TRASH IMPLEMENTATION PLAN

WATER CODE SECTION 13383 ORDER- STATEWIDE TRASH PROVISIONS

SUBMITTED NOVEMBER 30, 2018

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I. Introduction

The County of San Luis Obispo encompasses 3,322 square miles in total, and includes seven incorporated cities. Each of the seven cities is enrolled independently as traditional Municipal Phase II Stormwater permittees. The boundaries of the County of San Luis Obispo Municipal Separate Storm Sewer Area (MS4 Area) comprise approximately 82.7 square miles and includes 22 unincorporated communities. In 2018 the Central Coast Regional Water Quality Control Board (Central Coast Water Board) approved a modification to the County's MS4 area, to remove areas associated with California National Guard (Camp San Luis Obispo), Cuesta Community College, and California Polytechnic State University. There are 393 miles of County maintained roads and a total of 39,441 parcels within the County's MS4 permit area.

A. Purpose and Scope

On April 7, 2015, the State Water Resources Control Board (State Water Board) adopted statewide Trash Amendments to address the pervasive impacts trash has on the beneficial uses of surface waters. Throughout the state, trash is typically generated on land and transported to surface water, predominantly through MS4 discharges. These discharges from Phase II MS4s are regulated through a statewide general permit (Phase II MS4 Permit) pursuant to section 402(p) of the Federal Clean Water Act.

Based on the compliance schedule outlined in the Trash Amendments, MS4 Permittees will be required to significantly reduce the amount of trash discharged from their MS4 to local water bodies to an acceptable level by 2030 (at the latest). Non-compliance with these requirements eventually included in the reissued Phase II NPDES municipal stormwater permit could result in monetary fines from the State or litigation from third-parties, which is allowed under the Federal Clean Water Act.

The Trash Amendments require Phase II MS4 permittees with regulatory authority over Priority Land Uses to select a method of compliance with the trash prohibition. On June 1, 2017 the County received a Water Code Section 13383 Letter requiring compliance with provisions of the Trash Amendment, and requesting the County select a compliance "Track". There are two specific compliance tracks for controlling the discharge of trash via the County's Municipal Separate Storm Sewer System (MS4, storm drainage network).

Track 1: Under Track 1, the County would be required to install, operate, and maintain full capture systems (FCS) capable of capturing all trash 5mm or larger during a 1-year, 1-hour storm event. Full capture systems would be required to treat stormwater runoff from all priority land uses within the County's MS4 permit coverage area by 2030. Priority land uses include high density residential, industrial, commercial, mixed urban, and public transportation stations. The County originally selected Track 1 as the preferred track, but has subsequently identified significant feasibility constraints and logistical barriers to

achieving compliance with Track 1 requirements over the 10-year implementation timeframe. Storm drainage infrastructure across the County is non-uniform and comprised of variable age, sizes and types of infrastructure. The variability of infrastructure necessitates that the County have the flexibility to utilize full capture equivalency to achieve compliance.

Track 2: Under Track 2, the County is required to develop and implement a plan that uses a combination of controls such as full capture systems, partial capture devices, low impact development controls, and institutional controls (street sweeping, Adopt-A-Road) to achieve the same performance results as Track 1 (full capture systems). The Track 2 compliance option provides greater flexibility and the ability to leverage existing maintenance and stewardship programs towards demonstrating compliance. As a Track 2 permittee, the County is required to submit a Track 2 Trash Implementation Plan to the Central Coast Water Board by December 1, 2018. The Track 2 Implementation Plan (Trash Plan) details the County's priority land use areas, alternative land use areas, results of baseline trash loading assessments, and the combination of controls proposed for achieving compliance with the Trash Amendment objectives.

The County has evaluated the Priority Land Uses (PLUs) and associated storm drain network and has determined that Track 2 presents a more feasible approach to attaining full trash capture. This report constitutes the Trash Plan that the County will utilize to demonstrate compliance with the Trash Amendments Track 2 requirements.

B. Amendments

It is anticipated that this Trash Plan will require periodic amendments and updates over the course of implementation. Amendments will be tracked herein.

Date of Amendment	Affected Sections or Pages	Comments/Summary
11/24/2020	Section 6, Table 10, Page 38	Updates to reflect delayed implementation and noting incorporation with programmed pavement management projects.

C. Location

The County's MS4 area is spread broadly across the County in a discontiguous manner. Rather than identifying specific PLUs by naming or numbering, the County's PLUs are more broadly grouped into Trash Management Areas associated with nineteen communities across the MS4 where PLUs have been identified.

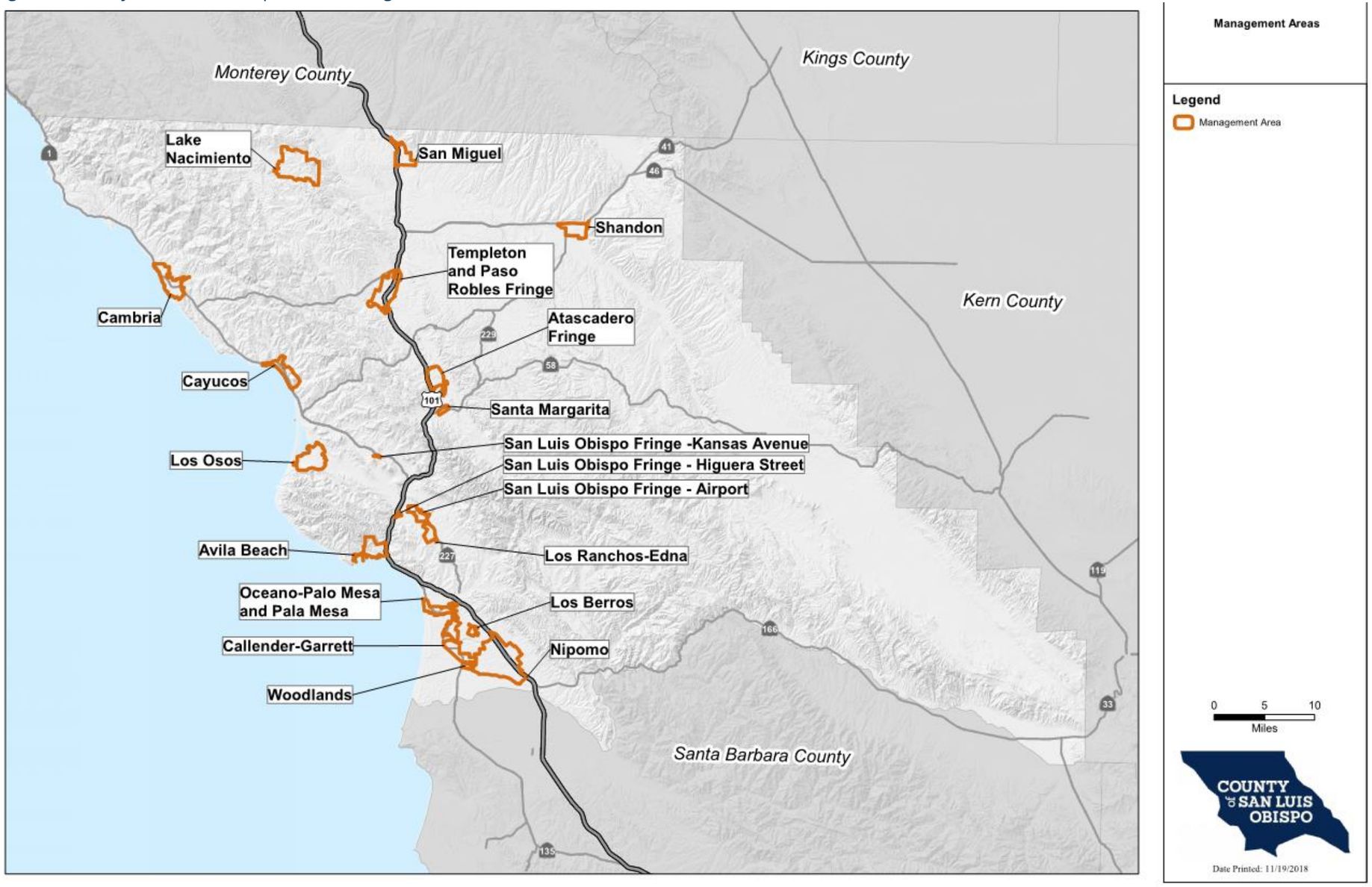
The County's MS4 system discharges to a variety of surface waters including several with 303d and Total Maximum Daily Load (TMDL) impairments. However, none of the receiving waters have been identified as impaired for trash or litter.

Table 1: San Luis Obispo County Trash Management Areas

Trash Management Area Name	Total Management Area Acreage
Atascadero Fringe	3,078
Avila Beach	3,366
Callender-Garrett	2,835
Cambria	4,532
Cayucos	3,233
Lake Nacimiento	9,983
Los Berros	609
Los Osos	5,272
Los Ranchos-Edna	1,533
Nipomo	14,488
Oceano-Palo Mesa and Pala Mesa	4,528
San Luis Obispo Fringe- Airport	1,571
San Luis Obispo Fringe - Higuera Street	113
San Luis Obispo Fringe - Kansas Avenue	79
San Miguel	2,940
Santa Margarita	478
Shandon	2,951
Templeton and Paso Robles Fringe	6,016
Woodlands	534

Figure 1 illustrates the distribution of Trash Management Areas throughout the County of San Luis Obispo MS4 permit area.

Figure 1: County of San Luis Obispo Trash Management Areas



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D. Administering Organization

The County of San Luis Obispo stormwater program involves key staff with diverse expertise working across several different departments. The County's Stormwater Coordinator is the County-wide staff lead for the program and acts as a resource advisor to County departments to ensure adequate implementation of their stormwater program responsibilities. The Trash Plan will largely be undertaken by several divisions within the Department of Public Works, and will receive support from the Stormwater Coordinator and other departments and divisions as needed.

Roads Maintenance Division

Public Works' Roads Maintenance Division conducted all baseline trash assessments, and will be conducting progress assessments throughout the implementation term.

The Roads Maintenance Division oversees the inspection, maintenance, and repair of the County's MS4 system including the installation and maintenance of any County-operated full capture devices. This Division also administers the County's street sweeping and Adopt-A-Road programs.

