

H (FT)	D (IN)	t (IN)

NOTES:

1. ENCASEMENT SHALL INCLUDE REINFORCEMENT AS NEEDED.
2. PIPE AND ENCASEMENT SHALL BE DESIGNED TO WITHSTAND H-20 LOADING.
3. CONTRACTOR SHALL APPLY THIS DETAIL WHEN PIPE COVER DOES NOT EXCEED 18". PIPE WILL TYPICALLY HAVE MINIMUM 13" COVER BASED ON INLET/PIPE GEOMETRY.
4. PLUMBERS PLUG TO MAINTAIN WATERTIGHT SEAL UNTIL CONSTRUCTION IS COMPLETE. PLUMBERS PLUG TO BE REMOVED AT DIRECTION OF PWD. PLUMBERS PLUG NOT TO EXTEND MORE THAN 2" OUT FROM INLET WALL.



PHILADELPHIA WATER

1101 MARKET ST.
4TH FLOOR
PHILADELPHIA, PA
19107

SHALLOW STREET CROSSING

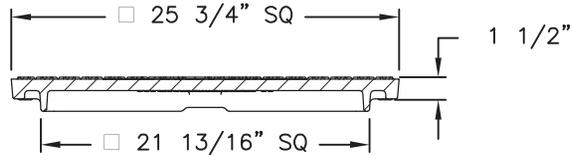
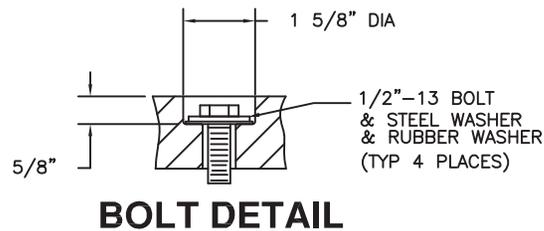
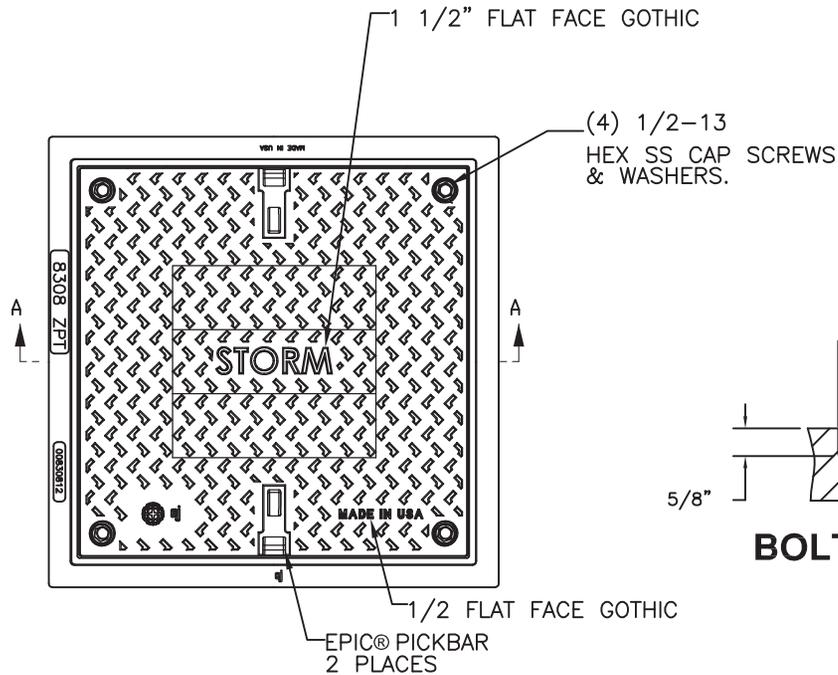
VS.	DATE	INITIALS	REASON

SCALE: N.T.S.

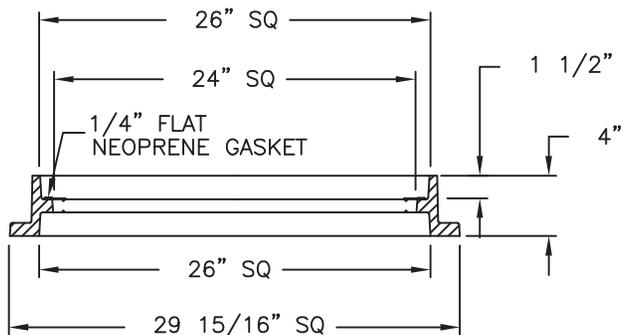
DRAWING NUMBER:

C-21

8208APT 8308ZPT Assembly



COVER SECTION



FRAME SECTION

Product Number
00820891W01

Design Features

- Materials
 - Cover
 - Gray Iron (CL35B)
 - Junction Box / Handhole Frame
 - Gray Iron (CL35B)

- Design Load
 - Heavy Duty
- Open Area
 - n/a
- Coating
 - Dipped
- √ Designates Machined Surface

