



**Port of Stockton
Trash Implementation Plan
November 2018**

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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 who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, 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.

SIGNATURE: _____

Richard Aschieris

Port Director

November 30, 2018

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Introduction

The Port of Stockton (Port) is regulated as a medium-size Phase I Municipal Separate Storm Sewer System (MS4) and the Port's MS4 is covered under Central Valley Regional Water Quality Control Board (Central Valley Water Board) Waste Discharge Requirements (WDRs) in the form of a General Permit for Discharges from MS4s (Order R5-2016-0040, National Pollutant Discharge Elimination System (NPDES) No. CAS0085324 (General MS4 Permit)).

Trash Provisions adopted by the State Water Resources Control Board (State Water Board) in 2015 established a statewide narrative water quality objective and a prohibition on the discharge for trash, or the deposition of trash where it may be discharged, to surface waters of the State. The initial planning steps for implementation of the Trash Provisions were required by a Water Code section 13383 Order sent to the Port in June 2017. The 13383 Order required the Port to select one of two methods of compliance with the trash prohibition (Track 1 or Track 2).

Track 1: Install, operate, and maintain Full Capture Systems for all storm drains that capture runoff from the Priority Land Uses (PLUs)¹ in their jurisdiction.

Track 2: Install, operate, and maintain any combination of Full Capture Systems, Multi-Benefit Projects, other Treatment Controls, and/or Institutional Control within either the jurisdiction of the MS4 permittee or within the jurisdiction of the MS4 permittee and contiguous MS4 permittees. The MS4 permittee may determine the locations or land uses within its jurisdiction to implement any combination of controls. Permittees choosing Track 2 must demonstrate that the approach will achieve Full Capture System Equivalency (FCSE).

Of the PLUs designated by the Trash Provisions, only industrial, commercial, and mixed urban uses occur at the Port in areas where storm drain catch basins feed into the MS4 system. Thus, the Port has the option of implementing certified Full Capture Systems for all storm drains in these areas (Track 1), or implementing a combination of controls that achieve FCSE. The Port sent a letter to the Central Valley Water Board (dated August 30, 2018) committing to implement the Track 2 compliance approach. Entities selecting the Track 2 compliance approach must submit an implementation plan to the Central Valley Water Board for approval by December 1, 2018.² The implementation plan must include the following:

1. A description of and rationale for the combination of controls selected by the MS4 permittee;
2. The rationale for how the combination of controls is designed to achieve FCSE; and,
3. The rationale for how FCSE will be demonstrated.

Accordingly, the Track 2 implementation plan provided herein has been prepared and timely submitted in compliance with the 13383 Order requirements.

¹ The Trash Provisions define PLUs as high density residential, industrial, commercial, mixed urban, and public transportation.

² In accordance with Central Valley Water Board policy, since December 1, 2018 is a Saturday, the plan can be submitted without penalty by the following Monday (December 3, 2018).

Purpose of Implementation Plan

The purpose of this plan is as follows:

- Communicate the combination of controls the Port will implement to achieve FCSE and the rationale for their selection.
- Demonstrate how the combination of controls selected will achieve FCSE.
- Identify the monitoring and reporting that will be conducted to demonstrate progress toward and attainment of FCSE.

Rationale and Selection of Trash Controls

The Port currently installs geotextile filter inserts for sediment removal in many catch basins throughout the Port, including in areas described below that have above-ground trash generation rates that may necessitate implementation of trash controls. The filter inserts are primarily used to retain sediment or other debris that may be mobilized around industrial and commercial areas of Port property, including in areas of heavy equipment activity and open gravel or dirt lots. This intended use results in the filter inserts having smaller pore sizes than the Trash Provisions require of Full Capture Systems (5 millimeters (mm)). Since the geotextile filter inserts have a pore-size less than 5 mm and sufficient capacity to retain trash if properly maintained, these inserts will be used in moderate to very high trash generating areas to catch trash before entering the MS4 system to achieve FCSE.

Catch basins at the Port in areas needing inlet filters for trash control have drop-inlet openings flush with the ground, which differ from curbed inlets with large special openings at gutter level. The grates above the inlet filters restrict large pieces of trash and debris from entering the inlet. As a result, the Port has found that trash does not typically accumulate to substantial levels in the inlet filters where currently installed, which includes many catch basins in areas of the Port with a potential for moderate to high trash generation. Additionally, where traffic is low around Port-maintained catch basins, the Port often places gravel bags, coarse gravel, wattles, or other above-ground filtration, around the drop inlet opening to minimize sediment and debris from entering and accumulating in the catch basin or filter insert. Most of the Port-maintained catch basins in the areas with potentially moderate to high trash generation rates have been maintained with geotextile filter inserts for a number of years. Thus, Port staff is confident of their effectiveness and is familiar with their maintenance needs.

The Port currently utilizes an inlet filter made by Pollution Solution, Inc. (PSI; Lodi, CA) called the “Hornet’s Nest” and this device or equivalent geotextile filter insert(s), are the filter inserts that will be installed and maintained for trash control in designated areas. A picture of the Hornet’s Nest drain inlet filter is provided in **Figure 1**. Specifications on the Hornet’s Nest and the installation and maintenance of this device, or equivalent geotextile inlet filter, are provided in Appendix A.



Figure 1. Pictures of the Hornet's Nest geotextile catch basin inlet filter (left) and the device installed in a drop inlet catch basin (Right). Source: Pollution Solution, Inc. (Lodi, CA).

