

# EMERIO *Design*

CIVIL ENGINEERS & PLANNERS

## TECHNICAL MEMORANDUM

Date: March 29, 2016  
To: City of Sherwood Engineering Staff  
From: Eric Evans, PE – Emerio Design  
Subject: Sherwood Plaza Apartments / Stormwater Treatment



**EXPIRES: 12/31/2017**

This letter and its attachments are to serve as documentation to address the stormwater treatment requirements contained in Table 4-1 of the CleanWater Services Manual. The project site is on the existing grassy lot east of Sherwood Plaza fronting SW Langer Drive.

### **Water Quality:**

The Clean Water Services code section 4.05.5.d states "For redevelopment sites, the impervious area used to design water quality facilities shall be based on Table 4-1". Using Table 4-1, it is determined that 100% of the new impervious area due to the proposed site project development and 50% of the existing Sherwood Plaza impervious area requires treatment.

### **Existing Impervious Area Treatment:**

The existing stormwater system at Sherwood Plaza consists of downspouts and weep holes that route roof drainage onto the impervious parking areas and into catch basins which connect to stormwater pipe that discharges to the public storm system on the western site frontage. Recent projects at Sherwood Plaza, namely Taco Bell and Dutch Bros Coffee, have accounted for water quality treatment by use of storm filter catch basins totaling 26,300 SF impervious area from basins H2, H13, and H15. These are the only impervious areas currently being treated for water quality. Refer to the attached site map delineating drainage basins for each catch basin and the associated spreadsheet containing calculated areas.

### **Proposed Solution:**

The total impervious area for the project including Sherwood Plaza is 390,924 SF and to achieve 50% treatment, a minimum of 195,462 SF needs to be treated. Since 26,300 SF is currently being treated, a remainder of 169,162 SF requires treatment. Basins H1, H5, H9, and H10 will have their respective catch basins replaced with a 3-cartridge storm filter catch basin. H4 will utilize a 2-cartridge storm filter catch basin. The total area of treatment added by these areas is 178,111 SF. See attached Storm Filter Catch Basin spreadsheet for sizing calculations.

The on-site area of 149,184 SF is assumed to be 100% impervious to be conservative. All on-site area will be treated by ten storm filter cartridges in an underground vault.

