



GENERAL WARNINGS AND CAUTIONARY STATEMENTS FOR REMOVABLE BOLLARDS

In order to safely and effectively use any TrafficGuard[®], Inc. product, please read and understand the General Warnings and Cautionary Statements contained below. If you have any questions about any of these General Warnings and Cautionary Statements, or about any aspect of TrafficGuard[®], Inc.'s products or literature, please contact TrafficGuard[®], Inc. at 877-727-7347, or email sales@trafficguard.net.



BOLLARD SELECTION AND PLACEMENT

based on vehicle weight, speed and other site specific factors to be determined by owner.



FAILURE TO UTILIZE TRAFFICGUARD[®], INC. AUTHORIZED PARTS, OR MODIFICATIONS

to the TrafficGuard[®], Inc. products, or failure to follow the recommended installation procedures, will result in your warranty being null and void.



READ AND FULLY UNDERSTAND THE INSTALLATION INSTRUCTIONS

before attempting to install any TrafficGuard[®], Inc. bollard product.



SUBSTITUTION OF COMPONENTS MAY IMPAIR THE PROPER FUNCTION

of TrafficGuard[®], Inc. bollards products. If you need replacement parts, please contact TrafficGuard[®], Inc. at the number and email above.



WARNING: FAILURE TO FILL/COVER AN OPEN GROUND SLEEVE ON ALL REMOVABLE BOLLARDS MAY RESULT IS DAMAGE TO VEHICLES OR INJURY TO PEDESTRIANS. ALWAYS FILL/COVER THE GROUND SLEEVE PER TRAFFICGUARD[®], INC. INSTRUCTIONS.



REPLACEMENT GROUND SLEEVE FILLER PIECES ARE AVAILABLE

for purchase at TrafficGuard[®], Inc. For purchase of replacement ground sleeve filler pieces or other components, please contact TrafficGuard[®], Inc. at the number or email above.



CAUTION: BOLLARD MUST ALWAYS BE SECURED WITH LOCK MECHANISM WHEN BOLLARD IS IN THE GROUND SLEEVE TO AVOID MISUSE.



FOR MAXIMUM EFFECTIVENESS

of TrafficGuard[®], Inc. bollard products, be sure to properly maintain bollards by replacing any damaged, corroded or missing components, and reapply paint as required to maximize visibility. Failure to properly maintain product can negatively impact the bollards performance over time.



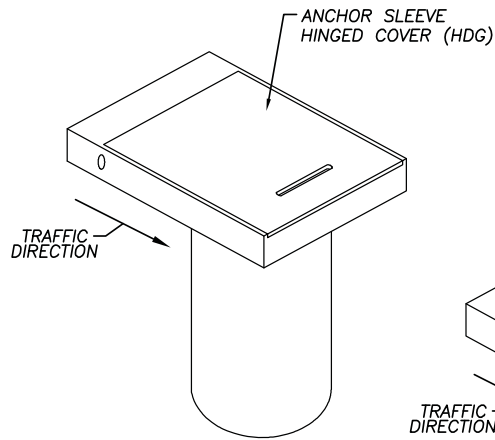
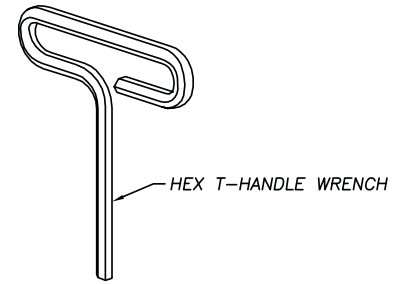
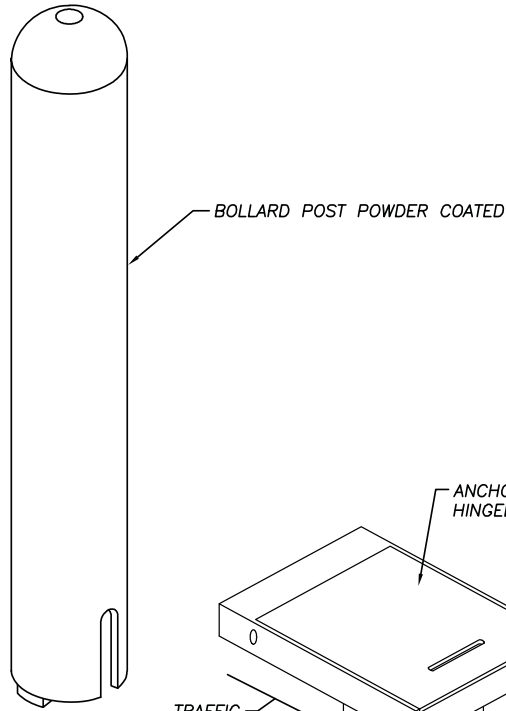
TO ENSURE VISIBILITY

of bollards, be sure to apply all decals that are provided with the product, and in the manner recommended by TrafficGuard[®], Inc.