Full-Capture System Equivalency Attainment

The implementation of trash controls under Track 2 must provide trash reduction equivalent to the trash load reduced if full capture systems were installed, operated, and maintained for all drain inlets that capture runoff from PLUs. The treatment controls implemented by the Port under this implementation plan (catch basin geotextile filter inserts) were selected because they are designed to retain material entering catch basin, including trash, in a manner functionally equivalent to certified full-capture drain inlet trash filters. Since Track 2 allows the Port to determine where to implement trash controls, the following discussion provides information justifying the areas and catch basins where the filter inserts will be installed in a manner that attains FCSE. Although land throughout much of the Port's actively used property is dominated by industrial and commercial facilities, nuisance levels of trash are not common at the Port. Areas where trash controls are needed were determined by surveying trash generation and accumulation using On-land Visual Trash Assessments (OVTAs) of the Port and evaluating other factors associated with the Trash Amendments' implementation provisions.

The State Water Board³ supports the use of OVTAs as an option to identify areas that generate low amounts of trash, thus achieving full-capture equivalency without the need for additional controls, and areas where trash generation rates are sufficiently high that additional trash controls are necessary (moderate, high and very high trash generation rates). The OVTA approach was developed by the Bay Area Stormwater Management Agencies Association (BASMAA; BASMAA 2014; BASMAA 2016) for compliance with trash provisions in the Municipal Regional Stormwater NPDES Permit for the San Francisco Bay Area (Order No. R2-2015-0049). The OVTA approach uses visual land surveys of the MS4 to designate one of four baseline trash generation categories to the street or area (**Table 1**). The BASMAA approach, as recommended by the State Water Board, considers areas or streets that consistently achieve a Low trash generation level, as demonstrated through OVTAs, as having achieved FCSE. Likewise, areas designated with moderate, high, and very high trash generation categories require a combination of controls (full-capture devices and/or other controls) to reduce or capture trash to levels that achieve FCSE.

³ The State Water Board sponsored a 2-day OVTA and Full Capture Equivalency Training workshop in Sacramento and Riverside in 2018 (https://www.waterboards.ca.gov/water_issues/programs/stormwater/trash_implementation.html).

Table 1. Trash generation categories and associated “best/midpoint” rates and ranges (gallons/acre-year).

Trash Level	Map Display	OVRTA Score	Trash Generation Rate Average / Range
Low	Green	A	2.5 / 0–5
Moderate	Yellow	B	7.5 / 5–10
High	Red	C	30 / 10–50
Very High	Purple	D	100 / 50–150

The Port used the OVRTA approach to determine areal trash generation rates throughout its MS4 with storm drains that do or could discharge to waters of the State. In addition to trash generation rate, the Port considered other factors to help determine where catch basin geotextile inserts, or trash controls in general, would be implemented to achieve FCSE. All together, these factors are as follows.

- Areas not designated as PLUs. Areas categorized at the Port as Open Recreation, Pasture, Rangeland, Residential (uncategorized or low density), Row and Field Crops, Water, Wetland and Marsh are not PLUs and, thus, are not subject to the Track 1 implementation provisions of the Trash Policy. Therefore, catch basin geotextile filter inserts are not necessary in these land uses to achieve FCSE under Track 2.
- Areas in PLUs that achieve the Low trash generation category, as determined by baseline OVRTAs. Areas in PLUs already achieving the Low trash generation rate category have achieved FCSE and do not require development of trash controls for compliance with the Track 2 pathway.
- Areas where storm water is not captured by catch basins. The Trash Provisions identified that, under Track 1, Full Capture Systems must capture trash from all drain inlets in PLUs. Areas that drain in place or to roadside ditches (without a direct entry from a catch basin) are not subject to the Track 1 implementation provisions of the Trash Policy (see response to comment 66.1 and 66.4 in State Water Board, 2015). Therefore, trash load reductions at the Port are only necessary in areas receiving runoff into catch basins.
- Areas draining to catch basins within PLUs that do not discharge to receiving water. Some catch basins at the Port have pipelines that discharge underground into gravel-lined rail beds. Since these catch basins do not discharge to surface waters of the State, the conditional prohibition on the discharge of trash is not applicable in these areas.
- Areas within the boundary of facilities covered by the Industrial General Permit that discharge into the Port’s MS4 system. The Trash Provisions require the State Water Board to re-open the Industrial General Permit to incorporate the prohibition of discharge and implementation requirements. The compliance pathways developed and administered by the State Water Board through future amendments to the Industrial General Permit are anticipated to achieve FCSE for private facilities at the Port (with catch basins) covered by the Industrial General Permit.

The Port conducted baseline OVRTAs during 2018 along street segments or in areas with catch basins that drain into the MS4 system. Details on the approach taken to implement the OVRTAs are provided in Appendix B. Results of the OVRTAs, assignment of PLU area scores based on the OVRTAs, and the catch basins within the potentially moderate to very high trash generating areas are shown in **Figure 2** for the Port’s East Complex and **Figure 3** for the Port’s West Complex. Two street segments on the Port’s West Complex and an area on the southern portion of the East Complex were identified as having trash with the potential to exceed the Low trash generation category. For the potentially moderate to very high

trash generating areas of the East Complex, a number of catch basins are located within private facilities currently covered by the Industrial General Permit or referred by the Port to the Central Valley Water Board to obtain coverage under the Industrial General Permit (Figure 2 and Figure 3). Catch basins located outside of facilities where the Industrial General Permit is applicable are almost entirely on Port-maintained roads or open areas, and these areas will receive geotextile filter inserts (see Figure 2 and Figure 3). The Port will confirm which catch basins will receive the geotextile filter inserts in the non-IGP areas, as some of the catch basins identified as being in moderate to very high trash generation areas may be non-operational. The Port will fully identify the catch basins that will receive the geotextile filter inserts and install the devices according to schedule provided below.

In summary, installing and maintaining catch basin geotextile inlet filters in Port-maintained catch basins in the potentially moderate to very high trash generating areas will achieve FCSE for the following reasons.