Certification

-
- ASTM A48
-
- Country of Origin: USA

Major Components

00820891
00830812

Drawing Revision

06/20/2011 Designer: JIJ
09/12/2014 Revised By: MAH

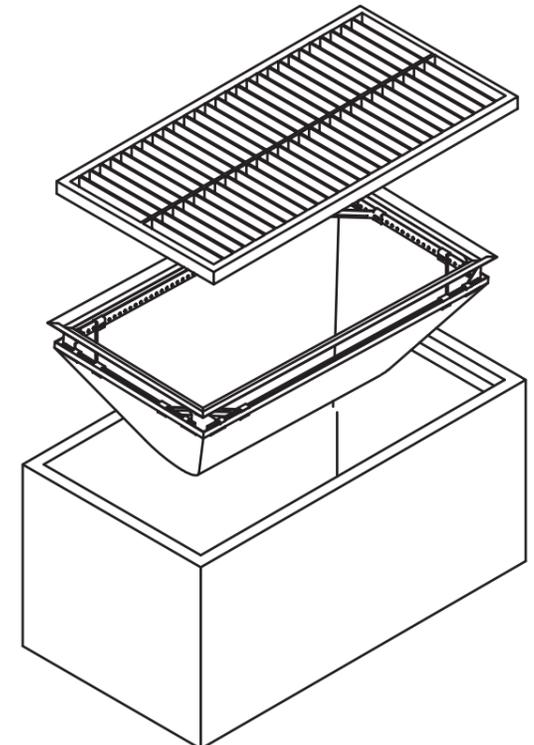
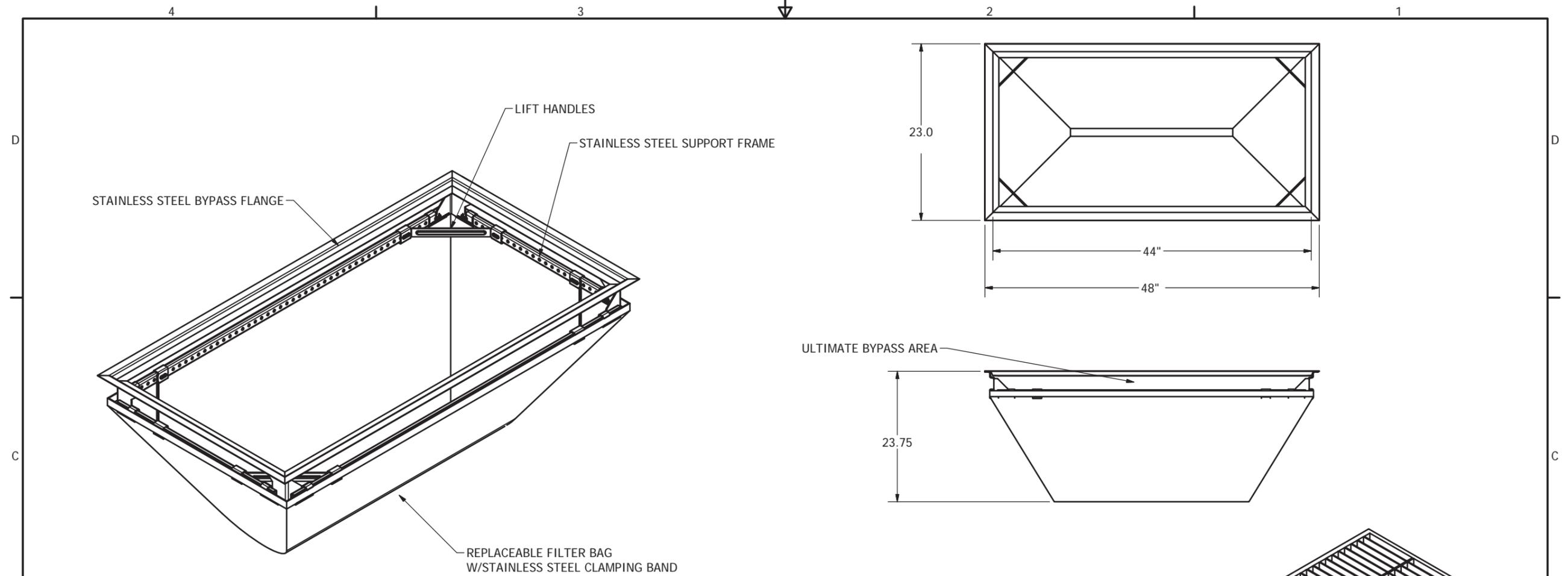
Disclaimer

Weights (lbs./kg) dimensions (inches/mm) and drawings provided for your guidance. We reserve the right to modify specifications without prior notice.

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Contact
800 626 4653
ejco.com

NOTE: FRAME IS REVERSIBLE
AND CAN BE INSTALLED
AS A BOTTOM FLANGE UNIT.



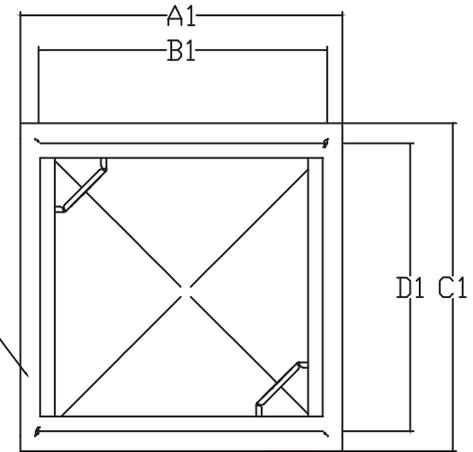
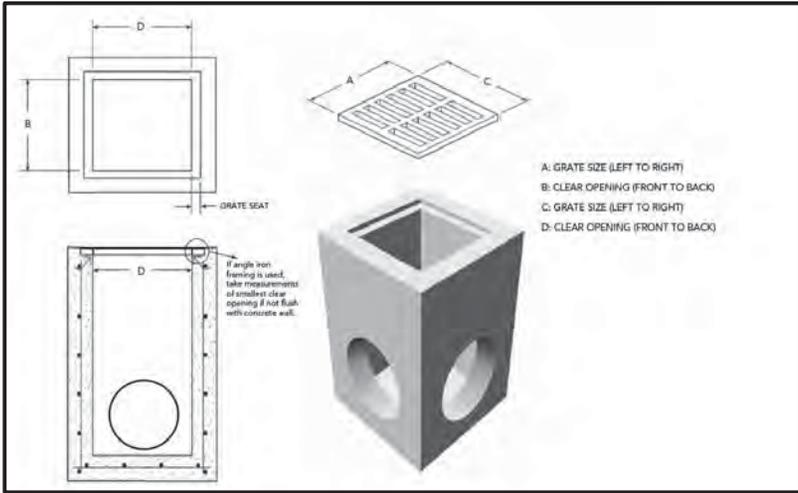
ALL PRODUCTS MANUFACTURED BY INLET & PIPE PROTECTION, INC A DIVISION OF ADS, INC. WWW.INLETFILTERS.COM (866) 287-8655 PH (630) 355-3477 FX INFO@INLETFILTERS.COM

