

Addendum No. 2 to the Environmental Impact Report on the  
Natomas Levee Improvement Program  
Phase 3 Landside Improvements Project



State Clearinghouse # 2008072060

Prepared for:



August 2011



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**Natomas Levee Improvement Program**  
**Phase 3 Landside Improvements Project**



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# ADDENDUM NO. 2 TO THE PHASE 3 LANDSIDE EIR

## INTRODUCTION

This addendum to the *Final Environmental Impact Report, Natomas Levee Improvement Program Phase 3 Landside Improvements Project* (State Clearinghouse No. 2008072060) (Phase 3 EIR) addresses the hauling of approximately 30,000 cubic yards (cy) of fill material from an existing stockpile of soils located along Mack Road in the City of Sacramento, hereafter referred to as the Moulton Pile site, to Reach 9B of the Sacramento River east levee improvements. Because the Phase 3 Project as described and analyzed in the previously certified EIR (Phase 3 EIR) (USACE and SAFCA 2009, SAFCA 2009) did not identify the potential for hauling of fill material from this location as part of its previous analysis, a minor revision to the certified EIR is necessary. The draft and final EIRs are available at the Sacramento Area Flood Control Agency (SAFCA) offices at 1007 7th Street, 7th Floor, Sacramento, CA 95814, and online at SAFCA's Web site ([http://www.safca.org/Programs\\_Natomas.html](http://www.safca.org/Programs_Natomas.html)). The location of the existing fill material to be transported to Sacramento River east levee Reach 9B and the proposed haul route are depicted on **Plate 1**.

## PROJECT DESCRIPTION

### MATERIAL HAULING

SAFCA identified the need to procure alternative fill materials for Reach 9B of Phase 3 of the Natomas Levee Improvements Program (NLIP). The entirety of the original source of materials identified and assumed in the Phase 3 EIR is not available for use by SAFCA to complete the Sacramento River east levee improvements as scheduled, and additional material (approximately 30,000 cy) is needed to complete Reach 9B of the NLIP. The source of the materials contemplated in this addendum is located on a vacant, privately owned parcel along Mack Road, immediately west of Deer Meadow Drive. The existing fill materials (approximately 30,000 cy) represents fill material excavated from implementation of the South Sacramento Streams project, which provides additional flood protection along Morrison, Florin, Elder, and Unionhouse Creeks and was previously evaluated in a 1998 EIS/EIR prepared by the U.S. Army Corps of Engineers, Sacramento District and SAFCA. A supplemental EIR was then prepared in 2005 by SAFCA to address design element refinements to the South Sacramento Streams project. The fill materials located at the Moulton Pile site are not intended for further use as part of the South Sacramento Streams project and must be hauled off of the stockpile site.

SAFCA proposes to transport the existing material located at the Moulton Pile site to Reach 9B, which is located on the east side of the Sacramento River to the north and south of Interstate 5 (I-5). Loaded haul trucks would exit the Moulton Pile site and turn east along Mack Road, north onto State Route 99 (SR 99), west onto U.S. Highway 50 (US 50), and north onto I-5. Trucks would exit I-5 at Airport Boulevard and head north before taking North Bayou Road westward to Reach 9B. Once empty, haul trucks would travel back along North Bayou Road to Airport Boulevard and take I-5 south to Meadowview Road, at which point they would travel east to Mack Road and the Moulton Pile site to be reloaded. Depending on hourly traffic conditions along Mack Road and SR-99, loaded trucks may also use an alternate route when traveling to Reach 9B. This alternate route would involve heading east along Mack Road and then north along Franklin Boulevard before turning west onto Florin Road to reach I-5 North.

