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**Environmental Justice Analysis**  
For the  
**Vallejo Marine Terminal and Orcem Project**

Prepared for  
**DUDEK**  
And the  
**City of Vallejo**

Submitted by  
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## I. Introduction

“Environmental Justice Analysis” refers to concerns that arose in the 1990s regarding the assessment of environmental impacts, primarily from the perspective of federal law, focused on the potential for projects to create adverse impacts that might be disproportionately borne by under-served or disadvantaged (minority and low-income) communities. Federal environmental law mandates consideration of Environmental Justice (EJ) impacts. California state law recommends this analysis under certain conditions, but does not require it, thus analysis under the California Environmental Quality Act (CEQA), generally does not include specific EJ analysis.

The City of Vallejo (City) is currently preparing an Environmental Impact Report (EIR) under CEQA to provide the public and responsible agencies information about the potential adverse effects on the local and regional environment associated with the proposed Vallejo Marine Terminal (VMT) and Orcem Project, collectively referred to as the proposed project. As noted above, CEQA, the state law which guides the City in preparing the EIR, does not require an Environmental Justice Analysis, but upon circulation of the Draft EIR some members of the surrounding community questioned whether the proposed project might create adverse impacts disproportionately on minority or low-income populations and in response the City requested a supplemental Environmental Justice Analysis to address these community concerns.

### Project Location and Site

The site of the proposed project occupies a total of ~~32.55~~ 39.4 acres located at the southern terminus of Derr Avenue in the southwestern portion of the City of Vallejo, California, fronting the Mare Island Strait. This combined project site is regionally accessible to vehicular traffic from Interstate Highways 80 (I-80) and 780 (I-780) via State Highway 29 (SR-29 or Sonoma Boulevard), Curtola Parkway and Lemon Street, to Derr Avenue. It is also accessible for rail transportation via the California Northern Railroad rail line network that extends north through the center of Vallejo, as well as for shipping transportation via the adjoining proposed deep-water terminal included as part of the VMT component of the project.

The project site currently contains the former General Mills deep-water terminal and buildings associated with the former General Mills plant. The General Mills plant closed in 2004, and the project site has since remained vacant.

VMT owns a majority of the project site and has a long-term lease with the City of Vallejo (City) for the remainder of the site. Orcem would lease a ~~4.88~~ 3-acre portion of the site for its proposed operations, while VMT would operate on the remaining ~~27.67~~ 34.3 acres. The project site is currently secured by a fence which extends around nearly the entire land portion of the VMT Site.

### Project Overview

The VMT project component would reestablish industrial uses on a portion of the site and would involve the removal of a deteriorated timber wharf and construction of a modern deep-water terminal, including wharf improvements, laydown area, and trucking and rail connections, primarily servicing the import and export of bulk and break-bulk commodities within approximately ~~8.05~~ 10.5 acres referred to as the VMT Terminal Site. Construction of the terminal would require fill and dredging



activities in the water. The VMT component would be constructed in ~~two~~one phases over a period of time.

As an operational deep draft facility (allowing vessels with a draft of approximately 38 feet), the VMT Terminal is anticipated to handle a wide range of bulk commodities such as grains, steel, timber/lumber, rock and aggregates as well as break-bulk items (e.g., heavy lift transport, large construction assemblies).

The Orcem component of the project would involve construction and operation of an industrial facility for the production of an alternative to the traditional portland cement material used in most California construction projects.

The production of this alternative, ground granular blast furnace slag (GGBFS), a primary input to the Orcem product, is considered to be less polluting than the production of portland cement because it is produced using a by-product of steel manufacturing - granulated blast furnace slag (GBFS). Manufacturing portland cement requires heating materials to very high temperatures producing high carbon dioxide (CO<sub>2</sub>) emissions that are not experienced when using GBFS.

The Orcem Plant would be capable of operating in three different modes, as follows:

- Mode 1: Import of GBFS (the by-product of steel manufacturing) and production of GGBFS.
- Mode 2: Import of clinker and production of portland cement.
- Mode 3: Import of GBFS and production of GGBFS, and import of portland cement.

The goal of the project would be to operate in Mode 1, however because Mode 2 involves the production of portland cement, this mode has potentially greater environmental impacts. For this reason this document analyzed Mode 2, specifically for issues of air quality and health risks.

The Orcem component would involve construction of approximately 73,000 square feet of buildings, equipment, and enclosures, together with outdoor storage areas, on a 4.88 ~~3~~-acre portion of the former General Mills plant site leased from VMT. Orcem would import most of the raw materials used in the proposed plant via the proposed wharf on the adjoining VMT Site.

## **Project Objectives Relevant to Minority and Low-Income Populations**

In general the project is intended to reestablish the industrial use of a centrally located marine industrial property within the City of Vallejo. Among the project objectives outlined in the Draft EIR, there are specific outcomes that could benefit nearby populations of minority and low-income people including the following:

- “To provide management and skilled labor employment opportunities for local and regional residents in the construction phases, as well as the long-term operations of commercial and industrial uses on the project site.”



- “To generate various tax revenues including property taxes and assessments, possessory interest tax, and utility user fees.” Such additional revenues allow the City of Vallejo and its school districts to provide better services to Vallejo residents.
- “To provide a means for locally manufactured products to be transported and distributed, increasing the viability of and the potential for attracting further manufacturing operations to Vallejo (in addition to Orcem).” Additional manufacturing operations would bring more job opportunities at all levels for Vallejo residents.



## II. Environmental Setting

The following environmental justice analysis uses demographic information to identify minority and low-income populations in the Project area and determines the potential for the Project to cause disproportionate public health and environmental effects on minority and low-income populations. The terms “minority population” and “low-income population” defined below are consistent with federal environmental justice guidance (CEQ 1997) and the race and ethnicity categories used by the U.S. Census Bureau.

