
GUADALUPE RESTORATION PROJECT
SEIR ADDENDUM TO:

GUADALUPE OIL FIELD REMEDIATION AND ABANDONMENT
2012 TRUCKING SEIR ADDENDUM
CUP #DRC2011-0065 ED12-007
JULY 2012

SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT (SEIR)
SCH#1996051053, JUNE 2005

AND

GUADALUPE OIL FIELD REMEDIATION AND ABANDONMENT
ENVIRONMENTAL IMPACT REPORT (EIR)
SCH #1996051053, JULY 1998

AND

PREPARED FOR
DEPARTMENT OF PLANNING AND BUILDING
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1.0 Introduction/Background

Project. Chevron Environmental Management Company (CEMC) on behalf of the landowner, Union Oil Company of California (Union Oil or UNOCAL) is requesting to amend the previously approved Development Permit/Development Plan (CDP/DP) DRC2011-00065, to allow for a new trucking route between the Guadalupe Restoration Project (GRP) and the City of Santa Maria Landfill (SMLF). The new route proposes to use Willow Road as a new preferred hauling route as follows: Thornberry Road (Project site) to Highway 1, Highway 1 to Willow Road to the Willow Road/Highway 101 interchange, onto Highway 101 to East Main Street and on to the SMLF.

The proposed Willow Road route would add approximately six miles to the distance of a round trip haul trip; however, the proposed route is considered preferable to the existing Betteravia route because it avoids traveling through the City of Guadalupe and major portions of the City of Santa Maria, reducing haul times and improving traffic safety.

A list of the acronyms used in this report can be found in Section 5.0, Acronyms.

Addendum – History/Basis. This Addendum has been prepared to evaluate the environmental impacts associated with the above described project. As a part of this analysis, this report relies on environmental documents previously prepared for the County of San Luis Obispo (SLO) as follows: (1) 2012 Trucking CEQA Addendum for the Guadalupe Oil Field Remediation and Abandonment Project, prepared by Marine Research Specialists (MRS), (2) the Final Supplemental Environmental Impact Report dated June 2005 (2005 SEIR), prepared by Marine Research Specialists (MRS), and (3) the 1998 Guadalupe Oil Field Remediation and Abandonment Environmental Impact Report (1998 EIR), prepared by Arthur D. Little (ADL).

The 2005 SEIR was prepared to address the environmental impacts of trucking Non-Hazardous Impacted Soils (NHIS) from the former Guadalupe Oil Field (now known as the Guadalupe Restoration Project (GRP)) to the City of Santa Maria Landfill (Landfill or SMLF). The 2005 SEIR also evaluated the impacts of trucking NHIS material to various disposal sites in Kern and Kings Counties, including the Buttonwillow Landfill. In 2006, the San Luis Obispo County Board of Supervisors certified the SEIR and approved an Amendment to the Coastal Development Permit/Development Plan (CDP/DP) D890558D to allow the trucking of up to 860,000 cubic yards of NHIS to the Landfill or a disposal facility in Kern or Kings Counties.

The 2012 CEQA Addendum was prepared to evaluate the environmental impacts associated with the hauling of an additional 500,000 cubic yards of NHIS material from the GRP to the SMLF. NHIS material is used at the Landfill as cover for closing landfill cells. The 2012 Addendum also addressed the hauling of up to 100,000 cubic yards (out of the total requested 500,000 cubic yards) of NHIS to the Buttonwillow disposal facility (Buttonwillow). This alternative was required for the potential proper disposal of material that does not meet the acceptance criteria for NHIS as established by the Regional Water Quality Control Board (RWQCB) for the SMLF. The County approved a new CDP/DP (DRC2001-00065) in 2012 to increase the amount of material that could be hauled to the SMLF by 500,000 cubic yards, and to approve the trucking of up to 100,000 cubic yards of material to Buttonwillow.

This Addendum has been prepared in compliance with the criteria, standards, and procedures of the California Environmental Quality Act (CEQA) of 1970 and CEQA Guidelines, as amended. The remainder of this Chapter of the Addendum provides (1) some background on the GRP, (2) a brief summary of the proposed project, (3) the project objectives, and (4) a discussion on the purpose and use of a CEQA Addendum.

1.1 Background on Guadalupe Restoration Project

The Guadalupe Restoration Project (GRP) site occupies over 2,700 acres of the larger Nipomo Dunes Complex and is located on the Central California Coast in San Luis Obispo and Santa Barbara Counties, as shown in Figure 1.

The principal land use at the GRP site, from 1946 to March 1994, was the production of oil and natural gas. In the 1950s, a petroleum hydrocarbon referred to as diluent was introduced at the Guadalupe site to assist in the production of the heavy crude oil. Diluent use ceased in 1990.

Over the years, diluent was inadvertently released from the pipelines and storage tanks, and diluent sources are now present in soils and diluent plumes are present in groundwater at the Guadalupe site. In addition, sumps are present in soils from historical production activities.

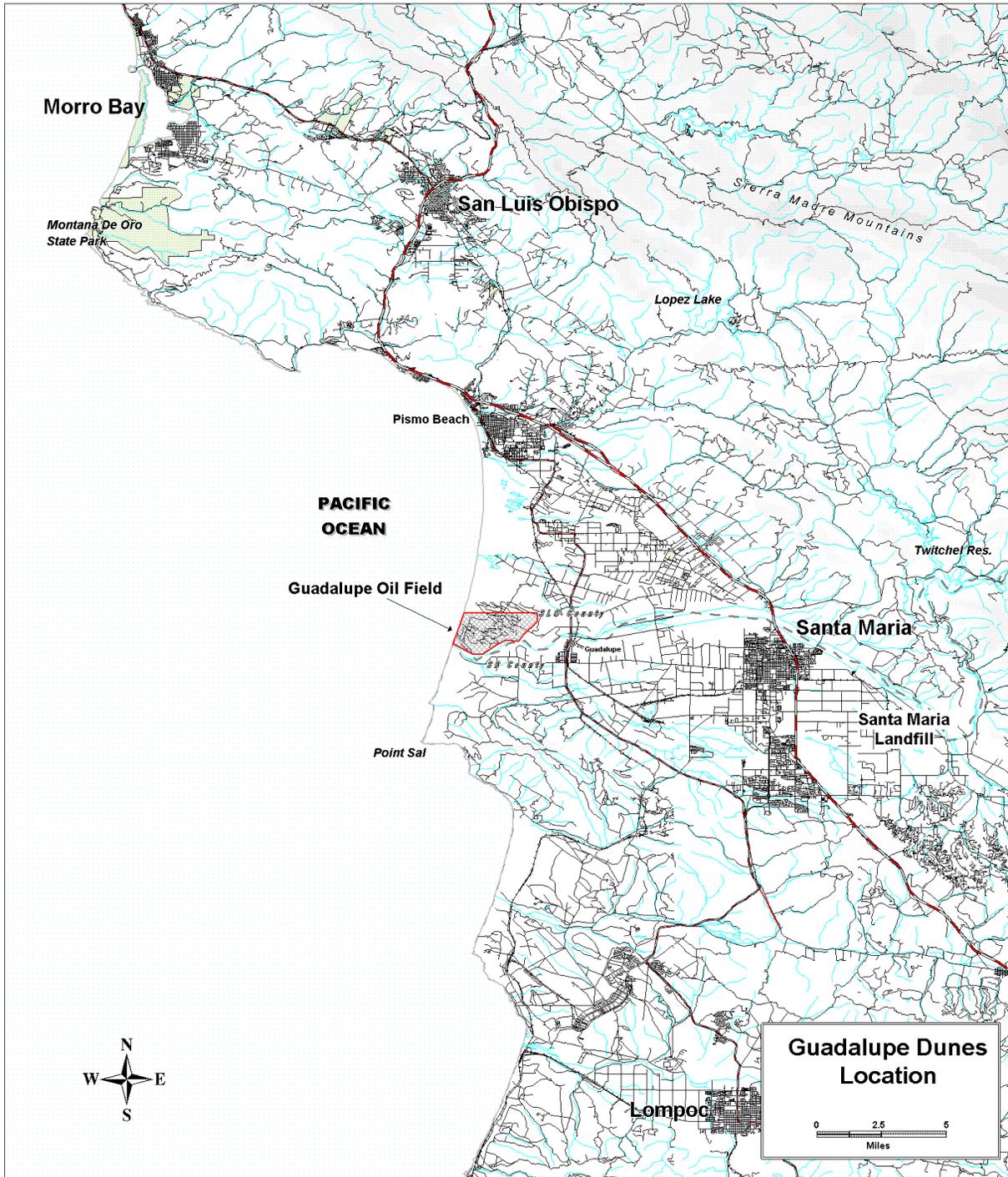
Assessment activities to characterize and delineate the underground hydrocarbons and pilot studies to test the effectiveness of various remediation methods have been conducted at the GRP site.

In December 1998, SLO County certified the 1998 EIR that evaluated the impacts and determined mitigation measures for remedial actions, including excavation of hydrocarbon sources and treatment methods for the excavated material.

The Regional Water Quality Control Board (RWQCB) issued Cleanup and Abatement Order (CAO) 98-38, mandating remediation actions such as the excavation of specified hydrocarbon sources. SLO County issued CDP/DP D890558D, which covered remediation and abandonment activities at the GRP site. This CDP/DP authorized CEMC to conduct remediation and site restoration activities at the GRP site consistent with the RWQCB CAO 98-38 adopted by the RWQCB on April 3, 1998 and as amended on July 13, 1998 and November 6, 1998 (CDP/DP D890558D Condition F.1).

In 2004, Unocal submitted an applicaiton to the County requesting a permit to haul 860,000 cubic yards of NHIS to the SMLF and other disposal sites. The County prepared an SEIR to address the environmental impacts of trucking NHIS from the Guadalupe Restoration Project to SMLF. The 2005 SEIR also evaluated the impacts of trucking NHIS material to various disposal sites in Kern and Kings Counties, including the Buttonwillow Landfill. In 2006, the San Luis Obispo County Board of Supervisors certified the SEIR and approved an Amendment to the Coastal Development Permit/Development Plan (CDP/DP) D890558D to allow the trucking of up to 860,000 cubic yards of NHIS to the SMLF or a disposal facility in Kern or Kings Counties.

Figure 1 Proposed Project Location



Source: Marine Research Specialists

On December 20, 2011, the RWQCB issued a letter requiring further actions, including excavations, as part of the Phase I work under CAO 98-38. The additional work requires hauling up to 500,000 cubic yards of NHIS offsite which was approved by SLO County in 2012 with the 2012 Trucking CEQA Addendum for the Guadalupe Oil Field Remediation and Abandonment Project, prepared by Marine Research Specialists (MRS) and permits CUP/DP DRC2011-00065.

In accordance with California Code of Regulations (CCR) Title 27, which contains provisions to use NHIS to construct foundation layers for landfill closure, the RWQCB issued Revised Waste Discharge Requirements (WDR) Order No. 01-041 on May 18, 2001 to the SMLF. WDR 01-041 provides guidelines for the acceptance of NHIS from the restoration and cleanup of oil-producing sites. These plans were addressed in a Joint Technical Document (JTD) prepared by CH₂MHill and evaluated in the CEQA addendum to the 1993 Landfill EIR (SCH 92031045) and in subsequent EIRs (SML February and May, 2004). A Revised Waste Discharge Requirements Order No. R3-2007-0045 and Monitoring and Reporting Program No. R3-2007-0045 were adopted by the RWQCB on October 19, 2007 (collectively, 2007 Order).

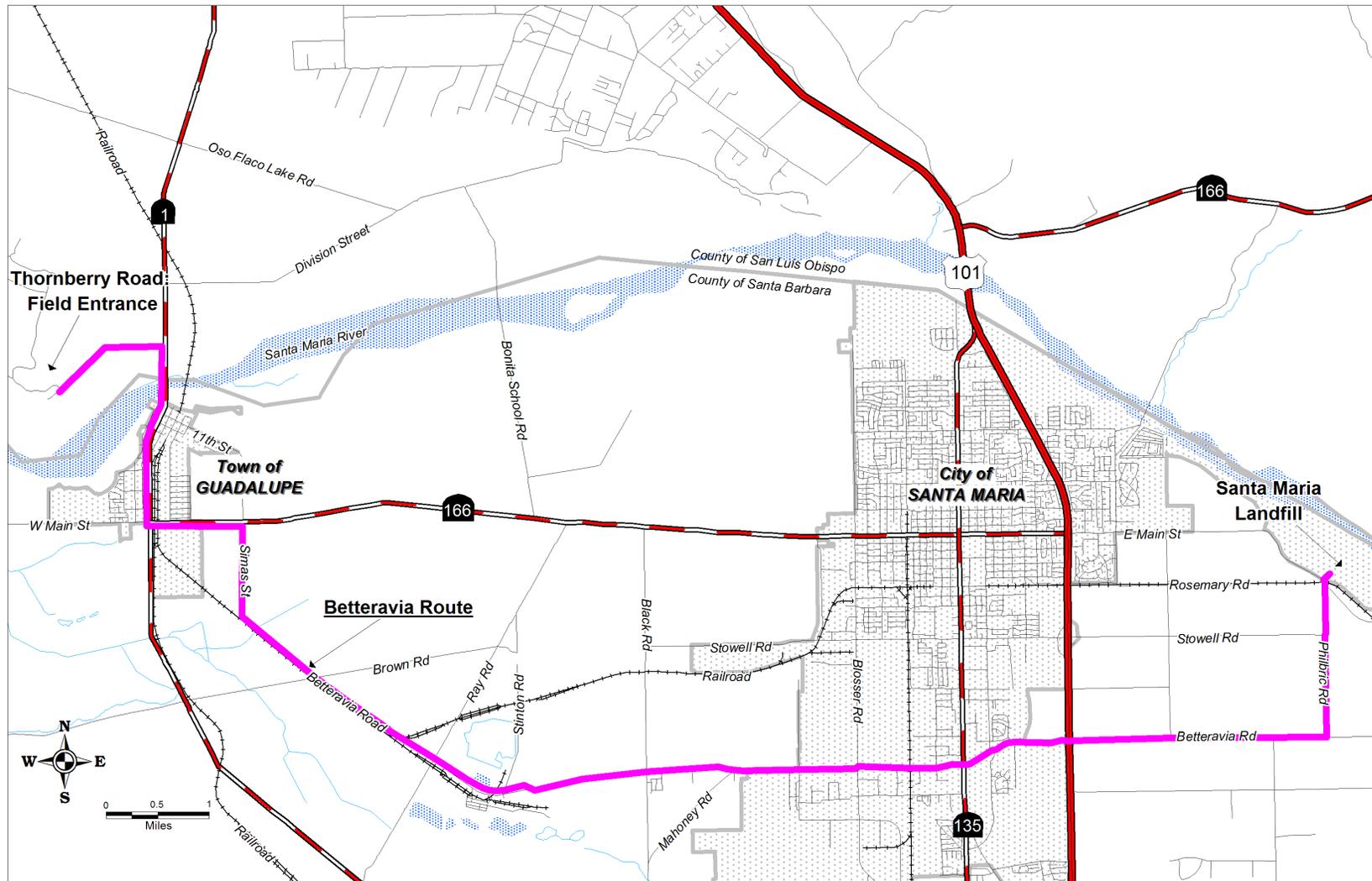
According to the JTD and the 2004 FSEIR, accepting impacted soils is consistent with the SMLF's intent to implement an expedited closure process at the SMLF by using the NHIS: (1) to achieve design grades and serve as the foundation layer of the final cover system for the existing active portion of the SMLF, and (2) for daily and intermediate cover material in the lined expansion areas of the SMLF. Various areas in California have an abundance of soils that are considered non-hazardous but that contain varying amounts of oil. The SMLF submitted sophisticated engineering studies to the RWQCB to determine what levels of oily soils would be acceptable for capping landfills. The City defines the soils that meet these approved levels as "non-hazardous hydrocarbon impacted soils," (NHIS). NHIS result from a century of oil production in many areas of the State, contain more soil than oil, and are not considered hazardous.

It is important to note that the SMLF continues to have the need for soil to close their remaining active cells. Remaining capacity for NHIS was calculated by the landfill coordinator in September 2013 as 1.5 million tons.

The SMLF began accepting NHIS in early 2003. As discussed in the 2007 Order, specific screening of the impacted soils is performed by the SMLF to determine its conformance to the RWQCB's acceptance criteria for each source of material entering the site. Only NHIS meeting the acceptance criteria are allowed for disposal in the SMLF.

Hauling of NHIS from the GRP began in August 2006 after San Luis Obispo County issued an amendment to CDP/DP D890558D to allow transport of up to 860,000 cubic yards of NHIS to the SMLF and to other approved sites if needed. As part of this permit amendment the Betteravia route was approved as the primary haul route. This route is shown in Figure 2. Hauling continued in 2012 with a new CDP/DP (DRC2011-00065) for an additional 500,000 cubic yards of NHIS. The NHIS material from the GRP has been sampled and analyzed in accordance with the SMLF load check program; results have been in compliance with the acceptance criteria as set forth by the RWQCB.

Figure 2 Betteravia Truck Route to the Santa Maria Landfill (Existing Preferred Route)



Source: Marine Research Specialists

1.2 Status on NHIS Quantities Trucked

Since CAO 98-38 was issued, excavations and cleanup activities required by the RWQCB and County of San Luis Obispo as part of the Phase I activities have been undertaken at the GRP.

Between August 2006 and the end of March 2014, CEMC has hauled approximately 977,660 cubic yards of NHIS to the SMLF. Approximately 400,000 cubic yards of this material was from stockpiles at the GRP site, which was associated with excavations and cleanup activities that occurred prior to beginning hauling in August 2011. The remaining approximately 577,660 cubic yards has been associated with excavations and road, pad and oil spray removal that have occurred since August 2006. To date, CEMC has excavated approximately 43 different sources, as part of Phase I of CAO 98-38. The NHIS material associated with all of these excavations was included in the 2005 SEIR and the 2012 Addendum that covered hauling to the SMLF and other disposal sites. Through the end of March 2014, CEMC has moved 59,261 truck loads of NHIS from the GRP site to the SMLF.

Since 2011, the peak number of truck trips per day between the GRP site and the SMLF has been forty (80 one-way trips), with the average being about 19 truck trips per day (38 one-way trips). No NHIS material has been transported to Buttonwillow since truck began in August 2006.

Once Phase I is complete, the RWQCB will determine if additional remediation efforts are needed at the GRP site as part of Phase II. At this time it is too early to tell what remediation work Phase II will entail. Once the RWQCB has determined the remediation requirements of any Phase II effort, CEMC will provide a conceptual scope for conducting the work. At that time, the County of San Luis Obispo will evaluate the projects to determine what, if any, additional environmental review is needed.

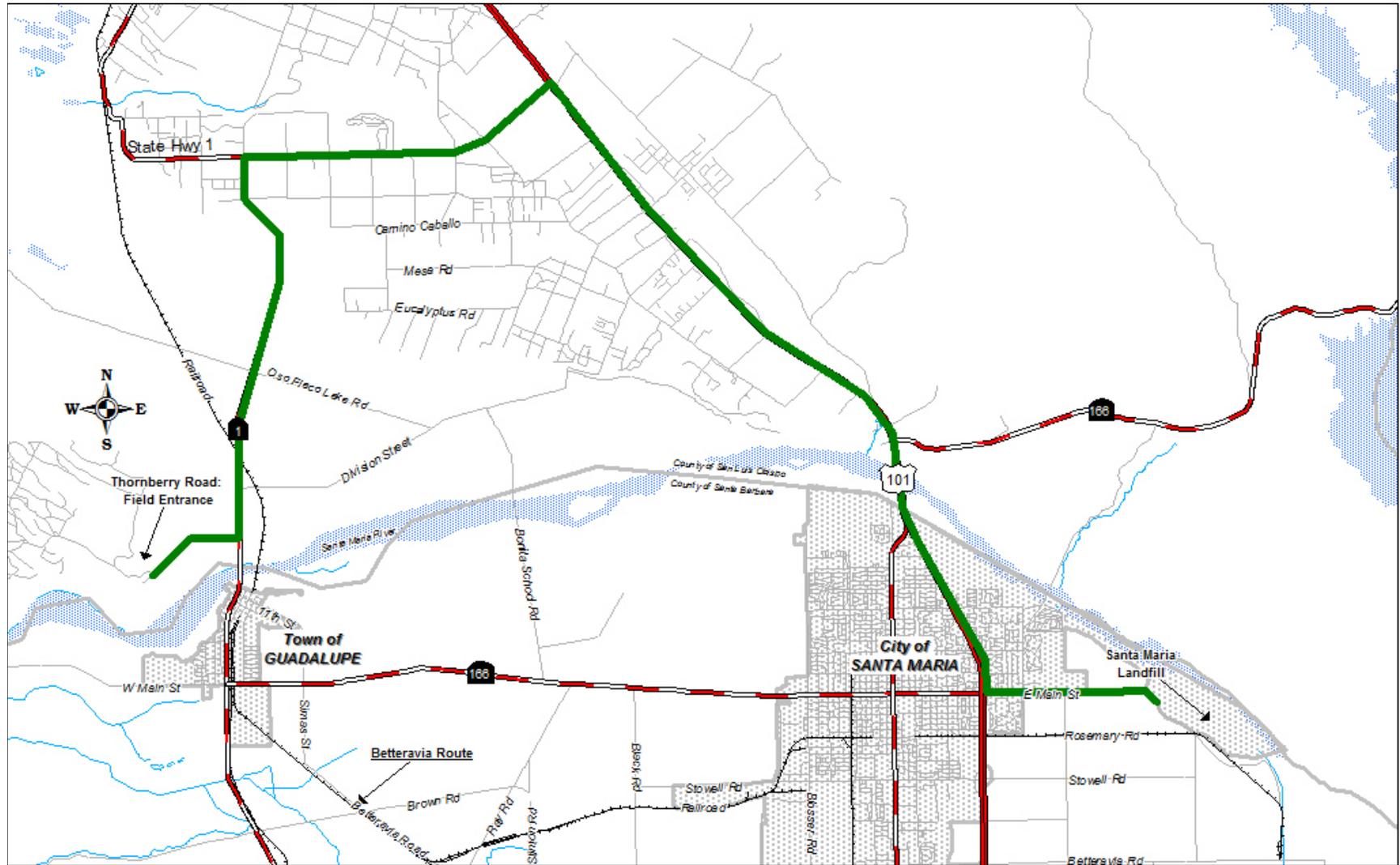
1.3 Summary of Proposed Project

CEMC on behalf of the landowner, Union UNOCAL is requesting to amend the previously approved Development Permit/Development Plan (CDP/DP) DRC2011-00065, to allow for a new trucking route between the Guadalupe Restoration Project (GRP) and the City of Santa Maria Landfill (SMLF). The new route proposes to use Willow Road as a new preferred hauling route as follows: Thornberry Road (Project site) to Highway 1, Highway 1 to Willow Road to the Willow Road/Highway 101 interchange, onto Highway 101 to East Main Street and on to the SMLF. The requested new preferred route is shown in Figure 3.

The proposed Willow Road route would add approximately six miles to the distance of a round trip haul trip; however, the proposed route is considered preferable to the existing Betteravia route because it avoids traveling through the City of Guadalupe and major portions of the City of Santa Maria, reducing haul times and improving traffic safety.

For the proposed project, CEMC would continue to conduct offsite trucking to the SMLF similar to current practices. To conduct this work, haul trucks would be brought onsite, loaded with NHIS, and then travel to the SMLF where the NHIS would be off-loaded.

Figure 3 Willow Road Truck Route to the Santa Maria Landfill (Proposed Preferred Route)



Source: Marine Research Specialists

The SMLF is a permitted, offsite, solid-waste-handling facility located in the Santa Maria City limits. NHIS is used at the SMLF to expedite the closure process. The NHIS achieves design grades and serves as the foundation layer of the final cover system for the SMLF cells. The environmental impacts associated with the placement of material at the SMLF were addressed in a Supplemental EIR prepared by the City of Santa Maria (May 2004). The 2004 FSEIR included a summary of the environmental impacts of using NHIS material from the GRP.

1.4 Objectives of the Project

Section 15124(b) of the CEQA Guidelines requires that the CEQA analysis discuss the objectives of the project. The objective of the proposed project is to revise the existing trucking route to use Willow Road as the preferred hauling route used to transport the NHIS material from the environmentally sensitive areas of the GRP Site and to move it to a location where it can be contained and controlled.

1.5 Purpose of the CEQA Addendum

In order to implement the project, CEMC is requesting a land use permit from the County of San Luis Obispo Planning and Building Department (SLOC or SLO County) to use Willow Road as the preferred hauling route from the GRP Site to the SMLF. SLO County has determined that an amendment to the previous Coastal Development Permit/Development Plan (CDP/DP) DRC2011-00065 would need to be completed for the revised trucking route.

SLO County, as the CEQA Lead Agency, will need to include this EIR Addendum in the record should the amended land use permit be approved.

Since the GRP site is in the Coastal Zone, decisions made by San Luis Obispo County regarding the land use permit can be appealed to the California Coastal Commission. Some of the project activities will take place within the coastal zone and are therefore, subject to the provisions of the San Luis Obispo County General Plan and Local Coastal Program (LCP), which was certified by the Coastal Commission in February 1998. After an LCP is certified, coastal development permit authority for new development within the coastal zone is returned to local government. However, the Coastal Commission retains direct permit authority for development activities (including remediation efforts) within portions of the coastal zone seaward of the mean high tide line, and over tidelands, submerged lands or public trust lands, as defined by the Coastal Act. Certain actions taken by the County in implementing the LCP remain appealable to the Coastal Commission in accordance with Section 30603 of the Coastal Act. CEMC's proposed GRP Site project activities are appealable to the California Coastal Commission.

The San Luis Obispo County Air Pollution Control District (APCD) will use this document for reviewing the impacts resulting from the revised hauling route. Modifications to the existing agreement per the Memorandum of Understanding (MOU) between San Luis Obispo County APCD, Santa Barbara County APCD and CEMC for mitigation of impacts from air emissions resulting from the revised hauling route will be needed in order to allow the transportation of the NHIS from the GRP Site to the SMLF along the new route.

1.6 Use of a CEQA Addendum

CEQA Guidelines Section 15164 specifies the circumstance under which an Addendum can be prepared for a project where there is a previous certified EIR, SEIR or Adopted Negative Declaration. This section of the guidelines states that an Addendum can be prepared unless one of the following conditions have occurred

- (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
- (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
- (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:
 - (A) The project will have one or more significant effects not discussed in the previous EIR or Negative Declaration;
 - (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;
 - (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
 - (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

As detailed in Chapter 3 of this Addendum, the impacts and mitigations in the 2005 SEIR and subsequent 2012 Addendum were based on the existing Betteravia truck route. The proposed project is to revise the existing trucking route to use Willow Road as the preferred hauling route used to transport the NHIS from GRP to SMLF. All other circumstances under which the project is being undertaken have remained the same.

There is no new information of substantial importance for the proposed project or the study area that would result in any significant effects not discussed in the 2005 SEIR and 2012 Trucking SEIR Addendum. None of the impacts associated with the proposed project have increased the severity of the impacts identified in the 2005 SEIR or the 2012 Trucking Addendum. In fact, the severity of some of the impacts would be reduced since the Willow Road hauling route avoids the City of Guadalupe, major portion of the City of Santa Maria, and a number of other sensitive

receptors.

All of the mitigation measures identified in the 2005 SEIR and and 2012 Trucking SEIR Addendum have been implemented via permit conditions and have been shown to mitigate the identified impacts, and as such are clearly feasible.

Section 3.0 of the Addendum provides an analysis of the impact of the proposed project and compares them to the impacts identified in the 2005 SEIR and the 2012 Trucking Addendum. The analysis in Section 3.0 shows that the proposed primary truck route change would not result in any new significant impacts, and would reduce the severity of some of the impacts identified in the 2005 SEIR and and 2012 Trucking SEIR Addendum. Therefore, the use of a CEQA Addendum was warranted.

2.0 Project Description

This Chapter of the Addendum provides a detailed description of the proposed project and provides a comparison with project aspects evaluated in the 2005 SEIR and 2012 Trucking Addendum. The project involves a revision to the truck route between GRP and the SMLF to use Willow Road as the preferred hauling route as follows: Thornberry Road (Project site) to Highway 1, Highway 1 to Willow Road to the Willow Road/Highway 101 interchange, onto Highway 101 to East Main Street and on to the SMLF (see Figure 3).

2.1 Off-site Trucking Operations Overview

Current trucking operations, as approved by SLO County in 2012 with the 2012 Trucking CEQA Addendum for the Guadalupe Oil Field Remediation and Abandonment Project and permits CUP#DRC2011-00065/ED12-007, hauls NHIS material from the GHP to the SMLF. The SMLF is located at 2065 E. Main Street, approximately 16 miles east of the GRP site. The total estimated capacity for NHIS at the SMLF is 1.5 million tons as of September 2013. The RWQCB has previously approved the SMLF to accept the GRP NHIS as part of the SMLF's NHIS Program.

Trucks are brought onsite and loaded with NHIS. Empty trucks stage along Thornberry Road if necessary. The trucks then travel to the SML where the NHIS material is off-loaded. Each haul truck would then return to the GRP site for reloading; typically making no more than four rounds trips per day, five days per week. Truck loading occurs during daylight hours, five days a week, and up to 50 weeks a year. Since 2011, the peak number of truck trips per day between the GRP site and the SMLF has been forty (80 one-way trips), with the average being about 19 truck trips per day (38 one-way trips).

Loaded trucks are weighed, or the weight is monitored using truck gauges or other method before leaving the site to help ensure that they are not loaded above legal capacity. To reduce dust during transport, built-in cover assemblies or tarps are placed over the NHIS in the trucks prior to their departure from the site. Water trucks spray onsite traffic areas for dust control during loading and hauling operations.

NHIS is hand broomed from truck exteriors and removed from tires using rumble mats. Rumble mats, or tread spreaders, are pads with a textured surface that separates the tread of the tires as the truck is driven over them. This allows the NHIS to fall out of the treads onto the mats. The mats would be of sufficient length to allow at least one complete revolution of the tires.