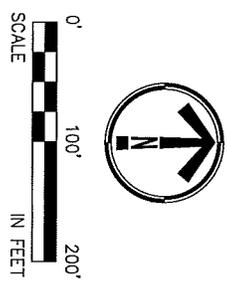
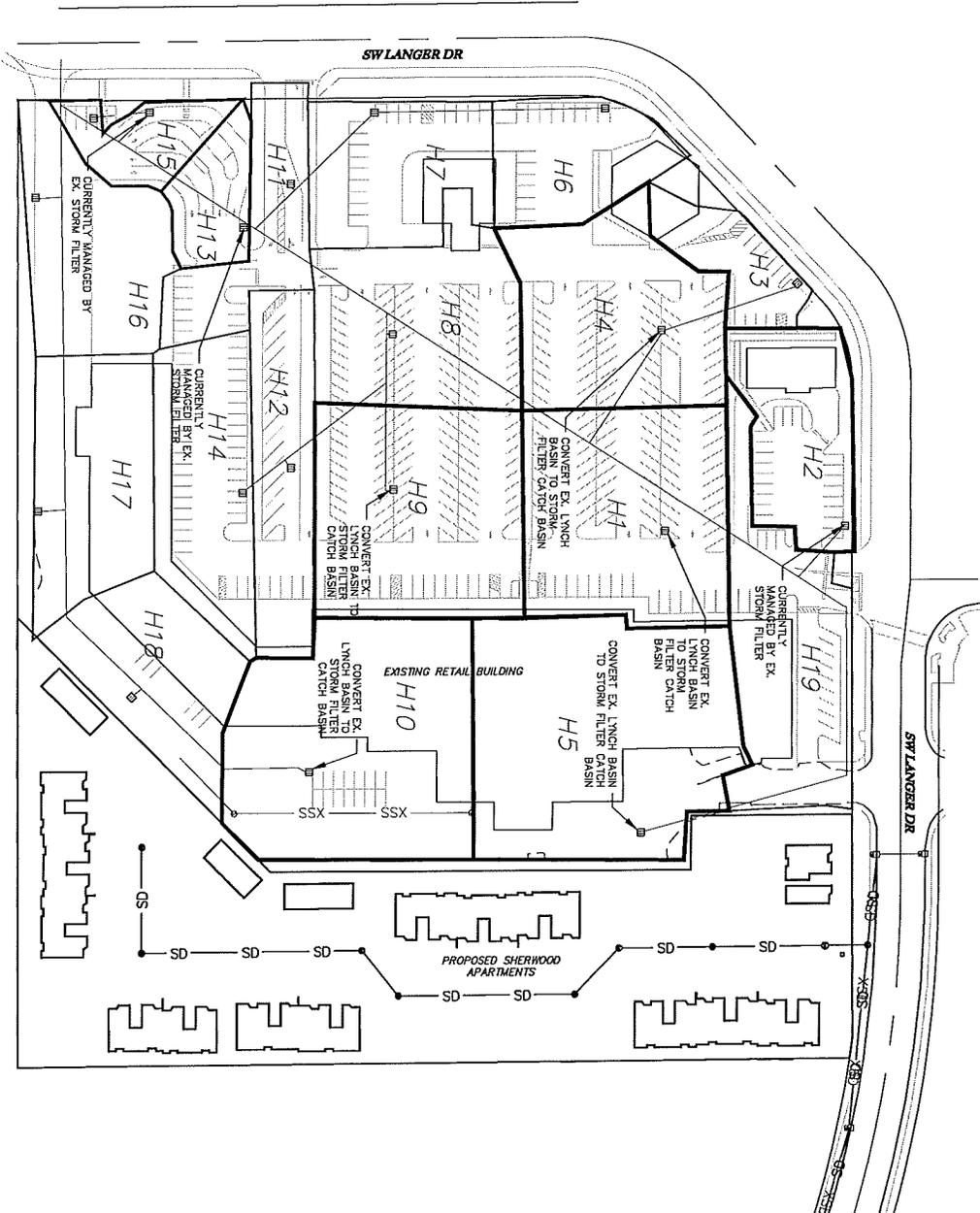
### **Engineering Conclusions:**

Proposed project site impervious area flows will be routed to a vault containing storm filters and existing lynch basins will be converted to storm filter catch basins in Sherwood Plaza to treat 50% of the impervious area therefore satisfying the CleanWater Services code from Table 4-1.

List of Attachments:

Sherwood Plaza Basin Map  
Basin Area Tabulated Data  
Storm Filter Catch Basin Calculations  
Storm Filter Details

05/21/2012 Revised (see) Civil/Storm/Water/Utility/2009-012 Item under Layout Layout Date: 3/29/2012 2:18 PM



SHEET  
 48

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REVISIONS	
NO.	DATE

DESCRIPTION

**SHERWOOD PLAZA APARTMENTS**  
 A PORTION OF TAX LOT 0400  
 TAX MAP 2S1W 29CB, LOT 0400  
 CITY OF SHERWOOD, OREGON  
 EMERIO PROJECT No. 500-012

Sherwood Impervious Treatment

Basin	Area (SF)	Impervious (SF)	Pervious (SF)	Impervious Area %	Currently Treated Areas (SF)	Proposed Treatment (SF)	Total treated (SF)	Cartridges Needed (18" height)
H1	32343	32343		8%		32343	32343	3
H2	16998	16300	698	4%	16300		16300	
H3	8482	8155	327	2%			0	
H4	27396	27396		7%		27396	27396	2
H5	44621	44621		11%		44621	44621	3
H6	14339	14339		4%			0	
H7	17427	11239	6188	3%			0	
H8	26116	26116		7%			0	
H9	32774	32774		8%		32774	32774	3
H10	40977	40977		10%		40977	40977	3
H11	13869	13869		4%			0	
H12	16850	16850		4%			0	
H13	7553	5000	2553	1%	5000		5000	
H14	20531	20531		5%			0	
H15	7616	5000	2616	1%	5000		5000	
H16	20262	9949	10313	3%			0	
H17	21625	21625		6%			0	
H18	18933	18933		5%			0	
H19	25675	24907	768	6%			0	
TOTAL	414387	390924	23463	100%	26300	178111	204411	