### Minority and Low-Income Populations

The federal environmental justice guidance defines the term “minority” as persons from any of the following U.S. Census categories for race: Black/African-American; Asian, Native Hawaiian or Other Pacific Islander; and American Indian or Alaska Native. Additionally, for purposes of this analysis, “minority” also includes all other nonwhite racial categories that were used in the 2010 census, such as “some other race” and “two or more races.” Federal environmental justice guidance also mandates that persons identified through the U.S. Census as ethnically Hispanic, regardless of race, should be included in minority counts (without double-counting persons of Hispanic or Latino origin who are also contained in the latter groups) (CEQ 1997).

Persons living with income below poverty are identified as “low-income,” utilizing the annual poverty thresholds established by the U.S. Census. For this analysis, U.S. Census data from the 2010–2014 5-Year Estimate American Community Survey (ACS) were used as the information is the most detailed, most complete, and most customizable dataset currently available for the study area. For example, the weighted average poverty threshold for a family of four in 2014 was \$24,230, according to the U.S. Census. This is comparable to the state definition of extremely low-income, which was \$24,800 (30% of Median Family Income) for a family of four in Solano County in 2014. For this analysis the measure used to define low-income at the Census Block Group level is the percentage of people within the population for whom poverty status is determined that had income in the past 12 months below the poverty level.

**Table 1** presents the most recent data available from the ACS on both minority and low-income populations for several reference geographies. Where the majority of the United States self-identifies in the US Census as “white, non-Hispanic”, the majority of California’s population is made up of minorities.

**Table 1: Reference Geographies for Minority and Low-Income Populations**

Geographic Area	Total Population	Percent Minority Population	Percent of Persons Living in Poverty
United States	314,107,084	37.2%	15.6%
California	38,066,920	60.8%	16.4%
Solano County	421,624	59.9%	13.1%
City of Vallejo	118,078	75.4%	18.3%

Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates

Like California, Solano County is a “majority minority” area, with approximately 60 percent being composed of minority populations. Minorities are even more heavily concentrated in the City of Vallejo where minorities of one kind or another make up approximately three-quarters (75.4%) of the population.

Solano County has somewhat fewer of its people living in poverty than has recently been the case at the state or national level, but within Solano County the residents of Vallejo are struggling somewhat more economically, with over 18 percent of the population living below the poverty line.

### Areas of Impact

The most detailed level for which US Census data on minority and poverty status are available is for Census Block Groups. These are sub-units of Census Tracts, and typically encompass 1,000 to 3,000 people. There are often two or three Block Groups within each Census Tract, although the number can vary. The most recent data (for 2014, released in December of 2015) is based on the geographic definitions of Census Tracts and Block Groups used for the 2010 Census. Data on the distribution of minority and low-income populations are mapped for the entire City of Vallejo in **Figures 1 and 2** respectively.

A wide range of possible environmental impacts were analyzed in the Draft EIR. Only a few of those have the potential to impose significant adverse impacts after Project Design Features and Mitigation Measures have been applied. Those that remain are likely to be felt most immediately in the two areas of impact shown in Figures 1 and 2. They are defined as follows:

**Impact Area A** is a triangular zone with the Mare Island Strait making up the south and west sides, Curtola Parkway on the north, and I-80 on the east. Area A contains the Project site, and contains the point sources of any emissions derived from the stationary Orcem mill and vessels tied up to the VMT. Area A also contains all of the neighborhoods analyzed in the Draft EIR for the possibility of any elevated cancer risk.

Area A also contains all of the haul routes on roadways that connect to the regional Interstate highway transportation system. Lemon Street defines the boundary between Census Tracts 2507.01 and 2508.01 as it makes its way from the Project site to the onramps leading to the I-780 and I-80 interchange. Truck traffic that is exiting the site and headed south may turn right from Lemon Street onto Sonoma Boulevard (Highway 29) on the way to I-80. Sonoma Boulevard defines another boundary between the same two Census Tracts and is totally contained within Impact Area A. The initial acceleration of trains leaving the site along the California Northern Railroad tracks would also occur within Impact Area A.





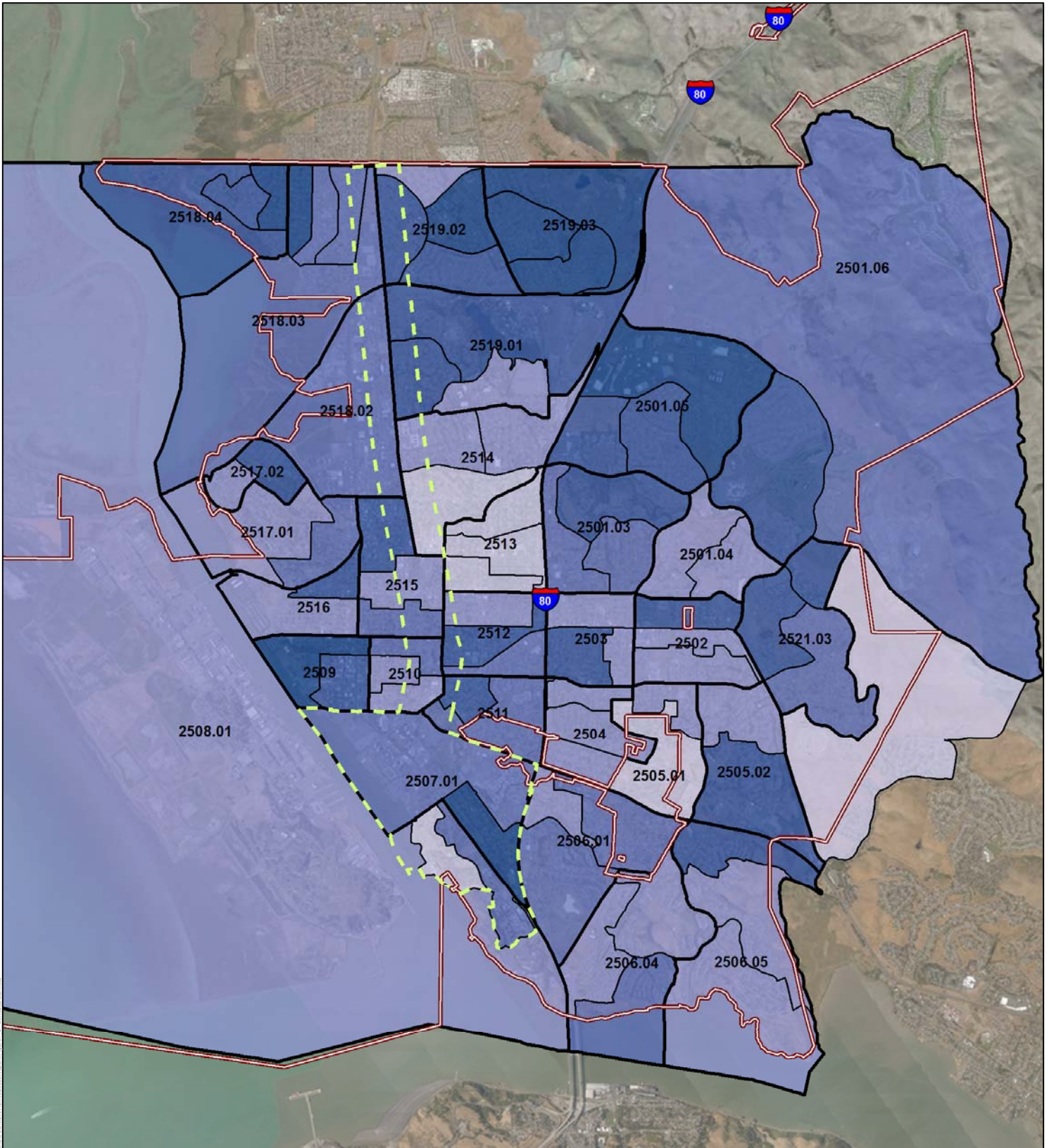
**Impact Area B** is intended to capture a different set of impacts, primarily related to the noise and traffic congestion generated by additional train traffic on the California Northern Railroad tracks. Area B is shown conceptually in Figures 1 and 2 as a corridor extending approximately 1,000 feet to either side of the railroad haul route. As a practical matter, the entirety of any Census Block Group that is bisected by the tracks or for which the tracks form one of its boundaries was included in the Area B statistics.