Design Division

Public Works' Design Division completes design and planning work for new capital improvement projects including roadways and bridges. The Design Division will be involved in the Trash Plan by modifying design standards for new capital improvement projects to incorporate full capture systems where necessary and practical, and will support the design calculations for sizing and siting new full capture systems.

Development Services Division

Public Works' Development Services Division reviews and permits development of public improvement infrastructure associated with private development including parcel maps and tract maps. The Development Services Division will be involved in reviewing the County's Public Improvement Standards to identify opportunities to achieve full trash capture on new developments. This division also oversees permitting for events and encroachments into the County right of way, including infrastructure associated with transit stops.

III. Priority Land Use Mapping

A. State Defined Priority Land Use Areas

A central element of the statewide Trash Amendments is the designation of land areas where the County will need to implement new trash controls. Applicable land areas are based on land uses currently developed (i.e., not simply zoned) presumed to generate high levels of trash and are referred to as Priority Land Uses (PLUs) in the Trash Amendments. Because not all PLU areas generate significant levels of trash and not all trash is generated solely from PLU areas, the Trash Amendments allow the County to propose alternative equivalent land uses that can be substituted for an area that generates an equal or greater volume of trash that is left untreated in PLU areas. This allows the County to focus on areas that are a higher priority for the community or to treat trash in a more cost-effective manner.

The County of San Luis Obispo submitted Preliminary Priority Land Use maps to the Central Coast Water Board in September 2017. The Preliminary maps utilized parcel-specific land use codes assigned by the County Tax Assessor's office.

Modifications to the County's MS4 permit area were approved in July 2018, and necessitated the need to review and update the PLU maps. During the review process, County staff determined that the Planning & Building Department's digitized Land Use Classifications data represented a more comprehensive coverage of current and future land uses across the MS4 area. The final PLU maps included as **Attachment 1**, utilize the most recent data from the Planning & Building Department.

B. Mapping Methodology

County staff clipped Land Use data to the boundaries of the MS4 area to determine where PLUs were located. The following land use zoning types were automatically included as PLU areas:

- Commercial Retail
- Commercial Service
- Public Facilities
- Residential Multi-Family
- Residential High Density

Additionally, the County requested GIS data for the location of all transit stops operated by the Regional Transit Authority (RTA). The RTA updates this data set semi-annually when they re-locate or modify the level of service at their transit stops.

C. Request for Authorization of Alternative Land Use Areas

Upon review of the required priority land uses, County staff determined that several areas with a 'Recreation' land use zoning should be considered for incorporation as Alternative Land Uses. Inclusion of these Alternative Land Use (ALU) areas results in greater contiguity of PLUs that are located adjacent to the County's stormwater drainage network. These ALUs

connect many of the County's PLUs that would otherwise be geographically separated due to land use zoning, but are located in the same transportation corridor, or adjacent to the same roadways as PLUs.

Many of the properties with Recreation land uses are known to have high levels of visitor use for festivals, events, or continuous outdoor recreational access. Recreationally zoned parcels were reviewed on a case-by-case basis to determine whether their inclusion was supportive of the County's goal of minimizing the discharge of trash to the storm drainage network or directly to waters of the State.

All recreationally zoned ALU areas were included in the two baseline assessment surveys conducted in 2018. For the purposes of trash loading, the same assessment and loading calculation methods were used for ALUs as PLUs.

The County requests authorization from the Central Coast Regional Water Quality Control Board (Central Coast Water Board) to utilize a 1:1 acreage substitution for ALUs to PLUs in the 'Moderate' trash generation category. The County does not intend to substitute ALU acreage for PLU acreage across different trash generation categories. The assessment and loading results for ALUs and PLUs are summarized in Table 2.

At this time, the County has not designated specific acreage exchange locations between Priority and Alternative Land Uses. The County requests that the Central Coast Water Board approve a 1:1 acre substitution, interchangeable across all of the County's 19 identified Trash Management Areas. This substitution will allow the County to substitute ALU acreage for locations where attainment of full trash capture proves limited by accessibility or infrastructure constraints.

Additionally, should non-PLU or ALU areas be addressed by full capture systems that were not identified during the 2018 baseline assessments, then baseline trash generation levels will be established for these areas using the County's baseline trash assessment methodology. Non-PLU areas addressed by full capture systems will be considered ALUs, consistent with the Trash Amendments, and the trash generated by these areas and captured by these systems will be applied against the baseline trash volume to demonstrate progress towards Full Capture Equivalency.

Table 2: Priority Land Use and Alternative Land Use Areas and Acreage

Management Area Name	Priority Land Use Acreage	Alternative Land Use Acreage	Total Acreage Assessed
Atascadero Fringe	1.2		1.2
Avila Beach	173.2	327.6	500.8
Callender-Garrett	327.8		327.8
Cambria	182.3	40.3	222.5
Cayucos	153.6	39.6	193.2
Lake Nacimiento	104.9	0.7	105.6
Los Berros	0.1		0.1
Los Osos	350.1	22.3	372.4
Los Ranchos-Edna	21.0	159.9	180.9
Nipomo	342.4	13.3	355.6
Oceano-Palo Mesa and Pala Mesa	492.9	69.3	562.2
San Luis Obispo Fringe- Airport	582.0	223.2	805.2
San Luis Obispo Fringe - Higuera Street	21.9		21.9
San Luis Obispo Fringe - Kansas Avenue	55.1		55.1
San Miguel	183.8	3.3	187.1
Santa Margarita	68.1	1.7	69.8
Shandon	123.1	11.3	134.3
Templeton and Paso Robles Fringe	752.1	90.9	842.9
Woodlands	18.9		18.9
Total Acreage	**3,954.3**	**1,003.3**	**4,957.6**

D. Description of Trash Sources in Priority Land Uses

Trash Sources and Pathways

Baseline trash assessments indicate that trash sources and pathways are variable across the County's Trash Management Areas, PLUs, and ALUs.

County staff identified several road segments that were primarily impacted by windblown trash from vehicles and roadway traffic. These findings are generally associated with roadways that connect industrial/commercially zoned parcels, but are interspersed with large vacant or undeveloped parcels.

In recreational areas or roadways leading to recreational areas, accumulated trash can be attributed to off-street parking associated with large events or festivals or ongoing recreational access. Festivals and events are held year-round throughout the County's jurisdiction, with a wide range of attendance and activities. Events conducted in the public road right-of-way require a special event permit issued through the Development Services Division, which coordinates with other Departments as needed.

County staff also observed locations that were impacted by trash migration from areas within the Caltrans right-of-way and Caltrans operated highways. Trash attributed to Caltrans jurisdiction was observed entangled in fencing or guard rails separating Caltrans jurisdiction from County jurisdiction.

The County acknowledges that homeless encampments within and adjoining waterways across the County are a significant source of trash to receiving waters. Collaborative creek clean-up efforts will be incorporated into the County's long-term strategy, but will not be a foundational element of the Trash Plan. The County's stormwater program does not have the resources to mitigate the impacts of homelessness on surface water quality. The County's stormwater program will provide support to local, state, and federal agencies where possible in remediating encampments that have impacted local waterways.

Priority Land Use Management Limitations

Many of the roadways within the County's PLUs are privately owned, operated, and maintained. While not all private roadways have access restrictions, the County does not maintain the private roadway surface or any associated infrastructure such as street lights, storm drains or outfalls to receiving waters. Additionally, many parking lots associated with commercial/industrial land use, or high-density residential use are not actively maintained by the County.

The County included private roadways in the baseline trash assessments but intends to focus compliance efforts on ALU areas with public roadways and drainage infrastructure that is operated and maintained by the County.

IV. Baseline Trash Generation Levels

The On-land Visual Trash Assessment (OVTA) Protocol for Stormwater was designed to provide qualitative estimates of the amount of trash that accumulates on specific street segments, sidewalks and adjacent land areas that may be transported to the County's municipal stormwater conveyance system. Trash accumulation is a term used to describe the level of trash deposited onto land areas and available for transport to the conveyance system prior to removal via street sweeping or other significant management actions that intercept trash before entering the stormwater conveyance system. Trash generation is a term used to describe the remaining level (i.e., volume) of trash transported by the stormwater conveyance system to receiving waters (e.g., creeks, rivers, lakes, estuaries, bays and oceans).

Consistent with the 13383 Order, the County developed baseline trash generation levels for all PLU and ALU areas to illustrate the varying levels of trash generated in these areas. Trash generation levels were developed using a tailored combination of the OVTA Protocol A – Street and Sidewalk Survey (EOA 2017) and Protocol B-Driving Survey (EOA 2017). Consistent with the State Water Board's *Recommended Trash Assessment Minimum Level of Effort for Establishing Baseline Trash Generation Levels,* two assessments were conducted for each PLU area during 2018. OVTA protocols provide methods for visually observing the level of trash present on the roadway, curb and gutter, sidewalk, and other areas adjacent to the street or on a parcel that could potentially contribute trash to the MS4.

The OVTA Protocol for Stormwater serves the following two purposes:
1) Establishing Baseline Levels of Trash Generation – to establish baseline levels of trash generation for specific land areas using four trash generation categories, and;
2) Allowing the County to assess changes in Levels of Trash Generation – to provide a qualitative tool to assist in evaluating changes in the level of on-land trash that is transported by the stormwater conveyance system to receiving waters.

A. Assessment Methodology

This methodology requires at least two people: one driver and at least one passenger performing the assessments and managing the data collection. An additional person in the office is designated as a point-of-contact with cell phone numbers of both field personnel and their planned schedule (i.e., location and time). County staff utilize a marked fleet vehicle with a safety beacon when conducting survey work.

Equipment

The following equipment is needed to properly apply the protocol:

- Trimble unit (or other equipped smart device, i.e. smart phone or tablet)
- Secondary (backup) smart device
- Trimble/device USB car charger
- Wi-Fi Hotspot
- Copy of Visual Trash Assessment Protocol

- High-visibility safety vest(s)
- County fleet vehicle with safety beacon

Priority Land Use Areas

Priority Land Uses (PLUs) are developed sites, facilities, or land uses within the County's MS4 jurisdiction from which discharges of trash are regulated by the State's Trash Amendments. PLUs include:

(1) High-density residential: all land uses with at least ten (10) developed dwelling units/acre.

(2) Industrial: land uses where the primary activities on the developed parcels involve product manufacture, storage, or distribution (e.g., manufacturing businesses, warehouses, equipment storage lots, junkyards, wholesale businesses, distribution centers, or building material sales yards).

