



5116 West Emerald St., Boise, Idaho 83706

October 9, 2025

Mr. Nicholas Wong

California State Water Resources Control Board  
Division of Water Quality  
P.O. Box 100  
Sacramento, CA, 95812-100

**Re: Full Capture Trash Treatment Control System Certification Application for Hydra Full Trash Capture Filter Basket Insert System (HFTC System).**

Dear Mr. Wong,

We appreciate the opportunity for Hydra TMDL Systems, LLC, to submit the attached Full Capture Trash Treatment Control System Certification application for the HFTC System. The HFTC System has two configurations – one designed for small catch Basins with no curb inlet but with horizontal grates (typically found in parking lots), and the other designed for typical catch basins with curb inlets and a solid manhole cover. The two configurations are described below:

- A) Drop-in Horizontal Grate Inlet Filter Basket Inserts in two filter shapes: Square and Rectangular. Stormwater enters through the horizontal grate, and trash is trapped both on the grate surface and the filter.
- B) Wall-Mounted Curb Inlet Filter Basket Inserts that utilize a Mandatory Feeder Trough. Stormwater enters through the curb inlet only and is trapped by the filter.

As required by the Full Capture Certification application, the following information is provided:

- 1. Contact information and the manufacturer's website
- 2. Hydraulic capacity and comparison information
- 3. Screen flow and bypass flow calculations
- 4. Design drawings
- 5. Installation guidance
- 6. Maintenance information
- 7. Warranty
- 8. Customer support information

Thank you for reviewing this application. If you require any further information, please don't hesitate to contact me.

Regards,

Denis Friezner  
Denis Friezner  
Founder, Director of Engineering  
Hydra TMDL Systems, LLC

# 1. COVER LETTER

## A. Device Product Name & General Description

The HFTC System comes in two configurations for storm vaults with horizontal grate access:

- A) Drop-in Horizontal Inlet Filter Basket Inserts available in Square and Rectangular shapes; and
- B) Wall-Mounted (WM) Curb Inlet Filter Round Basket Inserts utilizing a Mandatory Feeder Trough.

The HFTC System is engineered and manufactured by Hydra TMDL Systems, LLC (Hydra). These systems are installed directly beneath a horizontal grate, as well as in curb inlet openings, to capture trash and debris from surface stormwater runoff.

## B. Applicant's Contact Information and Location

The device is manufactured by Hydra TMDL Systems, LLC

Executive Contact at Corporate Headquarters:

Linda Marie Friezner, President  
5116 West Emerald Street  
Boise, Idaho 83706  
(818) 601-2973  
[linda@hydratmdl.com](mailto:linda@hydratmdl.com)

Authorized Representative(s) Contact Information:

Denis Friezner, Director of Engineering  
5116 West Emerald Street  
Boise, Idaho 83706  
(818) 516-4946  
[denis@hydratmdl.com](mailto:denis@hydratmdl.com)

Contact at Manufacturing Facility:

Daniel Straw, Site Manager  
5116 West Emerald Street  
Boise, Idaho 83706  
(208) 906-6128  
[dstraw@hydratmdl.com](mailto:dstraw@hydratmdl.com)

## C. Manufacturer's Website Page for Device

<https://hydratmdl.com/product-filter-basket>

## D. Device's Manufacturing Location

Hydra TMDL Systems, LLC  
5116 West Emerald Street  
Boise, Idaho 83706

**E. Brief Summary of Field/Lab Testing Results**

Hydra TMDL Systems, LLC conducted laboratory testing on the perforated stainless steel screen material with 3/16" (4.8mm) round holes used in the A) Drop-in Filter Horizontal Grate Inlet Filter Basket Inserts (Square, and Rectangular), B) Wall-Mounted (WM) Curb Inlet Filter Round Basket utilizing a Mandatory Feeder, surpasses the performance requirements of previously approved systems.

The testing aimed to evaluate the screen's unique properties, including the Effective Open Area (EOA), Coefficient of Discharge (Cd), and flow capacity and characteristics. Results established a clear relationship between discharge (Q) and head (h) acting on the screen. These findings have been integrated into the design of the Drop-in Filter Basket Inserts and the WM Curb Inlet Filter Basket utilizing a Mandatory Feeder Trough to optimize treatment and peak flow rates.

**F. A description or list of locations, if any, where the System has been installed for the purposes of trapping trash. Include the name and contact information of as many as three municipalities purchasing and installing the System.**

HFTC systems have been successfully installed in California, Idaho, and Hawaii. Below are some recent California installations:

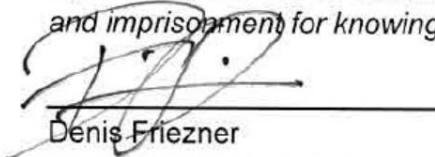
Project	Contact
Irvine	Simona Tzagournis <a href="mailto:simona@geo4services.com">simona@geo4services.com</a> 949-290-1316
Dana Point	Simona Tzagournis <a href="mailto:simona@geo4services.com">simona@geo4services.com</a> 949-290-1316
City of Los Angeles	Todd Waters <a href="mailto:twaters@ecologycontrol.com">twaters@ecologycontrol.com</a> 310-466-0515

**G. If the System is designed to operate outside of a typical stormwater catch basin and is able to trap trash from high flows, indicate a preference to be listed as a high-flow capacity System on the State Water Board's website.**

Do not list as a "high flow capacity trash full capture system."

## H. Certification Clause

*I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those directly responsible for collecting the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations.*



Denis Friezner  
Director of Engineering  
Hydra TMDL Systems, LLC

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### 3. Physical Description

#### A. Trash Capture

The HFTC systems comprise A) Drop-in Inlet Filter Basket Inserts, installed beneath the horizontal grate catch basins by securing the frame to the ledge or an Undermount ledge (if present), and B) Wall-Mounted (WM) Curb Inlet Filter Baskets utilizing a Mandatory Feeder Trough, positioned within the catch basin below the inlet opening. Made from 14 or 16-gauge 304 stainless steel, these systems incorporate a 4.8mm perforated screen with a 51% open area, engineered to capture and retain all solids, trash, and debris larger than 4.8mm within the Filter Basket Insert.

See Appendix A for detailed drawings.

#### B. Peak Flows/Trash Volumes

HFTC systems are manufactured to accommodate various sizes and shapes of horizontal grates and curb inlet catch basins. The basket's size and volume are tailored to match the inlet dimensions, with larger baskets utilized for larger inlets. For details on Hydraulic capacity, including treated and bypass flows, refer to Tables 3.1 – 3.3 in Section 3.C.

#### C. Hydraulic Capacity for A) Drop-in Inlet Filter Basket Inserts, and B) Wall-Mounted Curb Inlet Filter Basket

<b>TABLE 3.1 - Hydraulic Capacity A) Drop-in Inlet Horizontal Grate Square Filter Basket</b>					
Model	CATCH BASIN OPENING PERIMETER	STORAGE CAPACITY	TREATED FLOW AT EMPTY	TREATED FLOW AT 50% CAPACITY	BYPASS FLOW RATE
	IN	ft <sup>3</sup>	CFS	CFS	CFS
<b>HFTC with Vector Control Option</b>					
HFTC-G-1818	18 x 18	1.6	9.9	2.7	2.6
HFTC-G-2424	24 x 24	3.1	15.1	3.7	3.9
HFTC-G-3636	36 x 36	6.4	27.9	5.8	9.6
<b>TABLE 3.2 - Hydraulic Capacity A) Drop-in Inlet Horizontal Grate Rectangle Filter Basket</b>					
Model	CATCH BASIN OPENING PERIMETER	STORAGE CAPACITY	TREATED FLOW AT EMPTY	TREATED FLOW AT 50% CAPACITY	BYPASS FLOW RATE
	IN	ft <sup>3</sup>	CFS	CFS	CFS
<b>HFTC with Vector Control Option</b>					
HFTC-G-3618	36 x 18	3.2	16.6	4.2	4.8
HFTC-G-3624	36 x 24	4.8	20.8	4.8	5.3
<b>TABLE 3.3 - Hydraulic Capacity B) Wall-Mounted Curb Inlet Round Standard Filter Basket</b>					
Model	BASKET HEIGHT	STORAGE CAPACITY	TREATED FLOW AT EMPTY	TREATED FLOW AT 50% CAPACITY	BYPASS FLOW RATE
	IN	ft <sup>3</sup>	CFS	CFS	CFS
HFTC-S-12	12"	1.4	4.9	0.8	Weir Bypass
HFTC-S-18	18"	2.1	9.4	1.6	Weir Bypass
HFTC-S-24	24"	2.8	16.2	3.4	Weir Bypass

\*Bypass values based on driving head for 4" standing water over a 2.5" thick Horizontal Grate. Values are not inclusive of the treated flow through the perforated basket

## Screen Flow Calculations:

### Model:

The treated flow rate through the A) Drop-in Inlet Filter Basket can be modeled using the orifice flow equation, which accounts for the upstream hydraulic head and screen area. A **safety factor of 2** is applied to all published flow rates to account for up to **50% clogging** that may occur before scheduled maintenance is required.

$$Q_{\text{treated}} = C_d A_{\text{open}} \sqrt{2gh}$$

**Equation C.1: Model of Treated Flow Rate**

### Assumptions:

- Perforated sheet has uniform 4.8mm (0.188") holes
- Water at Standard Temperature and Pressure (STP)
- $g = 32.2 \text{ ft/sec}^2$  (Acceleration due to Gravity)
- $C_d = 0.53$  per LA County Report, 2007

### Variables:

$Q_{\text{treated}}$  = Screen Flow Rate (CFS)

$C_d$  = Screen Orifice Coefficient of Discharge (*dimensionless*)

$A_{\text{open}}$  = Net Open Area of Screen ( $\text{ft}^2$ )

$L_{\text{basket}}$  = Length of HFTC basket (*ft*; *Opening Length* – 0.25 ft)

$W_{\text{basket}}$  = Width of HFTC basket (*ft*; *Opening Width* – 0.25 ft)

$H_{\text{basket}}$  = Height of HFTC basket (*1 ft*, constant)

$h$  = Depth to the centroid of the screen. (Assumed Max 50%  $H_{\text{basket}}$  without clogging, 25% when 50% full or clogged)