The relevant demographic measures for each Block Group in each Impact Area are presented in **Table 2**. Block Group 1 in Census Tract 2508.01 covers a huge area, including all of Mare Island and more, and as such it was not included in Impact Area A. It is shown on Table 2, however, for those interested in the demographic character of the next closest area lying east of the Project site. The reference statistical measures for the City of Vallejo are also repeated at the bottom of the table for easy comparison.

**Table 2: Minority and Low-Income Populations in Vallejo by Census Tract and Block Group**

Census Tract	Block Group	Total Population	Percent Minority Population	Percent of Persons Living in Poverty
<b>Impact Area A</b>				
2507.01	1	1,483	78.9%	11.3%
2507.01	2	1,887	92.6%	28.4%
2508.01	2	1,117	70.8%	20.3%
2508.01	3	944	49.3%	28.6%
<b>Totals for Area A</b>		<b>5,431</b>	<b>76.8%</b>	<b>22.1%</b>
Mare Island 2508.01	1	1,443	53.3%	4.6%
<b>Impact Area B</b>				
2510	1	802	71.0%	18.2%
2510	3	734	62.3%	9.8%
2511	1	2,412	77.0%	34.9%
2511	2	1,043	80.2%	44.6%
2512	1	1,052	66.6%	14.8%
2512	2	1,149	88.4%	23.1%
2514	2	1,459	66.2%	5.7%
2514	3	1,861	49.7%	18.0%
2515	1	856	82.9%	24.5%
2515	2	1,057	68.4%	20.3%
2515	3	1,769	78.4%	30.9%
2518.02	1	2,455	76.8%	40.4%
2518.03	1	1,102	77.7%	33.0%
2518.03	2	750	76.7%	12.0%
2519.01	1	2,227	89.9%	30.3%
2519.01	3	2,083	85.6%	16.5%
2519.02	1	904	60.6%	19.5%
2519.02	2	1,622	85.5%	28.1%
<b>Totals for Area B</b>		<b>25,337</b>	<b>75.7%</b>	<b>25.4%</b>
Total City of Vallejo for Reference		118,078	75.4%	18.3%

Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates



	City Boundary	<b>Minority by Block Group, %</b>	33.00 - 50.00	80.01 - 90.00
	Census Tract		50.01 - 70.00	90.01 - 100.00
	Area of Impact			

SOURCE: US Census 2015, 2010-2014 ACS 5-Year Estimates



Vallejo Marine Terminal and Orcem Project Environmental Justice Report

**FIGURE 1**  
 Minority Populations (City of Vallejo)



### III. Environmental Justice Assessment

This section presents the methodology used to assess the potential for environmental justice impacts, describes the individual potential impacts associated with the VMT/Orcem project, and concludes with a summary of all findings from this analysis.

#### Significance Criteria

No formal, commonly accepted significance criteria have been adopted for environmental justice issues; however, starting with the federal Executive Order 12898 issued in 1994 by President Clinton, federal and state agencies have followed with working groups, definitions, new regulations and other guidance for analyzing the potential for environmental justice impacts. Guidance from existing regulations is summarized in the **Appendix**, and describes key definitions and findings from work conducted by the Environmental Protection Agency (EPA), the Council on Environmental Quality (CEQ), the California EPA, and the California State Lands Commission. CEQ guidance (CEQ 1997) suggests that the primary question to be examined is:

“Would any significant adverse human health or environmental effects of the project disproportionately affect minority or low-income persons?”

#### Methodology

Chapter 3 of the Draft EIR included detailed analysis of environmental impacts for over a dozen resource areas. Project Design Features and project-specific mitigation measures were then considered for their ability to reduce the significance of possible impacts. Chapter 5 of the Draft EIR presented a summary of the impacts that remained significant and unavoidable after application of all measures. All of the significant and unavoidable impacts are summarized below with an analysis of the potential for each to create disproportionate effects on minority and/or low-income people.

