

# AMENDMENT TO THE SONOMA COUNTYWIDE INTEGRATED WASTE MANAGEMENT PLAN

Draft Supplemental Program Environmental Impact Report

Lead Agency  
Sonoma County Waste Management  
Agency

June 2009



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Sonoma County Waste Management Agency

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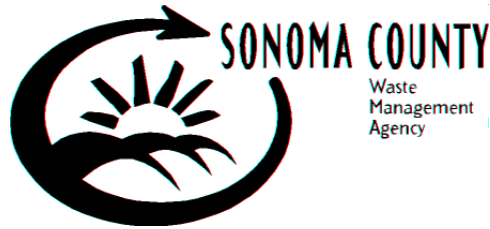
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***NOTICE OF AVAILABILITY OF  
DRAFT SUPPLEMENTAL PROGRAM ENVIRONMENTAL IMPACT REPORT  
AND PUBLIC HEARING***

**Project Title:** Amendment to the Sonoma Countywide Integrated Waste Management Plan.

**Project Applicant:** Sonoma County Waste Management Agency

**Date:** June 8, 2009

The Sonoma County Waste Management Agency (SCWMA), as the lead agency under the California Environmental Protection Act (CEQA), has prepared a Draft Supplemental Program Environmental Impact Report (SPEIR) for the Amendment to the Sonoma Countywide Integrated Waste Management Plan (CoIWMP). The Draft SPEIR identifies impacts and environmental issues related to the Amendment to the CoIWMP (proposed Amendment), and also discusses and analyzes alternatives to the proposed Amendment, as required by CEQA.

The proposed Amendment includes modifications to the CoIWMP Household Hazardous Waste Element and the Siting Element. The primary objectives of the project are to allow for: (1) the development of additional permanent Household Hazardous Waste collection facilities in the County; (2) out-of-County disposal of solid waste; and (3) the divestiture of the Central Disposal Site, which would most likely result in resumed disposal of refuse at the Central Disposal Site. The Draft SPEIR is intended to provide sufficient environmental documentation to inform the public and allow the SCWMA Board Members to make an informed decision concerning the adoption of the project.

The Draft SPEIR is available for a 45-day public comment period from June 8, 2009 through July 24, 2009. Copies of the 2009 SPEIR are available to the public for review or purchase at the SCWMA office in Santa Rosa (2300 County Center Drive, Suite B100, Santa Rosa, CA 95403) and at local libraries throughout the County. Electronic copies of the 2009 SPEIR are also available online at: [http://www.recyclenow.org/o\\_reports.html](http://www.recyclenow.org/o_reports.html).

The public may present comments and concerns regarding the proposed Amendment and the adequacy of the Draft SPEIR. Comments may be submitted in writing to:

Mr. Patrick Carter, Waste Management Specialist  
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[pcarter@sonoma-county.org](mailto:pcarter@sonoma-county.org)

Please be sure to include your name, address, and telephone number in your correspondence. Written comments on the Draft SPEIR must be postmarked or received by fax or e-mail no later than **4:00 pm, July 24, 2009**.

The SCWMA will also hold a **public hearing on Wednesday, June 17, 2009 at 9:00 a.m. in the Estuary Meeting Room, City of Santa Rosa, Utilities Department, Subregional Water Reclamation System Laguna Plan, 4300 Llano Road, Santa Rosa, California 95407**. This hearing will allow public comment on the Draft SPEIR for the Amendment to the Sonoma Countywide Integrated Waste Management Plan (CoIWMP). Comments received during the comment period, including the public hearing, will be considered by the SCWMA during the preparation of the Final SPEIR.

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# SECTION 1

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## Introduction

### 1.1 Purpose of this 2009 SPEIR

The Sonoma County Waste Management Agency (SCWMA) intends to amend the Sonoma Countywide Integrated Waste Management Plan (CoIWMP). This Supplemental Program Environmental Impact Report (2009 SPEIR) identifies impacts and environmental issues related to the Amendment to the CoIWMP (project). California Environmental Quality Act (CEQA) Guidelines Sections 15163 (a)(2) and (b) state that preparation of a supplement to an EIR is allowed when only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation and it only needs to contain the information necessary to make the previous EIR adequate for the revised project. The Amendment to the CoIWMP would not impact all environmental issue areas. As such, the environmental issue areas that would not require major revisions to the previous Supplemental Program Environmental Impact Report (2003 SPEIR) due to the lack of significant new environmental effects, or no increase in the severity of previously identified significant effects; and/or there is no “new information of substantial importance,” as that term is used in CEQA Guidelines Section 15162(a)(3), are not analyzed further in this SPEIR.

This 2009 SPEIR is intended to provide sufficient environmental documentation to inform the public and allow the SCWMA Board Members to make an informed decision concerning the adoption of the project and, if approved, to facilitate its effective implementation.

This SPEIR is a “Program” EIR, as defined in the CEQA Guidelines, Section 15168. Program EIRs are prepared on a series of actions that can be characterized as one large project and are related either:

1. Geographically;
2. As logical parts in the chain of contemplated actions;
3. In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or
4. As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects that can be mitigated in similar ways.

Essentially, the actions under the project would be related in each of the above ways. Having previously determined that it was necessary to prepare an SPEIR on the proposed project, the SCWMA was not required by CEQA to prepare an Initial Study, but did so to enable responsible

agencies and the public an opportunity to provide guidance on the scope of analysis performed for the SPEIR. In keeping with this objective, the SCWMA included the Initial Study with the Notice of Preparation (NOP) that was distributed to the public, including responsible and trustee agencies, for their review and comment in April 2008.

This 2009 SPEIR evaluates the impacts of the proposed modifications to the 2003 CoIWMP that were determined potentially significant in the NOP and Initial Study (see Appendix B) or in the responses received to the NOP (see Appendix C). In addition, this SPEIR includes a general plan consistency finding (see Appendix F) even though the Initial Study identified no land use and planning impacts associated with the project.

Among the purposes of this 2009 SPEIR are the following:

- To identify the significant environmental impacts associated with the adoption and implementation of the project;
- To identify mitigation measures that would reduce or avoid significant impacts;
- To indicate impacts of the project that cannot be mitigated;
- To present alternatives to the project that could feasibly avoid or reduce the proposed project's impacts and to assess the impacts of the alternatives relative to those of the proposal; and
- To suggest a mitigation monitoring/reporting system for the mitigation measures recommended in the 2009 SPEIR.

Overall, the function of the 2009 SPEIR is to inform the SCWMA, the County, the affected cities, trustee agencies, and the public of the potential environmental consequences of approving and implementing the project. The analysis provided explores the potential environmental impacts of some waste management activities covered by the project (such as out-of-County truck hauling of refuse) and gives a general understanding of possible impacts from other waste management activities which are less specific and not fully defined at this time (such as shipping refuse out-of-County by rail). Future development proposals related to shipping refuse out-of-County by rail would require a more site-specific environmental investigation, such as a Negative Declaration or a project-specific EIR. Environmental documents prepared for future projects under the proposed modifications to the CoIWMP may be tiered from this 2009 SPEIR, as encouraged by CEQA.

## 1.2 Project Background

In 1994, the County of Sonoma and the incorporated cities and towns within the County adopted the first CoIWMP, which was approved by the California Integrated Waste Management Board (CIWMB) in 1996. The CoIWMP is the principal planning document for solid waste management in Sonoma County as required by the Integrated Waste Management Act of 1989 (also known as Assembly Bill (AB) 939). It identifies goals and objectives of the County and the incorporated cities in the County with respect to solid waste reduction, recycling diversion, and disposal. Concurrent with the preparation of the CoIWMP, all incorporated Sonoma County cities and the County entered into a Joint Powers Agreement which formed the SCWMA to deal with household



hazardous waste, yard and wood waste, and public education. In 1996, the Joint Powers Agreement was amended to establish the SCWMA as the sole public planning agency for solid waste management in Sonoma County.

The SCWMA completed a Program Environmental Impact Report (1996 PEIR) for the CEQA review of the 1996 CoIWMP (SCWMA, 1996), which is a compilation of solid waste planning documents, including: (1) Source Reduction and Recycling Elements (SRRE); (2) Household Hazardous Waste Elements (HHWE); (3) Non-disposal Facility Elements (NDFE) for each jurisdiction; (4) a Countywide Siting Element; and (5) a Summary Plan that describes all of the elements. In 2003, the SCWMA prepared a Supplemental PEIR (2003 SPEIR) for updates it proposed to the CoIWMP (SCWMA, 2003).<sup>1</sup> The 2003 CoIWMP was adopted and certified by the SCWMA in October 2003. Many of the potential impacts of the proposed 2003 CoIWMP amendments were reduced or eliminated by the mitigation measures adopted in the 2003 SPEIR.

In the summer of 2003, the County of Sonoma confirmed the presence of trace amounts of volatile organic compounds (VOCs) in the underdrain system at the East Canyon Expansion of the Central Disposal Site near Petaluma. The source of contamination was traced back to a liner installation method of the underdrain system. The County of Sonoma immediately worked to retrofit the liner, which was completed in September, 2004. On-going water quality sampling has shown significant reductions in detected VOC levels in the underdrain.

As a result of the underdrain contamination, the North Coast Regional Water Quality Control Board (NCRWQCB) adopted corrective action Waste Discharge Requirements (WDRs) that prohibit planned landfill expansion phases within the East Canyon Expansion until the County of Sonoma can show that the underdrain is free of contamination for a period of time. Because Sonoma County has no other solid waste disposal facilities, it had to change its management of the incoming waste stream. In April 2005, the County of Sonoma made temporary changes to operations at its Central Disposal Site and four transfer stations, which required a revision to the Solid Waste Facilities Permit (SWFP) for the Central Disposal Site and amendments to the Report of Facility Information (RFI) for each of the transfer stations. The changes allowed for the temporary conversion of the Central Disposal Site to a transfer station and allowed refuse collected at the other transfer stations to be hauled to out-of-County permitted landfills.

In response to the limited permitted landfill capacity, the County of Sonoma contracted out-of-County truck haul and refuse disposal services from three separate companies for a five-year period beginning September 1, 2005. The suspension of refuse disposal at the Central Disposal Site and the resulting out-of-County truck hauling of refuse is inconsistent with the existing Siting Element of the CoIWMP, which describes a system in which refuse is disposed at County-owned facilities within Sonoma County. Sonoma County's out-hauling of refuse by truck during an interim period beginning 2005 is permissible through CEQA categorical exemptions for the Annapolis, Guerneville, Healdsburg, and Sonoma transfer stations and through an addendum to the Sonoma County Central Disposal Site Improvement Program Final Environmental Impact Report.

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<sup>1</sup> The 2003 SPEIR is available on-line at [http://www.recyclenow.org/Final\\_Supp\\_EIR\\_CoIWMP.pdf](http://www.recyclenow.org/Final_Supp_EIR_CoIWMP.pdf)

The currently proposed amendments include changes to the CoIWMP Siting Element that would allow for alternative strategies for disposal of solid waste, which would be adopted at the end of the interim period. This SPEIR analyzes the potential impacts associated with the proposed Amendment to the CoIWMP, also referred to as the project.

Another objective in amending the CoIWMP is to eliminate the restriction in the current Household Hazardous Waste Element (HHWE), which identifies only one permanent Household Hazardous Waste collection facility in the County. The Amendment to the CoIWMP would allow for the development of other permanent Household Hazardous Waste collection facilities in the County.

### 1.3 2009 SPEIR Review and Consideration Process

The 2009 SPEIR will be subject to a 45-day review period, during which the SCWMA will hold a public hearing to solicit comments on the adequacy and content of the document. Interested individuals, organizations, and agencies can also provide written comments on the document during this same review period.

During the public review period, the SPEIR will be circulated for review by trustee agencies (agencies which have jurisdiction by law over natural resources affected by the project which are held in trust for the people of the State of California) and responsible agencies (agencies other than the Lead Agency which have discretionary approval power over the project). **Copies of the 2009 SPEIR are available to the public for review or purchase at the SCWMA office in Santa Rosa (2300 County Center Drive, Suite B100, Santa Rosa, CA 95403) and at local libraries throughout the County. Electronic copies of the 2009 SPEIR are also available online at: [http://www.recyclenow.org/o\\_reports.html](http://www.recyclenow.org/o_reports.html).**

Because the CIWMB, the County, and the cities located in the County must review and approve the project, they are each considered responsible agencies under CEQA. It should be noted that other agencies not listed below may be considered responsible agencies for projects that could be implemented under the revised CoIWMP; however, those projects would require a subsequent CEQA review that would be outside the scope of this CEQA review. The responsible agencies that must review and approve the 2009 SPEIR include:

- State  
California Integrated Waste Management Board
- Local

County of Sonoma	City of Rohnert Park
City of Cloverdale	City of Santa Rosa
City of Cotati	City of Sebastopol
City of Healdsburg	City of Sonoma
City of Petaluma	Town of Windsor

Project proponents proposing to operate solid waste facilities including landfills, transfer-processing stations, compost facilities, and waste-to-energy facilities must first obtain a Solid Waste Facilities

Permit from the local enforcement agency (LEA), Sonoma County Department of Health Services. The CIWMB must approve all CoIWMPs and any amendments that are made to existing CoIWMPs, such as is the case for the proposed project.

Comments on the 2009 Draft SPEIR received during the review period will be compiled in a Response to Comments Document. The 2009 Draft SPEIR and the Response to Comments Document will constitute the Final Supplemental Program Environmental Impact Report (Final 2009 SPEIR) for the project. After examining the Final 2009 SPEIR, the SCWMA will determine whether or not to certify that the Final 2009 SPEIR is adequate, has been completed in compliance with CEQA, and that the information presented in the Final 2009 SPEIR has been independently reviewed and will be considered prior to approval of the project. It should be noted that certification of an EIR does not constitute project approval; rather, it is a necessary step that precedes project approval. As the Lead Agency representing the County and the cities, the SCWMA will consider the information in the Final 2009 SPEIR in determining whether the project should be approved, modified, or rejected. If the project is approved, the County and any of the cities that intend to implement actions identified in the project would consider the previous 1996 PEIR and the 2006 SPEIR revised by this 2009 SPEIR and would be able to use the complete PEIR package as the environmental document for action.

In order for a lead agency to approve a project (after certifying an EIR), it must prepare written findings for each significant adverse environmental effect identified. Findings must be accompanied by a brief explanation of the rationale for each finding and should indicate that either (1) changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant effects on the environment, (2) those changes or alterations are the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by the agency, or (3) specific economic, legal, social, technological, or other considerations, including the consideration for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the EIR.

## 1.4 Organization of this SPEIR

Following this introduction is a summary section (Section 2) that lists all of the impacts identified and elaborated on in the environmental issues sections, identifies areas of controversy and issues to be resolved, and provides a summary of alternatives. Section 3 provides a description of the proposed project, i.e., the proposed Amendment to the CoIWMP.

Sections 4 through 7 contain the topical analysis of potential impacts that could result from implementing the project. Each of these sections is organized into an introduction for the environmental issue under consideration, the setting in the County with respect to that environmental issue, significance criteria for the environmental issue, and a discussion of the impacts and recommended mitigation measures.

Section 8 contains discussions on cumulative impacts, growth inducing impacts, and other discussions required by CEQA.

Section 9 describes and compares the relative impacts of the project alternatives. This section also provides a brief description of alternatives identified but rejected.

Section 10 identifies the agencies, organizations, and individuals consulted in preparing the 2009 SPEIR.

The authors of this document are listed in Section 11. References are listed at the end of each of the sections. The appendices are included near the end of the document. Please see the Table of Contents for the complete list of impact sections and appendices.

## **1.5 References**

Sonoma County Waste Management Agency (SCWMA), 1996. Final Program Environmental Impact Report for the Countywide Integrated Waste Management Plan. 1996.

SCWMA, 2003. Final Supplemental Program Environmental Impact Report for the 2003 Countywide Integrated Waste Management Plan. October, 2003. Available on-line at [http://www.recyclenow.org/Final\\_Supp\\_EIR\\_CoIWMP.pdf](http://www.recyclenow.org/Final_Supp_EIR_CoIWMP.pdf)

## **SECTION 2**

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### **Executive Summary**

#### **2.1 Project Description Summary**

This document is a Supplemental Program Environmental Impact Report (SPEIR) on the proposed Amendment to the Countywide Integrated Waste Management Plan (CoIWMP) or “project,” in compliance with the environmental procedures of the California Environmental Quality Act (CEQA) and the California Integrated Waste Management Act of 1989 (Assembly Bill 939), respectively. It provides an analysis of the potential environmental effects that would be associated with the implementation of the project. Certification of this SPEIR, by the SCWMA as lead agency, is required prior to adoption of the revisions to the CoIWMP.

This SPEIR carries forward and incorporates by reference the impacts and mitigation measures certified in the 1996 PEIR and the 2003 SPEIR for the CoIWMP. Impacts and mitigation measures in this SPEIR (2009 SPEIR) are presented as either unchanged, revised, additions, or new. The impacts and mitigation measures identified in the 2009 SPEIR are summarized in Table 2-1.

The project description is presented in Section 3. In general, the project proposes to (1) revise the CoIWMP Household Hazardous Waste Element to allow for the development of additional permanent household hazardous waste collection facilities in the County and (2) revise the CoIWMP Siting Element to allow for out-of-County disposal of solid waste and to allow for divestiture of the Central Disposal Site.

#### **2.2 Impact Summary**

This SPEIR addresses each of the potentially significant impacts identified in the Initial Study conducted for the Notice of Preparation (Appendix B). Significant and unavoidable impacts associated with the project have been identified for Aesthetics (Section 5), Air Quality (Section 6), Noise (Section 7), and Transportation and Traffic (Section 8). The environmental issue areas that would not require major revisions from the previous 2003 SPEIR due to lack of significant new environmental effects, or would not increase in severity from previously identified significant effects, and/or do not contain “new information of substantial importance” (per CEQA Guidelines Section 15162(a)(3)), were not further analyzed in this SPEIR. These environmental issue areas include: agricultural resources; biological resources; cultural resources; geology, soils and seismicity; hazards and hazardous materials; hydrology and water quality; land use and land use planning; mineral resources; population and housing; public services; recreation; and utilities and service systems.

General impacts are described in the SPEIR and program-level mitigation measures are identified, where appropriate. Site specific impacts of future projects implemented under the amended CoIWMP would be evaluated pursuant to CEQA after the certification of this document. For ease of review, all revisions that have been made to the 2003 SPEIR mitigation measures are shown with ~~strikeout~~ and/or underline.

## 2.3 Areas of Controversy

Section 15123(b) of the CEQA Guidelines requires identification of areas of controversy known to the Lead Agency and issues to be resolved. The SCWMA is not aware of any controversy related to the project. However, it is anticipated that controversy may occur regarding the divestiture of the Central Disposal Site. By soliciting early consultation in the divestiture process, controversial issues may arise from public participation.

**TABLE 2-1  
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES**

Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<b>Section 5 - Aesthetics</b>			
<p><b>Impact 5-1 Litter (Non-Disposal Facilities) [2003 SPEIR Impact 14-2]</b></p> <p>The waste transported by truck haul option associated with the modifications to the Siting Element identified in the project description could degrade the existing visual character or quality through the inadvertent generation of litter along transportation routes.</p>	Significant	<p><b>Mitigation Measure 5-1 [Recommended Revisions to 2003 SPEIR Mitigation Measure 14-2]</b></p> <p><u>A litter abatement program shall be developed and implemented by each non-disposal facility operator demonstrating how inadvertent litter that may be generated on- and off-site will be adequately controlled. Each facility's litter abatement program shall be submitted to, and approved by, the LEA prior to operations under the project. Each non-disposal facility shall assign a litter coordinator who shall be responsible for implementing the litter abatement program and responding to any potential litter complaints by the public. The litter coordinator will determine the cause of the complaint and will ensure that reasonable measures are implemented to correct the problem. A contact telephone number for the litter coordinator shall be posted conspicuously at entrances to the non-disposal facilities.</u></p> <p><u>On-site Mitigation - Measures to be included and implemented within each non-disposal facility to control litter shall include, but not limited to, the following, as applicable:</u></p> <p>A. <u>Litter shall be controlled by a litter abatement program</u></p> <p>A. Litter fences shall be established around new or expanded non-disposal facilities, as necessary to prevent litter blowing onto off-site areas.</p> <p>B. Litter along on-site roads shall be collected and removed routinely.</p> <p><u>Off-site Mitigation - Measures to be included and implemented to control off-site litter shall include, but not limited to, the following, as applicable:</u></p> <p>C. <u>Litter shall be controlled on nearby roads providing access to new or expanded non-disposal facilities with a litter abatement program. Prior to project operations, and routinely during project operations, the litter coordinator shall inspect public roads immediately adjacent to the non-disposal sites to document litter presence. If during operations, it is determined by the litter coordinator that an increase in off-site litter associated with the non-disposal facility is occurring compared to pre-project conditions, the non-disposal facility operator shall routinely conduct litter removal (or increase its existing off-site litter removal effort) on these roadways.</u></p> <p>D. Open cargo areas of vehicles (e.g., pick-ups, trucks, trailers, etc.) hauling waste shall be covered. This requirement will be enforced with financial penalties levied at the time of delivery to County Non-Disposal Sites and by the California Highway Patrol (CHP) in the areas near disposal sites.</p> <p>E. <u>A litter abatement program shall be implemented. To reduce litter accumulation resulting from the activities of commercial haulers, the litter abatement program could include, but not be limited to: 1) education of commercial haulers;</u></p>	Significant and Unavoidable

**TABLE 2-1  
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES**

Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<p><b>Impact 5-2 Litter (Waste by Rail to Landfill)</b></p> <p>The waste transported by rail haul option associated with the modifications to the Siting Element identified in the project description could degrade the existing visual character or quality through the inadvertent generation of litter along rail routes.</p>	Significant	<p>and 2) requirements for thorough cleaning of debris boxes, covering emptied containers, or other similar measures, to reduce litter created upon exiting non-disposal facilities.</p> <p>F. The litter abatement program shall consider limiting non-disposal facility operations to commercial or private (general public) haulers, including the co-location of disposal and non-disposal facilities to reduce roadside litter.</p> <p><b>Addition to Mitigation Measure 5-1</b></p> <p>G. The litter abatement program shall require all commercial contractors to enclose, cover and /or seal all transfer vehicles to contain all solid waste and prevent spilling or scattering of solid waste during transportation thereof. If any material is spilled, whether on private or public property, the contractor shall clean it up within twenty-four hours after the earlier of receipt of notice from County or contractor's first having actual knowledge of the spill. If contractor does not clean it up within the required time, the County may clean it up, and the County shall be made whole for any costs incurred for the cleanup by the contractor.</p> <p><b>Mitigation Measure 5-2</b></p> <p>A litter abatement program shall be developed and implemented by each waste by rail facility operator demonstrating how inadvertent litter that may be generated on- and off-site will be adequately controlled. Each facility's litter abatement program shall be submitted to, and approved by, the LEA prior to operations under the project.</p> <p>Each waste by rail facility shall assign a litter coordinator who shall be responsible for implementing the litter abatement program and responding to any potential litter complaints by the public. The litter coordinator will determine the cause of the complaint and will ensure that reasonable measures are implemented to correct the problem. A contact telephone number for the litter coordinator shall be posted conspicuously at entrances to the waste by rail facilities.</p> <p><u>On-site Mitigation</u> - Measures to be included and implemented within each waste by rail facility to control litter shall include, but not limited to, the following, as applicable:</p> <p>A. Litter fences shall be established around new waste by rail facilities, as necessary to prevent litter blowing onto off-site areas.</p> <p>B. Litter along on-site roads shall be collected and removed routinely.</p> <p><u>Off-site Mitigation</u> - Measures to be included and implemented to control off-site litter shall include, but not limited to, the following, as applicable:</p> <p>C. Open cargo areas of intermodal containers or gondola cars hauling waste shall be covered.</p> <p>D. A litter abatement program shall be implemented to reduce litter accumulation resulting from the activities of commercial rail haulers. The program could</p>	Significant and Unavoidable



**TABLE 2-1  
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES**

Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		include but not be limited to: 1) education of commercial haulers; and 2) requirements for thorough cleaning and emptying of intermodal containers or gondola cars, or other similar measures, to reduce litter created through waste by rail transport.	
		E. The litter abatement program shall consider limiting non-disposal facility operations to commercial or private (general public) haulers, including the co-location of disposal and non-disposal facilities to reduce litter along the railroad and roadside.	
		F. The litter abatement program shall require all commercial contractors to enclose, cover and /or seal all intermodal containers or gondola cars to contain all solid waste and prevent spilling or scattering of solid waste during transportation thereof. If any material is spilled, whether on private or public property, the contractor shall clean it up within twenty-four hours after the earlier of receipt of notice from County or contractor's first having actual knowledge of the spill. If contractor does not clean it up within the required time, the County may clean it up, and the County shall be made whole for any costs incurred for the cleanup by the contractor.	
<b>Section 6 - Air Quality</b>			
<b>Impact 6-1: Air Pollutant Emissions (New Household Hazardous Waste Collection Facilities)</b>  Operation of new household hazardous waste collection facilities would likely result in a net reduction in vehicle miles traveled in the County, which would result in commensurate reduction in vehicular emissions.	Less than significant	None required.	Less than Significant
<b>Impact 6-2: Air Pollutant Emissions (Revisions to the Siting Element)</b>  Substantial criteria pollutant emissions would occur outside of the local air basin if the WBR option is pursued. Emissions could impede attainment within these basins.  If the WBR option is pursued, operation of a local rail yard could result in significant DPM from diesel truck and locomotive emissions that may result in health impacts to nearby sensitive receptors depending on where the rail yard would be located.	Significant – Criteria Pollutants in the Bay Area (Baseline Scenario 1). Less Than Significant – Criteria Pollutants in the Bay Area (Baseline Scenario 2). Significant – Criteria Pollutants outside of the Bay Area. Significant – DPM	<b>Mitigation Measure 6-2(a) [2003 SPEIR Mitigation Measure 10-1(a)]</b> The County and cities shall consider air emissions when purchasing new equipment and when entering into agreements with solid waste operators. Cleaner vehicles shall be weighted more favorably than less clean vehicles.  <b>Mitigation Measure 6-2(b) [Recommended Revisions to 2003 SPEIR Mitigation Measure 10-1(b)]</b>  1. New facilities shall be sited to maximize separation between haul routes/facilities and sensitive receptors to the extent practical.  2. New facilities shall encourage the use of low emissions vehicles that control diesel particulates with engine filters or by using low emissions fuels such as compressed natural gas.	Significant and Unavoidable – Criteria Pollutants in the Bay Area (Baseline Scenario 1). Less Than Significant – Criteria Pollutants in the Bay Area (Baseline Scenario 2). Significant and Unavoidable – Criteria

**TABLE 2-1  
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES**

Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
	emissions associated with WBR.	<ol style="list-style-type: none"> <li>The contractor shall reduce NO<sub>x</sub>, ROG, and CO emissions by complying with the construction vehicle air pollutant control strategies developed by the BAAQMD and the NSCAPCD. The project sponsor shall include in construction contracts the following requirements: <ol style="list-style-type: none"> <li>Construction equipment operators shall shut off equipment when not in use to avoid unnecessary idling. As a general rule, vehicle idling should be kept below <del>40</del> <u>five</u> minutes.</li> <li>The contractor's construction equipment shall be properly maintained and in good operating condition.</li> <li>The contractor shall utilize new technologies to control ozone precursor emissions as they become available and feasible.</li> <li>The contractor shall substitute gasoline-powered for diesel-powered equipment where feasible.</li> </ol> </li> <li>Asphalt paving materials shall conform to the most recent guidelines by the air district having jurisdiction.</li> </ol> <p><b>Mitigation Measure 6-2(c) [Recommended Revisions to 2003 SPEIR Mitigation Measure 10-1(c)]</b></p> <ol style="list-style-type: none"> <li>Contracts for operation of <u>proposed</u> facilities described in the <del>2003</del> ColWMP shall require contractors to limit idling time of diesel equipment to <del>40</del> <u>five</u> minutes when practical. Contracts shall also require that equipment be serviced at regular intervals to keep engines operating with parameters that will prevent excessive emissions.</li> <li>Contracts for operation of <u>proposed</u> facilities described in the <del>2003</del> ColWMP shall include incentives for using electric motors instead of internal combustion engines in stationary equipment.</li> </ol>	<p>Pollutants outside of the Bay Area.</p> <p>Significant and Unavoidable – DPM emissions associated with WBR.</p>
<p><b>Impact 6-3: Construction PM10 [2003 SPEIR Impact 10-2].</b></p> <p>Construction of new and expanded facilities could create significant emissions of fugitive PM10.</p>	Significant	<p><b>Mitigation Measure 6-3 [2003 SPEIR Mitigation Measure 10-2]</b></p> <p>The contractor shall reduce particulate emissions by complying with the dust control strategies developed by the NSCAPCD and the BAAQMD. The project sponsor shall include in construction contracts the following requirements:</p> <ol style="list-style-type: none"> <li>The contractor shall water in late morning and at the end of the day all earth surfaces during clearing, grading, earthmoving, and other site preparation activities.</li> <li>The contractor shall use tarpaulins or other effective covers for haul trucks that travel on public streets and roads.</li> <li>The contractor shall water increase the watering frequency for exposed and erodible soil surfaces whenever winds exceed 15 mph.</li> <li>The contractor shall water exposed soil surfaces, including cover stockpiles,</li> </ol>	Less than Significant

**TABLE 2-1  
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES**

Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		roadways, and parking and staging areas, to minimize dust and soil erosion.	
		5. The contractor shall sweep streets adjacent to the new and expanded non-disposal facilities at the end of each day.	
		6. The contractor shall control construction, operation, and site maintenance vehicle speed to 15 mph on unpaved roads.	
<b>Impact 6-4: Odors [2003 SPEIR Impact 10-3]</b> The proposed revision to the Siting Plan would allow for divestiture of the County Disposal System to a private owner who may then resume operation and possibly pursue expansion of the Central Disposal Site, which could result in odor impacts.	Significant	<b>Mitigation Measure 6-4 [2003 SPEIR Mitigation Measure 10-3]</b> A Control of odors shall be implemented through the use of Best Management Practices utilized with Sonoma County such as the avoidance of compost disturbance in afternoon hours, regulating moisture content, and turning compost windrows. B If odor persists as a problem, compost piles or windrows shall be covered with soil or finished compost to reduce emissions of odors. C The landfill will be covered at the end of every day with plastic, soil or other appropriate material. D Any cracks in the landfill surface will be repaired as soon as practical. E Acidity levels in leachate ponds will be monitored and pH adjusted as necessary to reduce odor problems. F When new compost facilities are proposed, consideration will be given to operations that are conducted inside buildings using air filtration systems to prevent release of odors.	Significant and Unavoidable
<b>Impact 6-5: Onsite Operations (Landfill) [Revisions to 2003 SPEIR Impact 10-4 (b)]</b> The resumption of operations or expansion of the Central Disposal Site that could occur under the divestiture option could cause significant emissions of criteria pollutants.	Significant	<b>Mitigation Measure 6-5: [2003 SPEIR Mitigation Measure 10-4(b)]</b> Same as Mitigation Measures 6-2(a), (b), and (c).	Significant and Unavoidable
<b>Impact 6-6: GHG Emissions (Disposal Strategies)</b> Disposal strategies of the project are inherently energy inefficient and may result in increased emissions of GHGs, which may conflict with the State's and local GHG reduction goals.	Significant	<b>Mitigation Measure 6-6: [2003 SPEIR Mitigation Measure 10-4(b)]</b> Same as Mitigation Measures 6-2(a), (b), and (c).	Significant and Unavoidable

**TABLE 2-1  
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES**

Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<b>Section 7 - Noise</b>			
<p><b>Impact 7-1: Construction Noise (Non-Disposal Facilities and Local Rail Yard) [Revisions to 2003 SPEIR Impact 11-1].</b></p> <p>Construction of household hazardous waste facilities and waste by rail facilities could cause temporary increases in noise levels on, and around, the proposed facilities over the entire construction period.</p>	Significant	<p><b>Mitigation Measure 7-1 [Recommended Revisions to 2003 SPEIR Mitigation Measure 11-1]</b></p> <ol style="list-style-type: none"> <li>Construction activities shall be limited to the hours between 7AM to 7PM to the extent practical.</li> <li>Construction equipment shall be properly outfitted and maintained with noise reduction devices to minimize construction-generated noise. Wherever possible, noise-generated construction equipment shall be shielded from nearby residences by noise-attenuating walls, berms, or enclosures.</li> <li>The contractor shall attempt to locate stationary noise sources as far away as possible from noise-sensitive land uses.</li> <li><u>Idling of construction equipment engines shall be minimized; engines shall be shut off when not in use, where applicable.</u></li> </ol>	Less than Significant
<p><b>Impact 7-2: Traffic Noise (Out-of-County Waste Transport by Truck)</b></p> <p>Traffic noise would result from out-of-County waste transport by truck.</p>	Less than Significant	None required.	Less than Significant
<p><b>Impact 7-3: Traffic Noise (New Household Hazardous Waste Collection Facilities and Waste by Rail Facilities)</b></p> <p>Noise impacts would result from traffic associated with new household hazardous waste collection facilities and waste by rail facilities.</p>	Significant	<p><b>Mitigation Measure 7-3 [Recommended Revisions to 2003 SPEIR Mitigation Measure 11-2]</b></p> <ol style="list-style-type: none"> <li>Where feasible, collection activities associated with these facilities shall be conducted during hours of the day which are not noise sensitive for nearby residents and other adjacent land uses. The activities shall be commissioned to occur during normal work hours of the day to provide relative quiet during the more sensitive evening and early morning periods.</li> <li>The County and cities shall include noise as an evaluation criterion when purchasing new waste/recyclables transportation vehicles (<u>including locomotive engines if waste transport by rail is implemented</u>), and will purchase the quietest vehicles available when reasonably possible. If the County does not make direct purchases of such vehicles, they will require their licensed/franchised haulers, via their licensed/franchised agreement, to include noise as an evaluation criterion in their purchase of vehicles.</li> <li>A site-specific noise evaluation shall be conducted as part of the siting study for new and expanded non-disposal facilities <u>including any new household hazardous waste facilities and/or local rail yards</u> to identify potential noise problem areas prior to site selection. The noise evaluation shall consider the location of sensitive receptors and evaluate sound barriers or other means to reduce noise exposure. The evaluation shall also consider operational changes such as restricting hours of operation.</li> </ol>	Significant and Unavoidable

**TABLE 2-1  
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES**

Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<b>Impact 7-4: Traffic Noise (Reuse of Central Disposal Site under Divestiture)</b> The divestiture option would result in additional truck traffic to and from the Central Disposal Site, which could increase traffic noise levels.	Less than Significant	None required.	Less than Significant
<b>Impact 7-5: Railroad Noise (Waste by Rail Transport)</b> The waste transport by rail option would generate new train trips along the currently inactive railroad track that runs through Sonoma County, which would result in railroad noise impacts.	Significant	None available.	Significant and Unavoidable
<b>Impact 7-6: Onsite Operations Noise (Non-Disposal Facilities and Local Rail Yard) [Revisions to 2003 SPEIR Impact 11-3].</b> New and expanded non-disposal facilities and the new local rail yard could produce onsite operational noise impacts.	Significant	<b>Mitigation Measure 7-6 [Recommended Revisions to 2003 SPEIR Mitigation Measure 11-3]</b> A Same as Mitigation Measure <del>44-2</del> 7-3 (B) and (C). B The noise evaluation described in Mitigation Measure <del>44-2</del> 7-3 (C) shall consider the location of sensitive receptors and locate equipment and operations to minimize the noise exposure to the extent practical. The evaluation should consider enclosures for noise equipment or sound barriers to shield off-site receptors from noise. <u>Additionally, if WBR is pursued, the noise evaluation must consider location of sensitive receptors when determining where to place the local rail yard.</u>	Significant and Unavoidable
<b>Impact 7-7: Ground-Borne Vibration (Waste by Rail Transport)</b> Ground-borne vibration impacts would result from train operations associated with implementation of the waste transport by rail option.	Less than Significant	None required.	Less than Significant
<b>Section 8 – Transportation and Traffic</b>			
<b>Impact 8-1: Traffic Congestion (Out-of-County Waste Transport by Truck)</b> Traffic congestion impacts would result associated with the out-of-County waste transport by truck options.	Less than Significant	None required.	Less than Significant

**TABLE 2-1  
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES**

Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<b><i>Impact 8-2: Traffic Congestion (New Household Hazardous Waste Collection Facilities and Waste by Rail Facilities)</i></b> Program level congestion impacts could result associated with new household hazardous waste collection facilities and waste by rail facilities.	Significant	<b><i>Mitigation Measure 8-2 [Recommended Revisions to 2003 SPEIR Mitigation Measure 9-1]</i></b> A To the extent feasible, new non-disposal facilities <u>and new waste by rail facilities</u> shall not be located in areas with significant road congestion, as designed in the cities' and County General Plan. B To the extent feasible, new non-disposal facilities <u>and new waste by rail facilities</u> shall be located near other commercial <u>or industrial</u> facilities to allow for the combination of activities in one trip and reduce overall trip generation. C Traffic Management Plans (TMP) shall be developed for each of the new and expanded non-disposal facilities <u>and new waste by rail facilities</u> , as required. These plans shall schedule truck trips so that roadway segments with the potential to be significantly impacted are avoided during peak hours. In addition, these plans shall detail the hours of operation and other restrictions on truck trips for each of the facilities and shall include plans for employee car pooling and bus transportation, where appropriate and feasible. The plans shall be updated periodically in response to changing traffic conditions and improvements to the highway system. The TMP shall include a site-specific traffic evaluation conducted as part of the siting study for a new non-disposal facility <u>or a new waste by rail facility</u> to identify potential traffic problem areas prior to site selection. The traffic evaluation shall consider limiting non-disposal facility <u>or waste by rail facility</u> operations to either commercial or private (general public) haulers, as well as co-locating of disposal and non-disposal facilities <u>and waste by rail facilities</u> to reduce haul trips. D Countywide Traffic Mitigation fees shall be paid for new facilities implemented in accordance with the <del>2003</del> ColWMP to help mitigate off-site cumulative traffic impacts. <b><i>Addition to Mitigation Measure 8-2</i></b> E Construction Traffic Management Plans shall be prepared for each of the new and expanded non-disposal facilities and new waste by rail facilities. These plans shall include, but not be limited to, a discussion of work hours, haul routes, work area delineation, and traffic control and flagging procedures, if required.	Significant and Unavoidable
<b><i>Impact 8-3: Traffic Congestion (Divestiture)</i></b> Program level impacts could result from traffic congestion impacts related to resumption of disposal activities at the Central Disposal Site.	Less than Significant (Baseline Scenario 1). Significant (Baseline Scenario 2).	<b><i>Mitigation Measure 8-3 [Recommended Revisions to 2003 SPEIR Mitigation Measure 9-4]</i></b> If significant traffic impacts to the Stony/Roblar and Stony Point Road/West Railroad Avenue intersections continue beyond 2015, mitigation measures such as the following shall be implemented: A The Integrated Waste Division will <del>consider restricting</del> truck traffic that is subject to County control so that trucks do not travel through the Stony Point/Roblar and/or the Stony Point Road/West Railroad intersections during peak traffic	Less than Significant (Baseline Scenario 1). Less than Significant (Baseline Scenario 2).

**TABLE 2-1  
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES**

Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<p>hours. This shall apply only to new truck trips associated with projects pursuant to the <del>2003</del> ColWMP and revisions to the ColWMP (including Divestiture), and not existing traffic using the Central Disposal Site. The restriction shall apply to trucks subject to County control, such as those making deliveries for cover soil and liner materials, and trucks associated with construction at the site. This measure shall remain in effect until a traffic signal has been installed at these intersections.</p> <p>B Prior to construction of projects at the Central Disposal Site pursuant to the <del>2003</del> ColWMP, the Integrated Waste Division shall pay a traffic mitigation fee that includes a fair share contribution toward the installation of signals at the Stony Point/Roblar and Stony Point/ West Railroad intersections.</p> <p>C Consider restricting hours of operation so that traffic is not added to the congested intersections during peak traffic hours. This restriction would remain in effect until these intersections are signalized.</p> <p>D Consider restricting traffic the use of the site to commercial operators only, thereby reducing the number of vehicles using the Stony Point/Roblar and Stony Point/West Railroad intersection.</p>	





## **SECTION 3**

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### **Project Description**

#### **3.1 Introduction**

The Sonoma County Waste Management Agency (SCWMA) intends to amend the Sonoma Countywide Integrated Waste Management Plan (CoIWMP) to include revisions to the CoIWMP's Siting Element and Household Hazardous Waste Element. This section describes the "project," which includes the revisions to the Siting Element and Household Hazardous Waste Element. The Supplemental Program Environment Impact Report (SPEIR) analyzes the potential environmental impacts of the project and identifies mitigation measures to eliminate or reduce the environmental impacts of the project. This SPEIR specifically analyzes the potential environmental impacts of the project related to aesthetics, air quality, noise, and transportation and traffic. Impacts and issues associated with other environmental issue areas were previously addressed in the Initial Study conducted for the project and have been scoped out of this SPEIR analysis. The Notice of Preparation and Initial Study (IS/NOP) is included in this document as Appendix B.

The preliminary text revisions to the Household Hazardous Waste Element and the Siting Element are included in this document in Appendix G. These preliminary text revisions were approved by the SCWMA in 2007 and will be updated subsequent to the end of the CEQA process to include any changes that result from the CEQA process.

#### **3.2 Objectives of the Project**

The primary objectives of the project are as follows:

1. To allow for the development of additional permanent Household Hazardous Waste collection facilities in the County;
2. To allow for out-of-County disposal of solid waste; and
3. To allow the divestiture of the Central Landfill, which would most likely result in resumed disposal of refuse at the Central Disposal Site.

#### **3.3 Summary of Revisions to the Household Hazardous Waste Element**

The Household Hazardous Waste Element identifies the quantities of household hazardous waste generated in the County and specifies the means to safely collect, recycle, treat, and dispose

of hazardous waste generated by Sonoma County households. The Household Hazardous Waste Element describes collection programs available in the County for household hazardous wastes, including: Household Toxics Roundups; battery oil and point collection locations (BOPs), load checking, Door-to-Door, Curbside Oil and Filter Recycling; and vendor collection. The Household Hazardous Waste Element also describes exchange, reuse, and recycling alternatives for waste oil, paint, batteries, and other household hazardous wastes.

The Household Hazardous Waste Element currently depicts a single permanent household hazardous waste collection facility that was constructed at the Central Disposal Site. This limitation hinders the ability of SCWMA to establish additional permanent facilities at other locations within the County. The flexibility to create additional collection facilities could improve the efficiency of collection. Therefore, revisions would be made to the Household Hazardous Waste Element that would allow for additional potential permanent household hazardous waste collection facilities to be established in the County. Currently, there are no proposed sites selected for additional household hazardous waste collection facilities.

### **3.4 Summary of Revisions to the Siting Element**

The CoIWMP Siting Element provides an integrated strategy to ensure long-term disposal capacity in the County. The California Integrated Waste Management Board (CIWMB) regulations require the SCWMA to demonstrate its ability to provide permitted disposal capacity for Sonoma County. The 1996 Siting Element describes six options for expansion of the Central Disposal Site landfill. In 2003, the Siting Element was revised to meet the disposal capacity needs with: 1) creation of additional landfill capacity at the Central Disposal Site; 2) construction of new facilities for materials recovery, organic processing, composting, and reduction of the volume of landfill disposal waste; and 3) siting and permitting of a new landfill that would provide additional disposal capacity, and would be able to accept both mixed solid waste and waste that has been processed to produce energy.

Revisions are currently proposed for the Siting Element to reflect that all landfilling of solid waste at the Central Disposal Site has been suspended and that no waste is currently disposed of within Sonoma County. The revisions would also acknowledge that the County is considering divestiture of the Central Disposal Site to a private operator who may resume in-County disposal. Additionally, potential sites for disposal may exist within Sonoma County and the SCWMA supports efforts to identify potential in-County disposal sites. Therefore, the Siting Element criteria for establishing new or expanding existing solid waste facilities would be revised to be applicable to a public or private entity. Following are descriptions of the proposed strategies for disposal of solid waste, as defined in Section 6.7 of the amended Siting Element.

The amended Siting Element would include a short-term disposal strategy and a medium-term disposal strategy. The short-term disposal strategy is to continue the out-of-County transport by truck disposal contracts that are currently in place, which would ensure sufficient disposal capacity until 2010, when the contracts are scheduled to expire. The medium-term (years 2010 through 2024) disposal strategy would consider the following three options:

- Out-of-County disposal with waste transport by truck;
- Out-of-County disposal with waste transport by rail; and
- Divestiture of the County Disposal System to a private owner who may resume operation of the Central Disposal Site and possibly pursue expansion.

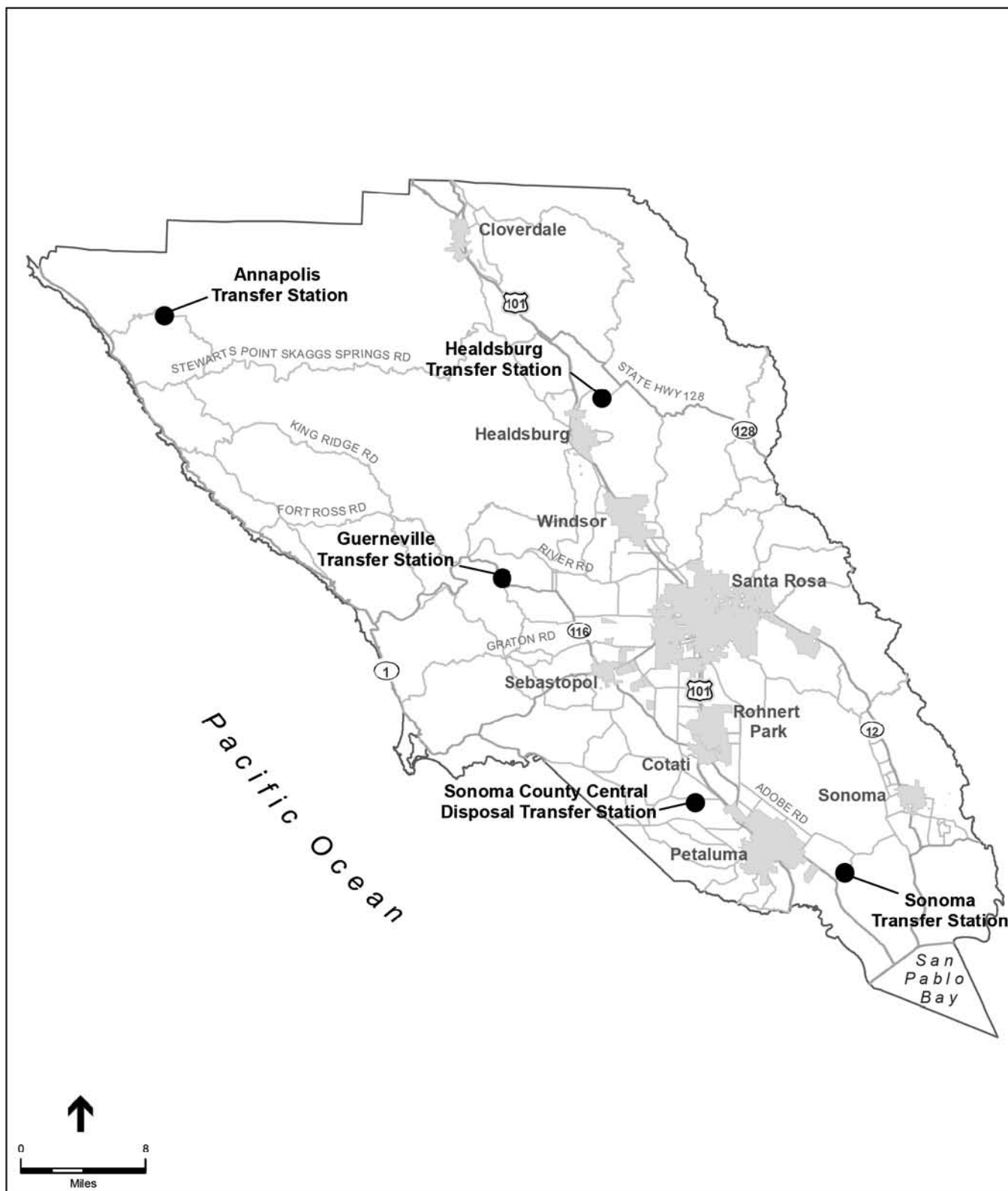
### 3.4.1 Waste Transported by Truck Haul

The County currently owns and operates five transfer stations located near Annapolis, Guerneville, Healdsburg, Petaluma (Central Disposal Site), and Sonoma (Figure 3-1). Each of the transfer stations is setup for transfer of solid waste to trucks to transport the waste to out-of-County disposal sites. This option would require no additional site acquisition and operations under this option would be essentially the same as current waste disposal operations in the County. The cost effectiveness of truck hauling declines rapidly as distance from Sonoma County increases, so it would be desirable for the SCWMA to secure contracts with landfill owners close to the County.

A recent analysis conducted by Brown, Vence, & Associates, Inc., indicates that there is adequate landfill capacity in the Bay Area to support Sonoma County's disposal needs for the next 15 years (BVA, 2004). The following is a non-exclusive list of disposal sites currently used to dispose solid waste generated in Sonoma County for medium-term waste transport by truck disposal:

- Redwood Sanitary Landfill in Novato;
- Potrero Hills Landfill in Suisun City; and
- Keller Canyon Landfill in Pittsburg.

In 2007, over 14,000 truck round-trips to out-of-County landfills originated at the five Sonoma County transfer stations, including: 6,610 trips originating from Central; 241 trips originating from Annapolis; 1,001 trips originating from Guerneville; 2,786 trips originating from Sonoma; and 3,427 trips originating from Healdsburg (SCWMA, 2008). The existing transportation routes within Sonoma County that are used by transfer vehicles in route to out-of-County landfills are identified in Table 3-1 (Sonoma County, 2005). It should be noted that the waste transported by truck haul option simply allows for waste to be hauled by truck to any out-of-County landfill, and that the landfills listed above are only presented to identify landfills that may be utilized under this option.



SOURCE: ColWMP, 2003

Amendment to the Sonoma ColWMP, 207627

**Figure 3-1**  
Sonoma County Transfer Stations

**TABLE 3-1**  
**EXISTING HAUL ROUTES FROM TRANSFER STATIONS TO OUT-OF-COUNTY LANDFILLS**

From Transfer Station	To Out-of-County Landfill			
	Redwood	Potrero	Vasco	Keller
Central Transfer Station	<ul style="list-style-type: none"> <li>• Mecham Rd</li> <li>• To Stony Point Rd</li> <li>• To U.S. 101, at Pepper Rd</li> </ul>	<ul style="list-style-type: none"> <li>• Mecham Rd.</li> <li>• To Stony Point Rd</li> <li>• To U.S. 101, at Pepper Rd</li> <li>• To Lakeville Highway</li> <li>• To Frates Rd</li> <li>• To Old Adobe Rd</li> <li>• To Stage Gulch Rd</li> <li>• To SR 121</li> </ul>	<ul style="list-style-type: none"> <li>• Mecham Rd.</li> <li>• To Stony Point Rd</li> <li>• To U.S. 101, at Pepper Rd</li> <li>• To Lakeville Highway</li> <li>• To SR 37</li> </ul>	<ul style="list-style-type: none"> <li>• Mecham Rd.</li> <li>• To Stony Point Rd</li> <li>• To U.S. 101, at Pepper Rd</li> <li>• To Lakeville Highway</li> <li>• To SR 37</li> </ul>
Annapolis Transfer Station	<ul style="list-style-type: none"> <li>• Annapolis Rd</li> <li>• To Skaggs Springs Rd</li> <li>• Cont. on Dry Creek Rd</li> <li>• To U.S. 101</li> </ul>	<ul style="list-style-type: none"> <li>• Annapolis Rd</li> <li>• To Skaggs Springs Rd</li> <li>• Cont. on Dry Creek Rd</li> <li>• To U.S. 101</li> <li>• To Lakeville Highway</li> <li>• To Frates Rd</li> <li>• To Old Adobe Rd</li> <li>• To Stage Gulch Rd</li> <li>• To SR 121</li> </ul>	<ul style="list-style-type: none"> <li>• Annapolis Rd</li> <li>• To Skaggs Springs Rd</li> <li>• Cont. on Dry Creek Rd</li> <li>• To U.S. 101</li> <li>• To Lakeville Highway</li> <li>• To SR 37</li> </ul>	<ul style="list-style-type: none"> <li>• Annapolis Rd</li> <li>• To Skaggs Springs Rd</li> <li>• Cont. on Dry Creek Rd</li> <li>• To U.S. 101</li> <li>• To Lakeville Highway</li> <li>• To SR 37</li> </ul>
Sonoma Transfer Station	<ul style="list-style-type: none"> <li>• Stage Gulch Rd</li> <li>• To Old Adobe Rd</li> <li>• To Frates Rd</li> <li>• To Lakeville Highway</li> <li>• To U.S. 101</li> </ul>	<ul style="list-style-type: none"> <li>• Stage Gulch Rd</li> <li>• To SR 121</li> </ul>	<ul style="list-style-type: none"> <li>• Stage Gulch Rd</li> <li>• To SR 121</li> <li>• To SR 37</li> </ul>	<ul style="list-style-type: none"> <li>• Stage Gulch Rd</li> <li>• To SR 121</li> <li>• To SR 37</li> </ul>
Guerneville Transfer Station	<ul style="list-style-type: none"> <li>• Pocket Canyon Rd</li> <li>• Cont. on Gravenstein Hwy</li> <li>• To U.S. 101</li> </ul>	<ul style="list-style-type: none"> <li>• Pocket Canyon Rd</li> <li>• Cont. on Gravenstein Hwy</li> <li>• To U.S. 101</li> <li>• To Lakeville Highway</li> <li>• To Frates Rd</li> <li>• To Old Adobe Rd</li> <li>• To Stage Gulch Rd</li> <li>• To SR 121</li> </ul>	<ul style="list-style-type: none"> <li>• Pocket Canyon Rd</li> <li>• Cont. on Gravenstein Hwy</li> <li>• To U.S. 101</li> <li>• To Lakeville Highway</li> <li>• To SR 37</li> </ul>	<ul style="list-style-type: none"> <li>• Pocket Canyon Rd</li> <li>• Cont. on Gravenstein Hwy</li> <li>• To U.S. 101</li> <li>• To Lakeville Highway</li> <li>• To SR 37</li> </ul>
Healdsburg Transfer Station	<ul style="list-style-type: none"> <li>• Healdsburg Ave</li> <li>• To Lytton Springs Rd</li> <li>• To U.S. 101</li> </ul>	<ul style="list-style-type: none"> <li>• Healdsburg Ave</li> <li>• To Lytton Springs Rd</li> <li>• To U.S. 101</li> <li>• To Lakeville Highway</li> <li>• To Frates Rd</li> <li>• To Old Adobe Rd</li> <li>• To SR 37</li> <li>• To SR 121</li> </ul>	<ul style="list-style-type: none"> <li>• Healdsburg Ave</li> <li>• To Lytton Springs Rd</li> <li>• To U.S. 101</li> <li>• To Lakeville Highway</li> <li>• To SR 37</li> </ul>	<ul style="list-style-type: none"> <li>• Healdsburg Ave</li> <li>• To Lytton Springs Rd</li> <li>• To U.S. 101</li> <li>• To Lakeville Highway</li> <li>• To SR 37</li> </ul>

### 3.4.2 Waste Transported by Rail Haul

Hauling waste by rail (WBR) would increase accessibility to a larger number of disposal sites than truck hauling; however, significant capital investment would be required for WBR. An existing rail line runs through Sonoma County with its general infrastructure intact; however, operations along the line have not occurred since 2001. Therefore, a long-term commitment to WBR in the form of a 20- to 25-year contract with the North Coast Rail Authority (NCRA) and the destination landfill facilities would be necessary. The NCRA represents rail activities for the counties of Sonoma, Mendocino, Humboldt, and Marin.

Feasibility reviews have recently been conducted for using rail haul to transfer solid waste out of Sonoma County (BVA, 2005 and HDR, 2008). The findings of the reviews indicate that with necessary infrastructure improvements, WBR would be feasible and should be considered as a long-term refuse haul option for Sonoma County.

It should be noted that on November 4, 2008, voters in Sonoma and Marin counties approved Measure Q, which approves the development of commuter rail through the Marin and Sonoma counties. The Sonoma-Marina Area Rail Transit (SMART) project is now moving forward with plans to begin construction in 2011 and service planned to begin in 2014. In addition, the NCRA is proposing to resume rail service on the Russian River Division (RRD) of the Northwestern Pacific Railroad (NWP) from the City of Willits in Mendocino County to Lombard in Napa County. On March 9, 2009, the NCRA released the Draft EIR for the NCRA RRD Freight Rail Project, which addresses the impacts resulting from the resumption of operations on the railroad, including the potential hauling of solid waste. The NCRA EIR also evaluates impacts associated with routine maintenance and repair of the rail line during operations and construction activities associated with the rehabilitation and repair activities of the rail line (NCRA, 2009).

As identified in the NCRA EIR, the NWP line from Willits to Healdsburg is owned by NCRA and from Healdsburg to Lombard the line is owned by the SMART District. NCRA has a perpetual freight service easement over SMART right-of-way (ROW), and SMART has a perpetual passenger service easement over the portion of the ROW owned by NCRA between Healdsburg and Cloverdale. SMART's enabling legislation (Assembly Bill 2224) provides that the SMART District must work with NCRA and the Federal Railroad Administration "to achieve safe, efficient, and compatible operations of both passenger rail and freight service along the rail line in Sonoma and Marin Counties." Coordination of SMART's passenger rail service and NCRA's freight service is governed by an existing Operating Agreement, which states that passenger service would receive operating priority over freight operations, so long as freight service continues to be provided in a manner that meets the needs of the shippers on the line, and that passenger operations disrupt NCRA's freight operations to the minimum extent possible. Prior to the institution of commuter service, a coordination agreement would be negotiated with SMART to address these issues (NCRA, 2009).

The infrastructure and other requirements for development of an out-of-County WBR would generally include the following five components:

- ***Transfer Stations would be upgraded*** so that divertible materials could be diverted and recovered and residual waste could be loaded into intermodal containers or consolidate for loading gondola cars at the local rail yard (see below). This requirement would most likely be achieved through an upgrade of one or more of the County's existing transfer stations. Between three and six top-pick hoists would be required at each of the upgraded transfer stations, depending on the total volume of refuse handled, to load the containers onto flat bed transfer vehicles.
- ***Local Rail Yard*** would be required to load intermodal containers or gondola cars on the spur track. The rail yard would basically be an off-loading location, where the intermodal containers would be lifted from the flat-bed transfer truck vehicles and placed onto the rail cars. It is anticipated that a rail yard would need to be developed with three run-around tracks (for a total of 5,000 linear feet), a top pick hoist, a yard vehicle to move trailers and other equipment around the yard, transfer trailers, and an office trailer.
- ***Rail Haul Agreements*** would need to be secured for transporting containers or gondola cars over rail lines to the remote rail yard. This would likely involve three rail companies in order to move the municipal solid waste from the local rail yard to a disposal site in either, Oregon, Washington, or Utah, including, the NCRA, California Northern (CN), and Union Pacific (UP). NCRA operates the *team track* between Windsor and Napa Junction. At Napa Junction, the team track meets up with UP's rail line. As UP does not currently take connections at this junction, and NCRA does not operate past this junction, CN would need to gain a right-of-way to operate over UP tracks and conduct the train to Fairfield, where UP could take over the haul to the distant disposal site(s). The NCRA has indicated that a contracting company would likely handle the management of the rail transport from the local rail yard to the remote landfill, including all contracts and operations associated with the three rail companies to assure efficient rail transport.
- ***Remote Rail Yard*** would be required to off-load the containers or material in gondola cars to the landfill or transfer vehicles for haul to the landfill. If a new remote rail yard would be needed, the same infrastructure discussed above under local rail yard would be required.
- ***Landfill(s)*** would be required for disposal of residual solid waste. Sonoma County has several options available for the landfilling of waste from WBR. For example, the Columbia Ridge Landfill in Gilliam County, Oregon, and the East Carbon Development Corporation (ECDC) Landfill in East Carbon City, Utah are two landfills that can currently accept rail directly to the landfill site. It should be noted these landfills are listed for reference purposes; selection of specific landfills would require subsequent CEQA analysis.

### 3.4.3 Divestiture of County Disposal System

The County is considering a process in which a private organization may assume ownership of the County Disposal System, either in part or in whole. A private owner may pursue actions which would allow for waste to again be deposited at the Central Disposal Site. Such actions would likely include additional remediation and waste discharge requirement efforts at the site, which would occur under the direction of the RWQCB and possibly other applicable agencies. In addition, any resumed or expanded landfilling operations at the Central Disposal Site would also be subject to applicable CEQA review requirements, and may require a County Use Permit.

## 3.5 References

- Brown, Vence, & Associates, Inc. (BVA, 2004). *Reassessment of the Long-Term Solid Waste Strategy Management Plan*, Prepared for Sonoma County, 2004.
- BVA, 2005. Letter Report to Sonoma County Department of Transportation and Public Works. Subject: Review of Rail Haul – Revised Draft. September 12, 2005.
- HDR Engineering (HDR), 2008. Memorandum regarding Waste-by-Rail in Sonoma County. From Michael Greenburg of HDR to Matt Fagundes of ESA. December 3, 2008.
- NCRA (North Coast Rail Authority), 2009. Draft Environmental Impact Report for the North Coast Railroad Authority Russian River Division Freight Rail Project, March 9, 2009.
- Sonoma County, 2005. *Agreement for Transport and Disposal of Solid Waste with West Sonoma County Disposal Service, Inc.* and other related documents. August 16, 2005.
- Sonoma County Waste Management Agency (SCWMA), 1996. *Final Program Environmental Impact Report for the Countywide Integrated Waste Management Plan*. 1996.
- SCWMA, 2003a. *Final Supplemental Program Environmental Impact Report for the 2003 Countywide Integrated Waste Management Plan*. October, 2003. Available on-line at [http://www.recyclenow.org/Final\\_Supp\\_EIR\\_CoIWMP.pdf](http://www.recyclenow.org/Final_Supp_EIR_CoIWMP.pdf)
- SCWMA, 2003b. *Sonoma Countywide Integrated Waste Management Plan*. October, 2003. Available on-line at [http://www.recyclenow.org/o\\_reports.html](http://www.recyclenow.org/o_reports.html)
- SCWMA, 2008. *Sonoma County transfer station trip data* supplied by Patrick Carter, SCWMA, on August 12, 2008.



## **SECTION 4**

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# **Approach to Environmental Analysis**

### **4.1 Introduction**

This section presents the general approach to analysis that was used in this Supplemental Program Environmental Impact Report (SPEIR) to evaluate the impacts of the project. More specifically, this section describes the SPEIR baseline scenarios and the approach used to determine impact significance and mitigation measure requirements.

### **4.2 Baseline Scenarios**

One of the more difficult analytical decisions that was made regarding the approach to analysis was related to defining the environmental setting (or baseline), especially as it relates to the current conditions associated with landfill disposal. As described in Section 1, the suspension of refuse disposal at the Central Disposal Site and the resulting out-of-County truck hauling of refuse is inconsistent with the existing Siting Element of the CoIWMP, which describes a system in which refuse is disposed at County-owned facilities within Sonoma County.

Per CEQA Guidelines Section 15125, the environmental setting is the physical conditions that exist at the date that the Notice of Preparation (NOP) is published; in this case, April, 2008. The existing conditions and setting for the environmental issue areas analyzed are described in Sections 5 through 9 and are consistent with the CEQA Guidelines Section 15125 definition. However, this setting is inconsistent with the setting that existed when the NOP for the 2003 CoIWMP SPEIR was released because subsequent to 2003, refuse disposal within Sonoma County has ceased, resulting in out-hauling of refuse by truck.

In order to analyze impacts relative to the existing setting and the setting of the 2003 CoIWMP, Sections 6, 7, and 8, Air Quality, Noise, and Transportation and Traffic, respectively, considers the following two baseline scenarios:

- Baseline Scenario 1, which are the 2003 CoIWMP conditions when no out-hauling of refuse by truck occurred; and
- Baseline Scenario 2, where out-hauling of refuse by truck is occurring as current existing conditions.

Both baseline scenarios are considered in the air quality, noise, and transportation and traffic impact analyses associated with proposed revisions to the Siting Element and mitigations are

identified when project activities compared to either of the two baseline scenarios result in a potentially significant impact. Regarding aesthetics related topics, impacts that would result using the two baseline scenarios would not differ substantially. Therefore, the setting used in the impact analysis for aesthetics is the physical conditions that existed as of the date that the NOP was published, which includes out-of-County haul by truck.

## **4.3 Impacts and Mitigation Measures**

This SPEIR describes the potential adverse program level impacts that would be associated with SCWMA's adoption and implementation of the project. The analysis attempts to determine the extent that each of the studied issue areas could be affected if the project is approved as proposed. A set of specific significance criteria are identified for each of the analyzed issue areas to help categorize the severity of the potential environmental impacts. These standards of significance are defined at the beginning of each of the impact analyses in Sections 5 through 8. Once the potential environmental changes are identified, they are compared to the standards of significance. The impacts are then divided into the following categories:

- Significant and unavoidable; cannot be mitigated to a level that is less than significant;
- Significant, can be mitigated to a level that is less than significant; and
- Less than significant, no mitigation required.

For all significant impacts, the SPEIR is required to include a description of feasible measures that could be implemented to avoid the adverse program level impacts entirely or to mitigate (reduce in magnitude) the impacts to a level that is below the defined standard of significance. Where available, mitigation measures are presented for all impacts determined to be significant. Where implementation of the mitigation measures would reduce the magnitude of the impact to below the defined standard of significance, the impact is determined to be less than significant after mitigation. Where implementation of the mitigation measures would not reduce the magnitude of the impact below the defined standard of significance, the impact is determined to be significant and unavoidable.

Impacts and mitigation measures that were identified in the 2003 SPEIR that are applicable to the project are identified in this SPEIR. In some cases, the applicable 2003 SPEIR impacts and mitigation measures have been revised in order to be more directly relevant to the project.

# SECTION 5

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## Aesthetics

### 5.1 Introduction

This section evaluates the potential impacts related to aesthetics for the proposed revisions to the CoIWMP Household Hazardous Waste Element and the Siting Element. Setting information and impacts and mitigations identified in Section 10 of the 2003 CoIWMP Final SPEIR are revised as described below.

### 5.2 Setting

#### 5.2.1 Regional Setting

The unique scenic quality of Sonoma County results from the attractiveness and diversity of its landscape. Visual characteristics of Sonoma County range from the flat valley floors where vineyards dominate the landscape to the mountain ranges in the northwest and eastern portions of the County. Redwood forests and the coastal mountain range are prominent in the west. Rolling foothills and grazing lands form the visual landscape in the southern portion of the County. However, a significant characteristic of the quality of Sonoma County's scenic environment is the interface of small rural communities and the natural landscape.

Two of the main highway corridors that pass through the County are used to provide regional access to/from the Sonoma County transfer stations. US 101 runs through the center of the County traversing its entire length and passing through the major urbanized areas. It is along this highway that urban development is most noticeable. State Route 116 (SR 116) from Sebastopol through the Lower Russian River area has been recognized for its unique beauty through its designation as a State scenic highway. Visible from many parts of the County and beyond, the 4,345 foot majestic Mount Saint Helena is a key component of the County's landscape.

Sonoma County also has a number of unique geologic formations. The granite on Bodega Head is the dominant surface exposure of this Pacific plate formation. Serpentine exposures in the northern half of the County develop unique soils that support a distinctive vegetation community with rare plant species. In addition, large blocks of serpentine frequently form visible knobs and ridges, comprising a somewhat unique landscape. Mount Saint Helena, Sonoma Mountain, and other prominent peaks of Napa and Sonoma counties dominate the visual landscape in eastern Sonoma County.

## 5.2.2 Scenic Highways and Scenic Corridors

Many of the roadways throughout Sonoma County offer views of scenic areas. An extensive network of scenic corridors and scenic highways are designated in the General Plan 2020 and are protected by development standards. The State of California has officially designated SR 116 and SR 12 as scenic highways in Sonoma County. The criteria for official designation and eligibility includes the scenic quality of the landscape, how much of the natural landscape can be seen by travelers, and the extent to which development intrudes upon the traveler's enjoyment of the view.

The portion of SR 116 that has been designated as a scenic highway is from SR 1 to the Sebastopol City limit. A portion of this segment of SR 116 is currently used as a haul route for transfer vehicles to/from the Guerneville Transfer Station. SR 116 passes a historic resort area along the Russian River and through second growth redwood forests and eucalyptus groves.

In addition to State designated scenic highways, Sonoma County has designated an extensive network of roadways as Scenic Corridors. This network threads throughout the unincorporated area of the County, offering a diversity of viewsheds to travelers. Several State and County roadways that provide regional and local access to/from the transfer station have been designated as scenic highways, including SRs 37, 101, 116, and 121, Skaggs Springs Road, Dry Creek Road, Lakeville Highway, Frates Road, and Old Adobe Road.

## 5.2.3 Regulatory Setting

### Sonoma County General Plan 2020

The *Sonoma County General Plan 2020*, as amended, contains objectives and policies that guide development in the County. Scenic resources within the County are discussed in the Open Space and Resource Conservation Element, which divides scenic resources into three resource categories, including community separators, scenic landscape units, and scenic highway corridors. These resources are identified in the Open Space and Resource Conservation Element. The element contains various policies, objectives, and goals designed to preserve the visual resource associated with the three resource categories (Sonoma County, 2008).

### California Scenic Highway and Scenic Corridor Protection Programs

In 1963, the California Legislature established the State's Scenic Highway Program, intended to preserve and protect scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to highways. The State laws governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq. As described previously, SR 116 from Sebastopol through the Lower Russian River is the only officially designated State scenic highway that could be affected by the project.

## 5.3 Impacts and Mitigation Measures

### 5.3.1 Standards of Significance

According to Appendix G of the CEQA *Guidelines*, a project would have a significant effect on aesthetics if it would:

- Have a substantial adverse effect on a scenic vista
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway corridor
- Substantially degrade the existing visual character or quality of the site and its surroundings
- Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area.

As disclosed in the IS/NOP (see Appendix B) construction of visible facilities that could result under the project, such as a rail yard or a new permanent household hazardous waste collection facility, could result in a significant impact related to scenic vistas or other scenic resources. The facilities could also create a new source of substantial light or glare. However, the magnitude of the impact would be related to the specific location and relative topography of the site, and to the availability of or the ability to create buffers to screen the facilities. Potential significant and unavoidable program level impacts associated with the visual effects of new facilities due to the construction of non-disposal (e.g. household hazardous waste facilities) and landfill facilities were identified in the 2003 SPEIR (2003 SPEIR Impacts 14-1 and 14-3). Therefore, further analyses associated with the first two and the last standards of significance bullets would be required when site specific projects are proposed.

### 5.3.2 Impact Discussion

#### **Impact 5-1 Litter (Non-Disposal Facilities) [2003 SPEIR Impact 14-2]**

The waste transported by truck haul option associated with the modifications to the Siting Element identified in the project description could degrade the existing visual character or quality through the inadvertent generation of litter along transportation routes. The 2003 SPEIR identified program level significant impacts related to litter along truck route roadways (2003 SPEIR Impacts 14-2); however, the proposed waste transported by truck haul option may substantially increase the severity of this previously identified impact by increasing the total truck haul mileage required to haul the waste out of the County. Implementation of Mitigation Measure 5-1 (recommended revisions to 2003 SPEIR Mitigation Measure 14-2) would be required to reduce this impact. For ease of review, all revisions that have been made to the 2003 SPEIR mitigation measures are shown with ~~strikeout~~ and/or underline.

### **Mitigation Measure 5-1 [Recommended Revisions to 2003 SPEIR Mitigation Measure 14-2]**

A litter abatement program shall be developed and implemented by each non-disposal facility operator demonstrating how inadvertent litter that may be generated on- and off-site will be adequately controlled. Each facility's litter abatement program shall be submitted to, and approved by, the LEA prior to operations under the project.

Each non-disposal facility shall assign a litter coordinator who shall be responsible for implementing the litter abatement program and responding to any potential litter complaints by the public. The litter coordinator will determine the cause of the complaint and will ensure that reasonable measures are implemented to correct the problem. A contact telephone number for the litter coordinator shall be posted conspicuously at entrances to the non-disposal facilities.

On-site Mitigation - Measures to be included and implemented within each non-disposal facility to control litter shall include, but not limited to, the following, as applicable:

~~A. Litter shall be controlled by a litter abatement program~~

- A. Litter fences shall be established around new or expanded non-disposal facilities, as necessary to prevent litter blowing onto off-site areas.
- B. Litter along on-site roads shall be collected and removed routinely.

Off-site Mitigation - Measures to be included and implemented to control off-site litter shall include, but not limited to, the following, as applicable:

- C. ~~Litter shall be controlled on nearby roads providing access to new or expanded non disposal facilities with a litter abatement program.~~ Prior to project operations, and routinely during project operations, the litter coordinator shall inspect public roads immediately adjacent to the non-disposal sites to document litter presence. If during operations, it is determined by the litter coordinator that an increase in off-site litter associated with the non-disposal facility is occurring compared to pre-project conditions, the non-disposal facility operator shall routinely conduct litter removal (or increase its existing off-site litter removal effort) on these roadways.
- D. Open cargo areas of vehicles (e.g., pick-ups, trucks, trailers, etc.) hauling waste shall be covered. This requirement will be enforced with financial penalties levied at the time of delivery to County Non-Disposal Sites and by the California Highway Patrol (CHP) in the areas near disposal sites.
- E. ~~A litter abatement program shall be implemented~~ To reduce litter accumulation resulting from the activities of commercial haulers, the litter abatement program could include, but not be limited to: 1) education of commercial haulers; and 2) requirements for thorough cleaning of debris boxes, covering emptied containers, or other similar measures, to reduce litter created upon exiting non-disposal facilities.
- F. The litter abatement program shall consider limiting non-disposal facility operations to commercial or private (general public) haulers, including the co-location of disposal and non-disposal facilities to reduce roadside litter.

As disclosed in the 2003 SPEIR, litter control measures cannot prevent all litter associated with truck travel related to non-disposal facilities, such as transfer stations. The same conclusion applies to litter generated during truck transport of waste from transfer stations

to out-of-County landfills. While the mitigation measures identified above would be effective in preventing some amount of litter, as well as cleaning up litter, there would sometimes be a lag between the time the litter becomes a significant environmental effect and the time that the litter can be removed. This impact is considered unavoidable. The following additional mitigation measure would contribute further to reducing the impact of litter; however, not to a level that would be less than significant. Therefore, Impact 5-1 is *significant and unavoidable*.

#### **Addition to Mitigation Measure 5-1**

- G. The litter abatement program shall require all commercial contractors to enclose, cover and /or seal all transfer vehicles to contain all solid waste and prevent spilling or scattering of solid waste during transportation thereof. If any material is spilled, whether on private or public property, the contractor shall clean it up within twenty-four hours after the earlier of receipt of notice from County or contractor's first having actual knowledge of the spill. If contractor does not clean it up within the required time, the County may clean it up, and the County shall be made whole for any costs incurred for the cleanup by the contractor.

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#### **Impact 5-2 Litter (Waste by Rail to Landfill)**

The waste transported by rail haul option associated with the modifications to the Siting Element identified in the project description could degrade the existing visual character or quality through the inadvertent generation of litter along rail routes.

The waste by rail option was not addressed in the 2003 SPEIR. Litter at new or upgraded facilities associated with the hauling waste by rail option could result in a significant impact to the visual character or quality at both the waste by rail facilities (e.g., local rail yard) and along the railroad route(s). At the facility site(s), litter could be generated when waste would be loaded into intermodal containers or gondola cars at the local rail yard. Specific visual impacts of litter at these facilities cannot be assessed until they are proposed with complete design and site information. In addition, the waste transported by rail haul option may result in a significant litter impact to the visual character and quality along the railroad route(s). Further analysis related to the generation of litter that would be associated with the transportation of waste by rail option would be conducted when a specific project is proposed.

As mentioned above, the potential exists for significant visual impacts to occur associated with the potential for the waste by truck haul option to generate litter along transfer station haul routes. The waste by rail process would have similar potential to generate litter along the transfer station haul routes to the local rail yard. Implementation of Mitigation Measure 5-2 would be required to reduce this impact.

#### **Mitigation Measure 5-2**

A litter abatement program shall be developed and implemented by each waste by rail facility operator demonstrating how inadvertent litter that may be generated on- and off-site

will be adequately controlled. Each facility's litter abatement program shall be submitted to, and approved by, the LEA prior to operations under the project.

Each waste by rail facility shall assign a litter coordinator who shall be responsible for implementing the litter abatement program and responding to any potential litter complaints by the public. The litter coordinator will determine the cause of the complaint and will ensure that reasonable measures are implemented to correct the problem. A contact telephone number for the litter coordinator shall be posted conspicuously at entrances to the waste by rail facilities.

On-site Mitigation - Measures to be included and implemented within each waste by rail facility to control litter shall include, but not limited to, the following, as applicable:

- A. Litter fences shall be established around new waste by rail facilities, as necessary to prevent litter blowing onto off-site areas.
- B. Litter along on-site roads shall be collected and removed routinely.

Off-site Mitigation - Measures to be included and implemented to control off-site litter shall include, but not limited to, the following, as applicable:

- C. Open cargo areas of intermodal containers or gondola cars hauling waste shall be covered.
- D. A litter abatement program shall be implemented to reduce litter accumulation resulting from the activities of commercial rail haulers. The program could include but not be limited to: 1) education of commercial haulers; and 2) requirements for thorough cleaning and emptying of intermodal containers or gondola cars, or other similar measures, to reduce litter created through waste by rail transport.
- E. The litter abatement program shall consider limiting non-disposal facility operations to commercial or private (general public) haulers, including the co-location of disposal and non-disposal facilities to reduce litter along the railroad and roadside.
- F. The litter abatement program shall require all commercial contractors to enclose, cover and /or seal all intermodal containers or gondola cars to contain all solid waste and prevent spilling or scattering of solid waste during transportation thereof. If any material is spilled, whether on private or public property, the contractor shall clean it up within twenty-four hours after the earlier of receipt of notice from County or contractor's first having actual knowledge of the spill. If contractor does not clean it up within the required time, the County may clean it up, and the County shall be made whole for any costs incurred for the cleanup by the contractor.

Similar to as described above under Impact 5-1, litter control measures cannot prevent all litter associated with rail transport of waste. While the mitigation measures identified above would be effective in preventing some amount of litter, there would be no guarantee that all litter would be controlled to avoid a significant environmental effect. Therefore, Impact 5-2 is *significant and unavoidable*.

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## 5.4 References

Sonoma County, 2008. Sonoma County 2020 General Plan, Open Space and Resource Conservation Element, adopted September 23, 2008.



## **SECTION 6**

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### **Air Quality**

#### **6.1 Introduction**

This section evaluates the potential impacts on air quality identified for the proposed revisions to the CoIWMP Household Hazardous Waste Element (HHWE) and the Siting Element (the project). Setting information and impacts and mitigations identified in Section 10 of the 2003 CoIWMP Final SPEIR are revised as described in this section.

#### **6.2 Setting**

##### **6.2.1 Environmental Setting**

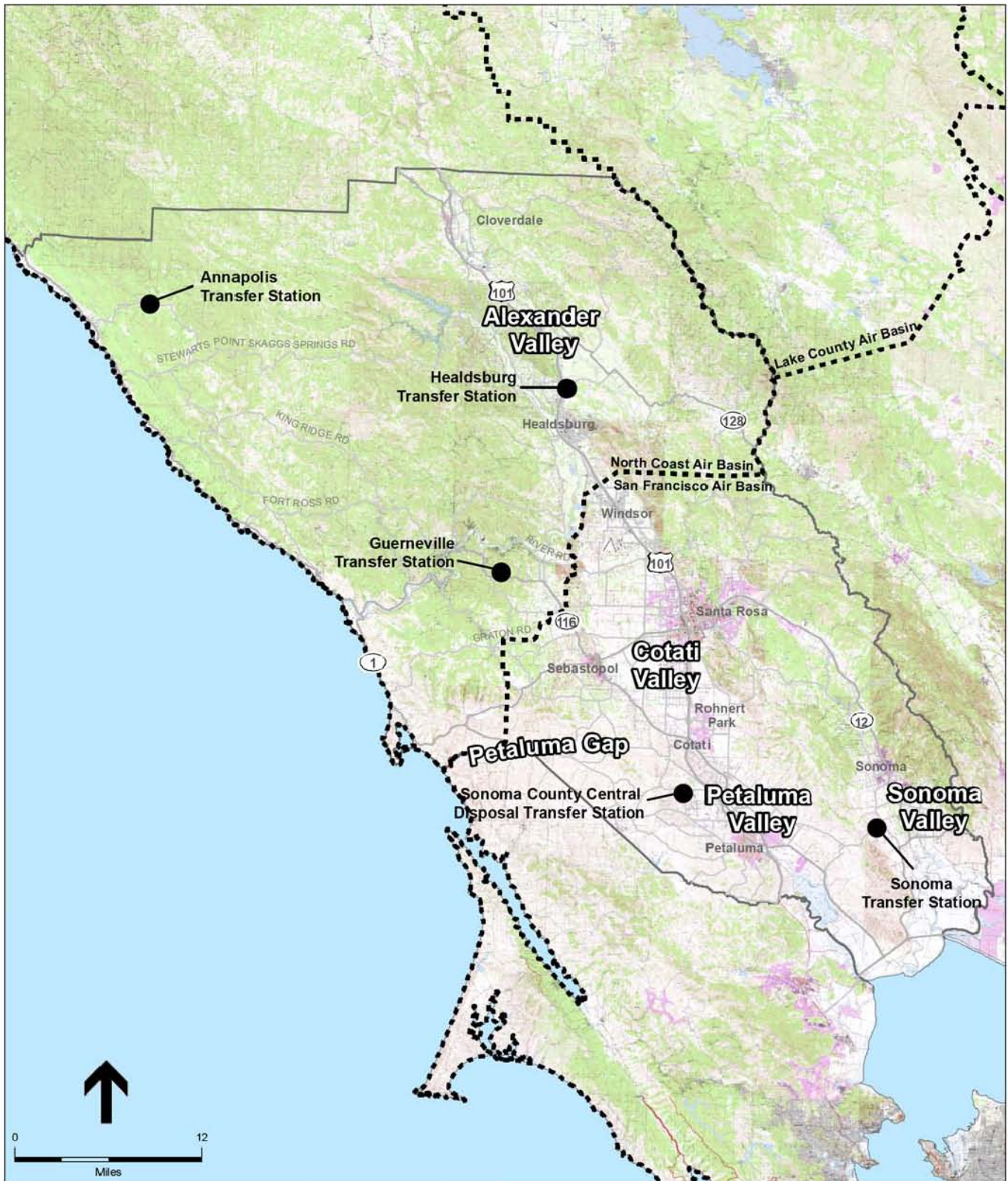
Air quality is a function of both the rate and location of pollutant emissions under the influence of meteorological conditions and topographic features that influence pollutant movement and dispersal. Atmospheric conditions such as wind speed, wind direction, atmospheric stability, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants, which affects air quality.

##### **Regional Topography, Meteorology, and Climate**

The potential for high pollutant concentrations developing at a given location depends upon the quantity of pollutants emitted into the atmosphere in the surrounding area or upwind, and the ability of the atmosphere to disperse the air pollutants. The atmospheric pollution potential, as the term is used in this SPEIR, is independent of the location of emission sources and is instead a function of factors such as topography and meteorology.

The plan area is Sonoma County, California. Sonoma County is split between two air basins with the northern portion located in the North Coast Air Basin and the southern portion is located in the San Francisco Bay Area Air Basin (see Figure 6-1). Climate throughout the County varies substantially due to complex topography.

The Cotati and Petaluma Valleys make up the subregion of the County that stretches from Santa Rosa to San Pablo Bay. This subregion is strongly influenced by the Petaluma Gap, the low lying region from the Estero Lowlands to the San Pablo Bay. In general, air pollution potential is higher in the Cotati Valley than the Petaluma Valley due to the fact that the Cotati Valley lacks a gap to the sea. The City of Petaluma typically has average maximum and minimum winter (i.e., January)



SOURCE: ColWMP, 2003; California Air Resources Board, 2004; USGS, 2008

Amendment to the Sonoma ColWMP, 207627

**Figure 6-1**  
Air Basins in the Project Area

temperatures of 56.9 and 37.6 °F, respectively, while average summer (i.e., July) maximum and minimum temperatures are 81.8 and 51.3 °F, respectively. Precipitation in the City of Petaluma averages approximately 25 inches of rainfall per year, with no snowfall (WRCC, 2009).

The Sonoma Valley sub-region of the County is a narrow valley that runs from north to south between the Sonoma Mountains and the Mayacamas Mountains. The narrow valley often traps and concentrates air pollutants under stable conditions, resulting in high air pollution potential. The City of Sonoma typically has average maximum and minimum winter (i.e., January) temperatures of 57.2 and 37.2 °F, respectively, while average summer (i.e., July) maximum and minimum temperatures are 81.8 and 51.1 °F, respectively. Precipitation in the City of Sonoma averages approximately 30 inches of rainfall per year, with no snowfall (WRCC, 2009).

The Alexander Valley is an interior valley that runs northwest to southeast and is bound on the west by the coastal mountains and on the east by the Mayacamas Mountains. This valley is subject to periods of high atmospheric stability, and is therefore subject to high air pollution potential. Cloverdale, which is located in the Alexander Valley, typically experiences average maximum and minimum winter (i.e., January) temperatures of 56.8 and 37.7 °F, respectively, while average summer (i.e., July) maximum and minimum temperatures are 91.2 and 52.7 °F, respectively. Precipitation in Cloverdale averages approximately 39 inches of rainfall per year, and 1.7 inches of snowfall (WRCC, 2009).

## Existing Air Quality

Bay Area Air Quality Management District (BAAQMD) and the Northern Sonoma County Air Pollution Control District (NSCAPCD) operate regional monitoring networks that measure the ambient concentrations of criteria pollutants. Existing levels of air quality in Sonoma County can generally be inferred from ambient air quality measurements conducted by BAAQMD at its Santa Rosa – 5<sup>th</sup> Street monitoring station. Table 6-1 shows a five-year (2004 – 2008) summary of monitoring data collected at the 5<sup>th</sup> Street monitoring station. The data are compared with the California Ambient Air Quality Standards (CAAQS) and the National Ambient Air Quality Standards (NAAQS).

## Sensitive Receptors

For the purposes of air quality and public health and safety, sensitive receptors are generally defined as land uses with population concentrations that would be particularly sensitive to air pollutants. Some sensitive receptors are considered to be more sensitive than others to air pollutants. The reasons for greater than average sensitivity include pre-existing health problems, proximity to emissions sources, or duration of exposure to air pollutants. Schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because children, elderly people, and the infirmed are more susceptible to respiratory distress and other air quality-related health problems than the general public. Residential areas are considered sensitive to poor air quality because people usually stay home for extended periods of time, with associated greater exposure to ambient air quality. Recreational uses are also considered sensitive due to the greater exposure to ambient air quality conditions because vigorous exercise associated with recreation places a high demand on the human respiratory system.

**TABLE 6-1**  
**AIR QUALITY DATA SUMMARY (2004–2008)**  
**5TH STREET MONITORING STATION – SANTA ROSA**

Pollutant	Standard	Monitoring Data by Year				
		2004	2005	2006	2007	2008
Ozone						
Highest One-Hour Average (ppm)		0.076	0.072	0.077	0.071	0.076
Days over State Standard	0.09	0	0	0	0	0
Highest Eight-Hour Average (ppm)		0.061	0.051	0.058	0.060	0.065
Days over State Standard	0.070	0	0	0	0	0
Days over National Standard	0.075	0	0	0	0	0
Nitrogen Dioxide						
Highest One-Hour Average (ppm)		0.048	0.047	0.044	0.046	0.049
Days over State Standard	0.18	0	0	0	0	0
Annual Average (ppm)		0.0111	0.011	0.011	0.011	0.011
Carbon Monoxide						
Highest Eight-Hour Average (ppm)		1.57	1.98	1.70	1.71	1.49
Days over State Standard	9.0	0	0	0	0	0
Particulate Matter (PM10)						
Highest 24-Hour Average (µg/m <sup>3</sup> ) <sup>a</sup>		48.1	38.9	89.5	37.2	49.9
Days over State Standard <sup>b</sup>	50	0	0	11.8	0	NA
Days over National Standard <sup>b</sup>	150	0	0	0	0	0
Annual Average (µg/m <sup>3</sup> ) <sup>a</sup>	20	18.0	15.9	18.8	17.1	NA
Particulate Matter (PM2.5)						
Highest 24-Hour Average (µg/m <sup>3</sup> ) <sup>a</sup>		26.6	33.6	59.0	32.0	30.8
Days over National Standard <sup>b</sup>	35	0	0	NA	0	0

Notes: NA = Data not available. ppm = parts per million;  $\mu\text{g}/\text{m}^3$  = micrograms per cubic meter.

<sup>a</sup> Concentrations and averages represent State statistics. State and national statistics may differ because of different sampling methods.

<sup>b</sup> Measurements are usually collected every six days. Days over the standard represent the estimated number of days that the standard would have been exceeded if data were collected every day.

SOURCE: CARB, 2009a.

## Regulatory Context

Air quality within the two basins is addressed through the efforts of various federal, State, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The air pollutants of concern and agencies primarily responsible for improving the air quality within the two air basins and the pertinent regulations are discussed below.

### Criteria Air Pollutants

Regulation of air pollution is achieved through both national and State ambient air quality standards and emission limits for individual sources of air pollutants. As required by the federal Clean Air Act, the U.S. Environmental Protection Agency (USEPA) has identified criteria pollutants and has established NAAQS to protect public health and welfare. NAAQS have been established for ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), particulate

matter (PM<sub>10</sub> and PM<sub>2.5</sub>), and lead (Pb). These pollutants are called “criteria” air pollutants because standards have been established for each of them to meet specific public health and welfare criteria.

To protect human health and the environment, the USEPA has set “primary” and “secondary” maximum ambient thresholds for each of the criteria pollutants. Primary thresholds were set to protect human health, particularly sensitive receptors such as children, the elderly, and individuals suffering from chronic lung conditions such as asthma and emphysema. Secondary standards were set to protect the natural environment and prevent further deterioration of animals, crops, vegetation, and buildings.

The NAAQS are defined as the maximum acceptable concentration that may be reached, but not exceeded more than once per year. California has adopted more stringent ambient air quality standards for most of the criteria air pollutants. Table 6-2 presents both sets of ambient air quality standards (i.e., national and State) and provides a brief discussion of the related health effects and principal sources for each pollutant. California has also established State ambient air quality standards for sulfates, hydrogen sulfide, and vinyl chloride; however, air emissions of these pollutants are not expected under the project and thus, there is no further mention of these pollutants in this SPEIR.

Sonoma County is designated as non-attainment for the State one- and eight-hour ozone standards. The portion of the County that falls within the North Coast Air Basin is designated as unclassified or attainment for all other national and State standards. However, the portion of the County within the San Francisco Air Basin is also classified as non-attainment for the national eight-hour ozone standard and will likely soon be classified as non-attainment for the national 24-hour PM<sub>2.5</sub> standard.<sup>1</sup> The portion of the County within the San Francisco Air Basin is also non-attainment for the State 24-hour PM<sub>10</sub> and PM<sub>2.5</sub> standards.

### **Ozone (O<sub>3</sub>)**

Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and that can cause substantial damage to vegetation and other materials. Ozone is not emitted directly into the atmosphere, but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and nitrogen oxides (NO<sub>x</sub>). ROG and NO<sub>x</sub> are known as precursor compounds for ozone. Significant ozone production generally requires ozone precursors to be present in a stable atmosphere with strong sunlight for approximately three hours. Ozone is a regional air pollutant because it is not emitted directly by sources, but is formed downwind of sources of ROG and NO<sub>x</sub> under the influence of wind and sunlight. Ozone concentrations tend to be higher in the late spring, summer, and fall, when long sunny days combine with regional subsidence inversions to create conditions conducive to the formation and accumulation of secondary photochemical compounds, like ozone. Ground level ozone in conjunction with suspended particulate matter in the atmosphere leads to hazy conditions generally termed as “smog.”

<sup>1</sup> The USEPA lowered the 24-hour PM<sub>2.5</sub> standard from 65 µg/m<sup>3</sup> to 35 µg/m<sup>3</sup> in 2006. USEPA issued attainment status designations for the 35 µg/m<sup>3</sup> standard on December 22, 2008. USEPA has designated the Bay Area as nonattainment for the 35 µg/m<sup>3</sup> PM<sub>2.5</sub> standard. The USEPA designation will be effective 90 days after publication of the regulation in the Federal Register. President Obama has ordered a freeze on all pending federal rules; therefore, the effective date of the designation is unknown at this time.

**TABLE 6-2**  
**CRITERIA AIR POLLUTANT STANDARDS, EFFECTS, AND SOURCES**

Pollutant	Averaging Time	State Standard	National Standard	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone	1 hour 8 hours	0.09 ppm 0.070 ppm	--- 0.075 ppm	High concentrations can affect lungs directly, causing irritation. Long-term exposure may cause damage to lung tissue.	Formed when reactive organic gases (ROG) and nitrogen oxides (NO <sub>x</sub> ) react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
Respirable Particulate Matter (PM10)	24 hours Annual Arithmetic Mean	50 µg/m <sup>3</sup> 20 µg/m <sup>3</sup>	150 µg/m <sup>3</sup> 50 µg/m <sup>3</sup>	May irritate eyes and respiratory tract, decreases lung capacity, associated with cancer and increased mortality. Produces haze and limits visibility.	Dust and fume-producing industrial/agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g. wind-raised dust, ocean spray).
Fine Particulate Matter (PM2.5)	24 hours Annual Arithmetic Mean	--- 12 µg/m <sup>3</sup>	35 µg/m <sup>3</sup> 15 µg/m <sup>3</sup>	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also formed secondarily from photochemical reactions of other pollutants, e.g., NO <sub>x</sub> , sulfur oxides, and organics.
Carbon Monoxide	1 hour 8 hours	20 ppm 9.0 ppm	35 ppm 9 ppm	Classified as a chemical asphyxiant, carbon monoxide interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline-powered motor vehicles.
Nitrogen Dioxide	1 hour Annual Avg.	0.18 ppm 0.030 ppm	--- 0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.
Sulfur Dioxide	1 hour 3 hours 24 hours Annual Average	0.25 ppm --- 0.04 ppm ---	--- 0.5 ppm 0.14 ppm 0.030 ppm	Irritates upper respiratory tract; damages lung tissue; yellows leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
Lead	30-day average Quarterly	1.5 µg/m <sup>3</sup> ---	--- 1.5 µg/m <sup>3</sup>	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurologic dysfunction.	Present source: lead smelters, battery manufacturing and recycling facilities. Past source: combustion of leaded gasoline.

NOTE: ppm = parts per million; µg/m<sup>3</sup> = micrograms per cubic meter.

SOURCE: BAAQMD, 1999 and CARB, 2009b.

### **Carbon Monoxide (CO)**

Carbon monoxide, a colorless and odorless gas is a non-reactive pollutant that is a product of incomplete combustion and is mostly associated with motor vehicles. When inhaled at high concentrations, carbon monoxide combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia.

CO measurements and modeling were important in the early 1980's when CO levels were regularly exceeded throughout California, but in more recent years CO measurements and modeling are not a priority in most California air districts due to the retirement of older polluting vehicles, less emissions from new vehicles, and improvements in fuels. The clear success in reducing CO levels is evident in the first paragraph of the executive summary of the California Air Resources Board *2004 Revision to the California State Implementation Plan for Carbon Monoxide Updated Maintenance Plan for Ten Federal Planning Areas*, shown below:

“The dramatic reduction in carbon monoxide (CO) levels across California is one of the biggest success stories in air pollution control. Air Resources Board (ARB or Board) requirements for cleaner vehicles, equipment, and fuels have cut peak CO levels in half since 1980, despite growth. All areas of the State designated as nonattainment for the federal 8-hour CO standard in 1991 now attain the standard, including the Los Angeles urbanized area. Even the Calexico area of Imperial County on the congested Mexican border had no violations of the federal CO standard in 2003. Only the South Coast and Calexico continue to violate the more protective State 8-hour CO standard, with declining levels beginning to approach that standard.”

### **Nitrogen Dioxide (NO<sub>2</sub>)**

Nitrogen dioxide is an air quality concern because it acts a respiratory irritant and is a precursor of ozone. Nitrogen dioxide is a major component of the group of gaseous nitrogen compounds commonly referred to NO<sub>x</sub>. Nitrogen oxides are produced by fuel combustion in motor vehicles, industrial stationary sources (such as industrial activities), ships, aircraft, and rail transit. Typically, nitrogen oxides emitted from fuel combustion are in the form of nitric oxide (NO) and nitrogen dioxide (NO<sub>2</sub>). NO is often converted to NO<sub>2</sub> when it reacts with ozone or undergoes photochemical reactions in the atmosphere. Therefore, emissions of NO<sub>2</sub> from combustion sources are typically evaluated based on the amount of NO<sub>x</sub> emitted from the source.

### **Sulfur Dioxide (SO<sub>2</sub>)**

Sulfur dioxide is a combustion product of sulfur or sulfur-containing fuels such as coal and oil, which are restricted in the Bay Area. Its health effects include breathing problems and it may cause permanent damage to lungs. SO<sub>2</sub> is an ingredient in acid rain (acid aerosols), which can damage trees, lakes, and property. Acid aerosols can also reduce visibility.

### **Particulate Matter**

PM<sub>10</sub> and PM<sub>2.5</sub> consist of particulate matter that is 10 microns or less in diameter and 2.5 microns or less in diameter, respectively. A micron is one-millionth of a meter, or less than one-25,000th



of an inch. For comparison, human hair is 50 microns or larger in diameter. PM10 and PM2.5 represent particulate matter of sizes that can be inhaled into the air passages and the lungs and can cause adverse health effects. Particulate matter in the atmosphere results from many kinds of aerosol-producing industrial and agricultural operations, fuel combustion, and atmospheric photochemical reactions. Some sources of particulate matter, such as demolition and construction activities, are more local in nature, while others, such as vehicular traffic, have a more regional effect. Very small particles (PM2.5) of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed<sup>2</sup> gases (e.g., chlorides or ammonium) that may be injurious to health. Particulates also can damage materials and reduce visibility.

PM10 emissions in the project area are mainly from urban sources, dust suspended by vehicle traffic, and secondary aerosols formed by reactions in the atmosphere. Particulate concentrations near residential sources generally are higher during the winter, when more fireplaces are in use and meteorological conditions prevent the dispersion of directly emitted contaminants.

Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases, heart and lung disease, and coughing, bronchitis, and respiratory illnesses in children. Mortality studies since the 1990's have shown a statistically significant direct association between mortality (premature deaths) and daily concentrations of particulate matter in the air. Despite important gaps in scientific knowledge and continued reasons for some skepticism, a comprehensive evaluation of the research findings provides persuasive evidence that exposure to fine particulate air pollution has adverse effects on cardiopulmonary health (Dockery and Pope 2006). The CARB has estimated that achieving the ambient air quality standards for PM10 could reduce premature mortality rates by 6,500 cases per year (CARB, 2002).

### **Lead**

Leaded gasoline (currently phased out), paint (houses, cars), smelters (metal refineries), and manufacture of lead storage batteries have been the primary sources of lead released into the atmosphere. Lead has a range of adverse neurotoxic health effects for which children are at special risk. Some lead-containing chemicals cause cancer in animals.

### ***Toxic Air Contaminants***

In addition to criteria air pollutants, toxic air contaminants (TAC) are another group of pollutants of concern. TACs, termed Hazardous Air Pollutants (HAPs) under federal regulations, are air pollutants that may cause or contribute to an increase in mortality or serious illness or may pose a hazard to human health. There are various sources of TACs, including industrial processes, commercial operations such as gasoline stations and dry cleaners, as well as motor vehicle exhaust. Nearly 200 substances have been designated TACs under California law, including benzene and diesel particulate matter (DPM).

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<sup>2</sup> "Adsorption" is a process that occurs when a gas or liquid accumulates on the surface of a solid and forms a film.



## Greenhouse Gases

Gases that trap heat in the atmosphere are called greenhouse gases (GHGs). The major concern with GHGs is that increases in their concentrations are causing global climate change. Global climate change is a change in the average weather on earth that can be measured by wind patterns, storms, precipitation, and temperature. Although there is disagreement as to the speed of global warming and the extent of the impacts attributable to human activities, most agree that there is a direct link between increased emissions of GHGs and long-term global temperature increases. What GHGs have in common is that they allow sunlight to enter the atmosphere, but trap a portion of the outward-bound infrared radiation, which warms the air. The process is similar to the effect greenhouses have in raising the internal temperature, hence the name “greenhouse gases.” Both natural processes and human activities emit GHGs. The accumulation of GHGs in the atmosphere regulates the earth’s temperature; however, emissions from human activities such as electricity production and the use of motor vehicles have elevated the concentration of GHGs in the atmosphere. This accumulation of GHGs has contributed to an increase in the temperature of the earth’s atmosphere and has contributed to global climate change.

The principal GHGs are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), sulfur hexafluoride (SF<sub>6</sub>), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), and water vapor (H<sub>2</sub>O). CO<sub>2</sub> is the most common reference gas for climate change. To account for warming potential, GHG emissions are often quantified and reported as CO<sub>2</sub> equivalents (CO<sub>2</sub>E). Large emission sources are reported in million metric tons of CO<sub>2</sub>E (MMTCO<sub>2</sub>E).

Some of the potential resulting effects in California of global warming may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (CARB, 2008a). Globally, climate change has the potential to impact numerous environmental resources through potential, though uncertain, impacts related to future air temperatures and precipitation patterns. The projected effects of global warming on weather and climate are likely to vary regionally, but are expected to include the following direct effects (IPCC, 2001):

- Higher maximum temperatures and more hot days over nearly all land areas;
- Higher minimum temperatures, fewer cold days and frost days over nearly all land areas;
- Reduced diurnal temperature range over most land areas;
- Increase of heat index over land areas; and
- More intense precipitation events.

Also, there are many secondary effects that are projected to result from global warming, including global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity. While the possible outcomes and the feedback mechanisms involved are not fully understood, and much research remains to be done, the potential for substantial environmental, social, and economic consequences over the long-term may be great.

The California Energy Commission (CEC) estimated that in 2004, California produced 492 MMTCO<sub>2</sub>E (CEC, 2006). The CEC found that the transportation sector is the largest source with 41 percent of the State's GHG emissions; followed by electricity generation at 22 percent and industrial sources at 21 percent.

## **Regulatory Setting**

### ***Federal***

USEPA is responsible for implementing the myriad programs established under the federal Clean Air Act, such as establishing and reviewing the NAAQS and judging the adequacy of State Implementation Plans (SIPs), but has delegated the authority to implement many of the federal programs to the states while retaining an oversight role to ensure that the programs continue to be implemented.

The federal Clean Air Act (CAA) requires the USEPA to define NAAQS to protect U.S. public health and welfare. The CAA does not specifically regulate GHG emissions; however, the U.S. Supreme Court has determined that GHGs are pollutants that can be regulated under the CAA. No federal regulations set ambient air quality emissions standards for GHGs, at the time of writing.

### ***State***

CARB is responsible for establishing and reviewing the State standards, compiling the California SIP and securing approval of that plan from USEPA, conducting research and planning, and identifying toxic air contaminants. CARB also regulates mobile sources of emissions in California, such as construction equipment, trucks, and automobiles, and oversees the activities of California's air quality management districts, which are organized at the county or regional level. County or regional air quality management districts are primarily responsible for regulating stationary sources at industrial and commercial facilities within their geographic areas and for preparing the air quality plans that are required under the federal Clean Air Act and California Clean Air Act.