Trucks would travel up to 20 miles in each direction between the Moulton Pile site and Reach 9B. A backhoe/loader would be used to load fill materials from the Moulton Pile site onto the haul trucks. Based on average loading times, it is anticipated that no more than 25 trucks would exit the Moulton Pile site in a given hour. The capacity of each haul truck is 12 cy, and as a result, approximately 2,500 truck trips (round-trip) would be required to transport the 30,000 cy of material from the Moulton Pile site to Reach 9B. Haul trucks would not be permitted to travel between the Moulton Pile site and Reach 9B during weekday peak hours (7-9 a.m. and 4-6 p.m.), and activities at the Moulton Pile site would comply with City of Sacramento requirements, including the



Source: AECOM 2011

**Proposed Haul Route for Materials from Moulton Pile Site**

**Plate 1**

City Noise Ordinance (Chapter 8.68 of the City Municipal Code). Hauling activities are anticipated to take place for approximately 13 days. This addendum addresses the potential impacts associated with transporting alternative fill material to Reach 9B from the Moulton Pile site and the potential air quality, noise, and traffic impacts associated with activities at the Moulton Pile site and haul truck trips.

## **STANDARD FOR PREPARATION OF AN ADDENDUM**

Under the State CEQA Guidelines (California Code of Regulations [CCR] Section 15164), an addendum to a previously certified EIR is required when minor modifications in the project are proposed, but none of the conditions described in the State CEQA Guidelines that require either a subsequent EIR (CCR Section 15162) or a supplemental EIR (CCR Section 15163) have occurred.

## **SUBSEQUENT OR SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORTS**

Under the State CEQA Guidelines (CCR Section 15162), a subsequent EIR is required whenever any of the following conditions occur:

- ▶ substantial changes are proposed in the project that 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;
- ▶ substantial changes occur with respect to the circumstances under which the project is undertaken that 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
- ▶ 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:
  - the project will have one or more significant effects not discussed in the previous EIR or negative declaration;
  - significant effects previously examined will be substantially more severe than shown in the previous EIR;
  - 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
  - mitigation measures or alternatives that 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.

## **ENVIRONMENTAL ANALYSIS**

This section of the addendum analyzes the potential effects on the physical environment from implementation of the proposed modification in the Phase 3 Project. This analysis has been prepared to determine whether any of the conditions described above that would require preparation of a subsequent or supplemental EIR would occur as a result of the project changes.

## ISSUES NOT ANALYZED FURTHER IN THIS ADDENDUM

The proposed activities described in this addendum constitute a small change in the approved Phase 3 Project and certified Phase 3 EIR. Implementation of the proposed change would not cause a new significant impact or a substantial increase in the severity or intensity of the impacts identified in the Phase 3 EIR for the following issue areas because the use of fill material along Sacramento River east levee Reach 9B is part of the project as described. This activity would modify the origin of a portion of the fill materials needed for the planned improvements to Reach 9B under the Phase 3 Project, but the activities related to the placement of fill along Reach 9B would remain as described and analyzed in the Phase 3 EIR. The proposed modifications would not cause new significant impacts, a substantial increase in the severity of the impacts, or require new mitigation measures beyond those identified in the Phase 3 EIR for the following resource areas:

- ▶ agricultural resources;
- ▶ land use, socioeconomics, population, and housing;
- ▶ geology and soils;
- ▶ hydrology and hydraulics;
- ▶ fisheries;
- ▶ sensitive aquatic habitats;
- ▶ vegetation and wildlife;
- ▶ special-status terrestrial species;
- ▶ cultural resources;
- ▶ paleontological resources;
- ▶ recreation;
- ▶ visual resources;
- ▶ utilities and service systems;
- ▶ hazards and hazardous materials;
- ▶ airport safety;
- ▶ wildfire hazards; and
- ▶ environmental justice.

It is important to note that conditions surrounding construction activities at the Moulton Pile site were addressed as part of the South Sacramento Streams project EIR/EIS and SEIR and are not considered part of this project. Any best management practices (BMPs) related to temporary disturbance to soils (e.g. application of erosion control seeding on all disturbed areas), visual resources, biological resources are considered to be addressed/implemented as part of the former environmental review for the South Sacramento County Streams project and do not require review as part of this addendum. Therefore, any measures related to the temporary disturbance at the Moulton Pile site are not addressed as part of this addendum.