2.2 Current Primary Off-site Truck Route

Three routes proposed for transportation of the NHIS from the GRP site to the SMLF were analyzed in the 2005 SEIR. The Betteravia Route was selected as the preferred route and has been used for the hauling conducted to date with only rare exceptions due to traffic accidents, road repair, or other temporary road closures. Vehicles exit the GRP site at Thornberry Road to Highway 1, travel south on Highway 1 through the City of Guadalupe to Highway 166 (Main Street), east on Main Street to Simas Street, south on Simas Street to Betteravia, then east on Betteravia Road continuing over Highway 101 to Philbric Road, and north on Philbric Road to

the SML (see Figure 2).

The current primary offsite trucking route pass through the City of Guadalupe, and must cross the Highway 1/166 intersection, which includes an at grade crossing of the mainline rail tracks in close proximity to this intersection. The route also passes through a heavily developed area of the City of Santa Maria along Betteravia Road. Table 1 provides a comparison of the key logistical factors between the Betteravia Route and the proposed Willow Road route.

Logistic	Existing Betteravia Route	Proposed Willow Road Route
Stop Signs	7	3
Traffic Lights	8	5
Railroad Crossings	1	0
Crosswalks	11	2
Controlled Intersections	24	15
Uncontrolled Intersections	3	1
Critical Intersections	6	2
Total Miles (one way)	16.9 miles	19.9 miles
Estimated Travel Time (one way)	40-45 minutes	30-35 minutes
Percentage of Miles in Santa Barbara County	90%	20%

Back in 2005 and in 2012 the Willow Road route was not an option since the Willow Road/ Highway101 interchange had not be constructed. With the completion of this interchange, the Willow Road route offers a number of safety and logistical benefits to the currently approved Betteravia Route. As shown in this table, the Betteravia route has more critical intersections, including controlled and uncontrolled, as well as substantially more crosswalks.

2.2.1 Route to Buttonwillow Landfill

Vehicles traveling to Buttonwillow would use the same Willow Road Route to Highway 101, proceed southbound on Highway 101 to Highway 166 east, to Highway 33 north, to Highway 58 west. Buttonwillow would only be used for material that did not meet the SMLF acceptance criteria for NHIS. To date, no material has been transported to the Buttonwillow Landfill.

2.2.2 Detours

The approved Off-Site Transportation Plan has protocols that would be followed in case of unanticipated or planned closures of the approved routes. These protocols include use of detours established by emergency response personnel or alternative routes specified by the public works department due to road repair work on the approved routes. Road closures that required implementation of these protocols have occurred for very short periods of time a few times per year since hauling from the GRP site began and are proposed to be continued as part of the future hauling.

2.3 Proposed Project Off-Site Primary Trucking Route

The new route proposes to use Willow Road as a new preferred hauling route as follows: Thornberry Road (Project site) to Highway 1, Highway 1 to Willow Road to the Willow Road/Highway 101 interchange, onto Highway 101 to East Main Street and on to the SMLF (Figure 3).

The route to the Buttonwillow Landfill would also be revised under the proposed Project as follows: Thornberry Road (Project site) to Highway 1, Willow Road to the Willow Road/Highway 101 interchange, onto Highway 101 north to Highway 166 east, to Highway 33 north, to Highway 58 west.

No change in the current operations at the GRP, the amount of NHIS to be transported or number of truck trips currently permitted for transport to the SMRLF are proposed under the Project.

Table 1 presents a comparison of some of the logistical factors of the existing Betteravia Route and the proposed Willow Road Route.

3.0 Environmental Assessment

This Chapter discusses the environmental impacts of CEMC's request to use Willow Road as a new preferred hauling route for the transportation of NHIS from the GRP to the SMLF. Furthermore, it compares these impacts to what was identified in the 2005 SEIR and 2012 Trucking SEIR Addendum to determine if there are any new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

This comparative analysis has been undertaken using a California Environmental Quality Act (CEQA) checklist adapted from the County of San Luis Obispo Initial Study Checklist and the environmental checklist form presented in Appendix G of the CEQA Guidelines. The checklist form, in this capacity, is used to assess the effects of all elements of the proposed project revisions and to compare them to the impacts identified in the 2005 SEIR and the 2012 Trucking SEIR Addendum.

For this checklist, the following designations are used:

1. **New Potentially Significant Effect:** The Project revision could potentially have a new significant effect on the environment that was not identified in the 2005 SEIR and 2012 Trucking Addendum.
2. **Impact Has Been Mitigated:** Mitigation has been provided in the 2005 SEIR and included in SLO County Coastal Development Permit/Development Plan (CDP/DP) D890558D and 2012 Trucking Addendum permit (DRC2011-00065) conditions to reduce the project revision impact to less than significant levels. The new CDP/DP permit will include these conditions with some minor revisions to reflect the new route.
3. **Insignificant or No Impact:** Project revision impacts would be less than significant or have no impact.
4. **Impact is Less Than or the Same as the 2005 SEIR/2012 Trucking Addendum:** The impact identified for the project revision is same or less than that identified in the 2005 SEIR and 2012 Trucking Addendum.

The GRP operations are required to comply with SLO County CDP/DP D890558D and DRC2011-00065, which includes a large number of permit conditions. A number of these permit conditions are applicable to the hauling activities. This analysis has assumed that the applicable permit conditions are part of the project since CEMC must comply with these conditions. The County CDP/DP includes a number of monitoring and compliance conditions. The County permit requires that an Onsite Environmental Coordinator (OEC) be present at the GRP site to monitor compliance with the County permit conditions. The OEC works closely with CEMC, the County and other regulatory agencies to assure the activities associated with the GRP are done in compliance with the various permit conditions.

The remainder of this Chapter provides the environmental analysis for each of the issue areas covered by the 2005 SEIR and the 2012 Trucking SEIR Addendum.

3.1 Aesthetics

<i>Will the project:</i>	New Potentially Significant	Impact has been Mitigated	Insignificant or No Impact	Less than or Same as SEIR/ 2012 Addendum
a) <i>Create an aesthetically incompatible site open to public view?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
b) <i>Introduce a use within a scenic view open to public view?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
c) <i>Change the visual character of an area?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
d) <i>Create glare or night lighting which may affect surrounding areas?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
e) <i>Impact unique geological or physical features?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
f) <i>Other: _____</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Setting

The proposed Project revises the trucking route to use Willow Road as a new preferred hauling route as follows: Thornberry Road (Project site) to Highway 1, Highway 1 to Willow Road to the Willow Road/Highway 101 interchange, onto Highway 101 to East Main Street and on to the SMLF. As compared to the route evaluated in the 2005 SEIR and 2012 Trucking SEIR Addendum, the Willow Road route avoids the City of Guadalupe and major portions of the City of Santa Maria, both highly sensitive view areas. The Willow Road route is a well-established travel corridor with a recently completed interchange onto Highway 101.

2005 SEIR/2012 Addendum Summary

The 2005 SEIR and 2012 Trucking Addendum found that the trucking of NHIS would not result in any visual impacts along the trucking routes.

Impact Discussion

a, b, c. The aesthetic impacts from trucking would be similar to those evaluated in the 2005 SEIR and the 2012 Trucking Addendum but at a decreased level due the route avoiding the City of Guadalupe and major portions of the City of Santa Maria, which include a greater number of receptors/ residences. In addition, the 2005 SEIR and the 2012 Trucking Addendum analyses were based on 150 and 120 truck trips per day, respectively. Truck trips from the GRP to the SMLF have averaged 38 round trips per day since 2011. Trucking activities would not: 1) create an aesthetically incompatible site open to public view, 2) introduce a new use within a scenic view open to public view, or 3) change the visual character of an area.

This is the same finding as the 2005 SEIR and 2012 Trucking Addendum. Therefore, the use of the Willow Road route for the preferred truck hauling would not result in a new significant impact or increase the severity of the impact identified in the previous environmental analysis.

d. The trucking activities only occur during daylight hours and no new lighting is proposed. Therefore, there would be no new nighttime glare or lighting associated with the project. This impact would not apply.

e. No aspect of the project would impact unique geological or physical features. The Willow Road route is a well-established travel corridor. All of the project sites are currently in use and

would not be modified. Therefore, this impact would not apply to the project route revision.

Conclusions

Due to the fact that the proposed Project trucking route avoids the City of Guadalupe and major portions of the City of Santa Maria, the aesthetic impacts associated with the project would be less than what was identified in the 2005 SEIR and 2012 Trucking Addendum. The proposed Project would not result in any new significant impacts or increase the severity of any of the identified impacts.

3.2 Agricultural Resources

<i>Will the project:</i>	New Potentially Significant	Impact has been Mitigated	Insignificant or No Impact	Less than or Same as SEIR/ 2012 Addendum
a) <i>Convert prime agricultural land to, per NRCS soil classification, non-agricultural use?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
b) <i>Convert Prime Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
c) <i>Impair agricultural use of other property or result in conversion to other uses?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) <i>Conflict with existing zoning for agricultural use, or Williamson Act program?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
e) <i>Other: _____</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Setting

The proposed Project revises the trucking route to use Willow Road as a new preferred hauling route as follows: Thornberry Road (Project site) to Highway 1, Highway 1 to Willow Road to the Willow Road/Highway 101 interchange, onto Highway 101 to East Main Street and on to the SMLF. A large portion of both the existing Betteravia haul route and the proposed Willow Road route, as well as staging areas along Thornberry Road, are bordered by active farming operations. Thornberry Road is surrounded by an area designated as Prime Farmland. Willow Road is currently used as a trucking haul route for other area facilities such as the Conoco Phillips Santa Maria Refinery located on the Nipomo Mesa.

2005 SEIR/2012 Addendum Summary

An evaluation of traffic impacts in the 2005 SEIR found that the maximum number of truck trips (which used a total of 150 trips per day) would not have an effect on agricultural operations. The 2012 Addendum analysis, with the evaluation based on 120 truck trips per day, also concluded the truck trips would not impact agricultural operations. Truck trips from the GRP to the SMLF have averaged 38 round trips per day since 2011.

The 2005 SEIR also identified Important Farmland along the proposed truck haul routes, however; no formal complaints have been submitted to the County or CEMC from any of the landowners during the seven years of hauling that has taken place along the existing haul routes.

Impact Discussion

a. and, b. The proposed project would not result in the conversion of agricultural or farm land to

a non-agricultural land use. Therefore, these impacts would not apply to the proposed project.

c. The proposed project includes truck trips in the vicinity of the Thornberry Road staging area, which could limit access to agricultural areas and limit movement of agricultural crops and equipment in the area. This potentially significant impact was identified in the 2005 SEIR and mitigation was proposed that would apply to the proposed project. Since the current average number of peak daily truck trips (38) is less than the number evaluated in the 2005 SEIR (150) and the number analyzed in the 2012 Trucking Addendum (120), the severity of the impact would be less than what was identified in the previous studies. Permit Conditions included in San Luis Obispo County CDP/DP D890558D (i.e., Conditions 17, 18, 19, and 20) and DRC2011-00065 (Conditions 14 and 15) will remain in effect to assure that this impact is mitigated to a *less than significant level*. The permit conditions in CDP/DP D890558D and DRC2011-00065 are provided in Chapter 4 of the Addendum.

d. The proposed project would not result in conflicts with existing zoning or the Williamson Act program. Therefore, this impact would not apply to the proposed project.

Conclusions

The agricultural resource impacts associated with the project would be the same or less than what was identified in the 2005 SEIR and the 2012 Trucking CEQA Addendum and would not result in any new significant impacts or increase the severity of any of the identified impacts.

3.3 Air Quality

<i>Will the project:</i>	New Potentially Significant	Impact has been Mitigated	Insignificant or No Impact	Less than or Same as SEIR/ 2012 Addendum
a) <i>Violate any state or federal ambient air quality standard, or exceed air quality emission thresholds as established by County Air Pollution Control District?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) <i>Expose any sensitive receptor to substantial air pollutant concentrations?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
c) <i>Create or subject individuals to objectionable odors?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
d) <i>Be inconsistent with the District's Clean Air Plan?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
e) <i>Result in a cumulatively considerable net increase of any criteria pollutant either considered in non-attainment under applicable state or federal ambient air quality standards that are due to increased energy use or traffic generation, or intensified land use change?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
GREENHOUSE GASES				
f) <i>Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) <i>Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

<i>Will the project:</i>	New Potentially Significant	Impact has been Mitigated	Insignificant or No Impact	Less than or Same as SEIR/ 2012 Addendum
<i>h) Other:</i> _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Setting

The proposed Project revises the trucking route to use Willow Road as a new preferred hauling route. The 2005 SEIR and the 2012 Trucking CEQA Addendum identified emissions from trucking as an air quality concern. As part of the trucking operations approved under the 2005 SEIR, CEMC entered into a Memorandum of Understanding (MOU) with San Luis Obispo (SLO) County APCD and Santa Barbara (SB) County APCD for mitigation of impacts from air emissions resulting from the hauling activities. This MOU was updated as part of the 2012 Trucking Addendum.

SLO and SB Counties are located within the Air Resources Board-designated South Central Coast Air Basin. SLO and SB Counties are in attainment for all State air quality standards with the exception of the State 1-hour and 8-hour ozone standards and the State particulate matter (PM₁₀/PM_{2.5}) standards. SLO County is also classified as non-attainment with the Federal ozone standards in the eastern portion of the County.

Western Kern County is located in the Air Resources Board-designated San Joaquin Valley (SJV) Air Basin. This basin stretches 300 miles long. The air basin has eight counties spread across 25,000 square miles. SJV is in non-attainment with the State 1-hour and 8-hour ozone standards and the State particulate matter (PM₁₀/PM_{2.5}) standards. SJV is also in non-attainment with the Federal 8-hour ozone standard, and the Federal PM_{2.5} standard.

Ambient air quality monitoring for criteria pollutants is conducted at numerous sites throughout the state. Ambient air quality in the three counties is generally good (i.e., within applicable ambient air quality standards), with the exception of particulate matter (PM) with an aerodynamic diameter of ten microns or less (PM₁₀/PM_{2.5}), and ozone (O₃).

2005 SEIR/2012 Addendum Summary

The 2005 SEIR evaluated the emissions associated with trucking to the SMLF as well as other disposal sites in Kern and Kings Counties including Buttonwillow, which is located in the Western Kern County. The 2012 Trucking CEQA Addendum calculated emissions from the next phase of the project for the hauling of an additional 500,000 cubic yards of NHIS. The 2012 analysis used a reduced daily truck trip number of 120 as opposed to the 150 evaluated in the 2005 EIR and the Betteravia Road route as the primary haul route.

The 2012 Trucking Addendum determined that while the peak day and annual emissions would be considered significant based upon the SLOAPCD operational thresholds, the emissions were less than what was analyzed in the 2005 SEIR. The potentially significant impact was identified in the 2005 SEIR and mitigation was proposed that would apply to the proposed project as part of that EIR Addendum. Since the number of peak daily truck trips and average annual trips were less than those analyzed in the 2005 SEIR, the severity of the impact was determined to be less than what was identified in the 2005 SEIR.

Potential health risks associated with exhaust from diesel powered trucks were evaluated in the 2005 SEIR and reevaluated in 2012 for the additional trucking activities. The 2012 Trucking Addendum concluded that due to the decrease in actual hauling activity, the continued trucking would result in less of a health risk as compared to the estimate calculated in the 2005 SEIR.

Impact Discussion

a. Emissions from the proposed Willow Road haul route were estimated in an updated report (*Willow Road Hauling Route Updated Emissions Calculations and Health Risk Assessment Screening, Padre Associates, March 2014*) attached as Appendix A. The report utilized actual fleet and hauling activity characteristics over the last 1.5 years and applied them to the existing Betteravia Road and Willow Road haul routes. The updated emission calculations included the following:

- Reduced soil transportation data including reduced number of hauling days and reduced annual truck trips.
- Cleaner truck fleet.
- Willow Road haul route distance is about six miles longer than the existing Betteravia route.
- Emissions occurring in SLO County were estimated separately from emissions occurring in SB County.

Emissions were estimated assuming trucks with 17-cubic yards transportation capacities for both the existing Betteravia Road and proposed Willow Road haul routes to the SMLF. Summaries of the trucking emissions to the SMLF are presented in Table 2.

As presented in Table 2, both the actual emissions for the Betteravia Road route for the 2012-2013 time period and the estimated emissions for the proposed Willow Road haul route are less than previously calculated and permitted under the 2005 SEIR and 2012 Trucking Addendum.

Mitigation measures provided in the 2005 SEIR and the 2012 Trucking Addendum were designed to reduce air quality impacts (i.e., Conditions 13, 15, 16, and 26 of CDP/DP D890558D and 10, 11, 12, and 13 of DRC2011-00065) and would apply to the proposed Project to assure this impact is *less than significant*. The permit conditions in CDP/DP D890558D and DRC2011-00065 are provided in Chapter 4 of this Addendum.

b. As part of the updated air quality report for the proposed Willow Road Route, a screening health risk assessment was completed (*Willow Road Hauling Route Updated Emissions Calculations and Health Risk Assessment Screening, Padre Associates, March 2014*), Appendix A. The updated report concluded that the receptors along the Willow Road were within similar distances as those along the Betteravia route and would receive less exposure to diesel emissions due to the following factors:

- There are seven school sites along the Betteravia route as compared to no school sites on the Willow Road route.
- There are more controlled intersections, as opposed to stop sign intersections, along the Willow Road route resulting in less stop and go traffic and thus, less idling of truck engines, and reduced emissions generated with reduced accelerations.
- The recently completed Willow Road extension/interchange allows for increased traffic flow

which results in an increase in fuel efficiency and, thus, less truck emissions.

- The Willow Road route contains vegetative buffers between the road and adjacent residences, vegetative buffers are standard mitigation to reduce roadway emissions to nearby receptor sites.
- A review of the recently completed health risk assessment for the Conoco Philips Throughput Increase Project indicated a less than significant impact for similar hauling activities along a Willow Road and Highway 101 trucking route. The Conoco Philips Refinery truck hauling had a cancer risk of 4.6 in a million with 51 round trips per day. The average number of round trips per day for Guadalupe Project has been about 19. The cumulative impacts of these truck trips from the refinery and the Guadalupe project would result in a cancer risk of 6.3 in a million, which is less than the SLOAPCD threshold of 10.0 in a million. This assumes that the Guadalupe Trucks have no control for diesel particulate emissions, which as discussed below, and is considered a conservative assumption.
- Diesel particulate matter from diesel emissions, a primary risk driver for health risk, has been significantly reduced by the implementation of Diesel Particulate Filters (DPFs). Fifteen of the 21 hauling trucks at the GRP have been retrofitted with DPFs.
- Overall diesel emissions from hauling trucks have been reduced by 83% from the estimates calculated in the previous environmental documents completed for the GRP.
- The number of facilities identified by the San Luis Obispo APCD as a source of toxic air contaminants (AB2588 facilities) is significantly reduced along the Willow Road as compared to the existing Betteravia route. The 2005 SEIR identified 30 AB2588 facilities along the Betteravia route, two such facilities are located along the proposed Willow Road route.

Therefore, potential cumulative impacts associated with potential exposure to truck transportation diesel exhaust and TACS from AB2588 facilities are considered to be less than estimated in the 2005 SEIR and 2012 Trucking Addendum and *less than significant*.

c. All of the trucks are required to be covered during transportation, which would reduce the potential for odors. Therefore, the project would have no odor impacts, which is the same finding as the 2005 SEIR and the 2012 Trucking Addendum.

d. The Memorandum of Understanding (MOU) between San Luis Obispo County APCD, Santa Barbara County APCD and CEMC that is in place for the trucking operations assures that the project is consistent with the Clean Air Plan. If necessary, the MOU may be revised to account for the Willow Road proposed haul route, which will assure consistency with the Clean Air Plan. This was the same finding as the 2005 SEIR and 2012 Trucking Addendum.

e. As listed in Table 2 above, both the actual emissions for the Betteravia Road route for the 2012-2013 time period and the estimated emissions for the proposed Willow Road haul route are less than previously calculated and permitted under the 2005 SEIR and 2012 Trucking Addendum. Therefore, the proposed Willow Road route would not result in a cumulatively considerable net increase of any criteria pollutant considered in non-attainment under an applicable state or federal ambient air quality standard.

Table 2 Trucking Emission Summary – 2012-2013 Actual Emissions and Proposed Willow Road Route

2012-2013 ACTUAL Trucking Emission Summary - Santa Maria Landfill															
Source	Peak Day Emissions, lbs/day						Annual Emissions, Tons/yr								
	ROG	CO	NO _x	SO ₂	PM ₁₀	PM _{2.5}	ROG	CO	NO _x	SO ₂	PM ₁₀	PM _{2.5}	N2O	CH4	CO2
Within SLO County															
Truck Loading	1.43	7.23	10.94	0.01	0.26	0.26	0.09	0.47	0.71	0.00	0.02	0.02	0.00	0.01	100
HHDT Trucks - Onsite Hauling (M3 to Main Gate)	0.25	0.97	4.20	0.00	0.13	0.12	0.01	0.06	0.24	0.00	0.01	0.01	0.00	0.00	34
HHDT Trucks - Offsite Hauling - Main Street Route	0.14	0.75	3.32	0.00	0.13	0.12	0.00	0.00	0.18	0.00	0.01	0.01	0.00	0.00	27
HHDT Trucks - Offsite Hauling: Betteravia Route	0.14	0.75	3.32	0.00	0.13	0.12	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	2
Peak within SLO County	1.83	8.94	18.55	0.01	0.52	0.50	0.11	0.53	1.15	0.00	0.03	0.03	0.00	0.01	162.08
Within Santa Barbara County															
HHDT Trucks - Offsite Hauling - Main Street Route	1.36	7.30	32.39	0.00	1.31	1.20	0.07	0.40	1.76	0.00	0.07	0.07	0.00	0.00	260
HHDT Trucks - Offsite Hauling: Betteravia Route	1.30	6.99	31.03	0.00	1.25	1.15	0.00	0.02	0.10	0.00	0.00	0.00	0.00	0.00	14
Peak within Santa Barbara County	1.36	7.30	32.39	0.00	1.31	1.20	0.08	0.42	1.85	0.00	0.07	0.07	0.00	0.00	274.33
Total All Counties															
Total Maximum Emissions	3.19	16.24	50.94	0.01	1.83	1.70	0.19	0.95	3.00	0.00	0.11	0.10	0.01	0.01	436
2012 Total All Counties: Maximum Emissions	6.71	32.13	133.39	0.01	5.26	4.89	0.40	1.74	6.58	0.00	0.26	0.25	0.01	0.03	916
Total Emission Reductions Per Year	3.52	15.89	82.45	0.00	3.44	3.19	0.21	0.79	3.58	0.00	0.15	0.15	0.00	0.02	479.59

¹ Willow Road Route Updated Emissions Calculations and Health Risk Assessment Screening, Padre Associates, March 2014

Willow Road Trucking Emission Summary - Santa Maria Landfill¹

Source	Peak Day Emissions, lbs/day						Annual Emissions, Tons/yr								
	ROG	CO	NO _x	SO ₂	PM ₁₀	PM _{2.5}	ROG	CO	NO _x	SO ₂	PM ₁₀	PM _{2.5}	N2O	CH4	CO2
Within SLO County															
Truck Loading	1.43	7.23	10.94	0.01	0.26	0.26	0.09	0.47	0.71	0.00	0.02	0.02	0.00	0.01	99.73
HHDT Trucks - Onsite Hauling (M4 to Main Gate)	0.16	0.62	3.25	0.00	0.05	0.05	0.01	0.04	0.18	0.00	0.00	0.00	0.00	0.00	33.42
HHDT Trucks - Offsite Hauling Willow Street Route	0.56	3.32	23.00	0.00	0.32	0.30	0.03	0.18	1.24	0.00	0.02	0.02	0.00	0.00	243.32
HHDT Trucks - Offsite Hauling Betteravia/Main Route	0.06	0.35	2.44	0.00	0.30	0.03	0.0002	0.0010	0.0069	0.0000	0.0001	0.0001	0.0000	0.0000	1.3564
Total within SLO County	2.15	11.17	37.18	0.01	0.63	0.06	0.13	0.69	2.15	0.00	0.04	0.04	0.00	0.01	377.83
Within Santa Barbara County															
HHDT Trucks - Offsite Hauling Willow Street Route	0.19	1.11	7.70	0.00	0.11	0.10	0.01	0.06	0.42	0.00	0.01	0.01	0.00	0.00	81.74
HHDT Trucks - Offsite Hauling Betteravia/Main Route	0.55	3.31	22.93	0.00	0.32	0.29	0.0017	0.0101	0.0702	0.0000	0.0010	0.0009	0.0002	0.0002	13.7486
Total within Santa Barbara County	0.55	3.31	22.93	0.00	0.32	0.29	0.01	0.07	0.49	0.00	0.01	0.01	0.00	0.00	95.49
Total All Counties															
Update Total All Counties: Maximum Emissions	2.34	12.28	44.88	0.01	0.74	0.70	0.14	0.76	2.63	0.00	0.04	0.04	0.01	0.01	473
2012 Total All Counties: Maximum Emissions	6.71	32.13	133.39	0.01	5.26	4.89	0.40	1.74	6.58	0.00	0.26	0.25	0.01	0.03	916
TOTAL EMISSIONS REDUCTIONS	4.37	19.86	88.52	0.00	4.53	4.19	0.26	0.98	3.95	0.00	0.22	0.21	0.00	0.02	442.68

¹ Willow Road Route Updated Emissions Calculations and Health Risk Assessment Screening, Padre Associates, March 2014

f. and, g. Emissions from the proposed Willow Road haul route were estimated in an updated report (*Willow Road Hauling Route Updated Emissions Calculations and Health Risk Assessment Screening, Padre Associates, March 2014*), Appendix A. As noted above, the report utilized actual fleet and hauling activity characteristics over the last 1.5 years and applied them to the existing Betteravia Road and Willow Road haul routes. Table 2 includes a tabulation of the total greenhouse gas (GHG) as emissions for the existing Betteravia route and the proposed Willow Road route.

Table 2 shows that due to the emission reduction factors noted in Section a. above, the actual GHG emissions for the 2012-2013 trucking period from the existing Betteravia route were less than calculated in the previous environmental reviews. The GHG emissions calculated for the Willow Road route in Table 2 indicate that GHG emissions will be substantially less than the existing Betteravia route. Therefore, the impacts would be considered *less than significant*.

The level of GHG emissions would also be less than the 10,000 annual metric tons of CO₂ equivalent and “Bright Line” threshold of 1,150 annual metric tons of CO₂ equivalent established as interim thresholds by the SLOAPCD. It would also be less than the 10,000 annual metric tons of CO₂ equivalent established as the threshold by the Santa Barbara County APCD. San Joaquin Valley APCD has not established GHG emission thresholds for transportation projects, only for fixed facilities. Therefore, the impacts would be considered *less than significant*.

Conclusions

The air quality and GHG impacts associated with the project would be the same, or less than what was identified in the 2005 SEIR and the 2012 Trucking Addendum and would not result in any new significant impacts or increase the severity of any of the impacts.

3.4 Biological Resources

<i>Will the project:</i>	New Potentially Significant	Impact has been Mitigated	Insignificant or No Impact	Less than or Same as SEIR/ 2012 Addendum
a) <i>Result in a loss of unique or special status species* or their habitats?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
b) <i>Reduce the extent, diversity or quality of native or other important vegetation?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
c) <i>Impact wetland or riparian habitat?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
d) <i>Interfere with the movement of resident or migratory fish or wildlife species, or factors, which could hinder the normal activities of wildlife?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
e) <i>Conflict with any regional plans or policies to protect sensitive species, or regulations of the California Department of Fish & Wildlife or U.S. Fish & Wildlife Service?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
f) <i>Other:</i> _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

* Species – as defined in Section 15380 of the CEQA Guidelines, which includes all plant and wildlife species that fall under the category of rare, threatened or endangered, as described in this section.

Setting

The habitat located adjacent to the existing Betteravia and proposed Willow Road haul routes to the SMLF, and to the alternative Buttonwillow Landfill, are predominantly agricultural fields, industrial, and/or urban areas which typically do not provide suitable habitat for most biological resources. Some limited open areas and stream and drainage crossings do support denser vegetation, riparian habitats, and wetland resources which provide resources for greater densities and varieties of biological resources including some sensitive species. There is also a Monarch Butterfly wintering site located near Highway 1 in the vicinity of the Trilogy development. However, all of these more biologically important areas already experience high levels of traffic.

2005 SEIR/2012 Addendum Summary

The 2005 SEIR evaluated traffic impacts and found that the maximum number of truck trips (which used a total of 150 truck trips per day) would not have an effect on biological resources in the vicinity of the haul routes. The 2012 Trucking Addendum, based on a reduced number of truck trips per day, and using the same Betteravia haul route concluded that biological impacts would be less than was analyzed in the 2005 SEIR.

Impact Discussion

a. and, c. The habitat adjacent to the proposed haul route between the GRP site and the SMLF is predominantly agricultural fields, residential, and industrial or urban areas. These areas, in general, do not provide suitable habitat for most biological resources. However, portions of the haul route along Highway 1, Willow Road, and Highway 166 (Buttonwillow route) contain wetlands, vernal pool, and open grassland habitats, which support numerous plant and wildlife species and potentially support several species with special status including California tiger salamander and western spadefoot toad. As noted above, the 2005 EIR and 2012 Trucking Addendum concluded that impacts to all biological resources adjacent to the existing haul routes were *less than significant*. Since trucking started in 2006 there have been no spills or impacts to biological resources associated with the trucking operations. The GRP Offsite Transportation Plan contains a section on contingency planning and response for potential spills as required by Permit Condition 4 of CDP/DP D890558D. The Offsite Transportation Plan was updated in May 2014 to include the proposed Willow Road Route. The updated Offsite Transportation Plan has to be approved by the County of San Luis Obispo, the County of Santa Barbara, the City of Santa Maria, and Caltrans. Due to the similar habitat along the proposed Willow Road route, the potential for impacts to Biological Resources would be expected to be less than was analyzed in the 2005 EIR and similar to that analyzed in the 2012 Trucking Addendum.

b. The proposed project does not include the removal of any vegetation, and therefore would not reduce the extent, diversity or quality of native or other important vegetation. This impact would not apply to the proposed project.

d. and, e. The proposed project does not include the construction of any facilities that would introduce barriers to movement of resident or migratory fish or wildlife species. Since the trucks associated with the proposed project would use existing roads, they would not hinder the normal activities of wildlife nor conflict with any regional plans or policies to protect sensitive species, or regulations of the California Department of Fish & Wildlife or U.S. Fish & Wildlife Service. These impacts would not apply to the proposed project revisions.