- The selected treatment controls, namely catch basin geotextile inlet filters, are functionally equivalent to certified Full Capture Systems, and will be maintained to ensure sufficient capacity to be effective (Appendix A).
- The treatment controls are being implemented in the areas of the Port known to have the potential for moderate to very high trash generation rates. Other areas identified as having low trash generation rates meet FCSE without the development of trash controls.
- The treatment controls will be implemented in areas with the potential to drain to waters of the State/United States.
- Catch basins located in privately owned facilities, but within moderate to high trash generating areas, will achieve FCSE through compliance with the State Water Board-administered requirements adopted into the Industrial General Permit (at a future time). The amended Industrial General Permit will require permitted facilities to comply with the trash discharge prohibition and implementation requirements of the Trash Provisions.

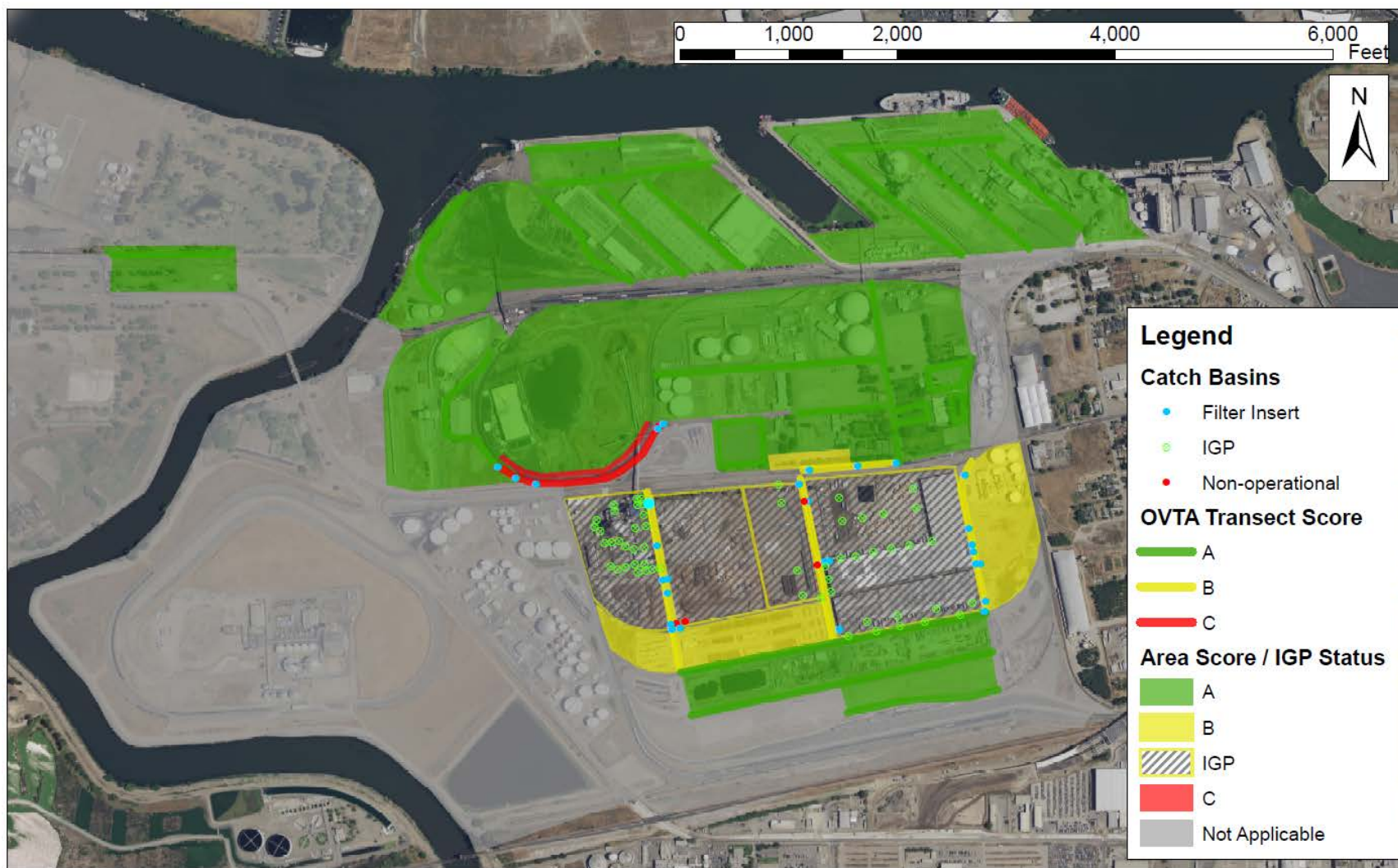


Figure 2. Map of OVTA transect scores and trash generation areas within the East Complex. For moderate to very high trash generation areas, the map shows locations of catch basins and private facilities subject to the Industrial General Permit (currently covered under the permit or referred to the Central Valley Water Board to obtain permit coverage). Map does not show facilities subject to the IGP outside of the moderate-very high trash generating areas.