$g$  = Acceleration due to Gravity ( $32.2 \text{ ft/s}^2$ )

**Example:**

The treatment flow rate can be calculated for both Hydraulic situations using an HFTC-G-1818 model, with the screen empty and at 50% capacity, before reaching bypass mode.

$$Q_{\text{treated}} = C_d A_{\text{open}} \sqrt{2gh}$$

**Equation 1: Model of Treated Flow Rate**

**Variables:**

$Q_{\text{treated}}$  = Screen Flow Rate (CFS)

$C_d$  = Screen Orifice Coefficient of Discharge (*dimensionless*)

$A_{\text{open}}$  = Net Open Area of Screen ( $ft^2$ )

$L_{\text{basket}}$  = Length of HFTC basket (*ft; 1.25 ft*)

$W_{\text{basket}}$  = Width of HFTC basket (*ft; 1.25 ft*)

$H_{\text{basket}}$  = Height of HFTC basket (*ft, 1 ft*)

$h$  = Depth to the centroid of the screen. (Assumed Max 50%  $H_{\text{basket}}$  without clogging, 25% when 50% full or clogged)

$g$  = Acceleration due to Gravity ( $32.2 \text{ ft/s}^2$ )

To determine the maximum treated flow rate, the maximum open area of the HFTC basket must be calculated:

$$A_{\text{open},100\%} = [(L_{\text{basket}} * W_{\text{basket}}) + (L_{\text{basket}} * H_{\text{basket}} * 2) + (W_{\text{basket}} * H_{\text{basket}} * 2)] * 0.5$$

**Equation 2: Model of Basket Open Area, empty screen**

Applying Equation 2:

$$A_{\text{open},100\%} = [(1.25 * 1.25) + (1.25 * 1 * 2) + (1.25 * 1 * 2)] * 0.5 = 3.28125 \text{ ft}^2$$

**Equation 2a: Calculation of Basket Open Area, empty screen**

Applying the results of Equation 2a to Equation 1:

$$Q_{\text{treated max}} = (0.53) (3.28125) \sqrt{2 * 32.2 * 0.5} = 9.88 \text{ CFS}$$

**Equation 1a: Calculation of Maximum Treated Flow Rate**

To determine the 50% full treated flow rate, the open area of the HFTC basket while 50% blinded must be calculated:

$$A_{open,50\%} = [(L_{basket} * H_{basket} * 2) + (W_{basket} * H_{basket} * 2)] * 0.25$$

**Equation 3: Model of Basket Open Area, 50% blinded basket**

Applying Equation 3:

$$A_{open,50\%} = [(1.25 * 1 * 2) + (1.25 * 1 * 2)] * 0.25 = 1.25 \text{ ft}^2$$

**Equation 3a: Calculation of Basket Open Area, 50% blinded basket**

Applying the results of Equation 3a to Equation 1:

$$Q_{treated \text{ max}} = (0.53) (1.25) \sqrt{2} * 32.2 * 0.25 = 2.67 \text{ CFS}$$

**Equation 1b: Calculation of 50% Full Treated Flow Rate**

### **Bypass Flow Calculations:**

**Model:**

$$dQ_{bypass} = C_d L \sqrt{2gY} dY$$

**Equation 4: Model of Bypass Flow Rate**

$$Q_{bypass} = Q_{bypass \text{ bearing}} + Q_{bypass \text{ non-bearing}}$$

**Equation 5: Model of Final Bypass Flow Rate**

**Assumptions:**

- Perforated sheet has uniform 4.8mm (0.188") holes
- Water at STP
- $g = 32.2 \text{ ft/sec}^2$
- $C_d = 0.53$  per LA County Report, 2007
- 4" of standing water over a 2.5" horizontal grate

**Variables:**

$Q_{bypass}$  = Bypass Flow Rate (CFS)

$C_d$  = Screen Orifice Coefficient of Discharge (*dimensionless*)

$L_{bypass}$  = Length of Bypass Area (*ft; Opening Length – 0.25 ft*)

$W_{bypass}$  = Width of Bypass Area (*ft; Opening Width – 0.25 ft*)

$M$  = Height of Bypass Area (*ft; constant; 0.1042 ft on holding flange side, 0.1875 ft on non-bearing side*)

$H$  = Driving Head (*ft; 4" of standing water, 2.5" thick horizontal grate, 3" flange drop = 0.79 ft*)

$g$  = Acceleration due to Gravity ( $32.2 \text{ ft/s}^2$ )

**Example:**

Using an HFTC-G-1818 model basket, the bypass flow rate can be calculated by applying the model described above.

$$dQ_{bypass} = C_d L \sqrt{2g} Y dY$$

**Equation 4: Model of Bypass Flow Rate**

$$Q_{bypass} = Q_{bypass \text{ bearing}} + Q_{bypass \text{ non-bearing}}$$

**Equation 5: Model of Final Bypass Flow Rate**

$Q_{bypass}$  = Bypass Flow Rate (CFS)

$C_d$  = Screen Orifice Coefficient of Discharge (*dimensionless*)

$L_{bypass}$  = Length of Bypass Area (*ft; 1.25 ft*)

$W_{bypass}$  = Width of Bypass Area (*ft; 1.25 ft*)

$M$  = Height of Bypass Area (*ft; constant; 0.1042 ft on holding flange side, 0.1875 ft on non-bearing side*)

$H$  = Driving Head (*ft; 4" of standing water, 2.5" thick horizontal grate, 3" flange drop = 0.79 ft*)

$g$  = Acceleration due to Gravity (*32.2 ft/s<sup>2</sup>*)

To calculate the Bypass flow rate, Equation 4 must be applied to all four sides of the bypass area:

$$dQ_{bypass} = C_d L \sqrt{2g} Y dY$$

**Equation 4: Model of Bypass Flow Rate**

Integrating Equation 4 over the height of the orifice:

$$Q_{bypass} = \frac{2}{3} C_d L \sqrt{2g} \left[ H \frac{3}{2} (H - M) \frac{3}{2} \right]$$

**Equation 4a: Integrated Model of Bypass Flow Rate**

Applying Equation 4a to the load-bearing side and multiplying by two:

$$Q_{bypass \text{ bearing}} = \frac{4}{3} (0.53)(1.25)\sqrt{2} * 32.2 \left[ 0.79 \frac{3}{2} - (0.79 - 0.1042) \frac{3}{2} \right] = 0.95 \text{ CFS}$$

**Equation 4b: Calculation of Bypass Flow Rate for Load-Bearing Side**

Applying Equation 4a to the non-load-bearing side and multiplying by two:

$$Q_{bypass \text{ bearing}} = \frac{4}{3} (0.53)(1.25)\sqrt{2} * 32.2 \left[ 0.79 \frac{3}{2} - (0.79 - 0.1875) \frac{3}{2} \right] = 0.95 \text{ CFS}$$

**Equation 4c: Calculation of Bypass Flow Rate for Non-Load Bearing Side**

Applying Equations 3 and 4 to Equation 2:

$$Q_{bypass} = 1.66 + 0.65 = 2.62 \text{ CFS}$$

**Equation 5a: Calculation of Final Bypass Flow Rate**

#### D. Comparison Table

See Table 3.1 - 3.3 in section 3.C. for peak flow rates.

#### E. Design Drawings for Full Trash Capture Inserts

.Drawings for all standard configurations of the HFTC Drop-in Horizontal Grate Inlet Filter Basket Inserts system are available in Figures 1a, 1b, 1c, and 2a, 2b, 2c. Hydra TMDL Systems, LLC has developed a catalog of commonly sized inserts tailored to standard drainage structures across California. The installer (Contractor) must review the plans and/or inspect the worksite to determine the quantity and type of each drainage structure casting. The catch basin design, casting number, or the precise horizontal grate and clear opening dimensions are required to identify the appropriate HFTC system part number. Inserts are delivered pre-configured to fit the specified drainage structure. Engineered drawings are in Appendix A.

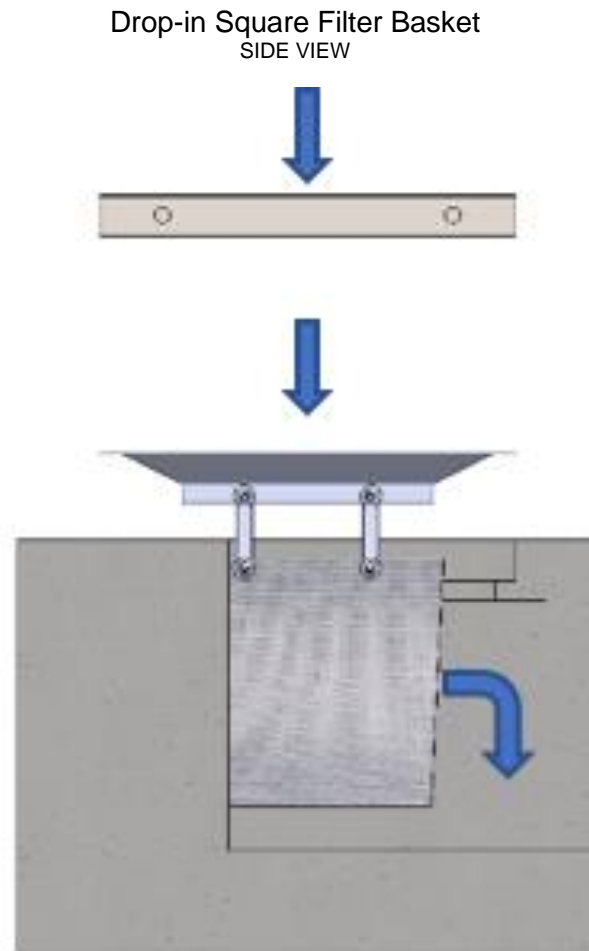
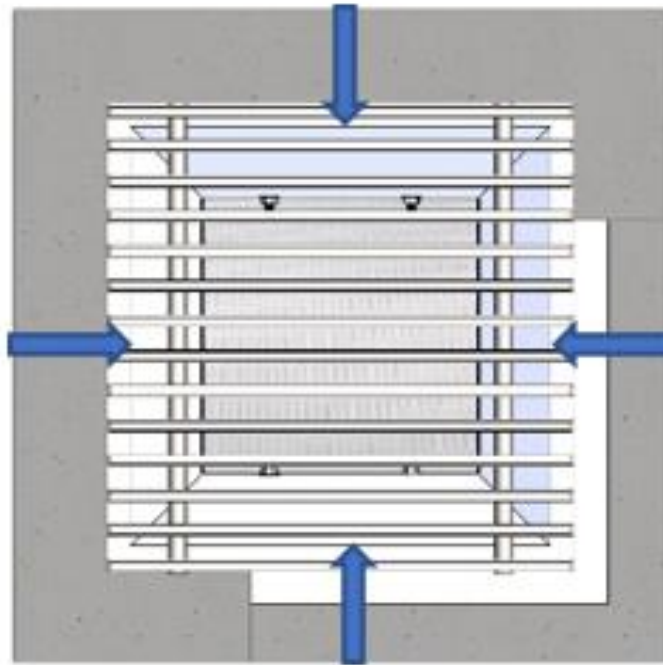