(3) Commercial: land uses where the primary activities on the developed parcels involve the sale or transfer of goods or services to consumers (e.g., business or professional buildings, shops, restaurants, theaters, vehicle repair shops, etc.)

(4) Mixed urban: land uses where high-density residential, industrial, and/or commercial land uses predominate collectively (i.e., are intermixed).

(5) Public transportation stations: facilities or sites where public transit agencies' vehicles load or unload passengers or goods (e.g., bus stations and stops).

Assessments are conducted on road and parking areas associated with Priority Land Use (PLU) areas which have been determined through GIS analysis. The PLUs and their associated road and parking lots are indicated on the survey maps.

The County also assessed the proposed ALU areas where roadway litter and trash generation are known to be problematic. The County assessed these areas to ensure the ability to substitute trash management in areas of private ownership or other restricted access.

Roadway Segments

Within the County's mapped PLUs, there are three categories of roads:

- **County Maintained Roads:** roads which have been accepted into the County maintenance system by way of a Board of Supervisors resolution.
- **Private Roads:** any roads which have not been accepted into the County maintenance system; may be maintained by other entities, Community Services Districts, homeowners' associations, property owners, etc.
- **State Roads or Highways:** Highways operated by the California Department of Transportation (Caltrans) or other State jurisdictions such as State Parks or California National Guard.

Baseline trash assessments included assessment of both County-maintained and private roads. State Roads or Highways were excluded from the baseline assessment as they are separately permitted and operated.

The width of the assessment area extended from the center line of the road (or middle of the median) to the edge of the adjacent property and included all portions of the public right-of- way (ROW) that conveys stormwater to the stormwater drainage system. The assessment area included the median, street, gutter, curb, sidewalk, backside of sidewalk, and vegetated areas (e.g., grass, bushes, and tree wells).

The assessment area also included any trash in visible areas that could theoretically reach the stormwater conveyance system, regardless if it was in the public ROW or private land area.

Roads within each PLU were broken into segments. The segments typically started and ended at discernable intersections. Each segment was evaluated for the total amount of trash on both sides of the road. Where one side of the road received an elevated trash score over the other, the elevated grade was recorded for the entire segment.

Transit Stops

Public transit stops (bus stops) were assessed as PLU areas during the baseline assessments. Bus stops are indicated as points in the assessment area maps. When assessing bus stops and determining loading, staff considered a 20' x 10' area associated with the stop as being the assessment area.

Timing of Assessments

The timing of the assessments was selected carefully to ensure that the level of trash generation was not underestimated, in accordance with the following directions:

- **Street Sweeping:** Assessments were conducted prior to reoccurring trash control measure implementation events (e.g. street-sweeping). The assessments were timed to occur roughly half-way between the street sweeping interval.
- **Rain Events:** Assessments were not conducted after a significant rainfall- runoff event. For the purposes of this protocol, a significant rainfall event was defined as at least 1.5 inches of rain in a 24-hour period occurring within a 48-hour period before the assessment. If more than one half-inch of rainfall had fallen within a 24-hour period prior to the assessment, then the assessment was rescheduled.
- **Roadside Mowing:**
  Dry season assessments were conducted after roadside mowing occurs, generally between April 15 and July 1. Wet season assessments were conducted late fall to early winter in order to avoid high rates of vegetation growth typically occurring in the spring.

One baseline assessment was conducted during the dry season spanning late July 2018. A second baseline assessment was conducted at the start of the wet season in early November 2018.

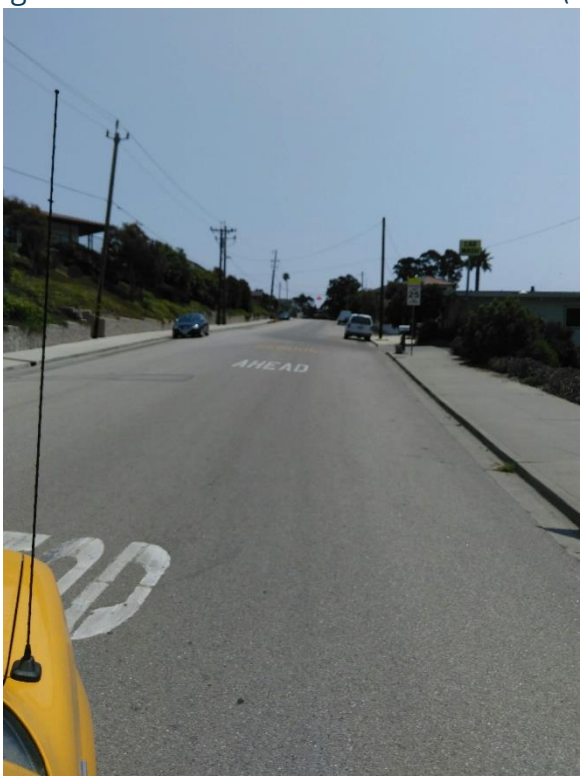
Trash Level Categories

The County assessed priority land uses using the Trash Level definitions provided in OVTA protocol. Trash levels within this protocol are based visual observations of the magnitude and extent of trash observed in a defined assessment area. There are four trash level categories (Low, Medium, High and Very High), summarized in Table 3 and demonstrated locally by Figures 2 through 4.

Table 3: Trash Generation Level Categories and Assessment Scores

Trash Level	Definition
LOW **GREEN** **(Not Littered)**	• Effectively no trash is observed in the assessment area. • There may be some trash in the area, but it is not obvious at first glance. • One individual could easily clean up all the trash observed while walking at normal pace. • No additional trash reduction measures are needed in the assessment area.
MODERATE **YELLOW** **(Slightly littered)**	• Predominantly free of trash, except for a few littered areas. • Some trash is noticeable at first glance. • The trash observed could be collected by one or two individuals, but would require walking at a slower than normal pace. • Additional trash reduction measures are needed in the assessment area.
HIGH **RED** **(Littered)**	• Predominantly littered, except for a few clean areas. • Trash is widely/evenly distributed and/or small accumulations are noticeable on the streets and sidewalks. • It would take multiple people to remove all trash from the area, frequently requiring individuals to stop walking to remove the trash. • Roughly 4 times as much trash as a **MODERATE** level.
VERY HIGH **PURPLE** **(Very Littered)**	• Trash is continuously seen throughout the assessment area and there is a strong impression of lack of concern for litter. • Large piles of trash may be observed. • It would take a large number of people during an organized effort to remove all trash from the area, consistently requiring individuals to stop to remove the trash. • Roughly 3 times as much trash as a **HIGH** level.

Figure 2: Low Trash Generation Condition *(Green)*



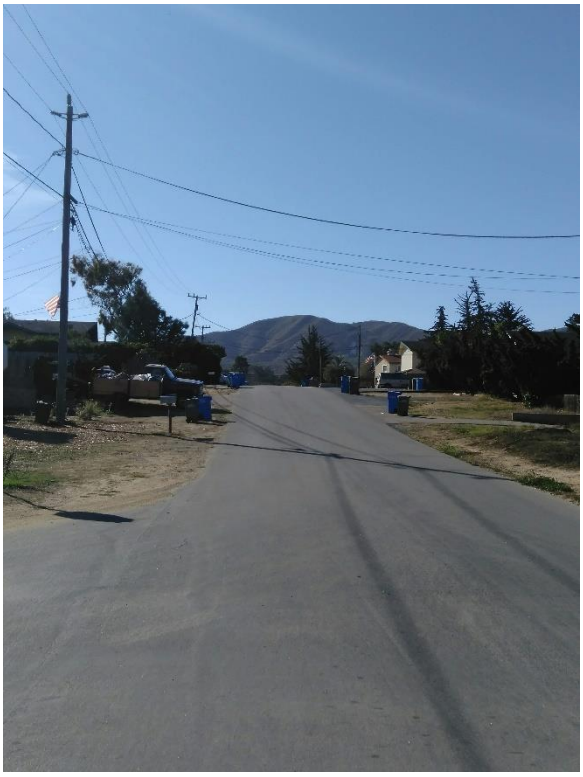


Figure 3: Moderate Trash Generation Condition *(Yellow)*

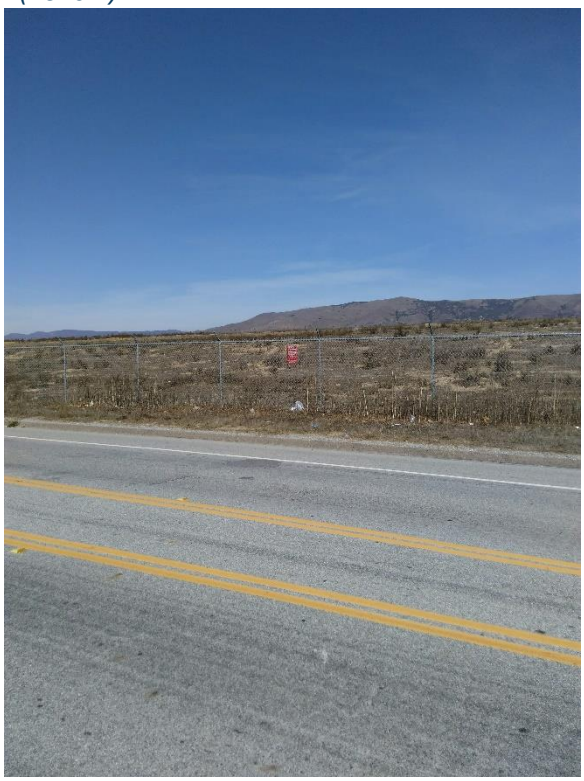
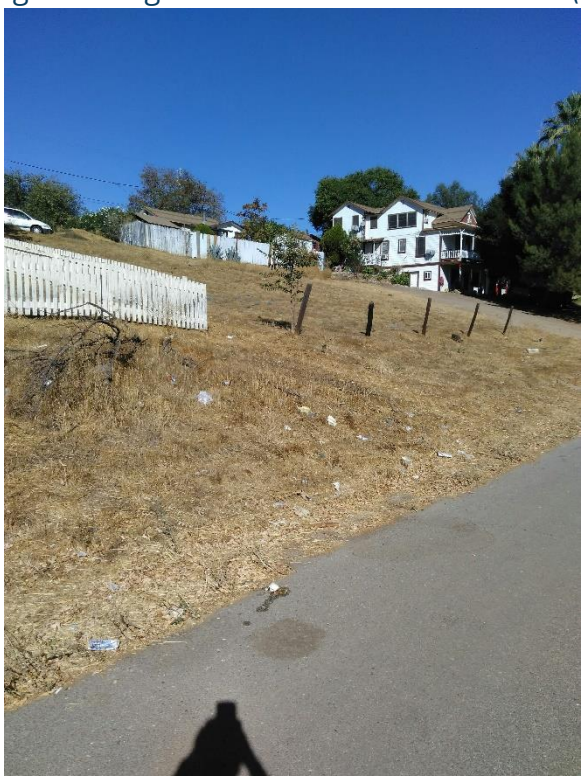