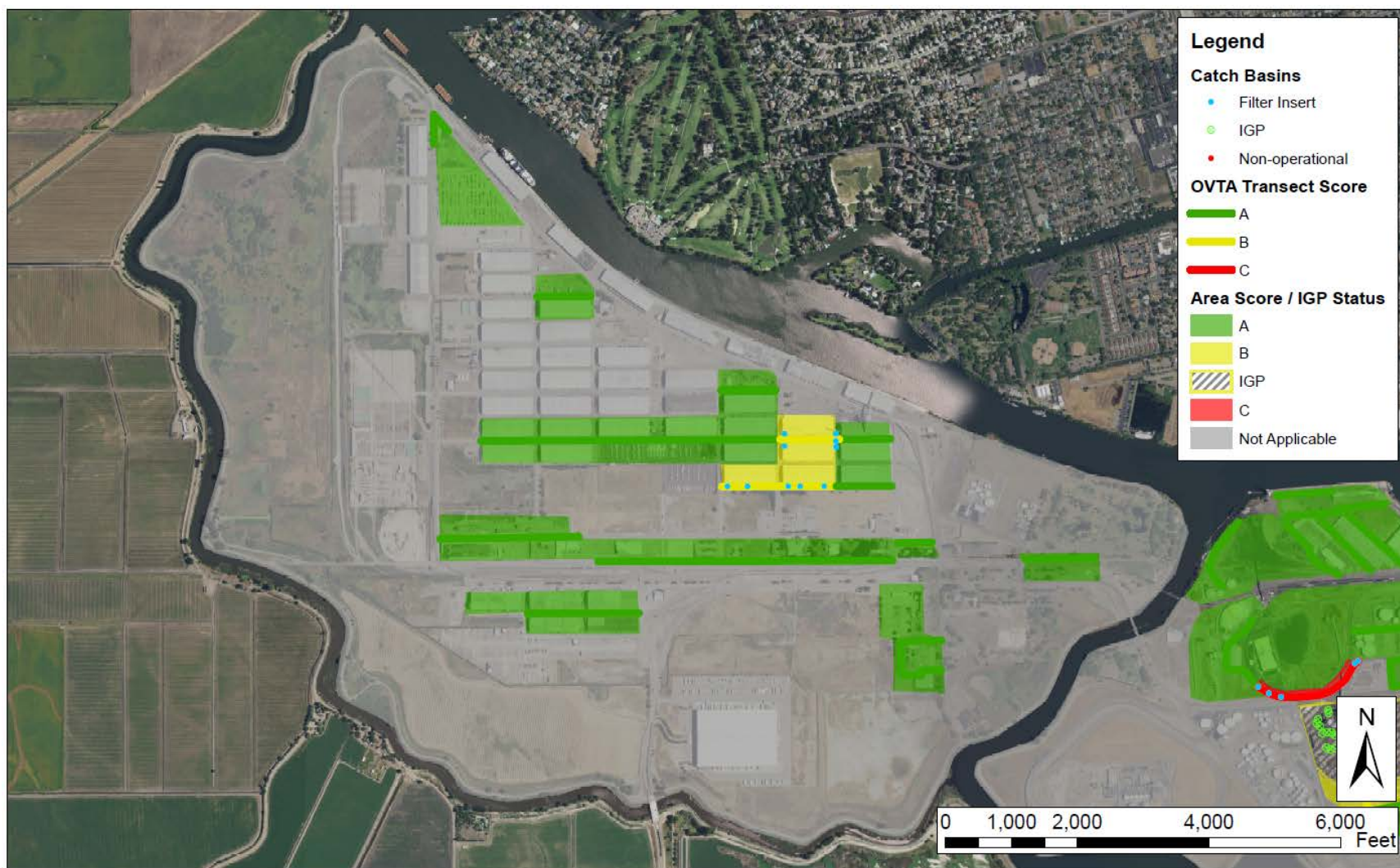


Figure 3. Map of OVTA transect scores and trash generation areas within the West Complex. For moderate to very high trash generation areas, the map shows locations of catch basins and private facilities subject to the Industrial General Permit (currently covered under the permit or referred to the Central Valley Water Board to obtain permit coverage). Map does not show facilities subject to the IGP outside of the moderate–very high trash generating areas.

Monitoring Plan and Reporting

Data needed to demonstrate FCSE consists of documentation that will demonstrate geotextile filter inserts have been installed and are being maintained in Port-operated catch basins in the moderate to very high trash generating areas of the East Complex (Figure 2) and the West Complex (Figure 3). For these catch basins, the Port will document in their annual storm water reports the following information:

- Number and location of catch basins requiring geotextile filter inserts and the number of catch basins where the devices have been installed.
- Maintenance frequency implemented during the storm water year (July 1–June 30).
- Changes to the maintenance frequency and justification for the change.

Schedule

The Port typically completes annual catch basin maintenance prior to October 1, the traditional start of the wet season. Catch basin filter inserts will be installed pursuant to this plan by October 1, 2019. The Port will report monitoring data starting with the 2019/2020 annual storm water report (due to the Central Valley Water Board October 1, 2020).

References

- State Water Resources Control Board. 2015. *Amendment to the Water Quality Control Plan for the Ocean Waters of California to Control Trash and Part 1 Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California*. Final Staff Report Including the Substitute Environmental Documentation. April.
- Bay Area Stormwater Management Agencies Association. 2014. *San Francisco Bay Area Stormwater Trash Generation Rates*. Final Technical Report. Prepared by EOA, Inc. May.
- . 2016. *Evaluation of the On-land Visual Assessment Protocol as a Method to Establish Baseline Levels of Trash and Detect Improvements in Stormwater Quality*. Prepared by EOA, Inc. December.

Appendix A. Catch Basin Geotextile Filter Insert Design Description, Installation, and Maintenance

Description of Device Function

The Hornet's Nest drain inlet filter is a geotextile filter installed under drop inlet storm grates. The filter is fitted with a debris collection tube that has four overflow portals at the top of the collection tube to allow for bypass during heavy storm events. Images of the device are provided in **Figure A-1**. These filters ensure that all particles greater than 5 mm are captured because of the low nominal pore size of fabric, 0.6 mm (No. 30 standard sieve). Trash particles greater than 5 mm cannot pass through the material. Hornet's Nest filters come in two standard sizes (3 feet (ft.) by 4 ft. and 5 ft. by 5 ft.) to accommodate various size storm drain frames and grates. Inserts are purchased in common sizes, installed in the field, and excess apron material protruding out from the edges of the grate can be trimmed away. Since the apron material itself is permeable, flow through the entire filter increases with apron size. Straps connected to the inset are attached to the grate, preventing the bag from dropping into the catch basin.

