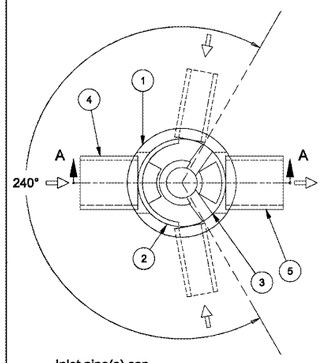
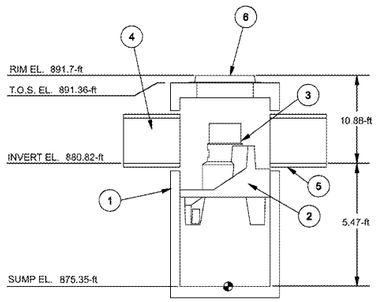


Inlet pipe(s) can enter anywhere within 240° arc.



SECTION A-A

Parts List		
ITEM	SIZE (in)	DESCRIPTION
1	48	I.D. PRECAST MANHOLE
2		LEDGER SUPPORT
3		SEPARATION MODULE
4	18	INLET PIPE (BY OTHERS), MAX. 24 in.
5	18	OUTLET PIPE (BY OTHERS), MAX. 24 in.
6	30	FRAME AND COVER (ROUND)

GENERAL NOTES:
1. General Arrangement drawings only. Contact Hydro International for site specific fabrication drawings.
2. The maximum diameter of the inlet & outlet pipes is 24 in. For larger pipes, please contact Hydro International for additional design assistance.
3. Multiple inlet pipes possible (refer to project plans).
4. Inlet/outlet pipe angle can vary to align with drainage network (refer to project plans).
5. Peak flow rate limited by available cover and pipe diameter.
6. Larger sediment storage capacity may be provided with a deeper sump depth.

PRODUCT SPECIFICATIONS:
A. The treatment system shall use an induced vortex to separate pollutants from stormwater runoff.
B. The treatment system shall fit within the limits of excavation (area and depth) as shown in the project plans and will not exceed the dimensions for the design flow rates specified herein.
C. The treatment system shall remove greater than or equal to 80% of TSS at the water quality flow rate.
D. The treatment system shall convey the Peak On-line Flow Rates of up to 35 cfs without causing upstream surcharge conditions. Full-scale independent laboratory scour testing shall demonstrate effluent control of less than or equal to 5 mg/L for all flows up to 200% of the maximum treatment flow rate for 106-micron particles.
E. The treatment system shall be capable of capturing and retaining fine silt and sand size particles. Analysis of captured sediment from full-scale field installations shall demonstrate particle sizes predominately in the 20-micron range

Notes

1. MANHOLE WALL AND SLAB THICKNESSES ARE NOT TO SCALE.
2. CONTACT HYDRO INTERNATIONAL FOR A BOTTOM OF STRUCTURE ELEVATION PRIOR TO SETTING FIRST DEFENSE MANHOLE.
3. CONTRACTOR TO CONFIRM RIM, PIPE INVERTS, PIPE DIA. AND PIPE ORIENTATION PRIOR TO RELEASE OF UNIT TO FABRICATION.

REV	BY	DATE	DESCRIPTION
	RC	12/5/2014	FIRST ISSUE

REVISION HISTORY

Date	Scale
11/20/2017	1/4" = 1'0"

Drawn	Checked	Approved
RC		

FIRST DEFENSE®
MODEL 4-HC ONLINE

Proprietary Structure - B2

PROJECT NAME:
RT Griffin

PROJECT LOCATION:
Griffin, GA

Hydro International

Stormwater Solutions
94 Hutchins Drive
Portland, Maine 04102
Tel: (207) 756-6200
Fax: (207) 756-6212
stormwaterinquiry@hydro-int.com

CAD Ref: WEB SC FD-4HC
Project No. xx-xxxx
Drawing No. Rev. A

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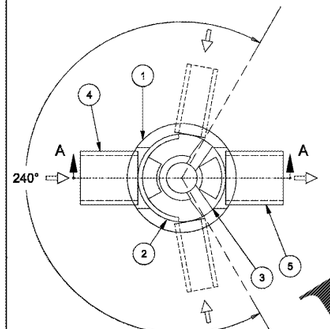

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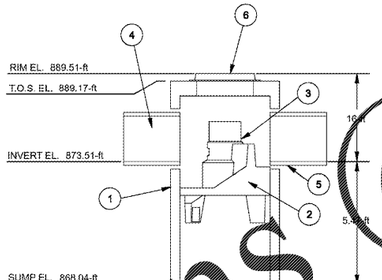

SECTION A-A

Parts List		
ITEM	SIZE (in)	DESCRIPTION
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3		SEPARATION MODULE
4	18	INLET PIPE (BY OTHERS), MAX. 24 in.
5	18	OUTLET PIPE (BY OTHERS), MAX. 24 in.
6		GRATE

GENERAL NOTES:
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3. CONTRACTOR TO CONFIRM RIM, PIPE INVERTS, PIPE DIA. AND PIPE ORIENTATION PRIOR TO RELEASE OF UNIT TO FABRICATION.