SIZE	DWG NO	REV
C	FLEXSTORM_PENNDOT_SS	A
SCALE	SHEET 1 OF 1	

		FLEXSTORM INLET FILTERS - PRODUCT SELECTION FOR PENNDOT TYPE M,C INLETS					
FLEXSTORM PENNDOT TYPE M/C INLET FILTERS	Base Part Number	FX Bag (Woven)	FX+ Bag (FX Bag with Cleartec Skimmer Pouch)	PC Bag (Adsorb-it lined)	PC+ Bag (PC bag with Cleartec Skimmer Pouch)	FXO Bag (FX Bag with 3" dia oil boom)	
Stainless Steel Framing	62PENNMHD	62PENNMHDFX	62PENNMHDFXP	62PENNMHDPC	62PENNMHDPCP	62PENNMHDFXO	
RATINGS	<i>Ultimate Bypass</i>	**** Framing Bypass flow calculated using Orifice Flow Equation, Coefficient of discharge=.67. $Q=CA(2gd)^{-.5}$					
Standard 2" Bypass "62PENNMHD"	6.9 CFS	Bypass flow rating using Orifice flow equation**** with 2 inches water depth over grate					
Standard 2" Bypass "62PENNMHD"	8.1 CFS	Bypass flow rating using Orifice flow equation**** with 5 inches water depth over grate					
Solids Storage Capacity:	7.1 cubic ft						
Maximum Bag Flow Rate CFS		6.1	6.1	4.1	4.1	6.1	
Total Oil Absorption Oz (if applicable):		NA	89	168	256	256	
*Filtration Efficiency:		82%	82%			82%	
**TSS (Total Suspended Solids) Removal:				99%	99%		
***TPH (Total Petroleum Hydrocarbon) Removal:				97%	97%		
* Filtration Efficiency determined in 3rd part testing per ASTM D 7361, Standard Test Method for Determination of Sediment Retention Device Effectiveness ins Sheet Flow Applications using 7% USDA Sandy Loam							
** TSS conducted in large scale, 3rd party testing with US Silica OK-110 sand at 1750 mg/L and 90 GPM measured per SM 2540D.							
** TPH conducted in large scale, 3rd party testing with used motor oil at 243 mg/L and 90 GPM measured using EPA Method 1664A.							

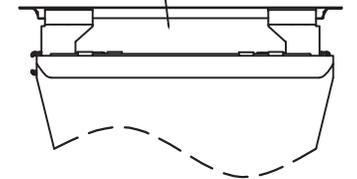
FLEXSTORM P/Ns 62XLHDFX & 62XLHDFXP

HD4 INLET TYPE: SQUARE/RECT PRECAST OPENING WITH 4 SEAT GRATE SUPPORT

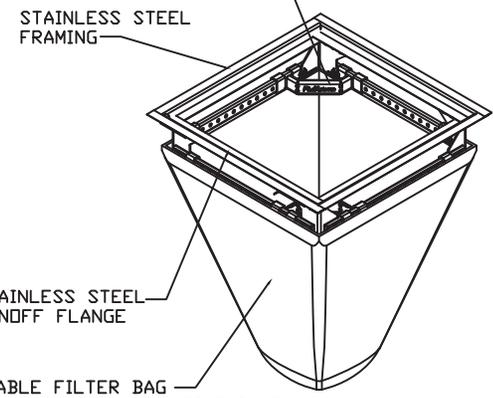


STAINLESS STEEL RUNOFF FLANGE

ULTIMATE BYPASS AREA



LIFT HANDLES



STAINLESS STEEL FRAMING

STAINLESS STEEL RUNOFF FLANGE

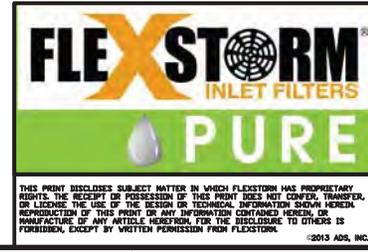
REPLACEABLE FILTER BAG W/ STAINLESS STEEL CLAMPING BAND

