



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



INSTALLATION DETAILS

FOR RP3500 SERIES KEY LOCK REMOVABLE BOLLARDS

- 1 NEVER ATTEMPT TO PLACE THE BOLLARD INTO THE GROUND SLEEVE WHILE IN THE LOCKED POSITION.**
- 2 PAY CAREFUL ATTENTION** to the placement of the location of the ground sleeve latch pin – this determines the location of the lock at the top of the post.
- 3 INSTALLATION OF A SMALLER FOUNDATION** than that specified may reduce the overall impact capacity of the TrafficGuard Bollard System.
- 4 TO PROTECT AGAINST A TRIP HAZARD** insert the galvanized ground sleeve filler piece at all times the bollard is removed from the ground sleeve insert.
- 5 PROPER DRAINAGE IS CRITICAL** to the life of the bollard and the locking system. You must keep water from standing in the hole.

IF YOU HAVE ANY CONCERNS OR QUESTIONS

before beginning the installation please call **TRAFFICGUARD DIRECT 877-727-7347 TOLL FREE.**

TrafficGuard®

"The Round Post Removable Bollard" Standard Features Include

Safety:

Smooth surface bollard post at 36" height and painted with highly durable "Safety Yellow" finish are standard features for high visibility and no sharp edges. Custom colors available upon request.

Heavy Duty:

Closed Steel Post Construction that will resist a static load of 3,000 to 15,000 pounds force or equivalent impact force at 27 inches above grade prior to failure depending on model selected. Galvanized (HDG) Anchor Post below grade shall be installed per "Bollard Post Concrete Anchorage Detail" provided by TrafficGuard. Other anchorage systems may cause premature failure.

Proven Performance:

References Available Upon Request

Low Maintenance

Warranty

\$1,000,000 Liability Coverage

Orders for "Safety Yellow" shipped in 48 hours.

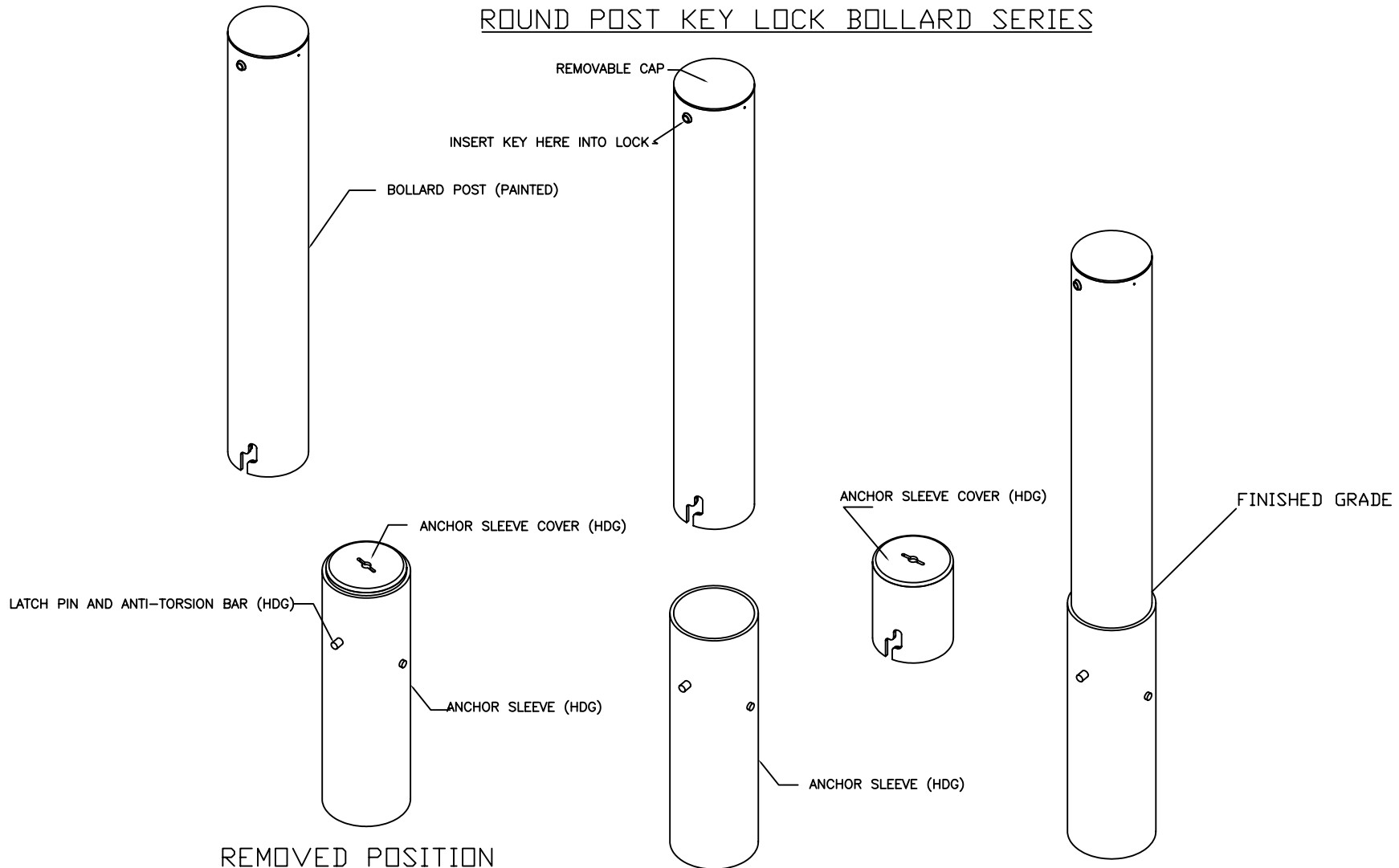
Ease of use in five easy reversible steps :