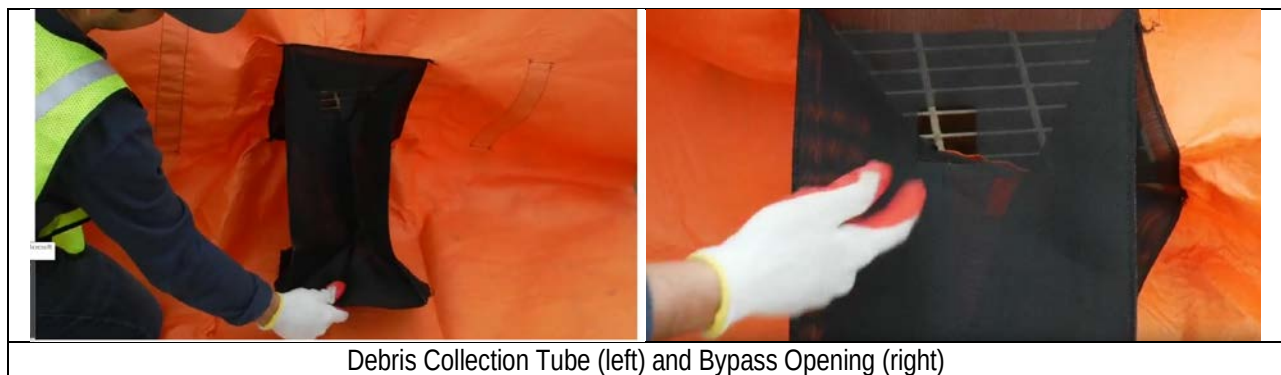


Figure A-1. Images of Hornet's Nest catch basin geotextile inlet filter. Source: Pollution Solution, Inc. (Lodi, CA)

Standard Device Sizes

The geotextile filters used at the Port consist of a 3 ft. x 4 ft. apron and an 8 inch (in.) x 8 in. x 18 in. mesh collection tube made of material with higher permeability than the apron (as discussed above). The apron of the geotextile filter is trimmed as needed to fit the Port's stormwater drains. The mesh collection tube is equipped with overflow vents located 16 in. from the bottom of each side of the mesh filter tube to allow for stormwater bypass of the mesh filter during heavy storm events. Use of geotextile filter inserts does not require engineering plans or diagrams for proper installation.

Bypass Operation

Similar to certified drop inlet-style Full Capture Systems, overflow portals at the top of the collection tube allow for bypass during heavy storm events.

Device Maximum Trash Capture Capacity

The trash capture capacity of the geotextile filters is equivalent to the volume of the collection tube below the overflow vents. Based on the previously presented dimensions of the collection tube, the geotextile filters can contain approximately 1,024 cubic in. (0.6 cubic ft.) of trash. Based on experience of using geotextile filter inserts and the fact that the entire opening of the subject catch basins are covered with grates, the capacity provided by the Hornet's Nest is sufficient to capture the amount of trash that might enter the Port's catch basins.

Device Hydraulic Capacity at Maximum Trash Capture Capacity

Manufacturer specification sheets for the geotextile filter indicate the apron can permit 90 gallons per minute (gpm) per square foot (gpm/ft²), equating to 1040 gpm over the entire surface of the apron (assuming an opening size of 3 ft. x 4 ft.). The mesh filter can permit flow rates of 200 gpm/ft², equating to approximately 88 gpm over the entire area of the mesh filter below the bypass.

Material and Material Grade used to Construct the Device

Drain inlet filters are made of weather resistant, woven and non-woven geotextile materials and webbing. The apron or skirt material of the Hornet's Nest is made of non-woven geotextile with nominal pore size of 0.18 mm (No. 80 standard sieve), while the collection tube is made with woven geotextile material with a nominal pore size of 0.6 mm (No. 30 standard sieve). Straps to secure the Hornet's Nest to the drain grate are made of polypropylene webbing.

Conditions under which the Device Re-introduces Previously Trapped Trash

Catch basin geotextile inlet filters will not reintroduce previously trapped trash unless there is a backflow in the storm conveyance system. If water enters the filter normally through the drainage grate, the previously trapped trash will continually compact into the collection tube.

Reliability and Estimated Design Life of the Device

From multiple years of implementing geotextile inlet filters at the Port, the estimated design life of the filters is two seasons, on average, with proper maintenance. In some instances, the geotextile filters are replaced sooner due to compromised integrity of the filter mesh (i.e., rust or oil is present on the filter mesh). However, in light use areas, the Port has known some geotextile filters to last up to five seasons. As is the case for certified drain inlet Full Capture Systems, the filter inserts can be sensitive to loading from trash, leaves, and sediment. However, the Port's maintenance frequency will be adaptively managed to ensure on-going performance.

Installation Information

The following steps outline the installation process for the geotextile filter inserts:

1. Lay the new filter insert on the ground adjacent to the catch basin.
2. Remove the grate from the casting or concrete drainage structure using a grate removal tool and place the grate, centered, on the new filter insert.
3. Attach the mounting straps of the filter insert to the grate.
4. Clean the ledge (lip) of the casting frame or drainage structure to ensure it is free of stone and dirt.
5. Lower the grate, with the insert filter attached, onto the catch basin opening. Ensure collection tube is hanging down into the catch basin and did not get pinched between the grate and basin lip.