Pure Frame with FX Bag		Field Inlet Dimensions		Flexstorm Framing Dims				Flexstorm Ratings (Flow at 50% Max)			Pure Frame with FX+ Bag	
ADS P/N	Flexstorm Item Code	Grate Size (A x C)	Clear Opening (B x D)	B1	D1	A1	C1	Bag Capacity (ft³)	FX/FX+ Flow Rate (CFS)	Bypass (CFS)	ADS P/N	Flexstorm Item Code
62XL-HDFX	P-HD4-400-263-360-243-FX	40 x 28.75	36 x 24.25	35.5	21.5	39.0	24.0	4.9	2.4	6.1	62XLHDFXP	P-HD4-400-263-360-243-FXP
62XL-HDFX	P-HD4-319-319-303-303-FX	31.87 x 31.87	30.25 x 30.25	28.0	27.5	31.5	31.6	4.9	2.4	6.0	62XLHDFXP	P-HD4-319-319-303-303-FXP
62XL-HDFX	P-HD4-379-259-364-244-FX	37.87 x 25.87	36.375 x 24.375	34.0	21.5	37.5	26.6	4.7	2.4	6.0	62XLHDFXP	P-HD4-379-259-364-244-FXP
62XL-HDFX	P-HD4-393-273-371-256-FX	39.3 x 27.25	37.25 x 25.75	36.5	23.0	39.0	27.0	5.2	2.5	6.3	62XLHDFXP	P-HD4-393-273-371-256-FXP
62XL-HDFX	P-HD4-393-273-378-256-FX	39.25 x 27.25	37.61 x 25.75	36.5	23.0	39.0	27.0	5.2	2.5	6.3	62XLHDFXP	P-HD4-393-273-378-256-FXP
62XL-HDFX	P-HD4-480-220-460-190-FX	48x22	46x19	44.5	16.0	49.0	21.8	4.5	2.6	6.5	62XLHDFXP	P-HD4-480-220-460-190-FXP
62XL-HDFX	P-HD4-378-318-360-300-FX	37.75 x 31.75	36 x 30	34.0	27.0	37.5	31.5	5.8	2.6	6.6	62XLHDFXP	P-HD4-378-318-360-300-FXP
62XL-HDFX	P-HD4-460-263-430-230-FX	23(x2) x 28.25	43 x 23	42.5	20.0	45.0	22.8	5.4	2.6	6.7	62XLHDFXP	P-HD4-460-263-430-230-FXP
62XL-HDFX	P-HD4-460-240-460-220-FX	48 x 24	46 x 22	44.5	19.0	48.0	25.8	5.4	2.7	6.8	62XLHDFXP	P-HD4-460-240-460-220-FXP
62XL-HDFX	P-HD4-460-263-441-241-FX	46 x 26.25	44.25 x 24.125	42.5	21.0	46.0	26.0	5.7	2.7	6.8	62XLHDFXP	P-HD4-460-263-441-241-FXP
62XL-HDFX	P-HD4-378-378-360-360-FX	37.75 x 37.75	36 x 36	34.0	33.0	37.5	37.5	7.1	2.6	7.2	62XLHDFXP	P-HD4-378-378-360-360-FXP
62XL-HDFX	P-HD4-500-263-460-240-FX	50 x 26.25	48 x 24	46.5	21.0	50.0	26.0	6.2	2.9	7.3	62XLHDFXP	P-HD4-500-263-460-240-FXP
62XL-HDFX	P-HD4-400-360-360-360-FX	40x36	36x36	35.5	33.0	40.0	35.8	7.5	2.9	7.4	62XLHDFXP	P-HD4-400-360-360-360-FXP
62XL-HDFX	P-HD4-496-268-483-243-FX	49.62 x 25.75	48.25 x 24.25	46.0	21.5	49.5	25.5	6.3	2.9	7.3	62XLHDFXP	P-HD4-496-268-483-243-FXP
62XL-HDFX	P-HD4-378-378-365-365-FX	37.75 x 37.75	36.5 x 36.5	34.0	33.0	37.5	37.5	7.3	2.9	7.3	62XLHDFXP	P-HD4-378-378-365-365-FXP
62XL-HDFX	P-HD4-363-363-365-365-FX	36.35 x 36.25	36.5 x 36.5	34.5	33.5	36.0	36.0	7.4	2.9	7.3	62XLHDFXP	P-HD4-363-363-365-365-FXP
62XL-HDFX	P-HD4-515-219-486-349-FX	51.5 x 21.87	48.62 x 24.87	48.0	22.0	51.5	27.6	6.7	3.0	7.5	62XLHDFXP	P-HD4-515-219-486-349-FXP
62XL-HDFX	P-HD4-495-318-480-300-FX	49.5 x 31.75	48 x 30	46.0	27.0	49.5	31.5	7.5	3.1	7.9	62XLHDFXP	P-HD4-495-318-480-300-FXP
62XL-HDFX	P-HD4-460-378-460-360-FX	49.25 x 37.75	48 x 36	45.5	33.0	49.0	37.5	9.6	3.3	8.5	62XLHDFXP	P-HD4-460-378-460-360-FXP
62XL-HDFX	P-HD4-496-496-421-421-FX	43.87 x 43.87	42.25 x 42.125	41.5	39.0	45.0	41.9	10.3	3.4	8.7	62XLHDFXP	P-HD4-496-496-421-421-FXP
62XL-HDFX	P-HD4-506-506-480-480-FX	50.62 x 50.62	48 x 48	47.0	45.0	50.5	50.4	13.5	3.9	9.9	62XLHDFXP	P-HD4-506-506-480-480-FXP
62XL-HDFX	P-HD4-540-460-460-460-FX	54x48	48x48	47.5	45.0	54.0	47.8	13.6	3.9	10.0	62XLHDFXP	P-HD4-540-460-460-460-FXP

*MOST XL SIZED FRAME AND GRATES COMBINATIONS REQUIRE 2 SIDE BY SIDE FLEXSTORM INLET FILTERS. DESIGN AND PRICING REFLECT THIS. PLEASE CONTACT FOR FURTHER DETAILS.