### **Climate Change Program**

In 2005, in recognition of California's vulnerability to the effects of climate change, Governor Schwarzenegger established Executive Order S-3-05, which set forth a series of target dates by which statewide GHG emissions would be progressively reduced, as follows:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

California Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006, was enacted as legislation in 2006 and requires CARB to establish a statewide GHG emission cap for 2020 based on 1990 emission levels. AB 32 requires CARB to adopt regulations by January 1, 2008, that will identify and require selected sectors or categories of emitters of GHGs to report and verify their statewide GHG emissions, and CARB is authorized to enforce compliance with the program that

will be developed. Under AB 32, CARB was also required to adopt a statewide GHG emissions limit equivalent to the statewide GHG emissions levels in 1990, which must be achieved by 2020. By January 1, 2011, CARB is required to adopt rules and regulations (which shall become operative January 1, 2012) to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 permits the use of market-based compliance mechanisms to achieve those reductions. AB 32 also requires CARB to monitor compliance with and enforce any rule, regulation, order, emission limitation, emissions reduction measure, or market-based compliance mechanism that it adopts.

In December 2007, CARB approved the 2020 emission limit of 427 million metric tons of CO<sub>2</sub>E. The 2020 target of 427 million metric tons of CO<sub>2</sub>E requires the reduction of 169 million metric tons of CO<sub>2</sub>E, or approximately 30 percent, from the State's projected 2020 emissions of 596 million metric tons of CO<sub>2</sub>E (business-as-usual).

Also in December 2007, CARB adopted mandatory reporting and verification regulations pursuant to AB 32. The regulations became effective January 1, 2009, with the first reports covering 2008 emissions. The mandatory reporting regulations require reporting for certain types of facilities that make up the bulk of the stationary source emissions in California. Currently, the draft regulation language identifies major facilities as those that generate more than 25,000 metric tons/year of CO<sub>2</sub>E. Cement plants, oil refineries, electric-generating facilities/providers, cogeneration facilities, and hydrogen plants and other stationary combustion sources that emit more than 25,000 metric tons/year CO<sub>2</sub>E, make up 94 percent of the point source CO<sub>2</sub>E emissions in California (CARB, 2007a).

In June 2007, CARB directed staff to pursue 37 early actions for reducing GHG emissions under AB 32. In October 2007, CARB published the *Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California Recommended for Board Consideration* after evaluating all 48 recommendations submitted by stakeholders and several internally-generated staff ideas (CARB, 2007b).

In October of 2008, CARB released a Proposed Scoping Plan outlining the State's strategy to achieve the 2020 GHG emissions limit (CARB, 2008a). This Proposed Scoping Plan, developed by CARB in coordination with the Climate Action Team (CAT), proposes a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health. It was presented to the Board and approved on December 11, 2008. The measures in the Scoping Plan approved by the Board will be developed over the next two years and be in place by 2012.

The Scoping Plan expands the list of nine Early Action Measures into a list of 39 Recommended Actions. These measures and their potential to reduce GHG emissions by the year 2020 are presented in **Table 6-3**.

**TABLE 6-3  
RECOMMENDED ACTIONS OF CLIMATE CHANGE PROPOSED SCOPING PLAN**

Measure	Measure Description	GHG Reductions (Annual Million Metric Tons CO <sub>2</sub> E)
<b>Transportation</b>		
T-1	Pavley I and II – Light Duty Vehicle Greenhouse Gas Standards	31.7
T-2	Low Carbon Fuel Standard (Discrete Early Action)	15
T-3 <sup>1</sup>	Regional Transportation-Related Greenhouse Gas Targets	5
T-4	Vehicle Efficiency Measures	4.5
T-5	Ship Electrification at Ports (Discrete Early Action)	0.2
T-6	Goods Movement Efficiency Measures. • Ship Electrification at Ports • System-Wide Efficiency Improvements	3.5
T-7	Heavy-Duty Vehicle Greenhouse Gas Emission Reduction Measure – Aerodynamic Efficiency (Discrete Early Action)	0.93
T-8	Medium- and Heavy-Duty Vehicle Hybridization	0.5
T-9	High Speed Rail	1
<b>Electricity and Natural Gas</b>		
E-1	Energy Efficiency (32,000 GWh of Reduced Demand) • Increased Utility Energy Efficiency Programs • More Stringent Building & Appliance Standards Additional Efficiency and Conservation Programs	15.2
E-2	Increase Combined Heat and Power Use by 30,000 GWh (Net reductions include avoided transmission line loss)	6.7
E-3	Renewables Portfolio Standard (33% by 2020)	21.3
E-4	Million Solar Roofs (including California Solar Initiative, New Solar Homes Partnership and solar programs of publicly owned utilities) • Target of 3000 MW Total Installation by 2020	2.1
CR-1	Energy Efficiency (800 Million Therms Reduced Consumptions) • Utility Energy Efficiency Programs • Building and Appliance Standards • Additional Efficiency and Conservation Programs	4.3
CR-2	Solar Water Heating (AB 1470 goal)	0.1
<b>Green Buildings</b>		
GB-1	Green Buildings	26
<b>Water</b>		
W-1	Water Use Efficiency	1.4†
W-2	Water Recycling	0.3†
W-3	Water System Energy Efficiency	2.0†
W-4	Reuse Urban Runoff	0.2†
W-5	Increase Renewable Energy Production	0.9†
W-6	Public Goods Charge (Water)	TBD†
<b>Industry</b>		
I-1	Energy Efficiency and Co-Benefits Audits for Large Industrial Sources	TBD
I-2	Oil and Gas Extraction GHG Emission Reduction	0.2
I-3	GHG Leak Reduction from Oil and Gas Transmission	0.9
I-4	Refinery Flare Recovery Process Improvements	0.3
I-5	Removal of Methane Exemption from Existing Refinery Regulations	0.01

**TABLE 6-3  
RECOMMENDED ACTIONS OF CLIMATE CHANGE PROPOSED SCOPING PLAN**

Measure	Measure Description	GHG Reductions (Annual Million Metric Tons CO <sub>2</sub> E)
<b>Recycling and Water Management</b>		
RW-1	Landfill Methane Control (Discrete Early Action)	1
RW-2	Additional Reductions in Landfill Methane <ul style="list-style-type: none"> <li>• Increase the Efficiency of Landfill Methane Capture</li> </ul>	TBD†
RW-3	High Recycling/Zero Water <ul style="list-style-type: none"> <li>• Commercial Recycling</li> <li>• Increase Production and Markets for Compost</li> <li>• Anaerobic Digestion</li> <li>• Extended Producer Responsibility</li> <li>• Environmentally Preferable Purchasing</li> </ul>	9†
<b>Forests</b>		
F-1	Sustainable Forest Target	5
<b>High Global Warming Potential (GWP) Gases</b>		
H-1	Motor Vehicle Air Conditioning Systems: Reduction of Refrigerant Emissions from Non-Professional Services (Discrete Early Action)	0.26
H-2	SF <sub>6</sub> Limits in Non-Utility and Non-Semiconductor Applications (Discrete Early Action)	0.3
H-3	Reduction of Perfluorocarbons in Semiconductor Manufacturing (Discrete Early Action)	0.15
H-4	Limit High GWP Use in Consumer Products Discrete Early Action (Adopted June 2008)	0.25
H-5	High GWP Reductions from Mobile Sources <ul style="list-style-type: none"> <li>• Low GWP Refrigerants for New Motor Vehicle Air Conditioning Systems</li> <li>• Air Conditioner Refrigerant Leak Test During Vehicle Smog Check</li> <li>• Refrigerant Recovery from Decommissioned Refrigerated Shipping Containers</li> <li>• Enforcement of Federal Ban on Refrigerant Release during Servicing or Dismantling of Motor Vehicle Air Conditioning Systems</li> </ul>	3.3
H-6	High GWP Reductions from Stationary Sources <ul style="list-style-type: none"> <li>• High GWP Stationary Equipment Refrigerant Management Program: <ul style="list-style-type: none"> <li>◦ Refrigerant Tracking/Reporting/Repair Deposit Program</li> <li>◦ Specifications for Commercial and Industrial Refrigeration Systems</li> </ul> </li> <li>• Foam Recovery and Destruction Program</li> <li>• SF Leak Reduction and Recycling in Electrical Applications</li> <li>• Alternative Suppressants in Fire Protection Systems</li> <li>• Residential Refrigeration Early Retirement Program</li> </ul>	10.9
H-7	Mitigation Fee on High GWP Gases	5
<b>Agriculture</b>		
A-1	Methane Capture at Large Dairies	1.0†

<sup>1</sup> This is not the SB 375 regional target. CARB will establish regional targets for each MPO region following the input of the regional targets advisory committee and a consultation process with MPO's and other stakeholders per SB 375

† GHG emission reduction estimates are not included in calculating the total reductions needed to meet the 2020 target

The following recommended actions may be applicable to the project:

*(T-7) Heavy Duty Vehicle Greenhouse Gas Emissions Reductions from Aerodynamic Efficiency (Discrete Early Action).* This measure would increase heavy-duty vehicle (long-haul trucks) aerodynamic efficiency by requiring installation of best available technology (BACT) and/or CARB approved technology to reduce aerodynamic drag and rolling resistance.

This measure has been identified as a Discrete Early Action and therefore must be enforceable starting in 2010.

*(T-8) Medium- and Heavy-Duty Vehicle Hybridization.* This measure would either require or create incentives for medium- and heavy-duty vehicles used in vocational applications such as parcel delivery trucks, garbage trucks, utility trucks, and transit buses to be equipped with hybrid electric technology. Hybrid technology would provide benefits due to the stop-and-go nature of these applications.

*(RW-1) Landfill Methane Control (Discrete Early Action).* This discrete early action measure would set statewide standards for the installation and performance of active gas collection/control systems at uncontrolled municipal solid waste (MSW) landfills. This measure is currently in the regulatory development process and is anticipated to be fully adopted by January 1, 2010.

*(RW-2) Additional Reductions in Landfill Methane – Capture Improvements.* This measure would further increase the efficiency of landfill methane capture by working to implement best management practices (BMPs) outlined in the California Integrated Waste Management Board's (CIWMB) document titled "Technologies and Management Practices for Reducing Greenhouse Gas Emissions from Landfills."

*(RW-3) High Recycling/Zero Waste.* This measure would reduce GHG emissions by reducing energy use associated with the acquisition of raw material in the manufacturing stage of a product's life-cycle. The measure would also increase the amount of organic material diverted to compost facilities and would encourage the use of anaerobic digestion to produce fuels/energy.

Senate Bill 97 (SB 97) acknowledges that local agencies must analyze the environmental impact of GHGs under CEQA. Furthermore, SB 97 requires that the State Office of Planning and Research (OPR) develop CEQA guidelines for analyzing and mitigating GHG emissions. In response to SB 97, OPR requested that CARB develop a statewide threshold of significance for addressing GHG emissions under CEQA. In response to this request, CARB published a preliminary draft proposal titled "Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under CEQA." The proposal does not attempt to address every type of project that may be subject to CEQA, but instead focuses on common project types that, collectively, are responsible for substantial GHG emissions – specifically, industrial, residential, and commercial projects. CARB is developing thresholds in these sectors to advance climate objectives, streamline project review, and encourage consistency and uniformity in the CEQA analysis of GHG emissions throughout the State.

CARB's staff has developed a preliminary interim threshold concept for industrial projects (CARB, 2008b). The objective is to develop thresholds for projects in this sector that will result in a substantial portion of the GHG emissions from new projects being subject to CEQA's mitigation requirement, consistent with a lead agency's obligation to "avoid or minimize environmental damage where feasible."

CARB staff's objective in this proposal is to develop a threshold of significance that will result in the vast majority (~90% statewide) of the GHG emissions from new industrial projects being subject to CEQA's requirement to impose feasible mitigation. CARB believes this can be accomplished with a threshold that allows small projects to be considered insignificant. CARB staff used existing data for the industrial sector to derive a proposed hybrid threshold. The threshold

consists of a quantitative threshold of 7,000 metric tons of CO<sub>2</sub> equivalent per year (MTCO<sub>2</sub>E/year) for operational emissions (excluding transportation), and performance standards for construction and transportation emissions. These performance standards have not yet been developed (CARB, 2008b). The finalized thresholds are not expected until at least mid-2009.

In accordance with its requirements under SB 97, OPR has developed preliminary draft amendments to the CEQA Guidelines for regulatory guidance with respect to the analysis and mitigation of the potential effects of GHG emissions (OPR, 2009). OPR does not identify a threshold of significance for GHG in the amendments, nor does it recommend assessment methodologies or specific mitigation measures. Rather, the preliminary draft amendments encourage lead agencies to consider many factors in performing a CEQA analysis, but preserve the discretion granted by CEQA to lead agencies in making their own determinations based on substantial evidence. The process of finalizing and adopting the amendments must be completed by January 1, 2010, pursuant to Senate Bill 97. Summaries of the main amendments, as they pertain to the proposed project, are provided below.

Preliminary draft CEQA Guidelines Section 15064.4, Determining the Significance of Impacts from Greenhouse Gas Emissions, encourages lead agencies to consider four factors to assess the significance of GHG emissions, including the extent that the project: 1) would help or hinder the state's goals of reducing GHG emissions to 1990 levels by the year 2020 as stated in the Global Warming Solutions Act of 2006; 2) may increase the consumption of fuels or other energy resources; 3) may result in increased energy efficiency of and a reduction in overall GHG emissions from an existing facility; and 4) impacts or emissions exceed any threshold of significance that applies to the project. Preliminary draft CEQA Guidelines Section 15064.4 also recommends that lead agencies make a good-faith effort, based on available information, to describe, calculate, or estimate the amount of GHG emissions associated with a project, including emissions associated with energy consumption and vehicular traffic.

Preliminary draft text has been added to CEQA Guidelines Section 15126.4, Consideration and Discussion of Mitigation Measures Proposed to Minimize Significant Effects, that includes considerations for lead agencies related to feasible mitigation measures to reduce GHG emissions, including but not limited to the project's energy consumption, including consumption of fossil fuels. Added recommended considerations are that mitigation measures may include: project features, project design, or other measures which are incorporated into the project to substantially reduce energy consumption or GHG emissions; compliance with the requirements in a previously approved plan or mitigation program for the reduction or sequestration of GHG emissions, which plan or program provides specific requirements that will avoid or substantially lessen the potential impacts of the project; and measures that sequester carbon or carbon-equivalent emissions. In addition, the added draft text CEQA Guidelines Section 15126.4 include a requirement that where mitigation measures are proposed for reduction of GHG emissions through off-site measures or purchase of carbon offsets, these mitigation measures must be part of a reasonable plan of mitigation that the relevant agency commits itself to implementing.

In addition, as part of the preliminary draft CEQA Guideline amendments, OPR added a new set of environmental checklist questions (i.e., VII. Greenhouse Gas Emissions) to the CEQA Guidelines Appendix G. The new set includes the following two questions:

- A. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, based on any applicable threshold of significance?
- B. Would the project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

## **Local**

### **Bay Area Air Quality Management District (BAAQMD)**

BAAQMD is the regional agency with jurisdiction over the nine-county region located in the Basin. The Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC), county transportation agencies, cities and counties, and various non-governmental organizations also join in the efforts to improve air quality through a variety of programs. These programs include the adoption of regulations and policies, as well as implementation of extensive education and public outreach programs.

The BAAQMD is responsible for bringing and/or maintaining air quality in the Basin within federal and State air quality standards. Specifically, the BAAQMD has the responsibility to monitor ambient air pollutant levels throughout the Basin and to develop and implement strategies to attain the applicable federal and State standards.

In December 1999, the BAAQMD adopted its *CEQA Guidelines – Assessing the Air Quality Impacts of Projects and Plans*, as a guidance document to provide lead government agencies, consultants, and project proponents with uniform procedures for assessing air quality impacts and preparing the air quality sections of environmental documents for projects subject to CEQA. The *BAAQMD CEQA Guidelines* is an advisory document and local jurisdictions are not required to utilize the methodology outlined therein. The document describes the criteria that the BAAQMD uses when reviewing and commenting on the adequacy of environmental documents. It recommends thresholds for use in determining whether projects would have significant adverse environmental impacts, identifies methodologies for predicting project emissions and impacts, and identifies measures that can be used to avoid or reduce air quality impacts.

Air quality plans developed to meet federal requirements are referred to as SIPs. The federal CAA and the California CAA require plans to be developed for areas designated as nonattainment (with the exception of areas designated as nonattainment for the State PM<sub>10</sub> standard). The BAAQMD is currently preparing the *2009 Bay Area Clean Air Plan*, which will replace the existing *Bay Area 2005 Ozone Strategy*. This plan will include ozone control measures and will also consider the impacts of these control measures on particulate matter (PM), air toxics, and GHG in a single, integrated plan (BAAQMD, 2008). However, until the new plan is published, the *Bay Area 2005 Ozone Strategy* is the applicable air quality plan for the project study area.



The 2005 *Bay Area Ozone Strategy* explains how the Basin will achieve compliance with the State one-hour air quality standard for ozone as expeditiously as practicable and how the region will reduce transport of ozone and ozone precursors to neighboring air basins. The Strategy also discusses related air quality issues of interest including the BAAQMD's public involvement process, climate change, fine particulate matter, the BAAQMD's Community Air Risk Evaluation program, local benefits of ozone control measures, the environmental review process, national ozone standards, and photochemical modeling (BAAQMD, 2006).

### **Sonoma County**

The Sonoma County General Plan Resource Conservation Element includes goals and policies regarding the protection and enhancement of air quality in the region. The County's goal in maintaining air quality is to "Preserve and maintain good air quality and provide for an air quality standard that will protect human health and preclude crop, plant, and property damage in accordance with the requirement of the federal and State Clean Air Acts" (Sonoma County, 2008a). The Resource Conservation Element contains the following objectives and policy that would generally be applicable to the proposed project:

*Objective OSRC-16.1:* Minimize air pollution and greenhouse gas emissions.

*Objective OSRC-16.2:* Encourage reduced motor vehicle use as a means of reducing resultant air pollution.

*Policy OSCR-16i:* Ensure that any proposed new source of toxic air contaminants or odors provide adequate buffers to protect sensitive receptors and comply with applicable health standards. Promote land use compatibility for new development by using buffering techniques such as landscaping, setbacks, and screening in areas where such land uses abut one another.

Sonoma County has taken a leadership role in climate protection by being the first county in the nation where 100 percent of its cities and the county pledged by resolution to reduce both greenhouse gas and air pollution emissions throughout the community, and by being the first county in the nation where 100 percent of its cities and the county determined their baseline greenhouse gas emissions for municipal operations. Sonoma County released its Community Climate Action Plan in October 2008. This plan presents a number of solutions to reduce countywide GHG emissions by 25 percent below 1990 levels by 2015. These solutions focus on reductions in four sections: Electricity and Natural Gas, Transportation and Land Use, Agriculture and Forests, and Solid Waste. Solutions focusing on solid waste include the following (CPC, 2008):

1. Reducing the amount of waste generated.
2. Reuse products and packaging.
3. Recycle or compost discards including products, packing, and organic matter.
4. Landfill remaining "waste" locally and produce energy.
5. Fully implement the Countywide Integrated Waste Management Plan.
6. Track progress and issue an annual report card on the amount of GHG emissions reduced in the Solid Waste sector in Sonoma County.

## 6.3 Impacts and Mitigation Measures

### Significance Criteria

According to Appendix G of the CEQA *Guidelines*, and based on State's GHG reduction goals and strategies, the project would have a significant effect on air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any nonattainment pollutant (including releasing emissions that exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations;
- Create objectionable odors affecting a substantial number of people;
- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, based on any applicable threshold of significance; or
- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

It should be noted that the last two significance criteria listed above are criteria proposed by the State Office and Planning and Research and have not been finalized; however, they are used herein as analytical tools.

### Criteria Pollutants

As noted in the 2003 SPEIR, the BAAQMD has set CEQA significance thresholds for operational emissions of reactive organic gases (ROG), oxides of nitrogen (NO<sub>x</sub>), and PM<sub>10</sub>. The NSCAPCD has not adopted CEQA significance thresholds; however, it does have significance thresholds for new or modified stationary source permits. The BAAQMD and NSCAPCD thresholds are presented in Table 6-4. The BAAQMD thresholds of significance are more stringent than NSCAPCD's thresholds. Therefore, to be conservative, emission rates from the project generated within the San Francisco Bay Area Air Basin and in the northern Sonoma County portion of the North Coast Air Basin were combined and compared to the BAAQMD thresholds to determine significance.

**TABLE 6-4  
BAAQMD AND NSCAPCD THRESHOLDS OF SIGNIFICANCE FOR PROJECT OPERATIONS**

Pollutant	BAAQMD Threshold		NSCAPCD Threshold	
	(tons/year)	(pounds/day)	(tons/year)	(pounds/day)
ROG	15	80	40	219
NOx	15	80	40	219
PM10	15	80	15	80
CO	NA	550	100	550

Note: For the purposes of this review, the NSCAPCD significance threshold for CO of 100 tons/year is also appropriate for within the BAAQMD.

NA = not applicable

SOURCE: BAAQMD, 1999 and NSCAPCD, 1980.

### ***Greenhouse Gas Emissions***

GHG emissions were not analyzed in the 2003 SPEIR. Based on a review of recent publications and actions from CARB and the Governor's Office of Planning and Research (OPR) technical advisory regarding analysis of GHGs in CEQA documents (CARB 2007, CARB 2008a, OPR, 2008, and OPR, 2009) four considerations were used to evaluate whether the project could result in emissions that could conflict with the State goals for reducing GHG emissions. The considerations include:

- A. Any potential conflicts with the CARB's thirty-nine recommended actions.
- B. The relative size of the project. The project's greenhouse gas emissions will be compared to the size of major facilities that are required to report GHG emissions (25,000 metric tons/year of CO<sub>2</sub>E) to the State; and the project size will be compared to the estimated greenhouse reduction state goal of 169 million metric tons per year of CO<sub>2</sub>E emissions by 2020. As noted above the 25,000 metric ton annual limit identifies the large stationary point sources in California that make up approximately 94 percent of the stationary emissions. If the project's total emissions are below this limit, its total emissions are equivalent in size to the smaller projects in California that as a group only make up 6 percent of all stationary emissions. It is assumed that the activities of these smaller projects generally would not conflict with State's ability to reach AB 32 overall goals.
- C. The basic energy efficiency parameters of a project to determine whether its design is inherently energy efficient.
- D. Any potential conflicts with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

## **Impact Discussion**

### **Impact 6-1: Air Pollutant Emissions (New Household Hazardous Waste Collection Facilities)**

The proposed revisions to the HHWE would allow the SCWMA the flexibility to create additional permanent household hazardous waste collection facilities in the County at locations other than the Central Disposal Site. Construction of new facilities could require the use of heavy-duty equipment that would result in the short-term generation of criteria pollutants. Operation of new

household hazardous waste collection facilities could result in long-term emissions of TACs and criteria pollutants. The main source of long-term pollutant emissions would be vehicle traffic to and from the hazardous waste facilities. Currently, there are no proposed sites selected for additional household hazardous waste collection facilities; therefore, impacts to sensitive receptors cannot be determined until a site specific project is proposed.

With regard to impacts to regional air quality, additional permanent household hazardous waste collections facilities would likely result in a net reduction in vehicle miles traveled in the County, which would result in commensurate reduction in vehicular emissions. For example, if a household hazardous waste collection facility is established in the northern part of the County, residents that live in the area would be able to drop-off household hazardous wastes closer to home, eliminating the need to drive the extra miles to the Central Disposal Site. Therefore, long-term impacts to regional air quality that would be associated with the revisions to the HHWE would be anticipated to be *less than significant*.

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#### **Impact 6-2: Air Pollutant Emissions (Revisions to the Siting Element)**

Proposed revisions to the Siting Element reflect the fact that all landfilling of solid waste at the Central Disposal Site has been suspended and that no waste is currently disposed of within Sonoma County. The project analyzed in the 2003 SPEIR did not include an option for out-of-County haul by truck because at that time disposal was still taking place within the County. The proposed revisions to the Siting Element include a short-term disposal strategy and a medium-term disposal strategy. The short-term disposal strategy is to continue the out-of-County transport by truck disposal with contracts that are currently in place, which would ensure sufficient disposal capacity until 2010, when the contracts are scheduled to expire. The medium-term (years 2010 through 2024) disposal strategy would consider the following three options: out-of-County disposal with waste transport by truck; out-of-County disposal with waste transport by rail (WBR); and divestiture of the County Disposal System to a private owner who may resume operation and possibly pursue expansion of the Central Disposal Site.

As discussed in Section 4, Approach to Environmental Analysis, two baseline scenarios are used to assess potential impacts associated with proposed revisions to the Siting Element: Baseline Scenario 1, which includes the 2003 CoIWMP conditions when no out-of-County hauling of refuse by truck occurred, and Baseline Scenario 2, where out-of-County hauling of refuse by truck is occurring.

##### Short-term Strategy

The short-term disposal strategy does not include construction of any new facilities, and therefore no impacts would occur with regard to construction emissions. The short-term disposal strategy is analogous with Baseline Scenario 2, as it assumes continued out-of-County transport of waste by truck. For the purpose of analyzing impacts from operation of the short-term disposal strategy, emissions from existing operations were calculated. Also, emissions were calculated for

Baseline Scenario 1 conditions assuming waste is disposed of in-County in accordance with conditions set forth in the 2003 CoIWMP. Daily 2007 transfer truck trip amounts from each of the existing County transfer stations to each of the current out-of-County contracted landfills were used in this analysis. Round trip route distances from each of the County transfer stations to each of the potential out-of-County landfills were multiplied by the appropriate 2007 actual trip numbers maintained by the County of Sonoma (SCWMA, 2008) to obtain a total mileage during 2007. To determine mileage under the Baseline Scenario 1, 2007 trip numbers were multiplied by the distance between each transfer station and the Central Disposal Site. The total mileage amounts for both scenarios were multiplied by criteria pollutant emission factors derived using CARB's EMFAC2007 emissions model to determine maximum daily and annual emissions. These emissions estimates are outlined in Table 6-5 below.

Under Baseline Scenario 1, when no out-of-County hauling of refuse occurred, project related  $\text{NO}_x$  emissions from the short-term disposal strategy would exceed BAAQMD's emissions thresholds for  $\text{NO}_x$ , resulting in an impact that would be *potentially significant*. Under Baseline Scenario 2, which includes out-of-County truck hauling of refuse, the emissions identified in Table 6-5 are considered to be part of the baseline conditions. Therefore, there would be a *less than significant impact* associated with the short-term disposal strategy.

**TABLE 6-5  
EMISSIONS FROM SHORT-TERM DISPOSAL STRATEGY (HAUL BY TRUCK) -2007**

	Pollutant					
	ROG	CO	$\text{NO}_x$	SOx	PM10	PM2.5
Baseline 1 Daily Emissions (2003 CoIWMP)	5	42	89	<1	3	3
Out-of-County Haul	18	156	328	<1	12	11
<i>Increase under Baseline Scenario 1<sup>a</sup></i>	<i>13</i>	<i>114</i>	<i>239</i>	<i>&lt;1</i>	<i>9</i>	<i>8</i>
Significance Threshold	80	550	80	NA	80	NA
Significant increase from Baseline 1 (Yes or No)?	No	No	Yes	NA	No	NA

<sup>a</sup> Increase may appear to not add up due to rounding issues.

See Appendix D for all assumptions and emissions factors used to estimate emissions.

### Medium-Term Strategy

The medium-term strategy includes three options for waste disposal. The waste transported by truck haul option would not require construction of any new facilities and therefore, there would be no construction emissions associated with this option. The WBR option would require upgrades to existing transfer stations and construction of a local rail yard. Construction of upgrades and new facilities would generate emissions of criteria pollutants from heavy duty equipment and worker vehicle trips. The exact location of a local rail yard has not yet been determined; therefore, localized impacts to sensitive receptors cannot be determined at this time. The divestiture strategy could result in the resumed operation and potentially expansion of the Central Disposal Site facility; however, construction activities associated with this option are discussed in more detail under Impact 6-4 (a).

Operational emissions associated with each of the three medium-term disposal options were quantified based on the assumption that waste would increase one percent<sup>3</sup> per year between 2007 and 2010. As illustrated in Table 6-6 under Baseline Scenario 2 for the 2010 Haul by Truck option, although the waste stream is assumed to increase each year, the vehicular emission factors used to estimate emissions decrease each year due to the assumed fleet turnover from older more polluting vehicles to newer more efficient vehicles and increased maintenance effectiveness. These assumptions are built into the CARB EMFAC2007 emission factors based on vehicular regulatory requirements for emission reductions.

Truck hauling emissions were calculated using the same methodology described above for the short-term disposal strategy. Haul by rail emissions were calculated using estimated rail mileage from Sonoma County for three different scenarios: haul to the ECDC landfill in East Carbon City, Utah; haul to the Columbia Ridge Landfill in Oregon; and haul to the Russell Pass Landfill in Nevada.<sup>4</sup> Locomotive emission factors were obtained from the USEPA. Since the haul by rail scenario involves travel outside of the air districts, emissions were grouped by travel in the BAAQMD and NSCAPCD and by total emissions generated. Emissions generated within the BAAQMD and NSCAPCD were quantified by estimating the mileage of the rail trips that would occur within the districts. Note that for the purposes of this CEQA review, the emissions generated outside the BAAQMD and NSCAPCD are also compared to the BAAQMD significance thresholds. For the divestiture option, round-trip distances from each of the transfer stations to the Central Disposal Site were multiplied by the number of projected trips in 2010 to determine the total distance traveled.

Estimated daily emission rates for each of these options as well as the net emissions compared to Baseline Scenario 1 and Baseline Scenario 2 emissions are outlined in Table 6-6 below. Figures 6-2 and 6-3 present graphical comparisons of daily NO<sub>x</sub> emissions for each of the circumstances demonstrated in the table compared to Baseline Scenario 1 and Baseline Scenario 2, respectively.

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<sup>3</sup> The annual increase in waste of approximately one percent is based on assumed future growth (i.e., 0.95 percent), offset by diversion activities (BVA, 2006). It is acknowledged that waste generation has actually decreased in recent years due to the current economic downturn; however, for the purposes of a conservative analysis, an annual increase of one percent is assumed.

<sup>4</sup> The truck and train mileage amounts used to estimate the emissions presented in this table are used for the purposes of conducting a reasonable quantitative impact analysis. Although the assumptions used to estimate the emissions are reasonable, the medium term disposal strategies do not commit to using any specific solid waste disposal facilities.

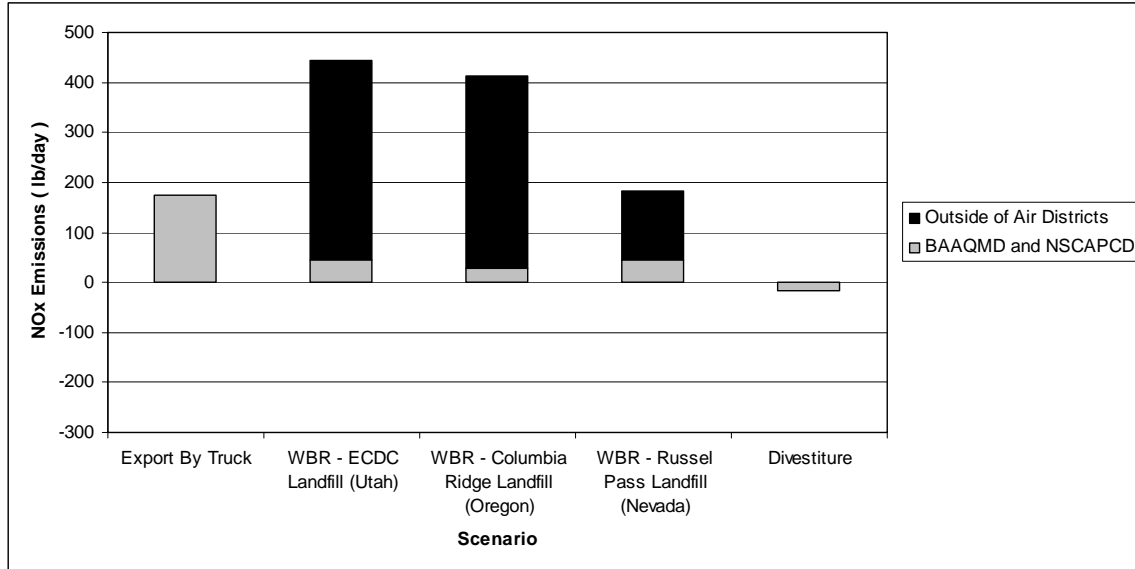
**TABLE 6-6**  
**DAILY EMISSIONS FROM MEDIUM-TERM DISPOSAL STRATEGY - 2010**

Option	Emissions (lbs/day)					
	ROG	CO	NO <sub>x</sub>	SO <sub>x</sub>	PM10	PM2.5
Baseline Scenario 1 (2003 ColWMP)	5	42	89	0	3	3
Baseline Scenario 2 (Haul by Truck)	18	156	328	0	12	11
2010 Haul by Truck	15	117	262	0	10	9
<i>Difference from Baseline Scenario 1</i>	<i>10</i>	<i>74</i>	<i><b>173</b></i>	<i>0</i>	<i>7</i>	<i>6</i>
<i>Difference from Baseline Scenario 2</i>	<i>-3</i>	<i>-39</i>	<i>-66</i>	<i>0</i>	<i>-2</i>	<i>-2</i>
BAAQMD Significance Threshold	80	550	80	NA	80	NA
Significant increase from Baseline Scenario 1?	No	No	Yes	NA	No	NA
Significant increase from Baseline Scenario 2?	No	No	No	NA	No	NA
2010 Haul By Rail (Utah) (Total)	14	191	532	23	14	13
<i>Difference from Baseline Scenario 1</i>	<i>10</i>	<i>149</i>	<i><b>443</b></i>	<i>23</i>	<i>11</i>	<i>10</i>
<i>Difference from Baseline Scenario 2</i>	<i>-3</i>	<i>35</i>	<i><b>204</b></i>	<i>23</i>	<i>2</i>	<i>2</i>
2010 Haul By Rail (Utah) (Local Air Basins)	6	56	134	2	5	4
<i>Difference from Baseline Scenario 1</i>	<i>1</i>	<i>14</i>	<i>45</i>	<i>2</i>	<i>1</i>	<i>1</i>
<i>Difference from Baseline Scenario 2</i>	<i>-12</i>	<i>-100</i>	<i>-194</i>	<i>2</i>	<i>-8</i>	<i>-7</i>
BAAQMD Significance Threshold	80	550	80	NA	80	NA
Significant increase from Baseline Scenario 1?	No	No	Yes <sup>a</sup>	NA	No	NA
Significant increase from Baseline Scenario 2?	No	No	Yes <sup>a</sup>	NA	No	NA
2010 Haul By Rail (Oregon) (Total)	14	181	503	22	14	12
<i>Difference from Baseline Scenario 1</i>	<i>9</i>	<i>139</i>	<i><b>414</b></i>	<i>22</i>	<i>10</i>	<i>9</i>
<i>Difference from Baseline Scenario 2</i>	<i>-4</i>	<i>25</i>	<i><b>175</b></i>	<i>21</i>	<i>1</i>	<i>2</i>
2010 Haul By Rail (Oregon) (Local Air Basins)	6	50	118	1	4	4
<i>Difference from Baseline Scenario 1</i>	<i>1</i>	<i>8</i>	<i>29</i>	<i>1</i>	<i>1</i>	<i>1</i>
<i>Difference from Baseline Scenario 2</i>	<i>-12</i>	<i>-106</i>	<i>-210</i>	<i>1</i>	<i>-8</i>	<i>-7</i>
BAAQMD Significance Threshold	80	550	80	NA	80	NA
Significant increase from Baseline Scenario 1?	No	No	Yes <sup>a</sup>	NA	No	NA
Significant increase from Baseline Scenario 2?	No	No	Yes <sup>a</sup>	NA	No	NA
2010 Haul By Rail (Nevada) (Total)	9	102	271	9	8	7
<i>Difference from Baseline Scenario 1</i>	<i>4</i>	<i>60</i>	<i><b>182</b></i>	<i>9</i>	<i>5</i>	<i>4</i>
<i>Difference from Baseline Scenario 2</i>	<i>-9</i>	<i>-54</i>	<i>-57</i>	<i>9</i>	<i>-4</i>	<i>-4</i>
2010 Haul By Rail (Nevada) (Local Air Basins)	6	56	134	2	5	4
<i>Difference from Baseline Scenario 1</i>	<i>1</i>	<i>14</i>	<i>45</i>	<i>2</i>	<i>1</i>	<i>1</i>
<i>Difference from Baseline Scenario 2</i>	<i>-12</i>	<i>-100</i>	<i>-194</i>	<i>2</i>	<i>-8</i>	<i>-7</i>
BAAQMD Significance Threshold	80	550	80	NA	80	NA
Significant increase from Baseline Scenario 1?	No	No	Yes <sup>a</sup>	NA	No	NA
Significant increase from Baseline Scenario 2?	No	No	No	NA	No	NA
2010 Divestiture	4	32	71	0	3	2
<i>Difference from Baseline Scenario 1</i>	<i>-1</i>	<i>-11</i>	<i>-18</i>	<i>0</i>	<i>-1</i>	<i>0</i>
<i>Difference from Baseline Scenario 2</i>	<i>-14</i>	<i>-124</i>	<i>-256</i>	<i>0</i>	<i>-10</i>	<i>-8</i>
BAAQMD Significance Threshold	80	550	80	NA	80	NA
Significant increase from Baseline Scenario 1?	No	No	No	NA	No	NA
Significant increase from Baseline Scenario 2?	No	No	No	NA	No	NA

**Note: The truck and train mileage amounts used to estimate the emissions presented in this table are used for the purposes of conducting a reasonable quantitative impact analysis. Although the assumptions used to estimate the emissions are reasonable, the medium term disposal strategies do not commit to using any specific solid waste disposal facilities. Bold numbers represent emissions that would be considered significant on the basis of the significance criteria shown in the table.**

<sup>a</sup> The significant emissions would occur along the rail corridors in air districts outside of Sonoma County and the Bay Area; air districts to the north and/or east

See Appendix D for all assumptions and emissions factors used to estimate emissions.



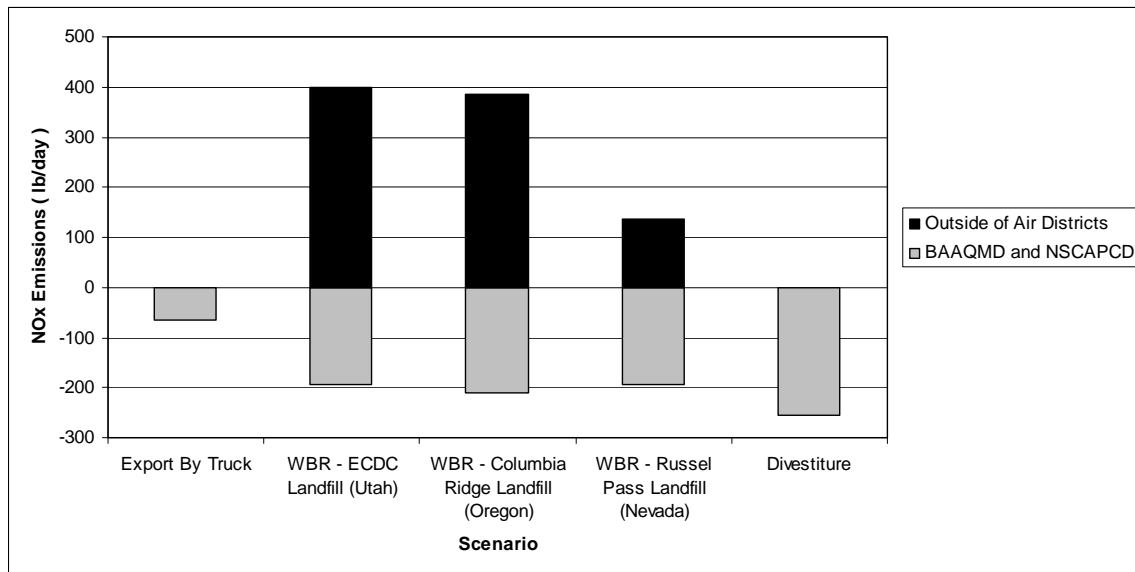
**Note:** The truck and train mileage amounts used to estimate the emissions are used for the purposes of conducting a reasonable quantitative impact analysis. Although the assumptions used are reasonable, the medium term disposal strategies do not commit to using any specific solid waste disposal facilities.

See Appendix D for all assumptions and emissions factors used to estimate emissions.

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**Figure 6-2**

Daily NO<sub>x</sub> Emissions for Disposal Transportation Options (2010) Under Baseline Scenario 1



**Note:** The truck and train mileage amounts used to estimate the emissions are used for the purposes of conducting a reasonable quantitative impact analysis. Although the assumptions used are reasonable, the medium term disposal strategies do not commit to using any specific solid waste disposal facilities.

See Appendix D for all assumptions and emissions factors used to estimate emissions.

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**Figure 6-3**

Daily NO<sub>x</sub> Emissions for Disposal Transportation Options (2010) Under Baseline Scenario 2



As shown in Table 6-6 and Figure 6-2, when compared to Baseline Scenario 1, daily emissions in the local air basins could exceed the BAAQMD thresholds under implementation of the out-of-County haul by truck option. However, when compared to Baseline Scenario 2, estimated emissions for each of the three waste disposal options that could occur under the medium-term strategy would decrease primarily due to future reductions in fleet emissions. Therefore, criteria pollutant emissions that would be generated under the medium-term strategy would be *potentially significant* when compared to Baseline Scenario 1. However, when compared to Baseline 2, emissions would result in a *less than significant impact* to regional air quality in the Bay Area.

If the WBR option is pursued, operation of a local rail yard could result in significant DPM from diesel truck and locomotive emissions that may result in health impacts to nearby sensitive receptors depending on where the rail yard would be located. CARB recommends that sensitive receptors not be located within 1,000 feet of a major service and maintenance rail yard and that consideration should be taken when siting sensitive uses within one mile of a rail yard (CARB, 2005). The rail yard that would be constructed under the medium-term strategy would be much smaller than the rail yards for which these criteria were developed. Nevertheless, impacts would be *potentially significant* depending on where the local rail yard is ultimately placed.

Substantial criteria pollutant emissions would occur outside of the local air basin if the WBR option is pursued. Locomotives used to haul waste would cross through a number of different air basins depending on the out-of-County landfill location. These emissions could impede attainment within these basins and therefore impacts would be *potentially significant*.

Implementation of the following mitigation measures from the 2003 SPEIR would reduce local area impacts related to emissions of criteria pollutants, TACs, and exposure of sensitive receptors to heightened pollutant concentrations. For ease of review, all revisions that have been made to the 2003 SPEIR mitigation measures are shown with ~~strikeout~~ and underline.

**Mitigation Measure 6-2 (a) [2003 SPEIR Mitigation Measure 10-1(a)]**

- A. The County and cities shall consider air emissions when purchasing new equipment and when entering into agreements with solid waste operators. Cleaner vehicles shall be weighted more favorably than less clean vehicles.

**Mitigation Measure 6-2 (b) [Recommended Revisions to 2003 SPEIR Mitigation Measure 10-1(b)]**

1. New facilities shall be sited to maximize separation between haul routes/facilities and sensitive receptors to the extent practical.
2. New facilities shall encourage the use of low emissions vehicles that control diesel particulates with engine filters or by using low emissions fuels such as compressed natural gas.
3. The contractor shall reduce NO<sub>x</sub>, ROG, and CO emissions by complying with the construction vehicle air pollutant control strategies developed by the BAAQMD and the NSCAPCD. The project sponsor shall include in construction contracts the following requirements:

- a. Construction equipment operators shall shut off equipment when not in use to avoid unnecessary idling. As a general rule, vehicle idling should be kept below ~~10~~ five minutes.
  - b. The contractor's construction equipment shall be properly maintained and in good operating condition.
  - c. The contractor shall utilize new technologies to control ozone precursor emissions as they become available and feasible.
  - d. The contractor shall substitute gasoline-powered for diesel-powered equipment where feasible.
4. Asphalt paving materials shall conform to the most recent guidelines by the air district having jurisdiction.

**Mitigation Measure 6-2(c) [Recommended Revisions to 2003 SPEIR Mitigation Measure 10-1(c)]**

1. Contracts for operation of proposed facilities described in the ~~2003~~ CoIWMP shall require contractors to limit idling time of diesel equipment to ~~10~~ five minutes when practical. Contracts shall also require that equipment be serviced at regular intervals to keep engines operating with parameters that will prevent excessive emissions.
2. Contracts for operation of proposed facilities described in the ~~2003~~ CoIWMP shall include incentives for using electric motors instead of internal combustion engines in stationary equipment.

It is possible that construction and operation of a rail yard for the waste by rail option could result in regional emissions or in health impacts to nearby sensitive receptors that would be considered significant. The mitigation described above may not reduce impacts to less than significant, and so it must be concluded that such facilities may have a *significant and unavoidable* impact on air quality.

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**Impact 6-3: Construction PM10 [2003 SPEIR Impact 10-2].**

Construction of new and expanded facilities and activities required to resume operations of the Central Disposal Site could create significant emissions of fugitive PM10. High emissions of PM10 may occur during earthmoving operations, travel on unpaved roads, or wind blown dust from unprotected stockpiles. If the WBR disposal strategy is pursued, construction activities associated with development of a local rail yard and upgrades to existing transfer stations may be required. These activities may result in substantial fugitive PM10 emissions. The BAAQMD recommends Best Management Practices to reduce fugitive PM10 emissions during construction. These practices are outlined in Mitigation Measure 6-3, presented below.

### **Mitigation Measure 6-3 [2003 SPEIR Mitigation Measure 10-2]**

The contractor shall reduce particulate emissions by complying with the dust control strategies developed by the NSCAPCD and the BAAQMD. The project sponsor shall include in construction contracts the following requirements:

1. The contractor shall water in late morning and at the end of the day all earth surfaces during clearing, grading, earthmoving, and other site preparation activities.
2. The contractor shall use tarpaulins or other effective covers for haul trucks that travel on public streets and roads.
3. The contractor shall increase the watering frequency for exposed and erodible soil surfaces whenever winds exceed 15 mph.
4. The contractor shall water exposed soil surfaces, including cover stockpiles, roadways, and parking and staging areas, to minimize dust and soil erosion.
5. The contractor shall sweep streets adjacent to the new and expanded non-disposal facilities at the end of each day.
6. The contractor shall control construction, operation, and site maintenance vehicle speed to 15 mph on unpaved roads.

With implementation of the above mitigation measure, PM10 emitted during construction activities would be reduced to a less than significant level. This is consistent with the guidance provided by the BAAQMD CEQA Guidelines and is consistent with the 2003 SPEIR, which concluded that construction impacts would be *less than significant* with mitigation.

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### **Impact 6-4: Odors [2003 SPEIR Impact 10-3]**

Program level significant and unavoidable odor impacts were identified in the 2003 SPEIR. The Central Disposal Site has received 29 unconfirmed odor complaints over the past five years. Of these complaints, 21 were received in 2004, four were received in 2005, three were received in 2006, and one was received in 2007. No complaints regarding odors originating from the Central Disposal Site were received in 2008 (BAAQMD, 2009). In 2005, landfilling of solid waste at the Central Disposal Site was suspended and since then all waste has been hauled by truck to landfills outside of Sonoma County. Therefore, the steady decline in odor complaints over the past five years appears to reflect the suspension of landfilling activities at the Central Disposal Site. No odor complaints have been received at any of the other transfer stations in Sonoma County over the past five years (BAAQMD, 2009 and NSCAPCD, 2009). Therefore, it is not anticipated that significant odor impacts would be generated at non-landfill facilities, including the existing transfer stations or at a local rail yard that could result under the waste by rail option.

However, the proposed revision to the Siting Plan would allow for divestiture of the County Disposal System to a private owner who may then resume operation and possibly pursue expansion of the Central Disposal Site. Impacts associated with the divestiture option would be the same as those

described in the 2003 SPEIR. Therefore, Mitigation Measure 6-3 would be applicable if divestiture is pursued.

**Mitigation Measure 6-4 [2003 SPEIR Mitigation Measure 10-3]**

- A. Control of odors shall be implemented through the use of Best Management Practices utilized with Sonoma County such as the avoidance of compost disturbance in afternoon hours, regulating moisture content, and turning compost windrows.
- B. If odor persists as a problem, compost piles or windrows shall be covered with soil or finished compost to reduce emissions of odors.
- C. The landfill will be covered at the end of every day with plastic, soil or other appropriate material.
- D. Any cracks in the landfill surface will be repaired as soon as practical.
- E. Acidity levels in leachate ponds will be monitored and pH adjusted as necessary to reduce odor problems.
- F. When new compost facilities are proposed, consideration will be given to operations that are conducted inside buildings using air filtration systems to prevent release of odors.

As stated in the 2003 SPEIR, implementation of the mitigation measures outlined above would not guarantee that impacts would be reduced to a less-than-significant level. Therefore, this impact would be considered *significant and unavoidable*.

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**Impact 6-5: Onsite Operations (Landfill) [Revisions to 2003 SPEIR Impact 10-4 (b)]**

The resumption of operations or expansion of the Central Disposal Site that could occur under the divestiture option could cause significant onsite emissions of criteria pollutants. Also, diesel emissions from trucks and equipment would include TACs that could be potentially hazardous if sensitive receptors (e.g., homes, schools, hospitals, etc.) are located nearby.

Onsite impacts associated with resuming waste disposal at the Central Disposal Site would be the same as those identified in the 2003 SPEIR, and therefore, Mitigation Measure 6-5 below would be applicable to this option. Even with implementation of these measures, there would still be potential for onsite impacts to occur, particularly under Baseline Scenario 2, which assumes out-of-County hauling of refuse with no disposal operations occurring at the Central Disposal Site, because all emissions associated with resumed onsite disposal activities would be considered project related emissions and not part of the baseline scenario. Therefore, onsite impacts associated with landfill operations under the divestiture options would be *significant and unavoidable*.

**Mitigation Measure 6-5: [2003 SPEIR Mitigation Measure 10-4(b)]**

Same as Mitigation Measures 6-2(a), (b), and (c).

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### Impact 6-6: GHG Emissions (Disposal Strategies)

Disposal strategies of the project may result in increased emissions of GHGs, which may conflict with the State's and local GHG reduction goals. The project would not conflict with the 39 Recommended Actions identified by CARB in its Climate Change Proposed Scoping Plan. In fact, the Central Disposal Site currently utilizes captured landfill gas (LFG) to generate power that contributes energy to Pacific Gas and Electric's (PG&E's) power grid. This action is consistent with CARB's actions to reduce emissions from landfill operations.

To determine greenhouse gas emissions (CO<sub>2</sub>E) from transfer vehicle emissions, the total mileage amounts for the short-term disposal strategy, which is also the baseline scenario, were multiplied by emission factors for carbon dioxide and methane derived using the EMFAC2007 emissions model. Methane emissions from fuel combustion were then converted to CO<sub>2</sub>E and combined with the carbon dioxide emissions to determine total GHG emissions associated with the short-term disposal strategy. Based on these calculations, total GHG transfer vehicle emissions in 2007 were approximately 2,502 metric tons per year. Even though emissions associated with the short-term disposal strategy are considered to be part of the baseline conditions, these emissions would be well below the significance threshold of 25,000 metric tons per year.

GHG emissions from the medium-term disposal strategy were calculated based on estimated mileages as described under Impact 6-1, above. GHG emission rates for trucks were calculated using EMFAC2007 emission factors, and GHG emission rates for locomotives were estimated based on emission factors for distillate fuel combustion (CCAR, 2008) and average fuel economy for locomotives (EPA, 1997).

An emission reduction credit was applied for the divesture option. As mentioned previously, LFG is captured at the Central Disposal Site and used to generate power. The contracted out-of-County landfills all capture LFG, but the gas is flared and not used for energy production. For the purposes of this analysis, it is assumed that the LFG capture efficiencies for Central Disposal Site and the out-of-County landfills are essentially the same. The combustion emissions associated with both flaring and power production are similar;<sup>5</sup> therefore, it is assumed that there would be little difference in direct GHG emissions between flaring at out-of-County landfills and energy production at the Central Disposal Site. However, because the LFG power generation facility at Central Disposal Site contributes energy to PG&E's power grid, an annual GHG emission reduction credit has been estimated. The energy produced at the Central Disposal Site replaces energy that PG&E would otherwise produce and thus reduces the "indirect" GHG emissions associated with PG&E power production.

For the purposes of estimating the annual GHG credit, it is assumed that approximately half a million tons of refuse would be generated each year in Sonoma County (CIWMB, 2008). Therefore, because

<sup>5</sup> The findings of a recent study indicate that LFG methane destruction rates may vary by as much as 1.63 percent, with flare and turbine systems the most efficient (99.96 and 99.97 percent, respectively) and engine systems, such as those that operate at the Central Disposal Site, are the least efficient (98.34 percent)(SCS, 2007). However, for the purposes of this program level analysis it is assumed that the methane destruction rates for flaring and engine systems are the same.

approximately 15 million tons of refuse is currently in place at the Central Disposal Site (USEPA, 2008) and approximately 52.65 million kilowatt hours (kWh) of LFG based power was sold by Sonoma County to PG&E in 2007 (Sonoma County, 2008b), it is reasonable to assume that 1.76 kWh of LFG power would be generated for each year of refuse deposited at Central Disposal Site. Using an emission factor (0.524 pounds of CO<sub>2</sub>E per kWh) developed from PG&E's carbon footprint calculator (PG&E, 2008); a GHG emissions credit of 417 metric tons per year has been assigned relative to LFG power generation at Central Disposal Site. It should be noted that the PG&E emission factor is approximately twice as conservative of an emission factor compared to one that USEPA has published (i.e., 1 million tons of waste in place could generate approximately 7 million kWh per year of energy) (USEPA, 2002).

Estimated annual GHG emissions for each of the options under the medium-term strategy, as well as the net emissions compared to Baseline Scenario 1 and Baseline Scenario 2 emissions, are outlined in Table 6-7. As shown, none of the options under the medium-term scenario would result in total emissions that would exceed the threshold of 25,000 metric tons per year. The divestiture option would result in the lowest GHG emissions out of all three options. It is important to note that while the contracted landfills do not currently generate power using LFG, all three are currently in the process of permitting such plants. Therefore, in future years these reductions may not be applicable. Nevertheless, even without the LFG reduction credit, divestiture would result in the lowest GHG emissions of all three options.

Although none of the medium-term options would trigger the 25,000 metric ton threshold, the out-of-County transportation of refuse by either truck or rail is inherently energy inefficient. In addition, it appears that the non-divestiture disposal strategies would conflict with a basic Sonoma County objective (OSRC-16.1) to minimize air pollution and GHG emissions. Furthermore, the Sonoma County Community Climate Action Plan includes a GHG solution that requires that all waste that cannot be reused or recycled be placed in local landfills which produce energy. Therefore, with the exception of the divestiture option, the short-term and medium-term disposal strategies associated with proposed amendments to the Siting Element would result in a *significant and unavoidable impact* associated with GHG generation.

#### **Mitigation Measure 6-6: [2003 SPEIR Mitigation Measure 10-4(b)]**

Same as Mitigation Measures 6-2(a), (b), and (c).

**TABLE 6-7**  
**ANNUAL GHG EMISSIONS FROM MEDIUM-TERM DISPOSAL STRATEGY – 2010**

Scenario	GHG Emissions (metric tons per year)
	CO <sub>2</sub> E
Baseline Scenario 1 (2003 ColWMP)	606
LFG Reduction Credit	-417
Baseline 1 with LFG credit	189
Baseline Scenario 2 (Haul by Truck)	2,503
2010 Haul by Truck	2,628
<i>Change from Baseline Scenario 1</i>	<i>2,439</i>
<i>Change from Baseline Scenario 2</i>	<i>125</i>
Threshold of Significance	25,000
Exceed Threshold?	No
2010 Haul By Rail (Utah) (Total)	5,746
<i>Change from Baseline Scenario 1</i>	<i>5,558</i>
<i>Change from Baseline Scenario 2</i>	<i>3,244</i>
Threshold of Significance	25,000
Exceed Threshold?	No
2010 Haul By Rail (Oregon) (Total)	5,428
<i>Change from Baseline Scenario 1</i>	<i>5,240</i>
<i>Change from Baseline Scenario 2</i>	<i>2,926</i>
Threshold of Significance	25,000
Exceed Threshold?	No
2010 Haul By Rail (Nevada) (Total)	2,884
<i>Change from Baseline Scenario 1</i>	<i>2,695</i>
<i>Change from Baseline Scenario 2</i>	<i>381</i>
Threshold of Significance	25,000
Exceed Threshold?	No
2010 Divestiture	635
LFG Reduction Credit	-417
2010 Total Divestiture with LFG credit	218
<i>Change from Baseline Scenario 1</i>	<i>30</i>
<i>Change from Baseline Scenario 2</i>	<i>-2,284</i>
Threshold of Significance	25,000
Exceed Threshold?	No

See Appendix D for all assumptions and emissions factors used to estimate emissions.

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# SECTION 7

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## Noise

### 7.1 Introduction

This section evaluates the potential noise impacts identified for the proposed amendments to the CoIWMP Household Hazardous Waste Element and Siting Element. Setting information and impacts and mitigations identified in Section 11 of the 2003 Final SPEIR are revised as described below.

### 7.2 Setting

#### 7.2.1 Noise Background

Sound is mechanical energy transmitted by pressure waves through a medium such as air. Noise can be defined as unwanted sound. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. Sound pressure level is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing, and 120 to 140 dB corresponding to the threshold of pain.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). When all the audible frequencies of a sound are measured, a sound spectrum is plotted consisting of a range of frequency spanning 20 to 20,000 Hz. The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the sound frequency/sound power level spectrum.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies compared to the sensitivity to mid-range frequencies. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA).

## Noise Exposure and Community Noise

An individual's noise exposure is a measure of the noise experienced by the individual over a period of time. A noise level is a measure of noise at a given instant in time. However, noise levels rarely persist consistently over a long period of time. In fact, community noise varies continuously over time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. Background noise levels change throughout a typical day, but do so gradually, corresponding with the addition and subtraction of distant noise sources and atmospheric conditions. The addition of short duration single event noise sources (e.g., aircraft flyovers, motor vehicles, sirens) makes community noise constantly variable throughout a day.

These successive additions of sound to the community noise environment vary the community noise level from instant to instant requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are summarized below:

- L<sub>eq</sub>:** The equivalent sound level is used to describe noise over a specified period of time, in terms of a single numerical value. The L<sub>eq</sub> is the constant sound level which would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).
- L<sub>max</sub>:** The instantaneous maximum noise level measured during the measurement period of interest.
- L<sub>dn</sub>:** The energy average of the A-weighted sound levels occurring during a 24-hour period, and which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night ("penalizing" nighttime noises). Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dBA to take into account the greater annoyance of nighttime noises.
- CNEL:** Similar to the L<sub>dn</sub>, the Community Noise Equivalent Level (CNEL) adds a 5 dBA penalty for the evening hours between 7:00 p.m. and 10:00 p.m. in addition to a 10 dBA penalty between the hours of 10:00 p.m. and 7:00 a.m.
- SEL:** The Sounds Exposure Level (SEL) is commonly used to describe transit noise as it represents the total amount of noise energy that enters a receiver's ears when a vehicle passes by. The SEL is dependent on the noise levels generated as well as the duration of the noise event. Therefore, events that are louder have greater SELs than do quieter ones and events that last longer in time have greater SELs than do shorter ones.

## Effects of Noise on People

The effects of noise on people can be placed into three categories:

- subjective effects of annoyance, nuisance, dissatisfaction;
- interference with activities such as speech, sleep, learning; and
- physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers at industrial plants often experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction. A wide variation exists in the individual thresholds of annoyance, and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way the new noise compares to the existing noise levels that one has adapted, which is referred to as the “ambient noise” level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of one dBA cannot be perceived;
- Outside of the laboratory, a three dBA change is considered a just-perceivable difference when the change in noise is perceived but does not cause a human response;
- A change in level of at least five dBA is required before any noticeable change in human response would be expected; and
- A 10-dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

These relationships occur in part because of the logarithmic nature of sound and the decibel system. A ruler is a *linear* scale: it has marks on it corresponding to equal quantities of distance. One way of expressing this is to say that the ratio of successive intervals is equal to one. A logarithmic scale is different in that the ratio of successive intervals is not equal to one. Each interval on a logarithmic scale is some common factor larger than the previous interval. A typical ratio is 10, so that the marks on the scale read: 1, 10, 100, 1,000, 10,000, etc., doubling the variable plotted on the x-axis. The human ear perceives sound in a non-linear fashion, hence the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, rather they combine logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

## Noise Attenuation

Point sources of noise, including stationary mobile sources such as idling vehicles or onsite construction equipment, attenuate (lessen) at a rate of 6 dBA to 7.5 dBA per doubling of distance from the source, depending upon environmental conditions (e.g., atmospheric conditions, noise barriers, type of ground surface, etc.). Widely distributed noises such as a large industrial facility spread over many acres or a street with moving vehicles (a “line” source) would typically attenuate at a lower rate of approximately 3 to 4.5 dBA per doubling distance from the source (also dependent upon environmental conditions) (Caltrans, 1998).

## 7.2.2 Vibration Background

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is most frequently used to describe the affect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (VdB) is commonly used to measure RMS. The decibel notation acts to compress the range of numbers required to describe vibration (FTA, 2006). Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration.

## 7.2.3 Existing Ambient Noise Environment

Community noise measurements conducted in July 2002 and presented in the Sonoma County General Plan 2020 Noise Element indicate that typical noise levels in noise-sensitive areas of Sonoma county range from 45 to 55 dB  $L_{dn}$ . These measurements also indicated that median ( $L_{50}$ ) noise level values in most locations are relatively low, especially at night. Areas that are more developed experience higher noise levels, ranging from 55 to 65 dB  $L_{dn}$ . This is largely due to road traffic (Sonoma County, 2008).

Predominant existing noise sources identified in the Sonoma County General Plan include the following: traffic on highways and major roads; aircraft operations at public-use airports; industrial and heavy commercial activities; Infineon (Sears Point) International Raceway; the Geysers geothermal power plants; solid waste landfills and transfer stations; and concerts, special events, and other activities generating amplified outdoor sound. Primary noise sources from solid waste disposal and transfer facilities result from heavy duty equipment and truck noise. The most significant noise sources from transfer facilities tend to be haul trucks, including back-up beepers and engines, and front loaders. Areas near access roads for landfills and transfer stations tend to experience higher traffic noise levels than other areas in the County due to a greater proportion of heavy-truck traffic (Sonoma County, 2008).

## 7.2.4 Sensitive Receptors

Human response to noise varies considerably from one individual to another. Effects of noise at various levels can include interference with sleep, concentration, and communication, and can cause physiological and psychological stress and hearing loss. Given these effects, some land uses are considered more sensitive to ambient noise levels than others. In general, residences, schools, hotels, hospitals, and nursing homes are considered to be the most sensitive to noise. Places such as churches, libraries, and cemeteries, where people tend to pray, study, and/or contemplate are also sensitive to noise. Commercial and industrial uses are considered the least noise-sensitive.

There are a number of residences located approximately one-quarter mile north east of the Central Disposal Site along Meacham Road. The Annapolis, Healdsburg, Guerneville, and Sonoma Transfer

stations are all located in rural areas. There are a few rural residences located within close proximity to these stations, but they are primarily surrounded by undeveloped land.

## 7.2.5 Regulatory Context

Federal, State, and local agencies regulate different aspects of environmental noise. Federal and State agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies. Local regulation of noise involves implementation of general plan policies and noise ordinance standards. Local general plans identify general principles intended to guide and influence development plans; local noise ordinances establish standards and procedures for addressing specific noise sources and activities.

### Sonoma County

Goal NE-1 of the Sonoma County General Plan Noise Element is to “protect people from the adverse effects of exposure to excessive noise and to achieve an environment in which people and land uses may function without impairment from noise” (Sonoma County, 2008). This goal aims to protect persons from existing or future excessive levels of noise that interfere with sleep, communication, relaxation, health, or legally permitted use of property. To achieve this goal, the Noise Element contains the following policies that may be applicable to the proposed amendments to the CoIWMP:

*Policy NE-1a:* Designate areas within Sonoma County as noise impacted if they are exposed to existing or projected exterior noise levels exceeding 60 dB L<sub>dn</sub>, 60 dB CNEL, or the performance standards of Table NE-2 of the Noise Element (shown below as Table 7-1).

**TABLE 7-1  
SONOMA COUNTY MAXIMUM ALLOWABLE EXTERIOR EXPOSURES  
FOR NON-TRANSPORTATION NOISE SOURCES**

Hourly Noise Metric* (dBA)	Maximum Allowable Noise Level Standards (dBA)	
	Daytime 7 a.m. to 10 p.m.	Nighttime 10 p.m. to 7 a.m.
L50 (30 minutes in any hour)	50	45
L25 (15 minutes in any hour)	55	50
L08 (5 minutes in any hour)	60	55
L02 (1 minute in any hour)	65	60

\* The sound level exceeded n% of the time in any hour. For example, the L50 is the value exceeded 50% of the time or 30 minutes in any hour; this is the median noise level. The L02 is the sound level exceeded one minute in any hour.

SOURCE: Sonoma County, 2008.

*Policy NE-1c:* Control non-transportation related noise from new projects. The total noise level resulting from new sources shall not exceed the standards in Table NE-2 (Table 7-1 in this SPEIR) as measured at the exterior property line of any adjacent noise sensitive land use.

*Policy NE-1f:* Require development projects which do not include or affect residential uses or other noise sensitive uses to include noise mitigation measures where necessary to maintain noise levels compatible with activities planned for the proposed project site and vicinity.

*Policy NE-1i:* County equipment and vehicles shall comply with adopted noise level performance standards consistent with the best available noise reduction technology.

*Policy NE-2c:* Consider truck routing, speed limits, signal timing and other traffic control measures to reduce impacts on noise sensitive uses.

The County of Sonoma General Plan Noise Element does not specifically address intermittent or short-term construction noises and there is currently no adopted noise ordinance under the Sonoma County Code. The General Plan calls for the County to adopt a noise ordinance that will include noise performance standards as outlined in Table 7-1 as well as exemptions, measurement methods, and procedures for variances. However, a noise ordinance has not been adopted to date.

## 7.3 Impacts and Mitigation Measures

### 7.3.1 Significance Criteria

Consistent with the CEQA *Guidelines* Appendix G, the proposed project would result in a significant impact on the environment if it would result in:

- Exposure of persons to or generation of noise levels in excess of standards established in any applicable plan or noise ordinance, or applicable standards of other agencies.
- Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above existing levels existing without the project.
- Exposure of people residing or working in the project area to excessive noise levels, for a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport.
- Expose people residing or working in the project area to excessive noise levels if the project is located in the vicinity of a private airstrip.

As described in the Initial Study conducted for the project (see Appendix B), implementation of any of the project options would not likely expose people to significant excessive aircraft noise impacts. This issue was addressed and disclosed as less than significant in the 2003 SPEIR because solid waste facilities are not noise sensitive land uses that would be easily disturbed by airport noise. Therefore, this issue is not addressed further in this SPEIR.

## Impact Discussion

### **Impact 7-1: Construction Noise (Non-Disposal Facilities and Local Rail Yard) [Revisions to 2003 SPEIR Impact 11-1].**

Implementation of the proposed revisions to the HHWE would create the potential for additional permanent household hazardous waste facilities to be established in the County. Furthermore,



revisions to the Siting Element may allow for the development of a rail yard and the future expansion of existing transfer stations. Construction of such facilities and activities required to resume operations of the Central Disposal Site could cause temporary increases in noise levels on, and around, the proposed facilities and the Central Disposal Site over the entire construction period. For ease of review, all revisions that have been made to the 2003 SPEIR mitigation measures are shown with ~~strikeout~~ and/or underline.

**Mitigation Measure 7-1 [Recommended Revisions to 2003 SPEIR Mitigation Measure 11-1]:**

1. Construction activities shall be limited to the hours between 7AM to 7PM to the extent practical.
2. Construction equipment shall be properly outfitted and maintained with noise reduction devices to minimize construction-generated noise. Wherever possible, noise-generated construction equipment shall be shielded from nearby residences by noise-attenuating walls, berms, or enclosures.
3. The contractor shall attempt to locate stationary noise sources as far away as possible from noise-sensitive land uses.
4. Idling of construction equipment engines shall be minimized; engines shall be shut off when not in use, where applicable.

Noise impacts from construction would be *less than significant* with implementation of Mitigation Measure 7-1.

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**Impact 7-2: Traffic Noise (Out-of-County Waste Transport by Truck)**

The proposed revisions to the Siting Element include a short-term disposal strategy and a medium-term disposal strategy. The short-term disposal strategy is to continue the existing out-of-County transport of waste by truck with contracts that are currently in place, which would ensure sufficient disposal capacity until 2010, when the contracts are scheduled to expire. The medium-term (years 2010 through 2024) disposal strategy also includes an out-of-County disposal of waste by truck transport option. The project analyzed in the 2003 SPEIR did not include an option for out-of-County haul by truck because at that time disposal was still taking place within the County. As discussed in Section 4, Approach to Environmental Analysis, two baseline scenarios are used to assess potential noise impacts associated with proposed revisions to the Siting Element: Baseline Scenario 1, which is the 2003 CoIWMP conditions when no out-hauling of refuse by truck occurred and Baseline Scenario 2, where out-hauling of refuse by truck is occurring.

Under the 2003 CoIWMP baseline conditions (Baseline Scenario 1), when all refuse generated in the County was brought to the Central Disposal Site by truck, project related truck trips would decrease daily truck traffic to the Central Disposal Site by approximately 82 trips per day during 2010, and 86 trips per day during 2020 (see Section 8, Transportation and Traffic). Instead of arriving at the Central Disposal Site, these trips would likely either continue south on U.S. 101,

exit U.S. 101 onto Lakeville Highway to Frates Road, Old Adobe Road, Stage Gulch Road, and SR 121, exit U.S. 101 onto Lakeville Highway to SR 37, or use a route that includes some other combination of these roads. Average daily traffic levels on these roads range from approximately 7,625 vehicles (Frates Road) to 89,000 vehicles (U.S. 101). Assuming a worst case assumption that all of the 86 trips during 2020 would use one route, this would represent an increase in daily traffic ranging from a minimum of approximately 0.1 percent of total daily traffic (for U.S. 101) to a maximum of approximately one percent (for Frates Road). These increases in traffic levels would result in negligible increases to local  $L_{dn}$  or CNEL levels because it typically takes a doubling (i.e., 100 percent increase) of traffic to result in a noticeable increase in traffic noise. Therefore, under Baseline Scenario 1, there would be a *less than significant* impact associated with the out-of-County waste transport by truck option.

Under the current baseline conditions (Baseline Scenario 2), where out-of-County hauling of refuse by truck is occurring, the noise associated with existing transport truck trips is considered part of the current baseline conditions. It is anticipated that the out-of-County truck noise that would be associated with short-term and medium-term disposal options would not change compared to existing levels because truck trip amounts would not change in 2010 and 2020 truck traffic noise levels would only slightly increase due to a minor increase in 2020 truck trips (six or less) that would occur at the Central Disposal Site, Healdsburg, and Sonoma transfer stations (See Impact 8-1, Traffic Congestion (Out-of-County Waste Transport by Truck)). Therefore, traffic noise impacts under Baseline Scenario 2 associated with out-of-County waste transport by truck would be *less than significant*.

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### **Impact 7-3: Traffic Noise (New Household Hazardous Waste Collection Facilities and Waste by Rail Facilities)**

#### Household Hazardous Waste Collection Facilities

Proposed revisions to the HHWE would allow for development of new household hazardous waste collection facilities within the County. These facilities would generate traffic noise that could significantly impact nearby sensitive receptors. Since exact locations of the new household hazardous waste facilities have not been proposed, it is impossible to evaluate impacts to sensitive receptors at this time. Therefore, it must be assumed that the revisions could have a potentially significant impact with regard to traffic noise. The mitigation measures below would help minimize potential impacts.

#### Waste by Rail Facilities

The medium-term (years 2010 through 2024) disposal strategy identified in the proposed revisions to the Siting Element includes an out-of-County disposal with waste transport by rail option. Operations of a new facility, such as a local rail yard, would result in moderate truck traffic noise in route to and from the facility. It is estimated that approximately 142 and 152 truck trips per day to the local rail yard would be required during 2010 and 2020, respectively (see Impact 7-2: Traffic

Congestion (New Household Hazardous Waste Collection Facilities and Waste by Rail Facilities)). In addition to truck trips, it is anticipated that several daily automobile trips associated with commuting workers would be required. Depending on the location of nearby sensitive receptors, traffic noise in the vicinity of the local rail yard could be potentially significant.

**Mitigation Measure 7-3 [Recommended Revisions to 2003 SPEIR Mitigation Measure 11-2]**

- A. Where feasible, collection activities associated with these facilities shall be conducted during hours of the day which are not noise sensitive for nearby residents and other adjacent land uses. The activities shall be commissioned to occur during normal work hours of the day to provide relative quiet during the more sensitive evening and early morning periods.
- B. The County and cities shall include noise as an evaluation criterion when purchasing new waste/recyclables transportation vehicles (including locomotive engines if waste transport by rail is implemented), and will purchase the quietest vehicles available when reasonably possible. If the County does not make direct purchases of such vehicles, they will require their licensed/franchised haulers, via their licensed/franchised agreement, to include noise as an evaluation criterion in their purchase of vehicles.
- C. A site-specific noise evaluation shall be conducted as part of the siting study for new and expanded non-disposal facilities including any new household hazardous waste facilities and/or local rail yards to identify potential noise problem areas prior to site selection. The noise evaluation shall consider the location of sensitive receptors and evaluate sound barriers or other means to reduce noise exposure. The evaluation shall also consider operational changes such as restricting hours of operation.

Implementation of Mitigation Measure 7-3 would help reduce potential noise impacts from traffic associated with new household hazardous waste collection facilities and waste by rail facilities. However, since no facilities are currently proposed, it is impossible to determine if significant noise impacts could occur. Therefore, for the purpose of this analysis, impacts are considered potentially *significant and unavoidable*.

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**Impact 7-4: Traffic Noise (Reuse of Central Disposal Site under Divestiture)**

Under the 2003 CoIWMP baseline conditions (Baseline Scenario 1), when all refuse generated in the County was brought to the Central Disposal Site by truck, traffic noise associated with the reuse of the Central Disposal Site under divestiture would not change compared to existing levels because truck trip amounts would not change in 2010 and 2020 truck traffic noise levels would only slightly increase due to a minor increase in 2020 truck trips (six or less) that would occur at the Central Disposal Site, Healdsburg, and Sonoma transfer stations (See Impact 8-1, Traffic Congestion (Out-of-County Waste Transport by Truck)). Therefore, traffic noise impacts under Baseline Scenario 1 associated with the reuse of the Central Disposal Site under divestiture would be *less than significant*.

Under the current baseline conditions (Baseline Scenario 2), where out-of-County hauling of refuse by truck is occurring, the divestiture option would result in additional truck trips to and from the Central Disposal Site since waste would be disposed of in-County rather than being hauled out-of-County. This would increase traffic along Mecham Road and Stony Point Road. There are a number of residential receptors located along Mecham Road that could be disrupted by this additional truck traffic. Furthermore, resumed landfill operations at the Central Disposal Site could generate additional worker trips to and from the site, further increasing noise levels due to roadway traffic.

Estimated traffic volumes along Mecham Road in 2008 were approximately 1,840 vehicles per day near the intersection of Stony Point Road (Caltrans, 2009). Based on 2007 trip data maintained by the County of Sonoma (SCWMA, 2008) and the assumption that waste generation in the County would increase one percent<sup>1</sup> per year (BVA, 2006), it is estimated that reuse of the Central Disposal Site would increase daily truck trips to the site by 82 trips per day during 2010, and 86 trips per day during 2020. These increases in traffic levels would result in negligible increases to local  $L_{dn}$  or CNEL levels because it typically takes a doubling (i.e., 100 percent increase) of traffic to result in a noticeable increase in traffic noise. Therefore, it can be assumed that noise level increases at nearby sensitive receptor locations would not be perceptible and impacts would be *less than significant*.

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#### **Impact 7-5: Railroad Noise (Waste by Rail Transport)**

The waste transport by rail option would generate new train trips along the currently inactive railroad track that runs through Sonoma County. This railroad is currently being repaired by the North Coast Rail Authority (NCRA) which plans to complete repairs and resume freight service sometime in 2009. Therefore, assuming freight service resumes in 2009, the proposed amendment could add an additional daily train trip originating within Sonoma County beginning as early as 2010. While a locomotive and the pass by of railroad cars results in noise levels of 70 dBA or more (depending on the engine noise and quality of the tracks and wheels) at a distance of 50 feet, the loudest noise from a train is the horn. Train horns must be loud to be effective and they are often over 100 dBA at a distance of 100 feet from the horn. Train horns are limited by the Federal Railroad Administration to a maximum of 113 dBA at 100 feet.

Locomotive engines can generate SELs of 92 dBA at 50 feet and trains horns can generate SELs up to 110 dBA at 50 feet. These noise levels represent single noise events, and would not last longer than a few seconds. The hourly  $L_{eq}$  for these events would be approximately 56.4 dBA and 74.4 dBA respectively (FTA, 2006).<sup>2</sup> Such noise levels could disrupt nearby sensitive receptors. Because

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<sup>1</sup> The annual increase in waste of approximately one percent is based on assumed future growth (i.e., 0.95 percent), offset by diversion activities (BVA, 2006). It is acknowledged that waste generation has actually decreased in recent years due to the current economic downturn; however, for the purposes of a conservative analysis, an annual increase of one percent is assumed.

<sup>2</sup> This is based on the assumption that the waste transport by rail option would generate a maximum of one train trip per day. It was assumed that the train would be pulled by a single locomotive and would travel at a speed of 50 miles per hour.  $L_{eq}$  equations were obtained from the Federal Transit Administrations' *Transit Noise and Vibration Impact Assessment* (FTA, 2006).

of the uncertainties associated with waste by rail option, the level of disturbance to sensitive receptors can not be accurately determined in this SPEIR and further discussion of potential impacts of increased rail noise would be speculative.

Railroad noise impacts that would be generated by the waste transport by rail option would be difficult to mitigate as the rail infrastructure is already in place and therefore siting considerations cannot be used as mitigation. The rail line would be utilized for other freight transport as well, so the incremental increase in noise levels from the addition of one train is uncertain at this time. Therefore, while implementation of Mitigation Measure 7-3 described above would help reduce impacts associated with train noise, it may not reduce impacts to a less-than-significant level. Therefore, impacts would be considered *significant and unavoidable* if the waste transport by rail option is pursued.

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**Impact 7-6: Onsite Operations Noise (Non-Disposal Facilities and Local Rail Yard)  
[Revisions to 2003 SPEIR Impact 11-3].**

New and expanded non-disposal facilities and the new local rail yard could produce onsite operational noise. Operations of new household hazardous waste facilities would not be expected to result in a substantial increase in noise levels. The location of these facilities has not been proposed at this time, and therefore impacts to sensitive receptors cannot be determined. However, it is unlikely that new household hazardous waste collection facilities would generate substantial noise increases. Nevertheless, due to large number of uncertainties regarding noise levels from operations of new household hazardous waste collection facilities, impacts would be *potentially significant*.

As discussed above, the proposed amendments to the Siting Element of the CoIWMP would include a medium term disposal strategy that would include the following three waste disposal options: out-of-County disposal with waste haul by truck, out-of-County disposal with waste transport by rail; and divestiture. If out-of-County truck haul is pursued, no changes in existing operations of the transfer stations would be expected to occur under Baseline Scenarios 1 or 2. Therefore, noise levels would not increase from the existing baseline and *no impact* would occur.

If waste transport by rail is pursued, a new local rail yard would need to be constructed. Operation of a local rail yard could generate a substantial amount of onsite noise that could be disruptive to nearby sensitive receptors. A specific rail yard has not been proposed; therefore, impacts can only be discussed qualitatively at this time. In general, the FTA does not recommend siting a rail yard within 1,000 feet of a sensitive receptor (FTA, 2006). However, this screening distance was determined based on the assumed operations of 20 train movements per day. The proposed rail yard would be unlikely to service that many trains per day, and therefore screening distances would probably be lower. In addition to the rail yard, the waste transport by rail option would require upgrades to existing transfer stations to include top-pick hoists to load containers onto flat bed transfer vehicles. Such equipment could generate noise level increases at existing transfer stations. Mitigation Measures 7-3 below would help reduce impacts from operations of non-disposal (e.g., Household Hazardous Waste Facilities) and local rail yard facilities.

**Mitigation Measure 7-6 [Recommended Revisions to 2003 SPEIR Mitigation Measure 11-3]**

- A. Same as Mitigation Measure ~~11-2~~ 7-3 (B) and (C).
- B. The noise evaluation described in Mitigation Measure ~~11-2~~ 7-3 (C) shall consider the location of sensitive receptors and locate equipment and operations to minimize the noise exposure to the extent practical. The evaluation should consider enclosures for noise equipment or sound barriers to shield off-site receptors from noise. Additionally, if WBR is pursued, the noise evaluation must consider location of sensitive receptors when determining where to place the local rail yard.

While implementation of Mitigation Measure 7-6 outlined above would help reduce impacts from the waste transport by rail option, it may not mitigate impacts to less than significant. Therefore, impacts may be *significant and unavoidable* if waste transport by rail is pursued.

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***New Impacts and Mitigation Measures***

The following impact was not considered in the 2003 SPEIR.

**Impact 7-7: Ground-Borne Vibration (Waste by Rail Transport)**

Ground-borne vibration from train operations associated with implementation of the waste transport by rail option would be potentially significant. As discussed previously, the waste transport by rail option would utilize the existing NCR rail bed that is currently inactive. However, by the time that the waste transport by rail would be implemented, it can be assumed that freight operations will have resumed along this corridor. Since freight operations would already be in place by the time waste transport by rail would be implemented, it can be assumed that vibration impacts from one additional trip per day would not result in damage to existing structures. Therefore, impacts would be *less than significant*. Additional analysis may be required when site specific projects are proposed.

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## 7.4 References

- BVA (Brown, Vence & Associates). 2006. Assessment of Long-Term Solid Waste Management Alternatives, Sonoma County. January 2006.
- Caltrans (California Department of Transportation). 1998. Technical Noise Supplement, 1998.
- Caltrans, 2009. 2007 All Traffic Volumes. Traffic and Vehicle Data Systems Unit webpage (CSH<http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/2007all.htm>) accessed on February 9, 2009.
- Federal Transit Administration (FTA), 2006. Transit Noise and Vibration Impact Assessment, May 2006.
- Sonoma County, 2008. Sonoma County General Plan 2020, Noise Element, adopted September 23, 2008.
- Sonoma County Waste Management Agency (SCWMA). 2008. Sonoma County transfer station trip data supplied by Patrick Carter, SCWMA, on 8/12/08.

## SECTION 8

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# Transportation and Traffic

### 8.1 Introduction

This section evaluates the potential impacts related to transportation and traffic for the proposed revisions to the CoIWMP Household Hazardous Waste Element and the Siting Element. Setting information and impacts and mitigations indentified in Section 9 of the 2003 CoIWMP Final SPEIR are revised as described below.

### 8.2 Setting

#### 8.2.1 Environmental Setting

Sonoma County is considered a rural, low-density region. Major trip attractors are dispersed throughout the County and therefore, the dominant mode of transportation is the private automobile. The transportation system in the project region is composed of an interconnected network of State, and County roadways, and bicycle facilities. Major roadways in the project area are described below.

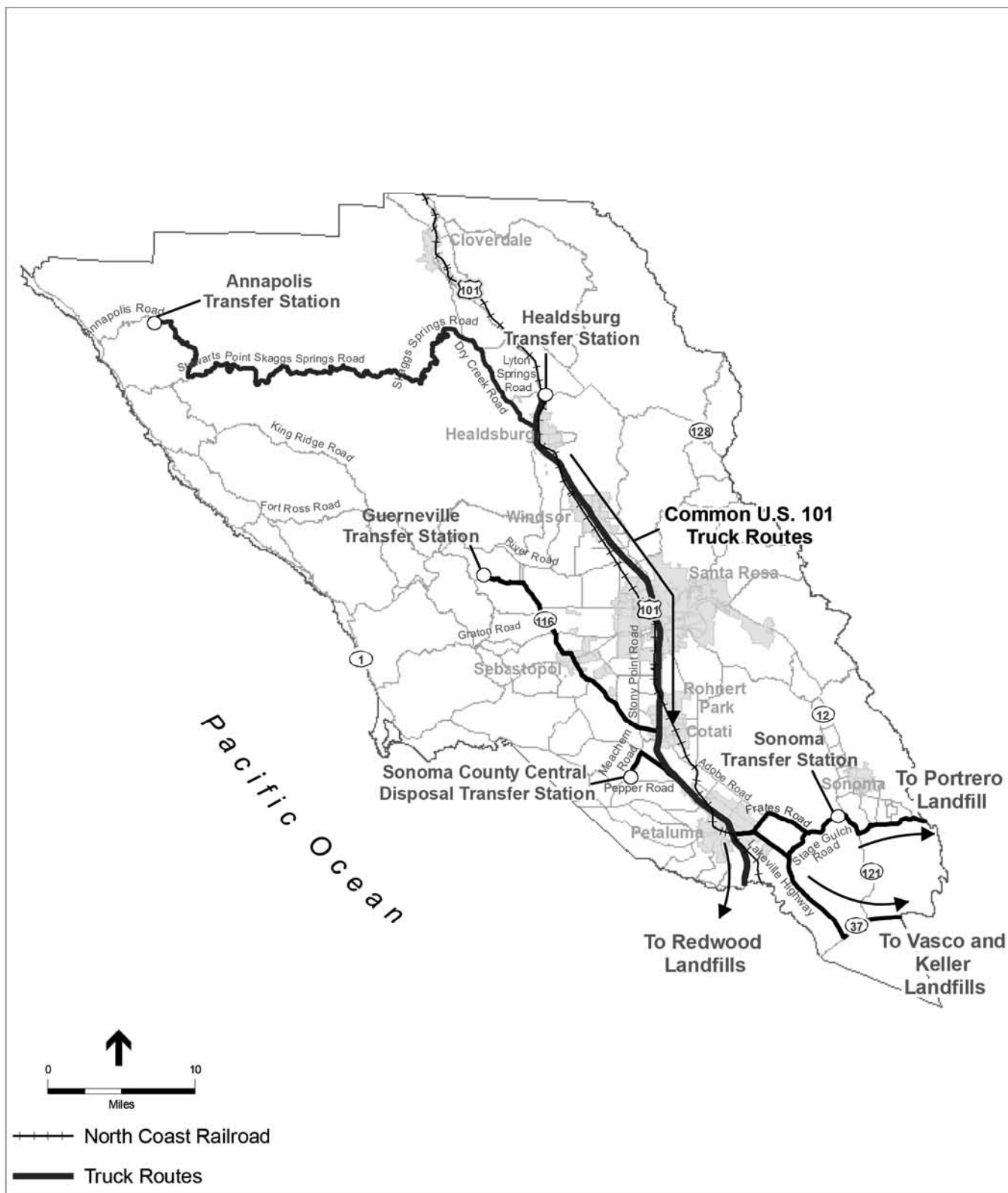
#### Roadway System and Transfer Station Access

Regional and local access to Sonoma County's solid waste transfer stations is provided by several State and County roadways. The roadway network that is used for existing routes to and from the Sonoma County solid waste transfer stations are illustrated in Figure 8-1. Descriptions of the regional and local roadway network in the study area are provided below.

##### ***Regional Roadways***

Regional access to the transfer stations is provided by U.S. Highway 101 (U.S. 101), State Route 116 (SR 116), State Route 121 (SR 121), and State Route 37 (SR 37), which are all under the jurisdiction of the California Department of Transportation (Caltrans). Below are summary descriptions of each of these regional roadways.

***U.S. Highway 101*** is the principal north-south freeway in Sonoma County, extending northward to Mendocino County, and southward to Marin County, and points beyond. U.S. 101 is primarily a four-lane freeway in Sonoma County, with the exception of in Santa Rosa areas, where U.S. 101 is six-lane freeway. Traffic volumes along U.S. 101 in Sonoma County vary from an annual



SOURCE: CalWMP, 2003

Amendment to the Sonoma CalWMP. 207627

**Figure 8-1**  
 Sonoma County Truck and Rail Routes



average daily traffic (ADT) level of 13,500 vehicles per day at the Sonoma/Mendocino County Line to an annual ADT level of 128,000 vehicles per day in the Santa Rosa area. Annual ADT levels in the Petaluma area range from 78,000 to 89,000 vehicles per day (Caltrans, 2009).

**State Route 116** is a major east west route in Sonoma County, extending between State Route 1 (SR 1; also known as Pacific Coast Highway) to the west and SR 121 to the east, and providing direct access to U.S. 101. SR 116 is mostly designated as a two-lane rural principal arterial. South of Guerneville, SR 116 is also known as Pocket Canyon Road to a location near Forestville, where SR 116 is also known as Gravenstein Highway to U.S. 101. In the Petaluma area, SR 116 is also known as Lakeville Highway from U.S. 101 to Stage Gulch Road. SR 116 is also known as Stage Gulch Road from Lakeville Highway to Arnold Drive, near the City of Sonoma. Traffic volumes along SR 116 in Sonoma County range from an annual ADT level of less than 3,000 vehicles per day near Guerneville to 38,000 vehicles per day at the U.S. 101 junction in Petaluma (Caltrans, 2009).

**State Route 121** is classified as a rural principal arterial. SR 121 extends from its junction with Highway 37 to the south to its junction with State Route 12 (SR 12) near the Napa County Line. SR 121 carries a large amount of through traffic (neither an origin nor destination in Sonoma County), and is highly affected by growth in tourism (it is also known as the Carneros Highway for the world-renowned wine producing region through which it runs), and special events (e.g., Infineon Raceway, wineries) (Sonoma County, 2006). Traffic volumes along SR 121 in Sonoma County range from an annual ADT level of less than 16,800 vehicles per day at its junction with SR 116 to 31,000 vehicles per day at the Sonoma/Napa County Line (Caltrans, 2009).

**State Route 37** is classified as a rural principal arterial in Sonoma County from the Marin County Line to the Solano County Line. It is a divided expressway from the Marin County Line to SR 121 (Sonoma County, 2006). Traffic volumes along SR 37 in Sonoma County range from an annual ADT level of less than 35,500 vehicles per day at the Sonoma/Solano County Line to 48,500 vehicles per day at its junction with SR 121 near Petaluma (Caltrans, 2009).

### **Local Roadways**

Direct access to the Sonoma County transfer stations is achieved primarily by a network of rural two-lane roadway segments that are under the jurisdiction of Sonoma County, with the exception of Frates Road, which is partially under the jurisdiction of the City of Petaluma. These roadways are typically unimproved and lack curbs and sidewalks. See below for descriptions of the local roadways that are used to provide access to the Sonoma County transfer stations.

**Mecham Road** is a two-lane rural major collector roadway that runs roughly north-south between Stony Point Road and Pepper Road. Mecham Road contains 12-foot travel lanes plus approximate six-foot wide paved shoulders. Mecham Road has a posted speed limit of 45 mile per hour (mph) north of Hammel Road, and an un-posted speed limit of 55 mph south of Hammel Road. Mecham Road provides direct access to the Central Disposal Site (currently serving as a transfer station, household hazardous waste disposal facility, and a compost center), and therefore, contains notable heavy truck traffic. Trucks that haul waste from the Central Disposal Site transfer station to out-of-County landfills turn left onto Mecham Road to Stony Point Road. 2008 traffic volumes along

Mecham Road have been measured to be 1,840 vehicles per day near the junction of Stony Point Road (Sonoma County, 2009).

***Stony Point Road*** is a two-lane rural principal arterial roadway that extends from in a north-south direction from Santa Rosa to Petaluma, roughly parallel to U.S. 101. Stony Point Road contains approximate 12-foot wide travel lanes plus turn lanes at intersections. North of Pepper Road, Stony Point Road contains approximately four- to six-foot wide paved shoulders; and south of Pepper Road it contains narrow or unpaved shoulders. There is gradual vertical and horizontal curvature in the road; as with U.S. 101, Stony Point Road rises in the vicinity of the Cotati grade. Stony Point Road contains an un-posted speed limit of 55 mph along the portion of the road used as the haul route from the Central Disposal Site to the out-of-County landfills (i.e., from Mecham Road to Pepper Road). 2006 traffic volumes along Stony Point Road were measured to be 10,660 vehicles per day north of Pepper Road (Sonoma County, 2009).

***Pepper Road*** extends from Valley Ford Road to Stony Point Road, where the road ends at an on-ramp to southbound U.S. 101. In the vicinity of this on-ramp, which is used by trucks leaving the Central Disposal Site to access southbound U.S. 101, Pepper Road is classified as a rural minor collector road. Pepper Road has approximate 12-foot travel lanes with approximate six-foot wide paved shoulders west of Mecham Road, with shoulders narrowing to two to three feet in width east Mecham Road. Pepper Road contains an un-posted speed limit of 55 mph. 2006 traffic volumes on Pepper Road were measured to be 2,650 vehicles per day west of Stony Point Road (Sonoma County 2009).

***Frates Road*** is a two-lane roadway from SR 116 (Lakeville Road) to Old Adobe Road. The southern part of the road is under the jurisdiction of the City of Petaluma to a point approximately 0.6 miles south of Old Adobe Road, where the jurisdiction of the road changes to Sonoma County. There are turning and acceleration lanes at the intersections. This road receives high commuter traffic during the a.m. and p.m. peak hours. Several of the transfer stations to out-of-County landfill routes use this roadway. 2006 traffic volumes on Frates Road were measured to be 7,625 vehicles per day south of Old Adobe Road (Sonoma County, 2009).

***Old Adobe Road*** is a two-lane roadway with shoulders. There are turning and acceleration lanes at the intersections. It receives high commuter traffic during the a.m. and p.m. peak hours. Several of the transfer stations to out-of-County landfill routes use this roadway. 2007 daily traffic volumes on Old Adobe Road were measured to be 16,280 vehicles north of Stage Gulch Road (Sonoma County, 2009).

***Annapolis Road*** is a 14-mile long road in northwestern Sonoma County that extends from SR 1 to Skaggs Springs Road. This winding road traverses ridgelines and drops in and out valleys. This road is used by trucks that access the Annapolis Transfer Station. Traffic volume data for this road is not available.

***Skaggs Springs Road*** extends from Lake Sonoma to Stewarts Point. It is a winding paved road that has areas that are one lane in width at certain locations. This road is used by trucks that access the

Annapolis Transfer Station. 2008 traffic volumes on Skaggs Springs Road were measured to be 360 vehicles per day west of Dry Creek Road (Sonoma County, 2009).

**Dry Creek Road** is a two-lane roadway that runs in a generally northwest-southeast direction from Skaggs Springs Road to the U.S. 101. It provides access from the City of Healdsburg and U.S. 101 to Lake Sonoma and the Dry Creek Valley area. The roadway is generally 40 feet wide, with 12-foot travel lanes divided by a double yellow centerline and 8-foot paved shoulders delineated by an edge line. This road is used by trucks that access the Annapolis Transfer Station. 2006 traffic volumes on Dry Creek Road were measured to be 4,940 vehicles per day west of U.S. 101 (Sonoma County, 2009).

**Healdsburg Avenue** is a two-lane roadway that runs in a north-south direction east of and parallel to U.S. 101. The roadway is generally 30 feet wide with 12-foot travel lanes and a six foot paved shoulder on the eastside of the road in the vicinity of the Healdsburg Transfer Station. This road intersects Alexander Valley Road, which is used for direct access to the transfer station. 2006 traffic volumes on Healdsburg Avenue have been measured to be 3,590 vehicles per day south of Layton Springs Road (Sonoma County, 2009).

**Lytton Springs Road** is a two-lane roadway that provides access from Healdsburg Avenue to the U.S. 101 on-ramps. This road is part of the route for trucks to access to the Healdsburg Transfer Station. Traffic volume data for this road is not available.

## Pedestrian and Bicycle Transportation

Bicycle facilities include bike paths, bike lanes, and bike routes. Bike paths (Class 1) are paved trails that are separated from the roadways. Bike lanes (Class 2) are lanes on roadways that are designated for use by bicycles by striping, pavement legends, and signs. Bike routes (Class 3) are roadways that are designated for bicycle use with signs, but no separate lane width. Regarding the roads described above, none are designated as bicycle facilities in the vicinity of the transfer stations or along the major haul routes (Sonoma County, 2008a).

The Countywide Bicycle Advisory Committee (CBAC) and Sonoma Bicycle Advisory Committee (SBAC) support bicycle- and pedestrian-related development in the project area and surrounding vicinity. The SCTA *Countywide Bicycle and Pedestrian Master Plan* indicates that bike facilities are planned as follows; Healdsburg Avenue (Bike Path), Pepper Road (Bike Route) and Stony Point Road, Mecham Road, Dry Creek Road, Old Adobe Road and Frates Road (Bike Lanes).

Pedestrian facilities include sidewalks, crosswalks, and pedestrian signals. The majority of the roadways that are utilized by waste haulers associated with the transfer stations do not include pedestrian facilities. Exceptions are Old Adobe Road and Frates Road, which have limited sidewalk facilities.

## Railroad Transportation

During the 1980s and 1990s, rail transportation in Sonoma County underwent a number of significant changes. The branch line to Sebastopol was removed, so that today there is only a single north-south line. The Northwestern Pacific Railroad (NWPRR) had provided service to Sonoma County since the 1870s. The NWPRR was owned by the Southern Pacific Railroad, a private corporation, which filed for abandonment of the line in the early 1980s, and then sold the segment south of Novato to the Golden Gate Bridge Highway and Transportation District. The segment between Novato and Healdsburg was sold to the Northwestern Pacific Railroad Authority (NWPRA), a joint powers public agency.

In 1990, Proposition 116 was passed by California voters, providing a limited amount of money for improving the NWPRR. The Sonoma – Marin Area Rail Transit (SMART) District was created by the Legislature in January 2003 replacing the Sonoma – Marin Area Rail Transit Commission. The NWPRA thereupon dissolved, transferring its assets to SMART. SMART is currently in the process of acquiring the southern portion of the line from the Golden Gate Bridge Highway and Transportation District. SMART is charged with implementing passenger service on the NWP from Cloverdale to Larkspur.

Freight service on the NWP is under the jurisdiction of the North Coast Railroad Authority (NCRA), which owns the NWP north of Healdsburg and had freight easements on the line south of Healdsburg. The NCRA is proposing to resume rail service on the NWP from the City of Willits in Mendocino County to Lombard in Napa County (NCRA, 2009). The NWP line from Willits to Healdsburg is owned by NCRA and from Healdsburg to Lombard the line is owned by the SMART District. NCRA has a perpetual freight service easement over SMART right-of-way (ROW), and SMART has a perpetual passenger service easement over the portion of the ROW owned by NCRA between Healdsburg and Cloverdale.

Coordination of SMART's passenger rail service and NCRA's freight service is governed by an existing Operating Agreement, which states that passenger service would receive operating priority over freight operations, so long as freight service continues to be provided in a manner that meets the needs of the shippers on the line, and that passenger operations disrupt NCRA's freight operations to the minimum extent possible. Prior to the institution of commuter service, a coordination agreement will be negotiated with SMART to address these issues (NCRA, 2009).

Despite the presence of the physical railroad, there is no passenger or freight railroad service currently operated on this line. Rail passenger service was discontinued in the mid-1950s; with rail freight service discontinued in the 1990s. The line re-opened briefly in 2001, but then was closed by the Federal Railroad Administration due to a failure to meet safe track standards.

The NWP mainline generally parallels U.S. 101 and SR 37. Prior to discontinuance of freight services, the interchange of cars was made at Schellville Junction, where a connection was made to the Union Pacific (formerly Southern Pacific) Railroad (Sonoma County, 2006). See Figure 8-1 for an illustration of the NWP mainline.

## Regulatory Framework

The development and regulation of the project area transportation network primarily involves state and local jurisdictions. All roads within the project area are under the jurisdiction of state and local agencies. State jurisdiction includes permitting and regulation of the use of state roads, while local jurisdiction includes implementation of state permitting, policies, and regulations, as well as management and regulation of local roads. Applicable state and local laws and regulations related to traffic and transportation issues are discussed below.

### ***California Department of Transportation***

The California Department of Transportation (Caltrans) manages interregional transportation, including management and construction of the California highway system. In addition, Caltrans is responsible for permitting and regulation of the use of State roadways. The project area includes four roadways that fall under Caltrans' jurisdiction (i.e., U.S. 101, SR 116, SR 121, and SR 37).

Caltrans requires that permits be obtained for transportation of oversized loads and transportation of certain materials, and for construction-related traffic disturbance. Caltrans regulations apply to waste haulers that operate/would operate under the proposed revisions to the CoIWMP.

### ***Sonoma County***

All of the roads that provide direct access to the Sonoma County transfer stations are under the jurisdiction of Sonoma County. County policies and regulations regarding the design, use, or obstruction of roadways are detailed in the Sonoma County General Plan *Circulation and Transit Element* (Sonoma County, 2008b). The majority of these goals and policy guidelines in the Circulation and Transit Element pertain to the development and planning of roadways and transit systems.

## 8.3 Impacts and Mitigation Measures

### 8.3.1 Standards of Significance

According to Appendix G of the CEQA *Guidelines*, a project would have a significant effect on transportation and traffic if it would:

- Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)
- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)
- Result in inadequate emergency access

- Result in inadequate parking capacity
- Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., conflict with policies promoting bus turnouts, bicycle racks, etc.).

The project would not affect air traffic patterns or alternative transportation programs. Therefore, these issues are not addressed further in this SPEIR. Several other issues that would be applicable to the project were addressed in the 2003 SPEIR and found to be less than significant with incorporation of mitigation measures, including design induced safety hazards, inadequate emergency access, and issues related to parking. The Initial Study conducted for the project (see Appendix B) scoped the analyses associated with these issues out of this SPEIR; however, further analysis would be conducted when site-specific projects are proposed.

## 8.3.2 Impact Discussion

### **Impact 8-1: Traffic Congestion (Out-of-County Waste Transport by Truck)**

Proposed revisions to the Siting Element reflect the fact that landfilling of solid waste at the Central Disposal Site has been suspended and no waste is currently disposed within Sonoma County. The proposed revisions to the Siting Element include a short-term disposal strategy and a medium-term disposal strategy. The short-term disposal strategy is to continue the existing out-of-County transport of waste by truck with contracts that are currently in place, which would ensure sufficient disposal capacity until 2010, when the contracts are scheduled to expire. The medium-term (years 2010 through 2024) disposal strategy also includes an out-of-County disposal of waste by truck transport option. The project analyzed in the 2003 SPEIR did not include an option for out-of-County haul by truck because at that time disposal was still taking place within the County. The out-of-County waste transport by truck option does not include construction of any new facilities, and therefore no impacts would occur with regard to construction traffic.

As discussed in Section 4, Approach to Environmental Analysis, two baseline scenarios are used to assess potential impacts to transportation and traffic associated with proposed revisions to the Siting Element: Baseline Scenario 1, which is the 2003 CoIWMP conditions when no out-of-County hauling of refuse by truck occurred and Baseline Scenario 2, where out-of-County hauling of refuse by truck is occurring.

Daily 2007 (existing) and future (2010 and 2020) transfer truck trip amounts at each of the existing County transfer stations are identified in Table 8-1. The transfer station truck trips that would be associated with medium-term disposal options in 2010 and 2020 were quantified based on the assumption that waste generation in the County would increase one percent per year between 2007 and 2020.<sup>1</sup>

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<sup>1</sup> The annual increase in waste of approximately one percent is based on assumed future growth (i.e., 0.95 percent), offset by diversion activities (BVA, 2006). It is acknowledged that waste generation has actually decreased in recent years due to the current economic downturn; however, for the purposes of a conservative analysis, an annual increase of one percent is assumed.