## ISSUES CARRIED FORWARD FOR FURTHER ANALYSIS IN THIS ADDENDUM

### AIR QUALITY

Construction-related activities related to the proposed modifications would result in temporary emissions of criteria air pollutants (e.g., particulate matter [ $PM_{10}$ ]) and ozone precursors (e.g., reactive organic gases [ROG] and nitrous oxides [ $NO_x$ ]) associated with material transport. As stated on page 4.13-3 of the Phase 3 EIR, construction-related emissions are described as “short-term” or temporary in duration and represent a significant impact with respect to air quality (fugitive  $PM_{10}$ ) dust emissions. With respect to the proposed modifications,  $PM_{10}$  dust emissions are primarily associated with traffic-generated dust, while ozone precursor emissions of ROG and  $NO_x$  are primarily associated with gas and diesel equipment exhaust on- and off-site. To best characterize the emission that would likely be generated during project construction, mass emissions were estimated using CARB’s EMFAC2007 emissions model. Complete modeling results are provided in **Appendix A** of this addendum. For the purposes of this analysis, it was assumed that up to 30,000 cy would be transported



from the Moulton Pile site, and that up to 175 round-trip truck trips to and from the Moulton Pile site would occur each day for 13 days.

**Table 1** summarizes the modeled construction-related emissions of criteria air pollutants and precursors that would occur as a result of the proposed modifications. Construction-related air quality effects were determined by comparing these modeling results against the previously determined emissions from the Phase 3 EIR in concert with applicable Sacramento Metropolitan Air Quality Management District (SMAQMD) significance thresholds. It is important to note that the analysis of the Phase 3 EIR included conservative but realistic assumptions at the time of preparation of the EIR regarding the timing and methods of construction. Since that time and as part of SAFCA’s commitment to submit off-site mitigation fees to SMAQMD, air emissions from the proposed project have been refined based on actual day-to-day data and achieved reductions in emissions generated through implementation of Mitigation Measure 4.13-1a. The data shown in **Table 1** reflect the revised data. Refer to **Appendix A** for detailed modeling input parameters and results.

<b>Table 1</b>			
<b>Summary of Modeled Construction-Related Emissions of Criteria Air Pollutants and Precursors Resulting from the Proposed Modifications to the Proposed Project</b>			
	Emissions		
	ROG (lbs/day)	NO <sub>x</sub> (lbs/day)	PM <sub>10</sub> (lbs/day) <sup>2</sup>
Total unmitigated Sacramento River east levee emissions for Reaches 4A–9 from 2009 EIR	58	354	4,714
Haul truck emissions associated with proposed modifications	17	119	8
Revised Total Unmitigated Emissions	115	743	5,139
Revised Total Mitigated Emissions <sup>1</sup>	110	445	1,287
Change in Level of Emissions from Phase 3 EIR	+17	-54	+4
Change in Significance of Previously Identified Impact?	No	No	No
Notes:			
<sup>1</sup> Implementation of all recommended standard mitigation measures listed under Mitigation Measure 4.13-a would result in reductions of ROG, NO <sub>x</sub> , and PM <sub>10</sub> emissions by approximately 5%, 40%, 75%–85% for fugitive PM <sub>10</sub> emissions, and 45% for mobile-source PM <sub>10</sub> emissions, respectively. Previous 2009 EIR analysis assumed 20% reduction in NO <sub>x</sub> . See <b>Appendix A</b> for detailed modeling input parameters and results. Source: Modeling conducted by AECOM in 2011			

As shown in **Table 1**, the proposed modifications to the proposed project would result in maximum daily emissions of approximately 17 lb/day of ROG, 119 lb/day of NO<sub>x</sub>, and 8 lb/day of PM<sub>10</sub>. However, due to the revised emissions estimates based on refined project-related data for the Sacramento River East Levee improvements as a whole, the total project emissions would incrementally increase the ROG and PM<sub>10</sub> emissions stated in Table 4.13-1 on page 4.13-4 of the Phase 3 EIR and decrease NO<sub>x</sub> emissions. Thus, temporary construction-generated emissions associated with the proposed modifications would not violate an air quality standard or contribute substantially to an existing or projected air quality violation beyond the conclusions of the Phase 3 EIR. No new significant impact or substantial increase in the severity of impacts identified in the Phase 3

EIR would occur. Impacts would remain significant and unavoidable with respect to construction emissions as determined in the Phase 3 EIR. Mitigation Measure 4.13-1a would be implemented with respect to the proposed modifications, but no new mitigation measures would be required.

