

---

December 7, 2020

Mr. Leo Cosentini

California State Water Resources Control Board  
Division of Water Quality  
P.O. Box 100  
Sacramento, CA 95812-0100

RE: Former Product Name: Nettek Gross Pollutant Trap, End of Line – Trash Screen and Net  
(KS-11HF)

Dear Mr. Cosentini,

Oldcastle Infrastructure<sup>®</sup> is pleased to submit this updated fact sheet. Oldcastle is renaming the system to FloGard<sup>®</sup> NetTech. The enclosed updated fact sheet has been compiled in conformance with the Trash Treatment Control Device Requirements and includes the following:

1. Cover Letter
2. Table of Contents
3. Physical Description
4. Installation Guidance
5. Operations and Maintenance Information
6. Vector Control Accessibility
7. Reliability Information
8. Field/Lab Testing Information and Analysis

Thank you for your consideration of this updated fact sheet. If any additional information is needed, please contact Laraine Sanfilippo per information provided below.

Respectfully,

Oldcastle Infrastructure<sup>®</sup>, A CRH Company



Laraine Sanfilippo  
Western Region Regulatory Manager  
[laraine.sanfilippo@oldcastle.com](mailto:laraine.sanfilippo@oldcastle.com)  
(619) 481-0608

# 1. Cover Letter

## a. Product Name and General Description of Device

Oldcastle Infrastructure™ FloGard® NetTech (NetTech) is a gross pollutant trap that combines a marine-grade, stainless-steel pipe extension with a heavy-duty, UV-stabilized polyethylene net. The pipe extension incorporates a unique mechanism that allows the net to release in the event it becomes fouled with intercepted debris. When capacity is reached, the net component automatically detaches and then chokes off on a short tether, allowing the pipe to flow normally. The choke and tether ensure that all previously captured debris remain contained until maintenance is available to remove from site. The versatile system can be customized to suit various flow rates, volumes of debris or retrofit applications.

Oldcastle Infrastructure™ respectfully submits the NetTech updated fact sheet due to increased net length improving functionality and performance. Changes to fact sheet include updated sizing chart, hydraulic capacity, storage capacity, and design drawings. Mosquito and Vector Control Association of California approval is included in updated fact sheet.

## b. Contact Information and Location

Chief Executive Officer: Matt Clemson  
Oldcastle Infrastructure™  
Vice President and General Manager, Stormwater  
[matt.clemson@oldcastle.com](mailto:matt.clemson@oldcastle.com)  
(470) 261-7620

Authorized Representative: Laraine Sanfilippo  
Oldcastle Infrastructure™  
Regulatory Manager  
[laraine.sanfilippo@oldcastle.com](mailto:laraine.sanfilippo@oldcastle.com)  
(619) 481-0608

Mailing Address: Oldcastle Infrastructure, Stormwater  
c/o Laraine Sanfilippo  
10441 Vine Street  
Lakeside, CA 92040

## c. Manufacturer's Website for Device

<https://oldcastleinfrastructure.com/brands/nettech/>

**d. Manufacturing Location for Device**

Manufacturer Name: Oldcastle Infrastructure™  
Manufacturer Address: 7100 Longe Street  
Stockton, CA 95304  
Manufacturer Phone: (800) 579-8819  
Manufacturer Representative: Gary Jones  
(888) 950-8826

**e. Summary of Field/Lab Testing Results**

NetTech have been utilized throughout California. All trash and debris for the designed storm event is captured within the system due to the interior net’s full capture 4.9mm perforations. No lab testing has been recorded for the NetTech.

**f. Summary of Device Limitations, and Operational, Sizing, and Maintenance Considerations**

NetTech has a versatile design for ease of use and compatibility with most pipe discharge configurations. Standard sizes are available and custom units will be considered as unusual or challenging projects arise. Please contact an Oldcastle Infrastructure™ representative for sizing assistance.

Maintenance on any stormwater management device is mandatory. The schedule of maintenance will depend on site conditions and should be determined during the first year of operation by assessing capacity levels after large storm events. Consistent maintenance is imperative to ensure constant trash capture is attained and bypass does not occur.

**g. Description, or List of Locations, where Device has been installed**

NetTech has been installed throughout California and nationally to meet trash capture demands.

Installations*		
Project	Location	Contact
City of Livermore – Trash Capture Project	Multiple Units/ Locations City of Livermore, CA	Public Works, City of Livermore Michael Wells
City of Pleasanton – Trash Capture Project	Multiple Units/ Locations City of Pleasanton, CA	Environmental Compliance, City of Pleasanton Scott A. Walker
Vallejo Flood District – Trash Capture Project	Multiple Units/ Locations City of Vallejo, CA	Pollution Control, Vallejo Flood District Mark Hall

\*Please contact an Oldcastle Infrastructure™ representative for more detailed information.