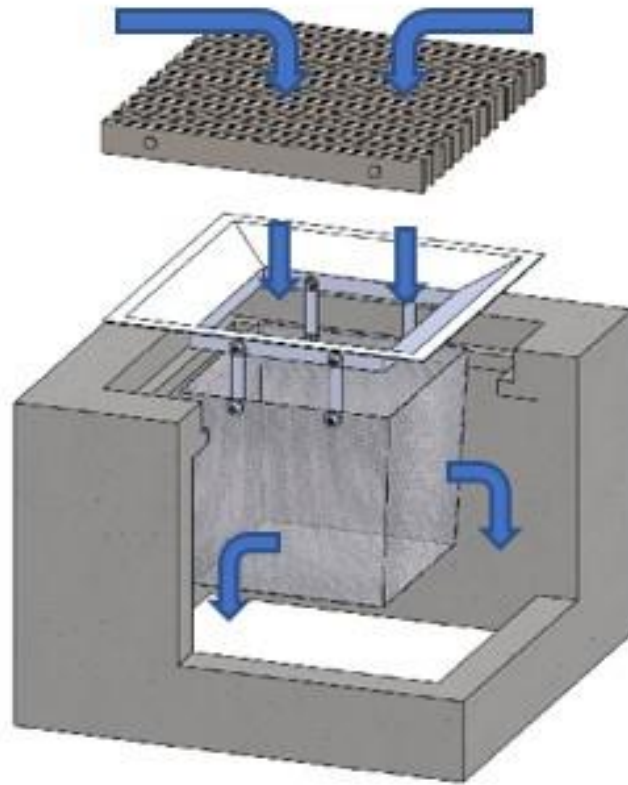
Figure 1a

TOP VIEW



*Figure 1b*

ISO VIEW



*Figure 1c*

Drop-in Rectangle Filter Basket  
SIDE VIEW

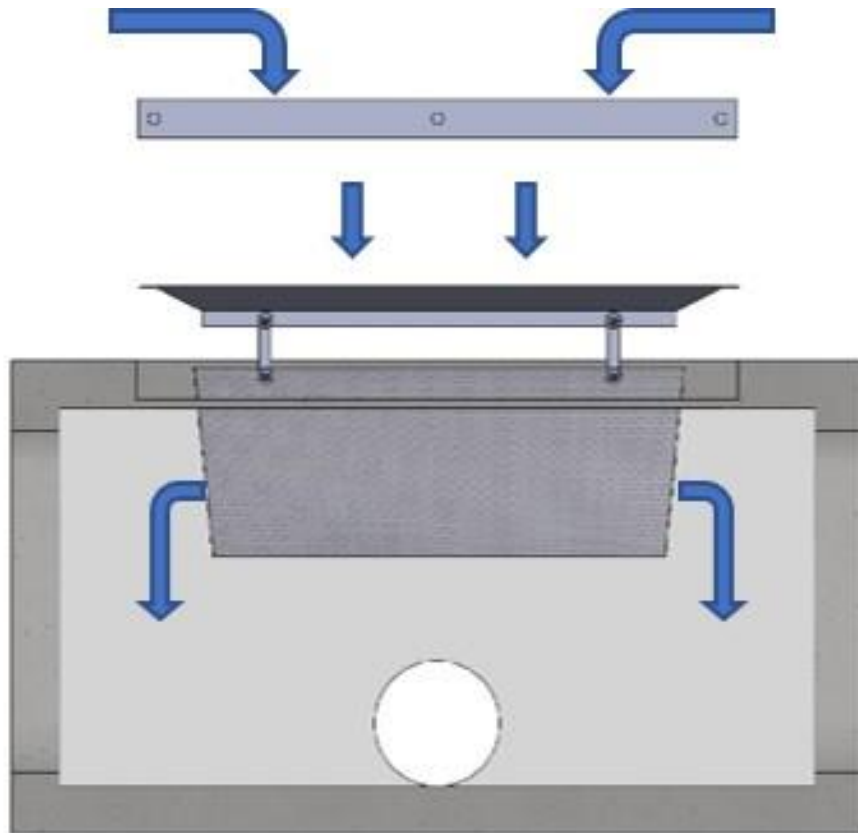


Figure 2a

TOP VIEW

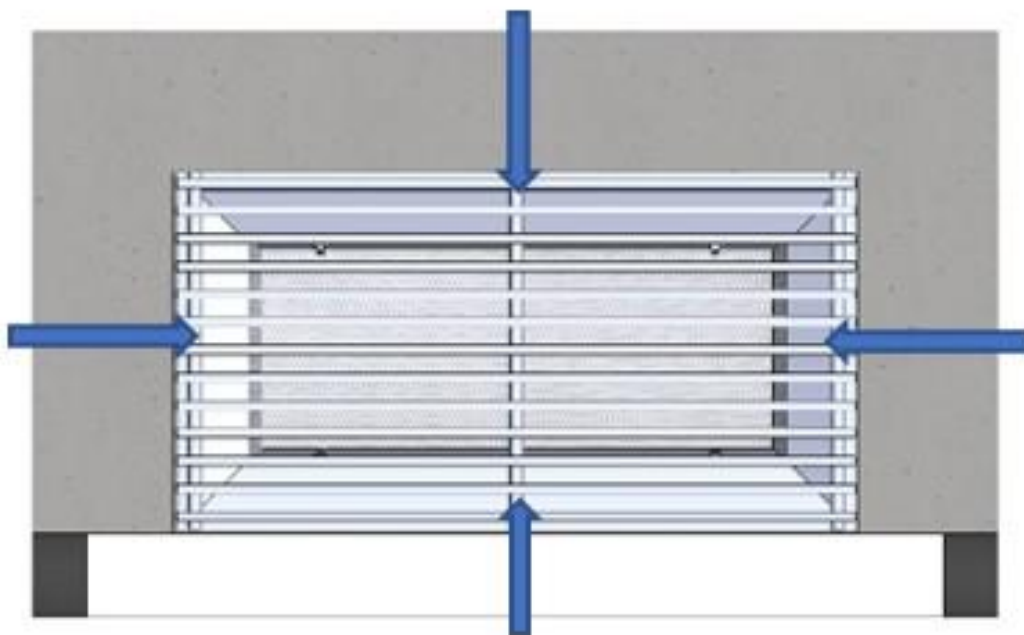


Figure 2b

ISO VIEW

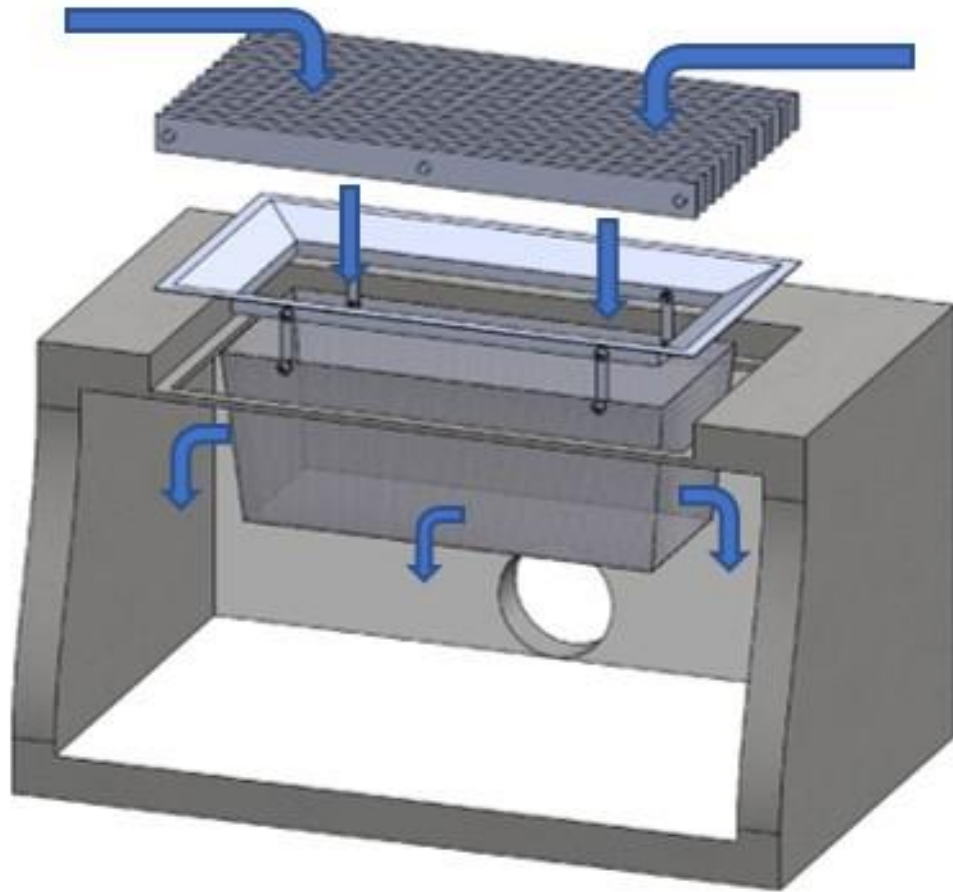


Figure 2c

Drawings for all standard configurations of the HFTC Wall-Mounted Inlet Filter Basket Inserts system are available in Figures 3a, 3b, and 3c. Hydra TMDL Systems, LLC has developed a catalog of commonly sized inserts tailored to standard drainage structures across California. The installer (Contractor) must review the plans and/or inspect the worksite to determine the quantity and type of each drainage structure casting. The catch basin design, casting number, or the precise horizontal grate and clear opening dimensions are required to identify the appropriate HFTC system part number. Inserts are delivered pre-configured to fit the specified drainage structure.