# WATER QUALITY/STORMFILTER ANALYSIS

On-Site

## Storm Filter Catch Basin

### REFERENCES:

1. Stormwater Management, Inc. Product Design Manual; Version 3.3; Released September 2005
2. Clean Water Services – Design and Construction Standards for Sanitary Sewer and Surface Water Management; Water Quality Facility

Precipitation: 0.36 inches  
Storm Duration: 4 hours  
Storm Return Period: 96 hours

The number of StormFilter cartridges needed for a highly impervious site ( $\geq 70\%$  impervious) =

Design Impervious Area 3.42 Ac.

$$\text{WQ Volume (cf)} = \frac{0.36 \text{ in} \times \text{Impervious Area (sf)}}{12 \text{ (in/ft)}}$$

$$\text{WQ Flow (cfs)} = \frac{\text{WQ Volume (cf)}}{(4 \text{ hr})(60 \text{ min/hr})(60 \text{ sec/min})}$$

$$= \frac{\text{Impervious Area (sf)}}{480,000 \text{ sec/ft}}$$

$$= \frac{3.42 \text{ Ac.} \times 43,560 \text{ sf/ac}}{480,000 \text{ sec/ft}}$$

Design flow rate ( $Q_{\text{treat}}$ )= 0.31 cfs

Maximum flow rate a cartridge can treat ( $Q_{\text{cart}}$ ) = 15 gpm/cart

Number of cartridges required to treat the water quality design flow rate for the site ( $N_{\text{flow}}$ )

$$N_{\text{flow}} = Q_{\text{treat}} (449 \text{ gpm/cfs} / Q_{\text{cart}} \text{ gpm/cart}) \quad 9.30 \text{ cartridges}$$

Round up for a total of 10.00 cartridges

# WATER QUALITY/STORMFILTER ANALYSIS

Basin H1

## Storm Filter Catch Basin

### REFERENCES:

1. Stormwater Management, Inc. Product Design Manual; Version 3.3; Released September 2005
2. Clean Water Services – Design and Construction Standards for Sanitary Sewer and Surface Water Management; Water Quality Facility

Precipitation: 0.36 inches  
Storm Duration: 4 hours  
Storm Return Period: 96 hours

The number of StormFilter cartridges needed for a highly impervious site ( $\geq 70\%$  impervious) =

Design Impervious Area 0.74 Ac.

$$\text{WQ Volume (cf)} = \frac{0.36 \text{ in} \times \text{Impervious Area (sf)}}{12 \text{ (in/ft)}}$$

$$\text{WQ Flow (cfs)} = \frac{\text{WQ Volume (cf)}}{(4 \text{ hr})(60 \text{ min/hr})(60 \text{ sec/min})}$$

$$= \frac{\text{Impervious Area (sf)}}{480,000 \text{ sec/ft}}$$

$$= \frac{0.74 \text{ Ac.} \times 43,560 \text{ sf/ac}}{480,000 \text{ sec/ft}}$$

Design flow rate ( $Q_{\text{treat}}$ )= 0.07 cfs

Maximum flow rate a cartridge can treat ( $Q_{\text{cart}}$ ) = 15 gpm/cart

Number of cartridges required to treat the water quality design flow rate for the site ( $N_{\text{flow}}$ )

$$N_{\text{flow}} = Q_{\text{treat}} (449 \text{ gpm/cfs} / Q_{\text{cart}} \text{ gpm/cart}) \quad 2.02 \text{ cartridges}$$

Round up for a total of 3.00 cartridges

# WATER QUALITY/STORMFILTER ANALYSIS

Basin H4

## Storm Filter Catch Basin

### REFERENCES:

1. Stormwater Management, Inc. Product Design Manual; Version 3.3; Released September 2005
2. Clean Water Services – Design and Construction Standards for Sanitary Sewer and Surface Water Management; Water Quality Facility

Precipitation: 0.36 inches  
Storm Duration: 4 hours  
Storm Return Period: 96 hours

The number of StormFilter cartridges needed for a highly impervious site ( $\geq 70\%$  impervious) =

Design Impervious Area 0.63 Ac.