## h. Certification

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 assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons that manage the system or those persons directly responsible for gathering 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 fine and imprisonment for knowing violations.



12/7/2020

---

Matt Clemson  
Oldcastle Infrastructure™  
General Manager, Stormwater  
[matt.clemson@oldcastle.com](mailto:matt.clemson@oldcastle.com)  
(470) 261-7620

---

Date



12/7/2020

---

Laraine Sanfilippo  
Oldcastle Infrastructure™  
Regulatory Manager  
[laraine.sanfilippo@oldcastle.com](mailto:laraine.sanfilippo@oldcastle.com)  
(619) 481-0608

---

Date

# Table of Contents

<b>1. Cover Letter</b> .....	<b>i</b>
a. Product Name and General Description .....	i
b. Contact Information and Location .....	i
c. Manufacturer’s Website for Device .....	i
d. Manufacturing Location for Device .....	ii
e. Summary of Field/Lab Testing Results .....	ii
f. Summary of Device Limitations, and Operational, Sizing, and Maintenance Considerations.....	ii
g. Description, or List of Locations, where Device has been installed .....	ii
h. Certification.....	iii
<b>2. Table of Contents</b> .....	<b>1</b>
<b>3. Physical Description</b> .....	<b>3</b>
a. Trash Capture: Description of Device.....	3
b. Peak Flows/ Trash Volumes .....	3
c. Hydraulic Capacity .....	3
1) Hydraulic Capacity Table.....	3
2) Alternative Configuration Hydraulic Capacity Table.....	3
3) Hydraulic Capacity Calculations or Field Test Results.....	4
d. Comparison Table .....	4
e. Design Drawings.....	4
f. Alternative Configurations .....	4
g. Internal Bypass .....	4
h. Previously Trapped Trash.....	4
i. Calibration Feature.....	5
j. Photos .....	5
k. Material Type .....	8
l. Design Life .....	8
<b>4. Installation Guidance</b> .....	<b>9</b>
a. Installation Procedures .....	9
b. Device Installation Limitations/ Non-standard Installation Procedures.....	9
c. Diagnosing and Correcting Installation Errors.....	10
<b>5. Operation and Maintenance Information</b> .....	<b>11</b>
a. Device Inspection Procedures and Frequency Considerations .....	11
b. Device Maintenance Frequency Related to Hydraulic Capacity .....	11

c. Maintenance Procedures .....	11
d. Maintenance Equipment and Materials .....	12
e. Effects of Deferred Maintenance.....	12
f. Repair Procedures.....	13
<b>6. Vector Control Accessibility .....</b>	<b>14</b>
a. Date of Application Submittal to Mosquito Vector Control Association .....	14
b. Description of Access for Vector Control Personnel.....	14
c. Letter of Verification from Mosquito Vector Control Association .....	14
<b>7. Reliability Information.....</b>	<b>15</b>
a. Estimated Design Life .....	15
b. Warranty Information .....	15
c. Customer Support Information .....	15
<b>8. Field/Lab Testing Information and Analysis.....</b>	<b>16</b>
a. Available Field/Lab Testing Information – Devices with 5mm Screen.....	16
b. Available Field/Lab Testing Information – Devices without 5mm Screen .....	16
<b>APPENDIX A.....</b>	<b>17</b>
Hydraulic Capacity Calculations .....	18
<b>APPENDIX B .....</b>	<b>20</b>
Design Drawings.....	21
<b>APPENDIX C .....</b>	<b>22</b>
MVCAC Approval Document.....	23

### 3. Physical Description

#### a. Trash Capture: Description of Device

NetTech is configured with openings less than 4.9mm to ensure trash capture regulations and requirements are met. The system location is at the discharge of the pipe ensuring all flows exiting the stormwater system will be treated. Sizing is dependent on discharge pipe sizes with bypass flows accounted for on all required designs.

#### b. Peak Flows/ Trash Volumes

The tables in **Section 3c.1. Hydraulic Capacities** list Peak Flow and Trash (Storage) Volume capacities for 7 standard sizes of the NetTech.