No new long-term operational air quality emissions would occur as a result of the proposed modifications to Phase 3 of the NLIP. No new significant impact or substantial increase in the severity of impacts identified in the Phase 3 EIR would occur. No mitigation measures from the 2009 EIR would apply to operational air quality emissions, and no new mitigation measures would be required.

## NOISE

Activities at the Moulton Pile site would be limited to between the hours of 7 a.m. to 6 p.m., Monday through Saturday, and between the hours of 9 a.m. to 6 p.m. on Sundays, as required by Section 8.68 of the Sacramento City Code (i.e. Noise Ordinance). The noise ordinance exempts construction-related noise from its noise limitations as long as construction activities adhere to these hours of operation restrictions. As noted on page 6.8-44 of the City of Sacramento's 2030 General Plan Master EIR (City of Sacramento, 2009: 6.8-44), compliance with the City's Noise Ordinance with respect to construction noise would ensure that construction-related activities would be reduced to less than significant. It should also be noted that trucks entering and exiting the site would only operate between the hours of 9 a.m. and 4 p.m., Monday through Friday, and between 9 a.m. and 6 p.m., Saturday and Sunday. As such, the movement of fill materials within the Moulton Pile site would not represent a new potentially significant construction-noise impact associated with the project or substantial increase in the severity of impacts identified in the Phase 3 EIR.

Additional noise associated with the proposed refinements would occur along local roadways and regional highways due to temporary, construction-related increases in truck traffic. The proposed project modifications could result in as many as 25 trucks trips per hour or 175 truck trips per day along Mack Road, Meadowview Road, SR 99, US 50, and I-5 between US 50 and Meadowview Road. I-5 between US 50 and Airport Boulevard could experience as many as 350 truck trips per day due to loaded trucks traveling to Sacramento River east levee Reach 9B and empty trucks returning to the Moulton Pile site. However, based on existing daily volumes on the aforementioned roadways, the proposed modifications would result in less than a 0.5 dBA increase in community noise equivalent levels (CNEL),<sup>1</sup> which would cease at the conclusion of the hauling period (approximately 13 days). **Table 2** identifies the projected increases in ambient noise levels that would occur along the proposed haul route. In addition, **Table 2** identifies potential increases in roadway noise levels that would occur if the alternate route for loaded trucks along local roadways is used.

As shown in **Table 2**, the proposed modifications to the Phase 3 Project would not result in a substantial increase in roadway volumes potentially affected by haul truck traffic or the loading and unloading of trucks at the Moulton Pile site. As such, no new or substantially increased significant environmental effects would occur. Impacts would remain significant and unavoidable with respect to construction noise and material hauling as determined in the Phase 3 EIR. The proposed modifications would not result in a substantial increase in the severity of impacts identified in the Phase 3 EIR. No new mitigation measures would be required.

No new long-term operational noise would occur as a result of the proposed modifications to Phase 3 of the NLIP. As a result, no new significant impact or substantial increase in the severity of impacts identified in the Phase 3 EIR would occur. No new mitigation measures would be required.

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<sup>1</sup> CNEL is a measure of 24-hour noise levels with a 15 dBA penalty assessed during nighttime hours to account for the fact that noise during this period is a potential source of disturbance to normal sleeping hours.

**Table 2  
Summary of Modeled Roadway Noise Levels Due to the Proposed Modifications to the Proposed Project<sup>1</sup>**