In cases where the geographic locations of adversely affected populations could be identified, the composition of the significantly affected population was compared to data for the “general population,” which is a term used in the CEQ guidance (CEQ 1997) without further definition. For this analysis, the entire City of Vallejo is used as the comparison population to determine whether effects are disproportionate.

The Interagency Federal Working Group on Environmental Justice guidance states that a minority and/or low-income population may be present in an area if the proportion of the populations in the area of interest is “meaningfully greater” than that of the general population, or where the proportion exceeds 50 percent of the total population. Given that minority groups make up over 60 percent of the population of the entire State of California, the 50 percent guideline is meaningless in this instance. For the purposes of this analysis, the percentage of minority and low-income populations within the relevant areas of impact will be deemed to be different from the general population (Vallejo citywide average) if it is outside the margin of error estimated by the Census Bureau.

Census data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error (See Table 3). Using a confidence level defined as a 90 percent probability that the true value is



within the margin of error, the Census estimate for persons below poverty level would have a range of approximately plus or minus 9%, and the estimate for percent minority would have a margin of error of approximately plus or minus 4%. Thus, for the Vallejo citywide average minority population of 75.4%, the range in margin of error would be 72.3% to 78.4%. For the Vallejo average of 18.3% of the population in poverty, the range in margin of error would be approximately 13.8% to 22.8% according to Census Bureau data.

**Table 3: Calculation of the Margin of Error**

	<u>Vallejo Citywide</u>		<u>Margin of Error</u>	
	<u>Population Statistics</u>		<u>Low</u>	<u>High</u>
<u>Population for whom poverty status is determined</u> <sup>1</sup>	116,914	-	-	-
<u>Persons below poverty level</u> <sup>1</sup>	21,409	-	(1,890)	1,890
<u>Margin of error +/- in percentage terms</u>	-	-	-8.8%	8.8%
<u>Percent of Vallejo population below poverty</u>	18.3%	-	16.7%	19.9%
<u>Total Population in Vallejo</u> <sup>2</sup>	118,078	-	-	-
<u>White alone, Not Hispanic or Latino</u> <sup>2</sup>	29,106	-	(1,160)	1,160
<u>Margin of error +/- in percentage terms</u>	-	-	-4.0%	4.0%
<u>Percent minority in City of Vallejo</u> <sup>3</sup>	75.4%	-	72.3%	78.4%
<sup>1</sup> B17021 POVERTY STATUS OF INDIVIDUALS IN THE PAST 12 MONTHS BY LIVING ARRANGEMENT	-	-	-	-
<sup>2</sup> B03002 HISPANIC OR LATINO ORIGIN BY RACE	-	-	-	-
<sup>3</sup> Defined as everyone who is not "White alone, Not Hispanic or Latino"	-	-	-	-
Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates	-	-	-	-

## Environmental Justice Analysis of Significant and Unavoidable Impacts

Implementation of the project-specific mitigation measures identified in the Chapter 3 of the Draft EIR analysis would reduce all impacts to below a level of significance, with the exception of the following impacts listed below by environmental resource issue starting with air quality. Each resource with significant and unavoidable impacts is then analyzed for its potential to create disproportionate effects on minority and/or low-income people.



## Section 3.2, Air Quality

The two air quality impacts that remain significant and unavoidable are essentially different ways of describing the same group of effects related to possible emissions from the site and the emissions generated by the truck trips associated with the proposed project. Each is described first using the numbering system from the Draft EIR, and then both are assessed together.

### *Impact 3.2-2*

The proposed project would result in an exceedance of the Bay Area Air Quality Management District (BAAQMD) NO<sub>x</sub> threshold, which would conflict with the Clean Air Plan's goal of bringing the San Francisco Bay Area Air Basin into attainment for ozone since NO<sub>x</sub> is a precursor to the development of ozone. Although implementation of MM-3.2-1 would reduce NO<sub>x</sub> emission levels, it cannot be quantitatively determined whether emissions levels would be reduced to a level that is less than significant. As such, Impact 3.2-2 would remain significant and unavoidable.

### *Impact 3.2-4*

The proposed project would result in a considerable contribution to a significant cumulative impact because it would exceed the BAAQMD threshold for NO<sub>x</sub> emissions during project operations. Although implementation of MM-3.2-1 would reduce emission levels, it cannot be quantitatively determined whether emissions levels would be reduced to a level that is less than significant. As such, Impact 3.2-4 would remain significant and unavoidable.

Although impacts from exceedance of NO<sub>x</sub> are generally regional in nature, Nitrogen Dioxide (NO<sub>2</sub>) is a subset of NO<sub>x</sub>. NO<sub>2</sub> impacts are measured as concentrations of NO<sub>2</sub> in the air. NO<sub>2</sub> was not specifically addressed in the Draft EIR because the BAAQMD does not have established thresholds by which to measure NO<sub>2</sub>. The lack of local standards comes from agency guidance that no single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards and an agency focus on cumulative impacts. However, adverse human health effects of NO<sub>2</sub> can include (a) potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; and (b) risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes. Because elevated NO<sub>x</sub> emissions would contribute to elevated ambient concentrations of NO<sub>2</sub> the effect on minority and low-income population was included in this report.

### *Environmental Justice Assessment of Air Quality Impacts*

NO<sub>x</sub> emissions have the potential to affect the neighborhoods in Impact Area A if concentrations of NO<sub>2</sub> exceed either the California or Federal standards for exposure of people to ambient air concentrations of NO<sub>2</sub>.

The Census Block Group containing the site (2508.01-3) has one of the lowest concentrations of minorities in the city (49.3%). Prevailing winds could possibly blow any site emissions further, however, and truck traffic on Lemon Street and Sonoma Boulevard could spread emissions through



other neighborhoods in Impact Area A. Taken as a whole, the percent minority population of Area A is 76.8%, which is within the range of margin of error and indistinguishable from the 75.4% minority in the general population. The air quality impacts would not impose a disproportionate burden on minority populations.