NOTES:

- RATINGS SHOWN ARE FOR STANDARD 22" BAG DEPTH; "SHORT" 12" DEPTH BAGS ARE AVAILABLE WITH -S SUFFIX; RATINGS REDUCED BY ~50%.
- THE FOLLOWING REQUIRES ADDITIONAL REVIEW
 - GRATES WITH EXTENDED BOTTOMS
 - ANY OBSTRUCTED INLET OPENINGS



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SIZE	FRAME TYPE	DWG NO	REV
C	HD4	HD4-62XLHD-FX	A
SCALE	SHEET 1 OF 1		



FILTER BAG OPTIONS

FLEXSTORM offers seven different filter bag options for any of the framing styles. For complete test results visit www.inletfilters.com

FLEXSTORM FILTER BAGS	STANDARD BAG P/N (22" depth)	SHORT BAG P/N (12" depth)
FX: Standard Woven Bag	FX	FX-S
FX+: Woven w/ MyCelx	FXP	FXP-S
FX0: Woven w/ Oil Boom	FX0	FX0-S
PC: Post Construction Bag	PC	PC-S
PC+: PC Bag w/ MyCelx	PCP	PCP-S
LL: Litter and Leaf Bag	LL	LL-S
IL: IDOT NonWoven Bag	IL	IL-S

FILTER BAG TEST RESULTS

FX FILTRATION EFFICIENCY = 82% †

† Large scale, 3rd party testing per ASTM D 7351, Standard Test Method for Determination of Sediment Retention Device Effectiveness in Sheet Flow Application using 7% USDA Sandy Loam

PC/PC+ TSS = 99% TPH = 97% ‡

‡ Large scale testing at 90 GPM. 3rd party results using US Silica OK-110 sand at 1750 mg/L measuring TSS per SM 2540D. TPH tested at 243 mg/L used motor oil using EPA Method 1664A.

FILTER BAG SPECIFICATIONS & CAPABILITES

Bag Type (P/N)	Clean Water Flow Rate (GPM/SqFt)	Min A.O.S. (US Sieve)
Woven (FX)	200	40
Post Construction (PC)	137	140
NonWoven (IL)	145	70
Litter & Leaf Bag (LL)	High	3.5

Total Bypass Capacity:
Bypass capacity will vary with each size drainage structure. Flexstorm designs filter bypass to meet the minimum design flow of the particular drainage structure.

Standard Bag Sizes (match frame sizes) §	Solids Storage Capacity (CuFt)	Filtered Flow Rate at 50% Max (CFS)			Oil Retention (Oz)		
		FX	PC	IL	PC*	PCP**	FX+
Small	1.6	1.2	0.8	0.9	66	155	89
Medium	2.1	1.8	1.2	1.3	96	185	89
Large	3.8	2.2	1.5	1.6	120	209	89
XL	4.2	3.6	2.4	2.6	192	370	178

* PC filter bag at 50% max adsorption capacity

** PC filter bag at 50% capacity and MyCelx skimmer at 100% capacity

§ Bag Sizes match the framing sizes based on clear opening dimensions. Standard bags are 22" in depth.

Short bags are 12" in depth, reducing solids storage capacity by approximately 50%.

GREEN INLET CURB MARKERS

PRODUCT

- A. DAS Manufacturing "Duracast 2 ½" Custom reflective one color Curb Marker" or approved equal. Marker to match logo, size, and color presented in Appendix D Green Inlet Curb Marker Detail.
- B. DAS Manufacturing Curb Marker Adhesive #RS-222-5 / #RS-222-11 or approved equal must be used to attach marker to curb.