#### c. Hydraulic Capacity

##### 1) Hydraulic Capacity Table

<b>FloGard™ NetTech - Capacities *</b>								
Model Number	Outlet Pipe Size (in)	Net Length (ft)	Hydraulic Capacity				Peak/Bypass Flow <sup>(1)</sup> (cfs)	Storage Capacity (cf)
			Filtered Flow (cfs)					
			Empty	25% Full	50% Full	75% Full		
FF-NT18-TC	18	6.00	30.11	22.58	15.05	7.53	OUTLET PIPE CAPACITY	12.82
FF-NT-24-TC	24	7.00	54.08	40.56	27.04	13.52		26.60
FF-NT-30-TC	30	7.00	75.57	56.68	37.79	18.89		41.56
FF-NT-36-TC	36	9.00	127.73	95.80	63.86	31.93		76.94
FF-NT-48-TC	48	9.00	196.65	147.49	98.33	49.16		136.78
FF-NT-60-TC	60	10.00	305.37	229.03	152.68	76.34		237.46
FF-NT-72-TC	72	10.00	401.42	301.06	200.71	100.35		341.95

Notes:

\*Additional sizes available per region and request. Please speak with an Oldcastle Infrastructure representative for more detailed information.

(1) Design of NetTech System allows flows in excess of pipe capabilities; therefore, Peak/Bypass Flows are determined by outlet pipe design and capacity.

##### 2) Alternative Configuration Hydraulic Capacity Table

NetTech does not have alternative configurations.

### 3) Hydraulic Capacity Calculations or Field Test Results

Hydraulic capacity calculations for NetTech are included in **Appendix A**.

#### **d. Comparison Table**

The tables in **Section 3c.1. Hydraulic Capacities** list storage and hydraulic capacities for 7 standard sizes of the NetTech.

#### **e. Design Drawings**

Design drawings for NetTech are included in **Appendix B**.

#### **f. Alternative Configurations**

NetTech does not have alternative configurations.

#### **g. Internal Bypass**

The NetTech design includes a release mechanism, where an internal float releases the netting once the maximum capacity of trash and debris has been captured. Before release, the hydraulic capacity of the netting is sufficient, regardless of storage capacity, to handle any flow rates from the discharge pipe. After release of the netting component, the system is in complete bypass and is incapable of trash capture until maintenance is performed and the net is reattached.

#### **h. Previously Trapped Trash**

NetTech is designed with a pipe extension that incorporates a release mechanism which allows the net component to release when it is completely filled with debris. When full, the net releases (detaching from the body of the pipe), cinches closed, and remains close to the pipe slightly downstream. The full net is held by two stainless steel aircraft quality tethering cables ensuring the net remains next to the outlet pipe until a maintenance crew can arrive. The released net allows the pipe to flow normally while guaranteeing all previously captured trash remains contained. Maintenance must be performed to empty net and reattach after net has disengage from the pipe. Any flows exiting the pipe when the net is disengaged will not be treated for trash capture. All previously captured trash will remain in the net until maintenance removes trash and debris from site. The only condition that would allow previously trapped trash to escape downstream is if the system sustained significant damage.



### **i. Calibration Feature**

NetTech does not include an adjustable calibration feature.

### **j. Photos**



*Figure 1. 72" RCP at continuous flow installation.*



*Figure 2. Routine inspection 2 months post-installation. Maintenance to be performed.*



*Figure 1. Net filled to capacity and self-detached awaiting routine maintenance.*



Figure 2. Unusual outlet size and shape.



Figure 3. Installed headwalls for mounting NetTech for 100% trash capture of outlet.

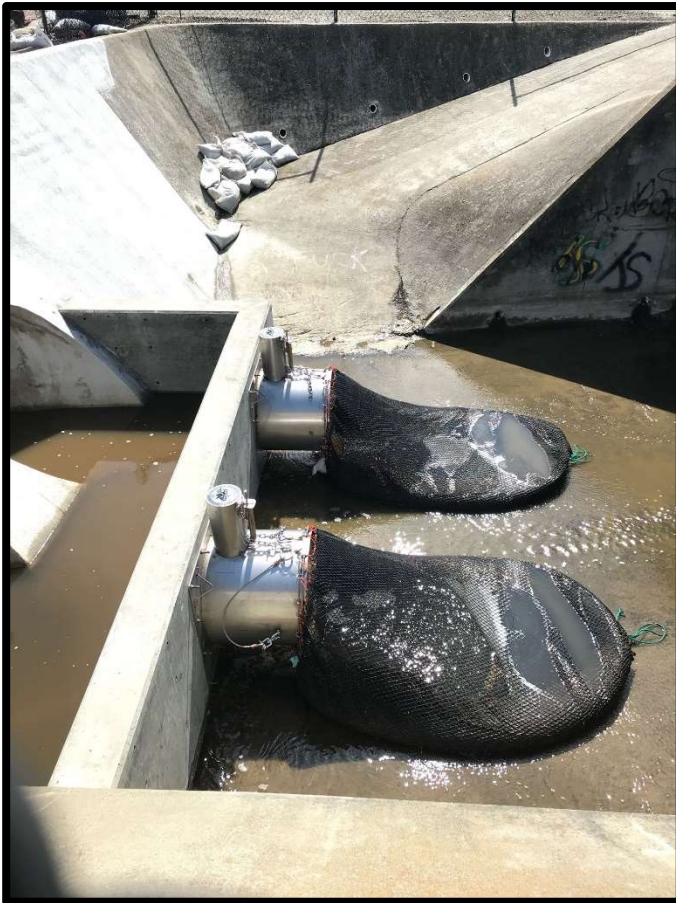


Figure 4. Installed NetTech with maintenance access road.