Roadway Segment	Existing Noise Level (dBA CNEL)	Resulting Noise Level (dBA CNEL)	Increase in Noise as a Result of Haul Truck Activity	New Impact?
Meadowview Road (between I-5 and 24 <sup>th</sup> Street)	75.7	76.0	0.3	No
Meadowview Road (between 24th Street and Brookfield Drive)	74.9	75.2	0.3	No
Mack Road (between Brookfield Drive and Center Parkway)	76.3	76.6	0.3	No
Mack Road (between Center Parkway and SR 99)	75.2	75.6	0.4	No
SR 99 (between Mack Road on-ramp and US 50 off-ramp)	82.9	82.9	0.0	No
SR 50 (between SR 99 on-ramp and I-80 off-ramp)	85.2	85.2	0.0	No
I-5 (between SR 50 on-ramp and Airport Boulevard)	82.5	82.5	0.0	No
Franklin Boulevard (between Mack Road and Florin Road) – Alternate Route	74.7	75.0	0.3	No
Florin Road (between Franklin Boulevard and I-5) – Alternate Route	75.9	76.2	0.3	No

Notes: dBA = A-weighted decibels; CNEL = community noise equivalent level; SR = State Route

<sup>1</sup> Traffic noise levels were modeled using the Federal Highway Traffic Noise Prediction Model (FHWA 1978). Calculated noise levels do not consider any shielding or reflection of noise by existing structures or terrain features or noise contribution from other sources. Estimates are based on the amount of material to be hauled, number of days of construction, and the number of hauling hours per day as provided in the above project description. Roadway speeds are based on a specific modeled segment's posted speed limit. Local roadway volumes are derived from Figure 6.12-3 of the City of Sacramento 2030 General Plan Master EIR and freeway volumes are based on Caltrans 2009 average daily volumes. See modeling results in **Appendix B** of this addendum for further detail.

Source: AECOM 2011

## TRANSPORTATION AND CIRCULATION

As noted previously, the proposed modifications would involve the transfer of approximately 30,000 cy of excavated material from the Moulton Pile site to Sacramento River east levee Reach 9B of the NLIP Phase 3 project. The proposed modifications to the proposed project have the potential to affect existing roadway traffic volumes and degrade the level of service (LOS) along the proposed haul route. Loaded trucks would exit the Moulton Pile site and travel east on Mack Road before heading north on SR 99, west on US 50, and north on I-5. These trucks would exit I-5 at Airport Boulevard at which point they would head north to North Bayou Road and then travel westward towards Reach 9B. Empty trucks would travel back along North Bayou Road to Airport Boulevard and then travel south on I-5 before exiting and heading east on Meadowview Road to return to the Moulton Pile site. As stated above, loaded trucks may also use an alternate route when traveling to Reach 9B that would involve heading east along Mack Road and then north along Franklin Boulevard before turning west onto Florin Road to reach I-5 North.

The movement of this material would be designed and scheduled so that there would be no impacts to these roadways. Due to the carrying capacity of each truck (approximately 12 cy), approximately 2,500 total truck trips would be necessary to move the material from the Moulton Pile site to Sacramento River east levee Reach 9B. It is anticipated that no more than 25 loaded trucks would exit the site per hour due to the amount of time required to load each truck, and each round trip would take approximately one hour. Furthermore, haul trucks would not be

permitted to travel between the Moulton Pile site and Reach 9B during weekday peak hours (7 a.m. to 9 a.m. and 4 p.m. to 6 p.m.). As a result, approximately 175 one-way weekday truck trips or 350 daily weekday truck trips would occur. In addition, the 2000 *Highway Capacity Manual* recommends inclusion of a Passenger Car Equivalent (PCE) factor, which increases the number of assumed vehicle trips by a particular factor to account for slower/loaded heavy vehicles in contrast to personal occupancy vehicles. The 2000 *Highway Capacity Manual* recommends a 2.0 PCE for heavy vehicles, which is an average for all heavy vehicle sizes, including haul trucks. Including the PCE factor, the transportation of the material would generate 350 one-way weekday PCE trips or 700 daily weekday PCE trips.

The significance criteria used in the transportation and circulation section of the Phase 3 EIR was also used in this analysis. A significant impact would occur if 50 or more new truck trips would occur during the a.m. or p.m. peak-hour. Under the proposed modifications, truck trips would not occur during the weekday peak hours (7-9 a.m. and 4-6 p.m.). Therefore, no new or substantially more severe impact would occur. Mitigation Measures 4.12-a and 4.12-b would apply to the proposed modifications, and impacts would remain significant and unavoidable with respect to increased traffic volumes and hazards on local roadways.