**TABLE 8-1**  
**DAILY TRANSPORT TRUCK TRIPS FOR OUT-OF-COUNTY HAUL BY TRUCK**

Transfer Station	Maximum Daily One-Way Trips		
	2007 (Existing)	2010	2020
Annapolis	6	6	6
Central Disposal Site	60	60	66
Guerneville	14	14	14
Healdsburg	34	34	36
Sonoma	28	28	30

Under the 2003 CoIWMP baseline conditions (Baseline Scenario 1), when all refuse generated in the County was brought to the Central Disposal Site, project related daily truck trips to the Central Disposal Site would decrease. All of the transfer station trips identified in Table 8-1 would be routed to out-of-County landfills, resulting in approximately 82 fewer trips per day to the Central Disposal Site during 2010, and 86 fewer trips per day to the Central Disposal Site during 2020.

Instead of arriving at the Central Disposal Site, these trips would likely either continue south on U.S. 101, exit U.S. 101 onto Lakeville Highway to Frates Road, Old Adobe Road, Stage Gulch Road, and SR 121, exit U.S. 101 onto Lakeville Highway to SR 37, or use a route that includes some other combination of these roads. Average daily traffic levels on these roads range from approximately 7,625 vehicles (Frates Road) to 89,000 vehicles (U.S. 101). Assuming a worst case assumption that all of the 86 trips during 2020 would use one route, this would represent an increase in daily traffic ranging from a minimum of approximately 0.1 percent of total daily traffic (for U.S. 101) to a maximum of approximately one percent (for Frates Road). In addition, waste haulers tend to ship waste during the off-peak traffic hours to avoid traffic congestion. Therefore, under Baseline Scenario 1, there would be a *less than significant* impact associated with the out-of-County waste transport by truck option.

Under the current baseline conditions (Baseline Scenario 2), where out-of-County hauling of refuse is occurring, all of the trips identified in Table 8-1 would continue to be routed to out-of-County landfills. As indicated in the table, it is anticipated that the increase in waste generation would result in no change in truck trips in 2010 (i.e., the increased amount of waste would continue to fit on the same amount of trucks) and only a minor increase in trips would be generated from the Central Disposal Site, Healdsburg, and Sonoma transfer stations in 2020. Therefore, under Baseline Scenario 2 traffic congestion impacts associated with the out-of-County waste transport by truck options would be *less than significant*.

### **Impact 8-2: Traffic Congestion (New Household Hazardous Waste Collection Facilities and Waste by Rail Facilities)**

#### New Household Hazardous Waste Facilities

The proposed revisions to the HHWE would allow the SCWMA the flexibility to create additional permanent household hazardous waste collection facilities in the County at locations other than the Central Disposal Site. It should be noted that household hazardous waste collection facilities are included in the group of facilities referred to as non-disposal facilities. Construction of new facilities would require vehicle trips that could result in short-term traffic congestion. Operations of the new facilities would be anticipated to result in relatively light vehicle traffic to and from the household hazardous waste facilities.

Currently, there are no proposed sites selected for additional household hazardous waste collection facilities; therefore, traffic congestion impacts cannot be determined until a site specific project is proposed.

#### New Waste by Rail Facilities

The medium-term (years 2010 through 2024) disposal strategy identified in the proposed revisions to the Siting Element includes an out-of-County disposal with waste transport by rail (WBR) option. Construction of new waste by rail facilities would require vehicle trips that could result in short-term traffic congestion. Operations of a new facility, such as a local rail yard, would be anticipated to result in moderate vehicle traffic to and from the facility. The daily truck trip amounts estimated to be required to deliver intermodal containers or gondola cars to the local rail yard that are identified in Table 8-2 are based on the County of Sonoma's 2007 trip data (SCWMA, 2008) and annual increases in waste generation of one percent (BVA, 2006). In addition to the trips identified in the table, it is anticipated that several daily automobile trips associated with commuting workers would be required.

**TABLE 8-2  
ESTIMATED DAILY TRUCK TRIPS AT LOCAL RAIL YARD**

Facility	Maximum Daily One-Way Truck Trips	
	2010	2020
Local Rail Yard	142	152

Currently, there are no proposals for any waste by rail facilities; therefore, traffic congestion impacts cannot be determined because a site specific project has not been proposed.

#### Mitigation Measures

Implementation of the following mitigation measures would reduce traffic congestion impacts related to new household hazardous waste collection facilities and waste by rail facilities. For ease of review, all revisions to the 2003 SPEIR mitigation measures are shown as underline and ~~strikeout~~.



### **Mitigation Measure 8-2 [Recommended Revisions to 2003 SPEIR Mitigation Measure 9-1]**

- A. To the extent feasible, new non-disposal facilities and new waste by rail facilities shall not be located in areas with significant road congestion, as designed in the cities' and County General Plan.
- B. To the extent feasible, new non-disposal facilities and new waste by rail facilities shall be located near other commercial or industrial facilities to allow for the combination of activities in one trip and reduce overall trip generation.
- C. Traffic Management Plans (TMP) shall be developed for each of the new and expanded non-disposal facilities and new waste by rail facilities, as required. These plans shall schedule truck trips so that roadway segments with the potential to be significantly impacted are avoided during peak hours. In addition, these plans shall detail the hours of operation and other restrictions on truck trips for each of the facilities and shall include plans for employee car pooling and bus transportation, where appropriate and feasible. The plans shall be updated periodically in response to changing traffic conditions and improvements to the highway system. The TMP shall include a site-specific traffic evaluation conducted as part of the siting study for a new non-disposal facility or a new waste by rail facility to identify potential traffic problem areas prior to site selection. The traffic evaluation shall consider limiting non-disposal facility or waste by rail facility operations to either commercial or private (general public) haulers, as well as co-locating of disposal and non-disposal facilities and waste by rail facilities to reduce haul trips.
- D. Countywide Traffic Mitigation fees shall be paid for new facilities implemented in accordance with the ~~2003~~ CoIWMP to help mitigate off-site cumulative traffic impacts.

### **Addition to Mitigation Measure 8-2**

- E. Construction Traffic Management Plans shall be prepared for each of the new and expanded non-disposal facilities and new waste by rail facilities. These plans shall include, but not be limited to, a discussion of work hours, haul routes, work area delineation, and traffic control and flagging procedures, if required.

The above mitigation measures may not reduce the impact to a level that is less than significant; therefore, program level congestion impacts associated with new household hazardous waste collection facilities and waste by rail facilities are considered to be ***significant and unavoidable***.

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### **Impact 8-3: Traffic Congestion (Divestiture)**

The medium-term (years 2010 through 2024) disposal strategy identified in the proposed revisions to the Siting Element includes an option to divest the County Disposal System to a private owner who may resume operation and possibly pursue expansion of the Central Disposal Site. For the

purposes of this analysis it is assumed that operations at each of the existing transfer stations would continue unchanged with the exception of at the Central Disposal Site.

Under the 2003 CoIWMP baseline conditions (Baseline Scenario 1), when all refuse generated in the County was brought to the Central Disposal Site by truck, traffic associated with the reuse of the Central Disposal Site under divestiture would not change because truck trip amounts would not change in 2010 and 2020 truck trips would only slightly increase (six or less) associated with the Central Disposal Site, Healdsburg, and Sonoma transfer stations (See Table 8-1). Therefore, traffic impacts under Baseline Scenario 1 associated with the reuse of the Central Disposal Site under divestiture would be *less than significant*.

Under the current baseline conditions (Baseline Scenario 2), where out-of-County hauling of refuse by truck is occurring, if refuse disposal resumes at the Central Disposal Site due to implementation of the divestiture option, it is assumed that the transfer truck trips from Annapolis, Healdsburg, and Sonoma transfer stations that currently haul waste to out-of-County landfills directly would be instead routed to the Central Disposal Site. The estimated increase in daily truck trips that would occur at the Central Disposal Site due to resumption of disposal at the site are identified in Table 8-3. In addition to the trips identified in the table, it is anticipated that several daily automobile trips associated with additional commuting workers to the site would be required.

**TABLE 8-3  
ESTIMATED INCREASE IN DAILY TRUCK TRIPS AT  
CENTRAL DISPOSAL SITE DUE TO DIVESTITURE**

Facility	Maximum Daily One-Way Truck Trips	
	2010	2020
Central Disposal Site	82	86

Currently, there are no proposals to resume refuse disposal at the Central Disposal Site or to expand the Central Disposal Site; therefore, project specific traffic congestion impacts cannot be determined until a site specific project is proposed. However, on a program level, implementation of the following mitigation measure, identified in the 2003 SPEIR, would reduce traffic congestion impacts related to resumption of disposal activities at the Central Disposal Site to a level that is *less than significant*.

**Mitigation Measure 8-3 [Recommended Revisions to 2003 SPEIR Mitigation Measure 9-4]**

If significant traffic impacts to the Stony/Roblar and Stony Point Road/West Railroad Avenue intersections continue beyond 2015, mitigation measures such as the following shall be implemented:

- A. The Integrated Waste Division will ~~consider restricting~~ truck traffic that is subject to County control so that trucks do not travel through the Stony Point/Roblar and/or the Stony Point Road/West Railroad intersections during peak traffic hours. This shall apply only to new truck trips associated with projects pursuant to the ~~2003 CoIWMP~~ and revisions to the CoIWMP (including Divestiture), and not existing traffic using the Central Disposal Site. The restriction shall apply to trucks subject

to County control, such as those making deliveries for cover soil and liner materials, and trucks associated with construction at the site. This measure shall remain in effect until a traffic signal has been installed at these intersections.

- B. Prior to construction of projects at the Central Disposal Site pursuant to the ~~2003~~ CoIWMP, the Integrated Waste Division shall pay a traffic mitigation fee that includes a fair share contribution toward the installation of signals at the Stony Point/Roblar and Stony Point/ West Railroad intersections.
- C. Consider restricting hours of operation so that traffic is not added to the congested intersections during peak traffic hours. This restriction would remain in effect until these intersections are signalized.
- D. Consider restricting the use of the site to commercial operators only, thereby reducing the number of vehicles using the Stony Point/Roblar and Stony Point/West Railroad intersection.

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## 8.4 References

- BVA (Brown, Vence & Associates). 2006. Assessment of Long-Term Solid Waste Management Alternatives, Sonoma County. January 2006.
- Caltrans, 2009. 2007 All Traffic Volumes. Traffic and Vehicle Data Systems Unit webpage (CSHS<http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/2007all.htm>) accessed on February 9, 2009.
- NCRA (North Coast Rail Authority), 2009. Draft Environmental Impact Report for the North Coast Railroad Authority Russian River Division Freight Rail Project, March 9, 2009.
- Sonoma County, 2006. Permit and Resource Management Department, Draft Environmental Impact Report for the General Plan Update, January 2006. State Clearinghouse No. 2003012020.
- Sonoma County, 2008a. Sonoma County Transportation Authority, (SCTA) Countywide Bicycle and Pedestrian Master Plan, May 2008.
- Sonoma County, 2008b. Permit and Resource Management Department, Sonoma County General Plan 2020 Update, Adopted by Resolution No. 08-0808 of the Sonoma County Board of Supervisors on September 23, 2008.
- Sonoma County, 2009. Sonoma County Department of Transportation and Public Works, Fax transmission sent by David Wallace, County Engineer, February 17, 2009.
- Sonoma County Waste Management Agency (SCWMA). 2008. Sonoma County transfer station trip data supplied by Patrick Carter, SCWMA, on 8/12/08.



## **SECTION 9**

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### **Other Environmental Considerations**

Section 15126 of the CEQA Guidelines lists several subjects that must be discussed in an EIR. This section discusses the subjects or identifies other parts of the SPEIR in which the subjects are discussed.

#### **9.1 Significant Environmental Effects**

Sections 5 through 8 discuss significant environment impacts that can not be avoided if the proposed project is implemented. These impacts are summarized in Table 2-1 of this SPEIR.

#### **9.2 Significant Environmental Effects that Cannot be Avoided**

This section summarizes the significant unavoidable impacts identified in this SPEIR pursuant to Section 15126.2 (b) of the CEQA Guidelines. Significant and unavoidable effects include aesthetics, air quality, noise, and transportation as identified in Summary Table 2-1. By environmental topic area the following impacts were determined to be significant and unavoidable.

Aesthetics – Impacts 5-1 and 5-2.

Air Quality – Impacts 6-2, 6-4, 6-5, and 6-6.

Noise – Impacts 7-3, 7-5, and 7-6.

Traffic and Transportation – Impact 8-2.

#### **9.3 Significant Irreversible Environmental Changes**

Section 15126.2 (c) of the CEQA Guidelines requires that an EIR address any significant irreversible environmental changes which would be involved in the proposed action should it be implemented. Implementation of the Amendment to the CoIWMP would not result in any significant irreversible changes except for site changes that could result under the waste by rail transport option or due to establishment of new household hazardous waste collection facilities. These changes would be for the duration of the proposed facilities.

## 9.4 Growth-Inducing Impacts

Section 15126.2 (d) of the CEQA Guidelines requires that an EIR address the growth-inducing impacts of a proposed action. The following discussion summarizes the potential growth-inducing impacts of the proposed Amendment to the CoIWMP.

The project would eliminate the restriction in the current HHWE that identifies only one permanent Household Hazardous Waste collection facility in the County and would revise the CoIWMP Siting Element to allow for out-of-County disposal of solid waste and to allow the divestiture of the Central Landfill, which would result in resumed disposal of refuse at the landfill. It is not expected that the Amendments to the CoIWMP would affect population growth or displace substantial numbers of people or existing housing. It is possible that the construction of adequate solid waste disposal facilities could have an indirect effect on population if development construction had previously been limited by lack of solid waste facilities; however, development in Sonoma County has not been limited by a lack of solid waste facilities.

## 9.5 Mitigation Measures Proposed

Mitigation measures proposed to minimize significant environmental effects are described in Sections 5 through 8 of the SPEIR, and are summarized in Table 2-1.

## 9.6 Alternatives to the Proposed Project

Section 10 of this SPEIR discusses three alternatives to the proposed project, including:

- The No Project Alternative (see Section 10.2);
- The Zero Waste Alternative (see Section 10.3); and
- The CMRF Alternative (see Section 10.4).

These sections also indicate the degree that alternatives would meet the various project objectives. Section 10.5 presents a comparison of alternatives and identifies the Environmentally Superior Alternative.

## 9.7 Effects Found Not to be Significant

Section 15128 of the CEQA Guidelines requires an EIR to contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and, therefore, were not discussed in detail in the EIR. See the Initial Study/Notice of Preparation (IS/NOP) presented in Appendix B. The Initial Study provides a discussion of the potential impacts for each of the checklist items from Appendix G of the *CEQA Guidelines*.

## 9.8 Cumulative Impacts

### 9.8.1 Overview

This section assesses potential cumulative impacts of the proposed Amendment to the CoIWMP pursuant to Section 15130(a) of the CEQA Guidelines. CEQA Guidelines 15355 defines cumulative impacts as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, or reasonably probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.” In addition, Section 21083(b), Public Resources Code, and CEQA Guidelines Section 15130 (b)(1)(A) and (B), emphasize the need to either consider and assess project with related impacts, or to summarize projections contained in adopted general plans, when discussing cumulative impacts.

For the purposes of this analysis, the study area for which potential cumulative effects are examined is Sonoma County. Potential future conditions have been assessed by reviewing the Sonoma County General Plan, which can be the basis for a determination of cumulative impacts per CEQA Guidelines 15130(b)(1). This analysis considers the changes to the environment likely to result from future conditions as envisioned by the Sonoma County General Plan, in combination with the programs and facilities that could result from the implementation of the project. The standards of significance applied are the same as those used in the impact sections for the project. In general, contribution of the project to cumulative impacts is expected to be small. Nonetheless, this analysis addresses the likely significance of the totality of those impacts. The EIR prepared for the General Plan is incorporated herein by reference and can be reviewed by the public at the Sonoma County Permit and Resource Management Department, 2550 Ventura Avenue, Santa Rosa, California, or can be accessed remotely from the department's webpage (<http://www.sonoma-county.org/PRMD/gp2020/index.html>).

### 9.8.2 Discussion of Cumulative Impacts

The summary of cumulative impacts identified in the 2003 Final SPEIR was based on the EIR completed for a now outdated version of Sonoma County General Plan. Subsequent to the release of the 2003 Final SPEIR, the Sonoma County General Plan 2020 has been adopted. Therefore, the EIR completed for the General Plan 2020 was used to define the following summaries.

#### Aesthetics

The General Plan 2020 EIR only identifies significant unavoidable impacts associated with light pollution and nighttime sky due to planned development within the County. However, some of the facilities that could be developed under the project could contribute to the Countywide

change in the aesthetics and scenic quality of the area. Therefore, the cumulative impacts to visual resources are considered significant and unavoidable.

## **Air Quality**

Planned development would result in a deterioration of air quality, primarily related to vehicular travel. Significant quantities of ozone precursors would be generated that would exceed the emissions assumptions presented in the BAAQMD's Clean Air Plan. Due the fact that the southern portion of the County is in non-attainment status for PM10, PM2.5, and ozone, any substantial increase in vehicle miles traveled would be considered significant (assuming that the substantial increases could result in countywide increases in criteria air pollutants that would be greater than the significance thresholds of the BAAQMD and NSCAPCD).

In addition, project related emissions of GHG would conflict with the State goals for reducing GHG emissions due to inefficient use of energy associated with the out-of-County transportation of refuse by either truck or rail. In addition, it appears that the non-divestiture disposal strategies would conflict with a basic Sonoma County objective (OSRC-16.1) to minimize air pollution and GHG emissions and the Sonoma County Community Climate Action Plan includes a GHG solution that requires that all waste that cannot be reused or recycled be placed in local landfills that produce energy.

Therefore, the cumulative impacts to air quality associated with criteria pollutants and GHG would be significant and unavoidable, despite the implementation of mitigation measures identified for the CoIWMP and for the planned development within the County.

## **Noise**

Planned development could result in a significant increase in noise levels related to vehicular traffic and rail activity. Implementation of the waste by rail option could contribute to the significant impact to existing noise sensitive land used that would be exposed to substantially increased noise levels from rail activity. Although mitigation measures can be applied at the project level to reduce noise impacts, such impacts may not be reduced to a level of insignificance. Therefore, it is anticipated that cumulative impacts related to noise would be significant and unavoidable.

## **Transportation and Traffic**

Planned development would result in an increase in traffic congestion on State highways, County roads, and local city roads. The road system in Sonoma County has many roads with either currently unacceptable levels or levels that are projected to be unacceptable due to implementation of planned development in the County. Therefore, traffic congestion impacts cannot be fully mitigated. Thus, revisions to the CoIWMP that could increase traffic would have cumulative impacts to transportation that are considered potentially significant and unavoidable.



## 9.9 General Plan Consistency

A general plan consistency analysis has been conducted for the project (see Appendix F). The analysis concludes that the project would be consistent with the Sonoma County General Plan. Solid waste facilities proposed in unincorporated areas of Sonoma County in the future pursuant to the amended CoIWMP would require a project-level analysis and determination of consistency that would consider facility design, site characteristic, and any pertinent site-specific General Plan policies.



# SECTION 10

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## Alternatives

### 10.1 Introduction

CEQA requires an evaluation of the comparative effects of a range of reasonable alternatives to the project that would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project (*CEQA Guidelines* Section 15126.6(a)). The range of alternatives is governed by the “rule of reason” that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice (Section 15126.6(f)). The significant effects of the alternatives shall be discussed, but in less detail than the significant effects of the proposed project (Section 15126.6(d)).

The EIR must assess the identified alternatives and determine which among the alternatives (including the project as proposed) is the environmentally superior alternative. One of the alternatives to be assessed is the “No Project” Alternative (see discussion below under that heading). If the No Project Alternative is identified as the environmentally superior alternative, then another of the remaining alternatives must be identified as the environmentally superior alternative.

This chapter discusses the following alternatives to the proposed project:

- *No Project Alternative.* The adopted 2003 CoIWMP would not be updated.
- *Zero Waste Alternative.* This alternative would accelerate the County’s goal of 70 percent waste diversion by 2015.
- *CMRF Alternative.* This alternative would be a Comprehensive Materials Recovery Facility with Conversion Technology (CMRF). This would be a centralized facility-based method of reducing wastes that need to be disposed of in landfills.

The components of these alternatives are described below, including a discussion of their impacts and how they would differ from those under the proposed project. A discussion of the environmentally superior alternative is also included in this Section.

The *CEQA Guidelines* require that an EIR briefly describe the rationale for selecting the alternatives to be discussed (Section 15126.6(a)), and suggest that an EIR also identify any alternatives that were considered by the lead agency but were rejected as infeasible (Section 15126.6(c)). This section of the SPEIR also addresses these issues.

Two alternatives (i.e., the Close Landfills Alternative and the New Landfill Alternative) were considered in this report, but were rejected as infeasible. The Close Landfills Alternative would require the waste system operator (County of Sonoma) to select the closest out-of-County landfills to dispose of solid waste generated in Sonoma County. This alternative was rejected as infeasible because it would lack the flexibility needed for the waste system operator to secure favorable waste disposal contracts. The New Landfill Alternative would consist of development of a new solid waste disposal facility either within Sonoma County or within a neighboring county. This alternative was determined to be infeasible because the SCWMA has no authority outside of Sonoma County. In addition, the existing 2003 CoIWMP already allows for new landfill development within Sonoma County.

The alternatives analyzed in this SPEIR (other than the required No Project Alternative) were selected to help reduce the significant impacts of the project. The alternatives would be drivers to reduce wastes requiring landfill disposal; thus reducing potential impacts associated with the proposed project. The proposed project includes revisions to the CoIWMP that identify more options for the SCWMA's consideration related to landfill disposal (including the options of out-of-County haul by truck or rail and divestiture of the Central Disposal Site).

## 10.2 No Project Alternative

This alternative would retain the Household Hazardous Waste Element and the Siting Element as adopted in the 2003 CoIWMP. Under this alternative, the adopted 2003 CoIWMP would remain the planning document for the management of solid waste in Sonoma County. Projects consistent with the 2003 CoIWMP would continue to be implemented where permissible, but none of the new amendments proposed in the 2009 CoIWMP would be implemented. The following components of the No Project Alternative would be either excluded from or different than the proposed project.

### Household Hazardous Waste Element:

The Household Hazardous Waste Element would not be revised to allow for the potential for additional new permanent household hazardous waste collection facilities to be established in the County. Only one SCWMA-sponsored household hazardous waste collection facility would be permissible.

### Siting Element:

The Siting Element would not be revised to reflect that all landfilling of solid waste at the Central Disposal Site has been suspended and that no waste is currently disposed of within Sonoma County. The Siting Element would not be revised to include the potential for Waste By Rail (WBR). In addition, the Siting Element would not be revised to include the potential divestiture of the Central Disposal Site to a private owner who may resume operation of the Central Disposal Site and possibly pursue expansion. Under the No Project Alternative, the out-of-County truck hauling of refuse would continue to be inconsistent with the Siting Element of the 2003 CoIWMP, which describes a system in which refuse is disposed at County-owned facilities within Sonoma County.

## 10.2.1 Impact Analysis and Comparison

Under the No Project Alternative, it is assumed that waste would continue to be shipped out-of-County by truck from the Sonoma County transfer stations, which would be out of compliance with the 2003 CoIWMP. Being out of compliance, the California Integrated Waste Management Board (CIWMB) would require the SCWMA to create a plan for providing at least 15 years of disposal capacity pursuant to Integrated Waste Management Act of 1989 (also known as Assembly Bill (AB) 939). In addition, there would be no potential for the establishment of new household hazardous waste collection facilities within the County, and there would be no waste by rail or divestiture options. Therefore, impacts associated with the construction and operation of waste by rail or divestiture would not occur. However, the No Project Alternative falls short of achieving each of the primary objectives of the proposed project. As indicated in Section 3.2, the primary objectives of the proposed project are as follows:

1. To allow for the development of additional permanent Household Hazardous Waste collection facilities in the County;
2. To allow for out-of-County disposal of solid waste; and
3. To allow the divestiture of the Central Landfill, which would most likely result in resumed disposal of refuse at the Central Disposal Site.

Listed below are summaries of the impact comparisons between the No Project Alternative and the proposed project.

### Aesthetics

#### Eliminated Impacts:

- *Impact 5-2 Litter (Waste by Rail to Landfill).* Under the No Project Alternative, there would be no potential for the waste by rail option to be implemented, and associated litter along the railroad routes would not occur.

#### Impacts not Substantially Changed:

- *Impact 5-1 Litter (Non-Disposal Facilities).* This impact would be unchanged under the No Project Alternative because it is assumed that waste would continue to be transported out-of-County by truck and litter would continue to be generated along haul routes.

### Air Quality

#### Eliminated Impacts:

- *Impact 6-3: Construction PM10.* Under the No Project Alternative, no new household hazardous waste collection facilities or waste by rail facilities would be constructed, and the landfill divestiture option would not occur, eliminating the potential for construction related impacts.
- *Impact 6-4: Odors.* Under the No Project Alternative, divestiture of the County Disposal System to a private owner and resumption of landfill operations would not occur. This would eliminate the potential for additional odor impacts.

- *Impact 6-5: Onsite Operations (Landfill)*. Under the No Project Alternative, divestiture of the County Disposal System to a private owner and resumption of landfill operations would not occur, eliminating the potential for substantial amounts of criteria pollutants.

Increased Impacts:

- *Impact 6-1: Air Pollutant Emissions (New Household Hazardous Waste Collection Facilities)*. Operation of new household hazardous waste collection facilities would likely result in a net reduction in vehicle miles traveled in the County, which would result in commensurate reduction in vehicular emissions. This beneficial impact would be eliminated and a less than significant impact would be generated under the No Project Alternative.

Impacts not Substantially Changed:

- *Impact 6-2: Air Pollutant Emissions (Revisions to the Siting Element)*. Impacts associated with criteria pollutant emissions due to out-of-County hauling within the local air basin would not be substantially changed under the No Project Alternative.
- *Impact 6-6: GHG Emissions (Disposal Strategies)*. Out-of-County truck haul disposal strategies associated with the No Project Alternative would continue to be inherently energy inefficient, which would conflict with State and local GHG reduction goals.

## Noise

Eliminated Impacts:

- *Impact 7-1: Construction Noise (Non-Disposal Facilities and Local Rail Yard)*. Construction impacts associated with new household hazardous waste facilities and waste by rail facilities would not occur under the No Project Alternative.
- *Impact 7-3: Traffic Noise (New Household Hazardous Waste Collection Facilities and Waste by Rail Facilities)*. No noise impacts would result from traffic associated with new household hazardous waste collection facilities and waste by rail facilities under the No Project Alternative.
- *Impact 7-4: Traffic Noise (Reuse of Central Disposal Site under Divestiture)*. Under the No Project Alternative, the landfill divestiture option would not occur and there would be no resultant additional truck traffic.
- *Impact 7-5: Railroad Noise (Waste by Rail Transport)*. The waste transport by rail option would not occur under the No Project Alternative.
- *Impact 7-6: Onsite Operations Noise (Non-Disposal Facilities and Local Rail Yard)*. New and expanded non-disposal facilities and the new local rail yard would not occur under the No Project Alternative.
- *Impact 7-7: Ground-Borne Vibration (Waste by Rail Transport)*. The waste transport by rail option would not occur under the No Project Alternative.

Impacts not Substantially Changed:

- *Impact 7-2: Traffic Noise (Out-of-County Waste Transport by Truck)*. Traffic noise associated with out-of-County waste transport by truck would continue under the No Project Alternative.

## Transportation and Traffic

### Eliminated Impacts:

- *Impact 8-2: Traffic Congestion (New Household Hazardous Waste Collection Facilities and Waste by Rail Facilities).* Program level congestion impacts associated with new household hazardous waste collection facilities and waste by rail facilities would not occur under the No Project Alternative.
- *Impact 8-3: Traffic Congestion (Divestiture).* Program level impacts from traffic congestion related to resumption of disposal activities at the Central Disposal Site would not occur under the No Project Alternative.

### Impacts not Substantially Changed:

- *Impact 8-1: Traffic Congestion (Out-of-County Waste Transport by Truck).* Traffic congestion associated with out-of-County waste transport by truck would continue under the No Project Alternative.

## 10.2.2 Project Objectives

The No Project Alternative would not be consistent with the following objectives of the proposed project:

1. To allow for the development of additional permanent Household Hazardous Waste collection facilities in the County;
2. To allow for out-of-County disposal of solid waste; and
3. To allow the divestiture of the Central Landfill, which would most likely result in resumed disposal of refuse at the Central Disposal Site.

## 10.3 Zero Waste Alternative

The 2003 CoIWMP identifies policies and programs to reach 70 percent waste diversion by 2015. The County has achieved 64 percent diversion in the past (i.e., 2006 CIWMB Annual Report). As an alternative or complement to facility development and exporting of solid waste generated in the County, the County and the cities could accelerate and enhance their source reduction and recycling plans to maximize diversion. The County could also establish specific zero waste policies and programs to reduce the generation of materials that need to be recycled or disposed. Implementation of this alternative may require the establishment of a resource conservation park where the materials can be sorted for further diversion from landfills. The Zero Waste Alternative was recently analyzed for Sonoma County by Brown, Vence, and Associates (BVA, 2004). The analysis includes several short-term policies and programs that would need to be implemented for this alternative, including:

### Short-term Policies

- **Accelerate plans for the 70 percent diversion goals.** The County has established a countywide diversion goal of 70 percent by 2015 and has developed a recycling plan that identifies the programs, costs, and funding to reach 70 percent diversion.
- **Mandatory source separation.** Mandatory recycling could require all residents and businesses to have available access to recycling programs. Additional diversion could be achieved by having all jurisdictions implement a mandatory source-separation ordinance.
- **Landfill bans.** The Agency could add materials such as paper and food waste to the landfill ban. To more aggressively enforce the ban, personnel at the fee gate would need to check drop-off loads and redirect self-haulers.
- **Countywide construction and demolition debris diversion ordinances.** The County and cities could establish even higher recycling requirements for C&D haulers or generators.
- **Product stewardship** Product stewardship places the responsibility or cost of disposal or recycling of particular materials on the manufacturers of products.
- **Zero waste funding.** Should the county develop a zero waste goal, the Agency may need to establish a specific funding source such as landfill tipping fee surcharge or collection rate surcharge to fund these projects.

### Short-term Programs

- **Changing public behavior.** The Agency could implement more measures to increase participation in recycling and composting programs.
- **Commercial, institutional and industrial outreach and technical assistance.** The CIWMB anticipates the development of new comprehensive business-centered programs for the commercial/industrial sector.
- **Market development.** Support for retaining, expanding and attracting businesses to the County could be provided through siting assistance, businesses plan review, and direct financial assistance. The County could establish a grant program or revolving loan fund for local recycling and reuse businesses.
- **Salvaging for reuse at the landfill and transfer stations.** The Agency could license a scavenger to salvage reusable material from the landfill or transfer station tipping area. The Agency could also station 40 cubic-yard bins at transfer stations for transporting reusable items.
- **Bulky item collection.** The Agency could offer bulky item collection programs specifically designed for reuse and recycling.
- **Source-separated organics.** The Agency could consider implementing a dedicated route for source-separated organics generated by commercial businesses.

## 10.3.1 Impact Analysis and Comparison

The Zero Waste Alternative would be consistent with AB 939, which mandates waste disposal reductions, in that it would reduce disposal of Sonoma County refuse. However, even with a diversion rate of 70 percent, refuse disposal would still be needed and this alternative would not address the immediate need to modify the Siting Element to be consistent with existing out-of-County waste



disposal practices in Sonoma County. Listed below are summaries of the impact comparisons. It should be noted that the comparisons primarily consider the change in impacts that the Zero Waste Alternative would have on the proposed project (such as the primary and secondary effects of out-of-County hauling). Implementation of the Zero Waste Alternative could result in new impacts affecting a variety of environmental topic areas. Some of the impacts of the Zero Waste Alternative development would be potentially significant depending on the types of services that would be offered and the specific details of the Zero Waste Alternative. For example, a bulky item collection program would result in new air quality impacts associated with vehicle emissions. Development of a Zero Waste Alternative could have a variety of impacts related to various environmental topics.

## Aesthetics

### Reduced Impacts:

- *Impact 5-1 Litter (Non-Disposal Facilities)*. This impact would be reduced under the Zero Waste Alternative because less waste would be transported out-of-County by truck. However, litter would continue to be generated along haul routes and the impact would continue to be significant and unavoidable.
- *Impact 5-2 Litter (Waste by Rail to Landfill)*. This impact would be reduced under the Zero Waste Alternative because less waste would be transported out-of-County by rail if the waste by rail option were implemented. However, litter would continue to be generated along rail haul routes and the impact would continue to be significant and unavoidable.

## Air Quality

### Reduced Impacts:

- *Impact 6-5: Onsite Operations (Landfill)*. Under the Zero Waste Alternative, this impact would be reduced because less refuse would be deposited at the landfill. However, it is anticipated that significant and unavoidable impacts associated with landfill operations would continue to occur.
- *Impact 6-6: GHG Emissions (Disposal Strategies)*. Out-of-County truck haul disposal emissions associated with the Zero Waste Alternative would be reduced; however, it is anticipated that GHG emissions would continue to be inherently energy inefficient, which would conflict with State and local GHG reduction goals.

### Impacts not Substantially Changed:

- *Impact 6-1: Air Pollutant Emissions (New Household Hazardous Waste Collection Facilities)*. Air pollutant emissions associated with the new household hazardous waste collection facilities would not substantially change under the Zero Waste Alternative.
- *Impact 6-2: Air Pollutant Emissions (Revisions to the Siting Element)*. This significant impact would not be substantially changed under the Zero Waste Alternative because criteria pollutant emissions associated with out-of-County haul within the local air basin would continue to occur.
- *Impact 6-3: Construction PM10*. PM10 construction emissions would be unchanged under the Zero Waste Alternative.

- *Impact 6-4: Odors.* Odor impacts would be unchanged under the Zero Waste Alternative because divestiture of the County Disposal System to a private owner and resumption of landfill operations would still be an option under this alternative. Although less waste would need to be disposed, decomposing waste would still be exposed on a regular basis, which is the primary source of odors.

## Noise

### Reduced Impacts:

- *Impact 7-2: Traffic Noise (Out-of-County Waste Transport by Truck).* Out-of-County truck haul disposal trips associated with the Zero Waste Alternative would be reduced and remain a less than significant impact.
- *Impact 7-3: Traffic Noise (New Household Hazardous Waste Collection Facilities and Waste by Rail Facilities).* If the waste by rail option is pursued, haul trips to the local rail yard associated with the Zero Waste Alternative would be reduced; however, it is anticipated that traffic noise would continue to be significant and unavoidable.
- *Impact 7-4: Traffic Noise (Reuse of Central Disposal Site under Divestiture).* Under the Zero Waste Alternative, operational landfill noise impacts would be reduced due to lower volume of refuse that would be disposed of at the landfill. The impact would remain less than significant.
- *Impact 7-5: Railroad Noise (Waste by Rail Transport).* Rail haul disposal trips associated with the Zero Waste Alternative would be reduced; however, it is anticipated that rail noise impacts would continue to be significant and unavoidable.
- *Impact 7-6: Onsite Operations Noise (Non-Disposal Facilities and Local Rail Yard).* The amount of refuse that would be sent to the local rail yard under the Zero Waste Alternative would be less than under the proposed project. However, it is anticipated that impacts would continue to be significant and unavoidable.
- *Impact 7-7: Ground-Borne Vibration (Waste by Rail Transport).* Rail haul disposal trips associated with the Zero Waste Alternative would be reduced. The rail based vibration would remain a less than significant impact.

### Impacts not Substantially Changed:

- *Impact 7-1: Construction Noise (Non-Disposal Facilities and Local Rail Yard).* Construction impacts associated with new household hazardous waste facilities and waste by rail facilities would be unchanged under the Zero Waste Alternative. This would remain a less than significant impact.

## Transportation and Traffic

### Reduced Impacts:

- *Impact 8-1: Traffic Congestion (Out-of-County Waste Transport by Truck).* Traffic congestion impacts associated with out-of-County waste transport by truck would be reduced under the Zero Waste Alternative. Impacts would continue to be less than significant.
- *Impact 8-2: Traffic Congestion (New Household Hazardous Waste Collection Facilities and Waste by Rail Facilities).* The amount of refuse that would be sent to the local rail yard under the Zero Waste Alternative would be less than under the proposed project. Traffic

congestion impacts at the rail facilities would be reduced; however, it is anticipated that impacts would continue to be significant and unavoidable.

- *Impact 8-3: Traffic Congestion (Divestiture).* Under the Zero Waste Alternative, operational landfill traffic impacts would be reduced. After mitigation impacts would remain less than significant.

### 10.3.2 Project Objectives

The Zero Waste Alternative by itself would not advance any of the objectives of the proposed project as defined in Section 10.2.1. However, the Zero Waste Alternative would reduce the amount of residual waste in the County that would require disposal at a landfill.

## 10.4 Comprehensive Materials Recovery Facility with Conversion Technology (CMRF Alternative)

The CMRF Alternative provides a means of reducing the wastestream through the aggressive removal of recyclable materials, followed by a conversion technology, thereby minimizing the residual materials that require transport and disposal.

The conceptual design would be as follows. Source-separated materials, mixed solid wastes, and construction and demolition (C&D) wastes would all be handled at the facility. Source separated materials could go directly to sorting lines or other processes as required. Yard waste and woody debris would be separated and brought directly to a composting/wood processing facility, which would preferably be SCWMA owned and privately operated. Mixed solid waste from residential and commercial collection vehicles would be tipped on a floor. The material would be sorted on the floor to remove larger items that might clog or interrupt the sorting lines. Loaders or grapples would then load remaining materials onto a conveyor or surge hopper. Materials would be processed through dual stage screens to separate fiber (cardboard, newsprint, and mixed paper), containers, and small contaminants. Fiber would be hand sorted off elevated conveyor platforms into commodities and dropped into bunkers below. Containers would be processed through ferrous magnets, eddy-current magnets, and hand sorting. The small contaminant stream (e.g., dirt, rocks, broken glass, ceramics, and bottle caps) could be further processed to achieve market potentials. Sorted material would be moved from bunkers and baled (fiber, plastic, and metal) or loaded directly into roll-off trucks (glass). Typically C&D processing would generate gypsum, clean wood, ferrous metal, aluminum, inert material (including engineered fill) and alternative daily cover.

Some residue from these processes would be sent to landfill for disposal. Other residues from these processes would then undergo further reduction through a conversion technology. Potential conversion technologies could include waste to energy, or Alternative Thermal Technologies (i.e., pyrolysis or gasification) or Alternative Biological Technologies (i.e., anaerobic digestion). Any of the conversion technologies would provide further volume reduction of and conversion of the materials. The residue from these processes would be sent to an out-of-County landfill for disposal or in some cases be available for other uses.

The result of the processing that would be associated with the CMRF Alternative would be substantial volume reduction of the incoming material that would ultimately require landfill disposal.

### 10.4.1 Impact Analysis and Comparison

The CMRF Alternative would be consistent with AB 939, which mandates waste disposal reductions, in that it would reduce disposal of Sonoma County refuse. However, even with dramatic waste diversion reductions, refuse disposal would still be needed and this alternative would not address the immediate need to modify the Siting Element to be consistent with existing out-of-County waste disposal practices in Sonoma County. Listed below are summaries of the impact comparisons. It should be noted that the comparisons primarily consider the change in impacts that the CMRF Alternative would have on the proposed project (such as the primary and secondary effects of out-of-County hauling). Development of a CMRF Alternative would have construction and operations impacts affecting a variety of environmental topic areas, including aesthetics, air quality, traffic, noise, etc. Some of the impacts of CMRF Alternative development would be potentially significant depending on the location selected, roadway access, sensitive receptors, and specific details of the CMRF Alternative.

#### Aesthetics

##### Reduced Impacts:

- *Impact 5-1 Litter (Non-Disposal Facilities).* This impact would be reduced under the CMRF Alternative because less waste would be transported out-of-County by truck. However, litter would continue to be generated along haul routes and the impact would continue to be significant and unavoidable.
- *Impact 5-2 Litter (Waste by Rail to Landfill).* This impact would be reduced under the CMRF Alternative because less waste would be transported out-of-County by rail if the waste by rail option were implemented. However, litter would continue to be generated along rail haul routes and the impact would continue to be significant and unavoidable.

#### Air Quality

##### Reduced Impacts:

- *Impact 6-2: Air Pollutant Emissions (Revisions to the Siting Element).* This significant impact for rail emissions would be reduced under the CMRF Alternative because less waste would be transported out-of-County by rail if the waste by rail option would be implemented. However, it is anticipated that the significant and unavoidable impacts associated with the operation of a local rail yard and the criteria pollutant emissions outside of the local air basin would continue to occur.
- *Impact 6-5: Onsite Operations (Landfill).* Under the CMRF Alternative, this impact would be reduced because less refuse would be deposited at the landfill. However, it is anticipated that significant and unavoidable impacts associated with landfill operations would continue to occur.
- *Impact 6-6: GHG Emissions (Disposal Strategies).* Out-of-County truck haul disposal emissions associated with the CMRF Alternative would be reduced; however, it is

anticipated that GHG emissions would continue to be inherently energy inefficient, which would conflict with State and local GHG reduction goals.

Impacts not Substantially Changed:

- *Impact 6-1: Air Pollutant Emissions (New Household Hazardous Waste Collection Facilities).* Air pollutant emissions associated with the new household hazardous waste collection facilities would not substantially change under the CMRF Alternative.
- *Impact 6-3: Construction PM10.* PM10 construction emissions would be unchanged under the CMRF Alternative.
- *Impact 6-4: Odors.* Odor impacts would be unchanged under the CMRF Alternative because divestiture of the County Disposal System to a private owner and resumption of landfill operations would still be an option under this alternative. Although less waste would need to be disposed, decomposing waste would still be exposed on a regular basis, which is the primary source of odors.

## Noise

Reduced Impacts:

- *Impact 7-2: Traffic Noise (Out-of-County Waste Transport by Truck).* Out-of-County truck haul disposal trips associated with the CMRF Alternative would be reduced and remain a less than significant impact.
- *Impact 7-3: Traffic Noise (New Household Hazardous Waste Collection Facilities and Waste by Rail Facilities).* If the waste by rail option is pursued, haul trips to the local rail yard associated with the CMRF Alternative would be reduced; however, it is anticipated that traffic noise would continue to be significant and unavoidable.
- *Impact 7-4: Traffic Noise (Reuse of Central Disposal Site under Divestiture).* Under the CMRF Alternative, operational landfill noise impacts would be reduced due to lower volume of refuse that would be disposed of at the landfill. The impact would remain less than significant.
- *Impact 7-5: Railroad Noise (Waste by Rail Transport).* Rail haul disposal trips associated with the CMRF Alternative would be reduced; however, it is anticipated that rail noise impacts would continue to be significant and unavoidable.
- *Impact 7-6: Onsite Operations Noise (Non-Disposal Facilities and Local Rail Yard).* The amount of refuse that would be sent to the local rail yard under the CMRF Alternative would be less than under the proposed project. However, it is anticipated that impacts would continue to be significant and unavoidable.
- *Impact 7-7: Ground-Borne Vibration (Waste by Rail Transport).* Rail haul disposal trips associated with the CMRF Alternative would be reduced. The rail based vibration would remain a less than significant impact.

Impacts not Substantially Changed:

- *Impact 7-1: Construction Noise (Non-Disposal Facilities and Local Rail Yard).* Construction impacts associated with new household hazardous waste facilities and waste by rail facilities would be unchanged under the CMRF Alternative. This would remain a less than significant impact.

## Transportation and Traffic

### Reduced Impacts:

- *Impact 8-1: Traffic Congestion (Out-of-County Waste Transport by Truck).* Traffic congestion impacts associated with out-of-County waste transport by truck would be reduced under the CMRF Alternative. Impacts would continue to be less than significant.
- *Impact 8-2: Traffic Congestion (New Household Hazardous Waste Collection Facilities and Waste by Rail Facilities).* The amount of refuse that would be sent to the local rail yard under the CMRF Alternative would be less than under the proposed project. Traffic congestion impacts at the rail facilities would be reduced; however, it is anticipated that impacts would continue to be significant and unavoidable.
- *Impact 8-3: Traffic Congestion (Divestiture).* Under the CMRF Alternative, operational landfill traffic impacts would be reduced. After mitigation, impacts would remain less than significant.

### 10.4.2 Project Objectives

The CMRF Alternative by itself would not advance any of the objectives of the proposed project as defined in Section 10.2.1. However, the CMRF Alternative would reduce the amount of residual waste in the County that would require disposal at a landfill.

## 10.5 Comparison of Alternatives and Identification of the Environmentally Superior Alternative

The relative impacts of the various project alternatives are shown in Table 10-1, including those impacts identified as significant and unavoidable for the project, since the intent of alternatives is to avoid or substantially lessen one or more of the potentially significant impacts of the project (CEQA Guidelines §15126.6(a)). For each alternative, the impacts are identified as eliminated (E), Reduced (R), or Not Substantially Changed (NC). As seen in Table 10-1, both the Zero Waste Alternative and the CMRF Alternative would reduce many of the significant impacts of the project by reducing overall residuals that would need to be disposed at landfills. In that regard, the Zero Waste Alternative and the CMRF Alternative are similar. However, the Zero Waste Alternative is selected as the environmentally superior alternative because it would appear to have less potential impacts of its own compared to the CMRF Alternative. Development of the CMRF Alternative would require careful siting to avoid potential impacts in many environmental topic areas (e.g., air quality, noise, traffic, water quality, etc.).

**TABLE 10-1  
PROJECT ALTERNATIVES: COMPARISON OF IMPACTS**

<b>Project Impacts</b>	<b>No Project Alternative</b>	<b>Zero Waste Alternative</b>	<b>CMRF Alternative</b>
<b>Section 5 - Aesthetics</b>			
Impact 5-1 Litter (Non-Disposal Facilities)	NC	R	R
Impact 5-2 Litter (Waste by Rail to Landfill)	E	R	R
<b>Section 6 - Air Quality</b>			
Impact 6-1: Air Pollutant Emissions (New Household Hazardous Waste Collection Facilities)	I	NC	NC
Impact 6-2 Air Pollutant Emissions (Revisions to the Siting Element)	NC	NC	R
Impact 6-3: Construction PM10	E	NC	NC
Impact 6-4: Odors	E	NC	NC
Impact 6-5: Onsite Operations (landfill)	E	R	R
Impact 6-6: GHG Emissions (Disposal Strategies)	NC	R	R
<b>Section 7 - Noise</b>			
Impact 7-1: Construction Noise (Non-Disposal Facilities and Local Rail Yard)	E	NC	NC
Impact 7-2: Traffic Noise (Out-of-County Waste Transport by Truck)	NC	R	R
Impact 7-3: Traffic Noise (New Household Hazardous Waste Collection Facilities and Waste by Rail Facilities)	E	R	R
Impact 7-4: Traffic Noise (Reuse of Central Disposal Site under Divestiture)	E	R	R
Impact 7-5: Railroad Noise (Waste by Rail Transport)	E	R	R
Impact 7-6: Onsite Operations Noise (Non-Disposal Facilities and Local Rail Yard)	E	R	R
Impact 7-7: Ground-Borne Vibration (Waste by Rail Transport)	E	R	R
<b>Section 8 - Transportation and Traffic</b>			
Impact 8-1: Traffic Congestion (Out-of-County Waste Transport by Truck)	NC	R	R
Impact 8-2: Traffic Congestion (New Household Hazardous Waste Collection Facilities and Waste by Rail Facilities)	E	R	R
Impact 8-3: Traffic Congestion (Divestiture)	E	R	R

**Key:**

NC = Impact not substantially changed

R = Reduced Impact

E = Eliminated impact

I = Increased impact

SOURCE: Environmental Science Associates, 2009

## 10.6 References

Brown, Vence, and Associates (BVA). 2004. Alternatives Analysis. Assessable on-line at ([http://www.recyclenow.org/WasteStrategy/Alternatives\\_Analysis.pdf](http://www.recyclenow.org/WasteStrategy/Alternatives_Analysis.pdf)). Completed for Sonoma County, September 2004





## SECTION 11

### Consultation and Coordination

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The following individuals from local agencies were contacted in the preparation of this SPEIR.

Chris Seppeler	Sonoma County Permit and Resource Management Department, Senior Environmental Specialist
David Wallace	Sonoma County Department of Transportation and Public Works, County Engineer
George Erdman	Northern Sonoma County Air Pollution Control District
Greg Tholen	Bay Area Air Quality Management District
Keith Foszcz	Sonoma County, Central Disposal Site
Rochelle Henderson	Bay Area Air Quality Management District, Public Records Coordinator
Terri Cia	North Coast Regional Water Quality Control Board, Enforcement, Grants, Solid Waste - Watershed Protection



## **SECTION 12**

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##### **Sonoma County Waste Management Agency**

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Jennifer Wade	Mitigation Monitoring Report and Quality Control
Lisa Bautista	Word Processing
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#### **HDR**

Mike Greenberg, P.E.	Project Description and Alternatives
Georgia Thompson	Alternatives



# Appendix A

## Acronyms and Abbreviations



# APPENDIX A

## Acronyms and Abbreviations

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$\mu\text{g}/\text{m}^3$	Micrograms per cubic meter
AB32	Assembly Bill 32
ABAG	Association of Bay Area Governments
ADT	Average Daily Traffic
ARB or Board	Air Resources Board
Assembly Bill (AB) 939	Integrated Waste Management Act of 1989
BAAQMD	Bay Area Air Quality Management District
BACT	Best Available Control Technology
BMP	Best management practices
CAA	The federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
Caltrans	California Department of Transportation
CAT	Climate Action Team
CBAC	Countywide Bicycle Advisory Committee
CCAR	California Climate Action Registry
CEC	California Energy Commission
CEQA	California Environmental Protection Act
CH <sub>4</sub>	Methane
CHP	California Highway Patrol
CIWMB	California Integrated Waste Management Board
CN	California Northern
CNEL	Community Noise Equivalent Level
CO	Carbon Monoxide
CO <sub>2</sub> E	Carbon dioxide equivalents
CoIWMP	Sonoma Countywide Integrated Waste Management Plan
CPC	Climate Protection Campaign
CMRF	Comprehensive Materials Recovery Facility
dB	Decibels
DbA	A-weighted decibels
DPM	Diesel Particulate Matter
ECDC	East Carbon Development Corporation
FTA	Federal Transit Administration
GHGs	Green House Gases
GWh	Gigawatt Hour
HAPs	Hazardous Air Pollutants
HFCs	Hydrofluorocarbons
HHWE	Household Hazardous Waste Element

Hz	Hertz
IPCC	Intergovernmental Panel on Climate Change
IS/NOP	Initial Study and Notice of Preparation
kWh	kilowatt hours
Lb/day	Pounds per day
LEA	Local enforcement agency
LFG	Landfill gas
MMTCO <sub>2</sub> E	Million metric tons of carbon dioxide equivalent
Mph	Miles per hour
MSW	Municipal Solid Waste
MTC	Metropolitan Transportation Commission
MTCO <sub>2</sub> E/year	Metric tons of CO <sub>2</sub> equivalent per year
N <sub>2</sub> O	Nitrous oxide
NAAQS	National Ambient Air Quality Standards
NCRA	North Coast Rail Authority
NCRWQCB	North Coast Regional Water Quality Control Board
NDFE	Non-disposal Facility Elements
NO	Nitric Oxide
NO <sub>2</sub>	Nitrogen Dioxide
NOP	Notice of Preparation
NOx	Nitrogen Oxides
NSCAPCD	Northern Sonoma County Air Pollution Control District
NWPRA	Northwestern Pacific Railroad Authority
NWPRR	Northwestern Pacific Railroad
O <sub>3</sub>	Ozone
OPR	State Office of Planning and Research
Pb	Lead
PEIR	Program Environmental Impact Report
PFCs	Perfluorocarbons
PG&E	Pacific Gas and Electric
PM	Particulate Matter
PM <sub>10</sub>	Particulate Matter less than 10 micrometers
PM <sub>2.5</sub>	Particulate Matter less than 2.5 micrometers
ppm	Parts Per Million
PPV	Peak Particle Velocity
RFI	Report of Facility Information
RITA	Research and Innovative Technology Administration
RMS	Root Mean Square
ROG	Reactive Organic Gases
SB 97	Senate Bill 97
SBAC	Sonoma Bicycle Advisory Committee
SCTA	Sonoma County Transportation Authority
SCWMA	Sonoma County Waste Management Agency
SEL	Sound Exposure Level
SF <sub>6</sub>	Sulfur hexafluoride
SIPs	State Implementation Plans
SMART	Sonoma-Marin Area Rail Transit



SO <sub>2</sub>	Sulfur dioxide
SPEIR	Supplemental Program Environmental Impact Report
SR 116	State Route 116
SR 12	State Route 12
SR 121	State Route 121
SR 37	State Route 37
SR1	State Route 1 also known as the Pacific Coast Highway
SRRE	Source Reduction and Recycling Elements
SWFP	Solid Waste Facilities Permit
TAC	Toxic air contaminants
TMP	Traffic Management Plans
U.S. 101	U.S. Highway 101
UP	Union Pacific
USEPA	U.S. Environmental Protection Agency
VdB	Decibel notation used to measure RMS
VOCs	Volatile organic compounds
WBR	Hauling waste by rail
WDRs	Waste Discharge Requirements
WRCC	Western Regional Climate Center

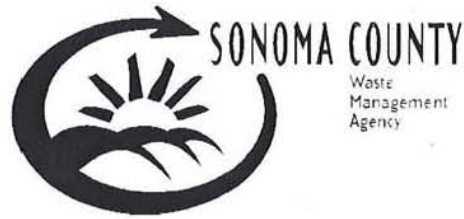


# Appendix B

## Notice of Preparation/Initial Study







***NOTICE OF PREPARATION OF  
DRAFT SUPPLEMENTAL PROGRAM ENVIRONMENTAL IMPACT REPORT***

**Project Title:** Amendment to the Sonoma Countywide Integrated Waste Management Plan.

**Project Applicant:** Sonoma County Waste Management Agency

The Sonoma County Waste Management Agency (SCWMA) will be the lead agency under the California Environmental Protection Act (CEQA) and will prepare a Supplemental Program Environmental Impact Report (SPEIR) for the Amendment to the Sonoma Countywide Integrated Waste Management Plan (CoIWMP). The amendment includes modifications to the CoIWMP Household Hazardous Waste Element and the Siting Element. The modification to the Household Hazardous Waste Element would allow for the development of additional household hazardous waste collection facilities in addition to the one presently at the Central Disposal site. The modification to the Siting Element would allow for additional solid waste disposal strategies, including out-of-County disposal with waste transported by truck and/or rail, and divestiture of the County Disposal System to a private owner. An Initial Study that contains a more detailed description of the Amendment to the CoIWMP and summarizes the probable environmental effects that would be associated with it is contained in the attached materials.

If you are a responsible agency, we need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed Amendment to the CoIWMP. Your agency will need to use the SPEIR prepared by our agency when considering your permit or other approval for the proposed Amendment to the CoIWMP.

Due to the time limits mandated by State Law, your response must be sent at the earliest possible date, but not later than 30 days after receipt of this notice. Please send all written comments faxed or postmarked no later than May 26, 2008, to Patrick Carter, Sonoma County Waste Management Agency, 2300 County Center Drive, Suite B100, Santa Rosa, CA 95403. Comments may also be faxed to (707) 565-3701, attention Patrick Carter.

**Public Scoping Meeting:** The SCWMA will hold a public scoping meeting from 6:00 pm to 8:00 pm on May 5, 2008. This meeting will allow an opportunity for the public to express views regarding the scope of the environmental issues to be addressed in the EIR. The comments will be considered by the SCWMA during the preparation of the EIR. The meeting will be held at the Sonoma County Sheriff's Department Main Conference Room (2796 Ventura Avenue, Santa Rosa, CA 95403).

Date: April 24, 2008

Attachments: Initial Study

[Redacted Signature]  
Susan Klassen, Interim Executive Director  
Sonoma County Waste Management Agency  
Telephone (707) 565-2231



# ENVIRONMENTAL CHECKLIST

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## Initial Study

<b>Project Title:</b>	Amendment to the Sonoma Countywide Integrated Waste Management Plan
<b>Lead Agency Name and Address:</b>	Sonoma County Waste Management Agency
<b>Contact Person and Phone Number:</b>	Patrick Carter, Waste Management Specialist (707) 566-3701
<b>Project Location:</b>	Sonoma County
<b>Project Sponsor's Name and Address:</b>	Sonoma County Waste Management Agency 2300 County Center Drive, Suite B100 Santa Rosa, CA 95403

## Introduction

The Sonoma County Waste Management Agency (SCWMA) intends to amend the Sonoma Countywide Integrated Waste Management Plan (CoIWMP) to include the modifications identified below. This Initial Study identifies impacts and environmental issues related to the Amendment to the CoIWMP, which will be addressed in a Supplemental Program Environment Impact Report (2008 SPEIR). Per California Environmental Protection Act (CEQA) Guidelines Sections 15163 (a)(2) and (b), preparation of a supplement to an EIR is allowed when only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation and it only needs to contain the information necessary to make the previous EIR adequate for the revised project. The environmental issue areas that would not require major revisions to the previous Supplemental Program Environmental Impact Report (2003 SPEIR) due to the lack of significant new environmental effects or would not increase in the severity of previously identified significant effects; and/or where there is no “new information of substantial importance,” as that term is used in CEQA Guidelines Section 15162(a)(3), will not be analyzed further in the 2008 SPEIR.

## Project Background and Setting

In 1994, the County of Sonoma (CS) and the incorporated cities and towns within the County adopted the first CoIWMP, which was approved by the California Integrated Waste Management

Board (CIWMB) in 1996. The CoIWMP is the principal planning document for solid waste management in Sonoma County as required by the Integrated Waste Management Act of 1989 (also known as Assembly Bill (AB) 939). It identifies goals and objectives of the County and the incorporated cities in the County with respect to solid waste reduction, recycling diversion, and disposal. Concurrent with the preparation of the CoIWMP, all incorporated Sonoma County cities and the County entered into a Joint Powers Agreement which formed the SCWMA to deal with household hazardous waste, yard and wood waste, and public education. In 1996, the Joint Powers Agreement was amended to establish the SCWMA as the sole public planning agency for solid waste management in Sonoma County.

The SCWMA completed a Program Environmental Impact Report (1996 PEIR) for the CEQA review of the 1996 CoIWMP (SCWMA, 1996), which is a compilation of solid waste planning documents, including: (1) Source Reduction and Recycling Elements (SRRE); (2) Household Hazardous Waste Elements (HHWE); (3) Non-disposal Facility Elements (NDFE) for each jurisdiction; (4) a Countywide Siting Element; and (5) a Summary Plan that describes all of the elements. In 2003, the SCWMA prepared a Supplemental PEIR (2003 SPEIR) for updates it proposed to the CoIWMP (SCWMA, 2003a). The 2003 CoIWMP was adopted and certified by the SCWMA in October 2003 (SCWMA, 2003b). Many of the potential impacts of the proposed COIWMP amendments would be reduced or eliminated by the mitigation measures adopted in the 2003 CoIWMP. All the mitigation measures adopted for the 2003 CoIWMP are reproduced in this Initial Study at the end of each of the resource topic analyses.<sup>1</sup>

In the summer of 2003, the CS confirmed the presence of trace amounts of volatile organic compounds (VOCs) in the underdrain system at the East Canyon Expansion of the Central Disposal Site near Petaluma. The source of contamination was traced back to a liner installation method of the underdrain system. The CS immediately worked to retrofit the liner, which was completed in September, 2004. On-going water quality sampling has shown significant reductions in detected VOC levels in the underdrain.

As a result of the underdrain contamination, the North Coast Regional Water Quality Control Board (NCRWQCB) adopted corrective action Waste Discharge Requirements (WDRs) that prohibit planned landfill expansion phases within the East Canyon Expansion until the CS can show that the underdrain is free of contamination for a period of time. Because Sonoma County has no other solid waste disposal facilities, it had to change its management of the incoming waste stream. In April 2005, the CS made temporary changes to operations at its Central Disposal Site and four transfer stations, which required a revision to the Solid Waste Facilities Permit (SWFP) for the Central Disposal Site and amendments to the Report of Facility Information (RFI) for each of the transfer stations. The changes allowed for the temporary conversion of the Central Disposal Site to a transfer station and allowed refuse collected at the other transfer stations to be hauled to out-of-County permitted landfills.

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<sup>1</sup> The 2003 SPEIR is available on-line at [http://www.recyclenow.org/Final\\_Supp\\_EIR\\_CoIWMP.pdf](http://www.recyclenow.org/Final_Supp_EIR_CoIWMP.pdf)



In response to the limited permitted landfill capacity, the CS contracted out-of-County truck haul and refuse disposal services from three separate companies for a five-year period beginning September 1, 2005. The suspension of refuse disposal at the Central Disposal Site and the resulting out-of-County truck hauling of refuse is inconsistent with the existing Siting Element of the CoIWMP, which describes a system in which refuse is disposed of at County-owned facilities within Sonoma County. Sonoma County's out-hauling of refuse by truck during an interim period beginning 2005 is permissible through California Environmental Quality Act (CEQA) categorical exemptions for the Annapolis, Guerneville, Healdsburg, and Sonoma transfer stations and through an addendum to the Sonoma County Central Disposal Site Improvement Program Final Environmental Impact Report.

The currently proposed amendments include changes to the CoIWMP Siting Element that would allow for alternative strategies for disposal of solid waste, which would be adopted at the end of the interim period. This SPEIR (2008 SPEIR) will analyze the potential impacts associated with the proposed Amendment to the CoIWMP.

Another objective in amending the CoIWMP is to eliminate the restriction in the current Household Hazardous Waste Element (HHWE), which identifies only one permanent Household Hazardous Waste collection facility in the County. The Amendment to the CoIWMP would allow for the development of other permanent Household Hazardous Waste collection facilities in the County.

## **Project Description**

Following are descriptions of the proposed amendments to the CoIWMP HHWE and the Siting Element, with a discussion of the changes that may occur as a result of the proposed amendments.

## **Summary of Amendments to the Household Hazardous Waste Element (HHWE)**

The HHWE identifies the quantities of household hazardous waste generated in the County and specifies the means to safely collect, recycle, treat and dispose of hazardous waste generated by Sonoma County households. The HHWE describes refuse collection services, including special one-day events, drop-off sites, and mobile collection. The HHWE also describes exchange, reuse, and recycling alternatives for waste oil, paint, batteries, and other household hazardous waste and solid waste facility load checking programs.

The HHWE currently depicts a single permanent household hazardous waste collection facility at the Central Disposal Site. This limitation hinders the ability of SCWMA to establish additional permanent facilities at other locations within the County. The flexibility to create additional collection facilities could improve the efficiency of collection. Therefore, revisions would be made to the HHWE that would allow for the potential for additional permanent household

hazardous waste collection facilities to be established in the County. Currently, there are no proposed sites selected for additional household hazardous waste collection facilities.

## Summary of Amendments to the Siting Element

The CoIWMP Siting Element provides an integrated strategy to ensure long-term disposal capacity in the County. CIWMB regulations require the SCWMA to demonstrate its ability to provide permitted disposal capacity for Sonoma County. The 1996 Siting Element describes six options for expansion of the Central Disposal Site landfill. In 2003, the Siting Element was revised to meet the disposal capacity needs with: 1) creation of additional landfill capacity at the Central Disposal Site; 2) construction of new facilities for materials recovery, organic processing, composting, and reduction of the volume of landfill disposal waste; and 3) siting and permitting of a new landfill that would provide additional disposal capacity, and would be able to accept both mixed solid waste and waste that has been processed to produce energy.

Revisions are proposed for the Siting Element to reflect that all landfilling of solid waste at the Central Disposal Site has been suspended and that no waste is currently disposed of within Sonoma County. The CS is considering divestiture of the Central Disposal Site to a private operator who may resume in-County disposal; additionally, potential sites for disposal may exist within Sonoma County and the SCWMA supports efforts to identify potential in-County disposal sites. Therefore, the Siting Element criteria for establishing new or expanding existing solid waste facilities would be revised to be applicable to a public or private entity that wishes to create a new, or expand an existing, landfill in the future. Following are descriptions of the proposed strategies for disposal of solid waste.

### Strategies for Disposing Solid Waste

The amended Siting Element would include a short term disposal strategy and a medium term disposal strategy. The short term disposal strategy is to continue the out-of-County disposal contracts that are currently in place, which would ensure sufficient disposal capacity until 2010, when the contracts are scheduled to expire. The medium term (years 2010 through 2022) disposal strategy would consider the following three options:

- Out-of-County disposal with waste transport by truck;
- Out-of-County disposal with waste transport by rail; and
- Divestiture of the County Disposal System to a private owner who may resume operation and possibly pursue expansion.

#### ***Waste Transported by Truck Haul***

The CS currently owns and operates five transfer stations located near Annapolis, Guerneville, Healdsburg, Petaluma, and Sonoma. Each of the transfer stations is setup for transfer of solid waste to trucks to transport the waste to out-of-County disposal sites. This option would require no additional site acquisition. The cost effectiveness of truck hauling declines rapidly as distance from Sonoma County increases, so it would be desirable for the CS to secure contracts with

landfill owners in or close to the Bay Area. A recent analysis conducted by Brown, Vence, & Associates, Inc., indicates that there is adequate landfill capacity in the Bay Area to support Sonoma County's disposal needs for the next 15 years (BVA, 2004). The following is a non-exclusive list of disposal sites currently used to dispose solid waste generated in Sonoma County that would likely be candidates for medium term waste transport by truck disposal sites:

- Redwood Sanitary Landfill in Novato;
- Potrero Hills Landfill in Suisun City;
- Keller Canyon Landfill in Pittsburg;
- Vasco Road Sanitary Landfill in Livermore;
- Hay Road Landfill in Vacaville;
- Yolo County Central Landfill in Davis; and
- Clover Flat Landfill in Calistoga.

### ***Waste Transported by Rail Haul***

Hauling waste by rail (WBR) would increase accessibility to a larger number of disposal sites than truck hauling; however, significant capital investment would be required for WBR. Therefore, a long-term commitment to WBR in the form of a 20- to 25-year contract with the North Coast Rail Authority (NCRA) and the destination landfill facilities would be necessary. The NCRA represents rail activities for the counties of Sonoma, Mendocino, Humboldt, and Marin. CS recently contracted for a feasibility review of using rail haul to transfer solid waste out of Sonoma County (BVA, 2005). The findings of the review indicate that with necessary infrastructure improvements, WBR would be feasible and should be considered as a long-term refuse haul option for Sonoma County. The infrastructure requirement for development of an out-of-County WBR would generally include the following five components:

- Transfer Station to collect, recover divertible materials, and load residual waste into intermodal containers or consolidate for loading gondola cars.
- Local Rail Yard to load intermodal containers or gondola cars on spur track.
- Rail Haul for transporting containers or gondola cars over rail lines to the remote rail yard.
- Remote Rail Yard to off-load the containers or material in gondola cars to the landfill or transfer vehicles for haul to the landfill.
- Landfill for disposal of residual solid waste.

The 2008 SPEIR may also consider and discuss other WBR management technologies that could implement the desired goal of hauling waste out of Sonoma County by rail.

### ***Divestiture of County Disposal System***

The CS is considering a process in which a private organization may assume ownership of the CS Disposal System, either in part or in whole. A private owner may pursue actions which would allow for waste to again be deposited at the Central Disposal Site. Should landfilling operations resume at the Central Disposal Site under new ownership, currently permitted areas may not require additional CEQA analysis or documentation. However, any potential future landfilling operations at the Central Disposal Site would be subject to all applicable CEQA County Use Permit requirements.

## Environmental Factors Potentially Affected

The proposed project could potentially affect the environmental factor(s) checked below in ways that are substantially different than those analyzed in prior CEQA documents for the CoIWMP. The following pages present a more detailed checklist and discussion of each environmental factor.

- |  |  |  |
|--|--|--|
| <input checked="" type="checkbox"/> Aesthetics           | <input type="checkbox"/> Agriculture Resources                         | <input checked="" type="checkbox"/> Air Quality                |
| <input type="checkbox"/> Biological Resources            | <input type="checkbox"/> Cultural Resources                            | <input type="checkbox"/> Geology, Soils and Seismicity         |
| <input type="checkbox"/> Hazards and Hazardous Materials | <input type="checkbox"/> Hydrology and Water Quality                   | <input type="checkbox"/> Land Use and Land Use Planning        |
| <input type="checkbox"/> Mineral Resources               | <input checked="" type="checkbox"/> Noise                              | <input type="checkbox"/> Population and Housing                |
| <input type="checkbox"/> Public Services                 | <input type="checkbox"/> Recreation                                    | <input checked="" type="checkbox"/> Transportation and Traffic |
| <input type="checkbox"/> Utilities and Service Systems   | <input checked="" type="checkbox"/> Mandatory Findings of Significance |  |

### DETERMINATION:

On the basis of this initial study, the Sonoma County Waste Management Agency has determined that:

- ☐ No substantial changes are proposed in the project and there are no substantial changes in the circumstances under which the project will be undertaken that will require major revisions to the previous EIR or Negative Declaration due to the involvement of significant new environmental effects or a substantial increase in the severity of previously identified significant effects. Also, there is no "new information of substantial importance" as that term is used in CEQA Guidelines Section 15162(a)(3). Therefore, the previously adopted ND or previously certified EIR is adequate.
- ☐ Substantial changes are proposed in the project or there are substantial changes in the circumstances under which the project will be undertaken that will require major revisions to the previous Negative Declaration due to the involvement of significant new environmental effects or a substantial increase in the severity of previously identified significant effects. Or, there is "new information of substantial importance," as that term is used in CEQA Guidelines Section 15162(a)(3). However all new significant environmental effects or a substantial increase in severity of previously identified significant effects are clearly avoidable through the incorporation of mitigation measures agreed to by the project applicant. Therefore, a Subsequent ND is required.
- ☒ Substantial changes are proposed in the Amendment to the CoIWMP or there are substantial changes in the circumstances under which it would be undertaken that would require major revisions to the previous Supplemental Program Environmental Impact Report (SPEIR) due to the involvement of significant new environmental effects or a substantial increase in the severity of previously identified significant effects; and/or there is "new information of substantial importance," as that term is used in CEQA Guidelines Section 15162(a)(3). Therefore, a new SPEIR is required.

Signature

Printed Name

Date



# Environmental Checklist

Each of the resource areas has a series of questions related to various environmental impacts that may be associated with the proposed Amendment to the CoIWMP. Issues related to the questions that are answered “yes” will be addressed further in the 2008 SPEIR and ones that are answered “no” will not be addressed further in the 2008 SPEIR.

## 1. Aesthetics

Since the previous SPEIR was certified, are there any changes in the proposed Amendment to the CoIWMP, changes in circumstances under which the proposed Amendment to the CoIWMP would be undertaken and/or “new information of substantial importance” that may cause one or more effects to aesthetic resources? Would the changes:

<i>Issues (and Supporting Information Sources):</i>	<i>Yes</i>	<i>No</i>
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway corridor?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

*Aesthetics Summary:* The proposed Amendment to the CoIWMP does not contain substantial changes not previously analyzed for Items 1a, 1b, and 1d. Although the 2003 SPEIR identified potential significant impacts related to litter along truck route roadways, this issue (Item 1c) will need to be addressed further in the 2008 SPEIR because the total mileage of hauled waste under the proposed amendment was not previously analyzed and amendments include a transport by rail option, which would require a rail yard. The 2003 SPEIR visual resources mitigation measures are included at the end of this aesthetics section. The numbering of the mitigation measures is linked to the specific impacts identified in the 2003 SPEIR (SCWMA, 2003a).

- a) Construction of visible facilities, such as a rail yard or a new permanent household hazardous waste collection facility could result in a significant visual impact. The magnitude of the impact would be related to the specific location and relative topography of the site, and to the availability of or the ability to create buffers to screen the facility. Potential significant and unavoidable program level impacts associated with the visual effects of new facilities due to the construction of non-disposal and landfill facilities were identified in the 2003 SPEIR (2003 SPEIR Impacts 14-1 and 14-3). Therefore, no further analysis is needed until site specific projects are proposed. This issue will not be addressed further in the 2008 SPEIR.
- b) See a), above.

- c) The proposed waste transported by truck and/or rail options could degrade the existing visual character or quality through the inadvertent generation of litter along transportation routes. The 2003 SPEIR identified program level significant impacts related to litter along truck route roadways (Impacts 14-2 and 14-4); however, the proposed waste transported by truck haul option may substantially increase the severity of this previously identified impact by increasing the total truck haul mileage required to haul the waste out of County. In addition, the waste by rail option was not address in the 2003 SPEIR. Therefore, further analysis related to the potential for litter generation along transportation routes will be analyzed in the 2008 SPEIR.
- d) Construction of visible facilities that may require nighttime lighting, such as a rail yard or a new permanent household hazardous waste collection facility, could result in a significant visual impact. Potential significant and unavoidable program level impacts associated with the effects of nighttime lighting were identified in the 2003 SPEIR (2003 SPEIR Impacts 14-1 and 14-3). Therefore, no further analysis is needed until site specific projects are proposed. This issue will not be addressed further in the 2008 SPEIR.

## **Applicable Mitigation Measures Required by the 2003 SPEIR**

### ***Mitigation Measure 14-1***

- (a) To the extent possible, new facilities shall not be located within Designated Scenic Resource Areas as designated in the adopted 1989 Sonoma County General Plan (as amended), unless the facilities are not visible from public roads.
- (b) A landscaping plan for each facility, if required by local regulations, shall include visual mitigation measures, such as earthen berms, tree screening, and other landscaping elements along the perimeter of the site in order to screen the proposed facility from public view. Earthen berms and tree screening would be especially important along nearby roadways or other visual corridors.
- (c) Existing trees shall be retained to the extent feasible as a visual screen.
- (d) New or expanded facility buildings shall be located away from site borders (to the extent feasible) and shall maximize the use of any natural shielding provided by the topographical relief of site's existing landforms.
- (e) Consistent with any required local design review recommendations, facility support buildings and site plans be designed and constructed with appropriate materials, exterior colors, and architectural details compatible with the natural landscape and surrounding development in the project vicinity.
- (f) Disturbed areas that are not directly a part of the project shall be revegetated immediately following construction.

- (g) Project lighting equipment shall be of low-profile design, unobtrusive, and consistent with adjacent land uses.

***Mitigation Measure 14-2***

On-site Mitigation:

- (a) Litter shall be controlled by a litter abatement program.
- (b) Litter fences shall be established around new or expanded non-disposal facilities, as necessary to prevent litter blowing onto off-site areas.
- (c) Litter along on-site roads shall be collected and removed routinely.

Off-site Mitigation:

- (d) Litter shall be controlled on nearby roads providing access to new or expanded non-disposal facilities with a litter abatement program.
- (e) Open cargo areas of vehicles (e.g., pick-ups, trucks, trailers, etc.) hauling waste shall be covered. This requirement will be enforced with financial penalties levied at the time of delivery to County Non-Disposal Sites and by the California Highway Patrol (CHP) in the areas near disposal sites.
- (f) A litter abatement program shall be implemented to reduce litter accumulation resulting from the activities of commercial haulers. The program could include but not be limited to: 1) education of commercial haulers; and 2) requirements for thorough cleaning of debris boxes, covering emptied containers or other similar measures to reduce litter created upon existing non-disposal facilities.
- (g) The litter abatement program shall consider limiting non-disposal facility operations to commercial or private (general public) haulers, including the co-location of disposal and non-disposal facilities to reduce roadside litter.

***Mitigation Measure 14-3.*** Same as Mitigation Measures 14-1 (a), (b), (c), and (g). In addition, the following Mitigation Measures are added:

- (d) New or expanded landfills shall utilize site buffer areas (to the extent feasible) and shall maximize the use of any natural shielding provided by the relief of site landforms.
- (e) Consistent with any required local design review recommendations, construct new and expanded landfills and facility support buildings with appropriate materials, exterior colors, and architectural details compatible with the natural landscape and surrounding development in the project vicinity.

- (f) Disturbed areas that are not directly a part of the project shall be revegetated as soon as practicable.
- (h) Exterior security lighting plans shall be prepared for all new facilities. Designs shall be consistent with County design standards, including exterior lighting that does not glare onto adjacent parcels, and includes motion sensors to minimize light and glare impacts on surrounding land uses.
- (i) Visual analysis of the Central Landfill expansion or a new landfill shall include photo simulation, three dimensional terrain modeling or similar methods to evaluate change in visual character as seen from nearby public roads.

***Mitigation Measure 14-4.*** Same as Mitigation Measures 14-2 (a), (c), (d) and (e). In addition, the following Mitigation Measures are added:

On-site Mitigation:

- (b) Litter fences shall be established around active landfill areas to prevent litter from blowing onto off-site areas.

Off-site Mitigation:

- (d) Litter shall be controlled with a litter abatement program on nearby roads which provide access to new or expanded disposal facilities.
- (f) Roadsides adjacent to landfill sites shall be cleaned each day the landfill is open. Signs will be posted on roadways adjacent to the landfill site that will give a phone number that people may call to report vehicles that are seen littering on the way to or from the landfill. The County or its designee will, to the extent feasible, identify offending haulers and request that corrective action be taken.
- (g) A litter abatement program will be implemented to reduce litter accumulation resulting from the activities of commercial refuse haulers. The program could include, but not be limited to, 1) education of commercial refuse haulers, and 2) requirements for thorough cleaning of debris boxes, covering emptied containers or other similar measures to reduce litter created upon exiting the Central Disposal Site or any new landfill.



## 2. Agricultural Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. **Since the previous SPEIR was certified, are there any changes in the proposed Amendment to the ColWMP, changes in circumstances under which the proposed Amendment to the ColWMP would be undertaken and/or "new information of substantial importance" that may cause one or more effects to agricultural resources? Would the changes:**

<i>Issues (and Supporting Information Sources):</i>	<i>Yes</i>	<i>No</i>
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland of Statewide Importance to non-agricultural use?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Discussion

*Agricultural Resources Summary:* There are no substantial changes in the proposed Amendment to the ColWMP that may cause one or more new significant effects or a substantial increase in the severity of previously identified effects as it relates to agricultural resources. No new mitigation measures for agricultural resources are required; however, agricultural resources mitigation measures identified in the 2003 SPEIR would be applied where appropriate to activities that would occur under the proposed 2008 Amendment to the ColWMP. The 2003 SPEIR agricultural resources mitigation measures are included at the end of this agricultural resources section. The numbering of the mitigation measures is linked to the specific impacts identified in the 2003 SPEIR (SCWMA, 2003a).

- a) Sonoma County has strong regulatory policies that restrict converting agricultural lands to non-agricultural uses. Locating a proposed facility, such as a household hazardous waste collection facility, a local rail yard, or a privately owned landfill on agricultural lands could be inconsistent with adopted plans and policies. Program level significant and unavoidable impacts associated with the loss of agricultural production due to the construction of non-disposal and landfill facilities were disclosed in the 2003 SPEIR (2003 SPEIR Impacts 6-2 and 6-3(b)). Therefore, no further analysis is needed until site specific projects are proposed. This issue will not be addressed further in the 2008 SPEIR.
- b) The 2003 SPEIR addressed the potential for the conversion of agricultural lands under the Williamson Act to be used for siting of non-disposal and landfill facilities (2003 SPEIR Impacts 6-2 and 6-3(b)). Program level impacts related to the conversion of prime farmland, unique farmland, farmland of statewide importance, conflicts with existing zoning for agricultural use, a Williamson Act contract, and other changes to the

environment that would result in the conversion of farmland to non-agricultural uses were determined to be potentially significant and unavoidable in the 2003 SPEIR. Therefore, no further analysis is needed until site specific projects are proposed. This issue will not be addressed further in the 2008 SPEIR.

- c) See b), above.

## **Applicable Mitigation Measures Required by the 2003 SPEIR**

### ***Mitigation Measure 6-1***

- (a) All new facilities shall be designed and constructed to conform with the site development standards contained in the latest edition of the Uniform Building Code (UBC). Prior to construction activities, the applicant shall submit building plans to the local jurisdiction's building department indicating compliance with the UBC.
- (b) All new facilities shall meet the requirements of the County or cities' standards pertaining to site design, grading, and erosion control.
- (c) Vegetation on soils exposed during construction shall be reestablished as soon as practical. Mulch or other temporary cover shall be used in the interim where erosion potential exists.
- (d) Employ Best Management Practices as required under the NPDES Permit for Construction grading.
- (e) To the extent feasible, confine grading, excavation, and other earthwork to the dry seasons. When this is not feasible, erosion and sediment transport control facilities should be in place prior to the onset of the first major winter storms. If wind erosion has the potential to occur during summer months, erosion control methods, such as watering graded areas, shall be implemented.
- (f) Prepare and implement detailed erosion and sedimentation control plan(s), which should be submitted for review and approval by RWQCB. The specific language of such plans varies, but the concept to be adhered to include the following:
  - 1. To avoid discharge to natural waterways, sediment should be trapped before leaving the construction site through the use of rip-rap, hay bales, fencing, or sediment ponds.
  - 2. Areas of surface disturbance should be minimized.
  - 3. Disturbed areas should be stabilized through vegetative or mechanical methods. When construction is complete, all disturbed areas should be regarded and revegetated. Topsoil should be stockpiled and used for the revegetation of disturbed areas.

**Mitigation Measure 6-2.** To the extent feasible, all new facilities and expansion of existing facilities shall comply with the General Plan objectives and avoid siting on agricultural lands as defined in the General Plan.

**Mitigation Measure 6-3(a).** Storm Water Pollution Prevention Plans shall be prepared and revised as needed for all facilities at the Central Disposal Site or other new landfills. Plans shall be submitted to the Regional Water Quality Control Board and at a minimum shall include:

- (a) A description of the critical features of the erosion control system, including sediment ponds and drainage ways, along with a description and schedule for routine maintenance of these features.
- (b) A construction schedule for components of the erosion control system.
- (c) A requirement to vegetate side slopes and waste-fill slopes. Temporary and permanent vegetative cover shall be established as soon as possible on side slopes and waste-fill slopes. To protect the slopes prior to vegetation establishment, a mulch, consisting of straw or wood fiber shall be applied at the time of seeding. A tackifier shall be applied with the mulch as needed to prevent loss of the mulch due to wind or water movement. Sample specifications for revegetating disturbed areas shall be included, with a description of the types of areas to be revegetated, the equipment and procedures to be used, and the dates for the seeding. For areas where an erosion potential exists, but it is not practical to establish vegetation, specifications for placing mulch or temporary covers shall be included.
- (d) Specifications for construction features to reduce erosion. These shall include benches on slopes to intercept sheet flow and shorten drainage paths, protective linings (e.g., riprap, concrete, grass, erosion control mats) on interim and final drainage ways, and energy dissipaters at inlets and outlets of sediment ponds and at outlets of culverts.
- (e) Best Management Practices for construction and operation of the landfill and other facilities. This includes miscellaneous grading and removal of cover soil from all facilities.
- (f) Specifications for watering roads, borrow areas, and construction areas to control wind erosion.
- (g) An inspection and/or maintenance schedule for critical parts of the sediment control system, including sediment ponds and drainage ways.
- (h) A schedule for winterizing that will ensure that critical work is done prior to October 15th each year.

**Mitigation Measure 6-3(b).** Although solid waste facilities would be subject to the Exclusionary and Comparative Criteria in the 2003 CoIWMP Siting Element, there are no mitigation measures for the loss of important agricultural lands or for the change in character of the lands.

### 3. Air Quality

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. **Since the previous SPEIR was certified, are there any changes in the proposed Amendment to the CoIWMP, changes in circumstances under which the proposed Amendment to the CoIWMP would be undertaken and/or "new information of substantial importance" that may cause one or more effects on air quality? Would the changes:**

<b>Issues (and Supporting Information Sources):</b>	<b>Yes</b>	<b>No</b>
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Discussion

**Air Quality Summary:** The proposed Amendment to the CoIWMP does not contain substantial changes not previously analyzed for Item 3e. Although the 2003 SPEIR identified potential significant impacts related to truck hauling emissions, this issue will need to be addressed further in the 2008 SPEIR because the total mileage of hauled waste under the proposed Amendment has not been previously analyzed. The 2008 SPEIR will also address the potential for additional emissions under with the waste by rail option as well as the potential for the proposed amendments to conflict with the strategies outlined in the Bay Area 2005 Ozone Strategy. The 2003 SPEIR air quality mitigation measures are included at the end of this air quality section. The numbering of the mitigation measures is linked to the specific impacts identified in the 2003 SPEIR (SCWMA, 2003a).

- a) Air quality in Sonoma County is divided into two jurisdictions, the Bay Area Air Quality Management District (BAAQMD) and the Northern Sonoma County Air Pollution Control District (NSCAPCD). The BAAQMD is non-attainment of federal and State ozone standards and State PM10 standards, and the NSCAPCD is non-attainment of State ozone standards. Subsequent to the release of the 2003 SPEIR, the BAAQMD has adopted the Bay Area 2005 Ozone Strategy designed to help the region attain the State

one-hour ozone standard. The 2008 SPEIR will address the potential that the Amendment to the ColWMP would not conform to the plan.

- b, c) Exhaust emissions associated with proposed out-of-County refuse truck hauling and/or waste by rail hauling could significantly contribute to an existing or projected air quality violation. The 2003 SPEIR identified program level significant impacts related to diesel emissions from trucks (2003 SPEIR Impacts 10-1 and 10-4(b)); however, the proposed waste transported by truck haul option may substantially increase the severity of this previously identified impact by increasing the total truck haul mileage required to haul the waste out of the County. In addition, the waste transported by rail option was not address in the 2003 SPEIR. Therefore, further analysis related to truck and rail emissions will be presented in the 2008 SPEIR to determine the potential for air quality standards to be exceeded, or contribute to a cumulative increase in ozone precursors or particulate matter. In addition, pursuant to statewide planning efforts, including those associated with Assembly Bill 32, the 2008 SPEIR will include estimates of greenhouse gas emissions, a determination of the significance of the greenhouse gas emissions, and identification of mitigation measures that could reduce greenhouse gas emissions of the project.
- d) Exhaust emissions of toxic air contaminants (TAC) would result from the operation of diesel equipment. Such emissions could have an adverse effect on sensitive receptors. The 2003 SPEIR identified program level significant unavoidable impacts related to diesel TAC emissions from trucks (2003 SPEIR Impacts 10-1 and 10-4(b)); however, the waste transported by rail option was not address in the 2003 SPEIR. Therefore, the 2008 SPEIR will address the potential for new rail yards to expose people to significant concentrations of diesel particulate emissions and/or other pollutants. Additional analysis could also be required when site specific projects are proposed.
- e) Odors are a typical impact of solid waste facilities. Program level significant and unavoidable impacts associated with non-disposal facilities and landfill odors were identified in the 2003 SPEIR (2003 SPEIR Impacts 10-3). Therefore, no further analysis is needed until site specific projects are proposed. This issue will not be addressed further in the 2008 SPEIR.

## **Applicable Mitigation Measures Required by the 2003 SPEIR**

**Mitigation Measure 10-1(a).** The County and cities shall consider air emissions when purchasing new equipment and when entering into agreements with solid waste operators. Cleaner vehicles shall be weighted more favorably than less clean vehicles.

### ***Mitigation Measure 10-1(b) (Construction)***

1. New facilities shall be sited to maximize separation between haul routes/facilities and sensitive receptors to the extent practical.

2. New facilities shall encourage the use of low emissions vehicles that control diesel particulates with engine filters or by using low emissions fuels such as compressed natural gas.
3. The contractor shall reduce NO<sub>x</sub>, ROG, and CO emissions by complying with the construction vehicle air pollutant control strategies developed by the BAAQMD and the NSCAPCD. The project sponsor shall include in construction contracts the following requirements:
  - (a) Construction equipment operators shall shut off equipment when not in use to avoid unnecessary idling. As a general rule, vehicle idling should be kept below 10 minutes.
  - (b) The contractor's construction equipment shall be properly maintained and in good operating condition.
  - (c) The contractor shall utilize new technologies to control ozone precursor emissions as they become available and feasible.
  - (d) The contractor shall substitute gasoline-powered for diesel-powered equipment where feasible.
4. Asphalt paving materials shall conform to the most recent guidelines by the air district having jurisdiction.

***Mitigation Measure 10-1(c)***

1. Contracts for operation of facilities described in the 2003 CoIWMP shall require contractors to limit idling time of diesel equipment to 10 minutes when practical. Contracts shall also require that equipment be serviced at regular intervals to keep engines operating with parameters that will prevent excessive emissions.
2. Contracts for operation of facilities described in the 2003 CoIWMP shall include incentives for using electric motors instead of internal combustion engines in stationary equipment.
3. Alternate technology, such as fuel cell or cleaner burning engines, shall be considered for any electricity generation plant implemented by programs in the 2003 CoIWMP.

***Mitigation Measure 10-1(d).*** If emissions of criteria pollutants are produced by selected technology for processing of organic waste at the Resource Management Facility (RMF), the facility will be equipped with a means to collect or treat emissions which may include air control and emission filters to comply with air quality standards.



**Mitigation Measure 10-2.** The contractor shall reduce particulate emissions by complying with the dust control strategies developed by the NSCAPCD and the BAAQMD. The project sponsor shall include in construction contracts the following requirements:

1. The contractor shall water in late morning and at the end of the day all earth surfaces during clearing, grading, earthmoving, and other site preparation activities.
2. The contractor shall use tarpaulins or other effective covers for haul trucks that travel on public streets and roads.
3. The contractor shall water increase the watering frequency for exposed and erodible soil surfaces whenever winds exceed 15 mph.
4. The contractor shall water exposed soil surfaces, including cover stockpiles, roadways, and parking and staging areas, to minimize dust and soil erosion.
5. The contractor shall sweep streets adjacent to the new and expanded non-disposal facilities at the end of each day.
6. The contractor shall control construction, operation, and site maintenance vehicle speed to 15 mph on unpaved roads.

**Mitigation Measure 10-3**

- (a) Control of odors shall be implemented through the use of Best Management Practices utilized with Sonoma County such as the avoidance of compost disturbance in afternoon hours, regulating moisture content, and turning compost windrows.
- (b) If odor persists as a problem, compost piles or windrows shall be covered with soil or finished compost to reduce emissions of odors.
- (c) The landfill will be covered at the end of every day with plastic, soil or other appropriate material.
- (d) Any cracks in the landfill surface will be repaired as soon as practical.
- (e) Acidity levels in leachate ponds will be monitored and pH adjusted as necessary to reduce odor problems.
- (f) When new compost facilities are proposed, consideration will be given to operations that are conducted inside buildings using air filtration systems to prevent release of odors.

**Mitigation Measure 10-4(a).** Same as Mitigation Measures 10-1 (a), (b), and (c) and 10-2.

**Mitigation Measure 10-4(b).** Same as Mitigation Measures 10-1 (a), (b), and (c). In addition, the following mitigation measure is added:

To prevent excessive emissions of ROG, future landfill gas collection systems shall be designed to minimize the amount of uncontrolled gas emissions. To ensure that the latest information and technology is considered in the design, the project sponsor will have a qualified consultant prepare recommendations that would include the appropriate collection technology. These recommendations shall be submitted to the Bay Area Air Quality Management District for approval prior to the issuance of an Authority to Construct.

**Mitigation Measure 10-5.** Same as Mitigation Measure 10-2. In addition, the following mitigation measures are added:

- (a) Blasting operations for landfill construction shall be restricted as follows to control dust emissions:
  - 1. To the extent possible, remove all loose dirt and overburden material from blasting areas prior to drilling blast holes.
  - 2. Spray water over blast areas prior to blasting.
  - 3. No loading of explosives in blast holes or blasts will be conducted when wind speed on site exceeds 15 mph.
- (b) Any rock crusher used for landfill construction shall be equipped with a spray mister, or incorporate some other equally effective measure to control dust.

**Mitigation Measure 10-6.** Same as Mitigation Measure 10-1 (a), (b), and (c). In addition, the following mitigation measures is added:

- (a) To prevent excessive NO<sub>x</sub> emissions: 1) Blasting for landfill construction shall be done with water resistant explosives in the wet areas of bore holes. Non-water resistant explosives may be used above the wet areas of bore holes, provided the bore holes is sealed above the wet area so that the non-water resistant explosive remains above the wet area. 2) Blended ammonium nitrate/fuel oil blasting agents shall contain at least 5.7% fuel oil by weight.



## 4. Biological Resources

Since the previous SPEIR was certified, are there any changes in the proposed Amendment to the CoIWMP, changes in circumstances under which the proposed Amendment to the CoIWMP would be undertaken and/or “new information of substantial importance” that may cause one or more effects to biological resources? Would the changes:

<i>Issues (and Supporting Information Sources):</i>	<i>Yes</i>	<i>No</i>
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Discussion

*Biological Resources Summary:* There are no substantial changes in the proposed Amendment to the CoIWMP that may cause one or more new significant effects, or a substantial increase in the severity of previously identified effects; and/or involve “new information of substantial importance,” as it relates to biological resources. No new mitigation measures for biological resources are required; however, biological resources mitigation measures identified in the 2003 SPEIR would be applied where appropriate to activities that would occur under the proposed 2008 Amendment to the CoIWMP. The 2003 SPEIR biological resources mitigation measures are included at the end of this biological resources section. The numbering of the mitigation measures is linked to the specific impacts identified in the 2003 SPEIR (SCWMA, 2003a).

- a) The 2003 SPEIR adequately addressed program-level impacts (2003 SPEIR Impacts 12-1 and 12-2) on special status species resulting from construction of new and expanded non-disposal facilities and landfills, such as those that could result due to the implementation of the proposed Amendment to the CoIWMP.

However, subsequent to the 2003 SPER, the April 2006 California red-legged frog final critical habitat ruling amended the geographic range for which this species is listed to reflect the entire range of the subspecies, including Sonoma County (Fed. Reg., Vol. 71, No. 71, April 13, 2006). In addition, on March 19, 2003, the U.S. Fish and Wildlife Service (USFWS) published a notice in the Federal Register listing the Sonoma County Population of the California tiger salamander as endangered. On August 4, 2004, the USFWS reduced the Sonoma County Population listed status to threatened (Fed. Reg., Vol. 69, No 149, 2004) and on December 14, 2005, the USFWS determined that proposed critical habitat in Sonoma County was excluded based on interim conservation strategies and measures being implemented by local governing agencies with land use authority over the area (Fed. Reg., Vol. 70, No. 239, 2005).

When site-specific projects are proposed, wildlife and plant surveys may be required to determine whether listed species or their critical habitats are present. This issue will not be addressed further in the 2008 SPEIR.

- b) The 2003 SPEIR adequately addressed impacts on riparian areas resulting from construction of new and expanded non-disposal facilities and landfills (2003 SPEIR Impacts 12-1 and 12-2). If new site-specific projects under the amended CoIWMP are proposed, surveys may be required to determine whether there would be effects on riparian habitat or other sensitive natural communities. This issue will not be addressed further in the 2008 SPEIR.
- c) The 2003 SPEIR adequately addressed impacts on wetlands (2003 SPEIR Impacts 12-1 and 12-2) resulting from construction of new and expanded non-disposal facilities and landfills, such as those that could be developed under the proposed Amendment to the CoIWMP. When site-specific projects are proposed, wetland delineations may be required to determine whether wetland habitats are present. This issue will not be addressed further in the 2008 SPEIR.
- d) The 2003 SPEIR addressed impacts of potential CoIWMP facilities on wildlife and their habitat (2003 SPEIR Impacts 12-1 and 12-2). When site-specific projects are proposed, appropriate analysis of wildlife corridors would be required to determine whether listed species or their critical habitats are present. This issue will not be addressed further in the 2008 SPEIR.
- e) The 2003 SPEIR addressed impacts of CoIWMP facilities on wildlife and their habitat (2003 SPEIR Impacts 12-1 and 12-2). When site-specific projects are proposed, an analysis of any potential changed conditions relating to any new local policies protecting trees and riparian areas will be conducted. This issue will not be addressed further in the 2008 SPEIR.
- f) The 2003 SPEIR addressed impacts of CoIWMP facilities on wildlife and their habitat (2003 SPEIR Impacts 12-1 and 12-2). However, subsequent to the release of the 2003

SPEIR, the Santa Rosa Plain Conservation Strategy has been adopted by local agencies in Sonoma County to protect listed species such as the California tiger salamander. The strategy seeks to create a long-term program to mitigate potential adverse effects on listed species due to future development on the Santa Rosa Plain. Mitigation ratios for California tiger salamander, wetlands, and listed plants are detailed in the strategy. For example, the SCWMA would be required to provide two acres of California tiger salamander conservation mitigation for each one acre of land developed within 1.3 miles of a designated breeding site. This mitigation approach would be considered during any site selection process that would be conducted under the amended CoIWMP. When site-specific projects are proposed, a detailed analysis of all applicable habitat conservation plans, including the Santa Rosa Plain Conservation Strategy, will be conducted. This issue will not be addressed further in the 2008 SPEIR.

## **Applicable Mitigation Measures Required by the 2003 SPEIR**

### ***Mitigation Measure 12-1***

- (a) When new non-disposal and landfill facilities are proposed, the specific biotic studies shall be performed to identify biotic resources on the sites. To the extent practical, the new facilities shall be constructed to avoid these resources. Where avoidance is not practical, the project sponsor shall consult with the appropriate State or Federal resource agencies to determine appropriate mitigation for any loss of or change to the biotic resources. The project sponsor shall acquire all necessary permits from these agencies. Compliance with permit conditions shall be a condition of approval of the project.
- (b) Riparian areas shall be avoided where possible in siting new facilities. If avoidance is not possible, compensation for loss of riparian vegetation shall be made by planting and otherwise enhancing a comparable area of streambank in the general vicinity where habitat quality can be improved. Planting plans shall be reviewed by a qualified biologist and submitted to the California Department of Fish and Game and other agencies, if needed, for review and comment prior to implementation. Revegetation areas shall be managed to permanently protect the riparian vegetation.
- (c) Before construction during the active nesting period between March 1 and September 1, a qualified biologist shall determine the locations of any active raptor nests that could be affected. If any active nests are found, removal of the trees containing the nests shall be delayed until a qualified wildlife biologist has determined that the young birds are able to leave the nest and forage on their own. A qualified wildlife biologist shall be consulted to determine what activities must be avoided in the vicinity of the nests while the nests are active, and those recommendations shall be followed during construction.

**Mitigation Measure 12-2**

- (a) No solid waste disposal facility shall be built or expanded within a wetland unless it can be demonstrated that the landfill will not contribute to or cause significant degradation of wetlands or violations of the Clean Water Act or State water quality standards, jeopardize endangered or threatened species, violate any toxic effluent standard, or violate any requirement of the Marine Protection, Research, and Sanctuaries Act. There must also be no practicable alternative to the proposed location which does not involve wetlands (Title 40, Chapter 1, Subchapter 1, Part 258, Subpart B [40 CFR 258]).
- (b) Same as Mitigation Measure 12-1 (a).
- (c) Riparian areas will be avoided where possible in siting new facilities. If avoidance is not possible, compensation for loss of riparian vegetation shall be made by planting and otherwise enhancing a comparable area of streambank in the general vicinity where habitat quality can be improved. Planting plans shall be reviewed by a qualified biologist and submitted to the California Department of Fish and Game and other agencies, if needed, for review and comment prior to implementation. Revegetation areas shall be managed to permanently protect the riparian vegetation.
- (d) Before construction during the active nesting period between March 1 and September 1, the Integrated Waste Division of the Sonoma County Department of Transportation and Public Works shall determine the locations of any active raptor nests that could be affected. If any active nests are found, removal of the trees containing the nests shall be delayed until a qualified wildlife biologist has determined that the young birds are able to leave the nest and forage on their own. A qualified wildlife biologist shall be consulted to determine what activities must be avoided in the vicinity of the nests while the nests are active, and those recommendations shall be followed during construction.

**5. Cultural Resources**

Since the previous SPEIR was certified, are there any changes in the proposed Amendment to the ColWMP, changes in circumstances under which the proposed Amendment to the ColWMP would be undertaken and/or "new information of substantial importance" that may cause one or more effects to cultural resources? Would the changes:

<b>Issues (and Supporting Information Sources):</b>	<b>Yes</b>	<b>No</b>
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

*Cultural Resources Summary:* There are no substantial changes in the proposed Amendment to the CoIWMP that may cause one or more new significant effects, or a substantial increase in the severity of previously identified effects; and/or involve “new information of substantial importance,” as it relates to cultural resources. No new mitigation measures for cultural resources are required; however, cultural resources mitigation measures identified in the 2003 SPEIR would be applied where appropriate to activities that would occur under the proposed 2008 Amendment to the CoIWMP. The 2003 SPEIR cultural resources mitigation measures are included at the end of this cultural resources section. The numbering of the mitigation measures is linked to the specific impacts identified in the 2003 SPEIR (SCWMA, 2003a).

- a, b, d) Activities associated with the proposed Amendment to the CoIWMP could involve significant impacts to archaeological resources or historic buildings. The 2003 SPEIR identified significant impacts on cultural resources (2003 SPEIR Impacts 13-1 and 13-2) that were mitigated to less than significant with mitigation measures. However, that analysis was based on thresholds established by 1998 revisions to the CEQA Guidelines. When site-specific projects are proposed, appropriate cultural resources surveys would be done to determine whether resources are present and how the projects would affect them. This issue will not be addressed further in the 2008 SPEIR.
- c) Siting of new CoIWMP facilities under the amendment could involve significant impacts to paleontological resources. The 2003 SPEIR identified significant impacts on paleontological resources (2003 SPEIR Impacts 13-1 and 13-2) that were mitigated to less than significant with mitigation measures. When site-specific projects are proposed, appropriate paleontological resources analyses would be conducted to determine whether resources are present and how the projects would affect them. This issue will not be addressed further in the 2008 SPEIR.

## Applicable Mitigation Measures Required by the 2003 SPEIR

### *Mitigation Measure 13-1*

- (a) Intensive on-site cultural and paleontological resources surveys shall be conducted by a qualified archeologist and paleontologist prior to construction in any areas of a site to be used for solid waste non-disposal facilities that are designed as sensitive in a city or County planning document. In addition, the Northwest Information Center (NWIC) will be consulted to determine if previously recorded archaeological sites exist on or in the vicinity of the project site. The purpose of this survey will be to precisely locate and map significant cultural and paleontological resources. The services of the archaeologist and paleontologist shall be retained by the project sponsor.
- (b) If, in the process of the cultural resource surveys, significant archaeological sources are found to exist on the site, the project sponsor shall consider changing the facility layout to avoid such resources. If it is not possible to make this change, however, formal



archaeological data collection work on the significant resources will be completed. This shall include a complete surface collection of cultural material and, at a minimum, excavation of a sample subsurface cultural material sufficient to evaluate the extent, depth, and make-up of the site component (i.e., archaeological testing). The overall objectives of such data collection work shall be to explicitly identify those research questions for which the site contains relevant information, with the research questions representing those presently expressed by the body of professional archaeologists in the region. If the results of the archaeological testing indicate that additional mitigative data recovery work is justified or warranted, it will be completed prior to the construction of the facility.

- (c) If paleontological resources cannot be avoided by changing the site layout, a program of data collection and recovery shall be implemented.
- (d) Archaeological and paleontological monitors shall be present during studies, site construction and development activities in areas of high cultural and paleontological resource sensitivity when recommended by a site-specific study for a project under the CoIWMP or the 2003 CoIWMP, or when a designated Native American Tribal representative requests to monitor projects. These monitors shall be retained by the project sponsor. In the event that human remains are unearthed during construction, state law requires that the County Coroner be notified to investigate the nature and circumstances of the discovery. At the time of discovery, work in the immediate vicinity would cease until the Coroner permits work to proceed. If the remains were determined to be prehistoric, the find would be treated as an archaeological site and the mitigation measure described above would apply.
- (e) In the event that unanticipated cultural or paleontological resources are encountered during project construction, all earthmoving activity shall cease until the project sponsor retains the services of a qualified archaeologist or paleontologist. The archaeologist or paleontologist shall examine the finding, assess their significance, and offer recommendations for procedures deemed appropriate to either further investigate or mitigate adverse impacts to those cultural or paleontological archaeological resources that have been encountered. These additional measures shall be implemented.