Figure 5. Installed NetTech at approximately 50% capacity.



Figure 8. Regional trash capture project.



Figure 9. Installation and maintenance access from road.



Figure 10. Installation of NetTech mounting brackets.



Figure 11. Installation of trash capture netting.



Figure 12. Completed installation of NetTech.

## **k. Material Type**

The NetTech system consists of an exterior net, inner net, body and Assembly. The Assembly is comprised of a stainless-steel ring bridle with 4 mm polyethylene twine and 5/16" braided polypropylene puckerline. The body of the NetTech is constructed from type 304 stainless-steel and is designed with a flange mount which is bolted to the field poured (by others) concrete headwall with 3/8" diameter x 2 1/2" long stainless-steel expansion anchor bolts and washers. The exterior net is 120ply x 2" stretch UCPE knotless netting. The inner net is 210/9 x 5/16" stretch knotless raschel stitch high tenacity nylon.

## **l. Design Life**

The estimated design life for the NetTech body and Assembly is 25 years while the estimated life for the nets is 5 years. Both the system and net estimates are dependent on the proper care and maintenance and assume no extraordinary circumstances.

## 4. Installation Guidance

### a. Installation Procedures

Installation Procedures for NetTech:

1. Align stainless steel body of the device to front of outlet pipe headwall.
  - a. Smaller units can be aligned by hand. Larger units may require machinery to align.
2. Position NetTech stainless steel body against concrete headwall, centered on outlet opening pipe.
3. Drill anchor bolt holes into headwall at each mounting bolt hole location in body of device.
4. Secure with required size anchor bolts (standard is 3/8" x 2.5") and washers.
5. Attach net:
  - a. Center lower D ring on body of device behind the retaining rod at the 6 o'clock position. Assure the release tether cable is free and to the side of attachment.
  - b. Work the two net cables up and around each side of the body, behind the retaining rod hoop.
  - c. Run the two cable in front of the two stubs on the top of the body. The two cable ends with the chain assembly will be positioned at the top center of unit.
  - d. With stack tensioning rod in the down position, place chain behind the release rod.
  - e. Push tensioning rod towards the release stack, keeping the chain at the bottom of the release rod.
  - f. While holding the tensioning rod against the release stack, rotate the locking arm of the release stack around the tensioning rod and secure locking arm in place within the release stack.
  - g. Check tension on chain and adjust as needed. Chain and cable need to be tight against the body.
    - i. If adjustment is needed, release tension on cable and adjust with shackle in link of chain to get a tight cable.
  - h. Reset tensioning rod in release stack.
  - i. Assure the end of the net is pulled tight and secured with included rope.

### b. Device Installation Limitations/ Non-standard Installation Procedures

Installation to help meet trash TMDLs or the statewide trash amendment are often retrofit. In the case of retrofit, the site should be inspected prior to design to be sure record drawings are correct. The trash capture system should be designed and fabricated to meet existing site conditions.

### c. Diagnosing and Correcting Installation Errors

NetTech is designed for simple installation. Once installed, ensure a proper fit by performing a visual inspection of mounting bolts, body, netting and all related parts. If all components are not secure and in proper placement, remove and reinstall by following **Section 4a. Installation Procedures**. If questions during or after installation, please contact Oldcastle Infrastructure™ for project specific assistance.

## 5. Operation and Maintenance Information

### a. Device Inspection Procedures and Frequency Considerations

Oldcastle Infrastructure™ recommends the following timing of inspections to ensure proper maintenance can be conducted:

1. For waterways with year-round outflow: Every two weeks.
2. For waterways with periodic outflow: Every two weeks during flow.

After the first year of installation, a site-specific inspection schedule can be implemented based on the findings of previous inspections.

### b. Device Maintenance Frequency Related to Hydraulic Capacity

Due to the nature of the NetTech configuration, maintenance does not rely on hydraulic capacity, but rather on storage (trash and debris) capacity. Maintenance should be implemented between storm events if net is at more than 75% capacity. Maintenance must be implemented immediately if net has released from pipe.

