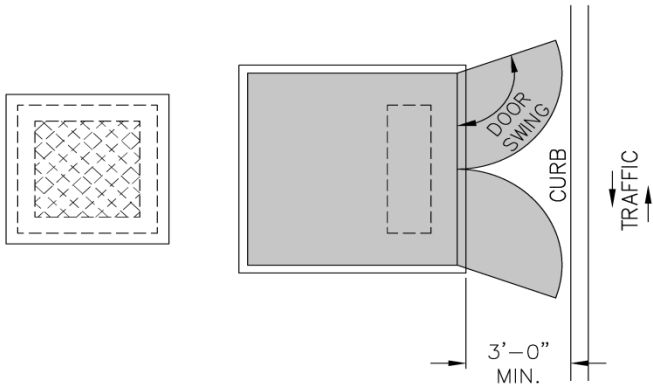
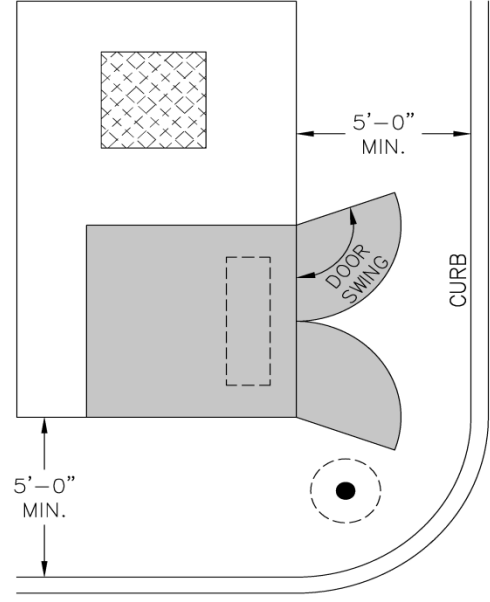


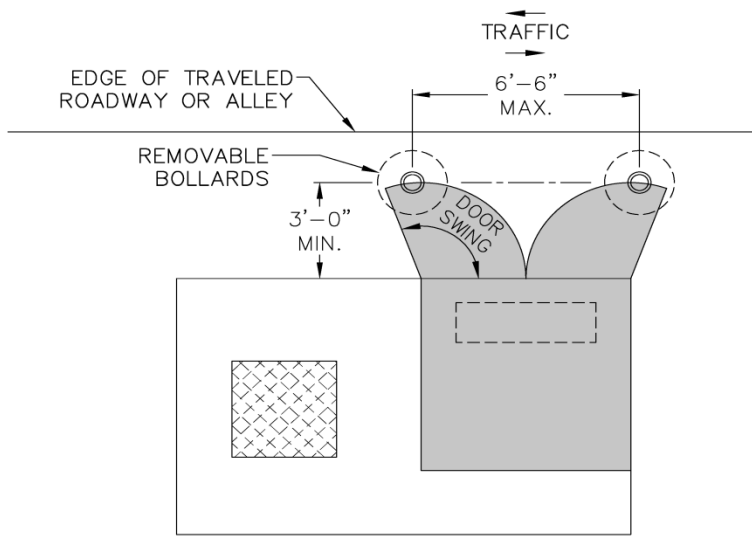
NO BOLLARDS ARE REQUIRED WHEN 3' MIN DISTANCE BEHIND CURB IS MET AND TRAFFIC DIRECTION IS AS SHOWN.



A BOLLARD IS REQUIRED IN THE CORNER AS SHOWN WHERE COMMERCIAL TRUCKS ARE TURNING AND TRAILERS CAN JUMP THE CURB.



BOLLARDS ARE REQUIRED AS SHOWN IN ALLEYS WITHOUT CURBS WHEN EXPOSED TO TRAFFIC. REMOVABLE BOLLARDS ARE REQUIRED IF PLACED IN DOOR SWING PATH.