**Mitigation Measure 13-2.** Same as Mitigation Measure 13-1 (a) through (e).

**Mitigation Measure 13-3**

- (a) Intensive on-site historical resources surveys shall be conducted by a qualified architectural historian prior to construction where structures over 45 years old or sites known to have historical significance could be affected by proposed facilities. The purpose of the survey shall be to determine the historical significance of the resources and whether the proposed project would affect those structures that are found to have

historical significance. The services of the architectural historian shall be retained by the project sponsor.

- (b) If, in the process of the historical resource surveys, significant resources are found to exist on the site, the project sponsor shall consider changing the facility layout to avoid such resources. If it is not possible to make this change, however, mitigation work in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties which address preservation, rehabilitation, restoration and reconstruction of historic resources shall be completed for the historical resource.

## 6. Geology, Soils, and Seismicity

Since the previous SPEIR was certified, are there any changes in the proposed Amendment to the CoIWMP, changes in circumstances under which the proposed Amendment to the CoIWMP would be undertaken and/or "new information of substantial importance" that may cause one or more effects on geology, soils, or seismicity? Would the changes:

Issues (and Supporting Information Sources):	Yes	No
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:		
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

*Geology, Soils and Seismicity Summary:* There are no substantial changes in the proposed Amendment to the CoIWMP that may cause one or more new significant effects, or a substantial increase in the severity of previously identified effects; and/or involve "new information of

substantial importance,” as it relates to geology, soils, and seismicity. No new mitigation measures for geology, soils, and seismicity are required; however, geology, soils, and seismicity mitigation measures identified in the 2003 SPEIR would be applied where appropriate to activities that would occur under the proposed 2008 Amendment to the CoIWMP. The 2003 SPEIR geology, soils, and seismicity mitigation measures are included at the end of this section. The numbering of the mitigation measures is linked to the specific impacts identified in the 2003 SPEIR (SCWMA, 2003a).

- a.i, ii, iii) The 2003 SPEIR addressed potential impacts to new and expanded non-disposal facilities from fault rupture and other seismic activities (2003 SPEIR Impacts 5-1 through 5-4). No further analysis of the seismic hazards is required until site-specific projects under the amended CoIWMP are proposed. This issue will not be addressed further in the 2008 SPEIR.
- a.iv) The 2003 SPEIR addressed potential impacts associated with slope failure hazards (2003 SPEIR Impact 5-5). No further analysis is required until site-specific projects are proposed. This issue will not be addressed further in the 2008 SPEIR.
- b) Siting of new facilities could result in substantial soil erosion or loss of topsoil. The 2003 SPEIR addressed the need for erosion control measures to be applied during construction and operation of new or expanded facilities. No further analysis is required until site-specific projects are proposed. This issue will not be addressed further in the 2008 SPEIR.
- c) See a) ii, iii, iv above.
- d) The 2003 SPEIR addressed seismic impacts and soil erosion during construction and operation of new or expanded facilities (2003 SPEIR Impacts 6-1 and 6-3(a)) and disclosed less than significant impacts related to expansive soils. No further analysis is required until site-specific projects are proposed. This issue will not be addressed further in the 2008 SPEIR.
- e) Siting a new local rail yard, landfill, or a permanent household hazardous waste collection facility outside urban service boundaries would be expected to include the construction of a septic system for wastewater disposal. No further analysis is required until site-specific projects are proposed. This issue will not be addressed further in the 2008 SPEIR.

## **Applicable Mitigation Measures Required by the 2003 SPEIR**

### ***Mitigation Measure 5-1***

- (a) Non-disposal facilities shall be built a sufficient distance from earthquake fault zones as restricted by state and federal regulatory requirements.



- (b) Where proposed development may be exposed to significant risks of damage from geologic hazards, a geologic report (prepared by a California Registered Geologist) shall be prepared which evaluates the hazards and shall identify measures which can be implemented to reduce the risks to acceptable levels. Such measures will be implemented.
- (c) All grading and building construction for new or expanded non-disposal facilities shall conform with geologic and seismic standards contained in the latest edition of the Uniform Building Code (UBC). Prior to construction activities, the applicant shall submit building plans to the local jurisdiction's building department indicating compliance with the UBC.
- (d) All new or expanded disposal facilities shall meet the requirements of the County or Cities' general site design standards. The proposed new non-disposal facilities shall comply with the County or Cities' policies and standards pertaining to geologic hazards.

***Mitigation Measure 5-2***

- (a) Same as Mitigation Measures 5-1(b) and 5-1(d).
- (b) All new or expanded non-disposal facilities that are susceptible to seismic ground failure shall include project designs for building and road foundations to withstand potential liquefaction impacts.

***Mitigation Measure 5-3***

- (a) New or expanded disposal facilities shall be built a sufficient distance from earthquake fault zones or as restricted by state and federal regulatory requirements.
- (b) Where proposed development may be exposed to significant risks of damage from geologic hazards, a geologic report (prepared by a California Registered Geologist) shall be prepared which evaluates the hazards and shall identify measures which can be implemented to reduce the risks to acceptable levels. Such measures will be implemented.
- (c) All grading and building construction for new or expanded disposal facilities shall conform with geologic and seismic standards contained in the latest edition of the Uniform Building Code (UBC). Prior to construction activities, the applicant shall submit building plans to the local jurisdictions' building department indicating compliance with the UBC.
- (d) All new or expanded disposal facilities shall meet the requirements of the County or cities' general site design standards. The proposed new and expanded disposal facilities shall comply with the County or cities policies and standards pertaining to geologic hazards.

- (e) In accordance with state and federal regulations, restrict the development of landfills in geologically unstable areas.
- (f) In accordance with state and federal regulations, restrict the development of landfills in seismic impact zones unless containment structures are engineered and constructed to preclude failure during rapid geologic change.

***Mitigation Measure 5-4***

- (a) Same as Mitigation Measures 5-3 (a through f).
- (b) All new or expanded disposal facilities that are susceptible to seismic ground failure shall include project designs for building and road foundations to withstand potential liquefaction impacts.

***Mitigation Measure 5-5.*** The grading plan for the West Expansion area at the Central Disposal Site and the future landfill will incorporate design features and grading procedures to prevent slope failures. These include maximum fill slopes as determined suitable by a registered engineering geologist. The embankments of new sedimentation basins and landfill slopes will be constructed so that the factor of safety is greater than 1.5.

***Mitigation Measure 5-6.*** Final landfill grades will be constructed in accordance with Section 20650 of Title 27 of the CCR which requires that "Covered surfaces of the disposal area shall be graded to promote lateral runoff of precipitation and to prevent ponding. Grades shall be established of sufficient slopes to account for future settlement of the fill surface." Grades will be of sufficient slopes to allow for future settlement of the final cover and to avoid ponding and infiltration of stormwater. The landfill gas collection system will use flexible pipe and be designed to accommodate settlement of the refuse.

## 7. Hazards and Hazardous Materials

Since the previous SPEIR was certified, are there any changes in the proposed Amendment to the ColWMP, changes in circumstances under which the proposed Amendment to the ColWMP would be undertaken and/or "new information of substantial importance" that may cause one or more effects related to hazards or hazardous materials? Would the changes:

<i>Issues (and Supporting Information Sources):</i>	<i>Yes</i>	<i>No</i>
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<i>Issues (and Supporting Information Sources):</i>	<i>Yes</i>	<i>No</i>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

*Hazards and Hazardous Materials Summary:* There are no substantial changes in the proposed Amendment to the CoIWMP that may cause one or more new significant effects, or a substantial increase in the severity of previously identified effects; and/or involve “new information of substantial importance,” as it relates to hazards and hazardous materials. No new mitigation measures for hazards and hazardous materials are required; however, hazards and hazardous materials mitigation measures identified in the 2003 SPEIR would be applied where appropriate to activities that would occur under the proposed 2008 Amendment to the CoIWMP. The 2003 SPEIR hazards and hazardous materials mitigation measures are included at the end of this section. The numbering of the mitigation measures is linked to the specific impacts identified in the 2003 SPEIR (SCWMA, 2003a).

- a) Although there are many safeguards incorporated into design of solid waste facilities, there is always the potential for health hazards to occur due to the collection and transportation of household hazardous materials. The 2003 SPEIR addressed potential impacts related to injury and illness associated with non-disposal facilities such as new household hazardous waste (e.g., motor oil, paint, etc.) collection facilities (2003 SPEIR Impacts 8-1, 8-3, 8-4) that could occur as a result of the proposed Amendment to the CoIWMP. No further analysis is required until site-specific projects are proposed. This issue will not be addressed further in the 2008 SPEIR.
- b) There would be a potential for health hazards to occur due to accidental releases and hazardous conditions at non-disposal and landfill facilities. The 2003 SPEIR addressed potential impacts related to accidental releases, exposure to disease carrying vectors, and

general public safety associated with non-disposal and landfill facilities (2003 SPEIR Impacts 8-5 through 8-7) that could occur as a result of the proposed Amendment to the CoIWMP. No further analysis is required until site-specific projects are proposed. This issue will not be addressed further in the 2008 SPEIR.

- c) Depending on the locations selected for new facilities under the amended CoIWMP (e.g., household hazardous materials collection facilities, rail yards, etc.), hazardous materials could be handled within a quarter-mile of a school. This issue was addressed on a program level in the 2003 SPEIR (2003 SPEIR Impact 8-12). No further analysis is required until site-specific projects are proposed. This issue will not be addressed further in the 2008 SPEIR.
- d) Siting of new facilities could affect State-designated sites containing hazardous materials contamination. This issue was addressed on a program level in the 2003 SPEIR (2003 SPEIR Impact 8-10). No further analysis is required until site-specific projects are proposed. This issue will not be addressed further in the 2008 SPEIR.
- e, f) Implementation of the proposed Amendment to the CoIWMP could result in aviation safety hazards if new private landfill facilities that attract birds are sited in close vicinity to an active airport or airstrip. No further analysis is required until site-specific projects are proposed. This issue will not be addressed further in the 2008 SPEIR.
- g) Emergency response plans for the area could be impaired by the Amendment to the CoIWMP if access routes become blocked as a result of the amendments. This issue was addressed on a program level in the 2003 SPEIR (2003 SPEIR Impact 8-11). No further analysis is required until site-specific projects are proposed. This issue will not be addressed further in the 2008 SPEIR.
- h) New facilities could be proposed in areas that are subject to a high danger from wildland fires. This issue was addressed on a program level in the 2003 SPEIR (2003 SPEIR Impact 8-13). Additional analyses would be conducted at the time site specific projects are proposed. This issue will not be addressed further in the 2008 SPEIR. It should be noted that any new facility construction in Sonoma County would be required to comply with Sonoma County fire safety standards.

## **Applicable Mitigation Measures Required by the 2003 SPEIR**

### ***Mitigation Measure 8-1***

- (a) Curbside recycling operations shall be established so that no direct worker contact with the materials occurs. Automated can pick-up, commingled collection, and/or separate materials bins could meet this objective.

- (b) Workers shall be supplied with appropriate safety gear which provide the maximum protection available while still affording sufficient manual dexterity from accomplishing their sorting tasks.
- (c) All workers shall have current vaccinations against diseases such as tetanus, polio, or other diseases which could be spread through direct contact with solid waste.
- (d) Workers shall be trained to spot hypodermic needles during sorting, extract them from the sorting line, and deposit them in a plastic sharps disposal container kept at each sorting station.
- (e) Sharps containers filled at the non-disposal facility and landfill, as well as containers encountered in curbside materials during sorting operations, shall be properly disposed of with a licensed medical waste hauler.
- (f) New and expanded non-disposal facilities and solid waste disposal facilities shall develop and implement an Illness and Injury Prevention Plan to address the potential for injury and illness among facility employees.
- (g) A map showing the locations of local emergency services and appropriate telephone numbers shall be posted at all non-disposal facilities and landfills in a conspicuous (e.g., near the telephone) by either the program operations manager or the safety inspector.

#### ***Mitigation Measure 8-2***

- (a) Backyard composting training for the general public shall address the potential health effects associated with composting. Training will describe how proper moisture content will reduce dust generation and maximize microbial action and how sufficient oxygen content is critical to maintaining microbial action, regulating temperature, and reducing odors and pathogens. Persons with weakened immune systems or persons with allergies, asthma, or other respiratory problems shall be discouraged from participating in backyard composting. Backyard composters shall also be encouraged to thoroughly wash their hands with soap and water after each contact with backyard compost piles.
- (b) Composting operations at new or expanded composting facility(ies) shall include the following procedures:
  - 1. Proper moisture content shall be maintained in compost piles or windows.
  - 2. Proper temperatures and oxygen content shall be maintained in compost piles/windows through aeration and compost turning or agitation. Operating procedures shall require that the compost pile be heated to approximately 132-140° to ensure that all pathogens have been eliminated.

3. Loading and compost turning equipment shall have enclosed, ventilated cabs and the ventilation systems shall be maintained regularly, or individual respiratory protection (dust masks) will be utilized.
4. Employees shall be encouraged to wash their hands frequently with soap and water, particularly prior to lunch and other breaks, and at the end of the work day.
5. Composting facility operators shall inform compost workers about the possibility for development of pulmonary hypersensitivity. Workers shall be encouraged to report unusual health problems to their supervisors and physicians.
6. New and expanded non-disposal facilities shall develop and implement an Illness and Injury Prevention Plan to address the potential for injury and illness among facility employees.

***Mitigation Measure 8-3***

- (a) A HHW Facility Operations Plan shall be developed for each permanent HHW facility. This plan shall include procedures for waste acceptance and screening, waste management practices, stormwater management, worker health and safety, and emergency prevention, precaution and response.
- (b) An emergency response plan shall be developed for each collection site in order to plan actions to be taken in the event of a spill incident. The emergency response and evacuation plan shall be developed by the collection site operator in coordination with the appropriate local agencies prior to the operation of the collection site.
- (c) A safety inspector shall be assigned by the HHW program operations manager to oversee field activities, spot potential risks, and ensure conformance with regulations.
- (d) Employee safety meetings shall be conducted, as necessary, by the program safety inspector.
- (e) All vehicles shall be inspected, as necessary, for safety violations by the program safety inspector and facility employees.
- (f) An on-site eye wash and shower station shall be provided at all mobile and stationary HHW collection sites.
- (g) A map showing the locations of local emergency services and appropriate telephone numbers shall be posted at all mobile and stationary HHW collection sites in a conspicuous (e.g., near the telephone) by either the program operations manager or the safety inspector.



- (h) A training program for facility personnel in CPR and first aid shall be provided by the program safety inspector. In addition, first aid materials shall be maintained in good condition.
- (i) A drainage containment and collection system shall be set up around the HHW collection and storage facilities to prevent discharge of spilled materials to soil or groundwater. All spilled materials shall be collected and treated separately to prevent the spread of any hazardous constituents.
- (j) Any risk posed by unauthorized access to any non-disposal site shall be mitigated by posting warning signs, fencing, patrol personnel, or the disabling of equipment when not in use. Daily inspections would be the responsibility of the facility operations manager.
- (k) A Load Checking Program shall be updated and implemented to ensure the proper disposal of hazardous wastes illegally disposed with solid waste accepted at non-disposal facilities and the landfill. Any hazardous wastes found while conducting the Load Checking Program shall be disposed of according to applicable state and federal regulations.

***Mitigation Measure 8-4***

- (a) Prior to permitting, develop and implement (in consultation with the Fire Marshal) a Fire Prevention Program for each facility, as necessary. This program shall entail both structural fire suppression mechanisms, such as an automatic, sprinkler system and fire retardant building materials in the design of the structure, as well as procedural programs for minimizing/extinguishing fire hazards.
- (b) Develop an Emergency Response and Evacuation Plan for each new or expanded facility in accordance with relevant county and city emergency response and evacuation plans, and follow in the event of a fire, earthquake, hazardous materials spill or other emergency. Each emergency response and evaluation plan shall be developed by the facility operator in coordination with the County Office of Emergency Services, the Hazardous Materials Division of the County Environmental Health Department, and the appropriate Fire Protection District.
- (c) All potentially disastrous events shall be reported by the project sponsor to the County Office of Emergency Services so that County emergency services such as traffic control, fire and medical equipment, and evacuation notification can be available as needed.
- (d) Facility workers shall be provided and required to use safety glasses, safety shoes, coveralls, gloves, noise reducers for ears, or other safety equipment appropriate to the hazard of the job. An emergency eye bath and emergency showers shall be installed in the facility by the project sponsor.

- (e) A map showing the locations of local emergency services and appropriate telephone numbers shall be posted at all non-disposal facilities and landfills in a conspicuous place by either the program operations manager or the safety inspector.
- (f) New and expanded non-disposal facilities and solid waste disposal facilities shall develop and implement an Illness and Injury Prevention plan to address the potential for injury and illness among facility employees.

**Mitigation Measure 8-5.** Same as Mitigation Measures 8-4 (a) through (e). In addition, the following mitigation measures have been added:

- (a) Consider reducing operating hours at new or expanded non-disposal facilities in order to reduce the accumulation of combustible solid waste for transfer and storage.
- (b) A map showing the locations of local emergency services and appropriate telephone numbers shall be posted at all non-disposal facilities and landfills in a conspicuous place (e.g., near the telephone) by either the program operations manager or the safety inspector.
- (c) Develop an Emergency Response and Evacuation Plan for each new or expanded facility in accordance with relevant county or city emergency response and evacuation plans, and follow it in the event of fire, earthquake, hazardous materials spill or other emergency. Each emergency response and evacuation plan shall be developed by the facility operator in coordination with the County Office of Emergency Services, the Hazardous Materials Division of the County Environmental Health Department, and the appropriate Fire Protection District.

**Mitigation Measure 8-6**

- (a) Rodent traps shall be placed strategically around the public drop-off areas and recycling areas, as required. This measure shall be monitored by the facility operations manager.
- (b) Landscape materials shall exclude plants, such as ivy, which may provide hidden nesting areas for rodents.
- (c) Standing water and moist areas shall be controlled to prevent mosquito breeding. This shall be monitored by the facility operations manager.

**Mitigation Measure 8-7.** Mitigation measures will result from the site specific CEQA review process, and will include the general following mitigation measures:

- (a) Same as Mitigation Measures 8-3 (b), (d), (e), (g), (h), and (j) and Mitigation Measures 8-4 (c) and (d).
- (b) Employees shall be encouraged to wash their hands frequently with soap and water, particularly prior to lunch and other breaks, and at the end of the work day.



- (c) Standing water and moist areas shall be controlled to prevent mosquito breeding. This shall be monitored by the facility operations manager.
- (d) New and expanded non-disposal facilities and solid waste disposal facilities shall develop and implement an Illness and Injury Prevention Plan to address the potential for injury and illness among facility employees.

**Mitigation Measure 8-8.** If hazardous materials are used at the Resource Management Facility (RMF), the following mitigations will be implemented:

- (a) Same as Mitigation Measures 8-3 (b) though (d) and (f) through (j).
- (b) New and expanded non-disposal facilities and solid waste disposal facilities shall develop and implement an Illness and injury Prevention Plan to address the potential for injury and illness among facility employees.

**Mitigation Measure 8-9**

- (a) Blasting at the Central Disposal Site shall be conducted in accordance with the recommendations of the study conducted by Geotek in 1998, and any further site specific blasting study conducted by a licensed blasting engineer. At a minimum, mitigation shall include:
  1. All blasts will be designed to minimize peak particle velocity at the nearest off-site structures.
  2. Measures will be taken to control air blast (overpressure), including stemming explosive charges with clean crushed stone, ensuring the minimum distance between bore holes and the rock face, keeping drilling logs to describe ground conditions, adjusting blast design to isolate explosive charges from weak areas, avoiding blasting during heavy cloud over or windy conditions and monitoring overpressure at or near nearby residences.
- (b) If blasting is necessary at a new solid waste disposal site, a site-specific blasting study to establish procedures to minimize peak particle velocities and overpressure will be conducted.

**Mitigation Measure 8-10.** In the event that a facility is located on a designated contaminated site, a study will be done to ensure that proper handling and disposal methods will be used to minimize environmental impacts. The study shall include a search of records of hazardous materials presence, a field assessment of conditions on the site to determine whether visual evidence of hazardous materials is present, and a plan to treat and/or clean up the site in accordance with regulations of the Regional Water Quality Control Board and Sonoma County Environmental Health if hazardous materials are present. Site specific analysis would be done at the time facility locations are proposed.

**Mitigation Measure 8-11.** Update the existing or develop an Emergency Response and Evacuation Plan for each new or expanded facility in accordance with relevant county or city emergency response plans, and follow it in the event of a fire, earthquake, hazardous materials spill or other emergency. Each emergency response plan shall be developed by the facility operator in coordination with the County Office of Emergency Services, the Hazardous Materials Division of the County Environmental Health Department, and the appropriate Fire Protection District.

**Mitigation Measure 8-12**

- (a) Safety measures shall be implemented, including, at a minimum, emergency response procedures, safety inspections, safety training, restriction of unauthorized access to areas where hazardous materials are stored, and timely containment and cleanup of spills.
- (b) All potentially disastrous events shall be reported by the project sponsor to the County Office of Emergency Services so that County emergency services such as traffic control, fire and medical equipment, and evacuation notification can be available as needed.

**Mitigation Measure 8-13**

- (a) Future non-disposal and disposal facilities located in Sonoma County shall be designed, constructed, and maintained in conformance with the requirements of the Fire Marshall's Vegetation Management Plan and Fire Safe Standards.
- (b) Develop an Emergency Response and Evaluation Plan for each new or expanded facility in accordance with relevant county or city emergency response and evacuation plans, and follow it in the event of a fire, earthquake, hazardous materials spill or other emergency. Each emergency response and evacuation plan shall be developed by the facility operator in coordination with the County Office of Emergency Services, the Hazardous Materials Division of the County Environmental Health Department, and the appropriate Fire Protection District.
- (c) All potentially disastrous events shall be reported by the project sponsor to the County Office of Emergency Services to that County emergency services such as traffic control, fire and medical equipment, and evacuation notification can be available as needed.

## 8. Hydrology and Water Quality

Since the previous SPEIR was certified, are there any changes in the proposed Amendment to the ColWMP, changes in circumstances under which the proposed Amendment to the ColWMP would be undertaken and/or "new information of substantial importance" that may cause one or more effects on hydrology or water quality? Would the changes:

<i>Issues (and Supporting Information Sources):</i>	<i>Yes</i>	<i>No</i>
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, in a manner that would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river or, by other means, substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

*Hydrology and Water Quality Summary:* There are no substantial changes in the proposed Amendment to the CoIWMP that may cause one or more new significant effects, or a substantial increase in the severity of previously identified effects; and/or involve “new information of substantial importance,” as it relates to hydrology and water quality. No new mitigation measures for hydrology and water quality are required; however, hydrology and water quality mitigation measures identified in the 2003 SPEIR would be applied where appropriate to activities that would occur under the proposed 2008 Amendment to the CoIWMP. The 2003 SPEIR hydrology and water quality mitigation measures are included at the end of this section. The numbering of the mitigation measures is linked to the specific impacts identified in the 2003 SPEIR (SCWMA, 2003a).

- a) The Amendment to the CoIWMP could include the expansion or construction of a waste disposal facility by a private operator, which could result in the production of leachate.

- Potential water quality impacts related to leachate contamination of groundwater or surface water were addressed on a program level in the 2003 SPEIR (2003 SPEIR Impact 7-5). Additional analysis would need to be conducted if a specific landfill project is proposed. This issue will not be addressed further in the 2008 SPEIR.
- b) The Amendment to the CoIWMP could include a private expansion of the Central Disposal Site or development of a new private landfill facility that would require the use or removal of groundwater. Significant and unavoidable impacts to groundwater supply were disclosed on a program level in the 2003 SPEIR (2003 SPEIR Impact 7-9). This issue will not be addressed in the 2008 SPEIR. Additional analysis would need to be conducted if a specific landfill project is proposed. This issue will not be addressed further in the 2008 SPEIR.
- c, d) Construction of a new facility under the amendments to the CoIWMP could change the flow of a stream channel, affect surface runoff, and change infiltration rates and drainage patterns, which could cause erosion. Stormwater runoff in excess of the capacity of stormwater drainage systems could be generated by the construction of these facilities. The 2003 SPEIR addressed effects of program facilities on drainage patterns (2003 SPEIR Impact 7-8). Further analysis would be required when site-specific projects are proposed. This issue will not be addressed further in the 2008 SPEIR.
- e, f) Construction of a new facility under the amendments to the CoIWMP could contribute to surface runoff or otherwise degrade water quality. Stormwater runoff in excess of the capacity of stormwater drainage systems could be generated by the construction of proposed facilities. The 2003 SPEIR addressed effects of proposed facilities on runoff patterns (2003 SPEIR Impact 7-8). Further analysis would be required when site-specific projects are proposed. This issue will not be addressed further in the 2008 SPEIR.
- g, h) Construction of a new facility under the Amendment to the CoIWMP could be impacted by or contribute to local flooding. Further analysis would be required when site-specific projects are proposed. This issue will not be addressed further in the 2008 SPEIR.
- i) It is not expected that any facility that would be construction under the amended CoIWMP would be located within areas exposed to potential flooding from failure of a dam or levee. Further analysis would be required when site-specific projects are proposed. This issue will not be addressed further in the 2008 SPEIR.
- j) It is not expected that any facility that would be constructed under the amended CoIWMP would be exposed to seiche, tsunami, or mudflow. Further analysis would be required when site-specific projects are proposed. This issue will not be addressed further in the 2008 SPEIR.

## **Applicable Mitigation Measures Required by the 2003 SPEIR**

### ***Mitigation Measure 7-1***

- (a) Stormwater runoff from the waste handling areas shall be treated on site or routed to the sanitary sewer for treatment prior to discharge.
- (b) To the extent feasible, materials handling and storage areas shall be covered to prevent contact with stormwaters.
- (c) All exterior drainage from each site shall be managed in accordance with the requirements of federal NPDES, state, and local regulations.

### ***Mitigation Measure 7-2***

- (a) To the extent feasible, new facilities shall be located outside of areas at high risk for flooding.
- (b) The design of new facilities shall, to the extent feasible, minimize the amount of impermeable surface and incorporate methods to lessen surface runoff from the site.

### ***Mitigation Measure 7-3***

- (a) Employ Best Management Practices as required under the NPDES Permit for Construction grading.
- (b) To the extent feasible, confine grading, excavation, and other earthwork to the dry seasons. When this is not feasible, erosion and sediment transport control facilities should be in place prior to the onset of the first major winter storms. If wind erosion has the potential to occur during summer months, erosion control methods, such as watering graded areas, shall be implemented.
- (c) Prepare and implement detailed erosion and sedimentation control plan(s), which should be submitted for review and approval by the RWQCB. The specific language of such plans varies, but the concepts to be adhered to include the following:
  - 1. To avoid discharge to natural waterways, sediment should be trapped before leaving the construction site through the use of rip-rap, hay bales, fencing, or sediment ponds.
  - 2. Areas of surface disturbance should be minimized.
  - 3. Disturbed areas should be stabilized through vegetative or mechanical methods. When construction is complete, all disturbed areas should be regarded and revegetated. Topsoil should be stockpiled and use for the revegetation of disturbed areas.

- (d) All new facilities shall be designed and constructed to conform with the site development standards contained in the latest edition of the Uniform Building Code (UBC). Prior to construction activities, the applicant shall submit building plans to the local jurisdiction's building department indicating compliance with the UBC.
- (e) All new facilities shall meet the requirements of the County and cities' standards pertaining to the site design, grading, and erosion control.
- (f) Vegetation on soils exposed during construction shall be reestablished as soon as practical. Mulch or other temporary cover shall be used in the interim where erosion potential exists.
- (g) Treat wastewater generated during construction prior to discharge. At a minimum, the wastewater should be treated by sedimentation to remove suspended particles from the water. Sedimentation ponds would need to be maintained regularly. Precipitation agents, such as alum, may be introduced to speed the action of settling suspended particles. Alternatively, either gravity or pressure filtration could be use if sufficient space for sedimentation facilities is unavailable.
- (h) Prepare and implement a Spill Prevention Control/Countermeasure (SPCC) Plan prior to the start of construction. The SPCC Plan should cover actions needed to minimize the potential for accidental spillage of construction-related contaminants such as fuel, oil, or other chemicals. Such contaminants should not be drained onto the soil; rather, they should be confined to sealed containers and removed to proper disposal sites. Refueling should be conducted in a location where spills could be contained.

***Mitigation Measure 7-4***

- (a) Same as Mitigation Measure 7-1(a), 7-1(b), and 7-1(c).
- (b) Construct a separate spill control facility around and under the waste intake, storage, and loading areas to provide for containment of any hazardous spills that might occur in the vicinity.

***Mitigation Measure 7-5***

- (a) Cover material (soil) shall be placed over waste materials at the end of each day to prevent water from ponding on the landfill.
- (b) A low-permeability final landfill cover, as required by CCR, Title 23, Chapter 15, shall be placed over the landfill during closure.
- (c) The volume of fluid that enters the landfill shall be minimized by prohibiting the disposal of liquid waste.



- (d) The landfill shall be designed with an adequate drainage and collection system to prevent to the extent possible the migration of leachate off-site.
- (e) Landfills shall be located where site characteristics provide adequate separation between solid waste and ground and surface waters and where soil characteristics, distance from waste to groundwater, and other factors will ensure no impairment of beneficial uses of surface or ground water beneath or adjacent to a landfill (California Water Regulations, Chapter 15, Article 3, Section 2533).
- (f) Current industry standards for leachate management shall be implemented (e.g., storing leachate in lined on-site ponds where it can evaporate naturally) or, if storage is impossible, transporting leachate to the nearest wastewater treatment plant capable of treating the leachate and not exceeding effluent discharge limits.
- (g) Leachate and wastewater collection and disposal systems shall be designed with enough capacity to accommodate the amount of leachate predicted to be generated during the wettest year of record.
- (h) Construction of all new landfill cells will comply with the requirements of Title 27 for liner impermeability.
- (i) A landfill leachate and wastewater management program will be implement which will include monitoring leachate levels and wastewater and emptying ponds as necessary to ensure adequate storage capacity.
- (j) Investigate and consider methods for treatment of leachate and wastewater on-site and disposal by irrigation at any expanded or new landfill site.
- (k) All exterior drainage from each landfill site shall be managed in accordance with the requirements of federal NPDES, state, and local regulations.

***Mitigation Measure 7-6***

- (a) To the extent feasible, the working face of the landfill shall be covered with soil or other approved alternate cover material to prevent contact with stormwaters.
- (b) All exterior drainage from each site shall be managed in accordance with the requirements of federal NPDES, state, and local regulations.

***Mitigation Measure 7-7.*** Same as Mitigation Measures 7-3 (a) through (f) and (h). In addition, the following mitigation measure is added:

Treat wastewater generated during construction prior to discharge. At a minimum, the wastewater should be treated by sedimentation to remove suspended particles from the water. Sedimentation ponds would need to be maintained regularly.

***Mitigation Measure 7-8***

- (a) Mitigation implemented to control erosion during operation of the landfill shall be similar to that implemented during construction (see Mitigation Measure 7-7 above).
- (b) Permanent drainage ditches shall be constructed around the landfill perimeter to convey runoff water from the project site. These permanent drainage ditches shall be lined with native grass, concrete, corrugated metal, or other material that will limit water infiltration and soil erosion. Temporary and permanent berms, collection ditches, benches, and stormwater downdrains shall be constructed to convey water runoff from the landfill surface and down slopes.
- (c) On- or off-site detention ponds shall be constructed and maintained and site runoff shall be collected and sedimentation completed in the ponds prior to discharge to surface waters. The ponds shall be adequately designed so that no net increase over existing conditions in stormwater flows from the project site are expected to result from a 100-year flood event.
- (d) Prior to the rainy season, drainage facilities shall be inspected and, if necessary, cleared of debris.
- (e) Drainage facilities shall be inspected after the first significant rain of the season to ensure that the system is functioning.
- (f) Runoff from areas upgradient of the landfill shall be routed around the landfill.
- (g) Landfills shall not be developed within a 100-year floodplain (40 CFR 258).

***Mitigation Measure 7-9***

- (a) New waste management facilities will use water conservation techniques such as reclaimed water use and water recycling where feasible.
- (b) If anaerobic digestion is used to process organics, a complete site specific groundwater study or groundwater availability determination to demonstrate that water use levels will not deplete groundwater supplies for surrounding properties.

***Mitigation Measure 7-10.*** Spill prevention and cleanup plans will be required in all construction contracts. Any contracts which involve blasting will require that explosives spilled during the loading of the blasting holes be cleaned up prior to detonating the explosives.

***Mitigation Measure 7-11.*** If blasting will be done near an existing landfill, a qualified blasting specialist will design the blasting program to ensure that peak particle velocities resulting from blasts will be lower than the amount that could damage the landfill liner or leachate collection system.



**Mitigation Measure 7-12.** When feasible, large non-disposal facilities (i.e., composting facilities) shall provide permeable surfaces and retention basins to aid in the recharge of groundwater in accordance with the water quality standards of the Regional Water Quality Control Board.

## 9. Land Use and Land Use Planning

Since the previous SPEIR was certified, are there any changes in the proposed Amendment to the CoIWMP, changes in circumstances under which the proposed Amendment to the CoIWMP would be undertaken and/or “new information of substantial importance” that may cause one or more effects on land use or land use planning? Would the changes:

Issues (and Supporting Information Sources):	Yes	No
a) Physically divide an established community?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Discussion

**Land Use and Land Use Planning Summary:** There are no substantial changes in the proposed Amendment to the CoIWMP that may cause one or more new significant effects, or a substantial increase in the severity of previously identified effects; and/or involve “new information of substantial importance,” as it relates to land use and land use planning. No new mitigation measures for land use and land use planning are required; however, land use and land use planning mitigation measures identified in the 2003 SPEIR would be applied where appropriate to activities that would occur under the proposed 2008 Amendment to the CoIWMP. The 2003 SPEIR land use and land use planning mitigation measures are included at the end of this section. The numbering of the mitigation measures is linked to the specific impacts identified in the 2003 SPEIR (SCWMA, 2003a).

- a) It is not expected that any facility under the proposed CoIWMP amendments would be located in a way that would physically divide or disrupt an established community. The 2003 SPEIR addressed compatibility issues associated with siting new or expanded solid waste non-disposal and landfill facilities (2003 SPEIR Impacts 4-1 through 4-3). No further analysis is required until site specific projects are proposed. This issue will not be addressed further in the 2008 SPEIR.
- b) The 2003 SPEIR addressed compatibility issues associated with siting new or expanded solid waste non-disposal and landfill facilities (2003 SPEIR Impacts 4-1 through 4-3). The 2003 SPEIR disclosed significant and unavoidable impacts related to conflicts between residential uses and potential landfill odors. Site specific analysis would be

required when specific sites are identified. This issue will not be addressed further in the 2008 SPEIR.

- c) The 2003 SPEIR addressed impacts of facilities on wildlife and their habitat. There are no Sonoma County habitat conservation plans or community conservation plans. For discussion relative to State level conservation plans, see 4 f), above. This issue will not be addressed further in the 2008 SPEIR.

### Applicable Mitigation Measures Required by the 2003 SPEIR

**Mitigation Measure 4-1.** In siting new or expanded solid waste non-disposal facilities, examine land uses surrounding potential sites and take possible land use conflicts into account into making siting determinations. In addition, require each new or expanded facility to incorporate design and operation measures to minimize land use conflicts.

**Mitigation Measure 4-1.** Same as Mitigation Measure 4-1.

**Mitigation Measure 4-3.** There are no mitigation measures for the loss of important resource lands or for the change in character of the lands.

## 10. Mineral Resources

Since the previous SPEIR was certified, are there any changes in the proposed Amendment to the CoIWMP, changes in circumstances under which the proposed Amendment to the CoIWMP would be undertaken and/or "new information of substantial importance" that may cause one or more effects on mineral resources? Would the changes:

<i>Issues (and Supporting Information Sources):</i>	<i>Yes</i>	<i>No</i>
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Discussion

**Mineral Resources Summary:** There are no substantial changes in the proposed Amendment to the CoIWMP that may cause one or more new significant effects, or a substantial increase in the severity of previously identified effects; and/or involve "new information of substantial importance," as it relates to mineral resources. No new mitigation measures for mineral resources are required; however a mineral resources mitigation measure identified in the 2003 SPEIR would be applied where appropriate to activities that would occur under the proposed 2008 Amendment to the CoIWMP. The 2003 SPEIR mineral resources mitigation measure is included at the end of this section. The mitigation measure number is linked to the specific impact identified in the 2003 SPEIR (SCWMA, 2003a).

- a, b) Impacts to mineral resources at non-disposal facilities and landfills were addressed in the 2003 SPEIR and were found to be less than significant. A new rail yard, landfill, or a permanent household hazardous waste collection facility would not be sited where mineral resources have been identified by the 1989 Sonoma County General Plan (as amended) and the Aggregate Resource Management (ARM) Plan. Because of the relatively small areas that would be required for potential new facilities described in the Amendment to the CoIWMP, the potential loss of availability of a mineral resource would not be significant. Therefore, this issue will not be addressed further in the 2008 SPEIR.

### Applicable Mitigation Measures Required by the 2003 SPEIR

**Mitigation Measure 4-4.** Geologic studies of future landfill expansion and new landfill sites will address the possibility that mineral resources could be located under sites of new facilities. To the extent practical, mineral recovery efforts will be incorporated into the construction of the Central Landfill expansion or new landfills.

## 11. Noise

Since the previous SPEIR was certified, are there any changes in the proposed Amendment to the CoIWMP, changes in circumstances under which the proposed Amendment to the CoIWMP would be undertaken and/or "new information of substantial importance" that may cause one or more effects related to noise? Would the changes:

<i>Issues (and Supporting Information Sources):</i>	<i>Yes</i>	<i>No</i>
a) Result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

*Noise Summary:* The proposed Amendment to the CoIWMP does not contain substantial changes not previously analyzed for Items 11e and 11f. Although the 2003 SPEIR identified potential significant impacts related to onsite and offsite sources, this issue will need to be addressed further in the 2008 SPEIR because the total truck trips under the proposed waste transported by truck option have not been previously analyzed. The 2008 SPEIR will also address the potential for increased noise under the waste by rail option. The 2003 SPEIR noise mitigation measures are included at the end of this noise section. The numbering of the mitigation measures is linked to the specific impacts identified in the 2003 SPEIR (SCWMA, 2003a).

- a) A new rail yard, landfill, or permanent household hazardous waste collection facility could increase local noise levels in the vicinity of the sites. In addition, mobile sources associated with proposed out-of-County refuse truck hauling and/or waste by rail hauling could generate noise levels in excess of County and/or local standards. The Sonoma County General Plan has policies that establish standards for noise levels at sensitive receptor locations. The 2003 SPEIR addressed on-site (stationary sources) and off-site (automobile and truck traffic) noise sources at potential CoIWMP non-disposal and landfill facilities (2003 SPEIR Impacts 11-1 through 11-6); however, it did not address the waste by rail option. The 2008 SPEIR will address new information regarding the potential for proposed facilities to increase ambient noise, including potential on-site and off-site noise related to disposing waste by rail. Additional analysis may be required when site specific projects are proposed.
- b) Most facilities and activities that would result due to implementation of the Amendment to the CoIWMP would not result in excessive groundborne vibration or groundborne noise levels. However, waste by rail has the potential to increase vibration along the railroad. The 2008 SPEIR will address program level vibration or groundborne noise impacts related to the waste by rail option; however, additional analysis would be required when site specific projects are proposed.
- c, d) The construction and operational activities that would result under the Amendment to the CoIWMP could increase local noise levels. The 2003 SPEIR addressed potential noise level increase from construction, operation, and traffic from solid waste non-disposal facilities. The 2008 SPEIR will address new information regarding the potential for proposed facilities to increase ambient noise, including potential on-site and off-site noise related to the waste by rail option. Additional analysis would be required when site specific projects are proposed.
- e, f) Implementation of any of the proposed Amendment to the CoIWMP options would not likely expose people to significant excessive aircraft noise impacts. This issue was addressed and disclosed as less than significant in the 2003 SPEIR because solid waste facilities are not noise sensitive land uses that would be easily disturbed by airport noise. This issue will not be further addressed in the 2008 SPEIR; however, additional analysis may be required when site specific projects are proposed.

## **Applicable Mitigation Measures Required by the 2003 SPEIR**

### ***Mitigation Measure 11-1***

- (a) Construction activities shall be limited to the hours between 7AM to 7PM to the extent practical.
- (b) Construction equipment shall be properly outfitted and maintained with noise reduction devices to minimize construction-generated noise. Wherever possible, noise-generated construction equipment shall be shielded from nearby residences by noise-attenuating walls, berms, or enclosures.
- (c) The contractor shall attempt to locate stationary noise sources as far away as possible from noise-sensitive land uses.

### ***Mitigation Measure 11-2***

- (a) Where feasible, collection activities associated with these facilities shall be conducted during hours of the day which are not noise sensitive for nearby residents and other adjacent land uses. The activities shall be commissioned to occur during normal work hours of the day to provide relative quiet during the more sensitive evening and early morning periods.
- (b) The County and cities shall include noise as an evaluation criterion when purchasing new waste/recyclables transportation vehicles, and will purchase the quietest vehicles available when reasonably possible. If the County does not make direct purchases of such vehicles, they will require their licensed/franchised haulers, via their licensed/franchised agreement, to include noise as an evaluation criterion in their purchase of vehicles.
- (c) A site-specific noise evaluation shall be conducted as part of the siting study for new and expanded non-disposal facilities to identify potential noise problem areas prior to site selection. The noise evaluation shall consider the location of sensitive receptors and evaluate sound barriers or other means to reduce noise exposure. The evaluation shall also consider operational changes such as restricting hours of operation.

### ***Mitigation Measure 11-3***

- (a) Same as Mitigation Measure 11-2 (b) and (c).
- (b) The noise evaluation described in Mitigation Measure 11-2 (c) shall consider the location of sensitive receptors and locate equipment and operations to minimize the noise exposure to the extent practical. The evaluation should consider enclosures for noise equipment or sound barriers to shield off-site receptors from noise.

### ***Mitigation Measure 11-4. Same as Mitigation Measure 11-1.***

**Mitigation Measure 11-5.** Same as Mitigation Measure 11-2 (a) and (b).

**Mitigation Measure 11-6**

- (a) Same as Mitigation Measure 11-2 (b). In addition, the following mitigation measure is added:
- (b) During project analysis, sound levels for landfill and quarry equipment will be analyzed to determine whether standards would be exceeded. If it is determined that noise standards would be exceeded at the property line of any residential use, the project shall include, to the extent practical, sound barriers, special mufflers on equipment, or other means to reduce the noise levels at the property line. A berm or other noise barrier shall be used to break the line of sight between noisy equipment, such as rock hammers and rock crushers, and the property line prior to operation of the equipment.

## 12. Population and Housing

Since the previous SPEIR was certified, are there any changes in the proposed Amendment to the CoIWMP, changes in circumstances under which the proposed Amendment to the CoIWMP would be undertaken and/or “new information of substantial importance” that may cause one or more effects on population and housing? Would the changes:

<i>Issues (and Supporting Information Sources):</i>	<i>Yes</i>	<i>No</i>
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

*Population and Housing Summary:* There are no substantial changes in the proposed Amendment to the CoIWMP that may cause one or more new significant effects, or a substantial increase in the severity of previously identified effects; and/or involve “new information of substantial importance,” as it relates to population and housing. No new mitigation measures for population and housing are required.

- a) Implementation of the Amendment to the CoIWMP could involve construction of roads to access a new rail yard, landfill, or a permanent household hazardous waste collection facility, or result in upgrades to railroad facilities associated with the waste by rail option. However, it is unlikely that these infrastructure improvements would induce population growth. This issue was disclosed as a less than significant impact in the 2003 SPEIR and will not be addressed further in the 2008 SPEIR.



- b, c) Zoning and siting criteria would prohibit construction of new facilities that would require the displacement of substantial numbers of houses necessitating the construction of replacement housing elsewhere. This issue will not be addressed further in the 2008 SPEIR.

## 13. Public Services

Since the previous SPEIR was certified, are there any changes in the proposed Amendment to the CoIWMP, changes in circumstances under which the proposed Amendment to the CoIWMP would be undertaken and/or "new information of substantial importance" that may cause one or more effects on public services? Would the changes:

<i>Issues (and Supporting Information Sources):</i>	<i>Yes</i>	<i>No</i>
a) Result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:		
i) Fire protection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Police protection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Schools?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Parks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v) Other public facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

*Public Services Summary:* There are no substantial changes in the proposed Amendment to the CoIWMP that may cause one or more new significant effects, or a substantial increase in the severity of previously identified effects; and/or involve "new information of substantial importance," as it relates to public services. No new mitigation measures for public services are required; however public services mitigation measures identified in the 2003 SPEIR would be applied where appropriate to activities that would occur under the proposed 2008 Amendment to the CoIWMP. The 2003 SPEIR public services mitigation measures are included at the end of this section. The numbering of the mitigation measures is linked to the specific impacts identified in the 2003 SPEIR (SCWMA, 2003a).

- a) Siting of new facilities that could result under the Amendment to the CoIWMP would require the provision of fire protection at the new sites, which could involve significant environmental impacts and affect existing uses if fire protection services do not have adequate facilities, equipment, or staffing to support the new facilities. The 2003 PEIR disclosed impacts to fire services that were reduced to less than significant levels with mitigation. Additional analysis will be conducted when site-specific projects are proposed. It is not expected that any facility or activity that would result under

implementation of the Amendment to the CoIWMP would cause an increased need for police protection, schools, parks, or other public facilities. Impacts to public services will not be addressed further in the 2008 SPEIR.

## Applicable Mitigation Measures Required by the 2003 SPEIR

### Mitigation Measure 15-1

- (a) For each facility and for the applicable CoIWMP programs, a Fire Prevention Program shall be developed and implemented (in consultation with the Fire Marshall). This program shall entail both structural fire suppression mechanisms in the design of the facilities, such as fire sprinkler systems in facility buildings, as well as procedural programs for minimizing fire hazards.
- (b) For each facility that handles hazardous materials and for the applicable CoIWMP programs, a Hazardous Materials Inventory and Emergency Response Plan shall be prepared and implemented (in consultation with the appropriate local agency).
- (c) Private project sponsors shall pay development impact fees to cover the cost of additional fire protection services, if necessary.

**Mitigation Measure 15-2.** Same as Mitigation Measures 15-1 (a) and (c).

## 14. Recreation

Since the previous SPEIR was certified, are there any changes in the proposed Amendment to the CoIWMP, changes in circumstances under which the proposed Amendment to the CoIWMP would be undertaken and/or "new information of substantial importance" that may cause one or more effects on recreation? Would the changes:

<u>Issues (and Supporting Information Sources):</u>	<u>Yes</u>	<u>No</u>
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

**Recreation Summary:** There are no substantial changes in the proposed Amendment to the CoIWMP that may cause one or more new significant effects, or a substantial increase in the severity of previously identified effects; and/or involve "new information of substantial importance," as it relates to recreation. No new mitigation measures for recreation are required.



- a, b) Implementation of the Amendment to the CoIWMP would have no effect on recreation. This issue will not be addressed in the 2008 SPEIR.

## 15. Transportation and Traffic

Since the previous SPEIR was certified, are there any changes in the proposed Amendment to the CoIWMP, changes in circumstances under which the proposed Amendment to the CoIWMP would be undertaken and/or "new information of substantial importance" that may cause one or more effects related to transportation or traffic:

Issues (and Supporting Information Sources):	Yes	No
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location, that results in substantial safety risks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., conflict with policies promoting bus turnouts, bicycle racks, etc.)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Discussion

*Transportation and Traffic Summary:* The proposed Amendment to the CoIWMP does not contain substantial changes not previously analyzed for Items 15(c), 15(d), 15(f) and 15(g). The 2008 SPEIR will address issues related to traffic congestion associated with implementation of the Amendment to the CoIWMP options because the total truck trips under the proposed waste transported by truck option has not been previously analyzed. The 2008 SPEIR will also address the potential for increased traffic and rail congestion under the waste by rail option. The 2003 SPEIR transportation and traffic mitigation measures are included at the end of this traffic section. The numbering of the mitigation measures is linked to the specific impacts identified in the 2003 SPEIR (SCWMA, 2003a).

- a) The 2003 SPEIR addressed program level road congestion impacts associated with the operations of new or expanded non-disposal and landfill facilities. The 2003 SPEIR disclosed significant and unavoidable impacts related to new landfill operations (2003 SPEIR Impacts 9-2 and 9-3). However, the 2008 SPEIR will analyze any changed

- conditions and/or updated information relating to potential roadway traffic congestion issues that would be associated with implementation of the Amendment to the CoIWMP. The Amendment to the CoIWMP could also result in increased railroad traffic associated with the proposed waste by rail option. Therefore, the 2008 SPEIR will also analyze program level impacts associated with railroad traffic issues. Additional analysis would be required when site specific projects are proposed.
- b) As described above, the 2003 SPEIR addressed program level road congestion impacts associated with the operations of new or expanded non-disposal and landfill facilities. The 2008 SPEIR will analyze any changed conditions and/or updated information relating to potential roadway traffic congestion issues that would be associated with the Amendment to the CoIWMP. Subsequent analyses would be conducted when site-specific projects are proposed.
  - c) None of the facilities or activities that would result due to the implementation of the amended CoIWMP would affect air traffic patterns. This issue will not be addressed further in the 2008 SPEIR.
  - d) New facilities and changed operations under the amended CoIWMP could generate a large volume of local traffic, which could cause safety problems at its driveway entrance, access roads, and/or on minor streets that serve the facilities. This issue was addressed in the 2003 SPEIR (2003 SPEIR Impact 9-5) and found to be less than significant with incorporation of mitigation measures. This issue will not be addressed further in the 2008 SPEIR; however, further analysis would be conducted when site-specific projects are proposed.
  - e) Inadequate emergency access impacts would result if access routes become blocked as a result of the proposed Amendment to the CoIWMP. This issue was addressed on a program level in the 2003 SPEIR (2003 SPEIR Impact 8-11). No further analysis is required until site-specific projects are proposed. This issue will not be addressed further in the 2008 SPEIR.
  - f) Amendments to the CoIWMP could affect existing parking or create a need for new parking for employees and customers. This issue was addressed in the 2003 SPEIR and found to be less than significant. This issue will not be addressed further in the 2008 SPEIR; however, further analysis would be conducted when site-specific projects are proposed.
  - g) None of the facilities or activities that would result due to the implementation of the Amendment to the CoIWMP would affect alternative transportation programs. Implementation of the waste by rail option would likely have a beneficial impact on the potential for rail transportation in the North Bay because of railroad upgrades that would likely be required for the option. This issue will not be addressed further in the 2008 SPEIR.

## Applicable Mitigation Measures Required by the 2003 SPEIR

### *Mitigation Measure 9-1*

- (a) To the extent feasible, new non-disposal facilities shall not be located in areas with significant road congestion, as designed in the cities' and County General Plan.
- (b) To the extent feasible, new non-disposal facilities shall be located near other commercial facilities to allow for the combination of activities in one trip and reduce over trip generation.
- (c) Traffic Management Plans (TMP) shall be developed for each of the new and expanded non-disposal facilities, as required. These plans shall schedule truck trips so that roadway segments with the potential to be significantly impacted are avoided during peak hours. In addition, these plans shall detail the hours of operation and other restrictions on truck trips for each of the facilities and shall include plans for employee car pooling and bus transportation, where appropriate and feasible. The plans shall be updated periodically in response to changing traffic conditions and improvements to the highway system. The TMP shall include a site-specific traffic evaluation conducted as part of the siting study for a new non-disposal facility to identify potential traffic problem areas prior to site selection. The traffic evaluation shall consider limiting non-disposal facility operations to either commercial or private (general public) haulers, as well as co-locating of disposal and non-disposal facilities to reduce haul trips.
- (d) Countywide Traffic Mitigation fees shall be paid for new facilities implemented in accordance with the 2003 CoIWMP to help mitigate off-site cumulative traffic impacts.

### *Mitigation Measure 9-2*

- (a) The siting study for a new landfill shall consider the adequacy and operation of the local roads and intersections as part of the comparative criteria.
- (b) A site-specific traffic evaluation shall be conducted as part of the siting study to identify potential traffic problem areas prior to site selection and to identify road or intersection improvements and/or changes needed to accommodate landfill traffic.
- (c) Countywide traffic mitigation fees shall be paid for new facilities implemented in accordance with the 2003 CoIWMP to help mitigate off-site cumulative traffic impacts.

**Mitigation Measure 9-3.** Traffic analysis shall be conducted at the time a site-specific environmental analysis of a quarry project is undertaken. If rock extraction traffic would cause significant congestion at the Stony Point/Roblar or Stony Point/West Railroad intersections, the following mitigation measures shall be considered:

- (a) Trucks hauling rock from the landfill quarry shall be restricted so that they do not add traffic to the congested intersections during peak traffic hours. Restrictions could include

alternative hours of operation or alternative haul routes. This restrictions shall remain in effect until these intersection are signalized.

- (b) The quarry operator shall pay a traffic mitigation fee to provide a fair-share contribution toward the cost of signalizing the intersections.

**Mitigation Measure 9-4.** If significant traffic impacts to the Stony/Roblar and Stony Point Road/West Railroad Avenue intersections continue beyond 2015, mitigation measures such as the following shall be implemented:

- (a) The Integrated Waste Division will consider restricting truck traffic that is subject to County control so that trucks do not travel through the Stony Point/Roblar and/or the Stony Point Road/West Railroad intersections during peak traffic hours. This shall apply only to new truck trips associated with projects pursuant to the 2003 CoIWMP, and not existing traffic using the Central Disposal Site. The restriction shall apply to trucks subject to County control, such as those making deliveries for cover soil and liner materials, and trucks associated with construction at the site. This measure shall remain in effect until a traffic signal has been installed at these intersections.
- (b) Prior to construction of projects at the Central Disposal Site pursuant to the 2003 CoIWMP, the Integrated Waste Division shall pay a traffic mitigation fee that includes a fair share contribution toward the installation of signals at the Stony Point/Roblar and Stony Point/ West Railroad intersections.
- (c) Consider restricting hours of operation so that traffic is not added to the congested intersections during peak traffic hours. This restriction would remain in effect until these intersections are signalized.
- (d) Consider restricting traffic the use of the site to commercial operators only, thereby reducing the number of vehicles using the Stony Point/Roblar and Stony Point/West Railroad intersection.

**Mitigation Measure 9-5.** Prior to the commencement of hauling, the quarry operator and the Integrated Waste Division shall implement a truck driver education program which familiarizes rock and commercial refuse haulers with speed limit zones, school bus stops, areas of low sight distance on the haul route, permit limits on trucking, weight and load height limits, circulation routes through the landfill to minimize interference, and other measures which will reduce public conflicts. The Integrated Waste Division shall maintain a record of the drivers receiving the orientation.

**Mitigation Measure 9-6**

- (a) Driveways and access roads for the new landfill and non-disposal facilities shall be designed to the AASHTO standards to ensure safety hazards are minimized. These

standards include driveway width, acceleration-deceleration lanes, and turning radius requirements.

- (b) Prior to operation, minor roads that would be used as haul routes shall be examined for existing safety problems and corrections shall be made as necessary to accommodate traffic from new facilities.
- (c) Design access roads for new facilities to accommodate emergency vehicles in accordance with County Fire Safe Standards.

## 16. Utilities and Service Systems

Since the previous SPEIR was certified, are there any changes in the proposed Amendment to the CoIWMP, changes in circumstances under which the proposed Amendment to the CoIWMP would be undertaken and/or "new information of substantial importance" that may cause one or more effects related to utilities or service systems:

<i>Issues (and Supporting Information Sources):</i>	<i>Yes</i>	<i>No</i>
a) Conflict with wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Require new or expanded water supply resources or entitlements?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Discussion

*Utilities and Service Systems Summary:* There are no substantial changes in the proposed Amendment to the CoIWMP that may cause one or more new significant effects, or a substantial increase in the severity of previously identified effects; and/or involve "new information of substantial importance," as it relates to utilities and service systems. No new mitigation measures for utilities and service systems are required; however a utilities and service systems mitigation measure that is identified in the 2003 SPEIR would be applied where appropriate to activities that would occur under the proposed 2008 Amendment to the CoIWMP. The 2003 SPEIR utilities and

service systems mitigation measure is included at the end of this section. The mitigation measure number is linked to the specific impacts identified in the 2003 SPEIR (SCWMA, 2003a).

- a, b) Potential impacts caused by non-disposal and landfill facilities associated with wastewater treatment capacity and requirements were addressed in the 2003 PEIR and were found to be less than significant with mitigation (2003 PEIR Impact 15-4). Any facility proposed under the Amendments to the CoIWMP that would involve discharge to wastewater facilities would comply with the permitting provisions of the applicable Regional Water Quality Control Board. This issue will not be addressed in the 2008 SPEIR; however, additional analysis will be required when site specific projects are proposed.
- c) Development of facilities that could result under the Amendment to the CoIWMP may require the construction of new stormwater facilities. The 2003 PEIR determined that program level impacts associated with stormwater facilities would be less than significant. This issue will not be addressed in the 2008 SPEIR; however, site specific analysis of storm water discharge would be required when site specific projects are proposed.
- d) The Amendment to the CoIWMP could include a private expansion of the Central Disposal Site or development of a new private landfill facility that would require the use or removal of groundwater. Significant and unavoidable impacts to groundwater supply were disclosed on a program level in the 2003 SPEIR (2003 SPEIR Impact 7-9). This issue will not be addressed in the 2008 SPEIR. Additional analysis would need to be conducted if a specific landfill project is proposed.
- e) See 16 a) and b), above.
- f) The proposed Amendment to the CoIWMP Siting Element options would provide landfill capacity to meet the needs of Sonoma County residents. This issue will not be addressed further in the 2008 SPEIR.
- g) Programs described in the 2008 CoIWMP would comply with federal, State, and local statutes and regulations related to solid waste because the purpose of updating the CoIWMP is to ensure compliance with all solid waste laws. This issue will not be addressed further in the 2008 SPEIR.

## **Applicable Mitigation Measures Required by the 2003 SPEIR**

**Mitigation Measure 15-4.** Any projects which involve discharge to waterways or stormwater runoff shall comply with the permitting provisions of the applicable Regional Water Quality Control Board.



## 17. Mandatory Findings of Significance

Would the project:

<i>Issues (and Supporting Information Sources):</i>	<i>Yes</i>	<i>No</i>
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have impacts that would be individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Discussion

- a) Implementation of the proposed Amendment to the CoIWMP would not be expected to result in degradation of the quality of the environment, including biological and cultural resources. Impacts on the environment, including biological and cultural resources, were adequately addressed on a program level in the 2003 SPEIR and would also be addressed when site specific projects are proposed. These issues will not be addressed further in the 2008 SPEIR.
- b) Implementation of the proposed Amendment to the CoIWMP could result in significant cumulative impacts related to air quality, noise, and transportation. These issues will be fully addressed in the 2008 SPEIR on a program level and would also be addressed when site specific projects are proposed.
- c) Implementation of the proposed Amendment to the CoIWMP could result in significant impacts to human health related to air quality and noise. These issues will be fully addressed in the 2008 SPEIR and would also be addressed when site specific projects are proposed.

### References

- Brown, Vence, & Associates, Inc. (BVA, 2004). *Reassessment of the Long-Term Solid Waste Strategy Management Plan*, Prepared for Sonoma County, 2004.
- BVA, 2005. Letter Report to Sonoma County Department of Transportation and Public Works. Subject: Review of Rail Haul – Revised Draft. September 12, 2005.

Sonoma County Waste Management Agency (SCWMA), 1996. *Final Program Environmental Impact Report for the Countywide Integrated Waste Management Plan*. 1996.

SCWMA, 2003a. *Final Supplemental Program Environmental Impact Report for the 2003 Countywide Integrated Waste Management Plan*. October, 2003. Available on-line at [http://www.recyclenow.org/Final\\_Supp\\_EIR\\_CoIWMP.pdf](http://www.recyclenow.org/Final_Supp_EIR_CoIWMP.pdf)

SCWMA, 2003b. *Sonoma Countywide Integrated Waste Management Plan*.



## Appendix C

### Responses to the Notice of Preparation



# APPENDIX C

## Responses to the Notice of Preparation

### Comment Letters

The following comment letters (organized by date) are included in this appendix:

**TABLE 1  
COMMENT LETTERS**

Name	Organization	Date
Kate Sanchez	Native American Heritage Commission	April 30, 2008
Ernie Carpenter		May 5, 2008
Greg Pirie	County of Napa	May 20, 2008
John Loane	California Integrated Waste Management Board	May 23, 2008
Nabeel Al-Shamma	Sierra Club	May 23, 2008
Lisa Carboni	California Department of Transportation	May 27, 2008

### Scoping Meeting

A public scoping meeting was held on May 5, 2008 from 6:00 pm to 8:00 pm at the Sonoma County Sheriff's Department Main Conference Room.

The following questions were posed at the scoping meeting:<sup>1</sup>

- Are privately owned HHW facilities allowed?
- Would a study be done to consider whether there is sufficient landfill capacity in the bay area?
- Will you be taking into account whether methane gas capture?
- Will the EIR be taking into account if Redwood Landfill does not get a permit to expand?
- If the Central Landfill is reopened (public or private ownership), would there be a project specific EIR to allow resumption of landfill activities?
- Is transfer of ownership to a private company considered a project?
- Why is the Lead Agency (SCWMA) different than the owner of the landfill (COS)?

<sup>1</sup> Notes from Patrick Carter, May 5<sup>th</sup> 2008.

- Why would a private entity want to buy a landfill which the County is not willing to pay to upgrade?
- Will importation of out-of-county waste be studied in the EIR?
- How is County divestiture of the landfill taken into account in the EIR?
- Will an economic analysis of landfill tipping rates taken into account in the EIR?
- Will resumption of landfill under private ownership be studied in this EIR?
- What is the no-project alternative and how will that be studied?
- How does the stipulated notice of order with CIWMB and LEA that a binding contract executed by County by (date) 2008 impact EIR?
- As a planning level document, how specific will out-haul projects be, with regard to where waste is delivered?
- Will you address AB 32 (greenhouse gas reduction), specifically with regard to taking waste to landfills with methane recovery?

## NATIVE AMERICAN HERITAGE COMMISSION

915 CAPITOL MALL, ROOM 364  
SACRAMENTO, CA 95814  
(916) 653-4082  
(916) 657-5390 - Fax



April 30, 2008

Patrick Carter  
Sonoma County Waste Management Agency  
2300 County Center Drive Suite B100  
Santa Rosa, CA 95403

RE: SCH# 2008042112 Amendment to the Sonoma Countywide Intergrated Waste Management Plan; Sonoma County.

Dear Mr. Carter:

The Native American Heritage Commission (NAHC) has reviewed the Notice of Preparation (NOP) referenced above. The California Environmental Quality Act (CEQA) states that any project that causes a substantial adverse change in the significance of an historical resource, which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA Guidelines 15064(b)). To comply with this provision the lead agency is required to assess whether the project will have an adverse impact on historical resources within the area of project effect (APE), and if so to mitigate that effect. To adequately assess and mitigate project-related impacts to archaeological resources, the NAHC recommends the following actions:

- ✓ Contact the appropriate regional archaeological Information Center for a record search. The record search will determine:
  - If a part or all of the area of project effect (APE) has been previously surveyed for cultural resources.
  - If any known cultural resources have already been recorded on or adjacent to the APE.
  - If the probability is low, moderate, or high that cultural resources are located in the APE.
  - If a survey is required to determine whether previously unrecorded cultural resources are present
- ✓ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
  - The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure.
  - The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.
- ✓ Contact the Native American Heritage Commission for:
  - A Sacred Lands File Check. USGS 7.5 minute quadrangle name, township, range and section required.
  - A list of appropriate Native American contacts for consultation concerning the project site and to assist in the mitigation measures. Native American Contacts List attached.
- ✓ Lack of surface evidence of archeological resources does not preclude their subsurface existence.
  - Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
  - Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.
  - Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

Sincerely,

Katy Sanchez  
Program Analyst

CC: State Clearinghouse

## Native American Contacts

Sonoma County

April 30, 2008

### The Federated Indians of Graton Rancheria

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This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH# 2008042112 Amendment to the Sonoma Countywide Integrated Waste Management Plan; Sonoma County.

**Native American Contacts**  
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April 30, 2008

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This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH# 2008042112 Amendment to the Sonoma Countywide Integrated Waste Management Plan; Sonoma County.





**Ernie Carpenter**  
**14113 Occidental Rd**  
**Sebastopol. Ca. 95472**

Phone 707-479-2232

Email: ernie\_man@comcast.net

May 5, 2008

Sonoma County Waste Management Agency  
2300 County Center Drive  
Suite B100  
Santa Rosa, Ca. 95403

Attn: Susan Klassen, Interim Executive Director

Re: Amendment to the Sonoma Countywide integrated Waste Management Plan  
Notice of Preparation of Draft Supplemental Program Environmental Impact Plan

There is a list of 'candidates for medium term waste transport by truck disposal sites.' AB 32 requires Green House Gas emissions to be reduced to 1990 levels by 2020. One of the active components of AB 32 is methane gas reduction at all landfills. Follows are quotes from the CIWMB website:

**California Climate Action Team Directives for the California Integrated Waste Management Board**

**Achieve 50 Percent Statewide Recycling Goal**

The CIWMB was the first State Agency to achieve one of its GHG emission reduction strategies. The first strategy was to achieve the State's 50 percent waste diversion mandate as established by the Integrated Waste Management Act of 1989, (AB 939, Sher, Chapter 1095, Statutes of 1989), to reduce GHG emissions associated with energy intensive material extraction and production as well as methane emission from landfills. At the time the strategy was developed, the State had achieved a diversion rate of 48 percent on a statewide basis. Currently, California is diverting 54 percent statewide of the waste that would have previously gone to landfills. This strategy resulted in achieving additional waste diversion of recyclables from landfills using existing authorities and mandates, collection infrastructures, and recycling processes.

Diverting this material, not only reduces GHGs but also reduces our energy dependency by:

Reusing our products more than once so that new ones don't need to be manufactured.

Providing recyclable materials as resources to produce new products.

Reducing demands to harvest virgin resources in the manufacture of new products.

### **Landfill Methane Capture**

Methane production varies greatly from landfill to landfill depending on site-specific characteristics such as the quantity of waste in place, the type of waste buried, moisture content, landfill design and operating practices, and local climate. This methane may be released to the atmosphere as a potent greenhouse gas unless captured and controlled.

Currently, landfill gas control systems that destroy methane are currently operating for the vast majority of waste in California landfills. Approximately 94 percent of the total statewide estimated 1.2 billion tons of waste-in-place is contained in landfills with full control systems. All landfills that contain greater than 5 million tons have controls. There are currently 32 landfills that contain a total of 0.5 to 3.8 million tons and are generating landfill gas that have partial, perimeter, or no such control systems. The methane, if collected, can then be treated by burning it in a combustion device, transporting it directly to an end user, generating electricity, or transforming it to a useful fuel such as compressed or liquefied natural gas. However, the technical applicability of any of the more sophisticated options are dependent on the amount of landfill gas a facility can generate.

The Landfill Methane Capture strategy includes the following components:

- Install new methane control systems at landfills currently without control systems.

- Maximize landfill methane capture efficiencies through optimizing landfill design, operation, and closure/postclosure practices.

- Increase recovery of landfill gas that is currently flared as a biomass renewable energy source to avoid emissions from fossil fuel energy sources.

### **Zero Waste--High Recycling**

Additional recovery of recyclable materials from landfills will reduce the GHG emissions associated with energy intensive material extraction and production as well as methane emission from landfills. Transforming organics/biomass and plastic waste into marketable products will also reduce the amount of material going to landfill, and therefore will further reduce GHG emissions. Currently, the State is mandated to divert 50 percent of waste going to landfills as established by the Integrated Waste Management Act of 1989. Exceeding the 50 percent diversion mandate results in additional reductions in GHG emissions.

### **Considered Actions Under Public Review**

A draft document (Adobe PDF, 178 KB), *Climate Action Team Proposed Early Actions to Mitigate Climate Change in California*, is currently undergoing the public review process."

Questions for the NOP process are as follows:

- A) Has there been an analysis of each medium term land fill listed as to methane gas production and the methane control systems currently in place?
- B) Has there been an analysis of the time lines and cost of installing methane gas control systems in medium term disposal sites?
- C) Has there been a 'methane gas balance sheet' with respect to the amount of methane gas produced in each medium term landfill and the likely increase due to the importation of Sonoma County garbage.
- D) What is the Zero methane gas emission potential for each landfill?
- E) Has a calculation been performed to measure the potential loss of power to Sonoma County's methane generating capabilities due to the loss of biomass?
- F) Is a higher diversion rate to be mandated of the potential private owner of the Sonoma County land fill than the State required 50%? Have policy implications of the proposed Contract between the County of Sonoma and the private owner of Central Land fill been analyzed with respect to the interconnection between recycling and Green House Gas emissions for alternative proposals?
- G) Has an analysis of green house gas generation been calculated based upon higher recycle rates versus less out-haul versus lower recycle rates versus higher out-haul of residual waste?
- H) Please discuss the savings in green house gas emission through avoidance of the use of fossil fuel in manufacturing new products versus increased use of recycled products.

Lastly, the PEIR process to amend the Solid Waste Plan is convoluted. Many pertinent questions are deferred until a Project EIR is needed-e.g reopening of the land fill, new sites. However, this amendment is clearly needed to complete the divestiture process. The questions are:

- A) Will a project specific document on the divestiture itself follow the Program EIR for amendment of the CoIWMP?
- B) Is there enough information contained in the Program EIR to make an economically and environmentally suitable decision on land fill divestiture?
- C) Should the divestiture process fail, is there adequate information in the PEIR to address the County continuing to own/operate the landfill and transport waste as necessary? Will the No Project alternative be analyzed in enough detail to allow the County to continue to operate Central as a transfer station in public ownership?

Sincerely,



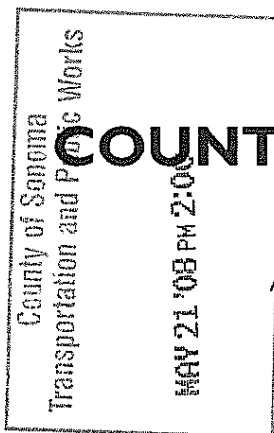
Ernest L. Carpenter

Waste Consultant





**NANCY WATT**  
County Executive Officer



**COUNTY of NAPA**

**BRITT FERGUSON**  
Assistant County Executive Officer

May 20, 2008

Attn: Patrick Carter  
Sonoma County Waste Management Agency  
2300 County Center Drive Suite B100  
Santa Rosa, CA 95403

RE: Draft Supplemental Program Environmental Impact Report. Amendment to the Sonoma Countywide Integrated Waste Management Plan.

Dear Mr. Carter,

The County of Napa has reviewed the Draft Supplemental Program Environmental Impact Report (SPEIR) prepared and noticed by the Sonoma County Waste Management Agency. The SPEIR reviews modifications to the Siting Element and Household Hazardous Waste element of the County Integrated Waste Management Plan. The modification to the Siting Element would allow for additional solid waste disposal strategies, including out-of-County disposal with waste transported by truck and /or rail.

In review the SPEIR, the County of Napa has the following comments:


- SPEIR, pg 5 – Waste Transported by Truck Haul. Clover Flat Landfill was listed on the non-exclusive list of sites that would likely be a candidate as a medium term waste transportation by truck disposal site. If you are considering this disposal site for short or long term use, please take into consideration that Clover Flat Landfill is contractually obligated to the Upper Valley Waste Management Agency and can only accept a very small portion of out-of-County Waste. The facility is currently permitted to receive 600 tons/day of municipal solid waste.
- SPEIR, pg. 52 – Transportation & Traffic. Several of your discussion comments end with “.....subsequent or additional analysis would be required when site specific projects are proposed”. We are currently experiencing an existing high volume of traffic on the Hwy 12 corridor (between Hwy 29 and Hwy 80) and an upcoming decade of construction that alternate routes for getting to solid waste disposal facilities in Solano County (i.e. Hwy 37) should be considered and planned for.
- If there is any specific future projects proposed that include transportation of waste and recyclables through the County of Napa, or use of Napa County facilities for

Patrick Carter, pg. 2, 5/20/2008.

recycling/waste processing, please include us as a responsible agency for review and comment.

Thank you for the opportunity to provide comments. If you have any questions that I can assist with in your planning effort related to our history with solid waste, transportation, or use of rail haul for one of our solid waste facilities, please let me know.

Sincerely,



Greg Pirie, REHS  
Napa County Executive Office  
707-253-4144

CC: Nancy Watt, County Executive Officer, Napa County.  
John McDowell, Deputy Director, Napa County Conservation, Development & Planning Department.  
Steven Lederer, Director, Napa County Department of Environmental Management.  
Christine Sosko, Supervisor, Sonoma County Environmental Health Division.



LINDA S. ADAMS  
SECRETARY FOR  
ENVIRONMENTAL PROTECTION

# CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD



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May 23, 2008

Mr. Patrick Carter  
Sonoma County Waste Management Authority  
2300 County Center Drive, Suite B100  
Santa Rosa, California 95403

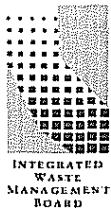
**Subject:** State Clearinghouse (SCH) No. 2008042112 – Notice of Preparation of a draft Supplemental Program Environmental Impact Report (SPEIR) for proposed Amendments to the Sonoma Countywide Integrated Waste Management Plan (CoIWMP), Sonoma County.

Dear Mr. Carter:

Staff of the North Permits Section, Region 2, (Permits North) of the California Integrated Waste Management Board (CIWMB or Board) has reviewed the NOP for the proposed project cited above. Following is Permits North staff's understanding of the project proposal, for Board staff's use, and comments for consideration by the lead agency in preparation of the SPEIR for the Sonoma County CoIWMP.

## PROJECT DESCRIPTION

The CoIWMP is the principal planning document for solid waste management in Sonoma County (County). The CoIWMP identifies goals and objectives of the County and the incorporated cities in the County with respect to solid waste reduction, recycling, diversion, and disposal. Concurrent with the preparation of the CoIWMP, all incorporated cities and the County entered into a Joint Powers Agreement which formed the Sonoma County Waste Management Authority (SCWMA) to deal with household hazardous waste, yard and wood waste, and public education. In 1996, the Joint Powers Agreement was amended to establish the SCWMA as the sole public planning agency for solid waste management in the County.



The proposed project includes amendments to the CoIWMP Household Hazardous Waste Element (HHWE) and the Siting Element (SE). The HHWE would be modified to allow for more than the one existing permanent household hazardous waste collection facility presently located at the Sonoma Central Disposal Site (SCDS) to be established in Sonoma County. The revisions to the SE would reflect all landfilling and proposed landfilling of municipal solid waste (MSW) at the SCDS has been suspended and that no waste is currently disposed there nor is there any other landfill where MSW can be disposed in Sonoma County. The revisions to the SE also include the option of divestiture of the County Disposal System to a private owner. Strategies for disposal include truck and/or train hauling the refuse to selected out-of-County disposal sites.

### **Operations having Undergone California Environmental Quality Act (CEQA) Compliance**

The suspension of MSW disposal at the CDS and the resulting out-of-County truck hauling of refuse is consistent with the existing SPEIR and CoIWMP certified and adopted by the SCWMA in October 2003 according to the SCWMA. Sonoma County's current out-hauling of MSW by truck during an interim period beginning in 2005 is permitted due to compliance with CEQA Categorical Exemptions for the Annapolis, Guerneville, Healdsburg, and Sonoma Transfer Stations and through an addendum to the *Sonoma County Central Disposal Site Improvement Program Final Environmental Impact Report*.

### **BOARD STAFF'S COMMENTS**

#### **Maintenance of, 15 years of disposal capacity**

Title 14, California Code of Regulations, Section 18794.4.(b)(1) states, under the *Siting Element and Summary Plan Status*, that:

(a) Each county or regional agency shall include in its annual report a discussion on the status of its Siting Element and Summary Plan. The information provided shall serve as a basis for determining if the Siting Element and/or Summary Plan should be revised.

(b) The Siting Element section in the annual report shall address at least the following:

(1) Whether the county or regional agency has maintained, or has a strategy which provides for the maintenance of, **15 years of disposal capacity**;

Page 4 of the NOP states that "The medium term (years 2010 through 2022) disposal strategy would consider...three options:". The 2008 CoIWMP is required to provide "for the maintenance of 15 years of disposal capacity." 2008 through 2022 is less than 14 years. Also "The short term disposal strategy is to continue the out-of-County disposal contracts that are currently in place...". Board staff requests that the maintenance strategy for disposal be discussed in relative detail in the draft SPEIR.



### **Other Strategies for the Maintenance of MSW**

The NOP contains significant detail about a wide range of options for the management of MSW in Sonoma County. The NOP says that the feasibility review for the use of rail haul to transfer solid waste out of Sonoma County is underway. The NOP also says that the out-of-County rail haul option may be cost prohibitive. Due to the ever changing MSW processing, transformation and disposal technologies in addition to the rapid progress of recycling and reuse of recyclables technologies, it would be helpful if the draft SPEIR have a discussion of the Non-Disposal Facility Element of the CoIWMP. It would be helpful if a discussion of these emerging technologies were included in the CoIWMP draft SPEIR Alternatives Section as well as the feasibility of implementation within the 15-year window for disposal capacity.


### **CONCLUSION**

Board staff looks forward to reviewing the Sonoma CoIWMP. The CoIWMP is a tool for the future of waste management and reduction in MSW that would otherwise require disposal and long term postclosure maintenance of landfills

Board staff has no further comments on the project as proposed at this time. Thank you for the opportunity to comment on this project in the early planning stages. North Permits staff are available for any planned scoping meetings, workshops or other public meetings regarding the CoIWMP draft SPEIR upon request of the SCWMA.

If you have any questions regarding these comments or require further assistance, please contact me at 916.341.6327 or by fax at 916.319.7213 or e-mail me at [jloane@ciwmb.ca.gov](mailto:jloane@ciwmb.ca.gov).

Sincerely,



John Loane, Integrated Waste Management Specialist (IWMS)  
North Permits Section, Region 2  
Waste Compliance and Mitigation Program  
**California Integrated Waste Management Board**

cc: State Clearinghouse  
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Sue O'Leary, Supervisor  
North Permits Section, Region 2  
Waste Compliance and Mitigation Program  
CIWMB

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May 23, 2008

Mr. Patrick Carter  
Sonoma County Waste Management Authority  
2300 County Center Drive, Suite B100  
Santa Rosa, California 95403

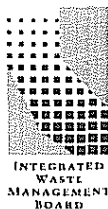
**Subject:** State Clearinghouse (SCH) No. 2008042112 – Notice of Preparation of a draft Supplemental Program Environmental Impact Report (SPEIR) for proposed Amendments to the Sonoma Countywide Integrated Waste Management Plan (CoIWMP), Sonoma County.

Dear Mr. Carter:

Staff of the North Permits Section, Region 2, (Permits North) of the California Integrated Waste Management Board (CIWMB or Board) has reviewed the NOP for the proposed project cited above. Following is Permits North staff's understanding of the project proposal, for Board staff's use, and comments for consideration by the lead agency in preparation of the SPEIR for the Sonoma County CoIWMP.

## PROJECT DESCRIPTION

The CoIWMP is the principal planning document for solid waste management in Sonoma County (County). The CoIWMP identifies goals and objectives of the County and the incorporated cities in the County with respect to solid waste reduction, recycling, diversion, and disposal. Concurrent with the preparation of the CoIWMP, all incorporated cities and the County entered into a Joint Powers Agreement which formed the Sonoma County Waste Management Authority (SCWMA) to deal with household hazardous waste, yard and wood waste, and public education. In 1996, the Joint Powers Agreement was amended to establish the SCWMA as the sole public planning agency for solid waste management in the County.



The proposed project includes amendments to the CoIWMP Household Hazardous Waste Element (HHWE) and the Siting Element (SE). The HHWE would be modified to allow for more than the one existing permanent household hazardous waste collection facility presently located at the Sonoma Central Disposal Site (SCDS) to be established in Sonoma County. The revisions to the SE would reflect all landfilling and proposed landfilling of municipal solid waste (MSW) at the SCDS has been suspended and that no waste is currently disposed there nor is there any other landfill where MSW can be disposed in Sonoma County. The revisions to the SE also include the option of divestiture of the County Disposal System to a private owner. Strategies for disposal include truck and/or train hauling the refuse to selected out-of-County disposal sites.

### **Operations having Undergone California Environmental Quality Act (CEQA) Compliance**

The suspension of MSW disposal at the CDS and the resulting out-of-County truck hauling of refuse is consistent with the existing SPEIR and CoIWMP certified and adopted by the SCWMA in October 2003 according to the SCWMA. Sonoma County's current out-hauling of MSW by truck during an interim period beginning in 2005 is permitted due to compliance with CEQA Categorical Exemptions for the Annapolis, Guerneville, Healdsburg, and Sonoma Transfer Stations and through an addendum to the *Sonoma County Central Disposal Site Improvement Program Final Environmental Impact Report*.

### **BOARD STAFF'S COMMENTS**

#### **Maintenance of, 15 years of disposal capacity**

Title 14, California Code of Regulations, Section 18794.4.(b)(1) states, under the *Siting Element and Summary Plan Status*, that:

(a) Each county or regional agency shall include in its annual report a discussion on the status of its Siting Element and Summary Plan. The information provided shall serve as a basis for determining if the Siting Element and/or Summary Plan should be revised.

(b) The Siting Element section in the annual report shall address at least the following:

(1) Whether the county or regional agency has maintained, or has a strategy which provides for the maintenance of, **15 years of disposal capacity**;

Page 4 of the NOP states that "The medium term (years 2010 through 2022) disposal strategy would consider...three options:". The 2008 CoIWMP is required to provide "for the maintenance of 15 years of disposal capacity." 2008 through 2022 is less than 14 years. Also "The short term disposal strategy is to continue the out-of-County disposal contracts that are currently in place...". Board staff requests that the maintenance strategy for disposal be discussed in relative detail in the draft SPEIR.

### **Other Strategies for the Maintenance of MSW**

The NOP contains significant detail about a wide range of options for the management of MSW in Sonoma County. The NOP says that the feasibility review for the use of rail haul to transfer solid waste out of Sonoma County is underway. The NOP also says that the out-of-County rail haul option may be cost prohibitive. Due to the ever changing MSW processing, transformation and disposal technologies in addition to the rapid progress of recycling and reuse of recyclables technologies, it would be helpful if the draft SPEIR have a discussion of the Non-Disposal Facility Element of the CoIWMP. It would be helpful if a discussion of these emerging technologies were included in the CoIWMP draft SPEIR Alternatives Section as well as the feasibility of implementation within the 15-year window for disposal capacity.


### **CONCLUSION**

Board staff looks forward to reviewing the Sonoma CoIWMP. The CoIWMP is a tool for the future of waste management and reduction in MSW that would otherwise require disposal and long term postclosure maintenance of landfills

Board staff has no further comments on the project as proposed at this time. Thank you for the opportunity to comment on this project in the early planning stages. North Permits staff are available for any planned scoping meetings, workshops or other public meetings regarding the CoIWMP draft SPEIR upon request of the SCWMA.

If you have any questions regarding these comments or require further assistance, please contact me at 916.341.6327 or by fax at 916.319.7213 or e-mail me at [jloane@ciwmb.ca.gov](mailto:jloane@ciwmb.ca.gov).

Sincerely,



John Loane, Integrated Waste Management Specialist (IWMS)  
North Permits Section, Region 2  
Waste Compliance and Mitigation Program  
**California Integrated Waste Management Board**

cc: State Clearinghouse  
Office of Planning and Research  
P.O. Box 3044  
Sacramento, CA 95812-3044

Sue O'Leary, Supervisor  
North Permits Section, Region 2  
Waste Compliance and Mitigation Program  
CIWMB

Mihoyo Fuji, IWMS  
North Permits Section, Region 2  
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Christine Sosko, Sonoma County LEA  
Department of Health Services  
475 Aviation Blvd Ste 220  
Santa Rosa, CA 95403  
Phone: 707-565-6560

Tamar Dyson, Staff Council  
Legal Office  
CIWMB

Yasmin Satter  
Sustainability Program  
Local Assistance and Market Development Division



SIERRA  
CLUB  
FOUNDED 1892

Sonoma Group  
Redwood Chapter  
P.O. Box 466  
Santa Rosa CA 95402  
(707) 544-7651

May 23, 2008

Patrick Carter  
Sonoma County Waste Management Agency  
2300 County Center Drive, Suite B100  
Santa Rosa, CA 95403

**Re: Comments on the Notice of Preparation of Draft Supplemental Program  
Environmental Impact Report**

The Sonoma Group of the Sierra Club appreciates the opportunity to provide these comments to the Sonoma County Waste Management Agency (Agency) as it begins preparation of the 2008 Supplemental Program Environmental Impact Report (SPEIR) for the Amendment to the Sonoma Countywide Integrated Waste Management Plan (CoIWMP).

The USEPA has identified the emission of greenhouse gases, both during the collection and transport and after disposal in landfills, as one of the most significant environmental impacts associated with the management of solid waste.

<http://epa.gov/climatechange/wycd/waste/index.html>

In order to provide the most complete disclosure of the potential environmental impacts of the proposed changes to the Siting Element of the CoIWMP, we believe the following potential Air Quality Impacts should be addressed:


The SPEIR should evaluate the greenhouse gas emissions under each of the three waste disposal options (out-haul by truck, out-haul by rail, or reopen Central Landfill with a private owner). This analysis should include quantification of the greenhouse gas emissions from transport of the waste to landfills at varying distances and with vehicles using conventional fossil fuels and with alternative renewable fuels.

As each disposal option is examined, the analysis should also measure the different greenhouse gas emissions from Sonoma County waste disposed in: (a) landfills without landfill gas control systems, (b) in landfills with landfill gas control systems using flares, and (c) landfills with landfill gas-fueled power plants.

We would also suggest that the analysis of feasible alternatives to the amendments to the Siting Element's waste disposal options include a scenario where Sonoma County recycling rates are maximized (85-90%) before landfill disposal occurs, which can be compared to the current 70% by 2015 CoIWMP recycling goal, in order to quantify any environmental benefits of this alternative that would reduce the quantity of waste requiring disposal in any of the options..

The Sonoma Group of the Sierra Club looks forward to working with the Agency in the preparation of this important report.

Sincerely yours,

  
Nabeel Al-Shamma  
Chair, Sonoma Group Sierra Club



**DEPARTMENT OF TRANSPORTATION**

111 GRAND AVENUE  
P. O. BOX 23660  
OAKLAND, CA 94623-0660  
PHONE (510) 622-5491  
FAX (510) 286-5559  
TTY 711



*Flex your power!  
Be energy efficient!*

May 27, 2008

SON000153  
SON-001-VAR  
SCH # 2008042112

Mr. Patrick Carter  
Sonoma County Waste Management Agency  
2300 County Center Drive, Suite B100  
Santa Rosa, CA 95403

Dear Mr. Carter:

**Amendment to the Sonoma Countywide Integrated Waste Management Plan – Notice of Preparation (NOP) of the Draft Supplemental Program Environmental Impact Report (SPEIR)**

Thank you for including the California Department of Transportation (Department) in the environmental review process for the Amendment to the Sonoma Countywide Integrated Waste Management Plan (CoIWMP). The following comments are based on the Notice of Preparation.

***Landscape Maintenance***

The Department is primarily concerned with impacts of the proposed project to the State Highway System. Please ensure that litter is fully enclosed with appropriate covers during waste transport activities associated with this project to prevent an “inadvertent generation of litter” along State transportation routes. Note that even inadvertent littering is subject to fines enforced by the California Highway Patrol. Please also address the potential need for additional road maintenance caused by increased truck traffic.

***Landscape Architecture***

The Amendment to the Draft SPEIR states that the project will “substantially degrade the existing visual character or quality of the site and its surrounds”. Mitigation Measures 14-1 through 14-4 have been identified to address these visual impacts. Each of these mitigation measures has numerous requirements, including visual simulations of facilities.

The Department would like to review the visual simulations. We are concerned that if new facilities are proposed to be installed adjacent to a Scenic Highway or a roadway with an “eligible for Scenic Highway” designation that degradation of views may occur. If a Scenic Highway or an eligible Scenic Highway is a secondary transportation route to the facility, the Department wishes to see specific trash management plans for that portion of the State Highway System as well.

Please incorporate specific project locations, simulations, and specific trash management plans for individual projects in the Amendment to the Draft SPEIR.

### ***Traffic Impact Study (TIS)***

The SPEIR should include an analysis of the potential impacts of increased truck traffic resulting from the Amendment to the CoIWMP on relevant State highway and freeway facilities in Sonoma County. It should also address the need for dedicated off-street truck parking and/or legal truck parking facilities during non-business hours.

In particular, a TIS should include, but not be limited to the following:

1. Information on truck traffic impacts in terms of trip generation, distribution, and assignment. The assumptions and methodologies used in compiling this information should be addressed.
2. Average Daily Traffic (ADT) and AM and PM peak hour volumes on all significantly affected streets and highways, including crossroads and controlling intersections.
3. Schematic illustration of the traffic conditions for: 1) existing, 2) existing plus project, and 3) cumulative for the intersections in the project area.
4. Calculation of cumulative traffic volumes should consider all traffic-generating developments, both existing and future, that would affect the State Highway facilities being evaluated.
5. All mitigation measures proposed should be fully discussed, including financing, scheduling, implementation responsibilities, and lead agency monitoring.

We encourage the Sonoma County Waste Management Agency to coordinate preparation of the study with our office, and we would appreciate the opportunity to review the scope of work. Please see the Caltrans' *"Guide for the Preparation of Traffic Impact Studies"* at the following website for more information:

<http://www.dot.ca.gov/hq/traffops/developserv/operationalsystems/reports/tisguide.pdf>

We look forward to reviewing the TIS, including Technical Appendices, and environmental document for this project. Please send two copies to the address at the top of this letterhead, marked ATTN: Ina Gerhard, Mail Stop #10D.

### ***Encroachment Permit***

Please be advised that any work or traffic control that encroaches on State Right of Way (ROW) requires an encroachment permit issued by the Department. Further information is available on the following website: <http://www.dot.ca.gov/hq/traffops/developserv//permits/>. To apply, a completed encroachment permit application, environmental documentation, and five (5) sets of plans clearly indicating State ROW must be submitted to the following address:

Mr. Patrick Carter/ Sonoma County Waste Management Agency  
May 27, 2008  
Page 3

Julie Hsu, Office of Permits  
California DOT, District 4  
P.O. Box 23660  
Oakland, CA 94623-0660

Should you have any questions regarding this letter, please call Ina Gerhard of my staff at (510) 286-5737.

Sincerely,

A black rectangular box redacting the signature of Lisa Carboni.