On the other hand, the percentage of the Area A people living in poverty is 22.1%, which is meaningfully greater than the 18.3% statistic for the general population. The NO<sub>x</sub> emissions from the VMT and Orcem operations on the site have the potential to create an adverse disproportionate impact on the low-income populations in Area A.

At the request of the City of Vallejo, an analysis was prepared to address the potential for operation of the combined Orcem/VMT project to adversely affect people as a result of exposing them to concentrations of NO<sub>2</sub> at a level which could exceed the State and Federal recommendations.

As shown in Tables ~~43~~ and ~~5-4~~ below, this analysis shows that operation of the combined Orcem/VMT project would not exceed either the California or Federal recommendations for exposure of people to NO<sub>2</sub>. The predicted concentration described in the tables below include the measured existing background concentrations of NO<sub>2</sub> plus the incremental concentrations that would result when project emission are added. The Tables show that the predicted ambient concentration is below the annual average and one-hour maximum standards for NO<sub>2</sub>.





**Table 43. Modeled One-Hour NO<sub>2</sub> Concentrations Plus Background Compared to Standards**

Pollutant / Met Years	Background Concentration Note 3	Averaging Period	Predicted Ambient Concentration NO <sub>2</sub> Note 3 2	Standard Notes 1, 2
NO <sub>2</sub> 2007 - 2012	98.9 µg/m <sup>3</sup>	California Maximum 1-hr <sup>1</sup>	211.5 µg/m <sup>3</sup>	339 µg/m <sup>3</sup>
	93.8 µg/m <sup>3</sup>	Federal Maximum 1-hr mean (as a 98th%) <sup>2</sup>	169.8 µg/m <sup>3</sup>	188 µg/m <sup>3</sup>

Note 1 California 1-Hour value is a value not to be exceeded.

Note 2 To attain the National 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb (188 µg/m<sup>3</sup>).

Note 3 When modeling compliance with the 1-hour NO<sub>2</sub> NAAQS using the OLM, concurrent hourly NO<sub>2</sub> concentrations were used rather than the background value shown above

**Table 54. Modeled annual NO<sub>2</sub> concentrations plus background compared to standards**

Pollutant / Met Years	Background Concentration Notes 2,3	Averaging Period	Predicted Ambient Concentration NO <sub>2</sub> Note 3	Standard Note 1
NO <sub>2</sub> / 2007	19.2 µg/m <sup>3</sup>	Annual Mean	27.0 µg/m <sup>3</sup>	57 µg/m <sup>3</sup>
	18.3 µg/m <sup>3</sup>	Annual Mean	27.0 µg/m <sup>3</sup>	100 µg/m <sup>3</sup>
NO <sub>2</sub> / 2008	19.2 µg/m <sup>3</sup>	Annual Mean	27.1 µg/m <sup>3</sup>	57 µg/m <sup>3</sup>
	18.3 µg/m <sup>3</sup>	Annual Mean	27.1 µg/m <sup>3</sup>	100 µg/m <sup>3</sup>
NO <sub>2</sub> / 2009	19.2 µg/m <sup>3</sup>	Annual Mean	25.6 µg/m <sup>3</sup>	57 µg/m <sup>3</sup>
	18.3 µg/m <sup>3</sup>	Annual Mean	25.6 µg/m <sup>3</sup>	100 µg/m <sup>3</sup>
NO <sub>2</sub> / 2010	19.2 µg/m <sup>3</sup>	Annual Mean	24.7 µg/m <sup>3</sup>	57 µg/m <sup>3</sup>
	18.3 µg/m <sup>3</sup>	Annual Mean	24.7 µg/m <sup>3</sup>	100 µg/m <sup>3</sup>
NO <sub>2</sub> / 2012	19.2 µg/m <sup>3</sup>	Annual Mean	25.2 µg/m <sup>3</sup>	57 µg/m <sup>3</sup>
	18.3 µg/m <sup>3</sup>	Annual Mean	25.2 µg/m <sup>3</sup>	100 µg/m <sup>3</sup>

Note 1 California 1-Hour value is a value not to be exceeded.

Note 2 The 1st high concentration over the period 2011 – 2013 was used as background for assessing the California Ambient Air Quality Standards whilst the average concentration over the three year period was used as background for assessing against the National Air Quality Standards.

Note 3 When modeling compliance with the annual mean NO<sub>2</sub> NAAQS / CAQS using the OLM, concurrent hourly NO<sub>2</sub> concentrations were used rather than the background value shown above.

### Section 3.4, Cultural Resources

#### Impact 3.4-2

The proposed demolition of the flour mill, grain silos, and dock, and extensive new construction and site work would have a significant adverse effect on documented historic resources. Implementation of MM-3.4-2a and MM-3.4-2b would reduce the impact, but not to a less-than-significant level. Thus, the impact would remain significant and unavoidable.

#### Environmental Justice Assessment of Cultural Resources Impacts



The proposed project will replace some of the vacant historical Sperry Flour Mill with new operating industrial facilities. To Vallejo residents favoring preservation of a historic district the loss of some of the former mill buildings may be perceived as an adverse impact. To Vallejo residents favoring job opportunities, tax revenues, and economic development the loss of some of the buildings to make room for the proposed use may be perceived as a beneficial impact. People with preferences for historic preservation and/or for economic development are likely to be present throughout the city, and are not necessarily tied to locations near the Project site. Furthermore, preferences are unlikely to be consistently correlated with minority or low-income status. The loss of cultural resources is unlikely to constitute an adverse impact disproportionately on either minority populations or those with low incomes.

### **Section 3.6, Greenhouse Gas Emissions**

#### *Impact 3.6-1*

The proposed project would exceed the BAAQMD threshold for operational GHG emissions of 10,000 metric tons of carbon dioxide equivalent (MT CO<sub>2</sub>E) per year. Implementation of MM 3.6-1 would require fuel supply measures to reduce GHG emissions associated with operation of the proposed project (on-site operations and truck trips); however, emissions would not be reduced to below a level of significance. Impact 3.6-1 would remain significant and unavoidable.

