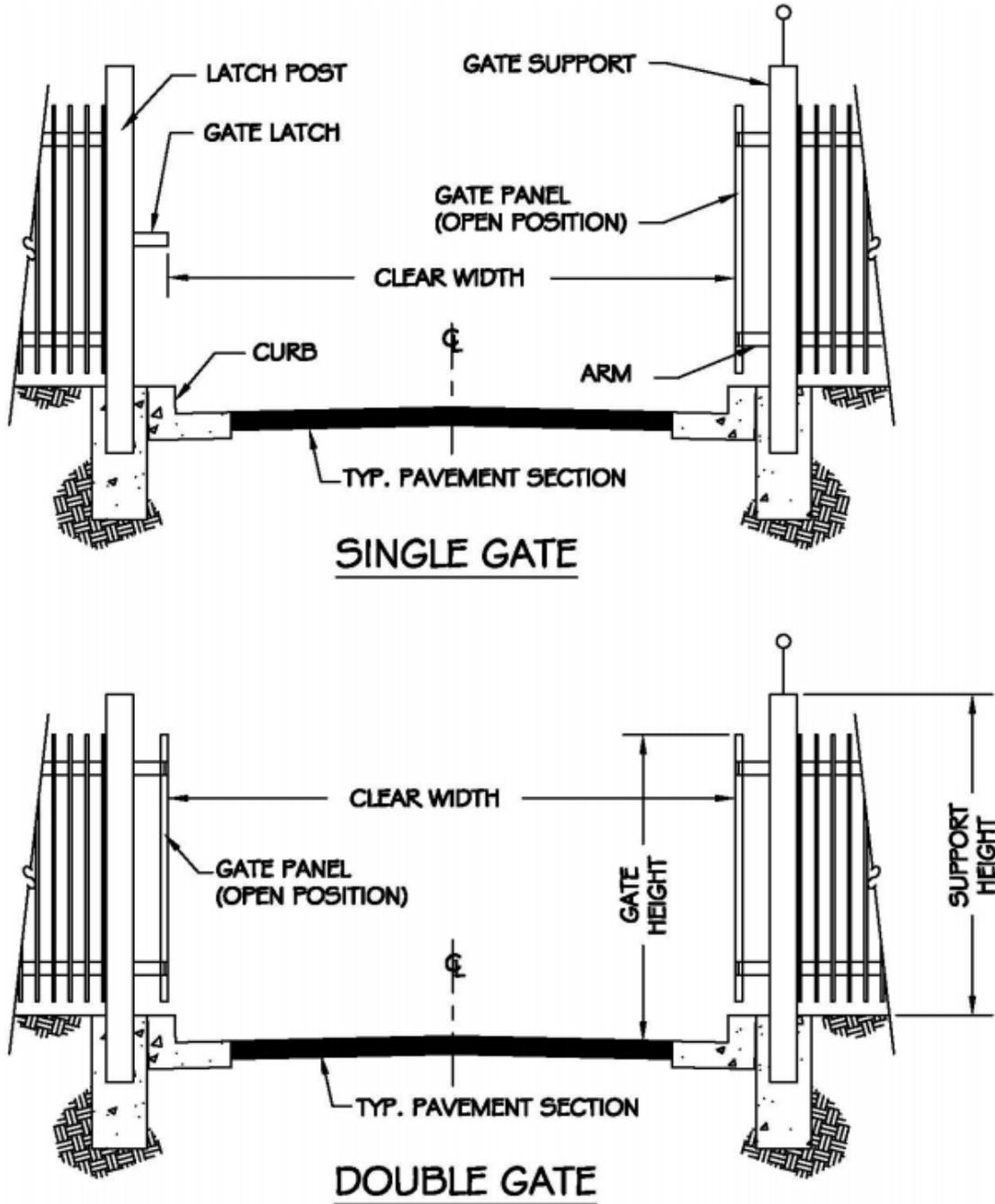


Figure 4
Clear Width & Height



**Figure 5
Traveled Way**