LISA CARBONI  
District Branch Chief  
Local Development - Intergovernmental Review

c: State Clearinghouse



# Appendix D

## Air Quality Calculations



Comparison Table

	Maximum Daily Criteria Pollutant Emissions (lb/day)						Maximum Annual Criteria Pollutant Emissions (tons/year)						GHG Emissions (metric tons/year)		
	ROG	CO	NOx	SOx	PM10	PM2.5	ROG	CO	NOx	SOx	PM10	PM2.5	CO2	CH4	CO2E
<b>2007 Baselines</b>															
Baseline 1 - 2003 ColWMP Conditions	5	42	89	0	3	3	0	4	8	0	0	0	605	0	606
LFG Credit															(417)
Baseline 1 w/ LFG Credit															189
Baseline 2 - Export By Truck	18	156	328	0	12	11	2	15	32	0	1	1	2,501	0	2,503
<b>2010</b>															
Export By Truck	15	117	262	0	10	9	1	12	26	0	1	1	2,626	0	2,628
Increase from Baseline 1	10	74	173	0	7	6	1	8	18	0	1	1	2,021	0	2,439
Increase from Baseline 2	-3	-39	-66	0	-2	-2	(0)	(4)	(6)	0	(0)	(0)	126	(0)	125
Export by Rail - ECDC Landfill (Utah) (BAAQMD)	6	56	134	2	5	4	1	6	15	0	1	0	1,374	0	1,376
Increase from Baseline 1	1	14	45	2	1	1	0	3	8	0	0	0	769	0	1,187
Increase from Baseline 2	-12	-100	-194	2	-8	-7	(1)	(9)	(16)	0	(1)	(1)	(1,127)	(0)	(1,127)
Export by Rail - ECDC Landfill (Utah) (Total)	14	191	532	23	14	13	2	27	77	4	2	2	5,730	1	5,746
Increase from Baseline 1	10	149	443	23	11	10	2	24	70	4	2	2	5,125	1	5,558
Increase from Baseline 2	-3	35	204	23	2	2	0	12	46	4	1	1	3,229	1	3,244
Export by Rail - Columbia Ridge (OR) (BAAQMD)	6	50	118	1	4	4	1	5	13	0	0	0	1,197	0	1,198
Increase from Baseline 1	1	8	29	1	1	1	0	2	5	0	0	0	591	0	1,009
Increase from Baseline 2	-12	-106	-210	1	-8	-7	(1)	(10)	(19)	0	(1)	(1)	(1,304)	(0)	(1,305)
Export by Rail - Columbia Ridge (OR) (Total)	14	181	503	22	14	12	2	26	73	3	2	2	5,413	1	5,428
Increase from Baseline 1	9	139	414	22	10	9	1	22	65	3	2	1	4,808	1	5,240
Increase from Baseline 2	-4	25	175	21	1	2	0	11	41	3	1	1	2,912	1	2,926
Export by Rail - Russel Pass (NV) (BAAQMD)	6	56	134	2	5	4	1	6	15	0	1	0	1,374	0	1,376
Increase from Baseline 1	1	14	45	2	1	1	0	3	8	0	0	0	769	0	1,187
Increase from Baseline 2	-12	-100	-194	2	-8	-7	(1)	(9)	(16)	0	(1)	(1)	(1,127)	(0)	(1,127)
Export by Rail - Russel Pass (NV) (Total)	9	102	271	9	8	7	1	13	37	1	1	1	2,877	0	2,884
Increase from Baseline 1	4	60	182	9	5	4	1	10	29	1	1	1	2,272	0	2,695
Increase from Baseline 2	-9	-54	-57	9	-4	-4	(1)	(2)	5	1	(0)	(0)	376	0	381
With Divestiture	4	32	71	0	3	2	0	3	6	0	0	0	635	0	635
LFG Credit															(417)
Total w/ LFG credit															218
Increase from Baseline 1	-5	-42	-89	0	-3	-3	(0)	(4)	(8)	(0)	(0)	(0)			30
Increase from Baseline 2	-18	-156	-328	0	-12	-11	(2)	(15)	(32)	(0)	(1)	(1)			(2,284)

## Baseline 1 - 2003 ColWMP (2007)

### Emissions Generated based on 2003 ColWMP - 2007

2007

Existing Destination	Annual Tons	Annual Trips	Daily Trips (August)	RT Miles to Central	Max Daily Miles	Annual Miles	ROG			CO			NOx			SOX			PM10			PM2.5		
							EF (g/mile)	Emissions (lbs/day)	(tpy)	EF (g/mile)	Emissions (lbs/day)	(tpy)	EF (g/mile)	Emissions (lbs/day)	(tpy)	EF (g/mile)	Emissions (lbs/day)	(tpy)	EF (g/mile)	Emissions (lbs/day)	(tpy)	EF (g/mile)	Emissions (lbs/day)	(tpy)
<b>From Annapolis to</b>																								
Redwood	309.55	17.00	1.00																					
Potrero	3,931.89	224.00	2.00																					
Vasco	0.00	0.00	0.00																					
Keller	0.00	0.00	0.00																					
Total	4,241.44	241	3	145.8	437.4	35,137.80	0.98	0.94	0.04	8.54	8.24	0.33	17.95	17.31	0.70	0.02	0.01	0.00	0.68	0.65	0.03	0.59	0.57	0.02
<b>From Guerneville to</b>																								
Redwood	1,673.35	85.00	1.00																					
Potrero	12,568.80	617.00	4.00																					
Vasco	1,331.70	61.00	1.00																					
Keller	4,825.44	238.00	1.00																					
Total	20,399.29	1001	7	42.8	299.6	42,842.80	0.98	0.65	0.05	8.54	5.64	0.40	17.95	11.86	0.85	0.02	0.01	0.00	0.68	0.45	0.03	0.59	0.39	0.03
<b>From Sonoma to</b>																								
Redwood	1,515.73	76.00	1.00																					
Potrero	31,684.91	1,501.00	4.00																					
Vasco	6,608.52	297.00	1.00																					
Keller	17,111.39	912.00	7.00																					
Total	56,920.55	2786	13	35.0	455.0	97,510.00	0.98	0.98	0.11	8.54	8.57	0.92	17.95	18.00	1.93	0.02	0.02	0.00	0.68	0.68	0.07	0.59	0.59	0.06
<b>From Healdsburg to</b>																								
Redwood	22,322.08	1,112.00	6.00																					
Potrero	38,702.68	1,894.00	8.00																					
Vasco	3,536.67	161.00	1.00																					
Keller	5,215.94	260.00	2.00																					
Total	69,777.37	3427	17	62.2	1057.4	213,159.40	0.98	2.28	0.23	8.54	19.91	2.01	17.95	41.84	4.22	0.02	0.03	0.00	0.68	1.58	0.16	0.59	1.37	0.14
<b>Divestiture Total</b>								<b>4.85</b>	<b>0.42</b>		<b>42.35</b>	<b>3.66</b>		<b>89.01</b>	<b>7.69</b>		<b>0.07</b>	<b>0.01</b>		<b>3.37</b>	<b>0.29</b>		<b>2.92</b>	<b>0.25</b>



Baseline 1 - 2003 ColWMP (2007)

Emissions Generated based on 2003 ColWMP (Continued ) - 2007

	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
	1,556.99	54.7	0.05	0.00	54.8
	1,556.99	66.7	0.05	0.00	66.8
	1,556.99	151.8	0.05	0.01	151.9
	1,556.99	331.9	0.05	0.01	332.2
Divestiture Total		605.1		0.02	605.61

# Baseline 2 - Export By Truck (2007)

# Emissions Summary

## Total Daily Emissions

Month	Maximum Daily ROG Emissions						Maximum Daily CO Emissions						Maximum Daily NOx Emissions					
	Central	Annapolis	Guerneville	Sonoma	Healdsburg	Total	Central	Annapolis	Guerneville	Sonoma	Healdsburg	Total	Central	Annapolis	Guerneville	Sonoma	Healdsburg	Total
January	6.23	0.94	1.32	2.20	5.32	16.01	54.33	8.23	11.49	19.17	46.43	139.64	114.19	17.29	24.15	40.28	97.58	293.50
February	4.96	0.56	2.19	2.38	4.74	14.82	43.22	4.86	19.08	20.75	41.33	129.24	90.85	10.21	40.10	43.61	86.87	271.64
March	6.15	0.94	2.55	2.38	5.32	17.34	53.63	8.23	22.27	20.75	46.43	151.30	112.72	17.29	46.80	43.61	97.58	318.00
April	6.06	0.94	2.19	2.14	4.74	16.06	52.83	8.23	19.08	18.64	41.33	140.10	111.03	17.29	40.10	39.17	86.87	294.46
May	5.53	0.94	2.55	2.76	4.95	16.74	48.28	8.23	22.27	24.10	43.14	146.02	101.48	17.29	46.80	50.66	90.67	306.90
June	5.62	0.94	2.55	2.35	4.74	16.21	49.06	8.23	22.27	20.49	41.33	141.38	103.11	17.29	46.80	43.06	86.87	297.14
July	5.72	0.56	2.16	2.17	5.63	16.24	49.87	4.86	18.85	18.91	49.14	141.62	104.81	10.21	39.63	39.74	103.28	297.66
August	5.87	1.50	2.53	2.43	5.56	17.89	51.25	13.09	22.04	21.18	48.46	156.02	107.71	27.50	46.32	44.53	101.86	327.92
September	5.34	0.94	2.53	2.37	4.57	15.75	46.55	8.23	22.04	20.68	39.85	137.35	97.83	17.29	46.32	43.46	83.76	288.67
October	5.43	0.94	2.16	2.38	4.97	15.89	47.38	8.23	18.85	20.75	43.37	138.57	99.58	17.29	39.63	43.61	91.15	291.25
November	5.24	0.94	2.16	2.14	4.59	15.08	45.74	8.23	18.85	18.66	40.08	131.56	96.13	17.29	39.63	39.22	84.24	276.51
December	4.29	0.94	1.80	2.11	4.18	13.32	37.41	8.23	15.67	18.40	36.47	116.18	78.64	17.29	32.93	38.68	76.64	244.18

Month	Maximum Daily SOx Emissions						Maximum Daily PM10 Emissions						Maximum Daily PM2.5 Emissions					
	Central	Annapolis	Guerneville	Sonoma	Healdsburg	Total	Central	Annapolis	Guerneville	Sonoma	Healdsburg	Total	Central	Annapolis	Guerneville	Sonoma	Healdsburg	Total
January	0.10	0.01	0.02	0.03	0.08	0.25	4.32	0.65	0.91	1.52	3.69	11.10	3.74	0.57	0.79	1.32	3.20	9.61
February	0.08	0.01	0.03	0.04	0.07	0.23	3.44	0.39	1.52	1.65	3.29	10.28	2.98	0.33	1.31	1.43	2.85	8.90
March	0.09	0.01	0.04	0.04	0.08	0.27	4.26	0.65	1.77	1.65	3.69	12.03	3.69	0.57	1.53	1.43	3.20	10.42
April	0.09	0.01	0.03	0.03	0.07	0.25	4.20	0.65	1.52	1.48	3.29	11.14	3.64	0.57	1.31	1.28	2.85	9.65
May	0.08	0.01	0.04	0.04	0.08	0.26	3.84	0.65	1.77	1.92	3.43	11.61	3.32	0.57	1.53	1.66	2.97	10.05
June	0.09	0.01	0.04	0.04	0.07	0.25	3.90	0.65	1.77	1.63	3.29	11.24	3.38	0.57	1.53	1.41	2.85	9.73
July	0.09	0.01	0.03	0.03	0.09	0.25	3.96	0.39	1.50	1.50	3.91	11.26	3.43	0.33	1.30	1.30	3.38	9.75
August	0.09	0.02	0.04	0.04	0.09	0.27	4.07	1.04	1.75	1.68	3.85	12.40	3.53	0.90	1.52	1.46	3.34	10.74
September	0.08	0.01	0.04	0.04	0.07	0.24	3.70	0.65	1.75	1.64	3.17	10.92	3.20	0.57	1.52	1.42	2.74	9.46
October	0.08	0.01	0.03	0.04	0.08	0.24	3.77	0.65	1.50	1.65	3.45	11.02	3.26	0.57	1.30	1.43	2.99	9.54
November	0.08	0.01	0.03	0.03	0.07	0.23	3.64	0.65	1.50	1.48	3.19	10.46	3.15	0.57	1.30	1.28	2.76	9.06
December	0.07	0.01	0.03	0.03	0.06	0.20	2.97	0.65	1.25	1.46	2.90	9.24	2.58	0.57	1.08	1.27	2.51	8.00

## Summary - Total Emissions from Export by Truck

Transfer Station	Maximum Daily Criteria Pollutant Emissions (lb/day) - August						Maximum Annual Criteria Pollutant Emissions (tons/year)						GHG Emissions (metric tons/year)		
	ROG	CO	NOx	SOx	PM10	PM2.5	ROG	CO	NOx	SOx	PM10	PM2.5	CO2	CH4	CO2e
Central	5.9	51.2	107.7	0.1	4.1	3.5	0.7	5.8	12.2	0.0	0.5	0.4	962.8	0.0	963.6
Annapolis	1.5	13.1	27.5	0.0	1.0	0.9	0.1	0.6	1.2	0.0	0.0	0.0	94.7	0.0	94.8
Guerneville	2.5	22.0	46.3	0.0	1.8	1.5	0.2	1.6	3.3	0.0	0.1	0.1	262.8	0.0	263.0
Sonoma	2.4	21.2	44.5	0.0	1.7	1.5	0.3	2.2	4.7	0.0	0.2	0.2	366.6	0.0	366.9
Healdsburg	5.6	48.5	101.9	0.1	3.9	3.3	0.6	4.9	10.3	0.0	0.4	0.3	813.8	0.0	814.4
Total	17.9	156.0	327.9	0.3	12.4	10.7	1.7	15.1	31.8	0.0	1.2	1.0	2,500.7	0.1	2,502.7

# Export By Truck (2007)

# Annapolis Transfer Station

Emissions Generated From Export From Annapolis Transfer Station (continued) - 2007

2007

To Redwood							Criteria Pollutants																	
							ROG			CO			NOx			SOx			PM10			PM2.5		
							EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)	
Month	Tons / Month	Trips / Month	Ave Tons / Trip	RT Miles	Miles / Month	Miles/Day																		
January	37.34	2	19	179	358	179	0.98	0.39	0.00	8.54	3.37	0.00	17.95	7.08	0.01	0.02	0.01	0.00	0.68	0.27	0.00	0.59	0.23	0.00
February	0.00	0	NA	179	0	0	0.98	0.00	0.00	8.54	0.00	0.00	17.95	0.00	0.00	0.02	0.00	0.00	0.68	0.00	0.00	0.59	0.00	0.00
March	17.46	1	17	179	179	179	0.98	0.39	0.00	8.54	3.37	0.00	17.95	7.08	0.00	0.02	0.01	0.00	0.68	0.27	0.00	0.59	0.23	0.00
April	65.55	4	16	179	716	179	0.98	0.39	0.00	8.54	3.37	0.01	17.95	7.08	0.01	0.02	0.01	0.00	0.68	0.27	0.00	0.59	0.23	0.00
May	20.34	1	20	179	179	179	0.98	0.39	0.00	8.54	3.37	0.00	17.95	7.08	0.00	0.02	0.01	0.00	0.68	0.27	0.00	0.59	0.23	0.00
June	36.36	2	18	179	358	179	0.98	0.39	0.00	8.54	3.37	0.00	17.95	7.08	0.01	0.02	0.01	0.00	0.68	0.27	0.00	0.59	0.23	0.00
July	0.00	0	NA	179	0	0	0.98	0.00	0.00	8.54	0.00	0.00	17.95	0.00	0.00	0.02	0.00	0.00	0.68	0.00	0.00	0.59	0.00	0.00
August	17.97	1	18	179	179	179	0.98	0.39	0.00	8.54	3.37	0.00	17.95	7.08	0.00	0.02	0.01	0.00	0.68	0.27	0.00	0.59	0.23	0.00
September	41.07	2	21	179	358	179	0.98	0.39	0.00	8.54	3.37	0.00	17.95	7.08	0.01	0.02	0.01	0.00	0.68	0.27	0.00	0.59	0.23	0.00
October	18.42	1	18	179	179	179	0.98	0.39	0.00	8.54	3.37	0.00	17.95	7.08	0.00	0.02	0.01	0.00	0.68	0.27	0.00	0.59	0.23	0.00
November	21.27	1	21	179	179	179	0.98	0.39	0.00	8.54	3.37	0.00	17.95	7.08	0.00	0.02	0.01	0.00	0.68	0.27	0.00	0.59	0.23	0.00
December	33.77	2	17	179	358	179	0.98	0.39	0.00	8.54	3.37	0.00	17.95	7.08	0.01	0.02	0.01	0.00	0.68	0.27	0.00	0.59	0.23	0.00

To Potrero							Criteria Pollutants																	
							ROG			CO			NOx			SOx			PM10			PM2.5		
							EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)	
Month	Tons / Month	Trips / Month	Ave Tons / Trip	RT Miles	Miles / Month	Miles/Day	0.98	0.56	0.00	8.54	4.86	0.03	17.95	10.21	0.07	0.02	0.01	0.00	0.68	0.39	0.00	0.59	0.33	0.00
January	252.30	14	18	258	3,612	258	0.98	0.56	0.00	8.54	4.86	0.04	17.95	10.21	0.09	0.02	0.01	0.00	0.68	0.39	0.00	0.59	0.33	0.00
February	304.54	17	18	258	4,386	258	0.98	0.56	0.00	8.54	4.86	0.04	17.95	10.21	0.08	0.02	0.01	0.00	0.68	0.39	0.00	0.59	0.33	0.00
March	268.24	15	18	258	3,870	258	0.98	0.56	0.00	8.54	4.86	0.04	17.95	10.21	0.08	0.02	0.01	0.00	0.68	0.39	0.00	0.59	0.33	0.00
April	347.67	20	17	258	5,160	258	0.98	0.56	0.01	8.54	4.86	0.05	17.95	10.21	0.10	0.02	0.01	0.00	0.68	0.39	0.00	0.59	0.33	0.00
May	341.55	20	17	258	5,160	258	0.98	0.56	0.01	8.54	4.86	0.05	17.95	10.21	0.10	0.02	0.01	0.00	0.68	0.39	0.00	0.59	0.33	0.00
June	325.92	19	17	258	4,902	258	0.98	0.56	0.01	8.54	4.86	0.05	17.95	10.21	0.10	0.02	0.01	0.00	0.68	0.39	0.00	0.59	0.33	0.00
July	389.47	20	19	258	5,160	258	0.98	0.56	0.01	8.54	4.86	0.05	17.95	10.21	0.10	0.02	0.01	0.00	0.68	0.39	0.00	0.59	0.33	0.00
August	424.59	24	18	258	6,192	516	0.98	1.11	0.01	8.54	9.72	0.06	17.95	20.42	0.12	0.02	0.02	0.00	0.68	0.77	0.00	0.59	0.67	0.00
September	352.97	21	17	258	5,418	258	0.98	0.56	0.01	8.54	4.86	0.05	17.95	10.21	0.11	0.02	0.01	0.00	0.68	0.39	0.00	0.59	0.33	0.00
October	375.16	22	17	258	5,676	258	0.98	0.56	0.01	8.54	4.86	0.05	17.95	10.21	0.11	0.02	0.01	0.00	0.68	0.39	0.00	0.59	0.33	0.00
November	278.98	16	17	258	4,128	258	0.98	0.56	0.00	8.54	4.86	0.04	17.95	10.21	0.08	0.02	0.01	0.00	0.68	0.39	0.00	0.59	0.33	0.00
December	270.50	16	17	258	4,128	258	0.98	0.56	0.00	8.54	4.86	0.04	17.95	10.21	0.08	0.02	0.01	0.00	0.68	0.39	0.00	0.59	0.33	0.00

To Vasco							Criteria Pollutants																	
							ROG			CO			NOx			SOx			PM10			PM2.5		
							EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)
Month	Tons / Month	Trips / Month	Ave Tons / Trip	RT Miles	Miles / Month	Miles/Day	0.98	0.00	0.00	8.54	0.00	0.00	17.95	0.00	0.00	0.02	0.00	0.00	0.68	0.00	0.00	0.59	0.00	0.00
January	0.00	0	NA	312.0	0	0	0.98	0.00	0.00	8.54	0.00	0.00	17.95	0.00	0.00	0.02	0.00	0.00	0.68	0.00	0.00	0.59	0.00	0.00
February	0.00	0	NA	312.0	0	0	0.98	0.00	0.00	8.54	0.00	0.00	17.95	0.00	0.00	0.02	0.00	0.00	0.68	0.00	0.00	0.59	0.00	0.00
March	0.00	0	NA	312.0	0	0	0.98	0.00	0.00	8.54	0.00	0.00	17.95	0.00	0.00	0.02	0.00	0.00	0.68	0.00	0.00	0.59	0.00	0.00
April	0.00	0	NA	312.0	0	0	0.98	0.00	0.00	8.54	0.00	0.00	17.95	0.00	0.00	0.02	0.00	0.00	0.68	0.00	0.00	0.59	0.00	0.00
May	0.00	0	NA	312.0	0	0	0.98	0.00	0.00	8.54	0.00	0.00	17.95	0.00	0.00	0.02	0.00	0.00	0.68	0.00	0.00	0.59	0.00	0.00
June	0.00	0	NA	312.0	0	0	0.98	0.00	0.00	8.54	0.00	0.00	17.95	0.00	0.00	0.02	0.00	0.00	0.68	0.00	0.00	0.59	0.00	0.00
July	0.00	0	NA	312.0	0	0	0.98	0.00	0.00	8.54	0.00	0.00	17.95	0.00	0.00	0.02	0.00	0.00	0.68	0.00	0.00	0.59	0.00	0.00
August	0.00	0	NA	312.0	0	0	0.98	0.00	0.00	8.54	0.00	0.00	17.95	0.00	0.00	0.02	0.00	0.00	0.68	0.00	0.00	0.59	0.00	0.00
September	0.00	0	NA	312.0	0	0	0.98	0.00	0.00	8.54	0.00	0.00	17.95	0.00	0.00	0.02	0.00	0.00	0.68	0.00	0.00	0.59	0.00	0.00
October	0.00	0	NA	312.0	0	0	0.98	0.00	0.00	8.54	0.00	0.00	17.95	0.00	0.00	0.02	0.00	0.00	0.68	0.00	0.00	0.59	0.00	0.00
November	0.00	0	NA	312.0	0	0	0.98	0.00	0.00	8.54	0.00	0.00	17.95	0.00	0.00	0.02	0.00	0.00	0.68	0.00	0.00	0.59	0.00	0.00
December	0.00	0	NA	312.0	0	0	0.98	0.00	0.00	8.54	0.00	0.00	17.95	0.00	0.00	0.02	0.00	0.00	0.68	0.00	0.00	0.59	0.00	0.00

To Keller Canyon							Criteria Pollutants																	
Month	Tons / Month	Trips / Month	Ave Tons / Trip	RT Miles	Miles / Month	Miles/Day	ROG			CO			NOx			SOx			PM10			PM2.5		
							EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)
January	0.00	0	NA	270	0	0	0.98	0.00	0.00	8.54	0.00	0.00	17.95	0.00	0.00	0.02	0.00	0.00	0.68	0.00	0.00	0.59	0.00	0.00
February	0.00	0	NA	270	0	0	0.98	0.00	0.00	8.54	0.00	0.00	17.95	0.00	0.00	0.02	0.00	0.00	0.68	0.00	0.00	0.59	0.00	0.00
March	0.00	0	NA	270	0	0	0.98	0.00	0.00	8.54	0.00	0.00	17.95	0.00	0.00	0.02	0.00	0.00	0.68	0.00	0.00	0.59	0.00	0.00
April	0.00	0	NA	270	0	0	0.98	0.00	0.00	8.54	0.00	0.00	17.95	0.00	0.00	0.02	0.00	0.00	0.68	0.00	0.00	0.59	0.00	0.00
May	0.00	0	NA	270	0	0	0.98	0.00	0.00	8.54	0.00	0.00	17.95	0.00	0.00	0.02	0.00	0.00	0.68	0.00	0.00	0.59	0.00	0.00
June	0.00	0	NA	270	0	0	0.98	0.00	0.00	8.54	0.00	0.00	17.95	0.00	0.00	0.02	0.00	0.00	0.68	0.00	0.00	0.59	0.00	0.00
July	0.00	0	NA	270	0	0	0.98	0.00	0.00	8.54	0.00	0.00	17.95	0.00	0.00	0.02	0.00	0.00	0.68	0.00	0.00	0.59	0.00	0.00
August	0.00	0	NA	270	0	0	0.98	0.00	0.00	8.54	0.00	0.00	17.95	0.00	0.00	0.02	0.00	0.00	0.68	0.00	0.00	0.59	0.00	0.00
September	0.00	0	NA	270	0	0	0.98	0.00	0.00	8.54	0.00	0.00	17.95	0.00	0.00	0.02	0.00	0.00	0.68	0.00	0.00	0.59	0.00	0.00
October	0.00	0	NA	270	0	0	0.98	0.00	0.00	8.54	0.00	0.00	17.95	0.00	0.00	0.02	0.00	0.00	0.68	0.00	0.00	0.59	0.00	0.00
November	0.00	0	NA	270	0	0	0.98	0.00	0.00	8.54	0.00	0.00	17.95	0.00	0.00	0.02	0.00	0.00	0.68	0.00	0.00	0.59	0.00	0.00
December	0.00	0	NA	270	0	0	0.98	0.00	0.00	8.54	0.00	0.00	17.95	0.00	0.00	0.02	0.00	0.00	0.68	0.00	0.00	0.59	0.00	0.00

# Export By Truck (2007)

# Annapolis Transfer Station

Emissions Generated From Export From Annapolis Transfer Station (continued) - 2007

To Redwood					
Month	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
January	1,556.99	0.6	0.05	0.00002	0.6
February	1,556.99	0.0	0.05	0.00000	0.0
March	1,556.99	0.3	0.05	0.00001	0.3
April	1,556.99	1.1	0.05	0.00004	1.1
May	1,556.99	0.3	0.05	0.00001	0.3
June	1,556.99	0.6	0.05	0.00002	0.6
July	1,556.99	0.0	0.05	0.00000	0.0
August	1,556.99	0.3	0.05	0.00001	0.3
September	1,556.99	0.6	0.05	0.00002	0.6
October	1,556.99	0.3	0.05	0.00001	0.3
November	1,556.99	0.3	0.05	0.00001	0.3
December	1,556.99	0.6	0.05	0.00002	0.6

To Potrero					
Month	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
January	1,556.99	5.6	0.05	0.00020	5.6
February	1,556.99	6.8	0.05	0.00024	6.8
March	1,556.99	6.0	0.05	0.00021	6.0
April	1,556.99	8.0	0.05	0.00028	8.0
May	1,556.99	8.0	0.05	0.00028	8.0
June	1,556.99	7.6	0.05	0.00026	7.6
July	1,556.99	8.0	0.05	0.00028	8.0
August	1,556.99	9.6	0.05	0.00033	9.6
September	1,556.99	8.4	0.05	0.00029	8.4
October	1,556.99	8.8	0.05	0.00031	8.8
November	1,556.99	6.4	0.05	0.00022	6.4
December	1,556.99	6.4	0.05	0.00022	6.4

To Vasco					
Month	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
January	1,556.99	0.0	0.05	0.00000	0.0
February	1,556.99	0.0	0.05	0.00000	0.0
March	1,556.99	0.0	0.05	0.00000	0.0
April	1,556.99	0.0	0.05	0.00000	0.0
May	1,556.99	0.0	0.05	0.00000	0.0
June	1,556.99	0.0	0.05	0.00000	0.0
July	1,556.99	0.0	0.05	0.00000	0.0
August	1,556.99	0.0	0.05	0.00000	0.0
September	1,556.99	0.0	0.05	0.00000	0.0
October	1,556.99	0.0	0.05	0.00000	0.0
November	1,556.99	0.0	0.05	0.00000	0.0
December	1,556.99	0.0	0.05	0.00000	0.0

To Keller Canyon					
Month	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
January	1,556.99	0.0	0.05	0.00000	0.0
February	1,556.99	0.0	0.05	0.00000	0.0
March	1,556.99	0.0	0.05	0.00000	0.0
April	1,556.99	0.0	0.05	0.00000	0.0
May	1,556.99	0.0	0.05	0.00000	0.0
June	1,556.99	0.0	0.05	0.00000	0.0
July	1,556.99	0.0	0.05	0.00000	0.0
August	1,556.99	0.0	0.05	0.00000	0.0
September	1,556.99	0.0	0.05	0.00000	0.0
October	1,556.99	0.0	0.05	0.00000	0.0
November	1,556.99	0.0	0.05	0.00000	0.0
December	1,556.99	0.0	0.05	0.00000	0.0

# Export By Truck (2007)

# Annapolis Transfer Station

Emissions Generated From Export From Annapolis Transfer Station (continued) - 2007

## Daily Summary

Month	Maximum Daily ROG Emissions (lb/day)						Maximum Daily CO Emissions (lb/day)						Maximum Daily NOx Emissions (lb/day)						Maximum Daily SOx Emissions (lb/day)				
	Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total
January	0.39	0.56	0.00	0.00	0.94		3.37	4.86	0.00	0.00	8.23		7.08	10.21	0.00	0.00	17.29		0.01	0.01	0.00	0.00	0.01
February	0.00	0.56	0.00	0.00	0.56		0.00	4.86	0.00	0.00	4.86		0.00	10.21	0.00	0.00	10.21		0.00	0.01	0.00	0.00	0.01
March	0.39	0.56	0.00	0.00	0.94		3.37	4.86	0.00	0.00	8.23		7.08	10.21	0.00	0.00	17.29		0.01	0.01	0.00	0.00	0.01
April	0.39	0.56	0.00	0.00	0.94		3.37	4.86	0.00	0.00	8.23		7.08	10.21	0.00	0.00	17.29		0.01	0.01	0.00	0.00	0.01
May	0.39	0.56	0.00	0.00	0.94		3.37	4.86	0.00	0.00	8.23		7.08	10.21	0.00	0.00	17.29		0.01	0.01	0.00	0.00	0.01
June	0.39	0.56	0.00	0.00	0.94		3.37	4.86	0.00	0.00	8.23		7.08	10.21	0.00	0.00	17.29		0.01	0.01	0.00	0.00	0.01
July	0.00	0.56	0.00	0.00	0.56		0.00	4.86	0.00	0.00	4.86		0.00	10.21	0.00	0.00	10.21		0.00	0.01	0.00	0.00	0.01
August	0.39	1.11	0.00	0.00	1.50		3.37	9.72	0.00	0.00	13.09		7.08	20.42	0.00	0.00	27.50		0.01	0.02	0.00	0.00	0.02
September	0.39	0.56	0.00	0.00	0.94		3.37	4.86	0.00	0.00	8.23		7.08	10.21	0.00	0.00	17.29		0.01	0.01	0.00	0.00	0.01
October	0.39	0.56	0.00	0.00	0.94		3.37	4.86	0.00	0.00	8.23		7.08	10.21	0.00	0.00	17.29		0.01	0.01	0.00	0.00	0.01
November	0.39	0.56	0.00	0.00	0.94		3.37	4.86	0.00	0.00	8.23		7.08	10.21	0.00	0.00	17.29		0.01	0.01	0.00	0.00	0.01
December	0.39	0.56	0.00	0.00	0.94		3.37	4.86	0.00	0.00	8.23		7.08	10.21	0.00	0.00	17.29		0.01	0.01	0.00	0.00	0.01

## Daily Summary

Month	Maximum Daily PM10 Emissions (lb/day)						Maximum Daily PM2.5 Emissions (lb/day)				
	Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total
January	0.27	0.39	0.00	0.00	0.65		0.23	0.33	0.00	0.00	0.57
February	0.00	0.39	0.00	0.00	0.39		0.00	0.33	0.00	0.00	0.33
March	0.27	0.39	0.00	0.00	0.65		0.23	0.33	0.00	0.00	0.57
April	0.27	0.39	0.00	0.00	0.65		0.23	0.33	0.00	0.00	0.57
May	0.27	0.39	0.00	0.00	0.65		0.23	0.33	0.00	0.00	0.57
June	0.27	0.39	0.00	0.00	0.65		0.23	0.33	0.00	0.00	0.57
July	0.00	0.39	0.00	0.00	0.39		0.00	0.33	0.00	0.00	0.33
August	0.27	0.77	0.00	0.00	1.04		0.23	0.67	0.00	0.00	0.90
September	0.27	0.39	0.00	0.00	0.65		0.23	0.33	0.00	0.00	0.57
October	0.27	0.39	0.00	0.00	0.65		0.23	0.33	0.00	0.00	0.57
November	0.27	0.39	0.00	0.00	0.65		0.23	0.33	0.00	0.00	0.57
December	0.27	0.39	0.00	0.00	0.65		0.23	0.33	0.00	0.00	0.57

## Annual Summary

Destination	Maximum Annual Criteria Pollutant Emissions (tons/year)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Redwood	0.00	0.03	0.06	0.00	0.00	0.00
Potrero	0.06	0.54	1.14	0.00	0.04	0.04
Vasco Road	0.00	0.00	0.00	0.00	0.00	0.00
Keller Canyon	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>0.07</b>	<b>0.57</b>	<b>1.20</b>	<b>0.00</b>	<b>0.05</b>	<b>0.04</b>

GHG Emissions (metric tons/yr)		
CO2	CH4	CO2E
4.74	0.00	4.74
89.98	0.00	90.05
0.00	0.00	0.00
0.00	0.00	0.00
<b>94.72</b>	<b>0.00</b>	<b>94.80</b>

# Export By Truck (2007)

# Central Transfer Station

Emissions Generated From Export From Central Transfer Station (continued) - 2007

2007

To Redwood							Criteria Pollutants																	
							ROG			CO			NOx			SOx			PM10			PM2.5		
							EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)	
Month	Tons / Month	Trips / Month	Ave Tons / Trip	RT Miles	Miles / Month	Miles/Day																		
January	3,890.85	211	18	42.8	9,031	428	0.98	0.92	0.01	8.54	8.06	0.09	17.95	16.94	0.18	0.02	0.01	0.00	0.68	0.64	0.01	0.59	0.55	0.01
February	4,142.07	214	19	42.8	9,159	428	0.98	0.92	0.01	8.54	8.06	0.09	17.95	16.94	0.18	0.02	0.01	0.00	0.68	0.64	0.01	0.59	0.55	0.01
March	4,437.75	232	19	42.8	9,930	471	0.98	1.02	0.01	8.54	8.86	0.09	17.95	18.63	0.20	0.02	0.02	0.00	0.68	0.70	0.01	0.59	0.61	0.01
April	4,115.26	213	19	42.8	9,116	428	0.98	0.92	0.01	8.54	8.06	0.09	17.95	16.94	0.18	0.02	0.01	0.00	0.68	0.64	0.01	0.59	0.55	0.01
May	4,548.79	227	20	42.8	9,716	471	0.98	1.02	0.01	8.54	8.86	0.09	17.95	18.63	0.19	0.02	0.02	0.00	0.68	0.70	0.01	0.59	0.61	0.01
June	4,560.81	228	20	42.8	9,758	471	0.98	1.02	0.01	8.54	8.86	0.09	17.95	18.63	0.19	0.02	0.02	0.00	0.68	0.70	0.01	0.59	0.61	0.01
July	4,817.52	260	19	42.8	11,128	514	0.98	1.11	0.01	8.54	9.67	0.10	17.95	20.32	0.22	0.02	0.02	0.00	0.68	0.77	0.01	0.59	0.67	0.01
August	5,565.26	289	19	42.8	12,369	599	0.98	1.29	0.01	8.54	11.28	0.12	17.95	23.71	0.24	0.02	0.02	0.00	0.68	0.90	0.01	0.59	0.78	0.01
September	4,480.15	236	19	42.8	10,101	471	0.98	1.02	0.01	8.54	8.86	0.10	17.95	18.63	0.20	0.02	0.02	0.00	0.68	0.70	0.01	0.59	0.61	0.01
October	5,060.60	272	19	42.8	11,642	556	0.98	1.20	0.01	8.54	10.48	0.11	17.95	22.02	0.23	0.02	0.02	0.00	0.68	0.83	0.01	0.59	0.72	0.01
November	4,161.05	217	19	42.8	9,288	428	0.98	0.92	0.01	8.54	8.06	0.09	17.95	16.94	0.18	0.02	0.01	0.00	0.68	0.64	0.01	0.59	0.55	0.01
December	4,532.23	219	21	42.8	9,373	428	0.98	0.92	0.01	8.54	8.06	0.09	17.95	16.94	0.19	0.02	0.01	0.00	0.68	0.64	0.01	0.59	0.55	0.01

To Potrero							Criteria Pollutants																	
							ROG			CO			NOx			SOx			PM10			PM2.5		
							EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)	
Month	Tons / Month	Trips / Month	Ave Tons / Trip	RT Miles	Miles / Month	Miles/Day	0.98	2.62	0.03	8.54	22.86	0.23	17.95	48.04	0.49	0.02	0.04	0.00	0.68	1.82	0.02	0.59	1.57	0.02
January	4,362.69	204	21	121.4	24,766	1,214	0.98	2.62	0.03	8.54	22.86	0.23	17.95	48.04	0.49	0.02	0.04	0.00	0.68	1.82	0.02	0.59	1.57	0.02
February	2,756.73	134	21	121.4	16,268	850	0.98	1.83	0.02	8.54	16.00	0.15	17.95	33.63	0.32	0.02	0.03	0.00	0.68	1.27	0.01	0.59	1.10	0.01
March	3,790.18	180	21	121.4	21,852	1,093	0.98	2.36	0.02	8.54	20.57	0.21	17.95	43.24	0.43	0.02	0.04	0.00	0.68	1.64	0.02	0.59	1.42	0.01
April	3,830.01	180	21	121.4	21,852	1,093	0.98	2.36	0.02	8.54	20.57	0.21	17.95	43.24	0.43	0.02	0.04	0.00	0.68	1.64	0.02	0.59	1.42	0.01
May	3,260.83	152	21	121.4	18,453	850	0.98	1.83	0.02	8.54	16.00	0.17	17.95	33.63	0.37	0.02	0.03	0.00	0.68	1.27	0.01	0.59	1.10	0.01
June	3,197.45	149	21	121.4	18,089	850	0.98	1.83	0.02	8.54	16.00	0.17	17.95	33.63	0.36	0.02	0.03	0.00	0.68	1.27	0.01	0.59	1.10	0.01
July	3,108.23	144	22	121.4	17,482	850	0.98	1.83	0.02	8.54	16.00	0.16	17.95	33.63	0.35	0.02	0.03	0.00	0.68	1.27	0.01	0.59	1.10	0.01
August	3,636.73	169	22	121.4	20,517	971	0.98	2.10	0.02	8.54	18.29	0.19	17.95	38.43	0.41	0.02	0.03	0.00	0.68	1.45	0.02	0.59	1.26	0.01
September	2,891.98	137	21	121.4	16,632	850	0.98	1.83	0.02	8.54	16.00	0.16	17.95	33.63	0.33	0.02	0.03	0.00	0.68	1.27	0.01	0.59	1.10	0.01
October	2,806.06	133	21	121.4	16,146	850	0.98	1.83	0.02	8.54	16.00	0.15	17.95	33.63	0.32	0.02	0.03	0.00	0.68	1.27	0.01	0.59	1.10	0.01
November	3,149.62	149	21	121.4	18,089	850	0.98	1.83	0.02	8.54	16.00	0.17	17.95	33.63	0.36	0.02	0.03	0.00	0.68	1.27	0.01	0.59	1.10	0.01
December	2,775.14	133	21	121.4	16,146	850	0.98	1.83	0.02	8.54	16.00	0.15	17.95	33.63	0.32	0.02	0.03	0.00	0.68	1.27	0.01	0.59	1.10	0.01

To Vasco							Criteria Pollutants																	
							ROG			CO			NOx			SOx			PM10			PM2.5		
							EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)
Month	Tons / Month	Trips / Month	Ave Tons / Trip	RT Miles	Miles / Month	Miles/Day	0.98	0.38	0.00	8.54	3.29	0.03	17.95	6.92	0.07	0.02	0.01	0.00	0.68	0.26	0.00	0.59	0.23	0.00
January	423.34	19	22	175.0	3,325	175	0.98	0.38	0.00	8.54	3.29	0.03	17.95	6.92	0.07	0.02	0.01	0.00	0.68	0.26	0.00	0.59	0.23	0.00
February	687.72	32	21	175.0	5,600	350	0.98	0.76	0.01	8.54	6.59	0.05	17.95	13.85	0.11	0.02	0.01	0.00	0.68	0.52	0.00	0.59	0.45	0.00
March	854.12	38	22	175.0	6,650	350	0.98	0.76	0.01	8.54	6.59	0.06	17.95	13.85	0.13	0.02	0.01	0.00	0.68	0.52	0.00	0.59	0.45	0.00
April	803.56	37	22	175.0	6,475	350	0.98	0.76	0.01	8.54	6.59	0.06	17.95	13.85	0.13	0.02	0.01	0.00	0.68	0.52	0.00	0.59	0.45	0.00
May	462.75	21	22	175.0	3,675	175	0.98	0.38	0.00	8.54	3.29	0.03	17.95	6.92	0.07	0.02	0.01	0.00	0.68	0.26	0.00	0.59	0.23	0.00
June	884.57	40	22	175.0	7,000	350	0.98	0.76	0.01	8.54	6.59	0.07	17.95	13.85	0.14	0.02	0.01	0.00	0.68	0.52	0.01	0.59	0.45	0.00
July	679.50	30	23	175.0	5,250	350	0.98	0.76	0.01	8.54	6.59	0.05	17.95	13.85	0.10	0.02	0.01	0.00	0.68	0.52	0.00	0.59	0.45	0.00
August	779.11	35	22	175.0	6,125	350	0.98	0.76	0.01	8.54	6.59	0.06	17.95	13.85	0.12	0.02	0.01	0.00	0.68	0.52	0.00	0.59	0.45	0.00
September	598.11	27	22	175.0	4,725	350	0.98	0.76	0.01	8.54	6.59	0.04	17.95	13.85	0.09	0.02	0.01	0.00	0.68	0.52	0.00	0.59	0.45	0.00
October	448.47	20	22	175.0	3,500	175	0.98	0.38	0.00	8.54	3.29	0.03	17.95	6.92	0.07	0.02	0.01	0.00	0.68	0.26	0.00	0.59	0.23	0.00
November	549.35	25	22	175.0	4,375	350	0.98	0.76	0.00	8.54	6.59	0.04	17.95	13.85	0.09	0.02	0.01	0.00	0.68	0.52	0.00	0.59	0.45	0.00
December	269.88	12	22	175.0	2,100	175	0.98	0.38	0.00	8.54	3.29	0.02	17.95	6.92	0.04	0.02	0.01	0.00	0.68	0.26	0.00	0.59	0.23	0.00

To Keller Canyon							Criteria Pollutants																	
							ROG			CO			NOx			SOx			PM10			PM2.5		
							EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)	
Month	Tons / Month	Trips / Month	Ave Tons / Trip	RT Miles	Miles / Month	Miles/Day	0.98	2.31	0.03	8.54	20.12	0.22	17.95	42.29	0.47	0.02	0.04	0.00	0.68	1.60	0.02	0.59	1.39	0.02
January	3,542.18	176	20	133.6	23,514	1,069	0.98	2.31	0.03	8.54	20.12	0.22	17.95	42.29	0.47	0.02	0.04	0.00	0.68	1.60	0.02	0.59	1.39	0.02
February	2,048.02	103	20	133.6	13,761	668	0.98	1.44	0.01	8.54	12.58	0.13	17.95	26.43	0.27	0.02	0.02	0.00	0.68	1.00	0.01	0.59	0.87	0.01
March	2,942.64	147	20	133.6	19,639	935	0.98	2.02	0.02	8.54	17.61	0.18	17.95	37.01	0.39	0.02	0.03	0.00	0.68	1.40	0.01	0.59	1.21	0.01
April	2,715.39	136	20	133.6	18,170	935	0.98	2.02	0.02	8.54	17.61	0.17	17.95	37.01	0.36	0.02	0.03	0.00	0.68	1.40	0.01	0.59	1.21	0.01
May	3,315.55	164	20	133.6	21,910	1,069	0.98	2.31	0.02	8.54	20.12	0.21	17.95	42.29	0.43	0.02	0.04	0.00	0.68	1.60	0.02	0.59	1.39	0.01
June	2,809.55	146	19	133.6	19,506	935	0.98	2.02	0.02	8.54	17.61	0.18	17.95	37.01	0.39	0.02	0.03	0.00	0.68	1.40	0.01	0.59	1.21	0.01
July	2,614.83	134	20	133.6	17,902	935	0.98	2.02	0.02	8.54	17.61	0.17	17.95	37.01	0.35	0.02	0.03	0.00	0.68	1.40	0.01	0.59	1.21	0.01
August	2,337.00	118	20	133.6	15,765	802	0.98	1.73	0.02	8.54	15.09	0.15	17.95	31.72	0.31	0.02	0.03	0.00	0.68	1.20	0.01	0.59	1.04	0.01
September	2,270.51	114	20	133.6	15,230	802	0.98	1.73	0.02	8.54	15.09	0.14	17.95	31.72	0.30	0.02	0.03	0.00	0.68	1.20	0.01	0.59	1.04	0.01
October	3,041.17	154	20	133.6	20,574	935	0.98	2.02	0.02	8.54	17.61	0.19	17.95	37.01	0.41	0.02	0.03	0.00	0.68	1.40	0.02	0.59	1.21	0.01
November	2,538.18	129	20	133.6	17,234	802	0.98	1.73	0.02	8.54	15.09	0.16	17.95	31.72	0.34	0.02	0.03	0.00	0.68	1.20	0.01	0.59	1.04	0.01
December	1,413.74	71	20	133.6	9,486	534	0.98	1.15	0.01	8.54	10.06	0.09	17.95	21.15	0.19	0.02	0.02	0.00	0.68	0.80	0.01	0.59	0.69	0.01

# Export By Truck (2007)

# Central Transfer Station

Emissions Generated From Export From Central Transfer Station (continued) - 2007

To Redwood	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
Month					
January	1,556.99	14.1	0.05	0.00049	14.1
February	1,556.99	14.3	0.05	0.00049	14.3
March	1,556.99	15.5	0.05	0.00054	15.5
April	1,556.99	14.2	0.05	0.00049	14.2
May	1,556.99	15.1	0.05	0.00052	15.1
June	1,556.99	15.2	0.05	0.00053	15.2
July	1,556.99	17.3	0.05	0.00060	17.3
August	1,556.99	19.3	0.05	0.00067	19.3
September	1,556.99	15.7	0.05	0.00055	15.7
October	1,556.99	18.1	0.05	0.00063	18.1
November	1,556.99	14.5	0.05	0.00050	14.5
December	1,556.99	14.6	0.05	0.00051	14.6

To Potrero	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
Month					
January	1,556.99	38.6	0.05	0.00134	38.6
February	1,556.99	25.3	0.05	0.00088	25.3
March	1,556.99	34.0	0.05	0.00118	34.1
April	1,556.99	34.0	0.05	0.00118	34.1
May	1,556.99	28.7	0.05	0.00100	28.8
June	1,556.99	28.2	0.05	0.00098	28.2
July	1,556.99	27.2	0.05	0.00094	27.2
August	1,556.99	31.9	0.05	0.00111	32.0
September	1,556.99	25.9	0.05	0.00090	25.9
October	1,556.99	25.1	0.05	0.00087	25.2
November	1,556.99	28.2	0.05	0.00098	28.2
December	1,556.99	25.1	0.05	0.00087	25.2

To Vasco	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
Month					
January	1,556.99	5.2	0.05	0.00018	5.2
February	1,556.99	8.7	0.05	0.00030	8.7
March	1,556.99	10.4	0.05	0.00036	10.4
April	1,556.99	10.1	0.05	0.00035	10.1
May	1,556.99	5.7	0.05	0.00020	5.7
June	1,556.99	10.9	0.05	0.00038	10.9
July	1,556.99	8.2	0.05	0.00028	8.2
August	1,556.99	9.5	0.05	0.00033	9.5
September	1,556.99	7.4	0.05	0.00026	7.4
October	1,556.99	5.4	0.05	0.00019	5.5
November	1,556.99	6.8	0.05	0.00024	6.8
December	1,556.99	3.3	0.05	0.00011	3.3

To Keller Canyon	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
Month					
January	1,556.99	36.6	0.05	0.00127	36.6
February	1,556.99	21.4	0.05	0.00074	21.4
March	1,556.99	30.6	0.05	0.00106	30.6
April	1,556.99	28.3	0.05	0.00098	28.3
May	1,556.99	34.1	0.05	0.00118	34.1
June	1,556.99	30.4	0.05	0.00105	30.4
July	1,556.99	27.9	0.05	0.00097	27.9
August	1,556.99	24.5	0.05	0.00085	24.6
September	1,556.99	23.7	0.05	0.00082	23.7
October	1,556.99	32.0	0.05	0.00111	32.1
November	1,556.99	26.8	0.05	0.00093	26.9
December	1,556.99	14.8	0.05	0.00051	14.8

# Export By Truck (2007)

# Central Transfer Station

## Emissions Generated From Export From Central Transfer Station (continued) - 2007

### Daily Summary

Month	Maximum Daily ROG Emissions (lb/day)						Maximum Daily CO Emissions (lb/day)						Maximum Daily NOx Emissions (lb/day)						Maximum Daily SOx Emissions (lb/day)				
	Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total
January	0.92	2.62	0.38	2.31	6.23		8.06	22.86	3.29	20.12	54.33		16.94	48.04	6.92	42.29	114.19		0.01	0.04	0.01	0.04	0.10
February	0.92	1.83	0.76	1.44	4.96		8.06	16.00	6.59	12.58	43.22		16.94	33.63	13.85	26.43	90.85		0.01	0.03	0.01	0.02	0.08
March	1.02	2.36	0.76	2.02	6.15		8.86	20.57	6.59	17.61	53.63		18.63	43.24	13.85	37.01	112.72		0.02	0.04	0.01	0.03	0.09
April	0.92	2.36	0.76	2.02	6.06		8.06	20.57	6.59	17.61	52.83		16.94	43.24	13.85	37.01	111.03		0.01	0.04	0.01	0.03	0.09
May	1.02	1.83	0.38	2.31	5.53		8.86	16.00	3.29	20.12	48.28		18.63	33.63	6.92	42.29	101.48		0.02	0.03	0.01	0.04	0.08
June	1.02	1.83	0.76	2.02	5.62		8.86	16.00	6.59	17.61	49.06		18.63	33.63	13.85	37.01	103.11		0.02	0.03	0.01	0.03	0.09
July	1.11	1.83	0.76	2.02	5.72		9.67	16.00	6.59	17.61	49.87		20.32	33.63	13.85	37.01	104.81		0.02	0.03	0.01	0.03	0.09
August	1.29	2.10	0.76	1.73	5.87		11.28	18.29	6.59	15.09	51.25		23.71	38.43	13.85	31.72	107.71		0.02	0.03	0.01	0.03	0.09
September	1.02	1.83	0.76	1.73	5.34		8.86	16.00	6.59	15.09	46.55		18.63	33.63	13.85	31.72	97.83		0.02	0.03	0.01	0.03	0.08
October	1.20	1.83	0.38	2.02	5.43		10.48	16.00	3.29	17.61	47.38		22.02	33.63	6.92	37.01	99.58		0.02	0.03	0.01	0.03	0.08
November	0.92	1.83	0.76	1.73	5.24		8.06	16.00	6.59	15.09	45.74		16.94	33.63	13.85	31.72	96.13		0.01	0.03	0.01	0.03	0.08
December	0.92	1.83	0.38	1.15	4.29		8.06	16.00	3.29	10.06	37.41		16.94	33.63	6.92	21.15	78.64		0.01	0.03	0.01	0.02	0.07

### Daily Summary (continued)

Month	Maximum Daily PM10 Emissions (lb/day)						Maximum Daily PM2.5 Emissions (lb/day)				
	Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total
January	0.64	1.82	0.26	1.60	4.32		0.55	1.57	0.23	1.39	3.74
February	0.64	1.27	0.52	1.00	3.44		0.55	1.10	0.45	0.87	2.98
March	0.70	1.64	0.52	1.40	4.26		0.61	1.42	0.45	1.21	3.69
April	0.64	1.64	0.52	1.40	4.20		0.55	1.42	0.45	1.21	3.64
May	0.70	1.27	0.26	1.60	3.84		0.61	1.10	0.23	1.39	3.32
June	0.70	1.27	0.52	1.40	3.90		0.61	1.10	0.45	1.21	3.38
July	0.77	1.27	0.52	1.40	3.96		0.67	1.10	0.45	1.21	3.43
August	0.90	1.45	0.52	1.20	4.07		0.78	1.26	0.45	1.04	3.53
September	0.70	1.27	0.52	1.20	3.70		0.61	1.10	0.45	1.04	3.20
October	0.83	1.27	0.26	1.40	3.77		0.72	1.10	0.23	1.21	3.26
November	0.64	1.27	0.52	1.20	3.64		0.55	1.10	0.45	1.04	3.15
December	0.64	1.27	0.26	0.80	2.97		0.55	1.10	0.23	0.69	2.58

### Annual Summary

Destination	Maximum Annual Criteria Pollutant Emissions (tons/year)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Redwood	0.13	1.14	2.39	0.00	0.09	0.08
Potrero	0.24	2.13	4.48	0.00	0.17	0.15
Vasco Road	0.06	0.55	1.16	0.00	0.04	0.04
Keller Canyon	0.23	2.00	4.21	0.00	0.16	0.14
<b>Total</b>	<b>0.67</b>	<b>5.82</b>	<b>12.24</b>	<b>0.01</b>	<b>0.46</b>	<b>0.40</b>

GHG Emissions (metric tons/yr)		
CO2	CH4	CO2e
187.79	0.01	187.94
352.33	0.01	352.61
91.55	0.00	91.62
331.16	0.01	331.42
<b>962.83</b>	<b>0.03</b>	<b>963.60</b>



## Export By Truck (2007)

## Guerneville Transfer Station

Emissions Generated From Export From Guerneville Transfer Station (continued)- 2007

To Redwood	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
Month					
January	1,556.99	0.8	0.05	0.00003	0.8
February	1,556.99	0.6	0.05	0.00002	0.6
March	1,556.99	1.1	0.05	0.00004	1.1
April	1,556.99	1.3	0.05	0.00004	1.3
May	1,556.99	1.0	0.05	0.00003	1.0
June	1,556.99	2.4	0.05	0.00008	2.4
July	1,556.99	0.7	0.05	0.00002	0.7
August	1,556.99	0.6	0.05	0.00002	0.6
September	1,556.99	0.4	0.05	0.00001	0.4
October	1,556.99	1.4	0.05	0.00005	1.4
November	1,556.99	0.7	0.05	0.00002	0.7
December	1,556.99	1.0	0.05	0.00003	1.0

To Potrero	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
Month					
January	1,556.99	9.2	0.05	0.00032	9.2
February	1,556.99	8.7	0.05	0.00030	8.7
March	1,556.99	11.9	0.05	0.00041	11.9
April	1,556.99	11.6	0.05	0.00040	11.6
May	1,556.99	14.5	0.05	0.00050	14.5
June	1,556.99	12.4	0.05	0.00043	12.4
July	1,556.99	16.6	0.05	0.00058	16.6
August	1,556.99	20.0	0.05	0.00069	20.0
September	1,556.99	18.7	0.05	0.00065	18.7
October	1,556.99	15.5	0.05	0.00054	15.6
November	1,556.99	12.4	0.05	0.00043	12.4
December	1,556.99	11.1	0.05	0.00038	11.1

To Vasco	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
Month					
January	1,556.99	0.0	0.05	0.00000	0.0
February	1,556.99	1.7	0.05	0.00006	1.7
March	1,556.99	1.7	0.05	0.00006	1.7
April	1,556.99	2.8	0.05	0.00010	2.8
May	1,556.99	2.8	0.05	0.00010	2.8
June	1,556.99	2.1	0.05	0.00007	2.1
July	1,556.99	3.8	0.05	0.00013	3.8
August	1,556.99	1.0	0.05	0.00004	1.0
September	1,556.99	1.0	0.05	0.00004	1.0
October	1,556.99	1.4	0.05	0.00005	1.4
November	1,556.99	1.0	0.05	0.00004	1.0
December	1,556.99	1.7	0.05	0.00006	1.7

To Keller Canyon	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
Month					
January	1,556.99	4.8	0.05	0.00017	4.8
February	1,556.99	7.9	0.05	0.00027	7.9
March	1,556.99	10.2	0.05	0.00035	10.2
April	1,556.99	7.9	0.05	0.00027	7.9
May	1,556.99	6.8	0.05	0.00023	6.8
June	1,556.99	8.5	0.05	0.00029	8.5
July	1,556.99	4.2	0.05	0.00015	4.2
August	1,556.99	3.4	0.05	0.00012	3.4
September	1,556.99	5.1	0.05	0.00018	5.1
October	1,556.99	2.5	0.05	0.00009	2.5
November	1,556.99	4.5	0.05	0.00016	4.5
December	1,556.99	1.4	0.05	0.00005	1.4

# Export By Truck (2007)

# Guerneville Transfer Station

Emissions Generated From Export From Guerneville Transfer Station (continued)- 2007

2007

To Redwood							Criteria Pollutants																	
Month	Tons / Month	Trips / Month	Ave Tons / Trip	RT Miles	Miles / Month	Miles/Day	ROG			CO			NOx			SOx			PM10			PM2.5		
							EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	(lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)
January	124.20	6	21	90.6	544	91	0.98	0.20	0.00	8.54	1.71	0.01	17.95	3.59	0.01	0.02	0.00	0.00	0.68	0.14	0.00	0.59	0.12	0.00
February	78.84	4	20	90.6	362	91	0.98	0.20	0.00	8.54	1.71	0.00	17.95	3.59	0.01	0.02	0.00	0.00	0.68	0.14	0.00	0.59	0.12	0.00
March	158.25	8	20	90.6	725	91	0.98	0.20	0.00	8.54	1.71	0.01	17.95	3.59	0.01	0.02	0.00	0.00	0.68	0.14	0.00	0.59	0.12	0.00
April	185.66	9	21	90.6	815	91	0.98	0.20	0.00	8.54	1.71	0.01	17.95	3.59	0.02	0.02	0.00	0.00	0.68	0.14	0.00	0.59	0.12	0.00
May	110.22	7	16	90.6	634	91	0.98	0.20	0.00	8.54	1.71	0.01	17.95	3.59	0.01	0.02	0.00	0.00	0.68	0.14	0.00	0.59	0.12	0.00
June	330.69	17	19	90.6	1,540	91	0.98	0.20	0.00	8.54	1.71	0.01	17.95	3.59	0.03	0.02	0.00	0.00	0.68	0.14	0.00	0.59	0.12	0.00
July	103.82	5	21	90.6	453	91	0.98	0.20	0.00	8.54	1.71	0.00	17.95	3.59	0.01	0.02	0.00	0.00	0.68	0.14	0.00	0.59	0.12	0.00
August	82.05	4	21	90.6	362	91	0.98	0.20	0.00	8.54	1.71	0.00	17.95	3.59	0.01	0.02	0.00	0.00	0.68	0.14	0.00	0.59	0.12	0.00
September	55.36	3	18	90.6	272	91	0.98	0.20	0.00	8.54	1.71	0.00	17.95	3.59	0.01	0.02	0.00	0.00	0.68	0.14	0.00	0.59	0.12	0.00
October	191.43	10	19	90.6	906	91	0.98	0.20	0.00	8.54	1.71	0.01	17.95	3.59	0.02	0.02	0.00	0.00	0.68	0.14	0.00	0.59	0.12	0.00
November	96.55	5	19	90.6	453	91	0.98	0.20	0.00	8.54	1.71	0.00	17.95	3.59	0.01	0.02	0.00	0.00	0.68	0.14	0.00	0.59	0.12	0.00
December	156.28	7	22	90.6	634	91	0.98	0.20	0.00	8.54	1.71	0.01	17.95	3.59	0.01	0.02	0.00	0.00	0.68	0.14	0.00	0.59	0.12	0.00

To Potrero							Criteria Pollutants																	
Month	Tons / Month	Trips / Month	Ave Tons / Trip	RT Miles	Miles / Month	Miles/Day	ROG			CO			NOx			SOx			PM10			PM2.5		
							EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)
January	696.62	35	20	169.2	5,922	338	0.98	0.73	0.01	8.54	6.37	0.06	17.95	13.39	0.12	0.02	0.01	0.00	0.68	0.51	0.00	0.59	0.44	0.00
February	648.24	33	20	169.2	5,584	338	0.98	0.73	0.01	8.54	6.37	0.05	17.95	13.39	0.11	0.02	0.01	0.00	0.68	0.51	0.00	0.59	0.44	0.00
March	882.92	45	20	169.2	7,614	508	0.98	1.10	0.01	8.54	9.56	0.07	17.95	20.09	0.15	0.02	0.02	0.00	0.68	0.76	0.01	0.59	0.66	0.00
April	888.95	44	20	169.2	7,445	338	0.98	0.73	0.01	8.54	6.37	0.07	17.95	13.39	0.15	0.02	0.01	0.00	0.68	0.51	0.01	0.59	0.44	0.00
May	1,074.03	55	20	169.2	9,306	508	0.98	1.10	0.01	8.54	9.56	0.09	17.95	20.09	0.18	0.02	0.02	0.00	0.68	0.76	0.01	0.59	0.66	0.01
June	891.62	47	19	169.2	7,952	508	0.98	1.10	0.01	8.54	9.56	0.07	17.95	20.09	0.16	0.02	0.02	0.00	0.68	0.76	0.01	0.59	0.66	0.01
July	1,378.45	63	22	169.2	10,660	508	0.98	1.10	0.01	8.54	9.56	0.10	17.95	20.09	0.21	0.02	0.02	0.00	0.68	0.76	0.01	0.59	0.66	0.01
August	1,686.40	76	22	169.2	12,859	677	0.98	1.46	0.01	8.54	12.74	0.12	17.95	26.78	0.25	0.02	0.02	0.00	0.68	1.01	0.01	0.59	0.88	0.01
September	1,285.07	71	18	169.2	12,013	677	0.98	1.46	0.01	8.54	12.74	0.11	17.95	26.78	0.24	0.02	0.02	0.00	0.68	1.01	0.01	0.59	0.88	0.01
October	1,200.13	59	20	169.2	9,983	508	0.98	1.10	0.01	8.54	9.56	0.09	17.95	20.09	0.20	0.02	0.02	0.00	0.68	0.76	0.01	0.59	0.66	0.01
November	1,037.74	47	22	169.2	7,952	508	0.98	1.10	0.01	8.54	9.56	0.07	17.95	20.09	0.16	0.02	0.02	0.00	0.68	0.76	0.01	0.59	0.66	0.01
December	898.63	42	21	169.2	7,106	338	0.98	0.73	0.01	8.54	6.37	0.07	17.95	13.39	0.14	0.02	0.01	0.00	0.68	0.51	0.01	0.59	0.44	0.00

To Vasco							Criteria Pollutants																	
Month	Tons / Month	Trips / Month	Ave Tons / Trip	RT Miles	Miles / Month	Miles/Day	ROG			CO			NOx			SOx			PM10			PM2.5		
							EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	(lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	(lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)
January	0.00	0	NA	222.0	0	0	0.98	0.00	0.00	8.54	0.00	0.00	17.95	0.00	0.00	0.02	0.00	0.00	0.68	0.00	0.00	0.59	0.00	0.00
February	104.22	5	21	222.0	1,110	222	0.98	0.48	0.00	8.54	4.18	0.01	17.95	8.78	0.02	0.02	0.01	0.00	0.68	0.33	0.00	0.59	0.29	0.00
March	107.54	5	22	222.0	1,110	222	0.98	0.48	0.00	8.54	4.18	0.01	17.95	8.78	0.02	0.02	0.01	0.00	0.68	0.33	0.00	0.59	0.29	0.00
April	171.79	8	21	222.0	1,776	222	0.98	0.48	0.00	8.54	4.18	0.02	17.95	8.78	0.04	0.02	0.01	0.00	0.68	0.33	0.00	0.59	0.29	0.00
May	180.28	8	23	222.0	1,776	222	0.98	0.48	0.00	8.54	4.18	0.02	17.95	8.78	0.04	0.02	0.01	0.00	0.68	0.33	0.00	0.59	0.29	0.00
June	133.74	6	22	222.0	1,332	222	0.98	0.48	0.00	8.54	4.18	0.01	17.95	8.78	0.03	0.02	0.01	0.00	0.68	0.33	0.00	0.59	0.29	0.00
July	245.83	11	22	222.0	2,442	222	0.98	0.48	0.00	8.54	4.18	0.02	17.95	8.78	0.05	0.02	0.01	0.00	0.68	0.33	0.00	0.59	0.29	0.00
August	66.96	3	22	222.0	666	222	0.98	0.48	0.00	8.54	4.18	0.01	17.95	8.78	0.01	0.02	0.01	0.00	0.68	0.33	0.00	0.59	0.29	0.00
September	60.66	3	20	222.0	666	222	0.98	0.48	0.00	8.54	4.18	0.01	17.95	8.78	0.01	0.02	0.01	0.00	0.68	0.33	0.00	0.59	0.29	0.00
October	80.48	4	20	222.0	888	222	0.98	0.48	0.00	8.54	4.18	0.01	17.95	8.78	0.02	0.02	0.01	0.00	0.68	0.33	0.00	0.59	0.29	0.00
November	68.32	3	23	222.0	666	222	0.98	0.48	0.00	8.54	4.18	0.01	17.95	8.78	0.01	0.02	0.01	0.00	0.68	0.33	0.00	0.59	0.29	0.00
December	111.88	5	22	222.0	1,110	222	0.98	0.48	0.00	8.54	4.18	0.01	17.95	8.78	0.02	0.02	0.01	0.00	0.68	0.33	0.00	0.59	0.29	0.00

To Keller Canyon							Criteria Pollutants																	
Month	Tons / Month	Trips / Month	Ave Tons / Trip	RT Miles	Miles / Month	Miles/Day	ROG			CO			NOx			SOx			PM10			PM2.5		
							EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)	
January	347.80	17	20	181.2	3,080	181	0.98	0.39	0.00	8.54	3.41	0.03	17.95	7.17	0.06	0.02	0.01	0.00	0.68	0.27	0.00	0.59	0.23	0.00
February	559.80	28	20	181.2	5,074	362	0.98	0.78	0.01	8.54	6.82	0.05	17.95	14.34	0.10	0.02	0.01	0.00	0.68	0.54	0.00	0.59	0.47	0.00
March	726.82	36	20	181.2	6,523	362	0.98	0.78	0.01	8.54	6.82	0.06	17.95	14.34	0.13	0.02	0.01	0.00	0.68	0.54	0.00	0.59	0.47	0.00
April	570.17	28	20	181.2	5,074	362	0.98	0.78	0.01	8.54	6.82	0.05	17.95	14.34	0.10	0.02	0.01	0.00	0.68	0.54	0.00	0.59	0.47	0.00
May	501.49	24	21	181.2	4,349	362	0.98	0.78	0.00	8.54	6.82	0.04	17.95	14.34	0.09	0.02	0.01	0.00	0.68	0.54	0.00	0.59	0.47	0.00
June	589.27	30	20	181.2	5,436	362	0.98	0.78	0.01	8.54	6.82	0.05	17.95	14.34	0.11	0.02	0.01	0.00	0.68	0.54	0.00	0.59	0.47	0.00
July	318.60	15	21	181.2	2,718	181	0.98	0.39	0.00	8.54	3.41	0.03	17.95	7.17	0.05	0.02	0.01	0.00	0.68	0.27	0.00	0.59	0.23	0.00
August	258.90	12	22	181.2	2,174	181	0.98	0.39	0.00	8.54	3.41	0.02	17.95	7.17	0.04	0.02	0.01	0.00	0.68	0.27	0.00	0.59	0.23	0.00
September	331.11	18	18	181.2	3,262	181	0.98	0.39	0.00	8.54	3.41	0.03	17.95	7.17	0.06	0.02	0.01	0.00	0.68	0.27	0.00	0.59	0.23	0.00
October	167.19	9	19	181.2	1,631	181	0.98	0.39	0.00	8.54	3.41	0.02	17.95	7.17	0.03	0.02	0.01	0.00	0.68	0.27	0.00	0.59	0.23	0.00
November	346.88	16	22	181.2	2,899	181	0.98	0.39	0.00	8.54	3.41	0.03	17.95	7.17	0.06	0.02	0.01	0.00	0.68	0.27	0.00	0.59	0.23	0.00
December	107.41	5	21	181.2	906	181	0.98	0.39	0.00	8.54	3.41	0.01	17.95	7.17	0.02	0.02	0.01	0.00	0.68	0.27	0.00	0.59	0.23	0.00

# Export By Truck (2007)

# Guerneville Transfer Station

Emissions Generated From Export From Guerneville Transfer Station (continued) - 2007

## Daily Summary

Month	Maximum Daily ROG Emissions (lb/day)						Maximum Daily CO Emissions (lb/day)						Maximum Daily NOx Emissions (lb/day)						Maximum Daily SOx Emissions (lb/day)				
	Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total
January	0.20	0.73	0.00	0.39	1.32		1.71	6.37	0.00	3.41	11.49		3.59	13.39	0.00	7.17	24.15		0.00	0.01	0.00	0.01	0.02
February	0.20	0.73	0.48	0.78	2.19		1.71	6.37	4.18	6.82	19.08		3.59	13.39	8.78	14.34	40.10		0.00	0.01	0.01	0.01	0.03
March	0.20	1.10	0.48	0.78	2.55		1.71	9.56	4.18	6.82	22.27		3.59	20.09	8.78	14.34	46.80		0.00	0.02	0.01	0.01	0.04
April	0.20	0.73	0.48	0.78	2.19		1.71	6.37	4.18	6.82	19.08		3.59	13.39	8.78	14.34	40.10		0.00	0.01	0.01	0.01	0.03
May	0.20	1.10	0.48	0.78	2.55		1.71	9.56	4.18	6.82	22.27		3.59	20.09	8.78	14.34	46.80		0.00	0.02	0.01	0.01	0.04
June	0.20	1.10	0.48	0.78	2.55		1.71	9.56	4.18	6.82	22.27		3.59	20.09	8.78	14.34	46.80		0.00	0.02	0.01	0.01	0.04
July	0.20	1.10	0.48	0.39	2.16		1.71	9.56	4.18	3.41	18.85		3.59	20.09	8.78	7.17	39.63		0.00	0.02	0.01	0.01	0.03
August	0.20	1.46	0.48	0.39	2.53		1.71	12.74	4.18	3.41	22.04		3.59	26.78	8.78	7.17	46.32		0.00	0.02	0.01	0.01	0.04
September	0.20	1.46	0.48	0.39	2.53		1.71	12.74	4.18	3.41	22.04		3.59	26.78	8.78	7.17	46.32		0.00	0.02	0.01	0.01	0.04
October	0.20	1.10	0.48	0.39	2.16		1.71	9.56	4.18	3.41	18.85		3.59	20.09	8.78	7.17	39.63		0.00	0.02	0.01	0.01	0.03
November	0.20	1.10	0.48	0.39	2.16		1.71	9.56	4.18	3.41	18.85		3.59	20.09	8.78	7.17	39.63		0.00	0.02	0.01	0.01	0.03
December	0.20	0.73	0.48	0.39	1.80		1.71	6.37	4.18	3.41	15.67		3.59	13.39	8.78	7.17	32.93		0.00	0.01	0.01	0.01	0.03

## Daily Summary (continued)

Month	Maximum Daily PM10 Emissions (lb/day)						Maximum Daily PM2.5 Emissions (lb/day)				
	Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total
January	0.14	0.51	0.00	0.27	0.91		0.12	0.44	0.00	0.23	0.79
February	0.14	0.51	0.33	0.54	1.52		0.12	0.44	0.29	0.47	1.31
March	0.14	0.76	0.33	0.54	1.77		0.12	0.66	0.29	0.47	1.53
April	0.14	0.51	0.33	0.54	1.52		0.12	0.44	0.29	0.47	1.31
May	0.14	0.76	0.33	0.54	1.77		0.12	0.66	0.29	0.47	1.53
June	0.14	0.76	0.33	0.54	1.77		0.12	0.66	0.29	0.47	1.53
July	0.14	0.76	0.33	0.27	1.50		0.12	0.66	0.29	0.23	1.30
August	0.14	1.01	0.33	0.27	1.75		0.12	0.88	0.29	0.23	1.52
September	0.14	1.01	0.33	0.27	1.75		0.12	0.88	0.29	0.23	1.52
October	0.14	0.76	0.33	0.27	1.50		0.12	0.66	0.29	0.23	1.30
November	0.14	0.76	0.33	0.27	1.50		0.12	0.66	0.29	0.23	1.30
December	0.14	0.51	0.33	0.27	1.25		0.12	0.44	0.29	0.23	1.08

## Annual Summary

Destination	Maximum Annual Criteria Pollutant Emissions (tons/year)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Redwood	0.01	0.07	0.15	0.00	0.01	0.00
Potrero	0.11	0.98	2.07	0.00	0.08	0.07
Vasco Road	0.01	0.13	0.27	0.00	0.01	0.01
Keller Canyon	0.05	0.41	0.85	0.00	0.03	0.03
<b>Total</b>	<b>0.18</b>	<b>1.59</b>	<b>3.34</b>	<b>0.00</b>	<b>0.13</b>	<b>0.11</b>

GHG Emissions (metric tons/yr)		
CO2	CH4	CO2e
11.99	0.00	12.00
162.54	0.01	162.67
21.08	0.00	21.10
67.15	0.00	67.20
<b>262.77</b>	<b>0.01</b>	<b>262.98</b>

## Export By Truck (2007)

## Healdsburg Transfer Station

Emissions Generated From Export From Healdsburg Transfer Station - 2007 (continued)

2007

To Redwood							Criteria Pollutants																	
Month	Tons / Month	Trips / Month	Ave Tons / Trip	RT Miles	Miles / Month	Miles/Day	ROG			CO			NOx			SOx			PM10			PM2.5		
							EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)
January	2,050.56	107	19	96	10,272	480	0.98	1.04	0.01	8.54	9.04	0.10	17.95	18.99	0.20	0.02	0.02	0.00	0.68	0.72	0.01	0.59	0.62	0.01
February	1,559.65	78	20	96	7,488	384	0.98	0.83	0.01	8.54	7.23	0.07	17.95	15.20	0.15	0.02	0.01	0.00	0.68	0.57	0.01	0.59	0.50	0.00
March	1,824.34	96	19	96	9,216	480	0.98	1.04	0.01	8.54	9.04	0.09	17.95	18.99	0.18	0.02	0.02	0.00	0.68	0.72	0.01	0.59	0.62	0.01
April	1,809.97	88	21	96	8,448	384	0.98	0.83	0.01	8.54	7.23	0.08	17.95	15.20	0.17	0.02	0.01	0.00	0.68	0.57	0.01	0.59	0.50	0.01
May	2,025.70	94	22	96	9,024	480	0.98	1.04	0.01	8.54	9.04	0.08	17.95	18.99	0.18	0.02	0.02	0.00	0.68	0.72	0.01	0.59	0.62	0.01
June	1,576.86	75	21	96	7,200	384	0.98	0.83	0.01	8.54	7.23	0.07	17.95	15.20	0.14	0.02	0.01	0.00	0.68	0.57	0.01	0.59	0.50	0.00
July	1,569.78	77	20	96	7,392	384	0.98	0.83	0.01	8.54	7.23	0.07	17.95	15.20	0.15	0.02	0.01	0.00	0.68	0.57	0.01	0.59	0.50	0.00
August	2,218.17	115	19	96	11,040	576	0.98	1.24	0.01	8.54	10.84	0.10	17.95	22.79	0.22	0.02	0.02	0.00	0.68	0.86	0.01	0.59	0.75	0.01
September	2,025.47	108	19	96	10,368	480	0.98	1.04	0.01	8.54	9.04	0.10	17.95	18.99	0.21	0.02	0.02	0.00	0.68	0.72	0.01	0.59	0.62	0.01
October	2,200.59	110	20	96	10,560	480	0.98	1.04	0.01	8.54	9.04	0.10	17.95	18.99	0.21	0.02	0.02	0.00	0.68	0.72	0.01	0.59	0.62	0.01
November	2,057.04	98	21	96	9,408	480	0.98	1.04	0.01	8.54	9.04	0.09	17.95	18.99	0.19	0.02	0.02	0.00	0.68	0.72	0.01	0.59	0.62	0.01
December	1,403.95	66	21	96	6,336	288	0.98	0.62	0.01	8.54	5.42	0.06	17.95	11.40	0.13	0.02	0.01	0.00	0.68	0.43	0.00	0.59	0.37	0.00

To Potrero							Criteria Pollutants																	
Month	Tons / Month	Trips / Month	Ave Tons / Trip	RT Miles	Miles / Month	Miles/Day	ROG			CO			NOx			SOx			PM10			PM2.5		
							EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)
January	3,569.91	177	20	174.6	30,904	1,571	0.98	3.39	0.03	8.54	29.59	0.29	17.95	62.18	0.61	0.02	0.05	0.00	0.68	2.35	0.02	0.59	2.04	0.02
February	3,400.28	168	20	174.6	29,333	1,397	0.98	3.01	0.03	8.54	26.30	0.28	17.95	55.27	0.58	0.02	0.05	0.00	0.68	2.09	0.02	0.59	1.81	0.02
March	3,782.82	189	20	174.6	32,999	1,571	0.98	3.39	0.04	8.54	29.59	0.31	17.95	62.18	0.65	0.02	0.05	0.00	0.68	2.35	0.02	0.59	2.04	0.02
April	3,426.79	168	20	174.6	29,333	1,397	0.98	3.01	0.03	8.54	26.30	0.28	17.95	55.27	0.58	0.02	0.05	0.00	0.68	2.09	0.02	0.59	1.81	0.02
May	3,676.02	174	21	174.6	30,380	1,397	0.98	3.01	0.03	8.54	26.30	0.29	17.95	55.27	0.60	0.02	0.05	0.00	0.68	2.09	0.02	0.59	1.81	0.02
June	3,470.79	168	21	174.6	29,333	1,397	0.98	3.01	0.03	8.54	26.30	0.28	17.95	55.27	0.58	0.02	0.05	0.00	0.68	2.09	0.02	0.59	1.81	0.02
July	3,292.28	159	21	174.6	27,761	1,397	0.98	3.01	0.03	8.54	26.30	0.26	17.95	55.27	0.55	0.02	0.05	0.00	0.68	2.09	0.02	0.59	1.81	0.02
August	3,208.07	156	21	174.6	27,238	1,397	0.98	3.01	0.03	8.54	26.30	0.26	17.95	55.27	0.54	0.02	0.05	0.00	0.68	2.09	0.02	0.59	1.81	0.02
September	2,728.97	134	20	174.6	23,396	1,222	0.98	2.64	0.03	8.54	23.01	0.22	17.95	48.36	0.46	0.02	0.04	0.00	0.68	1.83	0.02	0.59	1.58	0.02
October	3,105.99	154	20	174.6	26,888	1,222	0.98	2.64	0.03	8.54	23.01	0.25	17.95	48.36	0.53	0.02	0.04	0.00	0.68	1.83	0.02	0.59	1.58	0.02
November	2,526.28	124	20	174.6	21,650	1,048	0.98	2.26	0.02	8.54	19.72	0.20	17.95	41.45	0.43	0.02	0.03	0.00	0.68	1.57	0.02	0.59	1.36	0.01
December	2,514.48	123	20	174.6	21,476	1,048	0.98	2.26	0.02	8.54	19.72	0.20	17.95	41.45	0.42	0.02	0.03	0.00	0.68	1.57	0.02	0.59	1.36	0.01

To Vasco							Criteria Pollutants																	
Month	Tons / Month	Trips / Month	Ave Tons / Trip	RT Miles	Miles / Month	Miles/Day	ROG			CO			NOx			SOx			PM10			PM2.5		
							EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)
January	67.85	3	23	228.0	684	228	0.98	0.49	0.00	8.54	4.29	0.01	17.95	9.02	0.01	0.02	0.01	0.00	0.68	0.34	0.00	0.59	0.30	0.00
February	197.52	13	15	228.0	2,964	228	0.98	0.49	0.00	8.54	4.29	0.03	17.95	9.02	0.06	0.02	0.01	0.00	0.68	0.34	0.00	0.59	0.30	0.00
March	388.75	18	22	228.0	4,104	228	0.98	0.49	0.00	8.54	4.29	0.04	17.95	9.02	0.08	0.02	0.01	0.00	0.68	0.34	0.00	0.59	0.30	0.00
April	224.83	11	20	228.0	2,508	228	0.98	0.49	0.00	8.54	4.29	0.02	17.95	9.02	0.05	0.02	0.01	0.00	0.68	0.34	0.00	0.59	0.30	0.00
May	385.34	17	23	228.0	3,876	228	0.98	0.49	0.00	8.54	4.29	0.04	17.95	9.02	0.08	0.02	0.01	0.00	0.68	0.34	0.00	0.59	0.30	0.00
June	382.66	17	23	228.0	3,876	228	0.98	0.49	0.00	8.54	4.29	0.04	17.95	9.02	0.08	0.02	0.01	0.00	0.68	0.34	0.00	0.59	0.30	0.00
July	798.81	34	23	228.0	7,752	456	0.98	0.98	0.01	8.54	8.59	0.07	17.95	18.04	0.15	0.02	0.02	0.00	0.68	0.68	0.01	0.59	0.59	0.01
August	398.54	17	23	228.0	3,876	228	0.98	0.49	0.00	8.54	4.29	0.04	17.95	9.02	0.08	0.02	0.01	0.00	0.68	0.34	0.00	0.59	0.30	0.00
September	286.06	13	22	228.0	2,964	228	0.98	0.49	0.00	8.54	4.29	0.03	17.95	9.02	0.06	0.02	0.01	0.00	0.68	0.34	0.00	0.59	0.30	0.00
October	182.26	8	23	228.0	1,824	228	0.98	0.49	0.00	8.54	4.29	0.02	17.95	9.02	0.04	0.02	0.01	0.00	0.68	0.34	0.00	0.59	0.30	0.00
November	110.52	5	22	228.0	1,140	228	0.98	0.49	0.00	8.54	4.29	0.01	17.95	9.02	0.02	0.02	0.01	0.00	0.68	0.34	0.00	0.59	0.30	0.00
December	113.53	5	23	228.0	1,140	228	0.98	0.49	0.00	8.54	4.29	0.01	17.95	9.02	0.02	0.02	0.01	0.00	0.68	0.34	0.00	0.59	0.30	0.00

To Keller Canyon							Criteria Pollutants																	
Month	Tons / Month	Trips / Month	Ave Tons / Trip	RT Miles	Miles / Month	Miles/Day	ROG			CO			NOx			SOx			PM10			PM2.5		
							EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)
January	278.87	14	20	186.6	2,612	187	0.98	0.40	0.00	8.54	3.51	0.02	17.95	7.38	0.05	0.02	0.01	0.00	0.68	0.28	0.00	0.59	0.24	0.00
February	177.80	9	20	186.6	1,679	187	0.98	0.40	0.00	8.54	3.51	0.02	17.95	7.38	0.03	0.02	0.01	0.00	0.68	0.28	0.00	0.59	0.24	0.00
March	245.34	12	20	186.6	2,239	187	0.98	0.40	0.00	8.54	3.51	0.02	17.95	7.38	0.04	0.02	0.01	0.00	0.68	0.28	0.00	0.59	0.24	0.00
April	234.66	12	20	186.6	2,239	187	0.98	0.40	0.00	8.54	3.51	0.02	17.95	7.38	0.04	0.02	0.01	0.00	0.68	0.28	0.00	0.59	0.24	0.00
May	57.86	3	19	186.6	560	187	0.98	0.40	0.00	8.54	3.51	0.01	17.95	7.38	0.01	0.02	0.01	0.00	0.68	0.28	0.00	0.59	0.24	0.00
June	397.64	21	19	186.6	3,919	187	0.98	0.40	0.00	8.54	3.51	0.04	17.95	7.38	0.08	0.02	0.01	0.00	0.68	0.28	0.00	0.59	0.24	0.00
July	535.64	27	20	186.6	5,038	373	0.98	0.81	0.01	8.54	7.03	0.05	17.95	14.77	0.10	0.02	0.01	0.00	0.68	0.56	0.00	0.59	0.48	0.00
August	609.09	30	20	186.6	5,598	373	0.98	0.81	0.01	8.54	7.03	0.05	17.95	14.77	0.11	0.02	0.01	0.00	0.68	0.56	0.00	0.59	0.48	0.00
September	409.99	21	20	186.6	3,919	187	0.98	0.40	0.00	8.54	3.51	0.04	17.95	7.38	0.08	0.02	0.01	0.00	0.68	0.28	0.00	0.59	0.24	0.00
October	564.29	28	20	186.6	5,225	373	0.98	0.81	0.01	8.54	7.03	0.05	17.95	14.77	0.10	0.02	0.01	0.00	0.68	0.56	0.00	0.59	0.48	0.00
November	864.73	42	21	186.6	7,837	373	0.98	0.81	0.01	8.54	7.03	0.07	17.95	14.77	0.16	0.02	0.01	0.00	0.68	0.56	0.01	0.59	0.48	0.01
December	840.03	41	20	186.6	7,651	373	0.98	0.81	0.01	8.54	7.03	0.07	17.95	14.77	0.15	0.02	0.01	0.00	0.68	0.56	0.01	0.59	0.48	0.00

## Export By Truck (2007)

## Healdsburg Transfer Station

Emissions Generated From Export From Healdsburg Transfer Station - 2007 (continued)

To Redwood					
Month	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
January	1,556.99	16.0	0.05	0.00055	16.0
February	1,556.99	11.7	0.05	0.00040	11.7
March	1,556.99	14.3	0.05	0.00050	14.4
April	1,556.99	13.2	0.05	0.00046	13.2
May	1,556.99	14.1	0.05	0.00049	14.1
June	1,556.99	11.2	0.05	0.00039	11.2
July	1,556.99	11.5	0.05	0.00040	11.5
August	1,556.99	17.2	0.05	0.00060	17.2
September	1,556.99	16.1	0.05	0.00056	16.2
October	1,556.99	16.4	0.05	0.00057	16.5
November	1,556.99	14.6	0.05	0.00051	14.7
December	1,556.99	9.9	0.05	0.00034	9.9

To Potrero					
Month	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
January	1,556.99	48.1	0.05	0.00167	48.2
February	1,556.99	45.7	0.05	0.00158	45.7
March	1,556.99	51.4	0.05	0.00178	51.4
April	1,556.99	45.7	0.05	0.00158	45.7
May	1,556.99	47.3	0.05	0.00164	47.3
June	1,556.99	45.7	0.05	0.00158	45.7
July	1,556.99	43.2	0.05	0.00150	43.3
August	1,556.99	42.4	0.05	0.00147	42.4
September	1,556.99	36.4	0.05	0.00126	36.5
October	1,556.99	41.9	0.05	0.00145	41.9
November	1,556.99	33.7	0.05	0.00117	33.7
December	1,556.99	33.4	0.05	0.00116	33.5

To Vasco					
Month	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
January	1,556.99	1.1	0.05	0.00004	1.1
February	1,556.99	4.6	0.05	0.00016	4.6
March	1,556.99	6.4	0.05	0.00022	6.4
April	1,556.99	3.9	0.05	0.00014	3.9
May	1,556.99	6.0	0.05	0.00021	6.0
June	1,556.99	6.0	0.05	0.00021	6.0
July	1,556.99	12.1	0.05	0.00042	12.1
August	1,556.99	6.0	0.05	0.00021	6.0
September	1,556.99	4.6	0.05	0.00016	4.6
October	1,556.99	2.8	0.05	0.00010	2.8
November	1,556.99	1.8	0.05	0.00006	1.8
December	1,556.99	1.8	0.05	0.00006	1.8

To Keller Canyon					
Month	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
January	1,556.99	4.1	0.05	0.00014	4.1
February	1,556.99	2.6	0.05	0.00009	2.6
March	1,556.99	3.5	0.05	0.00012	3.5
April	1,556.99	3.5	0.05	0.00012	3.5
May	1,556.99	0.9	0.05	0.00003	0.9
June	1,556.99	6.1	0.05	0.00021	6.1
July	1,556.99	7.8	0.05	0.00027	7.9
August	1,556.99	8.7	0.05	0.00030	8.7
September	1,556.99	6.1	0.05	0.00021	6.1
October	1,556.99	8.1	0.05	0.00028	8.1
November	1,556.99	12.2	0.05	0.00042	12.2
December	1,556.99	11.9	0.05	0.00041	11.9

# Export By Truck (2007)

# Healdsburg Transfer Station

Emissions Generated From Export From Healdsburg Transfer Station - 2007 (continued)

## Daily Summary

Month	Maximum Daily ROG Emissions (lb/day)						Maximum Daily CO Emissions (lb/day)						Maximum Daily NOx Emissions (lb/day)						Maximum Daily SOx Emissions (lb/day)				
	Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total
January	1.04	3.39	0.49	0.40	5.32		9.04	29.59	4.29	3.51	46.43		18.99	62.18	9.02	7.38	97.58		0.02	0.05	0.01	0.01	0.08
February	0.83	3.01	0.49	0.40	4.74		7.23	26.30	4.29	3.51	41.33		15.20	55.27	9.02	7.38	86.87		0.01	0.05	0.01	0.01	0.07
March	1.04	3.39	0.49	0.40	5.32		9.04	29.59	4.29	3.51	46.43		18.99	62.18	9.02	7.38	97.58		0.02	0.05	0.01	0.01	0.08
April	0.83	3.01	0.49	0.40	4.74		7.23	26.30	4.29	3.51	41.33		15.20	55.27	9.02	7.38	86.87		0.01	0.05	0.01	0.01	0.07
May	1.04	3.01	0.49	0.40	4.95		9.04	26.30	4.29	3.51	43.14		18.99	55.27	9.02	7.38	90.67		0.02	0.05	0.01	0.01	0.08
June	0.83	3.01	0.49	0.40	4.74		7.23	26.30	4.29	3.51	41.33		15.20	55.27	9.02	7.38	86.87		0.01	0.05	0.01	0.01	0.07
July	0.83	3.01	0.98	0.81	5.63		7.23	26.30	8.59	7.03	49.14		15.20	55.27	18.04	14.77	103.28		0.01	0.05	0.02	0.01	0.09
August	1.24	3.01	0.49	0.81	5.56		10.84	26.30	4.29	7.03	48.46		22.79	55.27	9.02	14.77	101.86		0.02	0.05	0.01	0.01	0.09
September	1.04	2.64	0.49	0.40	4.57		9.04	23.01	4.29	3.51	39.85		18.99	48.36	9.02	7.38	83.76		0.02	0.04	0.01	0.01	0.07
October	1.04	2.64	0.49	0.81	4.97		9.04	23.01	4.29	7.03	43.37		18.99	48.36	9.02	14.77	91.15		0.02	0.04	0.01	0.01	0.08
November	1.04	2.26	0.49	0.81	4.59		9.04	19.72	4.29	7.03	40.08		18.99	41.45	9.02	14.77	84.24		0.02	0.03	0.01	0.01	0.07
December	0.62	2.26	0.49	0.81	4.18		5.42	19.72	4.29	7.03	36.47		11.40	41.45	9.02	14.77	76.64		0.01	0.03	0.01	0.01	0.06

## Daily Summary (continued)

Month	Maximum Daily PM10 Emissions (lb/day)						Maximum Daily PM2.5 Emissions (lb/day)				
	Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total
January	0.72	2.35	0.34	0.28	3.69		0.62	2.04	0.30	0.24	3.20
February	0.57	2.09	0.34	0.28	3.29		0.50	1.81	0.30	0.24	2.85
March	0.72	2.35	0.34	0.28	3.69		0.62	2.04	0.30	0.24	3.20
April	0.57	2.09	0.34	0.28	3.29		0.50	1.81	0.30	0.24	2.85
May	0.72	2.09	0.34	0.28	3.43		0.62	1.81	0.30	0.24	2.97
June	0.57	2.09	0.34	0.28	3.29		0.50	1.81	0.30	0.24	2.85
July	0.57	2.09	0.68	0.56	3.91		0.50	1.81	0.59	0.48	3.38
August	0.86	2.09	0.34	0.56	3.85		0.75	1.81	0.30	0.48	3.34
September	0.72	1.83	0.34	0.28	3.17		0.62	1.58	0.30	0.24	2.74
October	0.72	1.83	0.34	0.56	3.45		0.62	1.58	0.30	0.48	2.99
November	0.72	1.57	0.34	0.56	3.19		0.62	1.36	0.30	0.48	2.76
December	0.43	1.57	0.34	0.56	2.90		0.37	1.36	0.30	0.48	2.51

## Annual Summary

Destination	Maximum Annual Criteria Pollutant Emissions (tons/year)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Redwood	0.12	1.00	2.11	0.00	0.08	0.07
Potrero	0.36	3.11	6.54	0.01	0.25	0.21
Vasco Road	0.04	0.35	0.73	0.00	0.03	0.02
Keller Canyon	0.05	0.46	0.96	0.00	0.04	0.03
<b>Total</b>	<b>0.56</b>	<b>4.92</b>	<b>10.34</b>	<b>0.01</b>	<b>0.39</b>	<b>0.34</b>

GHG Emissions (metric tons/yr)		
CO2	CH4	CO2e
166.21	0.01	166.35
514.89	0.02	515.30
57.15	0.00	57.20
75.54	0.00	75.60
<b>813.79</b>	<b>0.03</b>	<b>814.44</b>

## Export By Truck (2007)

## Sonoma Transfer Station

Emissions Generated From Export From Sonoma Transfer Station - 2007 (continued)

2007

To Redwood							Criteria Pollutants																	
Month	Tons / Month	Trips / Month	Ave Tons / Trip	RT Miles	Miles / Month	Miles/Day	ROG			CO			NOx			SOx			PM10			PM2.5		
							EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)	
January	44.37	2	22	44.8	90	45	0.98	0.10	0.00	8.54	0.84	0.00	17.95	1.77	0.00	0.02	0.00	0.00	0.68	0.07	0.00	0.59	0.06	0.00
February	22.32	1	22	44.8	45	45	0.98	0.10	0.00	8.54	0.84	0.00	17.95	1.77	0.00	0.02	0.00	0.00	0.68	0.07	0.00	0.59	0.06	0.00
March	22.25	1	22	44.8	45	45	0.98	0.10	0.00	8.54	0.84	0.00	17.95	1.77	0.00	0.02	0.00	0.00	0.68	0.07	0.00	0.59	0.06	0.00
April	0.00	0	NA	44.8	0	0	0.98	0.00	0.00	8.54	0.00	0.00	17.95	0.00	0.00	0.02	0.00	0.00	0.68	0.00	0.00	0.59	0.00	0.00
May	41.53	4	10	44.8	179	45	0.98	0.10	0.00	8.54	0.84	0.00	17.95	1.77	0.00	0.02	0.00	0.00	0.68	0.07	0.00	0.59	0.06	0.00
June	20.04	1	20	44.8	45	45	0.98	0.10	0.00	8.54	0.84	0.00	17.95	1.77	0.00	0.02	0.00	0.00	0.68	0.07	0.00	0.59	0.06	0.00
July	258.64	13	20	44.8	582	45	0.98	0.10	0.00	8.54	0.84	0.01	17.95	1.77	0.01	0.02	0.00	0.00	0.68	0.07	0.00	0.59	0.06	0.00
August	73.39	4	18	44.8	179	45	0.98	0.10	0.00	8.54	0.84	0.00	17.95	1.77	0.00	0.02	0.00	0.00	0.68	0.07	0.00	0.59	0.06	0.00
September	271.21	13	21	44.8	582	45	0.98	0.10	0.00	8.54	0.84	0.01	17.95	1.77	0.01	0.02	0.00	0.00	0.68	0.07	0.00	0.59	0.06	0.00
October	230.05	11	21	44.8	493	45	0.98	0.10	0.00	8.54	0.84	0.00	17.95	1.77	0.01	0.02	0.00	0.00	0.68	0.07	0.00	0.59	0.06	0.00
November	270.64	14	19	44.8	627	45	0.98	0.10	0.00	8.54	0.84	0.01	17.95	1.77	0.01	0.02	0.00	0.00	0.68	0.07	0.00	0.59	0.06	0.00
December	261.29	12	22	44.8	538	45	0.98	0.10	0.00	8.54	0.84	0.01	17.95	1.77	0.01	0.02	0.00	0.00	0.68	0.07	0.00	0.59	0.06	0.00

To Potrero							Criteria Pollutants																	
Month	Tons / Month	Trips / Month	Ave Tons / Trip	RT Miles	Miles / Month	Miles/Day	ROG			CO			NOx			SOx			PM10			PM2.5		
							EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)	
January	3,596.49	170	21	67.4	11,458	539	0.98	1.16	0.01	8.54	10.15	0.11	17.95	21.34	0.23	0.02	0.02	0.00	0.68	0.81	0.01	0.59	0.70	0.01
February	2,965.94	138	21	67.4	9,301	472	0.98	1.02	0.01	8.54	8.88	0.09	17.95	18.67	0.18	0.02	0.02	0.00	0.68	0.71	0.01	0.59	0.61	0.01
March	3,128.09	149	21	67.4	10,043	472	0.98	1.02	0.01	8.54	8.88	0.09	17.95	18.67	0.20	0.02	0.02	0.00	0.68	0.71	0.01	0.59	0.61	0.01
April	2,657.69	126	21	67.4	8,492	404	0.98	0.87	0.01	8.54	7.61	0.08	17.95	16.00	0.17	0.02	0.01	0.00	0.68	0.61	0.01	0.59	0.52	0.01
May	2,634.24	123	21	67.4	8,290	404	0.98	0.87	0.01	8.54	7.61	0.08	17.95	16.00	0.16	0.02	0.01	0.00	0.68	0.61	0.01	0.59	0.52	0.01
June	1,855.38	88	21	67.4	5,931	270	0.98	0.58	0.01	8.54	5.08	0.06	17.95	10.67	0.12	0.02	0.01	0.00	0.68	0.40	0.00	0.59	0.35	0.00
July	2,251.32	105	21	67.4	7,077	337	0.98	0.73	0.01	8.54	6.34	0.07	17.95	13.34	0.14	0.02	0.01	0.00	0.68	0.50	0.01	0.59	0.44	0.00
August	1,612.28	76	21	67.4	5,122	270	0.98	0.58	0.01	8.54	5.08	0.05	17.95	10.67	0.10	0.02	0.01	0.00	0.68	0.40	0.00	0.59	0.35	0.00
September	1,921.31	92	21	67.4	6,201	337	0.98	0.73	0.01	8.54	6.34	0.06	17.95	13.34	0.12	0.02	0.01	0.00	0.68	0.50	0.00	0.59	0.44	0.00
October	2,858.43	136	21	67.4	9,166	472	0.98	1.02	0.01	8.54	8.88	0.09	17.95	18.67	0.18	0.02	0.02	0.00	0.68	0.71	0.01	0.59	0.61	0.01
November	3,728.09	178	21	67.4	11,997	607	0.98	1.31	0.01	8.54	11.42	0.11	17.95	24.00	0.24	0.02	0.02	0.00	0.68	0.91	0.01	0.59	0.79	0.01
December	2,475.65	120	21	67.4	8,088	404	0.98	0.87	0.01	8.54	7.61	0.08	17.95	16.00	0.16	0.02	0.01	0.00	0.68	0.61	0.01	0.59	0.52	0.01

To Vasco							Criteria Pollutants																	
Month	Tons / Month	Trips / Month	Ave Tons / Trip	RT Miles	Miles / Month	Miles/Day	ROG			CO			NOx			SOx			PM10			PM2.5		
							EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)
January	195.20	9	22	151.4	1,363	151	0.98	0.33	0.00	8.54	2.85	0.01	17.95	5.99	0.03	0.02	0.01	0.00	0.68	0.23	0.00	0.59	0.20	0.00
February	547.32	25	22	151.4	3,785	303	0.98	0.65	0.00	8.54	5.70	0.04	17.95	11.98	0.07	0.02	0.01	0.00	0.68	0.45	0.00	0.59	0.39	0.00
March	994.69	44	23	151.4	6,662	303	0.98	0.65	0.01	8.54	5.70	0.06	17.95	11.98	0.13	0.02	0.01	0.00	0.68	0.45	0.00	0.59	0.39	0.00
April	954.58	43	22	151.4	6,510	303	0.98	0.65	0.01	8.54	5.70	0.06	17.95	11.98	0.13	0.02	0.01	0.00	0.68	0.45	0.00	0.59	0.39	0.00
May	1,034.61	46	22	151.4	6,964	454	0.98	0.98	0.01	8.54	8.55	0.07	17.95	17.97	0.14	0.02	0.02	0.00	0.68	0.68	0.01	0.59	0.59	0.00
June	894.17	40	22	151.4	6,056	303	0.98	0.65	0.01	8.54	5.70	0.06	17.95	11.98	0.12	0.02	0.01	0.00	0.68	0.45	0.00	0.59	0.39	0.00
July	474.81	21	23	151.4	3,179	151	0.98	0.33	0.00	8.54	2.85	0.03	17.95	5.99	0.06	0.02	0.01	0.00	0.68	0.23	0.00	0.59	0.20	0.00
August	179.68	8	22	151.4	1,211	151	0.98	0.33	0.00	8.54	2.85	0.01	17.95	5.99	0.02	0.02	0.01	0.00	0.68	0.23	0.00	0.59	0.20	0.00
September	407.17	18	23	151.4	2,725	151	0.98	0.33	0.00	8.54	2.85	0.03	17.95	5.99	0.05	0.02	0.01	0.00	0.68	0.23	0.00	0.59	0.20	0.00
October	673.02	31	22	151.4	4,693	303	0.98	0.65	0.01	8.54	5.70	0.04	17.95	11.98	0.09	0.02	0.01	0.00	0.68	0.45	0.00	0.59	0.39	0.00
November	187.23	9	21	151.4	1,363	151	0.98	0.33	0.00	8.54	2.85	0.01	17.95	5.99	0.03	0.02	0.01	0.00	0.68	0.23	0.00	0.59	0.20	0.00
December	66.04	3	22	151.4	454	151	0.98	0.33	0.00	8.54	2.85	0.00	17.95	5.99	0.01	0.02	0.01	0.00	0.68	0.23	0.00	0.59	0.20	0.00

To Keller Canyon							Criteria Pollutants																	
Month	Tons / Month	Trips / Month	Ave Tons / Trip	RT Miles	Miles / Month	Miles/Day	ROG			CO			NOx			SOx			PM10			PM2.5		
							EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)	
January	880.48	49	18	94.2	4,615.80	282.60	0.98	0.61	0.00	8.54	5.32	0.04	17.95	11.18	0.09	0.02	0.01	0.00	0.68	0.42	0.00	0.59	0.37	0.00
February	1,184.34	62	19	94.2	5,840.40	282.60	0.98	0.61	0.01	8.54	5.32	0.05	17.95	11.18	0.12	0.02	0.01	0.00	0.68	0.42	0.00	0.59	0.37	0.00
March	977.51	51	19	94.2	4,804.20	282.60	0.98	0.61	0.01	8.54	5.32	0.05	17.95	11.18	0.10	0.02	0.01	0.00	0.68	0.42	0.00	0.59	0.37	0.00
April	991.85	53	19	94.2	4,992.60	282.60	0.98	0.61	0.01	8.54	5.32	0.05	17.95	11.18	0.10	0.02	0.01	0.00	0.68	0.42	0.00	0.59	0.37	0.00
May	1,292.68	69	19	94.2	6,499.80	376.80	0.98	0.81	0.01	8.54	7.09	0.06	17.95	14.91	0.13	0.02	0.01	0.00	0.68	0.56	0.00	0.59	0.49	0.00
June	1,648.62	91	18	94.2	8,572.20	471.00	0.98	1.02	0.01	8.54	8.87	0.08	17.95	18.64	0.17	0.02	0.02	0.00	0.68	0.71	0.01	0.59	0.61	0.01
July	1,803.47	96	19	94.2	9,043.20	471.00	0.98	1.02	0.01	8.54	8.87	0.09	17.95	18.64	0.18	0.02	0.02	0.00	0.68	0.71	0.01	0.59	0.61	0.01
August	2,844.62	151	19	94.2	14,224.20	659.40	0.98	1.42	0.02	8.54	12.41	0.13	17.95	26.09	0.28	0.02	0.02	0.00	0.68	0.99	0.01	0.59	0.85	0.01
September	2,189.13	114	19	94.2	10,738.80	565.20	0.98	1.22	0.01	8.54	10.64	0.10	17.95	22.37	0.21	0.02	0.02	0.00	0.68	0.85	0.01	0.59	0.73	0.01
October	1,002.85	53	19	94.2	4,992.60	282.60	0.98	0.61	0.01	8.54	5.32	0.05	17.95	11.18	0.10	0.02	0.01	0.00	0.68	0.42	0.00	0.59	0.37	0.00
November	777.04	42	19	94.2	3,956.40	188.40	0.98	0.41	0.00	8.54	3.55	0.04	17.95	7.46	0.08	0.02	0.01	0.00	0.68	0.28	0.00	0.59	0.24	0.00
December	1,518.80	81	19	94.2	7,630.20	376.80	0.98	0.81	0.01	8.54	7.09	0.07	17.95	14.91	0.15	0.02	0.01	0.00	0.68	0.56	0.01	0.59	0.49	0.00

## Export By Truck (2007)

## Sonoma Transfer Station

Emissions Generated From Export From Sonoma Transfer Station - 2007 (continued)

To Redwood	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
Month					
January	1,556.99	0.1	0.05	0.00000	0.1
February	1,556.99	0.1	0.05	0.00000	0.1
March	1,556.99	0.1	0.05	0.00000	0.1
April	1,556.99	0.0	0.05	0.00000	0.0
May	1,556.99	0.3	0.05	0.00001	0.3
June	1,556.99	0.1	0.05	0.00000	0.1
July	1,556.99	0.9	0.05	0.00003	0.9
August	1,556.99	0.3	0.05	0.00001	0.3
September	1,556.99	0.9	0.05	0.00003	0.9
October	1,556.99	0.8	0.05	0.00003	0.8
November	1,556.99	1.0	0.05	0.00003	1.0
December	1,556.99	0.8	0.05	0.00003	0.8

To Potrero	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
Month					
January	1,556.99	17.8	0.05	0.00062	17.9
February	1,556.99	14.5	0.05	0.00050	14.5
March	1,556.99	15.6	0.05	0.00054	15.6
April	1,556.99	13.2	0.05	0.00046	13.2
May	1,556.99	12.9	0.05	0.00045	12.9
June	1,556.99	9.2	0.05	0.00032	9.2
July	1,556.99	11.0	0.05	0.00038	11.0
August	1,556.99	8.0	0.05	0.00028	8.0
September	1,556.99	9.7	0.05	0.00033	9.7
October	1,556.99	14.3	0.05	0.00049	14.3
November	1,556.99	18.7	0.05	0.00065	18.7
December	1,556.99	12.6	0.05	0.00044	12.6

To Vasco	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
Month					
January	1,556.99	2.1	0.05	0.00007	2.1
February	1,556.99	5.9	0.05	0.00020	5.9
March	1,556.99	10.4	0.05	0.00036	10.4
April	1,556.99	10.1	0.05	0.00035	10.1
May	1,556.99	10.8	0.05	0.00038	10.9
June	1,556.99	9.4	0.05	0.00033	9.4
July	1,556.99	5.0	0.05	0.00017	5.0
August	1,556.99	1.9	0.05	0.00007	1.9
September	1,556.99	4.2	0.05	0.00015	4.2
October	1,556.99	7.3	0.05	0.00025	7.3
November	1,556.99	2.1	0.05	0.00007	2.1
December	1,556.99	0.7	0.05	0.00002	0.7

To Keller Canyon	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
Month					
January	1,556.99	7.2	0.05	0.00025	7.2
February	1,556.99	9.1	0.05	0.00032	9.1
March	1,556.99	7.5	0.05	0.00026	7.5
April	1,556.99	7.8	0.05	0.00027	7.8
May	1,556.99	10.1	0.05	0.00035	10.1
June	1,556.99	13.3	0.05	0.00046	13.4
July	1,556.99	14.1	0.05	0.00049	14.1
August	1,556.99	22.1	0.05	0.00077	22.2
September	1,556.99	16.7	0.05	0.00058	16.7
October	1,556.99	7.8	0.05	0.00027	7.8
November	1,556.99	6.2	0.05	0.00021	6.2
December	1,556.99	11.9	0.05	0.00041	11.9



# Export By Truck (2007)

# Sonoma Transfer Station

Emissions Generated From Export From Sonoma Transfer Station - 2007 (continued)

## Daily Summary

Month	Maximum Daily ROG Emissions (lb/day)						Maximum Daily CO Emissions (lb/day)						Maximum Daily NOx Emissions (lb/day)						Maximum Daily SOx Emissions (lb/day)				
	Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total
January	0.10	1.16	0.33	0.61	2.20		0.84	10.15	2.85	5.32	19.17		1.77	21.34	5.99	11.18	40.28		0.00	0.02	0.01	0.01	0.03
February	0.10	1.02	0.65	0.61	2.38		0.84	8.88	5.70	5.32	20.75		1.77	18.67	11.98	11.18	43.61		0.00	0.02	0.01	0.01	0.04
March	0.10	1.02	0.65	0.61	2.38		0.84	8.88	5.70	5.32	20.75		1.77	18.67	11.98	11.18	43.61		0.00	0.02	0.01	0.01	0.04
April	0.00	0.87	0.65	0.61	2.14		0.00	7.61	5.70	5.32	18.64		0.00	16.00	11.98	11.18	39.17		0.00	0.01	0.01	0.01	0.03
May	0.10	0.87	0.98	0.81	2.76		0.84	7.61	8.55	7.09	24.10		1.77	16.00	17.97	14.91	50.66		0.00	0.01	0.02	0.01	0.04
June	0.10	0.58	0.65	1.02	2.35		0.84	5.08	5.70	8.87	20.49		1.77	10.67	11.98	18.64	43.06		0.00	0.01	0.01	0.02	0.04
July	0.10	0.73	0.33	1.02	2.17		0.84	6.34	2.85	8.87	18.91		1.77	13.34	5.99	18.64	39.74		0.00	0.01	0.01	0.02	0.03
August	0.10	0.58	0.33	1.42	2.43		0.84	5.08	2.85	12.41	21.18		1.77	10.67	5.99	26.09	44.53		0.00	0.01	0.01	0.02	0.04
September	0.10	0.73	0.33	1.22	2.37		0.84	6.34	2.85	10.64	20.68		1.77	13.34	5.99	22.37	43.46		0.00	0.01	0.01	0.02	0.04
October	0.10	1.02	0.65	0.61	2.38		0.84	8.88	5.70	5.32	20.75		1.77	18.67	11.98	11.18	43.61		0.00	0.02	0.01	0.01	0.04
November	0.10	1.31	0.33	0.41	2.14		0.84	11.42	2.85	3.55	18.66		1.77	24.00	5.99	7.46	39.22		0.00	0.02	0.01	0.01	0.03
December	0.10	0.87	0.33	0.81	2.11		0.84	7.61	2.85	7.09	18.40		1.77	16.00	5.99	14.91	38.68		0.00	0.01	0.01	0.01	0.03

## Daily Summary (continued)

Month	Maximum Daily PM10 Emissions (lb/day)						Maximum Daily PM2.5 Emissions (lb/day)				
	Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total
January	0.07	0.81	0.23	0.42	1.52		0.06	0.70	0.20	0.37	1.32
February	0.07	0.71	0.45	0.42	1.65		0.06	0.61	0.39	0.37	1.43
March	0.07	0.71	0.45	0.42	1.65		0.06	0.61	0.39	0.37	1.43
April	0.00	0.61	0.45	0.42	1.48		0.00	0.52	0.39	0.37	1.28
May	0.07	0.61	0.68	0.56	1.92		0.06	0.52	0.59	0.49	1.66
June	0.07	0.40	0.45	0.71	1.63		0.06	0.35	0.39	0.61	1.41
July	0.07	0.50	0.23	0.71	1.50		0.06	0.44	0.20	0.61	1.30
August	0.07	0.40	0.23	0.99	1.68		0.06	0.35	0.20	0.85	1.46
September	0.07	0.50	0.23	0.85	1.64		0.06	0.44	0.20	0.73	1.42
October	0.07	0.71	0.45	0.42	1.65		0.06	0.61	0.39	0.37	1.43
November	0.07	0.91	0.23	0.28	1.48		0.06	0.79	0.20	0.24	1.28
December	0.07	0.61	0.23	0.56	1.46		0.06	0.52	0.20	0.49	1.27

## Annual Summary

Destination	Maximum Annual Criteria Pollutant Emissions (tons/year)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Redwood	0.00	0.03	0.07	0.00	0.00	0.00
Potrero	0.11	0.95	2.00	0.00	0.08	0.07
Vasco Road	0.05	0.42	0.89	0.00	0.03	0.03
Keller Canyon	0.09	0.81	1.70	0.00	0.06	0.06
<b>Total</b>	<b>0.25</b>	<b>2.22</b>	<b>4.66</b>	<b>0.00</b>	<b>0.18</b>	<b>0.15</b>

GHG Emissions (metric tons/yr)		
CO2	CH4	CO2e
5.30	0.00	5.31
157.52	0.01	157.64
70.01	0.00	70.07
133.76	0.00	133.87
<b>366.59</b>	<b>0.01</b>	<b>366.89</b>

# Export By Truck (2010)

# Emissions Summary

## Emissions Generated From Export by Truck - 2010

### Total Daily Emissions

Month	Maximum Daily ROG Emissions						Maximum Daily CO Emissions						Maximum Daily NOx Emissions					
	Central	Annapolis	Guerneville	Sonoma	Healdsburg	Total	Central	Annapolis	Guerneville	Sonoma	Healdsburg	Total	Central	Annapolis	Guerneville	Sonoma	Healdsburg	Total
January	5.24	0.76	1.06	1.77	4.28	13.10	42.09	6.09	8.51	14.19	34.38	105.25	94.44	13.67	19.09	31.84	77.13	236.18
February	3.98	0.45	1.76	1.91	3.81	11.91	32.00	3.60	14.13	15.36	30.60	95.69	71.81	8.07	31.70	34.47	68.67	214.72
March	4.94	0.76	2.05	2.17	4.28	14.21	39.71	6.09	16.49	17.47	34.38	114.13	89.10	13.67	36.99	39.21	77.13	256.10
April	4.87	0.76	2.05	1.72	3.98	13.37	39.11	6.09	16.49	13.80	31.94	107.43	87.76	13.67	36.99	30.96	71.67	241.06
May	4.66	0.76	2.05	2.22	4.28	13.97	37.44	6.09	16.49	17.85	34.38	112.24	84.01	13.67	36.99	40.04	77.13	251.85
June	4.52	0.76	2.05	2.01	3.81	13.15	36.32	6.09	16.49	16.11	30.60	105.61	81.51	13.67	36.99	36.15	68.67	236.98
July	4.67	0.45	1.74	1.74	4.53	13.13	37.52	3.60	13.96	14.00	36.38	105.46	84.19	8.07	31.32	31.41	81.64	236.63
August	4.72	1.21	2.03	2.12	4.47	14.54	37.94	9.69	16.32	17.00	35.88	116.83	85.14	21.74	36.62	38.14	80.51	262.15
September	4.36	0.76	2.03	1.91	3.84	12.90	35.06	6.09	16.32	15.31	30.85	103.63	78.67	13.67	36.62	34.36	69.21	232.52
October	4.60	1.21	1.74	1.91	4.47	13.92	36.94	9.69	13.96	15.36	35.88	111.83	82.89	21.74	31.32	34.47	80.51	250.94
November	4.52	0.76	1.74	1.72	3.69	12.43	36.32	6.09	13.96	13.82	29.68	99.87	81.51	13.67	31.32	31.00	66.59	224.09
December	3.52	0.76	1.44	1.70	3.53	10.95	28.30	6.09	11.60	13.62	28.34	87.95	63.50	13.67	26.03	30.57	63.58	197.35