Figure 4: High Trash Generation Condition *(Red)*



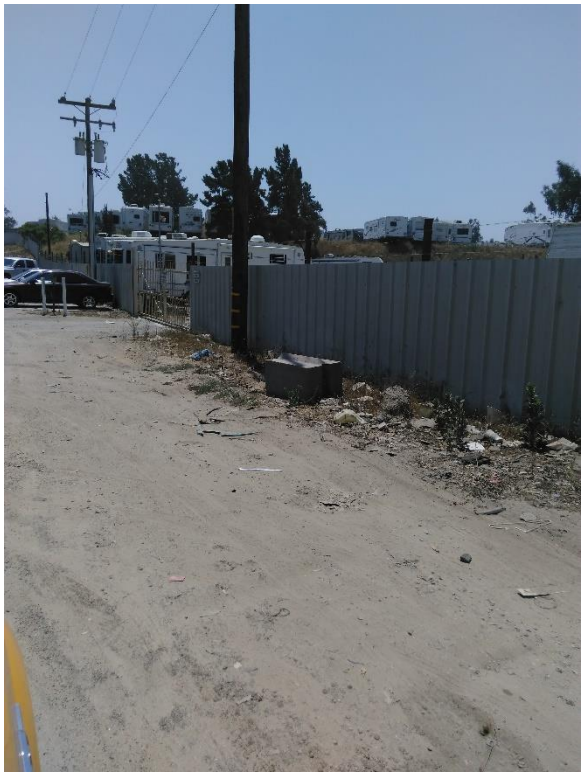


Figure 5: Very High Trash Generation Condition *(Purple)*

Digital Data Collection & Quality Assurance

County staff created a digital data collection platform using the GIS Collector Application that allowed for the use of an iOS or Android mobile device for data collection. The specific data collection protocols are included as **Attachment 2.**

Quality assurance review was conducted on 10% of the total number of assessed segments. Quality assurance segments were randomly chosen from the total number of segments. Digital photographs were reviewed by a staff member other than the original assessor who was familiar with OVTA protocols. The quality assurance staffer also verified that all required data fields were complete and accurate. Detailed quality assurance protocols are also included within **Attachment 2.**

B. Baseline Assessment Challenges

County staff requested GIS data from the Regional Transit Authority (RTA) to identify the locations of all bus stops within the MS4 permitted area. RTA indicated that bus stop locations are subject to change seasonally, and that service to some stops may be discontinued based on usage and rider demand. County staff requested current bus stop location data before each baseline assessment. During the assessment some of the mapped bus stops could not be located in the field. It is possible that bus stop signage had been removed due to the discontinuation of seasonal service.

County staff were unable to complete assessments of all private roads within PLU areas due to gates or other access restrictions. Many private roadways were open and accessible to the public, and were included in the baseline assessment.

C. Baseline Trash Management Measures

The County of San Luis Obispo utilizes several baseline trash management measures to reduce the potential for discharge of trash to surface waters via the storm drain system. Baseline management measures did not specifically target Priority Land Uses, and were implemented both inside and outside the County's MS4 Permit Area.

Street & Parking Lot Sweeping

At the time of baseline trash assessments, the County's street sweeping program included approximately 626 miles of roadway within the MS4 permit area. Sweeping was conducted on a monthly basis on public roadways with curb/gutter/sidewalk infrastructure or a paved roadside berm. The County did not enforce any parking restrictions associated with sweeping operations.

County owned and operated parking lots within the County's Parks system were maintained regularly and cleared of litter on a weekly basis. County owned and operated parking lots outside of the Parks system received no regular maintenance or litter removal.

Storm Drain Inlet Maintenance

County owned and operated storm drain inlets and culverts were prioritized for

maintenance and inspection based upon their location being inside or outside the MS4 permit area. Inlets and culverts inside the MS4 permit area are inspected and maintained twice per year, infrastructure outside the permit area is maintained annually. Storm drainage infrastructure in the Avila Beach Trash Management Area is maintained three times per year due to high amounts of sand/sediment deposition and flooding potential. The amount of litter and debris removed from drain inlets and culverts was not described or numerically quantified.

Roadside Mowing Program

The County's Road Maintenance Division conducts roadside vegetation mowing to reduce the risk of vegetation fires sparked from adjacent roadways and maintain sight distance. Roadside mowing trims ground level vegetation within 6 ft. of the edge of approximately 1,321 miles of County maintained roadways. Mowing generally commences on April 15th and is completed by July 1st of each year. At the time of the baseline trash assessments, no litter removal efforts were made in conjunction with mowing activities, with the exception of removal of illegally dumped large debris (tires, furniture, etc.). Staff believe that mowing practices may exacerbate the trash generation condition in some PLUs due to the higher visibility and increased scatter of small particles of trash following mowing activities.

Adopt-A-Road

The County's Adopt-A-Road program included approximately 120 miles of roadways at the time of the baseline trash assessments. Adopted roadway segments were not necessarily tied to Priority Land Uses or limited to roadways within the County's MS4 permit area. Adopted roadways are cleared of roadside litter a minimum of once every two months, or more frequently if conditions warrant. The County has not previously tracked the frequency of clean ups, the number of trash bags filled, or the amount of litter and trash removed via the Adopt-A-Road program.

Tarped Load Requirements

Cold Canyon Landfill and Chicago Grade Landfill are located within the County's jurisdiction, though outside the MS4 permit area. Cold Canyon Landfill requires that all incoming loads be covered, tarped, or secured in a manner that no waste can fly or fall out or become airborne in any way. Customers arriving at Cold Canyon with uncovered or unsecured loads are charged and additional $20 entry fee to the landfill. Chicago Grade Landfill located in Templeton does not charge additional entry fees for un-secured loads. Access roads to reach both landfills cross through the County's MS4 permit area, and also some areas designated as PLUs.

Community Clean Up Events

County staff periodically organize and support community Clean Up events in unincorporated communities of the County. The goal of these events is to provide a free, coordinated waste removal event and to prevent illicit dumping in areas that have a history of dumping or may be located a significant distance from landfills. In the months preceding the baseline trash assessment, a community Clean Up was organized in the Nipomo Trash

Management Area and approximately 26 tons of trash was hauled to area landfills and recycling sites.

Coastal and Creek Clean Up Events

The County has organized an annual Creek Day Clean Up event in one community per year. Traditionally, the event has taken place in September and targeted litter removal in Nipomo Creek. County staff also support and participate in Coastal Clean Up Day, which is hosted and organized by local non-profit EcoSLO. Coastal Clean Up Day regularly draws more than 1,000 volunteers to remove trash and litter from beaches, creeks, and lake shorelines throughout the County. More recently, the County provided supplies to encourage participation in EcoSLO's Beach Keepers program which supports small scale beach clean-up events throughout the year.

D. Baseline Trash Loading Estimates

Baseline trash loading estimates are indicative of the volume of trash from PLU areas that enters the storm drainage network over the course of a year. Because full trash capture systems are only designed to intercept trash greater than 5mm that is transported via relatively moderate-sized storms (i.e., 1-year, 1-hour), trash transported via larger storm events bypasses or overflows the system and is transported downstream to a receiving water body. Full capture systems, therefore, do not capture all trash generated by and transported through the storm drainage system.

In a situation where a full capture system has been installed, the portion of trash generated in the drainage area and captured by a full capture system is termed the "Captured Trash." The portion of the trash that is generated but bypasses or overflows a system is termed the "Uncaptured Trash."

In defining Full Capture System Equivalency, the level (rate or volume) of trash that is "uncaptured" (i.e., bypasses or overflows) by a full capture system provides a "ceiling" for the amount of trash that can acceptably be transported downstream via a full capture system. This ceiling can be used as a goal to evaluate the performance of other types of control measures. Should the amount of trash observed via OVTAs in a given land area be less than or equal to this ceiling, the implemented control measures reflect equivalency with a full capture system.

Based on the results of the San Francisco Bay Area Stormwater Management Agencies Association (BASMAA study), land areas that consistently achieve an "Low" OVTA score, generate an average annual trash volume of 2.2 gallons per acre. This low trash generation rate is comparative to the "uncaptured" trash that bypasses/overflows a full capture system. Therefore, the County classifies areas that generate low levels of trash, as demonstrated by a consistent "Low" OVTA score, as having achieved Full Capture System Equivalency (Equivalency).

The County utilized the OVTA trash loading rates for PLUs and ALUs that were assessed. GIS modelling was utilized to categorize the condition of the 'nearest neighbor' parcel to the assessed segments. Where survey results indicated a change of condition between the two assessments, the higher level of trash impairment was utilized. Areas that were assessed as "Low" condition are considered to have achieved full capture equivalency and are not assigned an annual trash load.