In addition, the City of Sacramento considers a significant impact when project traffic volumes change a roadway's operation from an acceptable LOS to an unacceptable LOS, or if the roadway is already operating at an unacceptable LOS, when the project increases the volume-to-capacity ratio by 0.02 or greater. Existing daily traffic volumes and LOS were reviewed along Mack/Meadowview Roads taken from the *Sacramento 2030 General Plan* which was adopted on March 3, 2009. Only the sections on Mack/Meadowview Roads that would be used by the haul trucks were reviewed. Meadowview Road between Freeport Boulevard and Mack Road currently operates at an unacceptable LOS E with a daily volume of 35,200. The daily volume would need to increase by 704 trips in order to be considered a significant impact. The daily volume, due to transporting the material, would only increase by 350 PCE trips and therefore, would not result in a new potentially significant impact. Mack Road between Tangerine Avenue and Center Parkway currently operates at an unacceptable LOS F with a daily volume of 40,700. The daily volume would need to increase by 814 trips to be considered a new potentially significant impact. However the daily volume would only increase by 350 PCE trips and therefore, no new significant impacts would occur along this roadway. All other roadway segments along Mack/Meadowview Roads, that are in the proposed or alternate haul route, currently operate acceptably and would continue to operate acceptably with the additional truck trips associated with the proposed modifications to the NLIP Phase 3 Project.

Because traffic would be managed during construction, i.e., no hauling would be allowed during weekday peak hours, only a slight increase in congestion would occur. This congestion is not anticipated to generate 50 or more new peak-hour trips during the a.m. or p.m. peak-hour, or change a city roadway's operation from acceptable to unacceptable along the proposed or alternate haul route, or increase the volume-to-capacity ratio by 0.02 or more if the roadway along the selected haul route is already operating unacceptably. Furthermore, as stated on page 4.12-4 of the Phase 3 EIR, SAFCA shall implement Mitigation Measure 4.12-a, "Prepare and Implement a Traffic Safety and Control Plan for Construction-Related Truck Trips," which was previously adopted and incorporated into the Phase 3 Project (see USACE and SAFCA 2009:4.12-4).

As such, no new or substantially increased significant environmental effects would occur. Impacts would remain significant and unavoidable with respect to construction traffic as determined in the Phase 3 EIR. No new mitigation measures would be required,

## **IMPACT CONCLUSION**

The proposed modifications in the Phase 3 Project analyzed in this addendum would not require major revisions to the Phase 3 EIR because no new substantial impacts would result, and the impacts presented in this addendum would not increase the severity of environmental effects identified in the Phase 3 EIR. Furthermore, no changes in the circumstances under which the project modifications would be undertaken would require major revisions to the Phase 3 EIR because of new or substantially increased significant environmental effects. In addition, no new

information of substantial importance has been discovered that would trigger or require major revisions to the Phase 3 EIR because of new or substantially increased significant environmental effects. No new mitigation measures, beyond those identified in the Phase 3 EIR would be required for the proposed project modifications. Therefore, no subsequent or supplemental EIR is required before approval of the activities proposed in this addendum.

## REFERENCES CITED

Sacramento Area Flood Control Agency. 2005 (February). *Final Supplemental Environmental Impact Report on the South Sacramento Streams Project*. State Clearinghouse No. 2004102009. Sacramento, CA. Prepared by ESA, Sacramento, CA.

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USACE and SAFCA. *See* U.S. Army Corps of Engineers and Sacramento Area Flood Control Agency.

SAFCA. *See* Sacramento Area Flood Control Agency.