Month	Maximum Daily SOx Emissions						Maximum Daily PM10 Emissions						Maximum Daily PM2.5 Emissions					
	Central	Annapolis	Guerneville	Sonoma	Healdsburg	Total	Central	Annapolis	Guerneville	Sonoma	Healdsburg	Total	Central	Annapolis	Guerneville	Sonoma	Healdsburg	Total
January	0.10	0.01	0.02	0.03	0.08	0.25	3.75	0.54	0.76	1.27	3.07	9.39	3.22	0.47	0.65	1.08	2.63	8.04
February	0.08	0.01	0.03	0.04	0.07	0.23	2.85	0.32	1.26	1.37	2.73	8.54	2.44	0.27	1.08	1.17	2.34	7.31
March	0.09	0.01	0.04	0.04	0.08	0.27	3.54	0.54	1.47	1.56	3.07	10.18	3.03	0.47	1.26	1.33	2.63	8.72
April	0.09	0.01	0.04	0.03	0.08	0.25	3.49	0.54	1.47	1.23	2.85	9.58	2.99	0.47	1.26	1.05	2.44	8.21
May	0.09	0.01	0.04	0.04	0.08	0.27	3.34	0.54	1.47	1.59	3.07	10.01	2.86	0.47	1.26	1.36	2.63	8.57
June	0.09	0.01	0.04	0.04	0.07	0.25	3.24	0.54	1.47	1.44	2.73	9.42	2.77	0.47	1.26	1.23	2.34	8.07
July	0.09	0.01	0.03	0.03	0.09	0.25	3.35	0.32	1.25	1.25	3.25	9.41	2.87	0.27	1.07	1.07	2.78	8.06
August	0.09	0.02	0.04	0.04	0.09	0.28	3.38	0.86	1.46	1.52	3.20	10.42	2.90	0.74	1.25	1.30	2.74	8.92
September	0.08	0.01	0.04	0.04	0.07	0.25	3.13	0.54	1.46	1.37	2.75	9.24	2.68	0.47	1.25	1.17	2.36	7.92
October	0.09	0.02	0.03	0.04	0.09	0.27	3.30	0.86	1.25	1.37	3.20	9.98	2.82	0.74	1.07	1.17	2.74	8.54
November	0.09	0.01	0.03	0.03	0.07	0.24	3.24	0.54	1.25	1.23	2.65	8.91	2.77	0.47	1.07	1.06	2.27	7.63
December	0.07	0.01	0.03	0.03	0.07	0.21	2.52	0.54	1.03	1.22	2.53	7.85	2.16	0.47	0.89	1.04	2.16	6.72

### Summary - Total Emissions from Export by Truck

Transfer Station	Maximum Daily Criteria Pollutant Emissions (lb/day) - August						Maximum Annual Criteria Pollutant Emissions (tons/year)						GHG Emissions (metric tons/year)		
	ROG	CO	NOx	SOx	PM10	PM2.5	ROG	CO	NOx	SOx	PM10	PM2.5	CO2	CH4	CO2E (B)
Central	4.7	37.9	85.1	0.1	3.4	2.9	0.6	4.4	10.0	0.0	0.4	0.3	1,012.0	0.0	1,012.6
Annapolis	1.2	9.7	21.7	0.0	0.9	0.7	0.1	0.4	1.0	0.0	0.0	0.0	99.0	0.0	99.1
Guerneville	2.0	16.3	36.6	0.0	1.5	1.2	0.2	1.2	2.7	0.0	0.1	0.1	275.5	0.0	275.6
Sonoma	2.1	17.0	38.1	0.0	1.5	1.3	0.2	1.7	3.8	0.0	0.2	0.1	384.9	0.0	385.2
Healdsburg	4.5	35.9	80.5	0.1	3.2	2.7	0.5	3.8	8.4	0.0	0.3	0.3	854.8	0.0	855.4
<b>Total</b>	<b>14.5</b>	<b>116.8</b>	<b>262.2</b>	<b>0.3</b>	<b>10.4</b>	<b>8.9</b>	<b>1.4</b>	<b>11.5</b>	<b>25.9</b>	<b>0.0</b>	<b>1.0</b>	<b>0.9</b>	<b>2,626.3</b>	<b>0.1</b>	<b>2,627.9</b>

## Export By Truck (2010)

## Annapolis Transfer Station

Emissions Generated From Export From Annapolis Transfer Station - 2010

2010

To Redwood										Criteria Pollutants																	
Month	2007 Tons / Month	2010 Tons / Month	2010 New Trips / Month	2007 Trips / Month	2010 Total Truck Trips	Ave Tons / Trip	RT Miles	Miles / Month	Miles / Day	ROG			CO			NOx			SOx			PM10			PM2.5		
										EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)
January	37.34	38.47	0	2	2	19	179	358	179	0.79	0.31	0.00	6.32	2.50	0.00	14.19	5.60	0.01	0.02	0.01	0.00	0.56	0.22	0.00	0.48	0.19	0.00
February	0.00	0.00	0	0	0	NA	179	0	0	0.79	0.00	0.00	6.32	0.00	0.00	14.19	0.00	0.00	0.02	0.00	0.00	0.56	0.00	0.00	0.48	0.00	0.00
March	17.46	17.99	0	1	1	18	179	179	179	0.79	0.31	0.00	6.32	2.50	0.00	14.19	5.60	0.00	0.02	0.01	0.00	0.56	0.22	0.00	0.48	0.19	0.00
April	65.55	67.54	0	4	4	17	179	716	179	0.79	0.31	0.00	6.32	2.50	0.00	14.19	5.60	0.01	0.02	0.01	0.00	0.56	0.22	0.00	0.48	0.19	0.00
May	20.34	20.96	0	1	1	21	179	179	179	0.79	0.31	0.00	6.32	2.50	0.00	14.19	5.60	0.00	0.02	0.01	0.00	0.56	0.22	0.00	0.48	0.19	0.00
June	36.36	37.46	0	2	2	19	179	358	179	0.79	0.31	0.00	6.32	2.50	0.00	14.19	5.60	0.01	0.02	0.01	0.00	0.56	0.22	0.00	0.48	0.19	0.00
July	0.00	0.00	0	0	0	NA	179	0	0	0.79	0.00	0.00	6.32	0.00	0.00	14.19	0.00	0.00	0.02	0.00	0.00	0.56	0.00	0.00	0.48	0.00	0.00
August	17.97	18.51	0	1	1	19	179	179	179	0.79	0.31	0.00	6.32	2.50	0.00	14.19	5.60	0.00	0.02	0.01	0.00	0.56	0.22	0.00	0.48	0.19	0.00
September	41.07	42.31	0	2	2	21	179	358	179	0.79	0.31	0.00	6.32	2.50	0.00	14.19	5.60	0.01	0.02	0.01	0.00	0.56	0.22	0.00	0.48	0.19	0.00
October	18.42	18.98	0	1	1	19	179	179	179	0.79	0.31	0.00	6.32	2.50	0.00	14.19	5.60	0.00	0.02	0.01	0.00	0.56	0.22	0.00	0.48	0.19	0.00
November	21.27	21.91	0	1	1	22	179	179	179	0.79	0.31	0.00	6.32	2.50	0.00	14.19	5.60	0.00	0.02	0.01	0.00	0.56	0.22	0.00	0.48	0.19	0.00
December	33.77	34.79	0	2	2	17	179	358	179	0.79	0.31	0.00	6.32	2.50	0.00	14.19	5.60	0.01	0.02	0.01	0.00	0.56	0.22	0.00	0.48	0.19	0.00

To Potrero												Criteria Pollutants															
Month	2007 Tons / Month	2010 Tons / Month	2010 New Trips / Month	2007 Trips / Month	2010 Total Truck Trips	Ave Tons / Trip	RT Miles	Miles / Month	Miles / Day	ROG			CO			NOx			SOx			PM10			PM2.5		
										EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)
January	252.30	259.94	0	14	14	19	258	3,612	258	0.79	0.45	0.00	6.32	3.60	0.03	14.19	8.07	0.06	0.02	0.01	0.00	0.56	0.32	0.00	0.48	0.27	0.00
February	304.54	313.77	0	17	17	18	258	4,386	258	0.79	0.45	0.00	6.32	3.60	0.03	14.19	8.07	0.07	0.02	0.01	0.00	0.56	0.32	0.00	0.48	0.27	0.00
March	268.24	276.37	0	15	15	18	258	3,870	258	0.79	0.45	0.00	6.32	3.60	0.03	14.19	8.07	0.06	0.02	0.01	0.00	0.56	0.32	0.00	0.48	0.27	0.00
April	347.67	358.20	1	20	21	17	258	5,418	258	0.79	0.45	0.00	6.32	3.60	0.04	14.19	8.07	0.08	0.02	0.01	0.00	0.56	0.32	0.00	0.48	0.27	0.00
May	341.55	351.90	1	20	21	17	258	5,418	258	0.79	0.45	0.00	6.32	3.60	0.04	14.19	8.07	0.08	0.02	0.01	0.00	0.56	0.32	0.00	0.48	0.27	0.00
June	325.92	335.80	0	19	19	18	258	4,902	258	0.79	0.45	0.00	6.32	3.60	0.03	14.19	8.07	0.08	0.02	0.01	0.00	0.56	0.32	0.00	0.48	0.27	0.00
July	389.47	401.27	1	20	21	19	258	5,418	258	0.79	0.45	0.00	6.32	3.60	0.04	14.19	8.07	0.08	0.02	0.01	0.00	0.56	0.32	0.00	0.48	0.27	0.00
August	424.59	437.46	1	24	25	17	258	6,450	516	0.79	0.90	0.01	6.32	7.19	0.04	14.19	16.14	0.10	0.02	0.02	0.00	0.56	0.64	0.00	0.48	0.55	0.00
September	352.97	363.67	1	21	22	17	258	5,676	258	0.79	0.45	0.00	6.32	3.60	0.04	14.19	8.07	0.09	0.02	0.01	0.00	0.56	0.32	0.00	0.48	0.27	0.00
October	375.16	386.53	1	22	23	17	258	5,934	516	0.79	0.90	0.01	6.32	7.19	0.04	14.19	16.14	0.09	0.02	0.02	0.00	0.56	0.64	0.00	0.48	0.55	0.00
November	278.98	287.43	0	16	16	18	258	4,128	258	0.79	0.45	0.00	6.32	3.60	0.03	14.19	8.07	0.06	0.02	0.01	0.00	0.56	0.32	0.00	0.48	0.27	0.00
December	270.50	278.70	0	16	16	17	258	4,128	258	0.79	0.45	0.00	6.32	3.60	0.03	14.19	8.07	0.06	0.02	0.01	0.00	0.56	0.32	0.00	0.48	0.27	0.00

To Vasco											Criteria Pollutants																
Month	2007 Tons / Month	2010 Tons / Month	2010 New Trips / Month	2007 Trips / Month	2010 Total Truck Trips	Ave Tons / Trip	RT Miles	Miles / Month	Miles / Day	ROG			CO			NOx			SOx			PM10			PM2.5		
										EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)
January	0.00	0.00	0	0	0	NA	312.0	0	0	0.79	0.00	0.00	6.32	0.00	0.00	14.19	0.00	0.00	0.02	0.00	0.00	0.56	0.00	0.00	0.48	0.00	0.00
February	0.00	0.00	0	0	0	NA	312.0	0	0	0.79	0.00	0.00	6.32	0.00	0.00	14.19	0.00	0.00	0.02	0.00	0.00	0.56	0.00	0.00	0.48	0.00	0.00
March	0.00	0.00	0	0	0	NA	312.0	0	0	0.79	0.00	0.00	6.32	0.00	0.00	14.19	0.00	0.00	0.02	0.00	0.00	0.56	0.00	0.00	0.48	0.00	0.00
April	0.00	0.00	0	0	0	NA	312.0	0	0	0.79	0.00	0.00	6.32	0.00	0.00	14.19	0.00	0.00	0.02	0.00	0.00	0.56	0.00	0.00	0.48	0.00	0.00
May	0.00	0.00	0	0	0	NA	312.0	0	0	0.79	0.00	0.00	6.32	0.00	0.00	14.19	0.00	0.00	0.02	0.00	0.00	0.56	0.00	0.00	0.48	0.00	0.00
June	0.00	0.00	0	0	0	NA	312.0	0	0	0.79	0.00	0.00	6.32	0.00	0.00	14.19	0.00	0.00	0.02	0.00	0.00	0.56	0.00	0.00	0.48	0.00	0.00
July	0.00	0.00	0	0	0	NA	312.0	0	0	0.79	0.00	0.00	6.32	0.00	0.00	14.19	0.00	0.00	0.02	0.00	0.00	0.56	0.00	0.00	0.48	0.00	0.00
August	0.00	0.00	0	0	0	NA	312.0	0	0	0.79	0.00	0.00	6.32	0.00	0.00	14.19	0.00	0.00	0.02	0.00	0.00	0.56	0.00	0.00	0.48	0.00	0.00
September	0.00	0.00	0	0	0	NA	312.0	0	0	0.79	0.00	0.00	6.32	0.00	0.00	14.19	0.00	0.00	0.02	0.00	0.00	0.56	0.00	0.00	0.48	0.00	0.00
October	0.00	0.00	0	0	0	NA	312.0	0	0	0.79	0.00	0.00	6.32	0.00	0.00	14.19	0.00	0.00	0.02	0.00	0.00	0.56	0.00	0.00	0.48	0.00	0.00
November	0.00	0.00	0	0	0	NA	312.0	0	0	0.79	0.00	0.00	6.32	0.00	0.00	14.19	0.00	0.00	0.02	0.00	0.00	0.56	0.00	0.00	0.48	0.00	0.00
December	0.00	0.00	0	0	0	NA	312.0	0	0	0.79	0.00	0.00	6.32	0.00	0.00	14.19	0.00	0.00	0.02	0.00	0.00	0.56	0.00	0.00	0.48	0.00	0.00

To Keller Canyon									Criteria Pollutants																		
Month	2007 Tons / Month	2010 Tons / Month	2010 New Trips / Month	2007 Trips / Month	2010 Total Truck Trips	Ave Tons / Trip	RT Miles	Miles / Month	Miles / Day	Criteria Pollutants			CO			NOx			SOx			PM10			PM2.5		
										EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)
January	0.00	0.00	0	0	0	NA	270	0	0	0.79	0.00	0.00	6.32	0.00	0.00	14.19	0.00	0.00	0.02	0.00	0.00	0.56	0.00	0.00	0.48	0.00	0.00
February	0.00	0.00	0	0	0	NA	270	0	0	0.79	0.00	0.00	6.32	0.00	0.00	14.19	0.00	0.00	0.02	0.00	0.00	0.56	0.00	0.00	0.48	0.00	0.00
March	0.00	0.00	0	0	0	NA	270	0	0	0.79	0.00	0.00	6.32	0.00	0.00	14.19	0.00	0.00	0.02	0.00	0.00	0.56	0.00	0.00	0.48	0.00	0.00
April	0.00	0.00	0	0	0	NA	270	0	0	0.79	0.00	0.00	6.32	0.00	0.00	14.19	0.00	0.00	0.02	0.00	0.00	0.56	0.00	0.00	0.48	0.00	0.00
May	0.00	0.00	0	0	0	NA	270	0	0	0.79	0.00	0.00	6.32	0.00	0.00	14.19	0.00	0.00	0.02	0.00	0.00	0.56	0.00	0.00	0.48	0.00	0.00
June	0.00	0.00	0	0	0	NA	270	0	0	0.79	0.00	0.00	6.32	0.00	0.00	14.19	0.00	0.00	0.02	0.00	0.00	0.56	0.00	0.00	0.48	0.00	0.00
July	0.00	0.00	0	0	0	NA	270	0	0	0.79	0.00	0.00	6.32	0.00	0.00	14.19	0.00	0.00	0.02	0.00	0.00	0.56	0.00	0.00	0.48	0.00	0.00
August	0.00	0.00	0	0	0	NA	270	0	0	0.79	0.00	0.00	6.32	0.00	0.00	14.19	0.00	0.00	0.02	0.00	0.00	0.56	0.00	0.00	0.48	0.00	0.00
September	0.00	0.00	0	0	0	NA	270	0	0	0.79	0.00	0.00	6.32	0.00	0.00	14.19	0.00	0.00	0.02	0.00	0.00	0.56	0.00	0.00	0.48	0.00	0.00
October	0.00	0.00	0	0	0	NA	270	0	0	0.79	0.00	0.00	6.32	0.00	0.00	14.19	0.00	0.00	0.02	0.00	0.00	0.56	0.00	0.00	0.48	0.00	0.00
November	0.00	0.00	0	0	0	NA	270	0	0	0.79	0.00	0.00	6.32	0.00	0.00	14.19	0.00	0.00	0.02	0.00	0.00	0.56	0.00	0.00	0.48	0.00	0.00
December	0.00	0.00	0	0	0	NA	270	0	0	0.79	0.00	0.00	6.32	0.00	0.00	14.19	0.00	0.00	0.02	0.00	0.00	0.56	0.00	0.00	0.48	0.00	0.00

# Export By Truck (2010)

# Annapolis Transfer Station

Emissions Generated From Export From Annapolis Transfer Station (continued) - 2010

To Redwood					
Month	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
January	1,587.46	0.6	0.04	0.00002	0.6
February	1,587.46	0.0	0.04	0.00000	0.0
March	1,587.46	0.3	0.04	0.00001	0.3
April	1,587.46	1.1	0.04	0.00003	1.1
May	1,587.46	0.3	0.04	0.00001	0.3
June	1,587.46	0.6	0.04	0.00002	0.6
July	1,587.46	0.0	0.04	0.00000	0.0
August	1,587.46	0.3	0.04	0.00001	0.3
September	1,587.46	0.6	0.04	0.00002	0.6
October	1,587.46	0.3	0.04	0.00001	0.3
November	1,587.46	0.3	0.04	0.00001	0.3
December	1,587.46	0.6	0.04	0.00002	0.6

To Potrero					
Month	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
January	1,587.46	5.7	0.04	0.00015	5.7
February	1,587.46	7.0	0.04	0.00018	7.0
March	1,587.46	6.1	0.04	0.00016	6.1
April	1,587.46	8.6	0.04	0.00023	8.6
May	1,587.46	8.6	0.04	0.00023	8.6
June	1,587.46	7.8	0.04	0.00021	7.8
July	1,587.46	8.6	0.04	0.00023	8.6
August	1,587.46	10.2	0.04	0.00027	10.2
September	1,587.46	9.0	0.04	0.00024	9.0
October	1,587.46	9.4	0.04	0.00025	9.4
November	1,587.46	6.6	0.04	0.00017	6.6
December	1,587.46	6.6	0.04	0.00017	6.6

To Vasco					
Month	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
January	1,587.46	0.0	0.04	0.00000	0.0
February	1,587.46	0.0	0.04	0.00000	0.0
March	1,587.46	0.0	0.04	0.00000	0.0
April	1,587.46	0.0	0.04	0.00000	0.0
May	1,587.46	0.0	0.04	0.00000	0.0
June	1,587.46	0.0	0.04	0.00000	0.0
July	1,587.46	0.0	0.04	0.00000	0.0
August	1,587.46	0.0	0.04	0.00000	0.0
September	1,587.46	0.0	0.04	0.00000	0.0
October	1,587.46	0.0	0.04	0.00000	0.0
November	1,587.46	0.0	0.04	0.00000	0.0
December	1,587.46	0.0	0.04	0.00000	0.0

To Keller Canyon					
Month	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
January	1,587.46	0.0	0.04	0.00000	0.0
February	1,587.46	0.0	0.04	0.00000	0.0
March	1,587.46	0.0	0.04	0.00000	0.0
April	1,587.46	0.0	0.04	0.00000	0.0
May	1,587.46	0.0	0.04	0.00000	0.0
June	1,587.46	0.0	0.04	0.00000	0.0
July	1,587.46	0.0	0.04	0.00000	0.0
August	1,587.46	0.0	0.04	0.00000	0.0
September	1,587.46	0.0	0.04	0.00000	0.0
October	1,587.46	0.0	0.04	0.00000	0.0
November	1,587.46	0.0	0.04	0.00000	0.0
December	1,587.46	0.0	0.04	0.00000	0.0

# Export By Truck (2010)

# Annapolis Transfer Station

Emissions Generated From Export From Annapolis Transfer Station (continued) - 2010

## Daily Summary

Month	Maximum Daily ROG Emissions (lb/day)						Maximum Daily CO Emissions (lb/day)						Maximum Daily NOx Emissions (lb/day)						Maximum Daily SOx Emissions (lb/day)				
	Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total
January	0.31	0.45	0.00	0.00	0.76		2.50	3.60	0.00	0.00	6.09		5.60	8.07	0.00	0.00	13.67		0.01	0.01	0.00	0.00	0.01
February	0.00	0.45	0.00	0.00	0.45		0.00	3.60	0.00	0.00	3.60		0.00	8.07	0.00	0.00	8.07		0.00	0.01	0.00	0.00	0.01
March	0.31	0.45	0.00	0.00	0.76		2.50	3.60	0.00	0.00	6.09		5.60	8.07	0.00	0.00	13.67		0.01	0.01	0.00	0.00	0.01
April	0.31	0.45	0.00	0.00	0.76		2.50	3.60	0.00	0.00	6.09		5.60	8.07	0.00	0.00	13.67		0.01	0.01	0.00	0.00	0.01
May	0.31	0.45	0.00	0.00	0.76		2.50	3.60	0.00	0.00	6.09		5.60	8.07	0.00	0.00	13.67		0.01	0.01	0.00	0.00	0.01
June	0.31	0.45	0.00	0.00	0.76		2.50	3.60	0.00	0.00	6.09		5.60	8.07	0.00	0.00	13.67		0.01	0.01	0.00	0.00	0.01
July	0.00	0.45	0.00	0.00	0.45		0.00	3.60	0.00	0.00	3.60		0.00	8.07	0.00	0.00	8.07		0.00	0.01	0.00	0.00	0.01
August	0.31	0.90	0.00	0.00	1.21		2.50	7.19	0.00	0.00	9.69		5.60	16.14	0.00	0.00	21.74		0.01	0.02	0.00	0.00	0.02
September	0.31	0.45	0.00	0.00	0.76		2.50	3.60	0.00	0.00	6.09		5.60	8.07	0.00	0.00	13.67		0.01	0.01	0.00	0.00	0.01
October	0.31	0.90	0.00	0.00	1.21		2.50	7.19	0.00	0.00	9.69		5.60	16.14	0.00	0.00	21.74		0.01	0.02	0.00	0.00	0.02
November	0.31	0.45	0.00	0.00	0.76		2.50	3.60	0.00	0.00	6.09		5.60	8.07	0.00	0.00	13.67		0.01	0.01	0.00	0.00	0.01
December	0.31	0.45	0.00	0.00	0.76		2.50	3.60	0.00	0.00	6.09		5.60	8.07	0.00	0.00	13.67		0.01	0.01	0.00	0.00	0.01

## Daily Summary

Month	Maximum Daily PM10 Emissions (lb/day)						Maximum Daily PM2.5 Emissions (lb/day)				
	Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total
January	0.22	0.32	0.00	0.00	0.54		0.19	0.27	0.00	0.00	0.47
February	0.00	0.32	0.00	0.00	0.32		0.00	0.27	0.00	0.00	0.27
March	0.22	0.32	0.00	0.00	0.54		0.19	0.27	0.00	0.00	0.47
April	0.22	0.32	0.00	0.00	0.54		0.19	0.27	0.00	0.00	0.47
May	0.22	0.32	0.00	0.00	0.54		0.19	0.27	0.00	0.00	0.47
June	0.22	0.32	0.00	0.00	0.54		0.19	0.27	0.00	0.00	0.47
July	0.00	0.32	0.00	0.00	0.32		0.00	0.27	0.00	0.00	0.27
August	0.22	0.64	0.00	0.00	0.86		0.19	0.55	0.00	0.00	0.74
September	0.22	0.32	0.00	0.00	0.54		0.19	0.27	0.00	0.00	0.47
October	0.22	0.64	0.00	0.00	0.86		0.19	0.55	0.00	0.00	0.74
November	0.22	0.32	0.00	0.00	0.54		0.19	0.27	0.00	0.00	0.47
December	0.22	0.32	0.00	0.00	0.54		0.19	0.27	0.00	0.00	0.47

## Annual Summary

Destination	Maximum Annual Criteria Pollutant Emissions (tons/year)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Redwood	0.00	0.02	0.05	0.00	0.00	0.00
Potrero	0.05	0.41	0.93	0.00	0.04	0.03
Vasco Road	0.00	0.00	0.00	0.00	0.00	0.00
Keller Canyon	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>0.05</b>	<b>0.43</b>	<b>0.98</b>	<b>0.00</b>	<b>0.04</b>	<b>0.03</b>

GHG Emissions (metric tons/year)		
CO2	CH4	CO2E
4.83	0.00	4.83
94.20	0.00	94.26
0.00	0.00	0.00
0.00	0.00	0.00
<b>99.03</b>	<b>0.00</b>	<b>99.09</b>

# Export By Truck (2010)

# Central Transfer Station

Emissions Generated From Export From Central Transfer Station - 2010

2010

To Redwood										Criteria Pollutants																	
Month	2007 Tons / Month	2010 Tons / Month	2010 New Trips / Month	2007 Trips / Month	2010 Total Truck Trips	Ave Tons / Trip	RT Miles	Miles / Month	Miles / Day	ROG			CO			NOx			SOx			PM10			PM2.5		
										EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)
January	3,890.85	4,008.75	6	211	217	18	42.8	9,288	428	0.79	0.74	0.01	6.32	5.97	0.06	14.19	13.39	0.15	0.02	0.01	0.00	0.56	0.53	0.01	0.48	0.46	0.00
February	4,142.07	4,267.58	6	214	220	19	42.8	9,416	428	0.79	0.74	0.01	6.32	5.97	0.07	14.19	13.39	0.15	0.02	0.01	0.00	0.56	0.53	0.01	0.48	0.46	0.01
March	4,437.75	4,572.22	7	232	239	19	42.8	10,229	471	0.79	0.82	0.01	6.32	6.56	0.07	14.19	14.73	0.16	0.02	0.02	0.00	0.56	0.59	0.01	0.48	0.50	0.01
April	4,115.26	4,239.96	6	213	219	19	42.8	9,373	428	0.79	0.74	0.01	6.32	5.97	0.07	14.19	13.39	0.15	0.02	0.01	0.00	0.56	0.53	0.01	0.48	0.46	0.00
May	4,548.79	4,686.62	7	227	234	20	42.8	10,015	471	0.79	0.82	0.01	6.32	6.56	0.07	14.19	14.73	0.16	0.02	0.02	0.00	0.56	0.59	0.01	0.48	0.50	0.01
June	4,560.81	4,699.01	7	228	235	20	42.8	10,058	471	0.79	0.82	0.01	6.32	6.56	0.07	14.19	14.73	0.16	0.02	0.02	0.00	0.56	0.59	0.01	0.48	0.50	0.01
July	4,817.52	4,963.50	7	260	267	19	42.8	11,428	556	0.79	0.97	0.01	6.32	7.76	0.08	14.19	17.40	0.18	0.02	0.02	0.00	0.56	0.69	0.01	0.48	0.59	0.01
August	5,565.26	5,733.89	8	289	297	19	42.8	12,712	599	0.79	1.04	0.01	6.32	8.35	0.09	14.19	18.74	0.20	0.02	0.02	0.00	0.56	0.75	0.01	0.48	0.64	0.01
September	4,480.15	4,615.90	7	236	243	19	42.8	10,400	514	0.79	0.89	0.01	6.32	7.16	0.07	14.19	16.07	0.16	0.02	0.02	0.00	0.56	0.64	0.01	0.48	0.55	0.01
October	5,060.60	5,213.94	8	272	280	19	42.8	11,984	556	0.79	0.97	0.01	6.32	7.76	0.08	14.19	17.40	0.19	0.02	0.02	0.00	0.56	0.69	0.01	0.48	0.59	0.01
November	4,161.05	4,287.13	6	217	223	19	42.8	9,544	471	0.79	0.82	0.01	6.32	6.56	0.07	14.19	14.73	0.15	0.02	0.02	0.00	0.56	0.59	0.01	0.48	0.50	0.01
December	4,532.23	4,669.56	7	219	226	21	42.8	9,673	471	0.79	0.82	0.01	6.32	6.56	0.07	14.19	14.73	0.15	0.02	0.02	0.00	0.56	0.59	0.01	0.48	0.50	0.01

To Potrero											Criteria Pollutants																	
Month	2007 Tons / Month	2010 Tons / Month	New Trips / Month	2007 Trips / Month	2010 Total Truck Trips	Ave Tons / Trip	RT Miles	Miles / Month	Miles / Day	ROG			CO			NOx			SOx			PM10			PM2.5			
										EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)
January	4,362.69	4,494.88	7	204	211	21	121.4	25,615	1,214	0.79	2.11	0.02	6.32	16.92	0.18	14.19	37.97	0.40	0.02	0.04	0.00	0.56	1.51	0.02	0.48	1.29	0.01	
February	2,756.73	2,840.26	4	134	138	21	121.4	16,753	850	0.79	1.47	0.01	6.32	11.85	0.12	14.19	26.58	0.26	0.02	0.03	0.00	0.56	1.06	0.01	0.48	0.90	0.01	
March	3,790.18	3,905.03	6	180	186	21	121.4	22,580	1,093	0.79	1.90	0.02	6.32	15.23	0.16	14.19	34.18	0.35	0.02	0.04	0.00	0.56	1.36	0.01	0.48	1.16	0.01	
April	3,830.01	3,946.06	6	180	186	21	121.4	22,580	1,093	0.79	1.90	0.02	6.32	15.23	0.16	14.19	34.18	0.35	0.02	0.04	0.00	0.56	1.36	0.01	0.48	1.16	0.01	
May	3,260.83	3,359.64	5	152	157	21	121.4	19,060	971	0.79	1.69	0.02	6.32	13.54	0.13	14.19	30.38	0.30	0.02	0.03	0.00	0.56	1.21	0.01	0.48	1.03	0.01	
June	3,197.45	3,294.34	5	149	154	21	121.4	18,696	850	0.79	1.47	0.02	6.32	11.85	0.13	14.19	26.58	0.29	0.02	0.03	0.00	0.56	1.06	0.01	0.48	0.90	0.01	
July	3,108.23	3,202.41	5	144	149	21	121.4	18,089	850	0.79	1.47	0.02	6.32	11.85	0.13	14.19	26.58	0.28	0.02	0.03	0.00	0.56	1.06	0.01	0.48	0.90	0.01	
August	3,636.73	3,746.93	6	169	175	21	121.4	21,245	971	0.79	1.69	0.02	6.32	13.54	0.15	14.19	30.38	0.33	0.02	0.03	0.00	0.56	1.21	0.01	0.48	1.03	0.01	
September	2,891.98	2,979.61	4	137	141	21	121.4	17,117	850	0.79	1.47	0.01	6.32	11.85	0.12	14.19	26.58	0.27	0.02	0.03	0.00	0.56	1.06	0.01	0.48	0.90	0.01	
October	2,806.06	2,891.09	4	133	137	21	121.4	16,632	850	0.79	1.47	0.01	6.32	11.85	0.12	14.19	26.58	0.26	0.02	0.03	0.00	0.56	1.06	0.01	0.48	0.90	0.01	
November	3,149.62	3,245.06	5	149	154	21	121.4	18,696	850	0.79	1.47	0.02	6.32	11.85	0.13	14.19	26.58	0.29	0.02	0.03	0.00	0.56	1.06	0.01	0.48	0.90	0.01	
December	2,775.14	2,859.23	4	133	137	21	121.4	16,632	850	0.79	1.47	0.01	6.32	11.85	0.12	14.19	26.58	0.26	0.02	0.03	0.00	0.56	1.06	0.01	0.48	0.90	0.01	

To Vasco										Criteria Pollutants																	
Month	2007 Tons / Month	2010 Tons / Month	2010 New Trips / Month	2007 Trips / Month	2010 Total Truck Trips	Ave Tons / Trip	RT Miles	Miles / Month	Miles / Day	ROG			CO			NOx			SOx			PM10			PM2.5		
										EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)
January	423.74	436.17	1	19	20	22	175.0	3,500	175	0.79	0.30	0.00	6.32	2.44	0.02	14.19	5.47	0.05	0.02	0.01	0.00	0.56	0.22	0.00	0.48	0.19	0.00
February	687.72	708.56	1	32	33	21	175.0	5,775	350	0.79	0.61	0.01	6.32	4.88	0.04	14.19	10.95	0.09	0.02	0.01	0.00	0.56	0.44	0.00	0.48	0.37	0.00
March	854.12	880.00	1	38	39	23	175.0	6,825	350	0.79	0.61	0.01	6.32	4.88	0.05	14.19	10.95	0.11	0.02	0.01	0.00	0.56	0.44	0.00	0.48	0.37	0.00
April	803.56	827.91	1	37	38	22	175.0	6,650	350	0.79	0.61	0.01	6.32	4.88	0.05	14.19	10.95	0.10	0.02	0.01	0.00	0.56	0.44	0.00	0.48	0.37	0.00
May	462.75	476.77	1	21	22	22	175.0	3,850	175	0.79	0.30	0.00	6.32	2.44	0.03	14.19	5.47	0.06	0.02	0.01	0.00	0.56	0.22	0.00	0.48	0.19	0.00
June	884.57	911.37	1	40	41	22	175.0	7,175	350	0.79	0.61	0.01	6.32	4.88	0.05	14.19	10.95	0.11	0.02	0.01	0.00	0.56	0.44	0.00	0.48	0.37	0.00
July	679.50	700.09	1	30	31	23	175.0	5,425	350	0.79	0.61	0.00	6.32	4.88	0.04	14.19	10.95	0.08	0.02	0.01	0.00	0.56	0.44	0.00	0.48	0.37	0.00
August	779.11	802.72	1	35	36	22	175.0	6,300	350	0.79	0.61	0.01	6.32	4.88	0.04	14.19	10.95	0.10	0.02	0.01	0.00	0.56	0.44	0.00	0.48	0.37	0.00
September	598.11	616.23	1	27	28	22	175.0	4,900	350	0.79	0.61	0.00	6.32	4.88	0.03	14.19	10.95	0.08	0.02	0.01	0.00	0.56	0.44	0.00	0.48	0.37	0.00
October	448.47	462.06	1	20	21	22	175.0	3,675	175	0.79	0.30	0.00	6.32	2.44	0.03	14.19	5.47	0.06	0.02	0.01	0.00	0.56	0.22	0.00	0.48	0.19	0.00
November	549.35	566.00	1	25	26	22	175.0	4,550	350	0.79	0.61	0.00	6.32	4.88	0.03	14.19	10.95	0.07	0.02	0.01	0.00	0.56	0.44	0.00	0.48	0.37	0.00
December	269.88	278.06	0	12	12	23	175.0	2,100	175	0.79	0.30	0.00	6.32	2.44	0.01	14.19	5.47	0.03	0.02	0.01	0.00	0.56	0.22	0.00	0.48	0.19	0.00

To Keller Canyon
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# Export By Truck (2010)

# Central Transfer Station

Emissions Generated From Export From Central Transfer Station (continued) - 2010

To Redwood					
Month	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
January	1,587.46	14.7	0.04	0.00039	14.8
February	1,587.46	14.9	0.04	0.00040	15.0
March	1,587.46	16.2	0.04	0.00043	16.2
April	1,587.46	14.9	0.04	0.00039	14.9
May	1,587.46	15.9	0.04	0.00042	15.9
June	1,587.46	16.0	0.04	0.00042	16.0
July	1,587.46	18.1	0.04	0.00048	18.2
August	1,587.46	20.2	0.04	0.00053	20.2
September	1,587.46	16.5	0.04	0.00044	16.5
October	1,587.46	19.0	0.04	0.00050	19.0
November	1,587.46	15.2	0.04	0.00040	15.2
December	1,587.46	15.4	0.04	0.00041	15.4

To Potrero					
Month	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
January	1,587.46	40.7	0.04	0.00108	40.7
February	1,587.46	26.6	0.04	0.00070	26.6
March	1,587.46	35.8	0.04	0.00095	35.9
April	1,587.46	35.8	0.04	0.00095	35.9
May	1,587.46	30.3	0.04	0.00080	30.3
June	1,587.46	29.7	0.04	0.00079	29.7
July	1,587.46	28.7	0.04	0.00076	28.7
August	1,587.46	33.7	0.04	0.00089	33.7
September	1,587.46	27.2	0.04	0.00072	27.2
October	1,587.46	26.4	0.04	0.00070	26.4
November	1,587.46	29.7	0.04	0.00079	29.7
December	1,587.46	26.4	0.04	0.00070	26.4

To Vasco					
Month	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
January	1,587.46	5.6	0.04	0.00015	5.6
February	1,587.46	9.2	0.04	0.00024	9.2
March	1,587.46	10.8	0.04	0.00029	10.8
April	1,587.46	10.6	0.04	0.00028	10.6
May	1,587.46	6.1	0.04	0.00016	6.1
June	1,587.46	11.4	0.04	0.00030	11.4
July	1,587.46	8.6	0.04	0.00023	8.6
August	1,587.46	10.0	0.04	0.00026	10.0
September	1,587.46	7.8	0.04	0.00021	7.8
October	1,587.46	5.8	0.04	0.00015	5.8
November	1,587.46	7.2	0.04	0.00019	7.2
December	1,587.46	3.3	0.04	0.00009	3.3

To Keller Canyon					
Month	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
January	1,587.46	38.4	0.04	0.00102	38.4
February	1,587.46	22.5	0.04	0.00059	22.5
March	1,587.46	32.0	0.04	0.00085	32.0
April	1,587.46	29.7	0.04	0.00079	29.7
May	1,587.46	35.8	0.04	0.00095	35.9
June	1,587.46	31.8	0.04	0.00084	31.8
July	1,587.46	29.3	0.04	0.00077	29.3
August	1,587.46	25.9	0.04	0.00068	25.9
September	1,587.46	24.8	0.04	0.00066	24.8
October	1,587.46	33.7	0.04	0.00089	33.7
November	1,587.46	28.2	0.04	0.00075	28.2
December	1,587.46	15.5	0.04	0.00041	15.5

# Export By Truck (2010)

# Central Transfer Station

Emissions Generated From Export From Central Transfer Station (continued) - 2010

## Daily Summary

Month	Maximum Daily ROG Emissions (lb/day)						Maximum Daily CO Emissions (lb/day)						Maximum Daily NOx Emissions (lb/day)						Maximum Daily SOx Emissions (lb/day)				
	Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total
January	0.74	2.11	0.30	2.09	5.24		5.97	16.92	2.44	16.76	42.09		13.39	37.97	5.47	37.61	94.44		0.01	0.04	0.01	0.04	0.10
February	0.74	1.47	0.61	1.16	3.98		5.97	11.85	4.88	9.31	32.00		13.39	26.58	10.95	20.89	71.81		0.01	0.03	0.01	0.02	0.08
March	0.82	1.90	0.61	1.62	4.94		6.56	15.23	4.88	13.04	39.71		14.73	34.18	10.95	29.25	89.10		0.02	0.04	0.01	0.03	0.09
April	0.74	1.90	0.61	1.62	4.87		5.97	15.23	4.88	13.04	39.11		13.39	34.18	10.95	29.25	87.76		0.01	0.04	0.01	0.03	0.09
May	0.82	1.69	0.30	1.85	4.66		6.56	13.54	2.44	14.90	37.44		14.73	30.38	5.47	33.43	84.01		0.02	0.03	0.01	0.04	0.09
June	0.82	1.47	0.61	1.62	4.52		6.56	11.85	4.88	13.04	36.32		14.73	26.58	10.95	29.25	81.51		0.02	0.03	0.01	0.03	0.09
July	0.97	1.47	0.61	1.62	4.67		7.76	11.85	4.88	13.04	37.52		17.40	26.58	10.95	29.25	84.19		0.02	0.03	0.01	0.03	0.09
August	1.04	1.69	0.61	1.39	4.72		8.35	13.54	4.88	11.17	37.94		18.74	30.38	10.95	25.07	85.14		0.02	0.03	0.01	0.03	0.09
September	0.89	1.47	0.61	1.39	4.36		7.16	11.85	4.88	11.17	35.06		16.07	26.58	10.95	25.07	78.67		0.02	0.03	0.01	0.03	0.08
October	0.97	1.47	0.30	1.85	4.60		7.76	11.85	2.44	14.90	36.94		17.40	26.58	5.47	33.43	82.89		0.02	0.03	0.01	0.04	0.09
November	0.82	1.47	0.61	1.62	4.52		6.56	11.85	4.88	13.04	36.32		14.73	26.58	10.95	29.25	81.51		0.02	0.03	0.01	0.03	0.09
December	0.82	1.47	0.30	0.93	3.52		6.56	11.85	2.44	7.45	28.30		14.73	26.58	5.47	16.72	63.50		0.02	0.03	0.01	0.02	0.07

## Daily Summary Continued

Month	Maximum Daily PM10 Emissions (lb/day)						Maximum Daily PM2.5 Emissions (lb/day)				
	Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total
January	0.53	1.51	0.22	1.50	3.75		0.46	1.29	0.19	1.28	3.22
February	0.53	1.06	0.44	0.83	2.85		0.46	0.90	0.37	0.71	2.44
March	0.59	1.36	0.44	1.16	3.54		0.50	1.16	0.37	1.00	3.03
April	0.53	1.36	0.44	1.16	3.49		0.46	1.16	0.37	1.00	2.99
May	0.59	1.21	0.22	1.33	3.34		0.50	1.03	0.19	1.14	2.86
June	0.59	1.06	0.44	1.16	3.24		0.50	0.90	0.37	1.00	2.77
July	0.69	1.06	0.44	1.16	3.35		0.59	0.90	0.37	1.00	2.87
August	0.75	1.21	0.44	1.00	3.38		0.64	1.03	0.37	0.85	2.90
September	0.64	1.06	0.44	1.00	3.13		0.55	0.90	0.37	0.85	2.68
October	0.69	1.06	0.22	1.33	3.30		0.59	0.90	0.19	1.14	2.82
November	0.59	1.06	0.44	1.16	3.24		0.50	0.90	0.37	1.00	2.77
December	0.59	1.06	0.22	0.66	2.52		0.50	0.90	0.19	0.57	2.16

## Annual Summary

Destination	Maximum Annual Criteria Pollutant Emissions (tons/year)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Redwood	0.11	0.87	1.94	0.00	0.08	0.07
Potrero	0.20	1.63	3.65	0.00	0.15	0.12
Vasco Road	0.05	0.42	0.95	0.00	0.04	0.03
Keller Canyon	0.19	1.53	3.42	0.00	0.14	0.12
<b>Total</b>	<b>0.55</b>	<b>4.44</b>	<b>9.97</b>	<b>0.01</b>	<b>0.40</b>	<b>0.34</b>

GHG Emissions (metric tons/year)		
CO2	CH4	CO2E
197.04	0.01	197.16
370.98	0.01	371.21
96.40	0.00	96.46
347.61	0.01	347.82
<b>1,012.03</b>	<b>0.03</b>	<b>1,012.64</b>



# Export By Truck (2010)

# Guerneville Transfer Station

Emissions Generated From Export From Guernville Transfer Station - 2010

2010

To Redwood										Criteria Pollutants																	
Month	2007 Tons / Month	2010 Tons / Month	2010 New Trips / Month	2007 Trips / Month	2010 Total Truck Trips	Ave Tons / Trip	RT Miles	Miles / Month	Miles / Day	ROG			CO			NOx			SOx			PM10			PM2.5		
										EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)	
January	124.20	127.96	0	6	6	21	90.6	544	91	0.79	0.16	0.00	6.32	1.26	0.00	14.19	2.83	0.01	0.02	0.00	0.00	0.56	0.11	0.00	0.48	0.10	0.00
February	78.84	81.23	0	4	4	20	90.6	362	91	0.79	0.16	0.00	6.32	1.26	0.00	14.19	2.83	0.01	0.02	0.00	0.00	0.56	0.11	0.00	0.48	0.10	0.00
March	158.25	163.05	0	8	8	20	90.6	725	91	0.79	0.16	0.00	6.32	1.26	0.01	14.19	2.83	0.01	0.02	0.00	0.00	0.56	0.11	0.00	0.48	0.10	0.00
April	185.66	191.29	0	9	9	21	90.6	815	91	0.79	0.16	0.00	6.32	1.26	0.01	14.19	2.83	0.01	0.02	0.00	0.00	0.56	0.11	0.00	0.48	0.10	0.00
May	110.22	113.56	0	7	7	16	90.6	634	91	0.79	0.16	0.00	6.32	1.26	0.00	14.19	2.83	0.01	0.02	0.00	0.00	0.56	0.11	0.00	0.48	0.10	0.00
June	330.69	340.71	1	17	18	19	90.6	1,631	91	0.79	0.16	0.00	6.32	1.26	0.01	14.19	2.83	0.03	0.02	0.00	0.00	0.56	0.11	0.00	0.48	0.10	0.00
July	103.82	106.97	0	5	5	21	90.6	453	91	0.79	0.16	0.00	6.32	1.26	0.00	14.19	2.83	0.01	0.02	0.00	0.00	0.56	0.11	0.00	0.48	0.10	0.00
August	82.05	84.54	0	4	4	21	90.6	362	91	0.79	0.16	0.00	6.32	1.26	0.00	14.19	2.83	0.01	0.02	0.00	0.00	0.56	0.11	0.00	0.48	0.10	0.00
September	55.36	57.04	0	3	3	19	90.6	272	91	0.79	0.16	0.00	6.32	1.26	0.00	14.19	2.83	0.00	0.02	0.00	0.00	0.56	0.11	0.00	0.48	0.10	0.00
October	191.43	197.23	0	10	10	20	90.6	906	91	0.79	0.16	0.00	6.32	1.26	0.01	14.19	2.83	0.01	0.02	0.00	0.00	0.56	0.11	0.00	0.48	0.10	0.00
November	96.55	99.48	0	5	5	20	90.6	453	91	0.79	0.16	0.00	6.32	1.26	0.00	14.19	2.83	0.01	0.02	0.00	0.00	0.56	0.11	0.00	0.48	0.10	0.00
December	156.28	161.02	0	7	7	23	90.6	634	91	0.79	0.16	0.00	6.32	1.26	0.00	14.19	2.83	0.01	0.02	0.00	0.00	0.56	0.11	0.00	0.48	0.10	0.00

To Potero										Criteria Pollutants																	
Month	2007 Tons / Month	2010 Tons / Month	2010 New Trips / Month	2007 Trips / Month	2010 Total Truck Trips	Ave Tons / Trip	RT Miles	Miles / Month	Miles / Day	ROG			CO			NOx			SOx			PM10			PM2.5		
										EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)	
January	696.62	717.73	1	35	36	20	169.2	6,091	338	0.79	0.59	0.01	6.32	4.72	0.04	14.19	10.58	0.10	0.02	0.01	0.00	0.56	0.42	0.00	0.48	0.36	0.00
February	648.24	667.88	1	33	34	20	169.2	5,753	338	0.79	0.59	0.00	6.32	4.72	0.04	14.19	10.58	0.09	0.02	0.01	0.00	0.56	0.42	0.00	0.48	0.36	0.00
March	882.92	909.67	1	45	46	20	169.2	7,783	508	0.79	0.88	0.01	6.32	7.08	0.05	14.19	15.88	0.12	0.02	0.02	0.00	0.56	0.63	0.00	0.48	0.54	0.00
April	888.95	915.89	1	44	45	20	169.2	7,614	508	0.79	0.88	0.01	6.32	7.08	0.05	14.19	15.88	0.12	0.02	0.02	0.00	0.56	0.63	0.00	0.48	0.54	0.00
May	1,074.03	1,106.57	2	55	57	19	169.2	9,644	508	0.79	0.88	0.01	6.32	7.08	0.07	14.19	15.88	0.15	0.02	0.02	0.00	0.56	0.63	0.01	0.48	0.54	0.01
June	891.62	918.64	1	47	48	19	169.2	8,122	508	0.79	0.88	0.01	6.32	7.08	0.06	14.19	15.88	0.13	0.02	0.02	0.00	0.56	0.63	0.01	0.48	0.54	0.00
July	1,378.45	1,420.22	2	63	65	22	169.2	10,998	508	0.79	0.88	0.01	6.32	7.08	0.08	14.19	15.88	0.17	0.02	0.02	0.00	0.56	0.63	0.01	0.48	0.54	0.01
August	1,686.40	1,737.50	3	76	79	22	169.2	13,367	677	0.79	1.17	0.01	6.32	9.43	0.09	14.19	21.17	0.21	0.02	0.02	0.00	0.56	0.84	0.01	0.48	0.72	0.01
September	1,285.07	1,324.01	2	71	73	18	169.2	12,352	677	0.79	1.17	0.01	6.32	9.43	0.09	14.19	21.17	0.19	0.02	0.02	0.00	0.56	0.84	0.01	0.48	0.72	0.01
October	1,200.13	1,236.50	2	59	61	20	169.2	10,321	508	0.79	0.88	0.01	6.32	7.08	0.07	14.19	15.88	0.16	0.02	0.02	0.00	0.56	0.63	0.01	0.48	0.54	0.01
November	1,037.74	1,069.18	2	47	49	22	169.2	8,291	508	0.79	0.88	0.01	6.32	7.08	0.06	14.19	15.88	0.13	0.02	0.02	0.00	0.56	0.63	0.01	0.48	0.54	0.00
December	898.63	925.86	1	42	43	22	169.2	7,276	338	0.79	0.59	0.01	6.32	4.72	0.05	14.19	10.58	0.11	0.02	0.01	0.00	0.56	0.42	0.00	0.48	0.36	0.00

To Vasco										Criteria Pollutants																	
Month	2007 Tons / Month	2010 Tons / Month	2010 New Trips / Month	2007 Trips / Month	2010 Total Truck Trips	Ave Tons / Trip	RT Miles	Miles / Month	Miles / Day	ROG			CO			NOx			SOx			PM10			PM2.5		
										EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)	
January	0.00	0.00	0	0	0	NA	222.0	0	0	0.79	0.00	0.00	6.32	0.00	0.00	14.19	0.00	0.00	0.02	0.00	0.00	0.56	0.00	0.00	0.48	0.00	0.00
February	104.22	107.38	0	5	5	21	222.0	1,110	222	0.79	0.39	0.00	6.32	3.09	0.01	14.19	6.94	0.02	0.02	0.01	0.00	0.56	0.28	0.00	0.48	0.24	0.00
March	107.54	110.80	0	5	5	22	222.0	1,110	222	0.79	0.39	0.00	6.32	3.09	0.01	14.19	6.94	0.02	0.02	0.01	0.00	0.56	0.28	0.00	0.48	0.24	0.00
April	171.79	177.00	0	8	8	22	222.0	1,776	222	0.79	0.39	0.00	6.32	3.09	0.01	14.19	6.94	0.03	0.02	0.01	0.00	0.56	0.28	0.00	0.48	0.24	0.00
May	180.28	185.74	0	8	8	23	222.0	1,776	222	0.79	0.39	0.00	6.32	3.09	0.01	14.19	6.94	0.03	0.02	0.01	0.00	0.56	0.28	0.00	0.48	0.24	0.00
June	133.74	137.79	0	6	6	23	222.0	1,332	222	0.79	0.39	0.00	6.32	3.09	0.01	14.19	6.94	0.02	0.02	0.01	0.00	0.56	0.28	0.00	0.48	0.24	0.00
July	245.83	253.28	0	11	11	23	222.0	2,442	222	0.79	0.39	0.00	6.32	3.09	0.02	14.19	6.94	0.04	0.02	0.01	0.00	0.56	0.28	0.00	0.48	0.24	0.00
August	66.96	68.99	0	3	3	23	222.0	666	222	0.79	0.39	0.00	6.32	3.09	0.00	14.19	6.94	0.01	0.02	0.01	0.00	0.56	0.28	0.00	0.48	0.24	0.00
September	60.66	62.50	0	3	3	21	222.0	666	222	0.79	0.39	0.00	6.32	3.09	0.00	14.19	6.94	0.01	0.02	0.01	0.00	0.56	0.28	0.00	0.48	0.24	0.00
October	80.48	82.92	0	4	4	21	222.0	888	222	0.79	0.39	0.00	6.32	3.09	0.01	14.19	6.94	0.01	0.02	0.01	0.00	0.56	0.28	0.00	0.48	0.24	0.00
November	68.32	70.39	0	3	3	23	222.0	666	222	0.79	0.39	0.00	6.32	3.09	0.00	14.19	6.94	0.01	0.02	0.01	0.00	0.56	0.28	0.00	0.48	0.24	0.00
December	111.88	115.27	0	5	5	23	222.0	1,110	222	0.79	0.39	0.00	6.32	3.09	0.01	14.19	6.94	0.02	0.02	0.01	0.00	0.56	0.28	0.00	0.48	0.24	0.00

# Export By Truck (2010)

# Guerneville Transfer Station

Emissions Generated From Export From Guerneville Transfer Station (continued)- 2010

To Redwood					
Month	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
January	1,587.46	0.9	0.04	0.00002	0.9
February	1,587.46	0.6	0.04	0.00002	0.6
March	1,587.46	1.2	0.04	0.00003	1.2
April	1,587.46	1.3	0.04	0.00003	1.3
May	1,587.46	1.0	0.04	0.00003	1.0
June	1,587.46	2.6	0.04	0.00007	2.6
July	1,587.46	0.7	0.04	0.00002	0.7
August	1,587.46	0.6	0.04	0.00002	0.6
September	1,587.46	0.4	0.04	0.00001	0.4
October	1,587.46	1.4	0.04	0.00004	1.4
November	1,587.46	0.7	0.04	0.00002	0.7
December	1,587.46	1.0	0.04	0.00003	1.0

To Potrero					
Month	Greenhouse Gases				
	CO2		CH4		CO2
	EF (grams/mile)	Metric Tons	EF (grams/mile)	Metric Tons	
January	1,587.46	9.7	0.04	0.00026	9.7
February	1,587.46	9.1	0.04	0.00024	9.1
March	1,587.46	12.4	0.04	0.00033	12.4
April	1,587.46	12.1	0.04	0.00032	12.1
May	1,587.46	15.3	0.04	0.00041	15.3
June	1,587.46	12.9	0.04	0.00034	12.9
July	1,587.46	17.5	0.04	0.00046	17.5
August	1,587.46	21.2	0.04	0.00056	21.2
September	1,587.46	19.6	0.04	0.00052	19.6
October	1,587.46	16.4	0.04	0.00043	16.4
November	1,587.46	13.2	0.04	0.00035	13.2
December	1,587.46	11.5	0.04	0.00031	11.6

To Vasco					
Month	Greenhouse Gases				
	CO2		CH4		equivalent
	EF (grams/mile)	Metric Tons	EF (grams/mile)	Metric Tons	
January	1,587.46	0.0	0.04	0.00000	0.0
February	1,587.46	1.8	0.04	0.00005	1.8
March	1,587.46	1.8	0.04	0.00005	1.8
April	1,587.46	2.8	0.04	0.00007	2.8
May	1,587.46	2.8	0.04	0.00007	2.8
June	1,587.46	2.1	0.04	0.00006	2.1
July	1,587.46	3.9	0.04	0.00010	3.9
August	1,587.46	1.1	0.04	0.00003	1.1
September	1,587.46	1.1	0.04	0.00003	1.1
October	1,587.46	1.4	0.04	0.00004	1.4
November	1,587.46	1.1	0.04	0.00003	1.1
December	1,587.46	1.8	0.04	0.00005	1.8

To Keller Canyon					
Month	Greenhouse Gases				
	CO2		CH4		CO2
	EF (grams/mile)	Metric Tons	EF (grams/mile)	Metric Tons	
January	1,587.46	5.2	0.04	0.00014	5.2
February	1,587.46	8.3	0.04	0.00022	8.3
March	1,587.46	10.6	0.04	0.00028	10.6
April	1,587.46	8.3	0.04	0.00022	8.3
May	1,587.46	7.2	0.04	0.00019	7.2
June	1,587.46	8.9	0.04	0.00024	8.9
July	1,587.46	4.3	0.04	0.00011	4.3
August	1,587.46	3.5	0.04	0.00009	3.5
September	1,587.46	5.5	0.04	0.00014	5.5
October	1,587.46	2.6	0.04	0.00007	2.6
November	1,587.46	4.9	0.04	0.00013	4.9
December	1,587.46	1.4	0.04	0.00004	1.4

# Export By Truck (2010)

# Guerneville Transfer Station

Emissions Generated From Export From Guerneville Transfer Station (continued)- 2010

## Daily Summary

Month	Maximum Daily ROG Emissions (lb/day)						Maximum Daily CO Emissions (lb/day)						Maximum Daily NOx Emissions (lb/day)						Maximum Daily SOx Emissions (lb/day)				
	Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total
January	0.16	0.59	0.00	0.31	1.06		1.26	4.72	0.00	2.53	8.51		2.83	10.58	0.00	5.67	19.09		0.00	0.01	0.00	0.01	0.02
February	0.16	0.59	0.39	0.63	1.76		1.26	4.72	3.09	5.05	14.13		2.83	10.58	6.94	11.34	31.70		0.00	0.01	0.01	0.01	0.03
March	0.16	0.88	0.39	0.63	2.05		1.26	7.08	3.09	5.05	16.49		2.83	15.88	6.94	11.34	36.99		0.00	0.02	0.01	0.01	0.04
April	0.16	0.88	0.39	0.63	2.05		1.26	7.08	3.09	5.05	16.49		2.83	15.88	6.94	11.34	36.99		0.00	0.02	0.01	0.01	0.04
May	0.16	0.88	0.39	0.63	2.05		1.26	7.08	3.09	5.05	16.49		2.83	15.88	6.94	11.34	36.99		0.00	0.02	0.01	0.01	0.04
June	0.16	0.88	0.39	0.63	2.05		1.26	7.08	3.09	5.05	16.49		2.83	15.88	6.94	11.34	36.99		0.00	0.02	0.01	0.01	0.04
July	0.16	0.88	0.39	0.31	1.74		1.26	7.08	3.09	2.53	13.96		2.83	15.88	6.94	5.67	31.32		0.00	0.02	0.01	0.01	0.03
August	0.16	1.17	0.39	0.31	2.03		1.26	9.43	3.09	2.53	16.32		2.83	21.17	6.94	5.67	36.62		0.00	0.02	0.01	0.01	0.04
September	0.16	1.17	0.39	0.31	2.03		1.26	9.43	3.09	2.53	16.32		2.83	21.17	6.94	5.67	36.62		0.00	0.02	0.01	0.01	0.04
October	0.16	0.88	0.39	0.31	1.74		1.26	7.08	3.09	2.53	13.96		2.83	15.88	6.94	5.67	31.32		0.00	0.02	0.01	0.01	0.03
November	0.16	0.88	0.39	0.31	1.74		1.26	7.08	3.09	2.53	13.96		2.83	15.88	6.94	5.67	31.32		0.00	0.02	0.01	0.01	0.03
December	0.16	0.59	0.39	0.31	1.44		1.26	4.72	3.09	2.53	11.60		2.83	10.58	6.94	5.67	26.03		0.00	0.01	0.01	0.01	0.03

## Daily Summary

Month	Maximum Daily PM10 Emissions (lb/day)						Maximum Daily PM2.5 Emissions (lb/day)				
	Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total
January	0.11	0.42	0.00	0.23	0.76		0.10	0.36	0.00	0.19	0.65
February	0.11	0.42	0.28	0.45	1.26		0.10	0.36	0.24	0.39	1.08
March	0.11	0.63	0.28	0.45	1.47		0.10	0.54	0.24	0.39	1.26
April	0.11	0.63	0.28	0.45	1.47		0.10	0.54	0.24	0.39	1.26
May	0.11	0.63	0.28	0.45	1.47		0.10	0.54	0.24	0.39	1.26
June	0.11	0.63	0.28	0.45	1.47		0.10	0.54	0.24	0.39	1.26
July	0.11	0.63	0.28	0.23	1.25		0.10	0.54	0.24	0.19	1.07
August	0.11	0.84	0.28	0.23	1.46		0.10	0.72	0.24	0.19	1.25
September	0.11	0.84	0.28	0.23	1.46		0.10	0.72	0.24	0.19	1.25
October	0.11	0.63	0.28	0.23	1.25		0.10	0.54	0.24	0.19	1.07
November	0.11	0.63	0.28	0.23	1.25		0.10	0.54	0.24	0.19	1.07
December	0.11	0.42	0.28	0.23	1.03		0.10	0.36	0.24	0.19	0.89

## Annual Summary

Destination	Maximum Annual Criteria Pollutant Emissions (tons/year)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Redwood	0.01	0.05	0.12	0.00	0.00	0.00
Potrero	0.09	0.75	1.68	0.00	0.07	0.06
Vasco Road	0.01	0.09	0.21	0.00	0.01	0.01
Keller Canyon	0.04	0.31	0.70	0.00	0.03	0.02
<b>Total</b>	<b>0.15</b>	<b>1.21</b>	<b>2.71</b>	<b>0.00</b>	<b>0.11</b>	<b>0.09</b>

GHG Emissions (metric tons/year)		
CO2	CH4	CO2e
12.37	0.00	12.38
170.83	0.00	170.93
21.50	0.00	21.51
70.76	0.00	70.80
<b>275.46</b>	<b>0.01</b>	<b>275.63</b>

## Export By Truck (2010)

## Healdsburg Transfer Station

Emissions Generated From Export From Healdsburg Transfer Station - 2010

2010

To Redwood										Criteria Pollutants																	
Month	2007 Tons / Month	2010 Tons / Month	2010 New Trips / Month	2007 Trips / Month	2010 Total Truck Trips	Ave Tons / Trip	RT Miles	Miles / Month	Miles / Day	ROG			CO			NOx			SOx			PM10			PM2.5		
										EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)
January	2,050.56	2,112.69	3	107	110	19	96	10,560	480	0.79	0.83	0.01	6.32	6.69	0.07	14.19	15.01	0.17	0.02	0.02	0.00	0.56	0.60	0.01	0.48	0.51	0.01
February	1,559.65	1,606.91	2	78	80	20	96	7,680	384	0.79	0.67	0.01	6.32	5.35	0.05	14.19	12.01	0.12	0.02	0.01	0.00	0.56	0.48	0.00	0.48	0.41	0.00
March	1,824.34	1,879.62	3	96	99	19	96	9,504	480	0.79	0.83	0.01	6.32	6.69	0.07	14.19	15.01	0.15	0.02	0.02	0.00	0.56	0.60	0.01	0.48	0.51	0.01
April	1,809.97	1,864.81	3	88	91	20	96	8,736	480	0.79	0.83	0.01	6.32	6.69	0.06	14.19	15.01	0.14	0.02	0.02	0.00	0.56	0.60	0.01	0.48	0.51	0.00
May	2,025.70	2,087.08	3	94	97	22	96	9,312	480	0.79	0.83	0.01	6.32	6.69	0.06	14.19	15.01	0.15	0.02	0.02	0.00	0.56	0.60	0.01	0.48	0.51	0.00
June	1,576.86	1,624.64	2	75	77	21	96	7,392	384	0.79	0.67	0.01	6.32	5.35	0.05	14.19	12.01	0.12	0.02	0.01	0.00	0.56	0.48	0.00	0.48	0.41	0.00
July	1,569.78	1,617.35	2	77	79	20	96	7,584	384	0.79	0.67	0.01	6.32	5.35	0.05	14.19	12.01	0.12	0.02	0.01	0.00	0.56	0.48	0.00	0.48	0.41	0.00
August	2,218.17	2,285.38	3	115	118	19	96	11,328	576	0.79	1.00	0.01	6.32	8.03	0.08	14.19	18.02	0.18	0.02	0.02	0.00	0.56	0.72	0.01	0.48	0.61	0.01
September	2,025.47	2,086.84	3	108	111	19	96	10,656	576	0.79	1.00	0.01	6.32	8.03	0.07	14.19	18.02	0.17	0.02	0.02	0.00	0.56	0.72	0.01	0.48	0.61	0.01
October	2,200.59	2,267.27	3	110	113	20	96	10,848	576	0.79	1.00	0.01	6.32	8.03	0.08	14.19	18.02	0.17	0.02	0.02	0.00	0.56	0.72	0.01	0.48	0.61	0.01
November	2,057.04	2,119.37	3	98	101	21	96	9,696	480	0.79	0.83	0.01	6.32	6.69	0.07	14.19	15.01	0.15	0.02	0.02	0.00	0.56	0.60	0.01	0.48	0.51	0.01
December	1,403.95	1,446.49	2	66	68	21	96	6,528	384	0.79	0.67	0.01	6.32	5.35	0.05	14.19	12.01	0.10	0.02	0.01	0.00	0.56	0.48	0.00	0.48	0.41	0.00

To Potrero											Criteria Pollutants																
Month	2007 Tons / Month	2010 Tons / Month	2010 New Trips / Month	2007 Trips / Month	2010 Total Truck Trips	Ave Tons / Trip	RT Miles	Miles / Month	Miles / Day	ROG			CO			NOx			SOx			PM10			PM2.5		
										EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)
January	3,569.91	3,678.08	5	177	182	20	174.6	31,777	1,571	0.79	2.73	0.03	6.32	21.91	0.22	14.19	49.15	0.50	0.02	0.05	0.00	0.56	1.95	0.02	0.48	1.67	0.02
February	3,400.28	3,503.31	5	168	173	20	174.6	30,206	1,397	0.79	2.42	0.03	6.32	19.47	0.21	14.19	43.69	0.47	0.02	0.05	0.00	0.56	1.74	0.02	0.48	1.49	0.02
March	3,782.82	3,897.44	6	189	195	20	174.6	34,047	1,571	0.79	2.73	0.03	6.32	21.91	0.24	14.19	49.15	0.53	0.02	0.05	0.00	0.56	1.95	0.02	0.48	1.67	0.02
April	3,426.79	3,530.63	5	168	173	20	174.6	30,206	1,397	0.79	2.42	0.03	6.32	19.47	0.21	14.19	43.69	0.47	0.02	0.05	0.00	0.56	1.74	0.02	0.48	1.49	0.02
May	3,676.02	3,787.41	6	174	180	21	174.6	31,428	1,571	0.79	2.73	0.03	6.32	21.91	0.22	14.19	49.15	0.49	0.02	0.05	0.00	0.56	1.95	0.02	0.48	1.67	0.02
June	3,470.79	3,575.96	5	168	173	21	174.6	30,206	1,397	0.79	2.42	0.03	6.32	19.47	0.21	14.19	43.69	0.47	0.02	0.05	0.00	0.56	1.74	0.02	0.48	1.49	0.02
July	3,292.28	3,392.04	5	159	164	21	174.6	28,634	1,397	0.79	2.42	0.02	6.32	19.47	0.20	14.19	43.69	0.45	0.02	0.05	0.00	0.56	1.74	0.02	0.48	1.49	0.02
August	3,208.07	3,305.28	5	156	161	21	174.6	28,111	1,397	0.79	2.42	0.02	6.32	19.47	0.20	14.19	43.69	0.44	0.02	0.05	0.00	0.56	1.74	0.02	0.48	1.49	0.01
September	2,728.97	2,811.66	4	134	138	20	174.6	24,095	1,222	0.79	2.12	0.02	6.32	17.04	0.17	14.19	38.23	0.38	0.02	0.04	0.00	0.56	1.52	0.01	0.48	1.30	0.01
October	3,105.99	3,200.10	5	154	159	20	174.6	27,761	1,397	0.79	2.42	0.02	6.32	19.47	0.19	14.19	43.69	0.43	0.02	0.05	0.00	0.56	1.74	0.02	0.48	1.49	0.01
November	2,526.28	2,602.83	4	124	128	20	174.6	22,349	1,048	0.79	1.82	0.02	6.32	14.60	0.16	14.19	32.77	0.35	0.02	0.03	0.00	0.56	1.30	0.01	0.48	1.12	0.01
December	2,514.48	2,590.67	4	123	127	20	174.6	22,174	1,048	0.79	1.82	0.02	6.32	14.60	0.15	14.19	32.77	0.35	0.02	0.03	0.00	0.56	1.30	0.01	0.48	1.12	0.01

To Vasco										Criteria Pollutants																	
Month	2007 Tons / Month	2010 Tons / Month	2010 New Trips / Month	2007 Trips / Month	2010 Total Truck Trips	Ave Tons / Trip	RT Miles	Miles / Month	Miles / Day	ROG		CO		NOx		SOx		PM10		PM2.5							
										EF (g/mile)	Emissions (lbs/day) (tpm)	EF (g/mile)	Emissions (lbs/day) (tpm)	EF (g/mile)	Emissions (lbs/day) (tpm)	EF (g/mile)	Emissions (lbs/day) (tpm)	EF (g/mile)	Emissions (lbs/day) (tpm)	EF (g/mile)	Emissions (lbs/day) (tpm)						
January	67.85	69.91	0	3	3	23	228.0	684	228	0.79	0.40	0.00	6.32	3.18	0.00	14.19	7.13	0.01	0.02	0.01	0.00	0.56	0.28	0.00	0.48	0.24	0.00
February	197.52	203.51	0	13	13	16	228.0	2,964	228	0.79	0.40	0.00	6.32	3.18	0.02	14.19	7.13	0.05	0.02	0.01	0.00	0.56	0.28	0.00	0.48	0.24	0.00
March	388.75	400.53	1	18	19	21	228.0	4,332	228	0.79	0.40	0.00	6.32	3.18	0.03	14.19	7.13	0.07	0.02	0.01	0.00	0.56	0.28	0.00	0.48	0.24	0.00
April	224.83	231.64	0	11	11	21	228.0	2,508	228	0.79	0.40	0.00	6.32	3.18	0.02	14.19	7.13	0.04	0.02	0.01	0.00	0.56	0.28	0.00	0.48	0.24	0.00
May	385.34	397.02	1	17	18	22	228.0	4,104	228	0.79	0.40	0.00	6.32	3.18	0.03	14.19	7.13	0.06	0.02	0.01	0.00	0.56	0.28	0.00	0.48	0.24	0.00
June	382.66	394.25	1	17	18	22	228.0	4,104	228	0.79	0.40	0.00	6.32	3.18	0.03	14.19	7.13	0.06	0.02	0.01	0.00	0.56	0.28	0.00	0.48	0.24	0.00
July	798.81	823.01	1	34	35	24	228.0	7,980	456	0.79	0.79	0.01	6.32	6.36	0.06	14.19	14.26	0.12	0.02	0.02	0.00	0.56	0.57	0.00	0.48	0.49	0.00
August	398.54	410.62	1	17	18	23	228.0	4,104	228	0.79	0.40	0.00	6.32	3.18	0.03	14.19	7.13	0.06	0.02	0.01	0.00	0.56	0.28	0.00	0.48	0.24	0.00
September	286.06	294.73	0	13	13	23	228.0	2,964	228	0.79	0.40	0.00	6.32	3.18	0.02	14.19	7.13	0.05	0.02	0.01	0.00	0.56	0.28	0.00	0.48	0.24	0.00
October	182.26	187.78	0	8	8	23	228.0	1,824	228	0.79	0.40	0.00	6.32	3.18	0.01	14.19	7.13	0.03	0.02	0.01	0.00	0.56	0.28	0.00	0.48	0.24	0.00
November	110.52	113.87	0	5	5	23	228.0	1,140	228	0.79	0.40	0.00	6.32	3.18	0.01	14.19	7.13	0.02	0.02	0.01	0.00	0.56	0.28	0.00	0.48	0.24	0.00
December	113.53	116.97	0	5	5	23	228.0	1,140	228	0.79	0.40	0.00	6.32	3.18	0.01	14.19	7.13	0.02	0.02	0.01	0.00	0.56	0.28	0.00	0.48	0.24	0.00

To Keller Canyon											Criteria Pollutants																
Month	2007 Tons / Month	2010 Tons / Month	2010 New Trips / Month	2007 Trips / Month	2010 Total Truck Trips	Ave Tons / Trip	RT Miles	Miles / Month	Miles / Day	ROG			CO			NOx			SOx			PM10			PM2.5		
										EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)	
January	278.87	287.32	0	14	14	21	186.6	2,612	187	0.79	0.32	0.00	6.32	2.60	0.02	14.19	5.84	0.04	0.02	0.01	0.00	0.56	0.23	0.00	0.48	0.20	0.00
February	177.80	183.19	0	9	9	20	186.6	1,679	187	0.79	0.32	0.00	6.32	2.60	0.01	14.19	5.84	0.03	0.02	0.01	0.00	0.56	0.23	0.00	0.48	0.20	0.00
March	245.34	252.77	0	12	12	21	186.6	2,239	187	0.79	0.32	0.00	6.32	2.60	0.02	14.19	5.84	0.04	0.02	0.01	0.00	0.56	0.23	0.00	0.48	0.20	0.00
April	234.66	241.77	0	12	12	20	186.6	2,239	187	0.79	0.32	0.00	6.32	2.60	0.02	14.19	5.84	0.04	0.02	0.01	0.00	0.56	0.23	0.00	0.48	0.20	0.00
May	57.86	59.61	0	3	3	20	186.6	560	187	0.79	0.32	0.00	6.32	2.60	0.00	14.19	5.84	0.01	0.02	0.01	0.00	0.56	0.23	0.00	0.48	0.20	0.00
June	397.64	409.69	1	21	22	19	186.6	4,105	187	0.79	0.32	0.00	6.32	2.60	0.03	14.19	5.84	0.06	0.02	0.01	0.00	0.56	0.23	0.00	0.48	0.20	0.00
July	535.64	551.87	1	27	28	20	186.6	5,225	373	0.79	0.65	0.00	6.32	5.20	0.04	14.19	11.67	0.08	0.02	0.01	0.00	0.56	0.46	0.00	0.48	0.40	0.00
August	609.09	627.55	1	30	31	20	186.6	5,785	373	0.79	0.65	0.01	6.32	5.20	0.04	14.19	11.67	0.09	0.02	0.01	0.00	0.56	0.46	0.00	0.48	0.40	0.00
September	409.99	422.41	1	21	22	19	186.6	4,105	187	0.79	0.32	0.00	6.32	2.60	0.03	14.19	5.84	0.06	0.02	0.01	0.00	0.56	0.23	0.00	0.48	0.20	0.00
October	564.29	581.39	1	28	29	20	186.6	5,411	373	0.79	0.65	0.00	6.32	5.20	0.04	14.19	11.67	0.08	0.02	0.01	0.00	0.56	0.46	0.00	0.48	0.40	0.00
November	864.73	890.93	1	42	43	21	186.6	8,024	373	0.79	0.65	0.01	6.32	5.20	0.06	14.19	11.67	0.13	0.02	0.01	0.00	0.56	0.46	0.00	0.48	0.40	0.00
December	840.03	865.48	1	41	42	21	186.6	7,837	373	0.79	0.65	0.01	6.32	5.20	0.05	14.19	11.67	0.12	0.02	0.01	0.00	0.56	0.46	0.00	0.48	0.40	0.00

# Export By Truck (2010)

# Healdsburg Transfer Station

Emissions Generated From Export From Healdsburg Transfer Station (continued) - 2010

To Redwood					
Month	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
January	1,587.46	16.8	0.04	0.00044	16.8
February	1,587.46	12.2	0.04	0.00032	12.2
March	1,587.46	15.1	0.04	0.00040	15.1
April	1,587.46	13.9	0.04	0.00037	13.9
May	1,587.46	14.8	0.04	0.00039	14.8
June	1,587.46	11.7	0.04	0.00031	11.7
July	1,587.46	12.0	0.04	0.00032	12.0
August	1,587.46	18.0	0.04	0.00048	18.0
September	1,587.46	16.9	0.04	0.00045	16.9
October	1,587.46	17.2	0.04	0.00046	17.2
November	1,587.46	15.4	0.04	0.00041	15.4
December	1,587.46	10.4	0.04	0.00027	10.4

To Potrero					
Month	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
January	1,587.46	50.4	0.04	0.00133	50.5
February	1,587.46	48.0	0.04	0.00127	48.0
March	1,587.46	54.0	0.04	0.00143	54.1
April	1,587.46	48.0	0.04	0.00127	48.0
May	1,587.46	49.9	0.04	0.00132	49.9
June	1,587.46	48.0	0.04	0.00127	48.0
July	1,587.46	45.5	0.04	0.00120	45.5
August	1,587.46	44.6	0.04	0.00118	44.7
September	1,587.46	38.2	0.04	0.00101	38.3
October	1,587.46	44.1	0.04	0.00117	44.1
November	1,587.46	35.5	0.04	0.00094	35.5
December	1,587.46	35.2	0.04	0.00093	35.2

To Vasco					
Month	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
January	1,587.46	1.1	0.04	0.00003	1.1
February	1,587.46	4.7	0.04	0.00012	4.7
March	1,587.46	6.9	0.04	0.00018	6.9
April	1,587.46	4.0	0.04	0.00011	4.0
May	1,587.46	6.5	0.04	0.00017	6.5
June	1,587.46	6.5	0.04	0.00017	6.5
July	1,587.46	12.7	0.04	0.00034	12.7
August	1,587.46	6.5	0.04	0.00017	6.5
September	1,587.46	4.7	0.04	0.00012	4.7
October	1,587.46	2.9	0.04	0.00008	2.9
November	1,587.46	1.8	0.04	0.00005	1.8
December	1,587.46	1.8	0.04	0.00005	1.8

To Keller Canyon					
Month	Greenhouse Gases				
	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
January	1,587.46	4.1	0.04	0.00011	4.1
February	1,587.46	2.7	0.04	0.00007	2.7
March	1,587.46	3.6	0.04	0.00009	3.6
April	1,587.46	3.6	0.04	0.00009	3.6
May	1,587.46	0.9	0.04	0.00002	0.9
June	1,587.46	6.5	0.04	0.00017	6.5
July	1,587.46	8.3	0.04	0.00022	8.3
August	1,587.46	9.2	0.04	0.00024	9.2
September	1,587.46	6.5	0.04	0.00017	6.5
October	1,587.46	8.6	0.04	0.00023	8.6
November	1,587.46	12.7	0.04	0.00034	12.7
December	1,587.46	12.4	0.04	0.00033	12.4

## Export By Truck (2010)

## Healdsburg Transfer Station

Emissions Generated From Export From Healdsburg Transfer Station (continued) - 2010

### Daily Summary

Month	Maximum Daily ROG Emissions (lb/day)						Maximum Daily CO Emissions (lb/day)						Maximum Daily NOx Emissions (lb/day)						Maximum Daily SOx Emissions (lb/day)				
	Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total
January	0.83	2.73	0.40	0.32	4.28		6.69	21.91	3.18	2.60	34.38		15.01	49.15	7.13	5.84	77.13		0.02	0.05	0.01	0.01	0.08
February	0.67	2.42	0.40	0.32	3.81		5.35	19.47	3.18	2.60	30.60		12.01	43.69	7.13	5.84	68.67		0.01	0.05	0.01	0.01	0.07
March	0.83	2.73	0.40	0.32	4.28		6.69	21.91	3.18	2.60	34.38		15.01	49.15	7.13	5.84	77.13		0.02	0.05	0.01	0.01	0.08
April	0.83	2.42	0.40	0.32	3.98		6.69	19.47	3.18	2.60	31.94		15.01	43.69	7.13	5.84	71.67		0.02	0.05	0.01	0.01	0.08
May	0.83	2.73	0.40	0.32	4.28		6.69	21.91	3.18	2.60	34.38		15.01	49.15	7.13	5.84	77.13		0.02	0.05	0.01	0.01	0.08
June	0.67	2.42	0.40	0.32	3.81		5.35	19.47	3.18	2.60	30.60		12.01	43.69	7.13	5.84	68.67		0.01	0.05	0.01	0.01	0.07
July	0.67	2.42	0.79	0.65	4.53		5.35	19.47	6.36	5.20	36.38		12.01	43.69	14.26	11.67	81.64		0.01	0.05	0.02	0.01	0.09
August	1.00	2.42	0.40	0.65	4.47		8.03	19.47	3.18	5.20	35.88		18.02	43.69	7.13	11.67	80.51		0.02	0.05	0.01	0.01	0.09
September	1.00	2.12	0.40	0.32	3.84		8.03	17.04	3.18	2.60	30.85		18.02	38.23	7.13	5.84	69.21		0.02	0.04	0.01	0.01	0.07
October	1.00	2.42	0.40	0.65	4.47		8.03	19.47	3.18	5.20	35.88		18.02	43.69	7.13	11.67	80.51		0.02	0.05	0.01	0.01	0.09
November	0.83	1.82	0.40	0.65	3.69		6.69	14.60	3.18	5.20	29.68		15.01	32.77	7.13	11.67	66.59		0.02	0.03	0.01	0.01	0.07
December	0.67	1.82	0.40	0.65	3.53		5.35	14.60	3.18	5.20	28.34		12.01	32.77	7.13	11.67	63.58		0.01	0.03	0.01	0.01	0.07

### Daily Summary

Month	Maximum Daily PM10 Emissions (lb/day)						Maximum Daily PM2.5 Emissions (lb/day)				
	Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total
January	0.60	1.95	0.28	0.23	3.07		0.51	1.67	0.24	0.20	2.63
February	0.48	1.74	0.28	0.23	2.73		0.41	1.49	0.24	0.20	2.34
March	0.60	1.95	0.28	0.23	3.07		0.51	1.67	0.24	0.20	2.63
April	0.60	1.74	0.28	0.23	2.85		0.51	1.49	0.24	0.20	2.44
May	0.60	1.95	0.28	0.23	3.07		0.51	1.67	0.24	0.20	2.63
June	0.48	1.74	0.28	0.23	2.73		0.41	1.49	0.24	0.20	2.34
July	0.48	1.74	0.57	0.46	3.25		0.41	1.49	0.49	0.40	2.78
August	0.72	1.74	0.28	0.46	3.20		0.61	1.49	0.24	0.40	2.74
September	0.72	1.52	0.28	0.23	2.75		0.61	1.30	0.24	0.20	2.36
October	0.72	1.74	0.28	0.46	3.20		0.61	1.49	0.24	0.40	2.74
November	0.60	1.30	0.28	0.46	2.65		0.51	1.12	0.24	0.40	2.27
December	0.48	1.30	0.28	0.46	2.53		0.41	1.12	0.24	0.40	2.16

### Annual Summary

Destination	Maximum Annual Criteria Pollutant Emissions (tons/year)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Redwood	0.10	0.77	1.72	0.00	0.07	0.06
Potrero	0.30	2.38	5.33	0.01	0.21	0.18
Vasco Road	0.03	0.26	0.59	0.00	0.02	0.02
Keller Canyon	0.04	0.35	0.78	0.00	0.03	0.03
<b>Total</b>	<b>0.47</b>	<b>3.75</b>	<b>8.42</b>	<b>0.01</b>	<b>0.33</b>	<b>0.29</b>

GHG Emissions (metric tons/year)		
CO2	CH4	CO2e
174.34	0.00	174.45
541.32	0.01	541.65
60.08	0.00	60.12
79.09	0.00	79.14
<b>854.83</b>	<b>0.02</b>	<b>855.35</b>

# Export By Truck (2010)

# Sonoma Transfer Station

Emissions Generated From Export From Sonoma Transfer Station - 2010

2010

To Redwood										Criteria Pollutants																	
Month	2007 Tons / Month	2010 Tons / Month	2010 New Trips / Month	2007 Trips / Month	2010 Total Truck Trips	Ave Tons / Trip	RT Miles	Miles / Month	Miles / Day	ROG			CO			NOx			SOx			PM10			PM2.5		
										EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)
January	44.37	45.71	0	2	2	23	44.8	90	45	0.79	0.08	0.00	6.32	0.62	0.00	14.19	1.40	0.00	0.02	0.00	0.00	0.56	0.06	0.00	0.48	0.05	0.00
February	22.32	23.00	0	1	1	23	44.8	45	45	0.79	0.08	0.00	6.32	0.62	0.00	14.19	1.40	0.00	0.02	0.00	0.00	0.56	0.06	0.00	0.48	0.05	0.00
March	22.25	22.92	0	1	1	23	44.8	45	45	0.79	0.08	0.00	6.32	0.62	0.00	14.19	1.40	0.00	0.02	0.00	0.00	0.56	0.06	0.00	0.48	0.05	0.00
April	0.00	0.00	0	0	0	NA	44.8	0	0	0.79	0.00	0.00	6.32	0.00	0.00	14.19	0.00	0.00	0.02	0.00	0.00	0.56	0.00	0.00	0.48	0.00	0.00
May	41.53	42.79	0	4	4	11	44.8	179	45	0.79	0.08	0.00	6.32	0.62	0.00	14.19	1.40	0.00	0.02	0.00	0.00	0.56	0.06	0.00	0.48	0.05	0.00
June	20.04	20.65	0	1	1	21	44.8	45	45	0.79	0.08	0.00	6.32	0.62	0.00	14.19	1.40	0.00	0.02	0.00	0.00	0.56	0.06	0.00	0.48	0.05	0.00
July	258.64	266.48	0	13	13	20	44.8	582	45	0.79	0.08	0.00	6.32	0.62	0.00	14.19	1.40	0.01	0.02	0.00	0.00	0.56	0.06	0.00	0.48	0.05	0.00
August	73.39	75.61	0	4	4	19	44.8	179	45	0.79	0.08	0.00	6.32	0.62	0.00	14.19	1.40	0.00	0.02	0.00	0.00	0.56	0.06	0.00	0.48	0.05	0.00
September	271.21	279.43	0	13	13	21	44.8	582	45	0.79	0.08	0.00	6.32	0.62	0.00	14.19	1.40	0.01	0.02	0.00	0.00	0.56	0.06	0.00	0.48	0.05	0.00
October	230.05	237.02	0	11	11	22	44.8	493	45	0.79	0.08	0.00	6.32	0.62	0.00	14.19	1.40	0.01	0.02	0.00	0.00	0.56	0.06	0.00	0.48	0.05	0.00
November	270.64	278.84	0	14	14	20	44.8	627	45	0.79	0.08	0.00	6.32	0.62	0.00	14.19	1.40	0.01	0.02	0.00	0.00	0.56	0.06	0.00	0.48	0.05	0.00
December	261.29	269.21	0	12	12	22	44.8	538	45	0.79	0.08	0.00	6.32	0.62	0.00	14.19	1.40	0.01	0.02	0.00	0.00	0.56	0.06	0.00	0.48	0.05	0.00

To Potrero										Criteria Pollutants																	
Month	2007 Tons / Month	2010 Tons / Month	2010 New Trips / Month	2007 Trips / Month	2010 Total Truck Trips	Ave Tons / Trip	RT Miles	Miles / Month	Miles / Day	ROG			CO			NOx			SOx			PM10			PM2.5		
										EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)
January	3,596.49	3,705.47	5	170	175	21	67.4	11,795	539	0.79	0.94	0.01	6.32	7.52	0.08	14.19	16.87	0.18	0.02	0.02	0.00	0.56	0.67	0.01	0.48	0.57	0.01
February	2,965.94	3,055.81	4	138	142	22	67.4	9,571	472	0.79	0.82	0.01	6.32	6.58	0.07	14.19	14.76	0.15	0.02	0.02	0.00	0.56	0.59	0.01	0.48	0.50	0.01
March	3,128.09	3,222.87	5	149	154	21	67.4	10,380	472	0.79	0.82	0.01	6.32	6.58	0.07	14.19	14.76	0.16	0.02	0.02	0.00	0.56	0.59	0.01	0.48	0.50	0.01
April	2,657.69	2,738.22	4	126	130	21	67.4	8,762	404	0.79	0.70	0.01	6.32	5.64	0.06	14.19	12.65	0.14	0.02	0.01	0.00	0.56	0.50	0.01	0.48	0.43	0.00
May	2,634.24	2,714.06	4	123	127	21	67.4	8,560	404	0.79	0.70	0.01	6.32	5.64	0.06	14.19	12.65	0.13	0.02	0.01	0.00	0.56	0.50	0.01	0.48	0.43	0.00
June	1,855.38	1,911.60	3	88	91	21	67.4	6,133	337	0.79	0.58	0.01	6.32	4.70	0.04	14.19	10.54	0.10	0.02	0.01	0.00	0.56	0.42	0.00	0.48	0.36	0.00
July	2,251.32	2,319.54	3	105	108	21	67.4	7,279	337	0.79	0.58	0.01	6.32	4.70	0.05	14.19	10.54	0.11	0.02	0.01	0.00	0.56	0.42	0.00	0.48	0.36	0.00
August	1,612.28	1,661.13	2	76	78	21	67.4	5,257	270	0.79	0.47	0.00	6.32	3.76	0.04	14.19	8.43	0.08	0.02	0.01	0.00	0.56	0.34	0.00	0.48	0.29	0.00
September	1,921.31	1,979.53	3	92	95	21	67.4	6,403	337	0.79	0.58	0.01	6.32	4.70	0.04	14.19	10.54	0.10	0.02	0.01	0.00	0.56	0.42	0.00	0.48	0.36	0.00
October	2,858.43	2,945.04	4	136	140	21	67.4	9,436	472	0.79	0.82	0.01	6.32	6.58	0.07	14.19	14.76	0.15	0.02	0.02	0.00	0.56	0.59	0.01	0.48	0.50	0.01
November	3,728.09	3,841.05	6	178	184	21	67.4	12,402	607	0.79	1.05	0.01	6.32	8.46	0.09	14.19	18.97	0.19	0.02	0.02	0.00	0.56	0.75	0.01	0.48	0.65	0.01
December	2,475.65	2,550.66	4	120	124	21	67.4	8,358	404	0.79	0.70	0.01	6.32	5.64	0.06	14.19	12.65	0.13	0.02	0.01	0.00	0.56	0.50	0.01	0.48	0.43	0.00

To Vasco											Criteria Pollutants																	
Month	2007 Tons / Month	2010 Tons / Month	2010 New Trips / Month	2007 Trips / Month	2010 Total Truck Trips	Ave Tons / Trip	RT Miles	Miles / Month	Miles / Day		ROG			CO			NOx			SOx			PM10			PM2.5		
											EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)	EF (g/mile)	Emissions (lbs/day)	(tpm)
January	195.20	201.11	0	9	22	151.4	1,363	151		0.79	0.26	0.00	6.32	2.11	0.01	14.19	4.74	0.02	0.02	0.01	0.00	0.56	0.19	0.00	0.48	0.16	0.00	
February	547.32	563.90	1	25	26	22	151.4	3,936	303		0.79	0.53	0.00	6.32	4.22	0.03	14.19	9.47	0.06	0.02	0.01	0.00	0.56	0.38	0.00	0.48	0.32	0.00
March	994.69	1,024.83	2	44	46	22	151.4	6,964	454		0.79	0.79	0.01	6.32	6.33	0.05	14.19	14.21	0.11	0.02	0.02	0.00	0.56	0.56	0.00	0.48	0.48	0.00
April	954.58	983.50	1	43	44	22	151.4	6,662	303		0.79	0.53	0.01	6.32	4.22	0.05	14.19	9.47	0.10	0.02	0.01	0.00	0.56	0.38	0.00	0.48	0.32	0.00
May	1,034.61	1,065.96	2	46	48	22	151.4	7,267	454		0.79	0.79	0.01	6.32	6.33	0.05	14.19	14.21	0.11	0.02	0.02	0.00	0.56	0.56	0.00	0.48	0.48	0.00
June	894.17	921.26	1	40	41	22	151.4	6,207	303		0.79	0.53	0.01	6.32	4.22	0.04	14.19	9.47	0.10	0.02	0.01	0.00	0.56	0.38	0.00	0.48	0.32	0.00
July	474.81	489.20	1	21	22	22	151.4	3,331	151		0.79	0.26	0.00	6.32	2.11	0.02	14.19	4.74	0.05	0.02	0.01	0.00	0.56	0.19	0.00	0.48	0.16	0.00
August	179.68	185.12	0	8	8	23	151.4	1,211	151		0.79	0.26	0.00	6.32	2.11	0.01	14.19	4.74	0.02	0.02	0.01	0.00	0.56	0.19	0.00	0.48	0.16	0.00
September	407.17	419.51	1	18	19	22	151.4	2,877	151		0.79	0.26	0.00	6.32	2.11	0.02	14.19	4.74	0.04	0.02	0.01	0.00	0.56	0.19	0.00	0.48	0.16	0.00
October	673.02	693.41	1	31	32	22	151.4	4,845	303		0.79	0.53	0.00	6.32	4.22	0.03	14.19	9.47	0.08	0.02	0.01	0.00	0.56	0.38	0.00	0.48	0.32	0.00
November	187.23	192.90	0	9	9	21	151.4	1,363	151		0.79	0.26	0.00	6.32	2.11	0.01	14.19	4.74	0.02	0.02	0.01	0.00	0.56	0.19	0.00	0.48	0.16	0.00
December	66.04	68.04	0	3	3	23	151.4	454	151		0.79	0.26	0.00	6.32	2.11	0.00	14.19	4.74	0.01	0.02	0.01	0.00	0.56	0.19	0.00	0.48	0.16	0.00

To Keller Canyon										Criteria Pollutants																	
Month	2007 Tons / Month	2010 Tons / Month	2010 New Trips / Month	2007 Trips / Month	2010 Total Truck Trips	Ave Tons / Trip	RT Miles	Miles / Month	Miles / Day	ROG			CO			NOx			SOx			PM10			PM2.5		
										EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)		EF (g/mile)	Emissions (lbs/day) (tpm)	
January	880.48	907.16	1	49	50	18	94.2	4,710	283	0.79	0.49	0.00	6.32	3.94	0.03	14.19	8.84	0.07	0.02	0.01	0.00	0.56	0.35	0.00	0.48	0.30	0.00
February	1,184.34	1,220.23	2	62	64	19	94.2	6,029	283	0.79	0.49	0.01	6.32	3.94	0.04	14.19	8.84	0.09	0.02	0.01	0.00	0.56	0.35	0.00	0.48	0.30	0.00
March	977.51	1,007.13	1	51	52	19	94.2	4,898	283	0.79	0.49	0.00	6.32	3.94	0.03	14.19	8.84	0.08	0.02	0.01	0.00	0.56	0.35	0.00	0.48	0.30	0.00
April	991.85	1,021.90	2	53	55	19	94.2	5,181	283	0.79	0.49	0.00	6.32	3.94	0.04	14.19	8.84	0.08	0.02	0.01	0.00	0.56	0.35	0.00	0.48	0.30	0.00
May	1,292.68	1,331.85	2	69	71	19	94.2	6,688	377	0.79	0.65	0.01	6.32	5.25	0.05	14.19	11.79	0.10	0.02	0.01	0.00	0.56	0.47	0.00	0.48	0.40	0.00
June	1,648.62	1,698.57	2	91	93	18	94.2	8,761	471	0.79	0.82	0.01	6.32	6.57	0.06	14.19	14.73	0.14	0.02	0.02	0.00	0.56	0.59	0.01	0.48	0.50	0.00
July	1,803.47	1,858.12	3	96	99	19	94.2	9,326	471	0.79	0.82	0.01	6.32	6.57	0.07	14.19	14.73	0.15	0.02	0.02	0.00	0.56	0.59	0.01	0.48	0.50	0.00
August	2,844.62	2,930.81	4	151	155	19	94.2	14,601	754	0.79	1.31	0.01	6.32	10.51	0.10	14.19	23.57	0.23	0.02	0.02	0.00	0.56	0.94	0.01	0.48	0.80	0.01
September	2,189.13	2,255.46	3	114	117	19	94.2	11,021	565	0.79	0.98	0.01	6.32	7.88	0.08	14.19	17.68	0.17	0.02	0.02	0.00	0.56	0.70	0.01	0.48	0.60	0.01
October	1,002.85	1,033.24	2	53	55	19	94.2	5,181	283	0.79	0.49	0.00	6.32	3.94	0.04	14.19	8.84	0.08	0.02	0.01	0.00	0.56	0.35	0.00	0.48	0.30	0.00
November	777.04	800.59	1	42	43	19	94.2	4,051	188	0.79	0.33	0.00	6.32	2.63	0.03	14.19	5.89	0.06	0.02	0.01	0.00	0.56	0.23	0.00	0.48	0.20	0.00
December	1,518.80	1,564.82	2	81	83	19	94.2	7,819	377	0.79	0.65	0.01	6.32	5.25	0.05	14.19	11.79	0.12	0.02	0.01	0.00	0.56	0.47	0.00	0.48	0.40	0.00

# Export By Truck (2010)

# Sonoma Transfer Station

Emissions Generated From Export From Sonoma Transfer Station (continued) - 2010

To Redwood					
Greenhouse Gases					
Month	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
January	1,587.46	0.1	0.04	0.00000	0.1
February	1,587.46	0.1	0.04	0.00000	0.1
March	1,587.46	0.1	0.04	0.00000	0.1
April	1,587.46	0.0	0.04	0.00000	0.0
May	1,587.46	0.3	0.04	0.00001	0.3
June	1,587.46	0.1	0.04	0.00000	0.1
July	1,587.46	0.9	0.04	0.00002	0.9
August	1,587.46	0.3	0.04	0.00001	0.3
September	1,587.46	0.9	0.04	0.00002	0.9
October	1,587.46	0.8	0.04	0.00002	0.8
November	1,587.46	1.0	0.04	0.00003	1.0
December	1,587.46	0.9	0.04	0.00002	0.9

To Potrero					
Greenhouse Gases					
Month	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
January	1,587.46	18.7	0.04	0.00050	18.7
February	1,587.46	15.2	0.04	0.00040	15.2
March	1,587.46	16.5	0.04	0.00044	16.5
April	1,587.46	13.9	0.04	0.00037	13.9
May	1,587.46	13.6	0.04	0.00036	13.6
June	1,587.46	9.7	0.04	0.00026	9.7
July	1,587.46	11.6	0.04	0.00031	11.6
August	1,587.46	8.3	0.04	0.00022	8.4
September	1,587.46	10.2	0.04	0.00027	10.2
October	1,587.46	15.0	0.04	0.00040	15.0
November	1,587.46	19.7	0.04	0.00052	19.7
December	1,587.46	13.3	0.04	0.00035	13.3

To Vasco					
Greenhouse Gases					
Month	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
January	1,587.46	2.2	0.04	0.00006	2.2
February	1,587.46	6.2	0.04	0.00017	6.3
March	1,587.46	11.1	0.04	0.00029	11.1
April	1,587.46	10.6	0.04	0.00028	10.6
May	1,587.46	11.5	0.04	0.00031	11.5
June	1,587.46	9.9	0.04	0.00026	9.9
July	1,587.46	5.3	0.04	0.00014	5.3
August	1,587.46	1.9	0.04	0.00005	1.9
September	1,587.46	4.6	0.04	0.00012	4.6
October	1,587.46	7.7	0.04	0.00020	7.7
November	1,587.46	2.2	0.04	0.00006	2.2
December	1,587.46	0.7	0.04	0.00002	0.7

To Keller Canyon					
Greenhouse Gases					
Month	CO2		CH4		CO2e
	EF (g/mile)	Emissions Metric Tons	EF (g/mile)	Emissions Metric Tons	
January	1,587.46	7.5	0.04	0.00020	7.5
February	1,587.46	9.6	0.04	0.00025	9.6
March	1,587.46	7.8	0.04	0.00021	7.8
April	1,587.46	8.2	0.04	0.00022	8.2
May	1,587.46	10.6	0.04	0.00028	10.6
June	1,587.46	13.9	0.04	0.00037	13.9
July	1,587.46	14.8	0.04	0.00039	14.8
August	1,587.46	23.2	0.04	0.00061	23.2
September	1,587.46	17.5	0.04	0.00046	17.5
October	1,587.46	8.2	0.04	0.00022	8.2
November	1,587.46	6.4	0.04	0.00017	6.4
December	1,587.46	12.4	0.04	0.00033	12.4



# Export By Truck (2010)

# Sonoma Transfer Station

Emissions Generated From Export From Sonoma Transfer Station (continued) - 2010

## Daily Summary

Month	Maximum Daily ROG Emissions (lb/day)						Maximum Daily CO Emissions (lb/day)						Maximum Daily NOx Emissions (lb/day)						Maximum Daily SOx Emissions (lb/day)				
	Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total
January	0.08	0.94	0.26	0.49	1.77		0.62	7.52	2.11	3.94	14.19		1.40	16.87	4.74	8.84	31.84		0.00	0.02	0.01	0.01	0.03
February	0.08	0.82	0.53	0.49	1.91		0.62	6.58	4.22	3.94	15.36		1.40	14.76	9.47	8.84	34.47		0.00	0.02	0.01	0.01	0.04
March	0.08	0.82	0.79	0.49	2.17		0.62	6.58	6.33	3.94	17.47		1.40	14.76	14.21	8.84	39.21		0.00	0.02	0.02	0.01	0.04
April	0.00	0.70	0.53	0.49	1.72		0.00	5.64	4.22	3.94	13.80		0.00	12.65	9.47	8.84	30.96		0.00	0.01	0.01	0.01	0.03
May	0.08	0.70	0.79	0.65	2.22		0.62	5.64	6.33	5.25	17.85		1.40	12.65	14.21	11.79	40.04		0.00	0.01	0.02	0.01	0.04
June	0.08	0.58	0.53	0.82	2.01		0.62	4.70	4.22	6.57	16.11		1.40	10.54	9.47	14.73	36.15		0.00	0.01	0.01	0.02	0.04
July	0.08	0.58	0.26	0.82	1.74		0.62	4.70	2.11	6.57	14.00		1.40	10.54	4.74	14.73	31.41		0.00	0.01	0.01	0.02	0.03
August	0.08	0.47	0.26	1.31	2.12		0.62	3.76	2.11	10.51	17.00		1.40	8.43	4.74	23.57	38.14		0.00	0.01	0.01	0.02	0.04
September	0.08	0.58	0.26	0.98	1.91		0.62	4.70	2.11	7.88	15.31		1.40	10.54	4.74	17.68	34.36		0.00	0.01	0.01	0.02	0.04
October	0.08	0.82	0.53	0.49	1.91		0.62	6.58	4.22	3.94	15.36		1.40	14.76	9.47	8.84	34.47		0.00	0.02	0.01	0.01	0.04
November	0.08	1.05	0.26	0.33	1.72		0.62	8.46	2.11	2.63	13.82		1.40	18.97	4.74	5.89	31.00		0.00	0.02	0.01	0.01	0.03
December	0.08	0.70	0.26	0.65	1.70		0.62	5.64	2.11	5.25	13.62		1.40	12.65	4.74	11.79	30.57		0.00	0.01	0.01	0.01	0.03

## Daily Summary (continued)

Month	Maximum Daily PM10 Emissions (lb/day)						Maximum Daily PM2.5 Emissions (lb/day)				
	Redwood	Potrero	Vasco	Keller	Total		Redwood	Potrero	Vasco	Keller	Total
January	0.06	0.67	0.19	0.35	1.27		0.05	0.57	0.16	0.30	1.08
February	0.06	0.59	0.38	0.35	1.37		0.05	0.50	0.32	0.30	1.17
March	0.06	0.59	0.56	0.35	1.56		0.05	0.50	0.48	0.30	1.33
April	0.00	0.50	0.38	0.35	1.23		0.00	0.43	0.32	0.30	1.05
May	0.06	0.50	0.56	0.47	1.59		0.05	0.43	0.48	0.40	1.36
June	0.06	0.42	0.38	0.59	1.44		0.05	0.36	0.32	0.50	1.23
July	0.06	0.42	0.19	0.59	1.25		0.05	0.36	0.16	0.50	1.07
August	0.06	0.34	0.19	0.94	1.52		0.05	0.29	0.16	0.80	1.30
September	0.06	0.42	0.19	0.70	1.37		0.05	0.36	0.16	0.60	1.17
October	0.06	0.59	0.38	0.35	1.37		0.05	0.50	0.32	0.30	1.17
November	0.06	0.75	0.19	0.23	1.23		0.05	0.65	0.16	0.20	1.06
December	0.06	0.50	0.19	0.47	1.22		0.05	0.43	0.16	0.40	1.04

## Annual Summary

Destination	Maximum Annual Criteria Pollutant Emissions (tons/year)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Redwood	0.00	0.02	0.05	0.00	0.00	0.00
Potrero	0.09	0.73	1.63	0.00	0.06	0.06
Vasco Road	0.04	0.32	0.73	0.00	0.03	0.02
Keller Canyon	0.08	0.62	1.38	0.00	0.05	0.05
<b>Total</b>	<b>0.21</b>	<b>1.69</b>	<b>3.79</b>	<b>0.00</b>	<b>0.15</b>	<b>0.13</b>

GHG Emissions (metric tons/year)		
CO2	CH4	CO2e
5.41	0.00	5.41
165.63	0.00	165.73
73.79	0.00	73.83
140.12	0.00	140.20
<b>384.94</b>	<b>0.01</b>	<b>385.17</b>

## Divestiture (2010)

Emissions Generated Post Divestiture - 2010

2010

Existing Destination	Annual Tons	Annual Trips	Daily Trips (August)	RT Miles to Central	Max Daily Miles	Annual Miles	ROG			CO			NOx			SOx			PM10			PM2.5		
							EF grams/mil	(lbs/day)	(ton/year)	EF grams/mil	(lbs/day)	(ton/year)	EF grams/mil	(lb/day)	(ton/year)	EF grams/mil	(lb/day)	(ton/year)	EF grams/mil	(lb/day)	(ton/year)	EF grams/mil	(lb/day)	(ton/year)
From Annapolis to																								
Redwood	319	17	1.00																					
Potrero	4051	230	2.00																					
Vasco	0	0	0.00																					
Keller	0	0	0.00																					
Total	4370	247	3	145.8	437.4	36013	0.79	0.76	0.03	6.32	6.10	0.25	14.19	13.68	0.56	0.02	0.01	0.00	0.56	0.54	0.02	0.48	0.47	0.02
From Guerneville to																								
Redwood	1724	86	1.00																					
Potrero	12950	636	4.00																					
Vasco	1372	61	1.00																					
Keller	4972	246	1.00																					
Total	21017	1029	7	42.8	299.6	44041	0.79	0.52	0.04	6.32	4.18	0.31	14.19	9.37	0.69	0.02	0.01	0.00	0.56	0.37	0.03	0.48	0.32	0.02
From Sonoma to																								
Redwood	1562	76	1.00																					
Potrero	32645	1548	4.00																					
Vasco	6809	307	1.00																					
Keller	17630	937	8.00																					
Total	58645	2868	14	35.0	490.0	100380	0.79	0.85	0.09	6.32	6.83	0.70	14.19	15.33	1.57	0.02	0.02	0.00	0.56	0.61	0.06	0.48	0.52	0.05
From Healdsburg to																								
Redwood	22998	1144	6.00																					
Potrero	39875	1953	8.00																					
Vasco	3644	166	1.00																					
Keller	5374	267	2.00																					
Total	71892	3530	17	62.2	1057.4	219566	0.79	1.83	0.19	6.32	14.74	1.53	14.19	33.07	3.43	0.02	0.03	0.00	0.56	1.31	0.14	0.48	1.13	0.12
Divestiture Total							3.96	0.35		31.84	2.79		71.45	6.26		0.08	0.01		2.84	0.25		2.43	0.21	

Divestiture (2010)

Emissions Generated Post Divestiture (continued) - 2010

	CO2		CH4		CO2e Metric Tons
	EF (grams/mile)	Metric Tons	EF (grams/mile)	Metric Tons	
	1,587.46	57.2	0.04	0.00	57.2
	1,587.46	69.9	0.04	0.00	70.0
	1,587.46	159.4	0.04	0.00	159.4
	1,587.46	348.6	0.04	0.01	348.8
Divestiture Total		635.0		0.02	635.37

Export By Rail (2010)

Emissions Generated From Export By Rail - 2010

2010

Truck Emissions from Transfer Station to Windsor Railway

Existing Destination	Annual Tons	Annual Trips	Max Daily Trips (August)	RT Miles to Windsor	Max Daily Miles	Annual Miles	ROG			CO			NOx			SOx			PM10			PM2.5		
							EF (g/mile)	Emissions (lbs/day)	(ton/year)	EF (g/mile)	Emissions (lbs/day)	(ton/year)	EF (g/mile)	Emissions (lb/day)	(ton/year)	EF (g/mile)	Emissions (lb/day)	(ton/year)	EF (g/mile)	Emissions (lb/day)	(ton/year)	EF (g/mile)	Emissions (lb/day)	(ton/year)
From Annapolis to																								
Redwood	318.93	17.00	1.00																					
Potrero	4,051.03	230.00	2.00																					
Vasco	0.00	0.00	0.00																					
Keller	0.00	0.00	0.00																					
Total	4,369.96	247	3	113.6	340.8	28,059.20	0.79	0.59	0.02	6.32	4.75	0.20	14.19	10.66	0.44	0.02	0.01	0.00	0.56	0.42	0.02	0.48	0.36	0.01
From Guerneville to																								
Redwood	1,724.05	86.00	1.00																					
Potrero	12,949.65	636.00	4.00																					
Vasco	1,372.05	61.00	1.00																					
Keller	4,971.66	246.00	1.00																					
Total	21,017.41	1029	7	29.4	205.8	30,252.60	0.79	0.36	0.03	6.32	2.87	0.21	14.19	6.44	0.47	0.02	0.01	0.00	0.56	0.26	0.02	0.48	0.22	0.02
From Sonoma to																								
Redwood	1,561.66	76.00	1.00																					
Potrero	32,644.99	1,548.00	4.00																					
Vasco	6,808.76	307.00	1.00																					
Keller	17,629.88	937.00	8.00																					
Total	58,645.30	2868	14	68.4	957.6	196,171.20	0.79	1.66	0.17	6.32	13.35	1.37	14.19	29.95	3.07	0.02	0.03	0.00	0.56	1.19	0.12	0.48	1.02	0.10
From Healdsburg to																								
Redwood	22,998.46	1,144.00	6.00																					
Potrero	39,875.41	1,953.00	8.00																					
Vasco	3,643.83	166.00	1.00																					
Keller	5,373.99	267.00	2.00																					
Total	71,891.69	3530	17	20.8	353.6	73,424.00	0.79	0.61	0.06	6.32	4.93	0.51	14.19	11.06	1.15	0.02	0.01	0.00	0.56	0.44	0.05	0.48	0.38	0.04
From Central to																								
Redwood	55,958.06	2,900.00	14.00																					
Potrero	40,764.53	1,925.00	8.00																					
Vasco	7,665.93	347.00	2.00																					
Keller	32,545.93	1,639.00	6.00																					
Total	136,934.45	6,811.00	30.00	42.0	1260.0	286,062.00	0.79	2.19	0.25	6.32	17.56	1.99	14.19	39.41	4.47	0.02	0.04	0.00	0.56	1.57	0.18	0.48	1.34	0.15

Rail Emissions from Windsor to Destination

Destination	Annual Trips	Max Daily Trips	Distance	ROG			CO			NOx			SOx			PM10			PM2.5		
				EF (g/mile)	Emissions (lbs/day)	(ton/year)	EF (g/mile)	Emissions (lbs/day)	(ton/year)	EF (g/mile)	Emissions (lb/day)	(ton/year)	EF (g/mile)	Emissions (lb/day)	(ton/year)	EF (g/mile)	Emissions (lb/day)	(ton/year)	EF (g/mile)	Emissions (lb/day)	(ton/year)
ECDC Landfill (Utah) (BAAQMD)	312	1	126	2.73	0.76	0.12	44.62	12.39	1.93	131.40	36.50	5.69	7.01	1.95	0.30	3.19	0.89	0.14	2.93	0.81	0.13
ECDC Landfill (Utah) (Total)	312	1	1500	2.73	9.03	1.41	44.62	147.56	23.02	131.40	434.53	67.79	7.01	23.18	3.62	3.19	10.55	1.65	2.93	9.69	1.51
Columbia Ridge (OR) (BAAQMD and NSCAPCD)	312	1	70	2.73	0.42	0.07	44.62	6.89	1.07	131.40	20.28	3.16	7.01	1.08	0.17	3.19	0.49	0.08	2.93	0.45	0.07
Columbia Ridge (OR) (Total)	312	1	1400	2.73	8.43	1.31	44.62	137.72	21.48	131.40	405.56	63.27	7.01	21.64	3.38	3.19	9.85	1.54	2.93	9.04	1.41
Russel Pass (NV) (BAAQMD)	312	1	126	2.73	0.76	0.12	44.62	12.39	1.93	131.40	36.50	5.69	7.01	1.95	0.30	3.19	0.89	0.14	2.93	0.81	0.13
Russel Pass (NV) (Total)	312	1	600	2.73	3.61	0.56	44.62	59.02	9.21	131.40	173.81	27.11	7.01	9.27	1.45	3.19	4.22	0.66	2.93	3.88	0.60

Total Emissions from Haul by Rail

Scenario	ROG		CO		NOx		SOx		PM10		PM2.5	
	(lb/day)	(ton/year)	(lb/day)	(ton/year)	(lb/day)	(ton/year)	(lb/day)	(ton/year)	(lb/day)	(ton/year)	(lb/day)	(ton/year)
Haul to ECDC Landfill (Utah) - Emissions in BAAQMD only	6.17	0.65	55.86	6.21	134.02	15.30	2.05	0.31	4.76	0.52	4.13	0.45
Haul to ECDC Landfill (Utah) - Total Emissions	14.44	1.94	191.02	27.30	532.06	77.39	23.28	3.63	14.43	2.03	13.01	1.84
Haul to Columbia Ridge (Oregon) - Emissions in BAAQMD and NSCAPCD only	5.83	0.60	50.35	5.35	117.80	12.77	1.18	0.18	4.37	0.46	3.77	0.40
Haul to Columbia Ridge (Oregon) - Total Emissions	13.84	1.85	181.16	25.76	503.09	72.87	21.74	3.39	13.72	1.92	12.36	1.74
Haul to Russel Pass (Nevada) - Emissions in BAAQMD only	6.17	0.65	55.86	6.21	134.02	15.30	2.05	0.31	4.76	0.52	4.13	0.45
Haul to Russel Pass (Nevada) - Total Emissions	9.02	1.10	102.48	13.49	271.34	36.72	9.38	1.46	8.10	1.04	7.20	0.93

## Export By Rail (2010)

### Emissions Generated From Export By Rail -2010 (continued)

#### GHG Truck Emissions from Transfer Station to Windsor Railyard

CO2		CH4		CO2e
EF (g/mile)	Metric Tons	EF (g/mile)	Metric Tons	Metric Tons
1,587.46	44.5	0.04	0.0	44.6
1,587.46	48.0	0.04	0.0	48.1
1,587.46	311.4	0.04	0.0	311.6
1,587.46	116.6	0.04	0.0	116.6
1,587.46	454.1	0.04	0.0	454.4

#### GHG Rail Emissions from Windsor to Destination

CO2		CH4		CO2e
EF (lb/gal)	Metric Tons	EF (lb/gal)	Metric Tons	Metric Tons
22.40	399.43	0.0033	0.1	400.8
22.40	4,755.11	0.0033	0.7	4771.2
22.40	221.90	0.0033	0.0	222.7
22.40	4,438.10	0.0033	0.7	4453.1
22.40	399.43	0.0033	0.1	400.8
22.40	1,902.04	0.0033	0.3	1908.5

#### Total GHG Emissions from Haul by Rail

CO2	CH4	CO2e
Metric Tons	Metric Tons	Metric Tons
1,374.09	0.08	1,376.03
5,729.76	0.73	5,746.47
1,196.56	0.06	1,197.91
5,412.75	0.68	5,428.39
1,374.09	0.08	1,376.03
2,876.70	0.31	2,883.74



## **Appendix E.1**

Draft Mitigation Monitoring  
Program (Supplemental  
Program EIR, 2009)





# APPENDIX E.1

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## Draft Mitigation Monitoring Program

### Introduction

The Sonoma County Waste Management Agency (SCWMA) is the lead agency for the 2009 Supplemental Program Environmental Impact Report (SPEIR) for the Amendment to the Sonoma Countywide Integrated Waste Management Plan (CoIWMP). As lead agency, it is responsible for ensuring that the mitigation measures included in the certified Final SPEIR are adequate, feasible and implemented pursuant to CEQA. The purpose of the Mitigation Monitoring Program is to identify how the SCWMA will comply with these requirements.