#### *Impact 3.6-2*

Although the proposed project would not directly conflict with or obstruct implementation of the City of Vallejo Climate Action Plan (CAP), because the City's adopted CAP does not cover marine and rail operations, it cannot be guaranteed that the proposed project would be consistent with the overarching objective of the City's CAP to achieve the reduction targets as established for 2020 and 2035. Implementation of MM-3.6-2a through 3.6-2d would require the applicants to encourage employee commute alternatives and reduce the amount of energy used for landscaping maintenance and irrigation. However, emissions would not be reduced to a level that would ensure the project would be consistent with the overarching objective of the City's CAP to achieve the reduction targets as established for 2020 and 2035. Impact 3.6-2 would remain significant and unavoidable.

#### *Impact 3.6-3*

As described above under Impact 3.6-2, it cannot be guaranteed that the proposed project would be consistent with the overarching objective of the City of Vallejo City's CAP to achieve the reduction targets as established for 2020 and 2035 because the City's adopted CAP does not cover marine and rail operations, and therefore emissions cannot be assured of being consistent with the CAP. Likewise it cannot be guaranteed that the proposed project would be consistent with the state's target reduction goals in 2030 and 2050. Implementation of MM-3.6-2a through 3.6-2d would require the applicants to encourage employee commute alternatives and reduce the amount of energy used for landscaping maintenance and irrigation. However, emissions would not be reduced to a level that would ensure the project would be consistent with the overarching objective of the state's target reduction goals in 2030 and 2050. Impact 3.6-3 would remain significant and unavoidable.



### *Environmental Justice Assessment of Greenhouse Gas Emissions*

Air quality impacts were analyzed above under that resource topic and capture the localized effects of emissions, including greenhouse gases, on local populations. The regulation of greenhouse gases (GHGs) is a different environmental resource topic, on the other hand, and is motivated by an attempt to slow or reverse global climate change. It is now widely accepted that global climate change is creating adverse impacts for everyone on the planet. Impacts 3.6-1 through -3 create adverse effects that are significant and unavoidable, but they are not disproportionately experienced by minorities or low-income populations in Vallejo.

### **Section 3.10, Noise**

#### *Impact 3.10-1*

The increase in noise levels due to the planned rail operation of the VMT project component would exceed established policies and standards at the following two locations:

- NSL5 (Colt Court Residences)
- NSL10 (3rd Street Residence)

NSL5 and NSL10 refer to “noise sensitive locations” that were identified in the Draft EIR, and may represent small geographic areas with only a few residents. In this case there are three affected residences, however, the smallest geographic unit of analysis which contains each of these NSLs and for which data on minority and low-income status is available is the Census Block Group. The Census Block Groups containing NSL5 and NSL10 were included in the Environmental Justice Analysis.

~~Mitigation measure MM-3.10-1a, MM-3.10-1b, and MM-3.10-1c would reduce VMT's operational noise levels( Impact 3.10-1) to less-than-significant levels. would, if implemented, reduce the impacts on NSL5 and NSL10; however, implementation is dependent on the California Northern Railroad since the City does not have jurisdiction over the railroad. While the City can require the applicants to work with the California Northern Railroad to make these improvements, the City cannot ensure that the California Northern Railroad will agree to make the improvements. Therefore, Impact 3.10-1 would remain significant and unavoidable.~~

#### *Impact 3.10-3*

The VMT project component would not generate any significant groundborne vibrations as a result of its operations aside from vibration caused by rail operations. For rail operations, one of the major sources of noise and vibration would be rolling stock on the existing jointed track. Mitigation measure MM-3.10-1a would, if implemented, reduce these impacts; however, implementation is dependent on the California Northern Railroad since the City does not have jurisdiction over the railroad. While the City can require the applicants to work with the California Northern Railroad to make these improvements, the City cannot ensure that the California Northern Railroad will agree to make the improvements. Therefore, Impact 3.10-3 would remain significant and unavoidable.



### *Environmental Justice Assessment of Noise Impacts*

The two specific residential locations discussed in Impact 3.10-1 are in Impact Area A (see Figures 1 and 2 and Table 2 above). Impact 3.10-3 would also be felt in Impact Area A, but would also extend the full length of the railroad haul route through Impact Area B. The noise and vibration issue for both impacts and in both areas is caused by the “click-clack” sound of rail cars moving along rails made up of sections with gaps between them. The mitigation measure proposed is to weld the tracks together, because a single Continuous Welded Rail (CWR) is much quieter. Such track improvements are the responsibility of another entity, the California Northern Railroad, however, leaving the implementation uncertain.

In Area A, minorities make up 76.8% of the population, which is within the range of margin of error and indistinguishable from the 75.4% minority in the general population. In Area B, minorities are even closer to the general population statistic, making up 75.7% of the population in the railroad corridor. The noise and vibration impacts generated by railroad operations would not impose a disproportionate burden on minority populations.

On the other hand, the percentage of the Area A people living in poverty is 22.1%, which is meaningfully greater than the 18.3% statistic for the general population. The poverty level is also meaningfully greater in Area B, with 25.4% of the population being classified as low-income by this measure. The noise and vibration impacts generated by railroad operations have the potential to create an adverse disproportionate impact on the low-income populations in both Areas A and B.

### **Section 3.12, Transportation and Traffic**

#### *Impact 3.12-2*

The rail operations associated with the proposed project would cause substantial delays and queues at rail crossings (delays of over 1 minute during peak hours, or queues that block upstream intersections during the day and early evening when traffic volumes are at or near their peak hour levels) relative to delays and queues without the project. Mitigation measure MM-3.12-2a would, if implemented, reduce these impacts; however, implementation is dependent on the California Northern Railroad since the City does not have jurisdiction over the railroad. While the City can require the applicants to work with the California Northern Railroad to restrict the hours of rail operation to avoid the peak hours, the City cannot ensure that the California Northern Railroad will agree to this restriction. Therefore, Impact 3.12-2 would remain significant and unavoidable.