$$\text{WQ Volume (cf)} = \frac{0.36 \text{ in} \times \text{Impervious Area (sf)}}{12 \text{ (in/ft)}}$$

$$\text{WQ Flow (cfs)} = \frac{\text{WQ Volume (cf)}}{(4 \text{ hr})(60 \text{ min/hr})(60 \text{ sec/min})}$$

$$= \frac{\text{Impervious Area (sf)}}{480,000 \text{ sec/ft}}$$

$$= \frac{0.63 \text{ Ac.} \times 43,560 \text{ sf/ac}}{480,000 \text{ sec/ft}}$$

Design flow rate ( $Q_{\text{treat}}$ )= 0.06 cfs

Maximum flow rate a cartridge can treat ( $Q_{\text{cart}}$ ) = 15 gpm/cart

Number of cartridges required to treat the water quality design flow rate for the site ( $N_{\text{flow}}$ )

$$N_{\text{flow}} = Q_{\text{treat}} (449 \text{ gpm/cfs} / Q_{\text{cart}} \text{ gpm/cart}) = 1.71 \text{ cartridges}$$

Round up for a total of 2.00 cartridges

# WATER QUALITY/STORMFILTER ANALYSIS

Basin H5

## Storm Filter Catch Basin

### REFERENCES:

1. Stormwater Management, Inc. Product Design Manual; Version 3.3; Released September 2005
2. Clean Water Services – Design and Construction Standards for Sanitary Sewer and Surface Water Management; Water Quality Facility

Precipitation: 0.36 inches  
Storm Duration: 4 hours  
Storm Return Period: 96 hours

The number of StormFilter cartridges needed for a highly impervious site ( $\geq 70\%$  impervious) =

Design Impervious Area 1.02 Ac.

$$\text{WQ Volume (cf)} = \frac{0.36 \text{ in} \times \text{Impervious Area (sf)}}{12 \text{ (in/ft)}}$$

$$\text{WQ Flow (cfs)} = \frac{\text{WQ Volume (cf)}}{(4 \text{ hr})(60 \text{ min/hr})(60 \text{ sec/min})}$$

$$= \frac{\text{Impervious Area (sf)}}{480,000 \text{ sec/ft}}$$

$$= \frac{1.02 \text{ Ac.} \times 43,560 \text{ sf/ac}}{480,000 \text{ sec/ft}}$$

Design flow rate ( $Q_{\text{treat}}$ )= 0.09 cfs

Maximum flow rate a cartridge can treat ( $Q_{\text{cart}}$ ) = 15 gpm/cart

Number of cartridges required to treat the water quality design flow rate for the site ( $N_{\text{flow}}$ )

$$N_{\text{flow}} = Q_{\text{treat}} (449 \text{ gpm/cfs} / Q_{\text{cart}} \text{ gpm/cart}) \quad 2.78 \text{ cartridges}$$

Round up for a total of 3.00 cartridges

# WATER QUALITY/STORMFILTER ANALYSIS

Basin H9

## Storm Filter Catch Basin

### REFERENCES:

1. Stormwater Management, Inc. Product Design Manual; Version 3.3; Released September 2005
2. Clean Water Services – Design and Construction Standards for Sanitary Sewer and Surface Water Management; Water Quality Facility

Precipitation: 0.36 inches  
Storm Duration: 4 hours  
Storm Return Period: 96 hours

The number of StormFilter cartridges needed for a highly impervious site ( $\geq 70\%$  impervious) =

Design Impervious Area 0.75 Ac.

$$\text{WQ Volume (cf)} = \frac{0.36 \text{ in} \times \text{Impervious Area (sf)}}{12 \text{ (in/ft)}}$$

$$\begin{aligned} \text{WQ Flow (cfs)} &= \frac{\text{WQ Volume (cf)}}{(4 \text{ hr})(60 \text{ min/hr})(60 \text{ sec/min})} \\ &= \frac{\text{Impervious Area (sf)}}{480,000 \text{ sec/ft}} \\ &= \frac{0.75 \text{ Ac.} \times 43,560 \text{ sf/ac}}{480,000 \text{ sec/ft}} \end{aligned}$$

