

## C. 10. Trash Load Reduction

The Permittees shall demonstrate compliance with Discharge Prohibition A.2 and trash-related Receiving Water Limitations through the timely implementation of control measures and other actions to reduce trash loads from municipal separate storm sewer systems in accordance with the requirements of this provision. Flood management agencies are not subject to these trash reduction requirements except for continued implementation of requirements for trash full capture systems and Trash Hot Spot cleanups, as specified in subsections C.10.b.i and C.10.c.

### C.10.a.Trash Reduction Requirements

Permittees shall implement trash load reduction control actions in accordance with the following schedule and trash generation area management requirements, including mandatory minimum full trash capture systems.

- i. **Schedule** - Permittees shall reduce trash discharges from 2009 levels, described below, to receiving waters in accordance with the following schedule:
  - a. 70 percent by July 1, 2017; and
  - b. 100 percent or no adverse impact to receiving waters from trash by July 1, 2022.

In addition, Permittees should achieve the following reductions: 60 percent reduction by July 1, 2016, and 80 percent by July 1, 2019. These are not mandatory deadlines, but should be used as performance guidelines to meet the mandatory July 1, 2017, and July 1, 2022, deadlines above. Permittees that do not attain a performance guideline shall submit documentation of a plan and schedule of implementation of additional trash load reduction control actions that will attain the subsequent mandatory deadline.

- ii. **Trash Generation Area Management** - Permittees shall demonstrate attainment of the C.10.a.i trash discharges percentage-reduction requirements by management of mapped trash generation areas within their jurisdictions delineated on Trash Generation Area Maps included with their Long Term Trash Reduction Plans, submitted in February 2014, in accordance with the requirements and accounting set forth in this provision herein. The February 2014 maps provide the 2009 trash levels and delineate trash generation areas within Permittees' jurisdictions into the following trash generation rate categories:

Low = less than 5 gal/acre/yr;  
Moderate = 5-10 gal/acre/yr;  
High = 10-50 gal/acre/yr; and  
Very High = greater than 50 gal/acre/yr.

Permittees also designated trash management areas on their February 2014 maps encompassing one or more trash generation areas, within which they will implement trash control actions. Permittees shall have an opportunity to correct and/or revise, based on improved information, the 2009 trash levels and trash generation areas in their February 2014 maps by submitting the correction and/or revision no later than the 2016 Annual Report deadline.

- a. Permittees shall implement trash prevention and control actions, including full trash capture systems or other trash management actions, or combinations of actions, with trash discharge control equivalent to or better than full trash capture systems, to reduce trash generation to a Low trash generation rate or better. Actions equivalent to full trash capture means actions that send no more trash down the storm drain system than a full trash capture device would allow, which is essentially no trash discharge except in very large storm flows. The C.10.a.i percent reductions shall be demonstrated by percent of 2009 Very High, High, and Moderate trash generation areas reduced to lower trash generation categories or Low trash generation by the C.10.a.i mandatory deadlines.
- b. Permittees shall ensure that lands that they do not own or operate but that are plumbed directly to their storm drain systems in Very High, High, and Moderate trash generation areas are equipped with full trash capture systems or are managed with trash discharge control actions equivalent to or better than full trash capture systems. The efficacy of the latter shall be assessed with visual assessments in accordance with C.10.b.ii. If there is a full trash capture device downstream of these lands, no other trash control is required. Permittees shall map all such lands greater than 5000 ft<sup>2</sup> that are plumbed directly to their storm drain systems by 2018, including the trash control status of these areas. This information shall be retained by the Permittees for inspection upon request.
- iii. **Mandatory Minimum Full Trash Capture Systems** - Permittees shall install and maintain a mandatory minimum number of full trash capture devices, to treat runoff from an area equivalent to 30 percent of retail/wholesale land area, as documented by the Association of Bay Area Governments, which drains to the storm drain system within their jurisdictions. A city Permittee with a population less than 12,000 and retail/wholesale land less than 40 acres, or a population less than 2000, is exempt from this full trash capture requirement. Table 2 in Attachment E contains the minimum amount of drainage areas that must be treated with full trash capture devices by each city or county Permittee, and the minimum number of trash capture devices required to be installed and maintained by flood management agency Permittees.

A full capture system is any single device or series of devices that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow rate resulting from a one-year, one-hour, storm in the sub-drainage area or designed to carry at least the same flow as the storm drain connected to the inlet. The device(s) must also have a trash reservoir large enough to contain a reasonable amount of trash safely without overflowing trash into the overflow outlet between maintenance events. Types of systems certified by the State Water Resources Control Board are deemed full capture systems. A stormwater treatment facility implemented in accordance with Provision C.3 is also deemed a full capture systems if the system is maintained to prevent off site movement of accumulated trash and overflow from the system is appropriately screened to meet the full trash capture screening specification for storm flows up to the full trash capture hydraulic specification (C.10.a.iii.).