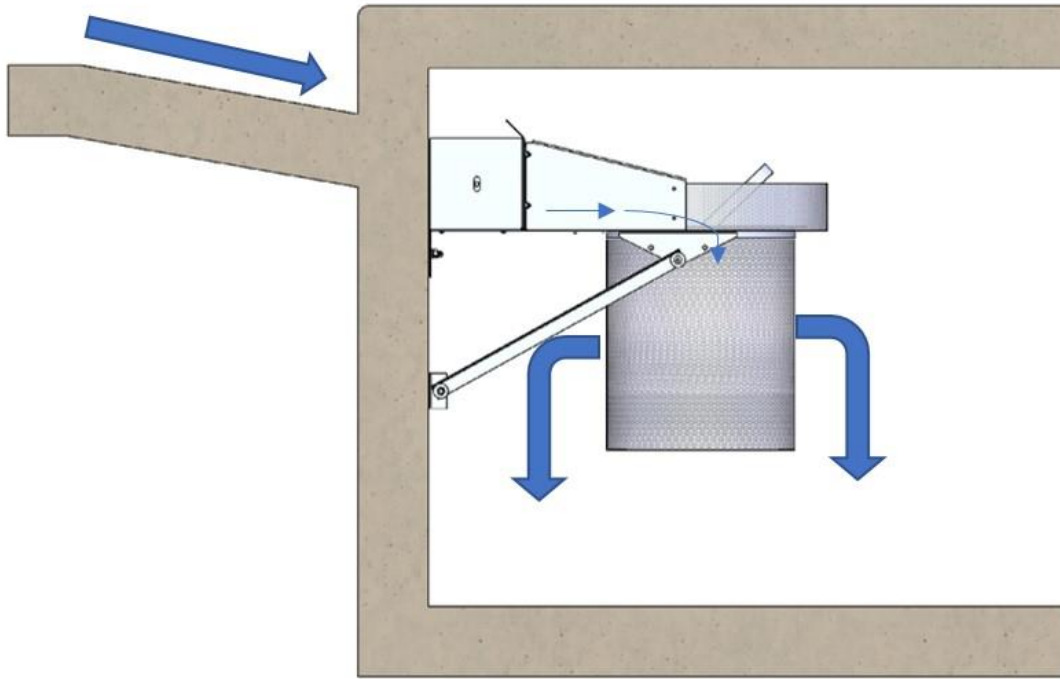


Figure 3a

TOP VIEW

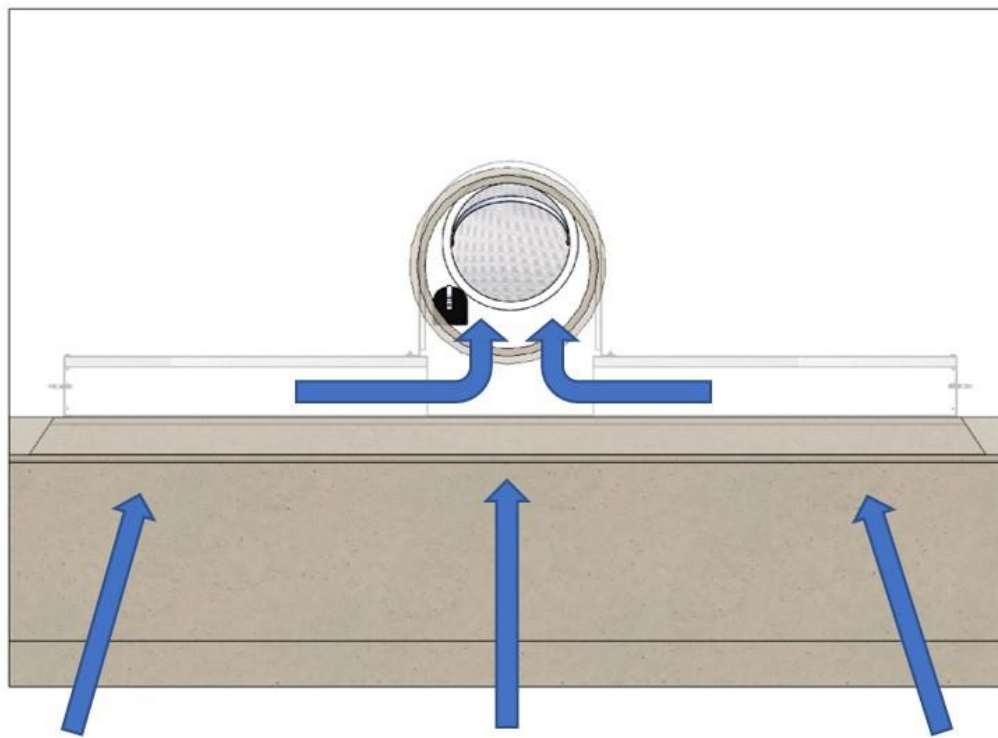


Figure 3b

ISO VIEW

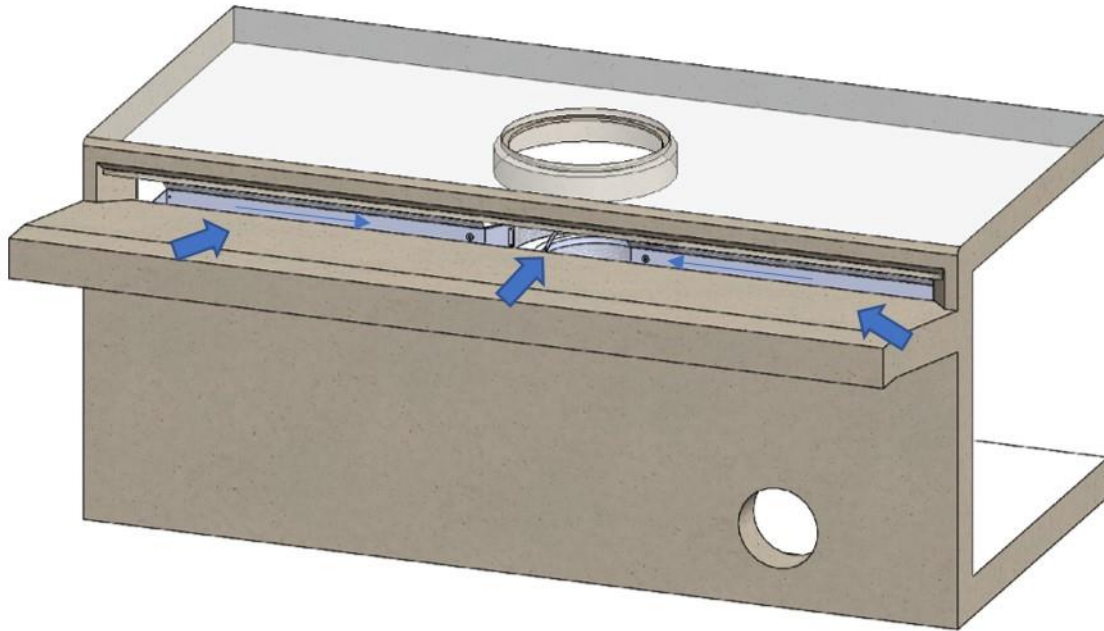


Figure 3c

## F. Optional Components

The HFTC System comes with no optional components.

## G. Internal Bypass

The A) Drop-in Inlet Filter Basket Inserts for horizontal grate inlets feature a bypass region located above the perforated screen material and below the mounting flange. This bypass becomes active only when the basket is obstructed by trash and debris, allowing water to overflow the sides of the perforated basket and enter bypass mode. Similarly, the B) Wall-b Inlet Filter Baskets (without internal bypass) utilizing a Mandatory Feeder Trough enable water to spill over the sides of the Trough and weir when in bypass mode. Shown in Figure 3a. The site engineer is responsible for confirming that the Insert's ultimate bypass capacity exceeds the design flow to the catch basin for a chosen rain event.

Wall-Mounted Inlet Filter Baskets (without internal bypass) utilizing a Mandatory Feeder Trough enable water to spill over the sides of the Trough and weir when in bypass mode, shown in Figure 3b. The site engineer is responsible for confirming that the Insert's ultimate bypass capacity exceeds the design flow to the catch basin for a chosen rain event.

See Table 3.1 – 3.3 in section 3.C. for bypass capacity.

ISO VIEW

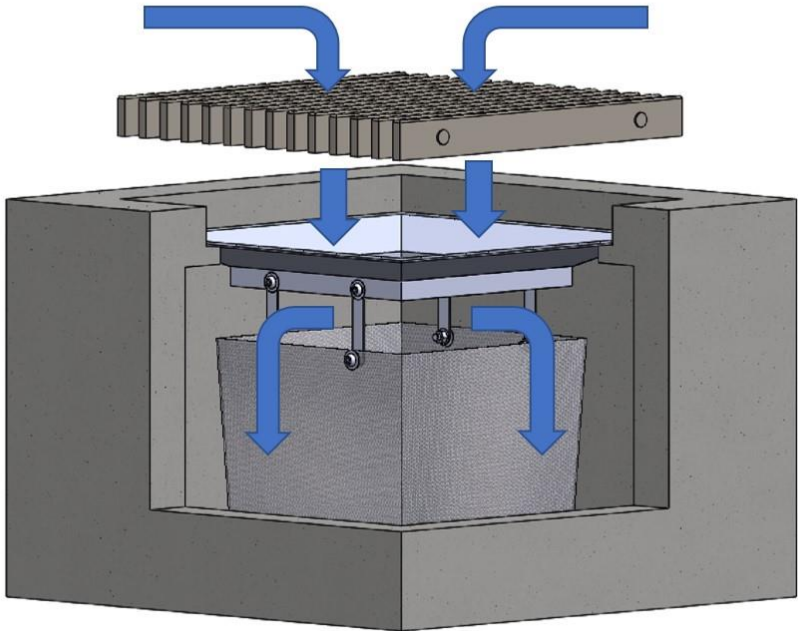


Figure 3a (Drop-in Filter)