#### *Impact 3.12-3*

The rail operations associated with the proposed project would cause substantial delays and queues at rail crossings (delays of over 1 minute during peak hours, or queues that block upstream intersections during the day and early evening when traffic volumes are at or near their peak hour levels) relative to delays and queues in the Cumulative No Project condition. Mitigation measure MM-3.12-2a would, if implemented, reduce these impacts; however, implementation is dependent on the California Northern Railroad since the City does not have jurisdiction over the railroad. While the City can require the applicants to work with the California Northern Railroad to restrict the hours of rail



operation to avoid the peak hours, the City cannot ensure that the California Northern Railroad will agree to this restriction. Therefore, Impact 3.12-3 would remain significant and unavoidable.

#### *Impact 3.12-5*

The rail operations associated with the proposed project would have a significant impact on emergency access, based on the potential delays generated by train crossings at the grade crossings in Vallejo, American Canyon, and crossings further north. Mitigation measure MM-3.12-2b would require the applicants to coordinate with emergency responders to identify alternative routing during train movements. If the mitigation is implemented it could help to reduce these impacts; however, delays due to rail operations could still significantly impact emergency evacuation routes. Therefore, Impact 3.12-5 would remain significant and unavoidable.

#### *Environmental Justice Assessment of Transportation and Traffic Impacts*

All three of the transportation and traffic impacts are caused by the proposed movement of trains in and out of the site. While the impacts occur within Impact Areas A and B along the railroad corridor, the people affected are those who happen to be traveling at the time of a train crossing, and can be from anywhere in the city or from outside the city. There is no evidence to suspect travelers impacted will be particularly correlated with minority or low-income status. The train induced traffic delays, although adverse, will not create a disproportionate impact on minority or low-income populations.

### **Summary of Disproportionate Effects on Minority and Low-Income Populations**

After applying all the project design features and mitigation measures, all the environmental impacts identified in the Draft EIR as still significant and adverse were assessed for their potential to create disproportionate effects on minority and low-income populations. The findings from the environmental justice assessments are summarized in **Table 5**. Due to the relatively high concentration of minorities in the City of Vallejo, and their relatively broad distribution throughout the city, no disproportionate impacts are expected to be created for minority populations by the proposed Project.

Low-income populations are not so evenly distributed throughout the city, on the other hand, and tend to be concentrated along the rail line and near industrial areas. The activities associated with manufacturing industries and railroad transportation which generate noise and emissions can depress residential real estate values in close proximity and as a result, more affordable housing can be found in these areas. In this case, adverse noise impacts generated by the operation of the proposed project are likely to be experienced disproportionately by low-income populations.

**Table 65: Summary of Disproportionate Effects on Minority and Low-Income Populations**

<b>Environmental Issue Area</b>	<b>Effects on Minority Populations</b>	<b>Effects on Low-Income Populations</b>
Air Quality	No disproportionate impacts.	No disproportionate impacts.
Cultural Resources	No disproportionate impacts.	No disproportionate impacts.
Greenhouse Gas Emissions	No disproportionate impacts.	No disproportionate impacts.
Noise	No disproportionate impacts.	Potential for adverse impacts to disproportionately affect low-income populations.
Transportation and Traffic	No disproportionate impacts.	No disproportionate impacts.
Other Considerations	Project benefits include: <ul style="list-style-type: none"> <li>• Skilled labor employment opportunities,</li> <li>• Additional fiscal resources, and</li> <li>• Potential for attracting further manufacturing operations.</li> </ul>	Project benefits include: <ul style="list-style-type: none"> <li>• Skilled labor employment opportunities,</li> <li>• Additional fiscal resources, and</li> <li>• Potential for attracting further manufacturing operations.</li> </ul>



## Appendix: Guidance from Existing Regulations

Although an Environmental Justice Analysis is not required for the proposed project in order to comply with California state law (CEQA), when responding to the community's concerns regarding the potential for impacts on minority or low-income populations it is helpful to follow the guidance that has been provided by the various levels of government, starting with the Federal Executive Order that first called attention to this issue.

### Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

In 1994, in response to growing concern that minority and/or low-income populations bear a disproportionate amount of adverse health and environmental effects, President Clinton issued Executive Order 12898 on Environmental Justice, formally focusing federal agency attention on these issues. The Executive Order contains a general directive that states, "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."

The Executive Order authorized the creation of an Interagency Working Group (IWG) on Environmental Justice, overseen by EPA, to implement the Executive Order's requirements. The IWG includes representatives of a number of executive agencies and offices and has developed guidance for terms contained in the Executive Order.

EPA defines "environmental justice" as follows (EPA 1998):

*The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.*

EPA defines "fair treatment" as follows (EPA 1998):

*No group of people, including a racial, ethnic, or a socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies.*

EPA defines "meaningful involvement" as follows (EPA 1998):

- 1) Potentially affected community residents have an appropriate opportunity to participate in decisions about a proposed activity that will affect their environment and/or health;*
- 2) The public's contribution can influence the regulatory agency's decision;*
- 3) The concerns of all participants involved will be considered in the decision making process; and*
- 4) The decision-makers seek out and facilitate the involvement of those potentially affected.*



Finally, EPA defines “disproportionately high and adverse effect” (or “impact”) as follows (EPA 1998):

*An adverse effect or impact that: (1) is predominantly borne by any segment of the population, including, for example, a minority population and/or a low-income population; or (2) will be suffered by a minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect or impact that will be suffered by a non-minority population and/or non-low-income population.*

### **Council on Environmental Quality: Environmental Justice—Guidance under the National Environmental Policy Act**

While EPA has lead responsibility for implementation of Executive Order 12898 as chair of the IWG on Environmental Justice, CEQ has oversight of the federal government’s compliance with this Executive Order and NEPA. CEQ, in consultation with EPA and other agencies, has prepared guidance to assist federal agencies in NEPA compliance in its Environmental Justice Guidance under the National Environmental Policy Act (1997). This guidance provides an overview of Executive Order 12898; summarizes its relationship to NEPA; recommends methods for the integration of environmental justice into NEPA compliance; and incorporates as an appendix the IWG’s definitions of key terms and concepts contained in the Executive Order.