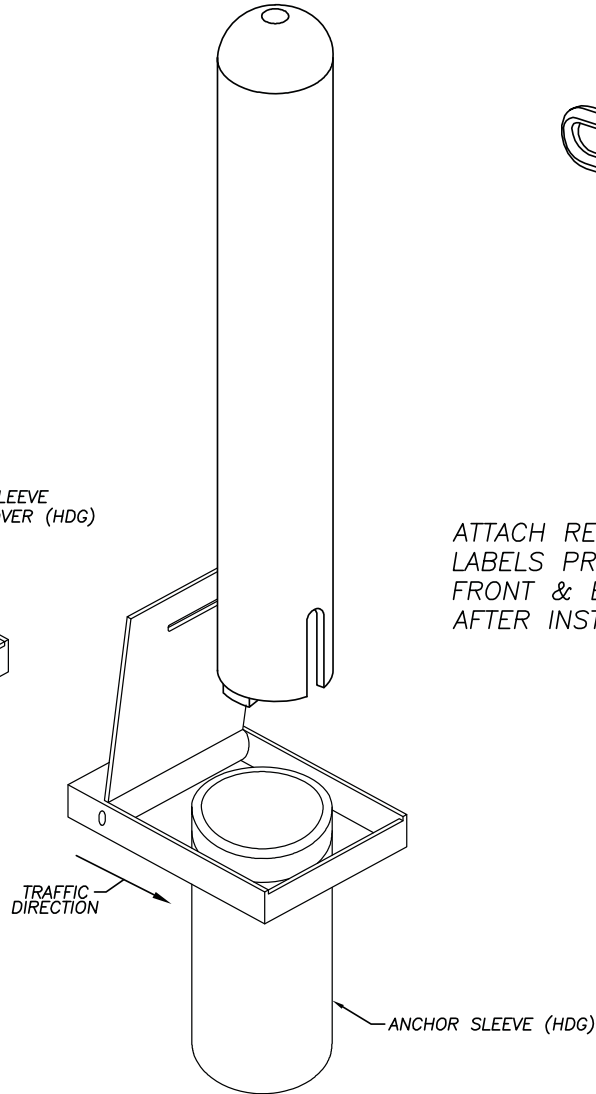
IF IN DOUBT CALL TRAFFICGUARD[®], INC. 877-727-7347

ROUND POST HELIX LOCK BOLLARD SERIES

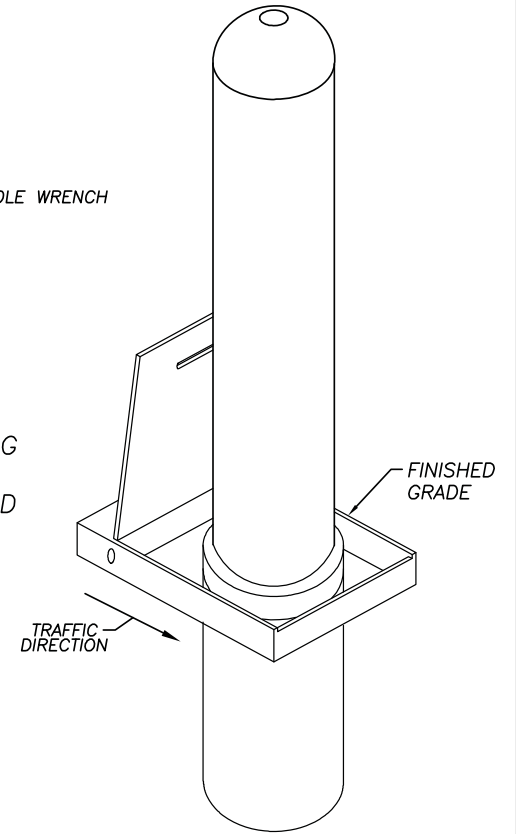
| REV | BY | DATE | DESCRIPTION |
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BOLLARD REMOVED POSITION



ATTACH REFLECTIVE WARNING LABELS PROVIDED TO THE FRONT & BACK OF BOLLARD AFTER INSTALLATION



BOLLARD INSTALLED POSITION

[US PATENT 8,297,873]

| | | | |
|---|----|----|----|
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| 6 | | | |
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| ITEM | PART NUMBER | QTY. | DESCRIPTION | BILL OF MATERIAL |
|------|-------------|------|-------------|------------------|
|------|-------------|------|-------------|------------------|

This Drawing shall not be used nor reproduced except when authorized in writing by TrafficGuard, Inc.