Priority Land Uses and Alternative Land Uses

Parcels larger than 2 acres presented a unique challenge within the County's jurisdiction. Where the assessed segment was the 'nearest neighbor' to a contiguous parcel larger than 2 acres in size, the assessment condition was applied to a 1,000-foot buffer area on the parcel, and sequentially downgraded every 1,000 feet from the roadway. This modification provides a more accurate representation of the trash loading on large recreational and industrial parcels that may not be fully developed or include significant open space reserve areas. A comparative demonstration of the standard trash generation calculation approach and the 1,000-foot buffering approach is included in Figure 6 and Figure 7. Figures depicting the combined results of the County's baseline trash assessments are included in **Attachment 3.**

Figure 6: Priority Land Use Trash Generation Rates, (No modification)

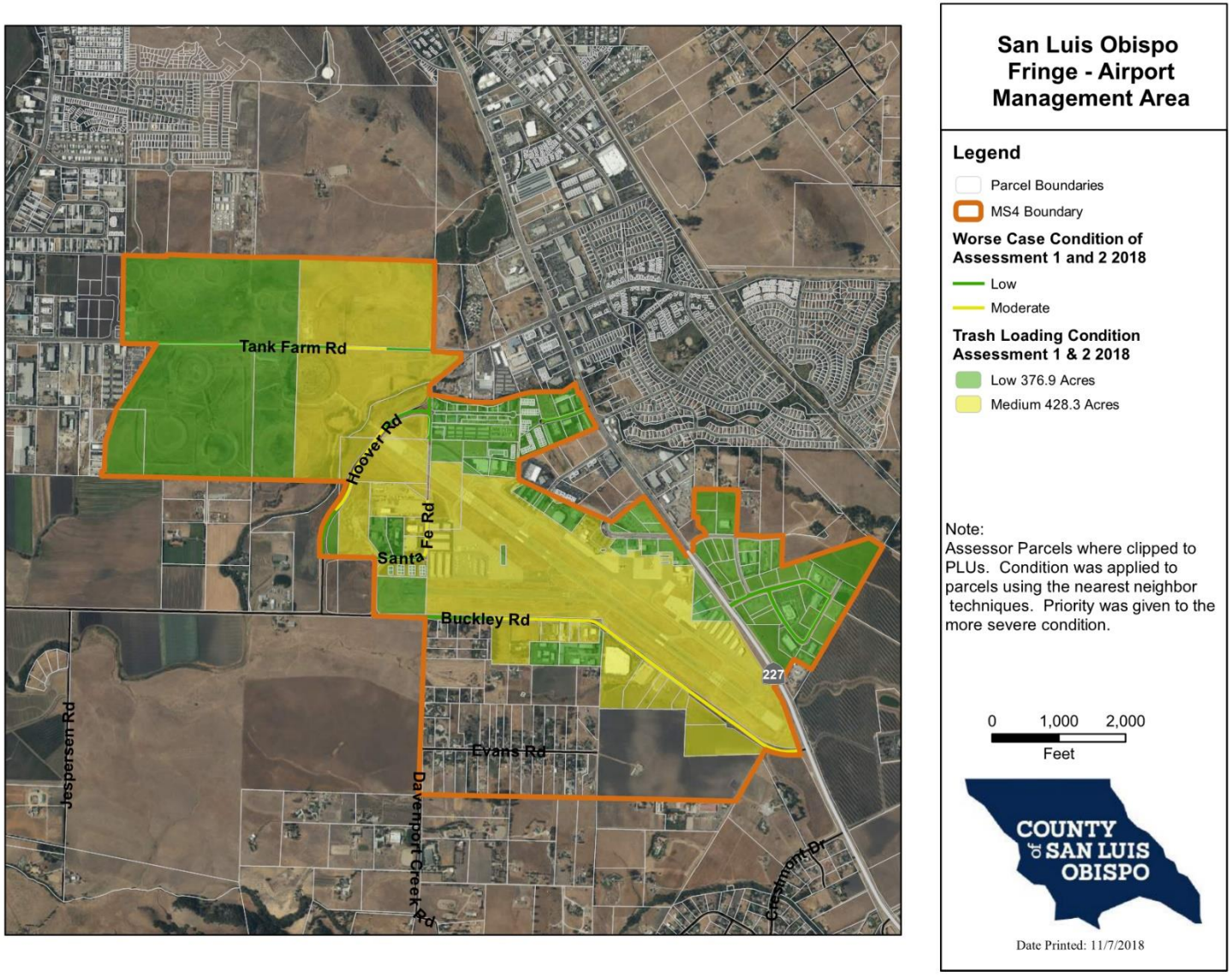
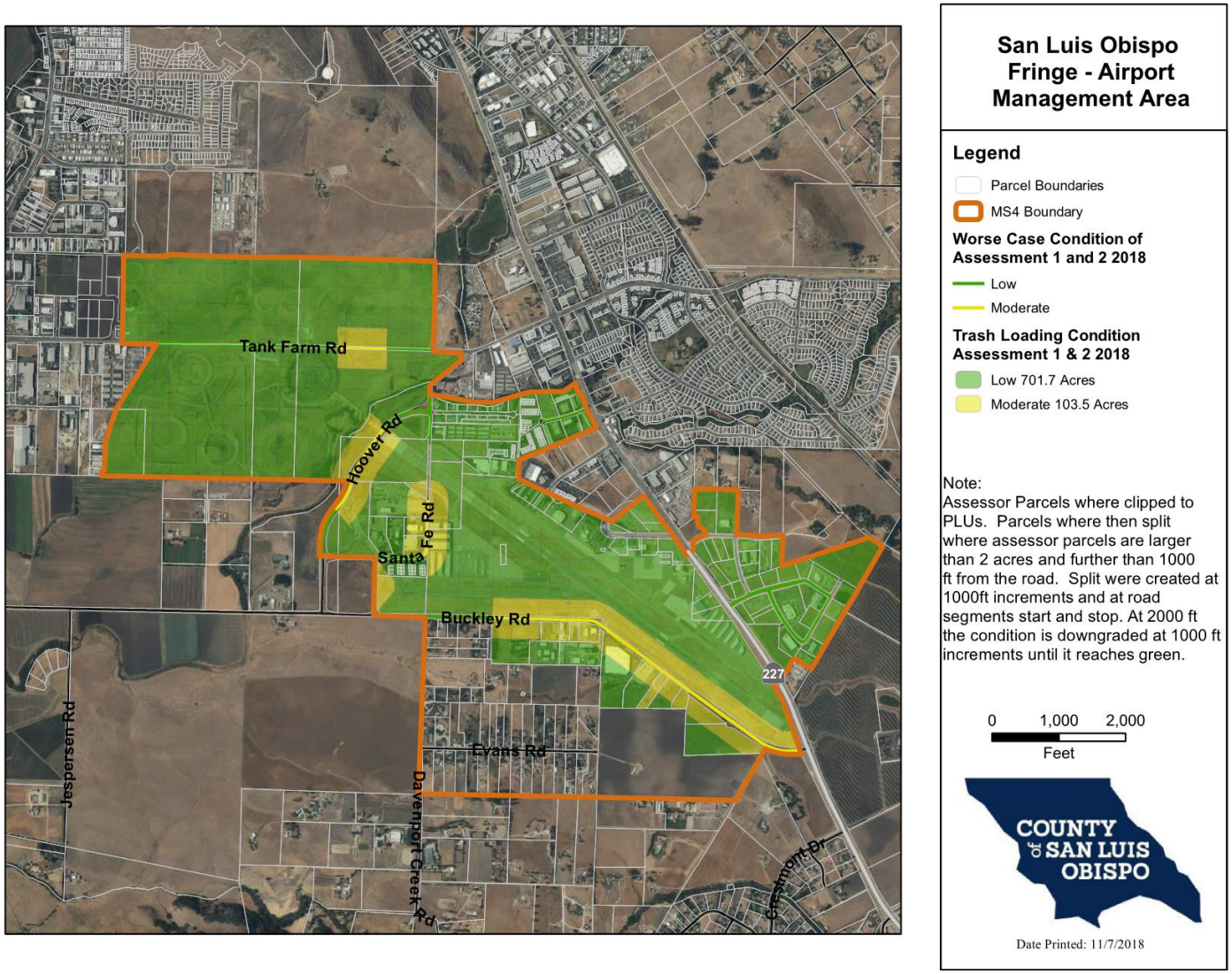


Figure 7: Priority Land Use Trash Generation Rates, (1,000-foot buffer)



Baseline Trash Generation Rate Calculations

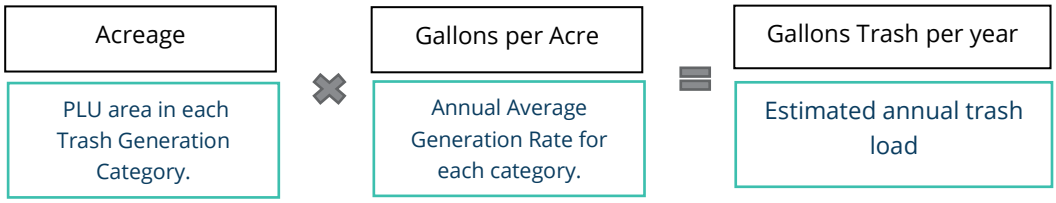
The estimated baseline trash load generated in each Trash Management Area was calculated using: 1) Baseline trash generation maps depicting trash generating area acreage; and 2) annual average trash generation rates listed in Table 4.

Based on the level of trash observed during each assessment, each associated PLU or ALU area was placed into one of the four trash generation categories summarized in Table 3. For each PLU area, the worse of the two assessment scores observed was used as the final baseline trash generation category for each PLU area. Selecting the higher generation category further ensures that the levels of baseline trash generation in PLU areas are not underestimated.

Table 4: Annual Average Trash Generation Rates

Category	Baseline Trash Generation Category			
	Low	**Moderate**	**High**	**Very High**
Average Baseline Trash Generation Rate (gallons/acre year^{-1})	0 (Full Capture System Equivalency)	7.5	30	100
Color on Trash Maps	Green	Yellow	Red	Purple

Trash loads were calculated using the OVTA guidelines, in summary:



Tables 5 and 6 summarize the calculated baseline trash load from each Trash Management Area.