Conclusions

The biological resource impacts associated with the proposed project would be the same or less than what was identified in the 2005 SEIR and 2012 Trucking CEQA Addendum. The proposed Willow Road haul route would not result in any new significant impacts or increase the severity of any of the biological impacts.

3.5 Cultural Resources

<i>Will the project:</i>	New Potentially Significant	Impact has been Mitigated	Insignificant or No Impact	Less than or Same as SEIR/ 2012 Addendum
a) <i>Disturb archaeological resources?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
b) <i>Disturb historical resources?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
c) <i>Disturb paleontological resources?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
e) <i>Other: _____</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Setting

The trucking of NHIS material from the GRP site to the SMLF on the proposed Willow Road route would not involve any construction related activities. The proposed trucking route uses existing roads and no new infrastructure would be built. Therefore, the proposed revised trucking route would not disturb any pre-historic, historic, or paleontological resources.

Impact Discussion

a, b and ,c. The proposed Willow Road truck route would not increase direct or indirect impacts on cultural resources within the vicinity of the haul route. No ground disturbances are proposed for the use of the existing well-travelled Willow Road haul route. No changes in the currently permitted activities at the GRP are proposed. Therefore, continued truck traffic in the vicinity of any potential cultural resources along the proposed haul routes would not constitute a change in the existing environment.

Conclusions

The cultural resource impacts associated with the project would be the same or less than what was identified in the 2005 SEIR and 2012 Trucking CEQA Addendum and would not result in any new significant impacts or increase the severity of any of the impacts.

3.6 Geology and Soils

<i>Will the project:</i>	New Potentially Significant	Impact has been Mitigated	Insignificant or No Impact	Less than or Same as SEIR/ 2012 Addendum
a) <i>Result in exposure to or production of unstable earth conditions, such as landslides, earthquakes, liquefaction, ground failure, land subsidence or other similar hazards?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
b) <i>Be within a California Geological Survey “Alquist-Priolo” Earthquake Fault Zone”, or other known fault zones*?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

<i>Will the project:</i>	New Potentially Significant	Impact has been Mitigated	Insignificant or No Impact	Less than or Same as SEIR/ 2012 Addendum
c) <i>Result in soil erosion, topographic changes, loss of topsoil or unstable soil conditions from project-related improvements, such as vegetation removal, grading, excavation, or fill?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
d) <i>Include structures located on expansive soils?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
e) <i>Be inconsistent with the goals and policies of the County's Safety Element relating to Geologic and Seismic Hazards? Change the drainage patterns where substantial on- or off-site sedimentation/ erosion or flooding may occur?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
f) <i>Preclude the future extraction of valuable mineral resources?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
g) <i>Other:</i> _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*Per Division of Mines and Geology Special Publication #42

Setting

No ground disturbances are proposed for the Willow Road truck route; therefore, truck traffic in the vicinity of any potential geological resources along the proposed haul route would not constitute a change in the existing environment. Similar to most other areas within California, the project area is subject to several types of seismically induced geologic hazards, including ground shaking, liquefaction, landslides, and tsunamis. Ground shaking can occur as a result of small to moderate earthquakes, which can be common in the region.

Impact Discussion

a. The proposed project is associated with trucking activities and would not result in any ground disturbance activities that would result in exposure to or production of unstable earth conditions, such as landslides, earthquakes, liquefaction, ground failure, land subsidence or other similar hazards. Therefore, this impact would not apply to the project.

b. No new structures are proposed as part of the project revisions, and would not be within a California Geological Survey Earthquake Fault Zone. Therefore, this impact would not apply to the project.

c and, d. Truck traffic along the Willow Road haul route would not introduce any additional disturbed areas or new structures which could cause disruptions or modifications to existing areas. None of the activities associated with the proposed trucking activities would cause erosion, topographic changes, loss of topsoil or unstable soil conditions. The proposed trucking operations would not result in any vegetation removal, grading, excavation, or fill. Therefore, these impacts would not apply to the project.

e. Since the proposed project would not result in the construction of any facilities, it would be consistent with the County's Safety Element relating to Geologic and Seismic Hazards. This is the same finding as in the 2005 SEIR and the 2012 Trucking CEQA Addendum.

f. The project would not have any impact on future extraction of valuable mineral resources since no new land would be developed as part of the project. Therefore, this impact would not apply.

Conclusions

The geological resource impacts associated with the project would be the same or less than what was identified in the 2005 SEIR, the 2012 Trucking CEQA Addendum, and would not result in any new significant impacts or increase the severity of any of the impacts.

3.7 Hazards and Hazardous Materials

<i>Will the project:</i>	New Potentially Significant	Impact has been Mitigated	Insignificant or No Impact	Less than or Same as SEIR/ 2012 Addendum
a) <i>Create a hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) <i>Create a hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) <i>Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼-mile of an existing or proposed school?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
d) <i>Be located on, or adjacent to, a site which is included on a list of hazardous material/waste sites compiled pursuant to Gov't Code 65962.5 ("Cortese List"), and result in an adverse public health condition?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
e) <i>Impair implementation or physically interfere with an adopted emergency response or evacuation plan?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
f) <i>If within the Airport Review designation, or near a private airstrip, result in a safety hazard for people residing or working in the project area?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
g) <i>Increase fire hazard risk or expose people or structures to high wildland fire hazard conditions?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
h) <i>Be within a 'very high' fire hazard severity zone?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
i) <i>Be within an area classified as a 'state responsibility' area as defined by CalFire?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
j) <i>Other: _____</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

The proposed Project revises the trucking route to use Willow Road as a new preferred hauling route. In the past, CEMC has been trucking NHIS to the SMLF via the Betteravia route. There have been no truck accidents or release of NHIS material to date from this trucking activity.

The transportation of NHIS from the GRP to the SMLF increases truck traffic on local area

streets and presents the potential for an associated increase in risks to other drivers and pedestrians on those local streets. NHIS is soil (in the case of the GRP, mostly sand) that contains various levels of hydrocarbons (i.e., NHIS). The material does not represent a flammable or explosive hazard. The hazards associated with a potential NHIS spill include contamination of surface water in the unlikely event that the spill occurs in a surface water body. Also, in the unlikely event of a truck accident there is the possibility of a diesel spill from the truck's fuel tank. The Offsite Transportation Plan was updated in May 2014 to include the proposed Willow Road Route. The updated Offsite Transportation Plan has to be approved by the County of San Luis Obispo, the County of Santa Barbara, the City of Santa Maria, and Caltrans.

Since trucking began in 2006, there have been no truck accidents or spills associated with the GRP trucking operations.

Regarding fire protection and emergency response, the preferred project route is within two fire responsibility areas. Within SLO County, the route is within a State Responsibility Area (SRA), which falls under the responsibility and jurisdiction of CalFire. Within San Luis Obispo County, Cal Fire is responsible for wildland fire protection of almost 1.5 million acres within the County. When the route enters the city limits of Santa Maria the route then falls within the City's Local Responsibility Area (LRA). Fire protection and responsibility jurisdiction would then fall under the City of Santa Maria Fire Department.

2005 SEIR/2011 Addendum Summary

Transportation hazards are related to those components of a project where there is the possibility of a traffic accident resulting from the increased level of traffic on the local area roadways due to the project. This traffic increase would be primarily associated with increases in traffic associated with truck transportation of NHIS. The 2005 SEIR calculated a truck traffic fatality frequency value based on 860,000 annual truck trip miles and the mitigation measures included as Permit Conditions in San Luis Obispo County CDP/DP D890558D. The mitigated fatality frequency rate calculated in the SEIR was less than the significant threshold of 1×10^{-3} fatalities per year (one change in 1,000 per year).

The 2012 Trucking Addendum included a similar calculation using a revised number for annual truck trip mileage of 350,000 based on actual daily average truck trips (40) over the previous five year period. Because the annual truck trip mile total evaluated in the 2012 Trucking Addendum was less than half the value analyzed in the SEIR, the severity of the impact was also determined to be less than the significant threshold for fatalities per year.

Impact Discussion

a. and, b. Truck loading occurs during daylight hours, five days a week, and up to 50 weeks a year. The first trucks leave the site at around 8:00 AM, with the last trucks leaving no later than 3:15 PM. Since 2011, the peak number of truck trips per day between the GRP site and the SMLF has been forty (80 one-way trips), with the average being about 19 truck trips per day (38 one-way trips). The NHIS is hauled in trucks holding about 17-cubic yards.

The proposed project Willow Road haul route would add about six truck-miles per round trip over the existing Betteravia Road haul route. Based on the trucking schedule used in the 2012

Trucking Addendum of 5 days per week, 50 weeks per year, and an average of 40 truck trips per day, the proposed Willow Road route would equate to the potential for 425,000 annual truck miles per year or less than half the annual truck miles analyzed in the 2005 SEIR. Since the total annual miles would be less with the proposed Willow Road route than the total analyzed in the 2005 SEIR, the severity of the impact would be less than what was identified in the 2005 SEIR.

The Willow Road route would avoid the City of Guadalupe and major portions of the City of Santa Maria and no school sites along the route as opposed to seven along the Betteravia Road route. The route would also reduce the number of intersections crossed and would avoid the crossing of the rail road tracks at the Highway 1 and Highway 166 intersection in the City of Guadalupe. These changes would all serve to reduce the potential for truck accidents. The Willow Road route would still pass by residential areas along Willow Road and Highway 1, but the densities of the residential areas are less than the current Betteravia Route.

Since the total annual miles would be less with the proposed Willow Road route than the total analyzed in the 2005 SEIR, the severity of the impact would be less than what was identified in the 2005 SEIR. San Luis Obispo County permits CDP/DP D890558D and DRC2011-00065, contain permit conditions that would remain for the proposed project to assure this impact is *less than significant*. With the continued implementation of the permit conditions for trucking, the risk would be less than 1×10^{-3} fatalities per year (one change in 1,000 per years), which would be a less than significant impact. The proposed Willow Road route does not change any of the impacts associated with hauling of NHIS to the Buttonwillow Landfill.

The permit conditions in CDP/DP D890558D and DRC2011-00065 are provided in Chapter 4 of the Addendum.

c. There are no school sites located on or within one quarter mile of the proposed Willow Road route. This impact would not apply to the project.

d. The project is not on or adjacent to any facility on the “Cortese List”. This impact would not apply to the project.

e. The project would involve the continuation of trucking of NHIS to the SMLF and, as needed, to the Buttonwillow Landfill. All trucking would occur on existing roads and highways. No new roads or facilities would be built. Therefore, the project would not interfere with emergency response or evacuation planning. This impact would not apply to the project.

f. The project does not involve any activities near airports, so there would be no safety risk associated with airport flight patterns. This impact would not apply to the project.

g., h., and i. The project would involve the continuation of trucking of NHIS to the SMLF and, as needed, the Buttonwillow Landfill. All trucking would occur on existing roads and highways that are maintained by state and local road crews. No new roads or facilities would be built as part of the project. The CalFire Fire Hazard Severity Zones map identifies areas of the proposed route as moderate to high fire severity zones, no section of the route is identified with a very high fire hazared severity zone designation. The NIHS material is primarliy sand and red rock, and is not considered to be flammable. Therefore the material being transported via truck would not respresnt a fire hazard. The fire hazard from the trucking operation would be assoicated with the

diesel fuel used by the trucks. The fuel has the potential to cause a fire in the event of a truck accident that leads to a spill of fuel. However as discussed in the hazards section this is considered an unlikely event, and the likelihood of the event would not change from what was analyzed in the 2012 Addendum. Also, since trucking started in 2006 there have been no accidents associated with the Guadalupe Trucking operations. Therefore, the project would not increase fire hazards or expose people or structures to high fire hazard conditions.

Conclusion

The hazards and hazardous material impacts associated with the project would be the same or less than what was identified in the 2005 SEIR and 2012 Trucking Addendum and would not result in any new significant impacts or increase the severity of any of the impacts.

3.8 Noise

<i>Will the project:</i>	New Potentially Significant	Impact has been Mitigated	Insignificant or No Impact	Less than or Same as SEIR/ 2012 Addendum
a) <i>Expose people to noise levels that exceed the County Noise Element thresholds?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
b) <i>Generate permanent increases in the ambient noise levels in the project vicinity?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
c) <i>Cause a temporary or periodic increase in ambient noise in the project vicinity?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
d) <i>Expose people to severe noise or vibration?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
e) <i>If located within the Airport Review designation or adjacent to a private airstrip, expose people residing or working in the project area to severe noise levels?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
f) <i>Other: _____</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

Noise is defined as unwanted sound that is heard by people or wildlife and that interferes with normal activities or otherwise diminishes the quality of the environment. Sources of noise may be transient (e.g., the passing of a train or aircraft through the area) or continuous (e.g., the hum of distant traffic or the operation of air conditioning equipment). Sources of noise may have a broad range of sounds and may be generally nondescript or have a specific, readily identifiable sound, such as a car horn. The sources of noise may also be steady or impulsive. These characteristics all bear on the perception of the acoustic environment.

Major sources of noise in the study region near the Guadalupe-Nipomo Dunes Complex include occasional passing aircraft and trains and recreational activities, such as off-road vehicles, northwest of Oso Flaco Lake. Along the transportation routes for both the existing Betteravia route, and the proposed Willow Road route, the noise sources include mainly the vehicles on the roadways.

2005 SEIR/2012 Addendum Summary

Noise impacts from traffic were estimated in the 2005 SEIR. The Betteravia route was also assessed in 2012 as part of the 2012 Trucking Addendum. The 2005 SEIR found that under the worst-case scenario of 300 Average Daily Traffic (ADT) (one-way trips) or 38 peak-hour trips

between the GRP site and the SMLF, noise levels along the proposed haul route would increase by less than 3 dBA. This was found to be a less than significant impact. With the 2012 Addendum, the worst-case scenario was reduced from 300 to 240 Average Daily Traffic (ADT) (one-way trips), which would decrease the level of noise impact. Therefore, the impact of the continued trucking approved under the 2012 Trucking Addendum was determined to be less than significant, and less severe than what was analyzed in the 2005 SEIR.

The Betteravia Route passes close to a large number of sensitive noise receptors as it passes through the City of Guadalupe and portions of the City of Santa Maria. The route also passes within close proximity to seven schools.

Impact Discussion

a, b, c, and, d. Consistent with current trucking operations, noise would be generated offsite by the trucks hauling soil to the Santa Maria and Buttonwillow Landfills. The Willow Road route would eliminate the need for the trucks to pass through downtown Guadalupe and a major developed area of the City of Santa Maria. The Willow Road route would not pass close to any schools, compared with the Betteravia route, which passes close to seven schools. The Willow Road route would still pass by residential areas along Willow Road and Highway 1, but the density of the residential areas is less than the current Betteravia Route.

Baseline noise data was recorded along Willow Road as part of the Phillips 66 Santa Maria Refinery Throughput Increase Project FEIR (October 2012 SCH #20081010111) and the Phillips 66 Company Rail Spur Extension Project DEIR (November 2013, SCH # 2013071028). These noise levels are shown in Table 3 below.

Location	Daytime Leq (dBA)	Evening Leq (dBA)	Nighttime Leq (dBA)	CNEL (dBA)	Noise Sources
Willow Road and Guadalupe Road	65.8	65	60.9	68.9	50 feet from Willow roadway centerline. Measurements taken June 21, 2011 by MRS (2012)
Mesa Vu Storage Adjacent to Mondella Street	59.7	56.3	49.3	64.8	100 feet from Hwy 1 centerline. Measurements taken January 27-29, 2014 by SRA (2014)
1918 Eucalyptus Road (near Highway 1 south of Willow)	48.7	46.5	38.6	54.1	500 feet from Hwy 1 centerline. Measurements taken January 27-29, 2014 by SRA (2014)

To assess the noise impacts associated with the proposed Willow Road route, the Federal Highway Administration (FHWA) Transportation Noise Model (TNM) version 2.5 was utilized (See Appendix B- *Guadalupe Trucking Noise Assessment – Highway 1/Willow Road Route, MRS, March 2014*). The TNM allows for the input of traffic levels by vehicle type (autos, medium duty trucks, heavy duty trucks, buses and motorcycles), vehicle speed, pavement type, time of day, roadway configuration, ground attenuation, vegetation arrangements and barrier configurations. The two segments most representative of the Willow route were selected for the

model: the portion of Willow Road between Highway 1 and Highway 101; and Highway 1 between Willow Road and Guadalupe.

Traffic data was recently gathered on these segments by Field Data Services of Arizona, on January 8th and 9th, 2014. The data was collected during the peak hours as well as over a 48 hour period. Traffic was categorized by speed as well as vehicle type. The traffic data gathering locations were along Willow Road east of Highway 1 and on Highway 1 north of Willow Road.

Although the Mesa Vu Storage location and the Highway 1 north of Willow Road location are located to the north of the Willow/Highway 1 interchange and are not on the proposed route, the traffic levels on Highway 1 north of Willow Road are assumed to be similar to traffic levels on Highway 1 south of Willow Road.

The Traffic model was run for both the current traffic levels and for the traffic levels with the additional 120 round trips per day associated with the Guadalupe project. Guadalupe project traffic was assumed to operate only during the daytime (between 7 a.m. and 7 p.m.) and would be heavy duty vehicles.

Table 4 below shows the modeled baseline noise levels and the noise levels with the additional Guadalupe project related traffic. Noise levels are estimated to increase by as much as 1.5 dBA Ldn.

Table 4 FHWA TNM Results: Baseline and Project					
Location	Baseline		With Project		Increase (dBA)
	Ldn At 50 feet (dBA)	Ldn At 100 feet (dBA)	Ldn At 50 feet (dBA)	Ldn At 100 feet (dBA)	
Along Willow Road	63.3	56.9	64.6	58.4	1.2 - 1.5
Along Highway 1	67.5	60.9	68.3	61.9	0.8 - 0.9
Federal Highway Administration (FHWA) Transportation Noise Model (TNM) version 2.5.					

Along Highway 1, the measured levels of noise produced a Community Noise Equivalent Level (CNEL) (approximately similar to Ldn) of 54.1 dBA at 500 feet from the roadway. As the roadway at this location is the dominant noise source for the area, this would correspond to a noise level at 50 feet from the roadway of 68.6 dBA Ldn, or similar to the level modeled using the TNM (67.5).

Along Willow Road, the noise model estimated noise somewhat lower than that measured (63.3 verses 68.9 dBA Ldn). However, the measurement location for the baseline data was taken at Willow Road near Highway 1, so that some influence from Highway 1 traffic (Highway 1 has higher traffic than Willow Road) would be expected. However, as the model is primarily used to

assess noise increases from increases in traffic, the results are still considered valid.

Noise level increases from the additional 120 round trips per day of heavy duty trucks would range from 0.8 dBA Ldn along Highway 1 to 1.5 dBA Ldn along Willow Road.

Note that all of the areas along the routes currently exceed the noise standard for transportation of 60 dBA Ldn (Noise Element Maximum Allowable Noise Exposure - Transportation Sources, 1992). Therefore, an increase of 3 dBA has been used to assess significance. The increased truck traffic associated with the Guadalupe project along the Willow route would produce noise increases less than the 3 dBA Ldn and would therefore be less than significant. The *Guadalupe Trucking Noise Assessment – Highway 1/Willow Road Route, MRS, March 2014* is attached as Appendix B.

e. The project does not involve any activities near airports, so there would be no safety risk associated with airport flight patterns. This impact would not apply to the project.

Conclusion

The noise impacts associated with the proposed project would be the same or less than what was identified in the 2005 SEIR and 2012 Trucking Addendum and would not result in any new significant impacts or increase the severity of any of the impacts. In addition, the Willow Road route avoids the Cities of Guadalupe and Santa Maria which significantly lowers the number of sensitive receptors along the route, including both higher density residential areas and schools.

3.9 Recreation

<i>Will the project:</i>	New Potentially Significant	Impact has been Mitigated	Insignificant or No Impact	Less than or Same as SEIR/ 2012 Addendum
a) <i>Increase the use or demand for parks or other recreation opportunities?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
b) <i>Affect the access to trails, parks or other recreation opportunities?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
c) <i>Other:</i> _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Setting

The proposed Project Willow Road route would travel past farm, ranch, residential area, and business land uses. These haul route land uses are similar to the nearby land uses along the current Betteravia trucking route. Both the existing route and the proposed route include Rancho Guadalupe Park and Oso Flaco Lake as nearby recreational sites. Because trucking related traffic would avoid direct access to most of the areas referenced above, impacts are anticipated to be minimal. There have been no formal complaints submitted to the County or CEMC from any of the recreational users since hauling began in August of 2006 along the Betteravia haul route. The 2012 Trucking CEQA Addendum analysis was based on a maximum of 120 truck trips per day, current trucking activities average 38 truck trips per day.

Impact Discussion

a. The proposed project would not increase demand or use of parks or other recreational opportunities. The proposed project is associated with the transportation of NHIS to the SMLF

and the Buttonwillow Landfill. The trucks used for these hauling operations have historically been in operations within the San Luis Obispo and northern Santa Barbara County areas, and would not represent new employment within the study area. Therefore, no new demand would be placed on parks or other recreational opportunities. This impact would not apply to the proposed project.

b. No new structures are proposed as part of the project. All trucking activities would use existing roads and highways. Therefore, the proposed project would not affect access to trails, parks or other recreation opportunities. This impact would not apply to the project.

Conclusions

The recreational impacts associated with the proposed project would be the same or less than what was identified in the 2005 SEIR and 2012 Trucking CEQA Addendum and would not result in any new significant impacts or increase the severity of any of the impacts.

3.10 Transportation and Circulation

<i>Will the project:</i>	New Potentially Significant	Impact has been Mitigated	Insignificant or No Impact	Less than or Same as SEIR/ 2012 Addendum
a) <i>Increase vehicle trips to local or areawide circulation system?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
b) <i>Reduce existing "Levels of Service" on public roadway(s)?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
c) <i>Create unsafe conditions on public roadways (e.g., limited access, design features, sight distance, slow vehicles)?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
d) <i>Provide for adequate emergency access?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
e) <i>Conflict with an established measure of effectiveness for the performance of the circulation system considering all modes of transportation (e.g. LOS, mass transit, etc.)?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
f) <i>Conflict with an applicable congestion management program?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
g) <i>Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
h) <i>Result in a change in air traffic patterns that may result in substantial safety risks?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
i) <i>Other: _____</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Setting

The proposed Project revises the trucking route to use Willow Road as a new preferred hauling route. In the past, CEMC has been trucking NHIS to the SMLF via the Betteravia route. The proposed haul route enters Highway 1 northbound from Thornberry Road to Willow Road, onto Highway 101 at the Willow Road/Highway 101 interchange, proceeds south on Highway 101 to the Betteravia exit, east on Main Street to Phibric Road to the SMLF.

Highway 1 is known as Cabrillo Highway in this area. Highway 1 is a primarily coastal highway under California State Department of Transportation (Caltrans) District 5 jurisdiction. In the vicinity of the project, Highway 1 connects to Highway 101 (Camino Real Freeway) north of the project site north of Pismo Beach in San Luis Obispo County. Highway 1 connects to Highway 101 freeway south of Buelleton and Lompoc south of the project site in Santa Barbara County. Willow Road connects Highway 1 and Highway 101 in and east/west direction via the recently completed Willow Road/Highway 101 interchange. Land uses along Willow Road include agricultural, commercial, and residential. Main Street east of Highway 101 is a four-lane road (two lanes in each direction) and Philbric Road is a rural two lane road to the SMLF.

The route to the Buttonwillow Landfill would follow the same Willow Road route to Highway 101 southbound. Trucks would travel southbound to Highway 166 east to Highway 33 north to Highway 58 west.

2005 SEIR/2012 Addendum Summary

The evaluation of traffic impacts in the 2005 SEIR found that the maximum number of truck trips (which used a total of 300 one-way truck trips per day) would not have an effect on roadway and intersection Levels of Service (LOS). The 2012 Trucking Addendum analyzed the continued use of the Betteravia Road route and found that the traffic and circulation impacts associated with the project would be the same, or less than what was identified in the 2005 SEIR and would not result in any new significant impacts or increase the severity of any of the impacts.

Impact Discussion

a, b and c. A Transportation Impact Analysis (*Transportation Impact Analysis for Willow Road Truck Route, Central Coast Transportation Consulting, March 2014*) was completed for the proposed project and is attached as Appendix C. The analysis evaluated five intersections during weekday AM and PM peak traffic periods. Average daily traffic (ADT) counts were collected on Highway 1 and Willow Road to determine the percentage of trucks using the proposed route. The five intersections were analyzed using traffic data collected in January 2014. Table 5 lists the Level of Service (LOS) for the five study intersections.

Intersection	Peak Hour	Existing LOS	Existing Plus Project LOS
Highway 1/Willow Road	AM	A	A
	PM	A	A
Pomeroy Road/Willow Road	AM	A	B
	PM	B	B
US 101South/Willow Road	AM	A	A
	PM	A	A
US 101North/Willow Road	AM	A	B
	PM	A	A
Highway 1/Thornberry Road	AM	A	A
	PM	A	A

Central Coast Transportation Consulting, March 2014. See Appendix C.

The City of Santa Maria has established LOS D as the minimum acceptable level of roadway operations (SMC 2011). The County of San Luis Obispo designates an LOS D level as acceptable for intersections. The State of California Department of Transportation (Caltrans) District 5 has established LOS D as the minimum acceptable level of roadway and intersection operations for urban areas and LOS C as the minimum acceptable level of service for roadways and intersection operations in rural areas.

All of the intersections are operating at LOS B or better. The 2014 Traffic Impact Analysis for the Willow Road truck route concluded the intersections studied in the analysis would operate acceptable based on Caltrans and County of San Luis Obispo criteria with the addition of the proposed project truck traffic.

Mitigation measures provided in the 2005 SEIR and the 2012 Trucking Addendum were designed to reduce the traffic impacts resulting from project-related truck trips. One of the measures required an update of the existing Traffic Control Plan that details specific truck trip vehicle routes, peak hour and route restrictions, road surface maintenance, and traffic safety. These measures were included as permit conditions in the San Luis Obispo County CDP/DP D890558D and DRC2011-00065 permits, which covered the previous approved trucking operations. These conditions (i.e., COA Conditions 5, 11 and 12 of CDP/DP D890558D and 8 and 9 of DRC2011-00065) of approval would be required for the proposed project.

d. The project would not involve the construction of any new facilities and would use existing roads and highways. Therefore, the project would have no impact on emergency access, and this impact would not apply.

e. and f. The project would not involve the construction of any new facilities and would use existing roads and highways. All of the intersections are operating at LOS B or better. The 2014 Traffic Impact Analysis for the Willow Road truck route concluded the intersections studied in the analysis would operate at acceptable levels based on Caltrans and County of San Luis Obispo criteria with the addition of the proposed project truck traffic. Therefore, the project would not conflict with the level of effectiveness of the circulation system or impact other modes of transportation such as mass transit. The Willow Road route is not part of a congestion management program, therefore, the impact would be less than significant.

g. The project would not involve the construction of any new facilities and would use existing roads and highways. Therefore, the project would not conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., pedestrian access, bus turnouts, bicycle racks, etc.) and this potential impact would not apply.

h. The project does not involve any air traffic components and is more than three miles from any airport. Therefore, safety impacts associated with changes in air traffic patterns would not apply.

Conclusions

The traffic and circulation impacts associated with the project would be the same, or less than what was identified in the 2005 SEIR and 2012 Trucking Addendum would not result in any new significant impacts or increase the severity of any of the impacts.

3.11 Water & Hydrology

<i>Will the project:</i>	New Potentially Significant	Impact has been Mitigated	Insignificant or No Impact	Less than or Same as SEIR/ 2012 Addendum
a) <i>Violate any water quality standards?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) <i>Discharge into surface waters or otherwise alter surface water quality (e.g., turbidity, sediment, temperature, dissolved oxygen, etc.)?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) <i>Change the quality of groundwater (e.g., saltwater intrusion, nitrogen-loading, etc.)?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
d) <i>Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide additional sources of polluted runoff?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
e) <i>Change rates of soil absorption, or amount or direction of surface runoff?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
f) <i>Change the drainage patterns where substantial on- or off-site sedimentation/ erosion or flooding may occur?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
g) <i>Involve activities within the 100-year flood zone?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
QUANTITY				
h) <i>Change the quantity or movement of available surface or ground water?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
i) <i>Adversely affect community water service provider?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
j) <i>Expose people to a risk of loss, injury or death involving flooding (e.g., dam failure, etc.), or inundation by seiche, tsunami or mudflow?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
k) <i>Other: _____</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Setting

The project would involve a revised primary haul route for the continued transportation of NHIS from the GRP site to the SMLF or the Buttonwillow Landfill. Since trucking began in August 2006, there have been no spills of NHIS or fuel along the various haul routes. The proposed Willow Road haul route is adjacent to agricultural and undeveloped fields, residential areas, and light industry. In addition to the surface water features within the GRP site, bodies of open water along the truck routes consist of drainage ditches from agricultural fields, seasonal ponds (vernal pools) that form in undeveloped fields following winter rain storms, the Twitchell Reservoir and a number of other surface streams. The types and number of open water bodies along the proposed Willow Road route is similar to the Betteravia Route.

2005 SEIR/2012 Addendum Summary

The 2005 EIR included a number of mitigation measures to address potential spills. A spill response plan was required for spills onsite or near the truck routes, and drivers were required to receive training in spill response procedures should an accidental release occur during transport. Drivers currently receive training about public safety precautions in the event of an accidental release or spill during transport. These mitigation measures were incorporated as permit conditions in the San Luis Obispo County CDP/DP D890558D (conditions 4, 5, 6, 7, 8) and DRC2011-00065 (conditions 2, 3, 4, 5, 6) which covered the previous approved trucking

operations. These permit conditions are included in Chapter 4 of this Addendum, and would be included in the new permit issued for the new haul route project.

Impact Discussion

a, b. NHIS material that adheres to the truck exteriors could fall off after the truck leaves the loading area and potentially contaminate surface water. To prevent this occurrence, trucks are swept with brooms (dry decontaminated) and run over rumble plates to remove the material before leaving the loading area. Also, containment and cleanup equipment is kept onsite during all loading and trucking activities. The County Onsite Environmental Monitor (OEC) monitors the effectiveness of decontamination methods and requires additional measures as needed.

An accident could result in the release of NHIS material being transported by a truck or a fuel spill, which could cause a hazard to surface water depending upon the location of the spill. This could potentially be a significant impact if the spill was to reach surface water.