SIDE VIEW

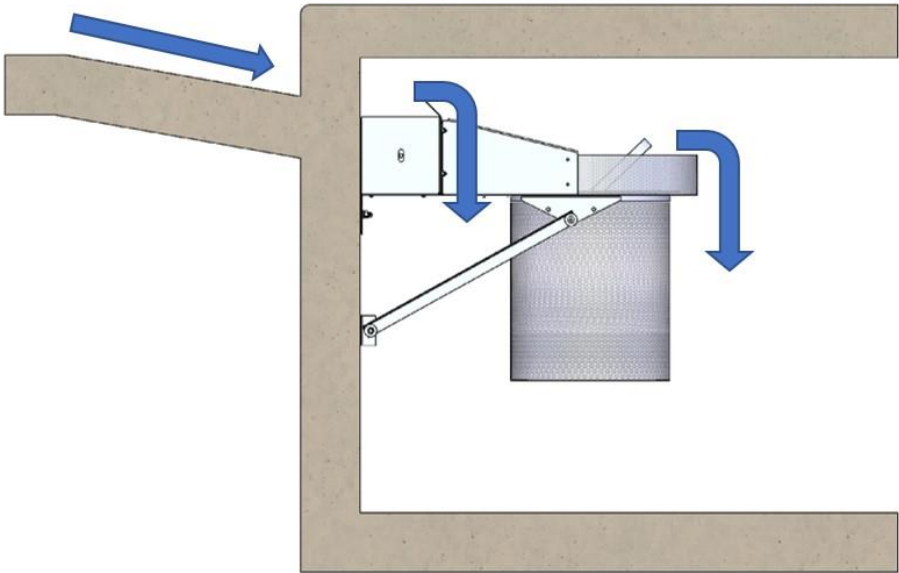


Figure 3b (Wall-Mounted Filter)

## H. Feeder Troughs

The Wall-Mounted Curb Inlet Filter Basket utilizing a Mandatory Feeder Trough. The Mandatory Feeder Trough must be installed to capture stormwater along the entire length of the curb inlet. Feeder Troughs will have multiple 4.8mm weep holes along their length to alleviate any standing water. The Mandatory Feeder Trough is a modular system with a standard trough length of 48". Various trough segment lengths (3" Splice Plate, 4", 6", 8", and 12") are available to adjust the feeder trough size to fit different site requirements. End caps are provided. The feeder troughs must be installed to capture stormwater along the entire length of the curb inlet. Figure 4 shows top, front, side, and isometric views of the feeder trough system.

Hydra TMDL Systems, LLC has designed the Mandatory Feeder Trough after a thorough review of other State Water Board-certified full capture systems utilizing a feeder trough. Hydra TMDL Systems, LLC has designed its feeder trough to meet or exceed the specifications of other State Water Board-certified full capture systems utilizing a feeder trough. The feeder troughs are 8" tall and 8" deep and include weep holes to eliminate standing water.

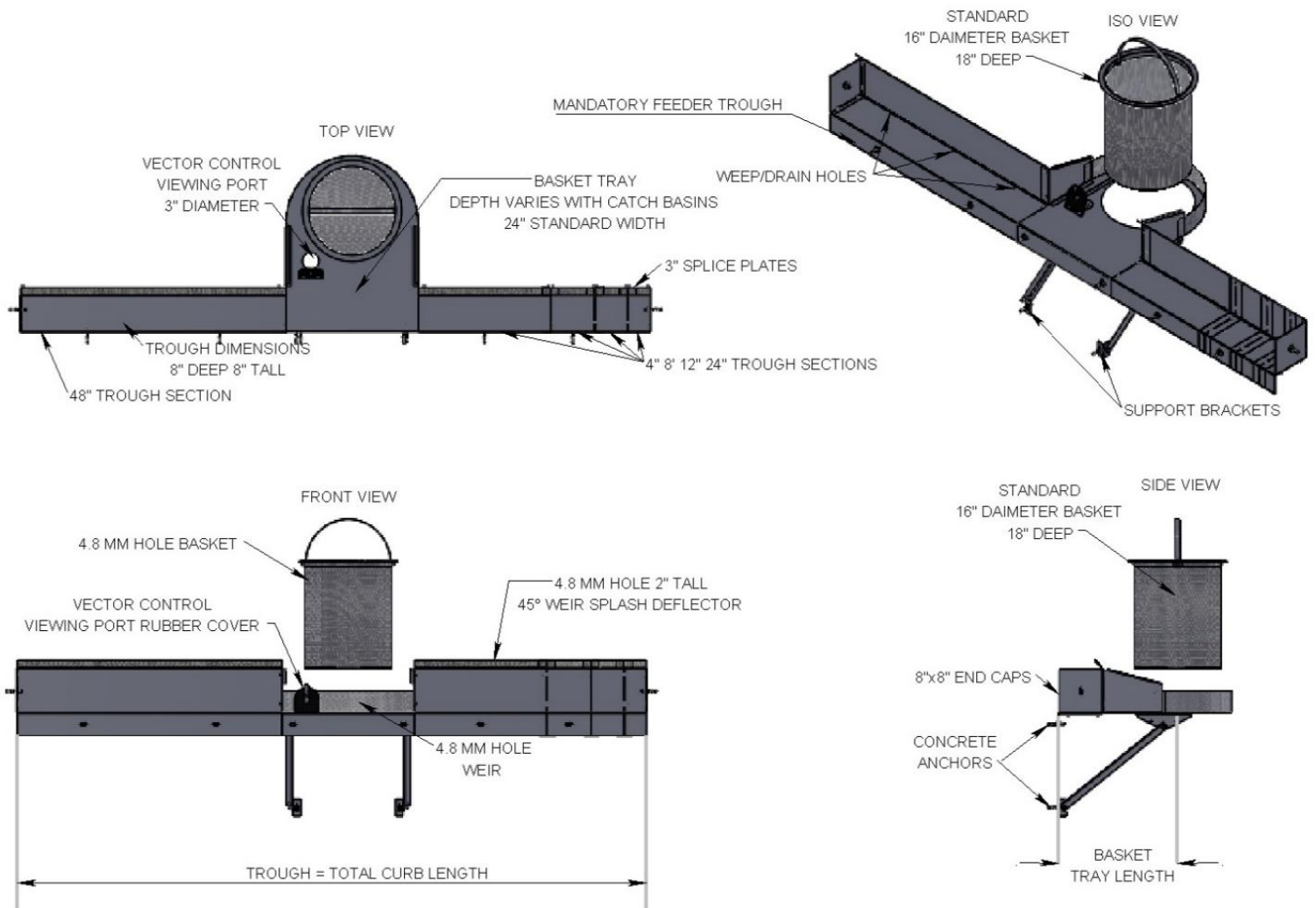


Figure 4

## I. Calibration Feature

There are no calibration features.

## J. Previously Trapped Trash

The HFTC systems are engineered to capture and retain all trash and debris larger than 4.8mm. However, improper installation or maintenance of these systems may result in the reintroduction of previously captured trash. If accumulated trash exceeds the maximum capture capacity, the water level will rise, triggering the bypass mode and potentially allowing floatable, suspended, or buoyant trash and debris to pass through.

## K. Photographs, if any, of pre-and post-installation examples

Below are sample photos of HFTC-G-3618, Figure 5a, 5b, and 5c.



Figure 5a



Figure 5b



Figure 5c

## L. Material Type

All HFTC systems are constructed entirely from non-corrosive 304 stainless steel, ensuring durability and resistance to environmental degradation. The key components are as follows:

- **A) Drop-in Inlet Filter Basket Insert:** Made from 14 or 16-gauge 304 stainless steel, uniformly perforated with 4.8mm (3/16") holes in a staggered pattern. The perforated material provides a 51% net open area, capturing particles 4.8mm or larger. The basket is secured with 3/16" 304 stainless steel bolts and rivets, and laser-welded for enhanced structural integrity.
- **B) Wall-Mounted (WM) Curb Inlet Filter Basket utilizing a Mandatory Feeder Trough:** The Troughs, Basket Tray, and Supports are made from 16 and 18-gauge 304 stainless steel sheet. The Trough's Back Splash and the Tray's Weir are made uniformly perforated with 4.8mm (3/16") holes in a staggered pattern. The screen provides a 51% net open area, capturing particles 4.8mm or larger.
- **Undermount Channel Framing (when required) for Drop-In Inlets:** Features 1.25" x 1.25" x 0.125" 304 stainless steel angle stiffeners outlining the Insert's frame, paired with 16-gauge "L" shape corner gap fillers. This robust construction ensures exceptional resistance to bending and torsional stresses caused by the basket's weight.

- **Anchors, Bolts, and Rivets:** All fastening components are made of 304 stainless steel, ensuring corrosion resistance and secure assembly.

## M. Design Life

The HFTC systems are designed for a minimum service life of 10 years in stormwater applications with low salt levels and typical roadway contaminants. All components are constructed from 304 stainless steel to enhance durability and extend service life. The actual design life depends on proper installation and regular quarterly maintenance.

## 4. Installation Guidance

### A. Standard Device Installation Procedures and Considerations

All HFTC systems are delivered to the field pre-configured for easy assembly and installation, based on the specific dimensions provided by the installer.

A typical installation of A) Drop-in Inlet Filter Basket Insert follows the steps below:

1. Remove the horizontal grate from the inlet.
2. Clean out all debris inside the vault.
3. Clean debris from around the ledges of the inlet.
4. Place the Drop-in Inlet Filter Basket Insert onto the load-bearing ledges of the structure.
5. Replace the horizontal grate and confirm it is not elevated more than 1/8" (3mm).

A typical installation of the B) Wall-Mounted (WM) Curb Inlet Filter Basket utilizing a Mandatory Feeder Trough system follows the steps below:

Follow these steps to install the B) Wall-Mounted (WM) Curb Inlet Filter Basket utilizing a Mandatory Feeder Trough system:

1. Remove the manhole cover to access the catch basin.
2. Mark a horizontal chalk line 10" below the street or curb opening to guide the Feeder Trough alignment.
3. Position the Filter Basket Tray beneath the manhole opening, aligning it along the chalk line. Mark and hammer drill two anchor holes, then install the anchors.
4. Secure the Filter Basket Tray, add support braces, mark and hammer-drill two support bracket holes, and install the brackets.
5. Starting from each wall, align the Feeder Trough with the pre-installed end caps. Add segments as needed to the Filter Basket Tray along the chalk line. Mark and hammer-drill all Feeder Trough holes, then install the anchors.
6. For multiple Feeder Trough segments, anchor them tightly together and attach the splice plate to the outside of the segments.
7. Insert the stainless steel Filter Basket into the Tray.
8. Clean the catch basin and replace the manhole cover.