Design flow rate ( $Q_{\text{treat}}$ )= 0.07 cfs

Maximum flow rate a cartridge can treat ( $Q_{\text{cart}}$ ) = 15 gpm/cart

Number of cartridges required to treat the water quality design flow rate for the site ( $N_{\text{flow}}$ )

$N_{\text{flow}} = Q_{\text{treat}} (449 \text{ gpm/cfs} / Q_{\text{cart}} \text{ gpm/cart})$  2.04 cartridges

Round up for a total of 3.00 cartridges

# WATER QUALITY/STORMFILTER ANALYSIS

Basin H10

## Storm Filter Catch Basin

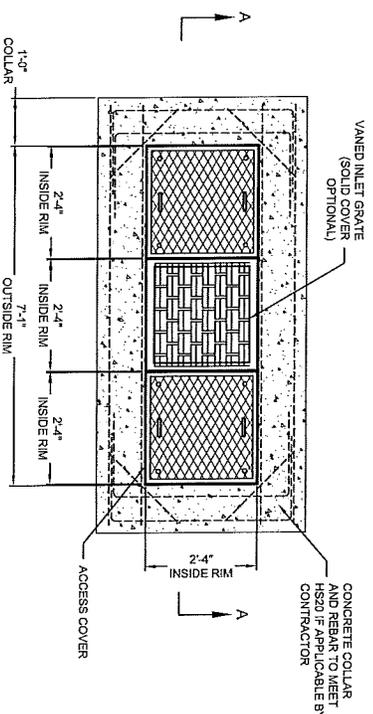
### REFERENCES:

1. Stormwater Management, Inc. Product Design Manual; Version 3.3; Released September 2005
2. Clean Water Services – Design and Construction Standards for Sanitary Sewer and Surface Water Management; Water Quality Facility

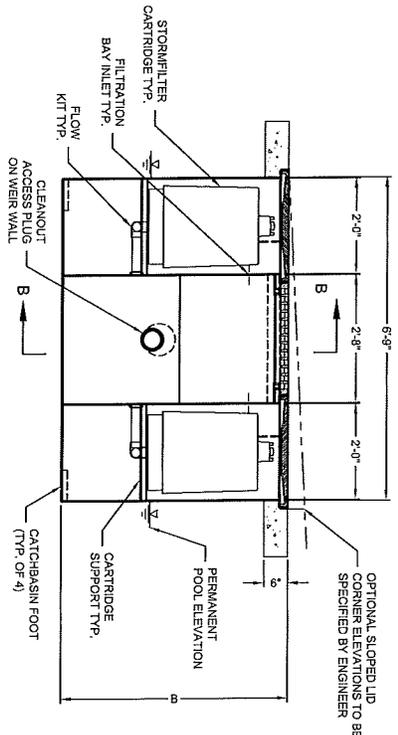
Precipitation: 0.36 inches  
Storm Duration: 4 hours  
Storm Return Period: 96 hours

The number of StormFilter cartridges needed for a highly impervious site ( $\geq 70\%$  impervious) =

Design Impervious Area		0.94 Ac.
WQ Volume (cf) =	=	$\frac{0.36 \text{ in} \times \text{Impervious Area (sf)}}{12 \text{ (in/ft)}}$
WQ Flow (cfs) =	=	$\frac{\text{WQ Volume (cf)}}{(4 \text{ hr})(60 \text{ min/hr})(60 \text{ sec/min})}$
	=	$\frac{\text{Impervious Area (sf)}}{480,000 \text{ sec/ft}}$
	=	$\frac{0.94 \text{ Ac.} \times 43,560 \text{ sf/ac}}{480,000 \text{ sec/ft}}$
Design flow rate ( $Q_{\text{treat}}$ )=		0.09 cfs
Maximum flow rate a cartridge can treat ( $Q_{\text{cart}}$ ) =		15 gpm/cart
Number of cartridges required to treat the water quality design flow rate for the site ( $N_{\text{flow}}$ )		
$N_{\text{flow}} = Q_{\text{treat}} (449 \text{ gpm/cfs} / Q_{\text{cart}} \text{ gpm/cart})$		2.56 cartridges
Round up for a total of		3.00 cartridges