Since the number of peak daily truck trips is less with the existing project than as analyzed in the 2005 SEIR, the severity of the impact would be 1) less than what was identified in the 2005 SEIR, and 2) the same as discussed in the 2012 Trucking Addendum. Current conditions of approval in San Luis Obispo County CDP/DP D890558D contain permit conditions (Conditions 4, 5, 7, and 8) that are required for the proposed project to assure this impact is *less than significant*. These same mitigation measures would apply to the proposed Willow Road Route.

The proposed hauling activities would not impact water movements or the direction of existing water. Continued hauling along the proposed Willow Road route would not change the amount of water in any surface water body nor alter the flow of surface waters, nor create a need for private flood control projects. It would not expose people or property to water related hazards. The proposed project would not alter the direction of groundwater. It would not overdraft groundwater basins nor cause groundwater degradation due to saltwater intrusion. The proposed project would not alter the amount of water currently available for public water supplies.

c. The proposed project would not use any groundwater and therefore would not result in any changes to quality of groundwater. This impact would not apply to the project.

d., e, f, and g. The proposed trucking would involve the use of existing roadways, and no new roadways or structures would be built that would affect the existing surface water runoff and drainage patterns, or result in any new impacts with the 100-year flood zone. Therefore, these impacts would not apply to the project.

h. Hauling along the proposed Willow Road route would not change the amount of water in any surface water body nor alter the flow of surface waters, nor create a need for private flood control projects. It would not expose people or property to water related hazards. The proposed project would not alter the direction of groundwater. This impact would not apply to the proposed project.

i. The proposed project would not use any community water service provider, so this impact would not apply.

j. The proposed project would not impact water movements or the direction of existing water.

Continued hauling along the proposed Willow Road route would not change the amount of water in any surface water body nor alter the flow of surface waters, nor create a need for private flood control projects. It would not expose people or property to water related hazards. This impact would not apply to the proposed project.

Conclusions

The water resource impacts associated with the proposed project would be the same or less than what was identified in the 2005 SEIR and the 2012 Trucking Addendum, and would not result in any new significant impacts or increase the severity of any of the impacts.

3.12 Land Use

<i>Will the project:</i>	Inconsistent	Potentially Inconsistent	Consistent	Same as SEIR/2012 Addendum
a) <i>Be potentially inconsistent with land use, policy/regulation (e.g., general plan [County Land Use Element and Ordinance], local coastal plan, specific plan, Clean Air Plan, etc.) adopted to avoid or mitigate for environmental effects?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
b) <i>Be potentially inconsistent with any habitat or community conservation plan?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
c) <i>Be potentially inconsistent with adopted agency environmental plans or policies with jurisdiction over the project?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
d) <i>Be potentially incompatible with surrounding land uses?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
e) <i>Other:</i> _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Setting

The proposed project would introduce no additional structures incompatible with existing land use and would not induce growth or concentrate population. The existing project involves the trucking of up to 500,000 cubic yards of NHIS material from the GRP site to the SMLF and possibly the Buttonwillow Landfill in Kern County. The proposed project is a revised haul route for this existing activity. No new road of infrastructure would need to be built as part of the proposed project.

The existing environment within the southern San Luis Obispo County and northern Santa Barbara County and eastern Kern County region contains a variety of natural landform features, including the Guadalupe-Nipomo Dunes Complex, the Santa Maria River, Twitchell Reservoir and related sensitive resource areas, such as Oso Flaco Lake and the Dune Lakes, and prime agricultural land.

Within this region, land uses include agriculture, coastal recreation, residential suburban and rural developments, including the City of Guadalupe, Callender-Garrett Village, and Palo Mesa Village, New Cuyama, Cuyama, Maricopa, Taft, and the Los Padres National Forest.

2005 SEIR/2012 Addendum Summary

As part of the 2005 SEIR process, a land use consistency analysis was conducted to address the impacts of trucking NHIS from the GRP site to various landfills including the SML and the Buttonwillow Landfill. The consistency analysis was based upon 150 peak daily truck trips (300 one-way trips per day). The consistency analysis found that the trucking operations were consistent with the applicable land use policies and regulations, and was compatible with the surrounding land uses. The revised project in 2012 reduced the peak daily truck trips to 120 (240 one-way trips per day) for the SMLF and 60 (120 one-way trips per day) for the Buttonwillow Landfill.

Impact Discussion

a, b, c, and d. When compared to the existing route, the revised Willow Road haul route 1) goes through similar land use types, 2) is located in the same general environment within the San Luis Obispo County, Santa Barbara County and Kern County regions, and 3) will have a reduced number of peak daily truck trips. Therefore, the proposed project would be consistent with the applicable land use policies and regulations as determined in the previous environmental analysis.

Conclusion

The land use impacts associated with the proposed project would be the same, or less than what was identified in the 2005 SEIR, the 2012 Trucking Addendum, and would not result in any new significant impacts or increase the severity of any of the impacts.

4.0 Summary of Existing Permit Conditions for the Project

This section of the Addendum provides a table listing the permit conditions that were part of the San Luis Obispo County Coastal Development Permit/Development Plan (CDP/DP) D890558D, issued in 2006 for trucking of material from the GRP site to the landfills and the permit conditions associated with the CDP/DP issued as part of the the 2012 Trucking Addendum. This table provides the 2006 permit conditon in the left column and the 2012 permit, revised as applicable, in the right column. The conditions from the 2012 permit (CUP/DP DRC2011-00065) would be carried forward with any new CDP/DP issued for the revised Willow Road trucking route.

2005 Trucking Permit Conditions CDP/DP D890558D	2012 Trucking Permit Conditions CUP/DP DRC2011-00065
Approved Development	
<p>1. This approval authorizes:</p> <p>a. Amendment of Coastal Development Permit/Development Plan D890558 to allow transport up to 860,000 cubic yards (cy) of Non-Hazardous Impacted Soil (NHIS), via truck, from the approximately 2,700-acre Guadalupe Oil Field (project site) to the City of Santa Maria Landfill (Landfill), and to allow for an increase in use of clean sand for backfill from the project, located at the Q4 dune borrow site over a two to four year period.</p>	<p>1. This approval authorizes:</p> <p>a. Issuance of a Coastal Development Permit/Development Plan to allow transport up to 500,000 cubic yards (cy) of Impacted Soil, via truck, from the approximately 2,700-acre Guadalupe Oil Field (project site) to the City of Santa Maria Landfill (Landfill), and the Buttonwillow Landfill (Buttonwillow) in Kern County, and to allow for an increase in use of clean sand for backfill from the project, located at the Q4 dune borrow site. Impacted soil transported to Buttonwillow shall be limited to 100,000 cy. Peak truck trips for Impacted Soil transportation shall be limited to 120 round-trips per day with no more than 60 round-trips per day to Buttonwillow.</p>
Surficial Geology and Coastal Geomorphology	
<p>2. Prior to any disturbance activities and/or removal of sand at the Q4 dune borrow site, edges of the excavation boundary at Q4 should be set back at least 8 meters (26 ft) from the present boundary of established vegetation on adjacent undisturbed slopes. Excavation edge boundary shall be physically delineated in a highly visible, maintainable, and in a no impact manner</p>	<p>Condition to remain the same.</p>
<p>3. During disturbance and/or sand removal activities at the Q4 dune borrow site, the position of the angular boundary at the top of the excavated dune area shall be monitored weekly in areas adjacent to the vegetation line while excavation is actively occurring, so that Condition of Approval No. 2 above is not violated.</p>	<p>Condition to remain the same.</p>
Surface And Groundwater Quality	
<p>4. Prior to issuance of construction permit, the applicant shall develop and implement response plans specifically addressing NHIS spills from haul trucks that include the following:</p>	<p>Condition remained the same as 2005 but was condition number 2.</p>

4.0 Summary of Permit Conditions

2005 Trucking Permit Conditions CDP/DP D890558D	2012 Trucking Permit Conditions CUP/DP DRC2011-00065
<ul style="list-style-type: none"> a. Explicit emergency notification procedures; b. Identification of a designated response team; c. Procedures for maintenance and clean-up of equipment onsite or near the haul truck route; and, d. Driver requirements for completion of the spill response training program. 	
<p>5. Prior to issuance of construction permit, the applicant shall revise the Traffic Control Plan to include the following traffic control measure:</p> <ul style="list-style-type: none"> a. Placing a flagman and traffic cones to prevent haul trucks from passing along narrow portions of the onsite route with non-paved shoulders; b. Creating turn-outs to minimize erosion from truck traffic; and, c. Installing temporary erosion control measures (e.g., silt fences) as needed, where there are construction activities, along truck routes to minimize dispersion of eroded soils. Added measures are to be implemented during road construction and trucking operations. 	Condition remained the same as 2005 but was condition number 3.
<p>6. During all pre-construction and construction activities, require licensed professional drivers to operate haul trucks and adhere to the Traffic Control Plan (refer to CDP/DP D890558D, Condition of Approval F.93).</p>	<p>4. During all pre-construction and construction activities, require licensed professional drivers to operate haul trucks and adhere to the Traffic Control Plan.</p>
<p>7. During construction activities, the applicant, in coordination with the County On-site Environmental Coordinator, shall monitor the effectiveness of current cleaning and decontamination methods for haul trucks leaving loading areas. If monitoring results indicate that the existing practice of using rumble-pads and tire-brushing is not effectively removing soil from haul trucks, the applicant shall implement additional and more effective truck cleanup procedures (e.g., washing each truck following loading, with collection and treatment of wash waters).</p>	Condition remained the same as 2005 but was condition number 5.
<p>8. During construction activities, the applicant, in coordination with the County On-site Environmental Coordinator, shall monitor ditches along Thornberry Road that drain agricultural fields and work with the applicable landowner/jurisdictional agency to repair any erosion related to haul truck staging or transport activities.</p>	Condition remained the same as 2005 but was condition number 6.
Biological Resources	
<p>9. Prior to issuance of construction permit, the applicant shall determine if road-widening activities are required. If so, the applicant shall mitigate loss</p>	Condition was removed since no road widening was required as part of this project. All truck route road widening at the GRP site has already occurred.

<p>2005 Trucking Permit Conditions CDP/DP D890558D</p>	<p>2012 Trucking Permit Conditions CUP/DP DRC2011-00065</p>
<p>of backdune habitat and sensitive plant species individuals and habitat and reduce impacts associated with the loss of habitat by implementing the restoration of an equal number of acres of backdune habitat at other currently disturbed or degraded locations within the project site (such as areas degraded by infestations of invasive species). The applicant shall implement habitat replacement using the guidelines of the approved Habitat Revegetation, Restoration, and Monitoring Plan (refer to CDP/DP D890558D, Condition of Approval F.64) for areas restored as a result of road widening. To minimize temporal losses, restoration shall be completed within 90 days after habitat removal disturbance. The restoration shall be bonded for prior to removal/disturbance of habitat.</p>	
<p>10. Prior to issuance conducting hauling activities along the Main Road Entrance wetlands or the M12/L11 Valley during the California red-legged frog migration/breeding season (November 1st through June 1st), the applicant shall revise the Sensitive Species Management Plan (SSMP) to include measures that would be implemented to protect California red-legged frogs, and other non-listed sensitive and common wildlife species potentially affected by hauling activities near known or potential habitat. The revised SSMP shall be approved by the USFWS, CDFG, and the County On-site Environmental Coordinator and shall include the following:</p> <ul style="list-style-type: none"> a. A permanent speed limit of 15 mph along the main haul road adjacent to dune swale wetlands in the M12/L11 Valley and the Entrance Road wetlands during the California red-legged frog breeding season (i.e., when it is raining, the roads are wet, or after daylight). Signs detailing speed limits shall be posted in appropriate locations along the route; b. Survey by biologists of the active portions of the haul route within 200 feet of sensitive resources, including the dune swale wetlands, at least four times per day during hauling activities when it is raining or the roads are wet; and, c. Halting of truck hauling activities on the roadways adjacent to dune swale wetlands during the California red-legged frog migration/breeding period if a substantial number of mortalities, identified in the revised SSMP, continue to occur along the haul route after implementing the above mitigation. Hauling activities can be re-initiated once 	<p>Condition remained the same as 2005 but was condition number 7.</p>

4.0 Summary of Permit Conditions

2005 Trucking Permit Conditions CDP/DP D890558D	2012 Trucking Permit Conditions CUP/DP DRC2011-00065
additional protective measures are determined and approved by the County OEC, USFWS and CDFG or for the duration of the specific migration event (as determined by the applicant and the County On-site Environmental Coordinator) to reduce wildlife mortality.	
Transportation and Circulation	
11. Prior to issuance of construction permit , the applicant shall update the existing Traffic Control Plan (refer to CDP/DP D890558D, Condition F.93) that details specific truck trip vehicle routes to the Landfill, peak hour and route restrictions, road surface maintenance, and traffic safety. The updated Traffic Control Plan shall be approved by the County of San Luis Obispo Department of Public Works in consultation with the County of Santa Barbara Public Works Department, Transportation Division.	8. Prior initiation of trucking activities , the applicant shall update the existing Traffic Control Plan (refer to CDP/DP D890558D, Condition F.93) that details specific truck trip vehicle routes to the Landfill, peak hour and route restrictions, road surface maintenance, and traffic safety. The updated Traffic Control Plan shall be reviewed and approved by the County (Planning, Public Works) only after the applicant has submitted preapproval evidence from Caltrans; and the Public Works Divisions of Santa Barbara County and the City of Santa Maria. The applicant shall follow the approved Plan for the duration of the remaining remedial work relating to off-site truck hauling.
12. During construction activities , haul truck traffic shall be restricted from travel between the project site and the Santa Maria Landfill on Betteravia Road between the hours of 4:30 p.m. and 5:30 p.m. (evening peak hour), except as otherwise approved by the County On-site Environmental Coordinator.	9. During construction activities , haul truck traffic shall be restricted from leaving the GRP site after 3:15 PM, except as otherwise approved by the County (includes county-designated on-site Environmental Coordinator). No trucking of material to the Landfill shall occur on Weekends or Holidays.
Air Quality	
13. Prior to issuance of construction permit , the applicant, in coordination with the APCD, shall update the APCD-approved Emission Reduction Plan to include the following additional mitigation measures: <ul style="list-style-type: none"> a. Development of a comprehensive construction activity management plan designed to minimize, as feasible, the amount of large construction equipment operating during any given time period; b. Scheduling of construction truck trips, as feasible, during non-peak hours to reduce peak hour emissions; c. Limiting the length of the construction work-day period, if necessary and feasible, during periods with high air pollutant levels; d. Phasing of construction activities, if appropriate and feasible. e. Use of direct injection (ID) diesel engines (or equivalent) together with proper maintenance and operation to reduce emissions of NO_x; f. Electrify equipment where feasible; g. Maintain all fossil-fuelled equipment in tune per manufacturer's specifications, except as otherwise required above; 	Condition remained the same as 2005 but was condition number 10.

<p align="center">2005 Trucking Permit Conditions CDP/DP D890558D</p>	<p align="center">2012 Trucking Permit Conditions CUP/DP DRC2011-00065</p>
<p>h. Encourage use of catalytic converters on gasoline-powered equipment;</p> <p>i. Substitute gasoline-powered for diesel-powered equipment, where feasible;</p> <p>j. Use compressed natural gas (CNG) or propane-powered portable equipment (e.g., compressors, generators, etc.) onsite instead of diesel-powered equipment, where feasible;</p> <p>k. All off-road and portable diesel-powered equipment, including but not limited to bulldozers, graders, cranes, loaders, scrapers, backhoes, generator sets, compressors, auxiliary power units, shall be fuelled exclusively with CARB-certified motor vehicle diesel fuel. Off-road equipment may use tax-exempt motor vehicle fuel if not operated on public roads;</p> <p>l. Maximize, to the extent feasible, the use of diesel construction equipment meeting the CARB's 1996 or newer certification standard for off-road heavy-duty diesel engines;</p> <p>m. All on and off-road diesel equipment shall not be allowed to idle for more than 5 minutes. Signs shall be posted in the designated areas to remind drivers of the 5-minute idling limit; and,</p> <p>n. Portable equipment with engines greater than 50 horsepower used during the activities covered under the Final SEIR may require California statewide portable equipment registration (issued by the CARB) or an APCD permit. Operational sources, such as backup generators, may also require APCD permits. To minimize potential delays, prior to start of the project, the Applicant shall contact the APCD representative for specific information regarding permitting requirements of these types of equipment.</p>	
<p>14. Prior to issuance of construction permit, the applicant shall fund an APCD managed air-emission-reduction program (AER Program) designed to achieve timely, real, quantifiable criteria and diesel PM reductions to offset project emissions. The Final SEIR estimates that the project's NOx emissions will be 90 tons. This estimate shall be refined by the applicant using actual vehicle fleet information as well as the scheduling that will be used for the proposed project. The refined estimate shall be submitted to the APCD for review and approval. The approved refined NOx emission estimate shall be used by APCD to set the necessary funding amount for the AER Program. Payment shall be submitted to the APCD in 4 quarterly payments, with the first payment commencing after the refined emission</p>	<p>11. Prior to issuance of construction permit, the applicant shall fund an APCD managed air-emission-reduction program (AER Program) designed to achieve timely, real, quantifiable criteria and diesel PM reductions to offset project emissions. The applicant shall calculate the NOx and ROG from hauling activities based upon vehicle fleet information and submit the emissions estimates to the APCD for review and approval. Payment for the AER Program shall be submitted to the APCD on a quarterly basis with the amount based upon the actual hauling completed during the previous quarter, or as otherwise agreed in a Memorandum of Understanding (MOU) with the APCD. These payments shall be made to the APCD until such time as the NHIS trucking operations under this permit are complete.</p>

4.0 Summary of Permit Conditions

2005 Trucking Permit Conditions CDP/DP D890558D	2012 Trucking Permit Conditions CUP/DP DRC2011-00065
estimate is approved and the total funding amount is finalized.	
<p>15. During construction activities, the applicant, in coordination with the County of San Luis Obispo Air Pollution Control District (APCD), shall update the APCD-approved Dust Control Plan to include additional mitigation measures if determined necessary by the County On-site Environmental Coordinator (OEC) that include the following:</p> <ul style="list-style-type: none"> a. If use of dry decontamination methods to remove impacted material from the exteriors of trucks used to haul NHIS offsite is not sufficiently removing the impacted material such that it is being tracked outside the loading area, install wheel washers where vehicles enter and exit public streets, or wash off trucks and equipment leaving the site; and, b. Sweep streets at the end of each day if visible soil material is carried by or spilled from the trucks hauling NHIS off the project site and deposited onto public roads. Water sweepers with reclaimed water should be used where feasible. 	Condition remained the same as 2005 but was condition number 12.
<p>16. During Construction activities, all truckloads hauling NHIS from the project site to the Santa Maria Landfill shall be tarped on all four sides to prevent any NHIS from leaving the truck during transport. Tarping shall be verified by the On-site Environmental Coordinator prior to trucks leaving the project site.</p>	<p>13. During Construction activities, all truckloads hauling NHIS from the project site to the Santa Maria Landfill or the Buttonwillow Landfill shall be tarped on all four sides to prevent any NHIS from leaving the truck during transport. Tarping shall be verified by the county-approved on-site Environmental Coordinator prior to trucks leaving the project site.</p>
Agricultural Resources	
<p>17. Prior to issuance of construction permit, the applicant shall delineate a “driveway” through the truck staging area, connecting Thornberry Road to the farm equipment staging area using construction stakes or other means. This driveway shall be at least 20 feet in width to allow for two-way traffic to and from the farm equipment staging area. Haul trucks shall be prohibited from blocking this driveway at all times.</p>	Condition was removed since the practice of establishing a driveway through the truck staging area connecting Thornberry Road to the farm equipment staging areas had already been completed.
<p>18. During construction activities that result in more than 100 haul truck round-trips per day, the applicant shall provide advanced notification (i.e., 1 week) to farmers adjacent to the Thornberry Road staging area.</p>	Condition remained the same as 2005 but was condition number 14.
<p>19. During construction, the applicant shall stockpile topsoil, generated through grading necessary to temporarily locate the farm equipment staging area along Thornberry Road, in a manner that will preserve the soil for later replacement.</p>	Condition was removed since the practice of establishing a driveway through the truck staging area connecting Thornberry Road to the farm equipment staging areas had already been completed and no topsoil was removed for this purpose.
<p>20. Upon completion of all NHIS hauling activities, the applicant shall return the farm equipment staging area to its original location along</p>	Condition remained the same as 2005 but was condition number 15.

4.0 Summary of Permit Conditions

2005 Trucking Permit Conditions CDP/DP D890558D	2012 Trucking Permit Conditions CUP/DP DRC2011-00065
Thornberry Road. Any temporary improvements made in the relocated farm equipment staging area shall be removed and any topsoil replaced.	
Public Safety	
21. During construction , the applicant shall implement a review system for truck carriers contracted to haul NHIS offsite to ensure that only those with the safest records can carry loads. The review system would include the following: <ol style="list-style-type: none"> a. A review of CHP Mister Reports; b. Ensuring correct Class licensing; c. Enrollment in a controlled substance and alcohol abuse program; d. Completion of Motor Carrier Safety Review type safety questionnaire; and, e. Assessment of Bureau of Motor Carrier Safety Ratings. 	Condition remained the same as 2005 but was condition number 16.
22. During construction , the applicant shall ensure that trucking companies contracted to haul NHIS offsite have programs in place to ensure that drivers maintain appropriate speeds. This would include the following: <ol style="list-style-type: none"> a. 55-mph maximum or applicable speed limit policy; and, b. Training on speeding and speed limits along the proposed route and/or speed control systems or governors in-place on trucks. 	Condition remained the same as 2005 but was condition number 17.
23. During construction , the applicant shall ensure that contracts made with trucking companies to haul NHIS offsite address safety reviews, speeding and violations, and unacceptable incentive practices, such as increased pay for increased numbers of loads that may be an incentive for drivers to act in an unsafe manner.	Condition remained the same as 2005 but was condition number 18.
On-going Conditions of Approval (valid for life of the project)	
24. This land use permit is valid for a period of 24 months from its effective date unless time extensions are granted pursuant to Land Use Ordinance Section 23.02.050 or the land use permit is considered vested. This land use permit is considered to be vested once a construction permit has been issued and substantial site work has been completed. Substantial site work is defined by Land Use Ordinance Section 23.02.042 as site work progressed beyond grading and completion of structural foundations; and construction is occurring above grade.	19. This land use permit is valid for a period of 24 months from its effective date unless time extensions are granted pursuant to Land Use Ordinance Section 23.02.050 or the land use permit is considered vested. This land use permit is considered to be vested once trucking begins under this permit.
25. All conditions of this approval shall be strictly adhered to, within the time frames specified, and in an on-going manner for the life of the project.	Condition remained the same as 2005 but was condition number 20.

4.0 Summary of Permit Conditions

2005 Trucking Permit Conditions CDP/DP D890558D	2012 Trucking Permit Conditions CUP/DP DRC2011-00065
<p>Failure to comply with these conditions of approval may result in an immediate enforcement action by the Department of Planning and Building. If it is determined that violation(s) of these conditions of approval have occurred, or are occurring, this approval may be revoked pursuant to Section 23.10.160 of the Land Use Ordinance.</p>	
<p>26. During construction activities, the applicant shall implement a manifest system for tracking each truck that leaves the Guadalupe site with NHIS. The manifest system shall include the license plate or other identification number of the truck, the load number, the date and the start and completion time for hauling. The weight ticket from the Santa Maria Landfill, which will document the time and arrival at the landfill and the weight of the material left at the landfill, will be attached to the copy of the manifest maintained at the Guadalupe site and made available for review by the County On-site Environmental Coordinator.</p>	<p>Condition was deleted since these requirements were included in the trucking plan that was approved by the County.</p>
<p>27. The applicant shall as a condition of approval of this conditional use permit defend, at his sole expense, any action brought against the County of San Luis Obispo, its present or former officers, agents or employees, by a third party challenging either its decision to approve this conditional use permit or the manner in which the County is interpreting or enforcing the conditions of this conditional use permit, or any other action by a third party relating to approval or implementation of this conditional use permit. This applicant shall reimburse the County for any court costs and attorney's fees which the County may be required by a court to pay as a result of such action, but such participation shall not relieve the applicant of his obligation under this condition.</p>	<p>Condition was removed.</p>

5.0 Acronyms

Acronyms	
ADL	Arthur D. Little
ADT	Average Daily Traffic
APCD	Air Pollution Control District
Caltrans	California State Department of Transportation
CCR	California Code of Regulations
CDP	Coastal Development Permit
CEMC	Chevron Environmental Management Company
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
CO ₂	Carbon Dioxide
COA	Conditions of Approval
CUP	Conditional Use Permit
DP	Development Plan
EIR	Environmental Impact Report
FHWA	Federal Highway Administration
FSEIR	Final Supplemental Environmental Impact Report
GHG	Green House Gases
GRP	Guadalupe Restoration Project
JTD	Joint Technical Document
LCP	Local Coastal Program
LOS	Level of Service
MOU	Memorandum of Understanding
MRS	Marine Research Specialists
NHIS	Non Hazardous Impacted Soils
OEC	Onsite Environmental Coordinator
PM ₁₀	Particulate Matter (10 microns or less)
PM _{2.5}	Particulate Matter (2.5 microns or less)
RWQCB	Regional Water Quality Control Board
SEIR	Supplemental Environmental Impact Report
SJV	San Joaquin Valley
SLO	San Luis Obispo
SMLF	Santa Maria Landfill
TNM	Transportation Noise Model
UNOCAL	Union Oil
WDR	Waste Discharge Requirements

6.0 References

Arthur D. Little, Inc. (ADL). 1998. *Guadalupe Oil Field Remediation and Abandonment Project Final Environmental Impact Report*. March, SCH#96051053

Marine Research Specialists (MRS). 2005. Guadalupe Oil Field Remediation and Abandonment Project. Supplemental Environmental Impact Report – Final. June 2005. SCH #1996051053.

Marine Research Specialists (MRS).2012. Trucking CEQA Addendum for the Guadalupe Oil Field Remediation and Abandonment Project, July 2012. ED12-007.

Appendix A
Willow Road Hauling Route Updated Emissions Calculations and
Health Risk Assessment Screening, Padre Associates, March 2014



ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

**WILLOW ROAD HAULING ROUTE
UPDATED AIR QUALITY EMISSION CALCULATIONS AND
HEALTH RISK ASSESSMENT SCREENING**

**GUADALUPE RESTORATION PROJECT
2184 WEST THORNBERRY ROAD,
GUADALUPE, SAN LUIS OBISPO COUNTY, CALIFORNIA**

Prepared For:
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY

March 3, 2014

March 3, 2014
Project No. 0901-2194

Chevron Environmental Management Company
2184 West Thornberry Road
Guadalupe, California 93434

Attention: Ms. Carri Douglas
Project Manager

Subject: Willow Road Hauling Route Updated Emissions Calculations and Health Risk Assessment Screening, Guadalupe Restoration Project, Guadalupe, San Luis Obispo California

Dear Ms. Douglas:

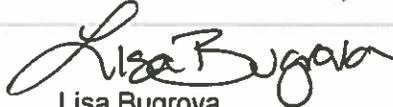
Padre Associates, Inc. (Padre) has prepared the following report to address potential air emissions for the Guadalupe Restoration Project's hauling of non-hazardous impacted soil (NHIS) to the Santa Maria Regional Landfill (SMRL) using a new proposed route referred to as the Willow Road Route. This report provides updated emission calculations using actual fleet and hauling activity characteristics over the last 1.5 years and applies the new characteristics to the proposed Willow Road hauling route. Padre has prepared this report using updated off-road equipment information provided by Entact LLC (Entact) and trucking fleet characteristics provided by Remedial Transportation Services (RTS). In addition, the report provides a screening analysis of the potential human health risks associated with hauling via the Willow Road route.

During the preparation of this analysis, Padre identified that emissions from ongoing operations are considerably lower than previously calculated. This report provides an additional discussion of these differences and identifies that Chevron has additional mitigation payment credit with the San Luis Obispo County and Santa Barbara County Air Pollution Control Districts. It is Padre's recommendation that Chevron request application of these credits toward future mitigation payments.

Please contact the undersigned if you have any questions or comments.

Sincerely,

PADRE ASSOCIATES, INC.



Lisa Bugrova
Permitting Coordinator



Ryan M. Zukor, P.G.
Principal

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APPENDIX

APPENDIX A: EMISSION CALCULATIONS

1.0 INTRODUCTION

Padre Associates, Inc. (Padre) has prepared this report at the request of Chevron Environmental Management Company (CEMC) to provide an updated evaluation of the air quality impacts associated with hauling up to a maximum of 500,000 cubic yards (cy) of non-hazardous impacted soil to the Santa Maria Regional Landfill (SMRL) from the Guadalupe Restoration Project (GRP), via a new route utilizing Highway 1 to Willow Road and Highway 101 (Willow Road route).

2.0 BACKGROUND

On August 30, 2012 the San Luis Obispo County Planning Commission approved DRC2011-00065 and certified an Addendum to a 2005 Supplemental Environmental Impact Report (SEIR) to haul up to 500,000 cubic yards of non-hazardous impacted soil (NHIS) offsite to the SMRL for use as cover material. The 2012 approval used the same primary hauling routes analyzed in the 2005 EIR, which involved traveling through the cities of Guadalupe and Santa Maria from the Project Site. During the review of the 2012 Addendum to the 2005 SEIR, the Willow Road route was undergoing construction, and therefore was not included in the review and approval process of the 2012 Addendum.

Based on a review of the current road conditions between the GRP and the SMRL and traffic infrastructure completion of the Willow Road/Highway 101 Interchange, a new preferred route was identified. The preferred Willow Road route avoids the large number of residents within the City of Guadalupe and the City of Santa Maria, railroad crossings, and several uncontrolled intersections. All of these undesirable conditions are part of the current preferred routes (Main Street and Betteravia Avenue). Additionally, utilizing the Willow Road route minimizes the immediate cumulative emissions impacts from various industries that operate heavy duty diesel truck fleets along the current route. Refer to Plate 1 for a map of the Project Site and Plate 2 for a map of the proposed Willow Road route.

