



GENERAL WARNINGS AND CAUTIONARY STATEMENTS FOR REMOVABLE BOLLARDS

In order to safely and effectively use any TrafficGuard Direct 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 Direct's products or literature, please contact TrafficGuard Direct at 877-727-7347, or email sales@trafficguard.net.



READ AND FULLY UNDERSTAND THE INSTALLATION INSTRUCTIONS

before attempting to install any TrafficGuard Direct bollard product.



SUBSTITUTION OF COMPONENTS MAY IMPAIR THE PROPER FUNCTION of TrafficGuard

Direct bollard products. If you need replacement parts, please contact TrafficGuard Direct at the number and email above.



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



REPLACEMENT GROUND SLEEVE FILLER PIECES ARE AVAILABLE for purchase at TrafficGuard Direct. For purchase of replacement ground sleeve filler pieces or other components, please contact TrafficGuard Direct 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 Direct bollard products, be sure to properly maintain bollards by replacing any damaged, corroded or missing components, and reapply paint as required to maximize visibility.



TO ENSURE VISIBILITY of bollards, be sure to apply all decals that are provided with the product, and in the manner recommended by TrafficGuard Direct.

IF IN DOUBT CALL TRAFFICGUARD DIRECT 877-727-7347

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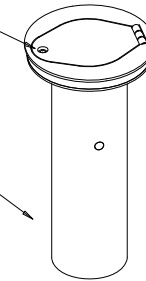
Note:
 - All dimensions given in inches
 - Grind and smooth all edges, burrs, and corners

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED

Bollard post (painted)

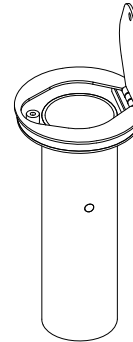


Hold down allen head keeper screw



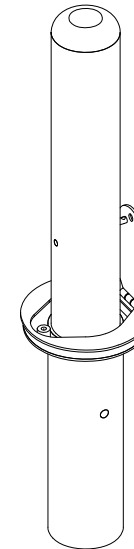
Anchor sleeve

Removed position



Removed position (with cover open)

Install padlock in this hole position



Installed position (with cover open)

General specifications and Notes for all parts and weldments

- 1). All steel work shall conform to the AISC "Specification for the Design, Fabrication, and Erection of Structural Steel Buildings" - Latest Edition unless noted on the drawing.
- 2). All welding shall be performed by qualified welders and shall conform to the American Welding Society ANSI/AWS D1.1 - Latest Edition of the Structural Welding Code - Steel
- 3). All material shall be new and shall be as noted on the drawing and/or in the bill of material. SS indicates Stainless Steel and HDG indicates Hot Dipped Galvanized steel
- 4). All painting work shall conform to the manufacturers specification and installation instructions and the SSPC (Steel Structures Painting Council) and as noted on the drawing.
- 5). All hole center dimensions shall have a +/- 1/16 inch tolerance and all other dimensions shall have a +/- 1/8 inch tolerance unless noted on the drawing.
- 6). All work shall be packaged and shipped per specific instructions by PARS Direct.

This drawing may not be used or reproduced except when authorized in writing by Traffic Guard.

Traffic Guard P.O. Box 201, Geneva, Illinois 60134 Tel: (877) 727-7347 Fax: (830) 862-1947		SIZE C	CAGE CODE	DWG NO. RPL Bollard Installation	REV
DESIGNER	APPROVED	SCALE	RELEASE DATE	WEIGHT	SHEET

4

3

2

1

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D

C

C

B

B

A

A

DESIGN AND CONSTRUCTION DATA SCHEDULE RPAS

1. THE DESIGN LOAD IS A STATIC LOAD "P" LOCATED AT 27 INCHES ABOVE GRADE THAT SHOULD CAUSE FAILURE OF THE BOLLARD.
2. THE EARTH PRESSURE VALUE IS SHOWN AT DESIGN LOAD AND THE OWNER SHOULD VERIFY THAT THE EARTH IS ADEQUATE TO WITHSTAND THE NOTED EARTH DESIGN PRESSURE.
3. ANCHORAGE SYSTEMS BY OTHERS THAN TRAFFICGUARD MAY CAUSE PREMATURE FAILURE OF THE BOLLARD BY ROTATION OF ANCHORAGE AT DESIGN LOAD.