Table 5: Baseline Trash Load Estimates for all Priority Land Uses (PLUs)

Trash Management Area	Inaccessible Acreage	Low Condition (acres)	Moderate Condition (acres)	High Condition (acres)	Very High Condition (acres)	Total PLU Acreage Assessed	Moderate Condition Trash Load (7.5 gal/acres year^{-1})	High Condition Trash Load (30 gal/acres year^{-1})	Very High Condition Trash Load (100 gal/acres year^{-1})	Total Trash Load by Management Area (gal/acres year^{-1})	Trash Management Area
Atascadero Fringe	--	1.2	--	--	--	1.2	--	--	--	**0.0**	Atascadero Fringe
Avila Beach	4.7	166.5	2.0	--	--	173.2	14.9	--	--	**14.9**	Avila Beach
Callender-Garrett	10.9	239.8	39.5	26.3	11.3	327.8	296.0	789.0	1134.5	**2,219.4**	Callender-Garrett
Cambria	--	180.4	1.8	--	--	182.3	13.7	--	--	**13.7**	Cambria
Cayucos	--	147.2	6.4	--	--	153.6	47.9	--	--	**47.9**	Cayucos
Lake Nacimiento	--	104.9	--	--	--	104.9	--	--	--	**0.0**	Lake Nacimiento
Los Berros	--	0.1	--	--	--	0.1	--	--	--	**0.0**	Los Berros
Los Osos	--	346.6	3.5	--	--	350.1	26.0	--	--	**26.0**	Los Osos
Los Ranchos-Edna	--	21.0	--	--	--	21.0	--	--	--	**0.0**	Los Ranchos-Edna
Nipomo	4.0	244.5	85.9	8.0	--	342.4	643.9	240.8	--	**884.7**	Nipomo
Oceano-Palo Mesa and Pala Mesa	--	388.6	93.3	11.0	--	492.9	699.4	331.0	--	**1,030.4**	Oceano-Palo Mesa and Pala Mesa
San Luis Obispo Fringe - Airport	--	499.1	82.9	--	--	582.0	622.1	--	--	**622.1**	San Luis Obispo Fringe - Airport
San Luis Obispo Fringe - Higuera Street	--	17.4	4.4	--	--	21.9	33.3	--	--	**33.3**	San Luis Obispo Fringe - Higuera Street
San Luis Obispo Fringe - Kansas Avenue	--	55.1	--	--	--	55.1	--	--	--	**0.0**	San Luis Obispo Fringe - Kansas Avenue
San Miguel	--	132.1	45.0	6.7	--	183.8	337.6	201.5	--	**539.1**	San Miguel
Santa Margarita	--	68.1	--	--	--	68.1	--	--	--	**0.0**	Santa Margarita
Shandon	34.0	63.4	25.7	--	--	123.1	192.6	--	--	**192.6**	Shandon
Templeton and Paso Robles Fringe	--	696.8	40.0	15.2	--	752.1	300.1	456.3	--	**756.4**	Templeton and Paso Robles Fringe
Woodlands	--	18.9	--	--	--	18.9	--	--	--	**0.0**	Woodlands
Totals:	**53.6 acres**	**3,391.8 acres**	**430.3 acres**	**67.3 acres**	**11.3 acres**	**3,954.3 acres**	**3,227.5 (gal/acres year^{-1})**	**2,018.5 (gal/acres year^{-1})**	**1,134.5 (gal/acres year^{-1})**	**6,380.5 (gal/acres year^{-1})**	

Table 6: Baseline Trash Load Estimates for all Alternative Land Uses (ALUs)

Trash Management Area	Low Condition (acres)	Moderate Condition (acres)	Total Acreage Assessed	Moderate Condition Trash Load (7.5 gal/acres year^{-1})
Avila Beach	311.8	15.8	327.6	118.6
Cambria	40.3	--	40.3	0.0
Cayucos	37.3	2.3	39.6	17.2
Lake Nacimiento	0.7	--	0.7	--
Los Osos	22.3	--	22.3	--
Los Ranchos-Edna	159.9	--	159.9	--
Nipomo	12.2	1.1	13.3	8.2
Oceano-Palo Mesa and Pala Mesa	67.8	1.6	69.3	11.8
San Luis Obispo Fringe - Airport	202.6	20.6	223.2	154.3
San Miguel	3.3	--	3.3	--
Santa Margarita	1.7	--	1.7	--
Shandon	11.3	--	11.3	--
Templeton and Paso Robles Fringe	83.9	7.0	90.9	52.3
Totals:	**955.0**	**48.3**	**1003.3**	**362.4**

The County assessed over 1,000 acres of ALU areas and determined that approximately 48.3 acres were generating a moderate trash load. None of the ALUs were assessed as high or very high trash load. Full substitution of moderate condition ALUs for PLUs at the proposed 1:1 ratio would result in a net substitution of approximately 11% of the County's moderate condition PLUs. The County believes that this provides a reasonable contingency for moderate condition PLUs where full capture equivalency proves infeasible.

Public Transit Stops

Through the baseline assessment process, County staff discovered that bus stops operated by the Regional Transit Authority (RTA) included a variety of infrastructure, presumably based upon rider usage at each stop. Some of the stops included in the RTA's GIS inventory could not be located in the field.

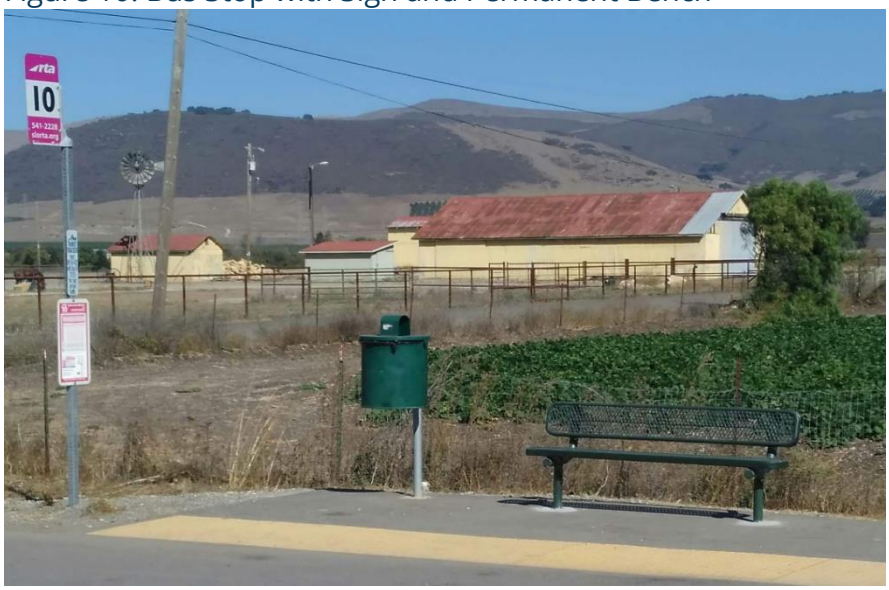
County staff classified transit stops into three categories based upon the level of infrastructure at the stop. Baseline assessments evaluated a total of 92 stops across the three categories: stops with covered permanent benches, stops with a sign and permanent bench, and stops with a sign only. Four stops could not be located in the field. Examples of each category is demonstrated in Figures 8 through 10.

For the purpose of long-term tracking and progress assessment, only bus stops with a covered permanent bench or bench with sign will be included in the permanent inventory for assessment. Transit stops with only a sign are prone to seasonal service or relocation, making evaluation of progress infeasible.

Figure 8: Bus Stop with Covered Permanent Bench

Figure 9: Bus Stop with Sign Only

Figure 10: Bus Stop with Sign and Permanent Bench



Baseline trash assessment results for transit stops in each Trash Management Area are summarized in Table 7.

Table 7: Baseline Trash Assessment for all Transit Stops

Trash Management Area	Assessment 1 Low Condition (# of Stops)	Assessment 1 Moderate Condition (# of Stops)	Assessment 2 Low Condition (# of Stops)	Assessment 2 Moderate Condition (# of Stops)
Atascadero Fringe	8	--	8	--
Avila Beach	9	--	8	1
Cambria	26	--	24	--
Cayucos	7	1	8	--
Los Osos	13	--	13	--
Nipomo	5	2	6	--
Oceano-Palo Mesa and Pala Mesa	5	--	10	1
San Luis Obispo Fringe - Kansas Avenue	--	--	1	--
San Miguel	1	--	1	--
Santa Margarita	--	--	4	--
Templeton and Paso Robles Fringe	--	--	2	--
Totals:	**76**	**3**	**85**	**2**

Transit stops that were assessed as low condition during both assessments demonstrate full capture equivalency and will not be assigned a trash generation rate. Transit stops in the moderate trash generation category are assigned a trash generation rate of 0.03 gallons/year based upon the generation rate of 7.5 (gal/acres year^{-1}) applied to an area of 200 square feet. The total baseline trash load estimate for all transit stops is summarized in Table 8.

Table 8: Baseline Trash Load Estimates for all Transit Stops

Trash Management Area	Moderate Condition (# of Stops)	Moderate Condition Trash Load (0.03 gal/ year)
Avila Beach	1	0.03
Cayucos	1	0.03
Nipomo	2	0.06
Oceano-Palo Mesa and Pala Mesa	1	0.03
Totals:	**5**	**0.17**

V. Trash Control Measures

The County's Roads Maintenance Division is currently working to identify the most cost effective and technically feasible trash control measures to address the Trash Amendments. The variable age and type of drainage infrastructure across the County's Trash Management Areas presents numerous logistical challenges to installation of Full Capture Systems. The foundation of County's Full Capture Equivalency efforts will be optimization of existing trash management practices.

While the County of San Luis Obispo recognizes the regulatory preference for Full Capture Systems, staff believe that the broad array of strategies for demonstrating Equivalency presents a more attainable and beneficial approach to trash management in many Trash Management Areas. The County's initial focus will be on optimizing and expanding existing litter prevention and trash removal efforts, and adjusting codes and standards to mitigate the potential impacts of expanding PLU areas as build-out of the County progresses.

Seven of the County's nineteen Trash Management Areas did not include any areas with a moderate, high, or very high trash loading rate. These areas are considered to have attained Full Capture Equivalency and will not be targeted for additional trash reduction efforts.

A summary of the Trash Management Areas and anticipated management approach is included in Table 9. Figures depicting the anticipated distribution of Full Capture Systems and Full Capture Equivalency across the County's Trash Management Areas are presented in **Attachment 4.**

Table 9: Implementation Strategies for Trash Management Areas

Trash Management Area	Baseline conditions of Moderate, High, or Very High	Anticipated Management Strategy
Atascadero Fringe Management Area‡	No	None
Avila Beach Management Area	Yes	Equivalency/ Full Capture
Callender-Garrett Management Area	Yes	Equivalency/ Full Capture
Cambria Management Area	Yes	Equivalency
Cayucos Management Area	Yes	Equivalency/ Full Capture
Lake Nacimiento Management Area	No	None
Los Berros Management Area	No	None
Los Osos Management Area	Yes	Full Capture
Los Ranchos-Edna Management Area	No	None
Nipomo Management Area	Yes	Equivalency/ Full Capture
Oceano-Palo Mesa and Pala Mesa Management Area	Yes	Full Capture
San Luis Obispo Fringe- Airport Management Area	Yes	Equivalency
San Luis Obispo Fringe - Higuera Street Management Area	Yes	Equivalency
San Luis Obispo Fringe - Kansas Avenue Management Area	No	None
San Miguel Management Area	Yes	Full Capture
Santa Margarita Management Area	No	None
Shandon Management Area	Yes	Equivalency/ Full Capture
Templeton and Paso Robles Fringe Management Area	Yes	Equivalency
Woodlands Management Area	No	None

‡ *Trash Management Areas in shaded grey rows have demonstrated full capture equivalency due to consistent Low trash generation rates observed in both 2018 baseline surveys.*

A. Full Capture Treatment Systems

A trash full capture system (FCS) is defined as a single system (or a series of systems) that traps all particles that are 5 mm or greater and has a design treatment capacity that is either: a) of not less than the peak flow rate, resulting from a 1-year, 1-hour, storm in the subdrainage area, or b) appropriately sized to, and designed to carry at least the same flows as, the corresponding storm drain" (State Water Board 2015).