### c. Maintenance Procedures

Oldcastle Infrastructure™ recommends the following maintenance procedures for systems where the net has released:

1. Service commences with the retrieval of the discharged net from the waterway.
2. Contents of the net shall be emptied into an approved container (per jurisdictional requirements) for later disposal. Depending on net size and capacity, the process of lifting and emptying the net may require machinery which should be planned and accounted for before maintenance is attempted.
3. Net shall be inspected for defects and continued serviceability. If the net demonstrates structural issues, please contact Oldcastle Infrastructure™ for an immediate replacement.
4. Net shall be positioned across the outflow pipe and re-attached per instructions in **Section 4.a.5. Installation Procedures**.

Oldcastle Infrastructure™ recommends the following maintenance procedures for systems where the net is still attached:

1. Undo padlock on stacked lid.
2. Open lid of stack (release device inside).
3. Undo tether wires.
4. Disengage tensioning latch and lower chain tensioning rod.
5. Disengage net from device holding tether wires and maintaining tension.

6. Secure rings of tether wires on to crane hook.
7. Lift NetTech net using truck mounted crane, backhoe or other equipment. Keep all personnel a safe distance from net.
8. Allow any water to drain from net.
9. Empty net into truck, trailer or other receiving container by either:
  - a. Untying rope at bottom of the net and releasing.
  - b. Upending net lifting from the bottom.
10. Replace net (see instructions below).

Oldcastle Infrastructure™ recommends the following maintenance procedures for replacing the net:

1. Put wire rope around device behind rail and between secure lugs.
2. Place adjustable tensioning rod over chain tensioner lever and slide to bottom of lever (note this must stay at bottom of lever for efficient operation and to prevent bending of lever).
3. Lift chain tensioning rod to upright position – some tension should be apparent on rod at this stage (make sure tensioning chain is at bottom of bar).
4. Swing tensioning latch around tensioning rod and into slot on stack.
5. Secure tensioning latch internally with release catch.
6. Tether wires and padlock.
7. Replace lid and padlock.

#### **d. Maintenance Equipment and Materials**

The following equipment should be used to conduct maintenance on the NetTech:

- Personal Protective Equipment (PPE)
  - i.e. hardhat, gloves, appropriate footwear, safety glasses, etc.
- Lifting machinery, if required
  - i.e. Compact loader, backhoe, crane, etc.
- Dumpster or truck bed for disposal of collected trash and debris
- Pressure washer, if required
- Tools for uninstallation and reinstallation
  - Open end wrench to adjust chain tension if necessary
  - Pliers to remove tether shackles

#### **e. Effects of Deferred Maintenance**

Deferred maintenance may allow the NetTech netting to fill to capacity and detach. Once the net detaches, the system is in complete bypass and no additional trash or debris will be collected until maintenance is performed and the net is reattached.



## **f. Repair Procedures**

If inspection of the condition of the NetTech body reveals damage and need for repair, the damage should be documented and photographed and then submitted to Oldcastle Infrastructure™ for assessment. Engineering and Operations staff at Oldcastle Infrastructure™ will evaluate the damage and recommend a repair. Responsibility for the repair will depend on the cause of damage.

If inspection of the condition of the NetTech netting reveals damage, a replacement net will need to be installed to ensure proper trash capture capacity is attained.

## 6. Vector Control Accessibility

### a. Date of Application Submittal to Mosquito Vector Control Association

Application for approval of the FloGard® NetTech was initially submitted to the Mosquito and Vector Control Association of California (MVCAC) on November 4, 2020. This submittal was made concurrently with the original California Water Boards Trash Treatment Control Device Application submittal. The application was approved on December 3, 2020. A copy of the MVCAC approval letter is included as **Appendix C**.

### b. Description of Access for Vector Control Personnel



FloGard® NetTech is an end of pipe solution that is configured and installed for ease of access. Due to the nature of the net configuration, visual inspection is available at all times. Treatment can be conducted through pellets or spray with easy access to the interior through the release stack (spray or pellets) and holes in the netting (spray only). Please note, due to the nature of end of pipe solutions, most receiving waters will be ponds, lakes, culverts, etc.; therefore, the NetTech will not be located in a difficult to reach, enclosed space.

Release stack lid can be lifted for visual inspection inside of pipe and treatment if required. Inspections should never be conducted during a rain event.

### c. Letter of Verification from Mosquito Vector Control Association

Refer to **Appendix C** for a letter of verification from the Mosquito and Vector Control Association of California (MVCAC), dated December 3, 2020. The approval letter verifies all design requirements have been met to allow for full visual and treatment access.

## **7. Reliability Information**

### **a. Estimated Design Life**

The estimated design life for the NetTech system is 25 years while the estimated life for the nets is 5 years. Both the system and net estimates are dependent on the proper care and maintenance and assume no extraordinary circumstances.