**C.10.b. Demonstration of Trash Reduction Outcomes**

- i. **Full Trash Capture Systems** – Permittees shall maintain, and provide for inspection and review upon request, documentation of the design, operation, and maintenance of each of their full trash capture systems, including the mapped location and drainage area served by each system.

- a. **Maintenance** - The maintenance of each full capture device shall be adequate to prevent plugging, flooding, or a full condition of the device's trash reservoir and bypassing of trash.
- (i) Storm drain inlet type full trash capture devices in Low or Moderate trash generation areas shall be maintained a minimum of once per year.
  - (ii) Storm drain inlet type full trash capture devices in High trash generation areas shall be maintained a minimum of twice per year.
  - (iii) Storm drain inlet type full trash capture devices in Very High trash generation areas will be maintained a minimum of 3 times per year.
  - (iv) All other full trash capture devices shall be maintained a minimum of one time per year.

If any such device is found plugged or full of trash during a maintenance event, the maintenance frequency shall be increased so that the device is neither plugged nor full of trash by the next maintenance event.

- b. **Maintenance Records** - Permittees shall retain device specific maintenance records, including, at a minimum: the date(s) of maintenance, the capacity condition of the device at the time of maintenance (full and overflowing or with storage capacity remaining), any special problems such as flooding, screen blinding or plugging from leaves, plastic bags, or other debris causing overflow, damage reducing function, or other negative conditions. A summary of this information shall be reported in each Annual Report which may be limited to the number of full capture devices maintained that exhibited a plugged, full or overflowing condition upon maintenance.
- c. **Certification** - Permittees shall certify annually that each of their full trash capture systems is operated and maintained to meet full trash capture system requirements. Drainage areas served by an adequately maintained full trash capture system will be considered equivalent to or better than a Low trash generation area.

- ii. **Other Trash Management Actions** - Permittees shall maintain, and provide for inspection and review upon request, documentation of non-full trash capture system trash control actions that verifies implementation of each action. Permittees shall also conduct assessment of the action that verifies effectiveness of the action or combination of actions and maintain, and provide for inspection and review upon request, documentation of assessments.

- a. **Implementation Documentation** - Permittees shall maintain documentation of trash control actions that describes each action or combination of actions, the level of implementation, the timing and frequency of implementation, standard operating procedures if applicable, location(s) of implementation including mapped location(s) and drainage area(s) affected, tracking and enforcement procedures if applicable, and

other information relevant to effective implementation of the action or combination of actions.

b. **Visual Assessment of Outcomes of Other Trash Management Actions** - Permittees shall conduct visual on-land assessment, including photo documentation, or other acceptable assessment method (see C.10.b.ii.(v.)), of each trash generation area within which it is implementing other trash management actions or combination of actions other than full trash capture, to determine or verify the effectiveness of the action or combination of actions. Permittees may assess and account for one or more trash generation areas in a single trash management area within which a control action or combination of control actions is implemented. The visual on-land assessment method used shall meet or exceed the following criteria:

- (i) Conduct observations within a trash management area of the sidewalk, curb and gutter, or locations associated with trash generation sources.
- (ii) Conduct observations at randomly selected locations covering at least ten percent of a trash management area's street miles; or conduct observations at strategic locations with justification they are representative of trash generation in the management area and they will represent the effectiveness of the control action(s) implemented or planned in the management area.
- (iii) Conduct observations at a frequency consistent with known or estimated trash generation rate(s) within a trash management area and the time frequency of implementation of the control action(s) implemented or planned in the management area. Conduct observations for effectiveness approximately at the halfway point of the interval between instances of recurring trash control actions such as street sweeping and on-land cleanup.
- (iv) Permittees may put forth substantial evidence that certain management actions or sets of management actions when performed to a specified performance standard yield a certain trash reduction outcome reliably. If this evidence is presented and accepted by the Executive Officer, Permittees may claim a similar trash reduction outcome by demonstrating that they have performed these trash reduction actions within certain trash management areas to the same performance standard accepted by the Executive Officer.

iii. **Percentage Discharge Reduction** - Percentage discharge reduction from 2009 from Very High generation areas reduced to High, Moderate, and Low, High generation areas reduced to Moderate and Low, and Moderate trash generation areas reduced to Low trash generation category to meet the required total percent reduction (%Reduction) shall be calculated based on the following formula:

$$\% \text{ Reduction} = 100 [(12A_{\text{VH}(2009)} + 4A_{\text{H}(2009)} + A_{\text{M}(2009)}) - (12A_{\text{VH}} + 4A_{\text{H}} + A_{\text{M}})] \\ / (12A_{\text{VH}2009} + 4A_{\text{H}2009} + A_{\text{M}2009})$$

where:

$A_{\text{VH}(2009)}$  = total amount of the 2009 very high trash generation category jurisdictional area  
 $A_{\text{H}(2009)}$  = total amount of the 2009 high trash generation category jurisdictional area

|               |   |   |
|---------------|---|---|
| $A_{M(2009)}$ | = | total amount of the 2009 moderate trash generation category jurisdictional area               |
| $A_{VH}$      | = | total amount of very high trash generation category jurisdictional area in the reporting year |
| $A_H$         | = | total amount of high trash generation category jurisdictional area in the reporting year      |
| $A_M$         | = | total amount of moderate trash generation category jurisdictional area in the reporting year  |
| 12            | = | Very High to Moderate weighing ratio  |
| 4             | = | High to Moderate weighing ratio   |
| 100           | = | fraction to percentage conversion factor  |

- iv. **Source Control** – Permittee jurisdiction-wide actions to reduce trash at the source, particularly persistent trash items, may be valued toward trash load reduction compliance by up to five percent load reduction total for all such actions. To claim a load percentage reduction value, Permittees must provide substantial evidence that these actions reduce trash by the claimed value. A Permittee may reference studies in other jurisdictions if it provides evidence that the implementation of source control in its jurisdiction is similarly implemented as the source control assessed in the reference studies.
- v. **Receiving Water Observations** - Permittees shall conduct receiving water observations downstream from trash generation areas that have been converted from Very High, High, or Moderate to Low trash generation rates, or at other locations for which receiving water monitoring over time will produce useful trash management information.
- a. The observations shall be sufficient to determine whether a Permittee's trash control actions have effectively prevented trash from discharging into receiving waters, whether additional actions may be necessary associated with sources within a Permittee's jurisdiction, or whether there are ongoing sources outside of the Permittee's jurisdiction that are causing or contributing to adverse trash impacts in the receiving water(s).
- b. The observations shall be conducted a minimum of twice per year until the no trash in receiving water determination has been observed and then confirmed with a subsequent observation, after which the frequency may be reduced to once per year.
- c. A C.10.c Trash Hot Spot cleanup site downstream of a trash management area may serve as a receiving water observation site.

#### **C.10.c. Trash Hot Spot Selection and Cleanup**

Trash Hot Spots in receiving waters shall be cleaned annually to achieve the multiple benefits of abatement of impacts and to learn more about the sources and transport routes of trash loading.

- i. **Trash Hot Spot Cleanup and Definition** – The Permittees shall clean selected Trash Hot Spots to a level of “no visual impact” at least one time per year for the term of the permit. Trash Hot Spots shall be at least 100 yards of creek length or 200 yards of shoreline length.
- ii. **Trash Hot Spot Selection** – Permittees shall maintain the same number of trash hot spots identified in the previous permit term, which are included in Attachment E. Permittees



may select new trash hot spot locations if past locations are no longer trash hotspots or if other locations may better align with trash management areas.

- iii. **Trash Hot Spot Assessments** – The Permittees shall quantify the volume of material removed from each Trash Hot Spot cleanup and attempt to identify sources to the extent readily feasible. Documentation of the cleanup activity to be retained by the Permittee shall include the trash condition before and after cleanup of the entire hot spot using photo documentation with a minimum of one photo per 100 feet of hot spot length and the total volume of trash and litter removed from the hot spot. Permittees shall report the volume removed for the most recent five years of hot spot cleanup in each Annual Report, or if a new trash hot spot location is selected, Permittees shall report the volume removed for the years of cleanup of that hotspot.

#### **C.10.d. Trash Load Reduction Plans**

Each Permittee shall maintain, and provide for inspection and review upon request, a Trash Load Reduction Plan, including an implementation schedule to meet the C.10.a Trash Load Reduction requirements. A summary of any new revisions to the Plan shall be included in the Annual Report. The Plan shall describe trash load reduction control actions being implemented or planned and the trash generation areas or trash management areas where the actions are or will be implemented, including jurisdiction-wide actions, such as source control ordinances

The Plans may include actions to control sources outside of the Permittee's jurisdiction that are causing or contributing to adverse trash impacts in the receiving water(s). Permittee's who choose to implement such control actions may account for them towards meeting the C.10.a Trash Load Reduction requirements as long as they can demonstrate the controls will be sustained and they quantify the sustained load reduction benefit relative to control actions in the trash generation areas or trash management areas in their jurisdiction that drained to the affected receiving water.