New Public Full Capture Systems

Trash FCS certified by the State Water Board will be installed in areas of the County where feasible. The County is currently exploring areas, opportunities, and constraints associated with new full capture systems. Prior to installation, the land areas (PLU and ALU) draining to

the FCS will be delineated and the associated volume of trash that is generated from these areas will be calculated. This volume of trash associated with a FCS will be considered fully addressed, achieving the goal of the Trash Amendments.

Should non-PLU or -ALU areas be addressed by FCS, then baseline trash generation levels will be established for these areas using the County's baseline trash assessment methodology. Non-PLU areas addressed by FCS will be considered ALUs, consistent with the Trash Amendments, and the trash generated by these areas and captured by these systems will be applied against the baseline trash volume to demonstrate progress towards Full Capture Equivalency.

The County has identified eight Trash Management Areas as having potentially high feasibility for FCS installation. During the initial years of program implementation, the County will undertake a phased engineering feasibility analysis to determine opportunities and constraints in these areas. The opportunities and constraints are expected to vary greatly by Trash Management Area, and will likely require evaluating a variety of FCS infrastructure options. The implementation schedule is further detailed in Section 6.

New Private Full Capture Systems

The County will review the existing Public Improvement Standards to determine whether FCS can be incorporated into new subdivisions resulting in additional development in PLU categories. The County will explore the possibility of requiring new high density residential or industrial/commercial subdivisions to install and maintain FCS infrastructure on flood control or Low Impact Development infrastructure.

Other Non-Full Capture Stormwater Treatment Systems

Stormwater treatment systems including detention basins and bioretention features may not be designed to address trash transported during the one-year, one-hour storm and therefore may not be considered trash full capture systems. This does not mean that these systems have no benefit to trash reduction. This reduction benefit could be defined by developing a trash reduction efficiency equation for these systems based on an understanding of proportions of trash transported during flows (or equivalent volumes) leading up to the peak flow of a region-specific one-year, one-hour storm event; and applying the applicable proportion to the stormwater treatment system of interest, based on the design of the system.

Although the treatment system may not achieve full capture, at least some reduction benefit would be assigned to the system.

B. Municipal Housekeeping

Street and Parking Lot Sweeping

Street sweeping studies indicate that under ideal conditions (i.e., slow operator speeds, good condition of the roadway surface, and minimal/no automobiles parked along curb) a street

sweeper can remove nearly all litter from the swept area. The County already conducts sweeping on many roadways, however, more frequent sweeping or improved sweeping conditions (e.g., removal of parked cars along the curb) may reduce the amount of trash observed on streets, possibly to a level of Full Capture Equivalency.

The County will evaluate street sweeper routes, timing, and frequency in the initial years of implementation to maximize the benefits of street sweeping services. The County will also consider outreach to property owners on sweeper routes to notify them of service and request removal of vehicles ahead of sweeping days.

The County will evaluate a more aggressive sweeping and maintenance schedule of County owned and operated parking lots. While this is expected to have minimal benefit to demonstration of Full Capture Equivalency within County PLUs, it benefits MS4 jurisdictions where the County owns or operates large office complexes or public buildings (i.e. City of San Luis Obispo, City of Atascadero.)

Adopt-A-Road

The County intends to re-vitalize and promote community involvement in trash removal via the existing Adopt-A-Road program. Staff believe that unlike installation of sub-grade full capture systems, community involvement via the Adopt-A-Road program serves an important secondary purpose of drawing attention to the visual and environmental impacts of trash, and encourages stewardship and civic pride within small communities.

The County plans to significantly expand the visibility and scope of the program during the initial years of implementation, particularly in communities with a strong history of service group engagement. The County will also target outreach efforts to commercial/industrial businesses within or adjacent to PLUs with moderate trash generation rates to encourage their support of the program. Additional program management measures will be implemented to encourage clean ups prior to and immediately following the commencement of seasonal roadside mowing.

The County will also begin quantifying the amount of trash removed from adopted roadways to allow for spatial trend analysis and progress assessment.

Storm Drain Inlet Maintenance

County Public Works will pursue a more 'data-driven' approach to storm drain inlet inspection and maintenance. The amount of trash removed from drain inlets will be reported in estimated quantities, separate from the amount of vegetation or sediment. Quantification will allow staff to more accurately prioritize drain inlets for more frequent maintenance or inspection activities.

It is anticipated that drain inlet maintenance frequency will be more intensive for inlets with FCS infrastructure. The County expects that maintenance of FCS inlets will be required more frequently and will be conducted based upon manufacturer recommendations.

Improved Trash Bin / Container Management

Receptacles used to place/store trash or recyclables prior to collection by a waste hauler reduce the potential for littering and trash loading to the storm drain network. The County will coordinate with San Luis Obispo County Integrated Waste Management Authority (SLO County IWMA) to evaluate whether trash containers are sufficiently sized and maintained in good working condition in moderate and high trash generating areas. The County will also evaluate the potential benefit of installing specialty trash bins in strategic locations to reduce the prevalence of trash to the storm drain network.

C. Education and Outreach

Community-Based Social Marketing

The County will be coordinating and supporting the Central Coast Partner's for Water Quality group (The Partners) in re-focusing and re-vitalizing the Community-Based Social Marketing (CBSM) focus of the Phase II MS4 permit. The Partners have collectively agreed to discontinue the previous CBSM campaign and shift to focus on litter prevention and trash removal. Shifting the focus of the county-wide CBSM campaign will allow all MS4 permittees within the County to optimize education and outreach resources in a coordinated manner that directly targets behavioral changes and encourages environmental stewardship.

D. Public Involvement, Community Events

Coastal and Creek Clean Up Events

Trash clean up events targeting receiving water bodies provide direct water quality benefits. Additionally, these events engage citizens and provide valuable opportunities to educate volunteers on the impacts of trash and the importance environmental stewardship. These cleanup activities provide direct water quality benefits that are not otherwise accounted for via full capture systems or other (on-land) control measures.

The County will continue to conduct and support trash cleanup events in receiving water bodies. The County will quantify the volume of trash removed from these events, and an offset credit of up to 10% of the baseline trash volume will be included as part of the demonstration of Full Capture Equivalency or progress towards attaining Full Capture Equivalency. The methods used to calculate reductions offsets for cleanups is described in Section 6 of this Plan.

The County will continue to support and participate in Coastal Clean Up day and provide logistical and material support to volunteer shoreline cleanups throughout the County.

Community Clean Ups

The County will continue to coordinate and support periodic community cleanup events to reduce the incidence of illegal dumping. Due to the intermittent nature of these cleanups and the unknown potential of the debris to have reached receiving waters, the County will not seek Full Capture Equivalency credit for these events.

E. Municipal Code Review and Optimization

Tarped Load Requirements

Traffic to and from municipal landfills is a known source of trash generation on County-maintained roadways. The two landfills operating in County jurisdiction are inconsistent in their requirements for securing and tarping loads during transport. The County will explore and review code requirements for securing and covering loads and will collaborate with the SLO County IWMA to identify methods for reducing trash deposition on roadways near landfills.

Encroachment Permit Requirements and Enforcement

County staff will review encroachment permit requirements associated with RTA transit stops to verify that appropriate provisions for litter prevention, litter removal, and transit stop maintenance are in place. The County will coordinate and collaborate with RTA in order to minimize discharge of trash from permanent transit stops to the storm drain system.

The County may also pursue encroachment violation enforcement for property owners or businesses that prove to be a consistent source of trash and litter to the County's right-of-way in PLUs.

Event Permit Requirements

The County will conduct more detailed review of event permits to ensure that appropriate trash collection and removal efforts are planned and implemented. The potential for litter and trash generation varies by event type, duration, and size. The County will review avenues for requiring additional sweeping or litter removal efforts for events in PLU areas with moderate trash generation rates. Alternatively, the County will explore additional fees or penalties for failure to adequately collect and dispose of trash following a permitted event.

Sweeping Day Parking Restrictions

Roads Maintenance Division staff will closely review the progress and success of the County's street sweeping program to determine whether posted parking restrictions are necessary to improve the effectiveness of the program. Staff anticipate that enforcement of parking restrictions could present significant logistical challenges to both County residents and enforcement staff, and will be deeply unpopular. The County will evaluate the potential benefit of enforcing parking restrictions in PLUs with moderate to high trash generation rates within the initial years of plan implementation.

Illegal Dumping and Building Code Enforcement Response Plan

County staff and legal counsel will review the Enforcement Response Plan for illegal dumping, insufficient waste management practices, and illicit discharge to ensure that complaints and violations are handled in a consistent manner. Dumping and discharge violations may be handled through one of several different Departments depending upon the location and nature of the violation. Establishing a clear and consistent enforcement approach with appropriate penalty escalation will deter illegal dumping and chronically insufficient waste management within PLUs.

Updates to the County's Building Code (San Luis Obispo County Codes, Title 19) have enabled building inspectors to enforce waste management and litter reduction requirements on active construction sites. Future updates to Title 19 may include additional provisions for covered waste bins, proper materials storage, and transport of materials to and from active construction sites.

F. Leveraging Partnerships

Local and regional partnerships present significant opportunities to reduce the trash generation rate from PLUs and ALUs across the County's jurisdiction.

County staff plan to actively coordinate with the Central Coast Partner's for Water Quality on CBSM, education and outreach efforts. A coordinated, county-wide outreach effort will be central to building community support for the County's Trash Plan.

Additional coordination with the SLO County IWMA will be vital to providing community education and outreach about the lifecycle and impact of trash across the county, and enhancing existing techniques and processes to minimize incidental deposition of trash during the disposal process.