### **b. Warranty Information**

Oldcastle Infrastructure™ warrants FloGard® NetTech to be free from manufacturing defects for a period of five (5) years from the date of purchase. Abusive treatment, neglect or improper use of the NetTech will not be covered by this warranty.

### **c. Customer Support Information**

Oldcastle Infrastructure offers full customer support for all products including the NetTech. Customer Support contact information is as follows:

Oldcastle Infrastructure™

7100 Longe Street

Stockton, CA 95304

Phone: (888) 965-3227

Website: [www.oldcastleinfrastructure.com](http://www.oldcastleinfrastructure.com)

Email Contact: [ContactInfrastructure@Oldcastle.com](mailto:ContactInfrastructure@Oldcastle.com)

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

### **a. Available Field/Lab Testing Information – Devices with 5mm Screen**

The NetTech includes netting with 4.9mm apertures through which all treatment flow must pass to travel downstream; therefore, testing is not required to demonstrate trash capture performance because particles 5mm in diameter and larger cannot physically pass through the netting. Empirical testing was conducted to adequately determine the strength and durability of the internal components.

### **b. Available Field/Lab Testing Information – Devices without 5mm Screen**

NetTech systems without the trash capture (4.9mm aperture) netting do not have testing or field data available and will not be used for trash capture applications.

## **APPENDIX A**

## Technical Memorandum

### FloGard® NetTech

### Hydraulic Capacity Calculations

This technical memorandum documents the hydraulic calculations for the FloGard® NetTech.

#### I. Standard Equations

The flow capacity through the FloGard® NetTech is based on several standard equations:

- Orifice Equation for Screen Basket;  $Q_f = (C * A_s * \sqrt{2 g h}) / SF$ 
  - $Q_f$  = Treatment Flow Rate; ft<sup>3</sup>/sec
  - C = Discharge (Orifice) Coefficient
  - $A_s$  = (Screen Surface Area) \* (% Open); ft<sup>2</sup>
  - g = Gravity; 32.174 ft/sec<sup>2</sup>
  - h = Available (Driving) Head; ft
  - SF = Safety Factor
  
- Cylinder Partial Surface Area<sup>1</sup>;  $A_x = \pi * D * L$ 
  - $A_x$  = Surface Area; ft<sup>2</sup>
  - D = Diameter of Net (110% \* Diameter of Pipe), ft
  - L = Length of Net, ft
  
- Cylinder Volume;  $V_x = \pi * r^2 * L$ 
  - $V_x$  = Storage Volume; ft<sup>3</sup>
  - r = Radius of Pipe, ft
  - L = Length of Net, ft

#### II. Filtered Flow Calculations

The following steps were used to calculate the Filtered Flow rates:

1. Calculate Partial Surface Area using Net Diameter and Length of Net for each size NetTech.
2. Since nets are layered, open area is conservatively presumed to be the product of both nets. Therefore, %Open will be calculated 80% of outer net and 50% of inner net based on perforation sizes proportional to their respective nets.
3. Driving Head is presumed to equal half the height to bypass for determination of capacity.
4. Calculate Treatment Flow Rate using Discharge Coefficient = 0.65, Safety Factor = 2.00 and the previously detailed assumptions.

---

<sup>1</sup> Nets stretch into various shapes under water flow. The simplest and most accurate equation for surface area was calculated from a partial cylinder (top and bottom are omitted).

EXAMPLE CALCULATION: FF-NT18-TC

- $A_x = \pi * D * L$ 
  - $D = (110\% * \text{Diameter of Pipe}) = (110\% * 18 \text{ in}/(12 \text{ in}/\text{ft})) = 1.65 \text{ ft}$
  - $L = 6.00 \text{ ft}$

$$A_x = \pi * 1.65 \text{ ft} * 6.00 \text{ ft} = 31.10 \text{ ft}^2$$

- $A_s = (\text{Surface Area, } A_x) * (\% \text{ Open})$

$$A_s = (31.10 \text{ ft}^2) * (80\% * 50\%) = 12.44 \text{ ft}^2$$

- $h = \text{Bypass Height} * (50\%)$

$$h = ((18 \text{ in}/(12 \text{ in}/\text{ft})) * (115\%)) * (50\%) = 0.86 \text{ ft}$$

- $Q_f = (C * A_s * \sqrt{2 g h}) / SF$ 
  - $C = 0.65$
  - $A_s = (\text{Surface Area}) * (\% \text{ Open}); 12.44 \text{ ft}^2$
  - $g = \text{Gravity}; 32.174 \text{ ft}/\text{sec}^2$
  - $h = \text{Available (Driving) Head}; 0.86 \text{ ft}$
  - $SF = 2.00$

$$Q_f = (C * A_s * \sqrt{2 g h}) / SF = (0.65 * 12.44 \text{ ft}^2 * \sqrt{2 * 32.174 \frac{\text{ft}}{\text{sec}^2} * 0.86 \text{ ft}}) / 2.00 = 30.11 \text{ ft}^3/\text{sec}$$

Filtered Flow at 100% capacity for FF-NT18-TC is 30.11 cfs.