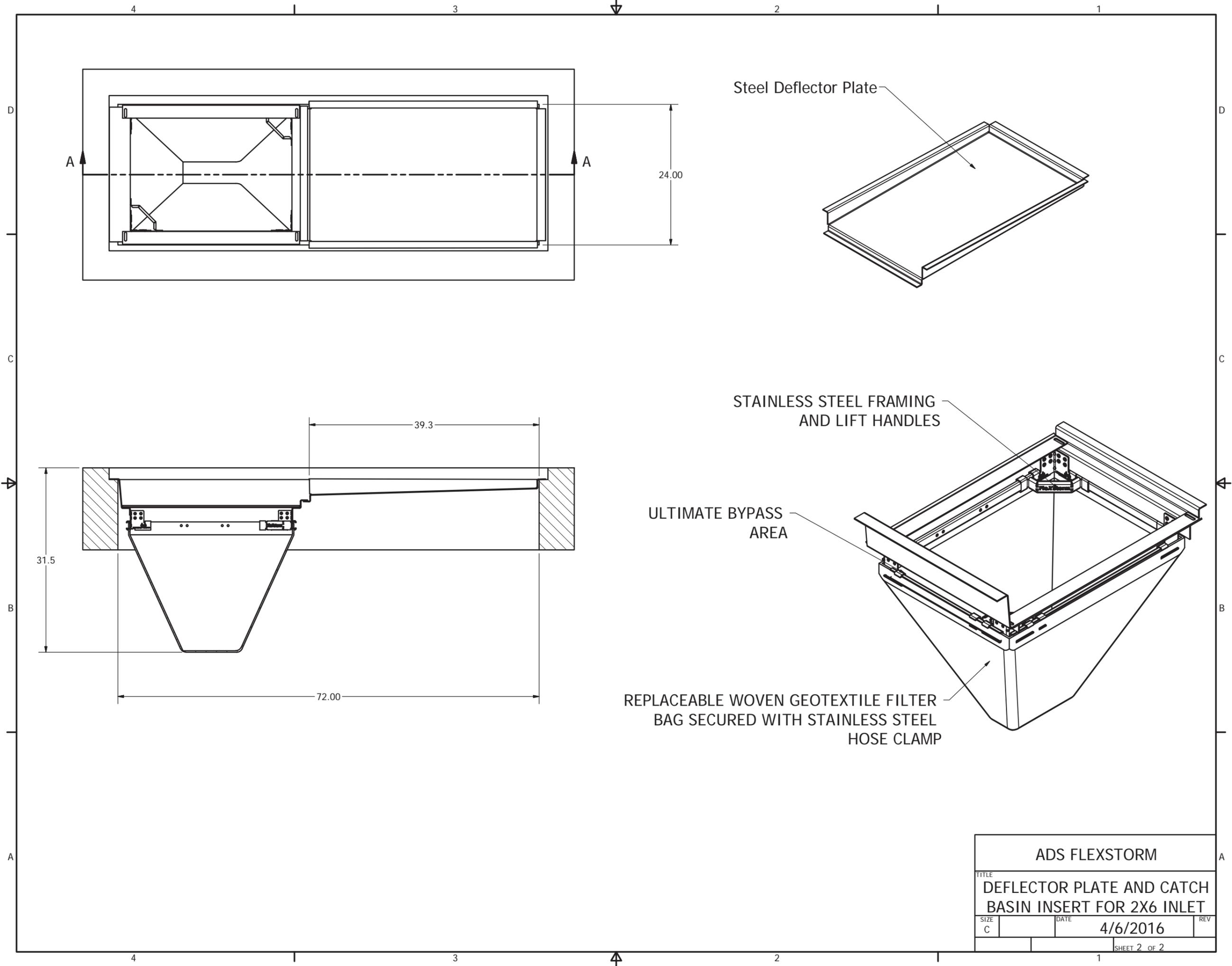
INSTALLATION INSTRUCTIONS

- A. Reflective green inlet curb marker will be located as shown on Drawings and installed according to the manufacturer's specifications. Weather must be dry for 24 hours before and after installation, and markers may only be placed when the temperature is above 45°F.