3.0 ANALYSIS

3.1 AIR QUALITY EMISSIONS UPDATE

The 2012 SEIR Addendum was prepared based on anticipated truck trip volumes for the next phase of the project, calculated with reduced daily truck trips to the SMRL from 150 (as previously analyzed in 2005) to 120 trips per day. The air quality emissions update provided in this report includes an emissions comparison summary of the proposed Willow Road route vs. the existing hauling route, a health risk screening for the Willow Road route and an emissions comparison summary of the actual emissions for 2012-2013 hauling activity via the current route vs. the original emission estimates calculated by CEMC and the SLO Air Pollution Control District (SLOAPCD) in 2012. The air emission calculations drafted and approved by the SLOAPCD in 2012 included extremely conservative estimates of projected operations. Since this evaluation, emission calculations have been updated herein to include three major changes

to GRP soil hauling operations: (1) annually reduced soil transport, reduced number of hauling days and reduced annual truck trips; (2) a new proposed hauling route; and (3) a cleaner truck fleet.

3.1.1 Willow Route Emission Summary

For operations utilizing the Willow Road route (anticipated early-mid 2014), staff evaluated the emissions associated with hauling NHIS via the Willow Road route. In comparison to the existing preferred and alternate routes, the Willow Road hauling route adds approximately 7.5 miles round trip. However, with a cleaner fleet, reduced daily truck trips and reduced number of operating days per year, emissions for hauling soil to SMRL have decreased. Changes to the hauling fleet include the removal of older vehicles, the addition of two 2014 model year trucks and the installation of diesel particulate filters (DPF) on four older trucks, with a total of fifteen trucks having DPF technology installed. Hauling operations via the existing approved route resumed during the week of February 3, 2014 and will continue until the SLO County approves the Willow Road route.

Table 1 includes a comparison of 2012 estimated emissions based on hauling via the existing approved route vs. hauling via the Willow Road route using both a cleaner fleet and updated hauling data over 1.5 years of operation.

Table 1. Estimated Trucking Emissions Summary for Willow Road Route

Source	APCD Estimated 2012-2013 (1.5 yr) ROG +NO _x	Revised Estimated 2014-2015 (1.5 yr) ROG +NO _x
<i>Total within SLO County</i>	4.25 tons	3.42 tons
<i>Total within SB County</i>	6.20 tons	0.75 tons
<i>Total All Counties</i>	10.45 tons	4.17 tons
TOTAL EMISSION REDUCTIONS	6.28 tons of emissions reductions = \$124,628.00 in mitigation \$ reduction for 1.5 years from baseline pre-payment	
Soil Hauled and Mitigation Payments	250,000 cy / 1.5 years	105,000 cy / 1.5 years
	Pre-Payment \$206,452.00 ¹	Estimated Mitigation \$81,823.00 ¹

¹ SLOAPCD charged CEMC \$13,934 in administrative fees per air district. The accurate total is \$13,394 based on the emission calculation sheet provided by SLOAPCD. The \$1,080 credit is included in the revised mitigation payment. Mitigation payments are based on 1.5 years of operation.

3.2 HEALTH RISK ASSESSMENT (HRA) EVALUATION

Potential human health risk associated with exhaust from diesel powered trucks was evaluated in the 2005 SEIR and re-evaluated in 2012 to account for the additional approved hauling activities. Modeling completed by ENSR International (2004) was used to determine if exposure to diesel exhaust from trucks hauling soil to a landfill could pose potential health risks to the sensitive receptors along the hauling route. The 2012 health risk evaluation determined that the proposed hauling would not result in any change to the health risk estimates that were presented in the 2005 SEIR, and would actually result in less of a risk due to decreased hauling activity.

A screening analysis was conducted to assess the proximities of residential and sensitive receptors to the new proposed route (Highway 1 and Willow Road, see Plate 2). The analysis confirmed that receptors along the new proposed hauling route are within similar distances and will receive less exposure to diesel emissions in comparison to the receptors residing along the existing approved routes (see Plate 3 showing increased number of receptors along the Betteravia route). Health risks from a portion of the Highway 101 route, between the exits of Betteravia Road and Main Street in Santa Maria were analyzed in 2005, using the higher emission factors (calculated by the SLOAPCD) and consideration of cumulative toxic sources. Since the determination of the 2005 risk evaluation was less than significant when emissions were higher, staff did not include an additional analysis of this portion of the route given the GRP's reduced emissions and operational activities. Given the comparable sensitive receptor distance and the following contributing factors, human health risks associated with the Willow Road route will be less than significant:

1. Currently there are seven school sites located along the current preferred route. There are zero school sites located along Willow Road and Highway 1.
2. The route reduces the number of stop signs and therefore the number of "stop and go's" and associated idling previously experienced on the current preferred route. The Willow Road route is a much safer route, with controlled intersections and increased efficiency.
3. Willow Road was improved / extended in 2012, which allowed for increased traffic flow, less congestion and increased fuel efficiency for transportation along the route. The analysis for the Willow Road extension project was conducted to account for increased traffic flow throughout 2030.
4. Much of the Willow Road route offers vegetative buffers between the road and the residence, which is a standard mitigation measure used to reduce near roadway emission concentrations and impacts to nearby receptor sites.
5. A recent HRA conducted for Conoco Philips proposed Throughput Increase Project showed less than significant health risks for their hauling activities along Willow Road and Highway 101. The Throughput Project's hauling emissions were significantly higher than the GRP hauling emissions; therefore, this assessment confirms that

health risks along Highway 101 will also be less than significant for the GRP's proposed route.

6. The exposure to Diesel Particulate Matter (DPM) is the main driver for the health risk analysis. Fifteen of the 21 hauling trucks in the fleet have DPF's installed, which reduces DPM by 85% and eliminates human exposure to DPM by 85% (California Air Resources Board assumes a one to one ratio- eliminating emissions, eliminates exposure). Two of the trucks also have selective catalytic reduction devices installed, which reduces NOx emissions. The remaining 6 trucks are anticipated to be upgraded with DPF and/or 2014 model year truck engines within the next two years.
7. Diesel emissions from hauling trucks have reduced by 83% (approximately 0.40 tons or 800 pounds in emission reductions per year) from initial estimates. Overall emissions have reduced by 60%. Emissions have reduced due to the updated emission calculations for the hauling truck fleet, reduced operating days and number of hauling trips and updated off-road equipment emission factors.

Lastly, a screening-level analysis was conducted to evaluate potential cumulative impacts associated with potential exposure to diesel particulate exhaust from the proposed project and other facilities/sources of toxic air contaminants (TAC). The SLOAPCD CEQA Guidelines define potential cumulative impacts where a sensitive receptor is located within 1,000 feet (305 meters) of multiple sources, in this case the truck transportation route and AB2588 sources. Approximately 30 AB2588 facilities were identified in the 2005 evaluation. The SLOAPCD has identified only two AB2588 facilities near the Willow Road and Highway 1 route. The SLOAPCD will conduct a health risk assessment for these two facilities and will provide the report once complete.

3.3 2012-2013 ACTUAL EMISSION SUMMARY

Due to the significant variation in actual hauling emissions vs. estimated emissions, an updated evaluation for 2012-2013 hauling emissions via the current preferred route is provided herein. The 2012-2013 emission calculations were revised to account for actual hauling operations and truck trips. Data collected by GRP staff accounted for daily hauling operations commencing upon project approval in September of 2012 and concluding in December, 2013. The revised calculations resulted in a significant decrease in actual emissions for these 1.5 years of operations in comparison with the original estimates. Staff used averages to calculate a full 1.5 years of operations/emissions and the original fleet was used to calculate the actual emissions for 2012-2013. The updated fleet is only included in the Willow Road route hauling evaluation.

The changes in the current analysis are based on projected activities at the site over the next 5 years and include the following:

1. The number of hauling days per year changed from 250 to a conservative maximum number of 130 days per year.
2. The average number of truck trips per day changed from 39.5 to 35.
3. The average cubic yards of soil hauled changed from 250,000 cy to a conservative maximum of 105,000 cy over 1.5 years.

Full emission calculations and analysis are included as Appendix B. Table 2 provides a summary comparison between SLOAPCD emission estimates and actual emissions over the last 1.5 years. A pre-payment was made to the SLOAPCD and the Santa Barbara Air Pollution Control District (SBAPCD) to account for the hauling emissions (\$17,080 per ton of emissions +15% administrative fee) totaling \$206,452.00, with 50% (\$103,226.00) going to each air district. Table 2 also demonstrates what the mitigation payment covered, based on actual hauling operations and associated emissions.

Table 2. Estimated and Actual Trucking Emissions Summary for Existing Route

Source	APCD Estimated 2012-2013 (1.5 yr) ROG +NO _x	Actual 2012-2013 (1.5 yr) ROG +NO _x
Total within SLO County	4.25 tons	1.88 tons
Total within SB County	6.20 tons	2.89 tons
Total All Counties	10.45 tons	4.77 tons
TOTAL EMISSION REDUCTIONS	5.67 tons of emissions reductions = \$113,725.00 in mitigation credit for last 1.5 years from baseline pre-payment	
Soil Hauled and Mitigation Payments	250,000 cy / 1.5 years	103,301.19 cy / 1.5 years
	Pre-Payment \$206,452.00	Applied Mitigation Payment \$92,726.00 ¹

¹ SLOAPCD charged CEMC \$13,934 in administrative fees per air district. The accurate total is \$13,394 based on the emission calculation summary provided by SLOAPCD. The \$1,080 credit is included in the actual mitigation payment. Mitigation payments are based on 1.5 years of operation.

4.0 SUMMARY AND RECOMMENDATIONS

This report provides updated emission calculations based on actual fleet and operating characteristics and applies these to the proposed hauling route using Willow Road to transport NHIS to the Santa Maria Regional Landfill. In addition, the report provides an analysis of the potential human health risks associated with using Willow Road for hauling from the Guadalupe Restoration Project. Padre has determined the human health risks to be less than significant due to the reduced DPM emissions, namely resulting from the updated hauling fleet and reduced annual usage.

During the preparation of the Willow Road hauling emissions analysis, Padre identified that emissions from the previous 1.5 years of operations (September 2012 - February 2014) are considerably lower than previously calculated. Section 3.3 of this report demonstrates the

emission impact differences and range of mitigation fee credit with the SLOAPCD and the SBAPCD.

It is recommended that the SLOAPCD re-evaluate the emissions for the last 1.5 years based on actual operating characteristics, evaluate the emissions for the proposed Willow Road route using updated fleet specifications and operating calculations, and address the mitigation fee credit for previous and future mitigation payments.

-- O --

5.0 REFERENCES

- Marine Research Specialists (MRS). 2005. Guadalupe Oil Field Remediation and Abandonment Project, *Final Supplemental Environmental Impact Report*. June, SCH#1996051053
- Marine Research Specialists (MRS). 2012. Guadalupe Restoration Project Supplemental Environmental Impact Report Addendum. July, CUP#DRC2011-00065 / ED12-007
- ENSR International. 2004. Guadalupe Restoration Project, Diesel Exhaust Particulate Matter Health Risk Assessment for Off-Site Trucking. December, Document Number 06940-522-400

PLATES

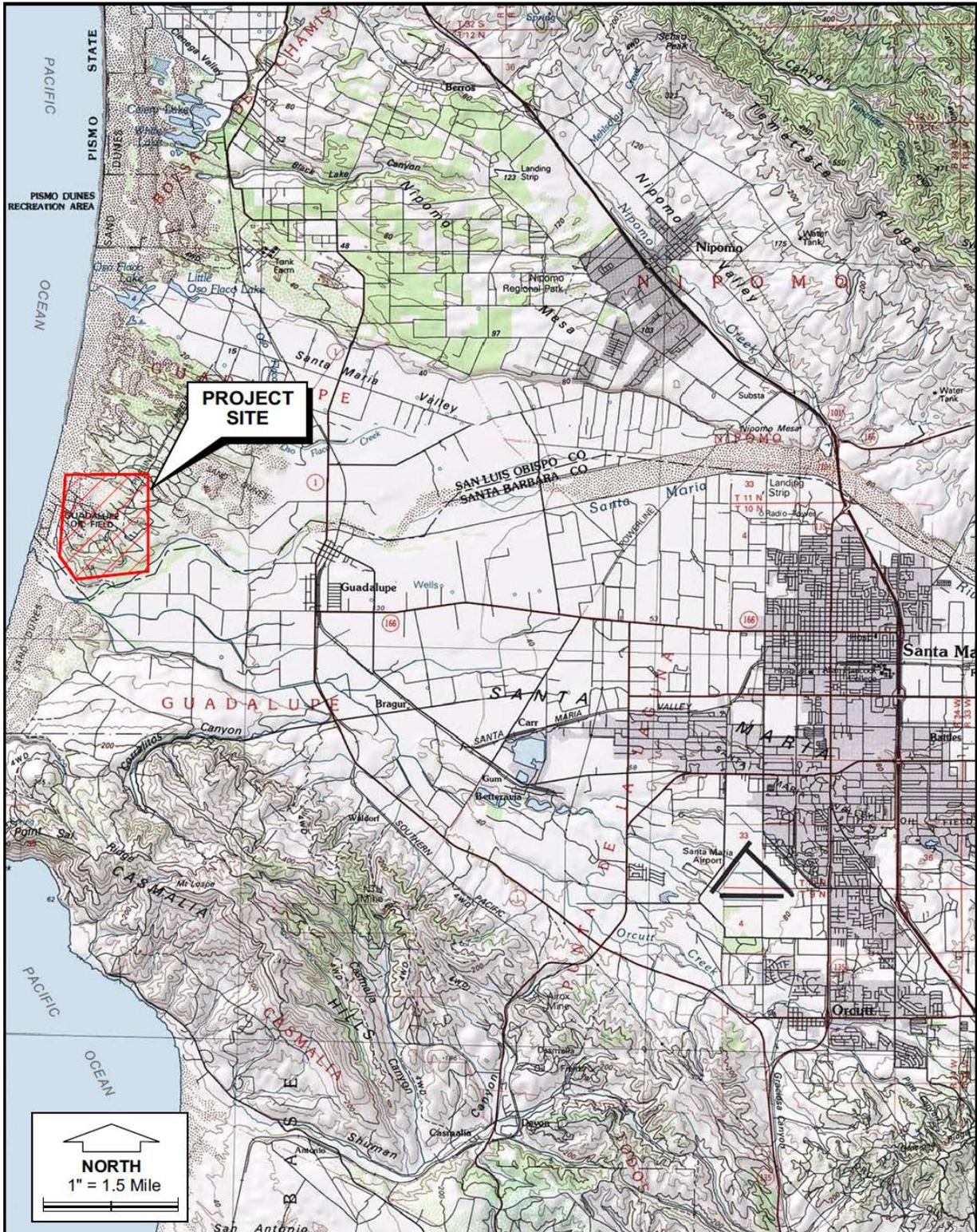
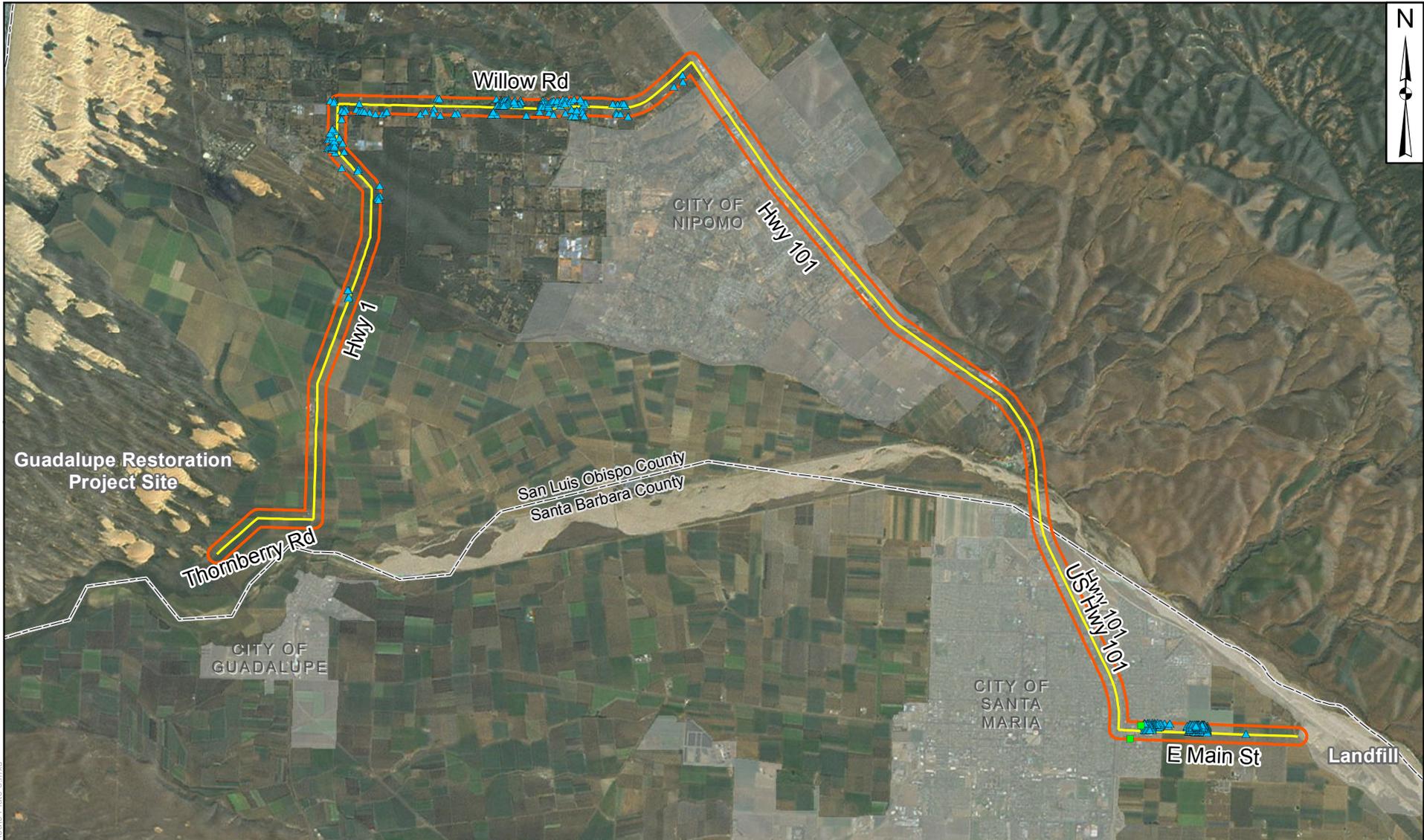


PLATE 1
GUADALUPE RESTORATION PROJECT SITE



LEGEND:

- 500-ft Buffer of Proposed Route
- Proposed Route
- Existing Apartment Building / Rest Home (2)
- ▲ Existing Home (268)

Source: ESRI Online Basemap Image, TIGER Census, Santa Barbara County Assessor
 Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
 Notes: This map was created for informational and display purposes only



PROJECT NAME:
GUADALUPE RESTORATION PROJECT
SAN LUIS OBISPO COUNTY, CA

PROJECT NUMBER: 0901-2194 DATE: February 2014

**WILLOW ROUTE
 RESIDENTIAL SCREENING**

PLATE
2

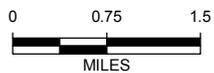
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LEGEND:

- 500-ft Buffer of Proposed Route
- Proposed Route
- Existing Apartment Building (11)
- ▲ Existing Home (429)

Source: ESRI Online Basemap Image, TIGER Census, Santa Barbara County Assessor
 Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
 Notes: This map was created for informational and display purposes only



PROJECT NAME:
GUADALUPE RESTORATION PROJECT
SAN LUIS OBISPO COUNTY, CA

PROJECT NUMBER: 0901-2194 DATE: February 2014

BETTERAVIA ROUTE
RESIDENTIAL SCREENING

PLATE
3

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APPENDIX A EMISSION CALCULATIONS

Guadalupe Soil Hauling Emissions

2012-2013 ACTUAL Trucking Emission Summary -Santa Maria Landfill (SMLF)

Source	Peak Day Emissions, lbs/day						Annual Emissions, Tons/yr								
	ROG	CO	NO _x	SO ₂	PM ₁₀	PM _{2.5}	ROG	CO	NO _x	SO ₂	PM ₁₀	PM _{2.5}	N2O	CH4	CO2
Within SLO County															
Truck Loading	1.43	7.23	10.94	0.01	0.26	0.26	0.09	0.47	0.71	0.00	0.02	0.02	0.00	0.01	100
HHDT Trucks - Onsite Hauling (M3 to Main Gate)	0.25	0.97	4.29	0.00	0.13	0.12	0.01	0.06	0.24	0.00	0.01	0.01	0.00	0.00	34
HHDT Trucks - Offsite Hauling - Main Street Route	0.14	0.75	3.32	0.00	0.13	0.12	0.00	0.00	0.18	0.00	0.01	0.01	0.00	0.00	27
HHDT Trucks - Offsite Hauling: Betteravia Route	0.14	0.75	3.32	0.00	0.13	0.12	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	2
Peak within SLO County	1.83	8.94	18.55	0.01	0.52	0.50	0.11	0.53	1.15	0.00	0.03	0.03	0.00	0.01	162.08
Within Santa Barbara County															
HHDT Trucks - Offsite Hauling - Main Street Route	1.36	7.30	32.39	0.00	1.31	1.20	0.07	0.40	1.76	0.00	0.07	0.07	0.00	0.00	260
HHDT Trucks - Offsite Hauling: Betteravia Route	1.30	6.99	31.03	0.00	1.25	1.15	0.00	0.02	0.10	0.00	0.00	0.00	0.00	0.00	14
Peak within Santa Barbara County	1.36	7.30	32.39	0.00	1.31	1.20	0.08	0.42	1.85	0.00	0.07	0.07	0.00	0.00	274.33
Total All Counties															
Total Maximum Emissions	3.19	16.24	50.94	0.01	1.83	1.70	0.19	0.95	3.00	0.00	0.11	0.10	0.01	0.01	436
2012 Total All Counties: Maximum Emissions	6.71	32.13	133.39	0.01	5.26	4.89	0.40	1.74	6.58	0.00	0.26	0.25	0.01	0.03	916
Total Emission Reductions Per Year	3.52	15.89	82.45	0.00	3.44	3.19	0.21	0.79	3.58	0.00	0.15	0.15	0.00	0.02	479.59

Total Mitigation Payment in 2012	\$206,452.00
Total Excess SLO & SB ROG+Nox (1.5 years)	4.78
Updated Mitigation Payment	\$92,726.12
TOTAL DIFFERENCE FROM BASELINE PRE-PAY	\$113,725.88

Guadalupe Soil Hauling Emissions: Onsite Emissions

Onsite Truck Emissions

Source	Vehicle Type	Emission Factors (lbs/mile)										Peak Day Round Trips per day	Average Round Trips per day	Length of Round Trip (miles)	Days per yr	Peak Day Emissions, lbs/day						Peak Quarter Emissions, tons						Annual Emissions, Tons/yr							
		ROG	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}	N ₂ O	CH ₄	CO ₂	ROG					CO	NO _x	SO _x	PM ₁₀	PM _{2.5}	ROG	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}	ROG	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}	N ₂ O	CH ₄	CO ₂
Transport to SMLF Only																																			
HHDY Trucks - soil hauling to SMLF: Main	T7	0.00187	0.00712	0.03157	0.00000	0.00095	0.00087	0.00005	0.00006	4.4	40.0	35.0	3.4	130	0.25	0.97	4.29	0.00	0.13	0.12	0.00	0.01	0.06	0.00	0.00	0.00	0.01	0.06	0.24	0.00	0.01	0.01	0.00	0.00	34
<i>Total</i>															0.25	0.97	4.29	0.00	0.12	0.12	0.00	0.01	0.06	0.00	0.00	0.00	0.01	0.06	0.24	0.00	0.01	0.01	0.00	0.00	34.19

- Emission Factors from EMFAC 2011 for fleet specific model years for SLO County and 25 mph average speed, T7 tractor construction.
- Length of trip is assumed to be round trip distances, based on loading at M3 site.
- Assumes 32.5 wks per year and 4 days per week 130
- Years for SMLF transport 3

Onsite Loading Equipment Emissions

Source	Load	BHP	Emission Factors (g/bhp-hr)										Peak Hours per Day	Average Hours per Day	Days/yr	Peak Day Emissions, lbs/day						Peak Quarter Emissions, tons						Annual Emissions, Tons/yr							
			ROG	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}	N ₂ O	CH ₄	CO ₂	ROG				CO	NO _x	SO _x	PM ₁₀	PM _{2.5}	ROG	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}	ROG	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}	N ₂ O	CH ₄	CO ₂
980 CAT Front-End Loader	0.54	264	0.494	2.6	4.15	0.005	0.088	0.088	0.0042	0.044	568	8	8	130	1.2395	6.5235	10.413	0.0125	0.2208	0.2308	0.0198	0.1044	0.1666	0.0002	0.0035	0.0023	0.0806	0.424	0.6768	0.0008	0.0144	0.0144	0.0007	0.0072	92.683
Sweeper (SweepMaster 250)	0.68	85	1.018	3.7	2.74	0.006	0.192	0.192	0.0042	0.091	568	1.5	1.5	130	0.1942	0.7087	0.5226	0.0011	0.0366	0.0366	0.0031	0.0113	0.0084	2E-05	0.0006	0.0126	0.0459	0.034	7E-05	0.0024	0.0024	5E-05	0.0011	7.0458	
<i>Total</i>															1.4336	7.2293	10.935	0.0137	0.2574	0.2574	0.0229	0.1157	0.175	0.0002	0.0041	0.0041	0.0932	0.4699	0.7108	0.0009	0.0167	0.0167	0.0007	0.0083	99.729

- Water truck emission are not include since this truck is used as part of the ongoing remediation and restoration activities at the site.
- Load factors based on CalEEMod. HP based on manufacturers specs

Guadalupe Soil Hauling Emissions: Offsite Impacts Only

Source	Vehicle Type	Emission Factors (lbs/mile)										Peak Day Round Trips per day	Average Round Trips per day	Length of Round Trip (miles)	Days/yr	Peak Day Emissions, lbs/day						Peak Quarter Emissions, tons						Annual Emissions, Tons/yr											
		ROG	CO	NO _x	SO ₂	PM ₁₀	PM _{2.5}	N ₂ O	CH ₄	CO ₂	ROG					CO	NO _x	SO ₂	PM ₁₀	PM _{2.5}	ROG	CO	NO _x	SO ₂	PM ₁₀	PM _{2.5}	ROG	CO	NO _x	SO ₂	PM ₁₀	PM _{2.5}	N ₂ O	CH ₄	CO ₂				
Transport to SMLF Only																																							
<i>Within SLO County</i>																																							
HHDT Trucks - soil hauling to SMLF: Main	T7	0.00103	0.00550	0.02439	0.00000	0.00098	0.00091	0.00005	0.00006	3.6	40.0	35.0	3.4	124	0.14	0.75	3.32	0.00	0.13	0.12	0.00	0.01	0.05	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.01	0.01	0.00	0.00	27				
HHDT Trucks - soil hauling to SMLF: Betteravia	T7	0.00103	0.00550	0.02439	0.00000	0.00098	0.00091	0.00005	0.00006	3.6	40.0	35.0	3.4	7	0.14	0.75	3.32	0.00	0.13	0.12	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	2					
Peak within SLO County																																							
															0.14	0.75	3.32	0.00	0.13	0.12	0.00	0.01	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.01	0.01	0.00	0.00	0.00	0.00	27
<i>Within Santa Barbara County</i>																																							
HHDT Trucks - soil hauling to SMLF: Main	T7	0.00103	0.00550	0.02439	0.00000	0.00098	0.00091	0.00005	0.00006	3.6	40.0	35.0	33.2	124	1.36	7.30	32.39	0.00	1.31	1.20	0.02	0.10	0.46	0.00	0.02	0.02	0.07	0.40	1.76	0.00	0.07	0.07	0.00	0.00	260				
HHDT Trucks - soil hauling to SMLF: Betteravia	T7	0.00103	0.00550	0.02439	0.00000	0.00098	0.00091	0.00005	0.00006	3.6	40.0	35.0	31.8	7	1.30	6.99	31.03	0.00	1.25	1.15	0.02	0.10	0.44	0.00	0.02	0.02	0.00	0.02	0.10	0.00	0.00	0.00	0.00	14					
Peak within Santa Barbara County																																							
															1.36	7.30	32.39	0.00	1.31	1.20	0.02	0.10	0.46	0.00	0.02	0.02	0.07	0.40	1.76	0.00	0.07	0.07	0.00	0.00	0.00	0.00	260		
Total All Counties																																							
															1.50	8.05	35.71	0.00	1.44	1.33	0.02	0.11	0.51	0.00	0.02	0.02	0.08	0.42	2.04	0.00	0.08	0.08	0.00	0.00	0.00	0.00	302.49		

Total All Counties: Maximum Emissions
 1. Emission Factors from EMFAC 2011 for fleet specific model years for SLO County and 45 mph average speed, T7 tractor construction
 2. Length of trip is assumed to be round trip distances, based on distance to SMLF
 3. Assumes 32 wks per year and 4 days per week for SMLF transport/transport
 4. Years for SMLF transport

Peak ROG+NOx Emissions 6.53

Average Trips - SMLF only

Truck Size	17	yds3 each		4118	Round Trips/year - Notes by APCD		
Total Moved	210000	yds3 total		70000	yds3 per year		
Timeframe	3	yrs		6176	Round Trips in 1.5 years		
Timeframe	32	wks per year		105000	yds3 in 1.5 years		
Trips per day, average	32.2	assumes 5 days per week					
Actual Average Trips per day	35						

Guadalupe Soil Hauling Emissions

Willow Route Trucking Emission Summary -Santa Maria Landfill (SMLF)