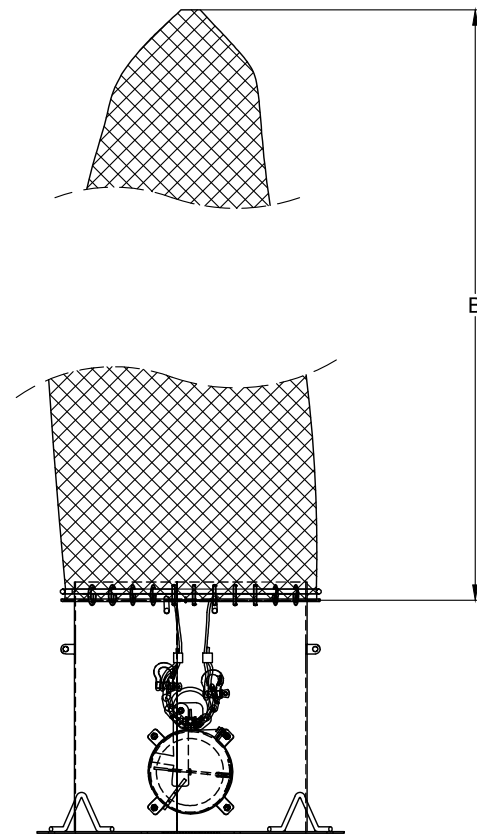
- $V_x = \pi * r^2 * L$ 
  - $r = D_{\text{Net}}/2 = 1.65 \text{ ft}/2 = 0.825 \text{ ft}$
  - $L = 6.00 \text{ ft}$

$$V_x = \pi * r^2 * L = \pi * (0.825 \text{ ft})^2 * 6.00 \text{ ft} = 12.82 \text{ ft}^3$$

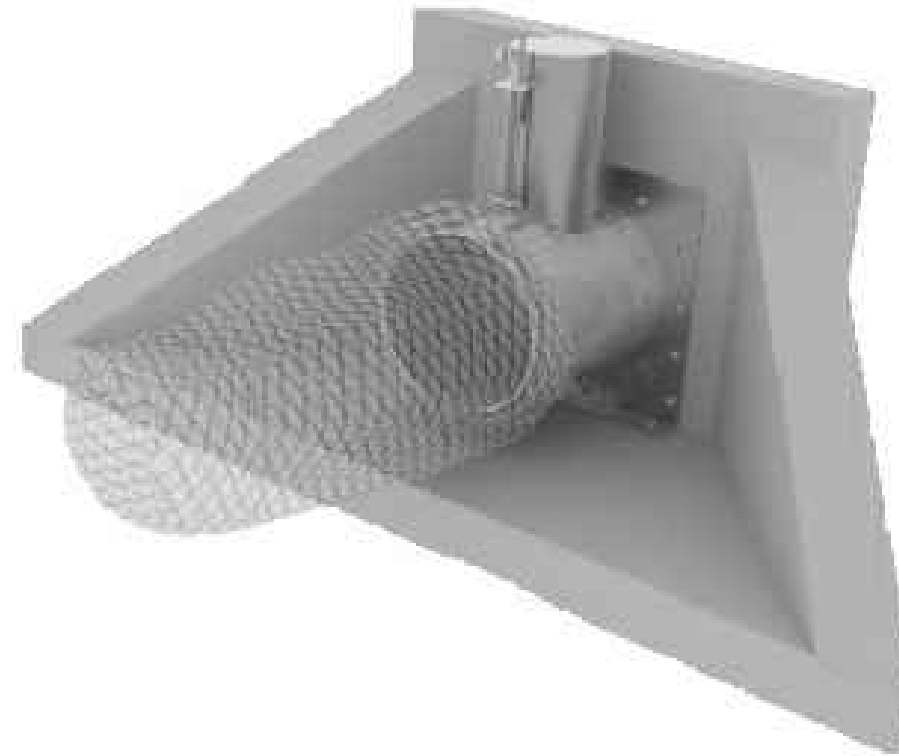
Storage capacity for FF-NT18-TC is 12.82 cf.