SCWMA is a composite of the County of Sonoma and different incorporated jurisdictions located within Sonoma County. Specific projects that will implement the CoIWMP may be carried out or permitted by the County of Sonoma, one of the incorporated cities, or the SCWMA. The mitigation measures identified in the SPEIR will be the responsibility of the entity proposing to carry out the project. It is anticipated that these entities will function as Lead Agencies in accordance with CEQA.

Section 21081.6 of the Public Resources Code requires that, when making findings required by subdivision (a) of Section 21081, a lead agency shall adopt a reporting or monitoring program for “changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during implementation.”

The Mitigation Monitoring Program for the Amendment to the CoIWMP is organized in outline form and keyed to each 2009 SPEIR mitigation measure. For each measure, the following information is provided:

1. A statement of the mitigation measure;
2. The timing for verification of implementation of the mitigation measures.
3. Specification of the party/parties responsible for implementation of the measure;
4. The assignment of mitigation monitoring responsibility; and
5. or most Mitigation Measures, the verification timing and agencies responsible for implementation and monitoring are indicated and are self-explanatory.

In cases where the timing for verification of the mitigation is indicated as “ongoing,” the agency responsible for monitoring compliance with the mitigation already had jurisdiction over the activity along with inspection obligations required by law.

In general, this monitoring plan ensures that each mitigation measures will be implemented because the designated monitoring agency will make sure that the party responsible for implementing the measure has actually carried out the measure (or otherwise appropriately guaranteed that it will be complied with through contractual or other agreements) before the particular project is allowed to go any further in the construction or operations process.

Any new or expanded solid waste facilities that result from implementation of the Amendment to the CoIWMP are expected to be located on land within the jurisdiction of the County. Therefore, the monitoring agency for each mitigation measure designed to address disposal facilities is generally a County agency. The Amendment to the CoIWMP contemplates, however, that new or expanded solid waste non-disposal facilities may be located either in a city within the County or on land under County jurisdiction.

Following this Draft Mitigation Monitoring Program is the Final Mitigation Monitoring Program as presented in the certified 2003 SPEIR (October 15, 2003) – See Appendix E.2. With the exception of the mitigation measures that have been modified in the 2009 SPEIR, the mitigation measures identified in the 2003 Final Mitigation Monitoring Program are also applicable to the proposed project.

## Aesthetics

### *Mitigation Measure 5-1 [Recommended Revisions to 2003 SPEIR Mitigation Measure 14-2]*

A litter abatement program shall be developed and implemented by each non-disposal facility operator demonstrating how inadvertent litter that may be generated on- and off-site will be adequately controlled. Each facility's litter abatement program shall be submitted to, and approved by, the LEA prior to operations under the project.

Each non-disposal facility shall assign a litter coordinator who shall be responsible for implementing the litter abatement program and responding to any potential litter complaints by the public. The litter coordinator will determine the cause of the complaint and will ensure that reasonable measures are implemented to correct the problem. A contact telephone number for the litter coordinator shall be posted conspicuously at entrances to the non-disposal facilities.

On-site Mitigation - Measures to be included and implemented within each non-disposal facility to control litter shall include, but not limited to, the following, as applicable:

~~A. Litter shall be controlled by a litter abatement program~~

A. Litter fences shall be established around new or expanded non-disposal facilities, as necessary to prevent litter blowing onto off-site areas.

B. Litter along on-site roads shall be collected and removed routinely.

Off-site Mitigation - Measures to be included and implemented to control off-site litter shall include, but not limited to, the following, as applicable:

~~C. Litter shall be controlled on nearby roads providing access to new or expanded non-disposal facilities with a litter abatement program. Prior to project operations, and routinely during project operations, the litter coordinator shall~~

inspect public roads immediately adjacent to the non-disposal sites to document litter presence. If during operations, it is determined by the litter coordinator that an increase in off-site litter associated with the non-disposal facility is occurring compared to pre-project conditions, the non-disposal facility operator shall routinely conduct litter removal (or increase its existing off-site litter removal effort) on these roadways.

- D. Open cargo areas of vehicles (e.g., pick-ups, trucks, trailers, etc.) hauling waste shall be covered. This requirement will be enforced with financial penalties levied at the time of delivery to County Non-Disposal Sites and by the California Highway Patrol (CHP) in the areas near disposal sites.
- E. ~~A litter abatement program shall be implemented~~ To reduce litter accumulation resulting from the activities of commercial haulers, the litter abatement program could include, but not be limited to: 1) education of commercial haulers; and 2) requirements for thorough cleaning of debris boxes, covering emptied containers, or other similar measures, to reduce litter created upon exiting non-disposal facilities.
- F. The litter abatement program shall consider limiting non-disposal facility operations to commercial or private (general public) haulers, including the co-location of disposal and non-disposal facilities to reduce roadside litter.

#### ***Addition to Mitigation Measure 5-1***

- G. The litter abatement program shall require all commercial contractors to enclose, cover and /or seal all transfer vehicles to contain all solid waste and prevent spilling or scattering of solid waste during transportation thereof. If any material is spilled, whether on private or public property, the contractor shall clean it up within twenty-four hours after the earlier of receipt of notice from County or contractor's first having actual knowledge of the spill. If contractor does not clean it up within the required time, the County may clean it up, and the County shall be made whole for any costs incurred for the cleanup by the contractor.
- Timing of implementation – Ongoing.
- Implementation – Lead Agency.
- Monitoring – Lead Agency, Local Enforcement Agency.

#### ***Mitigation Measure 5-2***

A litter abatement program shall be developed and implemented by each waste by rail facility operator demonstrating how inadvertent litter that may be generated on- and off-site will be adequately controlled. Each facility's litter abatement program shall be submitted to, and approved by, the LEA prior to operations under the project.

Each waste by rail facility shall assign a litter coordinator who shall be responsible for implementing the litter abatement program and responding to any potential litter complaints by the public. The litter coordinator will determine the cause of the complaint and will ensure that reasonable measures are implemented to correct the problem. A contact telephone number for the litter coordinator shall be posted conspicuously at entrances to the waste by rail facilities.

**On-site Mitigation** - Measures to be included and implemented within each waste by rail facility to control litter shall include, but not limited to, the following, as applicable:

- A. Litter fences shall be established around new waste by rail facilities, as necessary to prevent litter blowing onto off-site areas.
- B. Litter along on-site roads shall be collected and removed routinely.

**Off-site Mitigation** - Measures to be included and implemented to control off-site litter shall include, but not limited to, the following, as applicable:

- C. Open cargo areas of intermodal containers or gondola cars hauling waste shall be covered.
- D. A litter abatement program shall be implemented to reduce litter accumulation resulting from the activities of commercial rail haulers. The program could include but not be limited to: 1) education of commercial haulers; and 2) requirements for thorough cleaning and emptying of intermodal containers or gondola cars, or other similar measures, to reduce litter created through waste by rail transport.
- E. The litter abatement program shall consider limiting non-disposal facility operations to commercial or private (general public) haulers, including the co-location of disposal and non-disposal facilities to reduce litter along the railroad and roadside.
- F. The litter abatement program shall require all commercial contractors to enclose, cover and /or seal all intermodal containers or gondola cars to contain all solid waste and prevent spilling or scattering of solid waste during transportation thereof. If any material is spilled, whether on private or public property, the contractor shall clean it up within twenty-four hours after the earlier of receipt of notice from County or contractor's first having actual knowledge of the spill. If contractor does not clean it up within the required time, the County may clean it up, and the County shall be made whole for any costs incurred for the cleanup by the contractor.

- Timing of implementation – Ongoing.
- Implementation – Lead Agency.
- Monitoring – Lead Agency, Local Enforcement Agency.

## **Air Quality**

### ***Mitigation Measure 6-2a [2003 SPEIR Mitigation Measure 10-1(a)]***

The County and cities shall consider air emissions when purchasing new equipment and when entering into agreements with solid waste operators. Cleaner vehicles shall be weighted more favorably than less clean vehicles.

- Timing of implementation – Prior to construction and ongoing.
- Implementation – Lead Agency.
- Monitoring – Lead Agency.

### ***Mitigation Measure 6-2b [Recommended Revisions to 2003 SPEIR Mitigation Measure 10-1(b)]***

1. New facilities shall be sited to maximize separation between haul routes/facilities and sensitive receptors to the extent practical.
  2. New facilities shall encourage the use of low emissions vehicles that control diesel particulates with engine filters or by using low emissions fuels such as compressed natural gas.
  3. The contractor shall reduce NO<sub>x</sub>, ROG, and CO emissions by complying with the construction vehicle air pollutant control strategies developed by the BAAQMD and the NSCAPCD. The project sponsor shall include in construction contracts the following requirements:
    - a. Construction equipment operators shall shut off equipment when not in use to avoid unnecessary idling. As a general rule, vehicle idling should be kept below ~~10~~ five minutes.
    - b. The contractor's construction equipment shall be properly maintained and in good operating condition.
    - c. The contractor shall utilize new technologies to control ozone precursor emissions as they become available and feasible.
    - d. The contractor shall substitute gasoline-powered for diesel-powered equipment where feasible.
  4. Asphalt paving materials shall conform to the most recent guidelines by the air district having jurisdiction.
- Timing of implementation – (1) Prior to project approval; (2) Ongoing; (3) and (4) Prior to project construction, during project construction.
  - Implementation – Lead Agency.
  - Monitoring – Lead Agency.

***Mitigation Measure 6-2(c) [Recommended Revisions to 2003 SPEIR Mitigation Measure 10-1(c)]***

1. Contracts for operation of proposed facilities described in the ~~2003~~ CoIWMP shall require contractors to limit idling time of diesel equipment to ~~10~~ five minutes when practical. Contracts shall also require that equipment be serviced at regular intervals to keep engines operating with parameters that will prevent excessive emissions.
  2. Contracts for operation of proposed facilities described in the ~~2003~~ CoIWMP shall include incentives for using electric motors instead of internal combustion engines in stationary equipment.
- Timing of implementation – Ongoing.
  - Implementation – Lead Agency.
  - Monitoring – Lead Agency.

***Mitigation Measure 6-3 [2003 SPEIR Mitigation Measure 10-2]***

The contractor shall reduce particulate emissions by complying with the dust control strategies developed by the NSCAPCD and the BAAQMD. The project sponsor shall include in construction contracts the following requirements:

1. The contractor shall water in late morning and at the end of the day all earth surfaces during clearing, grading, earthmoving, and other site preparation activities.
  2. The contractor shall use tarpaulins or other effective covers for haul trucks that travel on public streets and roads.
  3. The contractor shall increase the watering frequency for exposed and erodible soil surfaces whenever winds exceed 15 mph.
  4. The contractor shall water exposed soil surfaces, including cover stockpiles, roadways, and parking and staging areas, to minimize dust and soil erosion.
  5. The contractor shall sweep streets adjacent to the new and expanded non-disposal facilities at the end of each day.
  6. The contractor shall control construction, operation, and site maintenance vehicle speed to 15 mph on unpaved roads.
- Timing of implementation – Ongoing.
  - Implementation – Lead Agency.
  - Monitoring – Lead Agency, Local Enforcement Agency.

***Mitigation Measure 6-4 [2003 SPEIR Mitigation Measure 10-3]***

- A. Control of odors shall be implemented through the use of Best Management Practices utilized with Sonoma County such as the avoidance of compost disturbance in afternoon hours, regulating moisture content, and turning compost windrows.
  - B. If odor persists as a problem, compost piles or windrows shall be covered with soil or finished compost to reduce emissions of odors.
  - C. The landfill will be covered at the end of every day with plastic, soil or other appropriate material.
  - D. Any cracks in the landfill surface will be repaired as soon as practical.
  - E. Acidity levels in leachate ponds will be monitored and pH adjusted as necessary to reduce odor problems.
  - F. When new compost facilities are proposed, consideration will be given to operations that are conducted inside buildings using air filtration systems to prevent release of odors.
- Timing of implementation – Ongoing.
  - Implementation – Lead Agency.
  - Monitoring – (A) and (B) Lead Agency, Local Enforcement Agency; (C) through (F) Lead Agency, Local Enforcement Agency, Regional Water Quality Control Board

***Mitigation Measure 6-5: [2003 SPEIR Mitigation Measure 10-4(b)]***

Same as Mitigation Measures 6-2(a), (b), and (c).

***Mitigation Measure 6-6: [2003 SPEIR Mitigation Measure 10-4(b)]***

Same as Mitigation Measures 6-2(a), (b), and (c).

## Noise

***Mitigation Measure 7-1 [Recommended Revisions to 2003 SPEIR Mitigation Measure 11-1]***

1. Construction activities shall be limited to the hours between 7AM to 7PM to the extent practical.
  2. Construction equipment shall be properly outfitted and maintained with noise reduction devices to minimize construction-generated noise. Wherever possible, noise-generated construction equipment shall be shielded from nearby residences by noise-attenuating walls, berms, or enclosures.
  3. The contractor shall attempt to locate stationary noise sources as far away as possible from noise-sensitive land uses.
  4. Idling of construction equipment engines shall be minimized; engines shall be shut off when not in use, where applicable.
- Timing of implementation – (a) Prior to project construction; (b) through (d) During project construction.
  - Implementation – Lead Agency.
  - Monitoring – Lead Agency.

***Mitigation Measure 7-3 [Recommended Revisions to 2003 SPEIR Mitigation Measure 11-2]***

- A. Where feasible, collection activities associated with these facilities shall be conducted during hours of the day which are not noise sensitive for nearby residents and other adjacent land uses. The activities shall be commissioned to occur during normal work hours of the day to provide relative quiet during the more sensitive evening and early morning periods.
- B. The County and cities shall include noise as an evaluation criterion when purchasing new waste/recyclables transportation vehicles (including locomotive engines if waste transport by rail is implemented), and will purchase the quietest vehicles available when reasonably possible. If the County does not make direct purchases of such vehicles, they will require their licensed/franchised haulers, via their licensed/franchised agreement, to include noise as an evaluation criterion in their purchase of vehicles.
- C. A site-specific noise evaluation shall be conducted as part of the siting study for new and expanded non-disposal facilities including any new household hazardous waste facilities and/or local rail yards to identify potential noise problem areas prior to site selection. The noise evaluation shall consider the location of sensitive receptors

and evaluate sound barriers or other means to reduce noise exposure. The evaluation shall also consider operational changes such as restricting hours of operation.

- Timing of implementation – (a), (b) Ongoing; (c) Prior to project approval.
- Implementation – Lead Agency.
- Monitoring – Lead Agency.

***Mitigation Measure 7-6 [Recommended Revisions to 2003 SPEIR Mitigation Measure 11-3]***

- A. Same as Mitigation Measure ~~11-2~~ 7-3 (B) and (C).
  - B. The noise evaluation described in Mitigation Measure ~~11-2~~ 7-3 (C) shall consider the location of sensitive receptors and locate equipment and operations to minimize the noise exposure to the extent practical. The evaluation should consider enclosures for noise equipment or sound barriers to shield off-site receptors from noise. Additionally, if WBR is pursued, the noise evaluation must consider location of sensitive receptors when determining where to place the local rail yard.
- Timing of implementation – (a) Prior to project approval, ongoing; (b) Prior to project approval.
  - Implementation – Lead Agency.
  - Monitoring – Lead Agency.

## **Transportation and Traffic**

***Mitigation Measure 8-2 [Recommended Revisions to 2003 SPEIR Mitigation Measure 9-1]***

- A. To the extent feasible, new non-disposal facilities and new waste by rail facilities shall not be located in areas with significant road congestion, as designed in the cities' and County General Plan.
- B. To the extent feasible, new non-disposal facilities and new waste by rail facilities shall be located near other commercial or industrial facilities to allow for the combination of activities in one trip and reduce overall trip generation.
- C. Traffic Management Plans (TMP) shall be developed for each of the new and expanded non-disposal facilities and new waste by rail facilities, as required. These plans shall schedule truck trips so that roadway segments with the potential to be significantly impacted are avoided during peak hours. In addition, these plans shall detail the hours of operation and other restrictions on truck trips for each of the facilities and shall include plans for employee car pooling and bus transportation, where appropriate and feasible. The plans shall be updated periodically in response to changing traffic conditions and improvements to the highway system. The TMP shall include a site-specific traffic evaluation conducted as part of the siting study for a new non-disposal facility or a new waste by rail facility to identify potential traffic problem areas prior to site selection. The traffic evaluation shall consider limiting non-disposal facility or waste by rail facility operations to either commercial or private (general public) haulers, as well as co-locating of disposal and non-disposal facilities and waste by rail facilities to reduce haul trips.



- D. Countywide Traffic Mitigation fees shall be paid for new facilities implemented in accordance with the 2003 CoIWMP to help mitigate off-site cumulative traffic impacts.
- Timing of implementation – (a) through (c) Prior to project approval; (d) Prior to project construction.
- Implementation – Lead Agency.
- Monitoring – Lead Agency.

***Addition to Mitigation Measure 8-2***

- E. Construction Traffic Management Plans shall be prepared for each of the new and expanded non-disposal facilities and new waste by rail facilities. These plans shall include, but not be limited to, a discussion of work hours, haul routes, work area delineation, and traffic control and flagging procedures, if required.
- Timing of implementation – Prior to project approval.
- Implementation – Lead Agency.
- Monitoring – Lead Agency.

***Mitigation Measure 8-3 [Recommended Revisions to 2003 SPEIR Mitigation Measure 9-4]***

If significant traffic impacts to the Stony/Roblar and Stony Point Road/West Railroad Avenue intersections continue beyond 2015, mitigation measures such as the following shall be implemented:

- A. The Integrated Waste Division will ~~consider~~ ~~restricting~~ truck traffic that is subject to County control so that trucks do not travel through the Stony Point/Roblar and/or the Stony Point Road/West Railroad intersections during peak traffic hours. This shall apply only to new truck trips associated with projects pursuant to the 2003 CoIWMP and revisions to the CoIWMP (including Divestiture), and not existing traffic using the Central Disposal Site. The restriction shall apply to trucks subject to County control, such as those making deliveries for cover soil and liner materials, and trucks associated with construction at the site. This measure shall remain in effect until a traffic signal has been installed at these intersections.
- B. Prior to construction of projects at the Central Disposal Site pursuant to the 2003 CoIWMP, the Integrated Waste Division shall pay a traffic mitigation fee that includes a fair share contribution toward the installation of signals at the Stony Point/Roblar and Stony Point/ West Railroad intersections.
- C. Consider restricting hours of operation so that traffic is not added to the congested intersections during peak traffic hours. This restriction would remain in effect until these intersections are signalized.
- D. Consider restricting the use of the site to commercial operators only, thereby reducing the number of vehicles using the Stony Point/Roblar and Stony Point/West Railroad intersection.
- Timing of implementation – (A), (C), (D) Prior to project approval; (B) Prior to project construction.
- Implementation – Lead Agency.
- Monitoring – Lead Agency.



## Appendix E.2

Mitigation Monitoring Program  
for the 2003 CoIWMP  
(October 15, 2003)





**MITIGATION MONITORING PROGRAM**  
**FOR THE**  
**FINAL SUPPLEMENTAL PROGRAM ENVIRONMENTAL IMPACT REPORT**  
**2003 SONOMA COUNTY INTEGRATED WASTE MANAGEMENT PLAN**  
**(2003 CoIWMP)**

**Introduction**

The SCWMA is the lead agency for the 2003 CoIWMP Final SPEIR (FSPEIR). As lead agency, it is responsible for ensuring that the mitigation measures included in the certified FSPEIR are adequate, feasible, and implemented pursuant to CEQA. The purpose of this Mitigation Monitoring Program is to identify how the SCWMA will comply with these requirements.

As identified in the 2003 CoIWMP, the SCWMA is a composite of the County of Sonoma and different incorporated jurisdictions located within Sonoma County. Specific projects that will implement the 2003 CoIWMP may be carried out or permitted by the County of Sonoma, one of the incorporated cities, or the SCWMA. The mitigation measures identified in the 2003 CoIWMP FSPEIR will be the responsibility of the entity proposing to carry out the project. It is anticipated that these entities will function as Lead Agencies in accordance with CEQA.

Section 21081.6 of the Public Resources Code requires that, when making findings required by subdivision (a) of Section 21081, a lead agency shall adopt a reporting or monitoring program for “changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation.”

The Mitigation Monitoring Program for the 2003 CoIWMP is organized in outline form and keyed to each adopted FSPEIR mitigation measure. For each measure, the following information is provided:

1. A statement of the mitigation measure;
2. The timing for verification of implementation of the mitigation measures.
3. Specification of the party/parties responsible for implementation of the measure;
4. The assignment of mitigation monitoring responsibility; and

For most Mitigation Measures, the verification timing and agencies responsible for implementation and monitoring are indicated and are self-explanatory; however, additional explanation is provided for the following situations.

In cases where the timing for verification of the mitigation is indicated as “ongoing”, the agency responsible for monitoring compliance with the mitigation already had jurisdiction over the activity along with inspection obligations required by law. For example, to mitigate impacts to Hydrology and Water Quality (Mitigation Measure 7-6), solid waste disposal facilities are required to cover waste with soil (or other cover material) each day to prevent contact with stormwater. This measure will be monitored on a regular and ongoing basis through required inspections by the Local Enforcement Agency (Sonoma County Public Health Department, Environmental Health Division).

In certain cases, where “implementation” of a plan is a part of the Mitigation Measure, and two agencies are listed as responsible for monitoring, the first agency listed is responsible for ensuring that such a plan is prepared. The second agency listed has jurisdiction under existing law to enforce implementation and compliance with requirements of the plan. For example, to mitigate impacts to Hydrology and Water Quality (Revised Mitigation Measure 7-3), solid waste non-disposal facilities are required to prepare a detailed Erosion and Sedimentation Control Plan. In this case, the Member Jurisdiction as lead agency will ensure that such a plan is prepared followed by the review, approval, and monitoring by the Regional Water Quality Control Board.

In general, this monitoring plan ensures that each mitigation measure will be implemented because the designated monitoring agency will make sure that the party responsible for implementing the measure has actually carried out the measure (or otherwise appropriately guaranteed that it will be complied with through contractual or other agreements) before the particular project is allowed to go any further in the construction or operations process. For instance, if the timing for verification of implementation of a mitigation measure is noted as “prior to issuance of building permits,” then the party responsible for complying with the mitigation measure (usually the project applicant) will have to demonstrate to the monitoring agency that the measure has been implemented before the monitoring agency will issue a building permit.

Any new or expanded solid waste disposal facilities that result from implementation of the 2003 CoIWMP are expected to be located on land within the jurisdiction of the County. Therefore, the monitoring agency for each mitigation measure designed to address disposal facilities is generally a County agency. The 2003 CoIWMP contemplates, however, that new or expanded solid waste non-disposal facilities may be located either in a city within the County or on land under County jurisdiction. Because it is not now known precisely where such facilities will be (and several of the same type of facilities may be located in different cities throughout the County), the monitoring program specifies that the member jurisdiction and a city if the property lies within a city’s boundaries – will monitor compliance with mitigation measures required for that project.

#### Abbreviations

Abbreviations used in this Mitigation Monitoring Program include the following:

BAAQMD – Bay Area Air Quality Management District  
LEA – Local Enforcement Agency (Sonoma County Environmental Health)  
NSCAPCD – Northern Sonoma County Air Pollution Control District  
RWQCB – Regional Water Quality Control Board  
SCWMA – Sonoma County Waste Management Agency

**LAND USE*****Mitigation Measure 4-1***

In siting new or expanded solid waste non-disposal facilities, examine land uses surrounding potential sites and take possible land use conflicts into account in making siting determinations. In addition, require each new or expanded facility to incorporate design and operational measures to minimize land use conflicts. Examples of such measures include establishing buffer zones, sound-proofing facilities, restricting outdoor activities and limiting hours of operation.

- **Timing of Implementation** - Prior to project approval; Prior to project construction.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

***Mitigation Measure 4-2***

In siting new or expanded solid waste disposal facilities, examine land uses surrounding potential sites and take possible land use conflicts into account in making siting determinations. In addition, require each new facility to incorporate design and operational measures to minimize land use conflicts. Examples of such measures include establishing buffer zones, visual screens using berms and landscaping, and limiting hours of operation.

- **Timing of Implementation** - Prior to project approval; Prior to project construction.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

***Mitigation Measure 4-3***

Although solid waste facilities would be subject to the Exclusionary and Comparative Criteria in the 2003 CoIWMP Siting Element, there are no mitigation measures for the loss of important resource lands or for the change in character of the lands. Therefore, this impact is considered ***significant and unavoidable***.

- **Timing of Implementation** - Prior to project approval.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

***Mitigation Measure 4-4***

Geologic studies of future landfill expansion and new landfill sites will address the possibility that mineral resources could be located under sites of new facilities. To the extent practical, mineral recovery efforts will be incorporated into the construction of the Central Landfill expansion or new landfills.

- **Timing of Implementation** - Prior to project approval.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

**GEOLOGY AND SEISMICITY*****Revised Mitigation Measure 5-1***

(a) Non-disposal facilities shall be built a sufficient distance from earthquake fault zones as restricted by state and federal regulatory requirements.

(b) Where proposed development may be exposed to significant risks of damage from geologic hazards, a geologic report (prepared by a California Registered Geologist) shall be prepared which evaluates the hazards and shall identify measures which can be implemented to reduce the risks to acceptable levels. Such measures will be implemented.

(c) All grading and building construction for new or expanded non-disposal facilities shall conform with geologic and seismic standards contained in the latest edition of the Uniform Building Code (UBC). Prior to construction activities, the applicant shall submit building plans to the local jurisdictions' building department indicating compliance with the UBC.

(d) All new or expanded disposal facilities shall meet the requirements of the County or Cities' general site design standards. The proposed new non-disposal facilities shall comply with the County or cities' policies and standards pertaining to geologic hazards.

- **Timing of Implementation** - (a), (b) Prior to project approval; (c), (d), Prior to project construction.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

***Revised Mitigation Measure 5-2***

(a) Same as Mitigation Measures 5-1 (b) and 5-1 (d).

(b) All new or expanded non-disposal facilities that are susceptible to seismic ground failure (i.e., liquefaction) shall include project designs (e.g., soil densification) for building and road foundations to withstand potential liquefaction impacts.

- **Timing of Implementation** - Prior to project construction.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

***Revised Mitigation Measure 5-3***

(a) New or expanded disposal facilities shall be built a sufficient distance from earthquake fault zones or as restricted by state and federal regulatory requirements.

(b) Where proposed development may be exposed to significant risks of damage from geologic hazards, a geologic report (prepared by a California Registered Geologist) shall be prepared which evaluates the hazards and shall identify measures which can be implemented to reduce the risks to acceptable levels. Such measures will be implemented.

(c) All grading and building construction for new or expanded disposal facilities shall conform with geologic and seismic standards contained in the latest edition of the Uniform Building Code



(UBC). Prior to construction activities, the applicant shall submit building plans to the local jurisdictions' building department indicating compliance with the UBC.

(d) All new or expanded disposal facilities shall meet the requirements of the County or cities' general site design standards. The proposed new and expanded disposal facilities shall comply with the County or cities policies and standards pertaining to geologic hazards.

(e) In accordance with state and federal regulations, restrict the development of landfills in geologically unstable areas.

(f) In accordance with state and federal regulations, restrict the development of landfills in seismic impact zones unless containment structures (leachate collection systems, liners, surface water management systems, etc.) are engineered and constructed to preclude failure during rapid geologic change.

- **Timing of Implementation** - (a), (b), (e), (f) Prior to project approval; approval; (c), (d) Prior to project construction.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency, Regional Water Quality Control Board.

#### ***Revised Mitigation Measure 5-4***

(a) Same as Mitigation Measures 5-3 (a through f).

(b) All new or expanded disposal facilities that are susceptible to seismic ground failure (i.e., liquefaction) shall include project designs (e.g., soil densification) for building and road foundations to withstand potential liquefaction impacts.

- **Timing of Implementation** -Prior to project construction.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency, Regional Water Quality Control Board.

#### ***Mitigation Measure 5-5***

The grading plan for the West Expansion area at the Central Disposal Site and the future landfill will incorporate design features to prevent slope failures. These include maximum fill slopes as determined suitable by a registered engineering geologist. The embankments of new sedimentation basins and landfill slopes will be constructed so that the factor of safety is greater than 1.5.

- **Timing of Implementation** -Prior to project construction.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

#### ***Mitigation Measure 5-6***

Final landfill grades will be constructed in accordance with Section 20650 of Title 27 of the CCR which requires that "Covered surfaces of the disposal area shall be graded to promote lateral runoff of precipitation and to prevent ponding. Grades shall be established of sufficient slopes to account for future settlement of the fill surface." Grades will be of sufficient slopes to allow for

future settlement of the final cover and to avoid ponding and infiltration of stormwater. The landfill gas collection system will use flexible pipe and be designed to accommodate settlement of the refuse.

- **Timing of Implementation** - Prior to project construction; ongoing.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency, Local Enforcement Agency, Regional Water Quality Control Board.

## SOILS AND AGRICULTURAL RESOURCES

### *Revised Mitigation Measures 6-1*

(a) All new facilities shall be designed and constructed to conform with the site development standards contained in the latest edition of the Uniform Building Code (UBC). Prior to construction activities, the applicant shall submit building plans to the local jurisdiction's building department indicating compliance with the UBC.

(b) All new facilities shall meet the requirements of the County or cities' standards pertaining to site design, grading, and erosion control.

(c) Vegetation on soils exposed during construction shall be reestablished as soon as practical. Mulch or other temporary cover shall be used in the interim where erosion potential exists.

(d) Employ Best Management Practices as required under the NPDES Permit for Construction grading.

(e) To the extent feasible, confine grading, excavation, and other earthwork to the dry seasons. When this is not feasible, erosion and sediment transport control facilities should be in place prior to the onset of the first major winter storms. If wind erosion has the potential to occur during summer months, erosion control methods, such as watering graded areas, shall be implemented.

(f) Prepare and implement detailed erosion and sedimentation control plan(s), which should be submitted for review and approval by the RWQCB. The specific language of such plans varies, but the concepts to be adhered to include the following:

- To avoid discharge to natural waterways, sediment should be trapped before leaving the construction site through the use of rip-rap, hay bales, fencing, or sediment ponds.
  - Areas of surface disturbance should be minimized.
  - Disturbed areas should be stabilized through vegetative or mechanical methods. When construction is complete, all disturbed areas should be regraded and revegetated. Topsoil should be stockpiled and used for the revegetation of disturbed areas.
- **Timing of Implementation** - (a) through (f) Prior to and during project construction.
  - **Implementation** - Lead Agency.
  - **Monitoring** - Lead Agency, Regional Water Quality Control Board.

**Mitigation Measures 6-2**

To the extent feasible, all new facilities and expansion of existing facilities shall comply with the General Plan objectives and avoid siting on agricultural lands as defined in the General Plan. If a non-disposal facility is sited on agricultural land, this would constitute a **significant and unavoidable** impact.

- **Timing of Implementation** - Prior to project approval.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

**Revised Mitigation Measure 6-3(a)**

Storm Water Pollution Prevention Plans shall be prepared and revised as needed for all facilities at the Central Disposal Site or other new landfills. Plans shall be submitted to the Regional Water Quality Control Board and at a minimum shall include:

- (a) A description of the critical features of the erosion control system, including sediment ponds and drainage ways, along with a description and schedule for routine maintenance of these features.
- (b) A construction schedule for components of the erosion control system.
- **Timing of Implementation** - (a) Prior to project construction, during project construction, ongoing; (b) Prior to project construction.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency, Regional Water Quality Control Board

**Additions to Mitigation Measure 6-3(a)**

(c) A requirement to vegetate side slopes and waste-fill slopes. Temporary and permanent vegetative cover shall be established as soon as possible on side slopes and waste-fill slopes. To protect the slopes prior to vegetation establishment, a mulch, consisting of straw or wood fiber shall be applied at the time of seeding. A tackifier shall be applied with the mulch as needed to prevent loss of the mulch due to wind or water movement. Sample specifications for revegetating disturbed areas shall be included, with a description of the types of areas to be revegetated, the equipment and procedures to be used, and the dates for the seeding. For areas where an erosion potential exists, but it is not practical to establish vegetation, specifications for placing mulch or temporary covers shall be included.

(d) Specifications for construction features to reduce erosion. These shall include benches on slopes to intercept sheet flow and shorten drainage paths, protective linings (e.g., riprap, concrete, grass, erosion control mats) on interim and final drainage ways, and energy dissipators at inlets and outlets of sediment ponds and at outlets of culverts.

(e) Best Management Practices for construction and operation of the landfill and other facilities. This includes miscellaneous grading and removal of cover soil from all facilities.

(f) Specifications for watering roads, borrow areas, and construction areas to control wind erosion.

(g) An inspection and/or maintenance schedule for critical parts of the sediment control system, including sediment ponds and drainage ways.

(h) A schedule for winterizing that will ensure that critical work is done prior to October 15th each year.

- **Timing of Implementation** - (c) Prior to project construction, during project construction, ongoing; (d) Prior to project construction; (e), (f) Prior to project construction, during project construction; (g), (h) Prior to project construction.
- **Implementation** - Lead Agency.
- **Monitoring** -Lead Agency.

***New Mitigation Measure 6-3(b)***

Although solid waste facilities would be subject to the Exclusionary and Comparative Criteria in the 2003 CoIWMP Siting Element, there are no mitigation measures for the loss of important agricultural lands or for the change in character of the lands. Therefore, this impact is considered ***significant and unavoidable***.

- **Timing of Implementation** - Prior to project approval.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

## **HYDROLOGY AND WATER QUALITY**

***Revised Mitigation Measure 7-1***

(a) Stormwater runoff from waste handling areas shall be treated on site or routed to the sanitary sewer for treatment prior to discharge.

(b) To the extent feasible, materials handling and storage areas shall be covered to prevent contact with stormwaters.

(c) All exterior drainage from each site shall be managed in accordance with the requirements of federal NPDES, state, and local regulations.

- **Timing of Implementation** - (a), (b) Prior to project construction, ongoing; (c) Prior to project construction, ongoing.
- **Implementation** - Lead Agency.
- **Monitoring** -Lead Agency, Regional Water Quality Control Board, Local Enforcement Agency.

***Mitigation Measure 7-2***

(a) To the extent feasible, new facilities shall be located outside of areas at high risk for flooding (i.e., near rivers, within 100-year floodplains).

(b) The design of new facilities shall, to the extent feasible, minimize the amount of impermeable surface and incorporate methods to lessen surface runoff from the site.

- **Timing of Implementation** - (a) Prior to project approval, prior to project construction; (b) Prior to project construction.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency, Regional Water Quality Control Board.

***Revised Mitigation Measure 7-3***

(a) Employ Best Management Practices as required under the NPDES Permit for Construction grading.

(b) To the extent feasible, confine grading, excavation, and other earthwork to the dry seasons. When this is not feasible, erosion and sediment transport control facilities should be in place prior to the onset of the first major winter storms. If wind erosion has the potential to occur during summer months, erosion control methods, such as watering graded areas, shall be implemented.

(c) Prepare and implement detailed erosion and sedimentation control plan(s), which should be submitted for review and approval by the RWQCB. The specific language of such plans varies, but the concepts to be adhered to include the following:

- To avoid discharge to natural waterways, sediment should be trapped before leaving the construction site through the use of rip-rap, hay bales, fencing, or sediment ponds.
- Areas of surface disturbance should be minimized.
- Disturbed areas should be stabilized through vegetative or mechanical methods. When construction is complete, all disturbed areas should be regraded and revegetated. Topsoil should be stockpiled and used for the revegetation of disturbed areas.

(d) All new facilities shall be designed and constructed to conform with the site development standards contained in the latest edition of the Uniform Building Code (UBC). Prior to construction activities, the applicant shall submit building plans to the local jurisdiction's building department indicating compliance with the UBC.

(e) All new facilities shall meet the requirements of the County or cities' standards pertaining to site design, grading, and erosion control.

(f) Vegetation on soils exposed during construction shall be reestablished as soon as practical. Mulch or other temporary cover shall be used in the interim where erosion potential exists.

(g) Treat wastewater generated during construction prior to discharge. At a minimum, the wastewater should be treated by sedimentation to remove suspended particles from the water. Sedimentation ponds would need to be maintained regularly. Precipitation agents, such as alum, may be introduced to speed the action of settling suspended particles. Alternatively, either gravity or pressure filtration could be used if sufficient space for sedimentation facilities is unavailable.

(h) Prepare and implement a Spill Prevention Control/Countermeasure (SPCC) Plan prior to the start of construction. The SPCC Plan should cover actions needed to minimize the potential for

accidental spillage of construction-related contaminants such as fuel, oil, or other chemicals. Such contaminants should not be drained onto the soil; rather, they should be confined to sealed containers and removed to proper disposal sites. Refueling should be conducted in a location where spills could be contained.

- **Timing of Implementation** - (a), (b), (f), (g), (h) Prior to project construction, during project construction; (c), (d), (e) Prior to project construction.
- **Implementation** - Lead Agency.
- **Monitoring** -Lead Agency, Regional Water Quality Control Board.

#### ***Mitigation Measure 7-4***

(a) Same as Mitigation Measures 7-1(a), 7-1(b) and 7-1(c).

(b) Construct a separate spill control facility around and under the waste intake, storage, and loading areas to provide for containment of any hazardous spills that might occur in the vicinity.

- **Timing of Implementation** - (a) Same as 7-1(a), (b), & (c); (b) Prior to project construction.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency, Regional Water Quality Control Board.

#### ***Revised Mitigation Measure 7-5***

(a) Cover materials (soil) shall be placed over waste materials at the end of each day to prevent water from ponding on the landfill.

(b) A low-permeability final landfill cover, as required by CCR, Title 23, Chapter 15, shall be placed over the landfill during closure.

(c) The volume of fluid that enters the landfill shall be minimized by prohibiting the disposal of liquid waste.

(d) The landfill shall be designed with an adequate drainage and collection system to prevent to the extent possible the migration of leachate off-site.

(e) Landfills shall be located where site characteristics provide adequate separation between solid waste and ground and surface waters and where soil characteristics, distance from waste to groundwater, and other factors will ensure no impairment of beneficial uses of surface or ground water beneath or adjacent to a landfill (California Water Regulations, Chapter 15, Article 3, Section 2533).

(f) Current industry standards for leachate management shall be implemented (e.g., storing leachate in lined on-site ponds where it can evaporate naturally) or, if storage is impossible, transporting leachate to the nearest wastewater treatment plant capable of treating the leachate and not exceeding effluent discharge limits.

- **Timing of Implementation** - (a), (b), (c) Prior to project construction and ongoing (d) Prior to project construction; (e), (f) Prior to project approval, prior to project construction

- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency, Local Enforcement Agency, Regional Water Quality Control Board.

***Additions to Mitigation Measures 7-5***

(g) Leachate and wastewater collection and disposal systems shall be designed with enough capacity to accommodate the amount of leachate predicted to be generated during the wettest year of record.

(h) Construction of all new landfill cells will comply with the requirements of Title 27 for liner impermeability.

(i) A landfill leachate and wastewater management program will be implemented which will include monitoring leachate and wastewater levels and emptying ponds as necessary to ensure adequate storage capacity.

(j) Investigate and consider methods for treatment of leachate and wastewater on-site and disposal by irrigation at any expanded or new landfill site.

(k) All exterior drainage from each landfill site shall be managed in accordance with the requirements of federal NPDES, state, and local regulations.

- **Timing of Implementation** - (g), (h) Prior to project construction; (i) Ongoing; (j), (k) Prior to project construction and ongoing.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency, Local Enforcement Agency, Regional Water Quality Control Board.

***Mitigation Measure 7-6***

(a) To the extent feasible, the working face of the landfill shall be covered with soil or other approved alternate cover material to prevent contact with stormwaters.

(b) All exterior drainage from each site shall be managed in accordance with the requirements of federal NPDES, state, and local regulations.

- **Timing of Implementation** - (a) Prior to project construction and ongoing; (b) Prior to project construction, and ongoing.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency, Local Enforcement Agency.

***Revised Mitigation Measure 7-7***

(a) Employ Best Management Practices as required under the NPDES Permit for Construction grading.

(b) To the extent feasible, confine grading, excavation, and other earthwork to the dry seasons. When this is not feasible, erosion and sediment transport control facilities should be in place prior to the onset of the first major winter storms. If wind erosion has the potential to occur during summer months, erosion control methods, such as watering graded areas, shall be implemented.

(c) Prepare and implement detailed erosion and sedimentation control plan(s), which should be submitted for review and approval by the RWQCB. The specific language of such plans varies, but the concepts to be adhered to include the following:

1. To avoid discharge to natural waterways, sediment should be trapped before leaving the construction site through the use of rip-rap, hay bales, fencing, or sediment ponds.
2. Areas of surface disturbance should be minimized.
3. Disturbed areas should be stabilized through vegetative or mechanical methods. When construction is complete, all disturbed areas should be regraded and revegetated.

(d) All new facilities shall be designed and constructed to conform with the site development standards contained in the latest edition of the Uniform Building Code (UBC). Prior to construction activities, the applicant shall submit building plans to the local jurisdiction's building department indicating compliance with the UBC.

(e) All new facilities shall meet the requirements of the County or cities' standards pertaining to site design, grading, and erosion control.

(f) Vegetation on soils exposed during construction shall be reestablished as soon as practical. Mulch or other temporary cover shall be used in the interim where erosion potential exists.

(g) Treat wastewater generated during construction prior to discharge. At a minimum, the wastewater should be treated by sedimentation to remove suspended particles from the water. Sedimentation ponds would need to be maintained regularly.

(h) Prepare and implement a Spill Prevention Control/Countermeasure (SPCC) Plan prior to the start of construction. The SPCC Plan should cover actions needed to minimize the potential for accidental spillage of construction-related contaminants such as fuel, oil, or other chemicals. Such contaminants should not be drained onto the soil; rather, they should be confined to sealed containers and removed to proper disposal sites. Refueling should be conducted in a location where spills could be contained.

- **Timing of Implementation** - (a), (b), (d), (e) Prior to project construction; (c) Prior to project construction; (f) During project construction; (g) During project construction and ongoing; (h) Prior to project construction and ongoing.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency, Regional Water Quality Control Board.

#### ***Revised Mitigation Measure 7-8***

(a) Mitigation implemented to control erosion during operation of the landfill shall be similar to that implemented during construction (see Mitigation Measure 7-7 above).

(b) Permanent drainage ditches shall be constructed around the landfill perimeter to convey runoff water from the project site. These permanent drainage ditches shall be lined with native grass, concrete, corrugated metal, or other material that will limit water infiltration and soil erosion.



Temporary and permanent berms, collection ditches, benches, and stormwater downdrains shall be constructed to convey water runoff from the landfill surface and downslopes.

(c) On- or off-site detention ponds shall be constructed and maintained and site runoff shall be collected and sedimentation completed in the ponds prior to discharge to surface waters. The ponds shall be adequately designed so that no net increase over existing conditions in stormwater flows from the project site are expected to result from a 100-year flood event.

(d) Prior to the rainy season, drainage facilities shall be inspected and, if necessary, cleared of debris.

(e) Drainage facilities shall be inspected after the first significant rain of the season to ensure that the system is functioning.

(f) Runoff from areas upgradient of the landfill shall be routed around the landfill.

(g) Landfills shall not be developed within a 100-year floodplain (40 CFR 258).

- **Timing of Implementation** - (a), (b), (d) Prior to project construction and ongoing; (b) Prior to project construction and ongoing; (c), (g) Prior to project approval, prior to project construction; (e) ongoing; (f) Prior to project construction.
- **Implementation** - Lead Agency.
- **Monitoring** -Lead Agency, Regional Water Quality Control Board.

#### ***Mitigation Measure 7-9***

(a) New waste management facilities will use water conservation techniques such as reclaimed water use and water recycling where feasible.

(b) If anaerobic digestion is used to process organics, a complete site specific groundwater study or groundwater availability determination to demonstrate that water use levels will not deplete groundwater supplies for surrounding properties.

- **Timing of Implementation** - (a) Prior to project construction and ongoing; (b) Prior to project approval.
- **Implementation** - Lead Agency.
- **Monitoring** -Lead Agency.

#### ***Mitigation Measure 7-10***

Spill prevention and cleanup plans will be required in all construction contracts. Any contracts which involve blasting will require that explosives spilled during the loading of the blasting holes be cleaned up prior to detonating the explosives.

- **Timing of Implementation** - Prior to project construction, during project construction.
- **Implementation** - Lead Agency.
- **Monitoring** -Lead Agency.

**Mitigation Measure 7-11**

If blasting will be done near an existing landfill, a qualified blasting specialist will design the blasting program to ensure that peak particle velocities resulting from blasts will be lower than the amount that could damage the landfill liner or leachate collection system.

- **Timing of Implementation** - Prior to project construction, during project construction.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency, Regional Water Quality Control Board.

**Mitigation Measure 7-12**

When feasible, large non-disposal facilities (i.e., composting facilities) shall provide permeable surfaces and retention basins to aid in the recharge of groundwater in accordance with the water quality standards of the Regional Water Quality Control Board.

- **Timing of Implementation** - Prior to project construction.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency, Regional Water Quality Control Board.

**PUBLIC SAFETY, HAZARDS AND HAZARDOUS MATERIALS****Revised Mitigation Measure 8-1**

(a) Curbside recycling operations shall be established so that no direct worker contact with the materials occurs. Automated can pick-up, commingled collection, and/or separate materials bins could meet this objective.

(b) Workers shall be supplied with appropriate safety gear which provide the maximum protection available while still affording sufficient manual dexterity for accomplishing their sorting tasks.

(c) All workers shall have current vaccinations against diseases such as tetanus, polio, or other diseases which could be spread through direct contact with solid waste.

(d) Workers shall be trained to spot hypodermic needles during sorting, extract them from the sorting line, and deposit them in a plastic sharps disposal container kept at each sorting station.

(e) Sharps containers filled at the non-disposal facility and landfill, as well as containers encountered in curbside materials during sorting operations, shall be properly disposed of with a licensed medical waste hauler.

(f) New and expanded non-disposal facilities and solid waste disposal facilities shall develop and implement an Illness and Injury Prevention Plan to address the potential for injury and illness among facility employees.

(g) A map showing the locations of local emergency services and appropriate telephone numbers shall be posted at all non-disposal facilities and landfills in a conspicuous place (e.g., near the telephone) by either the program operations manager or the safety inspector.

- **Timing of Implementation** - Prior to project construction and ongoing.

- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

***Revised Mitigation Measure 8-2***

(a) Backyard composting training for the general public shall address the potential health effects associated with composting. Training will describe how proper moisture content will reduce dust generation and maximize microbial action and how sufficient oxygen content is critical to maintaining microbial action, regulating temperature, and reducing odors and pathogens. Persons with weakened immune systems or persons with allergies, asthma, or other respiratory problems shall be discouraged from participating in backyard composting. Backyard composters shall also be encouraged to thoroughly wash their hands with soap and water after each contact with backyard compost piles.

(b) Composting operations at the new or expanded composting facility(ies) shall include the following procedures:

1. Proper moisture content shall be maintained in compost piles or windrows.
2. Proper temperatures and oxygen content shall be maintained in compost piles/windrows through aeration and compost turning or agitation. Operating procedures shall require that the compost pile be heated to approximately 132-140° to ensure that all pathogens have been eliminated.
3. Loading and compost turning equipment shall have enclosed, ventilated cabs and the ventilation systems shall be maintained regularly, or individual respiratory protection (dust masks) will be utilized.
4. Employees shall be encouraged to wash their hands frequently with soap and water, particularly prior to lunch and other breaks, and at the end of the work day.
5. Composting facility operators shall inform compost workers about the possibility for development of pulmonary hypersensitivity. Workers shall be encouraged to report unusual health problems to their supervisors and physicians.
6. New and expanded non-disposal facilities shall develop and implement an Illness and Injury Prevention Plan to address the potential for injury and illness among facility employees.

- **Timing of Implementation** - (a), (b) Prior to project construction and ongoing.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

***Revised Mitigation Measure 8-3***

(a) A HHW Facility Operations Plan shall be developed for each permanent HHW facility. This plan shall include procedures for waste acceptance and screening, waste management practices, stormwater management, worker health and safety, and emergency prevention, precaution and response.

(b) An emergency response and evacuation plan shall be developed for each collection site in order

to plan actions to be taken in the event of a spill incident. The emergency response and evacuation plan shall be developed by the collection site operator in coordination with the appropriate local agencies prior to the operation of the collection site.

(c) A safety inspector shall be assigned by the HHW program operations manager to oversee field activities, spot potential risks, and ensure conformance with regulations.

(d) Employee safety meetings shall be conducted, as necessary, by the program safety inspector.

(e) All vehicles shall be inspected, as necessary, for safety violations by the program safety inspector and facility employees.

(f) An on-site eye wash and shower station shall be provided at all mobile and stationary HHW collection sites.

(g) A map showing the locations of local emergency services and appropriate telephone numbers shall be posted at all mobile and stationary HHW collection sites in a conspicuous place (e.g., near the telephone) by either the program operations manager or the safety inspector.

(h) A training program (including periodic retraining) for facility personnel in CPR and first aid shall be provided by the program safety inspector. In addition, first aid materials shall be maintained in good condition.

(i) A drainage containment and collection system shall be set up around the HHW collection and storage facilities to prevent discharge of spilled materials to soil or groundwater. All spilled material shall be collected and treated separately to prevent the spread of any hazardous constituents.

(j) Any risk posed by unauthorized access to any non-disposal site shall be mitigated by posting warning signs, fencing, patrol personnel, or the disabling of equipment when not in use. Daily inspections would be the responsibility of the facility operations manager.

(k) A Load Checking Program shall be updated and implemented to ensure the proper disposal of hazardous wastes illegally disposed with solid waste accepted at non-disposal facilities and the landfill. Any hazardous wastes found while conducting the Load Checking Program shall be disposed of according to applicable state and federal regulations.

- **Timing of Implementation** - (a) through (k) Prior to project construction and ongoing.
- **Implementation** - Lead Agency.
- **Monitoring** -Lead Agency.

#### ***Revised Mitigation Measure 8-4***

(a) Prior to permitting, develop and implement (in consultation with the Fire Marshal) a Fire Prevention Program for each facility, as necessary. This program shall entail both structural fire suppression mechanisms, such as an automatic sprinkler system and fire retardant building materials in the design of the structure, as well as procedural programs for minimizing/extinguishing fire hazards.

(b) Develop an Emergency Response and Evacuation Plan for each new or expanded facility in accordance with relevant county or city emergency response and evacuation plans, and follow it in the event of a fire, earthquake, hazardous materials spill or other emergency. Each emergency response and evacuation plan shall be developed by the facility operator in coordination with the County Office of Emergency Services, the Hazardous Materials Division of the County Environmental Health Department, and the appropriate Fire Protection District.

(c) All potentially disastrous events shall be reported by the project sponsor to the County Office of Emergency Services so that County emergency services such as traffic control, fire and medical equipment, and evacuation notification can be available as needed.

(d) Facility workers shall be provided and required to use safety glasses, safety shoes, coveralls, gloves, noise reducers for ears, or other safety equipment appropriate to the hazard of the job. An emergency eye bath and emergency showers shall be installed in the facility by the project sponsor.

(e) A map showing the locations of local emergency services and appropriate telephone numbers shall be posted at all non-disposal facilities and landfills in a conspicuous place (e.g., near the telephone) by either the program operations manager or the safety inspector.

(f) New and expanded non-disposal facilities and solid waste disposal facilities shall develop and implement an Illness and Injury Prevention Plan to address the potential for injury and illness among facility employees.

- **Timing of Implementation** - (a) through (f) Prior to project construction and ongoing.
- **Implementation** - Lead Agency.
- **Monitoring** -Lead Agency.

***Revised Mitigation Measure 8-5***

Same as Mitigation Measure 8-4 (a through e).

(f) Consider reducing operating hours at new or expanded non-disposal facilities in order to reduce the accumulation of combustible solid waste for transfer and storage.

(g) A map showing the locations of local emergency services and appropriate telephone numbers shall be posted at all non-disposal facilities and landfills in a conspicuous place (e.g., near the telephone) by either the program operations manager or the safety inspector.

(h) Develop an Emergency Response and Evacuation Plan for each new or expanded facility in accordance with relevant county or city emergency response and evacuation plans, and follow it in the event of a fire, earthquake, hazardous materials spill or other emergency. Each emergency response and evacuation plan shall be developed by the facility operator in coordination with the County Office of Emergency Services, the Hazardous Materials Division of the County Environmental Health Department, and the appropriate Fire Protection District.

- **Timing of Implementation** -(a) through (h) Prior to project construction and ongoing.
- **Implementation** - Lead Agency.
- **Monitoring** -Lead Agency.

***Mitigation Measures 8-6***

(a) Rodent traps shall be placed strategically around the public drop-off areas and recycling areas, as required. This measure shall be monitored by the facility operations manager.

(b) Landscape materials shall exclude plants, such as ivy, which may provide hidden nesting areas for rodents.

(c) Standing water and moist areas shall be controlled to prevent mosquito breeding. This shall be monitored by the facility operations manager.

- **Timing of Implementation** - (a) through (c) Prior to project construction and ongoing.
- **Implementation** - Lead Agency.
- **Monitoring** -Lead Agency, Local Enforcement Agency.

***Revised Mitigation Measure 8-7***

Mitigation measures will result from the site specific CEQA review process, and will include the general following mitigation measures:

(a) Employees shall be encouraged to wash their hands frequently with soap and water, particularly prior to lunch and other breaks, and at the end of the work day.

(b) Employee safety meetings shall be conducted, as necessary, by the program safety inspector.

(c) All vehicles shall be inspected, as necessary, for safety violations by the program safety inspector and facility employees.

(d) A training program (including periodic retraining) for facility personnel in first aid shall be provided by the program safety inspector. In addition, first aid materials shall be maintained in good condition.

(e) Any risk posed by unauthorized access to any areas of the disposal site shall be mitigated by posting warning signs, fencing, patrol personnel, and/or the disabling of equipment when not in use. Daily inspections would be the responsibility of the facility operations manager.

(f) Prior to operations, develop and implement (in consultation with the Fire Marshal) a Fire Prevention Program for each facility, as necessary. This program shall entail both structural fire suppression mechanisms, such as an automatic sprinkler system and fire retardant building materials, in the design of the structure, as well as procedural programs for minimizing/extinguishing fire hazards.

(g) All potentially disastrous events shall be reported by the project sponsor to the County Office of Emergency Services so that County emergency services such as traffic control, fire and medical equipment, and evacuation notification can be available as needed.

(h) Facility workers shall be provided and required to use safety glasses, safety shoes, coveralls, gloves, noise reducers for ears, or other safety equipment appropriate to the hazard of the job. An emergency eye bath and emergency showers shall be installed in the facility by the project sponsor.

(i) Standing water and moist areas shall be controlled to prevent mosquito breeding. This shall be monitored by the facility operations manager.

(j) A map showing the locations of local emergency services and appropriate telephone numbers shall be posted at all non-disposal facilities and landfills in a conspicuous place (e.g., near the telephone) by either the program operations manager or the safety inspector.

(k) Develop an Emergency Response and Evacuation Plan for each new or expanded facility in accordance with relevant county or city emergency response and evacuation plans, and follow it in the event of a fire, earthquake, hazardous materials spill or other emergency. Each emergency response and evacuation plan shall be developed by the facility operator in coordination with the County Office of Emergency Services, the Hazardous Materials Division of the County Environmental Health Department, and the appropriate Fire Protection District.

(l) New and expanded non-disposal facilities and solid waste disposal facilities shall develop and implement an Illness and Injury Prevention Plan to address the potential for injury and illness among facility employees.

- **Timing of Implementation** - (a) through (l) Prior to project construction and ongoing; (k) Prior to project construction.
- **Implementation** - Lead Agency.
- **Monitoring** -Lead Agency, Local Enforcement Agency.

#### ***Mitigation Measure 8-8***

If hazardous materials are used at the RMF, the following mitigations will be implemented:

(a) An emergency response and evacuation plan shall be developed for the RMF in order to plan actions to be taken in the event of a spill incident. The emergency response plan shall be developed by the facility operator in coordination with the appropriate local agencies prior to the operation of the facility.

(b) A safety inspector shall be assigned by the RMF operations manager to oversee the transportation, use and disposal of hazardous materials to ensure that workers, the general public, and the environment are protected from accidents or spills.

(c) Employee safety meetings shall be conducted as necessary by the program safety inspector.

(d) An on-site eye wash and shower station shall be provided at the RMF.

(e) A map showing the locations of local emergency services and appropriate telephone numbers shall be posted at the RMF in a conspicuous place (e.g., near the telephone) by either the program operations manager or the safety inspector.

(f) A training program (including periodic retraining) for facility personnel in CPR and first aid shall be provided by the program safety inspector. In addition, first aid materials shall be maintained in good condition.

(g) A drainage containment and collection system shall be set up around the chemical use area at the RMF to prevent discharge of spilled materials to soil or groundwater. All spilled material shall be collected and treated separately to prevent the spread of any hazardous constituents.

(h) Any risk posed by unauthorized access to the RMF shall be mitigated by posting warning signs, fencing, patrol personnel, or the disabling of equipment when not in use. Daily inspections would be the responsibility of the facility operations manager.

(i) New and expanded non-disposal facilities shall develop and implement an Illness and Injury Prevention Plan to address the potential for injury and illness among facility employees.

- **Timing of Implementation** - (a) through (j) Prior to project construction, ongoing. Prior to project
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency, Regional Water Quality Control Board.

#### ***Mitigation Measure 8-9***

(a) Blasting at the Central Disposal Site shall be conducted in accordance with the recommendations of the study conducted by Geotek in 1998, and any further site-specific blasting study conducted by a licensed blasting engineer. At a minimum, mitigation shall include:

1. All blasts will be designed to minimize peak particle velocity at the nearest off-site structures.
2. Measures will be taken to control air blast (overpressure), including stemming explosive charges with clean crushed stone, ensuring the minimum distance between bore holes and the rock face, keeping drilling logs to describe ground conditions, adjusting blast design to isolate explosive charges from weak areas, avoiding blasting during heavy cloud cover or windy conditions and monitoring overpressure at or near nearby residences.

(b) If blasting is necessary at a new solid waste disposal site, a site-specific blasting study to establish procedures to minimize peak particle velocities and overpressure will be conducted.

- **Timing of Implementation** - (a) Prior to project construction, during project construction; (b) Prior to Project construction.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

#### ***Mitigation Measure 8-10***

In the event that a facility is located on a designated contaminated site, a site-specific study will be done to ensure that proper handling and disposal methods will be used to minimize environmental impacts. The study shall include a search of records of hazardous materials presence, a field assessment of conditions on the site to determine whether visual evidence of hazardous materials is present, and a plan to treat and/or clean up the site in accordance with regulations of the Regional Water Quality Control Board and Sonoma County Environmental Health if hazardous materials are present. Site specific analysis would be done at the time facility locations are proposed.

- **Timing of Implementation** - Prior to project approval, prior to project construction.



- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency, Local Enforcement Agency, Regional Water Quality Control Board.

***Mitigation Measure 8-11***

Update the existing or develop a new Emergency Response and Evacuation Plan for each new or expanded facility in accordance with relevant county or city emergency response and evacuation plans, and follow it in the event of a fire, earthquake, hazardous materials spill or other emergency. Each emergency response and evacuation plan shall be developed by the facility operator in coordination with the County Office of Emergency Services, the Hazardous Materials Division of the County Environmental Health Department, and the appropriate Fire Protection District.

- **Timing of Implementation** - Prior to project construction.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

***Mitigation Measure 8-12***

(a) Safety measures shall be implemented, including, at a minimum, emergency response procedures, safety inspections, safety training, restriction of unauthorized access to areas where hazardous materials are stored, and timely containment and cleanup of spills.

(b) All potentially disastrous events shall be reported by the project sponsor to the County Office of Emergency Services so that County emergency services such as traffic control, fire and medical equipment, and evacuation notification can be available as needed.

- **Timing of Implementation** - (a), (b) Prior to project construction, and ongoing.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

***Mitigation Measure 8-13***

(a) Future non-disposal and disposal facilities located in Sonoma County shall be designed, constructed, and maintained in conformance with the requirements of the Fire Marshall's Vegetation Management Plan and Fire Safe Standards.

(b) Develop an Emergency Response and Evacuation Plan for each new or expanded facility in accordance with relevant county or city emergency response and evacuation plans, and follow it in the event of a fire, earthquake, hazardous materials spill or other emergency. Each emergency response and evacuation plan shall be developed by the facility operator in coordination with the County Office of Emergency Services, the Hazardous Materials Division of the County Environmental Health Department, and the appropriate Fire Protection District.

(c) All potentially disastrous events shall be reported by the project sponsor to the County Office of Emergency Services so that County emergency services such as traffic control, fire and medical equipment, and evacuation notification can be available as needed.

- **Timing of Implementation** - (a) Prior to project approval, ongoing; (b) Prior to project construction, ongoing; (c) Ongoing.
- **Implementation** - Lead Agency.

- **Monitoring** - Lead Agency.

## TRANSPORTATION

### *Revised Mitigation Measure 9-1*

(a) To the extent feasible, new non-disposal facilities shall not be located in areas with significant road congestion, as designated in the cities' and County General Plans;

(b) To the extent feasible, new non-disposal facilities shall be located near other commercial facilities to allow for the combination of activities in one trip and reduce overall trip generation.

(c) Traffic Management Plans (TMP) shall be developed for each of the new and expanded non-disposal facilities, as required. These plans shall schedule truck trips so that roadway segments with the potential to be significantly impacted are avoided during peak hours. In addition, these plans shall detail the hours of operation and other restrictions on truck trips for each of the facilities and shall include plans for employee car pooling and bus transportation, where appropriate and feasible. The plans shall be updated periodically in response to changing traffic conditions and improvements to the highway system. The TMP shall include a site-specific traffic evaluation conducted as part of the siting study for a new non-disposal facility to identify potential traffic problem areas prior to site selection. The traffic evaluation shall consider limiting non-disposal facility operations to either commercial or private (general public) haulers, as well as co-locating of disposal and non-disposal facilities to reduce haul trips.

- **Timing of Implementation** - (a), (b), (c) Prior to project approval.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

### *Additions to Mitigation Measures 9-1*

(d) Countywide Traffic Mitigation Fees shall be paid for new facilities implemented in accordance with the 2003 CoIWMP to help mitigate off-site cumulative traffic impacts.

- **Timing of Implementation** - (d) Prior to project construction.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

### *Revised Mitigation Measure 9-2*

(a) The siting study for a new landfill shall consider the adequacy and operation of the local roads and intersections as part of the comparative criteria.

- **Timing of Implementation** - (a) Prior to project approval.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

### *Additional Mitigation Measure 9-2*

(b) A site-specific traffic evaluation shall be conducted as part of the siting study for a new landfill, to identify potential traffic problem areas prior to site selection and to identify road or intersection improvements and/or changes needed to accommodate landfill traffic.

(c) Countywide Traffic Mitigation Fees shall be paid for new facilities implemented in accordance with the 2003 CoIWMP to help mitigate off-site cumulative traffic impacts.

- **Timing of Implementation** - (b) Prior to project approval; (c) Prior to project construction.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

#### ***Mitigation Measure 9-3***

Traffic analysis shall be conducted at the time a site-specific environmental analysis of a quarry project is undertaken. If rock extraction traffic would cause significant congestion at the Stony Point/Roblar or Stony Point/West Railroad intersections, the following mitigation measures shall be considered:

(a) Trucks hauling rock from the landfill quarry shall be restricted so that they do not add traffic to the congested intersections during peak traffic hours. Restrictions could include alternative hours of operation or alternative haul routes. This restriction shall remain in effect until these intersections are signalized.

(b) The quarry operator shall pay a traffic mitigation fee to provide a fair-share contribution toward the cost of signalizing the intersections.

- **Timing of Implementation** - (a) Prior to project approval; (b) Prior to project construction.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

#### ***Mitigation Measure 9-4***

If significant traffic impacts to the Stony Point/Roblar Roads and Stony Point Road/West Railroad Avenue intersections continue beyond 2015, mitigation measures such as the following shall be implemented:

(a) The Integrated Waste Division will consider restricting truck traffic that is subject to County control so that trucks do not travel through the Stony Point/Roblar and/or Stony Point Road/West Railroad intersections during peak traffic hours. This shall apply only to new truck trips associated with projects pursuant to the 2003 CoIWMP and not existing traffic using the Central Disposal Site. The restriction shall apply to trucks subject to County control, such as those making deliveries of cover soil and liner materials, and trucks associated with construction at the site. This measure shall remain in effect until a traffic signal has been installed at these intersections.

(b) Prior to construction of projects at the Central Disposal Site pursuant to the 2003 CoIWMP, the Integrated Waste Division shall pay a traffic mitigation fee that includes a fair share contribution toward the installation of signals at the Stony Point/Roblar and Stony Point/West Railroad intersections.

(c) Consider restricting hours of operation so that traffic is not added to the congested intersections during peak traffic hours. This restriction would remain in effect until these intersections are signalized.

(d) Consider restricting the use of the site to commercial operators only, thereby reducing the number of vehicles using the Stony Point/Roblar and Stony Point/West Railroad intersections.

- **Timing of Implementation** - (a), (c), (d) Prior to project approval; (b) Prior to project construction.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

#### ***Mitigation Measure 9-5***

Prior to the commencement of hauling, the quarry operator and the Integrated Waste Division shall implement a truck driver education program which familiarizes rock and commercial refuse haulers with speed limit zones, school bus stops, areas of low sight distance on the haul route, permit limits on trucking, weight and load height limits, circulation routes through the landfill to minimize interference, and other measures which will reduce public conflicts. The Integrated Waste Division shall maintain a record of the drivers receiving the orientation.

- **Timing of Implementation** - Prior to project construction, during project construction, ongoing.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

#### ***Mitigation Measure 9-6***

(a) Driveways and access roads for the new landfill and non-disposal facilities shall be designed to AASHTO standards to ensure safety hazards are minimized. These standards include driveway width, acceleration-deceleration lanes, and turning radius requirements.

(b) Prior to operation, minor roads that would be used as haul routes shall be examined for existing safety problems and corrections shall be made as necessary to accommodate traffic from new facilities.

(c) Design access roads for new facilities to accommodate emergency vehicles in accordance with County Fire Safe Standards.

- **Timing of Implementation** - (a), (c) Prior to project construction; (b) Ongoing.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

### **AIR QUALITY**

#### ***Revised Mitigation Measure 10-1 (a)***

The County and cities shall consider air emissions when purchasing new equipment and when entering into agreements with solid waste operators. Cleaner vehicles shall be weighted more favorably than less clean vehicles.

- **Timing of Implementation** - (a) Prior to project construction and ongoing.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

***Additional Mitigation Measure 10-1 (b) (Construction)***

1. New facilities shall be sited to maximize separation between haul routes/facilities and sensitive receptors to the extent practical.
  2. New facilities shall encourage the use of low emissions vehicles that control diesel particulates with engine filters or by using low emissions fuel such as compressed natural gas.
  3. The contractor shall reduce NO<sub>x</sub>, ROG, and CO emissions by complying with the construction vehicle air pollutant control strategies developed by the BAAQMD and the NSCAPCD. The project sponsor shall include in construction contracts the following requirements:
    - a. Construction equipment operators shall shut off equipment when not in use to avoid unnecessary idling. As a general rule, vehicle idling should be kept below 10 minutes.
    - b. The contractor's construction equipment shall be properly maintained and in good operating condition.
    - c. The contractor shall utilize new technologies to control ozone precursor emissions as they become available and feasible.
    - d. The contractor shall substitute gasoline-powered for diesel-powered equipment where feasible. The contractor shall electrify equipment where practical.
  4. Asphalt paving materials shall conform to the most recent guidelines by the air district having jurisdiction.
- **Timing of Implementation** - (b1) Prior to project approval; (b2) Ongoing; (b3), (b4) Prior to project construction, during project construction.
  - **Implementation** - Lead Agency.
  - **Monitoring** - Lead Agency.

***Additional Mitigation Measure 10-1 (c) (Operations)***

1. Contracts for operation of facilities described in the 2003 CoIWMP shall require operators to limit idling time of diesel equipment to 10 minutes when practical. Contracts shall also require that equipment be serviced at regular intervals to keep engines operating within parameters that will prevent excessive emissions.
  2. Contracts for operation of facilities described in the 2003 CoIWMP shall include incentives for using electric motors instead of internal combustion engines in stationary equipment.
  3. Alternate technology, such as a fuel cell or cleaner burning engines, shall be considered for any electricity generation plant implemented by programs in the 2003 CoIWMP.
- **Timing of Implementation** - (c1) through (c3) Ongoing.
  - **Implementation** - Lead Agency.
  - **Monitoring** - Lead Agency.

***Additional Mitigation Measure 10-1 (d)***

If emissions of criteria pollutants are produced by the selected technology for processing of organic waste at the RMF, the facility will be equipped with a means to collect or treat emissions which may include air control and emission filters to comply with air quality standards.

- **Timing of Implementation** - (d) Prior to project construction.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency, Air Quality Management District/Air Pollution Control District.

***Revised Mitigation Measure 10-2***

The contractor shall reduce particulate emissions by complying with the dust control strategies developed by the NSCAPCD and the BAAQMD. The project sponsor shall include in construction contracts the following requirements:

1. The contractor shall water in late morning and at the end of the day all earth surfaces during clearing, grading, earthmoving, and other site preparation activities.
  2. The contractor shall use tarpaulins or other effective covers for haul trucks that travel on public streets and roads.
  3. The contractor shall increase the watering frequency for exposed and erodible soil surfaces whenever winds exceed 15 mph.
  4. The contractor shall water exposed soil surfaces, including cover stockpiles, roadways, and parking and staging areas, to minimize dust and soil erosion.
  5. The contractor shall sweep streets adjacent to the new and expanded non-disposal facilities at the end of each day.
  6. The contractor shall control construction, operation and maintenance vehicle speed to 15 mph on unpaved roads.
- **Timing of Implementation** - Ongoing.
  - **Implementation** - Lead Agency.
  - **Monitoring** - Lead Agency.

***Revised Mitigation Measure 10-3***

(a) Control of odors shall be implemented through the use of Best Management Practices utilized with Sonoma County such as the avoidance of compost disturbance in afternoon hours, regulating moisture content, and turning compost windrows.

(b) If odor persists as a problem, compost piles or windrows shall be covered with soil or finished compost to reduce emissions of odors.

- **Timing of Implementation** - (a), (b) Ongoing.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency, Local Enforcement Agency.

***Additions to Mitigation Measure 10-3***

(c) The landfill shall be covered at the end of every day with plastic, soil or other appropriate material.

(d) Any cracks in the landfill surface shall be repaired as soon as practical.

(e) Acidity levels in leachate ponds shall be monitored and pH adjusted as necessary to reduce odor problems.

(f) When new compost facilities are proposed, consideration will be given to operations that are conducted inside buildings using air filtration systems to prevent release of odors.

- **Timing of Implementation** - Ongoing.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency, Local Enforcement Agency, Regional Water Quality Control Board.

***Revised Mitigation Measure 10-4 (a)***

Mitigation measures will include revised Mitigation Measure 10-1 (a), additional Mitigation Measures 10-1 (b) and 10-1 (c), including revised Mitigation Measure 10-2 described above.

- **Timing of Implementation** - Same as Mitigation Measures 10-1(a), (b) and (c); 10-2.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

***Revised Mitigation Measure 10-4 (b)***

1. To prevent excessive emissions of ROG, future landfill gas collection systems shall be designed to minimize the amount of uncontrolled gas emissions. To ensure that the latest information and technology is considered in the design, the project sponsor will have a qualified consultant prepare recommendations that would include the appropriate collection technology. These recommendations shall be submitted to the Bay Area Air Quality Management District for approval prior to the issuance of an Authority To Construct.

2. Mitigation measures shall include revised Mitigation Measure 10-1 (a) and additional Mitigation Measures 10-1 (b) and 10-1 (c).

- **Timing of Implementation** - (b1) Prior to project construction; (b2) Same as 10-1(a), (b), and (c).
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency, Air Quality Management District/Air Pollution Control District.

***Mitigation Measure 10-5***

(a) Blasting operations for landfill construction shall be restricted as follows to control dust emissions:

1. To the extent possible, remove all loose dirt and overburden material from blasting areas prior to drilling blast holes.

2. Spray water over blast areas prior to blasting.

3. No loading of explosives in blast holes or blasts shall be conducted when wind speed on site exceeds 15 mph.

(b) Any rock crusher used for landfill construction shall be equipped with a spray mister, or incorporate some other equally effective measure to control dust.

(c) Revised Mitigation Measure 10-2 shall be implemented for the rock extraction operations.

- **Timing of Implementation** - (a) Prior to project construction, during project construction; (b) During project construction; (c) Same as Revised Mitigation Measure 10-2.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency, Air Quality Management District/Air Pollution Control District.

#### ***Mitigation Measure 10-6***

(a) To prevent excessive NO<sub>x</sub> emissions: 1) Blasting for landfill construction shall be done with water resistant explosives in the wet areas of bore holes. Non-water resistant explosives may be used above the wet areas of bore holes, provided the bore hole is sealed above the wet area so that the non-water resistant explosive remains above the wet area. 2) Blended ammonium nitrate/fuel oil blasting agents shall contain at least 5.7% fuel oil by weight.

(b) Revised Mitigation Measure 10-1 (a) and Additional Mitigation Measures 10-1 (b) and 10-1 (c) shall also be applied to rock extraction associated with new or expanded landfills.

- **Timing of Implementation** - (a) Prior to project construction, during project construction; (b) Same as Revised Mitigation Measure 10-1(a); additional Mitigation Measures (b), (c).
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency, Air Quality Management District/ Air Pollution Control District.

### **NOISE**

#### ***Revised Mitigation Measure 11-1***

(a) Construction activities shall be limited to the hours between 7 AM and 7 PM to the extent practical.

(b) Construction equipment shall be properly outfitted and maintained with noise reduction devices to minimize construction-generated noise. Wherever possible, noise-generating construction equipment shall be shielded from nearby residences by noise-attenuating walls, berms, or enclosures.

(c) The contractor shall attempt to locate stationary noise sources as far away as possible from noise-sensitive land uses.

- **Timing of Implementation** - (a) Prior to project construction; (b), (c) During project construction.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.



**Revised Mitigation Measure 11-2**

(a) Where feasible, collection activities associated with these facilities shall be conducted during hours of the day which are not noise sensitive for nearby residents and other adjacent land uses. The activities shall be commissioned to occur during normal work hours of the day to provide relative quiet during the more sensitive evening and early morning periods.

(b) The County and cities shall include noise as an evaluation criterion when purchasing new waste/recyclables transportation vehicles, and will purchase the quietest vehicles available when reasonably possible. If the County or cities do not make direct purchases of such vehicles, it will require licensed/franchised haulers, via license/franchise agreements, to include noise as an evaluation criterion in their purchase of vehicles.

- **Timing of Implementation** - (a), (b) Ongoing.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

**Addition to Mitigation Measure 11-2**

(c) A site-specific noise evaluation shall be conducted as part of the siting study for new and expanded non-disposal facilities to identify potential noise problem areas prior to site selection. The noise evaluation shall consider the location of sensitive receptors and evaluate sound barriers or other means to reduce noise exposure. The evaluation shall also consider operational changes such as restricting hours of operation (see Mitigation Measure 11-3 (b)).

- **Timing of Implementation** - (c) Prior to project approval.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

**Revised Mitigation Measure 11-3**

(a) The County and cities shall include noise as an evaluation criterion during facility design and when purchasing equipment for the new and expanded facilities and will purchase the quietest equipment available to buy, when reasonably possible. If the County or cities do not make direct purchases of such equipment, it will require facility owner/operators, via conditions of approval, to include noise as an evaluation criterion in their purchase of equipment.

(b) The noise evaluation described in Mitigation Measure 11-2 (c) shall consider the location of sensitive receptors and locate equipment and operations to minimize the noise exposure to the extent practical. The evaluation should consider enclosures for noisy equipment or sound barriers to shield off-site receptors from noise.

- **Timing of Implementation** - (a) Prior to project approval, ongoing; (b) Prior to project approval.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

**Revised Mitigation Measure 11-4**

Same as Mitigation Measure 11-1.

- **Timing of Implementation** - Same as Mitigation Measure 11-1.

- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

***Revised Mitigation Measure 11-5***

(a) Where feasible, collection activities associated with these facilities shall be conducted during hours of the day which are not noise sensitive for nearby residents and other adjacent land uses. The activities shall be commissioned to occur during normal work hours of the day to provide relative quiet during the more sensitive evening and early morning periods.

(b) The County and cities shall include noise as an evaluation criterion when purchasing new waste/recyclables transportation vehicles, and will purchase the quietest vehicles available when reasonably possible. If the County or cities do not make direct purchases of such vehicles, it will require licensed/franchised haulers, via license/franchise agreements, to include noise as an evaluation criterion in their purchase of vehicles.

- **Timing of Implementation** - (a), (b) Ongoing.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

***Revised Mitigation Measure 11-6***

(a) The County and cities shall include noise as an evaluation criterion when purchasing equipment for the disposal facility and will purchase the quietest equipment available to buy, when reasonably possible. If the County or cities do not make direct purchases of such equipment, it shall require facility owner/operators, via conditions of approval, to include noise as an evaluation criterion in their purchase of equipment.

- **Timing of Implementation** - (a) Ongoing.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

***Addition to Mitigation Measure 11-6***

(b) During project analysis, sound levels for landfill and quarry equipment will be analyzed to determine whether standards would be exceeded. If it is determined that noise standards would be exceeded at the property line of any residential use, the project shall include, to the extent practical, sound barriers, special mufflers on equipment, or other means to reduce the noise levels at the property line. A berm or other noise barrier shall be used to break the line of sight between noisy equipment, such as rock hammers and rock crushers, and the property line prior to operation of the equipment.

- **Timing of Implementation** - (b) Prior to project approval.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

**VEGETATION AND WILDLIFE*****Revised Mitigation Measure 12-1***

(a) When new non-disposal and landfill facilities are proposed, site specific biotic studies shall be

performed to identify biotic resources on the sites. To the extent practical the new facilities shall be constructed to avoid these resources. Where avoidance is not practical the project sponsor shall consult with the appropriate State or Federal resource agencies to determine appropriate mitigation for any loss of or change to the biotic resources. The project sponsor shall acquire all necessary permits from these agencies. Compliance with permit conditions shall be a condition of approval of the project.

- **Timing of Implementation** - (a) Prior to project approval, prior to project construction.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency, California Department of Fish and Game, U.S. Fish and Wildlife.

***Additions to Mitigation Measure 12-1***

(b) Riparian areas shall be avoided where possible in siting new facilities. If avoidance is not possible, compensation for loss of riparian vegetation shall be made by planting and otherwise enhancing a comparable area of streambank in the general vicinity where habitat quality can be improved. Planting plans shall be reviewed by a qualified biologist and submitted to the California Department of Fish and Game and other agencies, if needed, for review and comment prior to implementation. Revegetation areas shall be managed to permanently protect the riparian vegetation

- **Timing of Implementation** - (b) Prior to project approval, prior to project construction, during project construction, ongoing.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency, California Department of Fish and Game, U.S. Fish and Wildlife.

***Revised Mitigation Measure 12-2***

(a) No solid waste disposal facility shall be built or expanded within a wetland unless it can be demonstrated that the landfill will not contribute to or cause significant degradation of wetlands or violations of the Clean Water Act or State water quality standards, jeopardize endangered or threatened species, violate any toxic effluent standard, or violate any requirement of the Marine Protection, Research, and Sanctuaries Act. There must also be no practicable alternative to the proposed location which does not involve wetlands. (Title 40, Chapter 1, Subchapter 1, Part 258, Subpart B [40 CFR 258].)

(b) When new non-disposal and landfill facilities are proposed, site specific biotic studies shall be performed to identify biotic resources on the sites. To the extent practical the new facilities shall be constructed to avoid these resources. Where avoidance is not practical the project sponsor shall consult with the appropriate State or Federal resource agencies to determine appropriate mitigation for any loss of or change to the biotic resources. The project sponsor shall acquire all necessary permits from these agencies. Compliance with permit conditions shall be a condition of approval of the project.

- **Timing of Implementation** - (a) Prior to project approval, prior to project construction, ongoing; (b) Prior to project approval, prior to project construction, ongoing.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency, California Department of Fish and Game, U.S. Fish and Wildlife.

**Additions to Mitigation Measure 12-2**

(c) Riparian areas will be avoided where possible in siting new facilities. If avoidance is not possible, compensation for loss of riparian vegetation shall be made by planting and otherwise enhancing a comparable area of streambank in the general vicinity where habitat quality can be improved. Planting plans shall be reviewed by a qualified biologist and submitted to the California Department of Fish and Game and other agencies, if needed, for review and comment prior to implementation. Revegetation areas shall be managed to permanently protect the riparian vegetation.

(d) Before construction during the active nesting period between March 1 and September 1, the Integrated Waste Division of the Sonoma County Department of Transportation and Public Works shall determine the locations of any active raptor nests that could be affected. If any active nests are found, removal of the trees containing the nests shall be delayed until a qualified wildlife biologist has determined that the young birds are able to leave the nest and forage on their own. A qualified wildlife biologist shall be consulted to determine what activities must be avoided in the vicinity of the nests while the nests are active, and those recommendations shall be followed during construction.

- **Timing of Implementation** - (a) Prior to project approval, prior to project construction, during project construction.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency, California Department of Fish and Game, U.S. Fish and Wildlife.

**CULTURAL RESOURCES AND PALEONTOLOGY****Revised Mitigation Measure 13-1**

(a) Intensive on-site cultural and paleontological resources surveys shall be conducted by a qualified archaeologist and paleontologist prior to construction in any areas of a site to be used for solid waste non-disposal facilities that are designated as sensitive in a city or County planning document. In addition, the Northwest Information Center (NWIC) will be consulted to determine if previously recorded archaeological sites exist on or in the vicinity of the project site. The purpose of this survey will be to more precisely locate and map significant cultural and paleontological resources. The services of the archaeologist and paleontologist shall be retained by the project sponsor.

(b) If, in the process of the cultural resource surveys, significant archaeological resources are found to exist on the site, the project sponsor shall consider changing the facility layout to avoid such resources. If it is not possible to make this change, however, formal archaeological data collection work on the significant resources will be completed. This shall include a complete surface collection of cultural material and, at a minimum, excavation of a sample subsurface cultural material sufficient to evaluate the extent, depth, and make-up of site components (i.e., archaeological testing). The overall objectives of such data collection work shall be to explicitly identify those research questions for which the site contains relevant information, with the research questions representing those presently expressed by the body of professional archaeologists in the region. If the results of the archaeological testing indicate that additional mitigative data recovery work is justified or warranted, it will be completed prior to the construction of the facility.

(c) If paleontological resources cannot be avoided by changing the site layout, a program of data collection and recovery shall be implemented.

(d) Archaeological and paleontological monitors shall be present during studies, site construction and development activities in areas of high cultural and paleontological resource sensitivity when recommended by a site-specific study for a project under the CoIWMP or the 2003 CoIWMP, or when a designated Native American tribal representative requests to monitor projects. These monitors shall be retained by the project sponsor. In the event that human remains are unearthed during construction, state law requires that the County Coroner be notified to investigate the nature and circumstances of the discovery. At the time of discovery, work in the immediate vicinity would cease until the Coroner permits work to proceed. If the remains were determined to be prehistoric, the find would be treated as an archaeological site and the mitigation measure described above would apply.

(e) In the event that unanticipated cultural or paleontological resources are encountered during project construction, all earthmoving activity shall cease until the project sponsor retains the services of a qualified archaeologist or paleontologist. The archaeologist or paleontologist shall examine the finding, assess their significance, and offer recommendations for procedures deemed appropriate to either further investigate or mitigate adverse impacts to those cultural or paleontological archaeological resources that have been encountered (e.g., excavate the significant resource). These additional measures shall be implemented.

- **Timing of Implementation** - (a) through (e) Prior to project approval, prior to project construction, during project construction.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

***Revised Mitigation Measure 13-2***

Same as Mitigation Measure 13-1.

- **Timing of Implementation** - Same as Mitigation Measure 13-1.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

***Mitigation Measure 13-3***

(a) Intensive on-site historical resources surveys shall be conducted by a qualified architectural historian prior to construction where structures over 45 years old or sites known to have historical significance could be affected by proposed facilities. The purpose of the survey shall be to determine the historical significance of the resources and whether the proposed project would affect those structures that are found to have historical significance. The services of the architectural historian shall be retained by the project sponsor.

(b) If, in the process of the historical resource surveys, significant resources are found to exist on the site, the project sponsor shall consider changing the facility layout to avoid such resources. If it is not possible to make this change, however, mitigation work in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties, which address preservation, rehabilitation, restoration and reconstruction of historic resources, shall be completed for the historical resource.

- **Timing of Implementation** - (a), (b) Prior to project approval, prior to project construction.

- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

## VISUAL RESOURCES

### ***Revised Mitigation Measure 14-1***

- (a) To the extent possible, new facilities shall not be located within Designated Scenic Resource Areas as designated in the adopted 1989 Sonoma County General Plan (as amended), unless the facilities are not visible from public roads.
  - (b) A landscaping plan for each facility, if required by local regulations, shall include visual mitigation measures, such as earthen berms, tree screening, and other landscaping elements along the perimeter of the site in order to screen the proposed facility from public view. Earthen berms and tree screening would be especially important along nearby roadways or other visual corridors.
  - (c) Existing trees shall be retained to the extent feasible as a visual screen.
  - (d) New or expanded facility buildings shall be located away from site borders (to the extent feasible) and shall maximize the use of any natural shielding provided by the topographical relief of site's existing landforms.
  - (e) Consistent with any required local design review recommendations, facility support buildings and site plans shall be designed and constructed with appropriate materials, exterior colors, and architectural details compatible with the natural landscape and surrounding development in the project vicinity.
  - (f) Disturbed areas that are not directly a part of the project shall be revegetated immediately following construction.
  - (g) Project lighting equipment shall be of low-profile design, unobtrusive, and consistent with adjacent land uses.
- **Timing of Implementation** - (a) through (e, g) Prior to project approval, prior to project construction; (f) Ongoing.
  - **Implementation** - Lead Agency.
  - **Monitoring** - Lead Agency.

### ***Revised Mitigation Measure 14-2***

#### On-site Mitigation:

- (a) Litter shall be controlled by a litter abatement program.
- (b) Litter fences shall be established around new or expanded non-disposal facilities, as necessary to prevent litter from blowing onto off-site areas.
- (c) Litter along on-site roads shall be routinely collected and removed.

**Off-site Mitigation:**

(d) Litter shall be controlled on nearby roads providing access to new or expanded non-disposal facilities with a litter abatement program.

(e) Open cargo areas of vehicles (e.g., pick-ups, trucks, trailers, etc.) hauling waste shall be covered. This requirement will be enforced with financial penalties levied at the time of delivery to County Non-Disposal Sites and by the California Highway Patrol (CHP) in the areas near disposal sites.

- **Timing of Implementation** - (a) through (e) Ongoing.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency, Local Enforcement Agency, (e)California Highway Patrol.

***Additions to Mitigation Measure 14-2***

(f) A litter abatement program shall be implemented to reduce litter accumulation resulting from the activities of commercial haulers. The program could include, but not be limited to:

1) education of commercial haulers; and 2) requirements for thorough cleaning of debris boxes, covering emptied containers, or other similar measures, to reduce litter created upon exiting non-disposal facilities.

(g) The litter abatement program shall consider limiting non-disposal facility operations to commercial or private (general public) haulers, including the co-location of disposal and non-disposal facilities to reduce roadside litter.

- **Timing of Implementation** - (f), (g) Ongoing.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

***Revised Mitigation Measure 14-3***

(a) To the extent possible, new facilities shall not be located within Designated Scenic Resource Areas, as designated in the adopted 1989 Sonoma County General Plan (as amended), unless the facilities are not visible from public roads.

(b) A landscaping plan shall be required for each facility and shall include visual mitigation measures, such as earthen berms, tree screening, and other landscaping elements along the perimeter of the site in order to screen the proposed facility from public view. Earthen berms and tree screening would be especially important along nearby roadways or other visual corridors.

(c) Existing trees shall be retained to the extent feasible as a visual screen.

(d) New or expanded landfills shall utilize site buffer areas (to the extent feasible) and shall maximize the use of any natural shielding provided by the relief of site landforms.

(e) Consistent with any required local design review recommendations, construct new and expanded landfills and facility support buildings with appropriate materials, exterior colors, and architectural details compatible with the natural landscape and surrounding development in the project vicinity.

(f) Disturbed areas that are not directly a part of the project shall be revegetated as soon as practicable.

(g) Project lighting equipment shall be of low-profile design, unobtrusive, and consistent with adjacent land uses.

- **Timing of Implementation** - (a) through (e, g) Prior to project approval, prior to project construction; (f) Ongoing.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

***Addition to Mitigation Measure 14-3***

(h) Exterior security lighting plans shall be prepared for all new facilities. Designs shall be consistent with County design standards, including exterior lighting that does not glare onto adjacent parcels, and includes motion sensors to minimize light and glare impacts on surrounding land uses.

- **Timing of Implementation** - (a) Prior to project approval, prior to project construction.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

***Addition to Mitigation Measure 14-3***

(i) Visual analysis of the Central Landfill expansion, or a new landfill site, shall include photo simulation, three-dimensional-terrain modeling, or similar methods to evaluate potential change in visual character as seen from nearby public roads.

- **Timing of Implementation** - (i) Prior to project approval.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

***Revised Mitigation Measure 14-4***

On-site Mitigation:

(a) Litter shall be controlled by a litter abatement program.

(b) Litter fences shall be established around active landfill areas to prevent litter from blowing onto off-site areas.

(c) Litter along on-site roads shall be routinely collected and removed.

Offsite Mitigation:

(d) Litter shall be controlled with a litter abatement program on nearby roads which provides access to new or expanded disposal facilities.

(e) Open cargo areas of vehicles (e.g, pick-ups, trucks, trailers, etc.) hauling waste shall be covered. This requirement will be enforced with financial penalties levied at the time of delivery to County Disposal Sites and by the CHP in the areas near disposal sites.

- **Timing of Implementation** - (a) through (e) Ongoing.



- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency, Local Enforcement Agency, (e) California Highway Patrol.

***Addition to Mitigation Measure 14-4***

(f) Roadsides adjacent to landfill sites shall be cleaned each day that the landfill is open. Signs will be posted on roadways adjacent to the landfill site that will provide a phone number that people may call to report vehicles that are seen littering on the way to or from the landfill. The County, or its designee, will, to the extent feasible, identify offending haulers and request that corrective action be taken.

(g) A litter abatement program will be implemented to reduce litter accumulation resulting from the activities of commercial refuse haulers. The program could include, but not be limited to, 1) education of commercial refuse haulers, and 2) requirements for thorough cleaning of debris boxes, covering emptied containers or other similar measures to reduce litter created upon exiting the Central Disposal Site or any new landfill.

- **Timing of Implementation** - (f), (g) Ongoing.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency, Local Enforcement Agency.

**POPULATION & HOUSING, PUBLIC SERVICES,  
RECREATION, & UTILITIES*****Revised Mitigation Measure 15-1***

(a) For each facility and for the applicable CoIWMP programs, a Fire Prevention Program shall be developed and implemented (in consultation with the Fire Marshal). This program shall detail both structural fire suppression mechanisms in the design of the facilities, such as fire sprinkler systems in facility buildings, as well as procedural programs for minimizing fire hazards.

(b) For each facility that handles hazardous materials and for the applicable CoIWMP programs, a Hazardous Materials Inventory and Emergency Response Plan shall be prepared and implemented (in consultation with the appropriate local agency).

(c) Private project sponsors shall pay development impact fees to cover the cost of additional fire protection services, if necessary.

- **Timing of Implementation** - (a), (b), (c) Prior to project construction.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

***Mitigation Measure 15-2***

(a) For each new and expanded solid waste disposal facility, a Fire Prevention program shall be developed and implemented (in consultation with the Fire Marshal). This program shall entail both structural fire suppression mechanisms in the design of the facilities, such as fire sprinkler systems in facility buildings, as well as procedural programs for minimizing fire hazards.

(b) Private project sponsors shall pay development impact fees to cover the cost of additional fire protection services, if necessary.

- **Timing of Implementation** - (a), (b) Prior to project construction.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency.

***Mitigation Measure 15-4***

Any projects which involve discharge to waterways or stormwater runoff shall comply with the permitting provisions of the applicable Regional Water Quality Control Board.

- **Timing of Implementation** - Prior to project construction, during project construction, ongoing.
- **Implementation** - Lead Agency.
- **Monitoring** - Lead Agency, Regional Water Quality Control Board.

# Appendix F

## General Plan Consistency Analysis



**SONOMA COUNTY**  
**PERMIT AND RESOURCE MANAGEMENT DEPARTMENT**

2550 Ventura Avenue Santa Rosa, CA 95403 (707) 565-1900 FAX (707) 565-8343

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**GENERAL PLAN CONSISTENCY ANALYSIS**

(References are to the Sonoma County General Plan as amended to date unless stated otherwise.  
General Plan policies relevant to this project are stated on the pages following this analysis.)