**PLAN VIEW**



**SECTION A-A**

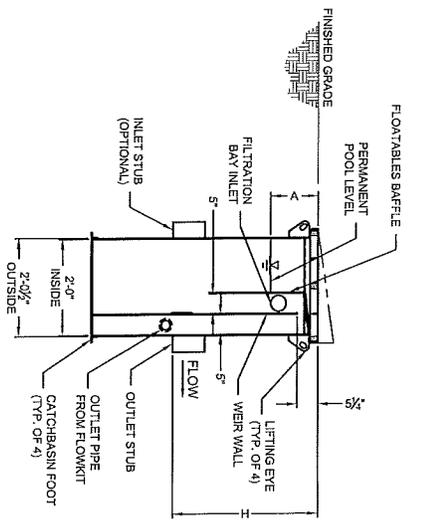
**STORMFILTER CATCHBASIN DESIGN NOTES**

STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. 2 CARTRIDGE CATCHBASIN HAS A MAXIMUM OF TWO CARTRIDGES. SYSTEM IS SHOWN WITH A 2" CARTRIDGE, AND IS ALSO AVAILABLE WITH AN 18" CARTRIDGE. STORMFILTER CATCHBASIN CONFIGURATIONS ARE AVAILABLE WITH A DRY INLET BAY FOR VECTOR CONTROL.

PEAK HYDRAULIC CAPACITY PER TABLE BELOW. IF THE SITE CONDITIONS EXCEED PEAK HYDRAULIC CAPACITY, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

CARTRIDGE SELECTION		2"		18"		18" DEEP	
CARTRIDGE HEIGHT	RECOMMENDED HYDRAULIC DROP (H)	3.05'	2.3'	3.3'	3.3'	1.6'	1.6'
SPECIFIC FLOW RATE (gpm/sf)	2 gpm/sf	1 gpm/sf	2 gpm/sf	2 gpm/sf	1 gpm/sf	1 gpm/sf	1 gpm/sf
CARTRIDGE FLOW RATE (gpm)	22.5	11.25	15	15	7.5	7.5	7.5
PEAK HYDRAULIC CAPACITY	1.0	1.0	1.0	1.0	1.0	1.0	1.0
INLET PERMANENT POOL LEVEL (A)	1'-0"	1'-0"	1'-0"	1'-0"	2'-0"	2'-0"	2'-0"
OVERALL STRUCTURE HEIGHT (B)	4'-9"	4'-9"	4'-9"	4'-9"	4'-9"	4'-9"	4'-9"

- GENERAL NOTES:**
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
  2. CON SITE SPECIFIC DRAWINGS WITH DETAILED STORMFILTER CATCHBASIN STRUCTURE DIMENSIONS AND WEIGHTS. PLEASE CONTACT YOUR CONTRACTOR FOR MORE INFORMATION.
  3. STORMFILTER CATCHBASIN WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
  4. INLET SHOULD NOT BE LOWER THAN OUTLET. INLET (IF APPLICABLE) AND OUTLET PIPING TO BE SPECIFIED BY ENGINEER AND PROVIDED BY CONTRACTOR.
  5. STORMFILTER CATCHBASIN EQUIPPED WITH 4 INCH (APPROXIMATE) LONG STUBS FOR INLET (IF APPLICABLE) AND OUTLET PIPING. STANDARD OUTLET STUB IS 8 INCHES IN DIAMETER. MAXIMUM OUTLET STUB IS 15 INCHES IN DIAMETER. CONNECTION TO COLLECTION PIPING CAN BE MADE USING FLEXIBLE COUPLING BY CONTRACTOR.
  6. STEEL STRUCTURE TO BE MANUFACTURED OF 1/4" THICK STEEL PLATE. CASTINGS SHALL MEET AASHTO M308 LOAD PAVING. TO MEET HS20 LOAD BY CONTRACTOR.
  7. FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTIVATED, RADIAL FLOW, AND SELF-CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 37 SECONDS.
  8. SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft).
- INSTALLATION NOTES:**
- A. ANY SUBBASE, BACKFILL, DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
  - B. PROVIDED ON TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CATCHBASIN (LIFTING CLUTCHES PROVIDED).
  - C. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.