## **APPENDIX B**

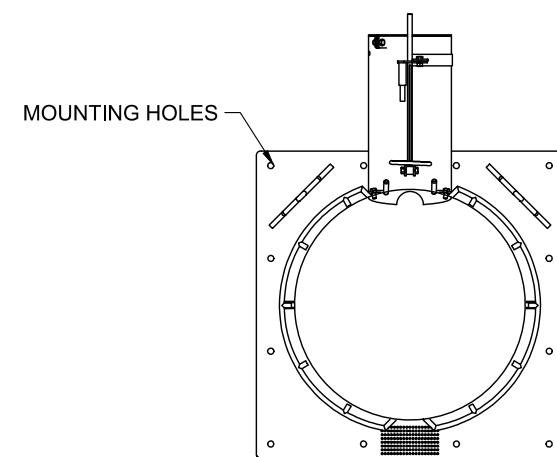




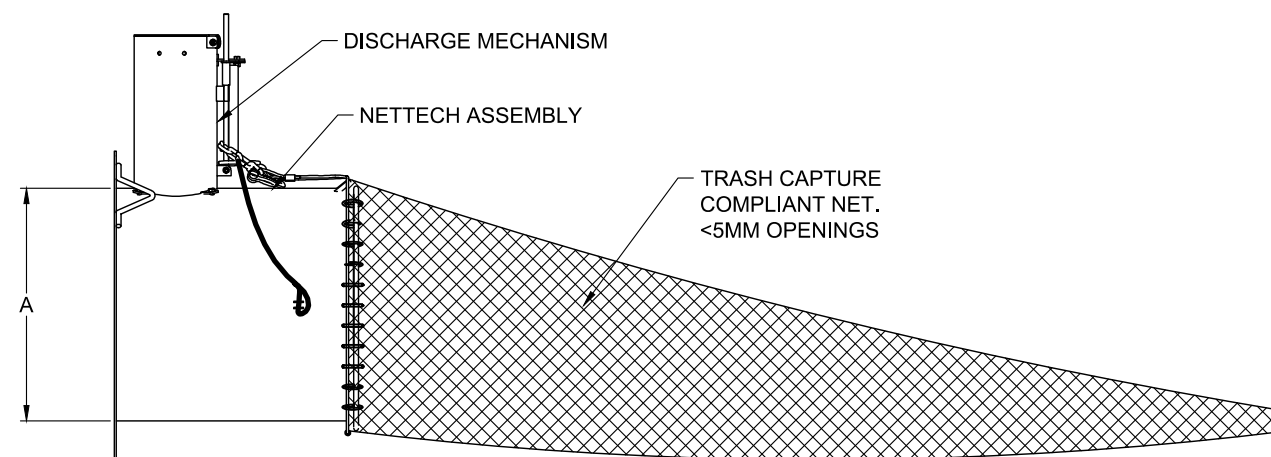
TOP VIEW



ISOMETRIC VIEW



ELEVATION VIEW



SIDE VIEW

NOTES:

FLOGARD NETTECH TRASH CAPTURE SYSTEM IS AVAILABLE IN SIZES TO ACCOMMODATE STANDARD INDUSTRY ROUND PIPE OUTFALLS. NON-STANDARD/CUSTOM SIZES CAN BE ACCOMMODATED WITH MINIMAL MODIFICATION BY CONTACTING YOUR LOCAL OLDCASTLE INFRASTRUCTURE REPRESENTATIVE.



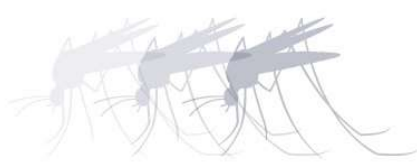
Ph: 800.579.8819 | www.oldcastleinfrastructure.com/stormwater  
 THIS DOCUMENT IS THE PROPERTY OF OLDCASTLE INFRASTRUCTURE, INC. IT IS CONFIDENTIAL, SUBMITTED FOR REFERENCE PURPOSES ONLY AND SHALL NOT BE USED IN ANY WAY INJURIOUS TO THE INTERESTS OF, OR WITHOUT THE WRITTEN PERMISSION OF OLDCASTLE INFRASTRUCTURE, INC. COPYRIGHT © 2020 OLDCASTLE INFRASTRUCTURE, INC. ALL RIGHTS RESERVED.

FloGard NetTech Trash Capture System

CUSTOMER	-	
JOB NAME	-	
DRAWING NUMBER	REVISION	SHEET
NetTech Submittal	REV DATE	1 OF 1



## APPENDIX C



Oldcastle Infrastructure  
10441 Vine Street  
Lakeside, CA 92040

December 3, 2020

Dear Ms. Sanfilippo,

Thank you for the submission of the Oldcastle FloGard NetTech full trash capture device 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 FloGard NetTech, 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 FloGard NetTech 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,

Bob Achermann,  
MVCAC Executive Director