# **APPENDIX A**

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Air Quality Modeling Results





Haul Truck Emissions Summary										
Source	Usage Factor	Unit	Emission Factors				Emissions Summary			
			ROG	NOx	PM10	Units	ROG	NOx	PM10	Units
<b>Off-road Vehicles</b>										
Tractor/Loader/Backhoe	6	hr/day	0.02	0.16	0.01	lbs/hour	0.15	0.96	0.04	lbs/day
<b>On-Road Heavy Duty Vehicles</b>										
Haul Trucks	3500	miles/day	1.10	14.47	0.56	g/mile	8.51	111.63	4.34	lbs/day
Haul Trucks	360	starts/day	11.60	8.19	0.02	grams/start	8.95	6.32	0.01	lbs/day
<b>Fugitive Dust</b>										
Truck Loading/Unloading	2,308	tons/day	-	-	0.0014	lbs/ton	-	-	3.16	lbs/day
Emissions Summary, Uncontrolled (lbs/day) =							17.61	118.90	7.56	lbs/day
Emissions Summary, Controlled (lbs/day) <sup>1</sup> =							17.61	118.90	5.66	lbs/day

Notes: 1. Control efficiency of 80% applied due to site watering implemented up to 2 x per day.

Haul Truck Inputs		
Factor	Unit	Basis
30,000	Soil Import	Given
12	Truck Cap	Given
2,308	Tons/day	Calculation
2,500	Total Trips	Calculation
175	Round trip	Given
20	Roundtrip	Given
3,500	Miles/day	Calculation

Haul Truck Emission Factors <sup>1</sup>								
Emission Source	Criteria Pollutants (lbs/day)						GHGs as CO <sub>2</sub>	Unit
	ROG	NOX	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	
Running Exhaust	1.103	14.467	7.75	-	0.5	0.46	1855.42	grams/mile
Tire Wear	-	-	-	-	0.035	0.009	-	grams/mile
Break Wear	-	-	-	-	0.028	0.012	-	grams/mile
Start-Up	11.603	8.189	205.929	-	0.016	0.014	223.55	grams/trip

"-" indicates emission category does not result in pollutant source of emissions; emission factors not available

<sup>1</sup> Emission factors obtained from CARB's EmFac2007 Model, Fleet Average Year 2010, Heavy Duty Truck @ 30 mph, 70 degrees Fahrenheit.

Fugitive Dust Emission Factors			
<b>Truck Loading/Unloading (Removed debris/concrete materials)</b>			
Emission Factor (lb/ton) = $k(0.0032) \times (\text{mean wind speed [mi/hr]} / 5)^{1.3} / (\text{moist})$ Reference: AP-42, Equation (1), Section 13.2.4, November 2006			
k Particle Size Multiplier, PM <sub>10</sub>	0.35		USEPA AP-42, Chapter 13.2.4, Equation 1
k Particle Size Multiplier, PM <sub>2.5</sub>	0.053		USEPA AP-42, Chapter 13.2.4, Equation 1
Mean Wind Speed	15		USEPA AP-42, Chapter 13.2.4, Equation 1, upper end of provided range
Moisture	4.8		USEPA AP-42, Chapter 13.2.4, Equation 1, upper end of provided range
PM10 Emission Factor	0.0014	lb/ton	*AP-42 11/06 Table 13.2.4-1, truck unloading (per Chapter 13.2.3 Heavy Construction Operations)
PM2.5 Emission Factor	0.0002	lb/ton	*AP-42 11/06 Table 13.2.4-1, truck unloading (per Chapter 13.2.3 Heavy Construction Operations)



## **APPENDIX B**

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Noise Modeling Results



**Appendix B**  
**Traffic Noise Prediction Model, (FHWA RD-77-108)**  
**Model Input Sheet**



**Project Name :** NLIP Phase 3 Addendum  
**Project Number :**  
**Modeling Condition :** Existing and Existing Plus Project  
**Ground Type :** Hard  
**Metric (L<sub>eq</sub>, L<sub>dn</sub>, CNEL) :** CNEL  
**K Factor :**  
**Traffic Desc. (Peak or ADT) :** ADT