**BOLLARD LEGEND**

- REMOVABLE BOLLARD POST, W/SLEEVE ENCASED IN CONCRETE
- BOLLARD(S) POST IN CONCRETE FOUNDATION

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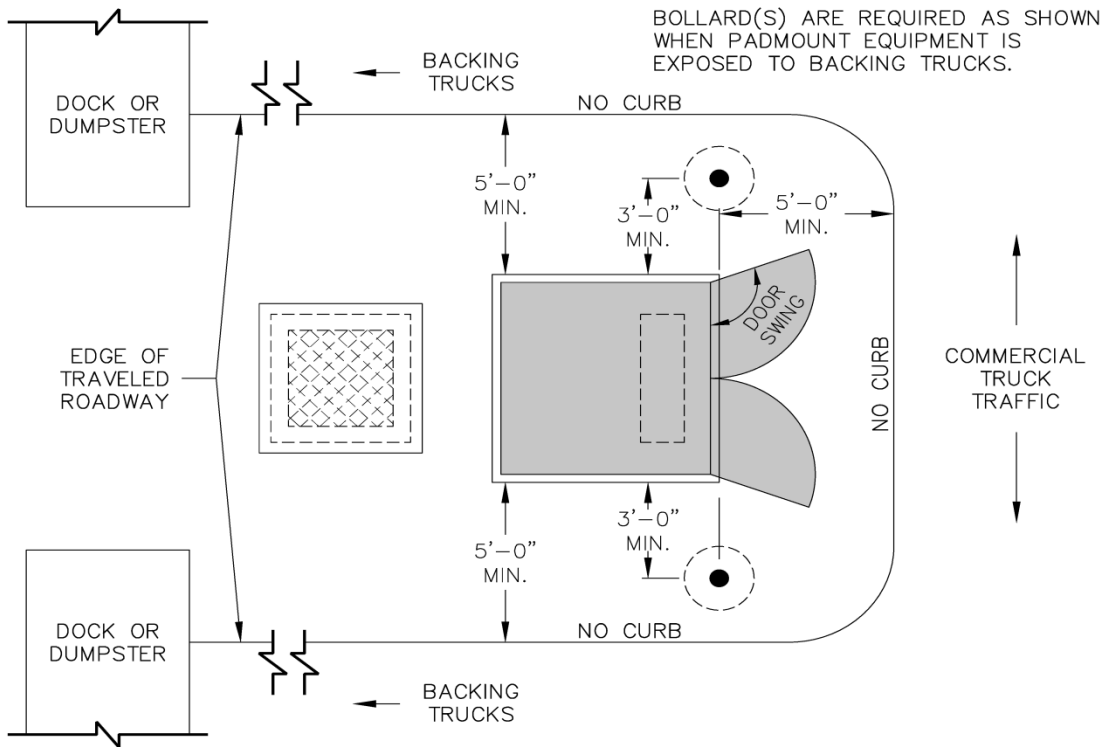
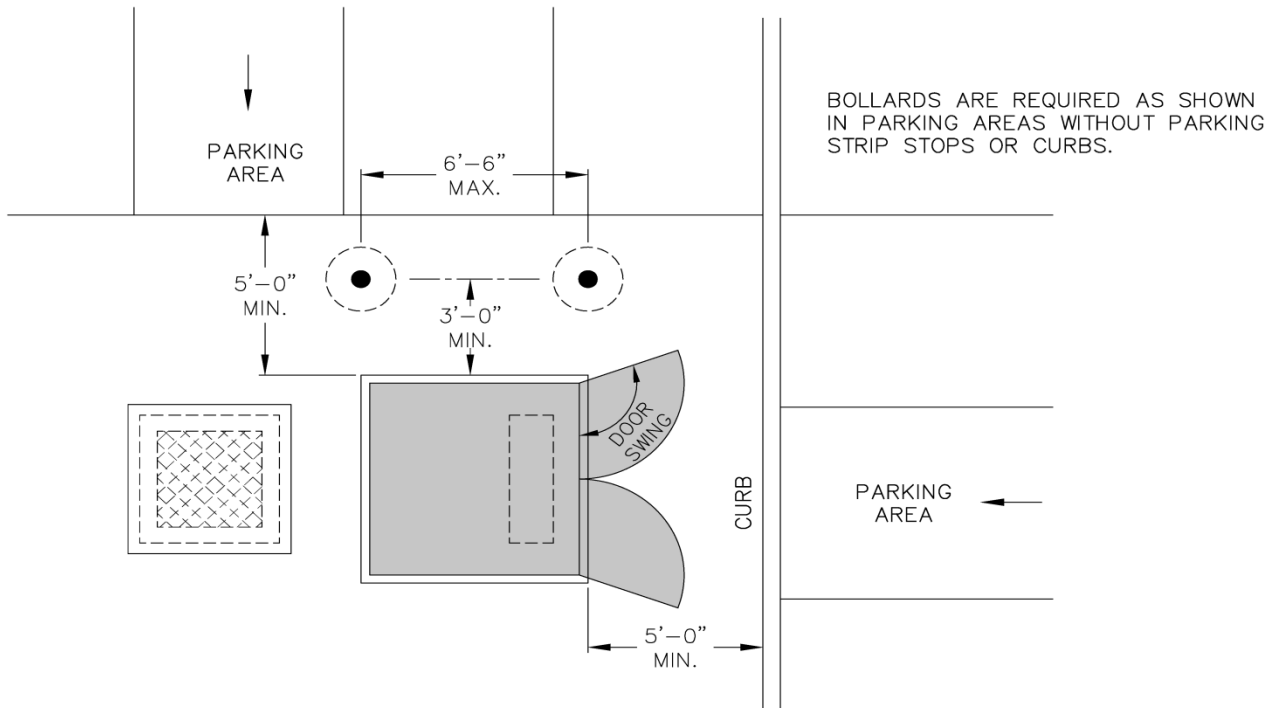
**BOLLARD PLACEMENT REQUIREMENTS FOR PADMOUNTED EQUIPMENT**