**Date:** March 31, 2009  
**Project Applicant:** Sonoma County Waste Management Agency  
**Project File Number:** PPR09-05-01  
**Project Location:** Countywide  
**Project Title:** Amendment to Sonoma Countywide Integrated Waste Management Plan (ColWMP)

**Project Description:** The project would amend the ColWMP in the following ways:

**Chapter 5. Household Hazardous Waste Element:** This section currently depicts a single permanent household hazardous waste collection facility at the Central Disposal Site (CDS). In order to create additional collection facilities and improve the efficiency of collection, this section would be amended to allow for the potential for additional collection facilities.

**Chapter 6. Siting Element:** This section provides an integrated strategy to ensure long-term disposal capacity in the County. The strategy adopted in 2003 to meet those needs is: 1) Creation of additional landfill capacity at the CDS; 2) Construction of new facilities for materials recovery, organic processing, composting, and reduction of the volume of landfill disposal waste; and 3) Siting and permitting of a new landfill to provide additional disposal capacity and be able to accept both mixed solid waste and waste that has been processed to produce energy.

The proposed revisions to the Siting Element would add the following:

1. Reflect that all landfilling of solid waste at the CDS has been suspended and that no solid waste is currently disposed of within Sonoma County.
2. State a short-term disposal strategy to continue the out-of-County disposal contracts that are currently in place, which would ensure sufficient disposal capacity until 2010 when the contracts are scheduled to expire.
3. Establish a medium term disposal strategy for 2011 through 2022 that would consider and allow the following disposal options:
  - **Truck Transport to Out-of-County Disposal Sites:** Waste would be picked up and hauled from the existing transfer stations, and no additional facilities in Sonoma County would be required. The amendment language contains a

non-exclusive list of possible destination disposal sites in other counties.

- **Rail Transport to Out-of-County Disposal Sites:** Hauling waste by rail would increase accessibility to a larger number of disposal sites than truck hauling but would require significant capital investment in infrastructure, including a transfer station to collect and recover divertible materials and to consolidate the residual waste or load it into intermodal containers, a local rail yard to load the containers or gondola cars, and a destination rail yard to off-load the containers or material in gondola cars to the landfill or transfer vehicles for haul to the landfill.
- **Divestiture of County Disposal System:** Since the County wants to be able to allow transfer of ownership of the disposal system to a private operator who may resume in-County disposal either there or at other possible sites within Sonoma County or outside Sonoma County, the Siting Element criteria for establishing new or expanding existing solid waste facilities would be revised to be applicable to either a public or private entity creating a new or expanded landfill in the future.

**Conclusion:** The project is consistent with the Sonoma County General Plan. Solid waste facilities proposed in unincorporated areas of Sonoma County in the future pursuant to the amended ColWMP would require a project-level analysis and determination of consistency that would consider facility design, site characteristics and any pertinent site-specific General Plan policies.

## ANALYSIS

**PUBLIC FACILITIES AND SERVICES ELEMENT:** This element contains County policy regarding solid waste management services in Sonoma County. The background text in section 3.4 describes State requirements and local history for the ColWMP adopted in 1993 and last amended in 2003. The ColWMP is the principal planning document for solid waste management in the County, but landfills, transfer stations and other solid waste management facilities located in unincorporated areas are designated in the Land Use Element. This section states the following three issues that need to be considered in solid waste management planning:

- (1) The need to temporarily close the CDS and to transition from a landfill based system to an outhaul-based system using truck and/or rail transport due to the expense and regulatory uncertainty associated with expanding the CDS and securing flow-control agreements from the cities.
- (2) The need to accommodate the sludge disposal needs of wastewater treatment facilities serving both cities and unincorporated areas and other types of waste matter, including compostable yard waste and organic matter, recyclable in-organics (plastic, glass, metal, etc.) and non-compostable organic matter, by treating them as a resource rather than a waste product.
- (3) Reduction of the quantity of waste deposited in landfills by 50% or greater after 2000, based on waste generation rates of 1990.

Following is an analysis of the project's consistency with the stated goal, objective and

policies for solid waste management services:

**GOAL PF-2:** Assure that park and recreation, public education, fire suppression and emergency medical, and solid waste services, and public utility sites are available to the meet future needs of Sonoma County residents.

**Objective PF-2.9:** Use the ColWMP, and any subsequent amendments thereto, as the policy document for solid waste management in the County.

*The ColWMP's mission statement would continue to state that the County will plan and implement programs to satisfy the solid waste management needs for the next fifty years.*

**Policy PF-2a:** Plan, design, and construct park and recreation, fire and emergency medical, public education, and solid waste services and public utilities in accordance with projected growth, except as provided in Policy LU-4d.

*The project would amend the medium-term time frame for the ColWMP stated in Chapter 6 to be 2011 to 2022. In addition, the current table in section 6.2.3 projecting disposal capacity requirements until 2018 would be revised to extend projections until 2022.*

**Policy PF-2b:** Work with the cities to provide park and recreation, public education, fire and emergency medical, and solid waste services as well as public utilities. Use proposed annexations, redevelopment agreements, revenue sharing agreements, and the CEQA process as tools to ensure that incorporated development pays its fair share toward provision of these services.

*The ColWMP is adopted and maintained by the Sonoma County Waste Management Agency, which was formed in 1995 as a joint powers agreement between the County and all nine incorporated cities.*

**Policy PF-2p:** Amend the ColWMP as necessary to continue to address potential shortfalls in future landfill capacity.

*The Notice of Preparation for the project's Draft Supplemental Program Environmental Impact Report explains that water quality problems have led to the cessation of landfill operations at the CDS and hauling of waste to out-of-County permitted landfills. Since this approach is inconsistent with the approach adopted in the 2003 ColWMP, amendment of the plan is now required.*

**Policy PF-2q:** Review projects on or near designated solid waste facility sites for compatibility with such facilities.

*This policy applies to proposed uses that might affect the functioning of solid waste facilities designated by the ColWMP or developed in accordance with it.*

**Policy PF-2r:** When opportunities occur, the County may acquire buffer zones adjacent to solid waste disposal facilities to help reduce local impacts and provide land for potential environmental mitigation.

*This policy has supported the acquisition of land around the CDS in the past and may be used in the future to support establishment of buffer zones around new or expanded solid waste disposal facilities.*

**Policy PF-2y:** Minor public facilities, defined as those that are located in a public road right of way or are not the primary use of the subject property, are allowed in any land use category, provided they are compatible with neighborhood character and designed to have minimal impact on natural and scenic resources. Projects that are clearly significant in terms of cost, scope of environmental impacts, public controversy, or involve more than one parcel, shall not be considered minor.

**Policy PF-2z:** Acquisition of land for all larger public facilities not addressed by Policy PF-2y, including parks, schools, wastewater treatment and water transmission facilities, is consistent with all nonagricultural land use categories, provided that:

- (1) A formal public hearing on the proposed facility is required to provide an opportunity for public review and comment before a final decision on the facility is made, and
- (2) Following approval of the use, a General Plan Amendment to designate the site Public/Quasi-Public on the Land Use Map will be processed by the responsible public agency.

Acquisition of land for these larger public facilities is generally inconsistent with agricultural land use categories.

*Policies PF-2y and -2z would be applied to particular solid waste facilities as they are proposed to determine if they are minor facilities consistent with the existing land use designation(s) or if a General Plan amendment would be required to change the land use designation to Public/Quasi-Public.*

## **LAND USE ELEMENT:**

**Policy LU-4d:** Assure that physical services and infrastructure will accommodate the projected amount of growth authorized by the Land Use Element. Prepare facility master plans or equivalent documentation based upon the holding capacity of the land use plan plus generally accepted engineering contingency factors. Periodically, but no less than every 5 years, assess the status of public services in relation to growth. Encourage public facilities planning and design beyond the 2020 horizon if the additional capacity does not induce increased pressure for population or employment growth in excess of that projected in the Land Use Plan. Facility plans shall clearly delineate the portion of capacity allocated to growth after 2020. Work with the cities, and, where applicable, other counties to assure that such services are adequate for existing and future residents. Use proposed annexations, redevelopment agreements, revenue sharing agreements, and the CEQA process as tools to ensure that development within cities pay its fair share toward provision of these services.



*The project would change the medium-term time frame for the ColWMP stated in Chapter 6 to be from 2011 to 2022, and the table in section 6.2.3 currently projecting disposal capacity requirements until 2018 would be revised to extend projections until 2022. This time frame assures that solid waste disposal will accommodate the Land Use Element's growth projections for the year 2020. The difference in time frame between the General Plan projections and the ColWMP projections is too small to raise concerns about excess capacity or growth inducement.*

The following policy is applied to the Public/Quasi-Public land use designation on the Central Disposal Site and other major facilities.

## **2.5 PUBLIC AND QUASI PUBLIC LAND USE POLICY**

**Purposes and Definition.** This category provides sites that serve the community or public need and are owned or operated by government agencies, non profit entities, or public utilities. However, public uses are also allowed in other land use categories. The Public Facilities and Services Element establishes policies for location of public uses in these other categories.

**Permitted Uses.** Uses include schools, places of religious worship, parks, libraries, governmental administration centers, fire stations, cemeteries, airports, hospitals, sewage treatment plants, waste disposal sites, etc. The Land Use Map may show the specific type of public use. In these cases, other public uses shall not be allowed.

**Reuse of Public Properties.** The County should evaluate, as appropriate, any Federal, State, and school properties in the unincorporated area that may become surplus Sonoma County General Plan Footnote: \*Mitigating Policy Page LU-44 properties and identify those properties that the County may be interested in acquiring. If the County receives the notice of sale of surplus Federal or State property, the Sonoma County Administrator's Office and appropriate County Departments should be notified in a timely manner. In addition, the County should work with the U.S. General Services Administration for Federal properties, California Department of General Services (DGS) for State properties, and DGS and School Districts for State school properties for early notice of properties declared as surplus and offered for sale; and for early consultation regarding potential land use implications of future uses.

**Permitted Development Intensities and Designation Criteria.** Designation of public/quasi public sites on the Land Use Plan shall be confined to the actual area of public/quasi-public use. Amendments to add this designation must meet all of the following:

- (1) Ownership or long term lease by a government agency, other non profit entity or public utility,
- (2) Adequate road access,
- (3) Lands are not suitable for and will not adversely affect resource production activities, and
- (4) Any applicable Land Use Policies for the Planning Area.

*The designation criteria above would be applied to particular solid waste facilities as they are proposed if, pursuant to Policies PF-2y and PF-2z, a General Plan amendment would be required to change the land use designation to Public/Quasi-Public.*



# Appendix G

## Draft Text Revisions to 2003 ColWMP

- Preliminary draft revisions to language in Sections 5 and Section 6 of 2003 ColWMP
- Final text revisions will be added according to SCWMA direction consistent with results of the EIR





## **CHAPTER 5**

### **HOUSEHOLD HAZARDOUS WASTE ELEMENT**

#### **5.1 INTRODUCTION**

Hazardous Waste is defined as material that meets criteria set forth in the Federal Resource Conservation and Recovery Act (RCRA). In simple terms it is a material that can cause harm to human health or the environment through its reactivity, flammability, corrosivity, or toxicity. Since many materials have these characteristics, the law has defined limits for each hazard class (reactivity, flammability, corrosivity, and toxicity). Any material falling within those limits is considered characteristically hazardous and must be handled as hazardous waste. California law requires that any waste material that meets RCRA hazardous characteristics or California's stricter limits must be handled as hazardous waste regardless of who generated the waste. Waste generated by residents is called Household Hazardous Waste (HHW).

By law, a hazardous waste is created when a generator determines that a product is no longer useful, thereby determining that the product is a waste. Most HHW was formerly common household products. Householders generate hazardous wastes while performing regular household activities such as cleaning, painting, making repairs, gardening, working on hobbies, and maintaining autos. The following are examples of some common types of HHW:

- Household cleaners
- Pesticides
- Car batteries
- Wood preservatives
- Auto and furniture polish
- Pesticides
- Automotive products
- Adhesives and sealants
- Paints and coatings
- Photographic chemicals
- Pool chemicals
- Motor oil
- Anti-freeze

The hazards associated with HHW are the same as those associated with industrially generated hazardous waste. Hazardous waste can burn or irritate skin and eyes and make people both acutely and chronically ill. Hazardous waste can poison people, pets and wildlife. Hazardous wastes can cause or fuel fires. Hazardous waste can contaminate soil, water and air. Specifically there is concern about hazardous waste: 1) leaching out of landfills into ground water; 2) being poured down the drain (i.e., when the waste water treatment plant is unable to treat such waste); and 3) being poured down storm drains, which lead straight to creeks and rivers.

#### **5.2 GOAL AND OBJECTIVES OF THE HHWE**

##### **5.2.1 Goal**

As stated in Chapter 2, the following goal addresses household hazardous waste management:

The County and the Cities and/or the SCWMA will provide cost-effective and environmentally sound waste management services, including special waste and household hazardous waste handling and disposal, over the long term to all community residents and promote access to the services.

## 5.2.2 Objectives

The following objectives address this goal:

- The SCWMA will distribute HHW educational material to all county households and businesses at least annually.
- The SCWMA will monitor and evaluate, at the end of the short and medium terms, educational programs outlined in the SRRE and the HHWE to improve their effectiveness.
- The SCWMA, County and the Cities will achieve participation in the County's Household Hazardous Waste (HHW) collection program of 3 percent annually of the county's households.
- The SCWMA will achieve measurable reduction of landfill disposal of prohibited wastes documented by waste characterizations studies at the end of the short term and medium term planning periods.

## 5.3 EXISTING CONDITIONS

### 5.3.1 History of HHW Management in Sonoma County

#### 5.3.1.1 Household Hazardous Waste Collections

HHW collections started in Sonoma County in 1985 in the City of Santa Rosa. Gradually each of the jurisdictions starting offering annual collections provided by their solid waste hauler. In 1993 the SCWMA assumed responsibility for HHW management and started offering Household Toxics Roundups (HTRs) countywide making all collections available to any county resident. Collection services for qualified businesses, referred to as CESQGs (Conditional Exempt Small Quantity Generators), started in 1994. A reuse program started in 1995 to redistribute reusable products to the public – a program that the public appreciates and provides a significant cost savings to the SCWMA. A door-to-door collection was added in 1998 in conjunction with the HTRs. Construction began on an HHW Facility in 2001, ~~with an anticipated opening of Spring 2002, and opened January 2005.~~

#### 5.3.1.2 Recycle Only Collections

There has been a significant increase in recycle only collection centers, referred to as BOPs (Battery, Oil, Paint). Oil recycling started at some county disposal sites in 1990. Beginning in 1990 the recycling center at the Central Disposal Site offered a latex paint exchange. This program was duplicated at three of the County's transfer stations. When the State offered grant funds for oil recycling, businesses were recruited to collect oil and more public drop-offs were created for a total of 70 oil collection locations countywide in 2001. Starting in 1996, the SCWMA asked the oil collection centers to accept antifreeze and oil filters; in 2001, 16 centers collect antifreeze and 33 collect oil filters. Curbside oil and filter collection was added in the Cities of Rohnert Park, Santa Rosa, Sonoma and the unincorporated county in 2000.

#### 5.3.1.3 Load Checking

A load checking program was started at county disposal facilities in 1990. The program consists of spot checking commercial and residential self-haul loads for hazardous waste. The load check program emphasizes education of residents about proper HHW disposal opportunities. Identified hazardous wastes are removed from the waste stream. When a generator is not evident, waste is stored in hazardous waste lockers awaiting proper packing and disposal.

#### **5.3.1.4 Education**

A variety of educational campaigns have been implemented to encourage use of Household Toxics Roundups, oil and filter recycling, Integrated Pest Management, use of safer alternatives and not to dispose of HHW in garbage cans. Nearly all residents and businesses generate HHW. Much of the education and public information efforts have been focused towards the public as a whole. In some cases, campaigns have been directed to specific populations including boaters, Spanish speakers, sports fans, children, high school students, landfill users, and government employees. Examples of a few of the efforts undertaken include: oil recycling (multiple campaigns and target audiences), Household Toxics Roundup promotion, A Health Environment Begins at Home (children); "No Toxics" garbage can stickers; Our Water Our World IPM Store campaign; and IPM Workshops (government employees).

#### **5.3.2 HHW Generation Rates**

There is little known about how much HHW is generated annually. Sales of hazardous products do not equal the hazardous waste, since products put to their intended use are not considered wastes. Since HHW is created when the generator determines that a product is no longer useful, it is difficult to distinguish between products and wastes in storage. In practice, residents tend to store products past their useful life, which can create hazards in the home through the growth in quantities and the destabilization of some hazardous products with age. Additionally, it is unknown how much HHW is improperly disposed of in storm drains, down sewers or to the soil. What is quantified are estimates of how much is disposed of in the landfill and how much is collected in HHW collection programs.

In 1990 and 1995/96 solid waste characterization studies were conducted at Sonoma County disposal sites. Table 5-1 illustrates the HHW measured in Sonoma County's waste stream. While this chapter focuses on HHW, waste from businesses is also disposed of illegally as illustrated in Table 5-1. Businesses that generate small quantities of hazardous waste (known as CESQGs) may and are served by the HHW program in accordance with State and Federal law. Therefore, the programs listed are also designed to target some unknown portion of the hazardous waste being disposed of by businesses. It is an unknown portion as the law limits the businesses that HHW programs may serve, and it is unknown where business hazardous waste found in the waste stream is generated. Businesses that generate large quantities of hazardous waste are addressed through stringent hazardous waste regulations at the State and Federal level.

Table 5-2 illustrates how much HHW and CESQG waste was collected in Sonoma County by program type from 1996 to 2001. Table 5-3 illustrates the quantities of waste collected by waste type.

### **5.4 EVALUATION OF ALTERNATIVES**

While Section 5.3.1 provides the program description for each of the evaluated alternatives, the evaluation is conducted in Table 5-4 Alternative Program Evaluation using criteria set forth in Title 14, Section 18751.3. This chapter evaluates all programs required to be evaluated by Title 14 and additional programs that the SCWMA considers appropriate.

#### **5.4.1 Alternative Program Descriptions**

##### **5.4.1.1 Periodic Collection**

A temporary collection center is set up in a paved, accessible location (e.g., a parking lot) for a short period (usually one or two days). Residents are encouraged to bring their household hazardous materials to the site on collection days. The center is staffed by trained personnel who collect, sort, and pack the HHW into 55-gallon drums. Wastes are transported by a licensed hauler to licensed hazardous waste facilities for recycling, treatment, or disposal. The hours, dates and locations must be advertised for each collection in advance. Periodic Collections can be very successful, but there are limitations. The residents may not be able to make the date selected or find it inconvenient. Residents are asked to store material until an event is held. Residents who are moving are often caught in the situation of not being able to move the material or properly dispose of it within their limited time frame. Rain or other

situations can arise that impact participation, which can increase cost. Sites acceptable for locating Periodic Collections can be limited and/or limiting.

<b>Table 5-1: Waste Characterization Studies at Sonoma County Disposal Sites (1992 and 1995/96)</b>				
Waste Type	1990 (tons annually)		1995/96 (tons annually)	
	Residential	Non-Residential	Residential	Non-Residential
Paint	breakout unavailable		219	54
Automotive Fluids			243	75
Household Batteries			158	57
Vehicle Batteries			217	118
Remainder Composite HHW			368	288
<i>Subtotal</i>	<i>119</i>	<i>976</i>	<i>1,205</i>	<i>592</i>
<b>TOTAL</b>	<b>1,095</b>		<b>1,797</b>	

Table 5-2: Hazardous Waste Collected by Sonoma County HHW Programs (reported in pounds by fiscal year)					
Program	00-01	99-00	98-99	97-98	96-97
Household Toxics Roundups	736,793	721,141	637,542	504,243	665,200
BOPs	596,104	579,418	504,290	programs not tracked	
Load Checking	36,667	48,517	34,558		
Door-to-Door	52,105	79,844	16,188	no program	
Curbside Oil & Filter Recycling	125,733	no program			
Vendor Collection	485,700	574,262	773,140	program not tracked	
TOTAL	2,035,102	2,003,182	1,965,718	504,243	665,200



<b>Table 5-3: Waste Collected by HHW Programs by Waste Type</b> (reported in pounds)		
Waste Category	2000-2001	1999-2000
Flammable solid/liquid	133,964	133,711
Bulked flammable liquids	59,296	98,805
Oil-base paint	206,577	164,249
Poison (excl. Aerosols)	55,937	55,114
Reactive and explosive	28	92
Inorganic acid	8,318	7,347
Organic acid	263	683
Inorganic base	12,274	11,001
Organic base	733	0
neutral oxidizers	0	308
Organic peroxides	100	131
Oxidizing acid	348	91
Oxidizing base	3,247	5,221
PCB-containing paint	0	0
Other PCB waste	3,674	2,981
Corrosive aerosols	1,663	1,556
Flammable aerosols	11,636	10,865
Poison aerosols	3,322	3,101
Antifreeze	14,497	16,700
Car Batteries	143,130	166,975
Fluorescent bulbs	7,068	3,806
Latex paint	176,582	192,115
Motor oil/oil products	1,141,018	1,062,782
Oil filters	27,227	25,693
Mercury	82	300
Medical waste (syringes)	497	459
Household batteries	4,439	4,957
Other	15,147	28,921
Asbestos	4,035	5,215
<b>TOTAL POUNDS</b>	<b>2,035,101</b>	<b>2,003,178</b>
Total tons	1,018	1,002

<b>Table 5-4: Alternative Program Evaluation</b>				
<b>Criteria (1= high; 5= low)</b>	<b>Periodic Collections</b>	<b>HHW Facility</b>	<b>Mobile Collections</b>	<b>Vendor Collection</b>
<b>Potential Hazard</b>	2	4	2	4
<b>Accommodate Change</b>	2	5	2	3
<b>Implementation Lead Time</b>	Three months	Three years	Six months	Four months
<b>New or Expanded Facility(s)</b>	None	Yes	Uses HHW Facility	None
<b>Consistent with Local Conditions</b>	Yes	Yes	Yes	Yes
<b>Institutional Barriers</b>	None	CEQA review and mitigations; neighbor opposition	None	None
<b>Cost</b>	\$30,000 - \$110,000/event	±\$850,000 annually	\$2,000 - \$5,000/collection	\$500/site annually
<b>End Use of Waste</b>	75% recycled 25% incinerated	75% recycled 25% incinerated	75% recycled 25% incinerated	Recycled
<b>Effectiveness</b>	Good	Excellent	Good	Fair - Excellent
<b>Criteria (1= high; 5= low)</b>	<b>Curbside Collection</b>	<b>Door-to-Door Collection</b>	<b>BOPs</b>	<b>E-waste Recycling</b>
<b>Potential Hazard</b>	2	4	5	5
<b>Accommodate Change</b>	2	2	2	1
<b>Implementation Lead Time</b>	Six months	Six months	Two months	Two months
<b>New or Expanded Facility(s)</b>	None	Recommend use with HHW Facility	Minimal, optional	None
<b>Consistent with Local Conditions</b>	Yes	Yes	Yes	Yes
<b>Institutional Barriers</b>	Perceived danger of spills and vandalism	None	None	None
<b>Cost</b>	\$0.05 - \$0.15/hh/mo	±\$60.00/pickup (collection only)	Varies on volume \$3,000 - \$20,000	Varies on volume. \$750/ton
<b>End Use of Waste</b>	Recycled	Same as HHW Facility	Recycled	Recycled
<b>Effectiveness</b>	Fair	Good	Excellent	Good
<b>Criteria (1= high; 5= low)</b>	<b>CESQG</b>	<b>Load Checking</b>	<b>Reuse Exchange</b>	<b>Disaster Response</b>
<b>Potential Hazard</b>	4	1	3	3
<b>Accommodate Change</b>	2	1	1	1
<b>Implementation Lead Time</b>	One month with existing program.	Two Months	One week	Days

<b>New or Expanded Facility(s)</b>	Uses facility(s) used for other programs	Hazardous waste lockers	None	None
<b>Consistent with Local Conditions</b>	Yes	Yes	Yes	Yes
<b>Institutional Barriers</b>	None	None	Waiver of liability	None
<b>Cost</b>	Costs passed through to businesses	\$175,000 annually	Net cost savings vary \$6,000 - \$22,000	Varies
<b>End Use of Waste</b>	Same as HHW Facility	Same as HHW Facility	Used as product	Same as HHW Facility
<b>Effectiveness</b>	Fair	Poor	Not applicable	Varies

#### 5.4.1.2 HHW Facilityies

HHW Facilities provide an ongoing means for residents to properly manage HHW. These facilities vary from small, often prefabricated structures. HHW Facilities entail larger capital costs than other HHW collection options. Because of their storage and waste-handling capacity, however, these facilities can help control long-term program costs through greater flexibility and economies of scale in waste handling and disposal.

#### 5.4.1.3 Mobile Collection

A Mobile Collection is a smaller version of a Periodic Collection and is operated in conjunction with a the HHW Facilityies. The HHW Facilityies that supports Mobile Collections may or may not provide service directly to the public. The idea behind a mobile program is to provide convenient, local service while still reaping the flexibility and economies of scale that a HHW Facilityies provides. Wastes collected by Mobile Collections can be consolidated, bulked, and/or reused at the HHW Facilityies. Typically Mobile Collections are smaller and more frequent than Periodic Collections.

#### 5.4.1.4 Vendor Collection

Since some businesses already manage hazardous wastes, they can be cost-efficient and convenient collection centers for HHW. Methods to increase vendor participation in HHW collection include identifying additional materials and vendor types (e.g., paint stores for collection of paint wastes) and providing education and/or incentives to vendors. Waste collection opportunities are specific to the product or material that each type of vendor sells (e.g., battery vendors could collect used batteries) and may be limited by cost and potential liability. SCWMA advertises participating vendors, who would benefit from increased customer traffic at their locations. In 2001, 61 vendors collect oil, 33 collect oil filters and 16 collect antifreeze. There is a State law that requires automotive battery vendors to accept trade-in batteries or collect a core charge with the new battery if a trade-in is not received. Rechargeable Battery Recycling Corp (RBRC) provides for collection of rechargeable batteries at many chain stores such as Radio Shack, Sears, Cellular One, Ace Hardware and others. In 2001, Best Buy stated they would develop a program to accept waste electronics. Several large computer manufactures have developed fee programs for recycling of their computers (e.g., Dell, HP, IBM). Extended Producer Responsibility (EPR) efforts are working to increase management of wastes by retailers and manufacturers.

#### 5.4.1.5 Curbside Collection

Curbside Collection programs are limited to collecting oil, filter and household battery recycling due to the potential hazards involved in placing hazardous waste on the curb. Curbside oil and filter recycling can be very successful programs when run in conjunction with curbside recycling programs. Oil and filters are left at the curb with other recyclables, thereby using the existing collection infrastructure.

#### **5.4.1.6 Door-to-Door Pickup Program**

Door-to-Door Pickup programs involve pickups at residents' homes by appointment. The advantages are convenience, controlled and knowledgeable transport, early identification of materials that pose an imminent danger, and service to non-mobile residents. However, these programs can be costly.

#### **5.4.1.7 Batteries, Oil, and Paint Programs**

Batteries, Oil, and Paint Programs (BOPs) are recycling centers for HHW. By law, BOPs can only collect recyclable HHW: oil, oil filters, batteries, antifreeze, paint and fluorescent lamps. BOPs are typically operated with non-direct supervision, meaning the public places waste in well marked containers without assistance. It is best to have some supervision of the site to discourage potential abuses. BOPs are frequently located at disposal sites and municipal corporation yards.

#### **5.4.1.8 E-waste Recycling**

Electronic Waste (E-waste) can contain hazardous components, which require that the product be disposed of as hazardous waste. Cathode Ray Tubes (CRTs), the glass tubes found in TVs and computer monitors, contain four to eight pounds of lead. CRTs have been designated as Universal Waste by the State of California and must be recycled in accordance with the Universal Waste Rule. If they are not recycled as Universal Waste, then CRTs must be treated as hazardous waste. Many experts expect that other electronic wastes will also be designated as Universal Wastes, requiring hazardous waste management. The Universal Waste Rule allows for collection of Universal Wastes at facilities that do not have hazardous waste permits so long as certain handling requirements are met. Due to the size, weight, quantity and cost of managing E-waste, HHW programs could become overwhelmed. Therefore, it is recommended that E-waste be collected at disposal sites where bulky items can be more easily managed and fees can be charged to cover the recycling costs.

#### **5.4.1.9 Conditionally Exempt Small Quantity Generator**

The law allows HHW programs to serve commercial generators that meet the regulatory definition of a Conditionally Exempt Small Quantity Generator (CESQG). A CESQG cannot generate more than 27 gallons of hazardous waste per month, excluding oil, antifreeze and latex paint if recycled. CESQGs in California must still handle their hazardous wastes like large quantity generators; however, it is sometimes difficult to find haulers that will haul small quantities and the cost per unit is more expensive. Providing hazardous waste disposal opportunities can be a very valuable service to local businesses. As shown in Table 5-1, it is necessary to serve businesses to eliminate hazardous waste from local landfills. CESQG's can be served using any of the collection programs evaluated in this chapter. The disposal cost may be passed on to the CESQG. Typically CESQGs are served on an appointment only basis and inventories of wastes are required. Transportation and disposal issues may be more involved than with the average resident. The California State Department of Toxic Substances Control offers a transportation variance for CESQG's that allow transport of up to 27 gallons if specific transportation information has been shared with the CESQG by the jurisdiction.

#### **5.4.1.10 Load Checking**

Load Checking is necessary to identify hazardous materials in the solid waste stream and to reduce the amount of HHW being disposed of as solid waste. Load Checking seeks to ensure proper management of the hazardous wastes delivered to solid waste facilities, to identify generators who place hazardous wastes

in the solid waste stream, and to require them to assume responsibility for proper waste management through education and enforcement. Monitoring consists of questioning and educating self-haulers, stopping the dumping of hazardous waste when witnessed, retrieving hazardous waste identified in the solid waste, and spot checking and sorting random loads. Load Checking programs are mandated by law.

#### **5.4.1.11 Reuse Exchange**

A good portion of the waste brought to a HHW collection program is still usable product (i.e., leftovers or unwanted product). Hazardous waste disposal is expensive, and even proper disposal has an environmental impact. Therefore, the best use of a hazardous product is to use it for its intended use. Reuse Exchange programs allow the public to take usable products at no cost, providing an avoided cost to the collection program. Experience has shown that the public likes Reuse Exchange programs.

#### **5.4.1.12 Disaster Response**

Sonoma County has experienced three Federally declared natural disasters in the past decade. For each of those disasters, special programs to capture HHW were implemented. Should Sonoma County experience any natural disasters in the future, the HHW collection system, along with resources from emergency response agencies, will be utilized to mitigate the impact of HHW on health, the environment, and the landfill.

### **5.5 SELECTION, IMPLEMENTATION AND MONITORING OF PROGRAMS**

All of the programs evaluated in Section 5.3 have been or are being implemented in Sonoma County. The SCWMA has chosen to provide the most convenient and comprehensive service to its residents and CESQGs (Table 5-5). The Periodic Collections were operated until the HHW Facility was built. ~~The HHW Facility~~ *ies wasere* selected as the most cost effective approach to the management HHW with the ability to offer weekly service. Additionally, the HHW Facility *ies* allows for the operation of other programs that provide convenient service in each of the SCWMA member communities. The Mobile Collection program was selected to provide convenient collection in each of the jurisdictions. Sonoma County covers 1,500 square miles, and therefore, no single facility could provide convenient service. The HHW Facility *ies* offers a place to most efficiently manage the waste from the Mobile Collections. Door-to-Door Collection is offered as a convenience for those residents and CESQGs that are willing to pay for the convenience. Additionally it addresses the issue of residents with limited transportation options. Curbside Collection, BOPs and Vendor Collection are used to collect recyclable HHW in the most cost effective manner possible so that other more costly HHW collection programs are not overwhelmed. CESQG's are served at cost to provide CESQG's a reasonable disposal option and in acknowledgment that CESQG's must be served in order to meet the SCWMA's goal of eliminating improper disposal of hazardous waste. The Load Checking program is implemented in accordance with law, and the Reuse Exchange program is implemented to save money and limit disposal liability. The collection capabilities of each program is found in Table 5-2.

The end use or disposal of hazardous waste is highly regulated. The SCWMA adheres to the US EPA's waste management hierarchy: Reduce, Reuse, Recycle, Treat, Incinerate, Landfill. As new technologies open up recycling markets for waste, the SCWMA adjusts its disposal methods. For implementation of the selected programs, ~~only one~~ HHW facility *ies* will be built *as needed and economically feasible*.

Within the limitations and requirements of law, the SCWMA collects all HHW except radioactive materials, explosives, and biological wastes (excluding syringes). Should a resident bring a waste that a program does not manage, an assessment is made to determine if there is an imminent danger posed by the waste. If a danger is determined, then the appropriate agency is notified. If an imminent danger is not identified, the resident is provided with proper disposal information.

<b>Table 5-5: Selected Programs</b>		
<b>Program</b>	<b>Implementation Dates</b>	<b>Responsible Agency</b>
Periodic Collections	Started 1993 / Discontinued 2002	SCWMA
HHW Facility	2002	SCWMA
Mobile Collection	2002	SCWMA
Vendor Collection	1993	SCWMA
Curbside Collection	2000	City/County
Door-to-Door Collection	1999	SCWMA
BOPs	1990	County
E-waste Recycling	2002	County
CESQG	1994	SCWMA
Load Checking	1992	County
Reuse Exchange	1994	SCWMA
Disaster Response	As Needed	County/SCWMA

Each program is monitored annually. Waste volumes are reported annually to the State in the State's 303 Forms. Waste characterization analyses are conducted as necessary so that diversion progress can be tracked. Annually, the most recent waste characterization data and cost data are used to determine the success of programs and to modify programs accordingly. The minimal criteria used for evaluating a program's success are that it: 1) does not cost more than \$1.00 per pound; 2) is collecting reasonable amounts of waste; 3) is mandated by law; and 4) is successfully supported by direct user fees.

The funding discussion for these programs is presented in Section 5.5.6 of this chapter.

## **5.6 EDUCATION AND PUBLIC INFORMATION**

The SCWMA has conducted multiple educational and publicity campaigns on HHW and participated on State committees to improve HHW education. The SCWMA has been very successful at promoting programs and encouraging participation. However, in light of the efforts of the SCWMA and other jurisdictions, the SCWMA has concluded that significant reduction of HHW creation is outside of SCWMA's capability. The reality is that there are too many barriers to effectively educate the public about reducing the use of hazardous products, including:

1. Often there are not any non-toxic alternatives to toxic products.
2. Products are not required to list ingredients, limiting knowledge of a product's hazards.
3. Assessing "safer" toxics is a matter of debate as widely accepted standards do not exist.
4. There is not enough expertise to accurately guide the public to make better choices.

5. As a public entity, the SCWMA is limited in mentioning specific brands, which in the world of safer products can make a big difference. For example, one toilet bowl cleaner may be much safer than another, but they are both labeled as toilet bowl cleaners with no distinction.
6. There are vast numbers of product types and uses in the world of HHW.
7. The consequences of choosing one product over another is often too subtle to impact consumers. While products may not cause death or imminent cancer, the difference may still be significant. For example, one produce may cause immune system damage while a safer alternative may be just an irritant.
8. Sometimes better options are not the least toxic option. For example, a good insect control are baits. Baits are a better choice than sprays because of the containment of the toxics to a gel accessed only by the insect, yet the chemical composition of the bait can be equal or greater in toxicity to a spray.
9. Often when selecting less toxic options consumers are weighing one impacted ecosystem against another (i.e., air vs. water; mammals vs. aquatic life).
10. Current research on creating changes in behavior concludes that behaviors are simple and straight forward, and the public's barriers must be removed by the educational efforts.

King County, Washington recently conducted a lawn care campaign with a budget of \$600,000 over three years. They established a baseline of sales data for targeted products, which was tracked throughout the campaign. The campaign was implemented in accordance with current research on creating behavior change. During the three-year campaign, sales of weed and feed and other targeted lawn care products increased faster than the population. There is no evidence that King County succeeded in changing any targeted behavior.

## **5.6.1 HHW Education Goals and Objectives**

### **5.6.1.1 Goal**

Increase proper disposal of HHW and decrease the cost of HHW management, improper disposal of HHW, and the generation of HHW.

### **5.6.1.2 Objectives**

1. Promote HHW collection programs.
2. Work towards Extended Producer Responsibility (EPR) policies for any product that becomes an HHW upon disposal to reduce or eliminate the SCWMA's responsibility for HHW and to encourage redesign and reformulation.
3. Work towards the use of the Precautionary Principal (see Section 5.5.3.3) for the approval and continued use of chemicals.
4. Work towards State and national restrictions or bans on chemicals that create unnecessary harm to humans, wildlife or the environment.
5. Promote the five hazardous product management habits:
  1. Buy only what you need.
  2. Buy the least toxic option available.

3. Use up what you have.
  4. Share what you cannot use.
  5. Properly dispose of what you cannot use or share.
6. Increase Integrated Pest Management (IPM) practices by SCWMA member jurisdictions.
  7. Increase the use of safer janitorial supplies by SCWMA member jurisdictions through contractual agreements with janitorial contractors.
  8. Participate and create regional and multi-agency campaigns on HHW or related topics (e.g. storm water).

## **5.6.2 Current and Historical HHW Educational and Public Information Efforts**

### **5.6.2.1 Annual Recycling Guide**

The SCWMA has produced a Sonoma County Recycling Guide annually since 1993, providing a wealth of information on recycling and household hazardous waste, including Household Toxics Roundup (HTR) dates, locations for recycling oil and filters, antifreeze, paint, and other hazardous wastes.

### **5.6.2.2 Eco-Desk**

An information specialist answers the Eco-Desk hotline 3 hours a day, Monday through Friday. A 24-hour voice-mail system provides a variety of information such as oil and filter recycling centers (English and Spanish), HHW facility locations and operating hours, and paint recycling. Callers may leave messages in any of the information boxes and receive return calls.

### **5.6.2.3 Website**

The SCWMA has an extensive website, [www.recyclenow.org](http://www.recyclenow.org). The SCWMA website has HHW Collection information, the IPM campaign fact sheets and all the oil and filter, antifreeze and automotive battery recycling centers.

### **5.6.2.4 HHW Collection Programs Publicity**

The SCWMA widely publicizes the HHW collection programs on an ongoing basis using a variety of methods including banners, utility bill flyers, press releases, collection schedule flyers, load checking personnel, event signs, garbage can flyers, newsletters, email notices, and word of mouth.

### **5.6.2.5 Oil and Filter Recycling Publicity**

The SCWMA receives annual grant funds to promote oil and filter recycling. Since 1994, the SCWMA has implemented numerous campaigns, including advertising in Auto Traders, bilge pad give-aways, banners, boater cards, bumper stickers, Car Club Show sponsorship, car racing programs, collection center signs, direct mail, dockwalkers, driver's education videos, Earth Day events; fairs/event booths, give-aways (pens, t-shirts, magnets, tickets, etc.), live radio remotes, mailers to boaters, minor league baseball (trash can ads, outfield banners, program ads, radio spots), multi-family posters/flyers, newspaper articles, newspaper ads, oil container give-aways, oil change window decals, posters, radio spots, radio talk shows, radio dramas, scratcher games, shelf talkers, Spanish outreach (radio, newspapers, newsletters, container give-aways, give-aways, hotline), storm drain stenciling, teacher packets, television commercials, and utility bill flyers.



### **5.6.2.6 IPM Training Workshops**

The SCWMA is conducting two workshops on Integrated Pest Management (IPM) techniques for City and County employees in the Winter of 2002. The workshops will focus on landscape pests and roadside maintenance. Depending on the outcome, future IPM workshops may be conducted.

### **5.6.2.7 IPM Store Campaign**

The SCWMA, Sonoma County Water Agency and City of Santa Rosa teamed for the local implementation of a Bay Area regional IPM store campaign. The campaign was conducted in local hardware stores and nurseries. The campaign consisted of training store employees and distributing fact sheets, special displays, and shelf labels.

### **5.6.2.8 “No Toxics” Garbage Can Labels**

To deter improper disposal of hazardous waste in garbage, “No Toxics” labels were applied to all residential garbage cans countywide. Stickers are applied to new cans as they are distributed.

### **5.6.2.9 Resource Lists**

Resource lists are created and maintained for hazardous waste haulers, oil recyclers, fluorescent lamp recyclers and other resources as necessary. Resource lists are primarily used by the Eco-Desk when responding to specific requests for information.

### **5.6.2.10 Safer Alternatives Literature**

The SCWMA has distributed a variety of brochures addressing safer alternatives to household hazardous wastes. Some of the brochure titles include: “Buy Smart, Buy Safe;” “Grow Smart, Grow Safe;” and “Recipes for Environmentally Friendly Cleaning.”

### **5.6.2.11 Fair Booths/Give-aways**

The SCWMA participates annually in fairs using a special booth display. Publicity give-aways, such as magnets, pens, posters, and t-shirts, are distributed from the booths.

### **5.6.2.12 General Media Coverage**

The SCWMA receives a significant amount of press coverage for HHW issues. Each of the Roundups has been well advertised by the local media. Photos are not uncommon in print media, and there have been a handful of TV news spots and radio show spots. During the fall of 2001, HHW was the cover story on one issue of the Home and Garden section of the Press Democrat. HHW programs have also received coverage as some local hazardous waste dumping issues have arisen.

### **5.6.2.13 Annual Reports**

Annual reports are published for the HHW program listing the programs and their accomplishments and is distributed to the SCWMA members.

### **5.6.2.14 Surveys**

The SCWMA has conducted two telephone surveys that focused on HHW issues. The surveys have measured the public’s knowledge of HHW issues and programs as high (70% or better).

### **5.6.2.15 California Peer Review Committee**

The SCWMA participated in a statewide committee aimed at producing researched information on safer alternatives for dissemination to the public. The committee produced two websites, a program managers manual, and a mock public brochure.

### **5.6.2.16 Storm Drain Stenciling**

The SCWMA initiated the storm drain stenciling programs in Sonoma County. The SCWMA continues to support ongoing labeling of storm drains.

### **5.6.2.17 Bay Area Oil Contest (Scratchers)**

The SCWMA participated in the Bay Area oil campaign in 1995/96, which included an extensive radio and television campaign and scratchers for prizes.

### **5.6.2.18 Re-refined Oil Workshop**

In 1997/98 the SCWMA sponsored two workshops conducted by the Community Environmental Council entitled *Re-refined Oil Workshop*: one for local government fleet managers and one for private fleet managers. The Cities of Petaluma and Santa Rosa use re-refined oil in their vehicle fleets. The SCWMA has printed bumper stickers to identify vehicles using re-refined oil.

### **5.6.2.19 Teacher Packets**

Drivers education and auto shop teachers were sent an oil recycling kit every year between 1994 and 1997, including oil recycling posters, brochures, oil change record window stickers and magnets. In 1995, each teacher also received a video, *Lean Green Drivin' Machine*.

### **5.6.2.20 GREEN**

In 1997, the SCWMA worked with 13 other local agencies, Government Resources Environmental Education Network (GREEN), to develop a campaign called *A Healthy Environment Begins at Home*. GREEN first developed a brochure that covers oil and antifreeze recycling, Household Toxics Roundups, pesticide use, hazardous waste spill clean-up, latex paint clean-up, and lead paint management, in addition to other environmental issues. GREEN expanded the campaign to include an interactive booth at the Thursday Night Market, a local weekly fair. Each week the booth was staffed by a different agency with a different emphasis. GREEN continues as a networking committee that has led to other collaborative efforts, including the IPM campaign described below.

## **5.6.3 Program Descriptions of New HHW Educational and Public Information Programs**

### **5.6.3.1 HHW Program Promotion**

The SCWMA will continue to promote HHW programs using the methods historically found successful, including utility bill flyers, press releases, banners, newsletters, emails, newspaper ads, radio spots, flyers, the annual Recycling Guide and the SCWMA website.

### **5.6.3.2 Extended Producer Responsibility (EPR) Policies**

The SCWMA will continue to work for implementation of EPR policies by manufacturers. The SCWMA will join coalitions working towards EPR and lobby administrative and legislative representatives as necessary. EPR policies incorporate the life-cycle costs of a product, including recycling or disposal, into the manufacturing and sale price of a product. EPR policies promote redesign and reformulation to make

recycling or disposal more cost effective. The SCWMA has already passed a resolution in support of EPR policies, joined the Product Stewardship Institute, and written a letter of support for the California Integrated Waste Management Board's 2002 Strategic Plan, which incorporates EPR policies.

### **5.6.3.3 Promote the Precautionary Principal**

The Precautionary Principal states that decisions should be made based on a weight of scientific evidence. Currently, precedent requires proof of harm after a product has met initial requirements for introduction. Unfortunately, that standard has allowed products to remain in the market for decades after they have been determined to cause harm using a weight of evidence standard. While weight of evidence can be demonstrated with strong and consistent correlations between cause and effect, proof requires a great deal more science. Proof of harm can be difficult to establish with chemicals that are so pervasive in our community that no control group is available, such as with many pesticides. In order to measure and address the threat of such products, the SCWMA will promote the use of the Precautionary Principle. The SCWMA will introduce the public to the Precautionary Principal through available media such as press releases, the annual Recycling Guide, SCWMA website, and brochures. The SCWMA will lobby administrative and legislative representatives to adopt the Precautionary Principal at the State and Federal level. The SCWMA will join coalitions promoting the Precautionary Principal as such coalitions arise. The SCWMA will use the Precautionary Principal in making its own policy decisions.

### **5.6.3.4 Bans and Restrictions**

Based on the Precautionary Principal, the SCWMA will work towards the ban and/or restriction of products that are demonstrated to pose harm to people, wildlife or the environment in Sonoma County. Due to the complexity of most hazardous product issues, it is far more effective to ban or restrict their distribution than to attempt to educate the public on appropriate use, disposal and alternatives. Therefore, products that pose particular or significant harm may be targeted for bans or restrictions. The SCWMA will introduce the public to the issues involving the product(s) of concern through available media such as press releases, the annual Recycling Guide, SCWMA website, and brochures. The SCWMA will lobby administrative and legislative representatives to adopt bans or restrictions at the State and Federal level. The SCWMA will join coalitions promoting the bans or restrictions as such coalitions arise. The SCWMA will consider all desired bans and restrictions in making its own policies decisions.

### **5.6.3.5 Promote the Five Hazardous Product Habits**

The SCWMA will promote the following hazardous product management habits:

1. Buy only what you need.
2. Buy the least toxic option available.
3. Use up what you have.
4. Share what you can't use.
5. Properly dispose of what you can't use or share.

The SCWMA will use available media, including flyers, utility bill flyers, press releases, HHW Facility signage, newsletters, emails, newspaper ads, radio spots, flyers, the annual Recycling Guide, the SCWMA website, give-aways, and posters.

### **5.6.3.6 Integrated Pest Management**

Integrated Pest Management (IPM) incorporates a variety of management techniques to control pests. IPM does not exclude the use of pesticides, but seeks to find other solutions leaving pesticides as a last resort. IPM techniques are training intensive, and can generally not be well applied by the general public. Therefore, this program will target the training of public employees that maintain public properties to minimize the exposure of the public and the environment to pesticides and reduce disposal needs. It will also establish local government as a model and resource for other elements of the community.

### **5.6.3.7 Safer Janitorial Supplies**

Each of the SCWMA's member jurisdictions has contracted janitorial services. The SCWMA will create guidelines designed to lead to the use of safer products by janitorial contractors. Member jurisdictions can use the guidelines in their bidding process and contracts with janitorial service providers. Since the selection of products can be very complex and involved, the guidelines will consist primarily of lists of banned or restricted ingredients with the intent to eliminate carcinogens, mutagens and teratogens. The guidelines will also include recommendations on how to further reduce the impact of products.

#### **5.6.4 Implementation of New HHW Educational and Public Information Programs**

Table 5-6 addresses the six criteria of implementation as required by Title 14, Section 18751.7(4)(d).

#### **5.6.5 Monitoring and Evaluation of New HHW Educational and Public Information Programs**

Table 5-7 addresses the six criteria of monitoring and evaluation as required by Title 14 Section 18751.7(4)(e).

#### **5.6.6 Funding**

The HHW infrastructure has already been implemented using a variety of stable funding sources as presented in Table 5-8. An SCWMA staff person is assigned to manage the HHW program and further develop the program. Limited additional funding is necessary to implement the new education and public information programs selected in this Element. Funding requirements and sources are presented in Table 5-8. The SCWMA reserves the right to modify, limit or discontinue programs as necessitated by funding limitations.

<b>Table 5-6: Program Implementation: HHW Education and Public Information Programs</b>				
	<b>HHW Program Promotion</b>	<b>EPR Policies</b>	<b>Precautionary Principal</b>	<b>Bans &amp; Restrictions</b>
<b>Audience</b>	Potential Program Users	Manufactures, State and Federal Agencies and Legislators, General Public	Manufactures, State and Federal Agencies and Legislators, General Public	Manufactures, State and Federal Agencies and Legislators, General Public
<b>Responsible Agency</b>	SCWMA	SCWMA	SCWMA	SCWMA
<b>Implementation Tasks</b>	<ul style="list-style-type: none"> <li>• Vary with program</li> </ul>	<ul style="list-style-type: none"> <li>• Write letters</li> <li>• Attend meetings</li> <li>• Speak on topic</li> <li>• Network</li> <li>• Sit on committees</li> </ul>	<ul style="list-style-type: none"> <li>• Write letters</li> <li>• Attend meetings</li> <li>• Speak on topic</li> <li>• Network</li> <li>• Sit on committees</li> <li>• Create short educational writeups</li> </ul>	<ul style="list-style-type: none"> <li>• Write letters</li> <li>• Attend meetings</li> <li>• Speak on topic</li> <li>• Network</li> <li>• Sit on committees</li> <li>• Create short educational writeups</li> </ul>
<b>Implementation Timeline</b>	Ongoing	Ongoing	Short-term	As necessary
<b>Implementation Cost</b>	Varies with Program	Staff time	Staff time	Staff time
<b>Safer Alternatives</b>	Possibly	No	Possibly	Indirectly, yes
	<b>Hazardous Waste Habits</b>	<b>IPM</b>	<b>Janitorial Supplies</b>	
<b>Audience</b>	Residents	City and County employees who do landscaping or roadside maintenance	City and County purchasing agents and janitorial contractors	
<b>Responsible Agency</b>	SCWMA	SCWMA and member jurisdictions	SCWMA and member jurisdictions	
<b>Implementation Tasks</b>	<ul style="list-style-type: none"> <li>• Develop brochures</li> <li>• Develop signage</li> <li>• Indoctrinate employees</li> </ul>	<ul style="list-style-type: none"> <li>• Organize workshops</li> <li>• Create networks</li> <li>• Develop/purchase resources</li> </ul>	<ul style="list-style-type: none"> <li>• Develop guidelines</li> <li>• Meet with purchasing agents</li> </ul>	
<b>Implementation Timeline</b>	Short-term	Short-term	Short-term	
<b>Implementation Cost</b>	\$2,000 annually	\$10,000 annually	Staff time	
<b>Safer Alternatives</b>	Yes	No	No	

<b>Table 5-7: Program Monitoring and Evaluation: HHW Education and Public Information Programs</b>				
	<b>HHW Program Promotion</b>	<b>EPR Policies</b>	<b>Precautionary Principal</b>	<b>Bans &amp; Restrictions</b>
<b>Measurement Methods</b>	Participation in HHW programs being promoted	Success in establishing EPR policies	Success in changing legislative and legal mind set	Success in banning or restricting targeted products or effecting their redesign or reformulation
<b>Evaluation Criteria</b>	<ul style="list-style-type: none"> <li>• Participation in HHW programs</li> </ul>	<ul style="list-style-type: none"> <li>• EPR policies adopted</li> <li>• Willing legislative sponsors</li> <li>• Strong coalitions</li> </ul>	<ul style="list-style-type: none"> <li>• Receptive CIWMB</li> <li>• Receptive legislators</li> </ul>	<ul style="list-style-type: none"> <li>• Ban/restrictions adopted</li> <li>• Willing legislative sponsors</li> <li>• Strong coalitions</li> </ul>
<b>Responsible Agency</b>	SCWMA	SCWMA	SCWMA	SCWMA
<b>Funding Requirements</b>	None	None	None	None
<b>Shortfall Contingencies</b>	Modify approach being utilized	Modify "requests"	Long-term effort Keep up the pressure	Implement local bans and restrictions as necessary
<b>Schedule</b>	Varies with program	Flexible with legislative priorities	Long-term effort Keep up the pressure	Flexible with legislative priorities
	<b>Hazardous Waste Habits</b>	<b>IPM</b>	<b>Janitorial Supplies</b>	
<b>Measurement Methods</b>	Phone Surveys	Increased knowledge and use of IPM techniques and active network	Inclusion of guidelines in janitorial contracts	
<b>Evaluation Criteria</b>	<ul style="list-style-type: none"> <li>• Familiarity of public with five habits</li> <li>• Reported changes in behavior</li> </ul>	<ul style="list-style-type: none"> <li>• Attendance at training</li> <li>• Positive feedback from participants</li> <li>• Decrease in pesticide use</li> </ul>	<ul style="list-style-type: none"> <li>• Adoption of guidelines in contracts</li> <li>• Adherence of contractual requirements</li> <li>• Use of other recommendations</li> </ul>	
<b>Responsible Agency</b>	SCWMA	SCWMA and member jurisdictions	SCWMA and member jurisdictions	
<b>Funding Requirements</b>	\$30,000 every five years	None	None	
<b>Shortfall Contingencies</b>	Research new behavior change approaches	<ul style="list-style-type: none"> <li>• Modify training approach</li> <li>• Seek Council mandates</li> </ul>	Seek Council mandates	
<b>Schedule</b>	Annual HHW report Five year report	Annual HHW report	Annual HHW report	

<b>Table 5-8: Funding</b>			
<b>Program</b>	<b>Funding Needs</b>	<b>Funding Sources</b>	<b>Contingency Funding</b>
<b>COLLECTION PROGRAMS</b>			
<b>Periodic Collections</b>	Program discontinued in 2001		
<b>HHW Facility</b>	\$600,000 annually	SCWMA Tipping Fee Surcharge	Increase to SCWMA Tipping Fee Surcharge and/or Reduce Service
<b>Mobile Collection</b>	\$200,000 annually	SCWMA Tipping Fee Surcharge	Increase to SCWMA Tipping Fee Surcharge and/or Reduce Service
<b>Vendor Collection</b>	\$30,000 annually	Used Oil Block Grant	Larger Portion of Used Oil Block Grant
<b>Curbside Collection</b>	\$0.05-\$0.10/HH/month	Garbage Rates	Increase Garbage Rates
<b>Door-to-Door Collection</b>	\$100/pickup	User Fees and SCWMA Tipping Fee Surcharge	Increase User Fees and SCWMA Tipping Fee Surcharge and/or Reduce Service
<b>BOPs</b>	\$15,000 annually	Landfill Tipping Fee	Increase to Landfill Tipping Fee and/or Reduce Service
<b>E-waste Recycling</b>	\$750/ton, \$150,000 annually	Recycling Fee	Increase Recycling Fee
<b>CESQG</b>	Varies	User Fees	Increase User Fees
<b>Load Checking</b>	\$50,000 annually	Landfill Tipping Fee	Increase Landfill Tipping Fee
<b>Reuse Exchange</b>	Generates Cost Savings	Not Applicable	Not Applicable
<b>EDUCATION PROGRAMS</b>			
<b>HHW Program Promotion</b>	Varies, Unknown	SCWMA Tipping Fee Surcharge	Increase to SCWMA Tipping Fee Surcharge and/or Reduce Service
<b>EPR Policies</b>	Staff time	SCWMA Tipping Fee Surcharge	Increase to SCWMA Tipping Fee Surcharge and/or Reduce Service
<b>Precautionary Principals</b>	Staff time	SCWMA Tipping Fee Surcharge	Increase to SCWMA Tipping Fee Surcharge and/or Reduce Service
<b>Bans &amp; Restrictions</b>	Staff time	SCWMA Tipping Fee Surcharge	Increase to SCWMA Tipping Fee Surcharge and/or Reduce Service
<b>Hazardous Waste Habits</b>	\$2,000 annually \$30,000 every 5 years	SCWMA Tipping Fee Surcharge	Increase to SCWMA Tipping Fee Surcharge and/or Reduce Service
<b>IPM</b>	\$10,000 annually	SCWMA Tipping Fee Surcharge	Increase to SCWMA Tipping Fee Surcharge and/or Reduce Service
<b>Janitorial Supplies</b>	Staff time	SCWMA Tipping Fee Surcharge	Increase to SCWMA Tipping Fee Surcharge

## CHAPTER 6

### SITING ELEMENT

Pursuant to the California Code of Regulations (CCR), Title 14, Division 7, Article 6.5, the Siting Element presents an integrated strategy to ensure the provision of long-term disposal capacity in Sonoma County. The County will ~~demonstrate its ability~~ *prepare and adopt* a strategy to provide 15 years of combined permitted disposal capacity from the submission date of this document. The goals, objectives, and policies established for the Siting Element will be used in conjunction with siting criteria developed by County staff, the Local Task Force (LTF), and the general public to guide the ~~development of additional~~ process for securing required disposal capacity, either through the expansion of existing ~~and/or~~ disposal sites, the construction of new solid waste disposal facilities, and/or agreements with out-of-county disposal sites. Procedural mechanisms to assure use of the established siting criteria and documentation from local jurisdictions agreeing to use procedures specified are presented. The final product is a blueprint for the long-term provision of solid waste disposal capacity.

#### 6.1 GOALS, OBJECTIVES, AND POLICIES

The Sonoma County Waste Management Agency (SCWMA), in cooperation with the County of Sonoma, incorporated Cities and the LTF have developed a number of goals, objectives, and policies designed to encourage a high level of public involvement in solid waste facility siting processes. These goals and objectives will serve as benchmarks to evaluate and monitor the effectiveness of local policies and selected diversion programs over the short- ~~(2003 to 2008~~ *007 to 2010)* and medium-term ~~(2009 to 2011 to 2022)~~ planning periods. Under legislation enacted in 1992, non-disposal facilities (transfer stations, recycling facilities, and composting projects) are not subject to the goals, objectives, policies, and siting criteria in the Siting Element. Discussion of these facilities can be found in the Non-Disposal Facility Element (NDFE) (see Chapter 7). Non-disposal facilities are mentioned in the following goals, objectives and policies only as needed for clarification.

##### 6.1.1 Goals for the Safe Handling and Disposal of Solid Waste

The following goals are general statements regarding the siting and operation of solid waste disposal facilities.

- In order to help ensure the sustainability of our communities and to conserve natural resources and landfill capacity, the Sonoma County Waste Management Agency (SCWMA), County and the Cities will continue to improve their municipal solid waste management system through emphasis on the solid waste management hierarchy of waste prevention (source reduction), reuse, recycling, composting and disposal, *with a goal of zero waste.*
- The solid waste management system in Sonoma County will be planned and operated in a manner to protect public health, safety and the environment. Furthermore, all landfills that receive Sonoma County waste must be *in compliance* with State and Federal landfill regulations.
- ~~The County's~~ Solid waste disposal facilities *located in Sonoma County* will be sited and operated in a manner to minimize energy use, conserve natural and financial resources, protect prime agricultural lands and other environmentally sensitive or culturally sensitive areas, *and reduce greenhouse gas emissions.*
- The County, *in consultation with the Cities and the SCWMA*, will develop a strategy for disposal capacity for solid waste not handled by other elements of the management



hierarchy for at least fifteen-year horizon.

### 6.1.2 Objectives and Associated Programs for Achievement of Goals

The following objectives are intended to provide measurable events to document the County's progress in meeting the goals established above.

#### Short-Term Planning Period (~~2003 to 2008~~ 2007 to 2010) Objectives

- ~~The County will use~~ Objective and consistent siting criteria and policies *will be used* for the siting of solid waste disposal facilities.
- ~~The County~~ *Project proposers/owners* will document the siting process and provide the public with information on a regular basis to ensure that the public and decision-makers are fully informed. Procedures for making siting decisions will be described in addition to the reasons for selection or elimination of potential sites.
- The County will estimate the need for countywide disposal capacity for the municipal solid waste stream after all feasible diversion programs are implemented and initiate efforts to establish *or secure* sufficient landfill capacity *either in County or out of County* to allow for achievement of the County's policy to provide ~~approximately 50~~ *at least fifteen* years of disposal capacity.
- *The County's existing transport and disposal agreements expire in August 2010. By If necessary, on or before 2009, the County will initiate a process to either extend or bid new transport and disposal contracts which will secure the required landfill capacity at least until 2022 before existing agreements expire.*

#### Medium-Term Planning Period (~~2009 to 2018~~ 2011 to 2022) Objectives

- *If the County will or other entities implement the siting process and, it will provide public information to ensure that the public and decision-makers are fully informed. Procedures for making siting decisions will be described in addition to the reasons for selection or elimination of potential sites.*

### 6.1.3 Policies to Facilitate Siting of Solid Waste Facilities

The following policy statements illustrate the intent and/or actions to be taken by the County and/or the Cities to achieve the goals and objectives of the Siting Element.

- The County and/or the Cities will provide solid waste disposal facilities or transfer facilities within reasonable distances of the county's population centers. This policy will provide a means for achieving the goal of conservation of natural resources and energy and minimizing the cost of disposal.
- ~~The County and/or the Cities will formalize the long-standing practice in the County of permitting only public ownership of solid waste disposal facilities located in the county which accept any segment of the municipal waste stream.~~
- ~~The County will maintain at least one of its landfills as a public access, multi-use facility providing solid waste disposal and other waste management activities.~~

- The County will cooperate with adjacent counties, considering their solid waste management planning and waste disposal needs. This includes possible export/import, as approved by the Board of Supervisors, of solid waste and encourages joint resolution of emergency problems.

## 6.2 DESCRIPTION OF EXISTING SOLID WASTE DISPOSAL FACILITIES

*Landfilling of solid waste at the Central Disposal Site has been suspended. All jurisdictions within the county currently dispose of their solid waste at the Central Disposal Site located approximately 2.8 miles southwest of Cotati (see Figure 4-2). The facility does not landfill hazardous wastes, major appliances, tires or liquids. Additional landfill bans adopted by the County of Sonoma Board of Supervisors include cardboard, scrap metal, yard debris, and wood waste. Figure 6-1 shows the boundaries of the Central Disposal Site and the surrounding land use designations.*

The Santa Rosa Geothermal WMU Disposal Site, a Class III drilling muds disposal site owned and operated by Cal-Pine Operating Plant Services, is currently the only other landfill operating in Sonoma County. This privately-owned landfill does not accept municipal solid waste. ~~Therefore, disposal capacity projections and expansion plans focus solely on the Central Landfill.~~

### 6.2.1 Description of the Central Disposal Site

The Central Disposal Site includes the Central Landfill, a Class III landfill. The following description briefly presents information regarding the Central Disposal Site, including disposal capacity, permitted capacity, permit constraints, and site characteristics:

<b>Name:</b>	Central Disposal Site
<b>Address:</b>	500 Mecham Road, Petaluma, CA 94952
<b>Location:</b>	2.8 miles southwest of the City of Cotati, in Sections 4 & 9, T5N, R8W, MDB&M
<b>Assessor Parcel No.:</b>	024-080-19 & 24-080-018
<b>SWIS No.:</b>	49-AA-0001
<b>Permitted Area:</b>	398.5 acres
<b>Waste Types Landfilled:</b>	All non-hazardous wastes consisting of household and commercial wastes, agricultural and demolition wastes, sludge from wastewater treatment plants (as per Title 23, Subchapter 15, Section 2523[c]).
<b>Average Daily Loading:</b>	1,461 tons per day; 2,435 cubic yards per day (in 2002)
<b>Permitted Daily Capacity:</b>	2,500 tons per day; 4,167 cubic yards per day
<b>Site Owner:</b>	County of Sonoma, Department of Transportation and Public Works
<b>Site Operator:</b>	County of Sonoma, Department of Transportation and Public Works, Integrated Waste Division

### 6.2.2 Description of other disposal sites

*The following nonexclusive list presents information regarding the other disposal sites used for solid*

waste generated in Sonoma County:

**Name:** Redwood Sanitary Landfill  
**Address:** P.O. Box 793, Novato, CA 94947  
**Location:** 8590 Redwood Highway, Novato, CA 94958  
**SWIS No.:** 21-AA-0001  
**Permitted Area:** 210 acres  
**Waste Types Landfilled:** Mixed municipal, Sludge (Biosolids), Agricultural, Construction/demolition, Asbestos, Tires, Ash, Wood waste, Other designated  
**Permitted Daily Capacity:** 2,300 tons per day; 3,834 cubic yards per day  
**Site Owner:** U.S.A. Waste of California  
**Site Operator:** Redwood Sanitary Landfill, Inc.

**Name:** Potrero Hills Landfill  
**Address:** 3675 Potrero Hills Lane, Suisun City, CA 94585  
**SWIS No.:** 48-AA-0075  
**Permitted Area:** 190 acres  
**Waste Types Landfilled:** Agricultural, Ash, Construction/demolition, Industrial, Mixed municipal, Sludge (Biosolids), Tires  
**Permitted Daily Capacity:** 4,330 tons per day; 7,217 cubic yards per day  
**Site Owner:** Republic Services of California, L.L.C.  
**Site Operator:** Potrero Hills Landfill, Inc., P.O. Box 68, Fairfield, CA 94533

**Name:** Keller Canyon Landfill  
**Address:** 901 Bailey Road, Pittsburg, CA 94565  
**SWIS No.:** 07-AA-0032  
**Permitted Area:** 244 acres  
**Waste Types Landfilled:** Mixed municipal, Construction/demolition, Agricultural, Sludge (BioSolids), Other designated, Industrial.  
**Permitted Daily Capacity:** 3,500 tons per day; 5,834 cubic yards per day

**Site Owner:** Allied Waste Industries, Inc., 15880 N. Greenway-Hayden Loop #100, Scottsdale, AZ 83260

**Site Operator:** Keller Canyon Landfill, 901 Bailey Road, Pittsburg, CA 94565

**Name:** Vasco Road Sanitary Landfill

**Address:** 4001 North Vasco Road, Livermore, CA 94550

**SWIS No.:** 01-AA-0010

**Permitted Area:** 222 acres

**Waste Types Landfilled:** Contaminated soil, Industrial, Mixed municipal, Other designated, Green Materials, Construction/demolition.

**Permitted Daily Capacity:** 2,518 tons per day; 4,197 cubic yards per day

**Site Owner:** Republic Services of California I, L.L.C., 4001 Vasco Road, Livermore, CA 94550

**Site Operator:** Republic Services of California I, L.L.C., 4001 Vasco Road, Livermore, CA 94550)

**Name:** Hay Road Landfill

**Address:** 6426 Hay Road, Vacaville, CA 95687

**SWIS No.:** 48-AA-0002

**Permitted Area:** 256 acres

**Waste Types Landfilled:** Construction/demolition, Agricultural, Sludge (BioSolids), Tires, Ash, Mixed municipal, Asbestos

**Permitted Daily Capacity:** 2,400 tons per day; 4,003 cubic yards per day

**Site Owner:** Norcal Waste Systems, Inc., 6426 Hay Road, Vacaville, CA 95687

**Site Operator:** Norcal Waste Systems, Inc., 6426 Hay Road, Vacaville, CA 95687

**Name:** Yolo County Central Landfill

<b>Address:</b>	<i>County Road 28H &amp; County Road 104, Davis, CA 95616</i>
<b>SWIS No.:</b>	<i>57-AA-0001</i>
<b>Permitted Area:</b>	<i>473 acres</i>
<b>Waste Types Landfilled:</b>	<i>Tires, Sludge (BioSolids), Construction/demolition, Mixed municipal, Agricultural.</i>
<b>Permitted Daily Capacity:</b>	<i>1,800 tons per day; 3,002 cubic yards per day</i>
<b>Site Owner:</b>	<i>County of Yolo Public Works Department, 292 Beamer St., Woodland, CA 95695</i>
<b>Site Operator:</b>	<i>County of Yolo Public Works Department, 292 Beamer St., Woodland, CA 95695</i>
<b>Name:</b>	<i>Clover Flat Landfill</i>
<b>Address:</b>	<i>4380 Clover Flat Road, Calistoga, CA 94515</i>
<b>SWIS No.:</b>	<i>28-AA-0002</i>
<b>Permitted Area:</b>	<i>44 acres</i>
<b>Waste Types Landfilled:</b>	<i>Contaminated soil, Industrial, Mixed municipal, Other designated, Green Materials, Construction/demolition.</i>
<b>Permitted Daily Capacity:</b>	<i>600 tons per day; 1,001 cubic yards per day</i>
<b>Site Owner:</b>	<i>Clover Flat Landfill, Inc., 1285 Whitehall Ln., St. Helena, CA 94574</i>
<b>Site Operator:</b>	<i>Clover Flat Landfill, Inc., 1285 Whitehall Ln., St. Helena, CA 94574</i>

#### **~~6.2.2 Facility Function Within County Solid Waste Management System~~**

~~The Central Disposal Site is the only municipal solid waste disposal site in the county. Operational improvements completed in 2002 include an expanded recycling, material reuse and recovery center, a~~

tipping building, and expansion into the east canyon for additional capacity. In 2003, a construction and demolition debris sorting program and permanent household toxics facility also began operation.

Following approval of the 2003 CoIWMP, the County will proceed with plans to further expand the Central Landfill. The process for siting a new landfill in the county will begin after that expansion has been approved and permits have been issued. The siting criteria described previously will be further developed with numeric values during a Siting Study, as described in Section 3.0, and used to locate potential new landfill sites.)

As part of the county's integrated waste management system, source reduction, recycling, composting, special waste, and household hazardous waste diversion strategies will extend existing landfill capacity by diverting these materials to secondary materials markets for reuse, secondary processing, remanufacturing, or proper disposal. Waste diversion strategies to be implemented are described in Chapter 4 and listed in Section 4.10.1.

### **6.3 DISPOSAL CAPACITY REQUIREMENTS**

*Currently, no waste is disposed of within Sonoma County, so all waste must be exported. Table 1 shows the total waste generated in Sonoma County by jurisdictional area, as well as unadjusted projections until 2022.*

*Each jurisdiction's proportion of the total county's waste was determined using the 2003 Disposal Report, as 2003 was the most recent year that all of the jurisdictions were channeling the waste through the County system. These proportions were applied to the disposal totals from the 2005 Disposal Report, and projected until 2022. A growth rate of 0.95% per year is based on the Brown, Vence, and Associates (BVA) report (**Reassessment of the Long-Term Solid Waste Strategy Management Plan**).*

Year	Disposal by Jurisdiction (Tons)										County Total	Total (Without Petaluma)
	Cloverdale	Cotati	Healdsburg	Petaluma	Rohnert Park	Santa Rosa	Sebastopol	Sonoma	Windsor	Unincorporated		
2005	9,405	9,349	23,874	59,760	35,658	207,716	18,251	16,987	23,264	127,735	532,000	472,240.18
2006	9,494	9,438	24,101	60,328	35,997	209,689	18,424	17,149	23,485	128,949	537,054	476,726.46
2007	9,585	9,527	24,330	60,901	36,339	211,681	18,599	17,312	23,708	130,174	542,156	481,255.36
2008	9,676	9,618	24,561	61,479	36,684	213,692	18,776	17,476	23,934	131,410	547,306	485,827.29
2009	9,768	9,709	24,795	62,063	37,032	215,722	18,955	17,642	24,161	132,659	552,506	490,442.65
2010	9,860	9,801	25,030	62,653	37,384	217,772	19,135	17,810	24,391	133,919	557,755	495,101.85
2011	9,954	9,895	25,268	63,248	37,739	219,841	19,316	17,979	24,622	135,191	563,053	499,805.32
2012	10,049	9,989	25,508	63,849	38,098	221,929	19,500	18,150	24,856	136,476	568,402	504,553.47
2013	10,144	10,083	25,750	64,455	38,460	224,037	19,685	18,322	25,092	137,772	573,802	509,346.73
2014	10,241	10,179	25,995	65,068	38,825	226,166	19,872	18,496	25,331	139,081	579,253	514,185.53
2015	10,338	10,276	26,242	65,686	39,194	228,314	20,061	18,672	25,571	140,402	584,756	519,070.29
2016	10,436	10,374	26,491	66,310	39,566	230,483	20,251	18,849	25,814	141,736	590,311	524,001.46
2017	10,535	10,472	26,743	66,940	39,942	232,673	20,444	19,028	26,059	143,083	595,919	528,979.47
2018	10,635	10,572	26,997	67,576	40,322	234,883	20,638	19,209	26,307	144,442	601,581	534,004.77
2019	10,736	10,672	27,253	68,218	40,705	237,115	20,834	19,392	26,557	145,814	607,296	539,077.82
2020	10,838	10,773	27,512	68,866	41,091	239,367	21,032	19,576	26,809	147,199	613,065	544,199.06
2021	10,941	10,876	27,774	69,520	41,482	241,641	21,232	19,762	27,064	148,598	618,889	549,368.95
2022	11,045	10,979	28,037	70,181	41,876	243,937	21,434	19,949	27,321	150,009	624,769	554,587.95
Total	183,681	182,582	466,261	1,167,100	696,395	4,056,660	356,440	331,759	454,347	2,494,649	10,389,874	9,222,775

Year	Disposal by Jurisdiction (Cubic Yards)										County Total	Total (Without Petaluma)
	Cloverdale	Cotati	Healdsburg	Petaluma	Rohnert Park	Santa Rosa	Sebastopol	Sonoma	Windsor	Unincorporated		
2005	15,675	15,581	39,789	99,596	59,428	346,180	30,417	28,311	38,772	212,884	886,631	787,035
2006	15,823	15,729	40,167	100,542	59,992	349,468	30,706	28,580	39,141	214,906	895,054	794,512
2007	15,974	15,878	40,549	101,497	60,562	352,788	30,998	28,852	39,512	216,948	903,557	802,060
2008	16,126	16,029	40,934	102,461	61,137	356,140	31,292	29,126	39,888	219,009	912,141	809,680
2009	16,279	16,181	41,323	103,435	61,718	359,523	31,590	29,402	40,267	221,089	920,806	817,372
2010	16,433	16,335	41,715	104,417	62,305	362,938	31,890	29,682	40,649	223,190	929,554	825,137
2011	16,590	16,490	42,111	105,409	62,896	366,386	32,193	29,964	41,035	225,310	938,385	832,976
2012	16,747	16,647	42,512	106,411	63,494	369,867	32,498	30,248	41,425	227,450	947,299	840,889
2013	16,906	16,805	42,915	107,422	64,097	373,381	32,807	30,536	41,819	229,611	956,299	848,877
2014	17,067	16,965	43,323	108,442	64,706	376,928	33,119	30,826	42,216	231,792	965,384	856,942
2015	17,229	17,126	43,735	109,472	65,321	380,509	33,434	31,119	42,617	233,994	974,555	865,083
2016	17,393	17,289	44,150	110,512	65,941	384,124	33,751	31,414	43,022	236,217	983,813	873,301
2017	17,558	17,453	44,570	111,562	66,568	387,773	34,072	31,713	43,431	238,461	993,159	881,597
2018	17,725	17,619	44,993	112,622	67,200	391,457	34,395	32,014	43,843	240,727	1,002,594	889,972
2019	17,893	17,786	45,420	113,692	67,839	395,175	34,722	32,318	44,260	243,014	1,012,119	898,427
2020	18,063	17,955	45,852	114,772	68,483	398,930	35,052	32,625	44,680	245,322	1,021,734	906,962
2021	18,235	18,126	46,287	115,862	69,134	402,719	35,385	32,935	45,105	247,653	1,031,441	915,578
2022	18,408	18,298	46,727	116,963	69,790	406,545	35,721	33,248	45,533	250,006	1,041,239	924,276
Total	306,122	304,291	777,071	1,945,088	1,160,612	6,760,830	594,042	552,910	757,215	4,157,582	17,315,764	15,370,676

Table 1: Sonoma County Disposal Projections 2005-2022

### 6.3.1 Existing Countywide Disposal Capacity

Table 6-2 reflects the anticipated impacts on the amount of disposal capacity available in Sonoma County from 2000 to 2018, which includes the 15 years required by Section 18755.3(c)(3) of the CCR. Estimated disposal capacity impacts are shown in both tons and cubic yards. Waste generation, diversion, and disposal rates were derived assuming the programs in the SRRE are implemented.

In 1992, the DTPW authorized an independent engineering study to redefine the configuration of the Central Landfill and provide updated estimates of remaining disposal capacity at the site. This study, entitled "Central Landfill Expansion Capacity Study Phase I: August 1992" (1992 Study), was produced by EBA Wastechologies (Appendix D). Among other findings, the 1992 Study determined that as of January 1992, remaining Central Landfill capacity was 11.5 million cubic yards.

Six different scenarios, identifying a potential additional capacity from 2,838,600 to 11,304,600 tons (5,700,000 to 22,700,000 cubic yards), were analyzed in the 1992 Study. The County of Sonoma Board of Supervisors selected the East and West Canyon Expansion scenario with an additional capacity estimated at 3,336,600 tons (6,700,000 cubic yards). The permit for construction of the East Canyon Expansion was approved in 2000 and the expansion area began accepting solid waste in 2002. Disposal capacity provided by this expansion has been included in the projections necessary to provide capacity through the year 2015 (Table 6-2). As of 2003, the remaining capacity of the Central Disposal Site is 6,941,726 tons (11,569,544 cubic yards). The existing disposal capacity is 9,160,293 cubic yards (5,496,176 tons) as of September 25, 2006. The decision to utilize the remaining landfill capacity will be determined in the future.

### 6.3.2 Anticipated Countywide Disposal Capacity Needs

Table 1 displays projected the countywide disposal capacity needs until 2022. Strategies involving disposal outside of Sonoma County are discussed further in Section 6.7.

## 6.4 CRITERIA FOR ESTABLISHING NEW OR EXPANDING EXISTING SOLID WASTE FACILITIES

The siting criteria included in this section are based on federal, state, and local laws and policies regarding solid waste facilities. Siting criteria were developed according to Title 14, Chapter 9, Article 6.5 for preparing the Siting Element of the County Integrated Waste Management Plan (CoIWMP). The state guidelines outline specific categories of criteria to be used for establishing new, or expanding existing, solid waste facilities for ultimate disposal (landfills and transformation or incineration facilities). Several criteria were based on federal (Environmental Protection Agency) landfill locational restrictions (40 CFR 258), which are generally exclusionary in nature. It should be noted that exclusionary criteria do not necessarily exclude an entire site from consideration, but may only pertain to portions of a site.

### 6.4.1 Siting Criteria Development

The 1985 CoSWMP stated that public acceptance is the primary practical consideration in siting solid waste disposal facilities. The County actively sought to involve the public in the development of the siting criteria. An initial list of siting criteria was developed and presented to the public in a series of ten



public workshops, five held in November, 1992 and five in February, 1993. The Sonoma County Permit Resource Management Department (PRMD) then reviewed and commented on the draft siting criteria. Based on PRMD comments and input from the LTF, the process for developing the siting criteria was revised to provide for a greater opportunity for public input into the development of the criteria. *Should a public or private entity seek to create a new or expand an existing landfill*, the expanded process will involve subjecting the criteria to more extensive public review during identification of specific landfill locations, an effort that was not undertaken during development of the Siting Element. ~~The expanded effort, part of a Siting Study that is anticipated to begin after all necessary permits for expansion of the Central Landfill are issued, will also include more extensive development of the numeric system for comparing sites.~~

The siting criteria in this Siting Element reflect the community's interests, based on the public workshops conducted, as well as regulatory and technical considerations. The siting criteria listed provide a sound foundation for moving forward with a public process through the Siting Study and associated California Environmental Quality Act (CEQA) activities to locate new landfill site capacity.

#### 6.4.2 Siting Criteria and Their Application

Siting criteria can be categorically defined as either exclusionary or comparative. Exclusionary criteria are generally regulatory land use restrictions created at the federal, state, or local level. Exclusionary criteria are designed to detect and eliminate clearly inappropriate sites from further consideration before undertaking the more costly and time consuming process of applying comparative criteria.

The exclusionary criteria define parameters that need to be satisfied for a piece of land to be considered for a landfill site. For example, a parcel that is located entirely in a flood plain would be excluded from further consideration as a candidate landfill site. The exclusionary criteria do not restrict development of a parcel as a landfill if only a portion of the parcel is excluded. If the land located in a flood plain included other property that would be suitable for a landfill, the portion in the flood plain could be used as landfill buffer. As a result, a property could have a portion that is excluded and not used for landfill and the remainder potentially suitable as a landfill site.

The exclusionary criteria will be applied to the entire county to identify those broad areas of the county that are not suitable for siting a new landfill prior to beginning the CEQA process. ~~After completion of the 2003 CoIWMMP and Siting Element, and the volume of additional capacity is established at the Central Landfill~~ *Should any public or private entity decide to resume in-County waste disposal, the County that entity will conduct a Siting Study to accomplish the following:*

- **Review the means that are available for achieving the County's goal of providing 50 at least fifteen years of disposal capacity.**
- Provide for extensive public participation in the landfill siting process, *including low-income and minority populations to ensure environmental justice concerns are addressed.*
- Refine the comparative criteria to reflect the public's considerations.

- Adopt the final comparative siting criteria by the Board of Supervisors at a public hearing before the criteria are used to identify potential sites.
- Seek nominations from property owners for land to be considered as a potential site.
- Apply the comparative criteria to each of the sites nominated or identified in this review by the County. Rank the sites to identify the best ones to be evaluated in a process to comply with CEQA.

The development of comparative criteria is the primary mechanism available to local constituents to influence site selection prior to the public hearing process. It is essential that local citizens be included in the process of defining local comparative criteria to minimize protracted conflict over various sites as different projects arise. The comparative criteria in this Siting Element were developed through such a public process – input received from the public at workshops, input from the LTF, and review at the public hearings conducted to adopt the 1996 CoIWMP. Comparative criteria will be further structured with numeric values and modified, as needed, in the Siting Study prior to the evaluation of any proposed landfill site.

~~The comparative criteria, further refined into environmental, community, economic, engineering, and administrative categories, are described in more detail in the following discussion. Should the County ever decide to pursue a new landfill site, Figure 6-2 graphically depicts the process envisioned for siting landfill capacity in Sonoma County.~~

#### 6.4.2.1 Exclusionary Criteria

The first set of criteria are the exclusionary criteria. These criteria identify constraints that make the siting of a landfill so difficult that further analysis or evaluation would be unproductive. The criteria are useful in the initial screening to identify general areas of the county which may have potentially suitable sites. The following list contains the exclusionary criteria selected by Sonoma County or required by local, state, and federal laws and regulations. Figure 6-3 is a map showing the areas of the county remaining after application of the exclusionary criteria which are reflected as the shaded portions of the county.

- Lands within 10,000 feet of a runway used by jet aircraft, or 5,000 feet of a runway used by propeller-driven aircraft
- Lands within a FEMA designated 100-year flood plain
- Lands restricted by State and Federal regulatory requirements over earthquake fault zones.
- Lands within channels of USGS designated perennial streams
- ~~Lands outside of Sonoma County~~

- Lands within the urban boundary of an incorporated city
- Lands within designated Community Separators
- Lands within designated Critical Habitat
- Lands within the Coastal Zone
- Lands designated with the following land use in the County General Plan
  - Urban Residential
  - Rural Residential
  - General or Limited Commercial
  - Recreation and Visitor Serving Commercial
  - General and Limited Industrial
  - Public/Quasi-Public (unless the designation is applied to accommodate a landfill)

#### 6.4.2.2 Comparative Criteria

The comparative criteria would be used to evaluate sites which are not located in exclusionary areas and that are suitable based on their physical attributes. These criteria would be used to evaluate across a wide spectrum of environmental, engineering, socio-political, and economic factors. These Comparative Criteria, with the Exclusionary Criteria, form the basis of the Siting Study. During the Siting Study these Comparative Criteria will be modified, new criteria added, and a ranking and weighting system developed.

#### Environmental

1. Groundwater Flow System: ~~Objective RC-3.1 of the County General Plan states that~~ *In accordance with the County General Plan*, watersheds and groundwater basins should be preserved by avoiding the placement of potential pollution sources in areas with high percolation rates. Therefore, sites located outside of recharge

- areas are the most desirable for landfill construction and operation.
2. Proximity to Surface Water: The proximity of a site to surface water and existing or beneficial uses of the surface water is of obvious importance. A candidate site which is far from a surface water body would be a highly rated site. A poorly rated site would be one that is near a surface water body.
  3. Depth to Groundwater: The water table depth in the underlying sediments is important for both landfill operational considerations (such as placement of groundwater monitoring wells) and also from a standpoint of potential groundwater contamination.
  4. Existence of Wetlands: Federal regulations for siting landfills (40 CFR 258) prohibit the location of landfills in wetlands unless the construction and operation of the landfill will not cause or contribute to violations of state water quality standards, violate toxic effluent standards under the Clean Water Act, violate the Marine Protection Act, jeopardize endangered species, or cause degradation of wetlands. Data sources to be evaluated will include those from the California Department of Fish and Game, California Native Plant Society, and the Corps of Engineers.
  5. Air Quality - Non-Attainment for Particulates: This criterion will measure whether an area is in attainment for  $PM_{10}$  and ozone. A site in a non-attainment area would be less desirable than one in an attainment or unclassified area. Wind direction and distance to nearby sensitive receptors will also be considered in evaluating this criterion.
  6. Proximity to Threatened or Endangered Species - Animals: In accordance with federal regulations the operation of a landfill at a site which would cause or contribute to the taking of any endangered species of plant, fish, or wildlife could constitute a fatal flaw. Similarly, the facility or operation cannot result in the destruction of critical habitat of endangered or threatened species. Data sources to be evaluated will include the State Department of Fish and Game, Federal Fish and Wildlife Service, and General Plan Open Space Element, Critical Habitat designations.
  7. Proximity to Threatened and Endangered Species - Plants: This criterion is similar to the criterion above, except that it covers threatened or endangered plant species. Data sources to be evaluated will include the State Department of Fish and Game, California Native Plant Society, and General Plan Open Space Element, Critical Habitat designations.

## **Community**

1. Population Density Near Site: This criterion is used as one measure of the proposed landfill's potential impact on people.
2. Compatibility with Adjacent Land Uses: Existing and proposed land uses are considered. Also considered is the site's potential for impact mitigation.
3. Residents Along Access Routes/Road Safety: This criterion reflects the number of residents being affected by haul traffic to a potential site.
4. Schools and Hospitals Along Access Routes: This criterion measures the impact of solid waste truck haul traffic, including noise, traffic congestion, and safety considerations, on sensitive receptors such as schools and hospitals.
5. Proximity to Parks or Resource Lands: Landfills would generally be excluded from locations within a Federal Recreation Area, State Park, Department of Natural Resources – Natural Resources Conservation Area, County Park, etc. Sites valued for their pristine environment or held in reserve for use at a future time and are incompatible with a landfill.
6. Presence of Cultural, Historic, or Archaeological Resources: **This criterion excludes locations which would interfere with the** County General Plan's goal of preserving sites with significant archaeological, historical, or cultural resources. These resources include sites on the National and State Historic Register, areas identified as being of archaeological importance to Native Americans, and those sites/buildings/trees that have been identified as significant by the County Landmarks Commission.
7. Visual Impacts of Site: The magnitude of the landfill visual impacts relates to the location and topography of the site and to the availability of buffers to screen the operations. Aesthetics impacts are also important to consider.
8. Proximity to Major Transportation Corridors: This criterion considers the effects of landfill traffic on local roads, as well as the costs of hauling waste to a landfill. Those sites that are close to major transportation corridors will be less likely to impact local roads and residents (traffic congestion, noise, safety concerns, etc.) than sites located farther from major roads. Those sites closer to major transportation corridors would require less fuel to reach; this would help meet the county's goal of conserving energy.

## **Engineering**

1. Soil Suitability: A more highly rated site would have both fine- and coarse-grained soils which could provide bottom soil liner, final soil

cover and intermittent soil cover during operation. The use of on-site soils can reduce the cost of landfill construction and the impacts of importing off-site materials.

2. Geology:

This criterion is a measure of the permeability/transmissivity of materials underlying a proposed site. The geologic materials that have been identified in Sonoma County can be generally divided up into two groups: (1) unconsolidated deposits and

(2) semi-consolidated to consolidated rocks. The permeability and transmissivity of materials within these general groups can be an indication of site security in terms of leachate and gas containment and as an indication of barriers to groundwater movement.

3. Fault Areas:

Proximity to active fault areas is an important criteria in terms of maintaining the integrity of the landfill control structures (such as leachate and gas collection) and the engineering measures that would be needed to prevent damage from seismic movements. State and Federal regulatory requirements for earthquake fault zones will be followed to evaluate potential landfill sites.

4. Unstable Areas:

Locating landfills on sites that have unstable geological conditions is generally undesirable. Unstable areas are defined as those locations that are susceptible to natural or human-induced events or forces capable of impairing the integrity of some or all of those landfill structural components that are responsible for preventing releases to the environment (such as leachate or gas control structures). Criteria categories are:

- Category A – Areas of greatest relative stability due to low slope inclination – dominantly less than 15%.
- Category B – Areas of relatively stable rock and soil units on slopes greater than 15% containing few landslides
- Category Bf – Locally level areas within hilly terrain - may be underlain or bounded by unstable or potentially unstable rock materials
- Category C – Areas of relatively unstable rock and soil units on slopes greater than 15% containing abundant landslides
- Landslide Area – Areas of lowest relative slope stability; failure and downslope movement of rock and soil has occurred or may occur

- Flood Hazard, 100-year Flood Plains: Federal regulations (40 CFR 258) prohibit the placement of a landfill within a 100-year flood plain. The hazard from floods is due primarily to potential erosion, washout of waste from the site and restrictions on reducing the water storage capacity of a watershed basin.
- Seismic Impact Zones: Federal regulations for siting landfills (40 CFR 258) prohibit development of a landfill in seismic impact zones unless it can be proven that all containment structures (leachate collection system, surface water collection system, etc.) have been designed to resist the maximum horizontal acceleration of the earth beneath the site.
- Annual Precipitation: This criterion measures how much water will need to be contained on the landfill site, both on the surface of the landfill property as runoff and within the landfill as leachate.
- Erosion Potential: Soil characteristics, slope, and surrounding topography may create conditions that are particularly susceptible to erosion (from rainfall). Erosion results in stormwater runoff having high levels of sediment with the potential for impacting water quality in surface waters. Extensive and costly engineering controls may be required to prevent stormwater runoff, and siltation and sedimentation impacts to nearby surface water.

### **Administrative**

1. Site Capacity/Site Life: **Sonoma County has established a policy to provide landfill capacity** *A potential site should have at least fifteen years of capacity. Sites with more capacity are ranked higher.*
2. Agricultural Land: The General Plan recognizes the importance of agricultural land in the county stating that lands containing agricultural and productive woodland soils should be preserved, and conversion of this land to incompatible residential, commercial, or industrial uses be avoided.
3. Proximity to Existing Uses of Groundwater: Landfill operations have the potential for contamination of groundwater. Therefore, it is important to protect beneficial uses as much as possible by choosing sites located further from these areas.
4. Airport Safety: Federal Aviation Administration Order 5200.5 prohibits the development of landfills within 5,000 feet from a runway used by propeller-driven aircraft and 10,000 from a runway used by jet aircraft.
5. Site Parcel Assemblage: This category compares the various sites as to the ease

(availability of information, communications, ease of acquisitions and mitigation) with which the required parcels for the landfill site could be assembled.

6. Ownership/Acquisition Potential: This category compares sites based upon the potential ease with which a selected property might be acquired.

### **Economic**

1. Total Operating Costs: A number of elements would be combined for the total operation costs, including: (1) landfill operation costs (cost of daily and intermediate cover, and operation and maintenance of all landfill access roads and environmental monitoring systems), + (2) leachate treatment and control, (3) gas control, and (4) post-closure costs (maintaining the final cover, surface water management systems, gas control facilities, environmental monitoring facilities and the leachate treatment facilities). For all of these elements, planning level costs for labor, equipment and materials should be estimated and daily operational costs should be considered *a 50-year site life period for the projected life of the selected landfill site.*
2. Site Development Costs: These are the capital expenditures at the site including the cost of building the landfill, equipment to begin operations, and other costs of opening a landfill.
3. Transportation Costs: Based upon engineering and economic analysis, the cost of solid waste transport to each site would be estimated. The estimate for each site would include operation and maintenance costs incurred by the County, municipal haulers, and private/commercial haulers for transport and transfer of solid waste.
4. Parcel Costs: Using the assessed valuations maintained by the county and review of other county records, the purchase price for each potential site will be estimated *as appropriate.*

### **6.4.3 Procedural Mechanisms To Assure Use Of Criteria In Siting Solid Waste Disposal Facilities**

The preliminary Siting Criteria were adopted by the County and incorporated Cities when they approved the 1996 CoIWMP. In adopting the Siting Criteria ~~the 2003~~ in this CoIWMP, the County and Cities confirmed the procedural mechanisms described here that will be used by *the public or private entity* for siting a new landfill. These procedural mechanisms include a Siting Study, which will refine the siting criteria and provide weighting and ranking factors for the comparative siting criteria with input from the LTF and public. ~~These siting criteria will be adopted by the Board of Supervisors at a public hearing before initiation of the search for a new landfill site. The Siting Criteria will be applied as shown in Figure 6-1 and discussed in this section to identify the sites equally suitable from the technical perspective as a prelude to the full CEQA analysis.~~ Once into the CEQA process, the Siting Criteria may also have a role in identification and evaluation of alternatives to the proposed project.



#### **6.4.4 Local Jurisdiction Compliance Agreements**

Appendix F of the CoIWMP contains the local resolutions approved by all jurisdictions in the county specifying their commitment to apply all siting criteria and procedures established in the Siting Element.

### **6.5 PROPOSED SOLID WASTE FACILITIES**

~~With further expansion, disposal capacity at the existing Central Landfill is available to last at least through the end of the medium-term planning period, 2018, assuming full implementation of all selected diversion programs. Therefore, Sonoma County's immediate disposal capacity strategy to achieve the goals and objectives is the expansion of the Central Landfill and subsequently identifying another disposal site as recommended by the Analysis.~~

~~The County has established a goal of identifying and developing 50 years of landfill capacity. Following the completion of the 2003 CoIWMP, and once additional capacity at the Central Landfill is permitted, the County plans to begin a Siting Study to identify possible new disposal sites. The public's input into the Siting Study is expected to be instrumental in applying the siting criteria, evaluating the options for providing 50-years' capacity, evaluating economic considerations of each option, and identifying key issues that need to be resolved. Several public workshops will be conducted to facilitate receiving input from the public prior to the hearings. The goal of the Siting Study would be to produce a list of sites from which the Board of Supervisors may choose one or more landfill sites. Prior to approval of any new or expanded disposal site, the County will conduct all analyses necessary under CEQA to evaluate the potential significant environmental impacts of the County's options, including consideration of alternative sites. There are no pending applications for a solid waste facility at this time.~~

### **6.6 CONSISTENCY WITH COUNTY GENERAL PLAN**

~~Expansion of the Central Landfill to provide disposal capacity through the year 2018 is consistent with Section LU-4d of the Land Use Element and Section 3.4 of the Public Facilities Element of the current County General Plan. There are no current proposals for new or expanded landfills in Sonoma County at this time.~~

#### **6.6.1 Sites Reserved For Solid Waste Disposal or Transformation Facilities**

The Central Disposal Site is currently the only site with a landfill reserved for solid waste disposal in Sonoma County.

#### **6.6.2 Sites Tentatively Reserved For Solid Waste Disposal or Transformation Facilities**

There are no sites tentatively reserved for solid waste disposal or transformation facilities in Sonoma County.

### **6.7 STRATEGIES FOR DISPOSING OF SOLID WASTE IN EXCESS OF CAPACITY WHEN NEW OR EXPANDED SITES ARE NOT AVAILABLE**

~~Sonoma County will have sufficient disposal capacity to last in excess of 15 years at the expanded Central Disposal Site. Therefore, this section will be addressed in future five-year reviews when it is clear that~~

~~the Central Disposal Site has reached full capacity, and there are no new sites available for establishing new disposal or transformation capacity.~~ Due to significant uncertainties, the County of Sonoma is not considering in-county disposal at this time, although potential sites for disposal may exist within Sonoma County. Risks associated with expansion of the Central Landfill have caused in-county disposal to be rejected as the County of Sonoma's on-going disposal strategy. The SCWMA supports efforts to identify potential in-county disposal sites.

### **6.7.1 Short Term Disposal Strategy**

Out-of-county disposal contracts are currently in place to ensure sufficient disposal capacity until 2010. The daily tonnage commitment with contracted landfills are detailed in the table below.

### **6.7.2 Medium Term Disposal Strategy**

~~As there are no current plans to establish a new or expand an existing disposal facility in Sonoma County, the County's medium term (2010 - 2022) disposal strategy will consider the following two options:~~

- ~~Out-of-county disposal with waste transport by truck~~
- ~~Out-of-county disposal with waste transport by rail~~

Day Type	Days per Year	TPD	Contract Capacity
Weekdays	261	1,750	456,250
Saturdays	52	750	39,107
Sundays	52	300	15,643
		Total	511,000

~~While both options will secure, at minimum, 15 years of disposal capacity through contract(s) which specify maximum allowed daily tonnages, the two options differ in capital investment and level of commitment required by participating jurisdictions. It is therefore necessary that the County work with the Cities to determine which are interested in each option. The selection of truck or rail haul will depend in part on the result of any such agreements between the County, the Cities, and appropriate regulatory agencies.~~

### **6.7.3 Waste Transport by Truck**

~~In response to the lack of permitted landfill capacity, the County contracted for out-of-County haul and disposal through three separate companies for a five-year period beginning September 1, 2005.~~

~~The County is in a favorable position to haul to out-of-County landfills by truck. The County currently has five transfer stations that allow for transfer of solid waste to trucks to transport the waste to out-of-County disposal sites. Another positive factor is that the County owns the sites and is already permitted to operate these transfer facilities, so no additional site acquisition, regulatory, or permitting activities are anticipated. Although flow control is important for rail haul disposal commitments, it is less critical for the strategy involving truck haul and disposal. Little new capital investment is required for truck haul and the operating costs are more easily reduced should tonnage leave the disposal system.~~

*The potential downside to out-of-County haul and disposal is the risk of losing disposal capacity sometime in the future. Although the County may contract for certain capacity, there is no assurance that this capacity will always be available. Furthermore, landfill options are more limited than with rail haul, as the cost effectiveness of truck hauling declines rapidly as distance from Sonoma County increases.*

*Contracts between the County, haulers, and landfill owners would secure the County's ability to guarantee disposal capacity and the means with which to transport waste generated within Sonoma County. The BVA analysis indicates that there is adequate landfill capacity in the Bay Area for the next 15 years (source: Assessment of Long-Term Solid Waste Management Alternatives, BVA).*

#### **6.7.4 Waste Transport by Rail**

*The infrastructure requirements for development of hauling waste by rail (WBR) to out-of-County disposal sites generally include the following five components:*

- *Transfer Station to collect, recover divertible materials, and load residual waste into intermodal containers or consolidate for loading gondola cars*
- *Local Rail Yard to load intermodal containers or gondola cars on spur track*
- *Rail Haul for transporting containers or gondola cars over rail lines to the remote rail yard*
- *Remote Rail Yard to off-load the containers or material in gondola cars to the landfill or transfer vehicles for haul to the landfill*
- *Landfill for disposal of residual solid waste*

*While WBR increases accessibility to a larger number of disposal sites than truck hauling, there is significant capital investment required. This necessitates an agreement between a significant number of Cities and the County to share the capital costs, and a long term commitment to WBR in the form of 20 to 25 year contracts with the North Coast Rail Authority (NCRA) and the destination landfill(s). Potential capital investments include the retrofit of existing transfer stations to accommodate the intermodal operating system, the purchase of sufficient intermodal containers to satisfy the disposal needs of Sonoma County, and the development of at least one or more loading stations along the rail line..*

*In an effort to promote waste diversion and zero waste, special care must be made with regard to tonnage commitments with the destination landfill(s). Agreements will be created with flexibility such that the County's landfill capacity commitments decrease in proportion to the success of our source reduction and recycling programs. Agreements which provide an economic disincentive for waste reduction will be avoided.*

### **6.8 SITING ELEMENT IMPLEMENTATION**

#### **6.8.1 Responsible Agencies**

Since all solid waste facilities in Sonoma County are currently owned by the County of Sonoma, the Board of Supervisors is the responsible agency for implementing the Siting Element. DTPW will implement the Board's policies by working with the SCWMA, PRMD, LEA, and the LTF.

*In the event that a private entity should seek to establish a new or expand an existing landfill, that entity would be required to implement the Siting Element as defined in this CoIWMP. This entity would implement the Board's policies by working with the SCWMA, PRMD, LEA, and LTF.*

## 6.8.2 Implementation Tasks

~~Sonoma County has established a policy to provide landfill capacity for county residents through the year 2050~~ *Should a public entity decide to expand an existing or create a new landfill within Sonoma County, the following task list summarizes the process for achieving the goal of maximizing disposal capacity.*

### Task 1. Siting Study/Options Evaluations

- a. Siting Study will include the Board of Supervisors adopting the refined Siting Criteria and an environmental and economic consideration of various long-term disposal options.
- b. Screen county for candidate sites and request public nomination of sites.
- c. Apply first round siting criteria to candidate sites, develop ranking, and review criteria application.
- d. Complete first round ranking of sites. It is expected that 8 to 13 sites may be identified at this step.
- e. Second round of screening of sites with field confirmation of significant siting criteria.
- f. Rank sites and recommend 3 to 5 sites as final candidates in report to Board of Supervisors. Board accepts report and gives direction to staff to proceed with preliminary design and CEQA.

### Task 2. Preliminary Design

- a. Issue RFP, hold interviews and execute contract for investigation of the final candidate sites. Work will include geotechnical and hydrogeotechnical research and biological reconnaissance of the sites.
- b. Prepare preliminary design including geotechnical and hydrogeotechnical investigation and biological reconnaissance.
- c. Review of preliminary design report and recommendation for selected site.
- d. Prepare final preliminary design report and recommendation for selected site.

### Task 3. CEQA

- a. Issue RFP, hold interviews and execute contract for preparation of project level EIR for candidate site(s) and selected alternatives.
- b. Prepare Initial Study, present to the Environmental Review Committee, issue Notice of Preparation (NOP), meet with regulatory agencies, and hold public meetings for input for the EIR.
- c. Prepare Draft EIR (DEIR).
- d. Issue and circulate Notice of Completion (NOC) to open public review period.
- e. Planning Commission holds hearings on DEIR and Final EIR (FEIR).
- f. Board of Supervisors certifies FEIR and adopts the project selecting the best site.

#### Task 4. Final Design

- a. Prepare final design plans and specifications for first phase improvements.
- b. Bid first phase improvements and award contract.
- c. Complete first phase improvements.

#### Task 5. General Plan Amendment

To run concurrent with design and construction. Process general plan amendment to have scheduled site zoned Public/Quasi-Public or other appropriate zoning. Includes hearing before the Planning Commission and Board of Supervisors.

#### Task 6. Permits

To run concurrent with design and construction. Permitting agencies include the California Integrated Waste Management Board (CIWMB), Regional Water Quality Control Board, Air Quality Management District, and Sonoma County PRMD. Documents submitted to the CIWMB will include a Joint Technical Document, including a Report of Disposal Site Information, Preliminary Closure Plan, and Preliminary Post Closure Maintenance Plan.

### 6.8.4 Revenue Sources

Funding for the implementation of the Sonoma County Siting Element and all facility siting programs and procedures ~~will be funded through the County's Solid Waste Enterprise Fund. All revenues for this fund are derived from tipping fees levied at County-owned solid waste facilities~~ need to be identified for any proposal concerning solid waste facility siting. *If the County of Sonoma makes the decision to site a new*

*landfill, funds for implementing the siting element would come from a tipping fee surcharge. If another public or private entity intends to establish a new landfill site, either entity would be responsible for funding the implementation of the siting element.*