Source	Peak Day Emissions, lbs/day						Annual Emissions, Tons/yr								
	ROG	CO	NO _x	SO ₂	PM ₁₀	PM _{2.5}	ROG	CO	NO _x	SO ₂	PM ₁₀	PM _{2.5}	N2O	CH4	CO2
<i>Within SLO County</i>															
Truck Loading	1.43	7.23	10.94	0.01	0.26	0.26	0.09	0.47	0.71	0.00	0.02	0.02	0.00	0.01	99.73
HHDT Trucks - Onsite Hauling (M4 to Main Gate)	0.16	0.62	3.25	0.00	0.05	0.05	0.01	0.04	0.18	0.00	0.00	0.00	0.00	0.00	33.42
HHDT Trucks - Offsite Hauling - Willow Street Route	0.56	3.32	23.00	0.00	0.32	0.30	0.03	0.18	1.24	0.00	0.02	0.02	0.00	0.00	243.32
HHDT Trucks - Offsite Hauling: Betteravia/Main Route	0.06	0.35	2.44	0.00	0.03	0.03	0.0002	0.0010	0.0069	0.0000	0.0001	0.0001	0.0000	0.0000	1.3564
Total within SLO County	2.15	11.17	37.18	0.01	0.63	0.60	0.13	0.69	2.15	0.00	0.04	0.04	0.00	0.01	377.83
<i>Within Santa Barbara County</i>															
HHDT Trucks - Offsite Hauling - Willow Street Route	0.19	1.11	7.70	0.00	0.11	0.10	0.01	0.06	0.42	0.00	0.01	0.01	0.00	0.00	81.74
HHDT Trucks - Offsite Hauling: Betteravia/Main Route	0.55	3.31	22.93	0.00	0.32	0.29	0.0017	0.0101	0.0702	0.0000	0.0010	0.0009	0.0002	0.0002	13.7486
Total within Santa Barbara County	0.55	3.31	22.93	0.00	0.32	0.29	0.01	0.07	0.49	0.00	0.01	0.01	0.00	0.00	95.49
<i>Total All Counties</i>															
Updated Total All Counties: Maximum Emissions	2.34	12.28	44.88	0.01	0.74	0.70	0.14	0.76	2.63	0.00	0.04	0.04	0.01	0.01	473
2012 Total All Counties: Maximum Emissions	6.71	32.13	133.39	0.01	5.26	4.89	0.40	1.74	6.58	0.00	0.26	0.25	0.01	0.03	916
TOTAL EMISSION REDUCTIONS	4.37	19.86	88.52	0.00	4.53	4.19	0.26	0.98	3.95	0.00	0.22	0.21	0.00	0.02	442.68

Total Mitigation Payment in 2012	\$206,452.00
Total Excess SLO & SB ROG+Nox (1.5 years)	4.17
Updated Mitigation Payment	\$81,823.68
TOTAL DIFFERENCE FROM BASELINE PRE-PAYMENT	\$124,628.32

Guadalupe Soil Hauling Emissions: Offsite Impacts Only

Source	Vehicle Type	Emission Factors (lbs/mile)										Peak Day Round Trips per day	Average Trips Per Day	Length of Round Trip (miles)	Days/yr	Peak Day Emissions, lbs/day						Peak Quarter Emissions, tons						Annual Emissions, Tons/yr							
		ROG	CO	NO _x	SO ₂	PM ₁₀	PM _{2.5}	N ₂ O	CH ₄	CO ₂	ROG					CO	NO _x	SO ₂	PM ₁₀	PM _{2.5}	ROG	CO	NO _x	SO ₂	PM ₁₀	PM _{2.5}	ROG	CO	NO _x	SO ₂	PM ₁₀	PM _{2.5}	N ₂ O	CH ₄	CO ₂
Transport to SMLF Only																																			
Within SLO County																																			
HBDT Trucks -soil hauling to SMLF: Willow	T7	0.00043	0.00258	0.01791	0.00000	0.00025	0.00023	0.00005	0.00006	3.5	40.0	35.0	32.1	124	0.56	3.32	23.00	0.00	0.32	0.30	0.01	0.05	0.32	0.00	0.004	0.004	0.03	0.18	1.24	0.00	0.02	0.02	0.00	0.00	243
HBDT Trucks -soil hauling to SMLF: Betteravia / Main	T7	0.00043	0.00258	0.01791	0.00000	0.00025	0.00023	0.00005	0.00006	3.5	40.0	35.0	3.4	7	0.06	0.35	2.44	0.00	0.03	0.03	0.00	0.00	0.03	0.00	0.000	0.000	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	1
Peak within SLO County																																			
															0.56	3.32	23.00	0.00	0.32	0.30	0.01	0.05	0.32	0.00	0.004	0.004	0.03	0.18	1.25	0.00	0.02	0.02	0.00	0.00	244.68
Within Santa Barbara County																																			
HBDT Trucks -soil hauling to SMLF: Willow	T7	0.00043	0.00258	0.01791	0.00000	0.00025	0.00023	0.00005	0.00006	3.5	40.0	35.0	10.7	124	0.19	1.11	7.70	0.00	0.11	0.10	0.00	0.02	0.11	0.00	0.002	0.001	0.01	0.06	0.42	0.00	0.01	0.01	0.00	0.00	82
HBDT Trucks -soil hauling to SMLF: Betteravia / Main (ave)	T7	0.00043	0.00258	0.01791	0.00000	0.00025	0.00023	0.00005	0.00006	3.5	40.0	35.0	32.0	7	0.55	3.31	22.93	0.00	0.32	0.29	0.01	0.05	0.32	0.00	0.004	0.004	0.00	0.01	0.07	0.00	0.00	0.00	0.00	0.00	14
Peak within Santa Barbara County																																			
															0.55	3.31	22.93	0.00	0.32	0.29	0.01	0.05	0.32	0.00	0.004	0.004	0.01	0.07	0.49	0.00	0.01	0.01	0.00	0.00	95.49
Total All Counties																																			
															0.74	4.43	30.70	0.00	0.43	0.39	0.01	0.06	0.43	0.00	0.006	0.006	0.04	0.25	1.74	0.00	0.02	0.02	0.01	0.01	340.17

- Total Maximum Emissions**
 1. Emission Factors from EMFAC 2011 for fleet specific model years for SLO County and 50 mph average speed, T7 tractor construction
 2. Length of trip is assumed to be round trip distances, based on distance to SMLF
 3. Assumes 32 wks per year and 4 days per week for SMLF transport
 4. Years for SMLF transport

Average Trips - SMLF only

Truck Size	17	yds ³ each		4118	Round Trips/year - Notes by APCD		
Total Moved	210000	yds ³ total		70000	yds ³ per year		
timeframe	3	yrs		6176	Round Trips in 1.5 years		
Timeframe	130	days per year		105000	yds ³ in 1.5 years		
Trips per day, average	32	assumes 5 days per week					
Actual 2 year truck Average Trips/day	35						

Fuel N₂O Emission Factor, from Federal GHG reporting Rule

6.00E-04 kg/mmbtu, N₂O emission factor, CFR Part 98 Table C-2

7000 Diesel energy density, btu/hp-hr

0.0042 N₂O, g/hp-hr

NUMBER	MAKE	ENGINE FAMILY NUMBER	ENGINE TYPE	ENGINE H.P.	ENGINE YEAR	TRUCK YEAR	25 MPH, pounds/mile												
5	PETERBILT		CUM-ISX	500	2014	2014	ENGINE H.P.	ENGINE YEAR	TRUCK YEAR	ROG	CO	NOX	SO2	PM10	PM2.5	N2O	CH4	CO2	
21	PETERBILT		CUM-ISX	500	2014	2014													
15	FREIGHTLINER	YCEX	CUM-ISX	400	1999	2000	500	2014	2014	0.00038	0.00126	0.00236	0.00000	0.00006	0.00006	0.00000	0.00000	0.00000	4.31103
R-23	PETERBILT	3CPXH0893EBV	CAT-C15	391	2003	2003	500	2014	2014	0.00022	0.00119	0.00236	0.00000	0.00006	0.00006	0.00005	0.00006	0.00006	4.31103
R-27	PETERBILT	3CPXH0893EBV	CAT-C15	391	2003	2003	400	1999	2000	0.00157	0.01517	0.05185	0.00000	0.00138	0.00127	0.00005	0.00006	0.00006	4.42299
R-28	PETERBILT	3CPXH0893EBV	CAT-C15	391	2003	2003	391	2003	2003	0.00157	0.00521	0.03417	0.00000	0.00090	0.00083	0.00000	0.00000	0.00000	4.37254
R-30	PETERBILT	4CPXH0928EBK	CAT-C15	410	2004	2004	391	2003	2003	0.00092	0.00490	0.02423	0.00000	0.00090	0.00083	0.00005	0.00006	0.00006	3.57336
R-31	PETERBILT	4CPXH0928EBK	CAT-C15	410	2004	2004	391	2003	2003	0.00092	0.00490	0.02423	0.00000	0.00090	0.00083	0.00005	0.00006	0.00006	3.57336
R-36	PETERBILT	4CPXH0928EBK	CAT-C15	410	2004	2005	410	2004	2004	0.00144	0.00477	0.03367	0.00000	0.00013	0.00012	0.00005	0.00006	0.00006	4.37569
R-38	PETERBILT	4CPXH0928EBK	CAT-C15	410	2004	2006	410	2004	2004	0.00144	0.00477	0.03367	0.00000	0.00013	0.00012	0.00005	0.00006	0.00006	4.37569
R-40	PETERBILT	5CPXH0928EBK	CAT-C15	466	2005	2006	410	2004	2005	0.00144	0.00477	0.03367	0.00000	0.00013	0.00012	0.00005	0.00006	0.00006	4.37569
R-41	PETERBILT	6CPXH0928EBK	CAT-C15	466	2006	2007	410	2004	2006	0.00144	0.00477	0.03367	0.00000	0.00013	0.00012	0.00005	0.00006	0.00006	4.37569
R-43	PETERBILT	6CPXH0928EBK	CAT-C15	466	2006	2007	466	2005	2006	0.00186	0.00618	0.03314	0.00000	0.00016	0.00015	0.00000	0.00000	0.00000	4.34851
R-45	PETERBILT	7CPXH0928E1K	CAT-C15	466	2007	2008	466	2006	2007	0.00176	0.00583	0.03243	0.00000	0.00105	0.00097	0.00000	0.00000	0.00000	4.34851
R-49	PETERBILT	7CPXH0928E1K	CAT-C15	466	2007	2008	466	2006	2007	0.00176	0.00583	0.03243	0.00000	0.00105	0.00097	0.00000	0.00000	0.00000	4.34851
R-50	PETERBILT	7CPXH0928E1K	CAT-C15	466	2007	2008	466	2007	2008	0.00122	0.00403	0.02129	0.00000	0.00016	0.00014	0.00000	0.00000	0.00000	4.47033
R-47	PETERBILT	ACEXH0912XAQ	CUM-ISX15	485	2010	2011	466	2007	2008	0.00122	0.00403	0.02129	0.00000	0.00016	0.00014	0.00000	0.00000	0.00000	4.47033
R-48	PETERBILT	ACEXH0912XAQ	CUM-ISX15	485	2010	2011	466	2007	2008	0.00122	0.00403	0.02129	0.00000	0.00016	0.00014	0.00000	0.00000	0.00000	4.47033
R-52	PETERBILT		CAT-C15	466	2007	2008	485	2010	2011	0.00061	0.00202	0.00621	0.00000	0.00011	0.00010	0.00005	0.00006	0.00006	4.32097
R-53	PETERBILT		CUM-ISX	466	2007	2008	485	2010	2011	0.00061	0.00202	0.00621	0.00000	0.00011	0.00010	0.00005	0.00006	0.00006	4.32097
R-54	VOLVO		CUM-ISX	400	2009	2009	466	2007	2008	0.00122	0.00403	0.02129	0.00000	0.00016	0.00014	0.00000	0.00000	0.00000	4.47033
R-55	VOLVO		CUM-ISX	400	2009	2009	466	2007	2008	0.00122	0.00403	0.02129	0.00000	0.00016	0.00014	0.00000	0.00000	0.00000	4.47033
Average					2006		400	2009	2009	0.00100	0.00330	0.01710	0.00000	0.00013	0.00012	0.00005	0.00006	0.00006	4.47033
							400	2009	2009	0.00100	0.00330	0.01710	0.00000	0.00013	0.00012	0.00005	0.00006	0.00006	4.47033
								2006		0.00118	0.00456	0.02386	0.00000	0.00037	0.00034	0.00003	0.00003	0.00003	4.32031

EMFAC2011 Emission Rates

Region Type: Air District
 Region: San Luis Obispo County APCD
 Calendar Year: 2014
 Season: Annual

0.051853 0.051853

Vehicle Classification: EMFAC2011 Categories

0.005205 25 MPH- no DPF

San Luis Obi:	2014 Annual	T7 tractor	DSL	2014	50	ROG	CO	NOX	SO2	PM10	PM2.5	N2O	CH4	CO2		
San Luis Obi:	2014 Annual	T7 tractor	DSL	1999	50											
San Luis Obi:	2014 Annual	T7 tractor	DSL	2000	50 DSL	25	0.172788	0.572734	1.068719	0	0.027382	0.025191	0.00005	0.00006	1955.481	
San Luis Obi:	2014 Annual	T7 tractor	DSL	2001	50 DSL	25	1.420687	6.853465	23.52065	0	0.62681	0.576665	0.00005	0.00006	2006.405	
San Luis Obi:	2014 Annual	T7 tractor	DSL	2002	50 DSL	25	1.426041	6.879296	23.52065	0	0.629173	0.578839	0.00005	0.00006	2006.267	
San Luis Obi:	2014 Annual	T7 tractor	DSL	2003	50 DSL	25	1.396328	6.735959	23.52065	0	0.616063	0.566778	0.00005	0.00006	2007.033	
San Luis Obi:	2014 Annual	T7 tractor	DSL	2004	50 DSL	25	1.373054	6.62368	23.52065	0	0.605794	0.557331	0.00005	0.00006	2007.634	
San Luis Obi:	2014 Annual	T7 tractor	DSL	2005	50 DSL	25	0.712458	2.361124	15.50068	0	0.409333	0.376587	0.00005	0.00006	1983.386	
San Luis Obi:	2014 Annual	T7 tractor	DSL	2006	50 DSL	25	0.65345	2.165568	15.27422	0	0.380073	0.349667	0.00005	0.00006	1984.812	
San Luis Obi:	2014 Annual	T7 tractor	DSL	2007	50 DSL	25	0.84527	2.80127	15.03071	0	0.498757	0.458857	0.00005	0.00006	1972.485	
San Luis Obi:	2014 Annual	T7 tractor	DSL	2008	50 DSL	25	0.797319	2.642356	14.71095	0	0.478532	0.440249	0.00005	0.00006	1972.485	
San Luis Obi:	2014 Annual	T7 tractor	DSL	2009	50 DSL	25	0.55183	1.828794	9.656556	0	0.070669	0.065015	0.00005	0.00006	2027.744	
San Luis Obi:	2014 Annual	T7 tractor	DSL	2010	50 DSL	25	0.509515	1.68856	8.942705	0	0.065312	0.060087	0.00005	0.00006	2027.744	
San Luis Obi:	2014 Annual	T7 tractor	DSL	2011	50 DSL	25	0.451998	1.497945	7.757301	0	0.058032	0.053389	0.00005	0.00006	2027.744	
San Luis Obi:	2014 Annual	T7 tractor	DSL	2012	50 DSL	25	0.275929	0.914444	2.816826	0	0.051483	0.047364	0.00005	0.00006	1959.992	
San Luis Obi:	2014 Annual	T7 tractor	DSL	2013	50 DSL	25	0.24909	0.825497	2.263205	0	0.045209	0.041592	0.00005	0.00006	1959.992	
San Luis Obi:	2014 Annual	T7 tractor	DSL	2014	50 DSL	25	0.22387	0.741917	1.655704	0	0.039313	0.036168	0.00005	0.00006	1959.992	
San Luis Obi:	2014 Annual	T7 tractor	DSL	2015	50 DSL	25	0.189226	0.627858	1.295833	0	0.031558	0.029033	0.00005	0.00006	1955.481	
					DSL	2014	25	0.172788	0.572734	1.068719	0	0.027382	0.025191	0.00005	0.00006	1955.481

Appendix B

Guadalupe Trucking Noise Assessment, MRS, March 2014

1.0 Introduction

As part of the Guadalupe Restoration Project 2012 SEIR addendum to the SEIR (2005) and the Guadalupe Oil Field Remediation and Abandonment EIR (1998), noise associated with truck traffic along routes was assessed. The route assessed in the 2012 addendum was the Betteravia Route, which passed through the town of Guadalupe and the City of Santa Maria. The 2005 SEIR found that under the worst-case scenario of 300 Average Daily Traffic (ADT) (one-way trips) or 38 peak-hour trips between the GRP site and the SMLF, noise levels along the proposed haul route would increase by less than 3 dBA. This was found to be a less than significant impact. With the 2012 Addendum, the worst-case scenario would be reduced from 300 to 240 Average Daily Traffic (ADT) (one-way trips), which would decrease the level of noise impact. Therefore, the impact of the proposed project would be less than significant, and less severe than what was analyzed in the 2005 SEIR.

As part of the current proposal, the route would change from the Betteravia Route to a route that would direct trucks along Highway 1 and Willow Road, to utilize the recently completed Highway 101 onramp/offramp at Willow Road.

All of the receptors along this Willow route are residential and commercial.

2.0 Baseline

Some baseline data has been gathered for baseline noise levels along this route as part of the Phillips 66 Santa Maria Refinery Throughput Increase Project FEIR (October 2012 SCH #20081010111) and the Phillips 66 Company Rail Spur Extension Project DEIR (November 2013, SCH # 2013071028). These noise levels are shown in Table 1 below.

Table 1 Baseline Noise Data Along the Proposed Willow Route					
Location	Daytime Leq (dBA)	Evening Leq (dBA)	Nighttime Leq (dBA)	CNEL (dBA)	Noise Sources
Willow Road and Guadalupe Road	65.8	65	60.9	68.9	50 feet from Willow roadway centerline. Measurements taken June 21, 2011 by MRS (2012)
Mesa Vu Storage Adjacent to Mondella Street	59.7	56.3	49.3	64.8	100 feet from Hwy 1 centerline. Measurements taken January 27-29, 2014 by SRA (2014)
1918 Eucalyptus Road (near Highway 1 south of Willow)	48.7	46.5	38.6	54.1	500 feet from Hwy 1 centerline. Measurements taken January 27-29, 2014 by SRA (2014)

3.0 Impact Assessment

In order to assess the noise impacts associated with traffic, the Federal Highway Administration (FHWA) Transportation Noise Model (TNM) version 2.5 was utilized. The TNM allows for the

input of traffic levels by vehicle type (autos, medium duty trucks, heavy duty trucks, buses and motorcycles), vehicle speed, pavement type, time of day, roadway configuration, ground attenuation, vegetation arrangements and barrier configurations. The two segments most representative of the Willow route were selected for the model: the portion of Willow Road between Highway 1 and Highway 101; and Highway 1 between Willow Road and Guadalupe.

Traffic data was recently gathered on these segments by Field Data Services of Arizona, on January 8th and 9th, 2014. The data was collected during the peak hours as well as over a 48 hour period. Traffic was categorized by speed as well as vehicle type. The traffic data gathering locations were along Willow Road east of Highway 1 and on Highway 1 north of Willow Road.

Although the Mesa Vu Storage location and the Highway 1 north of Willow Road location are located to the north of the Willow/Highway 1 interchange and are not on the proposed route, the traffic levels on Highway 1 north of Willow Road are assumed to be similar to traffic levels on Highway 1 south of Willow Road.

The Traffic model was run for both the current traffic levels and for the traffic levels with the additional 120 round trips per day associated with the Guadalupe project. Guadalupe project traffic was assumed to operate only during the daytime (between 7 a.m. and 7 p.m.) and would be heavy duty vehicles.

Table 2 below shows the modeled baseline noise levels and the noise levels with the additional Guadalupe project related traffic. Noise levels are estimated to increase by as much as 1.5 dBA Ldn.

Table 2 FHWA TNM Results: Baseline and Project					
Location	Baseline		With Project		Increase (dBA)
	Ldn At 50 feet (dBA)	Ldn At 100 feet (dBA)	Ldn At 50 feet (dBA)	Ldn At 100 feet (dBA)	
Along Willow Road	63.3	56.9	64.6	58.4	1.2 - 1.5
Along Highway 1	67.5	60.9	68.3	61.9	0.8 - 0.9

Along Highway 1, the measured levels of noise produced a CNEL (approximately similar to Ldn) of 54.1 dBA at 500 feet from the roadway. As the roadway at this location is the dominant noise source for the area, this would correspond to a noise level at 50 feet from the roadway of 68.6 dBA Ldn, or similar to the level modeled using the TNM (67.5).

Along Willow Road, the noise model estimated noise somewhat lower than that measured (63.3 verses 68.9 dBA Ldn). However, the measurement location for the baseline data was taken at Willow Road near Highway 1, so that some influence from Highway 1 traffic (Highway 1 has

higher traffic than Willow Road) would be expected. However, as the model is primarily used to assess noise increases from increases in traffic, the results are still considered valid.

Noise level increases from the additional 120 round trips per day of heavy duty trucks would range from 0.8 dBA Ldn along Highway 1 to 1.5 dBA Ldn along Willow Road.

Note that all of the areas along the routes currently exceed the noise standard for transportation of 60 dBA Ldn (Noise Element Maximum Allowable Noise Exposure - Transportation Sources, 1992). Therefore, an increase of 3 dBA has been used to assess significance. The increased truck traffic associated with the Guadalupe project along the Willow route would produce noise increases less than the 3 dBA Ldn and would therefore be less than significant.

Appendix C

**Guadalupe Restoration Project Transportation Impact Analysis for the
Willow Road Truck Route, Central Coast Transportation Consulting,
March 2014**

Guadalupe Restoration Project

Transportation Impact Analysis for Willow Road truck route

Central Coast Transportation Consulting

895 Napa Avenue, Suite A-3

Morro Bay, CA 93442

(805) 316-0101

March 2014



INTRODUCTION

This study evaluates the potential transportation impacts of the Guadalupe Restoration Project (GRP) with trucks using the recently completed Willow Road/Highway 101 interchange. Prior traffic studies assumed trucks would use a different route through the City of Guadalupe.

The project site occupies 2,700 acres of the Nipomo Dunes complex. Trucks carry contaminated soil primarily to the Santa Maria Landfill then return to the project site.

CURRENT TRUCK ROUTE

In prior environmental documentation for the project, trucks would exit the GRP site at Thornberry Road to Highway 1, travel south on Highway 1 through the City of Guadalupe to Highway 166 (Main Street), east on Main Street to Simas Street, south on Simas Street to Betteravia, then east on Betteravia Road continuing over Highway 101 to Philbric Road, and north on Philbric Road to the SML.

PROPOSED TRUCK ROUTE

This study evaluates the proposed truck route, which makes use of the recently completed Willow Road/Highway 101 interchange to access the Santa Maria Landfill. Trucks would exit the site at Thornberry Road, travel north on Highway 1, east on Willow Road, and south on Highway 101 to Betteravia Road. There is no change to the previously analyzed route from Betteravia Road at Highway 101 to the landfill. Empty trucks would use the reverse route to return to the site.

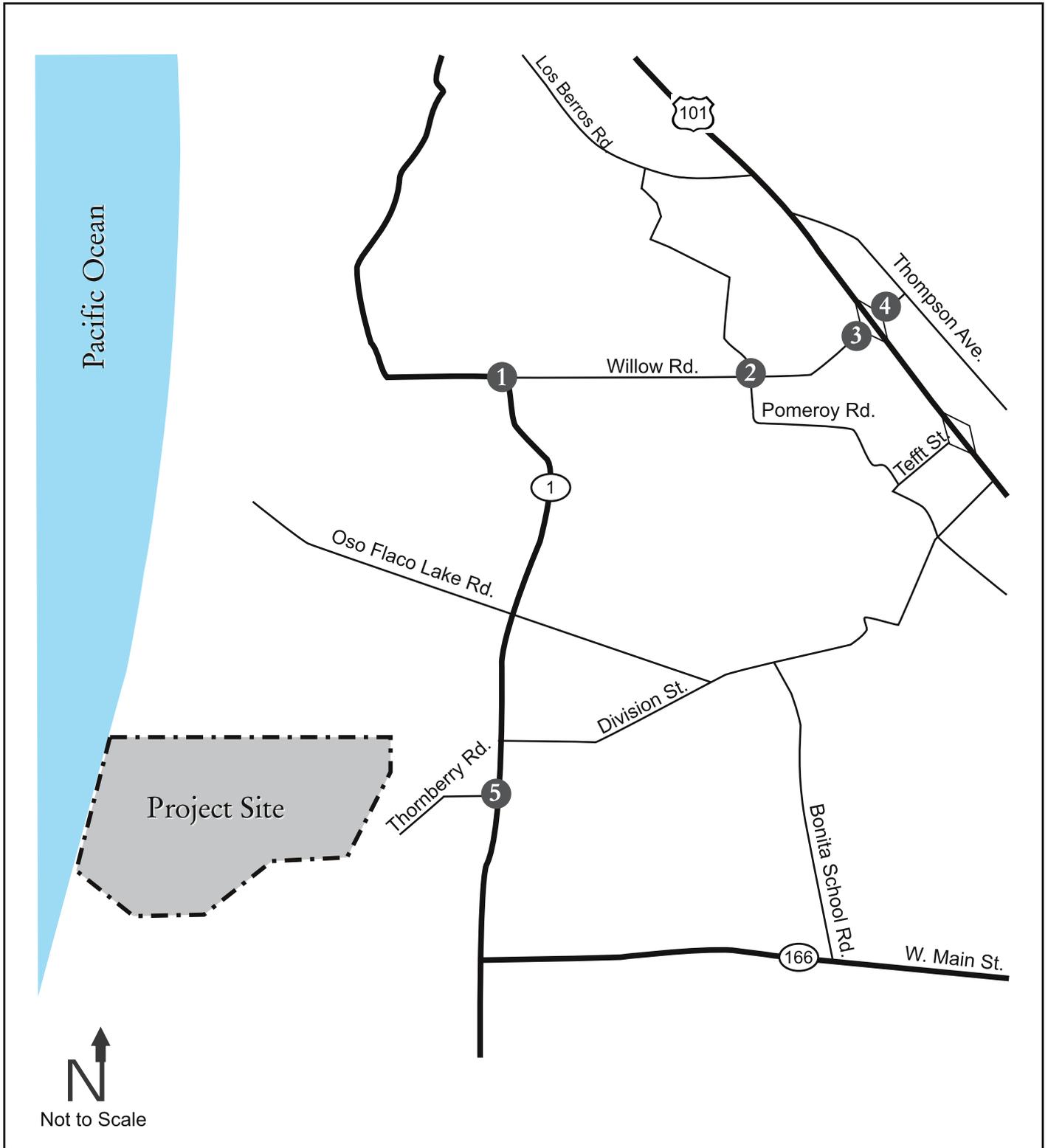
The following intersections were evaluated during the weekday AM and PM peak periods:

1. Willow Road/Highway 1
2. Willow Road/Pomeroy Road
3. Willow Road/Highway 101 Southbound Ramps
4. Willow Road/Highway 101 Northbound Ramps
5. Pomeroy Road/Highway 1

Average daily traffic (ADT) counts were collected on Highway 1 and Willow Road to determine the percentage of trucks using the proposed route. The truck percentage ranged from 3.5 to 4.5 percent. Figure 1 shows the study locations and Figure 2 shows the peak hour traffic volumes.

Traffic count sheets are included as Appendix A.

Figure 1: Project and Study Locations

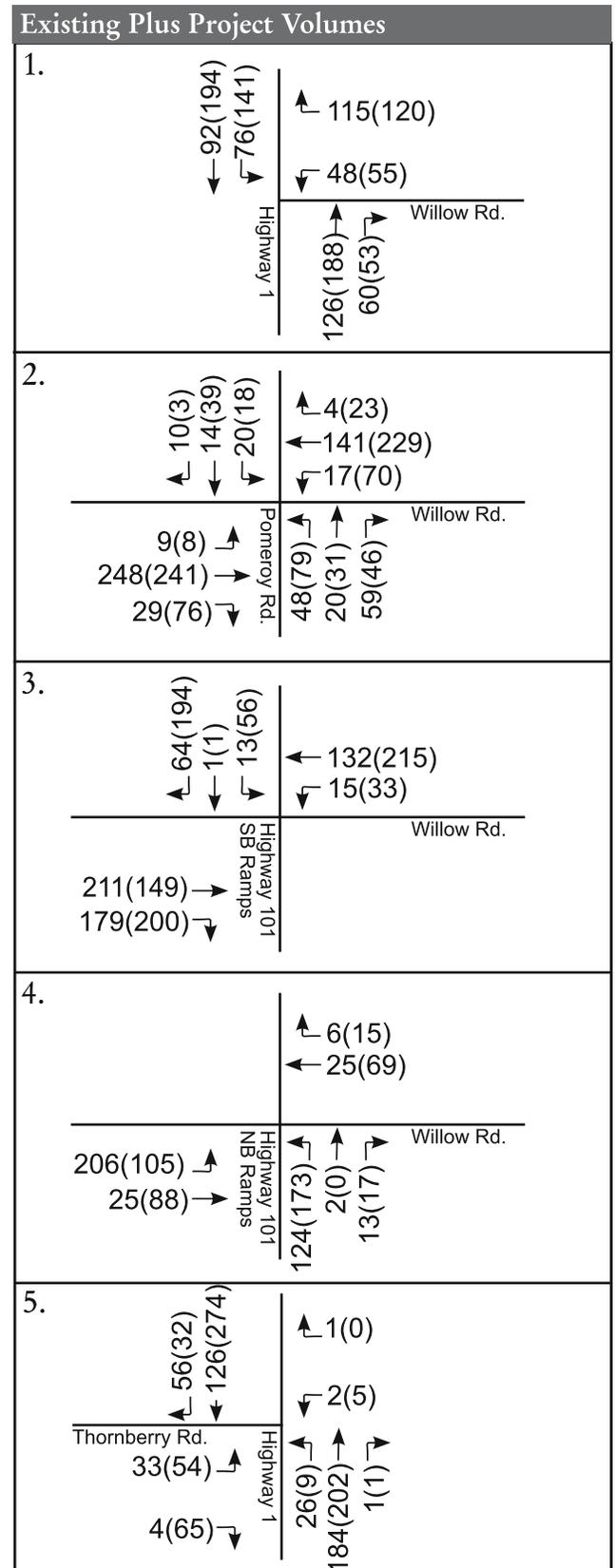
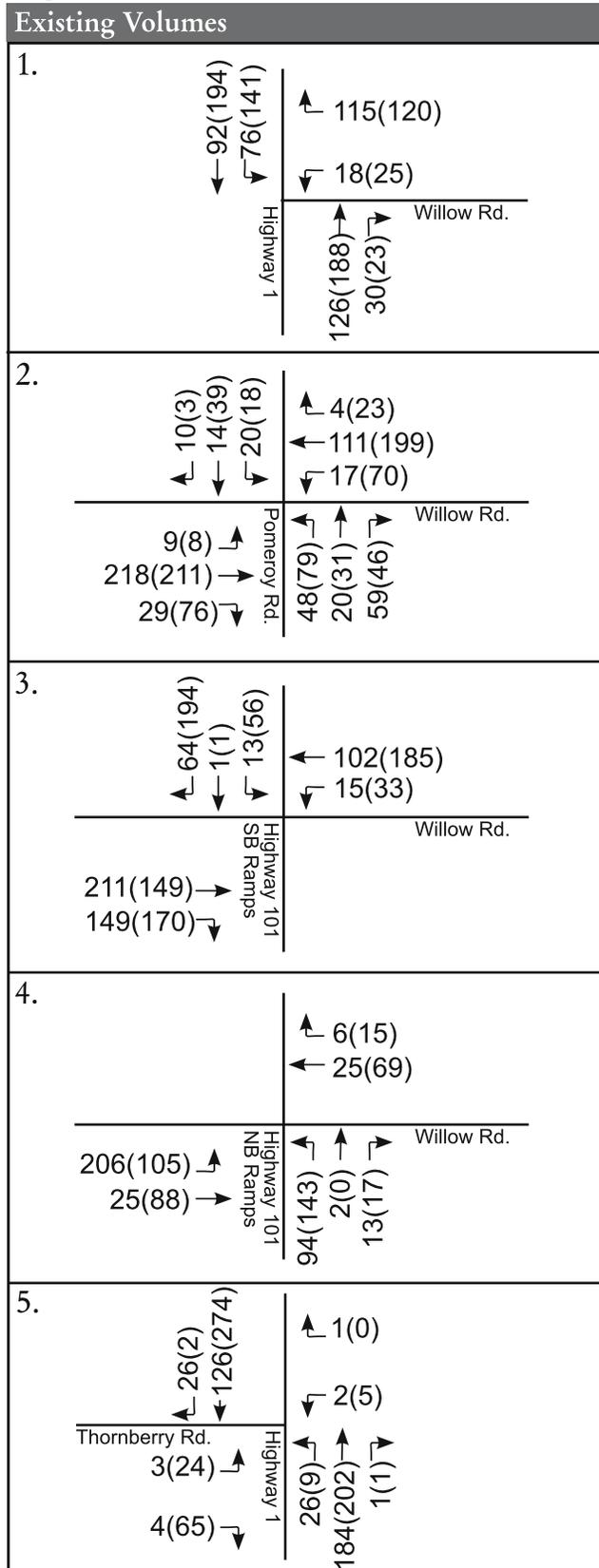


March 2014

Legend:

- Project Site
- Study Intersection

Figure 2: Traffic Volume Summary



Legend:
 xx(yy) - AM(PM) Peak Hour Traffic Volumes

EXISTING CONDITIONS

The five study intersections were evaluated using counts collected during the second week of January 2014. Table 1 summarizes the levels of service for the study intersections.