County staff will be focusing significant energy and funding towards the Adopt-A-Road program in the early years of plan implementation. Partnerships and engagement with community groups and local businesses will be a keystone of building a robust and effective program.

As feasible, the County will also coordinate with the California Department of Transportation, District 5 (Caltrans) to enhance litter reduction education and outreach. While the County does not anticipate that Caltrans will be prioritizing local highways within their implementation plan, the County will continue to seek and explore efforts to coordinate with Caltrans.

VI. Program Implementation Schedule and Progress Assessment Strategy

The County intends to begin implementation of full capture equivalency and optimization of existing trash control measures in the 2019-2020 fiscal year. Concurrent with the optimization of equivalency measures, the County will begin evaluating the siting and design of full capture systems.

The full capture equivalency approach selected by the County includes methods to track the progress made in addressing the trash reduction requirements included in the Trash Amendments and subsequent NPDES permit requirements.

Methods include those designed to assess reductions associated with trash full capture systems, other trash control measures including institutional and source controls, and trash reduction offsets (i.e., creek and shoreline cleanups).

The baseline trash generation levels depicted in the County of San Luis Obispo Trash generation maps **(Attachment 3)** serve as the starting point to compare against reductions achieved by trash control measures.

A. Program Implementation Priorities

Design and Installation of Full Capture Devices

When siting and sizing a trash full capture device, the County must consider the size of the drainage area, hydraulic losses across the system when the device is full, device maintenance and access, and utility clearance. All factors must be evaluated against the device type, construction costs and future operation and maintenance (O&M) costs to ensure optimal trash load reduction per dollar spent.

Due to potential flooding, it is imperative that the installation of the new trash full capture devices consider the potential headloss across the structure when full or partially full of trash or debris. Existing utilities and right-of-way restrictions may dictate where a large device can be installed. Prior to moving forward with implementation of any large trash full capture device, the location of existing utilities will need to be evaluated.

Only publicly-owned catch basins and conveyances receiving trash from very high, high, or moderate trash generating areas will be evaluated for full capture devices since catch basins in low trash generating areas do not provide a trash load reduction benefit. Privately-owned catch basins will not be evaluated due to limitations associated with ownership and access for maintenance oversight.

The County intends to pursue full capture siting investigations and design evaluations across designated trash management areas as indicated in Table 10.

Table 10: Full Capture System Design and Installation Schedule for Trash Management Areas

Fiscal Year	Trash Management Area Full Capture Design Evaluation Focus*	Trash Management Area Full Capture Installation Focus
2019-2020	--	--
2020-2021	Cayucos (300647 Surface Treatment Project)	--
2021-2022	Cambria (300628 Overlay Project)	Cayucos (300647 Surface Treatment Project)
2022-2023	Nipomo (300648 Overlay Project)	Cambria (300628 Overlay Project)
2023-2024	San Miguel, Los Osos	Nipomo (300648 Overlay Project)
2024-2025	Shandon	San Miguel, Los Osos
2025-2026	Templeton	Shandon
2026-2027	Oceano	Templeton
2027-2028	--	Oceano

**Incorporation with pavement management projects where necessary and practical.*

The phased timing of evaluation and design will allow the County to pursue installation of full capture systems early in the implementation schedule in trash management areas where drainage infrastructure is relatively well mapped and consolidated. The locations selected for design evaluation in the early years of implementation are known by staff to be less impacted by historical flooding, leaf litter/vegetation accumulation, and sedimentation. The County intends to build upon the lessons learned in these jurisdictions to work through design and installation of full capture systems in trash management areas more with variable infrastructure and potential constraints. Phased installation will also allow the County to evaluate the maintenance costs and requirements of various types of full capture system infrastructure as implementation progresses.

Locations of potential full capture systems are presented in the figures within **Attachment 4.**

Optimization of Baseline Trash Management Measures

The County has prioritized the optimization of existing baseline trash management measures for 2019 through 2022. Concurrent with the design evaluation for full capture systems, the County will re-evaluate street sweeping efforts, the Adopt-A-Road program and storm drain system maintenance for opportunities to maximize the trash removal benefits of these programs.

B. Baseline and long-term quantification

Trash reductions associated with full capture equivalency and other on-land control measures will be demonstrated by conducting annual assessments in a representative portion of the PLU and ALU areas. As previously described, PLU areas that generate low levels of trash, as demonstrated by a consistent "Low" trash generation score, will have achieved Full Capture Equivalency. Additionally, in trash management areas where OVTA scores improve over time, the estimated trash reduction associated with these areas will be calculated by applying the average rates presented in Table 4 to the OVTA results and comparing against baseline trash volumes presented in Tables 5 and 6.

As applicable, the OVTA (visual assessment program) will be implemented over time in PLU areas that are not addressed by trash full capture systems and have moderate, high or very high baseline trash generation levels.

Progress assessments will be conducted annually during the dry season to measure trash reductions in all moderate, high and very high areas. Assessments will be conducted across all areas in these categories, whether selected for full capture systems or equivalency. The County will discontinue annual visual assessments once full capture systems are installed and functioning.

Visual assessment segments will be randomly selected to cover at least 10% of low segments and associated PLU and ALU areas. To avoid biasing the selection of low segments, segments will be randomly selected from an assessment frame of all available street lengths assessed in the low category during baseline assessments.

Results from the visual assessment program will represent ongoing trash levels on streets, sidewalks in PLU and ALU areas to provide a comparison to baseline levels illustrated in **Attachment 3**. The levels of trash present in these areas correlate well with the amount of trash observed in the stormwater conveyance system and therefore are indicates the reduction in stormwater discharges associated with PLU and ALU areas.

Should the County elect to install additional trash full capture systems, the visual assessment program will be modified to remove visual assessment segments within areas addressed by these systems. Additionally, as new full capture systems are installed, new assessment sites may need to be established to allow OVTA sites to remain representative of the broader PLU areas and provide confidence in the trash reductions being reported.

The evaluation of the visual assessment program will occur annually, prior to assessments beginning each fiscal year, and modifications will be documented consistent with reporting requirements included in the Phase II NPDES permit.

Calculating Trash Load Reductions via Visual Assessments

The County will continue assessment of full roadway segments consistent with procedures utilized for baseline assessments. For each assessed segment, the County will utilize the following framework to evaluate progress:

- Segments designated moderate or above during baseline assessments will be reclassified to lower category following two consistent annual assessment results.
- Segments will be re-classified to an elevated trash generation category following one elevated assessment result.
- The County may split baseline segments into smaller segments to provide a greater level of refinement for demonstrating load reduction progress. The total overall assessment length will remain unchanged until two consistent low scores are attained.

The results of each visual assessment will be applied to adjoining parcel acreage and then multiplied by the applicable trash generation rates to establish the "current volume of trash" generated in PLUs and ALUs.

The current volume of trash will then be subtracted from the baseline trash volume in each trash management area, and the remainder is the 'volume of trash reduced' in the given year.

The volume of trash reduced will be divided by the baseline trash volume and multiplied by 100 to represent the percentage of trash reduced.

Coast and Creek Clean Ups

In addition to implementing trash full capture systems and other trash controls designed to prevent or reduce trash discharges, the County will also offset part of its trash load reduction requirements by conducting cleanups of trash from channel and shoreline areas. The County proposes to claim up to a 10% trash reduction for conducting trash cleanups in receiving water bodies. This offset will recognize the value of these cleanup events and account for the short-term benefit of cleanups compared to ongoing trash generation levels associated with PLUs and ALUs.

Because the trash removed during the receiving water cleanup event(s) has already impacted the water body, an offset ratio of three to one will be used when comparing the volumes of trash removed during the event(s) to the trash volume depicted by the baseline trash generation maps.

The following formula will be used to generate each percent trash of trash reduction for these actions:

$$\text{Percent Trash Offset} = \frac{\text{Trash Removed (volume)} / 3}{\text{Baseline Trash Load}} \times 100$$

Where:

Trash Removed = Volume of Trash Removed from all channel and/or shoreline events during a given fiscal year

3 = Trash Reduction Offset (3:1 ratio)

Baseline Trash Load = Volume of trash represented by baseline trash generation table

Regardless of the percent trash offset calculated using the formula above, the maximum offset that the County will claim is ten percent reduction against its baseline level of trash generation.

C. Annual Reporting via PEAIP

Reporting requirements for the County will be established through the reissued Phase II NPDES permit for MS4s. Example metrics that may be reported are included in Table 11.

Table 11: Potential Trash Reduction Progress Reporting Metrics

Full Capture System Progress Reporting	**Applicable Units of Measurement**
FCS locations undergoing design feasibility analysis.	Number of locations.
PLU and ALU areas treated by installed FCS.	Acres
Annual trash load reduced by FCS.	Volume in gallons.
Progress towards total reduction objectives.	% trash volume reduced.
Average maintenance frequency and level of effort.	Total labor hours.
Average volume removed during maintenance effort.	Volume in gallons.

Equivalency System Progress Reporting	**Applicable Units of Measurement**
Modifications to street sweeping program.	Miles swept, frequency swept, volume removed in gallons, road miles with implemented parking restrictions.
Modifications to Adopt-a-Road program.	Number of participants, total miles adopted, frequency of clean ups, volume removed in gallons.
Enforcement and Nuisance Abatement actions.	Number of violation and nuisance letters, amount of levied fines.

Modifications of RTA permits and practices.	Total labor hours for litter removal and maintenance, number of stops with enhanced litter controls implemented.
Modifications to encroachment and event permits.	Number of permits with enhances litter/trash control requirements.
Modifications to coastal and creek clean ups.	Number of sites cleaned, frequency of cleaning, volume removed in gallons
Modifications to waste containers and hauling practices.	Number of damaged bins replaced, amount of fines/fees levies for un-tarped or un-secured loads.
Visual assessments of progress.	Number of miles changing classification, volume of trash reduced in gallons.
Progress towards total reduction objectives.	% trash volume reduced.

D. Adaptive Management and Re-Evaluation

County staff anticipate that adaptive management will be necessary throughout the implementation timeframe. The County will conduct inter-disciplinary meetings on a quarterly basis to assess progress and identify challenges and constraints to implementation. Detailed notes will be recorded and action items identified at each quarterly meeting. The County intends to generate annual progress updates beginning in the 2019-2020 fiscal year.