2.5 Cut Diameter

Color: C: 100 M: 0 Y: 94 K: 24



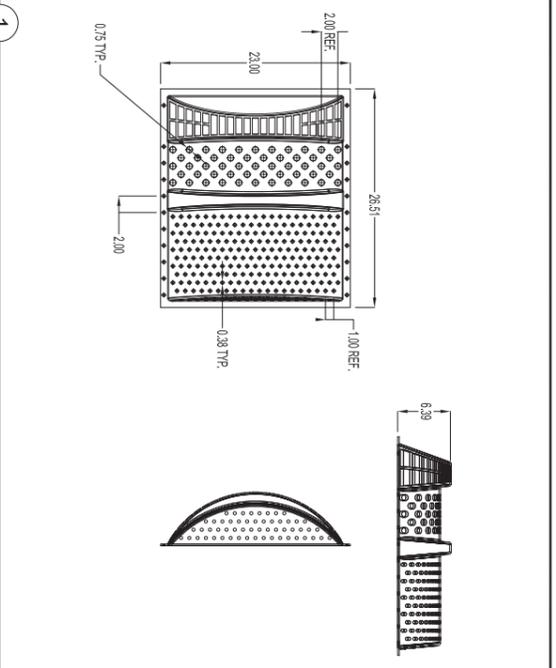
Steel Deflector Plate

STAINLESS STEEL FRAMING
AND LIFT HANDLES

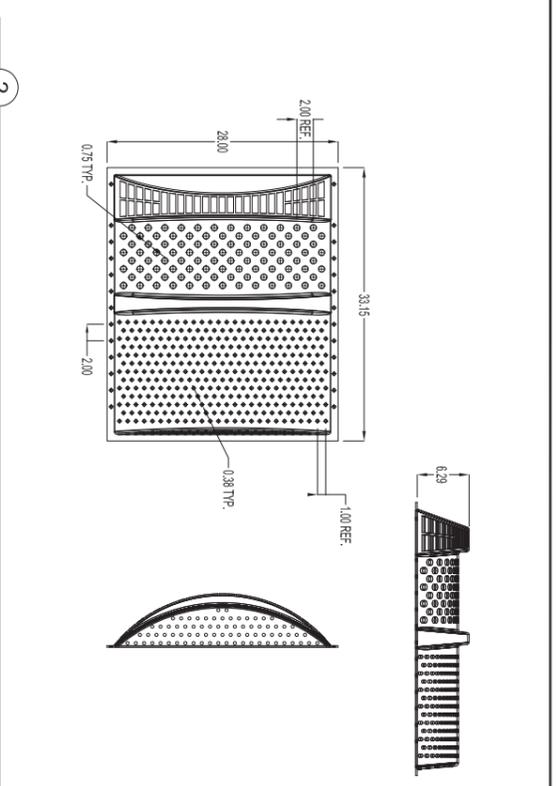
ULTIMATE BYPASS
AREA

REPLACEABLE WOVEN GEOTEXTILE FILTER
BAG SECURED WITH STAINLESS STEEL
HOSE CLAMP

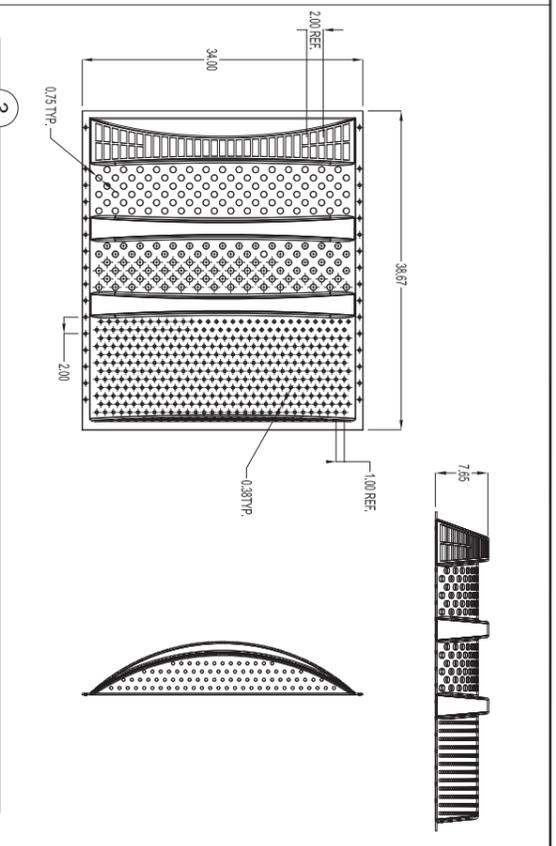
ADS FLEXSTORM			
TITLE DEFLECTOR PLATE AND CATCH BASIN INSERT FOR 2X6 INLET			
SIZE C	DATE 4/6/2016	REV	
			SHEET 2 OF 2



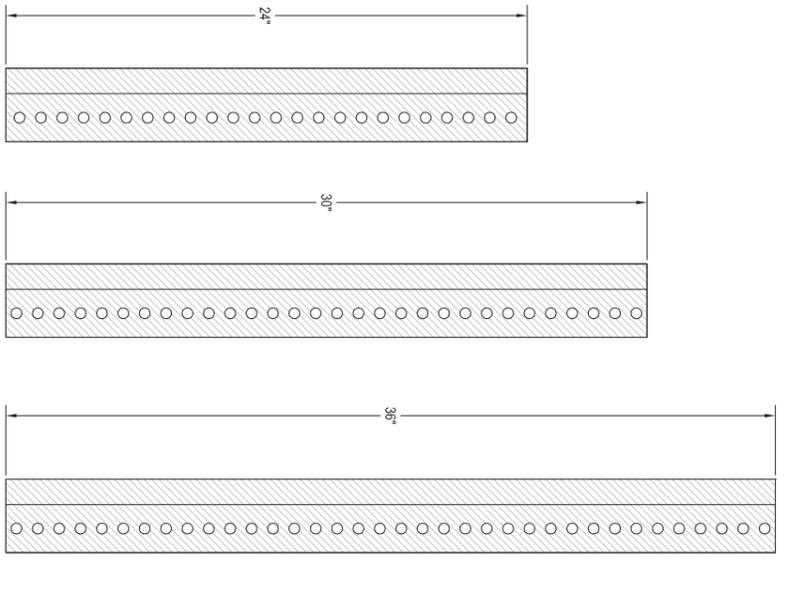
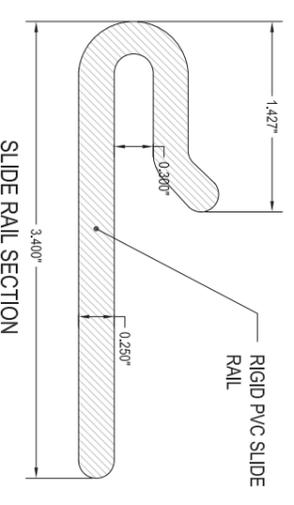
1 TRASHGUARD PLUS MODEL TGRD23X24P DETAIL