| | | | | | | |
|---|--|---|----------------|----------------|---------------------|-----------|
| TrafficGuard, Inc. www.trafficguard.net P.O. Box 201, Geneva, IL, 60134 Bus: 877-727-7347 Fax: 800-814-7194 | NAME: HELIXLOCK BOLLARD INSTALL | USED IN: --- | ACTION: DESIGN | BY: --- | DRAWING NUMBER: --- | |
| | 1. DO NOT SCALE FROM DRAWING 2. UNITS ARE IN INCHES U.N. 3. DIMENSIONING BASED IN ASME Y14.5M-1994 | O.X = ± 0.1 O.XX = ± 0.06 ANGULAR = ± 1° FRACTION = ± 1/16 | CHECKED: --- | DATE: 10/10/14 | SCALE: --- | SIZE: --- |
| | COPYRIGHT: --- | WT: --- | SHT: 1 of 1 | | | |

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Part Name Round Post - Ground sleeve installation (Page #1)

SH

REV

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REVISIONS

| ZONE | REV | DESCRIPTION | DATE | APPROVED |
|------|-----|-------------|------|----------|
| | | | | |

Place filler cap on sleeve prior to insertion

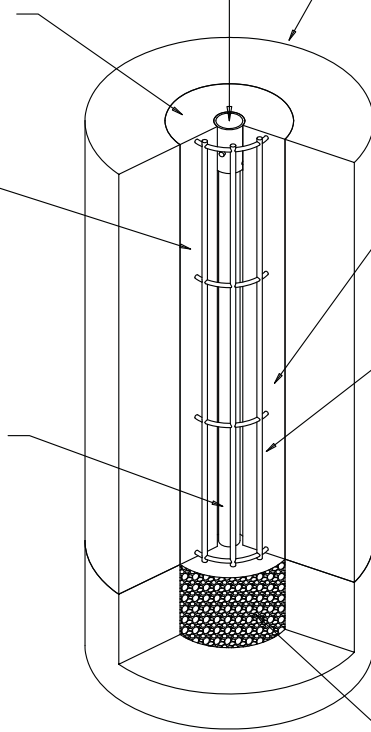


Black Top Surface

Core black-top to the OD of the ground sleeve plus 8.0 inches so that there is a 4.0 inch gap around the ground sleeve.

Fill the 4 inch gap around the ground sleeve with pre-mixed concrete along the entire depth of the hole. Place the ground sleeve and PVC drainage tube into the hole and secure such that the top of the sleeve is at the height of the surface.

Place a PVC pipe between the bottom of the ground sleeve and the bottom of the cored hole for needed drainage. The OD of the PVC pipe should be about the size of the inside diameter of the ground sleeve so the PVC fits inside the sleeve.



Core the black top surface and sub-surface to a depth of about 24 inches below the frost line for the given region within the U.S. The frost line is given in the map on page two.

Place Vertical rebar pieces (# given on page 2) at even spacings around the hole, in the middle of the space between the outer core and the ground sleeve. Place the given number of rebar hoop ties with one at the top and bottom of the verticle rebar, and the next one 4 inches from the top and bottom. Place the remaining hoops at even spacings through the length of the hole.

Place 3 inches in depth of rock for proper drainage at the base.

Ground Sleeve Instalation for Black top surfaces (see Pg 2 for specifications)

Place filler cap on sleeve prior to insertion

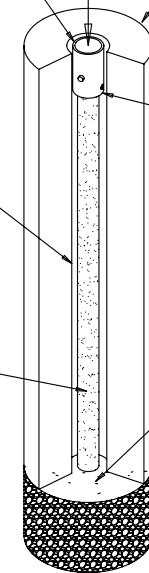


Core concrete to the OD of the ground sleeve plus 2.0 inches

Concrete Top Surface

Core the concrete and sub-surface to an appropriate depth which is about 24 inches below the frost line depth for the given area of the U.S. The frost line is given in the map on page two.

Place a PVC pipe between the bottom of the ground sleeve and the bottom of the cored hole for needed drainage. The OD of the PVC pipe should be about the size of the inside diameter of the ground sleeve so the PVC fits inside the sleeve.



Fill the one inch hole around the ground sleeve with epoxy cement along the entire length of the sleeve. Place the ground sleeve into the hole and secure such that the top of the sleeve is at the height of the concrete surface.

Place 3 inches in depth of rock for proper drainage at the base.

Ground Sleeve Instalation for Concrete surfaces (see Pg 2 for specifications)

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Traffic Guard, Inc.
P.O. Box 201, Geneva, Illinois 60134
Toll free (877) 727-7347

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|----------|-------------------|-------|---|--------------|---|-------|----------|
| DESIGNER | For (630)365-1947 | SIZE | B | CAGE CODE | Part Name Round Post - Ground sleeve installation | REV | (Page #) |
| APPROVED | | SCALE | | RELEASE DATE | WEIGHT | SHEET | |

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