DESIGN FORMULA: EARTH PRESSURE MAXIMUM $Q_{max} = 3888 P / DB(A+B)$

NOTE: CONCRETE, FORM, ROCK, PVC DRAIN AND REBAR PROVIDED BY OTHERS

DESIGN LOAD P	BOLLARD			EARTH "Q" MAX.	PIER HT. "C" MIN.	VERT. REBAR		HOOP TIES	PIER CONCRETE	FRENCH DRAIN	PIER "D"	LOAD DIM	
	Out Dia.	Ins Dia.	Fb PSI			LENGTH	QTY					"A"	"B"
600 #	1.910"	1.620"	49090	992 PSF	42 INCH	38 INCH	3	6 EA.	6 Cu Ft	1.2 CF	8"	7"	14"
1200 #	2.440"	2.064"	46552	1984 PSF	42 INCH	38 INCH	3	6 EA.	6 Cu Ft	1.2 CF	8"	7"	14"
3000 #	3.500"	3.068"	47093	2204 PSF	42 INCH	38 INCH	4	6 EA.	6 Cu Ft	0.5 CF	18"	7"	14"
6000 #	4.500"	4.026"	50467	4408 PSF	42 INCH	38 INCH	4	6 EA.	6 Cu Ft	0.5 CF	18"	7"	14"
6000 #	4.500"	4.026"	50467	2667 PSF	54 INCH	50 INCH	4	7 EA.	8 Cu Ft	0.5 CF	18"	9"	18"
10000#	5.563"	5.047"	49541	4444 PSF	54 INCH	50 INCH	4	7 EA.	8 Cu Ft	0.5 CF	18"	9"	18"
10000#	5.563"	5.047"	49541	3600 PSF	60 INCH	56 INCH	4	8 EA.	9 Cu Ft	0.5 CF	18"	10"	20"
10000#	5.563"	5.047"	49541	2975 PSF	66 INCH	62 INCH	4	8 EA.	10 Cu Ft	0.5 CF	18"	11"	22"
15000#	6.625"	6.065"	47647	3750 PSF	72 INCH	68 INCH	4	9 EA.	11 Cu Ft	0.5 CF	18"	12"	24"
15000#	6.625"	6.065"	47647	3195 PSF	78 INCH	72 INCH	4	9 EA.	12 Cu Ft	0.5 CF	18"	13"	26"
15000#	6.625"	6.065"	47647	3240 PSF	60 INCH	56 INCH	8	8 EA.	25 Cu Ft	1.6 CF	30"	10"	20"
15000#	6.625"	6.065"	47647	3333 PSF	54 INCH	50 INCH	8	7 EA.	32 Cu Ft	1.8 CF	36"	9"	18"

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

ROUND POST BOLLARD RPAS ANCHORAGE SYSTEM DETAILS

THIRD ANGLE PROJECTION Do not scale from drawing

Toll Free
TrafficGuard®
P.O. Box 201, Geneva, IL. 60134
Bus: 1.877.727.7347 Fax: 1.800.814.7194

3	-	-	-		Action	by			
2	-	-	-		Design	wkz	Dwg. Scale: nts	Assembly Shipping Weight	
1	-	-	-		Drawn	wkz	Copywrite: 2010	Varies per Model	
Rev.	Date	by	Description				Checked	wkz	Dwg. Size: Letter
								Drawing Date: 12.10.10	Drawing Number: RPAS-2
								Sheet: 2 of 2	

VEHICLE DESIGN STATIC LOAD "P"
AT 27 INCHES ABOVE GRADE (NTS)

FRESH POURED CONCRETE PIER SHALL BE
PROTECTED FROM FREEZING FOR 14 DAYS AND
WILL REACH DESIGN STRENGTH AFTER 28 DAYS

INSTALL TOP OF CONCRETE AND
ANCHOR POST AT GRADE

USE NOTED PIER "D"
DIAMETER SONOTUBE
IF NEEDED TO AVOID
CAVE IN AT TOP

ROUND POST ANCHOR
SLEEVE BY
TRAFFICGUARD

4,000 PSI CONCRETE
PIER AT NOTED
DIAMETER & HEIGHT

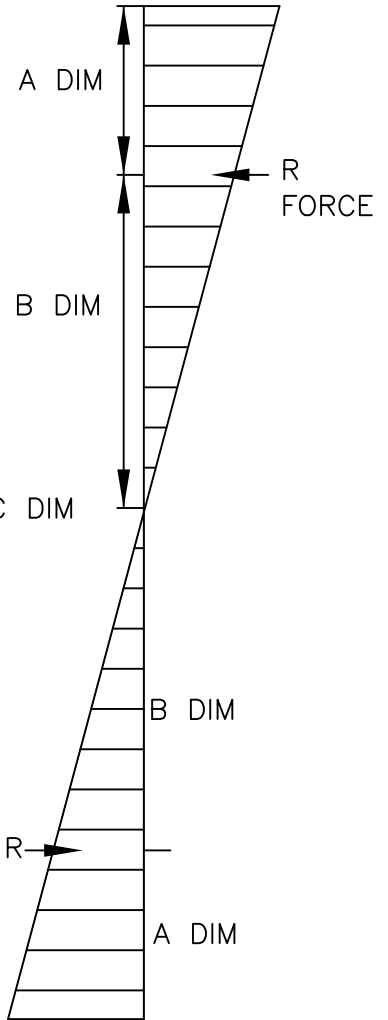
#4 VERTICAL REBAR
AT NOTED QUANTITY
& LENGTH.

PVC DRAIN PIPE
AT LENGTH FROM
ROCK TO BOLLARD
AT DIAMETER TO
MATCH BOLLARD

#3 REBAR HOOP
TIES AT THE NOTED
PIER DIAMETER MINUS
4" WITH 12" TIE LAP
INSTALLED AT 2" CLEAR
FROM TOP & BOTTOM
OF PIER AS SHOWN

3 INCHES MIN.
THICK ROCK
FRENCH DRAIN
PIER BASE.

EARTH PRESSURE
Q MAX PSF



LOAD STRESS DIAGRAM

PIER ELEVATION SECTION

NOTE REFER TO RPAS-2 FOR THE ANCHORAGE SYSTEM DIMENSIONS,
DESIGN LOADS, REBAR SIZE, QUANTITIES, AND OTHER DESIGN DATA.

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ROUND POST BOLLARD RPAS
ANCHORAGE SYSTEM ASSEMBLY

THIRD ANGLE PROJECTION
Do not scale from drawing

Toll Free

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3	-	-	-	Action	by	Dwg. Scale:	nts	Assembly Shipping Weight	Drawing Number:
2	-	-	-	Design	wkz	Copywrite:	2010	Varies per Model	RPAS-1
1	-	-	-	Drawn	wkz	Dwg. Size:	Letter	Drawing Date:	12.10.10
Rev.	Date	by	Description	Checked	wkz			Sheet: 1 of 2	