Catch basin inserts in standard sizes can be fitted or adjusted to fit various catch basin sizes. If a particular device does not properly fit a particular opening, a different size geotextile filter insert can be purchased and installed.

Operation and Maintenance Information

The Port performs annual maintenance of all catch basins throughout Port property and has found that debris accumulation in the areas where filter inserts will be or have been installed is sufficiently low that the devices can be maintained on an annual basis. Annual maintenance is scheduled for the dry season (June–September). However, during the first two storm water years (July 1–June 30 of 2019/2020 and 2020/2021) of implementing geotextile filter inserts specifically for the added purpose of trash control, the Port will survey catch basins maintained by the Port in moderate to very high trash generating areas (i.e., catch basins subject to trash control implementation) twice during the wet season (October 1–May 30) to evaluate if additional maintenance is necessary. Maintenance is necessary when the devices are greater than one-third full of sediment, trash, or debris. The Port will evaluate if material accumulation in the inlet filters is sufficiently low for annual maintenance to continue. Were maintenance not frequent enough, sediment and debris could accumulate to levels sufficiently high to decrease effectiveness.

Maintenance will include the following:

- Remove all accumulated sediment and debris from the vicinity of the catch basin.
- Remove insert (reversing installation instructions).
- Empty the filter insert of its contents. Removal of trash, sediment, and debris from the insert shall be done in a manner that ensures no trash, sediment, or debris enters an unprotected catch basin.
- Inspect filter insert for rips or tears. If filter insert is in operable condition, it will be taken to the Port storm water warehouse, washed, and reinstalled in the catch basin. Otherwise, a new filter insert will be installed. While the filter insert is removed for cleaning, the catch basin opening is sealed with plastic.
- The installation instructions previously outlined will be followed when reinstalling filter inserts.
- Sediment and trash shall be disposed of in designated waste containers.

Standard hand tools suffice for performing maintenance. Further, the ease of maintaining these devices allows for the local vector control district to readily access the catch basin, if needed.

Hornet's Nest Drain Inlet Filter

The **Hornet's Nest** drain inlet filter is a unique, under-grate storm drain filter. The oversized base allows the filter to be used with a variety of size and shape grates. The yellow webbing secures the filter to the grate and doubles as lifting straps to quickly and easily remove the filter, grate and all, for simple cleaning. The sediment collection tube has 4 overflow portals to ease congestion during heavy storm events.



• Available as an option is a replaceable, tethered oil absorbent pouch.

Quick Look

- Material Non woven geotextile (skirt) / woven geotextile (collection tube)
- Strapping Weather resistant 2" polypropylene webbing
- Dimensions 36" x 48" - 60" x 60" - **custom sizing available**

Hornet's Nest Drain Inlet Filter (Skirt) Material Specifications			
PROPERTY	TEST METHOD	ENGLISH	METRIC
MECHANICAL			
Tensile Strength (Grab)	ASTM D-4632	205 lbs	0.91 kN
Elongation	ASTM D-4632	50%	50%
Puncture	ASTM D-4833	110 lbs	.049 kN
Mullen Burst	ASTM D-3786	350 psi	2410 kPa
Trapezoidal Tear	ASTM D-4533	80 lbs	0.36 kN
ENDURANCE			
UV Resistance	ASTM D-4355	70% @ 500 hrs	70% @ 500 hrs
HYDRAULIC			
Apparent Opening Size (AOS) ³	ASTM D-4751	80 US Std. Sieve	0.180 mm
Water Flow Rate	ASTM D-4491	90 gm/ft²	3657 lpm/m²
Permittivity	ASTM D-4491	1.40 sec ⁻¹	1.40 sec ⁻¹
PHYSICAL			
Mass Per Unit Area	ASTM D-5261	8.0 oz/yd²	271.2 g/m²
Thickness	ASTM D-5199	85 mils	2.16 mm
Hornet's Nest Drain Inlet Filter (Collection Tube) Material Specifications			
ORIGIN OF MATERIALS			
% U.S. Manufactured Inputs		100%	100%
% U.S. Manufactured		100%	100%
MECHANICAL			
Tensile Strength (Grab)	ASTM D-4632	350 x 280 lbs	1557 x 1246 N
Elongation	ASTM D-4632	20 x 15%	20 x 15%
Trapezoidal Tear	ASTM D-4533	110 x 95 lbs	489 x 423 N
CBR Puncture	ASTM D-4833	885 lbs	3937 N
ENDURANCE			
UV Resistance	ASTM D-4355	80%	80%
% Retained at 500 hrs			
HYDRAULIC			
Apparent Opening Size (AOS) ³	ASTM D-4751	30 US Std. Sieve	0.600 mm
Permittivity	ASTM D-4491	1.50 sec ⁻¹	1.50 sec ⁻¹
Percent Open Area	CW-02215 Mod ⁴	17%	17%
Water Flow Rate	ASTM D-4491	200 gm/ft²	8,149 lpm/m²

Dispose of unit in accordance with applicable Federal, state and local environmental laws and regulations.

The user is solely responsible for the compliance with maintenance and disposal laws and regulations.

The manufacturer or seller assumes no responsibility for proper or improper maintenance or disposal.

Proudly made in the USA by:
Pollution Solution, Inc.

Phone (800) 808-1774
Fax (866) 990-1527

www.psibmp.com
info@psibmp.com



Appendix B. Baseline OVTAs

Methodology

The Port conducted OVTAs to determine baseline trash generation rates in areas of the Port. Staff conducting the OVTAs had received OVTA training during the 2-day workshops sponsored by the State Water Board and California Stormwater Quality Association (CASQA) throughout California during Spring 2018. The Port's OVTA assessors are also responsible for conducting routine inspections of industrial and commercial facilities, and overseeing maintenance of the MS4 drainage system (ditches, conveyance piping, catch basins, etc.) and are highly familiar with site conditions and activities at the Port.