1. Remove key from stored location and insert Key and unlock.
2. Lift and twist the bollard post counter clockwise
3. Lift to remove bollard post from anchor sleeve and store elsewhere.
4. Place the 6 pound anchor sleeve cover in the anchor sleeve with the reverse procedure to provide zero grade clearance and no hole for pedestrian and wheel traffic safety. This insertion MUST BE DONE at all times the bollard is removed.
5. Store Key in a safe location.

Owner provided Tools required: Use hands or nylon strap wrench to remove bollard post and standard flat pry bar, provided by TrafficGuard or screwdriver to twist and lift to remove the anchor sleeve cover.

TrafficGuard® Direct www.trafficguard.net P.O. Box 201, Geneva, IL 60134 Bus: 877-727-7347 Fax: 800-814-7194	NAME: _____	USED ON: _____	TOLERANCES: DIM = ± .01 ANGULAR = ± .006	ACTION: DESIGN: _____ DRAWING: _____ CHECKED: _____	BY: WKZ CJD	DRAWING NUMBER: RP-3506
	1. DO NOT SCALE FROM DRAWING 2. UNITS ARE IN INCHES UNLESS NOTED OTHERWISE 3. DIMENSIONS BASED ON ASME Y14.5M-1994	DATE: 10-23-06	SCALE: 1:4	SIZE: 34 X 22	WEIGHT: 135 LBS	COPYRIGHT: 2006

ROUND POST KEY LOCK BOLLARD SERIES



TrafficGuard® Direct
 "Authorities on Limiting Access"
 P.O. Box 201, Geneva, IL. 60134
 877-727-7347
 www.trafficguard.net

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

TrafficGuard® Direct		NAME	USED ON	TOLERANCES	ACTION	BY	DRAWING NUMBER
		DISPLAY		0.X = ± 0.1	DESIGN	WKZ	RP-3506
		1. DO NOT SCALE FROM DRAWING		0.00X = ± 0.06	DRAWING	CJD	SCALE: 1:4
		2. UNITS ARE IN INCHES UNLESS OTHERWISE NOTED		ANGULARS = 1°	CHECKED	WKZ	DATE: 10-23-06
		3. DIMENSIONING BASED ON ASME Y14.5M-1994		FRACTION = 1/16	WGT	135 LBS	DATE: 10-23-06
							SIZE: 34 X 22
							SHEET: 1 of 1

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

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

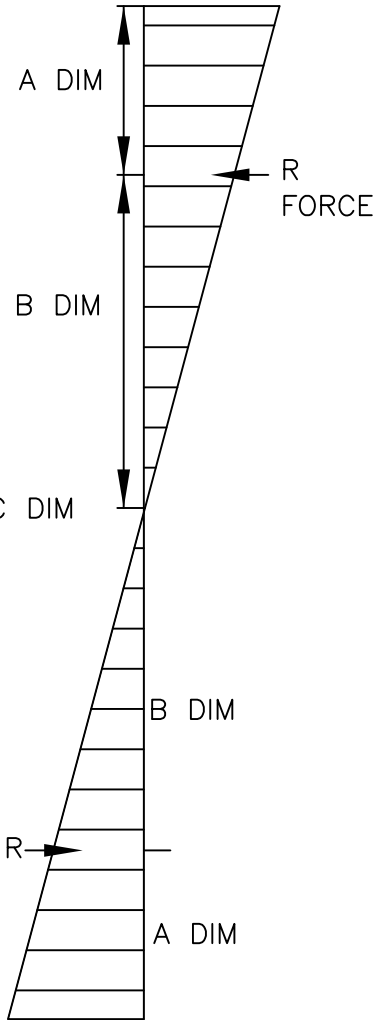
#4 VERTICAL REBAR
AT NOTED QUANTITY
& LENGTH.

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

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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	