**SECTION B-B**

**2-CARTRIDGE DEEP CATCHBASIN STORMFILTER DATA**

STRUCTURE ID	XXX
WATER QUALITY FLOW RATE (G/S)	X.XX
PEAK FLOW RATE (C.I.B. C/S)	X.XX
RETURN PERIOD OF PEAK FLOW (M/S)	XXX
CARTRIDGE FLOW RATE (GPM)	XX
MEDIA TYPE (G/SF, PERLITE, ZPG, GAG, PHS)	XXXXX
RIM ELEVATION	XXXXXX
PIPE DATA:	
INLET STUB	I.E. DIAMETER
OUTLET STUB	XXXXXX
OUTLET STUB	XXXXXX

**CONFIGURATIONS**

CONFIGURATION	OUTLET	OUTLET
INLET	INLET	INLET
INLET	INLET	INLET
INLET	INLET	INLET

**SLOPED LID** YES/NO

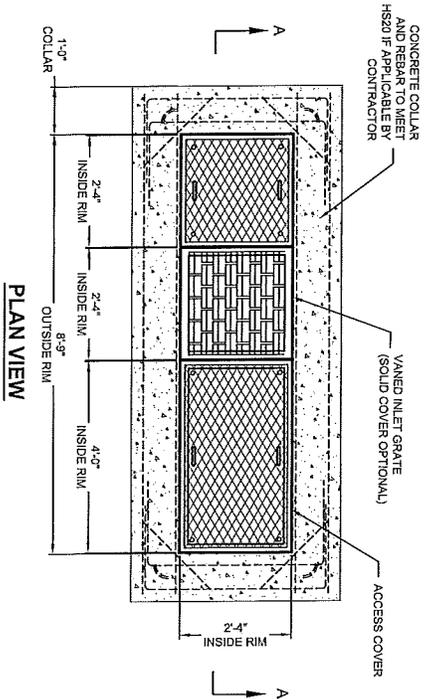
**SOLID COVER** YES/NO

**NOTES/SPECIAL REQUIREMENTS:**

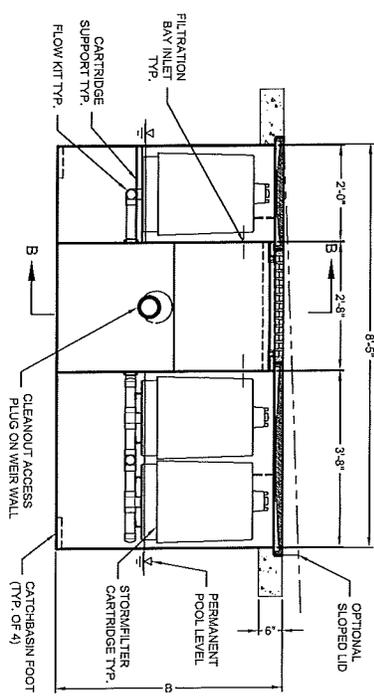
**CONTECH**  
ENGINEERED SOLUTIONS LLC  
www.contechcs.com

9025 Camino Palme Dr., Suite 400, West Chester, OH 45386  
800-525-3888 513-545-7090 513-545-3933 FAX

**2 CARTRIDGE DEEP CATCHBASIN STORMFILTER STANDARD DETAIL**



PLAN VIEW



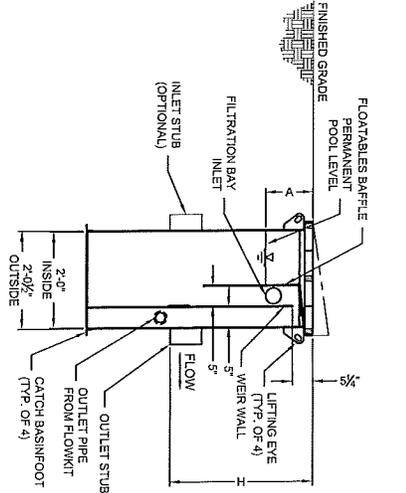
SECTION A-A

**STORMFILTER CATCHBASIN DESIGN NOTES**

STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. 3 CARTRIDGE CATCHBASIN HAS A MAXIMUM OF THREE CARTRIDGES. SYSTEM IS SHOWN WITH A 27" CARTRIDGE AND IS ALSO AVAILABLE WITH AN 18" CARTRIDGE. STORMFILTER CATCHBASIN CONFIGURATIONS ARE AVAILABLE WITH A DRY INLET BAY FOR VECTOR CONTROL. PEAK HYDRAULIC CAPACITY PER TABLE BELOW. IF THE SITE CONDITIONS EXCEED PEAK HYDRAULIC CAPACITY, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