## **B. Description of Device Installation Limitations and/or Non-Standard Device Installation Procedures**

The HFTC systems are designed for easy installation, with no installation limitations or special instructions needed.

## **C. Methods for Diagnosing and Correcting Installation Errors**

Hydra offers HFTC systems in standard-sized configurations. However, some catch basin drainage structures may necessitate special designs and manufacturing. Customers are responsible for providing the relevant dimensional information through the HFTC dimensional form, a casting reference, and a Precast detail to ensure proper insert fabrication.

# **5. Operation and Maintenance Information**

## **A. Device Inspection Procedures and Inspection Frequency Considerations**

HFTC systems should be inspected every three months and after rain events exceeding ½". Sites with higher Total Maximum Daily Loads (TMDLs) may require more frequent inspections.

- **A) Drop-in Inlet Filter Basket Insert:** Remove the horizontal grate cover to gain visual access to the basket. If the basket is over half full of trash, follow the maintenance guidelines in Section 5C.
- **B) Wall-Mounted (WM) Curb Inlet Filter Basket utilizing a Mandatory Feeder Trough:** Remove the manhole cover to perform a visual inspection of the system. If the basket is over half full of trash, follow the maintenance guidelines in Section 5C.

## **B. Maintenance Frequency**

Recommended cleaning for A) Drop-in Inlet Filter Basket Inserts and B) Wall-Mounted (WM) Curb Inlet Filter Baskets utilizing a Mandatory Feeder Trough at least four times annually or when debris exceeds 50% of the basket's height. Sites with heavy foliage, high trash volumes, or smaller Filter Baskets may need more frequent cleaning. Users must also adhere to any minimum maintenance requirements specified in the relevant municipal stormwater permit.

Regular inspection and maintenance are crucial for all Best Management Practices (BMPs) related to stormwater. Neglecting maintenance can overload the Filter Basket, reducing its treatment flow rate and retention capacity. If the basket reaches bypass mode, incoming trash and debris may flow directly into the storm sewer system.

## **C. Maintenance Procedures**

Hydra recommends maintaining the A) Drop-in Inlet Filter Basket Inserts under these industry-accepted conditions.

### **Description of Maintenance Actions:**

1. Put on appropriate personal protective equipment (PPE) and remove the horizontal grate cover.

2. Clean the suspended Filter Basket insert by hand, with an industrial vacuum, or using a vacuum truck. Alternatively, remove the Filter Basket insert from the inlet structure, empty its contents into a receptacle, and dispose of it properly.
3. Remove compacted silt and organic material from the basket and flush with a medium-pressure spray.
4. Inspect the Filter Basket for blinding of the perforated sheet and check for bypass before reinstallation.
5. Replace the horizontal grate or manhole cover. Note: Maintenance of B) Wall-Mounted (WM) utilizing a Mandatory Feeder Trough Filter Basket inserts may require confined space entry.

**Method of Removal:** The Contractor shall select the method for removing trash and debris from the A) Drop-in Inlet Filter Basket Insert, either by hand or using a truck-mounted vacuum. When cleaning B) Wall-Mounted (WM) utilizing a Mandatory Feeder Trough Filter Baskets, confined space entry may be required, and the Contractor must comply with local and federal regulations governing confined space entry. During cleanout operations, the Contractor shall ensure no trash or debris enters the main storm sewer line.

**Debris Disposal:** All trash and debris removed under this Contract shall become the property of the Contractor and must be legally disposed of at a location away from the catch basin sites. The Contractor is responsible for proper disposal, including obtaining necessary approvals from relevant jurisdictional agencies. For dead animals, the Contractor shall coordinate with local Animal Care and Control for pickup and disposal.

#### **D. Essential equipment and materials for proper maintenance activities.**

**Suggested Maintenance Method:** For cleaning the Filter Basket, use a vacuum truck paired with a power washer or high-pressure hose. If a vacuum truck is not available, manually clean the catch basin using a shovel and a trash receptacle.

#### **Personal Protective Equipment (PPE):**

- Gloves
- Safety boots
- Eye protection
- Additional PPE or site safety equipment is required for confined space entry.

#### **E. Description of the effects of deferred maintenance on device structural integrity, performance, odors, etc.**

If maintenance is delayed, the Filter Baskets can become clogged with trash and debris, decreasing the system's flow capacity until it reaches the bypass threshold. At that point, water can still flow through, but without filtration. Prolonged neglect may also cause trash and debris to accumulate above the system's maximum capacity, increasing the risk of reintroducing contaminants into the water system during a major storm. Certain types of debris can also cause odors to develop and escape from the catch basin.

#### **F. Repair procedures for the device's structural and screening components.**

The device shall remain operational in instances where the perforated steel is deformed or dented, provided that no individual perforation exceeds 5 mm in diameter. Suppose the stainless-steel framing system sustains damage, causing the support flanges to no longer seat

flush with the catch basin frame. In that case, the Contractor is permitted to attempt corrective measures, such as mechanical straightening or flattening of the affected area. Should such corrective actions fail to restore proper seating or structural integrity, the unit must be replaced entirely.

**6. Vector Control Accessibility**

**A. Description of Vector Control Accessibility: top and side view**

To facilitate inspection and treatment activities by Vector Control and Mosquito Abatement personnel, the A) Drop-in Inlet Filter Basket Inserts, including the Square Insert (Figure 6a), Rectangular Insert (Figure 6b), are equipped with flexible hanging bypass brackets that connect the top mounting flange to the filter basket. This design feature creates a void space between the flange and the basket, forming an internal bypass channel. Using a standard horizontal grate cover hook, the filter basket can be laterally displaced up to 3 inches in either horizontal direction, providing a two-sided view inspection window. This allows unobstructed visual access to the sump area beneath the Insert, enabling effective monitoring for standing water and mosquito breeding conditions without the need for complete removal.

For B) Wall-Mounted (WM) Curb Inlet Filter Baskets utilizing a Mandatory Feeder Trough, removal of the manhole cover grants direct line-of-sight access to the sump area and Filter Basket Tray assembly. As shown in Figure 7, this configuration enables surface-level inspection from outside the structure, eliminating the need for confined space entry and significantly increasing the viewable area compared to previously approved access port designs.