Approved Jun 03, 2013

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Page 1 of 4

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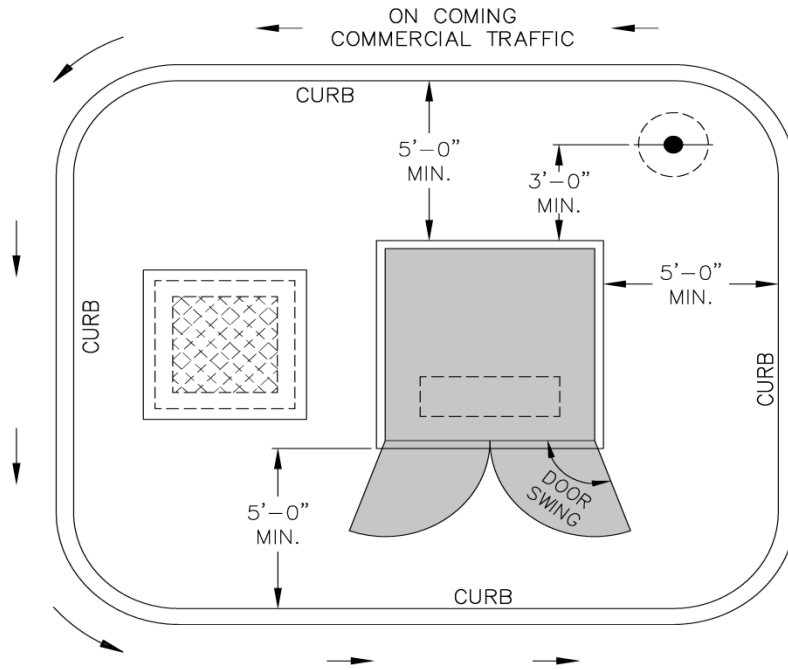
**BOLLARD PLACEMENT REQUIREMENTS FOR PADMOUNTED EQUIPMENT**