OVTA Implementation

Location

OVTAs were conducted throughout all Port property currently characterized by industrial, commercial, or mixed urban land use, not just those areas designated with these categories as of 2010, the date of the Port's most recent land use classification map (**Figure B-1**). The Port does not contain two of the Trash Provisions designated PLUs—public transportation stations or high density residential areas. The OVTAs were implemented in areas where Track 1 controls would be required, meaning that only PLU areas with catch basins with the potential for flow to discharge to receiving water were surveyed.

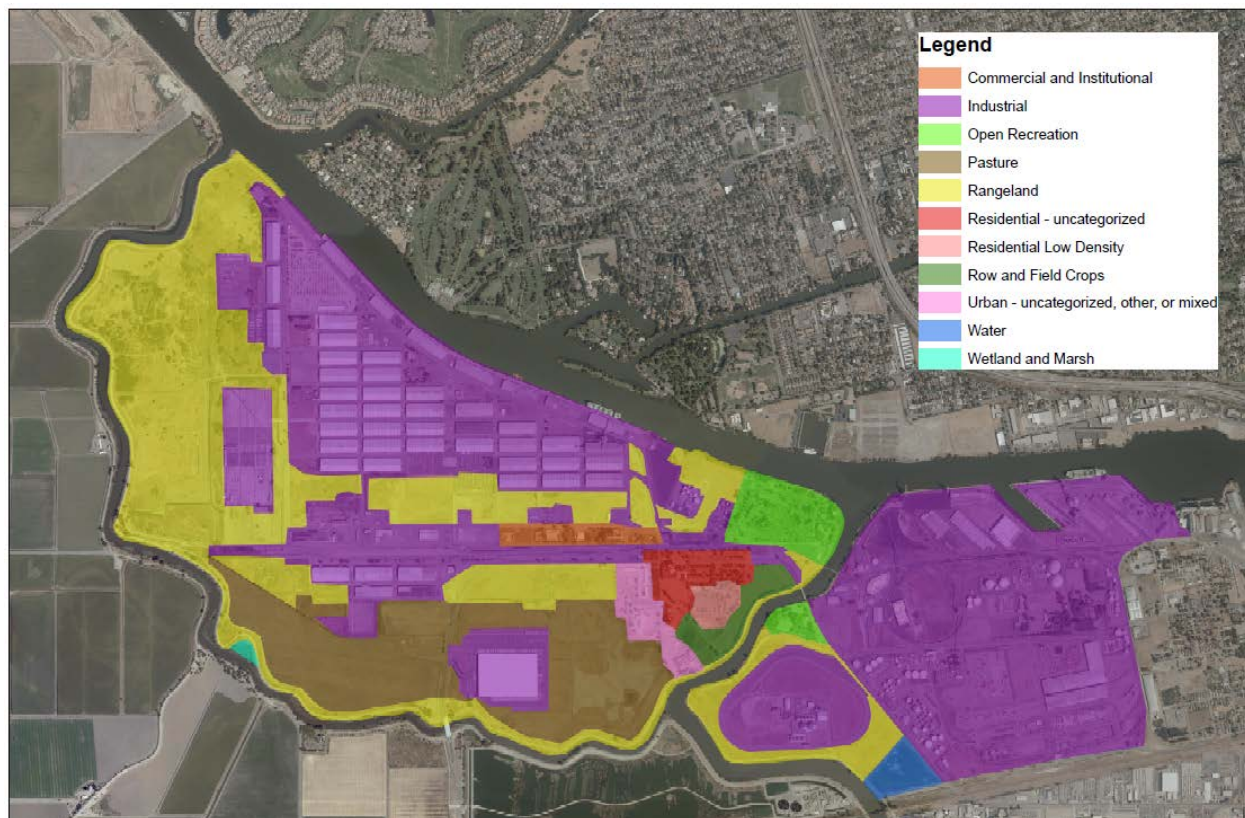


Figure B-1. Land classification map for the Port of Stockton (current as of 2010).

Timing

OVTAs were conducted during a relatively dry period of 2018 (June–November), which minimizes the effects of storm water runoff washing trash into the MS4 system in between surveys. As recommended, two baseline surveys were conducted to establish baseline trash generation conditions for the Port. The small land mass of the Port allowed for each of the two baseline surveys to be conducted over two days—one day for the East Complex and one day for the West Complex. Areas of the West Complex were surveyed on June 18, 2018 and July 20, 2018. Areas of the East Complex north of Road K were surveyed June 20, 2018 and July 23, 2018. Since little activity occurs on the East Complex south of Road K, the roads in this area were not included in the June and July OVTAs of the East Complex. However, to be fully representative of the areas of the East Complex with catch basins potential draining to receiving water, the East Complex areas south of Road K were surveyed at a later time (on October 26, 2018 and November 12, 2018).

Protocol

OVTAs consisted of surveying publicly accessible streets and areas throughout Port property using a combination of the street/sidewalk and area OVTA protocols. The streets and areas were surveyed along transects. Surveys were conducted by driving along transects at very slow speed (walking speed) since most survey areas did not have sidewalks or are unsafe for pedestrian travel. Private property was not surveyed, consistent with the OVTA protocols. Portions along the transects that were not included in the survey included adjoining areas that do not drain to catch basins, areas blocked by a fence or wall restricting trash movement, areas draining away from the street/catch basin/transect, or trash embedded in vegetation that would not mobilize during rain, wind, or mowing.

The OVTA protocol consisted of the following.