**B. System Drawings of Vector Control Accessibility**

**Drop-in Inlet Filter Basket (Square)**

3" Vector Control View Left Side  
Filter Basket Moved to the Right

Filter Basket  
Not Moved

3" Vector Control View Right Side  
Filter Basket Moved to the Left

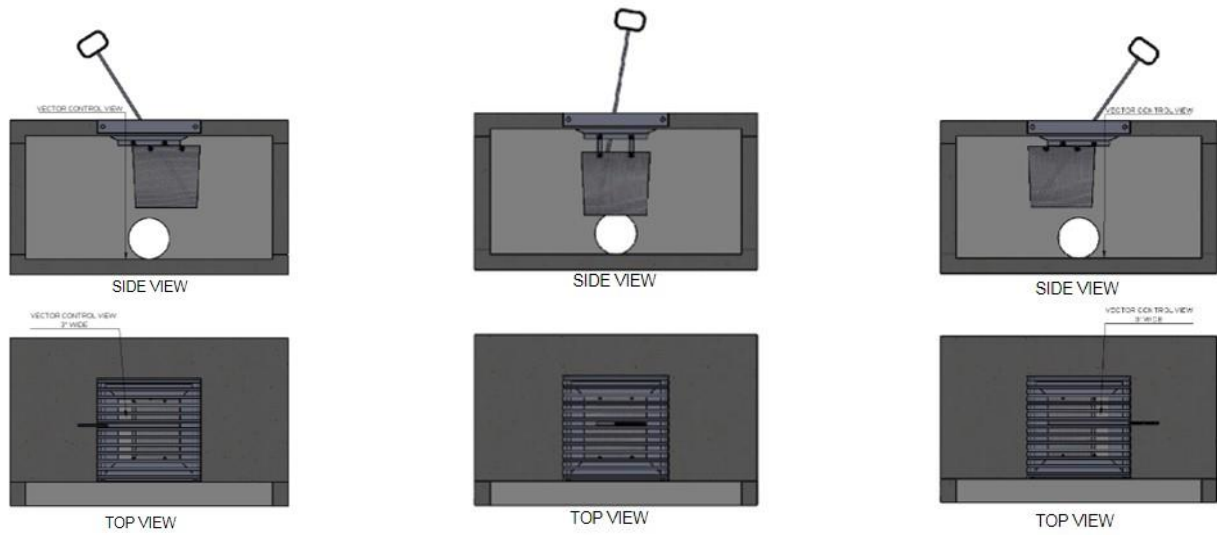


Figure 6a

**Drop-in Inlet Filter Basket (Rectangle)**

3" Vector Control View Left Side  
Filter Basket Moved to the Right

Filter Basket  
Not Moved

3" Vector Control View Right Side  
Filter Basket Moved to the Left

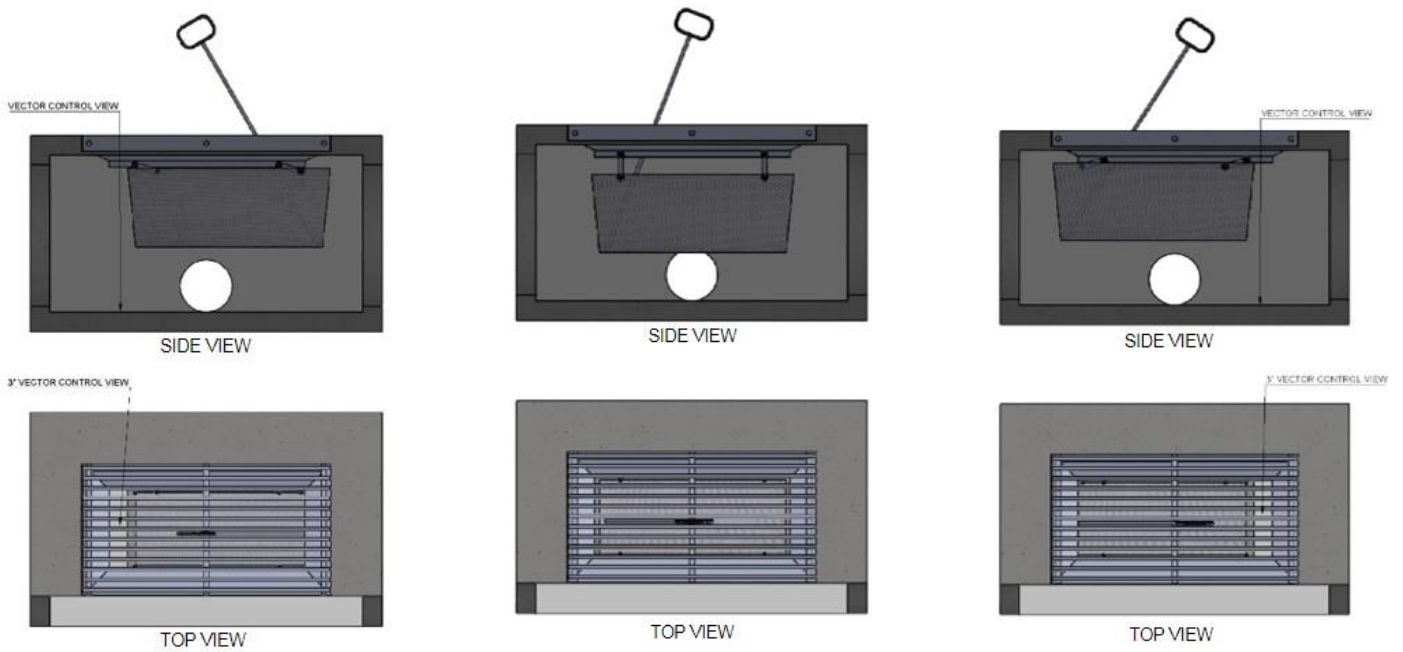
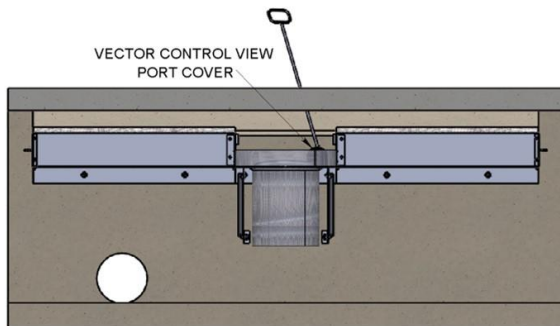


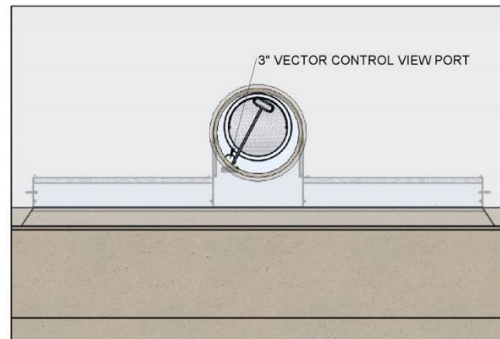
Figure 6b

## Wall-Mounted Curb Inlet Filter Basket utilizing a Mandatory Feeder Trough

### Vector Control View Port Cover Moved to the Open Position



BACK VIEW



TOP VIEW

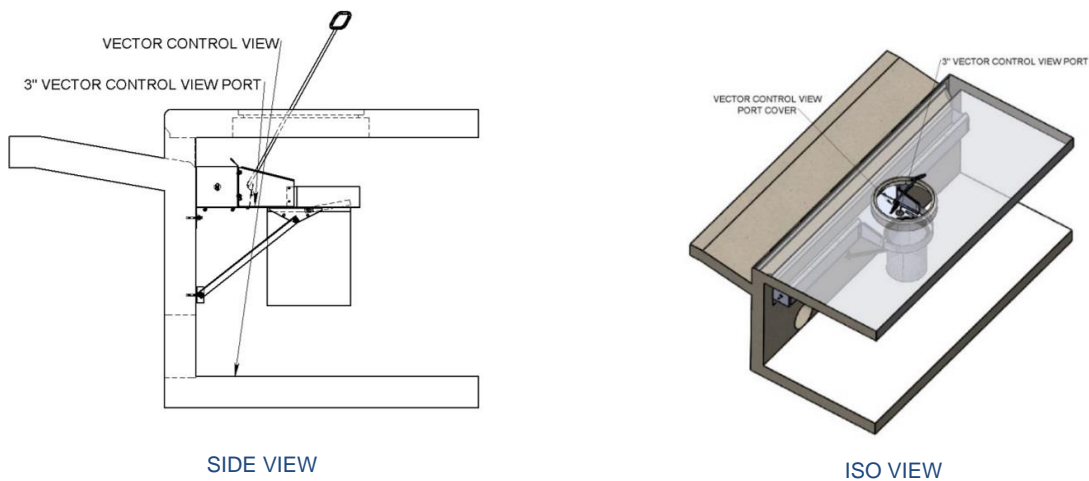


Figure 7

**C. Date of Application Submittal to Mosquito Vector Control Association**

HFTC systems vector control design details were submitted to MVCAC and the Trash Treatment Control Committee, TBD 2025.

**D. Mosquito Vector Control Association of California Letter of Verification**

The verification letter was added to Appendix B on TBD 2025.

**7. Reliability Information**

**A. Estimated design life of device components before significant overhaul.**

As outlined in Section 3L, the A) Drop-in Inlet Filter Basket Inserts and B) Wall-Mounted Curb Inlet Filter Baskets, utilizing a Mandatory Feeder Trough, are constructed with 304 stainless steel components, engineered for a minimum design life of 10 years under typical stormwater conditions. These conditions include exposure to low concentrations of salt and other naturally occurring contaminants found on roadways. The structural loading for each Filter Basket Insert size is designed to support a storage capacity of 125 lbs. per cubic foot, incorporating a significant safety factor to ensure long-term durability and optimal performance.

**B. Warranty information.**

Hydra warrants the A) Drop-in Inlet Filter Basket Inserts and B) Wall-Mounted Curb Inlet Filter Baskets utilizing a Mandatory Feeder Trough—shall be free from defects in materials and workmanship for five (5) years from the date of shipment, provided the products are correctly installed, used following their intended purpose, and maintained as required.

This warranty is expressly limited to the repair or replacement, at Hydra's discretion, of any part or component determined by Hydra to be defective in material or workmanship following inspection. This warranty does not cover damage resulting from negligence, misuse, improper installation, or failure to perform routine maintenance as outlined in Hydra's maintenance guidelines.

### **C. Customer Support Information**

For any technical information or support, customers may reach out to:

Hydra TMDL Systems, LLC  
5116 West Emerald Street  
Boise, Idaho 83706  
Email: [denis@hydratmdl.com](mailto:denis@hydratmdl.com)  
Website: [www.hydratmdl.com/contact/](http://www.hydratmdl.com/contact/)

## **8. Field/Lab Testing Information and Analysis**

### **A. For devices with 4.8mm screens, any available field or lab testing information that demonstrates the device's functionality and performance.**

All Filter Basket Inserts are made of 14 or 16-gauge perforated stainless steel with staggered 3/16" (4.8mm) holes. Field or lab testing is not required because the basket would trap all particles and debris larger than 4.8 mm.

TABLE 1 HFTC WALL-MOUNTED CURB INLET STANDARD FILTER BASKET			
BASKET P/N	BASKET DIAMETER	DEBRIS CAPACITY (CU-FT)	FILTER FLOW RATE EMPTY (GFS)
HFTC S-24 (TRAY P/N)	36"	1.4	4.9
HFTC S-18 (TRAY P/N)	36"	2.1	9.4
HFTC S-24 (TRAY P/N)	36"	2.8	16.2

TABLE 2 HFTC WALL-MOUNTED CURB INLET STANDARD FILTER BASKET TRAY P/N			
TRAY P/N	TRAY DEPTH	TRAY STANDARD WIDTH	DESCRIPTION
-12	12"	24"	SHORT STANDARD DEEP
-18	18"	24"	STANDARD DEEP
-24	24"	24"	SPECIAL

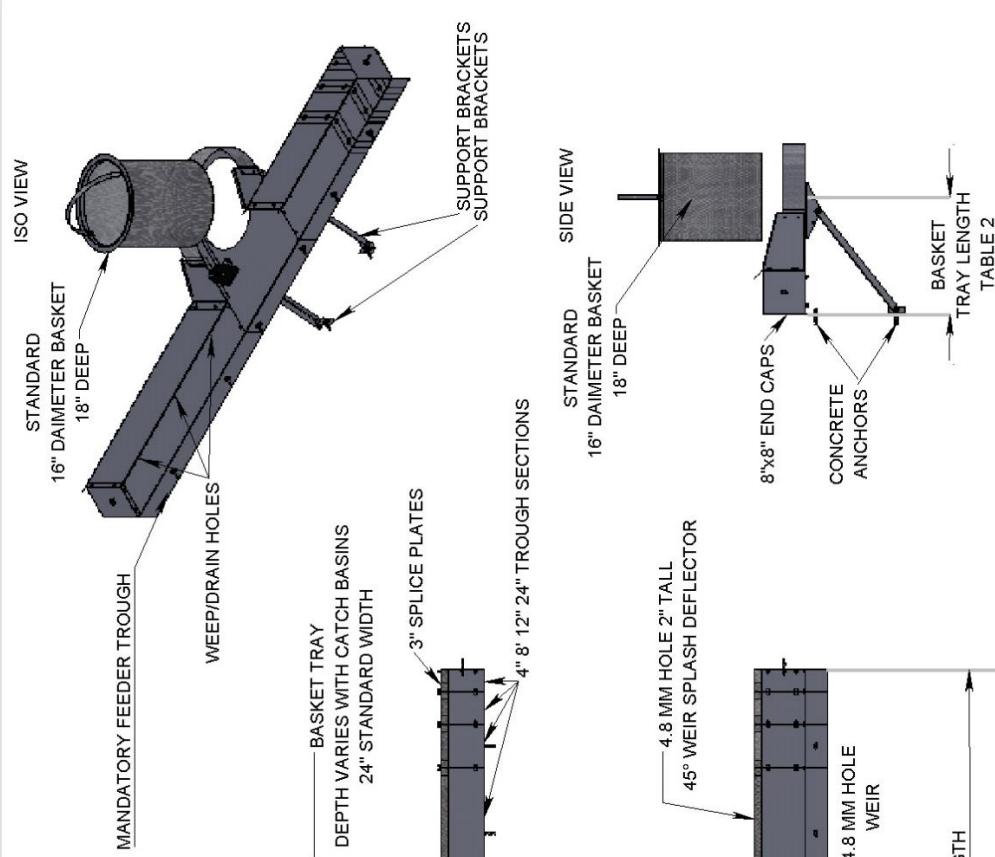


TABLE 3 HFTC WALL-MOUNTED CURB INLET FILTER BASKET TROUGH			
THE LENGTH OF THE TROUGH IS DETERMINED BY THE WALL HEIGHT THE CURB OPENING, TYPICALLY SPANNING FROM WALL TO WALL.			
THE TROUGH SECTIONS, MADE OF 18-GAUGE 304 STAINLESS STEEL, ARE AVAILABLE IN 48", 24", 12", 8", 4", AND 3" SPLICE PLATES.			
TROUGH SECTIONS CAN BE FIELD-TIMMED OR SPECIAL-ORDERED IN NON-STANDARD LENGTHS.			
THIS TROUGH SYSTEM ARRIVES READY FOR INSTALLATION, WITH ALL HARDWARE AND FASTENERS MADE OF 304 STAINLESS STEEL.			