Table 1: Intersection Levels of Service Summary¹					
Intersection	Peak Hour	Existing		Existing Plus Project	
		Delay² (sec/veh)	LOS	Delay² (sec/veh)	LOS
1. Highway 1/ Willow Road	AM	4.2 (10.0)	A (A)	4.5 (10.6)	A (B)
	PM	4.0 (11.2)	A (B)	4.0 (11.2)	A (C)
2. Pomeroy Road/ Willow Road	AM	10.0	A	10.7	B
	PM	11.2	B	11.2	B
3. US 101 SB/ Willow Road	AM	1.6 (9.8)	A (A)	1.5 (10.0)	A (B)
	PM	4.4 (12.8)	A (B)	4.4 (12.8)	A (B)
4. US 101 NB/ Willow Road	AM	9.2 (16.7)	A (C)	10.4 (18.5)	B (C)
	PM	7.7 (16.1)	A (C)	7.7 (16.1)	A (C)
5. Highway 1/ Thornberry Road	AM	0.9 (11.0)	A (A)	1.6 (12.1)	A (B)
	PM	2.1 (15.4)	A (C)	2.8 (15.7)	A (C)

1. HCM 2000 average control delay in seconds per vehicle.
2. Side street stop controlled intersection delay reported as average delay with worst approach delay in parenthesis.

All of the study intersections operate acceptably at LOS B or better. The worst approaches to the study intersections also operate acceptably at LOS C or better. Detailed LOS calculation sheets are included as Appendix B.

EXISTING PLUS PROJECT CONDITIONS

Project traffic estimates were obtained from the SEIR Addendum, which assumes a worst case activity level of 20 trucks per hour leaving the site and 20 trucks per hour entering the site. A maximum of 120 truck round trips would occur each day.

Because trucks typically accelerate, travel, and maneuver more slowly than passenger cars the number of trips has been expressed in terms of passenger car equivalents (PCEs). Each truck was assumed to be equal to 1.5 passenger cars, per Exhibit 11-10 of the 2010 Highway Capacity Manual. This is consistent with past analysis of the project.

After applying the PCE factor of 1.5, the project would result in the equivalent of 30 inbound passenger car trips and 30 outbound passenger car trips during the peak hour of activity. Table 1 summarizes the intersection LOS with the project in place.

Note that the traffic counts include some level of truck traffic from the project, trips that would shift once the new route is adopted. Because the precise level of truck traffic occurring during the counts is unknown, and to present a conservative analysis, no reductions were made to the counted turning movements.

IMPACT DISCUSSION

Most of the study intersections are controlled by Caltrans, with the exception of Willow Road/Pomeroy Road which is controlled by the County of San Luis Obispo. Caltrans strives to operate at the LOS C/D cusp (LOS C is acceptable, LOS D is not), while LOS D or better operations are acceptable to the County of San Luis Obispo.

The study intersections would operate acceptably based on Caltrans and County of San Luis Obispo criteria with the addition of project traffic.

Because more truck traffic would travel along roads in San Luis Obispo County, it may be appropriate for the County to modify the Truck Roadway Impact Fees paid by the project.

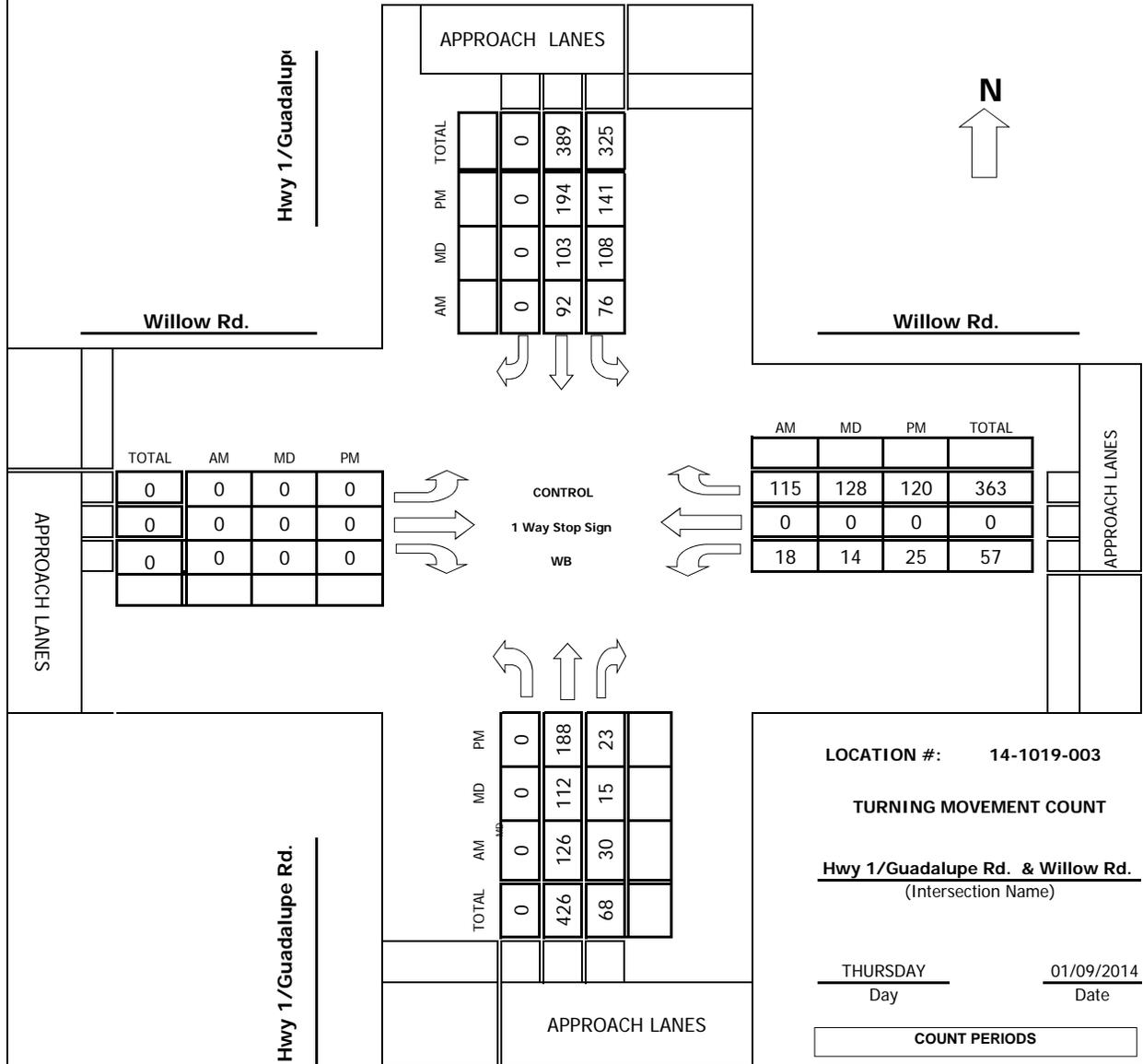
CONCLUSIONS

Changing the truck route would not result in impacts to the study intersections analyzed herein. The findings of the SEIR Addendum would not be changed by the new truck route. The County of San Luis Obispo should re-examine the Truck Impact Fees due from the project.

Appendix A: Traffic Count Sheets

Project #: 14-1019-003

TMC SUMMARY OF Hwy 1/Guadalupe Rd. & Willow Rd.



APPROACH LANES				
	AM	MD	PM	TOTAL
Willow Rd.	0	0	0	0
Hwy 1/Guadalupe Rd.	92	103	194	389
	76	108	141	325

	AM	MD	PM	TOTAL
APPROACH LANES	115	128	120	363
	0	0	0	0
	18	14	25	57

	TOTAL	AM	MD	PM
APPROACH LANES	0	0	0	0
	0	0	0	0
	0	0	0	0

	TOTAL	AM	MD	PM
APPROACH LANES	0	0	0	0
	426	126	112	188
	68	30	15	23

LOCATION #: 14-1019-003
TURNING MOVEMENT COUNT
Hwy 1/Guadalupe Rd. & Willow Rd.
 (Intersection Name)

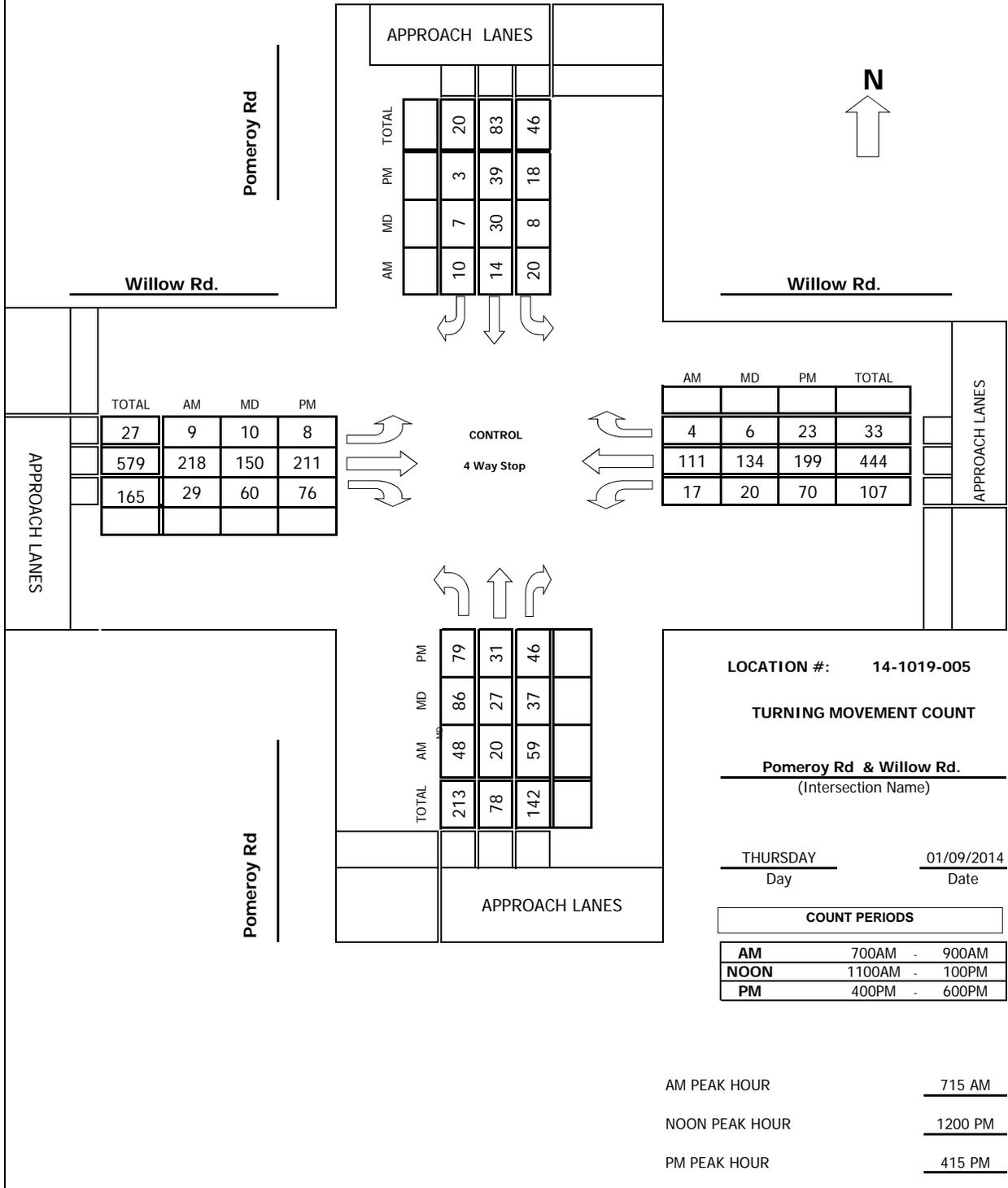
THURSDAY 01/09/2014
 Day Date

COUNT PERIODS	
AM	700AM - 900AM
NOON	1100AM - 100PM
PM	400PM - 600PM

AM PEAK HOUR 730 AM
 NOON PEAK HOUR 1100 AM
 PM PEAK HOUR 415 PM

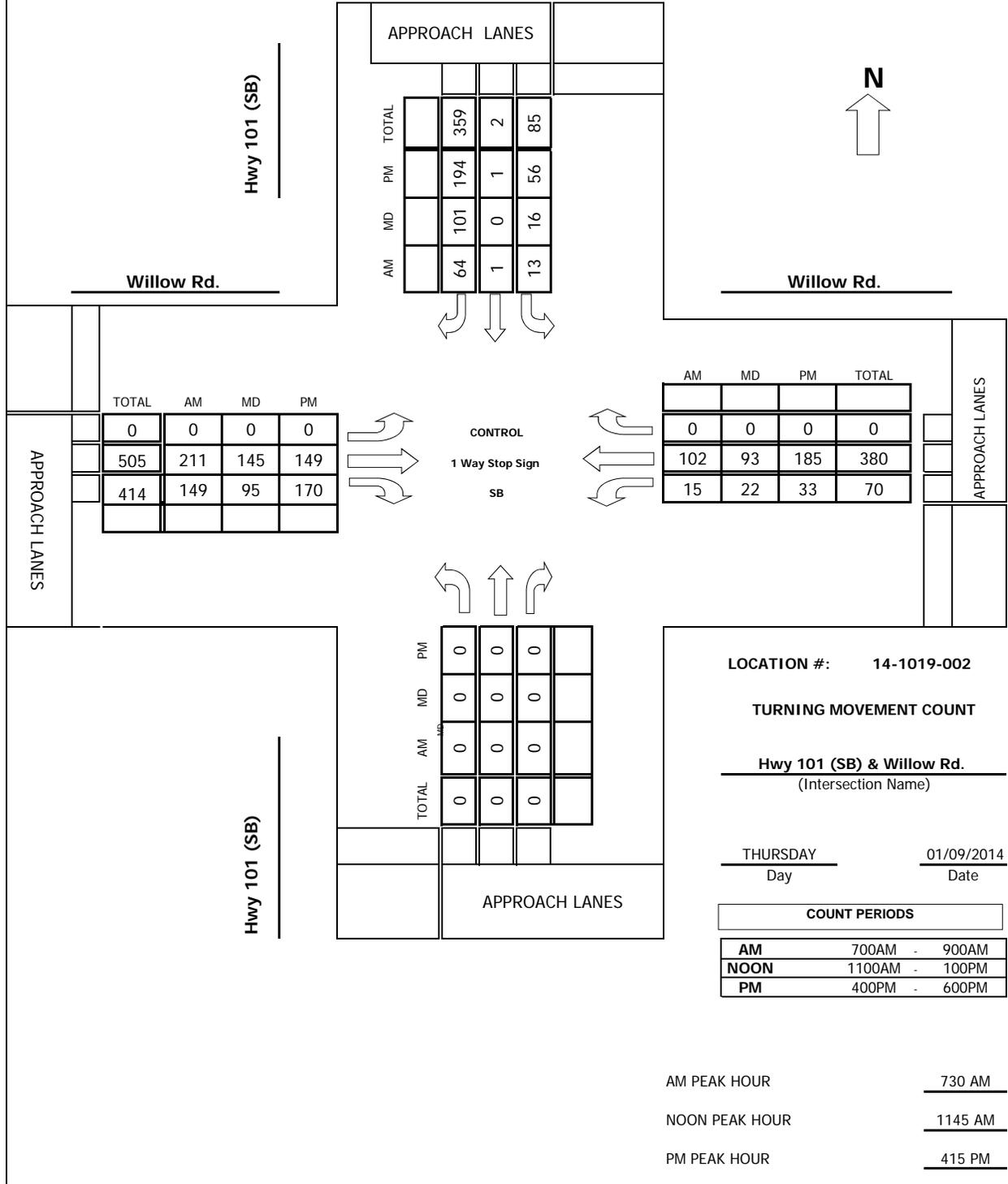
Project #: 14-1019-005

TMC SUMMARY OF Pomeroy Rd & Willow Rd.



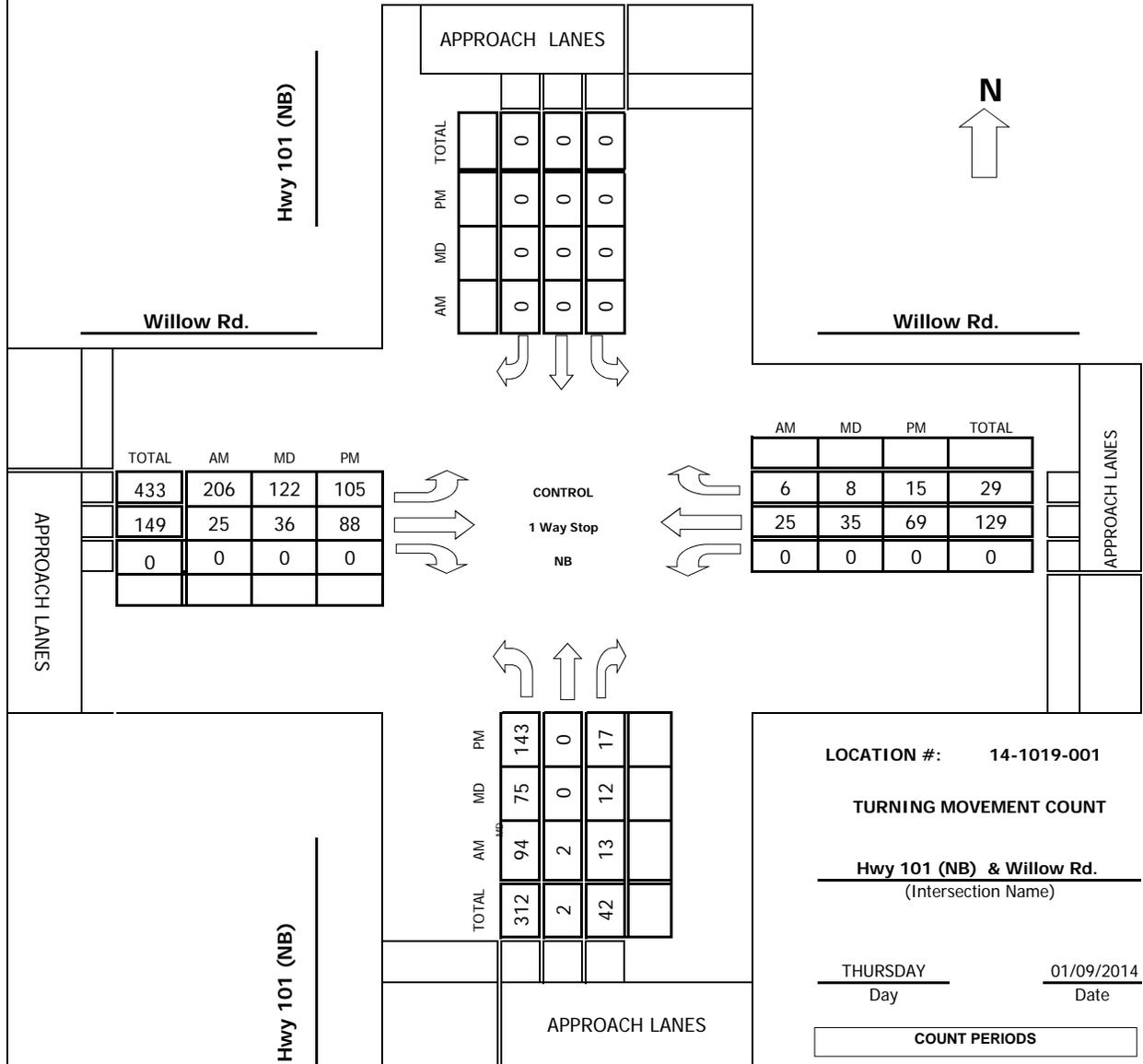
Project #: 14-1019-002

TMC SUMMARY OF Hwy 101 (SB) & Willow Rd.



Project #: 14-1019-001

TMC SUMMARY OF Hwy 101 (NB) & Willow Rd.



TOTAL	AM	MD	PM
433	206	122	105
149	25	36	88
0	0	0	0

AM	MD	PM	TOTAL
6	8	15	29
25	35	69	129
0	0	0	0

TOTAL	AM	MD	PM
312	94	75	143
2	2	0	0
42	13	12	17

LOCATION #: 14-1019-001

TURNING MOVEMENT COUNT

Hwy 101 (NB) & Willow Rd.
(Intersection Name)

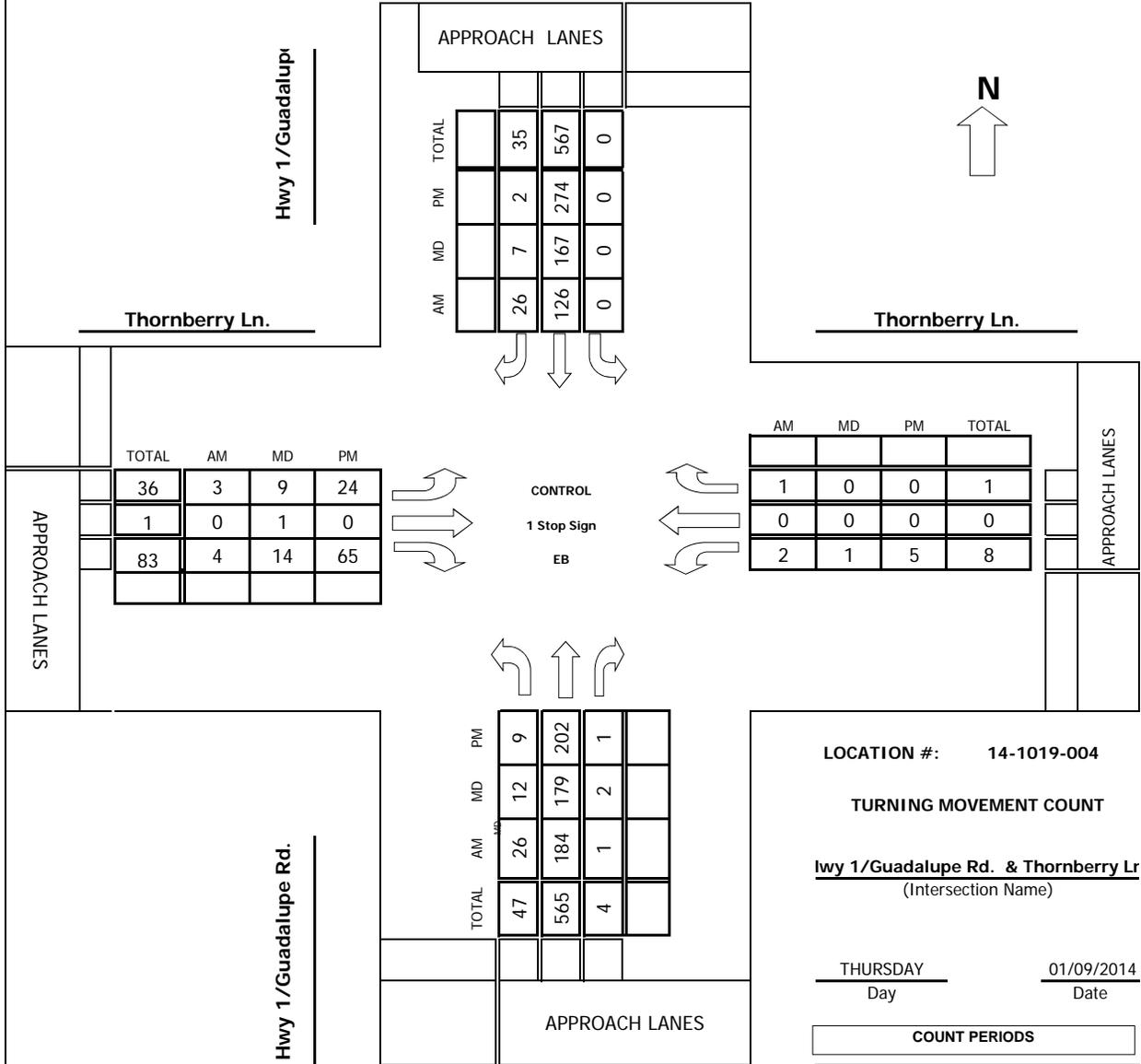
THURSDAY **01/09/2014**
Day Date

COUNT PERIODS	
AM	700AM - 900AM
NOON	1100AM - 100PM
PM	400PM - 600PM

AM PEAK HOUR 730 AM
 NOON PEAK HOUR 1115 AM
 PM PEAK HOUR 445 PM

Project #: 14-1019-004

TMC SUMMARY OF Hwy 1/Guadalupe Rd. & Thornberry Ln.