1. Identify areas that will be assessed on a map.
2. Confirm timing falls directly before control measure implementation (i.e. street sweeping), if any are planned, and does not follow a significant rainfall event.
3. Assemble equipment needed to conduct the assessment (i.e. field logs and camera).
4. Review trash condition category definitions.
5. Both team members safely drive (in one vehicle) at walking-equivalent pace on the road or area from one end of the transect to the other end. Discuss observations while progressing along the transect.
6. Carefully look for trash deposited within the assessment area.
7. Collectively agree on the appropriate trash generation category to assign to the transect or area and record on field datasheet and/or map.
8. Review the data collection form and map for accuracy, legibility, and completeness.

Baseline Trash Map

Since catch basin inlet filters are the trash control measure that will be implemented by the Port, the baseline maps were used to identify the areas where catch basins require inlet filters. The baseline trash generation maps for the Port were produced by first mapping the highest trash generation rate identified from the two surveys for the street or area transects. Parcels adjacent to the survey

transects were shaded to identify them as having the trash generation rate of the adjacent survey transect and parcels subject to the Industrial General Permit were also shaded. In some instances, transects on different sides of a particular parcel had differing trash generating rates. Best professional judgement was used in these cases to determine the suitable trash generation rate. For example, if one side of the parcel was substantially longer than the other, the trash generation rate for the transect of the longer parcel border was used as the trash generation rate of the entire parcel. In some instances, local site conditions, such as the presence of fences, berms, or known trash sources (e.g., food truck or open dumpster) were identified and aided in the designation of a trash generation rate for a parcel. **Table B-1** and **Table B-2** provide descriptions of the OVTA transects and their respective baseline scores for the East Complex and West Complex, respectively.

Table B-1. East Complex OVTA Transects and Baseline Scores.

<i>Street/Sidewalk OVTAs</i>			
Transect ID	Transect Description	Transect Length (ft.)	OVTA Baseline Score
EC001	Port Road 21 south from Washington Street to Port Road K	1,401	B
EC002	Port Road 22 south from Washington Street to Port Road K	1,518	B
EC003	Port Road 23 south from Washington Street to Port Road K	1,688	B
EC004	Along Washington Street on the north side of the road from Port Road 13 to Port Road 14	886	B
EC005	Entrance and exit to admin front parking lot on the west side of building	789	A
EC007	North Port Road 13 from Washington Street to Port Road A	1,676	A
EC008	Port Road 2 north of Port Road A just before Lehigh Cement entrance	1,086	A
EC009	Port Road B from Port Road 2 to Port Road 4	1,562	A
EC010	Port Road 3 from Port Road A to Port Road B	1,449	A
EC011	Port Road 4 from Port Road A to Port Road B	1,529	A
EC012	Port Road D from Port Road 5 to Port Road 6	767	A
EC013	Port Road D from Port Road 6 to Port Road 8	778	A
EC015	Port Road 7 from Port Road D to Port Road A	1,093	A
EC016	Port Road 8 from Port Road D to Port Road A	1,140	A
EC017	Port Road D from just west of Stork Road by the storage tanks to the north by the metal garage building on the left	1,174	A
EC018	On Stork Road from the coal car tipping area ~1,000 ft. south	1,505	A
EC019A	On Stork Road from station EC018 ~1,200 ft. southeast to just past the overhead conveyor belt	383	C
EC019B	On Stork Road from station EC018 ~1,200 ft. southeast to just past the overhead conveyor belt	1,395	C
EC021	Agri Business Circle from Port Road 14 to Port Road 13	836	A
EC023	Port Road G from Port Road 13 to Port Road 15	2,061	A
EC024	Port Road 6 from Port Road A to Port Road D	1,195	A
EC025	Port Road K from Port Road 21 to Port Road 23	2,859	A
EC026	Port Road L from Port Road 21 to Port Road 23	2,831	A
EC027	Port Road M from Port Road 21 to Port Road 22	1,407	A
<i>Areal OVTAs</i>			
Transect ID	Transect Description	Transect Area (acres)	OVTA Baseline Score
EC006	Administration building parking lot located on the east side of the building	0.50	A
EC014	Port ship off-load product staging area	4.26	A
EC020	Large parking lot / staging area between Port Road F and Washington Street, just west of Con Agri building	2.35	A
EC022	Parking lot located in front of the Port of Stockton annex building	0.65	A

Table B-2. West Complex OVTA Transects and Baseline Scores.

Transect ID	Transect Description	Transect Length (ft.)	OVTA Baseline Score
WC001	From the intersection of Fyffe Avenue and Hooper Drive to the intersection of Fyffe Avenue and Maas Drive	4,479	A
WC002	Port owned parking lot directly behind Del Roy's Deli	528	A
WC003A	Along Edwards from James Drive to Boone Drive	843	A
WC003B	Along Edwards from James Drive to Boone Drive	1,741	B
WC004	Gilmore Avenue from Lipes Drive to Boone Drive	807	A
WC005A	West Luce Avenue from James Drive to Boone Drive	779	A
WC005B	West Luce Avenue from James Drive to Boone Drive	896	B
WC005C	West Luce Avenue from James Drive to Boone Drive	937	A
WC005D	West Luce Avenue from James Drive to Boone Drive	3,611	A
WC006	Cromwell Avenue from Daly Drive to Elsberg Drive	816	A
WC007	On Humphrey's Drive at the intersection of Embarcadero in the northwest corner of the curve is a single drain inlet	796	A
WC008	Along Gills Avenue from the Express Way on the east side to the end of the building to the West	1,693	A
WC009	Port owned Maintenance Area that is fenced in location on the east side of North Hooper parking lots	1,806	A
WC010	Along Davis Avenue from 450 ft. east of the intersection at Elsberg Drive to 700 ft. west of the intersection of Elsberg Drive	2,114	A
WC011	Navy Drive from the intersection of West Fyffe Street to the Lindley House entrance	1,057	A