CARTRIDGE SELECTION		18" DEEP	
CARTRIDGE HEIGHT	RECOMMENDED HYDRAULIC DROP (H)	27"	18"
2 gpm/ft <sup>2</sup>	3.05'	2.3'	3.3'
1 gpm/ft <sup>2</sup>	11.25'	7.5'	7.5'
0.5 gpm/ft <sup>2</sup>	22.5'	15'	15'
PEAK HYDRAULIC CAPACITY	1.0	1.0	1.8
INLET PERMANENT POOL LEVEL (A)	1'-0"	1'-0"	2'-0"
OVERALL STRUCTURE HEIGHT (B)	4'-9"	4'-9"	4'-9"

- GENERAL NOTES**
- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
  - FOR SITE SPECIFIC DRAWINGS WITH DETAILED STORMFILTER CATCHBASIN STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR ENGINEER OF RECORD.
  - CONTECH ANGENERED SOLUTIONS LLC REPRESENTATIVE: [www.conteches.com](http://www.conteches.com)
  - STORMFILTER CATCHBASIN WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
  - INLET SHOULD NOT BE LOWER THAN OUTLET. INLET (IF APPLICABLE) AND OUTLET PIPING TO BE SPECIFIED BY ENGINEER AND PROVIDED BY CONTRACTOR.
  - STORMFILTER CATCHBASIN EQUIPPED WITH 4 INCH APPROXIMATE LONG STUBS FOR INLET (IF APPLICABLE) AND OUTLET PIPING. STANDARD OUTLET STUB IS 8 INCHES IN DIAMETER. MAXIMUM OUTLET STUB IS 15 INCHES IN DIAMETER. CONNECTION TO COLLECTION PIPING CAN BE MADE USING FLEXIBLE COUPLING BY CONTRACTOR.
  - STEEL STRUCTURE TO BE MANUFACTURED OF 1/4 INCH STEEL PLATE. CASTINGS SHALL MEET A537M M206 LOAD RATING. TO MEET HS20 LOAD RATING ON STRUCTURE, A CONCRETE COLLAR IS REQUIRED. WHEN REQUIRED, CONCRETE COLLAR WITH #4 REINFORCING BARS TO BE PROVIDED BY CONTRACTOR.
  - FILTER CARTRIDGES SHALL BE MEDIA FILLED, PASSIVE, SIPHON ACTIVATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 8". SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft).
- INSTALLATION NOTES**
- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
  - CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CATCHBASIN LIFTING CLUTCHES PROVIDED.
  - CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.



SECTION B-B

**3-CARTRIDGE CATCHBASIN STORMFILTER DATA**

STRUCTURE ID	XXX	OUTLET	OUTLET
WATER QUALITY FLOW RATE (G5)	XXX	INLET	INLET
PEAK FLOW RATE (K1 G5)	XXX		
RETENTION PERIOD OF PEAK FLOW (Y5)	XXX		
CARTRIDGE FLOW RATE (GPM)	XXX		
MEDIA TYPE (C5*, FERLITE, ZFG, GAG, PHS)	XXXX		
RIM ELEVATION	XXX.XX		
PIPE DATA:			
INLET STUB	XXX.XX	I.E.	DIAMETER
OUTLET STUB	XXX.XX	XX"	
CONFIGURATION			
OUTLET	○ ○ ○	OUTLET	○ ○ ○
SLOPED LID	YES/NO	SOLID COVER	YES/NO
NOTES/SPECIAL REQUIREMENTS:			

**CONTECH**  
ENGINEERED SOLUTIONS LLC

3 CARTRIDGE CATCHBASIN  
STORMFILTER  
STANDARD DETAIL

9025 Centro Palmo Dr., Suite 400, West Chester, OH 45386  
800-526-3899 513-545-7200 513-545-7383 FAX

www.conteches.com