APPROACH LANES				
	AM	MD	PM	TOTAL
Left	26	7	2	35
Through	126	167	274	567
Right	0	0	0	0

	AM	MD	PM	TOTAL
Left	1	0	0	1
Through	0	0	0	0
Right	2	1	5	8

	TOTAL	AM	MD	PM
Left	36	3	9	24
Through	1	0	1	0
Right	83	4	14	65

	TOTAL	AM	MD	PM
Left	47	26	12	9
Through	565	184	179	202
Right	4	1	2	1

LOCATION #: 14-1019-004

TURNING MOVEMENT COUNT
Hwy 1/Guadalupe Rd. & Thornberry Ln.
 (Intersection Name)

THURSDAY 01/09/2014
 Day Date

COUNT PERIODS	
AM	700AM - 900AM
NOON	1100AM - 100PM
PM	400PM - 600PM

AM PEAK HOUR 700 AM
 NOON PEAK HOUR 1130 AM
 PM PEAK HOUR 415 PM

Appendix B: LOS Calculation Sheets

Guadalupe Remediation
1: Highway 1/Willow Road & Willow Road

Existing AM
3/19/2014

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↘	↘	↘	↘	↘
Volume (veh/h)	18	115	126	30	76	92
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	19	124	135	32	82	99
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None			None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	414	152			168	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	414	152			168	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	86			94	
cM capacity (veh/h)	556	889			1398	
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2	
Volume Total	19	124	168	82	99	
Volume Left	19	0	0	82	0	
Volume Right	0	124	32	0	0	
cSH	556	889	1700	1398	1700	
Volume to Capacity	0.03	0.14	0.10	0.06	0.06	
Queue Length 95th (ft)	3	12	0	5	0	
Control Delay (s)	11.7	9.7	0.0	7.7	0.0	
Lane LOS	B	A		A		
Approach Delay (s)	10.0		0.0	3.5		
Approach LOS	A					
Intersection Summary						
Average Delay	4.2					
Intersection Capacity Utilization	26.0%					
ICU Level of Service	A					
Analysis Period (min)	15					

Guadalupe Remediation
2: Pomeroy Road & Willow Road

Existing AM
3/19/2014

Intersection												
Intersection Delay, s/veh	10											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	9	218	29	0	17	111	4	0	48	20	59
Peak Hour Factor	0.92	0.90	0.90	0.90	0.92	0.90	0.90	0.90	0.92	0.90	0.90	0.90
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	0	10	242	32	0	19	123	4	0	53	22	66
Number of Lanes	0	1	1	1	0	1	1	1	0	1	1	1
Approach	EB			WB			NB					
Opposing Approach	WB			EB			SB					
Opposing Lanes	3			3			3					
Conflicting Approach Left	SB			NB			EB					
Conflicting Lanes Left	3			3			3					
Conflicting Approach Right	NB			SB			WB					
Conflicting Lanes Right	3			3			3					
HCM Control Delay	10.8			9.7			9					
HCM LOS	B			A			A					
Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	0%
Sign Control	Stop	Stop										
Traffic Vol by Lane	48	20	59	9	218	29	17	111	4	20	14	
LT Vol	0	20	0	0	218	0	0	111	0	0	14	
Through Vol	0	0	59	0	0	29	0	0	4	0	0	
RT Vol	48	0	0	9	0	0	17	0	0	20	0	
Lane Flow Rate	53	22	66	10	242	32	19	123	4	22	16	
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	
Degree of Util (X)	0.094	0.036	0.094	0.016	0.365	0.042	0.032	0.194	0.006	0.04	0.026	
Departure Headway (Hd)	6.337	5.837	5.137	5.92	5.42	4.72	6.174	5.674	4.974	6.513	6.013	
Convergence, Y/N	Yes											
Cap	562	609	691	602	659	752	576	628	713	545	589	
Service Time	4.117	3.617	2.917	3.687	3.187	2.487	3.953	3.453	2.753	4.31	3.81	
HCM Lane V/C Ratio	0.094	0.036	0.096	0.017	0.367	0.043	0.033	0.196	0.006	0.04	0.027	
HCM Control Delay	9.8	8.8	8.5	8.8	11.3	7.7	9.2	9.8	7.8	9.6	9	
HCM Lane LOS	A	A	A	A	B	A	A	A	A	A	A	
HCM 95th-tile Q	0.3	0.1	0.3	0	1.7	0.1	0.1	0.7	0	0.1	0.1	

Guadalupe Remediation
2: Pomeroy Road & Willow Road

Existing AM
3/19/2014

Intersection				
Intersection Delay, s/veh				
Intersection LOS				
Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	20	14	10
Peak Hour Factor	0.92	0.90	0.90	0.90
Heavy Vehicles, %	4	4	4	4
Mvmt Flow	0	22	16	11
Number of Lanes	0	1	1	1
Approach				
SB				
Opposing Approach	NB			
Opposing Lanes	3			
Conflicting Approach Left	WB			
Conflicting Lanes Left	3			
Conflicting Approach Right	EB			
Conflicting Lanes Right	3			
HCM Control Delay	9.1			
HCM LOS	A			
Lane				
SBLn3				

Guadalupe Remediation
3: US 101 SB /US 101 SB & Willow Road

Existing AM
3/19/2014



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations		↑	↑	↑	↑						↑	↑		
Volume (veh/h)	0	211	149	15	102	0	0	0	0	13	1	64		
Sign Control		Free			Free			Stop			Stop			
Grade		0%			0%						0%			
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83		
Hourly flow rate (vph)	0	254	180	18	123	0	0	0	0	16	1	77		
Pedestrians														
Lane Width (ft)														
Walking Speed (ft/s)														
Percent Blockage														
Right turn flare (veh)												22		
Median type	None													
Median storage (veh)														
Upstream signal (ft)														
pX, platoon unblocked														
vC, conflicting volume	123				434				452	413	254	413	593	123
vC1, stage 1 conf vol														
vC2, stage 2 conf vol														
vCu, unblocked vol	123				434				452	413	254	413	593	123
tC, single (s)	4.1				4.1				7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)														
tF (s)	2.2				2.2				3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100				98				100	100	100	97	100	92
cM capacity (veh/h)	1452				1115				464	518	780	539	409	923
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1									
Volume Total	254	180	18	123	94									
Volume Left	0	0	18	0	16									
Volume Right	0	180	0	0	77									
cSH	1700	1700	1115	1700	1125									
Volume to Capacity	0.15	0.11	0.02	0.07	0.08									
Queue Length 95th (ft)	0	0	1	0	7									
Control Delay (s)	0.0	0.0	8.3	0.0	9.8									
Lane LOS			A											
Approach Delay (s)	0.0		1.1		9.8									
Approach LOS					A									
Intersection Summary														
Average Delay			1.6											
Intersection Capacity Utilization			30.1%		ICU Level of Service		A							
Analysis Period (min)	15													

Guadalupe Remediation
4: US 101 NB /US 101 NB & Willow Road

Existing AM
3/19/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔			↔	↔		↔	↔			
Volume (veh/h)	206	25	0	0	25	6	94	2	13	0	0	0
Sign Control	Free				Free		Stop				Stop	
Grade	0%				0%		0%				0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	242	29	0	0	29	7	111	2	15	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None				None						7	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	36			29			544	551	29	552	544	29
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	36			29			544	551	29	552	544	29
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	84			100			72	99	99	100	100	100
cM capacity (veh/h)	1561			1571			394	371	1040	381	375	1040
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1							
Volume Total	242	29	29	7	128							
Volume Left	242	0	0	0	111							
Volume Right	0	0	0	7	15							
cSH	1561	1700	1700	1700	447							
Volume to Capacity	0.16	0.02	0.02	0.00	0.29							
Queue Length 95th (ft)	14	0	0	0	29							
Control Delay (s)	7.7	0.0	0.0	0.0	16.7							
Lane LOS	A				C							
Approach Delay (s)	6.9		0.0		16.7							
Approach LOS					C							
Intersection Summary												
Average Delay				9.2								
Intersection Capacity Utilization				30.1%		ICU Level of Service		A				
Analysis Period (min)	15											

Guadalupe Remediation
5: Highway 1/Willow Road & Thornberry Road

Existing AM
3/19/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔	↔			↔
Volume (veh/h)	3	0	4	2	0	1	26	184	1	0	126	26
Sign Control	Stop				Stop		Free				Free	
Grade	0%				0%		0%				0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	0	4	2	0	1	28	200	1	0	137	28
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None		None			
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	409	409	151	412	422	201	165			201		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	409	409	151	412	422	201	165			201		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	100	100	100	98			100		
cM capacity (veh/h)	540	519	890	535	509	835	1401			1359		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	8	3	229	165								
Volume Left	3	2	28	0								
Volume Right	4	1	1	28								
cSH	696	608	1401	1359								
Volume to Capacity	0.01	0.01	0.02	0.00								
Queue Length 95th (ft)	1	0	2	0								
Control Delay (s)	10.2	11.0	1.1	0.0								
Lane LOS	B	B	A									
Approach Delay (s)	10.2	11.0	1.1	0.0								
Approach LOS	B	B										
Intersection Summary												
Average Delay				0.9								
Intersection Capacity Utilization				32.7%		ICU Level of Service		A				
Analysis Period (min)	15											

Guadalupe Remediation
1: Highway 1/Willow Road & Willow Road

Existing PM
3/19/2014

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↔	↔	↔	↔
Volume (veh/h)	25	120	188	23	141	194
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	27	128	200	24	150	206
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None			None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	719	212			224	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	719	212			224	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	85			89	
cM capacity (veh/h)	351	828			1344	
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2	
Volume Total	27	128	224	150	206	
Volume Left	27	0	0	150	0	
Volume Right	0	128	24	0	0	
cSH	351	828	1700	1344	1700	
Volume to Capacity	0.08	0.15	0.13	0.11	0.12	
Queue Length 95th (ft)	6	14	0	9	0	
Control Delay (s)	16.1	10.1	0.0	8.0	0.0	
Lane LOS	C	B		A		
Approach Delay (s)	11.2		0.0	3.4		
Approach LOS	B					
Intersection Summary						
Average Delay						4.0
Intersection Capacity Utilization						32.4%
ICU Level of Service						A
Analysis Period (min)						15

Guadalupe Remediation
2: Pomeroy Road & Willow Road

Existing PM
3/19/2014

Intersection												
Intersection Delay, s/veh	11.2											
Intersection LOS	B											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	8	211	76	0	70	199	23	0	79	31	46
Peak Hour Factor	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	9	232	84	0	77	219	25	0	87	34	51
Number of Lanes	0	1	1	1	0	1	1	1	0	1	1	1
Approach	EB			WB			NB					
Opposing Approach	WB			EB			SB					
Opposing Lanes	3			3			3					
Conflicting Approach Left	SB			NB			EB					
Conflicting Lanes Left	3			3			3					
Conflicting Approach Right	NB			SB			WB					
Conflicting Lanes Right	3			3			3					
HCM Control Delay	11.6			11.5			10.3					
HCM LOS	B			B			B					
Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	
Vol Thru, %	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	
Vol Right, %	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	
Sign Control	Stop			Stop			Stop			Stop		
Traffic Vol by Lane	79	31	46	8	211	76	70	199	23	18	39	
LT Vol	0	31	0	0	211	0	0	199	0	0	39	
Through Vol	0	0	46	0	0	76	0	0	23	0	0	
RT Vol	79	0	0	8	0	0	70	0	0	18	0	
Lane Flow Rate	87	34	51	9	232	84	77	219	25	20	43	
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	
Degree of Util (X)	0.17	0.062	0.082	0.016	0.39	0.124	0.14	0.367	0.038	0.04	0.081	
Departure Headway (Hd)	7.035	6.535	5.835	6.561	6.061	5.361	6.548	6.048	5.348	7.284	6.784	
Convergence, Y/N	Yes											
Cap	510	548	613	546	594	668	548	595	669	491	528	
Service Time	4.778	4.278	3.578	4.299	3.799	3.099	4.286	3.786	3.086	5.03	4.53	
HCM Lane V/C Ratio	0.171	0.062	0.083	0.016	0.391	0.126	0.141	0.368	0.037	0.041	0.081	
HCM Control Delay	11.2	9.7	9.1	9.4	12.6	8.9	10.4	12.3	8.3	10.3	10.1	
HCM Lane LOS	B	A	A	A	B	A	B	B	A	B	B	
HCM 95th-tile Q	0.6	0.2	0.3	0	1.8	0.4	0.5	1.7	0.1	0.1	0.3	

Guadalupe Remediation
2: Pomeroy Road & Willow Road

Existing PM
3/19/2014

Intersection				
Intersection Delay, s/veh				
Intersection LOS				
Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	18	39	3
Peak Hour Factor	0.92	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	20	43	3
Number of Lanes	0	1	1	1
Approach				
SB				
Opposing Approach	NB			
Opposing Lanes	3			
Conflicting Approach Left	WB			
Conflicting Lanes Left	3			
Conflicting Approach Right	EB			
Conflicting Lanes Right	3			
HCM Control Delay	10.1			
HCM LOS	B			
Lane				
SBLn3				

Guadalupe Remediation
3: US 101 SB /US 101 SB & Willow Road

Existing PM
3/19/2014



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Volume (veh/h)	0	149	170	33	185	0	0	0	0	56	1	194
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	0	207	236	46	257	0	0	0	0	78	1	269
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												22
Median type	None											
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	257	443				691	556	207	556	792	257	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	257	443				691	556	207	556	792	257	
tC, single (s)	4.1	4.1				7.1	6.5	6.2	7.1	6.5	6.2	
tC, 2 stage (s)												
tF (s)	2.2	2.2				3.5	4.0	3.3	3.5	4.0	3.3	
p0 queue free %	100	96				100	100	100	82	100	66	
cM capacity (veh/h)	1308	1117				227	422	833	428	308	782	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1							
Volume Total	207	236	46	257	349							
Volume Left	0	0	46	0	78							
Volume Right	0	236	0	0	269							
cSH	1700	1700	1117	1700	1011							
Volume to Capacity	0.12	0.14	0.04	0.15	0.34							
Queue Length 95th (ft)	0	0	3	0	39							
Control Delay (s)	0.0	0.0	8.4	0.0	12.8							
Lane LOS	A				B							
Approach Delay (s)	0.0	1.3		12.8								
Approach LOS	B											
Intersection Summary												
Average Delay	4.4											
Intersection Capacity Utilization	28.4%				ICU Level of Service	A						
Analysis Period (min)	15											

Guadalupe Remediation
4: US 101 NB /US 101 NB & Willow Road

Existing PM
3/19/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations	↔	↔			↔	↔		↔	↔			
Volume (veh/h)	105	88	0	0	69	15	143	0	17	0	0	0
Sign Control	Free				Free		Stop				Stop	
Grade	0%				0%		0%				0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	131	110	0	0	86	19	179	0	21	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None				None						7	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	105			110			459	478	110	469	459	86
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	105			110			459	478	110	469	459	86
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	91			100			63	100	98	100	100	100
cM capacity (veh/h)	1486			1480			478	444	943	460	455	972
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1							
Volume Total	131	110	86	19	200							
Volume Left	131	0	0	0	179							
Volume Right	0	0	0	19	21							
cSH	1486	1700	1700	1700	535							
Volume to Capacity	0.09	0.06	0.05	0.01	0.37							
Queue Length 95th (ft)	7	0	0	0	43							
Control Delay (s)	7.7	0.0	0.0	0.0	16.1							
Lane LOS	A				C							
Approach Delay (s)	4.2		0.0		16.1							
Approach LOS					C							
Intersection Summary												
Average Delay			7.7									
Intersection Capacity Utilization			28.4%		ICU Level of Service						A	
Analysis Period (min)	15											

Guadalupe Remediation
5: Highway 1/Willow Road & Thornberry Road

Existing PM
3/19/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations	↔	↔			↔	↔		↔	↔			↔
Volume (veh/h)	24	0	65	5	0	0	9	202	1	0	274	2
Sign Control	Stop				Stop		Free				Free	
Grade	0%				0%		0%				0%	
Peak Hour Factor	0.89	0.92	0.89	0.92	0.92	0.92	0.89	0.89	0.92	0.92	0.89	0.89
Hourly flow rate (vph)	27	0	73	5	0	0	10	227	1	0	308	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None				None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	557	557	309	630	558	228	310				228	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	557	557	309	630	558	228	310				228	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	94	100	90	98	100	100	99				100	
cM capacity (veh/h)	438	432	731	350	432	807	1250				1328	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	100	5	238	310								
Volume Left	27	5	10	0								
Volume Right	73	0	1	2								
cSH	620	350	1250	1328								
Volume to Capacity	0.16	0.02	0.01	0.00								
Queue Length 95th (ft)	14	1	1	0								
Control Delay (s)	11.9	15.4	0.4	0.0								
Lane LOS	B	C	A									
Approach Delay (s)	11.9	15.4	0.4	0.0								
Approach LOS	B	C										
Intersection Summary												
Average Delay			2.1									
Intersection Capacity Utilization			29.5%		ICU Level of Service						A	
Analysis Period (min)	15											

Guadalupe Remediation
1: Highway 1/Willow Road & Willow Road

Existing + Project AM
3/19/2014

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↗
Volume (veh/h)	48	115	126	60	76	92
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	52	124	135	65	82	99
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None			None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	430	168			200	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	430	168			200	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	91	86			94	
cM capacity (veh/h)	544	871			1360	
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2	
Volume Total	52	124	200	82	99	
Volume Left	52	0	0	82	0	
Volume Right	0	124	65	0	0	
cSH	544	871	1700	1360	1700	
Volume to Capacity	0.09	0.14	0.12	0.06	0.06	
Queue Length 95th (ft)	8	12	0	5	0	
Control Delay (s)	12.3	9.8	0.0	7.8	0.0	
Lane LOS	B	A		A		
Approach Delay (s)	10.6		0.0	3.5		
Approach LOS	B					
Intersection Summary						
Average Delay	4.5					
Intersection Capacity Utilization	27.8% ICU Level of Service A					
Analysis Period (min)	15					

Guadalupe Remediation
2: Pomeroy Road & Willow Road

Existing + Project AM
3/19/2014

Intersection												
Intersection Delay, s/veh	10.7											
Intersection LOS	B											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	9	248	29	0	17	141	4	0	48	20	59
Peak Hour Factor	0.92	0.90	0.90	0.90	0.92	0.90	0.90	0.90	0.92	0.90	0.90	0.90
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	0	10	276	32	0	19	157	4	0	53	22	66
Number of Lanes	0	1	1	1	0	1	1	1	0	1	1	1
Approach	EB			WB				NB				
Opposing Approach	WB			EB				SB				
Opposing Lanes	3			3				3				
Conflicting Approach Left	SB			NB				EB				
Conflicting Lanes Left	3			3				3				
Conflicting Approach Right	NB			SB				WB				
Conflicting Lanes Right	3			3				3				
HCM Control Delay	11.7			10.3				9.3				
HCM LOS	B			B				A				
Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	100%
Vol Right, %	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	0%
Sign Control	Stop			Stop				Stop				
Traffic Vol by Lane	48	20	59	9	248	29	17	141	4	20	14	
LT Vol	0	20	0	0	248	0	0	141	0	0	14	
Through Vol	0	0	59	0	0	29	0	0	4	0	0	
RT Vol	48	0	0	9	0	0	17	0	0	20	0	
Lane Flow Rate	53	22	66	10	276	32	19	157	4	22	16	
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	
Degree of Util (X)	0.098	0.038	0.099	0.017	0.421	0.043	0.033	0.25	0.006	0.042	0.027	
Departure Headway (Hd)	6.621	6.121	5.421	6.003	5.503	4.803	6.36	5.86	5.16	6.819	6.319	
Convergence, Y/N	Yes											
Cap	545	588	665	591	648	736	566	617	698	528	569	
Service Time	4.322	3.822	3.122	3.795	3.295	2.595	4.06	3.56	2.86	4.524	4.024	
HCM Lane V/C Ratio	0.097	0.037	0.099	0.017	0.426	0.043	0.034	0.254	0.006	0.042	0.028	
HCM Control Delay	10	9.1	8.7	8.9	12.3	7.8	9.3	10.5	7.9	9.8	9.2	
HCM Lane LOS	A	A	A	A	B	A	A	B	A	A	A	
HCM 95th-ile Q	0.3	0.1	0.3	0.1	2.1	0.1	0.1	1	0	0.1	0.1	

Guadalupe Remediation
2: Pomeroy Road & Willow Road

Existing + Project AM
3/19/2014

Intersection				
Intersection Delay, s/veh				
Intersection LOS				
Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	20	14	10
Peak Hour Factor	0.92	0.90	0.90	0.90
Heavy Vehicles, %	4	4	4	4
Mvmt Flow	0	22	16	11
Number of Lanes	0	1	1	1
Approach				
SB				
Opposing Approach	NB			
Opposing Lanes	3			
Conflicting Approach Left	WB			
Conflicting Lanes Left	3			
Conflicting Approach Right	EB			
Conflicting Lanes Right	3			
HCM Control Delay	9.3			
HCM LOS	A			
Lane				
SBLn3				

Guadalupe Remediation
3: US 101 SB /US 101 SB & Willow Road

Existing + Project AM
3/19/2014



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations		↑	↑	↑	↑						↑	↑		
Volume (veh/h)	0	211	179	15	132	0	0	0	0	13	1	64		
Sign Control		Free			Free			Stop			Stop			
Grade		0%			0%			0%			0%			
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83		
Hourly flow rate (vph)	0	254	216	18	159	0	0	0	0	16	1	77		
Pedestrians														
Lane Width (ft)														
Walking Speed (ft/s)														
Percent Blockage														
Right turn flare (veh)												22		
Median type	None													
Median storage (veh)														
Upstream signal (ft)														
pX, platoon unblocked														
vC, conflicting volume	159				470				489	449	254	449	665	159
vC1, stage 1 conf vol														
vC2, stage 2 conf vol														
vCu, unblocked vol	159				470				489	449	254	449	665	159
tC, single (s)	4.1				4.1				7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)														
tF (s)	2.2				2.2				3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100				98				100	100	100	97	100	91
cM capacity (veh/h)	1408				1081				437	494	780	510	372	881
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1									
Volume Total	254	216	18	159	94									
Volume Left	0	0	18	0	16									
Volume Right	0	216	0	0	77									
cSH	1700	1700	1081	1700	1074									
Volume to Capacity	0.15	0.13	0.02	0.09	0.09									
Queue Length 95th (ft)	0	0	1	0	7									
Control Delay (s)	0.0	0.0	8.4	0.0	10.0									
Lane LOS			A			B								
Approach Delay (s)	0.0		0.9		10.0									
Approach LOS					B									
Intersection Summary														
Average Delay			1.5											
Intersection Capacity Utilization			31.7%		ICU Level of Service		A							
Analysis Period (min)	15													

Guadalupe Remediation
4: US 101 NB /US 101 NB & Willow Road

Existing + Project AM
3/19/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔			↕	↕		↕	↕			
Volume (veh/h)	206	25	0	0	25	6	124	2	13	0	0	0
Sign Control	Free				Free		Stop				Stop	
Grade	0%				0%		0%				0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	242	29	0	0	29	7	146	2	15	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)	7											
Median type	None				None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	36			29			544	551	29	552	544	29
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	36			29			544	551	29	552	544	29
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	84			100			63	99	99	100	100	100
cM capacity (veh/h)	1561			1571			394	371	1040	381	375	1040
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1							
Volume Total	242	29	29	7	164							
Volume Left	242	0	0	0	146							
Volume Right	0	0	0	7	15							
cSH	1561	1700	1700	1700	434							
Volume to Capacity	0.16	0.02	0.02	0.00	0.38							
Queue Length 95th (ft)	14	0	0	0	43							
Control Delay (s)	7.7	0.0	0.0	0.0	18.5							
Lane LOS	A				C							
Approach Delay (s)	6.9		0.0		18.5							
Approach LOS					C							
Intersection Summary												
Average Delay				10.4								
Intersection Capacity Utilization				31.7%		ICU Level of Service		A				
Analysis Period (min)	15											

Guadalupe Remediation
5: Highway 1/Willow Road & Thornberry Road

Existing + Project AM
3/19/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↕	↕		↕	↕			
Volume (veh/h)	33	0	4	2	0	1	26	184	1	0	126	56
Sign Control	Stop				Stop		Free				Free	
Grade	0%				0%		0%				0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	36	0	4	2	0	1	28	200	1	0	137	61
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None		None			
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	426	425	167	429	455	201	198			201		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	426	425	167	429	455	201	198			201		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	93	100	100	100	100	100	98			100		
cM capacity (veh/h)	526	507	872	522	488	835	1363			1359		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	40	3	229	198								
Volume Left	36	2	28	0								
Volume Right	4	1	1	61								
cSH	550	597	1363	1359								
Volume to Capacity	0.07	0.01	0.02	0.00								
Queue Length 95th (ft)	6	0	2	0								
Control Delay (s)	12.1	11.1	1.1	0.0								
Lane LOS	B	B	A									
Approach Delay (s)	12.1	11.1	1.1	0.0								
Approach LOS	B	B										
Intersection Summary												
Average Delay				1.6								
Intersection Capacity Utilization				34.6%		ICU Level of Service		A				
Analysis Period (min)	15											

Guadalupe Remediation
1: Highway 1/Willow Road & Willow Road

Existing + Project PM
3/19/2014



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↔	↔	↔	↔
Volume (veh/h)	25	120	188	23	141	194
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	27	128	200	24	150	206
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	719	212			224	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	719	212			224	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	85			89	
cM capacity (veh/h)	351	828			1344	
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2	
Volume Total	27	128	224	150	206	
Volume Left	27	0	0	150	0	
Volume Right	0	128	24	0	0	
cSH	351	828	1700	1344	1700	
Volume to Capacity	0.08	0.15	0.13	0.11	0.12	
Queue Length 95th (ft)	6	14	0	9	0	
Control Delay (s)	16.1	10.1	0.0	8.0	0.0	
Lane LOS	C	B		A		
Approach Delay (s)	11.2		0.0	3.4		
Approach LOS	B					
Intersection Summary						
Average Delay						4.0
Intersection Capacity Utilization						32.4%
ICU Level of Service						A
Analysis Period (min)						15

Guadalupe Remediation
2: Pomeroy Road & Willow Road

Existing + Project PM
3/19/2014

Intersection												
Intersection Delay, s/veh	11.2											
Intersection LOS	B											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	8	211	76	0	70	199	23	0	79	31	46
Peak Hour Factor	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	9	232	84	0	77	219	25	0	87	34	51
Number of Lanes	0	1	1	1	0	1	1	1	0	1	1	1
Approach	EB			WB				NB				
Opposing Approach	WB			EB				SB				
Opposing Lanes	3			3				3				
Conflicting Approach Left	SB			NB				EB				
Conflicting Lanes Left	3			3				3				
Conflicting Approach Right	NB			SB				WB				
Conflicting Lanes Right	3			3				3				
HCM Control Delay	11.6			11.5				10.3				
HCM LOS	B			B				B				
Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	0%
Sign Control	Stop			Stop			Stop			Stop		
Traffic Vol by Lane	79	31	46	8	211	76	70	199	23	18	39	
LT Vol	0	31	0	0	211	0	0	199	0	0	39	
Through Vol	0	0	46	0	0	76	0	0	23	0	0	
RT Vol	79	0	0	8	0	0	70	0	0	18	0	
Lane Flow Rate	87	34	51	9	232	84	77	219	25	20	43	
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	
Degree of Util (X)	0.17	0.062	0.082	0.016	0.39	0.124	0.14	0.367	0.038	0.04	0.081	
Departure Headway (Hd)	7.035	6.535	5.835	6.561	6.061	5.361	6.548	6.048	5.348	7.284	6.784	
Convergence, Y/N	Yes											
Cap	510	548	613	546	594	668	548	595	669	491	528	
Service Time	4.778	4.278	3.578	4.299	3.799	3.099	4.286	3.786	3.086	5.03	4.53	
HCM Lane V/C Ratio	0.171	0.062	0.083	0.016	0.391	0.126	0.141	0.368	0.037	0.041	0.081	
HCM Control Delay	11.2	9.7	9.1	9.4	12.6	8.9	10.4	12.3	8.3	10.3	10.1	
HCM Lane LOS	B	A	A	A	B	A	B	B	A	B	B	
HCM 95th-tile Q	0.6	0.2	0.3	0	1.8	0.4	0.5	1.7	0.1	0.1	0.3	

Guadalupe Remediation
2: Pomeroy Road & Willow Road

Existing + Project PM
3/19/2014

Intersection				
Intersection Delay, s/veh				
Intersection LOS				
Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	18	39	3
Peak Hour Factor	0.92	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	20	43	3
Number of Lanes	0	1	1	1
Approach				
SB				
Opposing Approach	NB			
Opposing Lanes	3			
Conflicting Approach Left	WB			
Conflicting Lanes Left	3			
Conflicting Approach Right	EB			
Conflicting Lanes Right	3			
HCM Control Delay	10.1			
HCM LOS	B			
Lane				
SBLn3				

Guadalupe Remediation
3: US 101 SB /US 101 SB & Willow Road

Existing + Project PM
3/19/2014



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations		↑	↑	↑	↑						↑	↑		
Volume (veh/h)	0	149	170	33	185	0	0	0	0	56	1	194		
Sign Control		Free			Free			Stop			Stop			
Grade		0%			0%			0%			0%			
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72		
Hourly flow rate (vph)	0	207	236	46	257	0	0	0	0	78	1	269		
Pedestrians														
Lane Width (ft)														
Walking Speed (ft/s)														
Percent Blockage														
Right turn flare (veh)												22		
Median type	None			None										
Median storage (veh)														
Upstream signal (ft)														
pX, platoon unblocked														
vC, conflicting volume	257				443				691	556	207	556	792	257
vC1, stage 1 conf vol														
vC2, stage 2 conf vol														
vCu, unblocked vol	257				443				691	556	207	556	792	257
tC, single (s)	4.1				4.1				7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)														
tF (s)	2.2				2.2				3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100				96				100	100	100	82	100	66
cM capacity (veh/h)	1308				1117				227	422	833	428	308	782
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1									
Volume Total	207	236	46	257	349									
Volume Left	0	0	46	0	78									
Volume Right	0	236	0	0	269									
cSH	1700	1700	1117	1700	1011									
Volume to Capacity	0.12	0.14	0.04	0.15	0.34									
Queue Length 95th (ft)	0	0	3	0	39									
Control Delay (s)	0.0	0.0	8.4	0.0	12.8									
Lane LOS				A	B									
Approach Delay (s)	0.0				1.3				12.8					
Approach LOS	B													
Intersection Summary														
Average Delay				4.4										
Intersection Capacity Utilization				28.4%	ICU Level of Service	A								
Analysis Period (min)	15													

Guadalupe Remediation
4: US 101 NB /US 101 NB & Willow Road

Existing + Project PM
3/19/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔			↕	↕		↕	↕			
Volume (veh/h)	105	88	0	0	69	15	143	0	17	0	0	0
Sign Control	Free				Free		Stop				Stop	
Grade	0%				0%		0%				0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	131	110	0	0	86	19	179	0	21	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)	7											
Median type	None				None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	105			110			459	478	110	469	459	86
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	105			110			459	478	110	469	459	86
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	91			100			63	100	98	100	100	100
cM capacity (veh/h)	1486			1480			478	444	943	460	455	972
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1							
Volume Total	131	110	86	19	200							
Volume Left	131	0	0	0	179							
Volume Right	0	0	0	19	21							
cSH	1486	1700	1700	1700	535							
Volume to Capacity	0.09	0.06	0.05	0.01	0.37							
Queue Length 95th (ft)	7	0	0	0	43							
Control Delay (s)	7.7	0.0	0.0	0.0	16.1							
Lane LOS	A				C							
Approach Delay (s)	4.2		0.0		16.1							
Approach LOS					C							
Intersection Summary												
Average Delay				7.7								
Intersection Capacity Utilization				28.4%	ICU Level of Service	A						
Analysis Period (min)	15											

Guadalupe Remediation
5: Highway 1/Willow Road & Thornberry Road

Existing + Project PM
3/19/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔			↕	↕		↕	↕			
Volume (veh/h)	54	0	65	5	0	0	9	202	1	0	274	32
Sign Control	Stop				Stop		Free				Free	
Grade	0%				0%		0%				0%	
Peak Hour Factor	0.89	0.92	0.89	0.92	0.92	0.92	0.89	0.89	0.92	0.92	0.89	0.89
Hourly flow rate (vph)	61	0	73	5	0	0	10	227	1	0	308	36
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None		None			
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	574	574	326	647	592	228	344			228		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	574	574	326	647	592	228	344			228		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	86	100	90	98	100	100	99			100		
cM capacity (veh/h)	427	423	715	340	413	807	1215			1328		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	134	5	238	344								
Volume Left	61	5	10	0								
Volume Right	73	0	1	36								
cSH	548	340	1215	1328								
Volume to Capacity	0.24	0.02	0.01	0.00								
Queue Length 95th (ft)	24	1	1	0								
Control Delay (s)	13.7	15.7	0.4	0.0								
Lane LOS	B	C	A									
Approach Delay (s)	13.7	15.7	0.4	0.0								
Approach LOS	B	C										
Intersection Summary												
Average Delay				2.8								
Intersection Capacity Utilization				30.9%	ICU Level of Service	A						
Analysis Period (min)	15											