Agencies are permitted to supplement CEQ’s guidance with their own, more specific guidance tailored to their programs or activities or departments, insofar as is permitted by law.

Neither the Executive Order nor CEQ proscribe a specific format for environmental justice assessments in the context of NEPA documents. However, CEQ identifies the following six general principles intended to guide the integration of environmental justice assessment into NEPA compliance, and which are applicable to the proposed Project and its alternatives (CEQ 1997):

- 1) Agencies should consider the composition of the affected area, to determine whether minority populations, low-income populations, or Indian tribes are present in the area affected by the proposed action and, if so, whether there may be disproportionately high and adverse human health or environmental effects on minority populations, low-income populations, or Indian tribes.
- 2) Agencies should consider relevant public health data and industry data concerning the potential for multiple or cumulative exposure to human health or environmental hazards in the affected population and historical patterns of exposure to environmental hazards, to the extent such information is reasonably available. For example, data may suggest there are disproportionately high and adverse human health or environmental effects on a minority population, low-income population, or Indian tribe from the agency action. Agencies should consider these multiple, or cumulative effects, even if certain effects are not within the control or subject to the discretion of the agency proposing the action.
- 3) Agencies should recognize the interrelated cultural, social, occupational, historical, or economic factors that may amplify the natural and physical environmental effects of the agency’s proposed action. These factors should include the physical sensitivity of the community or population to particular impacts; the effect of any disruption on the community





- structure associated with the proposed action; and the nature and degree of impact on the physical and social structure of the community.
- 4) Agencies should develop effective public participation strategies. Agencies should, as appropriate, acknowledge and seek to overcome linguistic, cultural, institutional, geographic, and other barriers to meaningful participation, and should incorporate active outreach to affected groups.
  - 5) Agencies should assure meaningful community representation in the process. Agencies should be aware of the diverse constituencies within any particular community when they seek community representation and should endeavor to have complete representation of the community as a whole. Agencies also should be aware that community participation must occur as early as possible if it is to be meaningful.
  - 6) Agencies should seek tribal representation in the process in a manner that is consistent with the government-to-government relationship between the United States and tribal governments, the federal government's trust responsibility to federally recognized tribes, and any treaty rights.

CEQ states that the identification of a disproportionately high and adverse human health or environmental effect on a low-income or minority population does not preclude a proposed agency action from going forward or compel a finding that a proposed action is environmentally unacceptable (CEQ 1997). Instead, the identification of such effects is expected to encourage agency consideration of alternatives, mitigation measures, and preferences expressed by the affected community or population.

### **California Government Code Sections 65041–65049; Public Resources Code Sections 71110–71116**

Environmental justice is defined by California state law as “the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.”

California Public Resources Code Section 71113 states that the mission of the California Environmental Protection Agency (Cal/EPA) includes ensuring that it conducts any activities that substantially affect human health or the environment in a manner that ensures the fair treatment of people of all races, cultures, and income levels, including minority populations and low-income populations of the state.



As part of its mission, Cal/EPA was required to develop a model environmental justice mission statement for its boards, departments, and offices. Cal/EPA was tasked to develop a Working Group on Environmental Justice to assist it in identifying any policy gaps or obstacles impeding the achievement of environmental justice. An advisory committee including representatives of numerous state agencies was established to assist the Working Group pursuant to the development of a Cal/EPA intra-agency strategy for addressing environmental justice. California Public Resources Code Sections 71110– 71116 charge Cal/EPA with the following responsibilities:

- Conduct programs, policies, and activities that substantially affect human health or the environment in a manner that ensures the fair treatment of people of all races, cultures, and income levels, including minority populations and low-income populations of the state.
- Promote enforcement of all health and environmental statutes within Cal/EPA's jurisdiction in a manner that ensures the fair treatment of people of all races, cultures, and income levels, including minority populations and low-income populations of the state.
- Ensure greater public participation in the agency's development, adoption, and implementation of environmental regulations and policies.
- Improve research and data collection for programs within the agency relating to the health and environment of minority populations and low-income populations of the state.
- Coordinate efforts and share information with EPA.
- Identify differential patterns of consumption of natural resources among people of different socio-economic classifications for programs within the agency.
- Consult with and review any information received from the IWG pursuant to developing an agency-wide strategy for Cal/EPA.
- Develop a model environmental justice mission statement for Cal/EPA's boards, departments, and offices.
- Consult with, review, and evaluate any information received from the IWG pursuant to the development of its model environmental justice mission statement.
- Develop an agency-wide strategy to identify and address any gaps in existing programs, policies, or activities that may impede the achievement of environmental justice.

California Government Code Sections 65040–65040.12 identify the Governor's Office of Planning and Research (OPR) as the comprehensive state agency responsible for long-range planning and development. Among its responsibilities, OPR is tasked with serving as the coordinating agency in state government for environmental justice issues. Specifically, OPR is required to consult with Cal/EPA, state Resources Agency, the Working Group on Environmental Justice, and other state agencies as appropriate, and share information with CEQ, EPA, and other federal agencies as appropriate to ensure consistency.



Cal/EPA released its final Intra-Agency Environmental Justice Strategy in August 2004. The document sets forth the agency's broad vision for integrating environmental justice into the programs, policies, and activities of its departments. It contains a series of goals, including the integration of environmental justice into the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.

### **California State Lands Commission Environmental Justice Policy**

CSLC adopted an Environmental Justice Policy on October 1, 2002 (CSLC 2002) wherein CSLC pledges to continue and enhance its processes, decisions, and programs with environmental justice as an essential consideration by, among other actions, "identifying relevant populations that might be adversely affected by commission programs or by projects submitted by outside parties for its consideration." The policy also cites the definition of environmental justice in state law and points out that this definition is consistent with the Public Trust Doctrine principle that the management of trust lands is for the benefit of all of the people. To date, CSLC has not issued any guidance to implement the policy, although environmental justice is addressed in CSLC environmental documents.