NAME	DATE
DRAWN DF	6/28/2025
CHECKED DF	6/28/2025
ENG. APPR. DF	6/28/2025
G.A.	6/28/2025

COMMENTS:  
**304 Stainless Steel**  
 DO NOT SCALE DRAWING

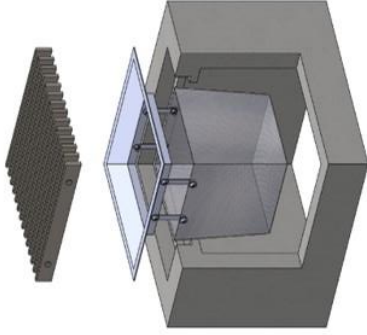
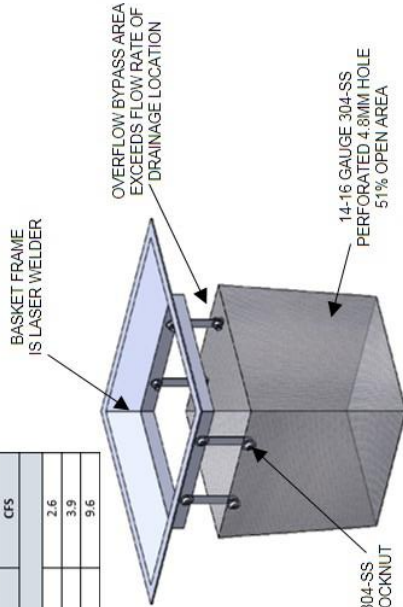
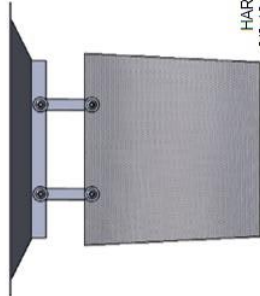
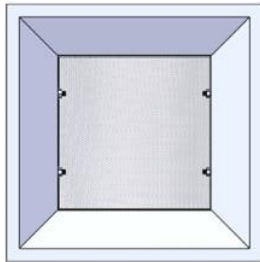
  

**HYDRA TMDL, LLC.**

TITLE: Hydra Full-Trash Capture Wall-Mounted Curb Inlet System

SIZE	DWG. NO.	REV
A	HFTC-WMCIS-INFO	A

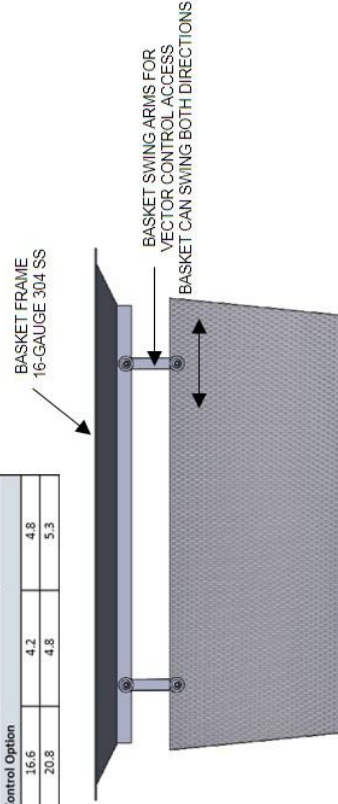
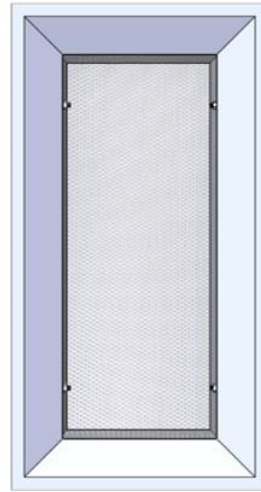
Hydraulic Capacity A) Drop-in Inlet Horizontal Grate Square Filter Basket					
Model	CATCH BASIN OPENING PERIMETER IN	STORAGE CAPACITY ft <sup>3</sup>	TREATED FLOW AT EMPTY CFS	TREATED FLOW AT 50% CAPACITY CFS	BYPASS FLOW RATE CFS
HFTC-G-1818	18 x 18	1.6	9.9	2.7	2.6
HFTC-G-2424	24 x 24	3.1	15.1	3.7	3.9
HFTC-G-3636	36 x 36	6.4	27.9	5.8	9.6



INSTALLATION INSTRUCTION:

1. REMOVE GRATE
2. CLEAN GRATE LEDGE & VAULT
3. PLACE FILTER SYSTEM ON LEDGE
4. REPLACE GRATE

Hydraulic Capacity A) Drop-in Inlet Horizontal Grate Rectangle Filter Basket					
Model	CATCH BASIN OPENING PERIMETER IN	STORAGE CAPACITY ft <sup>3</sup>	TREATED FLOW AT EMPTY CFS	TREATED FLOW AT 50% CAPACITY CFS	BYPASS FLOW RATE CFS
HFTC-G-3618	36 x 18	3.2	16.6	4.2	4.8
HFTC-G-3624	36 x 24	4.8	20.8	4.8	5.3



NOTES:

1. THE TOTAL BYPASS CAPACITY VARIES DEPENDING ON THE SIZE OF THE DRAINAGE STRUCTURE. HYDRA DESIGNS THE FRAMING BYPASS TO MEET OR EXCEED THE DESIGN FLOW REQUIREMENTS OF THE SPECIFIC DRAINAGE STRUCTURE.
2. WHEN PLACING AN ORDER, YOU MUST SUBMIT THE INLET SPECIFICATIONS, THE MAKE AND MODEL NUMBER OF THE PRECAST OR FOUNDRY CASTING, OR DETAILED DIMENSIONAL DRAWINGS TO CONFIGURE AND ASSEMBLE THE DROP-IN FILTER BASKET SYSTEM.
3. PLEASE VISIT HYDRATMDL.COM FOR MAINTENANCE AND SPECIFICATIONS.

PROPRIETARY AND CONFIDENTIAL  
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF HYDRA TMDL SYSTEMS LLC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF HYDRA TMDL SYSTEMS LLC IS PROHIBITED.

NAME	DATE
DF	6/28/2025
DF	6/28/2025
DF	6/28/2025
DF	6/28/2025

COMMENTS:  
304 Stainless Steel  
DO NOT SCALE DRAWING



TITLE: Hydra Full-Trash Capture Drop-In Grate Filter Basket System

SIZE	DWG. NO.	REV
A	HFTC-DIGFBS-INFO	A



**MVCAC**  
Mosquito and Vector Control Association of California

.....  
One Capitol Mall, Suite 320 • Sacramento, CA 95814 • p: (916) 440-0826 • f: (916) 444-7462 • e: mvcao@mvcac.org

Hydra TMDL Systems, Inc.  
5116 West Emerald Street, Suite A  
Boise, ID 83706

October 8, 2025

Dear Mr. Friezner,

Thank you for the submission of the Hydra TMDL Systems Drop-in Horizontal Grate Inlet Filter Basket and Wall Mounted Curb Inlet Filter Basket for review by the Mosquito and Vector Control Association of California pursuant to the SWRCB Trash Treatment Control Device Application Requirements. The Association has reviewed the conceptual drawings for the Hydra TMDL Systems Drop-in Horizontal Grate and Wall Mounted Curb Inlet filter baskets and verifies that provisions have been included in the designs that allow for full visual access to all areas for presence of standing water, and when necessary, allows for treatments of mosquitoes.

While this verification letter confirms that inspection and treatment for the purpose of minimizing mosquito production should be possible with the Hydra TMDL Systems Drop-in Horizontal Grate and Wall Mounted Curb Inlet filter baskets as presented, it does not affect the local mosquito control agency's rights and remedies under the State Mosquito Abatement and Vector Control District Law. For example, if the installed device or the associated stormwater system infrastructure becomes a mosquito breeding source, it may be determined by a local mosquito control agency to be a public nuisance in accordance with California Health and Safety Code sections 2060-2067.

"Public nuisance" means any of the following:

1. Any property, excluding water, that has been artificially altered from its natural condition so that it now supports the development, attraction, or harborage of vectors. The presence of vectors in their developmental stages on a property is prima facie evidence that the property is a public nuisance.
2. Any water that is a breeding place for vectors. The presence of vectors in their developmental stages in the water is prima facie evidence that the water is a public nuisance.
3. Any activity that supports the development, attraction, or harborage of vectors, or that facilitates the introduction or spread of vectors. (Heal. & Saf. Code § 2002 (j).)

Declaration of a facility or property as a public nuisance may result in penalties as provided under the Health and Safety Code. Municipalities and the vendors they work with are encouraged to discuss the design, installation, and maintenance of stormwater trash capture devices with their local mosquito control agency to reduce the potential for disease transmission and public nuisance associated with mosquito production.

Sincerely,

Megan MacNee  
MVCAC Executive Director