Approved Jun 03, 2013

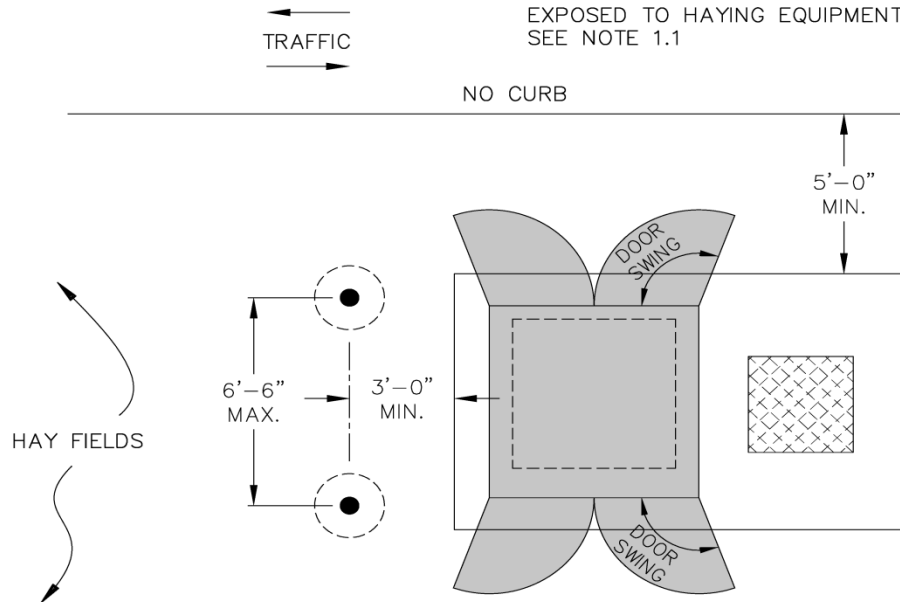
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A MINIMUM OF (1) BOLLARD FOR VISUAL  
 DETERRENT IS REQUIRED SEE NOTE 2.4



BOLLARDS ARE REQUIRED IN AREAS  
 EXPOSED TO HAYING EQUIPMENT/MOWERS.  
 SEE NOTE 1.1



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Approved Jun 03, 2013

**ED5-1.0800**

**REV  
 1**

## 1.0 SCOPE

- 1.1 This standard is to inform Eugene Water and Electric Board customers and (EWEB) crews the requirements for Protective Bollard post placement around Padmounted equipment wherever vehicular traffic may pose a threat, including traffic such as haying equipment and/or commercial mowers.
- 1.2 A CLEAR ZONE in front of the Padmounted equipment doors shall be kept clear of obstructions to allow for safe work practices and the use of hot line tools. Refer to EWEB Standard ED5-1.0400 for more information.

## 2.0 PROTECTIVE BOLLARD POST PLACEMENT REQUIREMENTS

- 2.1 Bollards shall be placed on sides of above ground Padmounted equipment exposed to traffic in a location so as not to obstruct the opening of the equipment doors, or interfere with the operation of the equipment. Locations of bollards are site specific and will be determined by EWEB and identified in a Construction Drawing detail.
- 2.2 If the distance between two bollards is greater than 6'-6," interim bollard(s) equally spaced apart and in alignment shall be installed. When an interim bollard(s) is required in front of the equipment doors, the interim bollard(s) shall be a removable bollard(s).
- 2.3 For Customer installed substructures; the customer shall provide, install and maintain protective bollards per EWEB standard EC5-9.2600. Customer installation of bollard posts requires an EWEB inspection prior to backfilling.
- 2.4 In a commercial truck traffic area with low visibility and Padmounted equipment is located in a planter area island, (1) bollard is always required at minimum to provide a visual deterrent. This bollard shall be located in the most visible location, facing the oncoming traffic side of the Padmounted equipment.

## 3.0 REFERENCE STANDARDS

- [A] Refer to ED5-1.0400 for working clearances around Padmounted equipment.
- [B] Refer to ED5-1.0500 for Padmount transformer placement clearances from structures.
- [C] Refer to EC5-A.0500 for customer requirements for vegetation management for underground systems.
- [D] Refer to EC5-9.2600 for 3½" OD x 7'-0" Screw type Bollard post 8" helix, 6.625" OD x 6'-0" Galvanized steel bollard post, Sleeve for removable galvanized steel bollard post.

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Page 4 of 4