#### **C.10.e. Optional Trash Load Reduction Offset Opportunities**

- i. **Additional Creek and Shoreline Cleanup** – A Permittee may offset part of its provision C.10.a trash load percent reduction requirement by conducting additional cleanup of creek and shoreline areas beyond trash hot spot cleanups required by C.10.c if the additional cleanup efforts are conducted at a frequency of at least twice per year and sufficient to demonstrate sustained improvement of the creek or shoreline area. The maximum offset that may be claimed is five percent.

A Permittee may claim a load reduction offset of one percent for each total of trash volume removed from additional cleanups that is ten percent of the Permittee's 2009 trash load volume estimates, based on its trash generation maps and average categorical trash generation rates (see C.10.a.ii), in accordance with the following formula:

$$1\% \text{ Reduction Offset (Volume)} = (12 A_{VH(2009)} + 4 A_{H(2009)} + A_{M(2009)}) OF$$

where:

$A_{VH(2009)}$  = total amount of 2009 very high trash generation category jurisdictional area

- $A_{H(2009)}$  = total amount of 2009 high trash generation category jurisdictional area  
 $A_{M(2009)}$  = total amount of 2009 moderate trash generation category jurisdictional area  
12 = Very High to Moderate weighing ratio  
4 = High to Moderate weighing ratio  
 $OF$  = offset factor equal to  $(7.5 \times 0.1)$ , where 7.5 is the conversion from acres to gallons based on trash generation rates and 0.1 is the ten to one offset ratio.

- ii. **Direct Trash Discharge Controls**– A Permittee may offset an additional part of its provision C.10.a trash load percent reduction requirement by implementing a comprehensive plan approved by the Executive Officer for control of direct discharges of trash to receiving waters from non-storm drain system sources. The maximum offset that may be claimed is ten percent using the C.10.e.i formula. The plan shall be submitted with the 2016 Annual Report and shall include the following:
- description of sources of the directly discharged trash;
  - description of control actions that will be implemented during the permit term to prevent or reduce direct discharge trash loads;
  - map of the affected receiving water area and associated watershed; and
  - description of how effectiveness of controls will be assessed, including documentation of controls, quantification of trash volume controlled, and assessment of resulting improvements to receiving water conditions.

**C.10.f. Reporting**

Each Permittee shall provide the following in each Annual Report:

- A summary of trash control actions within each trash management area, including the types of actions, levels of implementation, areal extent of implementation, and whether the actions are ongoing or new, including initiation date.
- An updated trash generation area map or maps and associated trash management areas including the locations and associated drainage areas of full trash capture systems and non-full trash capture system trash control actions, and the location of Trash Hot Spots, with highlight or other indication of any revisions or changes from the previous year map(s). These maps are separate and distinct from corrections and/or revisions of the 2009 trash levels in the February 2014 maps and shall illustrate progress toward achieving the trash reduction requirements in C.10.a.i.
- Certification that each of its full trash capture systems is operated and maintained to meet full trash capture system requirements, and describe any systems that did not meet full trash capture system requirements (e.g., due to plugging or overflowing), and corrective actions taken.
- An accounting of its non-full trash capture system trash control actions assessments by providing a summary description of assessments in each of its trash management areas, including the number and dates of observations.

- v. An accounting of progress toward or attainment of C.10.a.i trash discharge reduction performance guidelines and mandatory deadlines using the C.10.a.ii trash generation area mapping methodology and formula.
  - a. If a Permittee cannot demonstrate attainment of a performance guideline, it shall submit a detailed plan and schedule of implementation of additional trash load reduction control actions that will attain the subsequent mandatory deadline.
  - b. If a Permittee cannot demonstrate attainment the 2017 mandatory deadline, it shall submit a report of non-compliance with the Annual Report, or in advance of the Annual Report, that describes actions to comply with the mandatory deadline in a timely manner, including thorough consideration of additional full trash capture systems.
- vi. C.10.b.v. receiving water observations, including the locations and times of observations and associated determinations.
- vii. The volume removed for the most recent five years of hot spot cleanup for each of its trash hot spots, or for the years of cleanup if a new trash hot spot location has been selected.
- viii. For Permittees claiming a C.10.e.i offset, based on additional cleanup of creek and shoreline areas, a summary description of the additional cleanup actions.
- ix. For Permittees claiming a C.10.e.ii offset, based on non-storm drain system trash controls, a summary description of control actions receiving water assessment results, quantification of trash volume controlled, and assessment of resulting improvements in receiving water condition, the claimed offset and documentation of information used in the C.10.e.i formula.