Segment	Roadway	Segment		Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	Offset (dB)
		From	To										
1	Meadowview	I-5	24th Street	35,200	45	50	85	10	5	75	20	5	
2	Meadowview	24th Street	Brookfield	29,300	45	50	85	10	5	75	20	5	
3	Mack	Brookfield	Center Parkway	40,700	45	50	85	10	5	75	20	5	
4	Mack	Center Parkway	SR-99	31,900	45	50	85	10	5	75	20	5	
5	SR-99	Mack Road	US-50	276,000	65	150	85	10	5	75	20	5	
6	SR-50	SR-99	I-80	471,000	65	150	85	10	5	75	20	5	
7	I-5	SR-50	Airport Boulevard	253,000	65	150	85	10	5	75	20	5	
9	Meadowview	I-5	24th Street	35,375	45	50	84	10	6	75	20	5	
10	Meadowview	24th Street	Brookfield	29,475	45	50	84	10	6	75	20	5	
11	Mack	Brookfield	Center Parkway	40,875	45	50	84	10	6	75	20	5	
12	Mack	Center Parkway	SR-99	32,075	45	50	84	10	6	75	20	5	
13	SR-99	Mack Road	US-50	276,175	65	150	85	10	5	75	20	5	
14	SR-50	SR-99	I-80	471,175	65	150	85	10	5	75	20	5	
15	I-5	SR-50	Airport Boulevard	253,350	65	150	85	10	5	75	20	5	
17	Franklin (alternate route)	Mack Road	Florin	28,100	45	50	85	10	5	75	20	5	
18	Florin Road (alternate route)	Franklin	I-5	36,700	45	50	85	10	5	75	20	5	
20	Franklin (alternate route)	Mack Road	Florin	28,275	45	50	84	10	6	75	20	5	
21	Florin Road (alternate route)	Franklin	I-5	36,875	45	50	84	10	6	75	20	5	

Appendix B  
**Traffic Noise Prediction Model, (FHWA RD-77-108)**  
 Predicted Noise Levels



**Project Name :** NLIP Phase 3 Addendum  
**Project Number :**  
**Modeling Condition :** Existing and Existing Plus Project  
**Metric (Leq, Ldn, CNEL) :** CNEL

Segment	Roadway	Segment		Noise Levels, dB CNEL				Distance to Traffic Noise Contours, Feet				
		From	To	Auto	MT	HT	Total	70 dB	65 dB	60 dB	55 dB	50 dB
1	Meadowview	I-5	24th Street	71.1	70.0	71.5	75.7	185	584	1848	5844	18480
2	Meadowview	24th Street	Brookfield	70.3	69.2	70.7	74.9	154	486	1538	4864	15383
3	Mack	Brookfield	Center Parkway	71.7	70.6	72.1	76.3	214	676	2137	6757	21368
4	Mack	Center Parkway	SR-99	70.6	69.6	71.1	75.2	167	530	1675	5296	16748
5	SR-99	Mack Road	US-50	79.8	76.7	77.1	82.9	2921	9236	29205	92355	292054
6	SR-50	SR-99	I-80	82.2	79.0	79.5	85.2	4984	15761	49840	157607	498396
7	I-5	SR-50	Airport Boulevard	79.5	76.3	76.8	82.5	2677	8466	26772	84659	267716
9	Meadowview	I-5	24th Street	71.0	70.0	72.3	76.0	199	630	1992	6299	19918
10	Meadowview	24th Street	Brookfield	70.2	69.2	71.5	75.2	166	525	1660	5248	16596
11	Mack	Brookfield	Center Parkway	71.7	70.7	72.9	76.6	230	728	2301	7278	23014
12	Mack	Center Parkway	SR-99	70.6	69.6	71.9	75.6	181	571	1806	5711	18060
13	SR-99	Mack Road	US-50	79.8	76.7	77.1	82.9	2922	9241	29224	92414	292239
14	SR-50	SR-99	I-80	82.2	79.0	79.5	85.2	4986	15767	49858	157665	498581
15	I-5	SR-50	Airport Boulevard	79.5	76.3	76.8	82.5	2681	8478	26809	84776	268086
17	Franklin (alternate route)	Mack Road	Florin	70.1	69.0	70.5	74.7	148	467	1475	4665	14753
18	Florin Road (alternate route Franklin)		I-5	71.2	70.2	71.7	75.9	193	609	1927	6093	19268
20	Franklin (alternate route)	Mack Road	Florin	70.1	69.1	71.3	75.0	159	503	1592	5034	15920
21	Florin Road (alternate route Franklin)		I-5	71.2	70.2	72.5	76.2	208	657	2076	6566	20762