REV	BY	DATE	DESCRIPTION
	RC	12/5/2014	FIRST ISSUE

REVISION HISTORY

Date	Scale
11/20/2017	1/4" = 1'0"

Drawn	Checked	Approved
RC		

FIRST DEFENSE®
MODEL 4-HC ONLINE

Proprietary Structure - B6

PROJECT NAME:
RT Griffin

PROJECT LOCATION:
Griffin, GA

Hydro International

Stormwater Solutions
94 Hutchins Drive
Portland, Maine 04102
Tel: (207) 756-6200
Fax: (207) 756-6212
stormwaterinquiry@hydro-int.com

CAD Ref: WEB SC FD-4HC
Project No. xx-xxxx
Drawing No. Rev. A

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Stormwater Solutions

Stormwater Separator

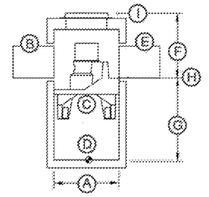
Online Sizing Calculator Project Summary

Hydro International

Project Details	Contact Details
RT Griffin Griffin, GA United States Application: Pretreatment Development Type: New Development	John Edge A&R Engineering Marietta, GA United States

First Defense High Capacity Specification

A	Vortex Chamber Diameter	4 ft
B	Maximum Inlet Pipe Diameter	24"
C	Oil Storage Capacity	191 gal
D	Sediment Storage Capacity	1.28 yd³
E	Outlet Pipe Diameter	24"
F	Minimum Stormdrain Depth	3.73 ft
G	Sediment Depth	5.47 ft



List Of Stormwater Separators On Project

Page 1 of 1

Reference Name / Site Designation:	Proprietary Structure - B6	First Defense High Capacity Size:	4-ft
Sizing Method:	Regulatory Agency	First Defense High Capacity is Set:	Online
Regulatory Agency:	City of Fort Wayne	Rim Elevation (A):	889.51 ft
Water Quality Flow Rate:	1.39 cfs	Minimum Depth (B):	2.9 ft
Peak Flow Rate:	7.38 cfs	Invert Elevation of Outlet (C):	873.51 ft
Inlet Pipe Diameter:	18 in	Distance from Outlet Invert to Sump (D):	5.47 ft
Outlet Pipe Diameter:	18 in		

Reference Name / Site Designation:	Proprietary Structure - B2	First Defense High Capacity Size:	4-ft
Sizing Method:	Regulatory Agency	First Defense High Capacity is Set:	Online
Regulatory Agency:	Johnson City, TN - 80%	Rim Elevation (A):	891.7 ft
Water Quality Flow Rate:	TSS Removal	Minimum Depth (B):	3.94 ft
Peak Flow Rate:	1.26 cfs	Invert Elevation of Outlet (C):	880.82 ft
Inlet Pipe Diameter:	12.52 cfs	Distance from Outlet Invert to Sump (D):	5.47 ft
Outlet Pipe Diameter:	18 in 18 in		

Hydro International, Stormwater Solutions, 94 Hutchins Drive, Portland, ME 04102
Tel: (207) 756-6200 Fax: (207) 756-6212 Web: www.hydro-int.com Email: stormwaterinquiry@hydro-int.com

NO.	DATE
REVISIONS	
9	REVISED PER SPALDING CO COMMENTS 10/24/2018
7	REVISED PER SPALDING CO. / CITY OF GRIFFIN / RT INTERNAL COMMENTS 08/16/2018
6	REVISED PER FFE DROP OF 4" 07/06/2018
5	REVISED SET PER SPALDING COUNTY PLAN REVIEW 12/7/2017
4	REVISED SET PER SPALDING COUNTY PLAN REVIEW 12/7/2017
3	REVISED SET PER RT INTERNAL REVIEW / SPALDING COUNTY PLAN REVIEW 11/20/2017
2	REVISED SET PER RT INTERNAL REVIEW / SPALDING COUNTY PLAN REVIEW 10/20/2017
1	REVISED SET PER RT INTERNAL REVIEW / SPALDING COUNTY PLAN REVIEW 09/15/2017

GEORGIA REGISTERED No. 22518 PROFESSIONAL Abdul K. Ansari ENGINEER

A&R Engineering, Inc.
2160 Kingston Court, Suite O
Marietta, GA 30067
(770) 423-1808
www.areng.com

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RaceTrac

RACETRAC PETROLEUM, INC.
200 GALLERIA PKWY, S.E.
SUITE 900 ATLANTA, GA 30339
(770) 431-7600

Proprietary Structure Details

RACETRAC MARKET

RaceTrac Griffin
1638 US Hwy 41
Spalding County

DATE	7-24-17
DRAWN-BY	JDE
CHECK-BY	AKA
DRAWING NAME:	16-136

SD15 REV 9

SHEET NO. REVISION

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