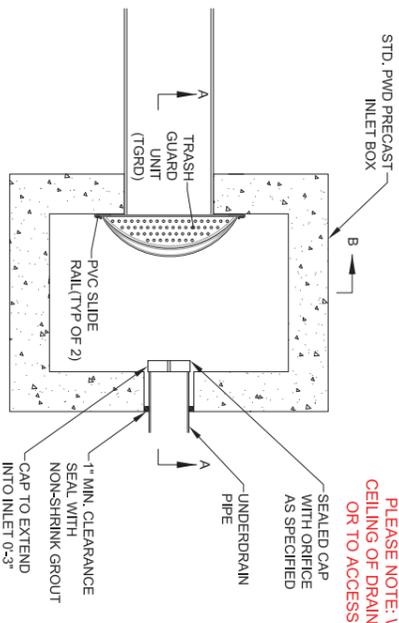
2 TRASHGUARD MODEL TGRD28X30P DETAIL



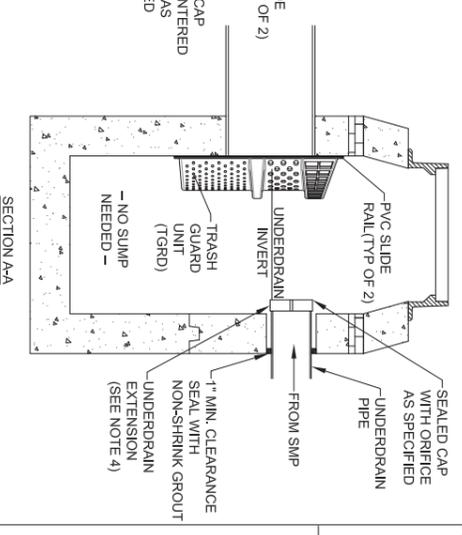
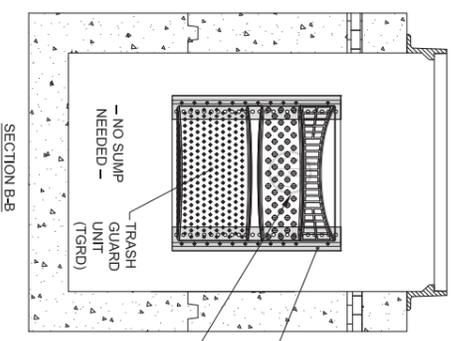
3 TRASHGUARD MODEL TGRD34X36P DETAIL



4 TRASHGUARD PLUS TGRD RAIL DETAIL



- NOTES:
1. ALL CONCRETE COMPONENTS, INLET GRATE AND FRAME, INLET TRAP, AND CONNECTION TO SEWER SHALL BE PWD STANDARD CONSTRUCTION.
 2. HIGHWAY INLET DEPICTED: DESIGN IS GENERALLY APPLICABLE TO ALL PWD STANDARD INLETS.
 3. THIS INLET HAS A SEWER CONNECTION AND AN UNDERDRAIN ONLY FROM A STORMWATER SYSTEM (SMP).
 4. TOTAL EXTENSION OF UNDERDRAIN AND CAP ASSEMBLY INTO INLET TO BE 0-3\"/>



5 TRASH GUARD PLUS UNIT (no cut) WITH RAILS (TGRD) GREEN INLET DETAIL

FIGURE 1 - HINGE INSTALLATION

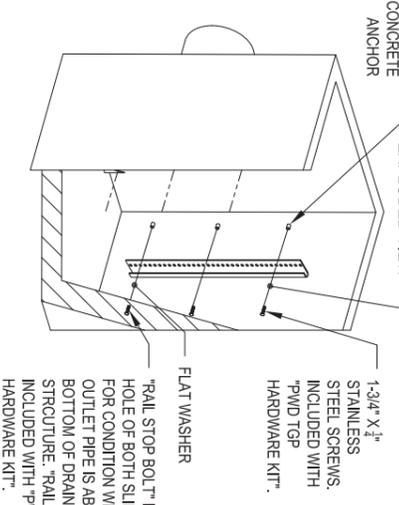


FIGURE 2

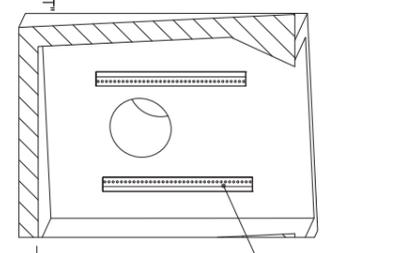
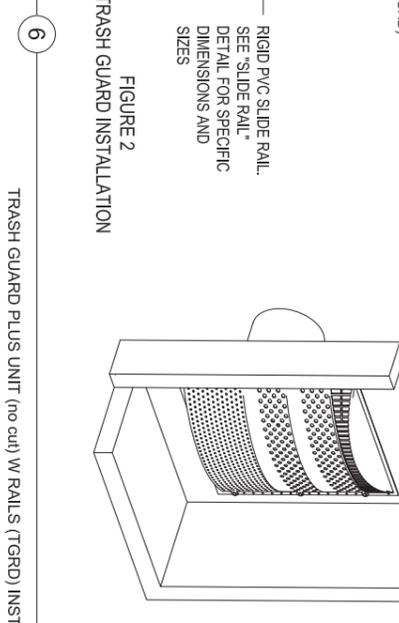


FIGURE 3 COMPLETED INSTALLATION



6 TRASH GUARD PLUS UNIT (no cut) W/ RAILS (TGRD) INSTALLATION DETAIL

PLEASE NOTE: WITH THIS CONFIGURATION, PRIOR TO INSTALLATION OF THE RAILS, INSTALLER TO MEASURE DISTANCE FROM PIPE INVERT TO CEILING OF DRAIN TO CONFIRM THERE WILL BE SUFFICIENT SPACE/CLEARANCE TO REMOVE AND REINSTALL TGRD UNIT AT TIME OF INSTALLATION OR TO ACCESS PIPE IN FUTURE. IF INSUFFICIENT CLEARANCE IS AVAILABLE - USE ACF "CUT" TRASHGUARD UNIT (NOT SHOWN ON THIS PLAN).

TRASHGUARD PLUS w RAIL DETAILS

PHILADELPHIA WATER DEPARTMENT STANDARD DETAILS

PHILADELPHIA, PA



FOR ADDITIONAL INFORMATION PLEASE CONTACT:
ACF Env. www.acfenv.com/philadelp
www.acfenv.com/philadelp

DATE	REVISION
08.22.16	ISSUED TO P.W.D. FOR REVIEW
10.11.16	UPDATED

TG-1

PROJECT NO.
DATE
JUNE 15, 2016
SHEET NO.

REV. 05/15/16